HIGH TECH
Heavy-Duty



CATALOGO TECNICO
TECHNICAL CATALOGUE

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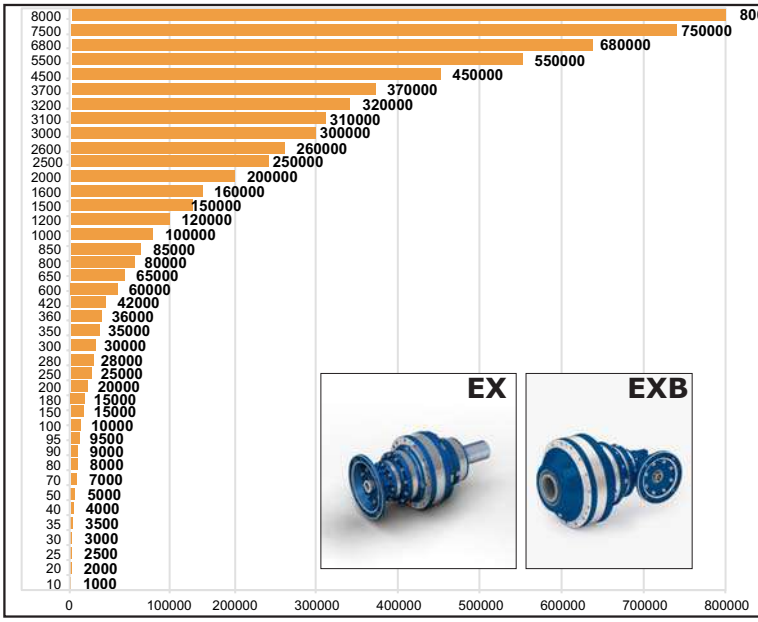
EX Series



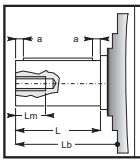
EXB Series

Introduzione
Introduction
Einleitung

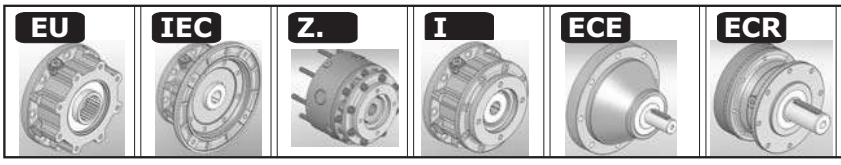
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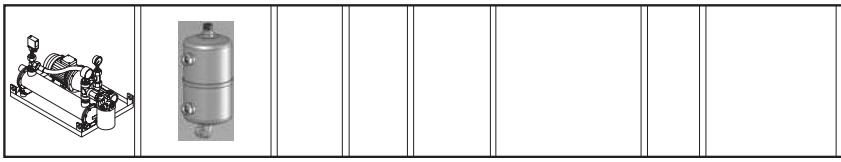
Designazione - Schede Tecniche Riduttori
Designation - Gearboxes technical sheet
Bezeichnung - Technische Daten Getriebe



Dimensioni
Dimensions
Abmessungen



Predisposizione Attacco Motore
Motor adjustment
Auslegung für Motoranbau



Accessori e opzioni
Accessories and options
Zubehör und Optionen



Posizioni di montaggio - Lubrificazione
Mounting positions - Lubrication
Einbaulagen - Schmierung

Gestione Revisione Cataloghi
Managing Catalog Revisions
Management der Katalogrevisionen

SIMBOLO *SYMBOL* SYMBOL	UNITA' DI MISURA *MEASUREMENT UNIT* MAßEINHEIT	Formule Utilizzate *Using formula* Verwendete Formeln	DEFINIZIONE	*DEFINITION*	DEFINITION
1 - PARAMETRI TECNICI CALCOLO DI BASE / CALCULATIONS TECHNICAL RATINGS/ TECHNISCHE PARAMETER (Cinematica-Coppia-Vita / Kinematic - Tourque - Life / KINETIC - DREHMOMENT-LEBENSDAUER)					
n_1	giri/min^{-1}		Velocità albero entrata	*Input speed*	Antriebsdrehzahl
n_2			Velocità albero in uscita	*Output speed*	Abtriebsdrehzahl
ir		n_1/n_2	Rapporto di trasmissione	*Ratio*	Übersetzungsverhältnis
T_{2n}	Nm		Coppia Uscita Nominale Applicazione	*Application nominal output torque*	Effektivmoment
T_{eq}	Nm	$f_n*T_N>T_{2q}$	Coppia in uscita richiesta equivalente	The equivalent output torque required	Das erforderliche äquivalente Drehmoment
T_N	Nm	$f_n*T_N>Fs*T_{2n}$	Coppia Uscita Nominale Riduttore	*Gearbox nominal output torque*	Getriebe-Nennmoment
T_{max}	Nm		Coppia Uscita Sovraccarico Riduttore	Gearbox *overloaded* output *torque*	Maximalmoment bei Überlast
M_{2s}	Nm		Coppia di slittamento calettatore	*Shrink disc slipping torque*	Schrumpfscheiben-Schlupfmoment
T_{1f}	Nm		Coppia frenatura motore Autofrenante.	*Brake torque motor*	Motorbremsmoment
P_{Kg}	Kg		Peso Motore Elettrico	*Motor weight*	Motorgewicht
RD%			Rendimento dinamico	*Dynamic efficiency*	Dynamischer Wirkungsgrad
P_1	kW	$(T_{2n}*n_2)/\eta$	Potenza motoriduttore	*Gear motor power*	Leistung Getriebemotor
h	ore		Durata richiesta	*Life required*	Erforderliche Lebensdauer
f_{n2h}	(ore*giri)/min^{-1}	n_2*h	Fattore di durata a cicli	Output cycle life factor	Lebensdauerfaktor am Abtrieb
f_{n1h}		n_1*h	Fattore di durata a cicli	Input cycle life factor	Lebensdauerfaktor am Antrieb
2 - PARAMETRI TECNICI VERIFICA / *VERIFICATION TECHNICAL RATINGS* / UEBERPRUEFUNG TECHNISCHE PARAMETER (Picchi di carico - Giri massimi) / *(Load peak - Max rpm)* / Belastungsspitzen – Maximale Drehzahlen min^{-1}					
Potenza termica / *Thermal power* / Thermische Leistung					
Pt_N	kW		Potenza termica nominale	Thermal power rating	Termische Nenngrenzleistung
P_{ta}	kW	$P_{ta} \leq P_1 - (P_{tN} \cdot fm \cdot fa \cdot fd \cdot fp)$	Potenza termica addizionale	Additional thermal power	Thermische Zusatzgrenzleistung
Carichi Esterni / *External loads* / Externe Belastung					
C			Fattore di collegamento	*Connection factor*	Riemenscheiben- bzw. Zahnraddurchmesser
d	mm		Diametro pulegge, ruote	*Pulleys and gears diameter*	Durchmesser Räder, Riemenscheiben
Fr_{en1} ; Fr_{en2}	N		Carico Radiale Nominale Applicazione	*Application nominal radial load*	Radial-Nennlast
x	mm		Distanza Carico Radiale Nominale Applicazione	*Application nominal radial load distans*	Abstand der Radial-Nennlast
$Fr(x)_{n1}$; $Fr(x)_{n2}$	N	funzione di x	Carico Radiale Nominale Riduttore alla distanza x.	*Radial load*	Radialbelastung abhängig vom Abstand x
k (f_{nh})		funzione di f_{nh}	Fattore Correzione carico	*Load correction factor*	Belastungs-Korrekturfaktor
Fr_{c1} ; Fr_{c2}	N	$Fr_{c1}(f_{nh}) = k * Fr(x)_{n1}$ $Fr_{c2}(f_{nh}) = k * Fr(x)_{n2}$	Carico Radiale Nominale Riduttore Corretto	*Radial load*	Radialbelastung korrigiert
Fa_{en1} ; Fa_{en2}	N		Carico Assiale Nominale Applicazione	*Application nominal axial load*	Effektive Axialbelastung
Fa_{n1} ; Fa_{n2}	N		Carico Assiale Nominale Riduttore	*Axial load*	Mögliche Axialbelastung des Getriebes
Fa_{c1} ; Fa_{c2}	N	$Fa_{c1}(f_{nh})=k * Fa_{n1}$ $Fa_{c2}(f_{nh})=k * Fa_{n2}$	Carico Assiale Nominale Riduttore Corretto	*Axial load*	Korrigierte Axialbelastung
Parametri Transitori - Carico e giri / *Transitory parameters - Load and rpm* / Übertragungsparameter Last und Drehzahl min^{-1}					
n_{1max}	min^{-1}		Velocità massima albero entrata	*Input shaft max rpm*	Maximale Drehzahl der Antriebswelle
T_{2max}	Nm		Coppia Uscita Sovraccarico Applicazione	*Application overloaded output torque*	Maximalmoment bei Überlast
t_a	°C		Temperatura ambiente	*Ambient Temperature*	Umgebungstemperatur
t_{oil}	°C		Temperatura olio	*Oil temperature*	öltemperatur

3 - FATTORI CORRETTIVI PRESTAZIONI / *Performances correction factors* / Korrekturfaktoren				
Fs	$Fs = fs * f_{Ga} * fv$	Fattore di servizio	*Service factor*	Lebensdauerfaktor
fs		Fattore di durata di funzionamento	*Working life factor*	Betriebdauernfactor
f_{Ga}		Fattore di affidabilità	*Safety factor*	Zuverlässigkeitsfaktor
f_n		Fattore correttivo delle prestazioni	*Input speed factor*	Leistungs-Korrekturfaktor
fv		Fattore del numero di avviamenti /ora	*Duty cycle factor*	Korrekturfaktor
N_i	n2i x ti %	Numero clicli sul livello di carico N_i	N_i load level cycles number	N_i Belastungs-frequenz
n_{2eq}	$n2eq = \frac{\sum_i n2ixti\,\%}{100\%}$	velocità in uscita richiesta equivalente.	the equivalent output speed	die erforderliche äquivalente Geschwindigkeit

4 - FATTORI CORRETTIVI POTENZA TERMICA / *Thermal power correction factors* /				
fm	$P_1 \le P_{tN} \times f_m \times f_a \times f_d \times f_p \times f_f$	Fattore correttivo per la posizione di montaggio	Mounting position factor	Korrekturfaktor für Einbaulage
fa		Fattore correttivo dell'altitudine	Altitude factor	Höhenkorrekturwert
fd		Fattore correttivo del tempo di lavoro	Operation time factor	Korrekturfaktor für Arbeitsdauer
fp	$P_1 \le (P_{tN} \cdot fm \cdot fa \cdot fd \cdot fp) + (P_{tamax} \cdot fw \cdot fc)$	Fattore correttivo della temperatura	Ambient temperature factor	Korrekturfaktor für Kühlung mittels Lüfter
ff		Fattore correttivo di aerazione con ventola	Fan cooling factor	Korrekturfaktor für Lufttemperatur
fc		Coefficiente relativo alla temperatura dell'aria	Air temperature factor	Korrekturfaktor für Wassertemperatur
fw		Coefficiente relativo alla temperatura dell'acqua	Water temperature factor	Koeffizient bezüglich der Wassertemperatur



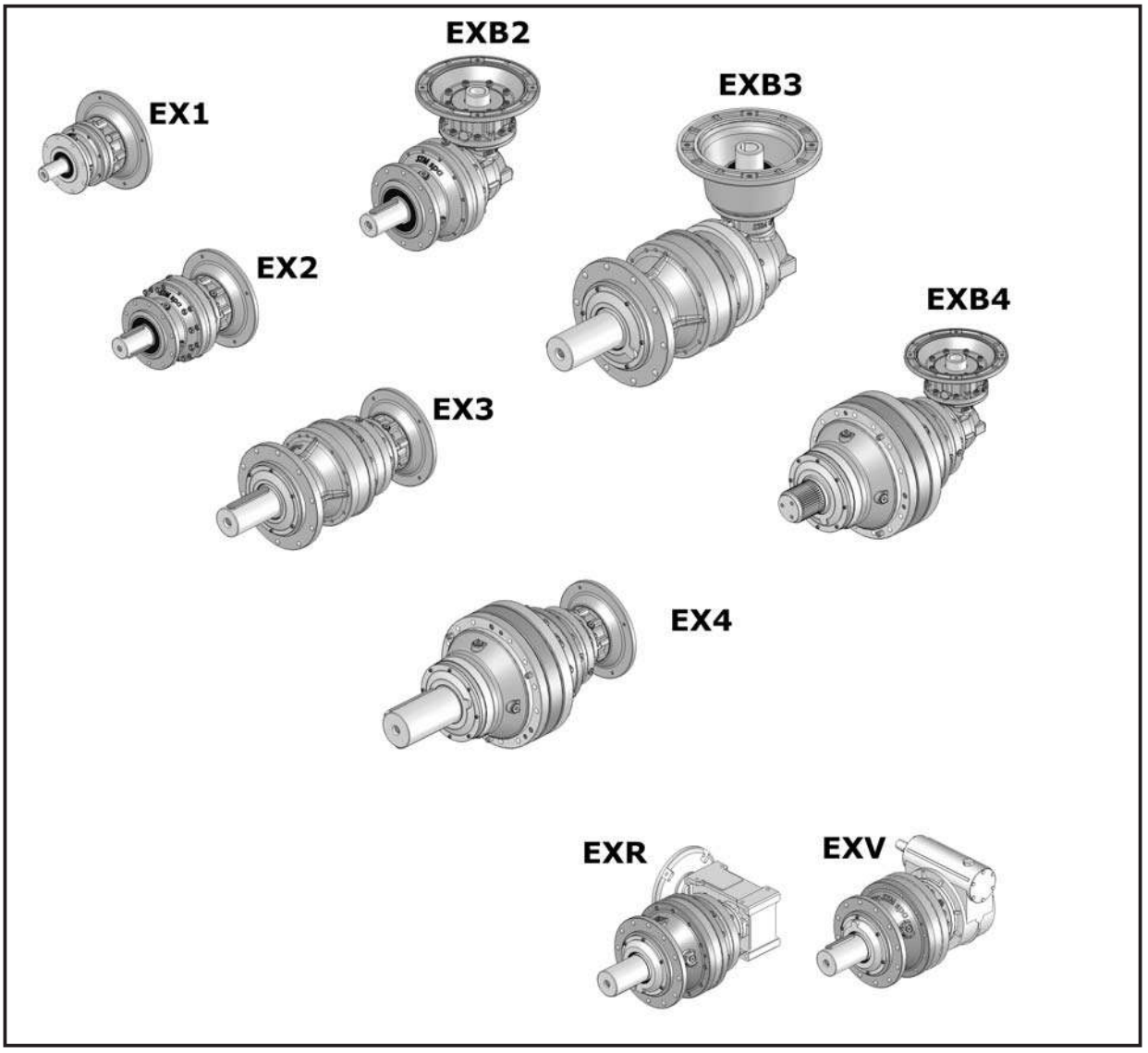
EX Series



EXB Series

EX

A



Epicicloidali EX:
Questi riduttori della serie EX sono estremamente compatti, eppure capaci di trasmettere le potenze più elevate. L'ingranaggio di tipo epicicloidale li rende la scelta più idonea per tutte le applicazioni dove urti e sovraccarichi sono la regola, più che l'eccezione.Il prodotto è quanto di più versatile si trovi in commercio, offrendo una scelta vastissima di varianti nel tipo di fissaggio, nella composizione degli stadi di riduzione, nell'albero lento e nel tipo di motorizzazione.
Trovare quindi il prodotto coincidente ai requisiti dell'applicazione è una certezza sulla quale i nostri Clienti possono contare sempre.

Planetary gearboxes EX:
Compact, and yet extremely powerful, are the units of the EX series.Their planetary drive train makes them the ideal choice for all the severe duty applications where shock loadings and impacts are more the rule than the exception.The product configuration is highly versatile, due to several options as far as the mounting, the gear layout, the output shaft and the motor interface. Finding the perfect match to any drive problem is therefore more than a wish, it is something users can safely rely on, always.

Planetengetriebe EX:
Kompakt, aber trotzdem extrem leistungsfähig; das sind die Einheiten der EX-Serie. Das Planetengetriebe erweist sich als ideale Wahl für alle Anwendungen, in der Stoßbelastungen und Überladung eher die Regel als die Ausnahme sind. Das Produkt ist das Vielseitigste auf dem Markt und bietet vielfältige Möglichkeiten hinsichtlich der Befestigung, der Zusammensetzung der Getriebestufen, der Ausgangswelle und der Motorisierung. Die Auswahl des richtigen Produktes für die Anforderungen der Anwendung ist ein Know-how, auf das der Kunde jederzeit zählen kann.

Epicicloidali angolari EXB:
I riduttori planetari angolari EXB, combinano le alte prestazioni con le dimensioni compatte. Questi riduttori EXB sono disponibili in una vasta gamma di rapporti per garantire silenziosità di funzionamento in tutti i tipi di applicazioni. Una progettazione moderna ed una produzione tecnologicamente avanzata, garantiscono gli elevati standard qualitativi e di performance tipici del nostro prodotto. Rafforza il tuoi progetti con i migliori prodotti.

***Bevel helical planetary gearboxes EXB**:*
The EXB right-angle planetary gearboxes, combines high performance with compact size. These EXB gearboxes come in a wide range of ratios to ensure silent running in all sorts of applications. The cutting-edge design and technological production guarantee the typical high quality and performance of our products. Gear up your business with the best products.

Bevel helical planetary gearboxes EXB:
Die EXB-Winkelplanetengetriebe kombinieren hohe Leistungen mit kompakten Abmessungen. Die EXB Getriebe stehen in einer Vielzahl von Untersetzungsverhältnissen zur Verfügung, um leise Laufgeräusche in allen Arten von Anwendungen zu gewährleisten. Das innovative Design und die technologisch fortschrittliche Produktion garantieren die typisch hohe Qualität und Leistung unserer Produkte. Stärken Sie Ihr Projekt mit den besten Produkten.

1.1 Caratteristiche costruttive

Generalità
I riduttori della serie EX sono estremamente compatti, eppure capaci di trasmettere le potenze più elevate. L'ingranaggio di tipo epicicloidale li rende la scelta più idonea per tutte le applicazioni dove urti e sovraccarichi sono la regola, più che l'eccezione.
Il prodotto è quanto di più versatile si trovi in commercio, offrendo una scelta vastissima di varianti nel tipo di fissaggio, nella composizione degli stadi di riduzione, nell'albero lento e nel tipo di motorizzazione.
Trovare quindi il prodotto idoneo ai requisiti dell'applicazione è una certezza sulla quale i nostri Clienti possono contare.

Rendimento
Il rendimento dei riduttori RD% EX sono stati calcolati alle seguenti condizioni di impiego:
- servizio continuo;
- riduttore rodato;
- riduttore caricato con T_N;
- viscosità olio ISO VG 320;
- posizione di montaggio M1;
- n_1 = 1000 rpm.

I valori così dedotti sono i seguenti:

1.1 Construction features

General description
EX gearboxes are very compact but they can also transmit high power.

The planetary gear types are the most suitable when the application has many shock load and is overloaded.

This product is versatile and offers a wide choice of fixing alternatives, ratios, output shaft types and motors input.

All our customers can surely find the best product for their applications.

Efficiency
The EX efficiency RD% was calculated to the following conditions:
- continuous service;
- run gearbox;
- Tn charged gearbox;
- Oil viscosity ISO VG 320;
- M1 mounting position;
- n1 = 1000 rpm.
The value will be the followings:

1.1 Construction features

Allgemeines
Planetengetriebe der Serie EX sind kompakt gebaut, können aber auch hohe Drehmomente übertragen.
Planetengetriebe sind hervorragend geeignet für die Drehmomentübertragung in Verbindung mit Stößen und Überbelastungen. Dieses Produkt ist vielseitig einsetzbar und bietet eine große Auswahl an Befestigungsmöglichkeiten, Übersetzungen,

Abtriebswellen-Ausführungen und Motoranbaumöglichkeiten.
Sicher finden sie hier das beste Produkt für ihre Anwendung.

Wirkungsgrad
Der unten angegebene Wirkungsgrad RD% der Planetengetriebe Serie EX wurde unter folgenden Bedingungen berechnet:
-laufendes Sevice
-Getriebelaufzeit
-Getriebe-Nennmoment
-Schmieröl ISO VG 320
-Montageposition M1
-Antriebsdrehzahl n_1 = 1000 min^{-1}

RD (%) - Rendimento/*Efficiency*/Wirkungsgrad

EX 1	EX 2	EX 3	EX 4		EXB 2	EXB 3	EXB 4
97	94	92	89		92	90	88

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB(A)) a velocità in entrata di 1450 giri/min (tolleranza +3 db(A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali. Per raffreddamento artificiale con ventola sommare ai valori di tabella: +2 db(A) per ogni ventola.Per entrata ad un numero di giri diverso sommare i valori come in tabella. Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB(A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB (A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data. For fan-cooled applications, add 2dB (A) to table values for each fan. For different input speeds, add the appropriate values indicated in the table below. Gear units with lower noise levels to suit particular needs are available on request.

1.2 Schalldruckpegel SPL [dB(A)]

Normale Werte des durchschnittlichen Schalldruckpegels SPL (dB(A)) bei einer Antriebsdrehzahl von 1450 U/min (Toleranz +3 dB(A)). Werte, die aus den Auswertungen der experimentellen Tests, bei denen die Messung in 1 m Entfernung von der Getriebeoberfläche erfolgte, resultieren. Bei Vorliegen einer Zusatzluftkühlung durch Lüfter muss ein Korrekturwert von +2 dB(A) pro Lüfterrad zum Tabellenwert addiert werden. Bei abweichender Antriebsdrehzahl sind die Werte gemäß Tabellenangaben zu addieren. Im Fall besonderer Anforderungen können Getriebe mit einem reduzierten durchschnittlichen Schalldruckpegel geliefert werden.

	EX 1	EX 2 - EXB 2	EX 3 - EXB 3	EX 4 - EXB4
10 - 20 - 25	Contattare nostro ufficio tecnico commerciale Please, contact our technical sales dept. Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung			
30 - 35 - 40 - 50 - 70				
80 - 90 - 95 - 100				
150 - 180 - 200				
250 - 280 - 300				
350 - 360 - 420				
600 - 650				
800 - 850				
1000 - 1200				
1500 - 1600 - 2000				
2500 - 2600 - 3000 - 3100 - 3200				
3700 - 4500				
5500 - 6800 - 7500 - 8000				

n_1 [min^{-1}]	2750	2400	2000	1750	1000	750	500	350
Δ SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6

1.3 Criteri di selezione

1.3.1 - Calcolo parametri nominali applicazione: T_{2n} - Fr_{en1-2} e Fa_{en1-2}

Come base del dimensionamento del riduttore si sceglie la coppia resistente nominale dell'applicazione T_{2n}.
Si tratta del momento d'esercizio per le condizioni di lavoro più gravose, regolari.
Esempi:
-Coppia massima continua di laminazione (non da urto di passata iniziale);
-Coppia per carico massimo continuo di sollevamento in esercizio degli organi di sollevamento di una gru;
-Coppia massima di taglio con le cesoie;
-Coppia dovuta alla pressione di spinta massima continua con gli estrusori.
Con le stesse considerazioni è possibile determinare Fa_{en1-2} e Fa_{en1-2}

Per calcolare il carico Fr_{en1-2} agente sull'albero lento diamo formule approssimate per alcune trasmissioni più comuni.

1.3 Gear unit selection

1.3.1 - Calculations application nominal parameter : T_{2n} - Fr_{en1-2} e Fa_{en1-2}

The gearbox dimensional start is the T_{2n} application nominal torqueproof.

We consider the hard work application conditions, as for example:

- Lamination continuously max torque (not for shock start operation)
- Lifting continuously max torque

- Shears cut max torque
- Extrusion continuously max torque.

Furthermore it's possible to find Fa_{en1-2} and

Here you can find the most common formule in order to calculate the Fr_{en1-2} load on the output low shaft.

1.3 Auswahlkriterien

1.3.1 – Berechnung der Nennparameter der Applikation: T_{2n} - Fr_{en1-2} e Fa_{en1-2}

Als Grundlage für Größenbestimmung des Getriebes wählt man den Widerstandsdrehmoment der Applikation T_{2n}. Hierbei handelt es sich um den Betriebsdrehmoment unter harten und regulären Einsatzbedingungen.
Beispiel:
- Max. Dauerdrehmoment im Wälzbetrieb (nicht bei anfänglichen Stoßzug);
- Drehmoment bei max. Dauerbelastung im Hebebetrieb der Hebeorgane eines Krans;
- Max. Drehmoment bei Schnitt mit Schneidvorrichtungen;
- Drehmoment durch max. Dauerschubdruck mit Extrudern.
Unter Berücksichtigung der gleichen Abwägungen können Fa_{en1-2} und Fa_{en1-2} bestimmt werden.

Zur Berechnung der auf die Abtriebswelle einwirkenden Kraft Fr_{en1-2} geben wir hier die approximativen Formeln für einige der üblichsten Antriebe.

$Fr_{en1-2} = (C \times T_{2n}) / d$					
C	**7000**	**5000**	**3000**	**2120**	**2000**
Trasmissioni *Drive member* Antriebe	Ruote di frizione (gomma su metallo) *Friction wheel drive (rubber on metal)* *Kupplungsräder (Gummi auf Metall)*	Cinghie trapezoidali *V belt drives* Keilriemen	Cinghie dentate *Toothed belts* Zahnriemen	Ingranaggi cilindrici *Spur gears* Zylinderzahnräder	Catene *Chain drives* Ketten

C - Fattore di collegamento
d - Diametro pulegge, ruote

***C** - Connection factor*
***d** - Pulley diameter, wheels*

C - Anschlusswert
d - Durchmesser Räder, Riemenscheiben

Forze di accelerazione, di oscillazione

All'avviamento si verificano in date circostanze forze rilevanti di accelerazione.
Altre forze secondarie possono prodursi a causa delle oscillazioni della linea di comando, in funzione delle masse (volano,ruote,giunti), della loro ripartizione, delle rigidezze (alberi,giunti) e delle condizioni di esercizio.
Inoltre, spesso la coppia lato comando e la copiia comandata non sono uniformi, secondo il tipo di motore di comando e del processo lavorativo.
Si possono determinare le forze e le coppie effettivamente agenti sul riduttore mediante misure in tutti gli stati di esercizio eventuelmente con un ampio calcolo dei cicli alterni.

Nel paragrafo seguente sarà fornita la procedura di selezione del riduttore per individurane la taglia e il rapporto di riduzione.

Acceleration and scillation load.

When we start some transmissions we can find some big acceleration loads.

Other secondary loads can be produced by oscillations in the control line, based on the masses (flywheel, wheels, joints), their distribution, rigidity (shafts, joints) and working conditions.

Frequently the driving torque and the drived torque aren't uniform, this depends on the driving motor and the working process.

We can know the gearbox torques and loads trought many measurements in each working condition.

In the following paragraph we will supply you with the gearbox selection procedure in order to choose the ratio and size.

Beschleunigungs- und Oszillationsbelastungen

Beim Beginn von Kraftübertragungen stellen sich oft große Beschleunigungen ein. Weitere Sekundärlasten können durch sich durch Schwingungen der Steuerlinie in Abhängigkeit der Massen (Schwungrad, Räder, Kupplungen), deren Verteilung, der Steifheitsgrade (Wellen, Kupplungen) und bedingt durch die Betriebsbedingungen ergeben.
Oftmals resultieren auch das Drehmoment an der Steuerseite und das der gesteuerten Seite als ungleichmäßig, was vom Antriebsmotor und vom Arbeitsprozess abhängig ist.
Die Kräfte und die effektiv auf das Getriebe einwirkenden Drehmomente lassen sich anhand von Messungen in allen Arbeitsbedingungen eventuell mit einer weitreichenden Berechnung der Schaltzyklen berechnen.
Im nachstehenden Paragraph wird das Auswahlverfahren der Getriebeauslegung dargestellt, um die Größe und das Übersetzungsverhältnis festlegen zu können.

L'economicità di una costruzione dipende in misura determinante dal fatto che si riesca o meno a tener conto in "modo preciso" delle ripercussioni di queste forze sulla sollecitazione.

The low costs of the product depends on being or not being possible to calculate the repercussions of loads on stress.

Die niedrigen Kosten des Getriebes sind abhängig von der kalkulierten Belastung

1.3 Criteri di selezione

1.3.2 Procedura di selezione

Conosciuti i dati dell'applicazione calcolare:

$ir = n_1/n_2$;

$f_{n2h} = n_2 * h$;

$$P1 = \frac{T_{2n} \times n_2 \times 100}{9550 \times RD\%};$$

n_1 - Velocità albero entrata;
n_2 - Velocità albero uscita;
ir - Rapporto di trasmissione;
h - Durata richiesta;
f_{n2h} - Fattore di durata a cicli;
RD% - Rendimento dinamico;
P1 - Potenza macchina motrice;
T_{2n} - Coppia UscitaNominale Applicazione

Per selezionare il riduttore è necessario che sia soddisfatta la seguente relazione:

1.3 Gear unit selection

1.3.2 *Selection procedure*

Locate application information and determine:

$ir = n_1/n_2$;

$f_{n2h} = n_2 * h$;

$$P1 = \frac{T_{2n} \times n_2 \times 100}{9550 \times RD\%};$$

n_1 - Input shaft speed;
n_2 - Output shaft speed;
ir - Ratio;
h - Life required;
f_{n2h} - Life factor at cycles;
RD% - Dinamic efficiency;
P1 - Input power;
T_{2n} - Application nominal output torque

For gearbox selection the following is necessary*:*

1.3 Auswahlkriterien

1.3.3 Auswahlverfahren

Sind die Daten der Anwendung bekannt, ist wie folgt zu kalkulieren:

$ir = n_1/n_2$;

$f_{n2h} = n_2 * h$;

$$P1 = \frac{T_{2n} \times n_2 \times 100}{9550 \times RD\%};$$

n_1 -Drehzahl Antriebswelle;
n_2 - Drehzahl Abtriebswelle;
ir - Übersetzung;
h - Lerforderliche Lebensdauer;
f_{n2h} - Lebensdauerfaktor am Abtrieb;
RD% - Dynamischer Wirkungsgrad;
P1 - Antriebsleistung*;*
T_{2n} - Effektivmoment

Für die Getriebeauswahl ist folgendes zu beachten:

T_N x fn ≥ T_{2n} x Fs **(1.3/b)**

1 - T_N : Coppia Nominale in uscita del riduttore.
La coppia è calcolata tendendo conto della sollecitazione a flessione, sollecitazione a fatica superficiale ed infine della durata dei cuscinetti a rullini dei satelliti con **Fs** uguale ad 1.
I valori di T_N sono forniti in funzione:

Case-A - Del fattore f_{nh}:
la T_N è fornita con f_{nh} che varia tra un valore di 10000 a 2000000.

Case-B - Dei fattori n_1 e h :
- n_1= 1400 [rpm];
- h = 10000 [ore].

Il valore di T_N è riportato nelle schede tecniche di prodotto.

2 - Fs : Fattore di Serivizio:
Per determinare il valore **Fs** vedere paragrafo successivo.

E' possibile scegliere gli stadi, il rapporto, la grandezza del riduttore.

Utilizzando la designazione è possibile selezionare inoltre l'esecuzione uscita ed entrata, la posizione di montaggio e verificare le dimensioni del riduttore e di eventuali accessori o particolari estremità

1 - T_N : *Gearbox output nominal torque.*

*The torque is calculated considering the bending stress, the pitting and the life of satellite roll bearings with **Fs** like 1.*

The T_N values are supplied from:

Case-A - Factor f_{nh}:
*The **T_N** is supply with fnh between 10000 to 2000000.*

Case-B - Factors n_1 and h :
- n_1= 1400 [rpm];
- h = 10000 [hours].

TheT_N value is write on the product technical sheets..

2 - Fs : *Service factor*:
For to calculate the Fs value you see the following paragraph.

It's possible to choose the ratio and the gearbox size and stadies.

If you use the designation it's possible to select the output and input configuration, the mounting position, to verify the gearbox dimensions and the options.

1 - T_N : Getriebe-Nennmoment am Abtrieb.

Das Moment wird berechnet unter BerücFsichtigung von Biegespannung, Pitting und Lebensdauer der Planetenlagerung mit **Fs** – siehe 1.
Der Wert T_N ist eine Funktion von::

Case-A - dem Faktor f_{nh}:
T_N ist gegeben mit f_{nh} zwischen10000 und 2000000.

Case-B - den Faktoren n_1 und h :
- n_1= 1400 [rpm];
- h = 10000 [Stunden].

Den Wert von T_N finden sie auf den technischen Produkt-Datenblättern

2 - Fs : Servicefaktor:
Bi der Berechnung von **Fs** ist folgende Seite zu beachten

Damit ist es möglich Stufenanzahl, Übersetzung, und Getriebegröße festzulegen.

Wenn sie die Auswahltabellen nützen können sie An- und Abtriebsbedingungen, Montageposition Abmessungen und Zubehör festlegen.

1.3 Criteri di selezione

1.3.3 Calcolo Fattore di servizio Fs

Per ricavare Fs sono disponibili due alternative:

1 - Non è disponibile alcun collettivo di carico.

Fattore di servizio - Fs

Il fattore di Servizio Fs dipende:

a) dalle condizioni di applicazione
b) dalla durata di funzionamento h/d
c) avviamenti /ora
d) dal grado di affidabilità o margine di sicurezza voluto .

Il fattore di servizio per casi specifici può essere assunto direttamente, altrimenti può essere calcolato in base ai singoli fattori: fattore di durata di funzionamento fs, dal numero di avviamenti /ora fv e dal fattore di sicurezza o grado di affidabilità $f_{Ga.}$

1.3 Gear unit selection

1.3.3 Service factor calculation Fs

For to extract the Fs you have two alternatives:

1- There isn't available any load collective.

Service factor - Fs

Service factor Fs is determined on the basis of:
a) operating conditions of application
b) operation per day (h/d)
c) starts and stops per hour
d) desired reliability or safety factor.

Where service conditions allow it, the recommended service factor for a specific application may be u sed directly, otherwise the service factor must be calculated and the following factors must be considered: operation time factor fs, duty cycle factor fv and safety or reliability factor f_{Ga}.

1.3 Auswahlkriterien

1.3.3 Berechnung des Servicefaktors Fs

Für die Festlegung der Faktore Fs gibt es 2 Alternativen:

1- Wenn sie kein Lastkollektiv habe.,

Betriebsfaktor - Fs

Der Betriebsfaktor Fs hängt von folgenden Kriterien ab:
a) Einsatzbedingungen
b) Betriebsdauer h/d
c) Anläufe / Stunden
d) Zuverlässigkeitsgrad oder gewünschter Sicherheitsbereich.

In spezifischen Fällen kann der Betriebsfaktor direkt übernommen werden, andernfalls kann er den einzelnen Faktoren gemäß berechnet werden: Betriebsdauerfaktor fs, Anläufe/Stunde fv und Sicherheitsfaktor oder Zuverlässigkeitsgrad $f_{Ga.}$

$$F_s = f_s \times f_v \times f_{Ga} \qquad \text{(1.3/c)}$$

fs

CASE A - T_N *values are supplied from* Factors f_{nh}

Case A	Macchina motrice / *Prime mover* / Kraftmaschine	Macchina utilizzatrice / *Driven Machine* / Arbeitsmaschine U	M	S
	Motori elettrici, Turbine, Motori oleodinamici *Electric motors, Turbines, Hydraulic motors* Elektrische Motoren, Turbinen, hydraulische Motoren	1.0	1.25	1.75
	Motori alternativi 4-6 cilindri *Combustion engines with 4-6 cylinders* Verbrennungsmotoren 4-6 Zylinder	1.25	1.5	2.0
	Motori alternativi 1-3 cilindri *Combustion engines with 1-3 cylinders* Verbrennungsmotoren 1-3 Zylinder	1.5	1.75	2.25

CASE B - T_N *values are supplied from* Factors n_1 *and h*

Case B	Macchina motrice / *Prime mover* / Kraftmaschine	h/d	Macchina utilizzatrice / Driven Machine / Arbeitsmaschine U	M	S
	Motori elettrici, Turbine, Motori oleodinamici *Electric motors, Turbines, Hydraulic motors* Elektrische Motoren, Turbinen, hydraulische Motoren	2	0.8	1.0	1.4
		4	0.9	1.12	1.6
		8	1.0	1.25	1.75
		16	1.25	1.5	2.0
		24	1.5	1.75	2.25
	Motori alternativi 4-6 cilindri *Combustion engines with 4-6 cylinders* Verbrennungsmotoren 4-6 Zylinder	2	0.9	1.12	1.6
		4	1.0	1.25	1.75
		8	1.25	1.5	2.0
		16	1.5	1.75	2.25
		24	1.75	2.0	2.5
	Motori alternativi 1-3 cilindri *Combustion engines with 1-3 cylinders* Verbrennungsmotoren 1-3 Zylinder	2	1.0	1.25	1.75
		4	1.25	1.5	2.0
		8	1.5	1.75	2.25
		16	1.75	2.0	2.5
		24	2.25	2.5	3.0

U = macchina a carico uniforme
M = macchina con urti moderati
S = macchina con urti severi

h/d = ore di funzionamento giornaliero

1 - Per i moltiplicatori di velocità, moltiplicare i valori di fs per 1.1

2 - Qualora il motore elettrico sia autofrenante è necessario moltiplicare i valori di fs per 1.1.

***U** = Uniform load*
***M** = Moderate shock load*
***S** = Heavy shock load*

***h/d** = hours of operation per day*

1 - For speed multipliers, multiply fs by 1.1

2 - When you've the brake electric motor, it's needed moltiply the fs values for 1.1.

U = Maschine mit gleichmäßiger Last
M = Maschine mit mäßigen Stößen
S = Maschine mit harten Stößen

h/d = Betriebsstunden/Tag

1 - Für Geschwindigkeits-Multiplikatoren die fs-Werte mit 1.1 multiplizieren

2 - Beim Einsatz von Bremsmotoren sind die fs-Werte mit 1,1 zu multiplizieren.

1.3 Criteri di selezione

1.3 Gear unit selection

1.3 Auswahlkriterien

Classificazione dell'applicazione

Application classification

Klassifikation der Anwendungsbereiche

	SETTORE DI APPLICAZIONE	*APPLICATION SECTOR*	ANWENDUNGSBEREICHE
	AGITATORI	***AGITATORS***	**MISCHER**
U	Con densità uniforme	*Uniform product density*	mit gleichmäßiger Dichte
M	Con densità non uniforme	*Variable product density*	keine gleichmäßige Dichte
	ALIMENTARE	***ALIMENTARY***	**LEBENSMITTELBEREICH**
U	Maceratori, bollitori, coclee	*Mashers, boilers, screw feeders,*	Stampfmühlen, Kocher, Schnecken
M	Trituratrici, sbucciatrici, scatolatrici	*blenders, peelers, cartoners*	Zerkleinerer, Schälmaschinen, Einschachtelmaschinen
	ARGANI	***WINCHES***	**SEILWINDEN**
(1)U,M	Sollevamento	*Lifting*	Heben
M	Trascinamento	*Dragging*	Ziehen
S	Bobinatori	*Reel winders*	Aufrollen
	CARTARIO	***PAPER MILLS***	**PAPIER**
U	Avvolgitori, essiccatrici, pressatrici,	*Winders, dryers, couch rolls*	Aufwickler, Trockner, Presse,
M	Mescolatrici, estrusori, addensatrici	*Mixers, extruders, thickeners*	Mischer, Extruder, Verdichter,
S	Tagliatrici, lucidatrici	*Cutters, glazing cylinders*	Schneidevorrichtungen, Poliermaschinen
	CHIMICO	***CHEMICAL***	**CHEMIE**
S	Estrusori, stampatrici	*Extruders, printing presses*	Extruder, Drucker
M	Importatrici	*Mixers*	Vermischer
	COMPRESSORI	***COMPRESSORS***	**KOMPRESSOREN**
U	Centrifughi	*Centrifugal*	schleudernde
M	Rotativi	*Rotating*	rotierende
M	Assiali	*Axial piston*	axiale
	DRAGHE	***DREDGES***	**BAGGER**
M	Trasportatori	*Conveyors*	Förderer
S	Estrattrici, teste fresatrici	*Extractors, cutter head drives*	Auszugsvorrichtungen, Fräsköpfe
	EDILIZIA	***BUILDING***	**BAUWESEN**
M	Betoniere, coclee	*Cement mixers, screw feeders*	Betonmischer, Schnecken
M	Frantoi, dosatrici	*Crushers, batchers*	Mühlen, Dosiervorrichtungen
S	Frantumatrici	*Stone breakers*	Brecher
	ELEVATORI	***ELEVATORS***	**HEBER**
U	A nastro, scale mobili	*Belt type, escalators*	Mit Förderband, Rolltreppen
M	A tazza, montacarichi, skip	*Bucket conveyors, hoists, skip hoists*	Becherwerke, Lastenaufzüge, Skips
M	Ascensori, ponteggi mobili	*Public lifts, mobile scaffolding*	Lifte, mobile Gerüste
	GRU	***CRANES***	**KRÄNE**
M	Traslazione	*Translation*	Verfahren
M	Rotazione	*Slew*	Drehen
(1)U,M	Sollevamento	*Lifting*	Heben
	LEGNO	***WOOD***	**HOLZ**
M	Accatastatori	*Stackers*	Stapler
M	Trasportatori	*Transporters*	Förderer
M	Seghe, piallatrici, fresatrici	*Saws, thicknessers, routers*	Sägen, Hobelmaschine, Fräsen
	MACCHINE UTENSILI	***MACHINE TOOLS***	**WERKZEUGMASCHINEN**
M	Alesatrici, brocciatrici, cesoiatrici	*Boring machines, broaching machines,*	Bohrer, Räummaschine,
M	Piegatrici, stampatrici	*shearing machines*	Schneidemaschinen
S	Magli, laminatoi	*Bending machines, press forgers*	Biegemaschinen, Stanzmaschinen
		Power hammers, rolling mills	Gesenkhammer, Walzwerke
	MESCOLATORI-MISCELATORI	***MIXERS***	**MISCHER**
U	Con densità uniforme	*Uniform density product*	Mit gleichmäßiger Dichte
M	Con densità non uniforme	*Variable density product*	Keine gleichmäßige Dichte
	MOVIMENTO TERRA	***EARTH MOVING MACHINERY***	**ERDBEWEGUNG**
S	Escavatrici rotative a pale	*Rotating shovel excavators*	Schaufelbagger
M	Trasportatori	*Transporters*	Förderer
	POMPE	***PUMPS***	**PUMPEN**
U	Centrifughe	*Centrifugal*	Zentrifugalpumpen
M,S	Volumetriche a doppio effetto	*Double acting volumetric*	Doppeleffekt-Verdrängerpumpe
M,S	Volumetriche a semplice effetto	*Single acting volumetric*	Verdrängerpumpe
	TRASPORTATORI	***CONVEYORS***	**FÖRDERER**
U	Su rotaie	*On rails*	Auf Rädern
M	A nastro	*Belts*	Mit Band
	TRATTAMENTO ACQUE	***WATER TREATMENT***	**WASSERAUFBEREITUNG**
M	Coclee, trituratori	*Screw feeders, disintegrators*	Schnecken, Zerkleinerer
M	Mescolatori, decantatori	*Mixers, settlers*	Mischer, Dekanter
U	Ossigenatori	Oxygenators	Sauerstoffgeräte
	VENTILATORI	***FAN UNITS***	**VENTILATOREN**
U	Di piccole dimensioni	*Small*	Kleine
M	Di grandi dimensioni	*Large*	Große

1) Per la scelta del fs secondo F.E.M. /1.001/1987 consultare il capitolo "sollevamento".

1) For fs selection in accordance with F.E.M. /1.001/1987, please read Chapter "Lifting".

1) Bei der Wahl des fs gemäß F.E.M. /1.001/1987 Bezug auf das Kapitel "Heben" nehmen.

1.3 Criteri di selezione

Fattore correttivo - f_V

Fattore correttivo del fattore di servizio Fs, per tenere conto degli avviamenti/ora. Il fattore di servizio Fs deve aumentare in caso di avviamenti frequenti con coppia di spunto notevolmente maggiore di quella di regime tenendo conto degli avviamenti per ora secondo la seguente tabella.

1.3 Gear unit selection

Duty cycle factor - f_V

This correction factor is used to adjust service Fs to reflect the number of starts per hour. Where an application involves frequent starts at a starting torque significantly greater than running torque, service factor fs must be adjusted to account for the number of starts per hour using the factors indicated in following table.

1.3 Auswahlkriterien

Korrekturfaktor - f_V

Korrekturfaktor des Betriebsfaktors Fs unter Berücksichtigung der Anläufe/Std. Der Betriebsfaktor Fs muss bei häufigen Anläufen mit einem erheblich über dem Nenndrehmoment liegenden Anlaufmoment angehoben werden, wobei die Anläufe pro Stunde gemäß nachstehender Tabelle zu berücksichtigen sind.

f_V

Avv/h - *Starts/minute* - Anl./Std.	U	M	S
$Z \leq 5$	1	1	1
$5 < Z \leq 30$	1.2	1.12	1.06
$30 < Z \leq 63$	1.33	1.2	1.12
$63 < Z$	1.5	1.33	1.2

f_{Ga}

Fattore affidabilità - f_{Ga}

Un margine di sicurezza o di affidabilità è già inserito nella prestazione di catalogo del riduttore. Se per particolari esigenze è necessaria un' affidabilità maggiore si aumenti il fattore di servizio ed in particolare si può dare i seguenti fattori:
Grado di affidabilità normale: $f_{Ga} = 1$;
Grado di affidabilità elevato (difficoltà di manutenzione, grande importanza del riduttore nel ciclo produttivo, sicurezza per le persone, ecc...): $f_{Ga} = 1.25 - 1.4$;
Non occorre introdurre coefficienti correttivi nel caso che si alternino cicli di funzionamento con carichi applicati nei due sensi,poichè se ne è già tenuto conto nel progetto degli ingranaggi.

Safety factor - f_{Ga}

Catalogue ratings incorporate a safety or reliability factor as standard. If greater reliability is required to meet specific requirements, service factor must be increased using the following factors:
Standard safety factor: $f_{Ga} = 1$;
High safety factor (recommended for difficult maintenance situations, where gear unit performs a critical task in the overall production process or a task such to affect the safety of people, etc...): $f_{Ga} = 1.25 - 1.4$;
Applications with alternating duty cycles where load is applied in both directions have been considered in gear calculations and require no correction factors.

Zuverlässigkeitsfaktor - f_{Ga}

Die Katalogangaben der Getriebeleistungen enthalten bereits einen Sicherheitsbereich oder Zuverlässigkeitsgrad. Falls aufgrund besonderer Anforderungen ein höherer Zuverlässigkeitsgrad verlangt wird, muss der Betriebsfaktor unter Bezugnahme insbesondere auf folgende Faktoren gesteigert werden.
Normaler Zuverlässigkeitsgrad: $f_{Ga} = 1$;
Hoher Zuverlässigkeitsgrad (schwierige Instandhaltung, für den Produktionszyklus besonders wichtiges Getriebe, Personenschutz, usw....): $f_{Ga} = 1.25 - 1.4$.
Wechseln die Betriebszyklen mit in beide Richtungen applizierbaren Lasten, ist das Anwenden der Korrekturkoeffizienten nicht erforderlich, da diese Situation bereits beim Entwurf der Zahnräder berücksichtigt wurde.

1.3 Criteri di selezione

2 - E' disponibile il collettivo di carico
Si misurano le coppie resistenti sugli alberi del riduttore in condizioni di esercizio aderenti alla realtà e si classificano i valori di misura per grandezza (T_i,Fr_i) e frequenza (N_i).

Per calcolare **Fs** è necessario utilizzare la formula ponendo il coefficiente fv uguale ad 1.

$$Ts = \frac{Teq}{T2n} \times f_{Ga}$$

1 - T_{2eq}
Coppia in uscita richiesta equivalente

$$Teq = \left[\frac{n21xt1\%xT1^{6.6} + n22xt2\%xT2^{6.6} + \ldots n2ixti\%xTi^{6.6}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{1}{6.6}}$$

(1.3/d1)

Dove t_1, t_2 … t_i le percentuali di tempo (sul 100% del ciclo) in cui agiscono le coppie T_1, T2,…Ti alle velocità n_{21},n_{22}…n_{2i}.

2 - n_{2eq}
velocità in uscita richiesta equivalente.

$$n2eq = \frac{n21xt1\% + n21xt1\% + \ldots + n2ixti\%}{100\%}$$

(1.3/d2)

3 - Fr_{1eq}
Forza Radiale asse entrata richiesta equivalente

$$Fr1eq = \left[\frac{n21xt1\%xFr11^{\frac{10}{3}} + n22xt2\%xFr12^{\frac{10}{3}} + \ldots n2ixti\%xFr1i^{\frac{10}{3}}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{3}{10}}$$

(1.3/d3)

4 - Fr_{2eq}
Forza Radiale asse uscita richiesta equivalente

$$Fr2eq = \left[\frac{n21xt1\%xFr21^{\frac{10}{3}} + n22xt2\%xFr22^{\frac{10}{3}} + \ldots n2ixti\%xFr2i^{\frac{10}{3}}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{3}{10}}$$

(1.3/d4)

Le formule sono state ricavate utilizzando la formula di Palmgren/Miner.
Per insicurezze, ipotesi di calcolo utilizzare indicazioni riportate sul Niemann/Winter - "Elementi di Macchine".

1.3 Gear unit selection

2 - It's available the load collective
It's possible to measure the resistent torque on the gearbox output shaft in real work conditions and classify the values for size (T_i,Fr_i) and frequency (N_i).

In order to calculate Fs it's necessary to use the formula with fv value like 1.

$$Ts = \frac{Fr1eq}{Fren1} \times f_{Ga}$$

1 - T_{eq}
The equivalent output torque required

$$Teq = \left[\frac{n21xt1\%xT1^{6.6} + n22xt2\%xT2^{6.6} + \ldots n2ixti\%xTi^{6.6}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{1}{6.6}}$$

(1.3/d1)

Where t_1, t_2 … t_i are the percentages of time (on 100% of the cycle) when the torques T_{21}, T_{22}…T_{2i} act at the speed of n_{21}, n_{22}…n_{2i}.

2 - n_{2eq}
the equivalent output speed

$$n2eq = \frac{n21xt1\% + n21xt1\% + \ldots + n2ixti\%}{100\%}$$

(1.3/d2)

3 - Fr_{1eq}
Equivalent input axis radial force

$$Fr1eq = \left[\frac{n21xt1\%xFr11^{\frac{10}{3}} + n22xt2\%xFr12^{\frac{10}{3}} + \ldots n2ixti\%xFr1i^{\frac{10}{3}}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{3}{10}}$$

(1.3/d3)

4 - Fr_{2eq}
Equivalent output axis radial force

$$Fr2eq = \left[\frac{n21xt1\%xFr21^{\frac{10}{3}} + n22xt2\%xFr22^{\frac{10}{3}} + \ldots n2ixti\%xFr2i^{\frac{10}{3}}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{3}{10}}$$

(1.3/d4)

The formula are extract using the Palmgren/Miner formula.
For any calculation hypothesis you use the Niemann/Winter book "Elementi di Macchine".

1.3 Auswahlkriterien

2 - wenn ein Lastkollektiv vorhanden ist.
Es ist möglich das erforderliche Drehmoment an der Abtriebswelle unter realen Bedingungen zu messen und die Größe (T_i,Fr_i) frequenz festzulegen (N_i)

Zur berechung von **Fs** muss die Formel angewendet werden, wobei der Koeffizient fv gleich 1. sein muss.

$$Ts = \frac{Fr2eq}{Fren2} \times f_{Ga}$$

1 - T_{eq}
Das erforderliche äquivalente Drehmoment

$$Teq = \left[\frac{n21xt1\%xT1^{6.6} + n22xt2\%xT2^{6.6} + \ldots n2ixti\%xTi^{6.6}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{1}{6.6}}$$

(1.3/d1)

Wobei t_1, t_2 … t_i (auf 100% vom Zyklus) sind, in denen die Drehmomente T_{21},T_{22}…T_{2i} mit den Geschwindigkeiten n_{21}, n_{22}…n_{2i}. anliegen.

2 - n_{2eq}
die erforderliche äquivalente Geschwindigkeit

$$n2eq = \frac{n21xt1\% + n21xt1\% + \ldots + n2ixti\%}{100\%}$$

(1.3/d2)

3 - Fr_{1eq}
Geforderte Radialkraft Antriebsachse

$$Fr1eq = \left[\frac{n21xt1\%xFr11^{\frac{10}{3}} + n22xt2\%xFr12^{\frac{10}{3}} + \ldots n2ixti\%xFr1i^{\frac{10}{3}}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{3}{10}}$$

(1.3/d3)

4 - Fr_{2eq}
Geforderte Radialkraft Abtriebsachse

$$Fr2eq = \left[\frac{n21xt1\%xFr21^{\frac{10}{3}} + n22xt2\%xFr22^{\frac{10}{3}} + \ldots n2ixti\%xFr2i^{\frac{10}{3}}}{n21xt1\% + n22xt2\% + \ldots n2ixti\%} \right]^{\frac{3}{10}}$$

(1.3/d4)

Die Formeln bauen auf der Palmgren/Miner-Formel auf.

Sollten Sie nicht sicher sein oder Berechungsbeispiele benötigen, verweisen wir auf Niemann/Winter – „Maschinenelemente

1.4 Verifiche

1) Geometria - Dimensioni
Compatibilità dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremità d'albero con giunti,dischi o pulegge.

2)Massimo sovraccarico

Nel caso di avviamenti T_{2max} può essere considerata come quella parte della coppia accelerante (T_{2acc}) che passa attraverso l'asse lento del riduttore:

Avviamento

1.4 Verification

1) Geometry - Dimensions
Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.

2)Maximum overload

For starting, T_{2max} may be considered as that portion of acceleration (T_{2acc}) passing through the gear unit output (low speed) shaft:

Starting

1.4 Überprüfungen

1) Geometrie-Abmessungen
Kompatibilität der Abmessungen mit verfügbaren Maßen (z.B. Trommeldurchmesser) und der Wellenenden mit den Kupplungen, Scheiben oder Riemenscheiben.

2)Maximale Überlast

Bei Anläufen kann T_{2max} als der Teil des Beschleunigungsmoments (T_{2acc}), der durch die Abtriebsachse des Getriebes läuft, angesehen werden:

Anlauf

$$T_{2max} = T_{2acc} = \left(\left(0.45 \cdot \left(T_{1s} + T_{1max} \right) \cdot ir \cdot \eta \right) - T_{2n} \right) \cdot \left(\frac{J}{J + J_0 \cdot \eta} \right) + T_{2n} \quad \textbf{[Nm]}$$

dove:

J: momento d'inerzia della macchina e del riduttore ridotto all'asse motore (kgm^2)
J_0: momento d'inerzia delle masse rotanti sull'asse motore (kgm^2)
T_{1s}: coppia motrice di spunto (Nm)
T_{1max}: coppia motrice max (Nm)

Where:
J: machine and gear unit inertial load reflected to motor shaft (kgm^2)
J_0: inertial load of rotating parts at motor shaft (kgm^2)
T_{1s}: starting torque (Nm)
T_{1max}: max drive torque (Nm)

Hier ist:
J: An der Motorachse reduziertes Trägheitsmoment der Maschine und des Getriebes (kgm^2)
J_0: Trägheitsmoment der an der Motorachse drehenden Massen (kgm^2)
T_{1s}: Anlaufantriebsdrehmoment (Nm)
T_{1max}: Max. Antriebsmoment (Nm)

E' necessario che sia soddisfatta la seguente relazione:

The following formula must be satisfied:

Folgende Bedingung muss erfüllt sein:

$$T_{2max} < T_{max} \qquad \textbf{(2/a)}$$

T_{max}

Il valore è indicato nelle schede tecniche di prodotto.

Tale valore deve essere considerato come una coppia massima dovuta a picchi o spunti di avviamento:

- inversioni di moto per effetti inerziali,
- commutazioni da bassa ad alta polarità,
- avviamenti e frenature a pieno carico con grandi momenti d'inerzia (soprattutto nel caso di bassi rapporti),
- sovraccarichi, urti od altri effetti dinamici,deve essere verificata la condizione:

ATTENZIONE
Non deve essere mai considerata come coppia di lavoro ed essere opportunamente valutato in quegli azionamenti che comportano un elevato numero di avviamenti o inversioni.

T_{max}

The value can be found on the product technical sheets.

Determine maximum overload in the event of:

- *reversing due to inertia,*
- *switching from low to high polarity,*
- *starts and stops under full load with high moment of inertia (this is especially important for low ratios),*
- *overload, shock load or other dynamic load conditions, and determine whether this condition is verified:*

ATTENTION
The max torque should never be considered as a work torque and it must be calculated in applications with high start or inversion runnings.

T_{max}

Diesen Wert finden sie in den technischen Produkt-Datenblättern.

Maximale Überlast im Fall von:

- Drehrichtungs-Umkehr aufgrund von Trägheitseffekten,
- Umschaltung von niedriger auf hohe Polarität,
- Anläufe und Bremsungen unter Volllast mit hohen Trägheitsmomenten (vor allem bei niedrigen Übersetzungsverhältnissen),
- Überlasten, Stöße oder andere dynamische Effekte.

Es muss die Bedingung:

ACHTUNG
Das Maximalmoment darf nie als Arbeitsmoment gewählt und muss immer berechnet werden und zwar unter Berücksichtigung von hohen Start- und Umkehrmomenten.

1.4 Verifiche

3) Numero massimo giri in entrata $n_{1\ max}$

Rappresenta il valore massimo accettabile per ogni grandezza di riduttore, in condizioni di funzionamento intermittente.
Per applicazioni in servizio continuo o per velocità superiori a quelle indicate, il Servizio Tecnico Commerciale è a disposizione per ulteriori chiarimenti.

1.4 Verification

3) Input max rpm $n_{1\ max}$
It's the max acceptable value for each gearbox size with intermittent work.

For any different work conditions, you can keep in touch with our technical sales department.

1.4 Überprüfungen

3) Maximale Antriebsdrehzahl in $n_{1\ max}$
Das ist der maximal zulässige Wert der Getriebegröße bei unterbrochenem Betrieb.

Bei anderen Bedingungen wenden sie sich bitte an unsere technische Abteilung.

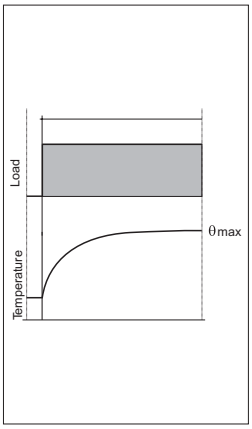
Grandezza Size Größe	EX 1	EX 2	EX 3	EX 4	EXB 2-3-4
10	2800	2800	2800	2800	2800
20	2800	2800	2800	2800	2800
25	2800	2800	2800	2800	2800
30	2800	2800	2800	2800	2800
35	2800	2800	2800	2800	2800
40	—	2800	2800	2800	2800
50	2800	2800	2800	2800	2800
70	2800	2800	2800	2800	2800
80	2000	2800	2800	2800	2800
90	—	2800	2800	2800	2800
95	—	2800	2800	2800	2800
100	2000	2800	2800	2800	2800
150	2000	2800	2800	2800	2800
180	—	2800	2800	2800	2800
200	2000	2800	2800	2800	2800
250	2000	2000	2800	2800	2800
280	—	2000	2800	2800	2800
300	2000	2000	2800	2800	2800
350	1500	2000	2800	2800	2800
360	—	2000	2800	2800	2800
420	1500	2000	2800	2800	2800
600	—	2000	2800	2800	2800
650	1000	2000	2800	2800	2800
800	—	2000	2800	2800	2800
850	1000	2000	2800	2800	2800
1000	500	1500	2000	2800	2800
1200	500	1500	2000	2800	2800
1500	—	1500	2000	2800	2800
1600	500	1500	2000	2800	2800
2000	500	1000	2000	2800	2800
2500	—	—	2000	2800	2800
2600	500	1000	2000	2800	2800
3000	—	—	1500	2000	2800
3100	500	500	1500	2000	2800
3200	—	500	1500	2000	
3700	500	500	1500	2000	
4500	500	500	1500	2000	
5500	500	500	1000	2000	-
6800	500	500	1000	2000	
7500	—	500	500	1500	
8000	500	500	500	1500	

Grandezza Size Größe	**Freno Brake Bremse**		
	Z0	$n_{1\ max} \leq 2800$	Servizio - S1 Duty - S1 Betrieb - S1
	Z1-Z2	$n_{1\ max} \leq 750$	
	Z1-Z2	$n_{1\ max} > 750$	Servizio - S2 Duty - S2 Betrieb - S2

S1 - Servizio continuo:
funzionamento a carico costante per un periodo di tempo indefinito, comunque sufficiente a raggiungere l'equilibrio termico.

S1 - Continuous duty:
Steady load operation for an indefinite period, but sufficient to achieve a thermal balance.

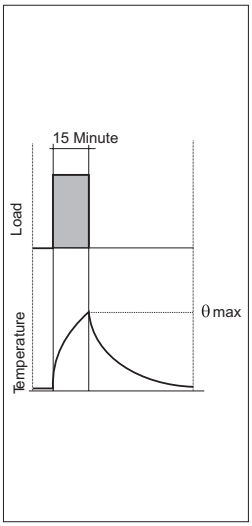
S1 - Dauerbetrieb:
Betrieb mit konstanter Last über eine unbestimmte Zeit, die ausreichen muß, um das thermische Gleichgewicht zu erreichen.



S2 - Servizio di durata limitata:
funzionamento a carico costante per un periodo di tempo limitato insufficiente a raggiungere l'equilibrio termico, seguito da un periodo di riposo sufficiente a riportare il freno a temperatura ambiente.

S2 - Limited duty:
Steady load operation for a limited time, insufficient to achieve a thermal balance, followed by a resting period sufficient to return the brake to ambient temperature.

S2 - Kurzzeitbetrieb:
Betrieb mit konstanter Last für eine begrenzte Zeit, die nicht ausreicht um das thermische Gleichgewicht zu erreichen, gefolgt von einer für die Abkühlung der Bremse ausreichend langen Stillstandzeit.



1.4 Verifiche

Questo paragrafo ha lo scopo di determinare il carico radiale e/o assiale ammissibile e/o la durata dei cuscinetti degli alberi in entrata ed uscita del riduttore sottoposto all'azione di carichi radiale ed assiali derivanti da maccine motrici ed operatrice.

4.1 Fr_{en1-2} e Fa_{en1-2}

Per il calcolo dei carichi radiale ed assiali delle macchine motrici ed operatrici applicati al riduttore si rimanda al paragrafo 1.3.

4.2 Caso 1

Carico assiale e radiale non agiscono contemporaneamente.

A - Verifica carico assiale

Metodo di Calcolo Fa_{c1-2}

$$Fa_{c1-2} = K \times Fa_{n1-2} \quad (4/a)$$

Il carico assiale nominale riduttore **Fa** $_{n1}$; **Fa** $_{n2}$ è riportato nelle schede tecniche di prodotto, il cui valore è stato calcolato considerando **Fs** = 1 e $f_{nh} = 10^5$.

Qualora il parametro calcolato f_{nh} dell'applicazione sia diverso da 10^5 è necessario calcolare il valore di $\mathbf{Fa_{c1-2}}$ utilizzando il fattore correttivo del carico K, il cui valore è riportato nelle schede tecniche di prodotto.

A questo punto è possibile verificare la condizione riportata nella formula:

.

$$Fa_{c1-2} \geq Fa_{en1-2} \times Fs \quad (4/b)$$

B1 - Verifica carico radiale

Metodo di Calcolo Fr_{c1-2}

.

$$Fr_{c1-2} = K \times Fr(x)_{n1-2} \quad (4/c)$$

Il carico radiale nominale riduttore alla distanza "x" , **Fr**$(x)_{n1}$; **Fr**$(x)_{n2}$ è riportato nelle schede tecniche di prodotto, il cui valore è stato calcolato considerando **Fs** = 1 e $f_{nh} = 10^5$ e dove x è la distanza del carico radiale nominale applicazione dalla battuta dell'albero uscita.

Qualora il parametro calcolato f_{nh} dell'applicazione sia diverso da 10^5 è necessario calcolare il valore di $\mathbf{Fr_{c1-2}}$ utilizzando il fattore correttivo del carico K, il cui valore è riportato nelle schede tecniche di prodotto.

A questo punto è possibile verificare la condizione riportata nella formula:

$$Fr_{c1-2} \geq Fr_{en1-2} \times Fs \quad (4/d)$$

1.4 Verification

This paragraph is aimed to help you in calculating the acceptable axyal and/or radial load and/or the bearings life of the gearbox, which is submited to the axyal and radial machine loads.

4.1 Fr_{en1-2} and Fa_{en1-2}

In order to calculate the machine radial and axial loads, please see the paragraph 1.3.

4.2 Example 1

The Radial and axial load don't work at the same time.

A - Axial load verify

Calculation method Fa_{c1-2}

The gearbox nominal axial load **Fa** $_{n1}$; **Fa** $_{n2}$ *is calculated on the product technical sheet tacking into consideration* do **Fs** = 1 e $f_{nh} = 10^5$.

If the calculated application f_{nh} *parameter is different from* 10^5 *it will be necessary to calculate the* $\mathbf{Fa_{c1-2}}$ *value using the K load corection factor that you can find on the product data sheet.*

Now it's possible to verify the condition studing the following formula:.

B1 - Radial load verify

Calculation method Fr_{c1-2}

.

The gearbox nominal radial load at distance "x" , **Fr**$(x)_{n1}$; **Fr**$(x)_{n2}$ *can be found on the product technical sheet and is calculated tacking into consideration* **Fs** = 1 and $f_{nh} = 10^5$ *and where x is the distance of the application nominal radial load from the output shaft step ..*

If the calculated application fnf parameter is different from 10^5 *it's necessary to calculate the* $\mathbf{Fr_{c1-2}}$ *value using the K load correction factor, as specified on the product data sheet.*

Now it's possible to verify the condition from the following formula:

1.4 Überprüfungen

Dieser Abschnitt soll ihnen bei der Berechnung der zulässigen Axial- und/oder Radiallast sowie bei der Berechnung der Lagerlebensdauer, welche wiederum die Axial- und/oder Radiallast bestimmt, behilflich sein.

4.1 Fr_{en1-2} und Fa_{en1-2}

Zur Berechnung der Axial- und/oder Radiallast gehen sie zum Abschnitt 1.3

4.2 Beispiel 1

Axial- und Radiallast treten nicht gleichzeitig auf.

A - Überprüfung der Axiallast

Berechnung nach Methode Fa_{c1-2}

Die Nenn-Axiallast **Fa** $_{n1}$; **Fa** $_{n2}$ wird berechnet gemäß technischem Datenblatt unter Berücksichtigung von **Fs** = 1 e $f_{nh} = 10^5$.

Wenn der berechnete f_{nh} Parameter vom Wert 10^5 abweicht, ist es notwendig den Wert $\mathbf{Fa_{c1-2}}$ unter Berücksichtigung des K-Last Korrekturfaktors – sie finden ihn im Produkt-Datenblatt - zur Berechnung heranzuziehen.

Jetzt ist es möglich den Zustand mit folgender Formel zu überprüfen:

B1 - Radiallast-Überprüfung

Berechnung nach Methode Fr_{c1-2}

.

Die Getriebe-Nennradiallast finden sie im Produkt-Datenblatt. Die zulässige Radiallast im Abstand „x", **Fr**$(x)_{n1}$; **Fr**$(x)_{n2}$ wird berechnet unter Berücksichtigung von **Fs** = 1 und $f_{nh} = 10^5$ wobei „x" der Abstand der Last vom Wellenanfang ist.

Wenn der berechnete f_{nh} Parameter vom Wert 10^5 abweicht, ist es notwendig den Wert $\mathbf{Fr_{c1-2}}$ unter Berücksichtigung des K-Last Korrekturfaktors – sie finden ihn im Produkt-Datenblatt - zur Berechnung heranzuziehen.

Jetzt ist es möglich den Zustand mit folgender Formel zu überprüfen:

1.4 Verifiche

B2 - Calcolo durata in ore dei cuscinetti
Conoscendo:Fr_{en1-2} ; Fs ; Fr (x) $_{n1-2}$ alla distanza x dalla battuta.
Dalla formula indicata si ricava il fattore K.

1.4 Verification

B2 - Bearings life calculatio If you know:Fr_{en1-2} ; Fs ; Fr (x) $_{n1-2}$ *from step x distance.*
From the following formula we extract K factor.

1.4 Überprüfungen

B2 - Berecnung der Lagerlebensdauer Wenn:Fr_{en1-2} ; Fs ; Fr (x) $_{n1-2}$ und Abstand „x“ bekannt sind, erhalten sie aus folgender Formel
den K-Faktor:

$$K = (Fr_{en1-2} \times Fs) / Fr\ (x)_{n1-2} \qquad \textbf{(4/e)}$$

Dal grafico del fattore K si ricava il valore f_{n2h} da cui, conoscendo il numero di giri n_2 , si ricava la durata h.

From K factor graphic we extract f_{n2h} *and if you know the* n_2 *, speed, we calculate the life h.*

Aus dem K-Faktor ermitteln wir graphisch f_{n2h}

4.3 Caso 2

Carico assiale e radiale agiscono contepo-raneamente.

Il questo caso è necessario effettuare un calcolo di verifica completo che richiede la conoscenza dei seguenti i dati base:

- carico radiale F_{ren2} (verso,intensità,direzione);
- carico assiale Fa_{en2} (verso, intensità);
- senso di rotazione dell'albero

4.3 Example 2

The Radial and axyal load work at the same time.

In this case it's necessary to do a complete checking calculation, but we must have the following information:

- radial load F_{ren2} *(way, intensity and direction);*

-axial load Fa_{en2} *(way and intensity);*

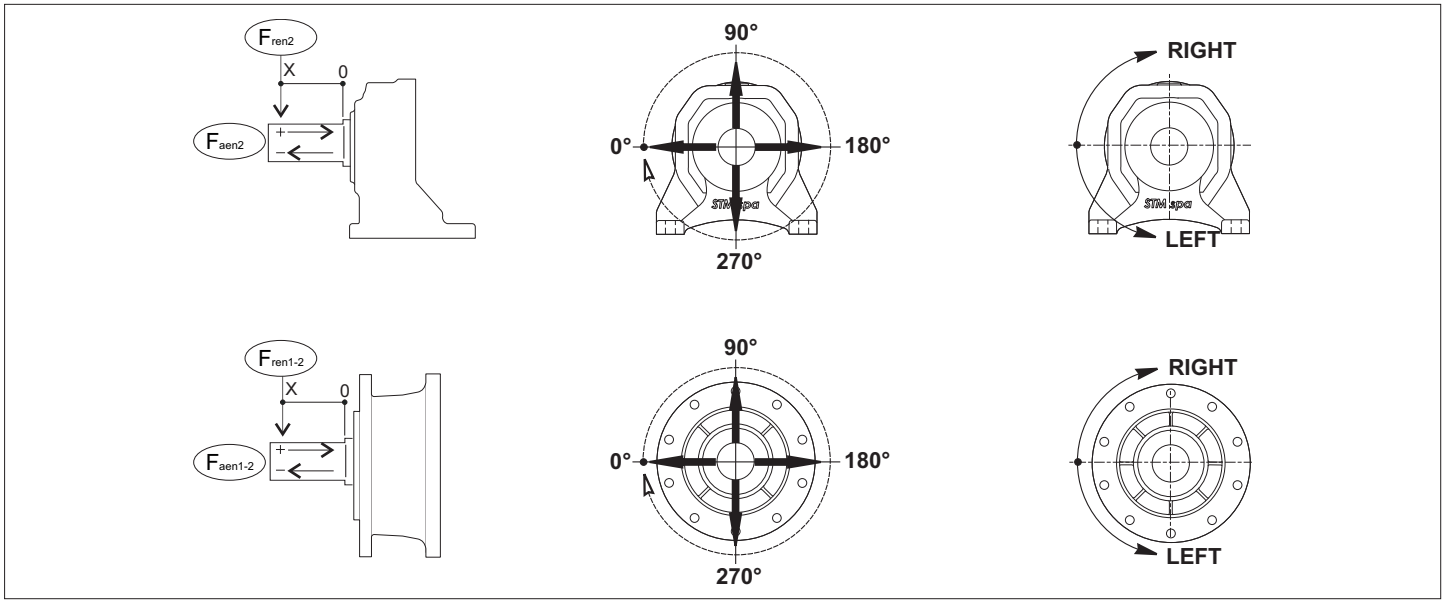
- shaft rotation

4.3 Beispiel 2

Axial- und Radiallast treten gleichzeitig auf.

In diesem Fall ist es erforderlich die gesamte Berechnung zu überprüfen. Wir müssen jedoch folgende Informationen haben:

- Radiallast F_{ren2} (Art, Größe, Richtung);
- Axiallast Fa_{en2} (Art und Richtung);
- Drehrichtung der Welle



5) Verifica Posizione di montaggio

6) Lubrificazione

6.1 - Verificare che tipo e viscosità olio siano idonee alle velocità applicate, ai carichi e al rapporto di riduzione del riduttore selezionato;
6.2 - Verificare che la quantità di olio sia conforme alla:
- taglia ;
- versione;
- posizione di montaggio.

6.3 - Verificare se occorre montare il vaso di espansione e tappo di sfiato.

Per maggiori chiarimenti vedere sezione V.

5) Check mounting position

6) Lubrication

6.1 - Verify that the oil type and viscosity are suitable to the input speed and ratio required;

6.2 - Verify if the oil quantity is corresponding to:
-size
-version
-mounting position

6.3 - Verify if it's necessary to mount an oil tank and breather plug.

For any other information please see section V.

6) Prüfen der Einbaulage

6) Schmierung

6.1) Überprüfen sie, ob Öltype und Viskosität für Eingangsdrehzahl und erforderliche Übersetzung geeignet sind.

6.2) Überprüfen sie Ölmenge in Verbindung mit
- Getriebegröße
- Type
- Einbaulage

6.3) Überprüfen sie, wenn erforderlich, den Einbau eines Ölbehälters und von Entlüftungsschrauben.
Weitere Informationen finden sie in Abschnitt V

1.4 Verifiche

7) Potenza termica del riduttore:
è necessario verificare la seguente formula:

1.4 Verification

7)Gearbox thermal power:
it's necessary to check the following formula:

1.4 Überprüfungen

7) Thermische Belastung des Getriebes
Eine Überprüfung mit folgender Formel ist erforderlich:

$$P_1 \leq P_{tN} \times f_m \times f_a \times f_d \times f_p \times f_f \quad [kW] \qquad \textbf{(7/a)}$$

Considerazioni sui parametri con i quali è stata calcolata la P_{tN} sono riporati nella tabella con indicato, per ciascun parametro, il relativo parametro correttivo.
I valori delle P_{tN} dei riduttori sono riportate nella tabella riportata nella pagina seguente.

The thermal power considerations with the corrisponding correction parameters can be found in the following table.

The gearboxes P_{tN} values are in the table on next page.

Die Bedingungen für die thermische Belastung unter Berücksichtigung entsprechender Korrekturparameter sind in folgender Tabelle zusammengestellt:
Die Werte P_{tN} sind auf der nächsten Seite.

Nei riduttori combinati del tipo EXV - EXA - EXO ecc. è necessario verificare la potenza al limite termico anche del riduttore accoppiato. La potenza applicabile deriva dal minimo dei due valori calcolati.

On the combined EXV - EXA - EXO gearboxes it's necessary to check the secondary gearbox thermal power too.
The input power is the result of the minimum value between the two calculated ones.

Bei kombinierten Getrieben EXV – EXA – EXO sind auch die Zusatzgetriebe auf thermische Belastung zu überprüfen.
Als thermische Antriebsleistung ist der Minimalwert beider Ergebnisse heranzuziehen.

P_{tN} = potenza termica nominale/thermal power rating /thermische Nenngrenzleistung

Descrizione condizione operativa *Operative condition description* Beschreibung der Arbeitsbedingungen	Valore Riferimento per calcolo P_{tN} *Reference value for PtN calculation* Referenzwert für die P_{tN} Berechnung	Fattore correttivo di riferimento Reference correction factor Referenz-Korrekturfaktor
1 - Ambiente Lavoro * 1 - Work ambient* 1-Arbeitsumgebung*	ambiente industriale aperto con velocità dell'aria di 1,4 m/s open space industrial environment with air speed 1,4 m/s Im industriellen offenen Umfeld mit Luftsgeschwindgkeit 1,4 m/s	Da definire tipo ambiente/Ambient type to define/Umgebung ist zu definieren Esempio / For example / z.B. A - Ambiente Chiuso / Closed space / B - Carter
2 -Stato Superficiale * 2 - Surface condition* 2-Öberflächenbedingungen*	Non verniciato con nessun accumulo di polvere e/o sporco. Not painted without deposit of dast and/or dirt. Nicht lackiert ,Staub oder Schmutzfrei	Da definire tipo finitura/Finishing type to define/Umgebung ist zu definieren Esempio / For example / z.B. A - Verniciato/Painting/Lackierung; B - Sporco e/o Polvere/*Dirty and/or dust/Schmutz und/oder Staub*
3 - Motorizzazione * 3 - Input adjustment* 3 - Antrieb*	Versione ECE - Senza alcuna ventilazione ECE version - without ventilation ECE-Version ohne Lüftung	Da definire tipo unità motrice / Prime mover type to be defined / Antrieb ist zu definiere Se l'unità motrice è installata direttamente sul riduttore ne perturba lo stato di equilibrio termico. If the prime mover is mounted on the gearbox his thermal power will be different. Wenn die Antriebseinheit direkt am Getriebe montiert ist, wird das thermische Gleichgewicht beeinflusst.
4 - Metodo di Lubrificazione 4 - System Lubrification 4- Tauchschmierung	Sbattimento Splash Oil Oel Bespritzung	fm.: fattore correttivo per la posizione di montaggio, velocità e rapporto. fm.: correction factor accounting for mounting position, speed and ratio. fm.: Korrekturfaktor für Einbaulage, Drehzahl und Übersetzungsverhältnis. Lubrificazione forzata: è contemplato del coefficiente fm da porsi in questo caso uguale ad 1.
5 - Posizione di montaggio	M1	
6 - n_1	1000 [rpm]	
7 - Tipo Lubrificante * 7 - Lubricant type* 7 - Schmiermitteltype	PAG ISO VG 320 olio sintetico PAG ISO VG 320 syntetic oil PAG ISO VG 320 Synthetiköl	Da definire to define ist zu definiere
8 - t_a	20 [° C]	fp = fattore correttivo della temperatura ambiente fp = ambient temperature factor fp = Korrekturfaktor der Umgebungstemperatur
9 - t_{oil}	-	-
10 - Tipo Servizio 10 - Working use 10 - manca	Continuo Continuos Kontinuirlich	fd = fattore correttivo del tempo di lavoro *fd = operation time factor* fd = Korrekturfaktor der Arbeitszeit
11 - altitudine 11 - Altitude 11- Seehöhe	0 [m]	fa = fattore correttivo dell'altitudine *fa = altitude factor* fa = Höhenkorrekturwert

1.4 Verifiche

1.4 Verification

1.4 Überprüfungen

P_{tN}	
	ALL SIZES
EX 1	Vedere tabelle delle prestazioni *Please look at the performance tables* Siehe Leistungstabellen
EX 2	
EX 3	
EX 4	

ATTENZIONE:
Questo valore non deve essere confuso con la potenza della unità motrice installata che per esempio per esigenze di normalizzazione è scelto a volte più grande del necessario.

ATTENTION:
This value must not be confused with the installed prime mower power, that sometimes is mounted bigger than necessary.

Achtung
Der Wert darf nicht verwechselt werden mit dem Wert des installierten Primärantriebes, welcher manchmal größer als erforderlich ist.

f_m

size		M1-M2-M5-M6	M3-M4	
		n_1		
		>1000 - n_{1max}	> 1000 -1750	1751-n_{1max}
EX...1	**10-20-25**	0.95	0.9	
	30-35-40-50-70	0.95	0.9	0.75
	80-90-95-100	0.90	0.8	0.65
	150-180-200-250-280-300	0.85	0.7	0.60
	350-360-420	0.8	0.68	0.58
	600-650	1.0	1.0	1.0
	800-850	1.0	1.0	1.0
	1000-1200-1500-1600-2000 2500-2600-3000-3100-3200-3700-4500 5500-6800-7500-8000	1.0	1.0	1.0

size		EX: M1-M2-M5-M6 EXB: M...1 - M...2	EX: M3-M4 EXB: M...3 - M...4 - M...5 - M...6	
		n_1		
		> 1000-n_{1max}	> 1000 -1750	1751-n_{1max}
EX...2 EXB...2 EX...3 EXB...3 EX...4 EX...4	**10-20-25**	1.0	1.0	1.0
	30-35-40-50-70	1.0	0.95	0.80
	80-90-95-100	0.95	0.85	0.70
	150-180-200-250-280-300	0.90	0.75	0.65
	350-360-420	0.85	0.7	0.60
	600-650	0.8	0.68	0.58
	800-850	0.8	0.68	0.58
	1000-1200-1500	0.8	0.68	0.58
	1600-2000	0.8	0.68	0.58
	2500-2600-3000-3100	0.8	0.68	0.58
	3200-3700-4500	0.8	0.68	0.58
	5500-6800-7500-8000	0.8	068	0.58

N.B. I valori di n_{1max} sono riportati al punto 3 (Verifiche).
(fm =1 nel caso in cui n_1= 0-1000 min^{-1})

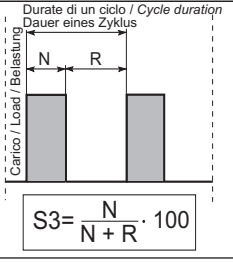
NOTE n_{1max} values are listed at point 3 (Verification)
(fm =1 if n_1= *0-1000 rpm)*

HINWEIS: Die Werte n_{1max} werden unter Punkt 3 "Überprüfungen" angegeben.
(fm =1 bei n_1= 0-1000 min^{-1})

f_a

m	0	750	1500	2250	3000
fa	1	0.95	0.90	0.85	0.81

f_d

S3%		
100	1	
80	1.05	
60	1.15	
40	1.35	
20	1.8	

f_p

Temperatura ambiente *Ambient temperature* Umgebungstemperatur	50 °C	40 °C	30 °C	20 °C	10 °C	0 °C
	0.63	0.75	0.87	1	1.12	1.25

1.4 Verifiche

Il fattore correttivo ff della potenza termica che tiene conto dell'effetto refrigerante della ventola assume in accordo con le norme AGMA 6010.E88 i valori riportati nella tabella 8. L'impiego è limitato alle velocità maggiori o uguali a 700 min^{-1}.

1.4 Verification

Cooling fan factors ff reported in table 8 are in accordance with AGMA 6010.E88 and can be used directly to adjust thermal power to reflect the use of a cooling fan. These factors must only be used for speeds equal to 700 rpm and higher.

1.4 Überprüfungen

In Übereinstimmung mit den Normen AGMA 6010.E88 nimmt der Korrekturwert ff der thermischen Grenzleistung, der den Kühleffekt des Lüfters berücksichtigt, die in der Tabelle 8 angegebenen Werte an. Der Einsatz beschränkt sich auf die Drehzahlen die 700 min^{-1} betragen oder darüber liegen.

f_f

Tipo / *Type* / Typ	Tipo ventola / *Fan type* / Lüftertyp	Note / *Notes* / Hinweise	f_f
EX **EXB**	VE	Contattare per la selezione il servizio Tecnico Commerciale *Please contact our sales technical dept.* Bitte kontaktieren sie unsere technische Verkaufsabteilung	

Qualora (7/a) non sia verificata occorre sostituire la ventola con un gruppo di raffreddamento con scambiatore di calore. Per selezionare il gruppo di raffreddamento adeguato occorre determinare la P_{ta} necessaria:

If (7/a) is not verified, opt for a heat exchanger instead of fan cooling.
To select a suitable cooling unit, you need to determine required P_{ta}:

Sollte diese Bedingung (7/a) nicht gegeben sein, muss der Lüfter durch ein Kühlaggregat mit Wärmeaustauscher ersetzt werden. Vor der Wahl des angemessenen Kühlaggregats muss zunächst die erforderliche P_{ta} bestimmt werden:

$$P_{ta} = P_1 - (P_{tN} \times f_m \times f_a \times f_d \times f_p) \quad [kW] \qquad \textbf{(7/b)}$$

dove:
P_{ta} = potenza termica addizionale

Where:
P_{ta} = additional thermal power required

Hier ist:
P_{ta} = thermische Zusatzgrenzleistung

Dopo avere selezionato il gruppo di raffreddamento, ripetere la verifica aggiungendo alla precedente il valore massimo di P_{tamax} del range identificato espresso in tabella, adeguato con i coefficienti correttivi di temperatura acqua e aria:

After selecting the cooling unit, check that the following condition is satisfied; as you can see, it considers the upper limit value P_{tamax} of the resulting tabulated range adjusted using the water and air temperature correction factors:

Nach erfolgter Wahl der Kühlgruppe, die Kontrolle wiederholen und dabei dem vorausgehenden Wert den max. Wert des P_{tamax} des in der Tabelle angegebenen Bereichs zurechnen und durch die Korrekturkoeffizienten der Wasser- und Lufttemperatur anpassen:

$$P_1 \leq (P_{tN} \times f_m \times f_a \times f_d \times f_p) + (P_{tamax} \times f_w \times f_a) \quad [kW] \qquad \textbf{(7/b)}$$

dove:
P_{tamax} = potenza termica addizionale del range identificato espresso in tabella
fw = coefficiente relativo alla temperatura dell'acqua (esclude fc)
fc = coefficiente relativo alla temperatura dell'aria (esclude fw)

Where:
P_{tamax} = additional thermal power required obtained from resulting tabulated range
fw = water temperature factor (excludes fc)
fc = air temperature factor (excludes fw)

Hier ist:
P_{tamax} = thermische Zusatzgrenzleistung des identifizierten, in der Tabelle angegebenen Bereichs
fw = Koeffizient bezüglich der Wassertemperatur (schließt fc aus)
fc = Koeffizient bezüglich der Lufttemperatur (schließt fw aus)

Pta [kW]

EX

Raffreddamento con scambiatore acqua-olio (Tacqua=15°C)
Cooling by water-oil exchanger (Twater=15°C)
Kühlung durch Wasser-/Ölaustauscher (TWasser=15°C)

RFW...		EX 1	EX 2	EX 3	EX 4
Size	Q_{min}				
1	6	≤ 135	≤ 66	≤ 46	≤ 37
2	6	136 ÷ 219	67 ÷ 108	47 ÷ 74	38 ÷ 59
3	16	220 ÷ 412	109 ÷ 202	75 ÷ 139	60 ÷ 111
4	30	413 ÷ 1104	203 ÷ 542	140 ÷ 373	112 ÷ 298
5	80	1105 ÷ 1972	543 ÷ 968	374 ÷ 666	299 ÷ 533
6	135	1972÷ 3280	968 ÷ 1610	666 ÷ 1107	533 ÷ 886
7	200	3280 ÷ 5910	1610 ÷ 2901	1107 ÷ 1995	886 ÷ 1596
8	200	5910 ÷ 7509	2901 ÷ 3686	1995 ÷ 2536	1596 ÷ 2027

Raffreddamento con scambiatore aria-olio (Taria=20°C)
Cooling by airr-oil exchanger (Tair=20°C)
Kühlung durch Luft-/Ölaustauscher (TLuft=20°C)

RFA...		EX 1	EX 2	EX 3	EX 4
Size	Q_{min}				
1	6	≤ 304	≤ 149	≤ 103	≤ 82
2	13	305 ÷ 407	150 ÷ 200	104 ÷ 138	83 ÷ 110
3	32	408 ÷ 798	201 ÷ 392	139 ÷ 269	111 ÷ 215
4	112	799 ÷ 1336	393 ÷ 656	270 ÷ 451	216 ÷ 361
5	112	1337 ÷ 2003	657 ÷ 984	452 ÷ 676	362 ÷ 541
6	160	2004 ÷ 2516	985 ÷ 1235	677 ÷ 849	452 ÷ 679
7	160	2517 ÷ 3952	1236 ÷ 1940	850 ÷ 1334	680 ÷ 1067

1.4 Verifiche — *1.4 Verification* — 1.4 Überprüfungen

EXB

Raffreddamento con scambiatore acqua-olio (Tacqua=15°C)
Cooling by water-oil exchanger (Twater=15°C)
Kühlung durch Wasser-/Ölaustauscher (TWasser=15°C)

RFW...		EXB 2	EXB 3 EXB 4
Size	Q_{min}		
1	6	≤ 46	≤ 37
2	6	47 ÷74	38 ÷59
3	16	75 ÷139	60 ÷111
4	30	140 ÷373	112 ÷298
5	80	374 ÷666	299 ÷533
6	135	666 ÷ 1107	533 ÷ 886
7	200	1107 ÷ 1995	886 ÷ 1596
8	200	1995 ÷ 2534	1596 ÷ 2027

Raffreddamento con scambiatore aria-olio (Taria=20°C)
Cooling by airr-oil exchanger (Tair=20°C)
Kühlung durch Luft-/Ölaustauscher (TLuft=20°C)

RFA...		EXB 2	EXB 3 EXB 4
Size	Q_{min}		
1	6	≤ 103	≤ 82
2	13	104 ÷ 138	83 ÷ 110
3A	32	139 ÷ 269	111 ÷ 215
4	112	270 ÷ 451	216 ÷ 361
5	112	452 ÷ 676	362 ÷ 541
6	160	677 ÷ 849	452 ÷ 679
7	160	850 ÷ 1334	680 ÷ 1067

fw

Coefficiente relativo alla temperatura dell'acqua
Water temperature factor
Koeffizient bezüglich der Wassertemperatur

Twater	15°C	20° C	25° C	30° C
fw	1	0.85	0.7	0.6

fc

Coefficiente relativo alla temperatura dell'aria
Air temperature factor
Koeffizient bezüglich der Lufttemperatur

Tair	15° C	20° C	25° C	30° C	35° C	40° C
fc	1.12	1	0.88	0.75	0.65	0.5

Una volta selezionato lo scambiatore è necessario verificare se la quantità di olio del riduttore è sufficiente a garantire un corretto funzionamento del gruppo.
Pertanto deve essere verificata la relazione:

After selecting the cooling system it's necessary to check if the oil quantity is enough for making it work.

Therefore check the following formula:

Nach der Auswahl des Kühlsystems ist es nötig mit unten stehender Formel zu überprüfen, ob die Ölmenge für diese Arbeit ausreichend ist:

$$Q_{rid} \geq Q_{min} \times 1.2 \qquad \textbf{(7/c)}$$

Q_{rid} - Quantità olio di riempimento del riduttore (vedere Sezione V)

Q_{min} - Quantità olio minima che deve avere il serbatoio olio per garantire il funzionamento del gruppo.

Qualora la relazione non fosse soddisfatta è necessario prevedere un serbatoio aggiuntivo

Q_{rid} - *Gearbox oil quantity (l) look at vedere Section V*

Q_{min} - *Minimum tank oil quantity to assure the cooling running.*

If the formula is not satisfied, it will be necessary to add another oil tank.

Q_{rid} - Ölfüllmenge des Getriebes siehe Abschnitt V

Q_{min} - Minimale Ölfüllung im Tank, um die Kühlung sicherzustellen.

Sollte die Relation nicht zufriedenstellend sein, muss ein Zusatztank vorgesehen werden.

8) Condizioni di impiego:
8.1 - ta > 0 °C: vedere i punti 6 e 7;
8.2 - ta < -10 °C: contattare il nostro servizio tecnico-commerciale.

8) Using conditions:
8.1 - ta > 0 °C: look at points 6 and 7;
8.2 - ta < -10 °C: contact our techical sales dept.

8) Anwendungsbedingungen:
8.1 - ta > 0 °C: siehe Punkt 6 und 7;
8.2 - ta < -10 °C: bitte kontaktieren sie unsere technische Verkaufsabteilung.

1.4 Verifiche

9) Coppia di slittamento del calettatore

E' necessario che sia soddisfatta la seguente relazione:

1.4 Verification

9) *Shrink disk slipping torque .*

The following formula must be satisfied:

1.4 Überprüfungen

9)Schrumpfscheiben-Schlupfmoment

Folgende Bedingung muss erfüllt sein:

$M_{2s} > T_{2max}$ **(7/d)**

M_{2S} **[Nm]** Coppia Slittamento - Slipping torques - Rutsch- momente	
10 - 20 - 25	2000
30 - 35 - 40 - 50 - 70	7500
80	13000
90 - 95 - 100	17600
150 - 180 - 200	35000
250 - 280	41000
300	52000
350 - 360	62000
420	86000
600 - 650	136000
800 - 850	176000
1000 - 1200	342000
1500 - 1600 - 2000	398000
2500 - 2600 - 3000 - 3100 - 3200	603000
3700 - 4500	800000
5500	990000
6800 - 7500	1235000
8000	1235000

Nota
Sulle grandezze ≤ 420 si utilizzano calettatori con larghezza maggiorata che consentano di avere una distribuzione del carico più uniforme riducendo così lo stato tensionale dell'albero uscita.

Remark
sizes ≤ 420 are using shrink disk with increased width, in order to have uniform distribution of the load thereby reducing the stress load of the output shaft.

Bemerkung
Bei den Größen ≤ 420 wird eine breitere Schrumpfscheibe verwendet, welche eine gleichmäßige Lastverteilung gewährt und so den Spannungszustand der Abtriebswelle reduziert.

10) Verifica peso motore elettrico:
EX - Lineare:

Qualora il peso del motore elettrico installato sia maggiore dei valori riportati in tabella e qualora la posizione di montaggio del riduttore sia tale da porre il motore nelle posizioni 1-2-3 è necessario contattare il nostro servizio tecnico per verificare se l'installazione è idonea, considerando il peso del motore installato e il fattore di servizio dell'applicazione.

P_{KG} - peso motore elettrico

10) Verify of the electric motor weight:
EX - In line:

If the input weight electric motor is bigger than value in table and the mounting position is 1-2-3, it will be necessary to contact our technical sales department to check the electric motor weight and the service factor of the installation.

P_{KG} - *Electric motor weight*

10)Überprüfung des Elektromotorgewichtes EX-inline:

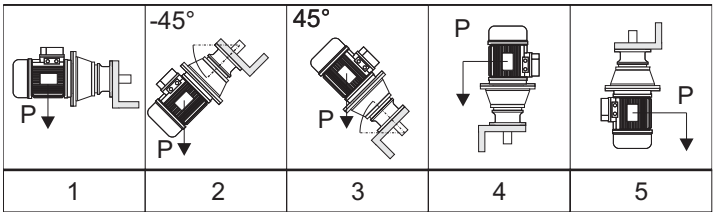
Überprüfung des Elektromotorgewichtes:
Wenn der Gewicht von elektrische Antriebsmotor größer als die Werte in der Tabelle ist also und in Position 1 bis 3 montiert ist, kontaktieren sie bitte unsere technische Verkaufsabteilung wegen Überprüfung von Gewicht und Servicefaktor.

P_{KG} - Gewicht E-Motor

1.4 Verifiche

1.4 Verification

1.4 Überprüfungen



Qualora il peso del motore elettrico installato sia maggiore dei valori riportati in tabella è necessario contattare il nostro servizio tecnico per verificare se l'installazione è idonea, considerando il peso del motore installato e il fattore di servizio dell'applicazione.

If the input weight electric motor is bigger than value in table , it will be necessary to contact our technical sales department to check the electric motor weight and the service factor of the installation.

Überprüfung des Elektromotorgewichtes: Wenn der Gewicht von elektrische Antriebsmotor größer als die Werte in der Tabelle ist also , kontaktieren sie bitte unsere technische Verkaufsabteilung wegen Überprüfung von Gewicht und Servicefaktor.

IEC	50	56	63	71	80	90	100	112	132	160	180	200	225	250	280	315
PKG - max	3,9	5	8	11	15,6	24	33	47	83	150	214	263	344	450	682	1162

11) Coppia frenatura-Motore Autofrenante

11) Braking torque - Brake motor

11) Bremsmoment – Bremsmotor

Nel caso di frenature T_{2max} può essere considerata come quella parte della coppia decelerante (T_{2dec}) che passa attraverso l'asse lento del riduttore:

For braking T_{2max} may be considered as that portion of deceleration torque (T_{2dec}) passing through the gear unit output (low speed) shaft:

Bei Bremsungen kann T_{2max} als der Teil des Beschleunigungsmoments Abbremsmoment (T_{2dec}), der durch die Abtriebsachse des Getriebes läuft, angesehen werden:

$$T_{2max} = T_{2dec} = \left(\left(\frac{T_{1f} \cdot ir}{\eta} \right) - T_{2n} \right) \cdot \left(\frac{J}{J + \frac{J_0}{\eta}} \right) + T_{2n} \quad \textbf{[Nm]}$$

dove:
J: momento d'inerzia della macchina e del riduttore ridotto all'asse motore (kgm^2)
J_0: momento d'inerzia delle masse rotanti sull'asse motore (kgm^2)
T_{1f}: coppia frenante dinamica (Nm)

Where:
J: machine and gear unit inertial load reflected to motor shaft (kgm^2)
J_0: inertial load of rotating parts at motor shaft (kgm^2)
T_{1f}: dynamic braking torque (Nm)

Hier ist:
J: An der Motorachse reduziertes Trägheitsmoment der Maschine und des Getriebes (kgm^2)
J_0: Trägheitsmoment der an der Motorachse drehenden Massen (kgm^2)
T_{1f}: dynamisches Bremsmoment (Nm)

Prima della messa in servizio del riduttore è necessario verificare la seguente relazione:

Before using the gearbox, it's necessary to verify the following formula:

Vor Verwendung des Motors ist nach unten stehender Formel sicherzustellen:

$$T_{2max} < T_{max} \qquad \textbf{(7/e)}$$

Qualora la condizione non sia rispettatta è necessario provvedere alla regolazione della coppia di frenatura.

If the condition is not respected, it will be necessary to adjust the braking torque.

Wenn diese Bedingung nicht erreicht wird, ist es notwendig das Bremsmoment entsprechend einzustellen.

1.5 Stato di fornitura

1.5.0 VERNICIATURA E PROTEZIONE

I riduttori sono verniciati esternamente con fondo antiossidante all'acqua di colore rosso, salvo disposizioni contrattuali diverse

.
La protezione è idonea a resistere a normali ambienti industriali anche esterni, e a consentire finiture ulteriori con vernici sintetiche.

Per maggiori informazioni relative allo stato di fornitura vedere la tabella seguente

Caratteristiche della Vernice

Nel caso si prevedano condizioni ambientali particolarmente aggressive occorre adottare verniciature speciali (**TYP0-TYP1-TYP2 - TYP3 - TYP4).**

ATTENZIONE
In caso di verniciatura dei prodotti, si devono preservare da tale trattamento i piani lavorati e le tenute, al fine di evitare che la vernice ne alteri le caratteristiche chimico-fisiche e pregiudichi l'efficienza dei paraolio. Occorre analogamente preservare la targa di identificazione, e proteggere contro l'occlusione il tappo di livello dell'olio e il foro del tappo di sfiato (ove esistenti).

1.5 Scope of the supply

1.5.0 PAINTING AND PROTECTION

The gear units are externally painted with a red water-base antioxidising undercoat, unless different contractual instructions are given.

The protection is suitable to stand normal industrial environments, also outdoors, and allows additional synthetic paint finishes.

For further details about the supply conditions, please refer to the following table

Paint features

In case particularly aggressive environment conditions are expected, special paints will be needed (**TYP0-TYP1-TYP2 - TYP3 - TYP4).**

ATTENTION
If the product must be painted, protect the machined surfaces and oil seals/gaskets in order to prevent any damage.
It is also necessary to protect the identification plate, the oil level plug (if fitted) and the hole in the breather plug (if fitted) against obstruction.

1.5 Lieferzustand

1.5.0 LACKIERUNG UND SCHUTZ

Außen mit einer roten Rostschutzgrundierung auf Wasserbasis lackiert, vorbehaltlich abweichender vertraglicher Vereinbarungen.
Dieser Schutz ist für einen Einsatz in normalen industriellen, auch im Freien liegenden Umfeldern geeignet und erlaubt Überlackierungen mit Synthetiklack.
Weitere Informationen zum Lieferzustand können der folgenden Tabelle entnommen werden.

Eigenschaften der Lackierung

Sollten besonders aggressive Umgebungsbedingungen vorliegen, müssen Speziallackierungen verwendet werden (**TYP0-TYP1-TYP2 - TYP3 - TYP4).**

ACHTUNG
Sollten die Produkte lackiert werden, muss darauf geachtet werden, dass die bearbeiteten und Dichtflächen dabei geschützt werden, so dass verhindert werden kann, dass die Lackierung die chemisch-physischen Eigenschaften verändert und die Wirkung der Ölabdichtungen einschränkt. In der gleichen Weise und aus gleichem Grund müssen das Typenschild und die Öleinfüllschraube sowie die Bohrung der Entlüftungsschraube (wo vorhanden) geschützt werden.

OPT2
Opzioni - Verniciatura
Options - Painting and surface protection
Optionen - Lackierung und Oberflächenschutz

Serie *Series* Baureihe	Verniciatura Interna *Inner painting* Innenlackierung	Verniciatura Esterna *Outer painting* Außenlackierung		Piani lavorati *Machined surfaces* Bearbeitete Flächen	Alberi *Shafts* Wellen
		Tipo e Caratteristiche vernice *Paint type and features* Lacktyp und -eigenschaften	Verniciabile *Can be painted* Kann lackiert werden		
TypEX					
EX **EXB**	Uguale a verniciatura esterna *Same as outer painting* Wie Außenlackierung	Fondo antiossidante all'acqua di colore rosso, *a red water-base antioxidising undercoat,* *Roten Rostschutzgrundierung auf Wasserbasis lackiert*	Sì	Quando il materiale è la ghisa sono protetti con pasta antiruggine. *When material is cast iron, they are protected by oxide protectant* Falls aus Gusseisen mit Rostschutzpaste geschützt.	Protetti con pasta antiruggene. *Protected by oxide protectant.* Mit Rostschutzpaste geschützt.

1.5 Stato di fornitura — *1.5 Scope of the supply* — 1.5 Lieferzustand

1.5.0 VERNICIATURA E PROTEZIONE — *1.5.0 PAINTING AND PROTECTION* — 1.5.0 LACKIERUNG UND SCHUTZ

Protezione superficiale Surface protection	Numero di strati Permutation of layers	Spessore Coat thick nes	Adatto per Suitable for
TYP 1	1x Primer 1x Two-component top coat	Circa/Approx. **120 micron** A Secco/*Dry*	1 - Impatto ambientale BASSO - (condizioni ambientali normali) Low enviroment impact (Normal ambient condition) 2 - Umidità relativa inferiore al 90% Relative humidity below 90 % 3 -Temperatura superficiale massima. 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività **"C3-M" (DIN EN ISO 12,944-2)** Corrosivity category **"C3-M" (DIN EN ISO 12,944-2)**
TYP 2 Standard Rinforzato Standard Renforced	1x Primer 1x Two-pack Intermediate 1x Two-pack top coat	Circa/Approx. **160 micron** A Secco/*Dry*	1 - Impatto ambientale MEDIO Medium environmental impact 2 - Umidità relativa massima 95 % Relative humidity max. 95 % 3-Temperatura superficiale massima 120 °C Surface temperature up to max. 120 °C 4 -Categoria di corrosività **"C4-M" (DIN EN ISO 12,944-2)** Corrosivity category **"C4-M" (DIN EN ISO 12,944-2)**
TYP 3 Industriale Industrial	1x Primer 2x Two-pack Intermediate 1x Two-pack top coat	Circa/Approx. **240 micron** A Secco/*Dry*	1 - Impatto ambientale ALTO - Applicazione industriale High environmental impact - Industrial Application 2 - Umidità relativa massima 100 % Relative humidity max. 100 % 3-Temperatura superficiale massima 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività **"C5I-M" (DIN EN ISO 12,944-2)** Corrosivity category **"C5I-M" (DIN EN ISO 12,944-2)**
TYP 4 Marino Marine	1x Zinc Primer 2x Two-pack Intermediate 2x Two-pack top coat	Circa/Approx. **320 micron** A Secco/*Dry*	1 - Alto impatto ambientale - Applicazione ambiente marino High environmental impact - Marine Application 2 - Umidità relativa massima 100 % Relative humidity max. 100 % 3-Temperatura superficiale massima 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività **"C5M-M" (DIN EN ISO 12,944-2)** Corrosivitycategory **"C5M-M" (DIN EN ISO 12,944-2)**

A richiesta é possibile fornire ciclo di verniciatura ,schede tecniche dei prodotti utilizzati e report di prova
If requested, we can supply you with painting procedures, data sheets of the products which have been used and testing reports
Auf Anfrage ist es möglich den Lackierzyklus, technische Leistungsblätter der benutzten Produkte und Testberichte zur Verfügung zu stellen

1.5 Stato di fornitura

1.5.1 MATERIALI COSTRUTTIVI

1.5.1.1 Casse - Flange - Coperchi

Serie *Series* Baureihe	Supporti Uscita Output Support Abtriebselement	Supporti Entrata Input Support Antriebselement	
	Getti di ghisa a grafite sferoidale Spheroidal cast iron Sphäroguss	Getti di ghisa a grafite sferoidale Spheroidal cast iron Sphäroguss	Fusioni in ghisa grigia Grey iron casting Grauguss-Legierungen
EX EXB	R-M-MX-T-H-X-S-SB P-PH-PX-PS-PSB F-FB-FP-FS-FSR-FSB FC-FCB FU-HU-SU-TU	EXB - ECR	EU - ECE - IEC - I

1.5.1.2 Materiale degli anelli di tenuta

Serie *Series* Baureihe	OPT Opzioni - Materiale degli anelli di tenuta Options - Materials of Seals Optionen - Dichtungsstoffe		
	— (Tenute STANDARD Oil Seals Standard Ölabdichtungen Standard)	.... Opzioni - Disponibile Options Available Optonen - verfügbar	A richiesta On request Auf Anfrage
EX EXB EX.	— **(VT1 - NBR2)**	**VT2**	

NBR1	Paraoli in NBR in entrata	NBR oil seals at input end	Ölabdichtungen aus NBR im Antrieb
NBR2	Paraoli in NBR in uscita	NBR oil seals at output end	Ölabdichtungen aus NBR im Abtrieb
NBR	Paraoli in NBR in entrata ed in uscita	NBR oil seals at input and output end	Ölabdichtungen aus NBR im An- und Abtrieb
VT1	Paraoli in viton in entrata	Viton oil seals at input end	Ölabdichtungen aus Viton im Antrieb
VT2	Paraoli in viton in uscita	Viton oil seals at output end	Ölabdichtungen aus Viton im Abtrieb
VT	Paraoli in viton in entrata ed in uscita	Viton oil seals at input and output end	Ölabdichtungen aus Viton im An- und Abtrieb

1.5 Scope of the supply

1.5.1 MATERIAL

1.5.1.1 Housings - Flanges - Covers

1.5.1.2 Materials of Seals

1.5 Lieferzustand

1.5.1 KOSTRUKTIONSMATERIAL

1.5.1.1 Gehäuse - Flanschen – Deckel

1.15.1.2 Dichtungsstoffe

1.5 Stato di fornitura
1.5.2 Lubrificazione

1.5 Scope of the supply
1.5.2 Lubrication

1.5 Lieferzustand
1.5.2 Schmierung

EX	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	all sizes	**OUTOIL**

EXB	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	all sizes	**OUTOIL**

Z0	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
		OUTOIL

Z1	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
		OUTOIL

Z2	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
		OUTOIL

EXV	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	EX	**OUTOIL**
	V	Riduttore/Gearbox/Getriebe **R** Look at CT16

EXC	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	EX	**OUTOIL**
	C	Riduttore/Gearbox/Getriebe **C** Look at CT 16

EXS	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	EX	**OUTOIL**
	S	Riduttore/Gearbox/Getriebe **S** Look at CT 17

EXR	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	EX	**OUTOIL**
	R	Riduttore/Gearbox/Getriebe **RX** Look at GSM_mod CT 03

EXO	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	EX	**OUTOIL**
	O	Riduttore/Gearbox/Getriebe **O** Look at CT 17

EXA	OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl	
		Sigla ordine Designation order Bezeichnung Bestellung
	EX	**OUTOIL**
	A	Riduttore/Gearbox/Getriebe **A** Look at CT 17

1.5 Stato di fornitura

1.5.2 Lubrificazione

ATTENZIONE:
Lo stato di fornitura è messo in evidenza con una targhetta adesiva posta sul riduttore.
Verificare la corrispondenza tra stato di fornitura e targhetta adesiva.

1.5 Scope of the supply

1.5.2 Lubrication

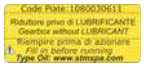
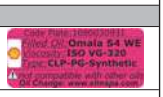
CAUTION:
Gearbox state of supply is indicated on a nameplate applied on gearbox.
Ensure that nameplate data and state of supply correspond.

1.5 Lieferzustand

1.5.2 Schmierung

ACHTUNG:
Der entsprechende Lieferzustand wird auf einem Aufkleber am Getriebe angegeben.
Überprüfen Sie die Übereinstimmung zwischen effektivem Lieferzustand und Aufkleber.

OPT1 - Opzioni - Stato fornitura olio-
Options - Scope of the supply - Options - OIL
Optionen - Lieferzustand - Optionen - Öl

Stato fornitura Scope of the supply Lieferzustand	Riduttore - Lubrificazione Gearbox - Lubrification Getriebe - Schmierung	Tipo Type Typ	NOTE Note Hinweis	Targhetta Namplate Aufkleber
OUTOIL Riduttore Privo di Lubrificante *Gearbox with no lubricant* Getriebe ohne Schmiermittel	Si consiglia l'uso di oli a base sintetica. Vedere a tale proposito le indicazioni riportate Sezione V. Tutti i riduttori con limitatore di coppia LC-LP-LF devono essere lubrificati ad olio: **la lubrificazione a grasso non è ammessa.** The use of synthetic oil is recommended. see details in Section V. All gearboxes incorporating torque limiters LC-LP-LF will have to be lubricated with oil: **grease lubrication is not admitted**. Der Einsatz von synthetischem Öl wird empfohlen. Siehe diesbezüglich die Hinweise im Abschnitt V. lle Getriebe mit Rutschkupplung LC-LP-LF müssen mit Öl geschmiert werden: **Eine Fettschmierung ist hier nicht zulässig**.		Se richiesti completi di lubrificante, verranno forniti con olio standard - "**INOIL_STD"** If customer requests supply of gearbox with lubricant, we shall supply - "**INOIL_STD"** Falls diese Getriebe mit Schmiermittelfüllung angefordert werden - "**INOIL_STD"**	
INOIL_STD Riduttore Completo di Lubrificante Standard STM *Gearbox with lubricant STM standard* Getriebe mit Standard Schmiermittel STM	EX - EXB **OMALA S4 WE 320**	OilGear_TYPE CLP PG Synthetic **PG**	—	
	EXV - EXC EXS - EXO - EXA EXR	**EX -** Look at EX **V ; C -** Look at CT 16 **S ; O ; A -** Look at CT 17 **R -** Look at GSM_mod CT 03		
	Z0	L'olio utilizzato per la lubrificazione del freno è lo stesso di quello del riduttore epicicloidale - *Brake* oil is the same of Gearboxesoil - Das Öl der Bremse ist gleich von Planetengetriebe - Look at EX - EXB		
	Z1 - Z2	OilGear_TYPE - Hydraulic - **Mineral** Il freno ha la lubrificazione separata da quella del riduttore epicicloidale - The brake has separated lubrication from the planetary gearbox - Die Bremse hat eine separate Schmierung, die von dem Planetengetriebe getrennt ist.		
INOIL_Food Riduttore Completo di Lubrificante "ALIMENTARE" *Gearbox with lubricant "FOOD-TYPE"* Getriebe mit Schmiermittel "LEBENSMITTEL"	EX-EXB-EXV-EXC-EXS-EXO-EXA-EXR **Klüberoil 4 UH1 N 320**	OilGear_TYPE CLP HCE Synthetic **HCE** **NSF H1**	Z0 - Z1 - Z2 A richiesta On request Auf Anfrage	
ASOIL Riduttore Completo di Lubrificante Speciale - a richiesta Gearbox with Special lubricant - On request Getriebe mit Sondern-Schmiermittel - Auf Anfrage	A richiesta On request Auf Anfrage	OilGear_TYPE CLP PG Synthetic **PG**	—	
		OilGear_TYPE CLP HC Synthetic **PAO**		
		OilGear_TYPE CLP Mineral		
		OilGear_TYPE CLP HCE Synthetic **HCE** **NSF H1**		
		Grease		

Nota campo- ASOIL
Nella targhetta sono riportate le seguenti informazioni:
- Code_Plate;
- Sigla lubrificante;
- ISO VG;
- Type DIN;
- NSF;
- Altre prescrizioni.

Note range-ASOIL
The type plate contains the following information:
- Code_Plate
- Lubricant type
- ISO VG
- Type DIN
- NSF
- other details

Hinweis Bereich-ASOIL
Auf dem Typenschild finden Sie folgende Informationen:
- Code_Plate
- Schmiermitteltyp
- ISO VG
- Type DIN
- NSF
- andere Hinweise

1.5 Stato di fornitura

1.5.2 Lubrificazione

<u>Riduttori forniti con il cuscinetto schermato</u>

Se ne consiglia il ringrasaggio indipendentemente dalle ore di esercizio effettuate, dopo almeno 2-3 anni.

Pertanto è stato predisposto un ingrassatore per provvedere all'opportuno ringrassaggio.

Le Caratteristiche tecniche generali del grasso utilizzato sono:

- Inspessente: base di Litio;
- NGLI: 2;
- Olio: minerale con adittivazione EP di viscosità minima ISO VG 160;
- Adittivi: l'olio presente nel grasso deve avere caratteristiche di adittivazione EP;

SPECIFICHE E APPROVAZIONI

ISO:**L-X-BCHB 2**
DIN 51 825: **KP2K -20**

1.5 Scope of the supply

1.5.2 Lubrication

Worm gearboxes with a shielded bearing

It is recommended to grease it at least every 2-3 years regardless of the operating hours.

To this end it is provided with a greaser.

Following are the general technical features of the lubrication grease:

- Thickener: Lithium-based;
- NGLI: 2;
- Oil: mineral with EP additives with minimum viscosity as per ISO VG 160;
- Additives: the oil in the grease must feature EP additive;

SPECIFICATIONS AND APPROVALS

ISO:**L-X-BCHB 2**
DIN 51 825: **KP2K -20**

1.5 Lieferzustand

1.5.2 Schmierung

Getrieben mit abgeschirmtem Lager geliefert werden

Wir empfehlen, unabhängig von den erfolgten Betriebsstunden, mindests alle 2-3 Jahre ein entsprechendes Nachschmieren.

Daher wurde ein angemessener Schmiernippel für das Nachschmieren vorgesehen.

Allgemeine technische Eigenschaften des verwendeten Fetts:

- Verdickungsmittel: auf Lithiumbasis;
- NGLI: 2;
- Öl: Mineralöl mit Zusatz von EP mit Mindestviskosität gemäß ISO VG 160;
- Additive: das im Fett enthaltene Öl muss die Eigenschaften der EP Additivierung aufweisen;

SPEZIFIKATIONEN
ISO:**L-X-BCHB 2**
DIN 51 825: **KP2K -20**

1.5 Stato di fornitura

1.15.3 Connessione motore/riduttore con giunto STM/ROTEX

Qualora la connessione tra riduttore e macchina motrice sia effettuata con un giunto è necessario verificare se è necessario montare un linguetta di dimensioni a disegno STM.
La linguetta e la targhetta nella quale sono riportate le istruzioni di montaggio sono allegate ad ogni fornitura.
Qualora non fornite segnalare il problema al Nostro Ufficio Commerciale ed attenersi alla presenti istruzioni per l'istallazione del motore sul riduttore.
Di seguito sono allegate targhette con le relative istruzioni di montaggio.

1.5 Scope of the supply

1.15.3 Connecting the motor and gearbox with STM/ROTEX joint

If gearbox and driving machine are connected by means of a joint, check whether it is necessary to install a key sized as specified on STM drawing.
Key and nameplate indicating assembly instructions come with any supply.
Should they be missing, report this problem to our Sales Dept. and follow these instructions for installing the motor to gearbox.

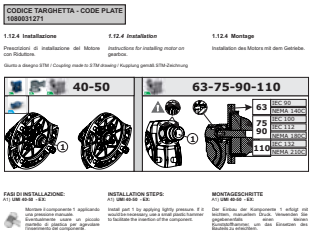
Follow are showed some of the nameplates bearing the installation instructions

1.5 Lieferzustand

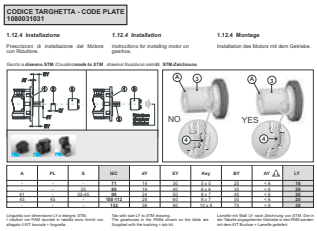
1.15.3 Verbindung zwischen motor und getriebe über kupplung STM/ROTEX

Bei Verbindung zwischen Getriebe und Antriebseinheit über eine Kupplung muss überprüft werden, ob ein Federkeil gemäß STM-Maßzeichnung erforderlich ist.
Der Federkeil und das Schild, auf dem die Montageanleitung wiedergegeben wird, sind im Lieferumfang enthalten.
Sollten sie nicht mitgeliefert worden sein, muss dies unserer Verkaufsabteilung mitgeteilt werden. Für die Installation des Motors am Getriebe muss man sich an die entsprechenden Anleitungen halten.
Auf den folgenden Seiten werden die Blätter mit den entsprechenden Montageanleitungen angefügt.

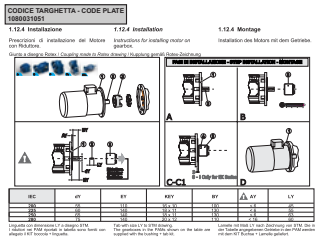
Giunto a disegno "STM"
Joint to "STM" drawing
Kupplung gemäss "STM"-zeichnung



Giunto a disegno "STM"
Joint to "STM" drawing
Kupplung gemäss "STM"-zeichnung



Giunto tipo "ROTEX"
"ROTEX" type of joint
Kupplung - typ "ROTEX"



Per quanto non quì specificato, fare riferimento al manuale d'uso e manutenzione reperibile sul ns. sito Web: www.stmspa.com

For additional information please refer to STM maintenance booklet available on our internet site: www.stmspa.com

Fuer weitere Auskünfte bitte STM Wartungshandbuch nachsehen. Es ist in internet : www.stmspa.com

1.6 Normative applicate

1.6.1 Specifiche prodotti non “ATEX”

I riduttori della STM SpA sono organi meccanici destinati all’uso industriale e all’incorporazione in apparecchiature meccaniche più complesse. Dunque non vanno considerati macchine indipendente per una predeterminata applicazione ai sensi 2006/42/CE, né tantomeno dispositivi di sicurezza.

1.6.2 Specifiche prodotti “ATEX”

Campo applicabilità

La direttiva ATEX (2014/34/UE) si applica a prodotti elettrici e non elettrici destinati a essere introdotti e svolgere la loro funzione in atmosfera potenzialmente esplosiva. Le atmosfere potenzialmente esplosive vengono suddivise in gruppi e zone a seconda della probabilità di formazione. I prodotti STM sono Conformi alla seguente classificazione:

1.6 Standards applied

1.6.1 Specifications of non - "ATEX" products

STM SpA gearboxes are mechanical devices for industrial use and incorporation in more complex machines. Consequently, they should not be considered neither self-standing machines for a pre-determined application according to 2006/42/EC nor safety devices.

1.6.2 Specifications of "ATEX" products

Application field

ATEX set of provisions (2014/34/UE) is referred to electric and non-electric products which are used and run in a potentially explosive environment. The potentially explosive environments are divided into different groups and zones according to the probability of their formation. STM products are in conformity with following classification:

1.6 Spezifikationen für produkte, die nicht der "ATEX"-norm entsprechen

Bei den Getrieben der STM SpA handelt es sich um Mechanikorgane, die für den industriellen Einsatz und einen Einbau in komplexere Einrichtungen bestimmt sind. Sie werden deshalb weder unter dem Aspekt unabhängiger, für eine bestimmte Anwendung vorgesehener Maschinen im Sinne der 2006/42/EG, noch als Sicherheitsvorrichtungen berück- sichtigt.

1.6.2 Spezifikationen für "ATEX"-produkte

Anwendungsbereich

Die ATEX-Richtlinie (2014/34/UE) wird bei elektrischen und nicht elektrischen Produkten angewendet, die dazu bestimmt sind, in potentiell explosionsfähigen Atmosphären eingesetzt und betrieben zu werden. Die potentiell explosionsfähigen Atmosphären werden in Abhängigkeit der Wahrscheinlichkeit in Gruppen und Zonen unterteilt. Die STM-Produkte entsprechen der folgenden Klassifizierung:

Type Mark - standard

Designation Type Mark	Material	Symbol Mark	Group	Category	Symbol Protection	Group Dangerous material	Temperature	Protection level EPL	Use limitation
Gb-4	GAS		II	2G	Exh	IIC	T4	Gb	-
Gb-5							T5*		
Gc-4			II	3G	Exh	IIC	T4	Gc	-
Gc-5							T5*		
Db-4	DUST		II	2D	Exh	IIIC	135 °C	Db	-
Db-5							100 °C*		
Dc-4			II	3D	Exh	IIIC	135 °C	Dc	-
Dc-5							100 °C°*		

(*) Classe di temperatura ATEX ottenibile a richiesta / *ATEX temperature class on request* / Auf Anfrage erhältliche ATEX-Temperaturklasse

Type Mark - with limitation

Limitation		Material	Designation Type Marrk	Category	Group Dangerous material	Note
Products Versions	Versions with compact motor Versions with brake Z0-Z1-Z2-Z3	—	—	—	—	All versions are excluded from certification
Accessory Option	**Torque limiter type: LP-LC.LF**	GAS DUST	Gc-4-x - Gc-5-x Dc-4-x - Dc-5-x	3G 3D	Standard	with limitation Use x
	Ventilation system And/Or Painting type: TYP3 - TYP4 *	GAS GAS	b_Gb-4 - b_Gb-5 b_Gc-4 - b_Gc-5	Standard	IIB	*For other type painting:Type Mark is Standard On request in available painting type for IIC: TYP3C & TYP4C
	Ventilation system	DUST DUST	b_Db-4-x - b_Db-5-x b_Dc-4-x - b_Dc-5-x		IIIB	with limitation Use x

Nel caso di classe di temperatura T5 occorre verificare la potenza limite termico declassata (rif. normativa interna NORM_0198, visionabile sul sito web: *www.stmspa.com*).

I prodotti del gruppo IID (atmosfera polverosa) vengono definiti dalla massima temperatura di superficie effettiva.

La massima temperatura di superficie è determinata in normali condizioni di installazione e ambientali (–20°C e +40°C) e senza depositi di polvere sugli apparecchi.
Qualunque scostamento da queste condizioni di riferimento può influenzare notevolmente lo smaltimento del calore e quindi la temperatura.

In case of T5 temperature class it will be necessary to verify the declassed thermal limit power (refer to internal standard NORM_0198, available on the web site: www.stmspa.com).

The products of the family IID (dust environment) are defined by the max effective surface temperature.

Max surface temperature is determined in standard installation and environmental conditions (-20°C and +40°C) and in absence of dust on product surface.
Any other condition will modify the heat dissipation and consequently the temperature.

Bei der Temperaturklasse T5 muss die deklassierte thermische Grenzleistung überprüft werden (Bezug auf firmeninterne NORM_0198, abrufbar aus der Website: www.stmspa.com.

Die der Gruppe IID (Atmosphäre mit staubförmiger Belastung) angehörigen Produkte werden ihrer effektiven maximalen Oberflächentemperatur gemäß definiert.
Die maximale Oberflächentemperatur wird in normalen Einbau- und Umgebungsbedingungen (-20°C und +40°C) und ohne auf den Vorrichtungen vorhandenen Staubablagerungen bestimmt.
Jegliche Abweichung von diesen Bezugsbedingungen kann sich erheblich auf die Wärmeableitung bzw. auf die Betriebstemperatur auswirken.

1.6 Normative applicate

1.6.4. COME SI APPLICA

Al momento di una richiesta di offerta per prodotto conforme a normativa ATEX 2014/34/UE occorre compilare la ***scheda acquisizione dati*** (www.stmspa.com).
Effettuare le verifiche come prima descritto.
I riduttori certificati verranno consegnati con:
-una seconda targhetta contenente i dati ATEX;
-ove previsto un tappo sfiato, tappo sfiato con molla interna;
-se rispondente alla classe di temperatura T4 e T5 verrà allegato un indicatore di temperatura (132 °C nel caso di T4 e 99°C rispettivamente per la T5)
-Indicatore di temperatura : termometro a singolo rilevamento, una volta raggiunta la temperatura indicata si annerisce segnalando il raggiungimento di tale limite.

1.6.5 UE Direttive - marcatura CE- ISO9001

Direttiva Bassa Tensione 2014/35/UE
I motoriduttori, motorinvii angolari, motovariatori e i motori elettrici STM sono conformi alle prescrizioni della direttiva Bassa Tensione .

2014/30/UE Compatibilità elettromagnetica
I motoriduttori, motoriviiangolari, motovariatori e i motori elettrici STM sono conformi alle specifiche della direttiva di Compatibilità Elettromagnetica.

Direttiva Macchine 2006/42/CE
I motoriduttori, motoriviiangolari, motovariatori e i motori elettrici STM non sono macchine ma organi da installare o assemblare nelle macchine.

Marchio CE, dichiarazione del fabbricante e dichiarazione di conformità.

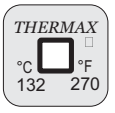
I motoriduttori, motovariatori e i motori elet- trici hanno il marchio CE.
Questo marchio indica la loro conformità alla direttiva Bassa Tensione e alla direttiva Compatibilità Elettromagnetica.
Su richiesta, STM può fornire la dichiarazione di conformità dei prodotti e la dichiarazione del fabbricante secondo la direttiva macchine.

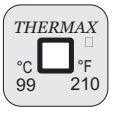
ISO 9001
I prodotti STM sono realizzati all'interno di un sistema di qualità conforme allo standard ISO 9001. A tal fine su richiesta è possibile rilasciare copia del certificato.

1.6 Standards applied

1.6.4. HOW IS IT APPLIED

In case of request of offer relating to any product in conformity with the provisions ATEX/2014/34/UE, the ***specifications paper*** *should be filled in (*www.stmspa.com).
Perform the inspections as described above. Certified reducers will be delivered with:
- a second nameplate containing ATEX data;
- a breather valve with internal spring, where a breather is needed;
- if in accordance with classes of temperature T4 and T5, a temperature gauge will be included (132 °C in case of T4 and 99 °C in case of T5).
- Temperature gauge: single-reading thermometer, it blackens once temperature is reached, pointing out the achievement of that limit.





1.6.5 UE Directives-CE mark-ISO 9001

Directive 2014/35 UE Low VoltageSTM
geared motors, right angle drives with motor, motovariators and electric motors meet the specification of the low voltage directive.

2014/30/UE Electromagnetic Compatibility
STM geared motors, right angle drives with motor, motovariators and electric motors correspond to the specifications of the EMC directive.

Machinery Directive 2006/42/CE
STM geared motors, right angle drives with motor, motovariators and electric motors are not standalone machines, they are exclusively for installation into a machine or for assembly on a machine.

CE Mark, Conformity Declarations and Manufacturer's Declaration.
STM geared motors, right angle drives with motor, motovariators and electric motors carry the CE Mark.
It indicates conformity to the low voltage directive and to electromagnetic compatibility directive.
On request STM supplies both the conformity declarations and the manufacturer's declaration according to the machine directive.

ISO 9001
STM products have been designed and manufactured according to ISO 9001 quality system standard.
On request a copy of the certification can be issued.

1.6 Angewendete Normen

1.6.4. ANWENDUNGSWEISE

Bei einer Angebotsanfrage für der Richtlinie ATEX 2014/34/UE entsprechende Produkte muss das Datenerfassungsformular (www.stmspa.com) ausgefüllt werden.
Dazu die zuvor beschriebenen Kontrollen vornehmen.
Die zertifizierten Getriebe werden wie folgt ausgestattet geliefert: -mit einem zweiten Typenschild mit ATEX-Daten;
-wo vorgesehen, mit einem Entlüftungs- verschluss, Entlüftungsverschluss mit interner Feder;
-falls der Temperaturklasse T4 und T5 entsprechend, wird eine Temperaturanzeige vorgesehen (132 °C bei T4 und 99°C bei T5)
-Temperaturanzeige: einzelnes Erfassungs-thermometer - bei Erreichen der angegebenen Temperatur wechselt die Farbe zur Anzeige der erreichten Temperatur in Schwarz.

1.6.5 UE Richtlinien - CE-Zeichen - ISO9001

Niederspannungsrichtlinie. 2014/35/UE
Die Getriebemotoren, Winkelgetriebe, Verstellgetriebe und Elektromotoren der STM entsprechen den Vorschriften der Niederspannungsrichtlinie.

2014/30/UE Elektromagnetische Verträglichkeit
Die Getriebemotoren, Winkelgetriebe, Verstellgetriebe und Elektromotoren der STM entsprechen den Vorschriften der Richtlinie zur Elektromagnetischen Verträglichkeit.

Maschinenrichtlinie 2006/42/CE
Die Getriebemotoren, Winkelgetriebe, Verstellgetriebe und Elektromotoren der STM sind keine Maschinen sondern Organe, die in Maschinen eingebaut oder an diesen montiert werden.

CE-Zeichen, Hersteller- und Konformitätserklärung
Die Getriebemotoren, Verstellgetriebe und Elektromotoren tragen das CE-Zeichen.

Dieses Zeichen weist auf ihre Konformität mit der Niederspannungsrichtlinie und der Richtlinie zur Elektromagnetischen Verträglichkeit hin.
Auf Anfrage kann die STM die Konformitätserklärung und die Hersteller- erklärung gemäß Maschinenrichtlinie zu den Produkten liefern.

ISO 9001
Die STM-Produkte werden in einem Qualitätssystem gemäß dem Standard ISO 9001 realisiert. Auf Anfrage kann daher eine Kopie der Zertifizierung geliefert werden.

1.6 Normative applicate

1.6.6 Normative riferimento Progettazione e Fabbricazione

Tutti i prodotti della STM sono progettati nel rispetto delle seguenti normative:

Calcolo degli ingranaggi e cuscinetti

ISO 6336 - ISO10400 - DIN3991
La capacità di carico é stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 - ISO10400 - DIN3991 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95 e AGMA 2003).

BS 721
Calcolo della capacità di carico delle viti e delle corone elicoidali.

ISO 281
Calcolo della durata a fatica dei cuscinetti volventi.

Alberi
DIN 743
Calcolo della durata a fatica degli alberi

Materiali

EN 10084
Acciaio da cementazione per ingranaggi, viti senza fine e alberi.

EN 10083
Acciaio da bonifica per alberi.

UNI EN 1982
Bronzo per corone elicoidali.

UNI EN 1706
Alluminio e leghe di Alluminio

UNI EN 1561
Fusioni in ghisa grigia.

UNI EN 1563,2004
Getti di ghisa a grafite sferoidale

UNI 3097
Acciaio per cuscinetti per piste rotolamento.

1.6 Standards applied

1.6.6 Standards applied

All STM products are designed following these standards:

Calculation of gearboxes and bearings

ISO 6336 - ISO10400 - DIN3991
The load capacity of gear sets is calculated at contact and root bending stress in accordance with standard ISO 6336 - ISO10400 - DIN3991
- (gears can be rated to AGMA 2001-C95 and AGMA 2003 on request).

BS 721:
Calculation of load capacity for worm gearing.

ISO 281:
Rolling bearings — Dynamic load ratings and rating life

Shafts
DIN743
Shafts — Dynamic load ratings and rating life

Materials

EN 10084
Case hardening steels for gears, worms and shafts.

EN 10083
Quenched and Tempered Steels for shafts

UNI EN 1982
Copper for helical worm-gears

UNI EN 1706
Aluminium alloy

UNI EN 1561
Grey iron casting

UNI EN 1563,2004
Spheroidal cast iron

UNI 3097
Ball and roller bearing steel

1.6 Angewendete Normen

1.6.6 Bezugsnormen Entwicklung und Produktion

Alle Produkte der STM werden unter Einhaltung folgender Normen entwickelt:

Berechnung der Zahnräder und Lager

ISO 6336 - ISO10400 - DIN3991
Die Belastbarkeit wurde auf Oberflächendruck und Bruch der Richtlinie ISO 6336 - ISO10400 - DIN3991 - gemäß berechnet (auf Anfrage können Überprüfungen den Normen AGMA 2001-C95 und AGMA 2003 gemäß vorgenommen werden).

BS 721
Berechnung der Belastungsfähigkeit der Schnecken und Schrägzahnräder.

ISO 281
Berechnung der Belastungsdauer der Wälzlager.

Wellen
DIN743
Berechnung der Belastungsdauer der Wellen.

Material

EN 10084
Einsatzstahl für Zahnräder , Schnecken und Wellen.

EN 10083
Vergütungsstahl für Wellen.

UNI EN 1982
Bronze für Schrägzahnräder

UNI EN 1706
Aluminium und Aluminiumlegierungen

UNI EN 1561
Grauguss-Legierungen

UNI EN 1563,2004
Sphäroguss

UNI 3097
Stahl für Lagergleitbahnen

B

Designazione
Designation
Bezeichnung

B1

SCHEDE TECNICHE RIDUTTORI
GEARBOXES TECHNICAL SHEETS
TECHNISCHE DATENBLAETTER GETRIEBE

SIZE	EX Series (EX)					EXB Series (EXB)				Reference Torque Nm	PAGE
	1	2	3	4	range IR	2	3	4	range IR		
10	101	102	103	104	3.48-2687	102	103	104	10.01-2559	1000	B14
20	201	202	203	204	3.48-2687	202	203	204	10.01-2559	2000	B16
25	251	252	253	254	3.48-2135	252	253	254	10.01-2051	2500	B18
30	301	302	303	304	3.60-2799	302	303	304	10.35-2666	3000	B20
35	351	352	353	354	3.60-2314	352	353	354	10.35-2204	3500	B22
40	—	402	403	404	12.5-2799	—	403	404	36.0-2666	4000	B24
50	501	502	503	504	3.60-2799	502	503	504	9.11-2666	5000	B26
70	704	702	703	704	3.60-1595	702	703	704	9.11-1519	7000	B28
80	801	802	803	804	3.50-2818	802	803	804	8.85-2685	8000	B30
90	—	902	903	904	12.6-2818	—	903	904	36.2-2685	9000	B32
95	—	952	953	954	12.6-2330	—	953	954	36.2-2219	9500	B34
100	101	1002	1003	1004	3.50-2818	1002	1003	1004	8.85-2685	10000	B36
150	1501	1502	1503	1504	3.72-2422	1502	1503	1504	9.41-2307	15000	B38
180	—	1802	1803	1804	15.8-2041	—	1803	1804	40.1-1944	18000	B40
200	2001	2002	2003	2004	4.40-1163	2002	2003	2004	11.1-1108	20000	B42
250	2501	2502	2503	2504	3.63-2447	2502	2503	2504	9.17-2330	25000	B44
280	—	2802	2803	2804	12.7-2447	—	2803	2804	32.1-2341	28000	B46
300	3001	3002	3003	3004	3.52-2289	3002	3003	3004	8.90-2190	30000	B48
350	3501	3502	3503	3504	4.04-2883	—	3503	3504	36.8-2758	35000	B50
360	—	3602	3603	3604	15.0-2478	—	3603	3604	38.0-2371	36000	B52
420	4201	4202	4203	4204	4.18-2019	—	4203	4204	39.3-1932	42000	B54
600	—	6002	6003	6004	15.6-2019	—	6003	6004	39.3-1932	60000	B56
650	6500	6502	6503	6504	4.18-2039	—	6503	6504	38.3-1873	65000	B58
800	—	8002	8003	8004	15.2-2039	—	8003	8004	38.3-1873	80000	B60
850	8501	8502	8503	8504	4.18-1907	—	8503	8504	37.2-1752	85000	B62
1000	10001	10002	10003	10004	4.04-2341	—	10003	10004	36-2150	100000	B64
1200	12001	12002	12003	12004	4.18-2402	—	—	12004	149.7-2207	120000	B66
1500	—	15002	15003	15004	16.3-2948	—	—	15004	144.7-2708	150000	B68
1600	16001	16002	16003	16004	4.04-2065	—	—	16004	159.1-1896	160000	B70
2000	20001	20002	20003	20004	4.18-1631	—	—	20004	160.3-1550	200000	B72
2500	—	—	25003	25004	61.3-2002	—	—	25004	155.0-1902	250000	B74
2600	26001	26002	26003	26004	4.04-1873	—	—	26004	150.5-1779	260000	B76
3000	—	—	30003	30004	16.9-2002	—	—	30004	155.0-1902	300000	B78
3100	31001	31002	31003	31004	4.18-1873	—	—	31004	150.5-1779	310000	B80
3200	—	32002	32003	32004	17.5-1922	—	—	—	—	320000	B82
3700	37001	37002	37003	37004	4.17-1991	—	—	—	—	370000	B83
4500	45001	45002	45003	45004	4.17-1615	—	—	—	—	450000	B84
5500	55001	55002	55003	55004	4.17-1398	—	—	—	—	550000	B85
6800	68001	68002	68003	68004	4.17-1515	—	—	—	—	680000	B86
7500	—	75002	75003	75004	15.0-779.5	—	—	—	—	750000	B87
8000	80001	80002	80003	80004	3.70-956.6	—	—	—	—	800000	B88

1.1 Designazione — *1.1 Designation* — 1.1 Bezeichnung

EX	B	10	1	-	P	D
Maschine	Centerline Orientation	Size	N° of reductions	Combined gearbox	Output Version	Output Shaft
00-M	01-CO	02-SIZE	03-NOR	04-CG	05-OV	06-OS

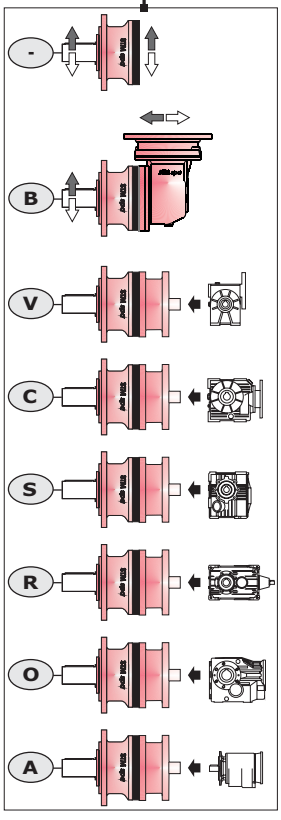
CODE: Example of Order

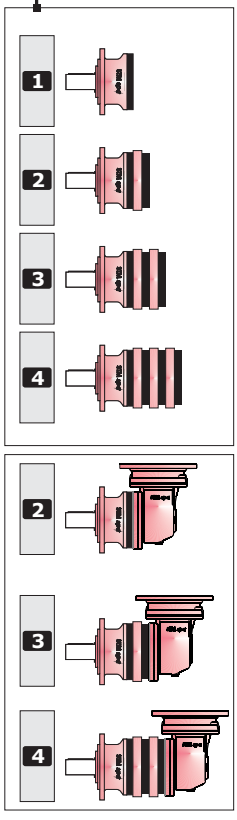
WEB: Reference Designation



10 20 25 30 35 40 50 70 80 90 95 100 150 180 200 250 280 300 350 360 420 600 650 800 850 1000 1200 1500 1600 2000 2500 2600 3000 3100 3200 3700 4500 5500 6800 7500 8000

63
Example EXV





Standard male output shaft Size 10 ... 150	RN.-LN RD	
Reinforced male output shaft **M.** - Size 10 ... 80 **L.** - Size 100 **MX.** - Size 30 ... 70	MN.-LN. MXN. MXD MD-LD	
Oversized flange male output shaft Size 30 ... 300	TN. TD	
Male shaft ring gear flange **H.** - Size 150-180-200-250-280-300 **X.** - Size 150-180-200	HN. XN. XD HD	
Male shaft ring gear flange Size 350...8000 (NOTE-Size7500-8000 **SN1**-Version FSR+N **SD** - Version FSR+D)	SN. SBN. SBD SD	
Male square shaft ring gear flange Size 7500-8000 (NOTE **SQ**-Version FSR+Q)	SQ	
Drivewheel flange connected ring gear flange Size 1600...8000 (NOTE **SFD**-Version FSR+FD)	SFD	

N - Male keyed shaft
D - Male spined shaft
Q - Male square shaft
FD-Drivewheel flange

Cast foot mount Size 10 ... 200	PN. PD	
Bolted on foot Size 150 ... 4500	PHN. PXN. PSN. PSBN. PHD PXD PSD PSBD	

N - Male keyed shaft
D - Male spined shaft

Female keyed shaft with shaft front flange Size 10 ... 100	FC	
Female keyed shaft ring gear flange Size 30 ... 280	FCB	

C - keyed shaft

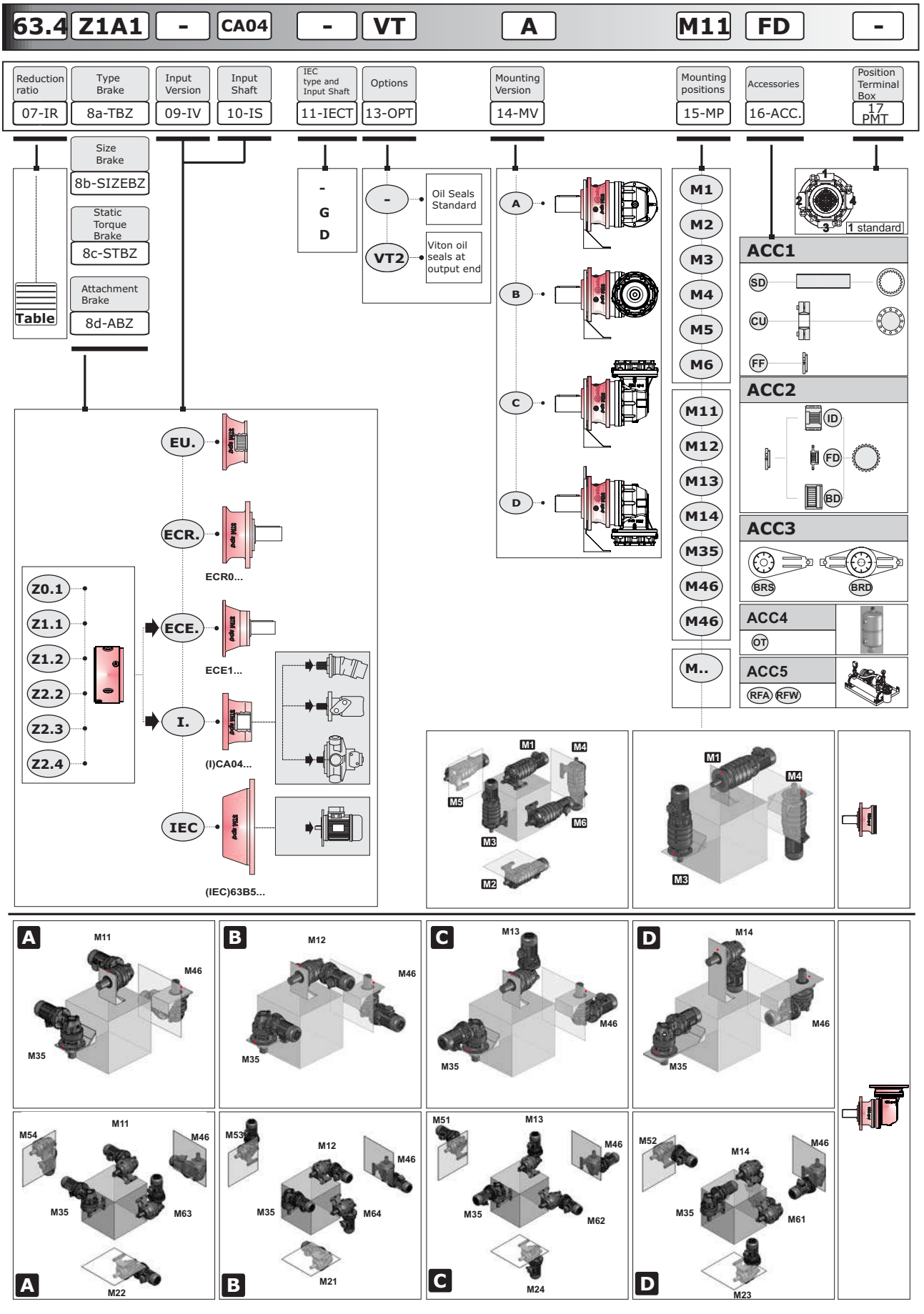
Female splined shaft ring gear flange Size 10 ... 100	F	
Female splined shaft ring gear flange Size 30-40-50-70	FP	
Female splined shaft ring gear flange Size 10 ... 8000	FS FSB	
Female splined shaft ring gear flange Size 420 ... 8000	FSR	
Female splined shaft ring gear flange Size 80-90-100	FB	

-(CD) - Spined shaft

Standard shrink disc shaft Size 10 ... 200	FU	
Shrink disc shaft with oversized flange Size 150 ... 300	TU	
Shrink disc shaft ring gear flange Size 150 ... 300	HU	
Shrink disc shaft ring gear flange Size 350 ... 8000	SU	

U - Shrink disc

1.1 Designazione — *1.1 Designation* — 1.1 Bezeichnung

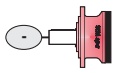
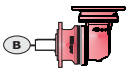
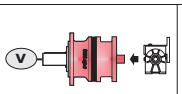
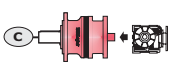
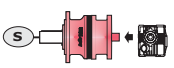
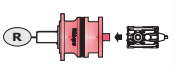
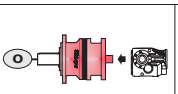
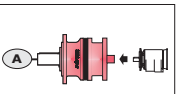


1.1 Designazione — *1.1 Designation* — 1.1 Bezeichnung

00 **M - Macchina** — ***M - Maschine*** — **M - Getriebe**

EX

01 **CO - Posizone Assi** — ***CO - Centerline Orientation*** — **CO - Bauform getriebestufen**

							
Lineare In line Linear	Ortogonale Bevelgear Kegelgetriebe	Ortogonale Bevelgear Kegelgetriebe	Ortogonale Bevelgear Kegelgetriebe	Ortogonale Bevelgear Kegelgetriebe	Ortogonale Bevelgear Kegelgetriebe	Ortogonale Bevelgear Kegelgetriebe	Lineare In line Linear

02 **SIZE - Grandezza** — ***SIZE - Size*** — **SIZE - Größe**

03 **NOR - N° Stadi** — ***NOR - N° of reductions*** — **NOR - N° Anzahl der stufen**

	1	2	3	4		2	3	4
10	101	102	103	104		102	103	104
20	201	202	203	204		202	203	204
25	251	252	253	254		252	253	254
30	301	302	303	304		302	303	304
35	351	352	353	354		352	353	354
40	—	402	403	404		—	403	404
50	501	502	503	504		502	503	504
70	704	702	703	704		702	703	704
80	801	802	803	804		802	803	804
90	—	902	903	904		—	903	904
95	—	952	953	954		—	953	954
100	101	1002	1003	1004		1002	1003	1004
150	1501	1502	1503	1504		1502	1503	1504
180	—	1802	1803	1804		—	1803	1804
200	2001	2002	2003	2004		2002	2003	2004
250	2501	2502	2503	2504		2502	2503	2504
280	—	2802	2803	2804		—	2803	2804
300	3001	3002	3003	3004		3002	3003	3004
350	3501	3502	3503	3504		—	3503	3504
360	—	3602	3603	3604		—	3603	3604
420	4201	4202	4203	4204		—	4203	4204
600	—	6002	6003	6004		—	6003	6004
650	6500	6502	6503	6504		—	6503	6504
800	—	8002	8003	8004		—	8003	8004
850	8501	8502	8503	8504		—	8503	8504
1000	10001	10002	10003	10004		—	10003	10004
1200	12001	12002	12003	12004		—	—	12004
1500	—	15002	15003	15004		—	—	15004
1600	16001	16002	16003	16004		—	—	16004
2000	20001	20002	20003	20004		—	—	20004
2500	—	—	25003	25004		—	—	25004
2600	26001	26002	26003	26004		—	—	26004
3000	—	—	30003	30004		—	—	30004
3100	31001	31002	31003	31004		—	—	31004
3200	—	32002	32003	32004		—	—	—
3700	37001	37002	37003	37004		—	—	—
4500	45001	45002	45003	45004		—	—	—
5500	55001	55002	55003	55004		—	—	—
6800	68001	68002	68003	68004		—	—	—
7500	—	75002	75003	75004		—	—	—
8000	80001	80002	80003	80004		—	—	—

1.1 Designazione

04 CG- Riduttore Accoppiato

1.1 Designation

CG - Combined gearbox

1.1 Bezeichnung

CG - Kombiniertes Getriebe

	1										2									3						4			
10	101										102									103						104			
20		201									202									203						204			
25		251									252									253						254			
30			301								302									303						304			
35			351								352									353						354			
40											402									403						404			
50				501								502								503						504			
70					701							702								703						704			
80						801							802							803						804			
90													902							903						904			
95													952							953						954			
100							1001							1002							1003					1004			
150								1501						1502							1503					1504			
180														1802							1803					1804			
200									2001						2002						2003					2004			
250										2501						2502						2503				2504			
280																	2802						2803				2804		
300										3001							3002						3003				3004		
350																	3502						3503				3504		
360																		3602					3603						
420																		4202					4203				4204		
600																		6002					6003						
650																			6502					6503				6504	
800																			8002					8003					
850																			8502						8503				8504
1000																									10003				10004
1200																									12003				12004

EXV 50																													
EXV 63																													
EXV 70																													
EXV 85																													
EXV 110																													
EXV 130																													
EXV 150																													
EXV 180																													
EXC 50																													
EXC 70																													
EXC 85																													
EXC 110																													
EXS 35																													
EXS 45																													
EXR 704																													
EXR 708																													
EXR 712																													
EXR 716																													
EXR 720																													
EXO 132																													
EXO 150																													
EXO 170																													
EXO 190																													
EXA 35																													
EXA 41																													
EXA 45																													
EXA 50																													

1.1 Designazione	*1.1 Designation*	1.1 Bezeichnung
05 OV - Versione Uscita	***OV - Output Version***	**OV - Abtriebausführung**
06 OS - Albero Uscita	***OS - Output Shaft***	**OS - Abtriebswelle**

Versioni/ *versions* / Ausführungen

FS - FCB

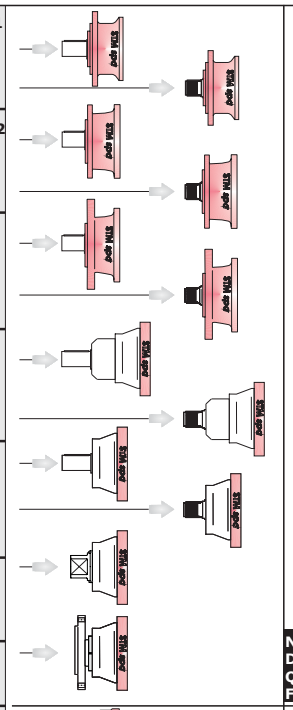
NOTA - Solo per **EXB**	NOTA - Only for **EXB**	NOTA - Nur für **EXB**
- Non disponibili per le grandezze: **502 - 702 - 802 - 1002**	- Not available for size: **502 - 702 - 802 - 1002**	- Nicht verfügbar für Größe: **502 - 702 - 802 - 1002**

Versioni/ *versions* / Ausführungen

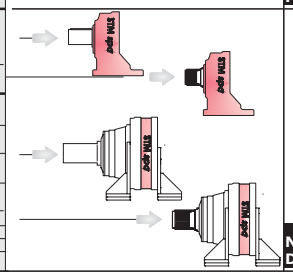
PHD - PHN1
PXD - PXN1

NOTA - Solo per **EXB**	NOTA - Only for **EXB**	NOTA - Nur für **EXB**
- Non disponibili per le grandezze: **1502 - 2002 - 2502 - 3002**	- Not available for size: **1502 - 2002 - 2502 - 3002**	- Nicht verfügbar für Größe: **1502 - 2002 - 2502 - 3002**

25 20 10	70 50 40 35 30	80	100 95 90	200 180 150	280 250	300	350	360 420	650 600	850 800	1200 1000	2000 1600 1500	3200 3100 3000 2600 2500	4500 3700	5500	8000 7500 6800	
ø38-ø40 ø42 ø50 ø48	ø60 ø65 ø50	ø80	ø90 ø100	ø90 ø100													**RN1-LN1** **RN2** **RN3** **RN4**
B40x36	B58x53	B70x64	B80x74	B80x74													**RD**
ø60 ø65 ø50	ø60 ø65	ø80	ø90														**MN1** **MN2-LN2** **MN3**
	ø60 ø65																**MXN1** **MXN2**
	B58x53																**MXD**
B58x53	B58x53	B70x64	B80x74														**MD-LD**
ø38 ø42 ø50 ø48	ø60 ø65 ø50	ø80	ø90 ø100	ø90 ø100	ø110	ø120											**TN1** **TN2** **TN3** **TN4**
B40x36	B58x53	B70x64	B80x74	B80x74	B100x94	W120x3											**TD**
				ø90 ø100	ø110	ø120											**HN1** **HN2**
				ø100													**XN1** **XN2**
				B100x94													**XD**
				B80x74	B100x94	W120x3											**HD**
							ø120 ø140	ø120 ø140	ø160	ø170	ø180	ø200	ø230	ø290	ø340	ø340	**SN1** **SN2**
							ø120 ø140	**ø120** **ø140**						ø290	ø340	ø340 *Only 6800*	**SBN1** **SBN2**
							W120x3	**W120x3**								W340x8	**SBD**
							W120x3	**W120x3**	W150x5	W170x5	W170x5	W200x5	W220x5	W280x8	W340x8	W340x8	**SD**
																300x250	**SQ** *Only 7500-8000*
												ø585	ø655	ø730	ø730	ø800	**SFD**
ø38 ø42 ø50 ø48	ø60 ø65	ø80	ø90	ø90 ø100													**PN1** **PN2** **PN3** **PN4**
B40x36	B58x53	B70x64	B80x74	B80x74													**PD**
				ø90 ø100	ø110	ø120											**PHN1** **PHN2**
				ø100													**PXN1** **PXN2**
							ø120 ø140	**ø120** **ø140**	ø160	ø170	ø180	ø200	ø230	ø290			**PSN1** **PSN2**
							ø120 ø140	**ø120** **ø140**						ø290			**PSBN1** **PSBN2**
				B80x74	B100x94	W120x3											**PHD**
				B100x94													**PXD**
							W120x3	W120x3	W150x5	W170x5	W170x5	W200x5	W220x5	W280x8			**PSD**
							W120x3	**W120x3**						W280x8			**PSBD**

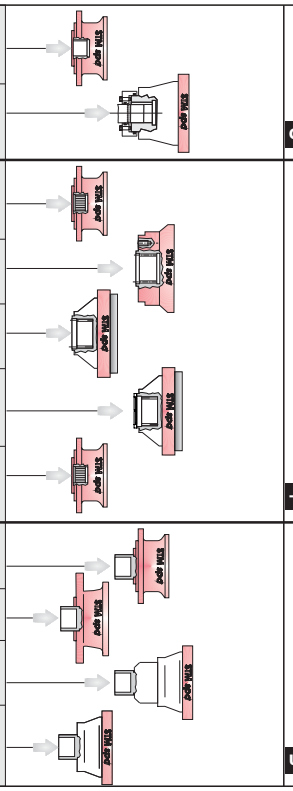


N - Male keyed shaft
D - Male spined shaft
Q - Male square shaft
FD-Drivewheel flange



N - Male keyed shaft
D - Male spined shaft

25 20 10	70 50 40 35 30	80	100 95 90	200 180 150	280 250	300	350	360 420	650 600	850 800	1200 1000	2000 1600 1500	3200 3100 3000 2600 2500	4500 3700	5500	8000 7500 6800	
ø35	ø50	ø65	ø75														**FC**
	ø65	ø80	ø90	ø100	ø110												**FCB**
A40x36	A58x53	**A70x64**	**A80x74**														**F**
	A58x53																**FP**
A40x36	A58x53	A70x64	A80x74	A80x74	A100x94	N120x5	N120x3		N150x5	N170x5	N200x5	N210x5	N240x5	N280x8	N300x8	N340x8	**FS**
								N140x5									**FSB**
							N120x3	N140x5	N150x5	N170x5	N200x5	N210x5	N240x5	N280x8	N300x8	N340x8	**FSR**
		A70x64	A70x74														**FB**
ø50	ø75	ø90	ø100	ø120													**FU**
				ø120	ø130	ø135											**TU**
				ø120	ø130	ø135											**HU**
							ø145	ø145	ø165	ø180	ø220	ø240	ø260	ø290	ø310	ø350	**SU**



C - keyed shaft

-(CD) - Spined shaft

U - Shrink disc

1.1 Designazione

09 IV - Versione Entrata

10 IS - Albero Entrata

1.1 Designation

IV - Input Version

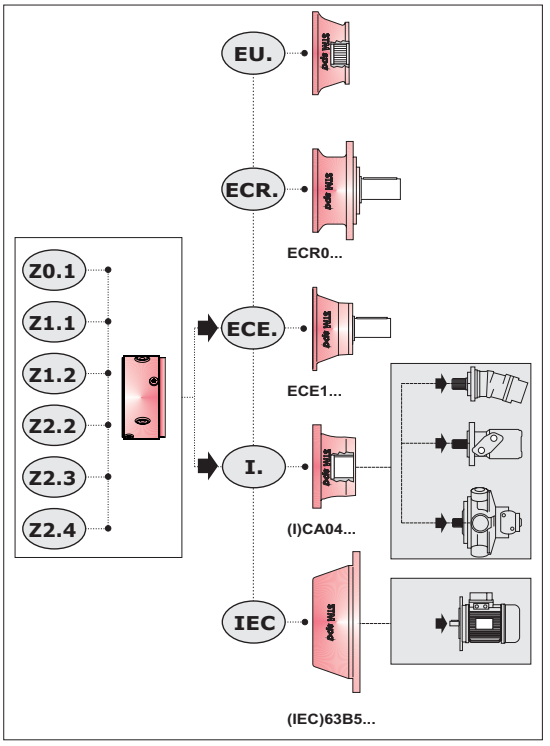
IS - Input Shaft

1.1 Bezeichnung

IV - Antriebausführung

IS - Antriebswelle

Descrizione Predisposizione Adjustment description Beschreibung Vorbereitung	09 IV	10 IS
Senza Flangia Motore Beschreibung Vorbereitung Ohne Motorenflansch EX. Combinati . EX. Combined Gearbox. EX Kombiniert.	PR	-
Universale Universal	EU	-
Albero maschio cilindrico con linguetta Support with keyed cylindrical shaft Vollwelle mit Passfeder	ECE	1A 2A 3 ...
Albero maschio cilindrico con linguetta - Rinforzata Reinforced support with keyed cylindrical shaft Vollwelle mit verstaerkter Passfeder	ECR	1 2 3 ...
Motore Elettrico-IEC Elektromotor-IEC Electric motor-IEC	IEC	63 71 80 ...
Motore Idraulico Hydromotor Hydraulic motor	I	CA04 CA05 CA06 ...



Descrizione Predisposizione Adjustment description Beschreibung Vorbereitung	08a	08b	08c								08d	09-IV 10-IS
Freno Idraulico Hydrauliuc Brake Lamellen Brensen	**TBZ** Tipo Type Typ	**SIZEBZ** Grandezza Size Größe	**STBZ** Coppia Frenatura Static Torque Mittleres Stützmomen								**ABZ** Accoppiamento Attachment Verbindung	
			A	**B**	**C**	**D**	**E**	**F**	**G**	**H**		
Z.	Z	0	60 Nm	100 Nm	160 Nm	200 Nm	280 Nm	330 Nm	430 Nm	520 Nm	**1** (10)	Sezione D
		1	90 Nm	140 Nm	240 Nm	300 Nm	430 Nm	550 Nm	—	—	**1** (10-20-25) **2** (30-50-70)	
		2	400 Nm	650 Nm	800 Nm	1000 Nm	1250 Nm	1500 Nm	1700 Nm	—	**2** (30-50-70) **3** (80-100) **4** (150)	

Per Dimensioni e Predisposizioni disponibili vedere Sezione D
See section D for adjustments and dimensions available
Fuer Abmessungen und moegliche Vorbereitungen siehe Sektion D

07 IR- Rapporto di riduzione

(Vedi prestazioni). Tutti i valori dei rapporti sono approssimati. Per applicazioni dove necessita il valore esatto consultare il ns. servizio tecnico.

IR - Reduction ratio

(See ratings). Ratios are approximate values. If you need exact values for a specific application, please contact our Engineering.

IR - Übersetzungsverhältnis

(Siehe "Leistungen"). Bei allen Werten der Übersetzungen handelt es sich um approximative Wertangaben. Bei Applikationen, bei denen die exakte Wertangabe erforderlich ist, muss unser Technischer Kundendienst konsultiert werden.

1.1 Designazione — *1.1 Designation* — 1.1 Bezeichnung

11 IECT - Tipo IEC e Albero Entrata — *IECT - IEC type and Input Shaft* — IECT - IEC Typ und Antriebswelle

11 IECT	Descrizione	EX EXB	EX. Combinato / Combined / Kombiniert					
			EXV	EXC	EXS	EXR	EXA	EXO
-	Con campana senza giunto Motor bell without coupling mit Glocke ohne Kupplung					RXP - RXO 704 - 708 712 - 716		-
G	Con giunto *With coupling* mit Kupplung		50 - 63		35 - 45	RXP - RXO 704 - 708 712 - 716	2C - 41 2C - 45	*
D	Accoppiamento diretto *Direct coupling* direkte Passung		50 - 63 70 - 85 110 - 130 150 - 180	50 - 70 85 - 110		RXO 704 - 708 712 - 716	35 3C - 41 3C - 45 50	*

* Contattare nostro ufficio tecnico commerciale
* Please, contact our technical sales dept.
* Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung

13 OPT - Opzioni - Materiale degli anelli di tenuta — *OPT - Options - Materials of Seals* — OPT - Optionen - Dichtungsstoffe

— (VT1 - NBR2)	Tenute STANDARD	Oil Seals Standard	Ölabdichtungen Standard
VT2	Paraoli in viton in uscita	Viton oil seals at output end	Ölabdichtungen aus Viton im Abtrieb

NBR2	Paraoli in NBR in uscita	NBR oil seals at output end	Ölabdichtungen aus NBR im Abtrieb
VT1	Paraoli in viton in entrata	Viton oil seals at input end	Ölabdichtungen aus Viton im Antrieb
VT2	Paraoli in viton in uscita	Viton oil seals at output end	Ölabdichtungen aus Viton im Abtrieb

14 MV - Versione di Montaggio — *MV - Mounting Version* — MV - Montagausführung

APPLICABILITA': solo per prodotti combinati esempio EXB-EXV - EXC - EXS - EXR - EXO - EXA.
La versione di montaggio definisce la posizione reciproca del riduttore EX con il riduttore combinato.
Lo schema grafico è riportato nella Sezione V.

Applicability: only for combined gearboxes type EXB - EXV - EXC - EXS - EXR - EXO and EXA.
The mounting position define the mountin position between the two gearboxes.

The graphic sketch is to the section V.

Anwendung: nur für kombinierte Getriebe Typen EXB - EXV - EXC -EXS - EXR - EXO - EXA.

Die Montageversion zeigt die Position beider Getriebe.

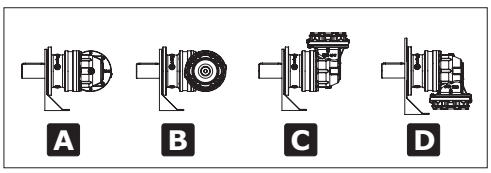
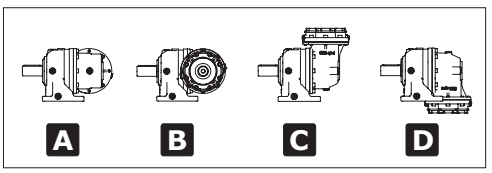
Die Grafische Ausfuehrung finden Sie in der Sektion V.

Lato flangia uscita riduttore combinato *Combined gearbox output flange side* Monatageseite Abtriebflansch für kombinierte Getriebe	Descrizione Description Beschreibung	EX. Combinato / Combined / Kombiniert						
		EXB	EXV	EXC	EXS	EXR	EXO	EXA
		Designazione/Designation/Bezeichnung						
DX	flangia destra Right flange Flansch rechts	A - B - C - D	A - B - C - D					-
SX	flangia sinistra Left flange Flansch links	-	L - M - N - O					



EXB

Tipo Supporto Uscita / *Output support type* / Abtriebselement

Con Flangia-With Flange-Mit Flansch (Example output version **R.**)	Con piede - With foot - Mit Fuß (Example output version **P.**)
A - B - C - D	**A - B - C - D**
	

1.1 Designazione

15 MP - Posizioni di montaggio

Dopo aver definito la versione di montaggio è necessario che sia indicata la posizione in cui il riduttore sarà montato.
Il primo numero indica la posizione di montaggio in cui si viene a trovare il riduttore EX mentre il secondo numero la posizione in cui si trova il riduttore combinato.
Attenersi a questi indicazioni per il riempimento dei rispettivi riduttori.

Lo schema grafico è riportato nella Sezione V.

1.1 Designation

MP - Mounting positions

After to have defined the mounting position it's necessary to show the position whose the gearbox will be mounted.
The first number is the EX mounting position while the second number is the combined gearbox position.

Follow this instructions for to fill the gearboxes.

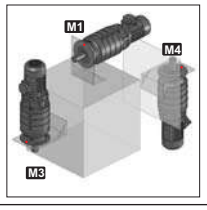
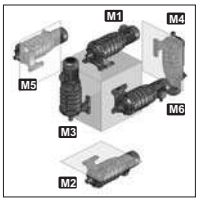
On the section V there is the graphic sketch.

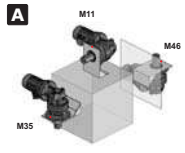
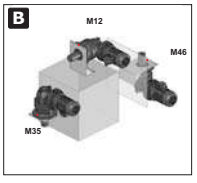
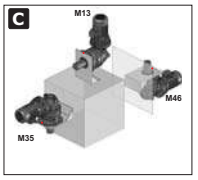
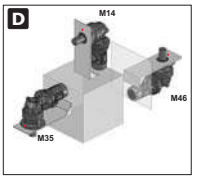
1.1 Bezeichnung

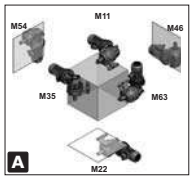
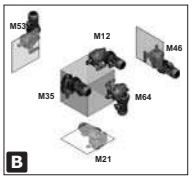
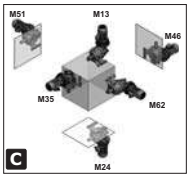
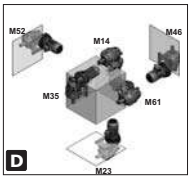
MP - Einbaulagen

Nachdem die Einbaulage mitgeteilt wurde, muessen auch die Positionen der 2 Getriebe definiert werden.
Die erste Nummer ist die Einbaulage des EX Getriebe, die zweite das kombinierte Getriebe.
Bitte das Oe dementsprechend fuellen.

Die Grafische Ausfuehrung finden Sie in der Sektion V.

EX	
Tipo Supporto Uscita / Output support type /Abtriebselement	
Con Flangia-With Flange-Mit Flansch (Example output version **R.**)	Con piede - With foot - Mit Fuß (Example output version **P.**)
M1-M2-M3	**M1-M2-M3-M4-M5-M6**
	

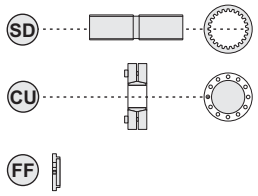
EXB			
Tipo Supporto Uscita / Output support type /Abtriebselement			
Con Flangia-With Flange-Mit Flansch (Example output version **R.**)			
M11-M35 -M46 (MV=A)	**M12-M35 -M46 (MV=B)**	**M13-M35 -M46 (MV=C)**	**M11-M35 -M46 (MV=D)**
			

EXB			
Tipo Supporto Uscita / Output support type /Abtriebselement			
Con piede - With foot - Mit Fuß (Example output version **P.**)			
M11-M22 -M35-M46-M54-M63(MV=A)	**M12-M21 -M35-M46-M53-M64(MV=B)**	**M13-M24 -M35-M46-M51-M62(MV=C)**	**M14-M23 -M35-M46-M52-M61(MV=D)**
			

EX. (Combinato / Combined / Kombiniert)		
Tipo Supporto Uscita / Output support type / Abtriebselement	**P.**	**R - M - H - FB - FS - FP**
Designazione / Designation / Bezeichnung	M11 - M21 - M35 - M51 - M61 M12 - M22 - M46 - M52 - M62 M13 - M23 - M36 - M53 - M63 M14 - M24 - M45 - M54 - M64	M11 - M12 - M13 - M14 M35 - M46 - M36 - M45
Lo schema grafico è riportato nella Sezione V / On the section V there is the graphic sketch / Die Grafische Ausfuehrung finden Sie in der Sektion V		

16 ACC. - Accessori — *ACC. - Accessories* — ACC. - Zubehor

16a ACC1

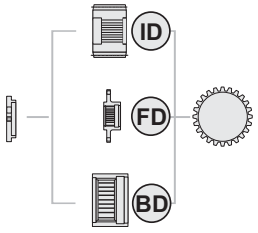


Accessori -Estremità uscita / Accessories - Output Configuration / Zübehor - Enden der Ausgangswellen

Code	Descrizione	Description	Beschreibung
SD	Barra scanalata - SD	Splined - SD	mit Keilende - SD
CU	Unità di bloccaggio	Shrink disc	Schrumpfscheibe
FF	KIT - Fondello - FF	Kit - Cover -FF	KIT - Deckel - FF

Vedi Sezione C / To see section C / Sie in der Sektion C

16b ACC2



Accessori - Estremità Dentate D / Accessories - Output Configuration - Accessories - Splined D / Zübehor - Enden der Ausgangswellen mit Keilende D

Code	Descrizione	Description	Beschreibung
ID.	Pignone dentato	Output pinions	Abtriebsitzel
FD	Estremità scanalata albero lento flangia brocciata	Splined output shaft and broached flange	Abtriebswelle mit Keilende und geräumtem Flansch
BD	Bussola dentata	BUSHING	BUCHSE

Vedi Sezione C / To see section C / Sie in der Sektion C

B

ID. OP - Pignoni dentati — *OP - Output pinions* — OP - Abtriebsritzel

Modulo Normale Normal module Normales Modul	
Modulo Module Modul	Designazione Designation Bezeichnung
4.5	**A**
5	**B**
6	**C**
8	**D**
10	**E**
12	**F**
14	**G**
16	**H**
18	**I**
20	**L**

Numero Denti Number of Teeth Zaehneanzahl	
N° Denti Teeth nr. Zaehne Nr.	Designazione Designation Bezeichnung
10	**10**
11	**11**
12	**12**
13	**13**
14	**14**
15	**15**
16	**16**
17	**17**
18	**18**
19	**19**
20	**20**
21	**21**

Larghezza Fascia Teeth widht Zahnbreite		
Larghezza Fascia Widht Zahnbreite	Designazione Designation Bezeichnung	
40-49	**A**	**1...9**
50-59	**B**	
60-69	**C**	
70-79	**D**	
80-89	**E**	
90-99	**F**	
100-109	**G**	
110-119	**H**	
120-129	**I**	
130-139	**L**	
140-149	**M**	
150-159	**N**	
160-169	**O**	
170-179	**P**	
180-189	**Q**	
190-199	**R**	
200-209	**S**	
210-219	**T**	
220-229	**U**	
230-239	**V**	
240-249	**W**	
250-259	**X**	
260-269	**Y**	
270-279	**Z**	

Coefficiente di Spostamento Addendum modifcation coefficient Profilverschiebungsfaktor
Designazione Designation Bezeichnung
X=(+ or - real value)

Esempio:
Se si vuole un pignone dentato per rotazione con modulo normale 16, numero denti 21, larghezza fascia 146 e coefficiente di spostamento di profilo di + 0.5 in designazione si dovrà riportare:
ID H21M6 X+0.5

For example:
If you require a rotation pinion with normal module 16, teeth number 21, widht 146 and addendum modification coefficient +0.5 the description will be:

ID H21M6 X+0.5

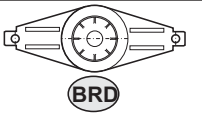
Z. B. Wenn Sie einen Ritzel fuer Drehung mit normalen Modul 16,
Zaehneanzahl 21 , Breite 146 und Profilverschiebungsfaktor +0.5 benoetigen, wird die Beschreibung folgend sein:

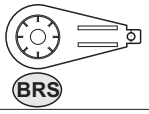
ID H21M6 X+0.5

16 ACC. - Accessori *ACC. - Accessories* ACC. - Zubehor

16c ACC3

Accessori - Versioni pendolari / *Accessories - Shaft Mounted Version* - Zübehor - Aufsteckausführung





Code	Descrizione	Description	Beschreibung
BRD	Braccio Reazione Doppio	Torque arm - Double	Drehmomentstütze - Doppel
BRS	Braccio Reazione Semplice	Torque arm - Single	Drehmomentstütze - Normal
Vedi Sezione C / To see section C / Sie in der Sektion C			

16d ACC4

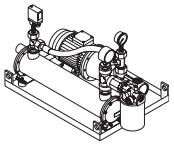
Accessori - Vaso Espansione / *Accessories - Exspansion tank* / Zübehor - Expansionsfäß



Code	Descrizione	Description	Beschreibung
OT.	Vaso espansione - ...litri	Exspansion tank - ...l	Expansionsfäß - ,,,l
Vedi Sezione E / To see section E / Sie in der Sektion E			

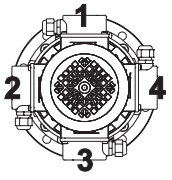
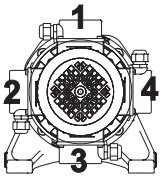
16e ACC5

Accessori - sistema con scambiatore / *Accessories - Cooling Unit* / Zübehor - Kühlanlage



Code	Descrizione	Description	Beschreibung
RFA.	RFA. - sistema con scambiatore aria-olio	RFA. - air/oil exchanger	RFA. - System mit Luft-/Ölaustauscher
RFW.	RFW. - sistema con scambiatore acqua-olio	RFW. - water/oil exchanger	RFW. - System mit Wasser-/Ölaustauscher
Vedi Sezione E / To see section E / Sie in der Sektion E			

17 PMT - Posizioni della Morsettiera *PMT - Position Terminal Box* PMT - Montagposition Klemmenkasten

Tipo Supporto Uscita / *Output support type* / Abtriebselement	
Con Flangia-With Flange-Mit Flansch (Example output version **R.**)	Con piede - With foot - Mit Fuß (Example output version **P.**)
	

[2, 3, 4] Posizione della morsettiera del motore se diversa da quella standard (1)..

[2, 3, 4] *Position of the motor terminal box if different from the standard one (1).*

Montageposition Klemmenkasten **[2, 3, 4],** wenn abweichend von Standardposition [1] (für Motorgetriebe).

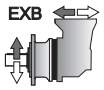
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	3.48	1021	962	962	962	924	750	609	1400	402.30	494	21.45	1800
	4.26	1326	1250	1250	1250	907	737	598		328.64	516	18.31	2000
	5.77	1074	997	898	830	691	638	581		242.63	548	14.35	1500
	7.20	682	630	568	525	437	408	400		194.44	400	8.40	1100
2	12.11	975	920	920	919	918	750	609	1400	115.61	718	9.25	1800
	14.84	1272	1199	1199	1199	907	737	598		94.34	750	7.88	2000
	18.17	1266	1194	1194	1193	907	737	598		77.05	797	6.84	2000
	20.08	963	908	908	908	907	750	609		69.72	836	6.49	1800
	24.60	1258	1186	1186	1186	907	737	598		56.91	872	5.53	2000
	30.69	1253	1181	1181	1181	907	737	598		45.62	932	4.74	2000
	33.28	1029	955	861	795	662	612	581		42.07	675	3.16	1500
	41.54	1026	952	858	793	660	610	581		33.70	690	2.59	1500
	51.84	655	605	545	504	419	392	384		27.01	450	1.35	1100
3	42.14	951	896	896	896	895	750	609	1400	33.22	895	3.38	1800
	51.63	1243	1172	1171	1171	907	737	598		27.12	1079	3.33	2000
	63.25	1239	1168	1168	1168	907	737	598		22.13	1102	2.78	2000
	69.87	944	890	890	890	889	750	609		20.04	890	2.03	1800
	77.48	1236	1166	1166	1165	907	737	598		18.07	1125	2.31	2000
	85.59	1235	1164	1164	1164	907	737	598		16.36	1136	2.12	2000
	104.85	1232	1162	1162	1162	907	737	598		13.35	1161	1.76	2000
	115.83	939	885	885	885	884	750	609		12.09	885	1.22	1800
	130.86	1230	1160	1160	1159	907	737	598		10.70	1159	1.41	2000
	141.90	1229	1159	1159	1159	907	737	598		9.87	1159	1.30	2000
	177.09	1227	1157	1157	1156	907	737	598		7.91	1157	1.04	2000
	221.00	1225	1155	1155	1155	907	737	598		6.33	1155	0.83	2000
	239.64	1009	936	844	780	649	600	581		5.84	829	0.55	1500
	299.08	1007	935	843	779	648	599	581		4.68	849	0.45	1500
	373.25	645	596	537	496	413	385	378		3.75	555	0.24	1100
4	269.63	1223	1153	1153	1153	907	737	598	1400	5.19	1153	0.70	2000
	297.86	1223	1153	1153	1153	907	737	598		4.70	1153	0.64	2000
	330.31	1222	1152	1152	1152	907	737	598		4.24	1152	0.57	2000
	364.89	1221	1151	1151	1151	907	737	598		3.84	1151	0.52	2000
	403.08	931	878	878	878	877	750	609		3.47	878	0.36	1800
	447.00	1220	1150	1150	1150	907	737	598		3.13	1150	0.42	2000
	493.79	1220	1150	1150	1150	907	737	598		2.84	1150	0.38	2000
	557.86	1219	1149	1149	1149	907	737	598		2.51	1149	0.34	2000
	616.26	1218	1149	1149	1148	907	737	598		2.27	1149	0.31	2000
	754.94	1217	1148	1148	1148	907	737	598		1.85	1148	0.25	2000
	818.63	1217	1147	1147	1147	907	737	598		1.71	1147	0.23	2000
	942.17	1217	1147	1147	1147	907	737	598		1.49	1147	0.20	2000
	1021.64	1216	1147	1147	1146	907	737	598		1.37	1147	0.18	2000
	1275.01	1215	1146	1146	1146	907	737	598		1.10	1196	0.15	2000
	1591.22	1215	1145	1145	1145	907	737	598		0.88	1242	0.13	2000
	1725.44	1001	929	837	774	644	595	577		0.81	1033	0.10	1500
	2153.35	1001	929	837	773	644	595	577		0.65	1068	0.08	1500
	2687.39	641	592	533	493	410	383	376		0.52	697	0.04	1100

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP
101	18.6	12.6	14.1	11.7
102	12.2	8.7	9.6	8.2
103	8.0	6.0	6.5	5.7
104	6.7	5.2	5.5	4.9

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**10.01**	981	925	925	924	923	750	609	1400	139.86	679	10.81	1800
	12.26	1279	1205	1205	1205	907	737	598		114.19	708	9.20	2000
	14.50	971	915	915	915	914	750	609		96.55	758	8.33	1800
	16.59	1043	968	872	806	671	620	581		84.39	632	6.07	1500
	17.76	1267	1194	1194	1194	907	737	598		78.83	791	7.10	2000
	20.70	664	614	553	511	425	397	389		67.63	411	3.16	1100
	24.04	1035	961	865	800	666	615	581		58.24	654	4.34	1500
	29.23	1254	1182	1133	1047	871	737	598		47.90	876	4.78	2000
	39.56	1026	953	858	793	660	610	581		35.39	687	2.77	1500
	49.37	655	606	546	504	420	392	384		28.36	448	1.45	1100
3	**34.82**	953	899	899	899	898	750	609	1400	40.21	898	4.20	1800
	42.65	1246	1175	1175	1175	907	737	598		32.83	1029	3.93	2000
	52.25	1242	1171	1171	1171	907	737	598		26.79	1080	3.37	2000
	61.82	1240	1169	1169	1169	907	737	598		22.65	1099	2.90	2000
	70.71	1238	1167	1167	1167	907	737	598		19.80	1114	2.57	2000
	75.73	1237	1166	1166	1166	907	737	598		18.49	1122	2.41	2000
	88.25	1235	1164	1164	1164	907	737	598		15.86	1140	2.10	2000
	102.48	1233	1162	1162	1162	907	737	598		13.66	1158	1.84	2000
	127.89	1230	1160	1160	1160	907	737	598		10.95	1160	1.48	2000
	168.65	1227	1157	1157	1157	907	737	598		8.30	1157	1.12	2000
	210.48	1225	1155	1155	1155	907	737	598		6.65	1155	0.89	2000
	228.23	1009	937	844	780	649	600	581		6.13	824	0.59	1500
	284.84	1008	936	843	779	648	599	581		4.92	844	0.48	1500
	355.47	645	596	537	496	413	386	378		3.94	552	0.25	1100
4	**148.43**	1229	1158	1158	1158	907	737	598	1400	9.43	1158	1.30	2000
	181.84	1227	1157	1156	1156	907	737	598		7.70	1156	1.06	2000
	222.76	1225	1155	1155	1155	907	737	598		6.28	1155	0.86	2000
	246.07	1224	1154	1154	1154	907	737	598		5.69	1154	0.78	2000
	263.53	1224	1154	1154	1153	907	737	598		5.31	1154	0.73	2000
	301.45	1223	1153	1153	1152	907	737	598		4.64	1153	0.64	2000
	322.84	1222	1152	1152	1152	907	737	598		4.34	1152	0.59	2000
	356.63	1222	1152	1152	1151	907	737	598		3.93	1152	0.54	2000
	376.21	1221	1151	1151	1151	907	737	598		3.72	1151	0.51	2000
	407.95	1221	1151	1151	1151	907	737	598		3.43	1151	0.47	2000
	445.07	1220	1150	1150	1150	907	737	598		3.15	1150	0.43	2000
	509.12	1219	1150	1150	1149	907	737	598		2.75	1150	0.38	2000
	545.24	1219	1149	1149	1149	907	737	598		2.57	1149	0.35	2000
	591.23	1219	1149	1149	1149	907	737	598		2.37	1149	0.32	2000
	635.38	1218	1149	1148	1148	907	737	598		2.20	1149	0.30	2000
	737.85	1218	1148	1148	1148	907	737	598		1.90	1148	0.26	2000
	800.10	1003	931	839	775	645	596	579		1.75	946	0.20	1500
	897.30	1217	1147	1147	1147	907	737	598		1.56	1147	0.21	2000
	972.99	1216	1147	1147	1147	907	737	598		1.44	1147	0.20	2000
	1214.30	1216	1146	1146	1146	907	737	598		1.15	1146	0.16	2000
	1515.44	1215	1145	1145	1145	907	737	598		0.92	1232	0.13	2000
	2050.81	1001	929	837	773	644	595	577		0.68	1060	0.09	1500
	2559.41	641	592	534	493	410	383	376		0.55	692	0.05	1100

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP
102	11,6	9,4	9,9	9,0
103	8,6	7,1	7,5	6,9
104	6,8	5,7	5,9	5,5

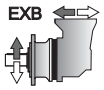
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.48**	1955	1836	1836	1835	1692	1374	1116	1400	402.30	905	39.30	3300
	4.26	2415	2228	2228	2228	1661	1349	1096		328.64	944	33.49	3700
	5.77	1961	1820	1640	1515	1261	1165	1064		242.63	1004	26.30	2800
	7.20	1278	1181	1064	983	818	764	749		194.44	750	15.74	2000
2	**12.11**	1902	1793	1793	1793	1692	1374	1116	1400	115.61	1316	16.95	3300
	14.84	2415	2228	2228	2144	1661	1349	1096		94.34	1373	14.43	3700
	18.17	2415	2228	2228	2134	1661	1349	1096		77.05	1459	12.52	3700
	20.08	1879	1771	1771	1771	1692	1374	1116		69.72	1531	11.89	3300
	24.60	2415	2228	2228	2121	1661	1349	1096		56.91	1597	10.12	3700
	30.69	2409	2228	2021	1868	1661	1349	1096		45.62	1681	8.54	3700
	33.28	1879	1744	1571	1452	1209	1117	1064		42.07	1233	5.78	2800
	41.54	1873	1739	1566	1447	1205	1113	1064		33.70	1260	4.73	2800
	51.84	1227	1134	1022	944	786	734	719		27.01	843	2.54	2000
3	**42.14**	1853	1747	1747	1747	1692	1374	1116	1400	33.22	1746	6.60	3300
	51.63	2390	2228	2228	2096	1661	1349	1096		27.12	1871	5.78	3700
	63.25	2383	2228	2228	2091	1661	1349	1096		22.13	1910	4.81	3700
	69.87	1841	1736	1735	1735	1692	1374	1116		20.04	1735	3.96	3300
	77.48	2378	2228	2228	2086	1661	1349	1096		18.07	1950	4.01	3700
	85.59	2375	2228	2228	2084	1661	1349	1096		16.36	1970	3.67	3700
	104.85	2370	2228	2228	2080	1661	1349	1096		13.35	2012	3.06	3700
	115.83	1831	1726	1726	1726	1692	1374	1116		12.09	1726	2.38	3300
	130.86	2365	2228	2228	2076	1661	1349	1096		10.70	2060	2.51	3700
	141.90	2364	2228	2228	2074	1661	1349	1096		9.87	2078	2.33	3700
	177.09	2360	2225	2224	2071	1661	1349	1096		7.91	2127	1.91	3700
	221.00	2331	2154	1941	1793	1608	1349	1096		6.33	1889	1.36	3700
	239.64	1842	1710	1540	1423	1185	1095	1062		5.84	1513	1.01	2800
	299.08	1840	1708	1538	1422	1183	1094	1061		4.68	1550	0.83	2800
	373.25	1208	1116	1006	929	773	722	708		3.75	1039	0.44	2000
4	**220.10**	2356	2221	2221	2068	1661	1349	1096	1400	6.36	2177	1.63	3700
	243.14	1821	1716	1716	1716	1692	1374	1116		5.76	1716	1.16	3300
	269.63	2353	2218	2218	2065	1661	1349	1096		5.19	2218	1.35	3700
	297.86	2351	2217	2217	2064	1661	1349	1096		4.70	2217	1.23	3700
	330.31	2350	2216	2215	2063	1661	1349	1096		4.24	2215	1.10	3700
	364.89	2349	2214	2214	2062	1661	1349	1096		3.84	2214	1.00	3700
	403.08	1815	1712	1711	1711	1692	1374	1116		3.47	1711	0.70	3300
	447.00	2346	2212	2212	2060	1661	1349	1096		3.13	2212	0.81	3700
	493.79	2345	2211	2211	2059	1661	1349	1096		2.84	2211	0.74	3700
	557.86	2344	2210	2210	2058	1661	1349	1096		2.51	2210	0.65	3700
	616.26	2343	2209	2209	2057	1661	1349	1096		2.27	2209	0.59	3700
	754.94	2341	2207	2207	2055	1661	1349	1096		1.85	2207	0.48	3700
	818.63	2341	2207	2207	2055	1661	1349	1096		1.71	2207	0.44	3700
	942.17	2340	2206	2205	2054	1661	1349	1096		1.49	2206	0.39	3700
	1021.64	2339	2205	2205	2053	1661	1349	1096		1.37	2205	0.36	3700
	1275.01	2337	2204	2203	2052	1661	1349	1096		1.10	2299	0.30	3700
	1591.22	2295	2121	1910	1765	1582	1349	1096		0.88	2329	0.24	3700
	1725.44	1828	1697	1529	1413	1176	1087	1054		0.81	1887	0.18	2800
	2153.35	1827	1696	1528	1412	1175	1086	1054		0.65	1950	0.15	2800
	2687.39	1201	1110	1000	924	769	718	704		0.52	1306	0.08	2000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP
201	19.3	13.3	14.8	12.4
202	12.6	9.2	10.0	8.6
203	8.2	6.2	6.7	5.9
204	6.8	5.3	5.7	5.1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**10.01**	1800	1798	1798	1797	1692	1374	1116	1400	139.86	1242	19.77	3300
	12.26	2205	2202	2202	2154	1661	1349	1096		114.19	1296	16.84	3700
	14.50	1604	1604	1604	1603	1462	1351	1116		96.55	1357	14.91	3300
	16.59	1904	1767	1592	1471	1225	1132	1064		84.39	1154	11.08	2800
	17.76	1965	1965	1964	1963	1661	1349	1096		78.83	1449	13.00	3700
	20.70	1245	1150	1036	958	797	744	730		67.63	770	5.93	2000
	24.04	1889	1754	1580	1460	1215	1123	1064		58.24	1195	7.92	2800
	29.23	1361	1257	1133	1047	871	847	820		47.90	876	4.78	3700
	39.56	1779	1644	1481	1368	1158	1114	1064		35.39	1185	4.77	2800
	49.37	1228	1135	1022	945	786	734	720		28.36	839	2.71	2000
3	**34.82**	1859	1753	1753	1752	1692	1374	1116	1400	40.21	1751	8.19	3300
	42.65	2396	2228	2228	2102	1661	1349	1096		32.83	1836	7.01	3700
	52.25	2389	2228	2228	2096	1661	1349	1096		26.79	1873	5.84	3700
	61.82	2384	2228	2228	2092	1661	1349	1096		22.65	1906	5.02	3700
	70.71	2380	2228	2228	2088	1661	1349	1096		19.80	1932	4.45	3700
	75.73	2378	2228	2228	2087	1661	1349	1096		18.49	1946	4.19	3700
	88.25	2365	2185	1969	1819	1631	1349	1096		15.86	1726	3.18	3700
	102.48	2371	2228	2228	2080	1661	1349	1096		13.66	2008	3.19	3700
	124.63	2366	2228	2228	2077	1661	1349	1096		11.23	2049	2.68	3700
	168.65	2360	2225	2225	2072	1661	1349	1096		8.30	2116	2.04	3700
	210.48	2333	2156	1942	1794	1609	1349	1096		6.65	1880	1.45	3700
	228.23	1842	1710	1541	1424	1185	1095	1063		6.13	1505	1.07	2800
	284.84	1840	1708	1539	1422	1184	1094	1061		4.92	1542	0.88	2800
	355.47	1208	1116	1006	929	774	722	708		3.94	1033	0.47	2000
4	**148.43**	2363	2228	2227	2074	1661	1349	1096	1400	9.43	2087	2.34	3700
	181.84	2359	2224	2224	2070	1661	1349	1096		7.70	2133	1.95	3700
	222.76	2356	2221	2221	2068	1661	1349	1096		6.28	2180	1.63	3700
	246.07	2354	2219	2219	2066	1661	1349	1096		5.69	2203	1.49	3700
	263.53	2353	2219	2218	2065	1661	1349	1096		5.31	2218	1.40	3700
	301.45	2351	2217	2217	2064	1661	1349	1096		4.64	2217	1.22	3700
	322.84	2350	2216	2216	2063	1661	1349	1096		4.34	2216	1.14	3700
	356.63	2349	2215	2215	2062	1661	1349	1096		3.93	2215	1.04	3700
	376.21	2348	2214	2214	2061	1661	1349	1096		3.72	2214	0.98	3700
	407.95	2347	2213	2213	2061	1661	1349	1096		3.43	2213	0.90	3700
	445.07	2346	2212	2212	2060	1661	1349	1096		3.15	2212	0.83	3700
	509.12	2345	2211	2211	2059	1661	1349	1096		2.75	2211	0.72	3700
	545.24	2344	2210	2210	2058	1661	1349	1096		2.57	2210	0.68	3700
	591.23	2344	2209	2209	2057	1661	1349	1096		2.37	2209	0.62	3700
	635.38	2307	2132	1921	1775	1591	1349	1096		2.20	2109	0.55	3700
	737.85	2342	2208	2207	2056	1661	1349	1096		1.90	2208	0.50	3700
	800.10	1832	1701	1532	1416	1178	1089	1057		1.75	1727	0.36	2800
	897.30	2340	2206	2206	2054	1661	1349	1096		1.56	2206	0.41	3700
	972.99	2339	2205	2205	2054	1661	1349	1096		1.44	2205	0.38	3700
	1214.30	2338	2204	2204	2052	1661	1349	1096		1.15	2204	0.30	3700
	1515.44	2295	2121	1911	1766	1583	1349	1096		0.92	2316	0.25	3700
	2050.81	1827	1696	1528	1412	1176	1086	1054		0.68	1936	0.16	2800
	2559.41	1201	1110	1000	924	769	718	704		0.55	1297	0.08	2000

B

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP
202	11,8	9,6	10,2	9,3
203	8,8	7,3	7,7	7,1
204	6,9	5,8	6,1	5,6

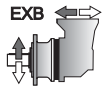
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.48**	2271	2206	2206	2206	2204	1832	1488	1400	402.30	1207	52.42	4000
	4.26	2926	2699	2699	2604	2168	1799	1461		328.64	1259	44.67	4500
	5.77	2301	2126	1915	1770	1473	1379	1351		242.63	1339	35.07	3300
2	**12.11**	2171	2171	2171	2170	2167	1769	1437	1400	115.61	1694	21.82	4000
	14.84	2810	2699	2699	2503	2084	1799	1461		94.34	1830	19.23	4500
	18.17	2796	2699	2697	2492	2074	1799	1461		77.05	1945	16.69	4500
	20.08	2144	2144	2144	2144	2077	1687	1370		69.72	1880	14.60	4000
	24.60	2779	2699	2680	2477	2062	1799	1461		56.91	2031	12.88	4500
	30.69	2428	2244	2021	1868	1674	1603	1461		45.62	1681	8.54	4500
	33.28	2205	2038	1836	1696	1412	1322	1295		42.07	1440	6.75	3300
	41.54	2198	2031	1829	1691	1407	1317	1290		33.70	1472	5.53	3300
3	**42.14**	2116	2115	2115	2115	2111	1769	1437	1400	33.22	2113	7.99	4000
	51.63	2745	2699	2649	2448	2038	1799	1461		27.12	2185	6.74	4500
	63.25	2737	2699	2642	2441	2032	1799	1461		22.13	2230	5.62	4500
	69.87	2101	2101	2101	2100	2097	1769	1437		20.04	2100	4.79	4000
	77.48	2731	2699	2636	2436	2028	1799	1461		18.07	2277	4.68	4500
	85.59	2728	2699	2633	2433	2025	1799	1461		16.36	2300	4.28	4500
	104.85	2722	2699	2628	2428	2021	1799	1461		13.35	2350	3.57	4500
	115.83	2090	2090	2090	2089	2043	1687	1370		12.09	2089	2.87	4000
	130.86	2717	2699	2623	2424	2017	1799	1461		10.70	2405	2.93	4500
	141.90	2715	2699	2621	2422	2016	1799	1461		9.87	2426	2.73	4500
	177.09	2710	2699	2617	2418	2013	1799	1461		7.91	2483	2.24	4500
	221.00	2331	2154	1941	1793	1608	1539	1407		6.33	1889	1.36	4500
	239.64	2161	1997	1799	1663	1384	1295	1269		5.84	1768	1.18	3300
	299.08	2159	1995	1797	1660	1382	1294	1268		4.68	1811	0.96	3300
4	**220.10**	2706	2699	2613	2414	2010	1799	1461	1400	6.36	2542	1.90	4500
	243.14	2078	2078	2078	2077	2074	1769	1437		5.76	2078	1.41	4000
	269.63	2702	2699	2609	2411	2007	1799	1461		5.19	2598	1.59	4500
	297.86	2701	2699	2608	2410	2006	1799	1461		4.70	2626	1.45	4500
	330.31	2699	2699	2606	2408	2005	1799	1461		4.24	2656	1.32	4500
	364.89	2698	2698	2605	2407	2004	1799	1461		3.84	2685	1.21	4500
	403.08	2072	2072	2072	2071	2068	1769	1437		3.47	2072	0.85	4000
	447.00	2695	2695	2602	2405	2002	1799	1461		3.13	2695	0.99	4500
	493.79	2694	2694	2601	2404	2001	1799	1461		2.84	2694	0.90	4500
	557.86	2692	2692	2600	2403	2000	1799	1461		2.51	2692	0.79	4500
	616.26	2691	2691	2599	2402	1999	1799	1461		2.27	2691	0.72	4500
	754.94	2689	2689	2597	2400	1998	1799	1461		1.85	2689	0.59	4500
	818.63	2688	2688	2596	2399	1997	1799	1461		1.71	2688	0.54	4500
	942.17	2687	2687	2595	2398	1996	1799	1461		1.49	2687	0.47	4500
	1021.64	2686	2686	2594	2397	1996	1799	1461		1.37	2686	0.43	4500
	1275.01	2685	2684	2593	2396	1994	1799	1461		1.10	2685	0.35	4500
	1591.22	2295	2121	1910	1765	1582	1515	1385		0.88	2329	0.24	4500
	1725.44	2145	1982	1786	1650	1374	1286	1260		0.81	2180	0.21	3300
	2153.35	2144	1981	1785	1649	1373	1285	1259		0.65	2254	0.17	3300

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP
251	19.3	13.3	14.8	12.4
252	12.6	9.2	10.0	8.6
253	8.2	6.2	6.7	5.9
254	6.8	5.3	5.7	5.1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**10.01**	1800	1798	1798	1797	1796	1791	1488	1400	139.86	1657	26.38	4000
	12.26	2205	2202	2202	2202	2094	1799	1461		114.19	1728	22.46	4500
	14.50	1604	1604	1604	1603	1462	1351	1313		96.55	1357	14.91	4000
	16.59	2234	2064	1860	1718	1430	1339	1312		84.39	1348	12.95	3300
	17.76	1965	1965	1964	1963	1751	1627	1461		78.83	1662	14.91	4500
	24.04	2217	2049	1846	1706	1420	1329	1302		58.24	1395	9.25	3300
	29.23	1361	1257	1133	1047	871	847	820		47.90	876	4.78	4500
	39.56	1779	1644	1481	1368	1158	1133	1085		35.39	1185	4.77	3300
3	**34.82**	2122	2122	2122	2121	2118	1769	1437	1400	40.21	2119	9.91	4000
	42.65	2752	2699	2656	2454	2043	1799	1461		32.83	2143	8.19	4500
	52.25	2744	2699	2648	2447	2037	1799	1461		26.79	2187	6.82	4500
	61.82	2738	2699	2643	2442	2033	1799	1461		22.65	2225	5.86	4500
	70.71	2734	2699	2639	2438	2030	1799	1461		19.80	2256	5.20	4500
	75.73	2732	2699	2637	2436	2028	1799	1461		18.49	2272	4.89	4500
	88.25	2365	2185	1969	1819	1631	1562	1428		15.86	1726	3.18	4500
	102.48	2723	2699	2628	2429	2022	1799	1461		13.66	2344	3.73	4500
	124.63	2718	2699	2624	2425	2018	1799	1461		11.23	2393	3.13	4500
	168.65	2711	2699	2617	2419	2013	1799	1461		8.30	2471	2.39	4500
	210.48	2333	2156	1942	1794	1609	1540	1408		6.65	1880	1.45	4500
	228.23	2162	1998	1800	1663	1384	1296	1270		6.13	1758	1.25	3300
	284.84	2159	1995	1797	1661	1383	1294	1268		4.92	1801	1.03	3300
4	**148.43**	2714	2699	2620	2421	2015	1799	1461	1400	9.43	2437	2.73	4500
	181.84	2710	2699	2616	2417	2012	1799	1461		7.70	2490	2.28	4500
	222.76	2706	2699	2612	2414	2010	1799	1461		6.28	2545	1.90	4500
	246.07	2704	2699	2611	2413	2008	1799	1461		5.69	2573	1.74	4500
	263.53	2703	2699	2610	2412	2007	1799	1461		5.31	2592	1.64	4500
	301.45	2701	2699	2608	2410	2006	1799	1461		4.64	2630	1.45	4500
	322.84	2699	2699	2607	2409	2005	1799	1461		4.34	2649	1.37	4500
	356.63	2698	2698	2605	2407	2004	1799	1461		3.93	2678	1.25	4500
	376.21	2697	2697	2605	2407	2004	1799	1461		3.72	2694	1.19	4500
	407.95	2696	2696	2604	2406	2003	1799	1461		3.43	2696	1.10	4500
	445.07	2695	2695	2603	2405	2002	1799	1461		3.15	2695	1.01	4500
	509.12	2693	2693	2601	2403	2001	1799	1461		2.75	2693	0.88	4500
	545.24	2693	2692	2600	2403	2000	1799	1461		2.57	2692	0.82	4500
	591.23	2692	2692	2599	2402	2000	1799	1461		2.37	2691	0.76	4500
	635.38	2307	2132	1921	1775	1591	1524	1393		2.20	2109	0.55	4500
	737.85	2689	2689	2597	2400	1998	1799	1461		1.90	2689	0.61	4500
	800.10	2150	1986	1789	1654	1377	1288	1262		1.75	2017	0.42	3300
	897.30	2687	2687	2595	2398	1997	1799	1461		1.56	2687	0.50	4500
	972.99	2687	2687	2595	2398	1996	1799	1461		1.44	2687	0.46	4500
	1214.30	2685	2685	2593	2396	1995	1799	1461		1.15	2685	0.37	4500
	1515.44	2295	2121	1911	1766	1583	1516	1386		0.92	2316	0.25	4500
	2050.81	2144	1981	1785	1649	1373	1285	1259		0.68	2237	0.18	3300

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP
252	11,8	9,6	10,2	9,3
253	8,8	7,3	7,7	7,1
254	6,9	5,8	6,1	5,6

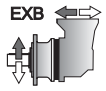
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.60**	3636	3392	3392	3392	2852	2317	1882	1400	388.89	1541	64.69	5900
	4.25	3394	3123	3123	3123	2811	2283	1855		329.41	1597	56.79	6000
	5.33	2936	2680	2680	2680	2566	2215	1799		262.66	1658	47.01	5000
	6.20	2678	2426	2426	2351	1957	1808	1767		225.81	1716	41.83	4100
	7.50	2214	2046	1843	1703	1418	1330	1302		186.67	1306	26.32	3100
2	**12.53**	3412	3392	3392	3392	2231	1812	1472	1400	111.73	1753	21.82	5900
	14.79	3394	3123	3123	3123	2505	2035	1653		94.66	2069	21.82	6000
	15.35	3599	3392	3392	3392	2190	1779	1445		91.21	1829	18.58	5900
	18.12	3394	3123	3123	3123	2460	1998	1623		77.26	2159	18.58	6000
	20.77	3306	3055	2752	2543	2127	1728	1403		67.40	1945	14.60	5900
	22.74	2936	2680	2680	2680	2453	2215	1799		61.57	2395	16.43	5000
	24.52	3394	3123	3123	2946	2389	1941	1576		57.10	2296	14.60	6000
	30.77	2936	2680	2680	2680	2438	2215	1799		45.50	2464	12.49	5000
	35.77	2678	2426	2426	2242	1866	1724	1685		39.14	1919	8.37	4100
	38.40	2936	2680	2465	2278	2072	1962	1799		36.46	2102	8.54	5000
	44.64	2678	2426	2417	2233	1859	1718	1679		31.36	1961	6.85	4100
	54.00	2114	1953	1760	1626	1354	1269	1243		25.93	1459	4.21	3100
3	**43.60**	3261	3260	3259	3258	2231	1812	1472	1400	32.11	2548	9.31	5900
	51.47	3394	3123	3123	3123	2505	2035	1653		27.20	3008	9.31	6000
	63.05	3394	3123	3123	3123	2505	2035	1653		22.20	3122	7.89	6000
	72.28	3221	3221	3220	3218	2231	1812	1472		19.37	2965	6.54	5900
	77.24	3394	3123	3123	3123	2460	1998	1623		18.13	3122	6.44	6000
	85.33	3394	3123	3123	3123	2505	2035	1653		16.41	3123	5.83	6000
	104.53	3394	3123	3123	3123	2460	1998	1623		13.39	3123	4.76	6000
	110.50	3469	3271	3270	3270	2190	1779	1445		12.67	3270	4.72	5900
	130.45	3394	3123	3123	3123	2460	1998	1623		10.73	3123	3.81	6000
	141.46	3394	3123	3055	2823	2389	1941	1576		9.90	2827	3.19	6000
	163.71	2936	2680	2680	2680	2384	2203	1799		8.55	2680	2.61	5000
	176.54	3394	3123	3045	2814	2389	1941	1576		7.93	2889	2.61	6000
	190.31	2678	2426	2377	2197	1829	1690	1651		7.36	2275	1.91	4100
	221.54	2936	2680	2680	2680	2378	2198	1799		6.32	2680	1.93	5000
	257.54	2678	2426	2372	2192	1825	1686	1647		5.44	2349	1.45	4100
	276.48	2843	2627	2367	2187	1990	1884	1745		5.06	2363	1.36	5000
	321.41	2678	2426	2369	2189	1822	1684	1645		4.36	2406	1.19	4100
	388.80	2076	1918	1728	1597	1329	1247	1221		3.60	1794	0.74	3100
4	**151.72**	3178	3177	3176	3175	2231	1812	1472	1400	9.23	3175	3.45	5900
	185.86	3451	3254	3254	3253	2190	1779	1445		7.53	3253	2.88	5900
	219.42	3394	3123	3123	3123	2505	2035	1653		6.38	3123	2.34	6000
	227.69	3446	3249	3248	3248	2190	1779	1445		6.15	3248	2.35	5900
	268.80	3394	3123	3123	3123	2505	2035	1653		5.21	3123	1.91	6000
	296.94	3394	3123	3123	3123	2505	2035	1653		4.71	3123	1.73	6000
	329.29	3394	3123	3123	3123	2460	1998	1623		4.25	3123	1.56	6000
	363.76	3394	3123	3123	3123	2505	2035	1653		3.85	3123	1.41	6000
	416.98	3139	3139	3138	3136	2231	1812	1472		3.36	3139	1.24	5900
	453.98	3394	3123	3123	3123	2505	2035	1653		3.08	3123	1.13	6000
	492.27	3394	3123	3123	3123	2505	2035	1653		2.84	3123	1.04	6000
	556.14	3394	3123	3123	3123	2460	1998	1623		2.52	3123	0.93	6000
	614.35	3394	3123	3123	3123	2505	2035	1653		2.28	3123	0.84	6000
	766.71	3394	3123	3123	3123	2505	2035	1653		1.83	3123	0.67	6000
	795.61	3421	3225	3225	3224	2190	1779	1445		1.76	3225	0.67	5900
	939.26	3394	3123	3123	3123	2460	1998	1623		1.49	3242	0.57	6000
	1018.49	3394	3123	2995	2767	2389	1941	1576		1.37	3272	0.53	6000
	1178.68	2936	2680	2680	2680	2358	2179	1799		1.19	2879	0.40	5000
	1271.08	3394	3123	2991	2764	2389	1941	1576		1.10	3356	0.43	6000
	1595.08	2936	2680	2680	2680	2356	2177	1799		0.88	2980	0.31	5000
	1990.66	2799	2586	2330	2153	1958	1854	1717		0.70	2913	0.24	5000
	2314.14	2678	2426	2350	2172	1808	1671	1633		0.60	2837	0.20	4100
	2799.36	2062	1905	1716	1586	1320	1238	1212		0.50	2253	0.13	3100

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
301	30.0	19.6	23.2	14.4	28.6
302	20.4	14.5	16.5	11.5	19.6
303	12.8	9.3	10.5	7.6	12.3
304	10.3	7.7	8.6	6.4	9.9

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**10.35**	1862	1860	1860	1859	1857	1853	1843	1400	135.27	1849	28.47	5900
	12.22	2198	2195	2195	2195	2192	2185	1855		114.57	2183	28.47	6000
	15.33	2755	2680	2680	2680	2477	2215	1799		91.32	2276	23.66	5000
	17.83	2678	2426	2426	2275	1894	1750	1710		78.52	1799	16.08	4100
	22.22	2458	2458	2457	2456	2135	2026	1799		63.01	2079	14.91	5000
	25.83	2678	2426	2426	2256	1878	1735	1696		54.20	1861	11.48	4100
	31.25	2133	1971	1775	1641	1366	1281	1254		44.80	1383	7.05	3100
	36.57	1659	1533	1381	1276	1072	1051	1010		38.28	1095	4.77	5000
	42.51	1896	1752	1578	1459	1242	1214	1159		32.93	1273	4.77	4100
	51.43	2115	1955	1761	1627	1355	1270	1244		27.22	1452	4.50	3100
3	**36.02**	3279	3278	3277	3276	2231	1812	1472	1400	38.87	2406	10.88	5900
	42.52	3394	3123	3123	3123	2505	2035	1653		32.93	2840	10.88	6000
	52.09	3394	3123	3123	3123	2460	1998	1623		26.88	2963	9.27	6000
	61.63	3394	3123	3123	3123	2505	2035	1653		22.72	3122	8.25	6000
	75.49	3394	3123	3123	3123	2460	1998	1623		18.55	3122	6.74	6000
	85.91	3209	3209	2900	2679	2231	1812	1472		16.30	2534	4.81	5900
	94.74	2936	2680	2680	2680	2397	2215	1799		14.78	2680	4.61	5000
	105.24	3471	3273	3272	3207	2190	1779	1445		13.30	3105	4.80	5900
	124.24	3394	3123	3123	3123	2460	1998	1623		11.27	3123	4.09	6000
	142.42	3160	2920	2630	2431	2106	1728	1403		9.83	2435	2.78	5900
	168.13	3394	3123	3047	2816	2389	1941	1576		8.33	2875	2.79	6000
	186.00	2678	2426	2378	2197	1829	1690	1651		7.53	2269	1.99	4100
	210.99	2936	2680	2680	2680	2379	2198	1799		6.64	2680	2.07	5000
	263.31	2845	2629	2368	2188	1991	1885	1746		5.32	2352	1.46	5000
	306.10	2678	2426	2369	2189	1823	1684	1646		4.57	2393	1.27	4100
	370.29	2076	1919	1728	1597	1330	1247	1221		3.78	1784	0.78	3100
4	**147.97**	3394	3123	3123	3123	2505	2035	1653	1400	9.46	3123	3.52	6000
	153.55	3457	3260	3259	3259	2190	1779	1445		9.12	3259	3.54	5900
	181.27	3394	3123	3123	3123	2505	2035	1653		7.72	3123	2.87	6000
	222.07	3394	3123	3123	3123	2460	1998	1623		6.30	3123	2.34	6000
	254.56	3443	3246	3246	3245	2190	1779	1445		5.50	3245	2.12	5900
	272.62	3441	3244	3244	3243	2190	1779	1445		5.14	3244	1.98	5900
	300.52	3394	3123	3123	3123	2460	1998	1623		4.66	3123	1.73	6000
	321.84	3394	3123	3123	3123	2460	1998	1623		4.35	3123	1.62	6000
	355.53	3394	3123	3123	3123	2505	2035	1653		3.94	3123	1.46	6000
	375.05	3394	3123	3123	3123	2460	1998	1623		3.73	3123	1.39	6000
	406.69	3394	3123	3016	2787	2389	1941	1576		3.44	3123	1.28	6000
	432.36	3394	3123	3123	3123	2505	2035	1653		3.24	3123	1.20	6000
	507.55	3394	3123	3010	2781	2389	1941	1576		2.76	3123	1.03	6000
	543.55	3394	3123	3123	3123	2460	1998	1623		2.58	3123	0.96	6000
	585.10	3394	3123	3123	3123	2505	2035	1653		2.39	3123	0.89	6000
	607.15	3425	3229	3229	3228	2190	1779	1445		2.31	3229	0.89	5900
	716.77	3394	3123	3123	3123	2460	1998	1623		1.95	3123	0.72	6000
	821.64	3106	2871	2586	2390	2070	1728	1403		1.70	2923	0.59	5900
	894.53	3394	3123	3123	3123	2460	1998	1623		1.57	3224	0.60	6000
	969.99	3394	3123	2996	2768	2389	1941	1576		1.44	3254	0.56	6000
	1045.64	2678	2426	2356	2177	1812	1674	1636		1.34	2590	0.41	4100
	1122.55	2936	2680	2680	2680	2359	2179	1799		1.25	2863	0.43	5000
	1210.55	3394	3123	2992	2765	2389	1941	1576		1.16	3338	0.46	6000
	1339.20	2678	2426	2354	2175	1811	1673	1635		1.05	2664	0.33	4100
	1519.12	2936	2680	2680	2680	2356	2177	1799		0.92	2964	0.32	5000
	1895.86	2799	2587	2330	2153	1959	1855	1718		0.74	2898	0.26	5000
	2203.94	2678	2426	2351	2172	1808	1671	1633		0.64	2821	0.21	4100
	2666.06	2062	1905	1716	1586	1320	1238	1213		0.53	2236	0.14	3100

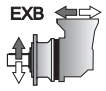
P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
302	16,8	13,0	14,3	11,1	16,3
303	12,2	9,6	10,5	8,3	11,9
304	9,4	7,5	8,1	6,5	9,1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h										
		T_N [Nm]							10000 Hours Life			T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.60**	4356	4112	4112	4112	3803	3089	2509	1400	388.89	2055	86.27	7100
	4.25	4113	3786	3786	3785	3705	3044	2473		329.41	2129	75.71	7200
	5.33	3559	3249	3249	3248	2999	2782	2399		262.66	2211	62.69	6000
	6.20	3239	2935	2934	2739	2280	2151	2104		225.81	2091	50.97	4900
2	**12.53**	3412	3411	3410	3408	2231	1812	1472	1400	111.73	1753	21.82	7100
	14.79	4028	3786	3786	3785	2505	2035	1653		94.66	2069	21.82	7200
	15.35	4114	4112	4112	3549	2190	1779	1445		91.21	1829	18.58	7100
	18.12	4113	3786	3786	3785	2460	1998	1623		77.26	2159	18.58	7200
	20.77	3306	3055	2752	2543	2127	1728	1403		67.40	1945	14.60	7100
	22.74	3559	3249	3249	3248	2867	2342	1902		61.57	2709	18.58	6000
	24.52	3829	3539	3188	2946	2389	1941	1576		57.10	2296	14.60	7200
	30.77	3559	3249	3249	3248	2801	2275	1848		45.50	2880	14.60	6000
	35.77	3239	2935	2827	2612	2175	2052	2006		39.14	2236	9.75	4900
	38.40	2961	2736	2465	2278	2072	1962	1817		36.46	2102	8.54	6000
	44.64	3239	2935	2816	2603	2166	2044	1999		31.36	2285	7.98	4900
3	**43.60**	3261	3260	3259	3258	2231	1812	1472	1400	32.11	2548	9.31	7100
	51.47	3849	3786	3786	3785	2505	2035	1653		27.20	3008	9.31	7200
	63.05	3829	3786	3786	3785	2505	2035	1653		22.20	3196	8.08	7200
	72.28	3221	3221	3220	3218	2231	1812	1472		19.37	2965	6.54	7100
	77.24	4113	3786	3786	3785	2460	1998	1623		18.13	3335	6.88	7200
	85.33	3802	3786	3786	3785	2505	2035	1653		16.41	3500	6.54	7200
	96.87	3559	3249	3249	3248	2801	2342	1902		14.45	3227	5.31	6000
	104.53	4113	3786	3786	3785	2460	1998	1623		13.39	3652	5.57	7200
	130.45	4113	3786	3786	3785	2460	1998	1623		10.73	3785	4.62	7200
	141.46	3670	3391	3055	2823	2389	1941	1576		9.90	2827	3.19	7200
	163.60	3559	3249	3249	3248	2787	2342	1902		8.56	3248	3.16	6000
	177.40	3559	3249	3249	3248	2785	2275	1848		7.89	3248	2.92	6000
	190.31	3239	2935	2770	2560	2131	2010	1966		7.36	2651	2.22	4900
	221.40	3559	3249	3249	3248	2780	2275	1848		6.32	3249	2.34	6000
	257.54	3239	2935	2764	2554	2126	2006	1962		5.44	2738	1.70	4900
	276.31	2843	2627	2367	2187	1990	1884	1745		5.07	2363	1.36	6000
	321.41	3239	2935	2704	2499	2123	2003	1959		4.36	2747	1.36	4900
4	**151.72**	3178	3177	3176	3175	2231	1812	1472	1400	9.23	3175	3.45	7100
	185.86	3945	3945	3944	3549	2190	1779	1445		7.53	3827	3.39	7100
	219.42	4113	3786	3786	3785	2460	1998	1623		6.38	3785	2.84	7200
	227.69	3938	3938	3938	3549	2190	1779	1445		6.15	3906	2.83	7100
	268.80	4113	3786	3786	3785	2460	1998	1623		5.21	3786	2.32	7200
	296.94	3726	3725	3724	3722	2505	2035	1653		4.71	3724	2.06	7200
	329.29	4113	3786	3786	3785	2460	1998	1623		4.25	3786	1.89	7200
	363.76	4113	3786	3786	3785	2460	1998	1623		3.85	3786	1.71	7200
	413.23	3559	3249	3249	3248	2769	2342	1902		3.39	3249	1.30	6000
	453.98	4113	3786	3786	3785	2460	1998	1623		3.08	3786	1.37	7200
	492.27	3706	3706	3704	3702	2505	2035	1653		2.84	3705	1.24	7200
	556.14	4113	3786	3786	3785	2460	1998	1623		2.52	3786	1.12	7200
	603.05	4113	3786	3786	3785	2460	1998	1623		2.32	3786	1.03	7200
	752.61	4113	3786	3786	3785	2460	1998	1623		1.86	3786	0.83	7200
	795.61	3910	3910	3909	3549	2190	1779	1445		1.76	3910	0.81	7100
	939.26	4113	3786	3786	3785	2460	1998	1623		1.49	3930	0.69	7200
	1018.49	3598	3324	2995	2767	2389	1941	1576		1.37	3469	0.56	7200
	1178.68	3559	3249	3249	3248	2757	2342	1902		1.19	3489	0.49	6000
	1271.08	3593	3320	2991	2764	2389	1941	1576		1.10	3554	0.46	7200
	1595.08	3559	3249	3249	3248	2754	2275	1848		0.88	3612	0.37	6000
	1854.28	3239	2935	2740	2532	2108	1989	1945		0.76	3345	0.30	4900
	2314.14	3198	2935	2662	2460	2107	1988	1944		0.60	3386	0.24	4900
5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage												

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
351	30.0	19.6	23.2	14.4	28.6
352	20.4	14.5	16.5	11.5	19.6
353	12.8	9.3	10.5	7.6	12.3
354	10.3	7.7	8.6	6.4	9.9

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**10.35**	1862	1860	1860	1859	1857	1853	1843	1400	135.27	1849	28.47	7100
	12.22	2198	2195	2195	2195	2192	2185	2172		114.57	2183	28.47	7200
	15.33	2755	2755	2755	2755	2748	2685	2399		91.32	2703	28.09	6000
	17.83	3203	2935	2868	2651	2207	2082	2036		78.52	2096	18.73	4900
	22.22	2458	2458	2457	2456	2135	2026	1978		63.01	2079	14.91	6000
	25.83	2858	2857	2845	2629	2188	2065	2019		54.20	2168	13.37	4900
	29.14	1357	1254	1130	1044	869	844	818		48.04	873	4.77	7200
	36.57	1659	1533	1381	1276	1072	1051	1010		38.28	1095	4.77	6000
	42.51	1896	1752	1578	1459	1242	1214	1159		32.93	1273	4.77	4900
3	**36.02**	3279	3278	3277	3276	2231	1812	1472	1400	38.87	2406	10.88	7100
	42.52	3871	3786	3786	3785	2505	2035	1653		32.93	2840	10.88	7200
	52.09	4113	3786	3786	3785	2460	1998	1623		26.88	2963	9.27	7200
	61.63	3831	3786	3786	3785	2505	2035	1653		22.72	3175	8.39	7200
	75.49	4113	3786	3786	3785	2460	1998	1623		18.55	3312	7.15	7200
	88.46	3559	3249	3249	3248	2801	2275	1848		15.83	3197	5.89	6000
	94.74	3559	3249	3249	3248	2802	2342	1902		14.78	3219	5.54	6000
	105.24	3968	3853	3471	3207	2190	1779	1445		13.30	3105	4.80	7100
	124.24	4113	3786	3786	3716	2460	1998	1623		11.27	3665	4.81	7200
	155.91	3559	3249	3249	3248	2788	2342	1902		8.98	3248	3.39	6000
	168.13	3661	3383	3047	2816	2389	1941	1576		8.33	2875	2.79	7200
	186.00	3239	2935	2726	2519	2131	2011	1966		7.53	2602	2.28	4900
	210.99	3559	3249	3249	3248	2781	2275	1848		6.64	3248	2.51	6000
	245.27	3239	2935	2765	2555	2127	2007	1962		5.71	2723	1.81	4900
	306.10	3239	2935	2706	2501	2124	2004	1959		4.57	2734	1.45	4900
4	**153.55**	3952	3952	3951	3549	2190	1779	1445	1400	9.12	3649	3.96	7100
	181.27	4113	3786	3786	3785	2460	1998	1623		7.72	3785	3.48	7200
	222.07	4113	3786	3786	3785	2460	1998	1623		6.30	3785	2.84	7200
	254.56	3935	3935	3934	3549	2190	1779	1445		5.50	3934	2.57	7100
	272.62	3933	3933	3933	3549	2190	1779	1445		5.14	3933	2.41	7100
	300.52	4113	3786	3786	3785	2460	1998	1623		4.66	3786	2.10	7200
	321.84	4113	3786	3786	3785	2460	1998	1623		4.35	3786	1.96	7200
	355.53	3718	3718	3716	3714	2505	2035	1653		3.94	3717	1.74	7200
	375.05	4113	3786	3786	3785	2460	1998	1623		3.73	3786	1.68	7200
	406.69	3623	3348	3016	2787	2389	1941	1576		3.44	3147	1.29	7200
	432.36	4113	3786	3786	3785	2460	1998	1623		3.24	3786	1.46	7200
	507.55	3616	3341	3010	2781	2389	1941	1576		2.76	3221	1.06	7200
	543.55	4113	3786	3786	3785	2460	1998	1623		2.58	3786	1.16	7200
	585.10	3700	3700	3699	3696	2505	2035	1653		2.39	3700	1.05	7200
	607.15	3915	3914	3914	3549	2190	1779	1445		2.31	3914	1.08	7100
	716.77	4113	3786	3786	3785	2460	1998	1623		1.95	3786	0.88	7200
	821.64	3106	2871	2586	2390	2070	1728	1403		1.70	2923	0.59	7100
	894.53	4113	3786	3786	3785	2460	1998	1623		1.57	3908	0.73	7200
	969.99	3599	3325	2996	2768	2389	1941	1576		1.44	3451	0.59	7200
	1045.64	3239	2935	2745	2537	2112	1992	1948		1.34	3133	0.50	4900
	1122.55	3559	3249	3249	3248	2757	2342	1902		1.25	3470	0.52	6000
	1210.55	3594	3321	2992	2765	2389	1941	1576		1.16	3535	0.49	7200
	1339.20	3207	2935	2670	2467	2110	1991	1947		1.05	3191	0.40	4900
	1519.12	3559	3249	3249	3248	2755	2275	1848		0.92	3592	0.39	6000
	1895.86	2799	2587	2330	2153	1959	1855	1718		0.74	2898	0.26	6000
	2203.94	3199	2935	2663	2461	2107	1988	1944		0.64	3368	0.26	4900

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
352	16,8	13,0	14,3	11,1	16,3
353	12,2	9,6	10,5	8,3	11,9
354	9,4	7,5	8,1	6,5	9,1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX

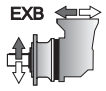


Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**12.53**	3412	3411	3410	3408	2231	1812	1472	1400	111.73	1753	21.82	10000
	14.79	4028	4027	4026	4023	2505	2035	1653		94.66	2069	21.82	11000
	15.35	4433	4433	4266	3549	2190	1779	1445		91.21	1829	18.58	10000
	18.12	5233	5233	4908	3986	2460	1998	1623		77.26	2159	18.58	11000
	21.58	5104	4623	4623	4328	3264	2651	2153		64.87	3018	21.81	8050
	22.74	5687	5192	5192	4673	2883	2342	1902		61.57	2709	18.58	9500
	26.43	5104	4623	4623	4310	3204	2602	2114		52.97	3149	18.58	8050
	30.77	4683	4327	3898	3602	2801	2275	1848		45.50	2881	14.60	9500
	35.77	5104	4623	4455	4116	3112	2528	2053		39.14	3349	14.60	8050
	38.40	2961	2736	2465	2278	2072	1962	1817		36.46	2102	8.54	9500
	43.27	3889	3594	3237	2992	2490	2336	2287		32.35	2617	9.43	6000
	54.00	3876	3582	3227	2982	2482	2328	2280		25.93	2675	7.73	6000
3	**43.60**	3261	3260	3259	3258	2231	1812	1472	1400	32.11	2548	9.31	10000
	51.47	3849	3849	3848	3845	2505	2035	1653		27.20	3008	9.31	11000
	64.59	4831	4830	4828	4760	2937	2386	1938		21.68	3774	9.31	9500
	75.08	5104	4623	4586	4238	3264	2651	2153		18.65	3947	8.38	8050
	79.12	5687	5192	5192	4673	2883	2342	1902		17.69	3938	7.93	9500
	85.33	3802	3802	3800	3798	2505	2035	1653		16.41	3500	6.54	11000
	96.93	5687	5192	5192	4673	2883	2342	1902		14.44	4185	6.88	9500
	104.53	4965	4964	4700	3986	2460	1998	1623		13.39	3652	5.57	11000
	107.08	4771	4771	4768	4760	2937	2386	1938		13.07	4392	6.53	9500
	131.17	5687	5192	5192	4673	2883	2342	1902		10.67	4583	5.57	9500
	163.71	5687	5192	5192	4673	2883	2342	1902		8.55	4898	4.77	9500
	177.51	4488	4147	3736	3452	2801	2275	1848		7.89	3547	3.19	9500
	190.31	5104	4623	4544	4199	3204	2602	2114		7.36	4348	3.64	8050
	221.54	4473	4134	3724	3441	2801	2275	1848		6.32	3626	2.61	9500
	257.54	5104	4623	4255	3932	3112	2528	2053		5.44	4215	2.61	8050
	276.48	2843	2627	2367	2187	1990	1884	1745		5.06	2363	1.36	9500
	311.54	3811	3522	3173	2932	2440	2289	2241		4.49	3211	1.64	6000
	388.80	3806	3517	3169	2928	2437	2286	2239		3.60	3289	1.35	6000
4	**219.42**	4904	4904	4645	3986	2460	1998	1623	1400	6.38	4518	3.39	11000
	224.77	4707	4707	4704	4701	2937	2386	1938		6.23	4704	3.45	9500
	275.35	5687	5192	5192	4673	2883	2342	1902		5.08	5192	3.10	9500
	308.13	4129	4128	3986	3549	2190	1779	1445		4.54	4030	2.15	10000
	337.32	5687	5192	5192	4673	2883	2342	1902		4.15	5192	2.54	9500
	363.76	4874	4874	4618	3986	2460	1998	1623		3.85	4757	2.15	11000
	413.23	5687	5192	5192	4673	2883	2342	1902		3.39	5192	2.07	9500
	456.49	5687	5192	5192	4673	2883	2342	1902		3.07	5192	1.88	9500
	510.82	4109	4108	3968	3549	2190	1779	1445		2.74	4108	1.32	10000
	569.69	5687	5192	5192	4673	2883	2342	1902		2.46	5192	1.50	9500
	603.05	4851	4850	4596	3986	2460	1998	1623		2.32	4850	1.32	11000
	756.77	5687	5192	5192	4673	2883	2342	1902		1.85	5301	1.15	9500
	811.31	5104	4623	4507	4165	3204	2602	2114		1.73	4795	0.98	8050
	944.45	5687	5192	5192	4673	2883	2342	1902		1.48	5437	0.95	9500
	1024.12	4405	4071	3667	3389	2801	2275	1848		1.37	4251	0.69	9500
	1178.68	5687	5192	5192	4673	2883	2342	1902		1.19	5577	0.78	9500
	1278.11	4399	4065	3662	3384	2801	2275	1848		1.10	4354	0.56	9500
	1595.08	4394	4060	3658	3380	2801	2275	1848		0.88	4460	0.46	9500
	1854.28	5021	4623	4180	3862	3112	2528	2053		0.76	5184	0.46	8050
	2243.08	3782	3495	3148	2909	2422	2271	2224		0.62	3997	0.29	6000
	2799.36	3780	3493	3147	2908	2421	2270	2223		0.50	4096	0.24	6000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
402	21.2	15.2	17.3	12.2	20.3
403	13.3	9.8	11.0	8.0	12.8
404	10.6	8.0	8.9	6.7	10.2

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**36.02**	3279	3278	3277	3276	2231	1812	1472	1400	38.87	2406	10.88	10000
	42.52	3871	3870	3869	3866	2505	2035	1653		32.93	2840	10.88	11000
	52.09	5046	5045	4773	3986	2460	1998	1623		26.88	2963	9.27	11000
	65.37	5687	5192	5192	4673	2883	2342	1902		21.42	3719	9.27	9500
	75.49	4999	4999	4731	3986	2460	1998	1623		18.55	3312	7.15	11000
	88.46	4547	4201	3785	3498	2801	2275	1848		15.83	3319	6.11	9500
	94.74	5687	5192	5192	4673	2883	2342	1902		14.78	4156	7.15	9500
	110.13	5104	4623	4566	4219	3204	2602	2114		12.71	4106	6.07	8050
	124.24	4830	4464	4021	3716	2460	1998	1623		11.27	3665	4.81	11000
	155.91	5687	5192	4917	4544	2883	2342	1902		8.98	4600	4.81	9500
	181.25	5104	4623	4545	4200	3204	2602	2114		7.72	4326	3.89	8050
	210.99	4476	4136	3726	3443	2801	2275	1848		6.64	3608	2.79	9500
	245.27	5104	4623	4258	3935	3112	2528	2053		5.71	4194	2.79	8050
	296.70	3812	3523	3174	2933	2441	2290	2242		4.72	3195	1.75	6000
	370.29	3807	3518	3169	2929	2438	2287	2239		3.78	3272	1.44	6000
4	**181.27**	4918	4917	4657	3986	2460	1998	1623	1400	7.72	4308	3.96	11000
	227.48	5687	5192	5192	4673	2883	2342	1902		6.15	5191	3.80	9500
	262.72	4893	4892	4634	3986	2460	1998	1623		5.33	4601	2.92	11000
	278.68	5687	5192	5192	4673	2883	2342	1902		5.02	5192	3.10	9500
	300.52	4885	4884	4627	3986	2460	1998	1623		4.66	4665	2.59	11000
	321.84	4881	4880	4624	3986	2460	1998	1623		4.35	4698	2.43	11000
	357.87	5104	4623	4524	4181	3264	2651	2153		3.91	4623	2.15	8050
	375.05	4873	4872	4616	3986	2460	1998	1623		3.73	4772	2.12	11000
	403.88	5687	5192	5192	4673	2883	2342	1902		3.47	5192	2.14	9500
	435.54	4865	4864	4609	3986	2460	1998	1623		3.21	4847	1.85	11000
	470.65	5687	5192	5192	4673	2883	2342	1902		2.97	5192	1.83	9500
	529.66	4856	4856	4601	3986	2460	1998	1623		2.64	4855	1.53	11000
	542.57	5687	5192	5192	4673	2883	2342	1902		2.58	5192	1.59	9500
	593.29	5062	4623	4214	3894	3112	2528	2053		2.36	4591	1.29	8050
	664.67	5687	5192	5192	4673	2883	2342	1902		2.11	5192	1.30	9500
	716.77	4844	4843	4590	3986	2460	1998	1623		1.95	4843	1.12	11000
	859.84	5046	4623	4201	3882	3112	2528	2053		1.63	4773	0.93	8050
	899.48	5687	5192	5192	4673	2883	2342	1902		1.56	5407	1.00	9500
	923.08	4409	4074	3670	3391	2801	2275	1848		1.52	4204	0.76	9500
	1045.64	5104	4623	4503	4161	3204	2602	2114		1.34	4936	0.79	8050
	1122.55	5687	5192	5192	4673	2883	2342	1902		1.25	5545	0.82	9500
	1217.24	4401	4066	3663	3385	2801	2275	1848		1.15	4331	0.59	9500
	1304.96	5104	4623	4500	4158	3204	2602	2114		1.07	5063	0.64	8050
	1519.12	4395	4061	3659	3381	2801	2275	1848		0.92	4436	0.49	9500
	1765.98	5022	4623	4181	3863	3112	2528	2053		0.79	5157	0.48	8050
	2136.26	3783	3495	3149	2910	2422	2272	2225		0.66	3968	0.31	6000
	2666.06	3781	3494	3147	2908	2421	2271	2224		0.53	4075	0.26	6000

B

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
403	12,6	10,0	10,9	8,7	12,2
404	9,6	7,7	8,4	6,8	9,4

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

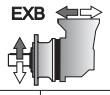
EX

Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
1	**3.60**	7103	6626	6626	6625	5007	4067	3303	1400	388.89	2706	113.60	10000
	4.25	6730	6194	6194	6193	4935	4008	3256		329.41	2803	99.67	11000
	5.33	5687	5192	5192	5191	4788	3889	3159		262.66	2911	82.54	9500
	6.20	5104	4623	4623	4493	3740	3456	3125		225.81	3013	73.45	8050
	7.50	4060	3751	3380	3123	2600	2438	2388		186.67	2394	48.24	6000
2	**12.53**	6509	6509	6507	6505	4085	3318	2695	1400	111.73	3209	39.94	10000
	14.79	6730	6194	6194	6193	4588	3727	3027		94.66	3788	39.94	11000
	15.35	7081	6626	6626	6499	4010	3257	2646		91.21	3348	34.02	10000
	18.12	6730	6194	6194	6193	4504	3658	2972		77.26	3953	34.02	11000
	20.77	6036	5577	5024	4643	3895	3164	2570		67.40	3561	26.74	10000
	22.74	5687	5192	5192	5191	4755	3889	3159		61.57	4498	30.85	9500
	24.52	6730	6194	5820	5378	4375	3554	2886		57.10	4204	26.74	11000
	30.77	5687	5192	5192	5191	4725	3889	3159		45.50	4776	24.21	9500
	35.77	5104	4623	4623	4285	3567	3296	3125		39.14	3668	15.99	8050
	38.40	5548	5127	4618	4268	3882	3676	3159		36.46	3939	16.00	9500
	44.64	5104	4623	4620	4269	3554	3284	3125		31.36	3748	13.09	8050
	54.00	3876	3582	3227	2982	2482	2328	2280		25.93	2675	7.73	6000
3	**43.60**	6358	6357	6355	6352	4085	3318	2695	1400	32.11	4665	17.05	10000
	51.47	6730	6194	6194	6193	4588	3727	3027		27.20	5507	17.05	11000
	63.05	6730	6194	6194	6193	4588	3727	3027		22.20	5853	14.79	11000
	72.28	6280	6280	6278	6274	4085	3318	2695		19.37	5429	11.97	10000
	77.24	6730	6194	6194	6193	4504	3658	2972		18.13	6107	12.60	11000
	85.33	6730	6194	6194	6193	4588	3727	3027		16.41	6193	11.57	11000
	96.93	5687	5192	5192	5191	4645	3889	3159		14.44	5191	8.53	9500
	104.53	6730	6194	6194	6193	4504	3658	2972		13.39	6193	9.44	11000
	110.50	6825	6435	6194	6008	4010	3257	2646		12.67	5959	8.59	10000
	130.45	6730	6194	6194	6193	4504	3658	2972		10.73	6193	7.56	11000
	141.46	6701	6192	5578	5155	4375	3554	2886		9.90	5161	5.82	11000
	163.71	5687	5192	5192	5191	4621	3889	3159		8.55	5191	5.05	9500
	176.54	6679	6172	5560	5138	4375	3554	2886		7.93	5275	4.76	11000
	190.31	5104	4623	4544	4199	3495	3230	3125		7.36	4348	3.64	8050
	221.54	5687	5192	5192	5191	4610	3889	3159		6.32	5191	3.73	9500
	257.54	5104	4623	4534	4189	3487	3223	3125		5.44	4491	2.78	8050
	276.48	5327	4922	4434	4098	3728	3530	3159		5.06	4428	2.55	9500
	321.41	5104	4623	4527	4183	3483	3218	3125		4.36	4599	2.28	8050
	388.80	3806	3517	3169	2928	2437	2286	2239		3.60	3289	1.35	6000
4	**151.72**	6196	6195	6193	6190	4085	3318	2695	1400	9.23	6191	6.72	10000
	185.86	6790	6402	6401	6400	4010	3257	2646		7.53	6401	5.67	10000
	219.42	6730	6194	6194	6193	4588	3727	3027		6.38	6194	4.65	11000
	227.69	6779	6391	6390	6390	4010	3257	2646		6.15	6390	4.62	10000
	268.80	6730	6194	6194	6193	4588	3727	3027		5.21	6194	3.80	11000
	296.94	6730	6194	6194	6193	4588	3727	3027		4.71	6194	3.43	11000
	329.29	6730	6194	6194	6193	4504	3658	2972		4.25	6194	3.10	11000
	363.76	6730	6194	6194	6193	4588	3727	3027		3.85	6194	2.81	11000
	416.98	6121	6121	6119	6115	4085	3318	2695		3.36	6120	2.42	10000
	453.98	6730	6194	6194	6193	4588	3727	3027		3.08	6194	2.24	11000
	492.27	6730	6194	6194	6193	4588	3727	3027		2.84	6194	2.07	11000
	556.14	6730	6194	6194	6193	4504	3658	2972		2.52	6194	1.84	11000
	614.35	6730	6194	6194	6193	4588	3727	3027		2.28	6194	1.66	11000
	766.71	6730	6194	5755	5566	4588	3727	3027		1.83	6194	1.33	11000
	795.61	6730	6345	5947	5769	4010	3257	2646		1.76	6345	1.31	10000
	939.26	6730	6194	6194	6193	4504	3658	2972		1.49	6430	1.13	11000
	1018.49	6569	6070	5468	5053	4375	3554	2886		1.37	6335	1.02	11000
	1178.68	5687	5192	5192	5191	4571	3889	3159		1.19	5577	0.78	9500
	1271.08	6560	6062	5461	5046	4375	3554	2886		1.10	6489	0.84	11000
	1595.08	5687	5192	5192	5191	4567	3889	3159		0.88	5773	0.60	9500
	1990.66	5244	4845	4365	4034	3669	3474	3159		0.70	5458	0.45	9500
	2314.14	5104	4623	4493	4152	3456	3194	3121		0.60	5406	0.38	8050
	2799.36	3780	3493	3147	2908	2421	2270	2223		0.50	4131	0.24	6000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
501	31.4	21.0	24.6	15.8	29.9
502	21.6	15.7	17.7	12.7	20.8
503	13.5	10.0	11.2	8.3	13.0
504	10.8	8.2	9.1	6.9	10.4

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**9.11**	4708	4708	4707	4706	4698	4067	3303	1400	153.68	3575	62.53	10000
	10.75	5558	5558	5557	5555	4935	4008	3256		130.23	3703	54.89	11000
	13.49	5687	5192	5192	5191	4788	3889	3159		103.78	3846	45.43	9500
	15.68	5104	4623	4623	4362	3631	3355	3125		89.29	3399	34.54	8050
	17.71	4864	4824	4824	4824	4320	4008	3256		79.05	4100	36.89	11000
	22.22	5687	5192	5192	5191	4757	3889	3159		63.01	4467	32.04	9500
	25.83	5104	4623	4623	4312	3589	3317	3125		54.20	3556	21.94	8050
	29.28	4328	3999	3602	3329	2771	2694	2610		47.81	2785	15.15	11000
	36.74	5292	4890	4405	4071	3420	3353	3159		38.11	3495	15.16	9500
	42.71	5104	4623	4623	4272	3556	3286	3125		32.78	3732	13.92	8050
	51.67	3878	3584	3229	2983	2484	2329	2281		27.10	2663	8.21	6000
3	**36.02**	6375	6374	6373	6371	4085	3318	2695	1400	38.87	4405	19.92	10000
	42.52	6730	6194	6194	6193	4588	3727	3027		32.93	5201	19.93	11000
	52.09	6730	6194	6194	6193	4504	3658	2972		26.88	5426	16.97	11000
	61.63	6713	6194	6194	6193	4588	3727	3027		22.72	5680	15.01	11000
	75.49	6730	6194	6194	6193	4504	3658	2972		18.55	6065	13.09	11000
	86.54	5817	5375	4842	4475	3876	3164	2570		16.18	4236	7.97	10000
	94.74	5687	5192	5192	5191	4646	3889	3159		14.78	5191	8.93	9500
	102.16	6730	6194	5609	5183	4375	3554	2886		13.70	5001	7.97	11000
	110.40	5404	4994	4499	4157	3782	3581	3159		12.68	4046	5.97	9500
	128.21	5687	5192	5192	5191	4632	3889	3159		10.92	5191	6.60	9500
	168.13	6315	5836	5257	4862	4375	3554	2886		8.33	4960	4.81	11000
	186.00	5104	4623	4545	4199	3496	3230	3125		7.53	4338	3.80	8050
	210.99	5687	5192	5192	5191	4612	3889	3159		6.64	5191	4.01	9500
	263.31	5330	4925	4437	4100	3730	3532	3159		5.32	4406	2.73	9500
	306.10	5104	4623	4529	4185	3484	3219	3125		4.57	4575	2.43	8050
	370.29	3807	3518	3169	2929	2438	2287	2239		3.78	3272	1.44	6000
4	**125.34**	6215	6214	6212	6209	4085	3318	2695	1400	11.17	6208	8.25	10000
	153.55	6195	6194	6192	6189	4085	3318	2695		9.12	6189	6.72	10000
	181.27	6730	6194	6194	6193	4588	3727	3027		7.72	6194	5.69	11000
	222.07	6730	6194	6194	6193	4504	3658	2972		6.30	6194	4.64	11000
	245.31	6730	6194	6194	6193	4588	3727	3027		5.71	6194	4.21	11000
	272.62	6770	6382	6382	6381	4010	3257	2646		5.14	6382	3.90	10000
	306.15	6730	6194	5839	5646	4588	3727	3027		4.57	5898	3.21	11000
	321.84	6730	6194	6194	6193	4504	3658	2972		4.35	6194	3.21	11000
	355.53	6730	6194	6194	6193	4588	3727	3027		3.94	6194	2.90	11000
	375.05	6730	6194	6194	6193	4504	3658	2972		3.73	6194	2.75	11000
	406.69	6615	6112	5506	5088	4375	3554	2886		3.44	5746	2.35	11000
	432.36	6730	6194	6194	6193	4588	3727	3027		3.24	6194	2.39	11000
	507.55	6601	6100	5495	5078	4375	3554	2886		2.76	5881	1.93	11000
	543.55	6730	6194	6194	6193	4504	3658	2972		2.58	6194	1.90	11000
	585.10	6730	6194	6194	6193	4588	3727	3027		2.39	6194	1.76	11000
	607.15	6738	6352	6352	6348	4010	3257	2646		2.31	6352	1.75	10000
	716.77	6730	6194	6194	6193	4504	3658	2972		1.95	6194	1.44	11000
	821.64	5672	5241	4722	4363	3780	3164	2570		1.70	5338	1.08	10000
	894.53	6730	6194	6194	6193	4504	3658	2972		1.57	6394	1.19	11000
	969.99	6571	6072	5470	5054	4375	3554	2886		1.44	6302	1.08	11000
	1122.55	5687	5192	5192	5191	4572	3889	3159		1.25	5545	0.82	9500
	1210.55	6562	6064	5463	5048	4375	3554	2886		1.16	6454	0.89	11000
	1339.20	5104	4623	4499	4158	3461	3198	3125		1.05	5078	0.63	8050
	1519.12	5687	5192	5192	5191	4568	3889	3159		0.92	5741	0.63	9500
	1895.86	5245	4847	4366	4035	3670	3475	3159		0.74	5429	0.48	9500
	2203.94	5104	4623	4493	4152	3456	3194	3121		0.64	5376	0.41	8050
	2666.06	3781	3494	3147	2908	2421	2271	2224		0.53	4101	0.26	6000

B

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
502	17,6	13,8	15,1	11,9	17,0
503	12,7	10,1	11,0	8,8	12,4
504	9,8	7,9	8,5	6,9	9,5

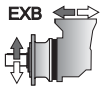
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	3.60	8568	8032	8031	8031	6676	5423	4405	1400	388.89	3608	151.47	12000
	4.55	7691	7049	7049	7048	6246	5294	4300		307.69	3779	125.52	13000
	5.33	6636	6057	6057	6057	5559	5156	4212		262.66	3881	110.04	11500
2	12.53	7822	7822	7820	7818	5446	4424	3593	1400	111.73	4279	53.26	12000
	15.82	7691	7049	7049	7048	5979	5208	4230		88.50	5403	53.27	13000
	19.38	7691	7049	7049	7048	5948	5113	4153		72.24	5637	45.36	13000
	22.74	6636	6057	6057	6057	5315	4929	4212		61.57	5190	35.60	11500
	26.22	7691	7049	7049	6668	5908	4966	4034		53.39	5864	34.88	13000
	30.77	6636	6057	6057	6057	5281	4899	4212		45.50	5338	27.06	11500
3	43.60	7697	7696	7693	7688	5260	4272	3470	1400	32.11	6007	21.95	12000
	53.41	7876	7876	7875	7671	5347	4343	3528		26.21	6490	19.36	12000
	65.43	7852	7852	7851	7636	5347	4343	3528		21.40	6897	16.80	12000
	72.28	7603	7602	7599	7593	5016	4074	3309		19.37	6666	14.70	12000
	82.61	7691	7049	7049	6965	5798	5113	4153		16.95	6558	12.65	13000
	88.54	7820	7820	7819	7589	5347	4343	3528		15.81	7203	12.96	12000
	91.26	7691	7049	7049	6956	5791	4796	3896		15.34	6625	11.57	13000
	111.80	7691	7049	7049	6941	5778	5113	4153		12.52	6765	9.64	13000
	139.52	7691	7049	7049	6925	5765	5113	4153		10.03	6922	7.90	13000
	151.29	7691	7049	6916	6391	5761	4966	4034		9.25	6448	6.79	13000
	188.81	7691	7049	6893	6370	5745	4966	4034		7.41	6590	5.56	13000
	221.54	6636	6057	6057	6057	5153	4779	4212		6.32	6057	4.36	11500
4	151.72	7501	7500	7497	7491	5260	4272	3470	1400	9.23	7492	8.14	12000
	185.86	7760	7760	7759	7501	5347	4343	3528		7.53	7747	6.86	12000
	227.69	7747	7747	7746	7481	5347	4343	3528		6.15	7745	5.60	12000
	278.93	7735	7735	7734	7464	5347	4343	3528		5.02	7734	4.57	12000
	308.13	7730	7730	7729	7456	5347	4343	3528		4.54	7729	4.13	12000
	352.19	7691	7049	7049	6876	5724	5113	4153		3.98	7049	3.30	13000
	384.54	7719	7719	7718	7440	5347	4343	3528		3.64	7718	3.31	12000
	416.98	7411	7410	7406	7298	5016	4074	3309		3.36	7408	2.93	12000
	471.08	7710	7710	7709	7427	5347	4343	3528		2.97	7709	2.69	12000
	510.82	7707	7706	7705	7422	5347	4343	3528		2.74	7706	2.48	12000
	559.22	6636	6057	6057	6057	5125	4753	4212		2.50	6057	1.78	11500
	637.51	7698	7698	7697	7409	5347	4343	3528		2.20	7698	1.99	12000
	756.77	6636	6057	6057	6057	5118	4747	4212		1.85	6185	1.35	11500
	804.93	7691	7049	7049	6848	5701	5113	4153		1.74	7219	1.48	13000
	872.83	7691	7049	6789	6273	5658	4966	4034		1.60	7286	1.37	13000
	1004.56	7320	6764	6094	5926	5200	4731	3843		1.39	7049	1.15	13000
	1178.68	6636	6057	6057	6057	5110	4739	4212		1.19	6506	0.91	11500
	1278.11	6636	6057	6057	6057	5108	4738	4212		1.10	6567	0.85	11500
	1359.44	7691	7049	6771	6256	5643	4966	4034		1.03	7666	0.93	13000
	1595.08	7691	7049	6765	6251	5639	4966	4034		0.88	7807	0.81	13000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
701	31.4	21.0	24.6	15.8	29.9
702	21.6	15.7	17.7	12.7	20.8
703	13.5	10.0	11.2	8.3	13.0
704	10.8	8.2	9.1	6.9	10.4

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	9.11	4708	4708	4707	4706	4698	4687	4405	1400	153.68	4676	81.79	12000
	11.50	5944	5944	5943	5941	5928	5294	4300		121.74	4991	69.16	13000
	13.49	6636	6057	6057	6057	5385	4994	4212		103.78	4991	58.95	11500
	18.94	5202	5160	5159	5159	4585	4289	4202		73.92	4386	36.90	13000
	22.22	6054	6054	6054	6053	5283	4932	4212		63.01	5146	36.91	11500
	31.31	4593	4244	3824	3533	2941	2875	2779		44.71	2979	15.16	13000
	36.74	5292	4890	4405	4071	3420	3353	3222		38.11	3495	15.16	11500
3	36.02	6375	6374	6373	6371	5446	4424	3593	1400	38.87	5874	26.56	12000
	44.12	7809	7808	7807	7708	5347	4343	3528		31.73	6128	22.62	12000
	55.71	7691	7049	7049	7002	5829	5113	4153		25.13	6304	18.43	13000
	65.91	7180	7049	7049	6619	5815	5208	4230		21.24	6075	15.01	13000
	75.39	7691	7049	7006	6474	5804	4966	4034		18.57	6033	13.03	13000
	80.74	7691	7049	7049	6967	5799	5113	4153		17.34	6543	13.20	13000
	88.46	6636	6057	6057	6057	5197	4821	4212		15.83	5925	10.91	11500
	94.74	6636	6057	6057	6057	5193	4817	4212		14.78	5967	10.26	11500
	109.27	7691	7049	6954	6426	5779	4966	4034		12.81	6247	9.31	13000
	128.21	6636	6057	6057	6057	5177	4802	4212		10.92	6057	7.70	11500
	155.91	5907	5458	4917	4544	4219	3864	3817		8.98	4600	4.81	11500
	179.82	6703	6194	5580	5194	4802	4402	4034		7.79	5305	4.81	13000
	210.99	6636	6057	6057	6057	5155	4781	4212		6.64	6057	4.68	11500
4	125.34	7524	7523	7520	7514	5260	4272	3470	1400	11.17	7513	9.99	12000
	153.55	7773	7773	7772	7520	5347	4343	3528		9.12	7600	8.25	12000
	188.11	7759	7759	7758	7499	5347	4343	3528		7.44	7756	6.87	12000
	222.54	7748	7748	7747	7484	5347	4343	3528		6.29	7747	5.80	12000
	254.56	7740	7740	7739	7472	5347	4343	3528		5.50	7739	5.06	12000
	272.62	7736	7736	7735	7466	5347	4343	3528		5.14	7735	4.73	12000
	321.41	7691	7049	7049	6880	5727	5113	4153		4.36	7049	3.66	13000
	366.23	7721	7721	7720	7444	5347	4343	3528		3.82	7720	3.51	12000
	401.12	7691	7049	7049	6871	5720	5113	4153		3.49	7049	2.93	13000
	448.65	7712	7712	7711	7430	5347	4343	3528		3.12	7711	2.86	12000
	495.61	7399	7398	7395	7279	5016	4074	3309		2.82	7397	2.48	12000
	542.83	7691	7049	6813	6296	5679	4966	4034		2.58	7049	2.16	13000
	607.15	7700	7700	7699	7412	5347	4343	3528		2.31	7699	2.12	12000
	682.11	6636	6057	6057	6057	5120	4749	4212		2.05	6057	1.48	11500
	757.72	7149	6606	5951	5773	5086	4343	3528		1.85	6666	1.47	12000
	821.64	6625	6122	5515	5096	4520	4218	3426		1.70	6235	1.26	12000
	899.48	6636	6057	6057	6057	5114	4744	4212		1.56	6308	1.17	11500
	956.72	7691	7049	7049	6844	5697	5113	4153		1.46	7363	1.28	13000
	1037.42	7691	7049	6781	6266	5652	4966	4034		1.35	7432	1.19	13000
	1122.55	6636	6057	6057	6057	5110	4740	4212		1.25	6470	0.96	11500
	1294.71	7691	7049	6772	6258	5645	4966	4034		1.08	7623	0.98	13000
	1519.12	6636	6057	6057	6057	5106	4736	4212		0.92	6698	0.73	11500

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
702	17,6	13,8	15,1	11,9	17,0
703	12,7	10,1	11,0	8,8	12,4
704	9,8	7,9	8,5	6,9	9,5

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

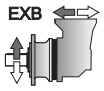
EX

Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
1	**3.50**	9011	8496	8495	8494	6093	4949	4020	1400	400.00	3265	140.98	16500
	4.13	9693	8919	8919	8918	6043	4909	3987		338.98	3403	124.53	16000
	5.17	8484	7741	7741	7740	5874	4771	3876		270.79	3539	103.45	14500
	6.00	7934	7210	7210	6839	5693	4666	3790		233.33	3619	91.16	11500
	7.25	6309	5830	5252	4853	4040	3775	3700		193.10	3705	77.23	9000
2	**12.60**	8522	8035	8034	8033	6093	4949	4020	1400	111.11	4795	59.35	16500
	14.85	9693	8919	8919	8918	6043	4909	3987		94.28	4996	52.47	16000
	17.53	9693	8919	8919	8918	6043	4909	3987		79.86	5251	46.71	16000
	18.67	8421	7939	7938	7937	6093	4949	4020		74.99	5395	45.07	16500
	22.00	9693	8919	8919	8918	6043	4909	3987		63.64	5621	39.85	16000
	25.58	9693	8919	8794	8127	6043	4909	3987		54.73	5882	35.86	16000
	27.56	8484	7741	7741	7740	5874	4771	3876		50.80	5846	33.08	14500
	32.03	8484	7741	7741	7740	5874	4771	3876		43.71	6116	29.78	14500
	37.20	7934	7210	7022	6489	5402	4666	3790		37.63	5579	23.39	11500
	38.75	8484	7741	7741	7188	5874	4771	3876		36.13	6476	26.06	14500
	45.00	7934	7210	6998	6467	5383	4666	3790		31.11	5682	19.69	11500
	54.38	5996	5541	4992	4613	3840	3588	3516		25.74	4141	11.87	9000
3	**43.85**	8257	7784	7784	7782	5281	4289	3484	1400	31.93	6042	21.96	16500
	51.68	9693	8919	8919	8918	5925	4812	3909		27.09	7120	21.95	16000
	63.31	9693	8919	8919	8918	5816	4724	3837		22.11	7429	18.70	16000
	76.56	9693	8919	8919	8918	6043	4909	3987		18.29	8172	17.01	16000
	85.67	9693	8919	8919	8918	5650	4589	3727		16.34	7902	14.70	16000
	93.79	9693	8919	8919	8918	6043	4909	3987		14.93	8685	14.76	16000
	101.14	9693	8919	8919	8918	6043	4909	3987		13.84	8884	13.99	16000
	109.03	9693	8919	8436	7795	6043	4909	3987		12.84	7576	11.07	16000
	126.92	9693	8919	8919	8918	6043	4909	3987		11.03	8918	11.20	16000
	147.55	9693	8919	8387	7751	6043	4909	3987		9.49	7797	8.42	16000
	158.40	9693	8919	8688	8499	6043	4909	3987		8.84	8542	8.59	16000
	184.14	9693	8919	8356	7722	6043	4909	3987		7.60	7967	6.89	16000
	230.64	8484	7741	7741	7740	5874	4771	3876		6.07	7741	5.35	14500
	267.84	7934	7210	6857	6336	5275	4666	3790		5.23	6822	4.06	11500
	279.00	8484	7741	7427	6863	5874	4771	3876		5.02	7424	4.24	14500
	324.00	7934	7210	6848	6328	5268	4666	3790		4.32	6963	3.42	11500
	391.50	5881	5434	4895	4524	3766	3519	3449		3.58	5086	2.07	9000
4	**212.31**	9693	8919	8919	8918	6043	4909	3987	1400	6.59	8919	6.92	16000
	260.09	9693	8919	8919	8918	6043	4909	3987		5.38	8919	5.65	16000
	298.14	9693	8919	8919	8918	5925	4812	3909		4.70	8919	4.93	16000
	318.62	9693	8919	8919	8918	6043	4909	3987		4.39	8919	4.61	16000
	351.97	9693	8919	8919	8918	6043	4909	3987		3.98	8919	4.18	16000
	399.84	9693	8919	8919	8918	6043	4909	3987		3.50	8919	3.67	16000
	455.82	9693	8919	8919	8918	5816	4724	3837		3.07	8919	3.22	16000
	494.27	9693	8919	8919	8620	5650	4589	3727		2.83	8919	2.97	16000
	538.12	9693	8919	8919	8918	6043	4909	3987		2.60	8919	2.73	16000
	551.23	9693	8919	8433	8249	6043	4909	3987		2.54	8919	2.67	16000
	629.02	9693	8919	8234	7608	6043	4909	3987		2.23	8919	2.34	16000
	728.22	9693	8919	8919	8918	6043	4909	3987		1.92	8919	2.01	16000
	785.02	9693	8919	8219	7594	6043	4909	3987		1.78	8919	1.87	16000
	851.24	9693	8919	8213	7590	6043	4909	3987		1.64	9157	1.77	16000
	913.85	9693	8919	8919	8918	6043	4909	3987		1.53	9231	1.66	16000
	1062.35	9693	8919	8200	7578	6043	4909	3987		1.32	9392	1.46	16000
	1140.48	9693	8919	8342	8160	6043	4909	3987		1.23	9468	1.37	16000
	1325.81	9693	8919	8189	7567	6043	4909	3987		1.06	9633	1.20	16000
	1428.48	8484	7741	7741	7740	5874	4771	3876		0.98	8504	0.98	14500
	1660.61	8484	7741	7741	7740	5874	4771	3876		0.84	8652	0.86	14500
	1869.23	7934	7210	6796	6280	5228	4666	3790		0.75	8201	0.72	11500
	2008.80	8484	7741	7293	6739	5874	4771	3876		0.70	8842	0.73	14500
	2332.80	7934	7210	6792	6276	5225	4666	3790		0.60	8411	0.59	11500
	2818.80	5838	5394	4860	4491	3738	3493	3423		0.50	6395	0.38	9000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
801	42.2	27.7	29.4	20.1	40.5
802	28.7	20.4	21.4	16.0	27.7
803	17.6	12.8	13.4	10.2	17.1
804	13.9	10.3	10.7	8.4	13.5

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**8.85**	6247	6247	6246	6245	6093	4949	4020	1400	158.19	4313	77.65	16500
	10.43	7363	7362	7361	7359	6043	4909	3987		134.23	4494	68.66	16000
	13.07	8484	7741	7741	7740	5874	4771	3876		107.12	4674	56.99	14500
	15.18	7934	7210	7169	6625	5515	4666	3790		92.23	4781	50.19	11500
	17.19	6509	6457	6456	6456	5890	4909	3987		81.44	5220	48.39	16000
	21.53	8087	7741	7741	7740	5874	4771	3876		65.03	5429	40.18	14500
	25.00	7934	7210	7080	6542	5446	4666	3790		56.00	5376	34.27	11500
	30.21	6059	5599	5044	4661	3880	3626	3553		46.34	3914	20.64	9000
	35.59	6063	5602	5047	4664	3907	3833	3687		39.34	3990	17.87	14500
	41.33	6922	6396	5762	5325	4523	4424	3790		33.87	4633	17.86	11500
	49.94	6004	5548	4998	4619	3845	3593	3521		28.03	4107	13.10	9000
3	**36.23**	6411	6411	6410	6408	6093	4949	4020	1400	38.64	6375	28.66	16500
	42.77	7569	7568	7567	7562	6093	4949	4020		32.73	6918	26.34	16500
	50.40	8920	8919	8917	8910	6043	4909	3987		27.78	7209	23.30	16000
	63.25	9693	8919	8919	8918	6043	4909	3987		22.13	7717	19.87	16000
	73.53	9693	8919	8511	7864	6043	4909	3987		19.04	7308	16.19	16000
	79.22	8484	7741	7741	7740	5874	4771	3876		17.67	7566	15.55	14500
	91.67	9693	8919	8919	8866	6043	4909	3987		15.27	8448	15.01	16000
	106.56	9693	8919	8440	7799	6043	4909	3987		13.14	7560	11.56	16000
	114.81	8484	7741	7741	7740	5874	4771	3876		12.19	7740	10.98	14500
	133.47	8484	7741	7741	7740	5874	4771	3876		10.49	7740	9.45	14500
	161.46	8484	7741	7494	6925	5874	4771	3876		8.67	7038	7.10	14500
	187.50	7934	7210	6876	6354	5289	4666	3790		7.47	6569	5.71	11500
	219.66	8003	7395	6662	6317	5737	4771	3876		6.37	6480	4.80	14500
	265.71	8484	7741	7432	6868	5874	4771	3876		5.27	7388	4.53	14500
	308.57	7934	7210	6850	6330	5269	4666	3790		4.54	6927	3.66	11500
	372.86	5882	5436	4897	4525	3767	3520	3450		3.75	5059	2.21	9000
4	**148.57**	9693	8919	8919	8918	5925	4812	3909	1400	9.42	8918	10.00	16000
	182.01	9693	8919	8919	8918	5816	4724	3837		7.69	8919	8.16	16000
	214.87	9693	8919	8919	8918	6043	4909	3987		6.52	8919	6.92	16000
	263.78	9693	8919	8919	8918	5816	4724	3837		5.31	8919	5.64	16000
	290.78	9693	8919	8919	8918	6043	4909	3987		4.81	8919	5.10	16000
	319.00	9693	8919	8919	8918	6043	4909	3987		4.39	8919	4.66	16000
	364.90	9693	8919	8919	8918	6043	4909	3987		3.84	8919	4.08	16000
	390.79	9693	8919	8919	8918	6043	4909	3987		3.58	8919	3.80	16000
	421.42	9693	8919	8919	8918	6043	4909	3987		3.32	8919	3.52	16000
	455.40	9693	8919	8463	8278	6043	4909	3987		3.07	8774	3.21	16000
	512.49	9693	8919	8919	8918	6043	4909	3987		2.73	8919	2.90	16000
	587.47	9693	8919	8919	8597	5650	4589	3727		2.38	8919	2.53	16000
	660.00	9693	8919	8407	8224	6043	4909	3987		2.12	8919	2.25	16000
	693.54	9693	8919	8919	8918	6043	4909	3987		2.02	8919	2.14	16000
	767.25	9693	8919	8220	7596	6043	4909	3987		1.82	8919	1.93	16000
	870.33	9693	8919	8919	8918	6043	4909	3987		1.61	9180	1.76	16000
	1011.76	9693	8919	8203	7580	6043	4909	3987		1.38	9339	1.53	16000
	1086.17	9693	8919	8347	8165	6043	4909	3987		1.29	9416	1.45	16000
	1262.67	9693	8919	8191	7569	6043	4909	3987		1.11	9579	1.27	16000
	1360.46	8484	7741	7741	7740	5874	4771	3876		1.03	8456	1.04	14500
	1532.97	8484	7741	7305	6750	5874	4771	3876		0.91	8573	0.93	14500
	1836.62	7934	7210	6796	6280	5228	4666	3790		0.76	8184	0.74	11500
	1913.14	8484	7741	7295	6741	5874	4771	3876		0.73	8793	0.76	14500
	2221.71	7934	7210	6793	6277	5225	4666	3790		0.63	8365	0.63	11500
	2684.57	5838	5395	4860	4491	3739	3494	3424		0.52	6349	0.39	9000

B

P_{tN}	P	R-L-F-FC-FU FB-FCB	M MX	FS FP	T
802	23,6	18,3	18,9	15,5	23,0
803	16,9	13,3	13,7	11,4	16,5
804	12,8	10,1	10,4	8,7	12,5

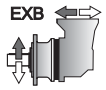
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**12.60**	11694	11572	11571	10943	6752	5485	4455	1400	111.11	5314	65.77	24000
	14.85	13782	12807	12806	12277	7575	6153	4998		94.28	6263	65.78	23000
	17.53	12690	12689	12687	12100	7466	6064	4926		79.86	6487	57.71	23000
	18.60	11348	10354	10353	10353	8052	6540	5313		75.27	7122	59.72	18000
	21.96	11348	10354	10353	10353	8052	6540	5313		63.75	7486	53.16	18000
	25.58	9857	9762	8794	8127	7166	5821	4728		54.73	6975	42.52	23000
	27.56	11348	10354	10353	10353	8052	6540	5313		50.80	8014	45.35	18000
	32.03	11348	10354	10353	9921	8052	6540	5313		43.71	8384	40.82	18000
	37.20	10772	9790	9486	8766	7297	6396	5196		37.63	7537	31.59	15000
	45.00	10668	9790	8881	8206	7272	6396	5196		31.11	7676	26.60	15000
	54.38	8495	7850	7072	6535	5440	5084	4982		25.74	5868	16.83	11000
3	**43.85**	11694	11211	10537	8559	5281	4289	3484	1400	31.93	6042	21.96	24000
	51.68	13782	12807	11821	9602	5925	4812	3909		27.09	7120	21.95	23000
	63.31	13782	12807	11605	9426	5816	4724	3837		22.11	7429	18.70	23000
	76.42	11348	10354	10353	10353	7791	6328	5140		18.32	9997	20.85	18000
	85.67	11429	10561	9514	8994	5650	4589	3727		16.34	7902	14.70	23000
	93.61	11348	10354	10353	10353	7648	6212	5046		14.96	10205	17.38	18000
	101.14	12690	12234	11021	10284	6346	5154	4187		13.84	9329	14.70	23000
	111.48	11348	10354	10343	9558	8052	6540	5313		12.56	9313	13.31	18000
	126.92	10890	10889	10887	10123	7243	5883	4779		11.03	10011	12.57	23000
	147.55	9857	9310	8387	7751	6839	5821	4728		9.49	7797	8.42	23000
	158.97	11348	10354	10353	10353	8052	6540	5313		8.81	10353	10.38	18000
	184.81	11348	10354	10239	9462	8052	6540	5313		7.58	9766	8.43	18000
	230.64	11348	10354	10201	9427	8052	6540	5313		6.07	9978	6.89	18000
	267.84	10772	9790	9263	8560	7126	6396	5196		5.23	9217	5.49	15000
	279.00	8922	8244	7427	6863	6249	5911	5313		5.02	7424	4.24	18000
	324.00	10185	9412	8479	7835	7116	6396	5196		4.32	8621	4.24	15000
	391.50	8332	7699	6936	6409	5335	4986	4886		3.58	7206	2.94	11000
4	**179.84**	13245	12807	11821	9602	5925	4812	3909	1400	7.78	10351	9.47	23000
	212.31	12690	12689	12687	10785	6655	5405	4390		6.59	12220	9.47	23000
	260.09	12690	12689	12687	10785	6655	5405	4390		5.38	12686	8.03	23000
	298.14	13082	12807	11821	9602	5925	4812	3909		4.70	12046	6.66	23000
	318.62	12690	12689	12687	10588	6533	5307	4310		4.39	12687	6.55	23000
	351.97	12690	12689	12687	10785	6655	5405	4390		3.98	12687	5.94	23000
	386.75	11275	10932	10344	8402	5185	4211	3421		3.62	10931	4.66	24000
	455.82	13289	12807	11605	9426	5816	4724	3837		3.07	12807	4.63	23000
	500.81	11348	10354	10353	10353	8052	6540	5313		2.80	10354	3.41	18000
	538.12	12690	12689	12687	10588	6533	5307	4310		2.60	12688	3.88	23000
	583.51	12689	11725	10563	10134	6346	5154	4187		2.40	11485	3.24	23000
	619.08	11348	10354	10353	10353	6614	5372	4364		2.26	10354	2.75	18000
	728.22	12647	11687	10528	10101	6346	5154	4187		1.92	11739	2.65	23000
	802.63	11348	10354	10050	9287	8052	6540	5313		1.74	10648	2.18	18000
	845.81	11348	10354	10353	10353	8052	6540	5313		1.66	10712	2.09	18000
	917.16	11348	10354	10353	10353	8052	6540	5313		1.53	10811	1.95	18000
	1066.20	11348	10354	10027	9266	8052	6540	5313		1.31	10999	1.70	18000
	1144.62	11348	10354	10353	10353	8052	6540	5313		1.22	11089	1.59	18000
	1330.62	11348	10354	10011	9251	8052	6540	5313		1.05	11282	1.39	18000
	1428.48	11348	10354	10353	10107	8052	6540	5313		0.98	11374	1.31	18000
	1660.61	11348	10354	9997	9238	8052	6540	5313		0.84	11571	1.14	18000
	1928.45	10772	9790	9180	8483	7062	6396	5196		0.73	11175	0.96	15000
	2008.80	8761	8096	7293	6739	6137	5805	5313		0.70	9129	0.75	18000
	2332.80	10002	9243	8326	7694	7058	6396	5196		0.60	10601	0.75	15000
	2818.80	8271	7643	6885	6362	5296	4949	4850		0.50	9060	0.53	11000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	FS FP	T
902	30.4	25.6	16.9	28.6
903	18.6	15.8	10.8	17.6
904	14.6	12.6	8.7	13.9

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**36.23**	6411	6411	6410	6408	6362	5485	4455	1400	38.64	6375	28.66	24000
	42.77	7569	7568	7567	7562	6655	5405	4390		32.73	7526	28.66	24000
	53.48	9464	9463	9460	9451	8052	6540	5313		26.18	9411	28.67	18000
	63.13	11173	10354	10353	10353	8052	6540	5313		22.18	9809	25.31	18000
	73.31	10772	9790	9384	8672	7219	6396	5196		19.10	8055	17.90	15000
	79.22	11348	10354	10353	10353	8052	6540	5313		17.67	10034	20.63	18000
	92.10	11348	10354	10353	9601	8052	6540	5313		15.20	9153	16.19	18000
	106.95	10772	9790	9341	8631	7185	6396	5196		13.09	8370	12.75	15000
	114.81	11348	10354	10353	10353	8052	6540	5313		12.19	10352	14.68	18000
	133.47	11348	10354	10303	9521	8052	6540	5313		10.49	9469	11.56	18000
	155.00	10772	9790	9305	8598	7158	6396	5196		9.03	8699	9.14	15000
	187.50	10277	9497	8555	7906	7146	6396	5196		7.47	8173	7.10	15000
	219.66	8003	7395	6662	6317	5737	5377	5313		6.37	6480	4.80	18000
	255.09	9137	8443	7606	7308	6530	6244	5196		5.49	7526	4.81	15000
	308.57	10193	9419	8485	7841	7119	6396	5196		4.54	8579	4.53	15000
	372.86	8334	7701	6938	6411	5337	4987	4888		3.75	7168	3.13	11000
4	**148.57**	13317	12807	11821	9602	5925	4812	3909	1400	9.42	9774	10.96	23000
	182.01	13462	12807	11605	9426	5816	4724	3837		7.69	10199	9.33	23000
	214.87	12690	12689	12687	10588	6533	5307	4310		6.52	12040	9.34	23000
	263.78	13382	12807	11605	9426	5816	4724	3837		5.31	11399	7.20	23000
	290.78	12690	11879	10701	10267	6346	5154	4187		4.81	10747	6.15	23000
	319.00	10890	10889	10799	9979	7243	5883	4779		4.39	10888	5.69	23000
	364.90	10890	10889	10781	9962	7243	5883	4779		3.84	10888	4.98	23000
	390.79	10890	10889	10773	9955	7243	5883	4779		3.58	10888	4.64	23000
	421.42	12690	11790	10622	10191	6346	5154	4187		3.32	11128	4.40	23000
	455.40	9972	9214	8463	8278	7192	5883	4779		3.07	8774	3.21	23000
	512.49	12690	12689	12687	10588	6533	5307	4310		2.73	12688	4.12	23000
	587.47	10925	10095	9094	8597	5650	4589	3727		2.38	9896	2.80	23000
	643.13	10890	10889	10719	9905	7243	5883	4779		2.18	10889	2.82	23000
	693.54	12656	11695	10535	10108	6346	5154	4187		2.02	11682	2.81	23000
	764.41	11348	10354	10054	9291	8052	6540	5313		1.83	10588	2.31	18000
	870.33	10890	10889	10693	9881	7243	5883	4779		1.61	10889	2.09	23000
	961.00	11348	10354	10035	9273	8052	6540	5313		1.46	10869	1.89	18000
	1090.11	11348	10354	10353	10353	8052	6540	5313		1.28	11027	1.68	18000
	1267.25	11348	10354	10014	9254	8052	6540	5313		1.10	11219	1.47	18000
	1360.46	11348	10354	10353	10113	8052	6540	5313		1.03	11310	1.39	18000
	1581.53	11348	10354	10000	9240	8052	6540	5313		0.89	11507	1.22	18000
	1836.62	10772	9790	9181	8484	7063	6396	5196		0.76	11112	1.00	15000
	2221.71	10005	9245	8329	7696	7059	6396	5196		0.63	10545	0.79	15000
	2684.57	8272	7644	6886	6363	5297	4950	4851		0.52	8995	0.56	11000

B

P_{tN}	P	R-L-F-FC-FU FB-FCB	FS FP	T
903	17,6	15,6	11,7	16,9
904	13,3	11,8	9,0	12,8

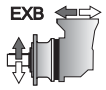
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**12.60**	12274	11572	11571	11569	8352	6784	5510	1400	111.11	6573	81.36	24000
	14.85	13918	12807	12806	12806	8284	6729	5465		94.28	6849	71.93	23000
	17.53	13918	12807	12806	12806	8284	6729	5465		79.86	7198	64.03	23000
	18.67	11200	11199	11198	10768	8352	6784	5510		74.99	7396	61.78	24000
	22.00	13199	12807	12806	12456	8284	6729	5465		63.64	7706	54.63	23000
	25.58	11923	11375	10248	9470	8284	6729	5465		54.73	8062	49.15	23000
	27.56	11348	10354	10353	10353	8052	6540	5313		50.80	8014	45.35	18000
	32.03	11348	10354	10353	10353	8052	6540	5313		43.71	8384	40.82	18000
	37.20	10772	9790	9486	8766	7297	6396	5196		37.63	7537	31.59	15000
	44.95	8521	7874	7094	6555	5457	5099	4997		31.15	5759	19.98	11000
3	**43.85**	11759	11211	10537	8559	5281	4289	3484	1400	31.93	6042	21.96	24000
	51.68	13857	12807	11821	9602	5925	4812	3909		27.09	7120	21.95	23000
	61.01	13918	12807	12806	10785	6655	5405	4390		22.95	8406	21.96	23000
	76.56	13199	12807	12806	11965	7801	6336	5147		18.29	10549	21.96	23000
	89.00	11860	10959	9873	9123	8223	6729	5465		15.73	8664	15.51	23000
	93.79	13199	12807	12806	11908	7659	6221	5053		14.93	11006	18.70	23000
	101.14	13239	12234	11021	10284	6346	5154	4187		13.84	9329	14.70	23000
	111.48	11348	10354	10353	10353	8052	6540	5313		12.56	10352	14.80	18000
	126.92	13199	12807	12806	11834	7439	6042	4908		11.03	11702	14.69	23000
	147.55	11741	10849	9774	9031	8140	6714	5453		9.49	9086	9.81	23000
	158.97	11348	10354	10353	10353	8052	6540	5313		8.81	10353	10.38	18000
	184.81	11348	10354	10353	10353	8052	6540	5313		7.58	10353	8.93	18000
	230.64	11348	10354	10353	10353	8052	6540	5313		6.07	10353	7.15	18000
	267.84	10772	9790	9263	8560	7126	6396	5196		5.23	9217	5.49	15000
	323.64	8341	7708	6944	6417	5341	4991	4892		4.33	7059	3.48	11000
4	**179.84**	13245	12807	11821	9602	5925	4812	3909	1400	7.78	10351	9.47	23000
	212.31	13918	12807	12806	10785	6655	5405	4390		6.59	12220	9.47	23000
	260.09	13918	12807	12806	10785	6655	5405	4390		5.38	12806	8.11	23000
	298.14	13082	12807	11821	9602	5925	4812	3909		4.70	12046	6.66	23000
	318.62	13918	12807	12806	10588	6533	5307	4310		4.39	12807	6.61	23000
	351.97	13918	12807	12806	10785	6655	5405	4390		3.98	12807	6.00	23000
	399.84	13199	12807	12590	11633	7659	6221	5053		3.50	12807	5.27	23000
	455.82	13918	12807	11605	9426	5816	4724	3837		3.07	12807	4.63	23000
	500.81	11348	10354	10353	10353	8052	6540	5313		2.80	10354	3.41	18000
	538.12	13918	12807	12806	10588	6533	5307	4310		2.60	12807	3.92	23000
	551.23	13199	12807	12548	11595	7801	6336	5147		2.54	12807	3.83	23000
	629.02	11526	10650	9594	8866	7991	6729	5465		2.23	10521	2.76	23000
	728.22	12647	11687	10528	10101	6346	5154	4187		1.92	11739	2.65	23000
	785.02	11316	10457	9577	8850	7976	6623	5380		1.78	10594	2.22	23000
	851.24	11497	10624	9571	8844	7971	6714	5453		1.64	10863	2.10	23000
	913.85	13199	12807	12495	11546	7439	6042	4908		1.53	13199	2.38	23000
	1062.35	11479	10607	9556	8830	7959	6714	5453		1.32	11124	1.73	23000
	1144.62	11348	10354	10353	10353	8052	6540	5313		1.22	11089	1.59	18000
	1330.62	11348	10354	10353	10353	8052	6540	5313		1.05	11282	1.39	18000
	1428.48	11348	10354	10353	10107	8052	6540	5313		0.98	11374	1.31	18000
	1660.61	11348	10354	10353	10353	8052	6540	5313		0.84	11571	1.14	18000
	1928.45	10772	9790	9180	8483	7062	6396	5196		0.73	11175	0.96	15000
	2004.48	8278	7649	6891	6367	5301	4953	4854		0.70	8612	0.71	11000
	2330.21	8274	7646	6888	6365	5299	4951	4853		0.60	8807	0.62	11000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	FS FP	T
952	30.4	25.6	16.9	28.6
953	18.6	15.8	10.8	17.6
954	14.6	12.6	8.7	13.9

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**36.23**	6411	6411	6410	6408	6362	6305	5510	1400	38.64	6375	28.66	24000
	42.77	7569	7568	7567	7562	7499	6784	5510		32.73	7526	28.66	24000
	53.48	9464	9463	9460	9451	8052	6540	5313		26.18	9411	28.67	18000
	63.25	11194	11192	11189	11174	8284	6729	5465		22.13	10578	27.24	23000
	73.53	11913	11009	9917	9164	8260	6729	5465		19.04	8516	18.86	23000
	79.22	11348	10354	10353	10353	8052	6540	5313		17.67	10034	20.63	18000
	92.10	11348	10354	10353	10353	8052	6540	5313		15.20	10188	18.02	18000
	106.56	11606	10917	9835	9088	8191	6729	5465		13.14	8810	13.47	23000
	114.81	11348	10354	10353	10353	8052	6540	5313		12.19	10352	14.68	18000
	133.47	11348	10354	10353	10353	8052	6540	5313		10.49	10352	12.63	18000
	155.00	10772	9790	9305	8598	7158	6396	5196		9.03	8699	9.14	15000
	187.29	8375	7739	6972	6442	5363	5012	4912		7.48	6660	5.80	11000
	219.66	8003	7395	6662	6317	5737	5377	5313		6.37	6480	4.80	18000
	255.09	9137	8443	7606	7308	6530	6244	5196		5.49	7526	4.81	15000
	308.23	8344	7710	6946	6419	5343	4993	4893		4.54	7023	3.71	11000
4	**148.57**	13317	12807	11821	9602	5925	4812	3909	1400	9.42	9774	10.96	23000
	175.40	13918	12807	12806	10785	6655	5405	4390		7.98	11539	10.96	23000
	214.87	13918	12807	12806	10588	6533	5307	4310		6.52	12040	9.34	23000
	263.78	13918	12807	11605	9426	5816	4724	3837		5.31	11399	7.20	23000
	290.78	12855	11879	10701	10267	6346	5154	4187		4.81	10747	6.15	23000
	319.00	13199	12807	12623	11664	7801	6336	5147		4.39	12807	6.69	23000
	364.90	13199	12807	12603	11646	7439	6042	4908		3.84	12807	5.85	23000
	390.79	13199	12807	12593	11636	7659	6221	5053		3.58	12807	5.46	23000
	418.35	13918	12807	11864	10785	6655	5405	4390		3.35	12157	4.85	23000
	457.05	11348	10354	10353	10353	8052	6540	5313		3.06	10353	3.77	18000
	512.49	13918	12807	12806	10588	6533	5307	4310		2.73	12807	4.16	23000
	570.40	11348	10354	10353	10253	8052	6540	5313		2.45	10354	3.02	18000
	643.13	13199	12807	12530	11579	7659	6221	5053		2.18	12807	3.32	23000
	693.54	12656	11695	10535	10108	6346	5154	4187		2.02	11682	2.81	23000
	764.41	11348	10354	10353	10353	8052	6540	5313		1.83	10588	2.31	18000
	870.33	13199	12807	12499	11550	7439	6042	4908		1.61	13181	2.53	23000
	961.00	11348	10354	10353	10353	8052	6540	5313		1.46	10869	1.89	18000
	1090.11	11348	10354	10353	10353	8052	6540	5313		1.28	11027	1.68	18000
	1267.25	11348	10354	10353	10353	8052	6540	5313		1.10	11219	1.47	18000
	1360.46	11348	10354	10353	10113	8052	6540	5313		1.03	11310	1.39	18000
	1581.53	11348	10354	10353	10353	8052	6540	5313		0.89	11507	1.22	18000
	1836.62	10772	9790	9181	8484	7063	6396	5196		0.76	11112	1.00	15000
	2219.25	8275	7647	6889	6366	5299	4952	4853		0.63	8743	0.66	11000

B

P_{tN}	P	R-L-F-FC-FU FB-FCB	FS FP	T
953	17,6	15,6	11,7	16,9
954	13,3	11,8	9,0	12,8

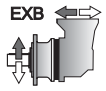
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h										
		T_N [Nm]							10000 Hours Life			T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.50**	12978	12235	12234	12232	8352	6784	5510	1400	400.00	4476	193.27	24000
	4.13	13918	12807	12806	12806	8284	6729	5465		338.98	4665	170.71	23000
	5.17	11348	10354	10353	10353	8052	6540	5313		270.79	4851	141.80	18000
	6.00	10772	9790	9789	9239	7691	6396	5196		233.33	4961	124.96	15000
	7.25	8939	8260	7441	6876	5724	5349	5147		193.10	5201	108.42	11000
2	**12.60**	12274	11572	11571	11569	8352	6784	5510	1400	111.11	6573	81.36	24000
	14.85	13918	12807	12806	12806	8284	6729	5465		94.28	6849	71.93	23000
	17.53	13918	12807	12806	12806	8284	6729	5465		79.86	7198	64.03	23000
	18.67	12127	11434	11433	11431	8352	6784	5510		74.99	7396	61.78	24000
	22.00	13918	12807	12806	12806	8284	6729	5465		63.64	7706	54.63	23000
	25.58	13918	12807	12806	12806	8284	6729	5465		54.73	8062	49.15	23000
	27.56	11348	10354	10353	10353	8052	6540	5313		50.80	8014	45.35	18000
	30.94	13918	12807	11684	10797	8284	6729	5465		45.25	8536	43.03	23000
	37.20	10772	9790	9486	8766	7297	6396	5196		37.63	7537	31.59	15000
	38.75	11348	10354	10353	10353	8052	6540	5313		36.13	8877	35.73	18000
	45.00	10772	9790	9454	8736	7272	6396	5196		31.11	7676	26.60	15000
	54.38	8495	7850	7072	6535	5440	5084	4982		25.74	5868	16.83	11000
3	**43.85**	11891	11211	11210	11208	8352	6784	5510	1400	31.93	9555	34.72	24000
	51.68	13918	12807	12806	12806	8284	6729	5465		27.09	9956	30.70	23000
	63.31	13918	12807	12806	12806	8284	6729	5465		22.11	10581	26.63	23000
	76.56	13918	12807	12806	12806	8284	6729	5465		18.29	11202	23.32	23000
	85.67	13918	12807	12806	12806	8284	6729	5465		16.34	11586	21.55	23000
	93.79	13918	12807	12806	12806	8284	6729	5465		14.93	11905	20.23	23000
	101.14	13918	12807	12806	12806	8284	6729	5465		13.84	12178	19.18	23000
	109.03	13918	12807	12806	12806	8284	6729	5465		12.84	12455	18.20	23000
	126.92	13918	12807	12806	12806	8284	6729	5465		11.03	12775	16.04	23000
	147.55	13918	12807	12806	12806	8284	6729	5465		9.49	12806	13.83	23000
	158.40	13918	12807	12806	12806	8284	6729	5465		8.84	12806	12.88	23000
	184.14	13918	12807	12806	12806	8284	6729	5465		7.60	12806	11.08	23000
	222.75	13401	12383	11155	10308	8284	6729	5465		6.29	10868	7.78	23000
	267.84	10772	9790	9263	8560	7126	6396	5196		5.23	9217	5.49	15000
	279.00	11348	10354	10353	10353	8052	6540	5313		5.02	10353	5.92	18000
	324.00	10772	9790	9251	8549	7116	6396	5196		4.32	9406	4.62	15000
	391.50	8332	7699	6936	6409	5335	4986	4886		3.58	7206	2.94	11000
4	**212.31**	13918	12807	12806	12806	8284	6729	5465	1400	6.59	12806	9.93	23000
	260.09	13918	12807	12806	12806	8284	6729	5465		5.38	12806	8.11	23000
	298.14	13918	12807	12806	12806	8284	6729	5465		4.70	12807	7.08	23000
	318.62	13918	12807	12806	12806	8284	6729	5465		4.39	12807	6.61	23000
	351.97	13918	12807	12806	12806	8284	6729	5465		3.98	12807	6.00	23000
	399.84	13918	12807	12806	12796	8284	6729	5465		3.50	12807	5.27	23000
	455.82	13918	12807	12806	12786	8284	6729	5465		3.07	12807	4.63	23000
	494.27	13918	12807	12806	12781	8284	6729	5465		2.83	12807	4.26	23000
	538.12	13918	12807	12806	12775	8284	6729	5465		2.60	12807	3.92	23000
	583.51	13918	12807	12806	12769	8284	6729	5465		2.40	12807	3.62	23000
	629.02	13918	12807	12806	12764	8284	6729	5465		2.23	12807	3.36	23000
	728.22	13918	12807	12806	12756	8284	6729	5465		1.92	12807	2.89	23000
	785.02	13918	12807	12806	12751	8284	6729	5465		1.78	12807	2.68	23000
	851.24	13918	12807	12806	12747	8284	6729	5465		1.64	13148	2.54	23000
	913.85	13918	12807	12806	12743	8284	6729	5465		1.53	13255	2.39	23000
	1062.35	13918	12807	12806	12736	8284	6729	5465		1.32	13485	2.09	23000
	1140.48	13918	12807	12806	12732	8284	6729	5465		1.23	13595	1.97	23000
	1325.81	13918	12807	12806	12725	8284	6729	5465		1.06	13831	1.72	23000
	1428.48	11348	10354	10353	10353	8052	6540	5313		0.98	11374	1.31	18000
	1603.80	13159	12160	10955	10123	8284	6729	5465		0.87	13365	1.37	23000
	1869.23	10772	9790	9181	8484	7062	6396	5196		0.75	11135	0.98	15000
	2008.80	11348	10354	10353	10353	8052	6540	5313		0.70	11826	0.97	18000
	2332.80	10772	9790	9176	8479	7058	6396	5196		0.60	11421	0.81	15000
	2818.80	8271	7643	6885	6362	5296	4949	4850		0.50	9060	0.53	11000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	R-L-F-FC-FU FB-FCB	FS FP	T
1001	45.2	36.9	21.6	42.1
1002	31.1	26.4	17.7	29.4
1003	20.3	17.5	12.5	19.3
1004	15.9	13.8	10.0	15.1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**8.85**	6247	6247	6246	6245	6234	6220	5510	1400	158.19	5912	106.44	24000
	10.43	7363	7362	7361	7359	7344	6729	5465		134.23	6160	94.11	23000
	13.07	9222	9221	9219	9216	8052	6540	5313		107.12	6407	78.11	18000
	15.18	10709	9790	9685	8949	7450	6396	5196		92.23	6554	68.80	15000
	18.34	8682	8023	7228	6679	5560	5195	5092		76.34	5298	46.03	11000
	21.53	8087	8087	8087	8086	7190	6540	5313		65.03	6978	51.65	18000
	25.00	9392	9391	9391	8838	7357	6396	5196		56.00	7263	46.29	15000
	30.21	8584	7932	7146	6603	5497	5137	5034		46.34	5545	29.25	11000
	35.59	6063	5602	5047	4664	3907	3833	3687		39.34	3990	17.87	18000
	41.33	6922	6396	5762	5325	523	4424	4228		33.87	4633	17.86	15000
	49.94	8185	7564	6814	6297	5440	5090	4989		28.03	5599	17.86	11000
3	**31.87**	11968	11283	11282	11281	8352	6784	5510	1400	43.93	8682	44.37	24000
	37.56	13918	12807	12806	12806	8284	6729	5465		37.27	9047	39.23	23000
	44.34	13918	12807	12806	12806	8284	6729	5465		31.57	9509	34.93	23000
	55.65	13918	12807	12806	12806	8284	6729	5465		25.16	10179	29.80	23000
	64.69	13918	12807	12806	12806	8284	6729	5465		21.64	10650	26.81	23000
	73.05	13918	12807	12806	12806	8284	6729	5465		19.16	11045	24.62	23000
	78.25	13663	12626	11374	10510	8284	6729	5465		17.89	9836	20.47	23000
	91.67	13918	12807	12806	12806	8284	6729	5465		15.27	11824	21.01	23000
	106.56	13918	12807	12806	12806	8284	6729	5465		13.14	12370	18.91	23000
	120.77	13918	12807	12455	11509	8284	6729	5465		11.59	11317	15.26	23000
	133.47	11348	10354	10353	10353	8052	6540	5313		10.49	10352	12.63	18000
	151.56	13918	12807	12806	12806	8284	6729	5465		9.24	12806	13.77	23000
	176.18	13918	12807	12806	12806	8284	6729	5465		7.95	12806	11.84	23000
	213.13	13409	12391	11163	10315	8284	6729	5465		6.57	10821	8.27	23000
	266.94	11348	10354	10353	10353	8052	6540	5313		5.24	10353	6.31	18000
	310.00	10772	9790	9254	8551	7118	6396	5196		4.52	9362	4.92	15000
	374.58	8334	7701	6938	6411	5337	4987	4887		3.74	7172	3.12	11000
4	**148.57**	13918	12807	12806	12806	8284	6729	5465	1400	9.42	12806	14.35	23000
	182.01	13918	12807	12806	12806	8284	6729	5465		7.69	12806	11.72	23000
	214.87	13918	12807	12806	12806	8284	6729	5465		6.52	12806	9.94	23000
	263.78	13918	12807	12806	12806	8284	6729	5465		5.31	12806	8.09	23000
	290.78	13918	12807	12806	12806	8284	6729	5465		4.81	12806	7.33	23000
	319.00	13918	12807	12806	12806	8284	6729	5465		4.39	12807	6.69	23000
	364.90	13918	12807	12806	12804	8284	6729	5465		3.84	12807	5.85	23000
	390.79	13918	12807	12806	12798	8284	6729	5465		3.58	12807	5.46	23000
	421.42	13918	12807	12806	12792	8284	6729	5465		3.32	12807	5.06	23000
	455.40	13918	12807	12806	12786	8284	6729	5465		3.07	12807	4.68	23000
	512.49	13918	12807	12806	12778	8284	6729	5465		2.73	12807	4.16	23000
	587.47	13918	12807	12806	12769	8284	6729	5465		2.38	12807	3.63	23000
	660.00	13918	12807	12806	12761	8284	6729	5465		2.12	12807	3.23	23000
	767.25	13918	12807	12806	12753	8284	6729	5465		1.82	12807	2.77	23000
	870.33	13918	12807	12806	12746	8284	6729	5465		1.61	13181	2.53	23000
	1011.76	13918	12807	12806	12738	8284	6729	5465		1.38	13410	2.20	23000
	1086.17	13918	12807	12806	12734	8284	6729	5465		1.29	13519	2.08	23000
	1262.67	13918	12807	12806	12728	8284	6729	5465		1.11	13754	1.82	23000
	1360.46	11348	10354	10353	10353	8052	6540	5313		1.03	11310	1.39	18000
	1527.43	13163	12163	10958	10125	8284	6729	5465		0.92	13294	1.46	23000
	1780.22	10772	9790	9182	8485	7063	6396	5196		0.79	11073	1.04	15000
	1913.14	11348	10354	10353	10353	8052	6540	5313		0.73	11760	1.02	18000
	2221.71	10772	9790	9177	8480	7059	6396	5196		0.63	11357	0.85	15000
	2684.57	8272	7644	6886	6363	5297	4950	4851		0.52	8995	0.56	11000

B

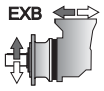
P_{tN}	P	R-L-F-FC-FU FB-FCB	FS FP	T
1002	25,2	22,1	16,6	24,1
1003	18,9	16,8	13,0	18,1
1004	14,2	12,7	10,0	13,7

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h										
		T_N [Nm]							10000 Hours Life			T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.72**	22750	21448	21447	21443	13822	11227	9119	1400	376.34	7544	306.48	41000
	4.09	25200	23254	23253	22311	13766	11182	9082		342.30	7730	285.63	40000
	5.25	20487	18642	18641	18182	13436	10913	8864		266.67	8131	234.07	31000
	6.23	17390	16199	14593	13485	11226	10373	8651		224.72	8354	202.66	24000
2	**13.39**	21457	20229	20228	20049	12371	10048	8162	1400	104.56	9915	115.49	41000
	14.73	25200	23254	23253	21428	13222	10740	8723		95.04	10905	115.45	40000
	17.39	24958	23254	23253	21118	13031	10584	8597		80.51	11296	101.31	40000
	18.90	20487	18642	18641	17343	13436	10913	8864		74.07	11941	98.53	31000
	22.31	20487	18642	18641	17265	13436	10913	8864		62.75	12551	87.73	31000
	25.36	18630	18523	16687	15420	12508	10160	8252		55.21	12142	74.68	40000
	28.00	20487	18642	18579	17168	13436	10913	8864		50.00	13436	74.84	31000
	32.55	20487	18642	18515	17109	13436	10913	8864		43.01	14057	67.35	31000
	39.38	17379	16060	14467	13369	12185	10913	8864		35.55	12382	49.03	31000
	46.73	16385	15263	13750	12705	10577	9773	8651		29.96	11212	37.42	24000
3	**46.60**	20748	19561	19559	16355	10092	8197	6658	1400	30.04	11758	40.20	41000
	51.25	25200	23254	21521	17481	10786	8761	7116		27.32	12931	40.21	40000
	60.50	24958	23254	23253	19634	12115	9840	7993		23.14	15265	40.20	40000
	74.12	24958	23254	23253	19276	11894	9661	7847		18.89	15928	34.25	40000
	80.57	20487	18642	18217	16834	12610	10242	8319		17.38	15807	31.27	31000
	93.01	20920	20919	20915	19603	12642	10269	8341		15.05	18123	31.04	40000
	100.31	23996	22174	19976	18723	11553	9384	7622		13.96	16941	26.92	40000
	109.04	20487	18642	18144	16766	12248	9948	8081		12.84	16295	23.81	31000
	125.87	20920	20919	20915	19481	12642	10269	8341		11.12	19246	24.36	40000
	138.77	20487	18642	18093	16719	13436	10913	8864		10.09	16702	19.18	31000
	161.54	20487	18642	18063	16692	13436	10913	8864		8.67	16966	16.74	31000
	187.79	20487	18642	18037	16667	13436	10913	8864		7.46	17234	14.63	31000
	201.60	20487	18642	18025	16656	13436	10913	8864		6.94	17363	13.71	31000
	234.36	20487	18642	18001	16634	13436	10913	8864		5.97	17639	11.99	31000
	283.50	16593	15333	13813	12764	11633	10913	8864		4.94	13833	7.78	31000
	336.46	16008	14912	13433	12413	10333	9549	8651		4.16	13717	6.49	24000
4	**178.35**	25200	23254	21521	17481	10786	8761	7116	1400	7.85	18797	17.36	40000
	210.56	24958	23254	23253	19634	12115	9840	7993		6.65	22192	17.36	40000
	257.94	24958	23254	23253	19634	12115	9840	7993		5.43	23253	14.86	40000
	295.68	25200	23254	21521	17481	10786	8761	7116		4.73	21876	12.17	40000
	315.99	24958	23254	23253	19276	11894	9661	7847		4.43	23253	12.12	40000
	349.06	24958	23254	23253	19634	12115	9840	7993		4.01	23253	10.97	40000
	396.53	20920	20919	20725	19151	12642	10269	8341		3.53	20917	8.69	40000
	452.05	25200	23254	21128	17161	10589	8601	6986		3.10	23254	8.48	40000
	485.28	20177	19023	19021	18035	11128	9039	7342		2.88	19022	6.45	41000
	533.67	24958	23254	23253	19276	11894	9661	7847		2.62	23254	7.17	40000
	578.69	22998	21252	19145	18355	11553	9384	7622		2.42	20796	5.92	40000
	629.07	20487	18642	17881	16523	12248	9948	8081		2.23	18642	4.89	31000
	722.20	22923	21182	19082	18295	11553	9384	7622		1.94	21257	4.85	40000
	800.57	20487	18642	17860	16504	13436	10913	8864		1.75	19218	3.96	31000
	859.45	20487	18642	17854	16498	13436	10913	8864		1.63	19374	3.72	31000
	906.29	20920	20919	20569	19007	12642	10269	8341		1.54	20919	3.79	40000
	999.11	20487	18642	17843	16488	13436	10913	8864		1.40	19711	3.25	31000
	1083.39	20487	18642	17837	16482	13436	10913	8864		1.29	19895	3.02	31000
	1163.08	20487	18642	17832	16478	13436	10913	8864		1.20	20057	2.83	31000
	1352.08	20487	18642	17822	16469	13436	10913	8864		1.04	20405	2.50	31000
	1451.52	20487	18642	17817	16464	13436	10913	8864		0.96	20572	2.32	31000
	1687.39	20487	18642	17809	16456	13436	10913	8864		0.83	20929	2.04	31000
	2041.20	16294	15057	13564	12534	11424	10797	8864		0.69	17010	1.38	31000
	2422.52	15868	14781	13315	12304	10243	9465	8651		0.58	17240	1.18	24000
5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage												

P_{tN}	P	PH	PX	R-L-F-FC-FU FB-FCB	FS FP	H HU	X	T
1501	64.9	54.7	63.5	39.6	26.7	32.7	41.5	58.1
1502	44.4	38.6	43.6	29.9	22.6	26.0	31.0	40.5
1503	28.0	22.5	27.6	19.6	15.3	17.3	20.2	25.8
1504	21.7	19.2	21.4	15.4	12.1	13.6	15.8	20.0

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**9.41**	10738	10738	10736	10734	10714	10689	9119	1400	148.78	9966	168.76	41000
	10.35	11809	11808	11806	11803	11779	11182	9082		135.27	10213	157.24	40000
	13.28	15154	15153	15150	15145	13436	10913	8864		105.42	10742	128.89	31000
	15.76	16813	15661	14109	13037	10853	10029	8651		88.83	10165	102.77	24000
	21.88	13994	13992	13988	13980	11939	10913	8864		63.99	11608	84.54	31000
	25.96	16589	15452	13921	12863	10708	9895	8651		53.93	10616	65.16	24000
	36.17	9500	8779	7908	7308	6131	6013	5781		38.71	6263	27.59	31000
	42.92	11057	10217	9204	8505	7250	7084	6759		32.62	7433	27.60	24000
3	**33.87**	17249	17246	17238	17223	12371	10048	8162	1400	41.33	13098	62.98	41000
	37.25	18969	18965	18955	18938	13222	10740	8723		37.58	14404	62.98	40000
	43.98	22393	22388	22374	21118	13031	10584	8597		31.83	14921	55.26	40000
	55.19	20920	20919	20915	19862	12642	10269	8341		25.37	15497	45.74	40000
	64.16	18630	17983	16200	14970	12508	10160	8252		21.82	13697	34.77	40000
	72.44	19439	19437	19275	17811	13031	10584	8597		19.33	16523	37.16	40000
	82.33	20487	18642	18211	16828	13436	10913	8864		17.00	15841	31.33	31000
	90.91	20920	20919	20915	19613	12642	10269	8341		15.40	18000	32.25	40000
	105.68	18630	17776	16014	14798	12508	10160	8252		13.25	14331	22.09	40000
	116.67	20487	18642	18129	16752	13436	10913	8864		12.00	16408	22.91	31000
	135.63	20487	18642	18097	16723	13436	10913	8864		10.32	16663	20.01	31000
	153.71	18526	17119	15422	14251	13227	10913	8864		9.11	14403	15.27	31000
	174.73	18630	17613	15867	14662	12508	10160	8252		8.01	15037	14.01	40000
	192.89	20487	18642	18032	16663	13436	10913	8864		7.26	17282	14.60	31000
	224.23	20487	18642	18008	16640	13436	10913	8864		6.24	17558	12.75	31000
	271.25	16604	15343	13822	12772	11641	10913	8864		5.16	13772	8.27	31000
	321.92	16013	14916	13438	12417	10337	9552	8651		4.35	13653	6.91	24000
4	**147.35**	25200	23254	21521	17481	10786	8761	7116	1400	9.50	17751	20.07	40000
	173.95	24958	23254	23253	19634	12115	9840	7993		8.05	20956	20.07	40000
	213.10	24958	23254	23253	19276	11894	9661	7847		6.57	21865	17.09	40000
	252.10	24958	23254	23162	19634	12115	9840	7993		5.55	22886	15.11	40000
	288.38	23299	21530	19395	18595	11553	9384	7622		4.85	19461	11.23	40000
	308.84	24958	23254	23253	19276	11894	9661	7847		4.53	23253	12.53	40000
	361.89	20920	20919	20746	19171	12642	10269	8341		3.87	20917	9.63	40000
	387.56	20920	20919	20730	19156	12642	10269	8341		3.61	20917	8.99	40000
	417.94	23126	21370	19252	18457	11553	9384	7622		3.35	20150	8.03	40000
	464.42	20487	18642	17912	16552	13436	10913	8864		3.01	18641	6.68	31000
	524.48	20920	20919	20665	19095	12642	10269	8341		2.67	20918	6.65	40000
	579.60	20487	18642	17889	16531	13436	10913	8864		2.42	18641	5.37	31000
	637.81	20272	18732	17876	17268	12642	10269	8341		2.20	18535	4.85	40000
	687.81	21674	20028	19095	18307	11553	9384	7622		2.04	19988	4.85	40000
	782.45	20487	18642	17862	16506	13436	10913	8864		1.79	19167	4.08	31000
	863.14	20920	20919	20576	19014	12642	10269	8341		1.62	20919	4.03	40000
	976.50	20487	18642	17844	16489	13436	10913	8864		1.43	19659	3.35	31000
	1107.69	20487	18642	17835	16481	13436	10913	8864		1.26	19945	2.99	31000
	1287.69	20487	18642	17825	16471	13436	10913	8864		1.09	20292	2.63	31000
	1382.40	20487	18642	17820	16467	13436	10913	8864		1.01	20457	2.46	31000
	1607.04	20487	18642	17811	16459	13436	10913	8864		0.87	20813	2.15	31000
	1907.26	15878	14791	13324	12312	10250	9471	8651		0.73	16638	1.45	24000
	2307.16	15870	14783	13317	12306	10244	9466	8651		0.61	17115	1.24	24000

B

P_{tN}	P	PH	PX	R-L-F-FC-FU FB-FCB	FS FP	H HU	X	T
1502	41.2	37.5	40.7	32.0	27.3	29.5	32.7	38.8
1503	26.8	22.7	26.5	20.5	17.2	18.7	20.9	25.1
1504	20.0	18.1	19.7	15.4	13.0	14.1	15.7	18.7

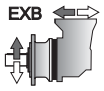
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**15.84**	27664	25403	25340	22549	13914	11301	9180	1400	88.38	11728	115.46	41000
	18.90	23930	21774	21012	19416	15745	12789	10388		74.07	13993	115.46	39000
	22.31	23930	21774	20918	19329	15517	12604	10237		62.75	14495	101.32	39000
	28.00	23930	21774	20800	19221	15054	12228	9932		50.00	15054	83.85	39000
	32.55	23908	21774	20729	19155	14895	12098	9827		43.01	15583	74.66	39000
	39.38	17379	16060	14467	13369	12185	11516	9710		35.55	12382	49.03	39000
3	**55.12**	27664	25403	22647	18395	11350	9219	7488	1400	25.40	13908	40.21	41000
	65.08	26844	25403	24532	20661	12749	10355	8411		21.51	16419	40.20	41000
	79.72	26844	25403	24455	20284	12516	10166	8257		17.56	17131	34.24	41000
	100.04	22500	22499	22495	20910	13304	10806	8777		13.99	19493	31.04	41000
	107.88	25596	23652	21308	19703	12157	9875	8021		12.98	18221	26.92	41000
	119.37	23930	21774	20291	18750	15054	12228	9932		11.73	18412	24.58	39000
	135.38	22500	22499	22487	20779	13304	10806	8777		10.34	20700	24.36	41000
	161.54	23930	21774	20223	18687	15054	12228	9932		8.67	18995	18.74	39000
	187.79	23847	21774	19851	18344	14895	12098	9827		7.46	18968	16.11	39000
	201.60	23750	21774	20180	18647	15054	12228	9932		6.94	19438	15.35	39000
	234.36	23758	21774	19777	18275	14895	12098	9827		5.97	19380	13.17	39000
	283.50	16593	15333	13813	12764	11633	10995	9710		4.94	13833	7.78	39000
4	**191.83**	21051	20763	20284	16476	10166	8258	6707	1400	7.30	20218	17.36	41000
	226.46	21504	21208	18059	14669	9051	7352	5972		6.18	23584	17.15	41000
	277.43	22948	21636	21220	18644	11504	9344	7590		5.05	24095	14.32	41000
	318.02	22948	21636	20063	16296	10055	8167	6634		4.40	23529	12.18	41000
	339.86	20333	17239	16020	13988	8631	7011	5694		4.12	24621	11.93	41000
	389.59	22948	21636	21220	18304	11294	9174	7451		3.59	24549	10.37	41000
	459.93	22948	21636	20063	16296	10055	8167	6634		3.04	25403	9.09	41000
	486.20	22869	21636	21220	19636	12116	9841	7994		2.88	25403	8.61	41000
	548.78	22948	21636	21220	17779	10970	8911	7238		2.55	21630	6.49	39000
	573.99	22948	21636	20063	16296	10055	8167	6634		2.44	25403	7.29	41000
	622.41	22869	21636	21220	19636	12116	9841	7994		2.25	22367	5.92	41000
	720.30	22869	21636	21220	19636	12116	9841	7994		1.94	22499	5.14	41000
	800.57	22948	21636	20063	16296	10055	8167	6634		1.75	21965	4.52	39000
	859.45	21437	20280	18847	15829	9767	7933	6444		1.63	22630	4.34	39000
	926.83	22869	21636	21220	19636	12116	9841	7994		1.51	22826	4.06	39000
	999.11	22948	21636	21220	17779	10970	8911	7238		1.40	22485	3.70	39000
	1083.39	19475	19195	16711	15947	11988	9737	7909		1.29	22680	3.44	39000
	1163.08	22869	21636	21220	19636	12116	9841	7994		1.20	23427	3.31	39000
	1352.08	22948	21636	21220	17779	10970	8911	7238		1.04	23222	2.84	39000
	1451.52	19475	19195	16711	15947	11988	9737	7909		0.96	22899	2.59	39000
	1687.39	22869	21636	21220	19636	12116	9841	7994		0.83	23782	2.32	39000
	2041.20	19475	19195	16711	15947	11988	9737	7909		0.69	17010	1.38	39000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	PH	PX	R-L-F-FC-FU FB-FCB	FS FP	H HU	X	T
1802	44.4	38.6	43.6	29.9	22.6	26.0	31.0	40.5
1803	28.0	22.5	27.6	19.6	15.3	17.3	20.2	25.8
1804	21.7	19.2	21.4	15.4	12.1	13.6	15.8	20.0

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**40.07**	20402	20398	20386	20366	13914	11301	9180	1400	34.94	15493	62.98	41000
	47.30	24084	24079	24062	22223	13712	11138	9047		29.60	16048	55.27	41000
	56.44	23930	21774	20509	18951	15517	12604	10237		24.81	17088	49.33	39000
	59.36	22500	22499	22495	21186	13304	10806	8777		23.58	16668	45.73	41000
	70.82	23930	21774	20434	18882	15054	12228	9932		19.77	17472	40.19	39000
	77.92	20908	20906	20560	18998	13712	11138	9047		17.97	17771	37.15	41000
	82.33	23908	21774	20208	18673	14895	12098	9827		17.00	17577	34.77	39000
	92.97	23930	21774	20355	18809	15517	12604	10237		15.06	17952	31.46	39000
	97.78	22500	22499	22495	20921	13304	10806	8777		14.32	19360	32.26	41000
	116.67	23930	21774	20296	18755	15054	12228	9932		12.00	18369	25.65	39000
	135.63	23908	21774	19975	18458	14895	12098	9827		10.32	18392	22.08	39000
	161.66	19373	17902	16127	14902	13304	10806	8777		8.66	15148	15.26	41000
	192.89	22655	20934	18859	17670	15054	12228	9932		7.26	18075	15.27	39000
	224.23	23775	21774	19791	18289	14895	12098	9827		6.24	19297	14.01	39000
	271.25	16604	15343	13822	12772	11641	11002	9710		5.16	13772	8.27	39000
4	**158.48**	27622	25403	22647	18395	11350	9219	7488	1400	8.83	19092	20.06	41000
	187.09	26844	25403	24205	20661	12749	10355	8411		7.48	22539	20.06	41000
	229.20	26844	25403	24159	20284	12516	10166	8257		6.11	23517	17.10	41000
	271.15	26844	25403	24125	20661	12749	10355	8411		5.16	24037	14.76	41000
	332.17	26844	25403	24087	20284	12516	10166	8257		4.21	24561	12.30	41000
	370.09	23930	21774	20083	18558	13757	11174	9076		3.78	20731	9.32	39000
	398.95	23581	21774	19630	18139	14895	12098	9827		3.51	20438	8.54	39000
	416.84	22500	22499	22112	20433	13304	10806	8777		3.36	22497	8.99	41000
	449.52	24668	22795	20535	19703	12157	9875	8021		3.11	21673	8.02	41000
	497.37	23930	21774	20045	18523	15054	12228	9932		2.81	21401	7.16	39000
	536.36	23930	21774	20037	18515	13757	11174	9076		2.61	21577	6.70	39000
	564.10	22500	22499	22042	20368	13304	10806	8777		2.48	22498	6.64	41000
	673.08	23930	21774	20012	18493	15054	12228	9932		2.08	21774	5.39	39000
	782.45	23414	21636	19491	18011	14895	12098	9827		1.79	21912	4.67	39000
	882.69	23930	21774	19987	18469	13757	11174	9076		1.59	22699	4.29	39000
	928.35	22500	22499	21948	20281	13304	10806	8777		1.51	22500	4.04	41000
	976.50	23371	21596	19455	17978	14895	12098	9827		1.43	22431	3.82	39000
	1107.69	23930	21774	19968	18451	15054	12228	9932		1.26	23297	3.49	39000
	1287.69	23323	21552	19415	17941	14895	12098	9827		1.09	23101	3.00	39000
	1382.40	22819	21086	19787	18436	15054	12228	9932		1.01	22786	2.74	39000
	1607.04	23289	21520	19387	17915	14895	12098	9827		0.87	23658	2.45	39000
	1944.00	16299	15061	13568	12538	11427	10800	9710		0.72	16920	1.45	39000

B

P_{tN}	P	PH	PX	R-L-F-FC-FU FB-FCB	FS FP	H HU	X	T
1803	26,8	22,7	26,5	20,5	17,2	18,7	20,9	25,1
1804	20,0	18,1	19,7	15,4	13,0	14,1	15,7	18,7

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

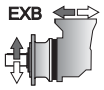
EX

Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
1	**4.40**	27664	25403	25402	24650	18203	14786	12010	1400	318.18	10448	358.86	41000
	5.25	23930	21774	21774	20356	16946	14551	11819		266.67	10842	312.11	39000
2	**15.84**	27664	25403	25340	23416	18203	14786	12010	1400	88.38	15344	151.06	41000
	18.90	23930	21774	21012	19416	16163	14551	11819		74.07	15455	127.52	39000
	20.00	27664	25403	25167	23256	18111	14711	11949		70.00	16372	127.66	41000
	23.47	26252	25403	25058	23155	17738	14408	11703		59.65	16824	111.79	41000
	28.00	23930	21774	20800	19221	16000	14551	11819		50.00	16000	89.12	39000
3	**55.12**	27664	25403	24601	22733	15134	12292	9985	1400	25.40	18543	53.61	41000
	69.60	27664	25403	24506	22645	17817	14472	11755		20.11	20911	47.86	41000
	81.66	26252	25403	24446	22590	17738	14408	11703		17.14	21244	41.44	41000
	85.26	27664	25403	24431	22576	17492	14208	11540		16.42	21336	39.87	41000
	91.38	25809	23849	21485	20940	14431	11722	9521		15.32	20579	35.88	41000
	100.04	26252	25403	24378	22526	17738	14408	11703		13.99	21680	34.52	41000
	115.38	27664	25403	24333	22486	16990	13800	11209		12.13	21995	30.37	41000
	135.38	26252	25403	24287	22443	17738	14408	11703		10.34	22357	26.31	41000
	161.54	23930	21774	20223	18687	15556	14402	11819		8.67	18995	18.74	39000
4	**191.83**	27664	25403	24199	22361	14616	11872	9643	1400	7.30	23178	19.91	41000
	242.21	27664	25403	24148	22314	17207	13977	11353		5.78	23752	16.15	41000
	287.88	27664	25403	24113	22282	14857	12068	9802		4.86	24190	13.83	41000
	318.02	27664	25403	24095	22265	13938	11321	9195		4.40	24447	12.66	41000
	348.15	26252	25403	24079	22250	17738	14408	11703		4.02	24684	11.67	41000
	389.59	27664	25403	24060	22233	14857	12068	9802		3.59	24983	10.55	41000
	426.50	26252	25403	24045	22220	17738	14408	11703		3.28	25227	9.74	41000
	486.20	27238	25403	24026	22201	14857	12068	9802		2.88	25403	8.61	41000
	501.12	27664	25403	24021	22197	16187	13148	10679		2.79	25403	8.34	41000
	577.17	26252	25403	24002	22179	17738	14408	11703		2.43	25403	7.26	41000
	613.89	27664	25403	23994	22172	17492	14208	11540		2.28	25403	6.81	41000
	720.30	26252	25403	23974	22153	17738	14408	11703		1.94	25403	5.80	41000
	830.77	27664	25403	23957	22138	16990	13800	11209		1.69	26060	5.18	41000
	974.77	26252	25403	23940	22122	17738	14408	11703		1.44	26251	4.45	41000
	1163.08	23930	21774	19964	18448	15357	14218	11819		1.20	23427	3.31	39000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	P	PH	PX	R-L-F-FC-FU FB-FCB	FS FP	H HU	X	T
2001	64.9	54.7	63.5	39.6	26.7	32.7	41.5	58.1
2002	44.4	38.6	43.6	29.9	22.6	26.0	31.0	40.5
2003	28.0	22.5	27.6	19.6	15.3	17.3	20.2	25.8
2004	21.7	19.2	21.4	15.4	12.1	13.6	15.8	20.0

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**11.13**	12701	12700	12698	12695	12667	12632	12010	1400	125.79	12615	180.61	41000
	13.28	15154	15153	15150	15145	15106	14551	11819		105.42	14322	171.84	39000
	18.33	11728	11727	11724	11719	10210	9520	9335		76.38	9728	84.57	41000
	21.88	13994	13992	13988	13980	11939	11316	11053		63.99	11608	84.54	39000
	30.31	8124	7507	6763	6249	5202	5071	4907		46.19	5249	27.60	41000
	36.17	9500	8779	7908	7308	6131	6013	5781		38.71	6263	27.59	39000
3	**40.07**	20402	20398	20386	20366	18203	14786	12010	1400	34.94	19832	80.62	41000
	50.59	25758	25403	24639	22768	18111	14711	11949		27.67	20275	65.27	41000
	59.36	26252	25403	24569	22704	17738	14408	11703		23.58	20589	56.49	41000
	70.82	23930	21774	20434	18882	15719	14551	11819		19.77	17472	40.19	39000
	78.75	21131	21129	20402	18853	15694	14530	11819		17.78	17656	36.52	39000
	83.33	22361	22359	21821	20164	18111	14711	11949		16.80	19007	37.15	41000
	97.78	26237	25403	24385	22533	17738	14408	11703		14.32	21630	36.04	41000
	116.67	23930	21774	20296	18755	15613	14454	11819		12.00	18369	25.65	39000
	137.78	16814	15537	13997	12934	11961	11073	10713		10.16	12911	15.26	41000
	161.66	19373	17902	16127	14902	13850	12640	11703		8.66	15148	15.26	41000
	192.89	22655	20934	18859	17670	15529	14377	11819		7.26	18075	15.27	39000
4	**158.48**	27622	25403	24245	22404	15134	12292	9985	1400	8.83	22723	23.87	41000
	200.10	27664	25403	24189	22352	17817	14472	11755		7.00	23281	19.39	41000
	245.13	27664	25403	24145	22311	17492	14208	11540		5.71	23782	16.16	41000
	281.37	27664	25403	24118	22286	14857	12068	9802		4.98	24131	14.30	41000
	331.73	27664	25403	24087	22258	16990	13800	11209		4.22	24557	12.33	41000
	389.23	26252	25403	24060	22233	17738	14408	11703		3.60	24980	10.70	41000
	416.84	26252	25403	24049	22223	17738	14408	11703		3.36	25165	10.06	41000
	464.42	23930	21774	20054	18531	15426	14282	11819		3.01	21244	7.61	39000
	480.77	27664	25403	24027	22203	16990	13800	11209		2.91	25403	8.80	41000
	564.10	26252	25403	24005	22182	17738	14408	11703		2.48	25403	7.50	41000
	673.08	23930	21774	20012	18493	15394	14252	11819		2.08	21774	5.39	39000
	791.21	24537	22674	21993	21062	16990	13800	11209		1.77	22993	4.84	41000
	928.35	26252	25403	23945	22127	17738	14408	11703		1.51	26251	4.72	41000
	1107.69	23930	21774	19968	18451	15360	14220	11819		1.26	23297	3.49	39000

P_{tN}	P	PH	PX	R-L-F-FC-FU FB-FCB	FS FP	H HU	X	T
2002	41.2	37.5	40.7	32.0	27.3	29.5	32.7	38.8
2003	26.8	22.7	26.5	20.5	17.2	18.7	20.9	25.1
2004	20.0	18.1	19.7	15.4	13.0	14.1	15.7	18.7

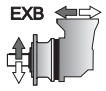
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	3.63	31472	29425	29424	29421	20752	16856	13691	1400	385.67	11243	468.08	63000
	4.00	37274	35141	35138	33133	20444	16606	13488		350.00	11404	430.87	64000
	5.20	33401	30405	30404	30045	20143	16362	13290		269.23	12156	353.30	57000
	6.25	29044	26316	24822	22937	19094	16050	13036		224.00	12601	304.70	39000
2	12.69	30333	29425	29424	23958	14783	12008	9753	1400	110.32	11659	143.28	63000
	14.00	33471	33125	31600	25667	15838	12864	10449		100.00	12864	143.30	64000
	16.50	34931	32933	31344	25459	15709	12760	10364		84.85	13404	126.69	64000
	18.20	33401	30405	30404	28599	19030	15458	12555		76.92	16723	143.29	57000
	21.45	33401	30405	30404	28462	18876	15332	12453		65.27	17426	126.70	57000
	26.87	33401	30405	30404	28289	18348	14903	12105		52.10	18123	105.18	57000
	31.20	33401	30405	30404	28184	17944	14575	11839		44.87	18536	92.65	57000
	37.70	26780	24747	22293	20600	17776	14439	11728		37.14	18977	78.51	57000
	45.31	27784	25884	23318	21547	17937	16050	13036		30.90	18948	65.22	39000
3	50.40	31655	31652	31600	25667	15838	12864	10449	1400	27.78	18892	59.73	64000
	59.40	33787	31854	31344	25459	15709	12760	10364		23.57	19685	52.81	64000
	65.52	33401	30405	30044	27762	19030	15458	12555		21.37	24559	59.73	57000
	70.13	33684	31757	31344	25459	15709	12760	10364		19.96	20691	47.01	64000
	77.35	33401	30405	29962	27687	19030	15458	12555		18.10	25813	53.18	57000
	91.16	33401	30405	29888	27618	18876	15332	12453		15.36	26301	45.98	57000
	102.30	33480	31565	29587	25459	15709	12760	10364		13.69	23172	36.11	64000
	114.18	33401	30405	29796	27533	18348	14903	12105		12.26	26901	37.54	57000
	132.60	33401	30405	29740	27481	17944	14575	11839		10.56	27312	32.83	57000
	143.29	33401	30405	29712	27456	18348	14903	12105		9.77	27529	30.61	57000
	166.57	33401	30405	29662	27410	18348	14903	12105		8.40	27958	26.73	57000
	201.50	33401	30405	29604	27356	18348	14903	12105		6.95	28515	22.56	57000
	234.00	33401	30405	29562	27317	17944	14575	11839		5.98	28963	19.71	57000
	281.25	27120	25266	22761	21033	17509	16050	13036		4.98	22773	12.91	39000
	339.84	27080	25229	22727	21002	17483	16050	13036		4.12	23235	10.90	39000
4	175.39	30668	30665	27390	22248	13727	11150	9057	1400	7.98	23804	22.35	64000
	206.71	33190	31291	30728	24959	15401	12509	10161		6.77	28054	22.35	64000
	244.04	33135	31239	31236	25459	15709	12760	10364		5.74	30077	20.31	64000
	298.95	33073	31181	31178	25459	15709	12760	10364		4.68	31178	17.17	64000
	317.25	33401	30405	29485	27246	18876	15332	12453		4.41	29908	15.52	57000
	342.69	33035	31145	29302	23801	14686	11929	9689		4.09	31133	14.98	64000
	404.57	32993	31105	31102	25459	15709	12760	10364		3.46	31104	12.66	64000
	445.50	33401	30405	29412	27179	17647	14334	11642		3.14	30405	11.23	57000
	507.69	32940	31055	31052	25459	15709	12760	10364		2.76	31054	10.08	64000
	558.00	33401	30405	29371	27140	18348	14903	12105		2.51	30405	8.98	57000
	633.60	32894	31012	31009	25459	15709	12760	10364		2.21	31011	8.06	64000
	698.88	33401	30405	29333	27106	19030	15458	12555		2.00	30405	7.15	57000
	736.56	32865	30985	28113	25459	15709	12760	10364		1.90	30985	6.93	64000
	823.68	33401	30405	29309	27083	18876	15332	12453		1.70	31434	6.29	57000
	961.00	33401	30405	29287	27063	18348	14903	12105		1.46	31994	5.50	57000
	1031.68	33401	30405	29278	27054	18348	14903	12105		1.36	32255	5.16	57000
	1162.50	33401	30405	29263	27041	18348	14903	12105		1.20	32698	4.62	57000
	1350.00	33401	30405	29113	26902	17944	14575	11839		1.04	33263	4.07	57000
	1450.80	33401	30405	29237	27017	18348	14903	12105		0.96	33538	3.79	57000
	1684.80	33401	30405	29069	26861	17944	14575	11839		0.83	34117	3.33	57000
	2025.00	26841	25006	22527	20816	17328	16012	13036		0.69	28382	2.30	39000
	2446.88	26826	24992	22514	20804	17319	16004	13036		0.57	29190	1.96	39000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PH	FCB	FS FP	H HU	T
2501	61.8	41.8	33.4	36.6	57.1
2502	45.4	34.0	29.2	31.0	42.7
2503	26.5	22.5	19.7	20.8	27.6
2504	22.5	17.5	15.4	16.2	21.4

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**9.17**	15625	15625	15622	15619	15591	15556	13691	1400	152.67	14846	257.97	63000
	10.12	17242	17241	17238	17234	17200	16606	13488		138.34	15065	237.21	64000
	13.15	22414	22412	22408	22401	20143	16362	13290		106.46	16057	194.56	57000
	15.81	26939	26316	23952	22133	18425	16050	13036		88.55	16646	167.77	39000
	21.67	19764	19763	19762	19759	17788	16362	13290		64.61	17276	127.04	57000
	26.04	23754	23754	23612	21819	18163	16050	13036		53.76	18014	110.22	39000
	35.82	14485	13385	12058	11143	9340	9162	8811		39.08	9540	42.43	57000
	43.06	17049	15755	14193	13115	11182	10926	10422		32.51	11466	42.43	39000
3	**32.09**	22303	22300	22289	22272	14783	12008	9753	1400	43.63	15400	78.17	63000
	35.41	24610	24606	24593	24572	15838	12864	10449		39.54	16993	78.17	64000
	46.04	31992	30405	30240	27944	19030	15458	12555		30.41	22092	78.16	57000
	54.26	33401	30405	30145	27855	18876	15332	12453		25.80	23020	69.10	57000
	67.96	33401	30405	30025	27745	18348	14903	12105		20.60	23940	57.38	57000
	78.92	33401	30405	29953	27678	17944	14575	11839		17.74	24487	50.54	57000
	89.38	33069	30405	29897	27626	18876	15332	12453		15.66	26249	47.83	57000
	95.36	33401	30405	29869	27601	17944	14575	11839		14.68	25917	44.27	57000
	111.94	33401	30405	29803	27540	18348	14903	12105		12.51	26847	39.08	57000
	130.00	33401	30405	29747	27488	17944	14575	11839		10.77	27257	34.15	57000
	157.08	33401	30405	29681	27427	17944	14575	11839		8.91	27789	28.81	57000
	185.08	25736	23781	21424	19995	18348	14903	12105		7.56	20437	17.98	57000
	214.93	29382	27151	24459	23146	17944	14575	11839		6.51	23733	17.98	57000
	259.71	29210	26992	24316	23011	17944	14575	11839		5.39	24109	15.12	57000
	312.15	27097	25245	22742	21015	17494	16050	13036		4.49	23026	12.03	39000
4	**144.90**	25256	25249	25202	25113	15838	12864	10449	1400	9.66	25119	28.87	64000
	170.78	29764	29756	29684	25459	15709	12760	10364		8.20	27023	26.37	64000
	201.61	33198	31299	31296	25459	15709	12760	10364		6.94	28402	23.45	64000
	222.38	33401	30405	29576	27330	19030	15458	12555		6.30	28809	21.60	57000
	253.00	33123	31228	31225	25459	15709	12760	10364		5.53	30404	20.01	64000
	294.11	33078	31185	28633	25459	15709	12760	10364		4.76	28794	16.31	64000
	328.28	33401	30405	29477	27239	18348	14903	12105		4.26	30016	15.22	57000
	366.67	33018	31128	31126	25459	15709	12760	10364		3.82	31127	14.15	64000
	381.23	33401	30405	29444	27208	17944	14575	11839		3.67	30405	13.28	57000
	411.96	33401	30405	29428	27193	18348	14903	12105		3.40	30405	12.30	57000
	459.26	30499	30497	29263	24747	15270	12403	10074		3.05	30496	11.07	64000
	478.90	33401	30405	29399	27166	18348	14903	12105		2.92	30405	10.56	57000
	552.50	33401	30405	29352	27123	17944	14575	11839		2.53	30405	9.15	57000
	645.83	30285	27985	25666	24747	15270	12403	10074		2.17	27730	7.16	64000
	694.06	33401	30405	29334	27107	18348	14903	12105		2.02	30405	7.31	57000
	750.00	27790	25679	23134	21377	14934	12130	9852		1.87	25882	5.76	64000
	839.58	33401	30405	29306	27080	18348	14903	12105		1.67	31503	6.26	57000
	975.00	33401	30405	29188	26971	17944	14575	11839		1.44	32047	5.49	57000
	1142.22	33401	30405	29265	27043	18348	14903	12105		1.23	32632	4.78	57000
	1381.71	33401	30405	29243	27022	18348	14903	12105		1.01	33351	4.01	57000
	1604.57	33401	30405	29078	26870	17944	14575	11839		0.87	33927	3.51	57000
	1928.57	26845	25009	22530	20819	17331	16015	13036		0.73	28177	2.45	39000
	2330.36	26829	24995	22517	20807	17321	16006	13036		0.60	28979	2.07	39000

B

P_{tN}	PH	FCB	FS FP	H HU	T
2502	41.9	34.6	31.5	32.7	40.2
2503	25.6	22.6	20.5	21.3	26.5
2504	20.6	16.9	15.4	16.0	19.7

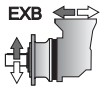
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**12.69**	31472	29425	29424	29421	20264	16460	13369	1400	110.32	15981	196.39	63000
	14.00	35135	33125	33122	33117	20444	16606	13488		100.00	16606	184.98	64000
	16.50	34931	32933	32930	32925	20444	16606	13488		84.85	17445	164.89	64000
	18.20	33401	30405	30404	28599	20143	16362	13290		76.92	17701	151.67	57000
	20.67	34676	32692	32689	32684	20444	16606	13488		67.73	18665	140.82	64000
	26.87	33401	30405	30404	28289	20143	16362	13290		52.10	19896	115.47	57000
	31.20	33401	30405	30404	28184	20143	16362	13290		44.87	20808	104.01	57000
	37.70	33401	30405	30368	28062	20143	16362	13290		37.14	22024	91.12	57000
	45.31	27784	25884	23318	21547	17937	16050	13036		30.90	18948	65.22	39000
3	**45.68**	31472	29425	29424	29421	20264	16460	13369	1400	30.65	23469	81.87	63000
	50.40	33897	31957	31955	31950	20444	16606	13488		27.78	24387	77.11	64000
	59.40	33787	31854	31851	31846	20444	16606	13488		23.57	25619	68.73	64000
	70.13	33684	31757	31754	31750	20444	16606	13488		19.96	26928	61.17	64000
	77.35	33401	30405	29962	27687	20143	16362	13290		18.10	25877	53.31	57000
	87.83	33558	31638	31635	31631	20444	16606	13488		15.94	28808	52.26	64000
	102.30	33480	31565	31562	31557	20444	16606	13488		13.69	30157	46.99	64000
	114.18	33401	30405	29796	27533	20143	16362	13290		12.26	26901	37.54	57000
	128.13	33376	31466	31464	31459	20444	16606	13488		10.93	31458	39.13	64000
	148.80	33313	31407	31404	29491	20444	16606	13488		9.41	29697	31.81	64000
	166.57	33401	30405	29662	27410	20143	16362	13290		8.40	27958	26.73	57000
	201.50	33401	30405	29604	27356	20143	16362	13290		6.95	28515	22.56	57000
	234.00	33401	30405	29562	27317	20143	16362	13290		5.98	28963	19.71	57000
	282.75	33401	30405	29513	27272	20143	16362	13290		4.95	29546	16.65	57000
	339.84	27080	25229	22727	21002	17483	16050	13036		4.12	23235	10.90	39000
4	**175.39**	33249	31346	31343	31339	20444	16606	13488	1400	7.98	31341	29.43	64000
	206.71	33190	31291	31288	31283	20444	16606	13488		6.77	31286	24.92	64000
	244.04	33135	31239	31236	31231	20444	16606	13488		5.74	31235	21.09	64000
	298.95	33073	31181	31178	31174	20444	16606	13488		4.68	31178	17.17	64000
	317.18	33057	31165	31162	31158	20444	16606	13488		4.41	31163	16.17	64000
	342.69	33035	31145	31142	31138	20444	16606	13488		4.09	31143	14.99	64000
	404.57	32993	31105	31102	31098	20444	16606	13488		3.46	31104	12.66	64000
	445.90	32969	31083	31080	31076	20444	16606	13488		3.14	31082	11.48	64000
	507.69	32940	31055	31052	31048	20444	16606	13488		2.76	31054	10.08	64000
	558.00	33401	30405	29371	27140	20143	16362	13290		2.51	30405	8.98	57000
	633.60	32894	31012	31009	31004	20444	16606	13488		2.21	31011	8.06	64000
	698.88	33401	30405	29333	27106	20143	16362	13290		2.00	30405	7.15	57000
	736.56	32865	30985	30982	30977	20444	16606	13488		1.90	30985	6.93	64000
	823.68	33401	30405	29309	27083	20143	16362	13290		1.70	31434	6.29	57000
	961.00	33401	30405	29287	27063	20143	16362	13290		1.46	31994	5.50	57000
	1031.68	33401	30405	29278	27054	20143	16362	13290		1.36	32255	5.16	57000
	1162.50	33401	30405	29263	27041	20143	16362	13290		1.20	32698	4.62	57000
	1350.00	33401	30405	29245	27025	20143	16362	13290		1.04	33263	4.07	57000
	1450.80	33401	30405	29237	27017	20143	16362	13290		0.96	33538	3.79	57000
	1684.80	33401	30405	29222	27003	20143	16362	13290		0.83	34117	3.33	57000
	2035.80	33401	30405	29204	26986	20143	16362	13290		0.69	34864	2.83	57000
	2446.88	26826	24992	22514	20804	17319	16004	13036		0.57	29190	1.96	39000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PH	FCB	FS FP	H HU	T
2802	46.3	34.9	30.1	31.9	43.6
2803	27.0	23.5	20.7	21.7	28.6
2804	23.3	18.3	16.2	17.0	22.1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**32.09**	22303	22300	22289	22272	20264	16460	13369	1400	43.63	21110	107.16	63000
	35.41	24610	24606	24593	24572	20444	16606	13488		39.54	21936	100.91	64000
	46.04	31992	30405	30240	27944	20143	16362	13290		30.41	23384	82.74	57000
	52.27	33872	31934	31931	31926	20444	16606	13488		26.78	24655	76.82	64000
	60.71	33773	31840	31838	30109	20444	16606	13488		23.06	25787	69.19	64000
	67.96	33401	30405	30025	27745	20143	16362	13290		20.60	25552	61.24	57000
	73.35	33658	31732	31729	29956	20444	16606	13488		19.09	27293	60.62	64000
	86.11	31862	31648	31448	29059	20444	16606	13488		16.26	27494	52.01	64000
	100.00	33492	31575	31573	29733	20444	16606	13488		14.00	28614	46.61	64000
	111.94	33401	30405	29803	27540	20143	16362	13290		12.51	26847	39.08	57000
	120.83	33402	31491	31488	29612	20444	16606	13488		11.59	29119	39.27	64000
	130.00	33401	30405	29747	27488	20143	16362	13290		10.77	27257	34.15	57000
	157.08	33401	30405	29681	27427	20143	16362	13290		8.91	27789	28.81	57000
	185.08	25736	23781	21424	19995	18444	16362	13290		7.56	20437	17.98	57000
	214.93	29382	27151	24459	23146	20143	16362	13290		6.51	23733	17.98	57000
	259.71	29210	26992	24316	23011	20143	16362	13290		5.39	24109	15.12	57000
	312.15	27097	25245	22742	21015	17494	16050	13036		4.49	23026	12.03	39000
4	**127.48**	33378	31468	31466	31461	20444	16606	13488	1400	10.98	31460	41.10	64000
	150.25	33309	31403	31400	31396	20444	16606	13488		9.32	31396	34.82	64000
	177.38	33244	31342	31340	31335	20444	16606	13488		7.89	31337	29.42	64000
	222.17	33165	31267	31265	31260	20444	16606	13488		6.30	31264	23.44	64000
	258.76	33116	31221	31219	31214	20444	16606	13488		5.41	31218	20.10	64000
	292.19	33080	31187	31184	31180	20444	16606	13488		4.79	31185	17.77	64000
	324.10	33051	31160	31157	31152	20444	16606	13488		4.32	31157	16.02	64000
	361.67	33021	31132	31129	31124	20444	16606	13488		3.87	31130	14.34	64000
	392.06	33001	31112	31110	31105	20444	16606	13488		3.57	31111	13.22	64000
	425.00	32981	31094	31091	29040	20444	16606	13488		3.29	31093	12.17	64000
	489.29	33401	30405	29394	27162	20143	16362	13290		2.86	30405	10.35	57000
	552.50	33401	30405	29372	27142	20143	16362	13290		2.53	30405	9.15	57000
	620.00	32898	31016	31013	28928	20444	16606	13488		2.26	31015	8.34	64000
	694.06	33401	30405	29334	27107	20143	16362	13290		2.02	30405	7.31	57000
	786.60	33401	30405	29315	27089	20143	16362	13290		1.78	31269	6.62	57000
	839.58	33401	30405	29306	27080	20143	16362	13290		1.67	31503	6.26	57000
	987.10	33401	30405	29284	27060	20143	16362	13290		1.42	32092	5.42	57000
	1178.13	33401	30405	29261	27039	20143	16362	13290		1.19	32748	4.64	57000
	1388.11	33401	30405	29242	27022	20143	16362	13290		1.01	33369	4.01	57000
	1612.00	33401	30405	29226	27007	20143	16362	13290		0.87	33945	3.51	57000
	1947.83	33401	30405	29208	26990	20143	16362	13290		0.72	34688	2.97	57000
	2341.15	26829	24995	22517	20807	17321	16006	13036		0.60	28999	2.07	39000

P_{tN}	PH	FCB	FS FP	H HU	T
2803	26,0	23,4	21,3	22,1	27,2
2804	21,1	17,5	16,0	16,5	20,3

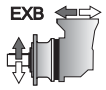
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**3.52**	40671	38026	38024	38021	27669	22474	18255	1400	397.73	14853	637.72	71000
	4.00	42571	42569	42564	42556	27259	22141	17984		350.00	15205	574.49	72000
	4.71	41489	41487	38764	35820	26526	21545	17500		297.24	15539	498.60	64000
	5.85	37783	34394	31682	29276	24371	21379	17365		239.32	16455	425.11	51000
2	**12.32**	40671	38026	38024	32172	19851	16124	13097	1400	113.64	15518	196.44	71000
	14.00	40128	40127	40122	35184	21710	17634	14323		100.00	17634	196.44	72000
	16.47	39244	39242	36816	34020	24325	19758	16049		85.00	20745	196.43	64000
	19.41	39032	39030	36629	33847	24128	19598	15918		72.13	21616	173.68	64000
	24.31	38766	38764	36394	33630	23453	19050	15473		57.59	22480	144.22	64000
	28.24	38604	38603	36251	33498	22937	18631	15133		49.58	22996	127.01	64000
	35.08	35826	33106	29824	27559	22942	21379	17365		39.91	23538	104.65	51000
	42.38	35681	32971	29703	27447	22848	21379	17365		33.03	23953	88.13	51000
3	**44.35**	40119	38026	38024	32172	19851	16124	13097	1400	31.57	22788	81.88	71000
	50.40	38714	38712	38708	35184	21710	17634	14323		27.78	25896	81.88	72000
	59.29	37957	37956	35676	32967	24325	19758	16049		23.61	29893	80.33	64000
	70.00	37842	37841	35574	32872	24325	19758	16049		20.00	30376	69.15	64000
	82.50	37737	37736	35480	32786	24128	19598	15918		16.97	30869	59.62	64000
	87.53	37701	37700	35448	32756	23453	19050	15473		15.99	31050	56.51	64000
	102.30	38238	38237	38232	34898	21533	17491	14207		13.69	31763	49.49	72000
	110.22	38197	38196	38191	33922	20931	17001	13809		12.70	31574	45.64	72000
	123.75	38137	38135	38131	34898	21533	17491	14207		11.31	33630	43.29	72000
	155.00	38028	38027	38022	33922	20931	17001	13809		9.03	34974	35.95	72000
	175.06	37352	37351	35137	32469	22937	18631	15133		8.00	33306	30.33	64000
	211.76	37276	37274	35069	32406	22937	18631	15133		6.61	33970	25.56	64000
	226.54	34842	32196	29004	26802	22311	20914	17365		6.18	28312	19.91	51000
	263.08	34796	32153	28966	26766	22282	20886	17365		5.32	28761	17.42	51000
	317.88	34742	32104	28921	26725	22247	20854	17365		4.40	29342	14.69	51000
4	**175.39**	37974	37972	37968	35184	21710	17634	14323	1400	7.98	37645	35.34	72000
	206.71	37906	37905	37900	34898	21533	17491	14207		6.77	37898	30.19	72000
	244.04	37843	37842	37837	34898	21533	17491	14207		5.74	37836	25.55	72000
	301.57	39685	38026	38024	31911	19690	15993	12991		4.64	38025	20.76	71000
	317.18	37754	37753	37748	33922	20931	17001	13809		4.41	37749	19.59	72000
	342.69	37730	37729	37724	34898	21533	17491	14207		4.09	37726	18.15	72000
	404.57	37681	37680	37675	34898	21533	17491	14207		3.46	37678	15.34	72000
	445.90	37655	37653	37649	33922	20931	17001	13809		3.14	37651	13.91	72000
	507.69	37621	37619	37615	34898	21533	17491	14207		2.76	37618	12.22	72000
	557.57	39504	38026	38024	31911	19690	15993	12991		2.51	38026	11.23	71000
	633.60	37568	37567	37562	34898	21533	17491	14207		2.21	37567	9.77	72000
	736.56	37536	37534	37530	34898	21533	17491	14207		1.90	37534	8.39	72000
	793.60	37520	37519	37515	33922	20931	17001	13809		1.76	37519	7.77	72000
	922.56	37491	37490	37485	33922	20931	17001	13809		1.52	37491	6.70	72000
	1009.95	36861	36859	34698	32063	22937	18631	15133		1.39	36860	6.03	64000
	1116.00	37458	37456	37452	33922	20931	17001	13809		1.25	37457	5.51	72000
	1260.42	36824	36823	34665	32033	22937	18631	15133		1.11	36824	4.81	64000
	1312.94	36818	36816	34660	32028	23453	19050	15473		1.07	36818	4.64	64000
	1524.71	36796	36794	34640	32009	22937	18631	15133		0.92	36796	3.98	64000
	1894.15	34423	31809	28655	26479	22043	20662	17365		0.74	35465	3.09	51000
	2288.77	34403	31790	28639	26464	22030	20650	17365		0.61	36473	2.62	51000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PH	FS FP	H HU	T
3001	64.3	32.7	36.6	73.7
3002	47.7	29.6	31.9	53.1
3003	27.8	20.4	21.7	34.1
3004	23.9	16.0	17.0	26.2

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**8.90**	15173	15172	15170	15167	15140	15107	15041	1400	157.30	15069	269.79	71000
	11.90	20284	20283	20279	20273	20226	20167	17500		117.65	20146	269.77	64000
	14.79	25199	25197	25191	25182	23492	21379	17365		94.66	21734	234.16	51000
	16.67	15234	15203	15202	15200	14098	13027	12796		83.98	13289	127.02	72000
	19.61	17922	17885	17884	17882	16281	15278	14959		71.39	15634	127.03	64000
	24.36	22219	22219	22217	22214	19733	18884	17365		57.47	19422	127.04	51000
	27.56	11481	10609	9557	8831	7352	7111	6902		50.80	7338	42.43	72000
	32.42	13259	12252	11037	10199	8490	8322	8034		43.18	8633	42.43	64000
	40.27	16070	14849	13377	12361	10475	10251	9809		34.77	10725	42.44	51000
3	**31.16**	21657	21654	21644	21628	19851	16124	13097	1400	44.93	20499	107.16	71000
	35.41	24610	24606	24593	24572	21710	17634	14323		39.54	23294	107.16	72000
	41.66	28952	28946	28929	28899	24325	19758	16049		33.61	27405	107.16	64000
	49.10	34121	34113	34088	33085	24128	19598	15918		28.51	28556	94.72	64000
	52.27	36326	36317	36289	33922	20931	17001	13809		26.78	25242	78.65	72000
	61.50	37931	37930	35653	32946	23453	19050	15473		22.76	29697	78.64	64000
	71.42	37829	37827	35562	32861	22937	18631	15133		19.60	30376	69.27	64000
	88.72	35225	32550	29323	27096	22556	21144	17365		15.78	25724	47.23	51000
	101.31	37484	37479	35373	32687	23453	19050	15473		13.82	31504	50.66	64000
	117.65	37537	37536	35302	32621	22937	18631	15133		11.90	31981	44.28	64000
	146.15	34999	32341	29135	26923	22412	21008	17365		9.58	27055	30.16	51000
	176.60	34927	32275	29075	26867	22366	20965	17365		7.93	27588	25.45	51000
	208.08	28550	26382	23767	22425	20471	19064	17365		6.73	22976	17.99	51000
	241.64	32595	30120	27134	25948	22298	20902	17365		5.79	26682	17.97	51000
	291.98	34766	32125	28941	26743	22262	20868	17365		4.79	29079	16.21	51000
4	**112.18**	39120	38026	38024	32172	19851	16124	13097	1400	12.48	30104	44.70	71000
	127.48	38122	38120	38116	35184	21710	17634	14323		10.98	34209	44.69	72000
	150.50	38042	38040	38036	35184	21710	17634	14323		9.30	35956	39.79	72000
	177.38	37969	37967	37963	34898	21533	17491	14207		7.89	37466	35.17	72000
	222.17	37878	37877	37872	33922	20931	17001	13809		6.30	37870	28.39	72000
	258.76	37822	37821	37816	34898	21533	17491	14207		5.41	37816	24.34	72000
	292.19	37781	37779	37775	34898	21533	17491	14207		4.79	37775	21.53	72000
	324.10	37747	37746	37741	33922	20931	17001	13809		4.32	37742	19.40	72000
	366.67	37710	37708	37704	34898	21533	17491	14207		3.82	37706	17.14	72000
	392.06	37690	37689	37684	33922	20931	17001	13809		3.57	37686	16.01	72000
	426.25	37667	37665	37661	34898	21533	17491	14207		3.28	37663	14.70	72000
	459.26	37647	37645	37641	33922	20931	17001	13809		3.05	37644	13.66	72000
	483.08	37634	37632	37628	34898	21533	17491	14207		2.90	37631	12.99	72000
	533.89	37608	37607	37603	33922	20931	17001	13809		2.62	37606	11.72	72000
	606.22	37578	37577	37572	34898	21533	17491	14207		2.31	37576	10.33	72000
	645.83	37564	37563	37558	33922	20931	17001	13809		2.17	37562	9.70	72000
	759.31	37529	37528	37524	33922	20931	17001	13809		1.84	37528	8.22	72000
	826.67	36898	36896	34731	32094	22937	18631	15133		1.69	36897	7.42	64000
	882.70	37500	37498	37494	33922	20931	17001	13809		1.59	37499	7.09	72000
	1067.78	37465	37464	37459	33922	20931	17001	13809		1.31	37465	5.84	72000
	1205.96	36831	36830	34671	32039	22937	18631	15133		1.16	36831	5.08	64000
	1458.82	36802	36801	34645	32015	22937	18631	15133		0.96	36802	4.20	64000
	1812.31	34428	31813	28659	26483	22046	20665	17365		0.77	35233	3.23	51000
	2189.87	34407	31794	28642	26467	22033	20653	17365		0.64	36235	2.76	51000

P_{tN}	PH	FS FP	H HU	T
3002	43.3	31.8	33.3	46.8
3003	26.6	21.1	22.1	31.3
3004	21.6	15.8	16.5	23.3

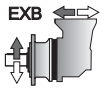
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**4.04**	52449	49448	49444	45594	28133	22851	18561	1400	346.53	15739	588.77	90000
	5.12	45607	41637	41635	41632	27582	22404	18197		273.44	16568	489.05	75000
	6.00	42395	38538	38536	36988	27034	21958	17836		233.33	17030	428.95	64000
	7.36	34208	31611	28477	26314	21906	20504	17658		190.22	17926	368.10	43000
2	**14.15**	48728	46516	43645	35451	21875	17768	14432	1400	98.94	17825	196.46	90000
	16.68	49040	46234	43291	35163	21697	17623	14315		83.93	18574	173.66	90000
	17.91	45607	41637	41635	41632	25796	20953	17019		78.17	22560	196.45	75000
	21.11	45607	41637	41635	41468	25587	20783	16881		66.32	23508	173.67	75000
	26.44	45607	41637	41635	40308	24872	20202	16409		52.95	24447	144.20	75000
	30.71	45607	41637	41635	38668	24324	19757	16048		45.59	25008	127.00	75000
	36.00	42395	38538	37612	34755	27034	21958	17836		38.89	29151	126.29	64000
	43.50	42395	38538	35855	33132	26934	21877	17770		32.18	30294	108.60	64000
	53.39	32206	29760	26810	24774	20623	19304	17658		26.22	22197	64.83	43000
3	**50.95**	46085	44806	43645	35451	21875	17768	14432	1400	27.48	26178	81.88	90000
	60.15	45840	44653	43645	35451	21875	17768	14432		23.28	27515	72.91	90000
	64.48	45607	41637	41635	40561	25796	20953	17019		21.71	33131	81.87	75000
	76.13	45607	41637	41635	40444	25796	20953	17019		18.39	34824	72.89	75000
	89.72	45607	41637	41635	40338	25587	20783	16881		15.60	36286	64.43	75000
	95.53	45607	41637	41635	40300	25796	20953	17019		14.66	37278	62.20	75000
	103.41	46915	44231	43291	35163	21697	17623	14315		13.54	32108	49.48	90000
	112.59	45607	41637	41635	40205	25587	20783	16881		12.43	38844	54.95	75000
	130.88	45607	41637	41635	40124	25587	20783	16881		10.70	39817	48.49	75000
	158.33	45607	41637	41635	40030	25587	20783	16881		8.84	40596	40.85	75000
	198.31	45607	41637	41635	39931	24872	20202	16409		7.06	41547	33.39	75000
	230.29	45607	41637	39567	36563	24324	19757	16048		6.08	38696	26.78	75000
	270.00	42395	38538	36491	33720	27034	21958	17836		5.19	36340	21.47	64000
	326.25	40937	37828	34078	31490	26934	21877	17770		4.29	34677	16.93	64000
	400.40	31423	29037	26158	24172	20122	18835	17658		3.50	27246	10.85	43000
4	**177.30**	44648	43910	43645	35451	21875	17768	14432	1400	7.90	38054	35.37	90000
	209.31	44515	43827	43645	35451	21875	17768	14432		6.69	39997	31.48	90000
	246.69	46407	43752	43291	35163	21697	17623	14315		5.68	41677	27.85	90000
	262.66	44349	43725	43645	35451	21875	17768	14432		5.33	42816	26.85	90000
	309.57	46307	43658	43291	35163	21697	17623	14315		4.52	43655	23.22	90000
	346.42	46262	43615	43291	35163	21697	17623	14315		4.04	43612	20.73	90000
	379.24	46227	43582	43291	35163	21697	17623	14315		3.69	43580	18.92	90000
	408.96	46199	43556	43291	35163	21697	17623	14315		3.42	43554	17.53	90000
	440.86	46173	43531	43291	35163	21697	17623	14315		3.18	43529	16.29	90000
	513.21	46122	43483	43291	35163	21697	17623	14315		2.73	43482	13.97	90000
	543.44	43930	43466	43462	35451	21875	17768	14432		2.58	43465	13.19	90000
	640.49	46054	43419	43291	35163	21697	17623	14315		2.19	43419	11.19	90000
	698.88	45607	41637	41635	39539	24872	20202	16409		2.00	41637	9.80	75000
	744.57	46012	43379	43291	35163	21697	17623	14315		1.88	43380	9.60	90000
	810.64	45607	41637	41635	39507	25587	20783	16881		1.73	42842	8.72	75000
	913.43	45607	41637	41635	39483	25587	20783	16881		1.53	43432	7.82	75000
	1015.34	45607	41637	41635	39463	24872	20202	16409		1.38	43961	7.14	75000
	1098.33	45607	41637	38834	35885	24324	19757	16048		1.27	44358	6.63	75000
	1180.33	45607	41637	41635	39436	24872	20202	16409		1.19	44725	6.26	75000
	1328.62	45607	41637	38777	35833	24324	19757	16048		1.05	45335	5.60	75000
	1427.82	45607	41637	41635	39405	24872	20202	16409		0.98	45710	5.27	75000
	1658.12	45607	41637	38718	35778	24324	19757	16048		0.84	46499	4.60	75000
	1944.00	42395	38538	36085	33345	27034	21958	17836		0.72	44018	3.73	64000
	2349.00	40148	37099	33421	30883	26934	21877	17770		0.60	42586	3.01	64000
	2882.86	31141	28776	25923	23955	19941	18666	17658		0.49	34207	1.97	43000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
3501	91.3	47.9
3502	54.1	35.5
3503	34.7	23.8
3504	27.6	19.5

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 x h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**35.80**	24878	24873	24860	24838	21875	17768	14432	1400	39.11	23548	107.15	90000
	45.31	31485	31478	31457	31422	25796	20953	17019		30.90	29804	107.15	75000
	53.40	37106	37096	37067	37019	25587	20783	16881		26.22	31055	94.74	75000
	66.88	45607	41637	41635	40308	24872	20202	16409		20.93	32296	78.65	75000
	77.67	45607	41637	40534	37456	24324	19757	16048		18.02	33034	69.26	75000
	91.06	42395	38538	36958	34151	27034	21958	17836		15.37	32518	58.15	64000
	103.13	38156	38152	36891	34089	27034	21958	17836		13.58	32923	52.02	64000
	110.17	40763	40758	39121	36150	24872	20202	16409		12.71	35176	52.02	75000
	127.94	45607	41637	40027	36987	24324	19757	16048		10.94	36610	46.60	75000
	150.00	42395	38538	36712	33924	27034	21958	17836		9.33	34192	37.12	64000
	181.25	41365	38223	34434	31819	26934	21877	17770		7.72	32769	29.43	64000
	211.53	28969	26769	24115	22788	20771	19381	16048		6.62	23357	17.99	75000
	255.60	34258	31656	28518	27387	24096	19572	15898		5.48	28223	17.99	75000
	299.67	39443	36447	32834	31532	26934	21877	17770		4.67	33089	17.98	64000
	367.77	31443	29055	26175	24187	20135	18847	17658		3.81	27001	11.97	43000
4	**163.10**	45607	41637	41635	40017	25796	20953	17019	1400	8.58	40719	41.57	75000
	192.55	45607	41637	41635	39943	25796	20953	17019		7.27	41420	35.83	75000
	226.94	45607	41637	41635	39876	25587	20783	16881		6.17	41634	30.57	75000
	261.57	46380	43727	43291	35163	21697	17623	14315		5.35	42416	27.00	90000
	295.36	46327	43676	43291	35163	21697	17623	14315		4.74	43673	24.63	90000
	331.06	45607	41637	41635	39741	25587	20783	16881		4.23	41635	20.96	75000
	370.65	46236	43590	43291	35163	21697	17623	14315		3.78	43588	19.61	90000
	396.62	45607	41637	41635	39685	24872	20202	16409		3.53	41636	17.49	75000
	430.88	46181	43538	43291	35163	21697	17623	14315		3.25	43537	16.84	90000
	469.12	45607	41637	41635	39637	25587	20783	16881		2.98	41636	14.76	75000
	501.60	45607	41637	41635	39619	24872	20202	16409		2.79	41636	13.82	75000
	545.35	45607	41637	41635	39598	25587	20783	16881		2.57	41636	12.73	75000
	587.58	45607	41637	41635	39579	24872	20202	16409		2.38	41636	11.79	75000
	659.70	45607	41637	41635	39552	25587	20783	16881		2.12	41637	10.50	75000
	712.39	46024	43391	43291	35163	21697	17623	14315		1.97	43391	10.17	90000
	826.29	45607	41637	41635	39503	24872	20202	16409		1.69	42936	8.63	75000
	901.64	45607	41637	41635	39486	25587	20783	16881		1.55	43367	8.00	75000
	971.47	45607	41637	41635	39471	24872	20202	16409		1.44	43739	7.49	75000
	1090.70	45607	41637	41635	39450	25587	20783	16881		1.28	44322	6.75	75000
	1366.13	45607	41637	41635	39412	24872	20202	16409		1.02	45479	5.52	75000
	1586.47	45607	41637	38729	35788	24324	19757	16048		0.88	46264	4.84	75000
	1860.00	42395	38538	36091	33350	27034	21958	17836		0.75	43796	3.91	64000
	2247.50	40158	37109	33430	30891	26934	21877	17770		0.62	42384	3.13	64000
	2758.30	31144	28779	25926	23957	19943	18668	17658		0.51	33983	2.06	43000

P_{tN}	PS PSB	S-SB-SU FS-FSR
3503	28,3	21,0
3504	24,3	18,4

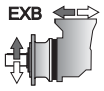
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**15.04**	49225	46409	46405	45594	28133	22851	18561	1400	93.09	23348	242.11	90000
	16.54	49055	46248	46244	45594	28133	22851	18561		84.64	24023	226.50	90000
	21.23	48641	45858	45854	45594	28133	22851	18561		65.94	25891	190.18	90000
	25.19	48385	45616	45612	45594	28133	22851	18561		55.58	27254	168.74	90000
	31.89	45607	41637	41635	41175	27582	22404	18197		43.90	28680	140.25	75000
	37.38	42395	38538	37579	34725	27034	21958	17836		37.45	29482	122.99	64000
	45.88	32302	29849	26890	24848	20685	19362	17658		30.51	21882	74.37	43000
3	**54.15**	47464	44748	44744	44738	28133	22851	18561	1400	25.85	34288	100.88	90000
	63.93	47306	44599	44595	44589	28133	22851	18561		21.90	36039	89.83	90000
	70.30	47221	44519	44515	44509	28133	22851	18561		19.91	37081	84.03	90000
	80.22	47110	44414	44410	44404	28133	22851	18561		17.45	38579	76.62	90000
	90.70	47012	44323	44319	43852	28133	22851	18561		15.44	40027	70.34	90000
	102.56	46921	44236	44232	44226	28133	22851	18561		13.65	41530	64.52	90000
	113.22	46851	44170	44167	44160	28133	22851	18561		12.37	42780	60.23	90000
	131.62	46751	44076	44072	44066	28133	22851	18561		10.64	44065	53.36	90000
	156.20	46647	43978	43974	43314	28133	22851	18561		8.96	43858	44.73	90000
	170.06	45607	41637	41635	39997	27582	22404	18197		8.23	40894	38.31	75000
	188.95	46540	43877	43874	43157	28133	22851	18561		7.41	43870	37.00	90000
	239.15	45607	41637	41635	39856	27582	22404	18197		5.85	41635	27.72	75000
	280.38	42395	38538	36479	33709	27034	21958	17836		4.99	36485	20.72	64000
	344.11	31459	29070	26188	24199	20145	18856	17658		4.07	26810	12.42	43000
4	**222.47**	46457	43799	43795	43788	28133	22851	18561	1400	6.29	43793	32.41	90000
	244.65	46411	43756	43752	43745	28133	22851	18561		5.72	43751	29.44	90000
	265.95	46373	43720	43716	43709	28133	22851	18561		5.26	43715	27.05	90000
	307.01	46311	43661	43657	43651	28133	22851	18561		4.56	43658	23.42	90000
	343.55	46265	43618	43614	43608	26940	21882	17774		4.08	43615	20.94	90000
	376.10	46230	43585	43581	43575	28133	22851	18561		3.72	43583	19.08	90000
	405.58	46202	43559	43555	43549	28133	22851	18561		3.45	43557	17.68	90000
	437.22	46176	43534	43530	43523	28133	22851	18561		3.20	43532	16.39	90000
	508.97	46124	43485	43481	43475	28133	22851	18561		2.75	43484	14.07	90000
	550.24	46100	43462	43458	43452	28133	22851	18561		2.54	43461	12.99	90000
	635.19	46056	43421	43417	43411	28133	22851	18561		2.20	43421	11.24	90000
	738.41	46014	43382	43378	43371	28133	22851	18561		1.90	43382	9.70	90000
	803.94	45607	41637	41635	39509	27582	22404	18197		1.74	42802	8.76	75000
	918.53	45959	43329	43325	43319	28133	22851	18561		1.52	43330	7.75	90000
	1031.72	45607	41637	41635	39460	27582	22404	18197		1.36	44041	7.05	75000
	1162.54	45607	41637	41635	39439	27582	22404	18197		1.20	44647	6.30	75000
	1360.47	45873	43248	43244	42164	28133	22851	18561		1.03	45643	5.53	90000
	1450.85	45607	41637	41635	39403	27582	22404	18197		0.96	45793	5.17	75000
	1721.89	45607	41637	41635	39377	27582	22404	18197		0.81	46700	4.45	75000
	2018.77	42395	38538	36081	33341	27034	21958	17836		0.69	44209	3.59	64000
	2477.58	42395	38538	36058	33320	27034	21958	17836		0.57	45257	3.04	64000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
3602	56.1	37.5
3603	37.0	26.1
3604	29.3	21.2

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**38.05**	42762	42754	42730	42690	28133	22851	18561	1400	36.79	30844	132.02	90000
	41.84	47025	45006	45002	44995	28133	22851	18561		33.46	31735	123.54	90000
	53.70	47472	44756	44752	44746	28133	22851	18561		26.07	34203	103.74	90000
	63.73	47309	44602	44598	44283	28133	22851	18561		21.97	36006	92.04	90000
	79.32	45607	41637	41635	40417	27582	22404	18197		17.65	37696	77.41	75000
	88.45	47032	44341	44337	44330	28133	22851	18561		15.83	39726	73.17	90000
	104.97	46904	44220	44217	43693	28133	22851	18561		13.34	41820	64.91	90000
	132.86	45607	41637	41635	40116	27582	22404	18197		10.54	39878	48.90	75000
	155.77	42395	38538	36696	33909	27034	21958	17836		8.99	34324	35.90	64000
	185.09	39759	36740	33098	30891	27582	22404	18197		7.56	31573	27.77	75000
	219.67	45607	41637	38522	36526	27582	22404	18197		6.37	37471	27.77	75000
	257.54	42395	38538	36507	33734	27034	21958	17836		5.44	36160	22.89	64000
	316.07	31480	29089	26205	24215	20158	18869	17658		4.43	26570	13.69	43000
4	**136.97**	46726	44053	44049	44042	28133	22851	18561	1400	10.22	44042	53.56	90000
	150.62	46668	43998	43994	43988	28133	22851	18561		9.29	43989	48.63	90000
	177.82	46573	43908	43904	43898	28133	22851	18561		7.87	43901	41.11	90000
	193.30	46528	43866	43862	43856	28133	22851	18561		7.24	43859	37.78	90000
	223.15	46455	43797	43793	43787	28133	22851	18561		6.27	43792	32.67	90000
	248.12	46405	43750	43746	43739	28133	22851	18561		5.64	43745	29.36	90000
	292.92	46331	43680	43676	43670	28133	22851	18561		4.78	43676	24.84	90000
	318.42	46296	43647	43643	43637	28133	22851	18561		4.40	43644	22.85	90000
	367.59	46239	43593	43589	43583	28133	22851	18561		3.81	43591	19.76	90000
	395.10	46212	43568	43564	42669	28133	22851	18561		3.54	43566	18.35	90000
	427.32	46184	43541	43537	43531	28133	22851	18561		3.28	43539	16.99	90000
	471.74	46149	43509	43505	43499	28133	22851	18561		2.97	43508	15.38	90000
	526.46	46113	43475	43471	43465	28133	22851	18561		2.66	43474	13.76	90000
	607.75	46069	43433	43430	43423	28133	22851	18561		2.30	43433	11.89	90000
	706.51	46026	43393	43389	43383	28133	22851	18561		1.98	43393	10.22	90000
	787.31	45997	43366	43362	42350	28133	22851	18561		1.78	43366	9.19	90000
	839.61	45607	41637	41635	39500	27582	22404	18197		1.67	43015	8.55	75000
	906.68	45962	43332	43328	43322	28133	22851	18561		1.54	43333	7.94	90000
	996.46	45607	41637	41635	39467	27582	22404	18197		1.40	43866	7.31	75000
	1076.06	45922	43295	43291	42237	28133	22851	18561		1.30	43295	6.70	90000
	1171.55	45607	41637	41635	39437	27582	22404	18197		1.19	44686	6.33	75000
	1388.16	45607	41637	41635	39409	27582	22404	18197		1.01	45563	5.48	75000
	1647.49	45607	41637	41635	39384	27582	22404	18197		0.85	46464	4.70	75000
	1931.54	42395	38538	36086	33346	27034	21958	17836		0.72	43986	3.77	64000
	2370.52	31158	28792	25938	23968	19952	18676	17658		0.59	33228	2.33	43000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR
3603	32.6	25.4
3604	25.5	19.6

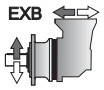
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h											
		T_N [Nm]							10000 Hours Life				
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
1	4.18	59828	55392	55389	55385	37510	30468	24748	1400	334.93	21201	766.54	95000
	4.89	54742	50201	50199	50196	36775	29871	24263		286.30	21787	673.35	85000
	6.00	49674	45155	45153	41802	34798	29278	23781		233.33	22706	571.92	70000
2	15.56	57024	55392	55389	55385	37066	30107	24454	1400	89.97	31076	311.45	95000
	17.11	56829	55392	55389	55385	36916	29985	24356		81.82	31845	290.25	95000
	20.00	54742	50201	50199	50196	36775	29871	24263		70.00	33245	259.23	85000
	21.95	56358	55392	55389	55385	36029	29265	23770		63.78	33491	237.95	95000
	25.67	54742	50201	50199	50196	36775	29871	24263		54.54	35829	217.68	85000
	30.46	54742	50201	50199	50196	36775	29871	24263		45.96	37716	193.10	85000
	37.38	49674	45155	42469	39244	32669	29278	23781		37.45	33762	140.85	70000
3	56.00	55015	55012	55006	53763	33174	26945	21886	1400	25.00	40842	116.21	95000
	61.59	54909	54907	54901	54890	35456	28799	23392		22.73	44915	116.20	95000
	72.71	54737	54735	54729	54718	34943	28383	23054		19.25	46526	101.94	95000
	79.04	54656	54654	54647	54637	36029	29265	23770		17.71	49188	99.15	95000
	85.00	54742	50201	50199	49500	36775	29871	24263		16.47	46764	87.66	85000
	93.31	54504	54502	54495	54485	36029	29265	23770		15.00	51699	88.26	95000
	106.07	54395	54393	54386	54360	33542	27245	22129		13.20	50017	75.15	95000
	117.09	54315	54313	54307	54296	36029	29265	23770		11.96	54292	73.91	95000
	136.12	54201	54199	54193	54182	36029	29265	23770		10.29	54182	63.46	95000
	164.66	54069	54067	51830	50649	36029	29265	23770		8.50	51001	49.34	95000
	192.50	54742	50201	50199	48971	36775	29871	24263		7.27	50198	41.54	85000
	228.46	54742	50201	50199	48885	36775	29871	24263		6.13	50198	35.02	85000
	280.38	49524	45155	41226	38095	31713	29278	23781		4.99	41232	23.42	70000
4	214.32	53906	53904	53897	46876	28924	23493	19083	1400	6.53	53263	40.92	95000
	253.02	53814	53811	53805	52651	32488	26388	21434		5.53	53804	35.01	95000
	275.05	53770	53768	53762	53751	34442	27976	22724		5.09	53761	32.20	95000
	309.96	53711	53708	53702	51690	31894	25906	21042		4.52	53703	28.56	95000
	355.31	53647	53645	53639	44700	27582	22403	18197		3.94	53641	24.87	95000
	388.97	53607	53605	53599	53588	33902	27537	22367		3.60	53602	22.70	95000
	419.46	53575	53573	53567	50208	30980	25164	20439		3.34	53570	21.05	95000
	452.18	53545	53543	53536	53526	33542	27245	22129		3.10	53540	19.53	95000
	499.18	53506	53504	53498	53487	36029	29265	23770		2.80	53502	17.63	95000
	556.44	53466	53464	51194	48976	31383	25491	20705		2.52	53463	15.85	95000
	611.92	53433	53431	53424	53414	33542	27245	22129		2.29	53430	14.40	95000
	701.97	53387	53385	49909	48772	36029	29265	23770		1.99	53385	12.50	95000
	797.31	53348	52423	47226	43640	35164	28562	23199		1.76	53206	11.02	95000
	932.00	53303	52350	47160	43579	35164	28562	23199		1.50	53302	9.41	95000
	1000.55	53283	52319	47132	43553	35164	28562	23199		1.40	53283	8.78	95000
	1110.58	54742	50201	50199	48359	36775	29871	24263		1.26	53310	7.90	85000
	1386.00	54742	50201	50199	48314	36775	29871	24263		1.01	54679	6.50	85000
	1644.92	54742	50201	50199	48282	36775	29871	24263		0.85	55761	5.58	85000
	2018.77	48983	45155	40776	37680	31367	29278	23781		0.69	50895	4.13	70000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSB-FSR
4201	91.3	47.9
4202	56.1	37.5
4203	37.0	26.1
4204	29.3	21.2

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**39.35**	44225	44216	44191	44148	37066	30107	24454	1400	35.58	41050	169.93	95000
	43.27	48633	48623	48592	48541	36916	29985	24356		32.35	42065	158.32	95000
	55.53	55024	55022	55015	55005	36029	29265	23770		25.21	44245	129.78	95000
	65.91	54837	54806	49372	45623	35164	28562	23199		21.24	41870	103.47	95000
	77.05	54742	50201	50199	49579	36775	29871	24263		18.17	46318	97.92	85000
	83.33	52494	50201	50007	46210	36775	29871	24263		16.80	43557	85.14	85000
	91.48	54521	54519	54314	50189	36029	29265	23770		15.30	47814	85.11	95000
	108.57	54376	54075	48714	45015	35164	28562	23199		12.89	43730	65.58	95000
	126.92	54742	50201	50199	49214	36775	29871	24263		11.03	48667	62.45	85000
	155.77	49674	45155	41471	38322	31901	29278	23781		8.99	38791	40.57	70000
	176.81	38180	35281	31783	29536	27346	25027	24263		7.92	30161	27.79	85000
	209.85	44437	41063	36992	34930	31862	29702	24263		6.67	35796	27.78	85000
	257.54	49561	45155	41257	38124	31737	29278	23781		5.44	40866	25.87	70000
4	**141.65**	54173	54171	54164	53763	33174	26945	21886	1400	9.88	53952	63.43	95000
	155.78	54107	54104	54098	54087	35456	28799	23392		8.99	54090	57.86	95000
	183.90	53998	53996	53990	53979	34943	28383	23054		7.61	53984	48.88	95000
	199.92	53947	53945	53939	53928	36029	29265	23770		7.00	53934	44.92	95000
	230.78	53864	53862	53855	53845	33902	27537	22367		6.07	53853	38.90	95000
	256.61	53806	53804	53798	53787	35456	28799	23392		5.46	53797	34.95	95000
	275.48	53769	53767	53761	52986	32694	26556	21570		5.08	53761	32.50	95000
	302.94	53722	53720	53713	53703	34943	28383	23054		4.62	53714	29.53	95000
	345.70	53659	53657	53651	51406	31719	25764	20927		4.05	53653	25.86	95000
	380.17	53617	53615	53609	53598	33902	27537	22367		3.68	53611	23.48	95000
	401.87	53593	53591	51514	49282	31383	25491	20705		3.48	53588	22.19	95000
	441.94	53554	53552	53546	53535	33542	27245	22129		3.17	53549	20.20	95000
	487.88	53515	53513	53507	53496	36029	29265	23770		2.87	53511	18.27	95000
	516.67	54742	50201	50199	48563	36775	29871	24263		2.71	50201	16.19	85000
	567.16	53459	53457	53451	53440	36029	29265	23770		2.47	53456	15.71	95000
	628.54	53424	53422	53415	53405	33902	27537	22367		2.23	53421	14.18	95000
	730.68	53375	53373	53366	53356	33542	27245	22129		1.92	53373	12.19	95000
	806.63	53344	53342	53336	53326	36029	29265	23770		1.74	53343	11.04	95000
	891.85	54742	50201	50199	48410	36775	29871	24263		1.57	51988	9.71	85000
	957.31	53295	52338	47149	43569	35164	28562	23199		1.46	53294	9.26	95000
	1119.18	54742	50201	50199	48358	36775	29871	24263		1.25	53357	7.94	85000
	1301.05	54742	50201	50199	48326	36775	29871	24263		1.08	54284	6.98	85000
	1573.85	54742	50201	50199	48290	36775	29871	24263		0.89	55480	5.88	85000
	1931.54	48990	45155	40782	37685	31371	29278	23781		0.72	50564	4.33	70000

B

P_{tN}	PS PSB	S-SB-SU FS-FSB-FSR
4203	32.6	25.4
4204	25.5	19.6

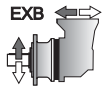
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**15.56**	78975	78972	73956	60071	37066	30107	24454	1400	89.97	31076	311.45	145000
	17.11	78695	78692	73657	59828	36916	29985	24356		81.82	31845	290.25	145000
	20.00	78676	72150	72147	66742	41182	33450	27170		70.00	37228	290.29	120000
	25.67	78676	72150	72147	65138	40192	32646	26517		54.54	39158	237.91	120000
	30.46	70454	65104	58649	54196	39227	31862	25880		45.96	40231	205.97	120000
	37.38	68715	62463	60865	56243	45273	36773	29869		37.45	48387	201.86	94000
3	**56.00**	76073	76070	66190	53763	33174	26945	21886	1400	25.00	40842	116.21	145000
	61.59	75921	75918	70744	57462	35456	28799	23392		22.73	44915	116.20	145000
	72.71	75672	75669	69721	56631	34943	28383	23054		19.25	46526	101.94	145000
	79.04	75555	72906	65679	58390	36029	29265	23770		17.71	49188	99.15	145000
	85.00	78676	72150	72147	63175	38981	31663	25718		16.47	54392	101.96	120000
	93.31	75335	72579	65384	58390	36029	29265	23770		15.00	51699	88.26	145000
	109.08	78676	72150	72147	65138	40192	32646	26517		12.83	60439	88.26	120000
	117.09	75062	72171	65016	58390	36029	29265	23770		11.96	55343	75.34	145000
	136.89	78676	72150	72147	65138	40192	32646	26517		10.23	64700	75.33	120000
	159.13	78676	72150	72147	65138	40192	32646	26517		8.80	67689	67.80	120000
	192.50	69848	64544	60359	58749	40192	32646	26517		7.27	59625	49.34	120000
	236.25	68715	62463	59099	54611	45461	37678	30604		5.93	57966	39.12	94000
	280.38	68715	62463	59002	54522	45273	36773	29869		4.99	59012	33.52	94000
4	**194.89**	74551	71080	53996	43858	27062	21981	17854	1400	7.18	48434	40.91	145000
	214.32	74469	74466	57711	46876	28924	23493	19083		6.53	53263	40.92	145000
	253.02	74336	74333	64821	52651	32488	26388	21434		5.53	62880	40.91	145000
	275.05	74272	70982	63945	55819	34442	27976	22724		5.09	63815	38.22	145000
	309.96	74186	74184	63638	51690	31894	25906	21042		4.52	65608	34.89	145000
	336.94	74129	70765	63750	54800	33814	27465	22309		4.16	65109	31.87	145000
	362.37	78676	72150	70991	57663	35580	28900	23474		3.86	72148	32.77	120000
	388.97	74037	74034	67643	54943	33902	27537	22367		3.60	74029	31.36	145000
	419.46	73991	73988	61813	50208	30980	25164	20439		3.34	69782	27.42	145000
	454.74	78676	72150	72147	61292	37819	30719	24951		3.08	72149	26.14	120000
	478.66	73914	73911	63289	51406	31719	25764	20927		2.92	72088	24.77	145000
	526.38	73862	73859	67643	54943	33902	27537	22367		2.66	73857	23.11	145000
	559.59	78676	72150	70602	57347	35385	28741	23345		2.50	72150	21.22	120000
	583.58	78676	72150	72147	65138	40192	32646	26517		2.40	72150	20.37	120000
	615.38	78676	72150	72147	61292	37819	30719	24951		2.28	72150	19.35	120000
	675.52	73737	70169	63213	58390	36029	29265	23770		2.07	69885	17.02	145000
	789.74	78676	72150	72147	65138	40192	32646	26517		1.77	73686	15.34	120000
	843.05	73638	70019	63077	58287	36029	29265	23770		1.66	71518	13.97	145000
	918.08	78676	72150	72147	65138	40192	32646	26517		1.52	74967	13.41	120000
	985.60	78676	72150	72147	65138	40192	32646	26517		1.42	75578	12.63	120000
	1145.76	78676	72150	72147	65138	40192	32646	26517		1.22	76892	11.04	120000
	1362.98	68715	62463	58415	53979	44935	37678	30604		1.03	68504	8.30	94000
	1668.85	68715	62463	58368	53935	44899	36773	29869		0.84	70110	6.93	94000
	2018.77	68715	62463	58328	53898	44868	36773	29869		0.69	71654	5.82	94000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
6002	68.3	46.1
6003	44.1	31.2
6004	34.7	25.0

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**39.35**	44225	44216	44191	44148	37066	30107	24454	1400	35.58	41050	169.93	145000
	43.27	48633	48623	48592	48541	36916	29985	24356		32.35	42065	158.32	145000
	55.53	62409	62392	62341	58390	36029	29265	23770		25.21	44245	129.78	145000
	64.92	72958	72150	72147	65138	40192	32646	26517		21.57	51726	129.81	120000
	77.05	68115	62942	56702	52396	39227	31862	25880		18.17	48950	103.48	120000
	94.56	68715	62463	59779	55239	45273	36773	29869		14.81	52824	91.02	94000
	106.94	67359	67324	62377	57641	40192	32646	26517		13.09	55898	85.13	120000
	126.92	67207	62103	55946	51698	39227	31862	25880		11.03	51123	65.61	120000
	155.77	68715	62463	59370	54862	45273	36773	29869		8.99	55533	58.09	94000
	176.81	38180	35281	31783	29536	27346	25027	25027		7.92	30161	27.79	120000
	209.85	44437	41063	36992	34930	31862	29702	25880		6.67	35796	27.78	120000
	257.54	53279	49233	44352	42651	38066	36452	29869		5.44	43932	27.81	94000
4	**141.65**	71014	70964	66190	53763	33174	26945	21886	1400	9.88	53952	63.43	145000
	155.78	74760	74757	70744	57462	35456	28799	23392		8.99	59333	63.47	145000
	183.90	74603	74600	69721	56631	34943	28383	23054		7.61	61460	55.65	145000
	199.92	74529	71369	64294	58390	36029	29265	23770		7.00	61873	51.54	145000
	230.78	74408	74405	67643	54943	33902	27537	22367		6.07	63831	46.10	145000
	245.34	78676	72150	70602	57347	35385	28741	23345		5.71	67858	46.11	120000
	275.92	78676	72150	72147	65138	40192	32646	26517		5.07	72147	43.53	120000
	302.94	74203	74200	67452	56631	34943	28383	23054		4.62	68059	37.41	145000
	345.70	74112	74109	63289	51406	31719	25764	20927		4.05	67420	32.49	145000
	380.17	74051	74048	67643	54943	33902	27537	22367		3.68	74043	32.42	145000
	404.15	78676	72150	70602	57347	35385	28741	23345		3.46	72149	29.70	120000
	444.44	78676	72150	72147	61292	37819	30719	24951		3.15	72149	27.04	120000
	487.88	73903	70423	63441	58390	36029	29265	23770		2.87	67585	23.08	145000
	516.67	77314	71442	64360	60642	37418	30393	24687		2.71	69013	22.25	120000
	570.37	78676	72150	72147	65138	40192	32646	26517		2.45	72150	21.03	120000
	663.06	78676	72150	72147	65138	40192	32646	26517		2.11	72150	18.11	120000
	734.81	72993	67450	65072	61292	37819	30719	24951		1.91	67824	15.41	120000
	806.63	73656	70047	63103	58311	36029	29265	23770		1.74	71188	14.74	145000
	854.22	76602	70785	63768	60642	37418	30393	24687		1.64	72409	14.13	120000
	943.01	78676	72150	72147	65138	40192	32646	26517		1.48	75197	13.24	120000
	1096.25	78676	72150	72147	65138	40192	32646	26517		1.28	76504	11.65	120000
	1168.27	68715	62463	58454	54015	44965	36773	29869		1.20	67307	9.61	94000
	1301.05	64968	60034	54083	49976	39227	31862	25880		1.08	64427	8.28	120000
	1573.85	64875	59948	54005	49904	39227	31862	25880		0.89	65746	6.96	120000
	1931.54	68715	62463	58337	53907	44875	36773	29869		0.72	71293	6.11	94000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR
6003	37.3	28.7
6004	29.4	22.4

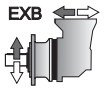
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	4.18	84262	79227	79224	77596	47879	38890	31589	1000	239.23	29936	773.10	145000
	4.89	78676	72150	72147	72142	47278	38402	31192		204.50	30984	684.00	120000
	6.00	68715	62463	62460	60051	46408	37695	30618		166.67	32339	581.85	94000
2	15.16	79054	79051	79042	77596	47879	38890	31589	1400	92.35	39830	409.75	145000
	16.73	78760	78757	78748	77596	47879	38890	31589		83.68	41025	382.42	145000
	19.56	78676	72150	72147	72142	47278	38402	31192		71.57	42454	338.47	120000
	21.75	78039	78036	78027	77596	47879	38890	31589		64.37	44385	318.26	145000
	26.14	77584	77581	77572	77556	47879	38890	31589		53.56	46902	279.83	145000
	30.56	78676	72150	72147	72142	47278	38402	31192		45.81	48535	247.68	120000
	37.50	68715	62463	60861	56239	46408	37695	30618		37.33	48401	201.27	94000
3	53.06	76163	76160	76151	64246	39642	32199	26154	1400	26.39	48022	144.24	145000
	58.55	76001	75998	75989	68829	42470	34496	28020		23.91	52990	144.21	145000
	69.00	75749	75746	75737	68270	42125	34216	27792		20.29	55214	127.51	145000
	76.11	75607	75604	75595	75581	47879	38890	31589		18.39	64630	135.28	145000
	80.67	78676	72150	72147	72142	46993	38170	31004		17.35	64550	127.47	120000
	89.70	75385	75382	75374	75359	47879	38890	31589		15.61	67895	120.63	145000
	101.04	78676	72150	72147	72142	45679	37103	30137		13.86	67130	105.90	120000
	107.81	75157	75155	75146	75131	47879	38890	31589		12.99	71746	106.08	145000
	112.35	75109	75106	75097	75083	47879	38890	31589		12.46	72639	103.01	145000
	130.47	74942	74939	74930	74916	47879	38890	31589		10.73	74914	91.49	145000
	156.82	74753	74750	74741	74727	47879	38890	31589		8.93	74730	75.95	145000
	189.49	74576	74573	74564	74550	47879	38890	31589		7.39	74557	62.71	145000
	221.53	78676	72150	72147	71635	47278	38402	31192		6.32	72146	51.90	120000
	271.88	68715	62463	59019	54537	45400	37695	30618		5.15	58822	34.48	94000
4	210.76	74483	74480	74472	68829	42470	34496	28020	1400	6.64	74467	58.18	145000
	248.40	74350	74347	74338	68270	42125	34216	27792		5.64	74336	49.33	145000
	273.99	74275	74272	74264	74249	47879	38890	31589		5.11	74263	44.65	145000
	293.25	74226	74223	74214	68270	42125	34216	27792		4.77	74215	41.65	145000
	323.46	74157	74154	74145	74131	47879	38890	31589		4.33	74147	37.77	145000
	368.00	74072	74069	74060	68270	42125	34216	27792		3.80	74064	33.11	145000
	381.23	74049	74046	74038	74023	47879	38890	31589		3.67	74042	31.97	145000
	405.92	74010	74008	73999	73984	47879	38890	31589		3.45	74003	30.04	145000
	427.80	73979	73976	73967	68270	42125	34216	27792		3.27	73972	28.46	145000
	460.93	73935	73933	73924	66361	40947	33259	27015		3.04	73930	26.44	145000
	517.50	73871	73868	73860	68270	42125	34216	27792		2.71	73866	23.55	145000
	556.14	73833	73830	73821	73807	47879	38890	31589		2.52	73829	21.89	145000
	622.25	73776	73773	73765	64900	40046	32527	26420		2.25	73772	19.53	145000
	695.85	73723	73720	73711	73697	47879	38890	31589		2.01	73720	17.43	145000
	752.73	73687	73684	73675	64900	40046	32527	26420		1.86	73684	16.12	145000
	814.36	78676	72150	72147	70918	47278	38402	31192		1.72	73946	14.96	120000
	880.00	78676	72150	72147	70888	44673	36286	29473		1.59	74605	13.96	120000
	945.71	78676	72150	72147	70861	47278	38402	31192		1.48	75222	13.10	120000
	985.11	78676	72150	72147	70847	47278	38402	31192		1.42	75574	12.63	120000
	1144.00	78676	72150	72147	70795	47278	38402	31192		1.22	76879	11.04	120000
	1382.33	78676	72150	72147	70736	47278	38402	31192		1.01	78562	9.34	120000
	1661.46	78676	72150	72147	70683	47278	38402	31192		0.84	80233	7.93	120000
	2039.06	68715	62463	58326	53897	44866	37695	30618		0.69	71737	5.82	94000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
6501	117.0	65.2
6502	73.5	51.3
6503	48.8	35.8
6504	38.6	28.8

1.2 Prestazioni / *1.2 Performances* / 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**38.34**	64353	64341	64304	64244	47879	38890	31589	1400	36.52	52613	223.55	145000
	42.31	71009	70994	70950	70876	47879	38890	31589		33.09	54192	208.63	145000
	49.46	78676	72150	72147	72142	47278	38402	31192		28.31	56077	184.71	120000
	55.00	76103	76100	76091	76076	47879	38890	31589		25.45	58628	173.60	145000
	66.11	75813	75810	75801	75786	47879	38890	31589		21.18	61955	152.67	145000
	77.29	78676	72150	72147	72142	47278	38402	31192		18.11	64113	135.09	120000
	90.61	75372	75369	75360	74776	47879	38890	31589		15.45	68101	122.42	145000
	105.93	78676	72150	72147	72142	47278	38402	31192		13.22	70043	107.73	120000
	127.31	78676	72150	72147	72114	47278	38402	31192		11.00	71337	91.30	120000
	156.25	68715	62463	59368	54860	45668	37695	30618		8.96	55550	57.91	94000
	210.49	68521	63318	57041	53877	47278	38402	31192		6.65	55216	42.72	120000
	258.33	68715	62463	59047	54563	45421	37695	30618		5.42	58508	36.90	94000
4	**134.20**	74912	74909	74900	64246	39642	32199	26154	1400	10.43	63435	78.73	145000
	148.09	74810	74807	74798	68829	42470	34496	28020		9.45	69999	78.71	145000
	174.53	74651	74648	74639	68270	42125	34216	27792		8.02	72938	69.61	145000
	192.51	74562	74559	74550	74536	47879	38890	31589		7.27	74543	64.48	145000
	226.89	74422	74419	74410	74396	47879	38890	31589		6.17	74407	54.63	145000
	253.86	74333	74330	74321	64900	40046	32527	26420		5.51	74320	48.73	145000
	287.50	74240	74237	74228	68270	42125	34216	27792		4.87	74229	43.01	145000
	326.34	74151	74148	74139	61942	38221	31045	25216		4.29	74141	37.85	145000
	360.10	74086	74083	74074	66361	40947	33259	27015		3.89	74077	34.29	145000
	396.66	74025	74022	74013	73999	47879	38890	31589		3.53	74017	31.09	145000
	418.18	73992	73990	73981	64900	40046	32527	26420		3.35	73986	29.49	145000
	468.13	73927	73924	73915	73901	47879	38890	31589		2.99	73921	26.30	145000
	543.64	73845	73842	73833	73819	47879	38890	31589		2.58	73840	22.67	145000
	656.89	73750	73747	73738	73724	47668	38719	31449		2.13	73747	18.69	145000
	691.39	73726	73723	72316	64900	40046	32527	26420		2.02	73723	17.72	145000
	789.54	73666	73663	73654	73640	47879	38890	31589		1.77	73663	15.51	145000
	898.81	73611	73608	73599	73585	47879	38890	31589		1.56	73609	13.66	145000
	923.03	78676	72150	72147	70870	47278	38402	31192		1.52	75013	13.57	120000
	976.69	78676	72150	68198	66868	44255	35946	29197		1.43	75500	12.85	120000
	1087.55	78676	72150	72147	70812	47278	38402	31192		1.29	76435	11.73	120000
	1269.70	78676	72150	72147	70762	47278	38402	31192		1.10	77801	10.18	120000
	1526.08	78676	72150	72147	70707	47278	38402	31192		0.92	79456	8.70	120000
	1872.92	68715	62463	58343	53913	44880	37695	30618		0.75	71042	6.34	94000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR
6503	40.4	31.8
6504	32.2	25.2

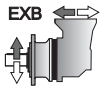
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**15.16**	100594	93134	93130	90186	55648	45200	36714	1400	92.35	46293	476.23	190000
	16.73	100594	93134	93130	88850	54823	44530	36170		83.68	46975	437.88	190000
	19.56	92029	84396	84392	84386	56404	45814	37213		71.57	50649	403.80	163000
	21.75	100594	93134	93130	87542	54016	43875	35637		64.37	50074	359.06	190000
	26.14	100594	93134	86863	80267	52987	43039	34958		53.56	51905	309.68	190000
	30.56	92029	84396	84392	84079	56404	45814	37213		45.81	57904	295.49	163000
	37.50	84769	77056	76004	70233	55535	45108	36639		37.33	60444	251.35	124000
3	**53.06**	100594	93134	93130	88066	54340	44138	35851	1400	26.39	65826	197.72	190000
	62.03	92029	84396	84392	82676	56404	45814	37213		22.57	71605	183.94	163000
	68.44	92029	84396	84392	82516	56404	45814	37213		20.46	73749	171.74	163000
	76.11	100594	93134	93130	87542	54016	43875	35637		18.39	72914	152.62	190000
	80.67	92029	84396	84392	82266	56404	45814	37213		17.35	77258	152.56	163000
	89.70	100594	93134	93130	87542	54016	43875	35637		15.61	76597	136.09	190000
	100.36	100594	93134	93130	88850	54823	44530	36170		13.95	80405	127.66	190000
	112.35	100594	93134	93130	87542	54016	43875	35637		12.46	81950	116.22	190000
	121.27	100594	93134	87605	85639	54379	44170	35877		11.54	84414	110.87	190000
	130.47	100594	93134	93130	87542	54016	43875	35637		10.73	85710	104.67	190000
	157.65	100594	93134	93130	87542	54016	43875	35637		8.88	90716	91.69	190000
	184.31	92029	84396	84392	81274	56404	45814	37213		7.60	83861	72.54	163000
	221.53	92029	84396	84392	81103	56404	45814	37213		6.32	84391	60.70	163000
	271.88	84769	77056	73609	68019	55535	45108	36639		5.15	73363	43.00	124000
4	**191.00**	100594	93134	93130	88066	54340	44138	35851	1400	7.33	93127	80.31	190000
	225.49	100594	93134	93130	88066	54340	44138	35851		6.21	93128	68.04	190000
	248.40	100594	93134	93130	88850	54823	44530	36170		5.64	93129	61.80	190000
	265.76	100594	93134	93130	87351	53899	43779	35560		5.27	93130	57.74	190000
	293.25	100594	93134	93130	88850	54823	44530	36170		4.77	93130	52.27	190000
	322.92	100594	93134	93130	87542	54016	43875	35637		4.34	93131	47.55	190000
	368.00	100594	93134	93130	88850	54823	44530	36170		3.80	93132	41.64	190000
	397.93	100594	93134	93130	88066	54340	44138	35851		3.52	93132	38.57	190000
	427.80	100594	93134	93130	88850	54823	44530	36170		3.27	93132	35.83	190000
	460.93	100594	93134	93130	88850	54823	44530	36170		3.04	93133	33.31	190000
	485.60	100594	93134	93130	84909	52392	42555	34566		2.88	93133	31.56	190000
	535.27	100594	93134	93130	88850	54823	44530	36170		2.62	93133	28.71	190000
	622.25	100594	93134	93130	88850	54823	44530	36170		2.25	93134	24.65	190000
	696.58	100594	93134	93130	87542	54016	43875	35637		2.01	93134	22.02	190000
	808.93	100594	93134	93130	87542	54016	43875	35637		1.73	93135	18.96	190000
	909.55	100020	92425	83262	81394	54379	44170	35877		1.54	95224	17.25	190000
	978.55	100594	93134	93130	87542	54016	43875	35637		1.43	96554	16.24	190000
	1176.14	95684	88418	79652	73604	52987	43039	34958		1.19	93803	13.13	190000
	1421.16	95542	88287	79534	73494	52987	43039	34958		0.99	95705	11.15	190000
	1661.46	92029	84396	84392	79978	56404	45814	37213		0.84	93850	9.28	163000
	2039.06	84769	77056	72707	67185	55535	45108	36639		0.69	88496	7.18	124000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
8002	91.9	57.7
8003	60.0	40.0
8004	47.3	32.4

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**38.34**	64353	64341	64304	64244	55648	45200	36714	1400	36.52	61150	259.83	190000
	42.31	71009	70994	70950	70876	54823	44530	36170		33.09	62051	238.89	190000
	49.46	83012	82992	82932	82831	56404	45814	37213		28.31	66902	220.36	163000
	55.00	92305	92281	92206	87542	54016	43875	35637		25.45	66143	195.85	190000
	66.11	100594	93043	83819	77454	52987	43039	34958		21.18	68564	168.96	190000
	77.29	92029	84396	84392	82329	56404	45814	37213		18.11	76489	161.17	163000
	90.61	81402	81393	80921	74776	54016	43875	35637		15.45	71159	127.91	190000
	105.93	92029	84396	84392	81893	56404	45814	37213		13.22	79332	122.02	163000
	127.31	92029	84396	84392	81669	56404	45814	37213		11.00	80789	103.39	163000
	156.25	84769	77056	74063	68439	55535	45108	36639		8.96	69301	72.24	124000
	210.49	68521	63318	57041	53877	49130	45814	37213		6.65	55216	42.72	163000
	258.33	82155	75916	68390	65784	55535	45108	36639		5.42	67765	42.73	124000
4	**134.20**	91824	91763	91582	88066	54340	44138	35851	1400	10.43	86955	107.92	190000
	148.09	100594	93134	93130	88850	54823	44530	36170		9.45	90360	101.61	190000
	174.53	100594	93134	93130	88850	54823	44530	36170		8.02	93126	88.87	190000
	192.51	100594	93134	93130	87542	54016	43875	35637		7.27	93127	80.56	190000
	226.89	100594	93134	93130	87542	54016	43875	35637		6.17	93128	68.37	190000
	253.86	100594	93134	93130	88850	54823	44530	36170		5.51	93129	61.06	190000
	287.50	100594	93134	90146	87499	54823	44530	36170		4.87	90418	52.40	190000
	326.34	100594	93134	93130	84909	52392	42555	34566		4.29	93131	47.54	190000
	360.10	100594	93134	93130	88850	54823	44530	36170		3.89	93132	43.11	190000
	398.77	100594	93134	93130	87542	54016	43875	35637		3.51	93132	38.90	190000
	418.18	100594	93134	93130	88850	54823	44530	36170		3.35	93132	37.12	190000
	468.13	100594	93134	93130	87542	54016	43875	35637		2.99	93133	33.14	190000
	543.64	100594	93134	93130	87542	54016	43875	35637		2.58	93133	28.59	190000
	656.89	100594	93134	93130	87542	54016	43875	35637		2.13	93134	23.60	190000
	691.39	81493	75304	72316	69646	54823	44530	36170		2.02	75198	18.07	190000
	789.54	96031	88738	79941	73870	52987	43039	34958		1.77	89964	18.95	190000
	898.81	100594	93134	92963	87542	54016	43875	35637		1.56	95619	17.75	190000
	930.26	95880	88599	79815	73754	52987	43039	34958		1.50	91516	16.33	190000
	976.69	92029	84396	84392	80175	56404	45814	37213		1.43	88314	15.03	163000
	1086.06	100594	93134	93130	87542	54016	43875	35637		1.29	97713	15.00	190000
	1305.37	95604	88344	79586	73542	52987	43039	34958		1.07	94845	12.08	190000
	1526.08	92029	84396	84392	80006	56404	45814	37213		0.92	92942	10.17	163000
	1872.92	84769	77056	72729	67206	55535	45108	36639		0.75	87640	7.82	124000

P_{tN}	PS PSB	S-SB-SU FS-FSR
8003	47.9	34.6
8004	38.6	27.7

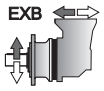
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**4.18**	100594	93134	93130	93123	57729	46890	38087	1000	239.23	36094	932.13	190000
	4.89	92029	84396	84392	84386	56404	45814	37213		204.50	36965	816.04	163000
	6.00	84769	77056	77053	75158	55535	45108	36639		166.67	38699	696.28	124000
2	**14.72**	100594	93134	93130	93123	57729	46890	38087	1400	95.11	47601	504.33	190000
	16.73	100594	93134	93130	93123	57729	46890	38087		83.68	49464	461.08	190000
	19.68	100594	93134	93130	93123	57729	46890	38087		71.14	51934	411.56	190000
	24.45	100594	93134	93130	93123	57729	46890	38087		57.26	55428	353.55	190000
	28.58	92029	84396	84392	84238	56404	45814	37213		48.99	56752	309.71	163000
	35.08	84769	77056	76132	70351	55535	45108	36639		39.91	59420	264.17	124000
3	**51.52**	100594	93134	93130	86273	53233	43239	35121	1400	27.17	63919	197.66	190000
	58.55	100594	93134	93130	93123	57729	46890	38087		23.91	72028	196.02	190000
	68.88	100594	93134	93130	93123	57729	46890	38087		20.33	75626	174.99	190000
	76.05	100594	93134	93130	83179	51325	41688	33862		18.41	69264	145.13	190000
	81.18	100594	93134	93130	93123	57729	46890	38087		17.25	79447	155.98	190000
	86.42	100594	93134	93130	90966	56129	45591	37031		16.20	78709	145.13	190000
	101.68	100594	93134	93130	93123	57729	46890	38087		13.77	84999	133.22	190000
	118.07	100594	93134	93130	93123	57729	46890	38087		11.86	88897	120.00	190000
	126.31	100594	93134	93130	93123	57729	46890	38087		11.08	90714	114.40	190000
	146.69	100594	93134	93130	93123	57729	46890	38087		9.54	93124	101.12	190000
	166.80	92029	84396	84392	81373	56404	45814	37213		8.39	83014	79.27	163000
	177.24	100594	93134	93130	93123	57729	46890	38087		7.90	93126	83.73	190000
	207.21	92029	84396	84392	81164	56404	45814	37213		6.76	84390	64.93	163000
	254.31	84769	77056	73658	68064	55535	45108	36639		5.51	72854	45.69	124000
4	**185.47**	100594	93134	93130	86273	53233	43239	35121	1400	7.55	93127	82.72	190000
	210.76	100594	93134	93130	93123	57729	46890	38087		6.64	93128	72.75	190000
	247.96	100594	93134	93130	93123	57729	46890	38087		5.65	93129	61.91	190000
	274.77	100594	93134	93130	86273	53233	43239	35121		5.10	93130	55.88	190000
	292.24	100594	93134	93130	93123	57729	46890	38087		4.79	93130	52.48	190000
	323.84	100594	93134	93130	85572	52801	42888	34836		4.32	93131	47.34	190000
	367.34	100594	93134	93130	93123	57729	46890	38087		3.81	93132	41.75	190000
	405.62	100594	93134	93130	83179	51325	41688	33862		3.45	93132	37.80	190000
	432.94	100594	93134	93130	93123	57729	46890	38087		3.23	93133	35.39	190000
	460.93	100594	93134	93130	90966	56129	45591	37031		3.04	93133	33.31	190000
	503.29	100594	93134	93130	93123	57729	46890	38087		2.78	93133	30.46	190000
	542.27	100594	93134	93130	93123	57729	46890	38087		2.58	93133	28.27	190000
	630.39	100594	93134	93130	93123	57729	46890	38087		2.22	93134	24.33	190000
	732.06	100594	93134	93130	93123	57729	46890	38087		1.91	93134	20.93	190000
	762.57	100594	93134	93130	93123	57729	46890	38087		1.84	93134	20.16	190000
	885.56	100594	93134	93130	93123	57729	46890	38087		1.58	95457	17.74	190000
	947.34	100594	93134	93130	93123	57729	46890	38087		1.48	96196	16.75	190000
	1100.14	100594	93134	93130	93123	57729	46890	38087		1.27	97857	14.62	190000
	1329.34	100594	93134	93130	93123	57729	46890	38087		1.05	99999	12.35	190000
	1554.10	92029	84396	84392	80000	56404	45814	37213		0.90	93136	9.86	163000
	1907.31	84769	77056	72724	67202	55535	45108	36639		0.73	87822	7.54	124000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
8501	159.9	80.1
8502	91.9	57.7
8503	60.0	40.0
8504	47.3	32.4

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**37.23**	62489	62478	62444	62387	57729	46890	38087	1400	37.60	62072	271.54	190000
	42.31	71009	70994	70950	70876	57729	46890	38087		33.09	65340	251.55	190000
	49.78	83536	83516	83455	83353	57729	46890	38087		28.12	68606	224.46	190000
	61.84	100594	93134	93130	93123	57729	46890	38087		22.64	73219	192.87	190000
	72.29	92029	84396	84392	82431	56404	45814	37213		19.37	74970	168.96	163000
	82.00	73668	73660	73639	68445	57729	46890	38087		17.07	64398	127.90	190000
	95.86	86122	84396	84392	78606	56404	45814	37213		14.60	75286	127.89	163000
	101.86	91516	91505	89770	82953	57729	46890	38087		13.74	80001	127.89	190000
	119.09	92029	84396	84392	81748	56404	45814	37213		11.76	80255	109.81	163000
	146.15	84769	77056	74127	68498	55535	45108	36639		9.58	68834	76.72	124000
	168.42	56235	51965	46813	43301	40242	36657	36657		8.31	44179	42.71	190000
	196.89	64584	59679	53763	50469	46307	42855	37213		7.11	51648	42.72	163000
	241.64	77433	71553	64460	61643	55420	45108	36639		5.79	63387	42.70	124000
4	**130.32**	89166	89109	88938	86273	53233	43239	35121	1400	10.74	84438	107.91	190000
	148.09	100594	93134	93130	93123	57729	46890	38087		9.45	93124	104.71	190000
	174.53	100594	93134	93130	93123	57729	46890	38087		8.02	93126	88.87	190000
	205.33	100594	93134	93130	93123	57729	46890	38087		6.82	93128	75.58	190000
	218.60	100594	93134	93130	90966	56129	45591	37031		6.40	93128	70.92	190000
	253.86	100594	93134	93130	88963	54893	44587	36216		5.51	93129	61.06	190000
	298.66	100594	93134	93130	93123	57729	46890	38087		4.69	93131	51.97	190000
	338.24	100594	93134	93130	93123	57729	46890	38087		4.14	93131	45.88	190000
	360.10	100594	93134	93130	90966	56129	45591	37031		3.89	93132	43.11	190000
	418.18	100594	93134	93130	88963	54893	44587	36216		3.35	93132	37.12	190000
	491.98	100594	93134	93130	93123	57729	46890	38087		2.85	93133	31.58	190000
	526.30	100594	93134	93130	93123	57729	46890	38087		2.66	93133	29.48	190000
	594.47	100594	93134	93130	93123	57729	46890	38087		2.36	93134	26.15	190000
	611.19	100594	93134	93130	93123	57729	46890	38087		2.29	93134	25.38	190000
	694.99	92029	84396	84392	80332	56404	45814	37213		2.01	84396	20.19	163000
	738.52	100594	93134	93130	93123	57729	46890	38087		1.90	93134	21.06	190000
	870.15	99910	92706	90139	85939	57729	46890	38087		1.61	94641	18.13	190000
	982.86	100594	93134	93130	93123	57729	46890	38087		1.42	96602	16.32	190000
	1010.50	100594	93134	93130	93123	57729	46890	38087		1.39	96909	16.03	190000
	1149.05	92029	84396	84392	80109	56404	45814	37213		1.22	89972	13.06	163000
	1221.02	100594	93134	93130	93123	57729	46890	38087		1.15	99031	13.55	190000
	1427.47	92029	84396	84392	80029	56404	45814	37213		0.98	92234	10.76	163000
	1751.90	84769	77056	72748	67223	55535	45108	36639		0.80	86972	8.28	124000

P_{tN}	PS PSB	S-SB-SU FS-FSR
8503	47.9	34.6
8504	38.6	27.7

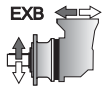
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 x h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	4.04	136727	126588	126583	116355	71795	58315	47367	500	123.76	54702	730.82	235000
	5.12	117651	107409	107405	107398	69871	56753	46098		97.66	57158	602.59	195000
	6.00	104866	95324	95321	95315	68869	55939	45437		83.33	59084	531.49	170000
	7.36	91673	84711	76313	70518	58703	54948	44642		67.93	54324	398.36	135000
2	14.23	136727	126588	126583	116355	71795	58315	47367	1400	98.38	58601	642.22	235000
	16.17	136727	126588	126583	115709	71396	57992	47104		86.58	60554	584.02	235000
	19.03	136727	126588	126583	112595	69475	56431	45837		73.57	61875	507.09	235000
	20.47	117651	107409	107405	104210	69871	56753	46098		68.39	63604	484.56	195000
	23.64	129278	119461	107618	99446	68938	55995	45482		59.22	65525	432.26	235000
	29.92	117651	107409	107405	102939	69871	56753	46098		46.79	71276	371.51	195000
	35.08	104866	95324	95321	92667	68869	55939	45437		39.91	73688	327.60	170000
	43.05	85990	79460	71583	66147	55064	51542	44642		32.52	57830	209.49	135000
3	49.82	136727	126588	103742	84265	51994	42232	34303	1400	28.10	61806	197.67	235000
	56.61	136727	126588	113453	92153	56861	46186	37515		24.73	70232	197.68	235000
	66.60	136727	126588	125052	103256	63712	51751	42035		21.02	82626	197.68	235000
	71.65	117651	107409	107405	100742	67056	54466	44240		19.54	88891	197.69	195000
	73.54	136727	126588	100023	81244	50130	40718	33074		19.04	66974	145.14	235000
	78.49	136727	126588	124416	102418	63195	51330	41693		17.84	86095	174.82	235000
	84.29	117651	107409	107405	100426	69871	56753	46098		16.61	94785	179.19	195000
	98.31	136727	126588	122565	99554	61428	49895	40527		14.24	89536	145.12	235000
	99.34	117651	107409	107405	100131	69871	56753	46098		14.09	96292	154.42	195000
	105.76	117651	107409	107405	100024	64652	52514	42654		13.24	96323	145.15	195000
	114.17	136727	126588	119867	97362	60076	48797	39635		12.26	91583	127.80	235000
	122.13	122117	112843	101656	93937	68938	55995	45482		11.46	92486	120.63	235000
	124.43	117651	107409	107405	99763	69871	56753	46098		11.25	98432	126.04	195000
	141.83	121692	112451	101303	93610	68938	55995	45482		9.87	93749	105.32	235000
	154.58	117651	107409	107405	99445	69871	56753	46098		9.06	100574	103.71	195000
	179.51	117651	107409	107402	99246	69871	56753	46098		7.80	102097	90.64	195000
	216.91	117651	107409	107150	99013	69871	56753	46098		6.45	104078	76.41	195000
	254.31	104866	95324	95321	89433	68869	55939	45437		5.51	95320	59.78	170000
	312.10	83306	76979	69348	64082	53345	49933	44642		4.49	70211	35.88	135000
4	179.34	136727	126588	103742	84265	51994	42232	34303	1400	7.81	90763	83.40	235000
	203.79	136727	126588	113453	92153	56861	46186	37515		6.87	103139	83.37	235000
	239.75	136727	126588	121182	103256	63712	51751	42035		5.84	119058	81.80	235000
	283.04	136727	126588	120834	103256	63712	51751	42035		4.95	120982	70.46	235000
	333.59	136727	126588	120516	102418	63195	51330	41693		4.20	122945	60.75	235000
	355.19	136727	126588	120401	103256	63712	51751	42035		3.94	123709	57.35	235000
	413.65	136727	126588	112532	91405	56400	45811	37210		3.38	126508	50.31	235000
	445.68	136727	126588	109386	88849	54823	44530	36169		3.14	125753	46.46	235000
	486.64	136727	126588	119876	102418	63195	51330	41693		2.88	126587	42.89	235000
	524.33	136727	126588	119763	99554	61428	49895	40527		2.67	126587	39.77	235000
	609.53	136727	126588	119548	99554	61428	49895	40527		2.30	126588	34.26	235000
	707.85	136727	126588	119350	97362	60076	48797	39635		1.98	126588	29.49	235000
	856.27	136727	126588	119118	97362	60076	48797	39635		1.63	129247	24.79	235000
	916.00	118348	109361	98519	91037	68938	55995	45482		1.53	112763	20.30	235000
	1063.75	118191	109216	98388	90917	68938	55995	45482		1.32	114549	17.79	235000
	1159.34	117651	107409	105710	97683	69871	56753	46098		1.21	115138	16.39	195000
	1285.36	118008	109047	98236	90776	68938	55995	45482		1.09	116865	14.99	235000
	1346.33	117651	107409	105631	97610	69871	56753	46098		1.04	117125	14.33	195000
	1626.82	117651	107409	105540	97525	69871	56753	46098		0.86	119690	12.11	195000
	1907.31	104866	95324	95321	88211	68869	55939	45437		0.73	108643	9.33	170000
	2340.79	82294	76045	68506	63304	52697	49327	44642		0.60	87594	6.18	135000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
10001	169.7	99.7
10002	96.1	66.1
10003	62.4	44.9
10004	49.2	36.0

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**36.00**	60422	60412	60380	60326	59900	58315	47367	1400	38.89	60019	271.57	235000
	40.91	68660	68646	68605	68536	67986	57992	47104		34.22	68203	271.54	235000
	48.13	80774	80755	80697	80602	69475	56431	45837		29.09	80239	271.57	235000
	51.78	86895	86873	86807	86697	69871	56753	46098		27.04	84023	264.34	195000
	60.92	102225	102195	102103	101084	69871	56753	46098		22.98	88223	235.88	195000
	75.68	117651	107409	107405	100633	69871	56753	46098		18.50	93821	201.94	195000
	88.72	104866	95324	95321	90765	68869	55939	45437		15.78	86168	158.20	170000
	100.35	90151	90141	88583	81856	69871	56753	46098		13.95	78809	127.91	195000
	117.65	104866	95324	95321	90337	68869	55939	45437		11.90	88565	122.62	170000
	124.66	111992	107409	107360	99208	69871	56753	46098		11.23	97904	127.92	195000
	146.15	104866	95324	95321	90047	68869	55939	45437		9.58	90489	100.86	170000
	179.37	83814	77449	69771	64473	53671	50238	44642		7.81	66319	60.26	135000
	194.51	63890	59039	53186	49871	45807	42337	42337		7.20	51023	42.74	170000
	241.64	77433	71553	64460	61643	55420	52595	45437		5.79	63387	42.70	170000
	296.56	83347	77018	69382	64113	53371	49958	44642		4.72	69838	38.35	135000
4	**126.00**	86218	86164	86005	84265	51994	42232	34303	1400	11.11	81643	107.93	235000
	143.19	97966	97898	97691	92153	56861	46186	37515		9.78	92778	107.97	235000
	168.76	115446	115350	112532	91405	56400	45811	37210		8.30	96674	95.48	235000
	198.54	135799	126588	121614	102418	63195	51330	41693		7.05	113734	95.41	235000
	211.37	136727	126588	109386	88849	54823	44530	36169		6.62	100537	79.20	235000
	248.67	136727	126588	121103	99554	61428	49895	40527		5.63	118279	79.24	235000
	288.78	136727	126588	119867	97362	60076	48797	39635		4.85	120982	69.82	235000
	327.05	119161	112171	101051	99112	63195	51330	41693		4.28	102855	52.38	235000
	348.19	126861	118573	107265	88849	54823	44530	36169		4.02	109504	52.38	235000
	409.63	136727	126588	120153	99554	61428	49895	40527		3.42	125476	51.06	235000
	475.70	136727	126588	119867	97362	60076	48797	39635		2.94	126587	44.28	235000
	518.45	117651	107409	106254	98185	69871	56753	46098		2.70	107408	34.51	195000
	574.81	113292	104689	94924	93123	59513	48340	39264		2.44	102364	29.72	235000
	602.08	117651	107409	106136	98076	69871	56753	46098		2.33	107408	29.78	195000
	644.08	117651	107409	106085	98029	69871	56753	46098		2.17	107409	27.73	195000
	714.09	118636	109627	98759	91260	68938	55995	45482		1.96	109877	25.63	235000
	852.94	104866	95324	95321	88559	68869	55939	45437		1.64	99084	19.34	170000
	903.79	117651	107409	105856	97817	69871	56753	46098		1.55	111903	20.64	195000
	1064.88	117651	107409	105758	97727	69871	56753	46098		1.31	114024	17.77	195000
	1180.63	118088	109121	98303	90838	68938	55995	45482		1.19	115817	16.40	235000
	1236.63	117651	107409	105676	97651	69871	56753	46098		1.13	115992	15.60	195000
	1449.85	104866	95324	95321	88314	68869	55939	45437		0.97	105286	12.15	170000
	1751.90	104866	95324	95321	88241	68869	55939	45437		0.80	107591	10.24	170000
	2150.06	82319	76068	68527	63323	52713	49342	44642		0.65	86501	6.69	135000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR
10003	49.6	37.9
10004	40.0	30.4

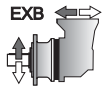
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	4.18	157301	145637	145630	145619	94974	77143	62660	500	119.62	73107	944.03	295000
	4.89	141623	129876	129870	129862	93288	75773	61547		102.25	75269	830.82	250000
	6.00	127109	115544	115539	115532	91825	74585	60582		83.33	78779	708.66	184000
2	16.91	157301	145637	145630	122263	75441	61277	49772	1400	82.79	64849	598.07	295000
	19.77	141623	129876	129870	129862	84158	68358	55524		70.81	75814	598.02	250000
	21.40	157301	145637	145630	119870	73964	60077	48798		65.42	68233	497.25	295000
	25.09	157301	145637	140077	117487	72494	58883	47828		55.80	70146	436.02	295000
	29.33	141623	129876	129870	129862	80871	65688	53355		47.73	82005	436.01	250000
	36.00	137481	127041	114446	105755	80066	65033	52824		38.89	86335	374.02	250000
	44.18	127109	115544	115539	107855	89784	74585	60582		31.69	94573	333.86	184000
3	59.18	155135	145637	117039	95065	58658	47646	38700	1400	23.66	73424	197.72	295000
	69.75	154560	145637	116089	94293	58182	47259	38386		20.07	76508	174.77	295000
	74.90	154325	145637	138023	112110	69175	56188	45639		18.69	92928	197.68	295000
	87.82	153828	145637	133502	117487	72494	58883	47828		15.94	102148	185.32	295000
	103.50	153355	145637	132877	117487	72494	58883	47828		13.53	107309	165.25	295000
	110.57	153176	145637	133074	108090	66695	54173	44002		12.66	100702	145.10	295000
	128.41	152790	145637	130145	105710	65227	52981	43034		10.90	103005	127.79	295000
	150.55	152410	145637	131621	117487	72494	58883	47828		9.30	120076	127.10	295000
	181.91	150728	139282	129544	117055	72227	58666	47652		7.70	124782	109.36	295000
	212.67	141623	129876	129870	129528	80573	65446	53158		6.58	129868	97.26	250000
	261.00	127109	115544	113291	104688	87148	74585	60582		5.36	112388	68.56	184000
	320.32	127109	115544	113057	104472	86968	74585	60582		4.37	114803	57.10	184000
4	213.05	151679	145637	117039	95065	58658	47646	38700	1400	6.57	107827	83.35	295000
	251.10	151374	145637	116089	94293	58182	47259	38386		5.58	112356	73.76	295000
	269.65	151250	145637	138023	112110	69175	56188	45639		5.19	136472	83.33	295000
	296.44	151091	145637	116089	94293	58182	47259	38386		4.72	118093	65.58	295000
	318.34	150977	145637	138023	112110	69175	56188	45639		4.40	143440	74.26	295000
	375.19	150728	145637	136902	111199	68614	55732	45268		3.73	145633	63.91	295000
	398.06	150643	145637	133074	108090	66695	54173	44002		3.52	145633	60.31	295000
	439.88	150506	143265	129062	117487	72494	58883	47828		3.18	135879	50.84	295000
	464.40	150434	145637	138023	112110	69175	56188	45639		3.01	145634	51.57	295000
	547.33	150228	145637	136902	111199	68614	55732	45268		2.56	145635	43.86	295000
	641.70	150044	142573	128439	117487	72494	58883	47828		2.18	141167	36.21	295000
	685.55	149972	145637	133074	108090	66695	54173	44002		2.04	145637	34.95	295000
	796.12	149817	145637	130145	105710	65227	52981	43034		1.76	145637	30.16	295000
	829.29	149777	145637	133074	108090	66695	54173	44002		1.69	145637	28.96	295000
	933.38	149665	142003	127926	117487	72494	58883	47828		1.50	146736	25.90	295000
	972.27	149628	141948	127875	117487	72494	58883	47828		1.44	147362	24.97	295000
	1129.09	149498	141752	127700	117487	72494	58883	47828		1.24	149497	21.81	295000
	1364.32	143257	132378	123123	117055	72227	58666	47652		1.03	142836	17.31	295000
	1595.00	141623	129876	129870	127552	80573	65446	53158		0.88	143752	14.88	250000
	1988.18	127109	115544	111756	103269	85967	74585	60582		0.70	132315	10.90	184000
	2402.39	127109	115544	111677	103197	85906	74585	60582		0.58	135212	9.23	184000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR
12001	169.7	99,7
12002	103.1	73,1
12003	68.9	51,4
12004	54.0	40,9

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**149.70**	102416	102341	102116	95065	58658	47646	38700	1400	9.35	96995	107.91	295000
	176.43	120689	120585	116089	94293	58182	47259	38386		7.94	101068	95.49	295000
	189.46	129598	129478	129117	112110	69175	56188	45639		7.39	122761	107.95	295000
	223.29	151589	145637	136902	111199	68614	55732	45268		6.27	127916	95.43	295000
	261.79	151301	144455	130134	117487	72494	58883	47828		5.35	129141	82.21	295000
	279.68	151188	145637	133074	108090	66695	54173	44002		5.01	133029	79.30	295000
	324.79	150945	145637	130145	105710	65227	52981	43034		4.31	136069	69.78	295000
	380.79	150707	143566	129333	117487	72494	58883	47828		3.68	133944	58.65	295000
	431.25	150533	143305	129099	117487	72494	58883	47828		3.25	135610	52.44	295000
	460.72	150445	145637	133074	108090	66695	54173	44002		3.04	144894	52.41	295000
	535.03	150256	145637	130145	105710	65227	52981	43034		2.62	145635	45.40	295000
	627.27	150070	142611	128473	117487	72494	58883	47828		2.23	140840	37.37	295000
	757.95	144755	133762	124410	117055	72227	58666	47652		1.85	134980	29.71	295000
	886.11	141623	129876	129870	127940	80573	65446	53158		1.58	134400	25.27	250000
	951.14	127109	115544	112145	103628	86266	74585	60582		1.47	121608	21.27	184000
	1068.86	119884	113394	105547	103250	64616	52485	42631		1.31	116253	18.12	295000
	1253.15	138029	132421	123287	117055	72227	58666	47652		1.12	136297	18.16	295000
	1465.04	141623	129876	129870	127601	80573	65446	53158		0.96	142361	16.26	250000
	1488.00	126556	116946	105352	97352	80066	65033	52824		0.94	127438	14.25	250000
	1826.18	127109	115544	111794	103304	85996	74585	60582		0.77	131034	12.01	184000
	2206.64	127109	115544	111712	103228	85933	74585	60582		0.63	133903	10.04	184000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR
12004	43.5	33,9

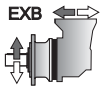
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	**16.35**	193471	179124	147021	119418	73685	59851	48614	1400	85.63	62703	598.11	360000
	20.69	167759	153155	153149	140828	86896	70581	57330		67.67	79356	598.20	280000
	26.19	167759	153155	153149	138071	85195	69200	56208		53.46	83504	497.28	280000
	30.71	167759	153155	153149	135327	83501	67824	55090		45.59	85848	435.98	280000
	36.00	146105	132811	132806	128799	93336	75813	61579		38.89	100645	436.01	230000
	44.18	146105	132811	132806	126797	92407	75058	60966		31.69	105956	374.04	230000
	54.22	119076	110033	99125	91597	76250	71374	69924		25.82	82214	236.47	155000
3	**57.22**	185252	150482	114315	92853	57293	46537	37799	1400	24.47	70994	197.73	360000
	67.44	183761	149261	113387	92099	56828	46159	37493		20.76	73976	174.79	360000
	72.43	165827	165818	134811	109500	67565	54880	44577		19.33	89857	197.69	360000
	85.36	165827	165818	133716	108611	67017	54435	44215		16.40	93630	174.77	360000
	91.67	167759	153155	153149	129133	79679	64720	52569		15.27	113728	197.66	280000
	107.47	167759	153155	153149	135327	83501	67824	55090		13.03	125007	185.39	280000
	126.66	167759	153155	153149	135327	83501	67824	55090		11.05	131322	165.16	280000
	158.65	167759	153155	153149	135327	83501	67824	55090		8.82	140501	141.04	280000
	184.24	167759	153155	153149	135327	83501	67824	55090		7.60	146947	127.11	280000
	222.62	167759	153155	153149	134829	83194	67574	54887		6.29	151046	108.14	280000
	261.00	146105	132811	132806	124076	92992	75533	61352		5.36	132805	81.02	230000
	320.32	146105	132811	129187	119377	92407	75058	60966		4.37	131183	65.25	230000
	393.12	115523	106751	96168	88865	73976	69244	67838		3.56	99959	40.50	155000
4	**206.01**	178445	150482	114315	92853	57293	46537	37799	1400	6.80	104261	83.41	360000
	243.20	177833	150482	114315	92853	57293	46537	37799		5.76	109584	74.26	360000
	260.73	165827	165504	134811	109500	67565	54880	44577		5.37	131958	83.37	360000
	307.81	165827	165028	134811	109500	67565	54880	44577		4.55	138695	74.25	360000
	330.00	167759	153155	153149	129133	79679	64720	52569		4.24	153151	76.40	280000
	362.78	165827	164594	133716	108611	67017	54435	44215		3.86	144521	65.63	360000
	386.27	165827	164437	134811	109500	67565	54880	44577		3.62	148472	63.24	360000
	449.04	165827	164080	134811	109500	67565	54880	44577		3.12	155333	57.02	360000
	487.14	167759	153155	153149	124503	76822	62399	50684		2.87	153153	51.71	280000
	543.19	165827	163666	134811	109500	67565	54880	44577		2.58	159004	48.27	360000
	570.21	165827	163566	129977	105574	65143	52913	42978		2.46	159789	46.25	360000
	640.19	165827	163338	133716	108611	67017	54435	44215		2.19	161685	41.66	360000
	721.69	167759	153155	153149	124503	76822	62399	50684		1.94	153155	34.96	280000
	801.86	165827	162931	129977	105574	65143	52913	42978		1.75	165473	34.07	360000
	983.61	167759	153155	153016	135327	83501	67824	55090		1.42	161117	26.92	280000
	1189.85	167759	153155	152849	135327	83501	67824	55090		1.18	164665	22.86	280000
	1381.76	167759	153155	152722	135327	83501	67824	55090		1.01	167507	19.90	280000
	1669.63	167759	153155	149827	134829	83194	67574	54887		0.84	171175	16.92	280000
	1988.18	146105	132811	126227	116642	92407	75058	60966		0.70	152089	12.53	230000
	2402.39	146105	132811	126048	116476	92407	75058	60966		0.58	155419	10.61	230000
	2948.38	114186	105515	95055	87836	73119	68443	67053		0.47	125856	6.96	155000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
15002	125.2	91.0
15003	81.8	61.8
15004	63.7	48.7

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**144.74**	99031	98960	98750	92853	57293	46537	37799	1400	9.67	93785	107.91	360000
	170.59	116700	116602	113387	92099	56828	46159	37493		8.21	97724	95.47	360000
	215.91	147669	147512	133716	108611	67017	54435	44215		6.48	123685	95.37	360000
	231.86	158567	153155	153149	129133	79679	64720	52569		6.04	150233	107.97	280000
	253.13	151735	140213	126312	114753	70807	57513	46715		5.53	124869	82.17	360000
	273.27	167759	153155	153149	128084	79032	64194	52142		5.12	153149	93.30	280000
	320.38	167759	153155	153149	135327	83501	67824	55090		4.37	153150	79.64	280000
	342.27	167759	153155	153149	124503	76822	62399	50684		4.09	153151	74.53	280000
	397.48	167759	153155	149906	121762	75131	61025	49568		3.52	153152	64.15	280000
	445.48	159626	147504	129977	105574	65143	52913	42978		3.14	140101	52.35	360000
	466.01	167759	153155	153149	135327	83501	67824	55090		3.00	153153	54.67	280000
	527.76	167759	153155	153149	135327	83501	67824	55090		2.65	153154	48.29	280000
	563.82	167759	153155	153149	124503	76822	62399	50684		2.48	153154	45.20	280000
	625.10	122033	112766	103058	100931	63112	51263	41639		2.24	111321	29.67	360000
	654.76	167759	153155	149906	121762	75131	61025	49568		2.14	153155	39.00	280000
	767.65	167759	153155	153149	135327	83501	67824	55090		1.82	156610	33.92	280000
	927.57	167759	153155	151394	134829	83194	67574	54887		1.51	160039	28.76	280000
	1087.50	146105	132811	132718	122640	92992	75533	61352		1.29	141941	21.79	230000
	1269.18	139592	134068	128647	119860	83501	67824	55090		1.10	138040	18.07	280000
	1533.59	165075	153155	150027	134829	83194	67574	54887		0.91	166798	18.06	280000
	1826.18	146105	132811	126314	116722	92407	75058	60966		0.77	150617	13.80	230000
	2206.64	146105	132811	126126	116549	92407	75058	60966		0.63	153914	11.54	230000
	2708.14	114219	105546	95082	87862	73141	68463	67072		0.52	124285	7.69	155000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
15004	50.5	39.6

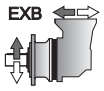
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**4.04**	193471	179124	179116	179103	114665	93137	75651	500	123.76	87367	1167.22	360000
	5.12	167759	153155	153149	153139	111601	90648	73629		97.66	91295	962.47	280000
	6.00	146105	132811	132806	132798	110072	89406	72620		83.33	94433	849.47	230000
	7.36	128092	118365	106631	98533	82024	76778	71535		67.93	75753	555.50	155000
2	**16.91**	193471	179124	179116	159224	98247	79801	64819	1400	82.79	84453	778.86	360000
	19.77	193471	179124	179116	156104	96321	78237	63548		70.81	86772	684.45	360000
	21.40	167759	153155	153149	151072	111601	90648	73629		65.42	102954	750.28	280000
	24.26	179838	170566	153657	141988	94409	76684	62287		57.71	90434	581.37	360000
	30.71	167759	153155	153149	149245	111335	90432	73454		45.59	114464	581.31	280000
	36.00	146105	132811	132806	128799	107219	89406	72620		38.89	110334	477.99	230000
	44.18	119678	110590	99627	92061	76636	71735	70278		31.69	80724	284.97	155000
3	**62.90**	193471	179124	179116	157336	97082	78855	64050	1400	22.26	123761	313.56	360000
	69.17	193471	179124	179116	156701	96690	78536	63791		20.24	126826	292.16	360000
	73.54	193471	179124	179116	156104	96321	78237	63548		19.04	128686	278.87	360000
	80.87	193471	179124	179116	156104	96321	78237	63548		17.31	132407	260.87	360000
	88.77	193471	179124	179116	152935	94366	76649	62258		15.77	133398	239.44	360000
	103.78	193471	179124	179116	156104	96321	78237	63548		13.49	142695	219.09	360000
	123.17	193471	179124	179116	156104	96321	78237	63548		11.37	150220	194.40	360000
	155.89	167759	153155	153149	143967	111601	90648	73629		8.98	145741	148.96	280000
	191.32	167759	153155	153149	143552	111335	90432	73454		7.32	148752	123.93	280000
	224.31	146105	132811	132806	124298	103472	89406	72620		6.24	131156	93.15	230000
	275.29	115934	107130	96510	89181	74239	69491	68079		5.09	96323	55.80	155000
4	**226.45**	193471	179124	173364	140815	86888	70575	57325	1400	6.18	162668	118.28	360000
	249.02	193471	179124	179116	150502	92865	75430	61268		5.62	178886	118.28	360000
	264.73	193471	179124	179116	156104	96321	78237	63548		5.29	179115	111.48	360000
	293.99	193471	179124	179116	148327	91523	74339	60382		4.76	179117	100.31	360000
	319.58	193471	179124	179116	152935	94366	76649	62258		4.38	179118	92.30	360000
	377.28	193471	179124	179116	152935	94366	76649	62258		3.71	179120	78.19	360000
	392.20	193471	179124	179116	150201	92679	75279	61146		3.57	179120	75.23	360000
	428.88	193471	179124	175289	142379	87853	71358	57961		3.26	179121	68.70	360000
	473.45	193471	179124	179116	152935	94366	76649	62258		2.96	179122	62.38	360000
	501.39	193471	179124	179116	156104	96321	78237	63548		2.79	179122	58.80	360000
	550.39	193471	179124	179116	152935	94366	76649	62258		2.54	179123	53.53	360000
	653.21	193471	179124	164032	149262	92100	74808	60763		2.14	179124	45.10	360000
	763.66	193471	179124	179116	156104	96321	78237	63548		1.83	179125	38.57	360000
	790.17	193471	179124	163437	149262	92100	74808	60763		1.77	179125	37.30	360000
	923.78	193471	179124	179116	156104	96321	78237	63548		1.52	184481	32.99	360000
	1020.38	167759	153155	152983	141366	111335	90432	73454		1.37	161795	26.08	280000
	1186.19	167759	153155	152852	141245	111335	90432	73454		1.18	164607	22.85	280000
	1434.91	167759	153155	152700	141104	111335	90432	73454		0.98	168233	19.40	280000
	1682.31	146105	132811	132426	122370	101867	89406	72620		0.83	149209	14.57	230000
	2064.65	114336	105653	95179	87951	73215	68533	67141		0.68	119410	9.55	155000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
16001	203.0	123.2
16002	125.2	91.0
16003	82.9	63.0
16004	64.5	49.6

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**159.10**	176036	175899	175487	157336	97082	78855	64050	1400	8.80	163490	171.19	360000
	174.97	193471	179124	179116	156701	96690	78536	63791		8.00	167541	159.49	360000
	204.55	193471	179124	179116	156104	96321	78237	63548		6.84	174910	142.36	360000
	224.54	193471	179124	179116	152935	94366	76649	62258		6.23	176221	130.64	360000
	262.51	193471	179124	179116	156104	96321	78237	63548		5.33	179115	113.60	360000
	311.55	193471	179124	179116	156104	96321	78237	63548		4.49	179118	95.70	360000
	336.96	193471	179124	170036	156104	96321	78237	63548		4.15	173481	85.67	360000
	369.89	193471	179124	179116	152935	94366	76649	62258		3.78	179119	80.57	360000
	432.43	193471	179124	179116	156104	96321	78237	63548		3.24	179121	69.06	360000
	468.15	167759	153155	153149	142161	111285	90392	73421		2.99	153153	54.49	280000
	513.21	193471	179124	179116	156104	96321	78237	63548		2.73	179122	58.19	360000
	555.60	167759	153155	153149	141959	108612	88220	71657		2.52	153154	45.92	280000
	629.85	169218	156367	140866	130168	94409	76684	62287		2.22	154497	40.81	360000
	649.55	167759	153155	153149	141788	111601	90648	73629		2.16	153155	39.36	280000
	797.17	167759	153155	153149	141585	111335	90432	73454		1.76	157288	32.94	280000
	918.60	161938	151035	146619	139403	108612	88220	71657		1.52	154347	27.92	280000
	1041.35	168344	155560	140139	129497	94409	76684	62287		1.34	162762	25.95	360000
	1110.53	167759	153155	152908	141296	111335	90432	73454		1.26	163370	24.49	280000
	1317.99	167759	153155	152766	141165	111335	90432	73454		1.06	166604	21.01	280000
	1545.23	146105	132811	132478	122418	101907	89406	72620		0.91	147764	16.00	230000
	1896.42	114376	105690	95212	87982	73241	68557	67164		0.74	117926	10.38	155000

B

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
16004	53.4	42.6

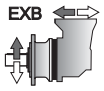
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**4.18**	218187	202007	201998	201983	151593	123132	100014	500	119.62	116690	1506.82	410000
	4.89	195560	179339	179332	179319	148967	120999	98282		102.25	120194	1326.69	360000
	6.00*	177096	160983	160977	160967	135218	119208	96827		83.33	121569	1093.58	280000
2	**17.49**	218187	202007	201998	201983	128392	104287	84707	1000	57.18	123329	785.56	410000
	20.44	218187	202007	201998	201983	126780	102978	83644		48.92	127611	695.41	410000
	23.90	195560	179339	179332	179319	141430	114877	93309		41.84	149195	695.37	360000
	25.09	218187	202007	201998	201684	124446	101081	82104		39.86	133205	591.46	410000
	29.33	195560	179339	179332	179319	138826	112762	91591		34.09	155724	591.36	360000
	36.00*	177096	160983	160977	150850	125575	118053	96827		27.78	133073	411.80	280000
3	**63.39**	218187	202007	201998	201983	128392	104287	84707	1400	22.09	164058	412.48	410000
	69.95	218187	202007	201998	201983	128392	104287	84707		20.01	168977	384.84	410000
	74.11	218187	202007	201998	201983	126780	102978	83644		18.89	169772	365.01	410000
	81.78	218187	202007	201998	201983	126780	102978	83644		17.12	174863	340.73	410000
	90.94	218187	202007	201998	201983	128392	104287	84707		15.39	182818	320.23	410000
	109.30	217537	202007	201998	201983	128392	104287	84707		12.81	193187	281.67	410000
	127.78	216925	202007	201998	201983	126780	102978	83644		10.96	199914	249.38	410000
	156.82	216191	202007	201998	196807	124446	101081	82104		8.93	199368	202.64	410000
	183.33	195560	179339	179332	176290	138826	112762	91591		7.64	179325	155.93	360000
	225.00*	177096	160983	157535	145572	121182	113923	96827		6.22	153658	108.78	280000
4	**221.87**	215106	202007	201998	172281	106303	86345	70134	1400	6.31	197801	146.85	410000
	244.83	214831	202007	201998	184571	113886	92505	75137		5.72	201996	135.94	410000
	259.39	214676	202007	201998	192189	118587	96323	78238		5.40	201997	128.34	410000
	288.55	214401	202007	201998	183072	112962	91753	74527		4.85	201998	115.26	410000
	327.53	214093	202007	201998	166104	102492	83249	67619		4.27	202000	101.48	410000
	361.41	213867	202007	201998	177953	109803	89188	72443		3.87	202001	91.98	410000
	380.36	213754	202007	199995	162447	100235	81416	66131		3.68	202002	87.46	410000
	422.52	213530	202007	201998	198517	122492	99494	80814		3.31	202003	78.67	410000
	469.83	213316	202007	201998	201983	128392	104287	84707		2.98	202004	70.82	410000
	490.67	213231	202007	201998	194146	119795	97304	79035		2.85	202004	67.73	410000
	564.70	212970	202007	201998	201983	128392	104287	84707		2.48	202006	58.94	410000
	655.79	212712	202007	201998	201983	128392	104287	84707		2.13	202007	50.62	410000
	766.67	212462	202007	201998	201983	126780	102978	83644		1.83	202008	43.49	410000
	810.23	212378	202007	201998	191504	124446	101081	82104		1.73	202008	41.12	410000
	940.91	212163	202007	201998	191203	124446	101081	82104		1.49	208486	36.55	410000
	1136.93	211912	202007	201998	190852	124446	101081	82104		1.23	211910	30.67	410000
	1329.17	195560	179339	179332	173234	138826	112762	91591		1.05	194401	24.02	360000
	1631.25*	177096	160983	155119	143340	119324	112176	96827		0.86	180222	18.24	280000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
20001	203.0	123.2
20002	130.3	96.1
20003	89.6	69.6
20004	71.6	56.6

1.2 Prestazioni / *1.2 Performances* / 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**160.35**	216115	202007	201998	201983	128392	104287	84707	1400	8.73	201987	209.82	410000
	176.93	215792	202007	201998	201983	128392	104287	84707		7.91	201989	190.12	410000
	206.85	215310	202007	201998	201983	126780	102978	83644		6.77	201993	162.72	410000
	230.01	215004	202007	201998	201983	128392	104287	84707		6.09	201995	146.38	410000
	268.90	214582	202007	201998	201983	126780	102978	83644		5.21	201997	125.23	410000
	308.80	214234	202007	201998	201983	126780	102978	83644		4.53	201999	108.88	410000
	340.74	214001	202007	201998	201983	126780	102978	83644		4.11	202001	98.79	410000
	378.90	213762	202007	201998	201983	128392	104287	84707		3.69	202002	88.69	410000
	418.18	213552	202007	201998	193144	124446	101081	82104		3.35	202003	80.52	410000
	455.41	213378	202007	201998	201983	128392	104287	84707		3.07	202004	73.79	410000
	532.41	213078	202007	201998	201983	126780	102978	83644		2.63	202005	63.22	410000
	653.41	212718	202007	201998	191980	124446	101081	82104		2.14	202007	51.44	410000
	752.94	208792	192937	186470	178965	128392	104287	84707		1.86	194546	43.06	410000
	880.25	212257	202007	201998	201983	126780	102978	83644		1.59	206902	39.14	410000
	1080.30	211978	202007	201998	190944	124446	101081	82104		1.30	211808	32.76	410000
	1262.96	195560	179339	179332	173281	138826	112762	91591		1.11	193268	25.53	360000
	1550.00*	177096	160983	155156	143374	119352	112203	96827		0.90	179171	19.19	280000

B

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
20004	58.6	47.7

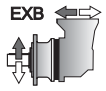
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h												T_{max} [Nm]
		T_N [Nm]							10000 Hours Life					
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]		
3	**61.30**	313325	290090	290077	236214	145752	118387	96160	1400	22.84	184376	479.30		580000
	67.64	313325	290090	286503	232713	143592	116633	94735		20.70	187087	440.78		580000
	71.66	313325	290090	290077	239424	147733	119996	97467		19.54	195845	435.56		580000
	79.07	313325	290090	290077	239424	147733	119996	97467		17.71	201712	406.59		580000
	87.93	313325	290090	282286	229287	141478	114916	93341		15.92	199426	361.35		580000
	97.04	306892	290090	261347	235732	145455	118146	95964		14.43	211186	346.85		580000
	111.29	276461	252394	252384	242976	166844	135519	110076		12.58	236705	338.92		435000
	123.55	313325	290090	290077	239424	147733	119996	97467		11.33	230612	297.39		580000
	133.76	276461	252394	252384	242190	163664	132936	107978		10.47	240935	287.11		435000
	151.63	306892	286575	258165	235732	145455	118146	95964		9.23	240739	252.90		580000
	191.91	276461	252394	252384	240840	171533	139328	113170		7.30	249652	207.43		435000
	225.00	248095	225521	225513	215164	179113	149272	121247		6.22	225509	159.65		352000
	276.14*	203223	187790	169173	156326	130134	121811	119337		5.07	168906	97.47		230000
4	**214.53**	313325	290090	283977	230661	142326	115604	93900	1400	6.53	262169	201.42		580000
	250.81	313325	290090	290077	239424	147733	119996	97467		5.58	285189	187.23		580000
	276.75	313325	290090	290077	239424	147733	119996	97467		5.06	290077	172.69		580000
	295.60	313325	290090	290077	239424	147733	119996	97467		4.74	290078	161.77		580000
	326.17	313325	290090	290077	239424	147733	119996	97467		4.29	290080	146.41		580000
	362.70	313325	290090	282286	229287	141478	114916	93341		3.86	290082	131.74		580000
	408.54	313325	290090	290077	239424	147733	119996	97467		3.43	290084	117.06		580000
	435.94	313325	290090	276905	224917	138781	112726	91562		3.21	290085	109.56		580000
	474.43	313325	290090	290077	239424	147733	119996	97467		2.95	290086	100.68		580000
	509.65	313325	290090	290077	239424	147733	119996	97467		2.75	290087	93.86		580000
	531.10	313325	290090	290077	239424	147733	119996	97467		2.64	290087	90.10		580000
	616.77	313325	290090	290077	239424	147733	119996	97467		2.27	290089	77.48		580000
	741.30	313325	290090	290077	239424	147733	119996	97467		1.89	290090	64.51		580000
	824.96	276461	252394	252384	237300	171533	139328	113170		1.70	260223	52.05		435000
	895.74	313325	290090	290077	239424	147733	119996	97467		1.56	297713	54.64		580000
	991.54	276461	252394	252384	237010	171533	139328	113170		1.41	265759	44.09		435000
	1099.32	300352	277544	250029	231042	145455	118146	95964		1.27	292191	43.66		580000
	1391.36	276461	252394	252384	236542	171533	139328	113170		1.01	276265	32.83		435000
	1631.25	248095	225521	225513	211669	176204	149272	121247		0.86	252473	25.55		352000
	2001.99*	200288	185079	166731	154069	128255	120052	117614		0.70	208204	17.15		230000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
25003	111.4	84.1
25004	90.1	69.6

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**155.04**	256160	255965	255381	236214	145752	118387	96160	1400	9.03	243556	261.70	580000
	171.08	282637	282400	281688	232713	143592	116633	94735		8.18	247139	240.55	580000
	200.01	313325	290090	290077	239424	147733	119996	97467		7.00	266467	221.95	580000
	222.40	313325	290090	282286	229287	141478	114916	93341		6.29	263440	197.17	580000
	260.01	313325	290090	290077	239424	147733	119996	97467		5.38	288287	184.55	580000
	312.51	313325	290090	290077	239424	147733	119996	97467		4.48	290079	154.64	580000
	329.47	291477	277724	250192	239424	147733	119996	97467		4.25	254873	128.89	580000
	366.36	313325	290090	277350	229287	141478	114916	93341		3.82	283414	128.82	580000
	428.31	313325	290090	290077	239424	147733	119996	97467		3.27	290085	112.87	580000
	463.69	276461	252394	252384	238401	166844	135519	110076		3.02	252391	90.70	435000
	514.79	313325	290090	290077	239424	147733	119996	97467		2.72	290087	93.89	580000
	557.32	276461	252394	252384	238015	163664	132936	107978		2.51	252393	75.38	435000
	631.79	302204	279255	251571	232467	145455	118146	95964		2.22	276012	72.91	580000
	665.29	276461	252394	252384	237675	171533	139328	113170		2.10	252394	63.07	435000
	799.63	276461	252394	252384	237352	171533	139328	113170		1.75	259296	53.99	435000
	851.13	232747	215509	209671	200119	147733	119996	97467		1.64	219916	42.92	580000
	921.43	249705	232961	226127	214965	163664	132936	107978		1.52	238082	43.06	435000
	1077.23	276461	252394	252384	236888	174219	141510	114942		1.30	268292	41.50	435000
	1322.06	276461	252394	252384	236607	171533	139328	113170		1.06	274655	34.64	435000
	1550.00	248095	225521	225513	211722	176249	149272	121247		0.90	251002	26.88	352000
	1902.27*	200333	185120	166768	154104	128284	120079	117640		0.74	206647	18.20	230000

B

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
25004	72.0	57.1

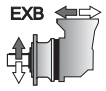
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**4.04**	313325	290090	290077	290055	191525	155567	126360	500	123.76	145929	1949.61	580000
	5.12	276461	252394	252384	252368	186376	151384	122962		97.66	152465	1607.35	435000
	6.00	248095	225521	225513	225499	183776	149272	121247		83.33	157664	1418.27	352000
	7.36*	225614	208482	187813	173551	144473	135233	119418		67.93	133191	976.70	230000
2	**16.91**	313325	290090	290077	245046	151201	122814	99756	1000	59.14	143777	947.20	580000
	19.77	313325	290090	290077	239424	147733	119996	97467		50.58	147221	829.50	580000
	21.40	276461	252394	252384	252368	178310	144833	117641		46.73	181967	947.23	435000
	25.02	276461	252394	252384	252368	174219	141510	114942		39.97	186326	829.61	435000
	30.71	276461	252394	252384	250941	171533	139328	113170		32.56	195085	707.58	435000
	36.00	248095	225521	225513	223408	183776	149272	121247		27.78	196987	609.59	352000
	44.18*	210172	194212	174958	161672	134584	125977	119418		22.63	146057	368.19	230000
3	**59.52**	313325	290090	290077	245046	151201	122814	99756	1400	23.52	189586	507.52	580000
	67.64	313325	290090	290077	245046	151201	122814	99756		20.70	197001	464.14	580000
	75.33	276461	252394	252384	244898	178310	144833	117641		18.58	228200	482.58	435000
	79.57	313325	290090	290077	245046	151201	122814	99756		17.59	206839	414.10	580000
	93.03	313325	290090	290077	239424	147733	119996	97467		15.05	211795	362.79	580000
	98.85	313325	290090	290077	245046	151201	122814	99756		14.16	220750	355.77	580000
	115.57	313325	290090	290077	239424	147733	119996	97467		12.11	226038	311.55	580000
	125.11	276461	252394	252384	242468	178310	144833	117641		11.19	239381	304.88	435000
	141.83	306892	287058	258600	235732	145455	118146	95964		9.87	236652	265.85	580000
	179.51	276461	252394	252384	241072	171533	139328	113170		7.80	247998	220.17	435000
	210.46	248095	225521	225513	215352	179271	149272	121247		6.65	225508	170.68	352000
	258.29*	203381	187937	169305	156448	130236	121906	119418		5.42	167755	103.49	230000
4	**208.32**	313325	290090	278194	225963	139427	113250	91988	1400	6.72	254577	201.28	580000
	236.73	313325	290090	290077	245046	151201	122814	99756		5.91	286869	199.47	580000
	279.00	313325	290090	290077	245046	151201	122814	99756		5.02	290077	171.33	580000
	328.24	313325	290090	290077	245046	151201	122814	99756		4.27	290080	145.73	580000
	359.52	313325	290090	290077	239424	147733	119996	97467		3.89	290082	132.76	580000
	411.12	313325	290090	290077	245046	151201	122814	99756		3.41	290084	116.38	580000
	431.52	313325	290090	259858	211070	130238	105786	85925		3.24	290085	110.58	580000
	477.43	313325	290090	290077	245046	151201	122814	99756		2.93	290086	100.00	580000
	510.74	313325	290090	290077	245046	151201	122814	99756		2.74	290087	93.52	580000
	558.16	313325	290090	290077	239424	147733	119996	97467		2.51	290088	85.67	580000
	597.10	313325	290090	290077	239424	147733	119996	97467		2.34	290089	79.86	580000
	674.44	313325	290090	290077	239424	147733	119996	97467		2.08	290090	70.99	580000
	716.69	313325	290090	290077	245046	151201	122814	99756		1.95	290090	66.55	580000
	837.86	313325	290090	290077	239424	147733	119996	97467		1.67	290091	57.00	580000
	907.08	276461	252394	252384	237147	178310	144833	117641		1.54	263065	47.66	435000
	1028.29	300550	277726	250193	231194	145455	118146	95964		1.36	290166	46.43	580000
	1301.46	276461	252394	252384	236628	171533	139328	113170		1.08	274161	34.84	435000
	1525.85	248095	225521	225513	211739	176263	149272	121247		0.92	250551	27.12	352000
	1872.63*	200347	185133	166779	154114	128293	120088	117649		0.75	206172	18.19	230000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
26001	264.6	155.4
26002	167.6	120.8
26003	111.4	84.1
26004	90.1	69.6

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**150.55**	248745	248562	248011	245046	151201	122814	99756	1400	9.30	247222	273.58	580000
	171.08	282637	282400	281688	245046	151201	122814	99756		8.18	260236	253.30	580000
	201.27	313325	290090	290077	245046	151201	122814	99756		6.96	273239	226.29	580000
	235.30	313325	290090	290077	239424	147733	119996	97467		5.95	279779	198.08	580000
	250.04	313325	290090	290077	245046	151201	122814	99756		5.60	290074	193.29	580000
	292.32	313325	290090	290077	239424	147733	119996	97467		4.79	290078	165.33	580000
	331.55	293319	279279	251592	245046	151201	122814	99756		4.22	256483	128.79	580000
	387.61	313325	290090	290077	239424	147733	119996	97467		3.61	290083	124.61	580000
	411.89	313325	290090	290077	245046	151201	122814	99756		3.40	290084	117.36	580000
	481.53	313325	290090	290077	239424	147733	119996	97467		2.91	290086	100.45	580000
	521.31	276461	252394	252384	238151	178310	144833	117641		2.69	252392	80.79	435000
	590.97	302464	279495	251787	232667	145455	118146	95964		2.37	274155	77.31	580000
	714.53	248095	225521	225513	212724	177082	149272	121247		1.96	225522	52.60	352000
	747.96	276461	252394	252384	237466	171533	139328	113170		1.87	252395	56.16	435000
	876.92	248095	225521	225513	212420	176829	149272	121247		1.60	235161	44.77	352000
	1007.63	270294	252394	246125	232823	174219	141510	114942		1.39	260353	43.06	435000
	1181.36	248095	225521	225513	212030	176505	149272	121247		1.19	243320	34.45	352000
	1236.63	276461	252394	252384	236696	171533	139328	113170		1.13	272563	36.65	435000
	1449.85	248095	225521	225513	211794	176309	149272	121247		0.97	249090	28.75	352000
	1779.36*	200393	185176	166818	154150	128323	120115	117676		0.79	204632	19.24	230000

B

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
26004	72.0	57.1

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

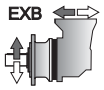
EX

Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
3	**61.30**	344758	333705	290813	236214	145752	118387	96160	1400	22.84	184376	479.30	650000
	67.64	343898	333705	286503	232713	143592	116633	94735		20.70	187087	440.78	650000
	77.58	342767	333705	333690	278564	171884	139613	113401		18.05	233352	479.40	650000
	85.60	342001	333705	333690	274436	169336	137544	111720		16.36	236780	440.90	650000
	90.70	331405	303916	303903	303883	191746	155746	126505		15.44	272810	479.42	540000
	106.33	331405	303916	303903	303883	206019	167339	135922		13.17	299143	448.41	540000
	117.33	331405	303916	303903	303883	206019	167339	135922		11.93	301968	410.02	540000
	130.47	339110	333705	333690	299300	184678	150005	121842		10.73	293036	357.87	650000
	156.82	338025	333705	333690	296483	182940	148593	120695		8.93	306748	311.78	650000
	183.33	331405	303916	303903	303883	204080	165764	134642		7.64	303892	264.25	540000
	225.00	331405	303916	287225	265414	202414	164412	133544		6.22	280157	198.34	540000
	276.14*	300721	273359	272083	251421	209296	189754	154128		5.07	271653	156.76	410000
4	**214.53**	336391	333705	283977	230661	142326	115604	93900	1400	6.53	262169	201.42	650000
	250.81	331405	303916	303903	257315	158772	128963	104751		5.58	303901	199.51	540000
	271.53	335320	333705	333690	272016	167843	136331	110735		5.16	331819	201.45	650000
	299.61	334909	333705	333690	274436	169336	137544	111720		4.67	333692	183.35	650000
	320.01	334644	333705	332172	269807	166480	135224	109836		4.37	333693	171.57	650000
	353.12	334265	333705	333690	274436	169336	137544	111720		3.96	333695	155.47	650000
	400.82	333804	333705	322884	262263	161825	131443	106765		3.49	333698	137.02	650000
	442.29	333466	333453	333414	274436	169336	137544	111720		3.17	333438	124.36	650000
	465.47	333297	333284	315775	256489	158262	128549	104414		3.01	333270	118.02	650000
	527.56	332900	332887	282286	229287	141478	114916	93341		2.65	332878	103.79	650000
	562.45	332706	332693	312819	254088	156781	127346	103437		2.49	332687	97.46	650000
	620.63	332421	332408	332369	272214	167965	136430	110816		2.26	332404	88.39	650000
	674.11	332191	332178	332139	299300	184678	150005	121842		2.08	332177	81.29	650000
	727.64	331988	331975	331936	299300	184678	150005	121842		1.92	331976	74.99	650000
	810.23	331714	331701	331662	296483	182940	148593	120695		1.73	331705	67.52	650000
	940.91	331358	331345	331306	296483	182940	148593	120695		1.49	331351	58.09	650000
	1136.93	330943	330930	330891	296483	182940	148593	120695		1.23	330940	47.89	650000
	1350.00	331405	303916	279046	257856	202414	164412	133544		1.04	330028	40.38	540000
	1631.25	331405	303916	278534	257383	202414	164412	133544		0.86	337254	34.12	540000
	2001.99*	300721	273359	268084	247726	206220	189754	154128		0.70	313286	25.80	410000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
30003	115.3	88.0
30004	93.1	72.6

1.2 Prestazioni / *1.2 Performances* / 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**155.04**	256160	255965	255381	236214	145752	118387	96160	1400	9.03	243556	261.70	650000
	171.08	282637	282400	281688	232713	143592	116633	94735		8.18	247139	240.55	650000
	196.23	324144	323832	322897	278564	171884	139613	113401		7.13	308260	261.53	650000
	216.53	336346	333705	333690	274436	169336	137544	111720		6.47	312794	240.81	650000
	230.06	336060	333705	333690	299300	184678	150005	121842		6.09	333685	241.81	650000
	253.86	335613	333705	333690	299300	184678	150005	121842		5.51	333688	218.78	650000
	281.49	335167	333705	332897	270396	166844	135519	110076		4.97	333427	197.18	650000
	338.33	334428	333705	326552	265242	163664	132936	107978		4.14	333695	164.39	650000
	396.66	333841	333705	333690	296483	182940	148593	120695		3.53	333698	140.17	650000
	418.18	333657	333644	315702	299300	184678	150005	121842		3.35	323500	128.95	650000
	463.69	333309	333296	332897	270396	166844	135519	110076		3.02	333283	119.77	650000
	543.64	332808	332795	332756	299300	184678	150005	121842		2.58	332788	102.16	650000
	653.41	332277	332264	332225	296483	182940	148593	120695		2.14	332262	84.61	650000
	763.89	331405	303916	303903	301325	204080	165764	134642		1.83	303917	66.18	540000
	801.91	293064	270809	243962	225436	181447	147381	119710		1.75	275036	57.27	650000
	937.50	331405	303916	280180	258903	202414	164412	133544		1.49	316539	56.12	540000
	1077.23	286775	271444	262132	246973	182576	148298	120455		1.30	278338	43.06	540000
	1289.60	331405	303916	279177	257977	202414	164412	133544		1.09	328304	42.58	540000
	1550.00	331405	303916	278668	257506	202414	164412	133544		0.90	335288	35.91	540000
	1902.27*	300721	273359	268145	247782	206267	189754	154128		0.74	311459	27.42	410000

B

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
30004	74.2	59.3

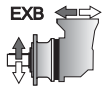
1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	**4.18**	360433	333705	333690	333665	253207	205668	167054	500	119.62	194908	2516.86	650000
	4.89	331405	303916	303903	303883	248793	202083	164142		102.25	200739	2215.75	540000
	6.00*	300721	273359	273349	273332	235288	199030	161662		83.33	210219	1891.03	410000
2	**16.91**	360433	333705	333690	312015	192524	156378	127018	500	29.57	225386	742.42	650000
	19.77	331405	303916	303903	303883	214771	174448	141696		25.29	263498	742.33	540000
	21.40	356967	333705	333690	303656	187366	152189	123616		23.36	235405	612.57	650000
	25.09	354718	333705	333690	299300	184678	150005	121842		19.93	243369	540.31	650000
	29.33	331405	303916	303903	303883	206019	167339	135922		17.05	284512	540.37	540000
	36.00	331405	303916	303903	283405	202414	164412	133544		13.89	261611	404.79	540000
	44.18*	300721	273359	273349	260168	216578	189754	154128		11.32	250761	316.21	410000
3	**59.52**	345023	333705	333690	312015	192524	156378	127018	1400	23.52	241399	646.22	650000
	67.64	343898	333705	333690	310284	191456	155510	126314		20.70	249449	587.71	650000
	75.33	343004	333705	333690	303656	187366	152189	123616		18.58	252136	533.20	650000
	85.60	342001	333705	333690	303656	187366	152189	123616		16.36	261991	487.84	650000
	100.71	340814	333705	333690	303656	187366	152189	123616		13.90	275084	435.20	650000
	118.07	339742	333705	333690	299300	184678	150005	121842		11.86	284387	383.89	650000
	146.27	331405	303916	303903	303883	209018	169775	137900		9.57	303884	331.00	540000
	171.49	331405	303916	303903	303883	206019	167339	135922		8.16	303890	282.24	540000
	210.46	331405	303916	287691	265844	202414	164412	133544		6.65	278483	210.78	540000
	258.29*	300721	273359	272299	251621	209462	189754	154128		5.42	269806	166.44	410000
4	**208.32**	336533	333705	278194	225963	139427	113250	91988	1400	6.72	254577	201.28	650000
	236.73	335928	333705	304235	247116	152479	123851	100598		5.91	289293	201.16	650000
	278.50	335212	333705	333690	276890	170850	138774	112719		5.03	333690	197.48	650000
	328.24	334545	333705	333690	274642	169463	137647	111804		4.27	333694	167.64	650000
	353.12	334265	333705	333690	289055	178357	144871	117671		3.96	333695	155.47	650000
	411.12	333716	333703	328669	266962	164725	133798	108678		3.41	333684	133.87	650000
	442.29	333466	333453	333414	280972	173370	140820	114381		3.17	333438	124.36	650000
	477.43	333214	333201	321433	261085	161098	130852	106285		2.93	333189	114.86	650000
	520.34	332942	332929	332890	303656	187366	152189	123616		2.69	332920	105.37	650000
	576.90	332631	332618	318424	258640	159590	129627	105290		2.43	332613	95.09	650000
	604.27	332497	332484	332445	303656	187366	152189	123616		2.32	332480	90.75	650000
	730.15	331979	331966	331927	303656	187366	152189	123616		1.92	331967	74.99	650000
	856.04	331580	331567	331528	299300	184678	150005	121842		1.64	331572	63.98	650000
	1063.47	331085	331072	331033	299300	184678	150005	121842		1.32	331081	51.42	650000
	1243.28	331405	303916	303903	300380	206019	167339	135922		1.13	326932	43.47	540000
	1525.85	331405	303916	278709	257544	202414	164412	133544		0.92	334686	36.23	540000
	1872.63*	300721	273359	268164	247800	206282	189754	154128		0.75	310900	27.43	410000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
31001	264.6	155.4
31002	174.4	127.6
31003	115.3	88.0
31004	93.1	72.6

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	10000 Hours Life n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
4	**150.55**	248745	248562	248011	247093	192524	156378	127018	1400	9.30	247222	273.58	650000
	171.08	282637	282400	281688	280503	191456	155510	126314		8.18	280934	273.45	650000
	201.27	332464	332136	331152	301935	186304	151326	122915		6.96	330510	273.72	650000
	216.53	336346	333705	333690	303656	187366	152189	123616		6.47	333683	256.89	650000
	254.74	335598	333705	333690	303656	187366	152189	123616		5.50	333688	218.38	650000
	298.66	334922	333705	333690	299300	184678	150005	121842		4.69	333692	186.22	650000
	316.46	334689	333705	333690	303656	187366	152189	123616		4.42	333693	175.50	650000
	349.16	331405	303916	303903	303422	206019	167339	135922		4.01	303907	145.01	540000
	371.03	334082	333705	333690	299300	184678	150005	121842		3.77	333696	149.69	650000
	419.63	333645	333632	316770	303656	187366	152189	123616		3.34	324620	129.01	650000
	491.98	333118	333105	333066	299300	184678	150005	121842		2.85	333094	112.96	650000
	521.31	332937	332923	332884	303656	187366	152189	123616		2.69	332915	106.56	650000
	575.16	331405	303916	303903	301993	206019	167339	135922		2.43	303914	87.88	540000
	611.19	332464	332451	332412	299300	184678	150005	121842		2.29	332447	90.59	650000
	705.88	331405	303916	281216	259861	202414	164412	133544		1.98	303916	71.60	540000
	876.92	331405	303916	280411	259117	202414	164412	133544		1.60	314128	59.81	540000
	1010.50	270977	254992	246787	233412	184678	150005	121842		1.39	261095	43.18	650000
	1181.36	311205	297017	285840	267688	206019	167339	135922		1.19	305242	43.22	540000
	1449.85	331405	303916	278847	257672	202414	164412	133544		0.97	332734	38.40	540000
	1779.36*	300721	273359	268227	247858	206330	189754	154128		0.79	309088	29.06	410000

B

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
31004	74.2	59.3

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
2	17.49	360055	333705	333690	333665	253207	205668	167054	500	28.59	299442	953.66	650000
	20.44	357646	333705	333690	333665	250160	203193	165044		24.46	310000	844.67	650000
	23.90	331405	303916	303903	303883	248793	202083	164142		20.92	286554	667.79	540000
	25.09	354718	333705	333690	333665	246238	200007	162456		19.93	324493	720.41	650000
	29.33	331405	303916	303903	303883	248793	202083	164142		17.05	291977	554.55	540000
	36.00*	300721	273359	273349	261713	217864	199030	161662		13.89	245886	380.46	410000
3	70.71	343524	333705	333690	327860	202301	164319	133469	1400	19.80	267113	601.96	650000
	82.67	342268	333705	333690	333665	225678	183307	148892		16.93	312281	601.74	650000
	89.50	341667	333705	333690	321441	198340	161102	130856		15.64	281067	500.33	650000
	104.63	340549	333705	333690	333665	221260	179719	145977		13.38	328588	500.40	650000
	122.67	339496	333705	333690	333665	216862	176147	143076		11.41	333658	433.31	650000
	150.55	338257	333705	333690	333665	246238	200007	162456		9.30	333669	353.19	650000
	184.76	337138	333705	333690	333665	246238	200007	162456		7.58	333677	287.88	650000
	216.00	331405	303916	303903	303883	248793	202083	164142		6.48	303897	224.14	540000
	265.09*	300721	273359	272214	251542	209397	196855	161662		5.28	270522	162.57	410000
4	247.49	335726	333705	313850	254926	157298	127766	103778	1400	5.66	302442	201.40	650000
	289.33	335052	333705	333690	284384	175475	142530	115770		4.84	333691	190.02	650000
	313.23	334729	333705	333690	300631	185500	150673	122384		4.47	333693	175.49	650000
	341.00	334398	333705	333690	282075	174050	141372	114830		4.11	333695	161.36	650000
	369.17	334100	333705	333690	298190	183994	149449	121391		3.79	333696	148.80	650000
	424.26	333607	333594	295936	240374	148319	120473	97854		3.30	333577	129.51	650000
	462.39	333318	333305	333266	289853	178849	145270	117996		3.03	333292	118.82	650000
	506.00	333029	333016	332977	332912	216862	176147	143076		2.77	333006	108.53	650000
	540.58	332825	332812	332773	323347	199516	162057	131632		2.59	332805	101.41	650000
	599.33	332520	332507	327042	265641	163909	133136	108140		2.34	332503	91.54	650000
	648.84	332296	332283	332244	280817	173274	140742	114318		2.16	332281	84.44	650000
	758.55	331880	331867	331828	313267	193297	157006	127528		1.85	331869	72.23	650000
	889.33	331489	331476	331437	331372	216063	175498	142549		1.57	331482	61.23	650000
	954.60	331325	331312	331273	331208	246238	200007	162456		1.47	331318	57.30	650000
	1091.45	331029	331016	330977	330912	246238	200007	162456		1.28	331025	49.85	650000
	1339.51	330614	330601	330562	330497	246238	200007	162456		1.05	330613	40.84	650000
	1566.00	331405	303916	303903	300006	248793	202083	164142		0.89	335682	35.15	540000
	1921.91*	300721	273359	268133	247771	206257	193903	161662		0.73	311826	26.78	410000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
32002	174.4	127.6
32003	119.5	92.2
32004	96.2	75.7

1.2 Prestazioni — 1.2 Performances — 1.2 Leistungen

EX

Stadio Stage Stufe	ir	n2 X h — TN [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n1 [rpm]	n2 [rpm]	TN [Nm]	P1 [kW]	Tmax [Nm]
1	4.17	429121	397272	397254	397225	263076	213684	173565	500	119.90	202358	2619.17	780000
	4.65	404919	371449	371434	371408	260895	211913	172127		107.53	207349	2406.89	700000
	5.29	384299	351014	351000	350977	255307	207374	168440		94.52	210911	2152.03	590000
	6.21	343510	311204	311192	311173	254626	206821	167990		80.52	220714	1918.49	480000
2	17.45	428132	397272	397254	397225	254345	206592	167805	500	28.65	300581	959.30	780000
	20.41	425082	397272	397254	397225	249828	202924	164825		24.50	309453	844.56	780000
	22.73	404919	371449	371434	371408	260895	211913	172127		22.00	333769	817.97	700000
	25.04	421399	397272	397253	397195	245912	199742	162241		19.97	323869	720.47	780000
	27.90	404919	371449	371434	371408	260895	211913	172127		17.92	354934	708.52	700000
	31.76	384299	351014	351000	340450	255307	207374	168440		15.74	314208	550.92	590000
	37.29	343510	311204	311192	306482	254626	206821	167990		13.41	288756	431.35	480000
3	70.58	407216	383917	383883	327426	202033	164102	133292	1400	19.84	266612	602.05	780000
	82.51	405623	382415	382381	365262	225379	183065	148695		16.97	311687	602.02	780000
	91.92	404919	371449	371434	371408	243081	197443	160373		15.23	347237	601.91	700000
	101.26	403709	380611	380577	380521	245912	199742	162241		13.83	361629	569.24	780000
	112.81	404919	371449	371434	371408	260895	211913	172127		12.41	371396	524.59	700000
	128.16	401734	378748	378714	378659	245912	199742	162241		10.92	376688	468.18	780000
	150.26	400524	377607	377574	377518	245912	199742	162241		9.32	377526	400.47	780000
	184.41	399100	376265	376232	376177	245912	199742	162241		7.59	376203	324.99	780000
	205.45	404919	371449	371434	371408	260895	211913	172127		6.81	371425	287.89	700000
	233.90	384299	351014	351000	325324	255307	207374	168440		5.99	344916	235.15	590000
	274.56	343510	311204	311192	293993	244736	206821	167990		5.10	311192	180.64	480000
4	247.02	397304	374572	313435	254588	157090	127596	103641	1400	5.67	301870	201.38	780000
	288.79	396446	373763	349654	284008	175242	142341	115617		4.85	352912	201.38	780000
	312.64	396036	373376	369631	300234	185254	150473	122222		4.48	373349	196.79	780000
	340.36	395614	372978	346815	281702	173819	141185	114678		4.11	367733	177.82	780000
	368.47	395235	372621	366630	297796	183750	149251	121230		3.80	372602	166.58	780000
	426.30	394578	372002	337118	273825	168959	137238	111472		3.28	371988	143.55	780000
	461.52	394240	371683	356378	289469	178612	145078	117840		3.03	371672	132.50	780000
	495.06	393952	371412	329696	267796	165239	134216	109017		2.83	371403	123.66	780000
	541.09	393602	371081	371048	314636	194141	157691	128085		2.59	371075	113.08	780000
	598.20	393224	370725	326609	265289	163692	132960	107997		2.34	370722	102.06	780000
	647.61	392939	370457	345269	280446	173044	140556	114167		2.16	370455	94.14	780000
	760.70	392394	369943	369910	367269	245912	199742	162241		1.84	369945	80.09	780000
	864.90	404919	371449	371434	371408	260895	211913	172127		1.62	383204	73.04	700000
	901.57	391865	369444	369411	347499	214418	174162	141463		1.55	369449	67.37	780000
	988.90	404919	371449	371434	371408	232725	189031	153541		1.42	389125	65.01	700000
	1061.47	404919	371449	371434	371408	260895	211913	172127		1.32	392292	60.92	700000
	1106.47	391284	368896	368864	365680	245912	199742	162241		1.27	368904	55.12	780000
	1232.67	404919	371449	371434	371408	260895	211913	172127		1.14	399063	53.52	700000
	1336.98	390798	368438	368405	364983	245912	199742	162241		1.05	387658	47.89	780000
	1489.48	404919	371449	371434	371408	260895	211913	172127		0.94	407800	45.10	700000
	1695.80	384299	351014	345951	319680	255307	207374	168440		0.83	392822	38.36	590000
	1990.55	343510	311204	311192	289353	240873	206821	167990		0.70	357629	29.45	480000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

PtN	PS PSB	S-SB-SU FS-FSR-SFD
37001	320.6	180.6
37002	208.0	148.0
37003	139.1	104.1
37004	110.9	84.6

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h							10000 Hours Life				T_{max} [Nm]
		T_N [Nm]											
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	4.17	498641	461633	461612	461578	350767	284912	231420	500	119.90	269811	3492.24	910000
	4.84	474962	435703	435685	435655	344594	279897	227347		103.31	277180	3091.21	760000
	5.87	430532	391610	391595	391570	339589	275832	224045		85.18	289431	2661.38	610000
2	16.88	489791	461633	461612	461578	307078	249424	202596	500	29.62	359302	1185.53	910000
	19.58	474962	435703	435685	435655	340715	276747	224788		25.54	407135	1158.32	760000
	21.36	484570	461633	461612	461578	298871	242759	197181		23.41	375288	978.67	910000
	25.04	481332	461633	461612	461578	294777	239433	194480		19.97	388225	863.64	910000
	29.05	474962	435703	435685	435655	327067	265661	215784		17.21	421655	808.36	760000
	35.66	474962	435703	424900	392634	322179	261691	212559		14.02	361319	564.30	760000
	43.20	430532	391610	391595	387311	322418	275832	224045		11.57	371654	479.01	610000
3	70.58	465132	461633	461612	426408	263108	213710	173586	1400	19.84	347209	784.05	910000
	81.88	474962	435703	435685	435655	291929	237120	192601		17.10	402794	783.95	760000
	89.33	462438	461633	461612	461578	298871	242759	197181		15.67	423288	754.94	910000
	104.43	460816	460798	460743	460653	298871	242759	197181		13.41	443592	677.05	910000
	122.43	459287	459269	459215	452750	294777	239433	194480		11.44	445884	580.57	910000
	128.16	458869	458851	458797	458707	298160	242181	196712		10.92	458691	570.10	910000
	150.26	457487	457469	457415	449974	294777	239433	194480		9.32	453615	481.19	910000
	174.32	474962	435703	435685	435655	327067	265661	215784		8.03	435667	398.18	760000
	213.93	474962	435703	397002	366854	322179	261691	212559		6.54	385012	286.59	760000
	259.20	430532	391610	391595	373409	310845	275832	224045		5.40	391593	240.68	610000
4	262.55	453418	453400	453347	421351	259988	211176	171528	1400	5.33	453341	284.29	910000
	288.72	452831	452814	452760	419650	258938	210323	170836		4.85	452763	258.36	910000
	337.54	451925	451907	451854	418052	257953	209523	170185		4.15	451869	220.63	910000
	370.53	451417	451399	451346	409566	252716	205269	166730		3.78	451368	200.74	910000
	439.75	450543	450525	450472	399729	246646	200339	162726		3.18	450504	168.55	910000
	468.96	450234	450216	450163	450075	298025	242072	196623		2.99	450199	158.37	910000
	514.10	449809	449791	449738	418052	257953	209523	170185		2.72	449779	143.94	910000
	556.57	449457	449440	449387	449299	290867	236258	191901		2.52	449431	133.25	910000
	614.70	449037	449019	448966	436730	294777	239433	194480		2.28	449014	120.45	910000
	672.86	448671	448654	448601	448513	298160	242181	196712		2.08	448652	109.79	910000
	762.86	448191	448174	448121	435392	294777	239433	194480		1.84	448176	97.02	910000
	884.99	474962	435703	435685	434105	327067	265661	215784		1.58	450674	83.78	760000
	926.40	474962	435703	435685	433963	330821	268710	218261		1.51	453039	80.49	760000
	1086.12	474962	435703	435685	433491	327067	265661	215784		1.29	461361	70.02	760000
	1332.97	461987	426904	384582	355377	321889	261691	212559		1.05	459411	56.75	760000
	1615.02	430532	391610	391595	367597	306007	275832	224045		0.87	437630	44.80	610000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	PS PSB	S-SB-SU FS-FSR-SFD
45001	320.6	180.6
45002	212.4	152.4
45003	146.2	111.2
45004	117.1	90.8

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX

n_2 X h

T_N [Nm]

Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000
1	4.17	603872	559054	559029	558987	432833	351570	285563
	4.65	588039	539433	539411	539374	428906	348380	282973
	5.29	549663	502056	502036	502003	421026	341980	277774
	6.21	521843	472764	472747	469914	391181	338659	275077
2	17.45	603872	559054	559029	558987	405972	329752	267842
	20.41	603872	559054	559029	558987	398939	324040	263202
	22.73	588039	539433	539411	539374	428906	348380	282973
	25.04	603872	559054	559029	558987	393036	319244	259307
	27.9	588039	539433	539411	539374	423905	344318	279673
	31.76	549663	502056	502036	502003	421026	341980	277774
	37.29	521843	472764	468531	432951	360411	333042	275077
3	72.99	603872	559054	559029	557245	343839	279284	226849
	85.33	603872	559054	559029	558987	383572	311557	253063
	99.76	603872	559054	559029	558987	378756	307646	249886
	111.14	588039	539433	539411	539374	408504	331808	269512
	122.43	603872	559054	559029	558987	371782	301981	245285
	150.26	603872	559054	559029	527010	393036	319244	259307
	167.4	588039	539433	539411	539374	423905	344318	279673
	190.59	549663	502056	502036	502003	421026	341980	277774
	223.71	521843	472764	449880	415717	346065	319785	275077
4	264.6	603872	559054	559029	557245	343839	279284	226849
	291.97	603872	559054	559029	557245	343839	279284	226849
	309.33	603872	559054	559029	550249	339522	275778	224001
	341.33	603872	559054	559029	550249	339522	275778	224001
	379.56	603872	559054	559029	557245	343839	279284	226849
	418.91	603872	559054	559029	540117	333271	270700	219877
	443.73	603872	559054	559029	550249	339522	275778	224001
	518.76	603872	559054	559029	558987	378756	307646	249886
	533.33	603872	559054	559029	550249	339522	275778	224001
	601.04	603872	559054	553721	511672	393036	319244	259307
	654.55	603872	559054	559029	540117	333271	270700	219877
	765.22	603872	559054	559029	558987	371782	301981	245285
	852.5	588039	539433	539411	539374	400982	325699	264550
	939.13	603872	559054	550367	508573	393036	319244	259307
	1046.25	588039	539433	539411	539374	423905	344318	279673
	1191.18	549663	502056	502036	496390	413221	341980	277774
	1398.21	521843	472764	442038	408470	340032	314210	275077

10000 Hours Life

n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
500	119.90	332936	4309.28	1150000
	107.53	340877	3956.87	990000
	94.52	347813	3548.91	860000
	80.52	351509	3055.38	680000
500	28.65	479772	1531.19	1150000
	24.50	494151	1348.64	1150000
	22.00	539285	1321.63	990000
	19.97	499809	1111.86	1150000
	17.92	539315	1076.59	990000
	15.74	487651	855.03	860000
	13.41	407449	608.65	680000
1000	13.70	507021	790.60	1150000
	11.72	558973	745.64	1150000
	10.02	558987	637.50	1150000
	9.00	539381	552.52	990000
	8.17	559002	519.81	1150000
	6.66	547104	414.72	1150000
	5.97	539404	366.52	990000
	5.25	502034	299.99	860000
	4.47	453611	230.78	680000
1400	5.29	559026	347.93	1150000
	4.80	559030	315.71	1150000
	4.53	559033	297.95	1150000
	4.10	559036	269.67	1150000
	3.69	559040	242.70	1150000
	3.34	559042	219.68	1150000
	3.16	559044	207.85	1150000
	2.70	559048	177.59	1150000
	2.63	559048	172.99	1150000
	2.33	559051	153.25	1150000
	2.14	559052	140.76	1150000
	1.83	559055	120.37	1150000
	1.64	555585	107.20	990000
	1.49	570303	99.98	1150000
	1.34	568761	89.67	990000
	1.18	539595	74.91	860000
	1.00	521767	61.39	680000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

P_{tN}	S-SB-SU FS-FSR-SFD
55001	232.4
55002	183.0
55003	132.0
55004	109.2

B

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX		n_2 X h											
		T_N [Nm]							10000 Hours Life				T_{max} [Nm]
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	
1	4.17	719388	665997	665967	665917	577111	468760	380751	500	119.90	443915	5745.71	1350000
	4.84	685413	628758	628732	628689	567004	460551	374083		103.31	456079	5086.36	1050000
	5.87*	642181	584126	584103	584066	490718	451414	366662		85.18	437751	4025.22	820000
2	16.88	719388	665997	665967	665917	512912	416614	338396	500	29.62	600143	1980.20	1350000
	19.58	685413	628758	628732	628689	567004	460551	374083		25.54	615495	1751.11	1050000
	21.36	719388	665997	665967	665917	499121	405412	329297		23.41	626738	1634.39	1350000
	25.04	715342	665997	665967	665917	492159	399757	324704		19.97	648180	1441.92	1350000
	29.05	685413	628758	628732	628689	546070	443547	360272		17.21	628627	1205.15	1050000
	35.66	685413	628758	628732	628689	537835	436858	354839		14.02	628654	981.81	1050000
	43.2*	642181	584126	582936	538669	448416	420501	366662		11.57	516335	665.48	820000
3	70.58	690275	665997	665967	656241	404923	328900	267150	1000	14.17	591109	953.34	1350000
	82.51	687453	665997	665967	641185	395633	321354	261021		12.12	605251	834.92	1350000
	89.33	686098	665997	665967	665917	477522	387868	315047		11.19	665906	848.11	1350000
	104.43	683582	665997	665967	665917	466566	378970	307819		9.58	665922	726.10	1350000
	122.43	681211	665997	665967	665917	492159	399757	324704		8.17	665936	619.25	1350000
	128.16	680562	665997	665967	665917	459373	373127	303073		7.80	665939	591.20	1350000
	150.26	678418	665997	665967	665917	492159	399757	324704		6.66	665951	504.81	1350000
	174.32	685413	628758	628732	628689	546070	443547	360272		5.74	628726	410.75	1050000
	213.93	685413	628758	628732	628689	537835	436858	354839		4.67	628735	334.19	1050000
	259.2*	642181	584126	561094	518485	431614	404745	366662		3.86	575484	252.83	820000
4	248.43	672652	665997	665967	656241	404923	328900	267150	1400	5.64	665961	441.91	1350000
	282.31	671403	665997	665967	656241	404923	328900	267150		4.96	665967	388.63	1350000
	332.13	669925	665997	665967	656241	404923	328900	267150		4.22	665975	330.66	1350000
	388.28	668613	665997	665967	641185	395633	321354	261021		3.61	665981	282.86	1350000
	451.14	667446	665997	665967	665917	459373	373127	303073		3.10	665986	242.90	1350000
	482.37	666953	665997	665967	641185	395633	321354	261021		2.90	665988	227.23	1350000
	522.21	666389	665997	665967	665917	477522	387868	315047		2.68	665990	210.00	1350000
	592	665543	665517	665439	631300	389533	316399	256996		2.36	665507	184.79	1350000
	610.51	665343	665317	665239	665109	466566	378970	307819		2.29	665310	179.25	1350000
	715.77	664359	664333	664255	664125	492159	399757	324704		1.96	664334	153.20	1350000
	749.26	664091	664065	663986	663856	459373	373127	303073		1.87	664068	146.10	1350000
	878.45	663203	663177	663099	662969	492159	399757	324704		1.59	663187	124.06	1350000
	1019.08	685413	628758	628732	628689	544677	443547	360272		1.37	660949	106.54	1050000
	1078.1	662159	656578	591487	546570	484736	393728	319807		1.30	662151	101.28	1350000
	1250.69	685413	628758	628732	623431	537835	436858	354839		1.12	676624	89.16	1050000
	1515.32*	642181	584126	552144	510215	424729	398288	366662		0.92	648025	70.14	820000

5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage

(*) NOTA
- Non disponibili per le versioni

PS-PN1
SD-SN1

(*) NOTE
- Not available for versions

PS-PN1
SD-SN1

(*) HINWEIS
- Nicht verfügbar für die Ausführungen

PS-PN1
SD-SN1

P_{tN}	S-SB-SU FS-FSR-SFD
68001	232.4
68002	192.6
68003	144.0
68004	118.2

1.2 Prestazioni — *1.2 Performances* — 1.2 Leistungen

EX



Stadio Stage Stufe	ir	n_2 X h — T_N [Nm] 10000	20000	50000	100000	500000	1000000	2000000	10000 Hours Life n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]	T_{max} [Nm]
2	**14.98**	914850	851086	851046	764538	471746	383177	311236	500	33.38	532551	1980.23	1500000
	18.95	914850	851086	851046	743981	459061	372874	302867		26.39	556101	1634.79	1500000
	22.22	822718	822679	820535	733603	452658	367672	298643		22.50	575166	1441.60	1500000
3	**62.63**	914850	851086	743083	603571	372424	302502	245708	500	7.98	645761	586.52	1500000
	73.22	914850	851086	726035	589724	363880	295562	240071		6.83	661221	514.02	1500000
	79.26	914850	851086	851046	711785	439196	356738	289761		6.31	815411	585.62	1500000
	92.67	914850	851086	851046	695455	429120	348553	283113		5.40	827001	508.29	1500000
	108.64	822718	822679	764695	706625	452658	367672	298643		4.60	751130	393.26	1500000
	113.73	914850	851086	843005	684733	422503	343179	278748		4.40	842758	422.05	1500000
	133.33	822718	822679	759768	702072	452658	367672	298643		3.75	765736	326.83	1500000
4	**220.44**	914850	851086	743083	603571	372424	302502	245708	1400	6.35	691635	516.72	1500000
	250.51	914850	851086	743083	603571	372424	302502	245708		5.59	718683	472.67	1500000
	279.01	914850	851086	832848	711785	439196	356738	289761		5.02	832512	491.70	1500000
	294.71	914850	851086	743083	603571	372424	302502	245708		4.75	754585	421.70	1500000
	317.05	914850	851086	830570	711785	439196	356738	289761		4.42	842414	438.08	1500000
	344.54	914850	851086	726035	589724	363880	295562	240071		4.06	772649	369.08	1500000
	373	914850	851086	827871	711785	439196	356738	289761		3.75	851063	375.49	1500000
	436.07	914850	851086	825470	695455	429120	348553	283113		3.21	851070	321.42	1500000
	541.74	914850	851086	822427	695455	429120	348553	283113		2.58	851078	258.34	1500000
	635.14	822718	815303	734476	678701	452658	367672	298643		2.20	806320	208.71	1500000
	664.86	914850	851086	819839	684733	422503	343179	278748		2.11	851085	211.28	1500000
	779.49	822718	812965	732370	676755	452658	367672	298643		1.80	822687	174.23	1500000
5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage												

B

P_{tN}	S-SB-SU FS-FSR-SFD
75002	192.6
75003	144.0
75004	118.2

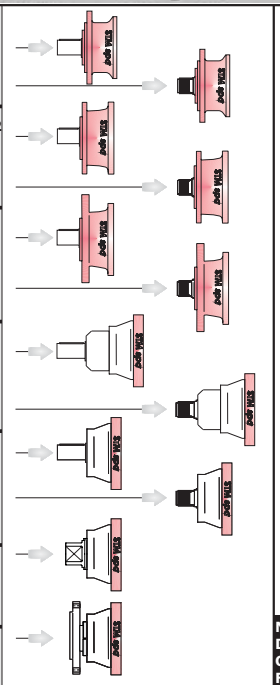
1.2 Prestazioni / *1.2 Performances* / 1.2 Leistungen

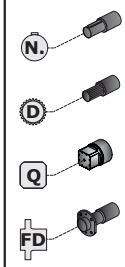
EX		n_2 X h												T_{max} [Nm]
		T_N [Nm]							10000 Hours Life					
Stadio Stage Stufe	ir	10000	20000	50000	100000	500000	1000000	2000000	n_1 [rpm]	n_2 [rpm]	T_N [Nm]	P_1 [kW]		
1	3.7	914850	851086	851046	850980	591161	480172	390021	500	135.14	438699	6399.93		1500000
2	15.49	914850	851086	851046	850980	591161	480172	390021	500	32.28	674095	2423.95		1500000
	18.11	914850	851086	851046	850980	591161	480172	390021		27.61	706450	2172.78		1500000
	22.22	914850	851086	851046	850980	591161	480172	390021		22.50	751154	1882.70		1500000
3	62.63	914850	851086	851046	768523	474204	385174	312858	500	7.98	822243	746.81		1500000
	73.22	914850	851086	851046	850980	529002	429683	349011		6.83	851022	661.56		1500000
	79.26	914850	851086	851046	747935	461501	374856	304477		6.31	851029	611.20		1500000
	92.67	914850	851086	851046	834364	514831	418172	339662		5.40	851041	523.06		1500000
	108.64	914850	851086	851046	822394	507445	412173	334789		4.60	851052	445.58		1500000
	113.73	914850	851086	851046	826546	591161	480172	390021		4.40	851054	426.21		1500000
	133.33	914850	851086	851046	808005	498567	404962	328931		3.75	851063	363.25		1500000
	163.64	914850	851086	851046	817591	575416	467383	379633		3.06	851072	296.41		1500000
4	220.44	914850	851086	851046	768523	474204	385174	312858	1400	6.35	851028	635.81		1500000
	250.51	914850	851086	851046	764259	471574	383037	311123		5.59	851039	559.72		1500000
	279.01	914850	851086	851046	747935	461501	374856	304477		5.02	851046	502.65		1500000
	294.71	914850	851086	851046	743694	458885	372730	302751		4.75	851050	475.61		1500000
	317.05	914850	851086	851046	747935	461501	374856	304477		4.42	851054	442.57		1500000
	344.54	914850	851086	851046	829633	511912	415801	337736		4.06	851059	406.53		1500000
	373	914850	851086	851046	747935	461501	374856	304477		3.75	851063	375.49		1500000
	436.07	914850	851086	851046	834364	514831	418172	339662		3.21	851070	321.42		1500000
	463.38	914850	851086	851046	747935	461501	374856	304477		3.02	851073	302.40		1500000
	541.74	914850	851086	851046	834364	514831	418172	339662		2.58	851078	258.34		1500000
	635.14	914850	851086	851046	822394	507445	412173	334789		2.20	851083	220.29		1500000
	779.49	914850	851086	851046	808005	498567	404962	328931		1.80	851089	180.24		1500000
	956.64	914850	851086	851046	790731	575416	467383	379633		1.46	875836	150.45		1500000
5-6	5,6 stadi/stages/stufen A richiesta / On request / Auf Anfrage													

P_{tN}	S-SB-SU FS-FSR-SFD
80001	232.4
80002	192.6
80003	147.9
80004	121.1

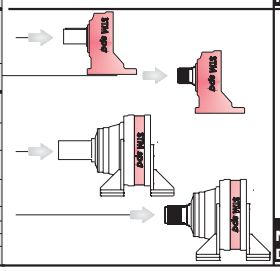
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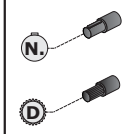
25 20 10	70 50 40 35 30	80	100 95 90	200 180 150	280 250	300	350	360 420	650 600	850 800	1200 1000	2000 1600 1500	3200 3100 3000 2600 2500	4500 3700	5500	8000 7500 6800	
ø38-ø40 ø42 ø50 ø48	ø60 ø65 ø50	ø80	ø90 ø100	ø90 ø100													**RN1-LN1** **RN2** **RN3** **RN4**
B40x36	B58x53	B70x64	B80x74	B80x74													**RD**
ø60 ø65 ø50	ø60 ø65	ø80	ø90														**MN1** **MN2-LN2** **MN3**
	ø60 ø65																**MXN1** **MXN2**
	B58x53																**MXD**
B58x53	B58x53	B70x64	B80x74														**MD-LD**
ø38 ø42 ø50 ø48	ø60 ø65 ø50	ø80	ø90 ø100	ø90 ø100	ø110	ø120											**TN1** **TN2** **TN3** **TN4**
B40x36	B58x53	B70x64	B80x74	B80x74	B100x94	W120x3											**TD**
				ø90 ø100	ø110	ø120											**HN1** **HN2**
				ø100													**XN1** **XN2**
				B100x94													**XD**
				B80x74	B100x94	W120x3											**HD**
							ø120 ø140	ø120 ø140	ø160	ø170	ø180	ø200	ø230	ø290	ø340	ø340	**SN1** **SN2**
							ø120 ø140	**ø120** **ø140**						ø290	ø340	ø340	**SBN1** **SBN2**
																Only 6800	
							W120x3	**W120x3**								W340x8	**SBD**
							W120x3	**W120x3**	W150x5	W170x5	W170x5	W200x5	W220x5	W280x8	W340x8	W340x8	**SD**
																300x250	**SQ** *Only 7500-8000*
												ø585	ø655	ø730	ø730	ø800	**SFD**
ø38 ø42 ø50 ø48	ø60 ø65	ø80	ø90	ø90 ø100													**PN1** **PN2** **PN3** **PN4**
B40x36	B58x53	B70x64	B80x74	B80x74													**PD**
				ø90 ø100	ø110	ø120											**PHN1** **PHN2**
				ø100													**PXN1** **PXN2**
							ø120 ø140	**ø120** **ø140**	ø160	ø170	ø180	ø200	ø230	ø290			**PSN1** **PSN2**
							ø120 ø140	**ø120** **ø140**						ø290			**PSBN1** **PSBN2**
				B80x74 B100x94	B100x94	W120x3											**PHD** **PXD**
							W120x3	W120x3	W150x5	W170x5	W170x5	W200x5	W220x5	W280x8			**PSD**
							W120x3	**W120x3**						W280x8			**PSBD**





N - Male keyed shaft
D - Male spined shaft
Q - Male square shaft
FD-Drivewheel flange

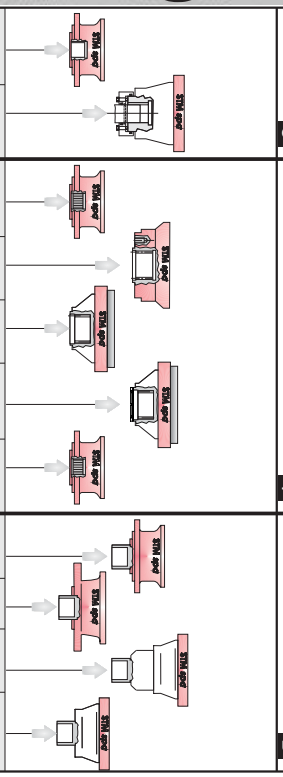


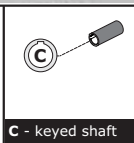


N - Male keyed shaft
D - Male spined shaft

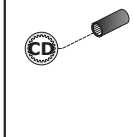
C

25 20 10	70 50 40 35 30	80	100 95 90	200 180 150	280 250	300	350	360 420	650 600	850 800	1200 1000	2000 1600 1500	3200 3100 3000 2600 2500	4500 3700	5500	8000 7500 6800	
ø35	ø50	ø65	ø75														**FC**
	ø65	ø80	ø90	ø100	ø110												**FCB**
A40x36	A58x53	**A70x64**	**A80x74**														**F**
	A58x53																**FP**
A40x36	A58x53	A70x64	A80x74	A80x74	A100x94	N120x5	N120x3		N150x5	N170x5	N200x5	N210x5	N240x5	N280x8	N300x8	N340x8	**FS**
								N140x5									**FSB**
							N120x3	N140x5	N150x5	N170x5	N200x5	N210x5	N240x5	N280x8	N300x8	N340x8	**FSR**
		A70x64	A70x74														**FB**
ø50	ø75	ø90	ø100	ø120													**FU**
				ø120	ø130	ø135											**TU**
				ø120	ø130	ø135											**HU**
							ø145	ø145	ø165	ø180	ø220	ø240	ø260	ø290	ø310	ø350	**SU**

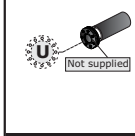




C - keyed shaft

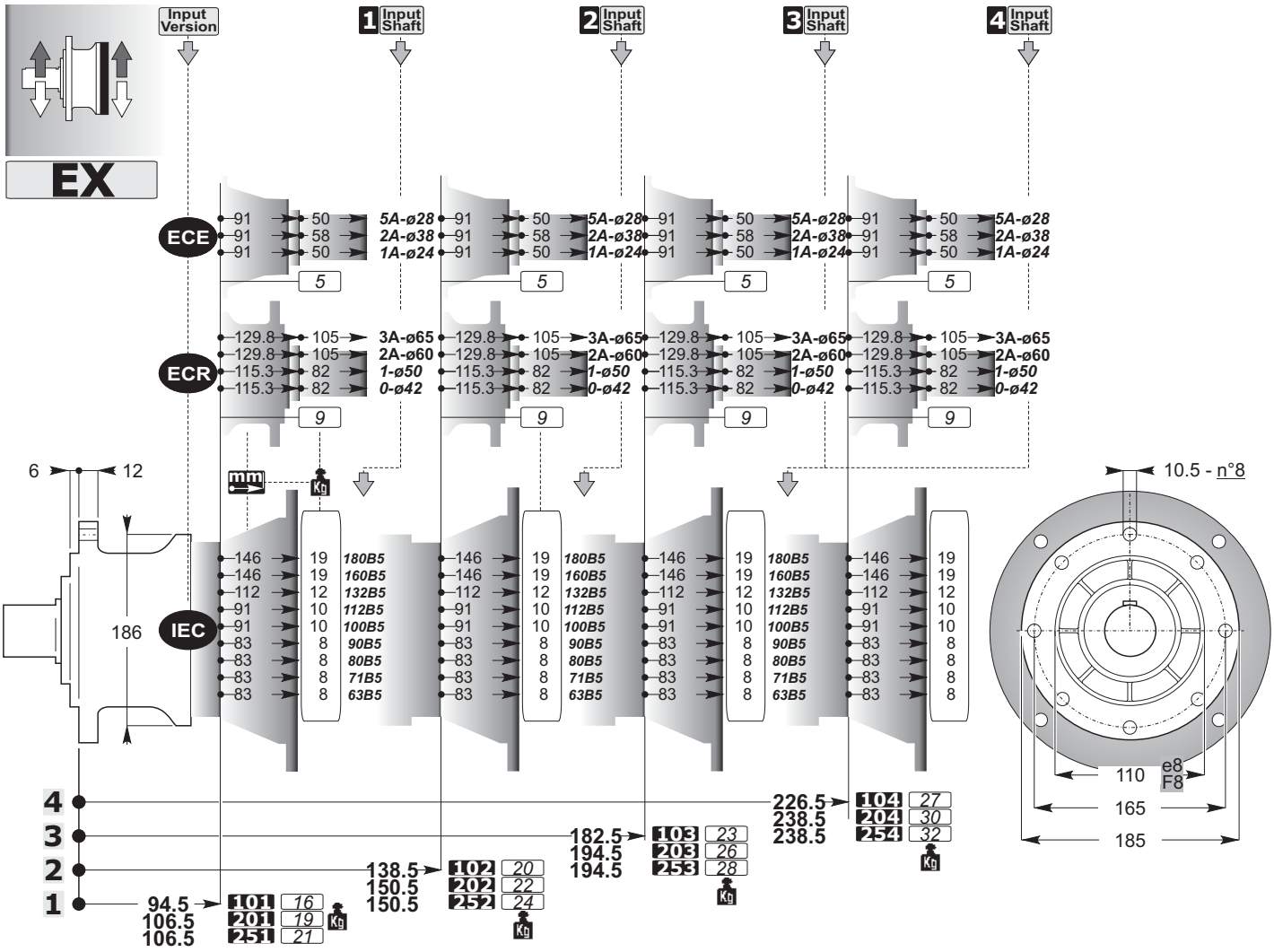


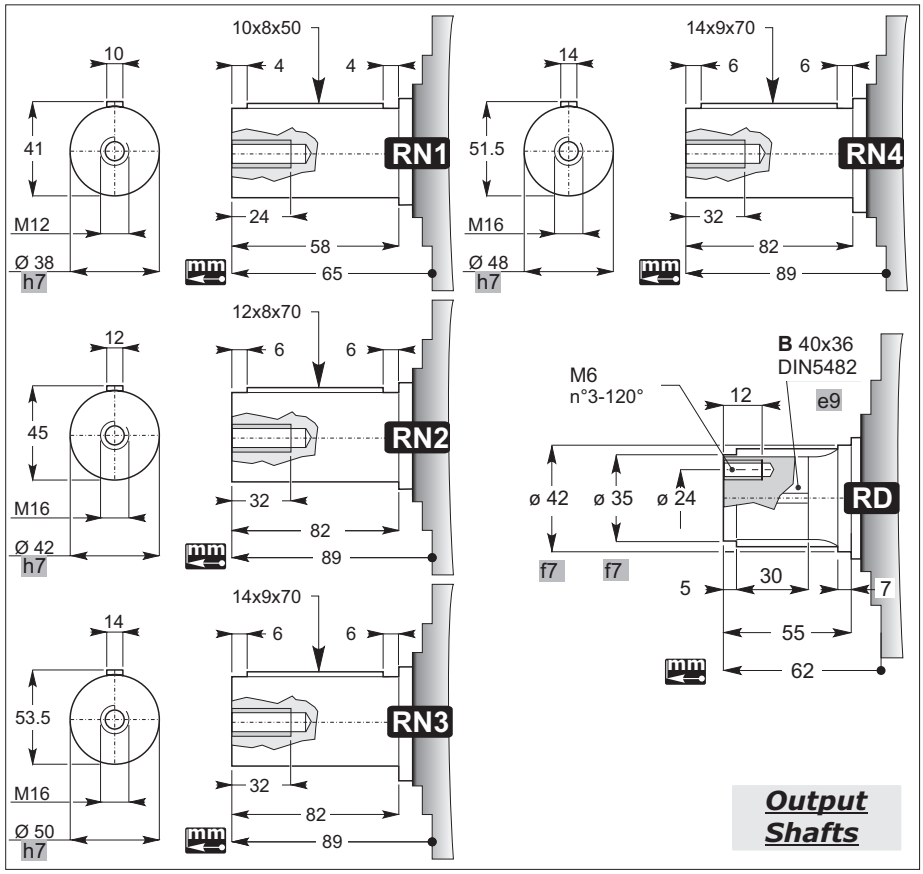
-(CD) - Spined shaft

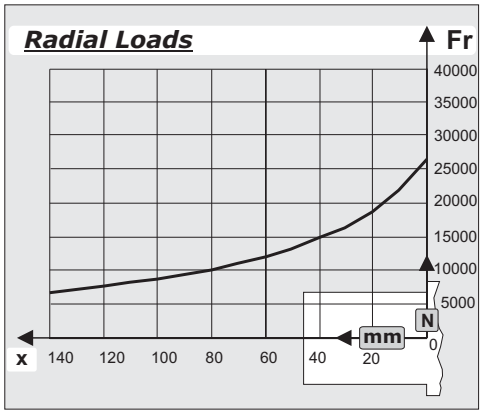


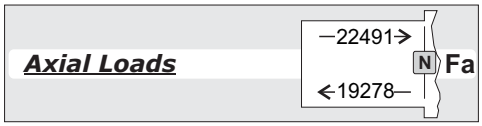
U - Shrink disc

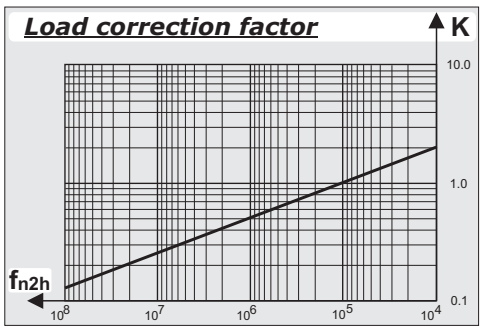
mm
C

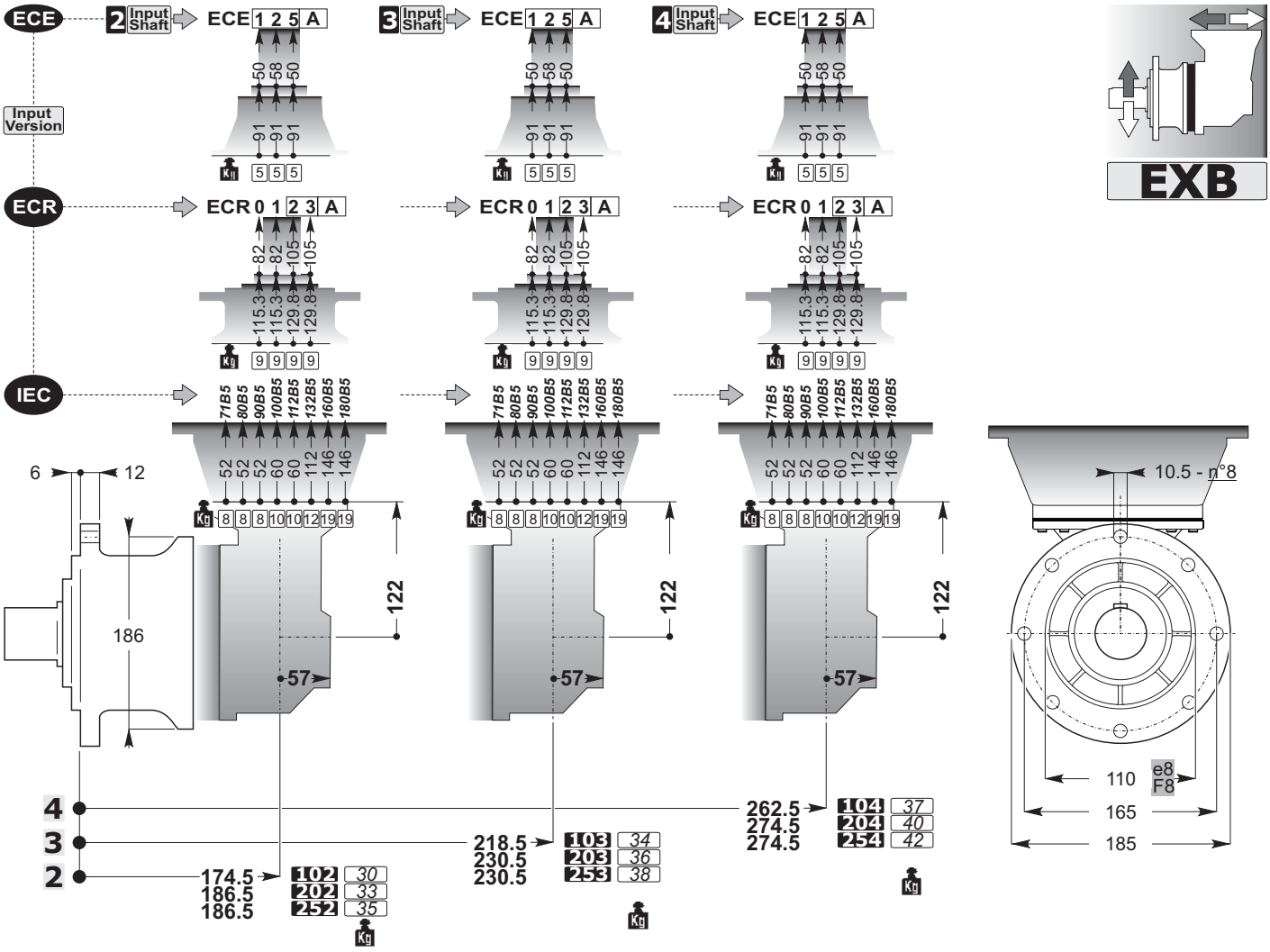

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
5A-ø28
2A-ø38
1A-ø24
3A-ø65
2A-ø60
1-ø50
0-ø42
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
10.5 - n°8
e8
F8
110
165
185
94.5
106.5
106.5
138.5
150.5
150.5
182.5
194.5
194.5
226.5
238.5
238.5

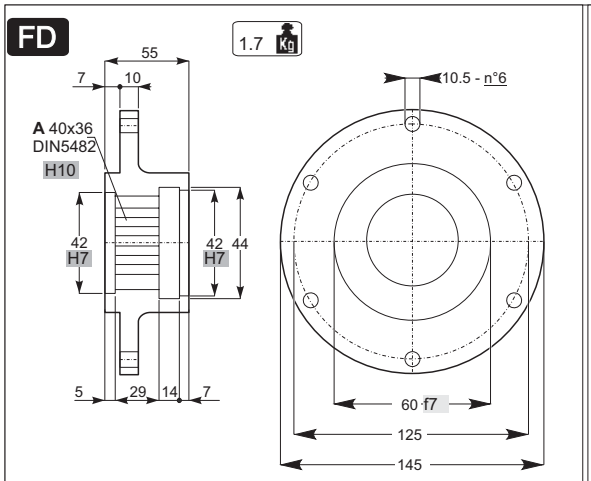

RN1
RN2
RN3
RN4
RD
10x8x50
12x8x70
14x9x70
14x9x70
M6
n°3-120°
B 40x36
DIN5482
e9
Output Shafts

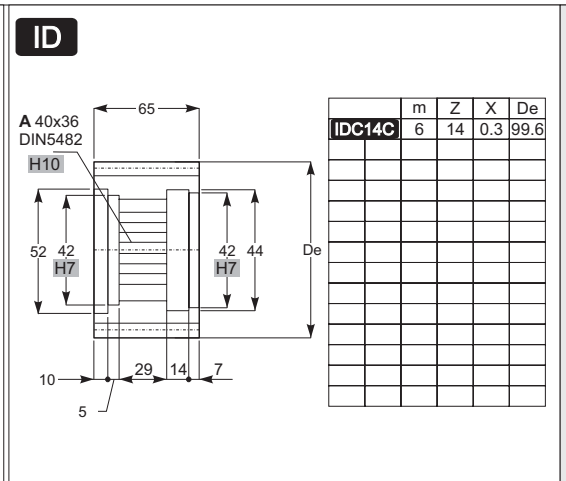

Radial Loads
Fr
N
mm
x


Axial Loads
22491
19278
N
Fa

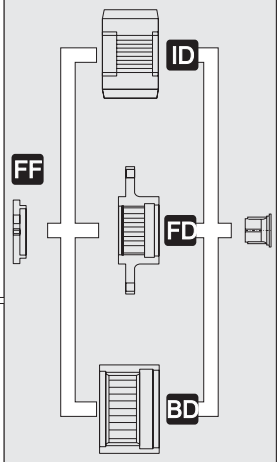

Load correction factor
K
fn2h



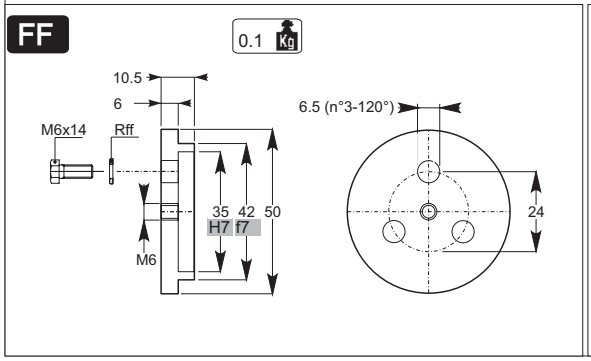


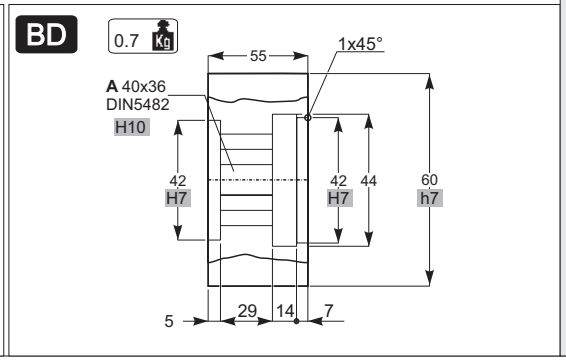


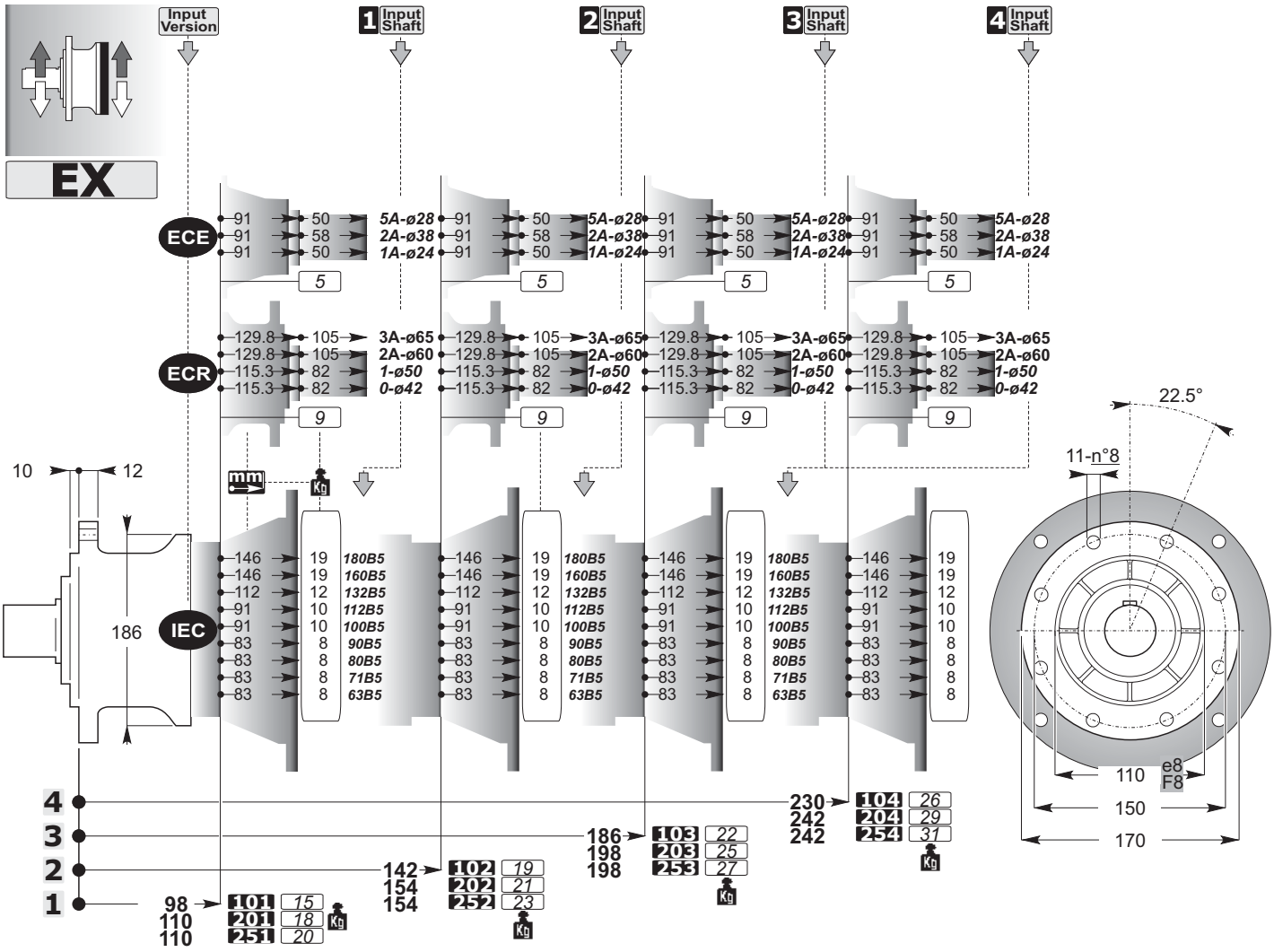
	m	Z	X	De
IDC14C	6	14	0.3	99.6

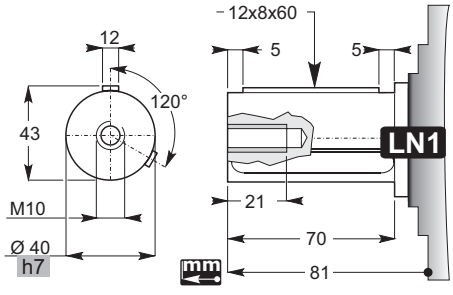


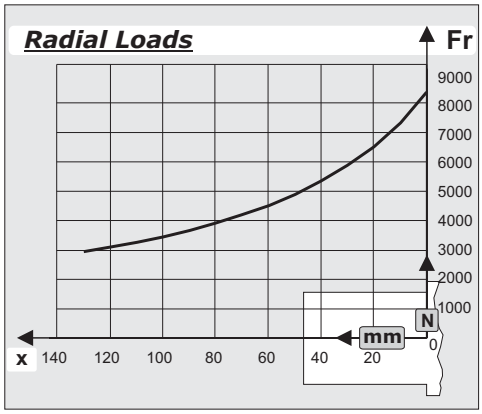
Accessories

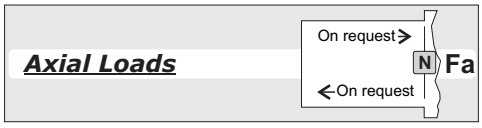


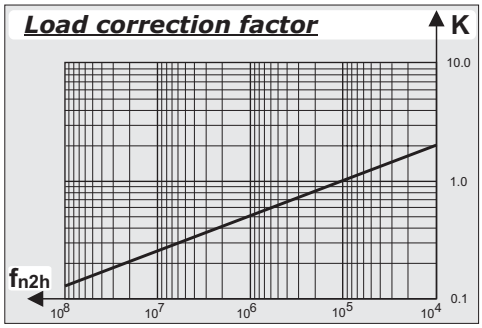




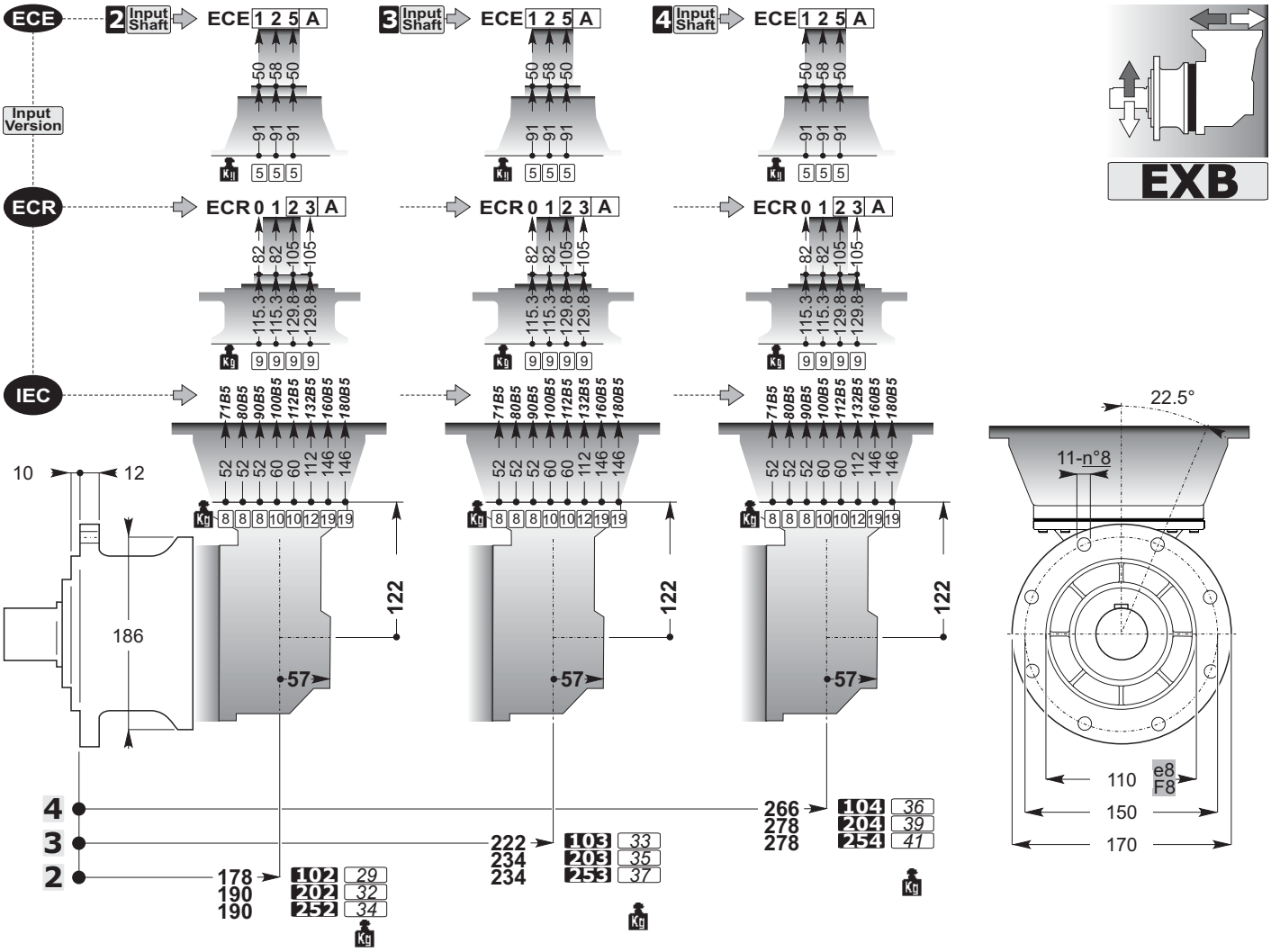


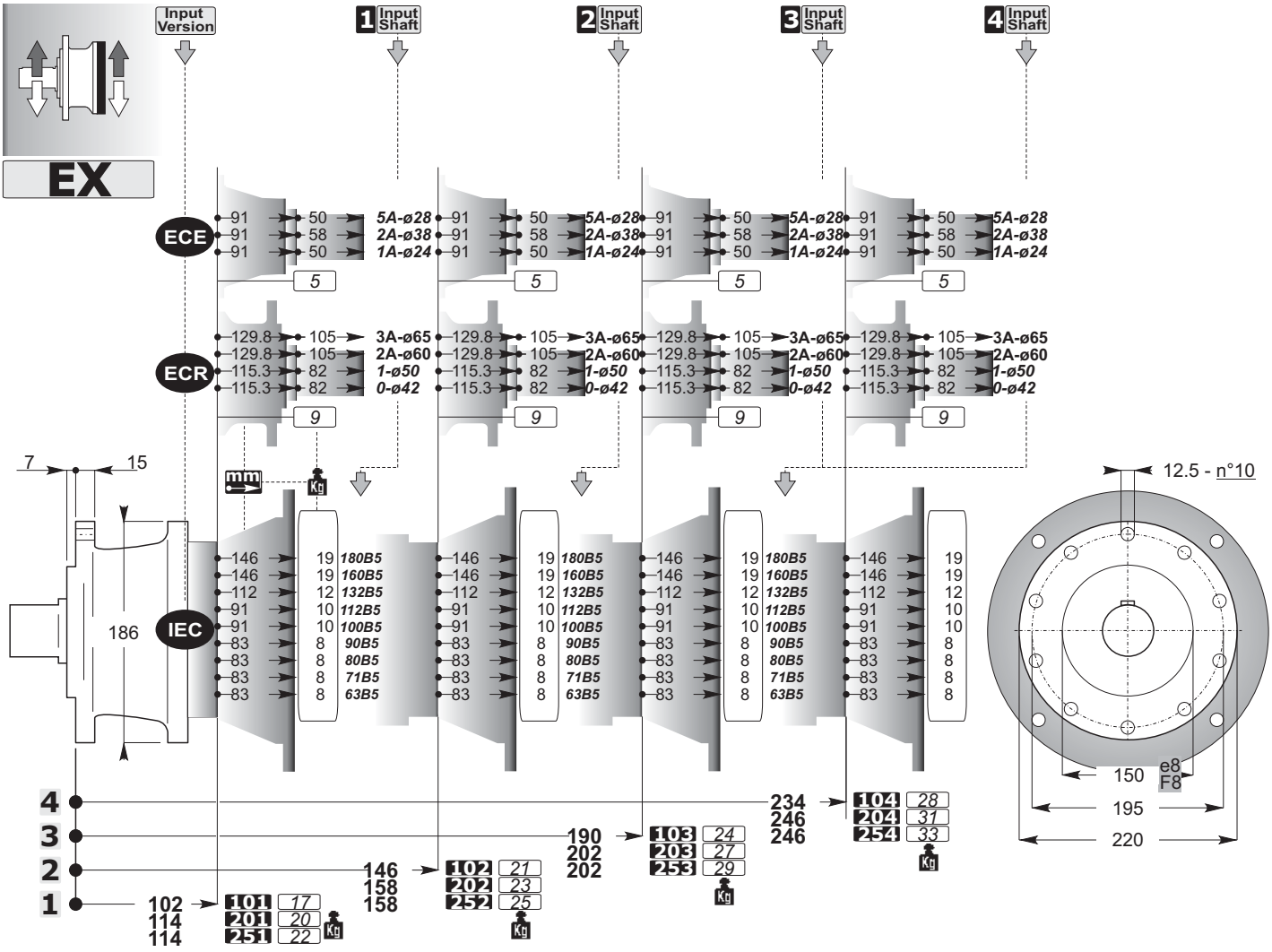


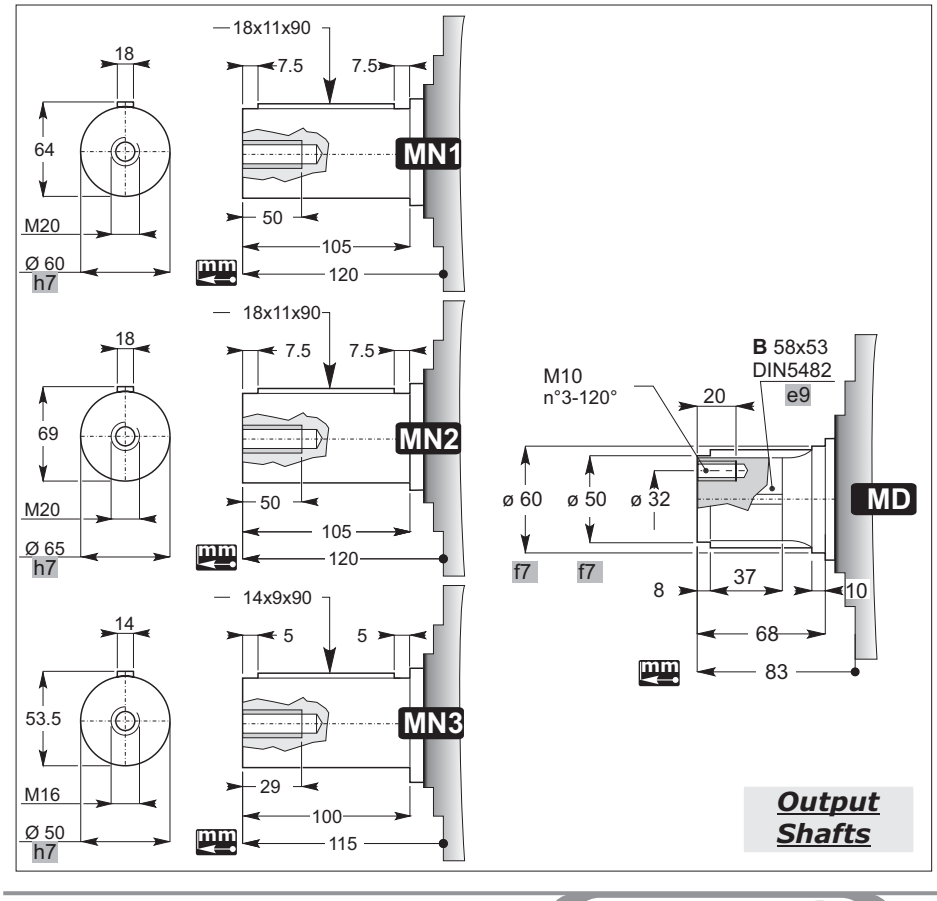




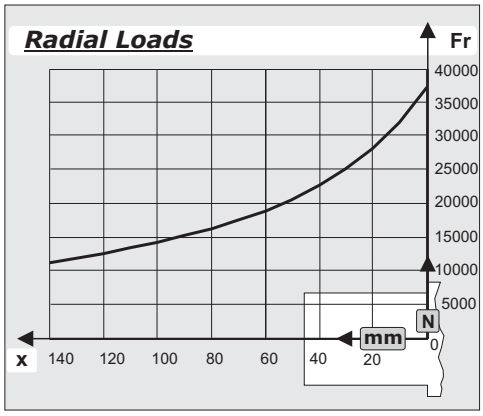
Output Shafts

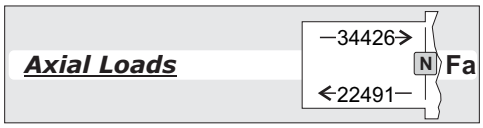

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
50 58 50
91 91 91
5 5 5
EXB
ECR
ECR 0 1 2 3 A
82 82 105 105
115.3 115.3 129.8 129.8
9 9 9 9
IEC
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
52 52 52 60 60 112 146 146
8 8 8 10 10 12 19 19
122
57
186
10
12
22.5°
11-n°8
110
e8
F8
150
170
4
3
2
266
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104 36
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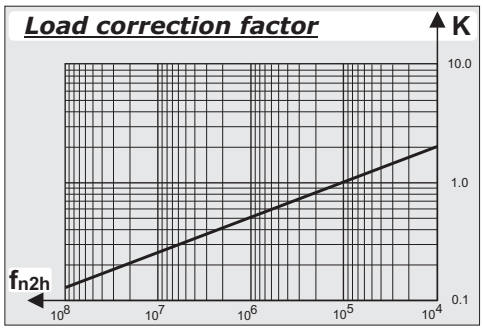


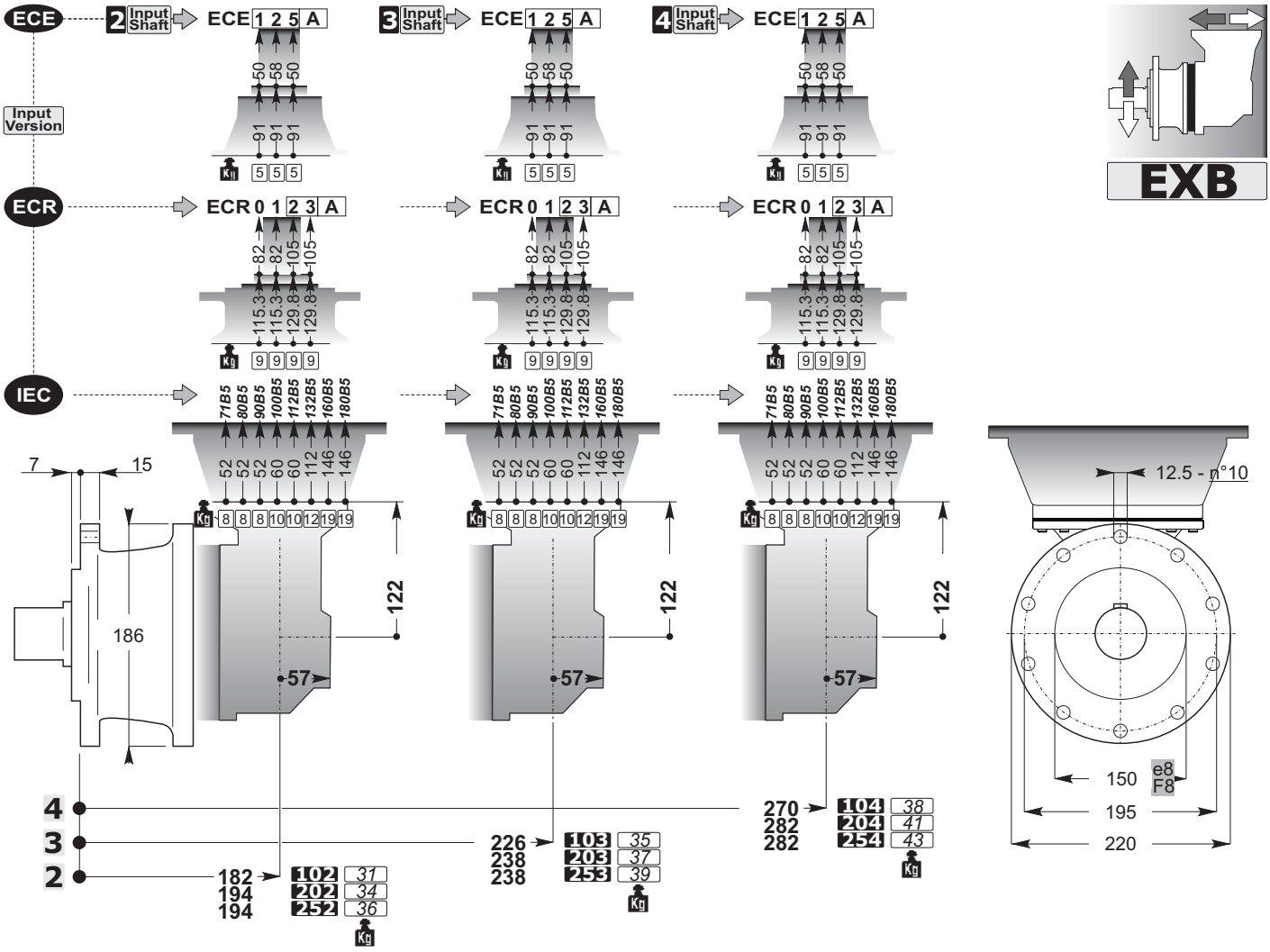


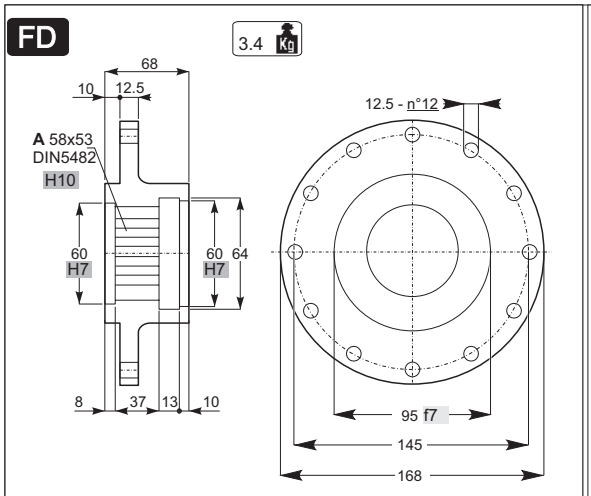
Output Shafts

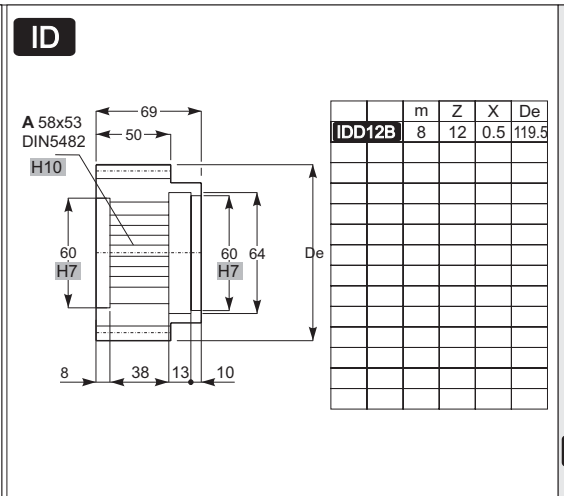


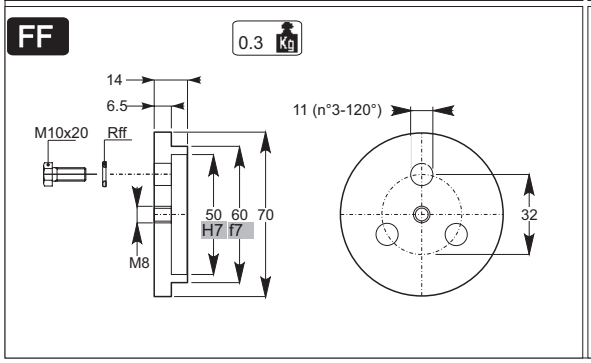


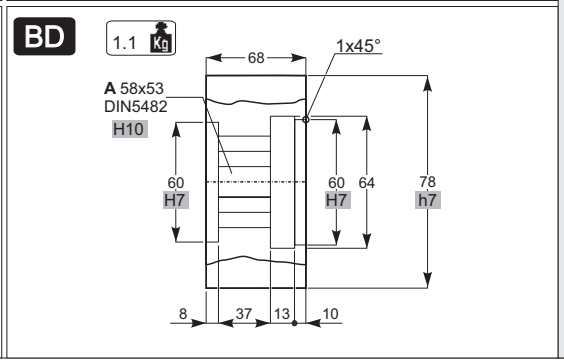


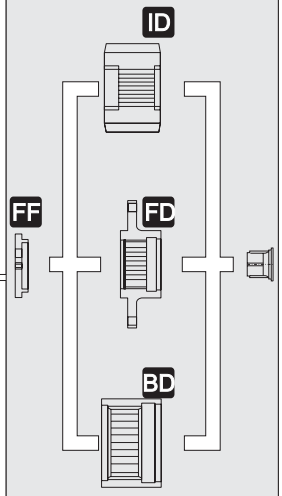






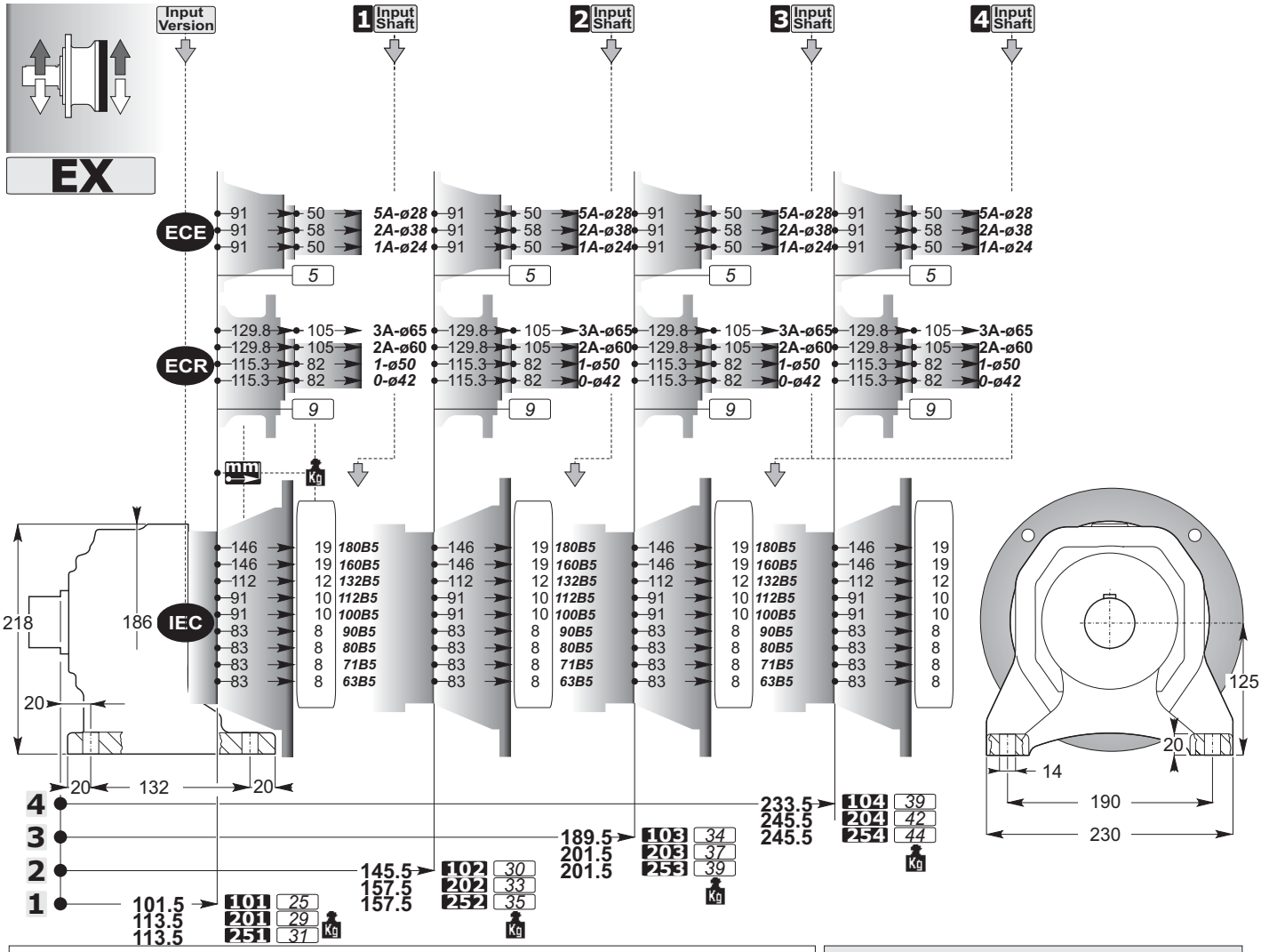


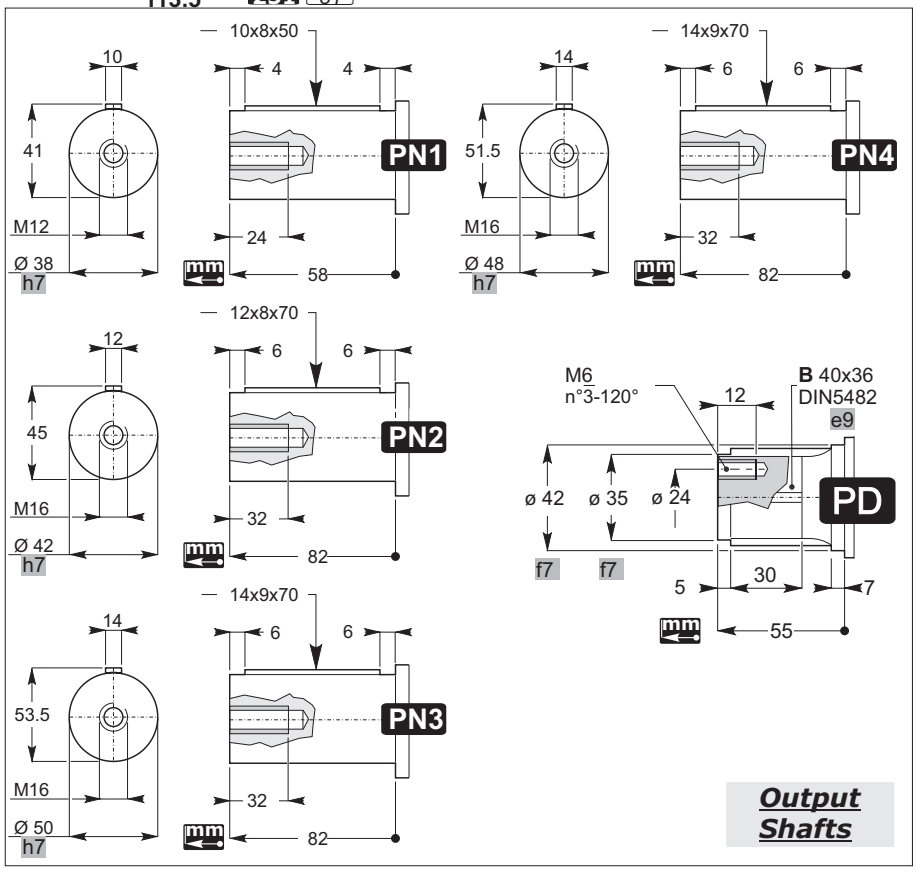


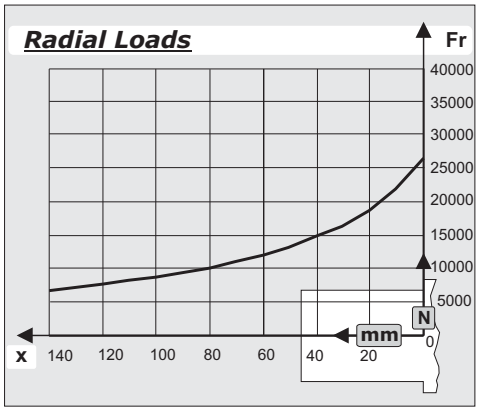


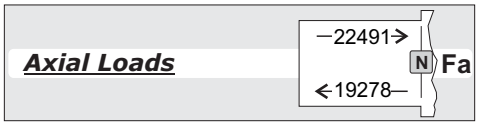
Accessories

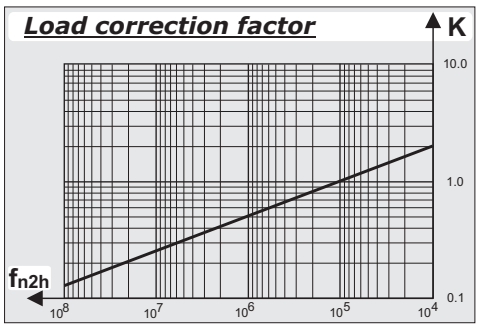
mm
C

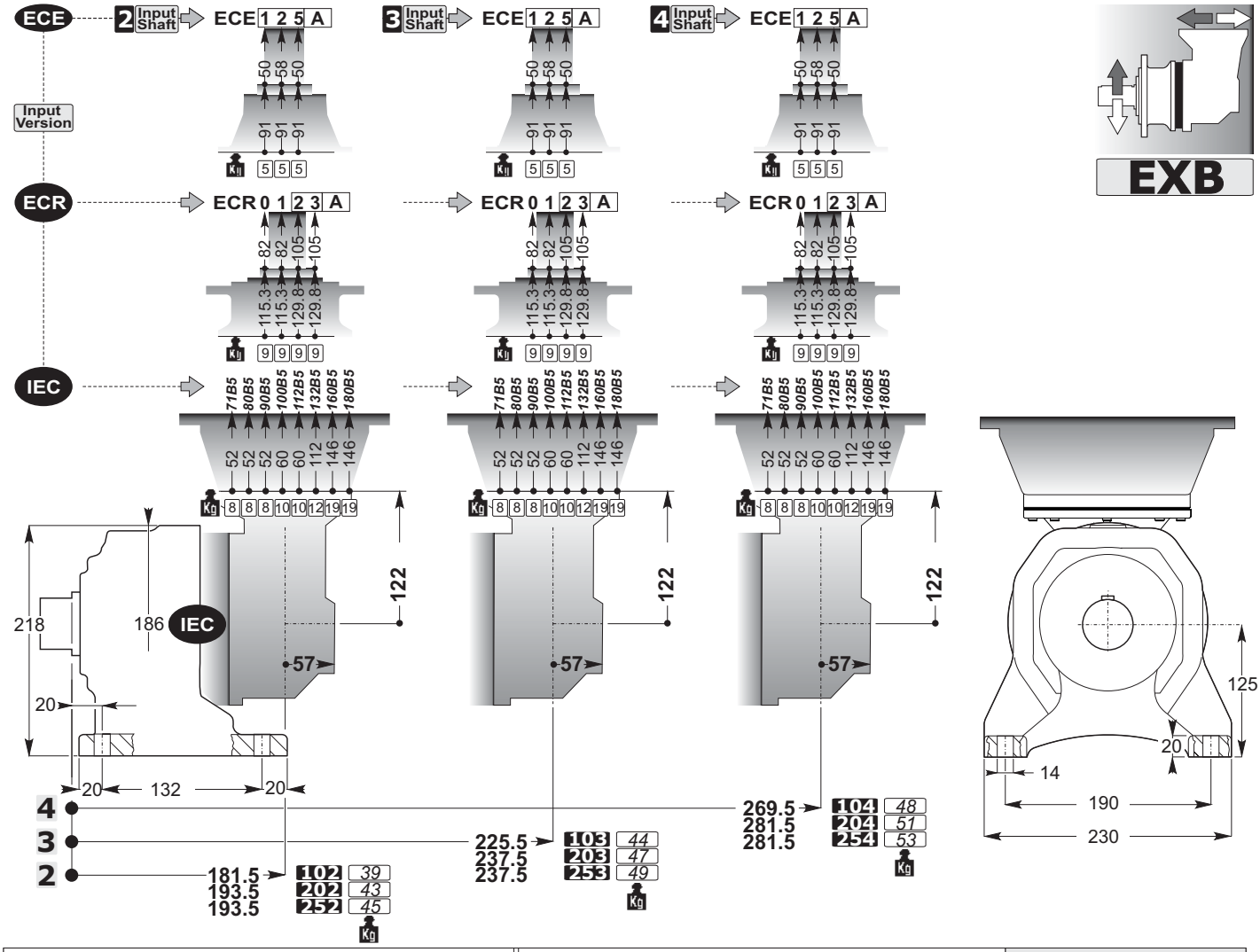

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
5A-ø28
2A-ø38
1A-ø24
3A-ø65
2A-ø60
1-ø50
0-ø42
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
218
186
20
132
125
14
190
230
101.5
113.5
113.5
145.5
157.5
157.5
189.5
201.5
201.5
233.5
245.5
245.5
25
29
31
30
33
35
34
37
39
39
42
44

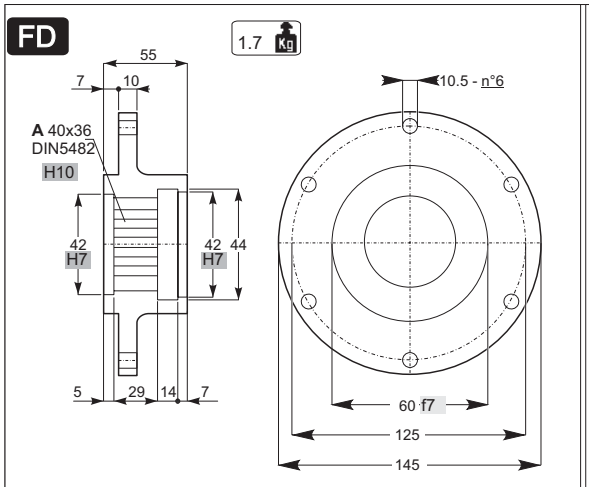

PN1
10x8x50
PN4
14x9x70
PN2
12x8x70
PD
M6
n°3-120°
B 40x36
DIN5482
e9
PN3
14x9x70
Output Shafts

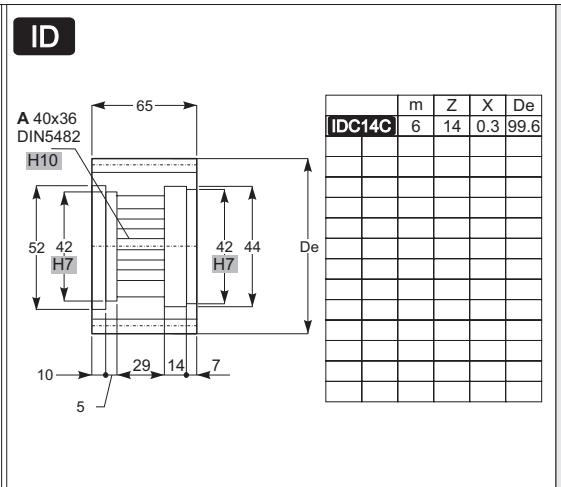

Radial Loads
Fr
40000
35000
30000
25000
20000
15000
10000
5000
x
140
120
100
80
60
40
20
0
mm
N

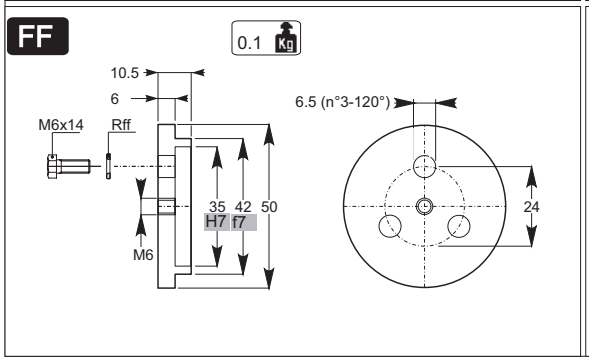

Axial Loads
22491
19278
N
Fa

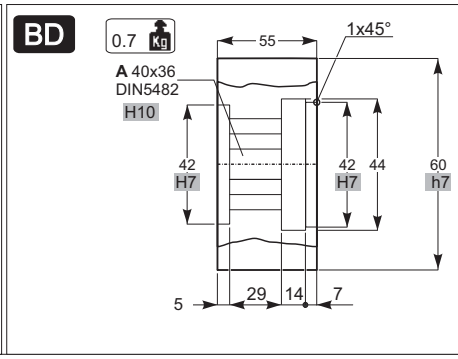

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

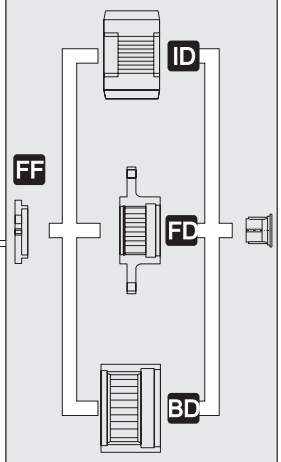






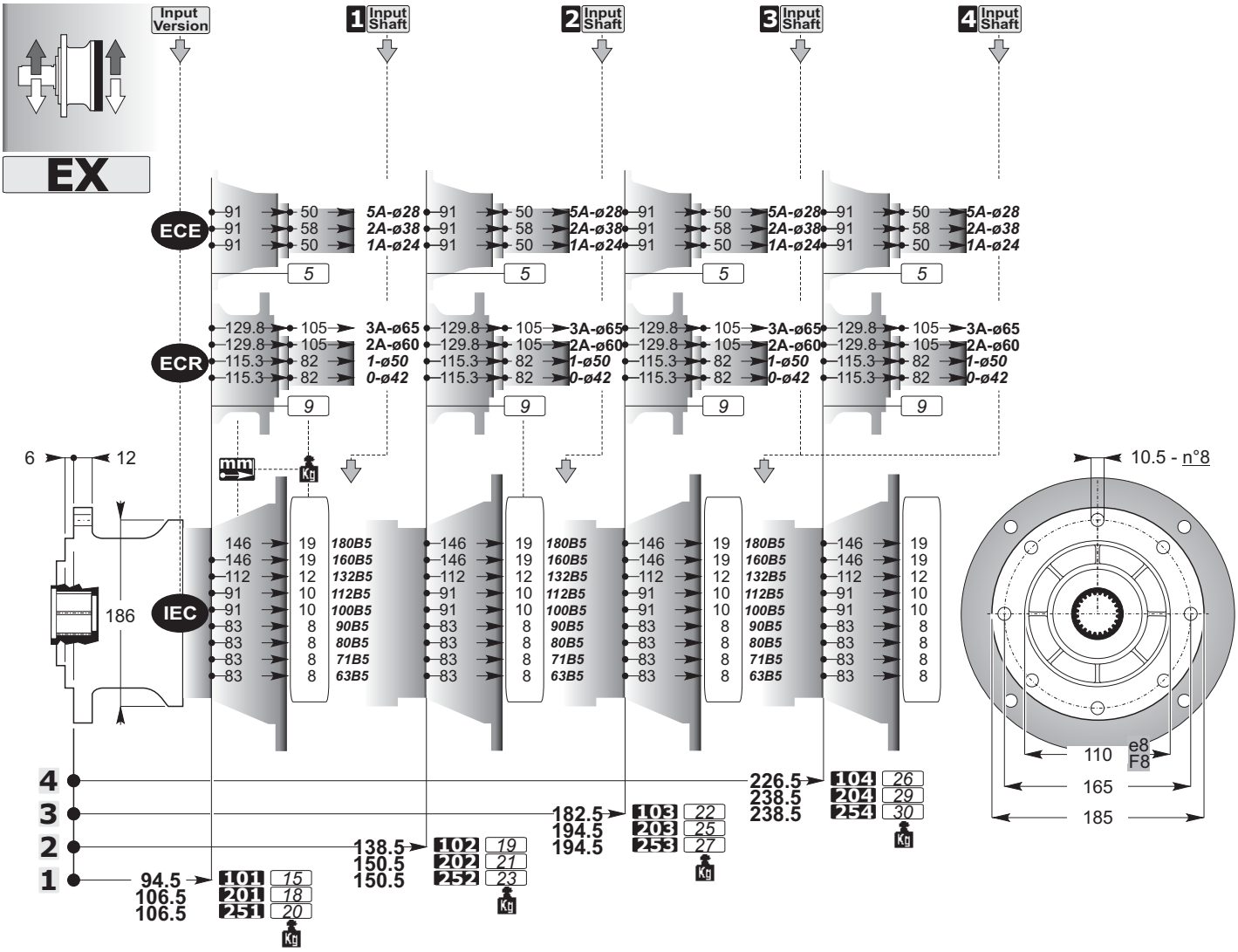


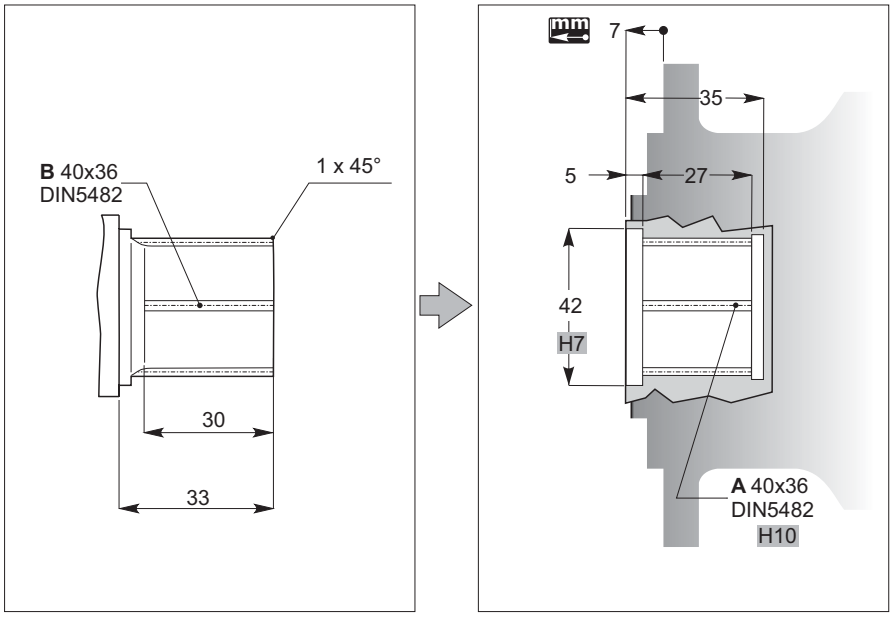




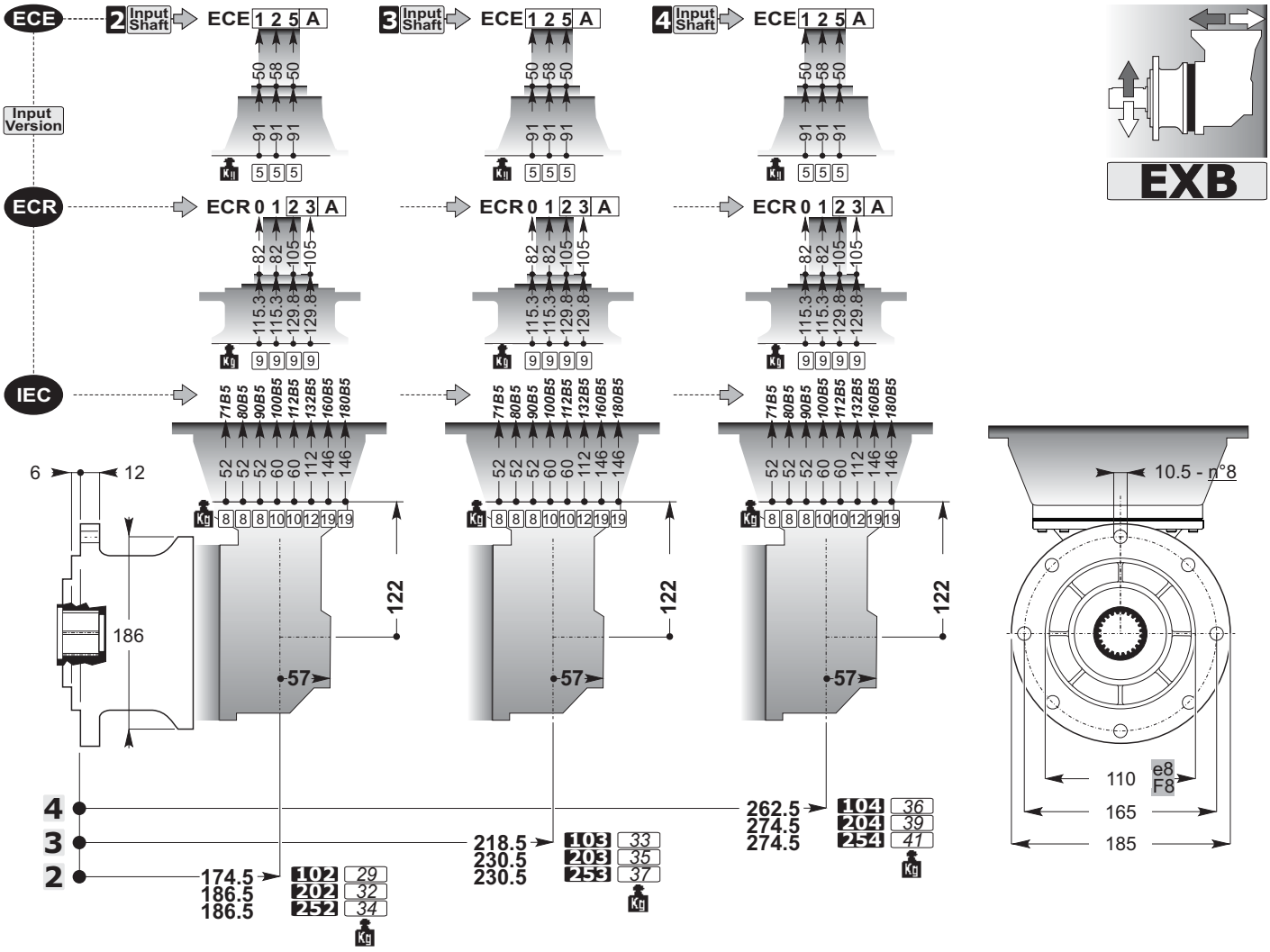
Accessories

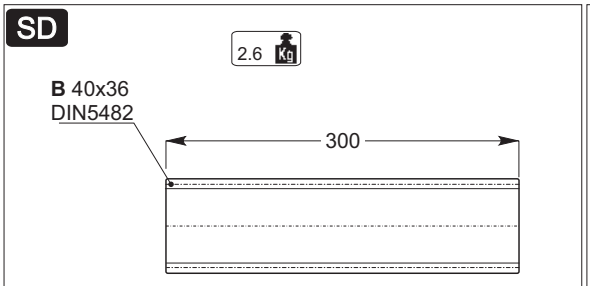
mm
C

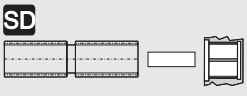




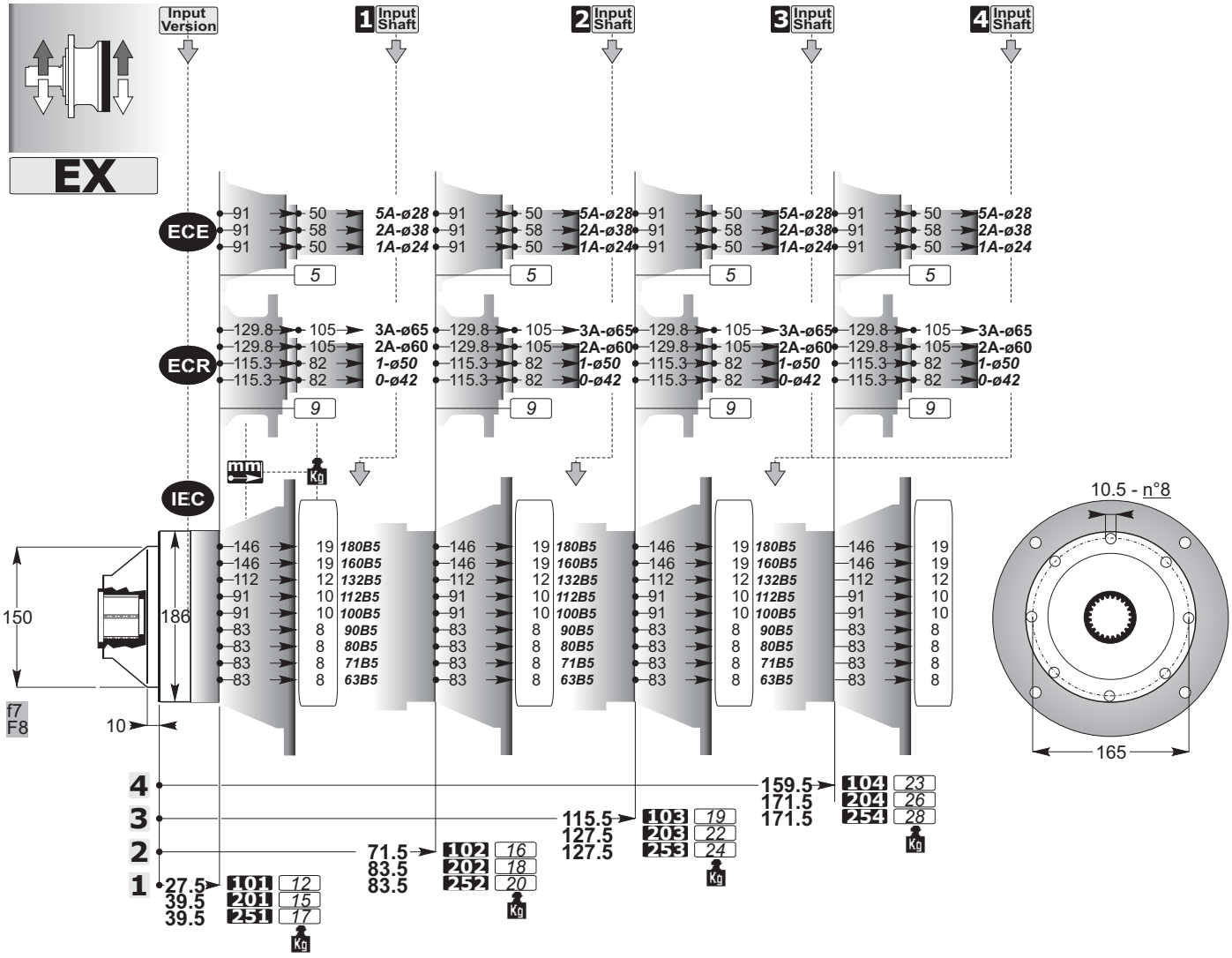
Output Shafts

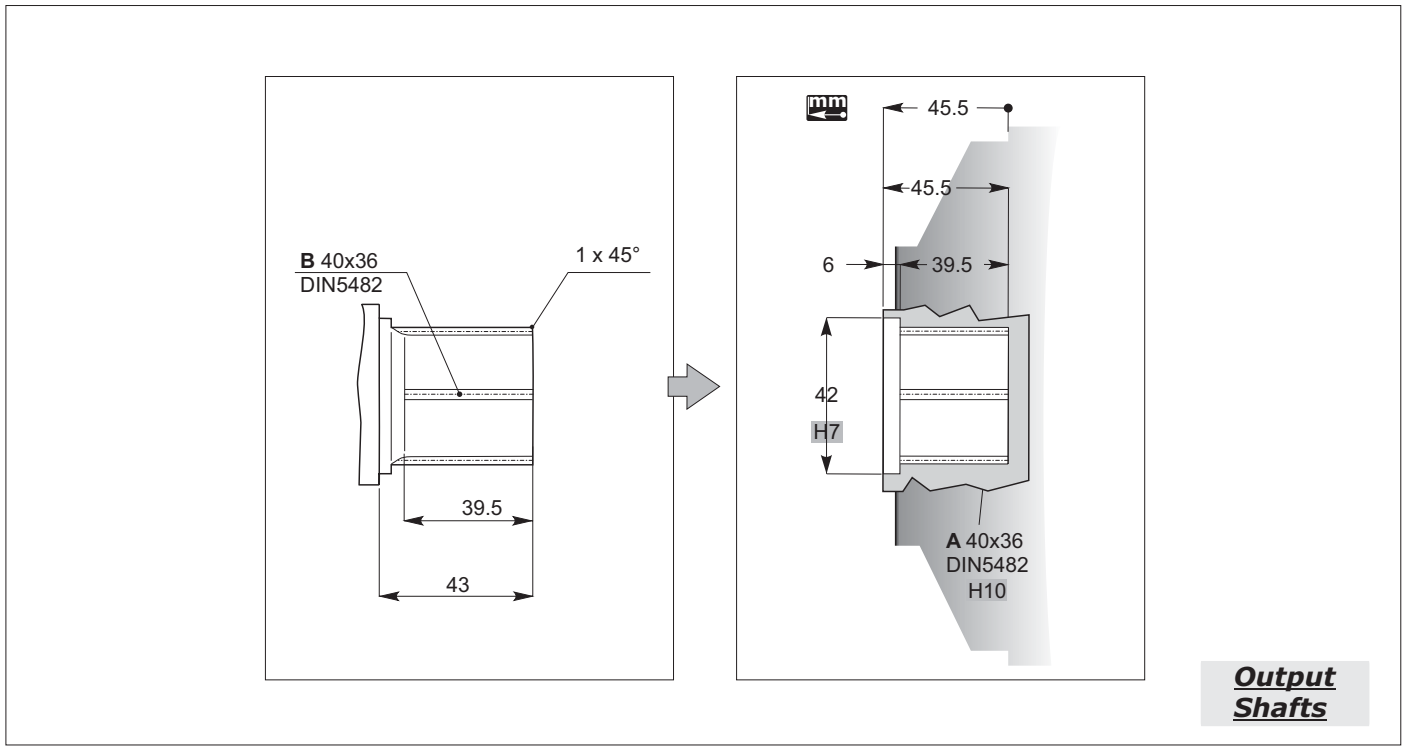




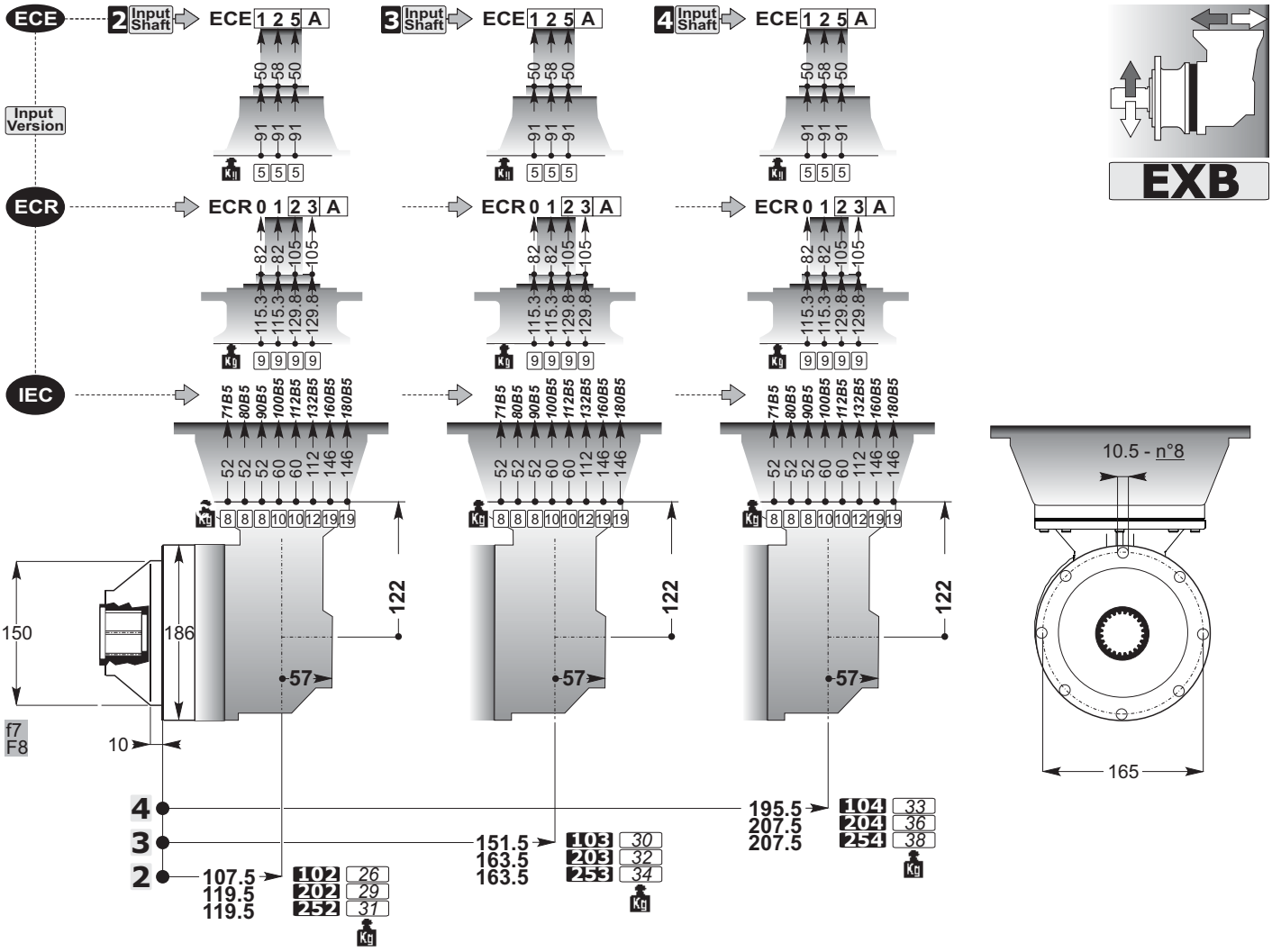


Accessories





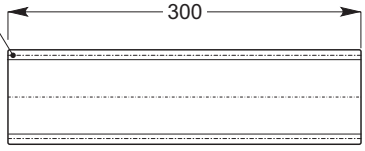
Output Shafts



SD

2.6 Kg

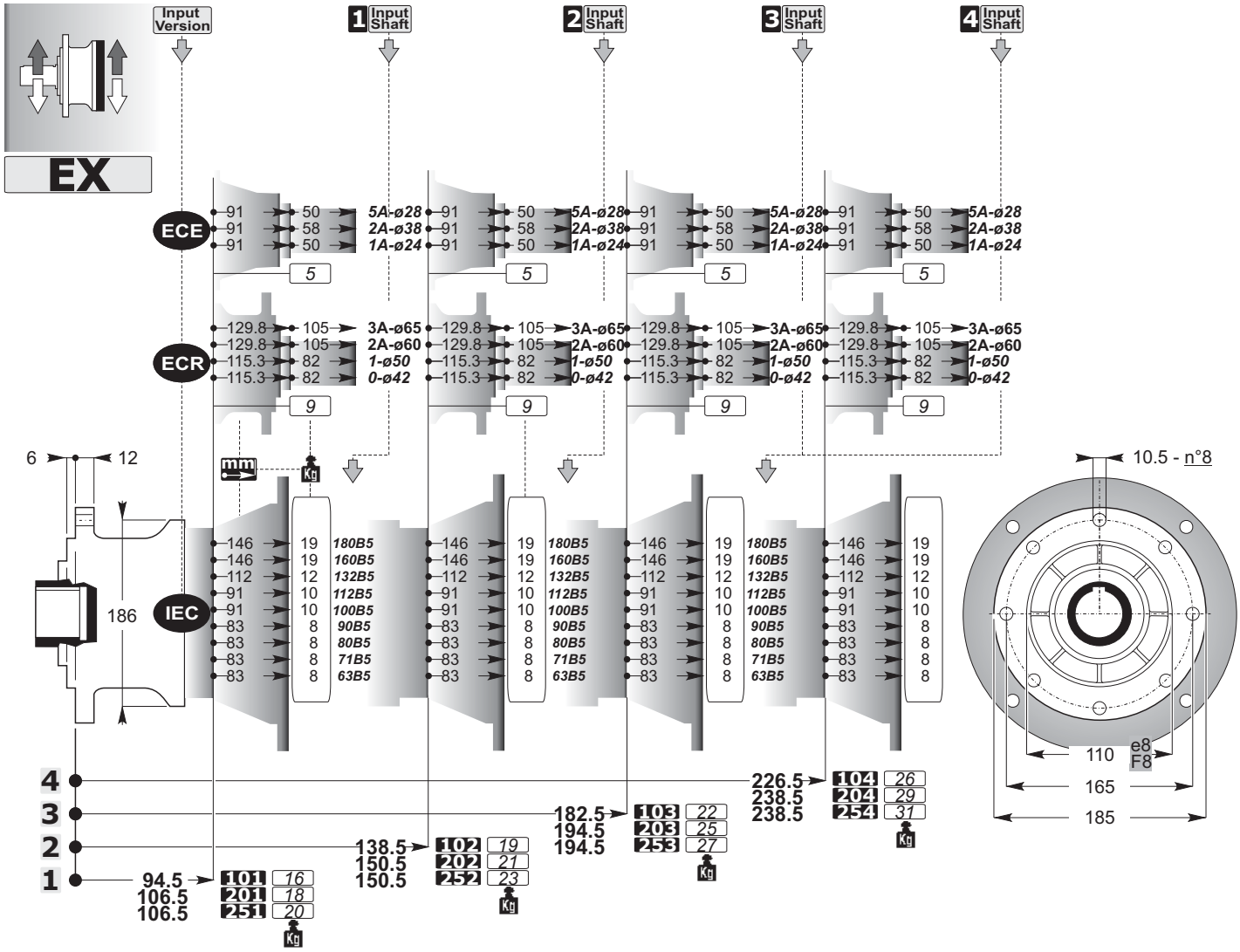
B 40x36
DIN5482

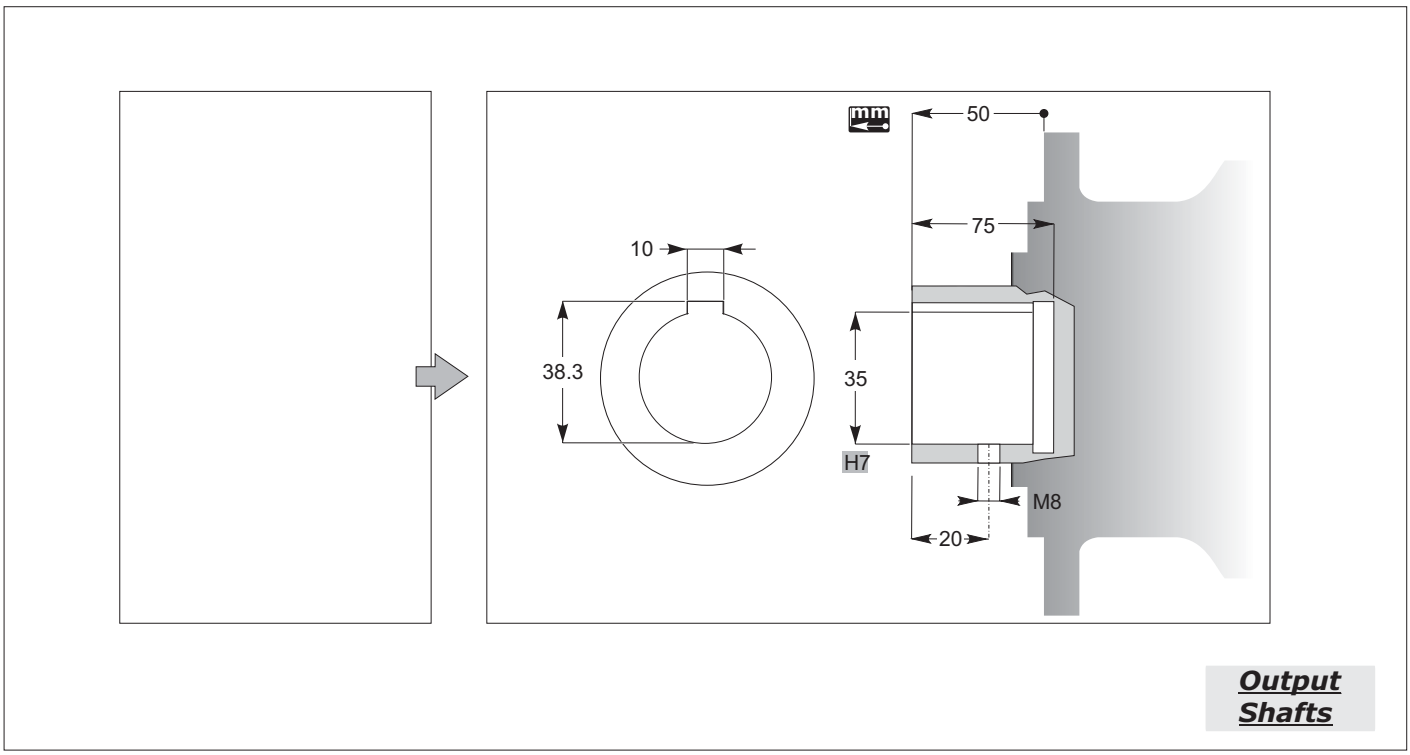


SD

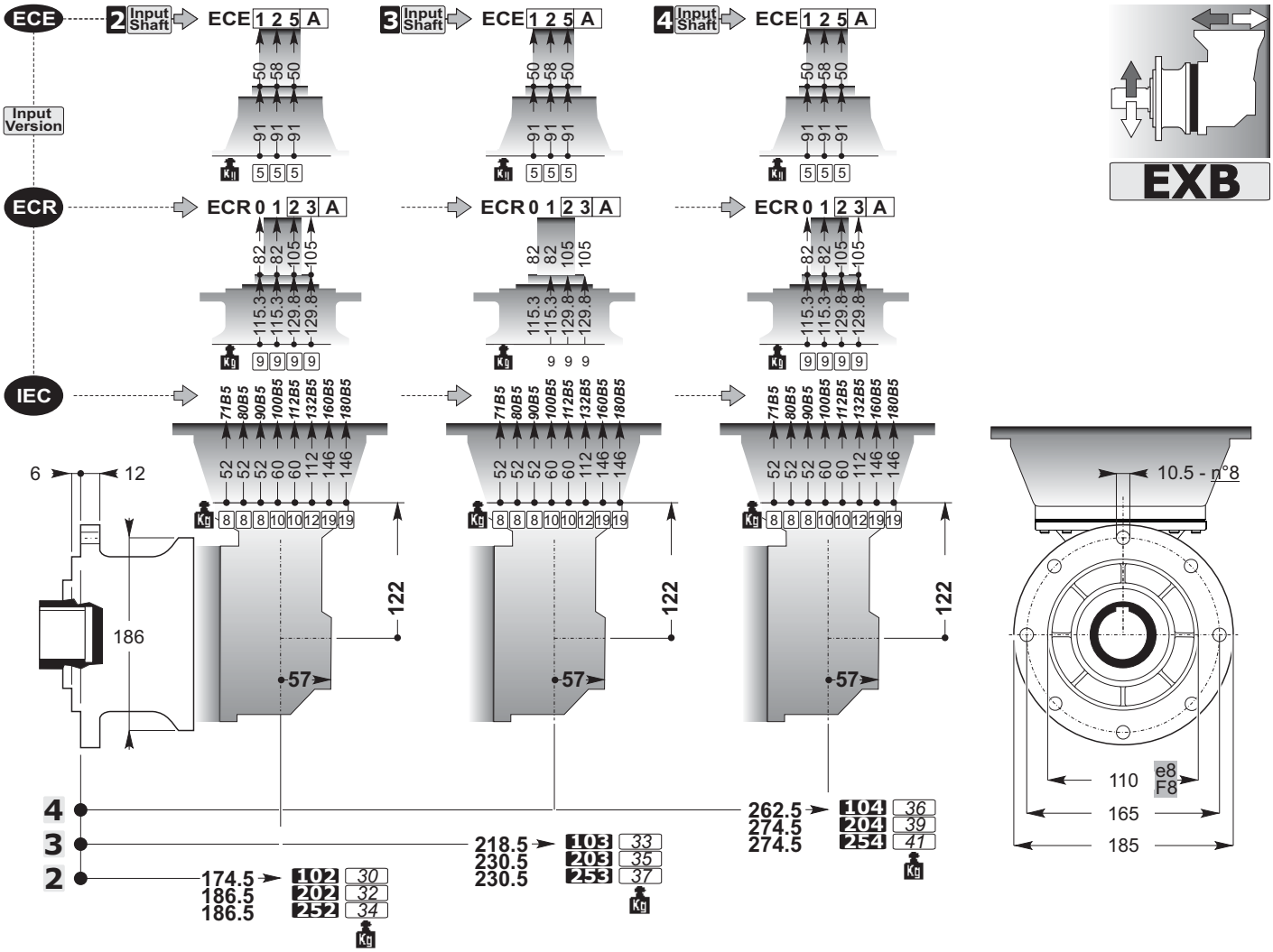


Accessories



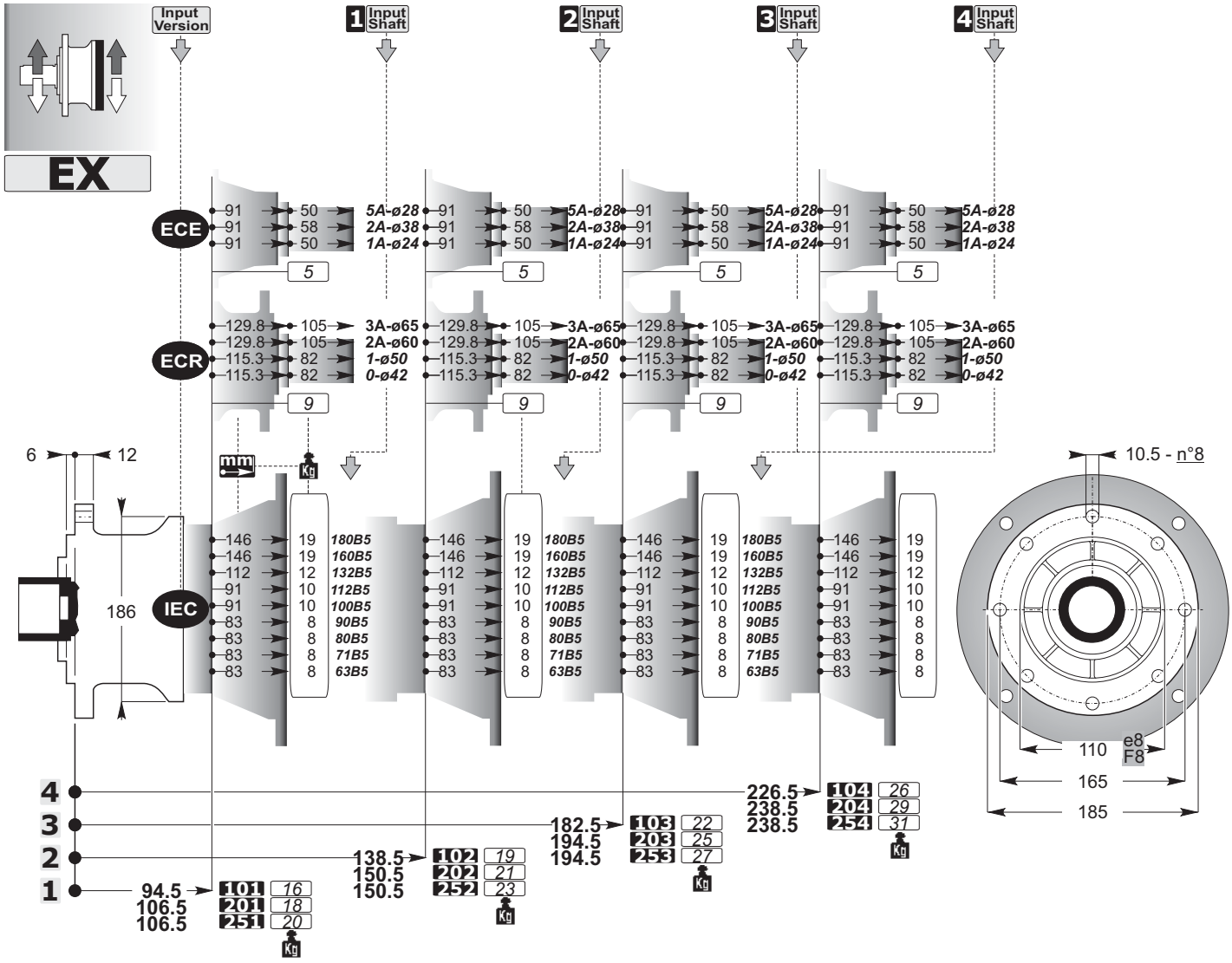


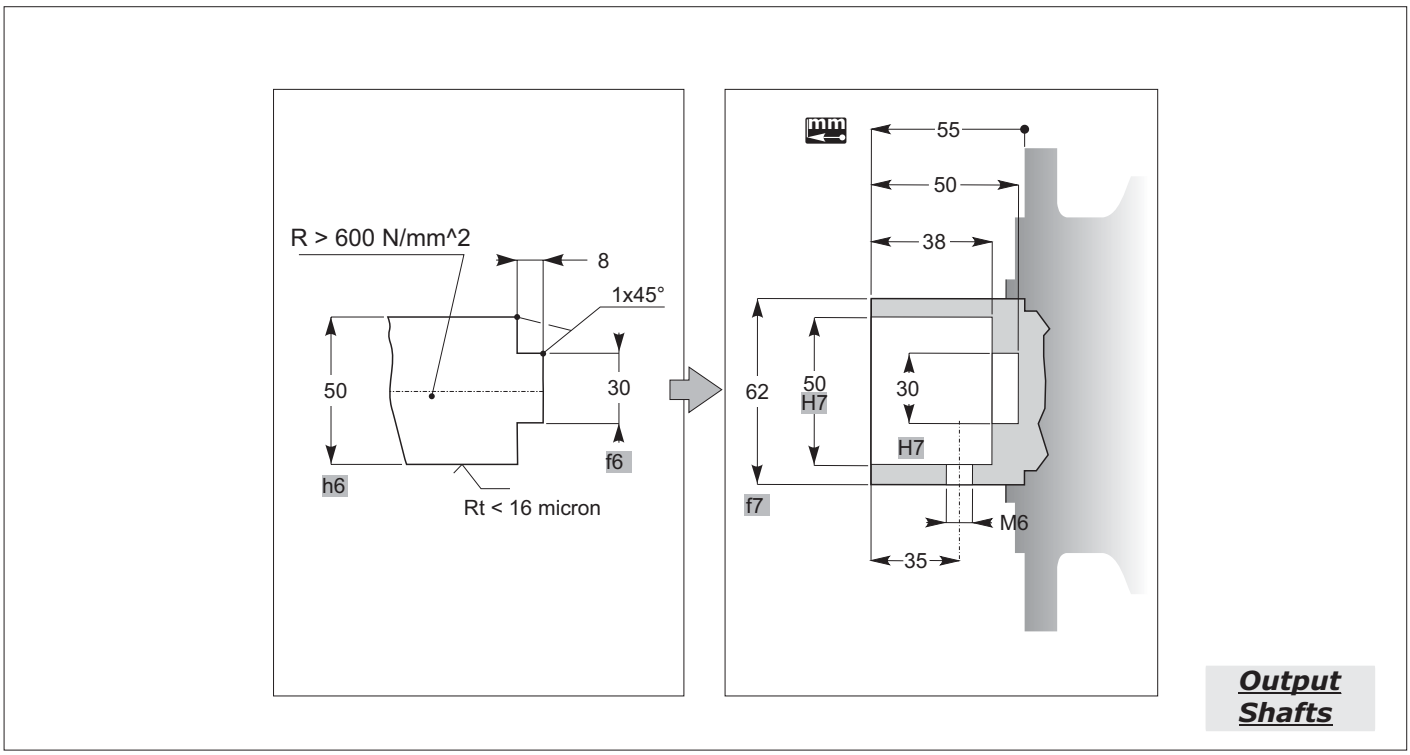
Output Shafts

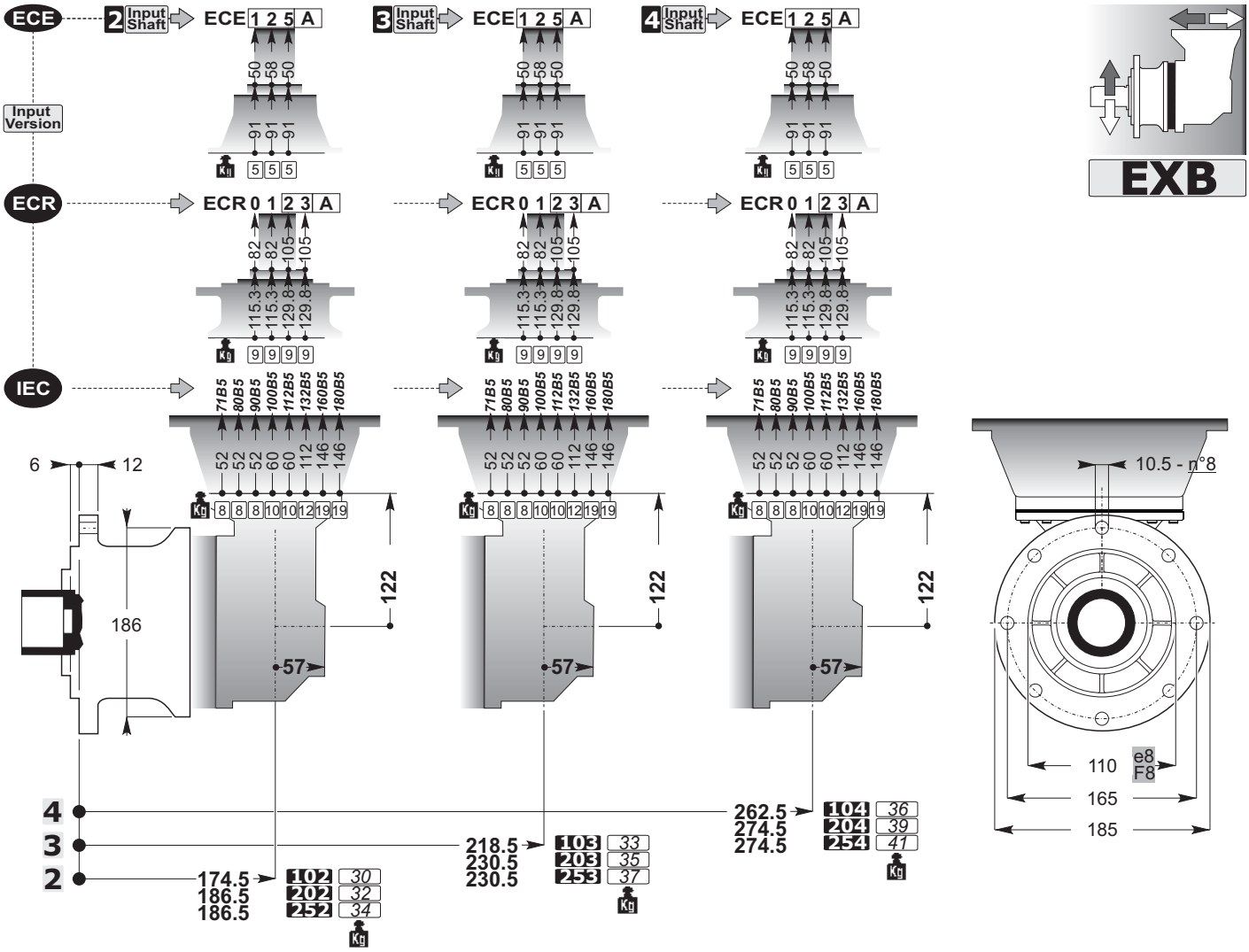

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
6
12
186
122
57
4
3
2
174.5
186.5
186.5
102 30
202 32
252 34
218.5
230.5
230.5
103 33
203 35
253 37
262.5
274.5
274.5
104 36
204 39
254 41
10.5 - n°8
110
e8
F8
165
185

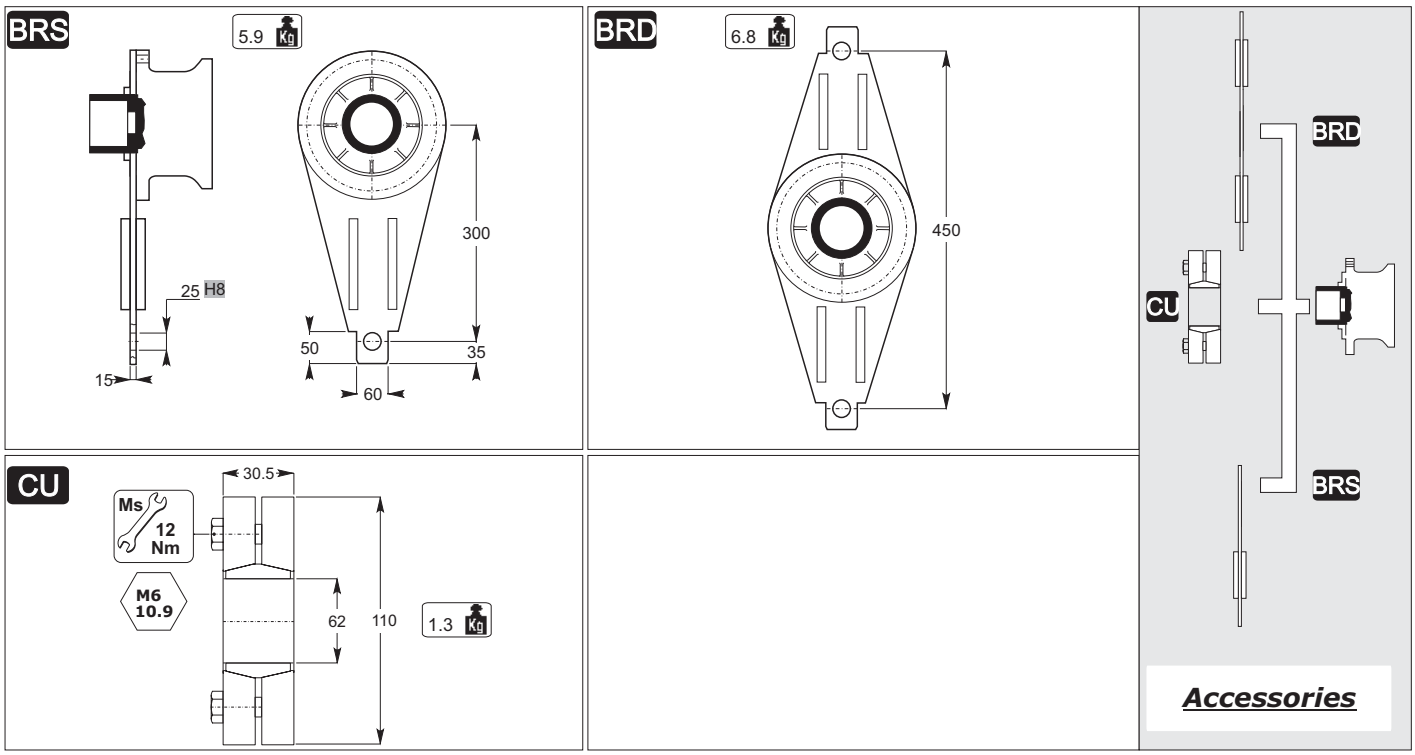
EXB

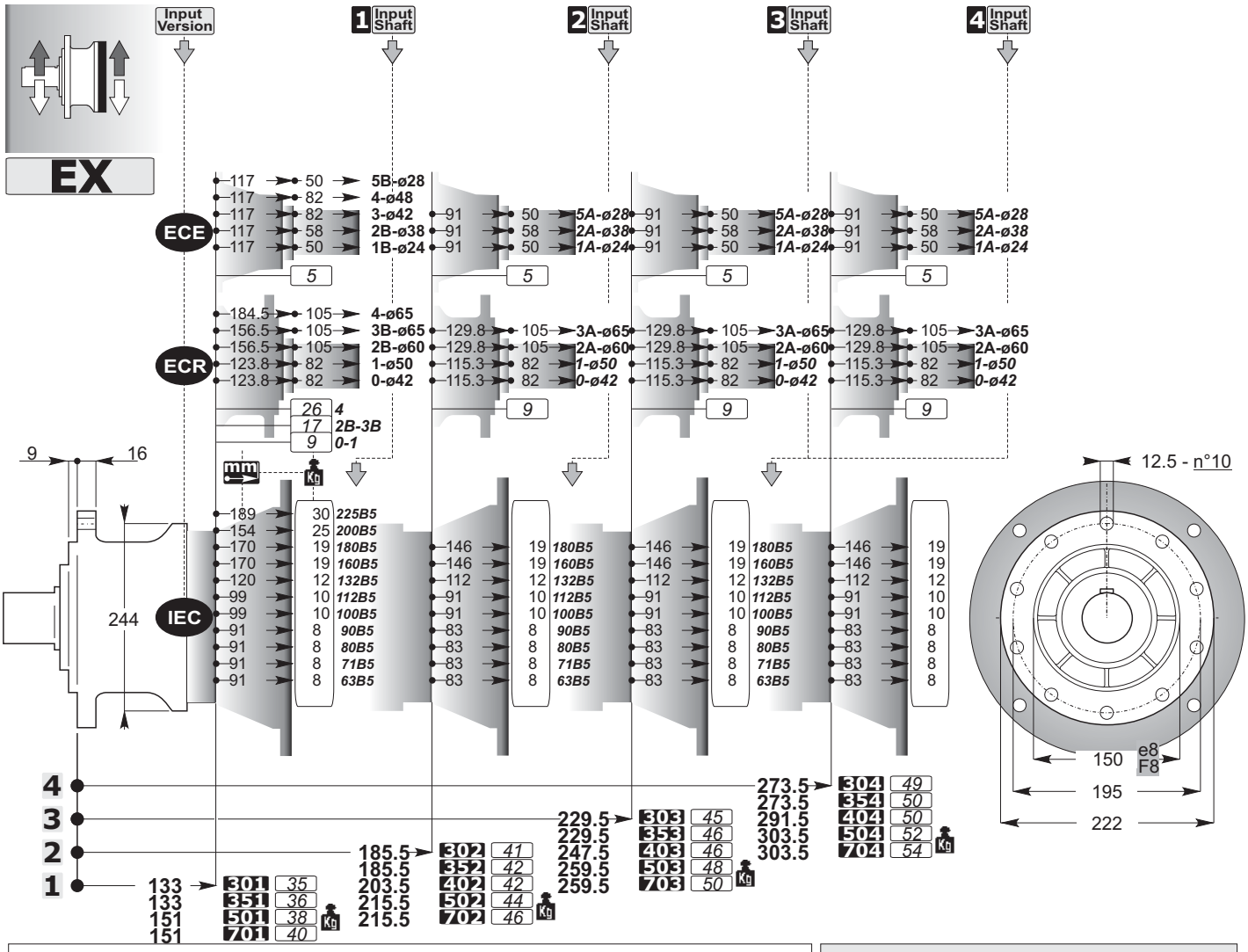
mm
C

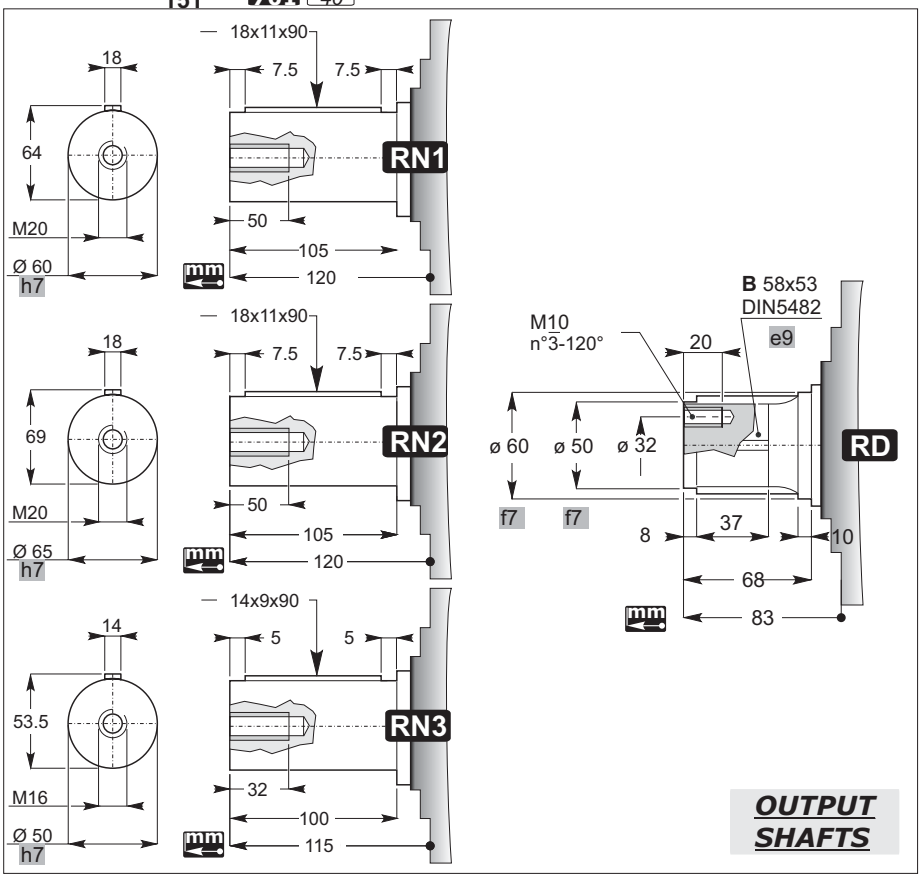

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
5A-ø28
2A-ø38
1A-ø24
3A-ø65
2A-ø60
1-ø50
0-ø42
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
186
6
12
10.5 - n°8
110
e8
F8
165
185
94.5
106.5
106.5
138.5
150.5
150.5
182.5
194.5
194.5
226.5
238.5
238.5

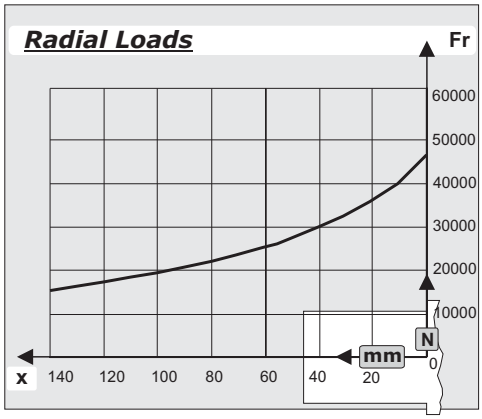

R > 600 N/mm^2
8
1x45°
50
30
f6
h6
Rt < 16 micron
55
50
38
62
50
H7
30
H7
f7
M6
35
Output Shafts

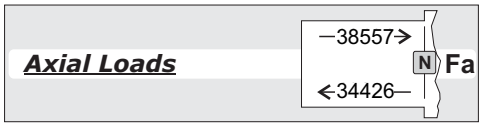

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
6
12
186
122
57
10.5 - n°8
110 e8 F8
165
185
4
3
2
262.5 274.5 274.5
104 36
204 39
254 41
218.5 230.5 230.5
103 33
203 35
253 37
174.5 186.5 186.5
102 30
202 32
252 34

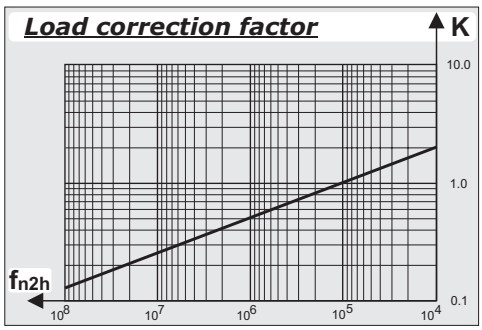

BRS
5.9
25 H8
15
300
50
35
60
BRD
6.8
450
CU
BRD
BRS
Ms 12 Nm
M6 10.9
30.5
62
110
1.3
Accessories

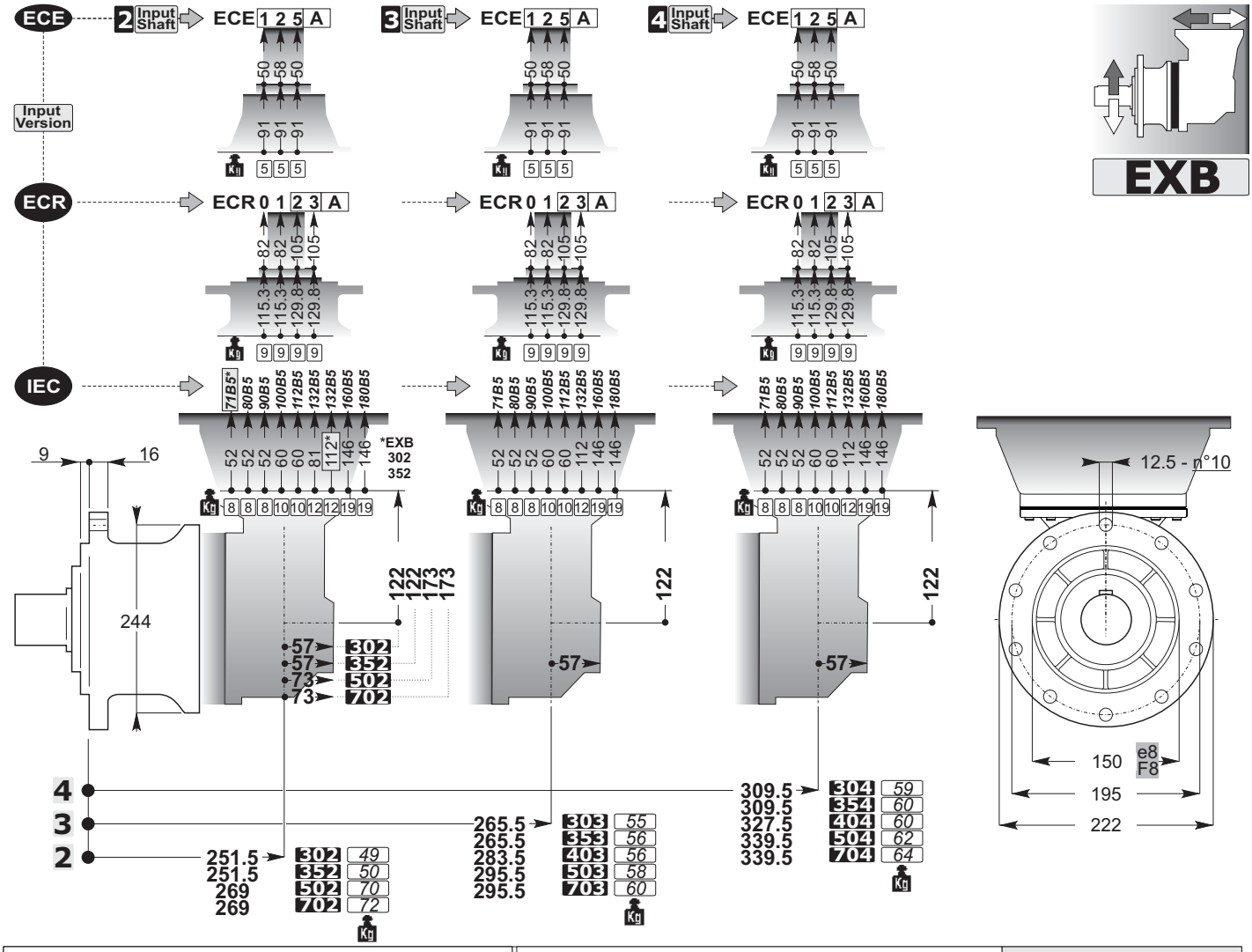

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
5B-ø28
4-ø48
3-ø42
2B-ø38
1B-ø24
5A-ø28
2A-ø38
1A-ø24
4-ø65
3B-ø65
2B-ø60
1-ø50
0-ø42
3A-ø65
2A-ø60
1-ø50
0-ø42
4
2B-3B
0-1
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
244
9
16
12.5 - n°10
150 e8 F8
195
222
4
3
2
1
273.5
304 49
354 50
404 50
504 52
704 54
229.5
303 45
353 46
403 46
503 48
703 50
185.5
302 41
352 42
402 42
502 44
702 46
133
301 35
351 36
501 38
701 40
151

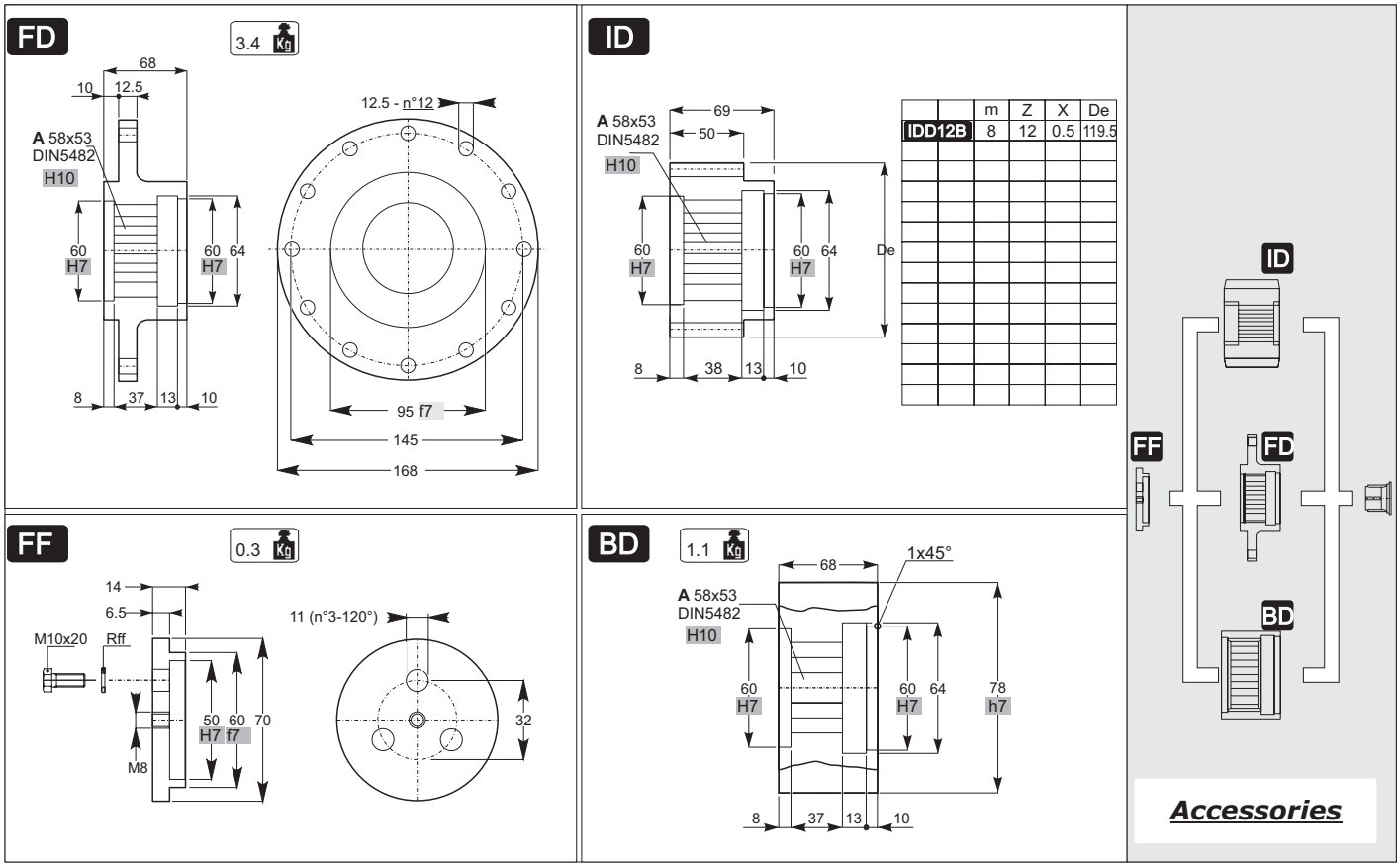

18x11x90
7.5
7.5
18
64
M20
Ø 60 h7
50
105
120
RN1
69
Ø 65 h7
RN2
14x9x90
5
5
14
53.5
M16
Ø 50 h7
32
100
115
RN3
M10 n°3-120°
B 58x53 DIN5482
e9
20
ø 60
ø 50
ø 32
f7
f7
RD
8
37
10
68
83
OUTPUT SHAFTS

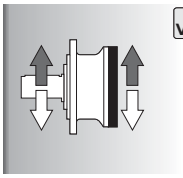

Radial Loads
Fr
60000
50000
40000
30000
20000
10000
N
mm
0
x
140
120
100
80
60
40
20


Axial Loads
38557
N
Fa
34426


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
2 Input Shaft
3 Input Shaft
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB 302 352
EXB
12.5 - n°10
150 e8 F8
195
222
244
9
16
4
3
2
251.5 269 302 352 502 702
265.5 283.5 295.5 303 353 403 503 703
309.5 327.5 339.5 304 354 404 504 704


FD
3.4 Kg
68
10
12.5
A 58x53 DIN5482
H10
60 H7
60 H7
64
8
37
13
10
12.5 - n°12
95 f7
145
168
ID
A 58x53 DIN5482
H10
69
50
60 H7
60 H7
64
De
8
38
13
10
m Z X De
IDD12B 8 12 0.5 119.5
FF
0.3 Kg
14
6.5
M10x20
Rff
M8
50 60 70
H7 f7
11 (n°3-120°)
32
BD
1.1 Kg
68
1x45°
A 58x53 DIN5482
H10
60 H7
60 H7
64
78 h7
8
37
13
10
ID
FF
FD
BD
Accessories



EX

Input Version

1 Input Shaft

2 Input Shaft

3 Input Shaft

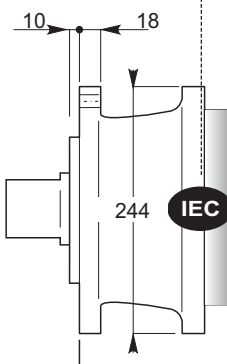
4 Input Shaft

ECE

117	50	5B-ø28	91	50	5A-ø28	91	50	5A-ø28	91	50	5A-ø28				
117	82	4-ø48	91	58	2A-ø38	91	58	2A-ø38	91	58	2A-ø38				
117	82	3-ø42	91	50	1A-ø24	91	50	1A-ø24	91	50	1A-ø24				
117	58	2B-ø38													
117	50	1B-ø24													
	5			5			5			5					

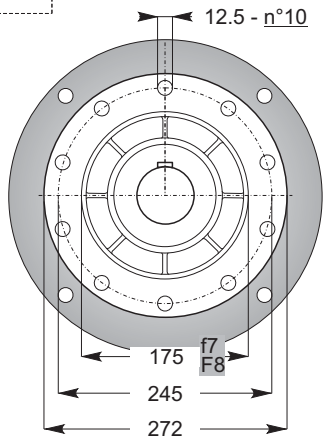
ECR

184.5	105	4-ø65	129.8	105	3A-ø65	129.8	105	3A-ø65	129.8	105	3A-ø65				
156.5	105	3B-ø65	129.8	105	2A-ø60	129.8	105	2A-ø60	129.8	105	2A-ø60				
156.5	105	2B-ø60	115.3	82	1-ø50	115.3	82	1-ø50	115.3	82	1-ø50				
123.8	82	1-ø50	115.3	82	0-ø42	115.3	82	0-ø42	115.3	82	0-ø42				
123.8	82	0-ø42													
26	4														
17	2B-3B														
9	0-1			9			9			9					



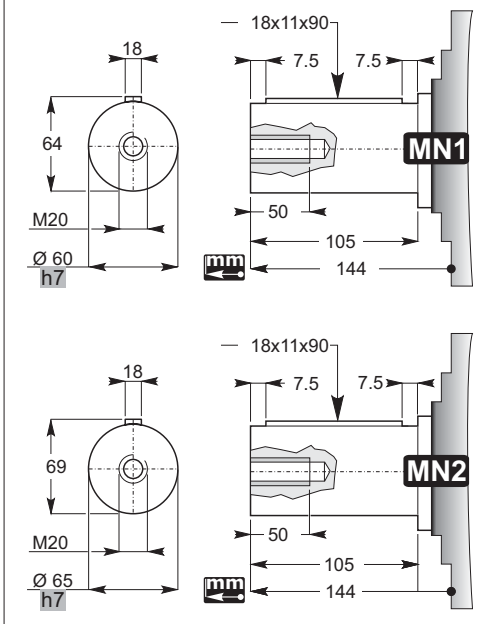
mm Kg

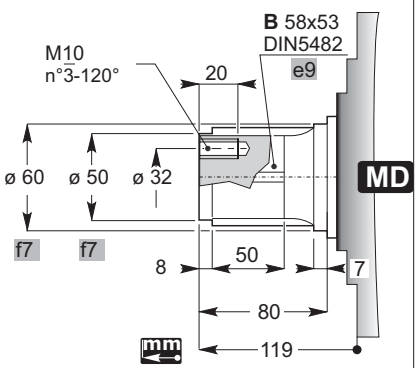
189	30	225B5	146	19	180B5	146	19	180B5	146	19	180B5	146	19		
154	25	200B5	146	19	160B5	146	19	160B5	146	19	160B5	146	19		
170	19	180B5	112	12	132B5	112	12	132B5	112	12	132B5	112	12		
170	19	160B5	91	10	112B5	91	10	112B5	91	10	112B5	91	10		
120	12	132B5	91	10	100B5	91	10	100B5	91	10	100B5	91	10		
99	10	112B5	83	8	90B5	83	8	90B5	83	8	90B5	83	8		
99	10	100B5	83	8	80B5	83	8	80B5	83	8	80B5	83	8		
91	8	90B5	83	8	71B5	83	8	71B5	83	8	71B5	83	8		
91	8	80B5	83	8	63B5	83	8	63B5	83	8	63B5	83	8		
91	8	71B5													
91	8	63B5													



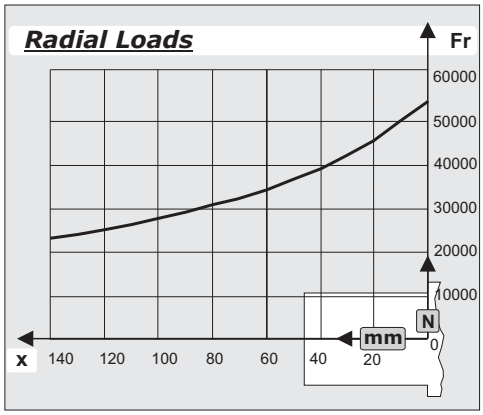
4									277.5	304	52				
3									277.5	354	53				
									295.5	404	53				
									307.5	504	55				
									307.5	704	57				
2									233.5	303	48				
									233.5	353	49				
									251.5	403	49				
									263.5	503	51				
									263.5	703	53				
			189.5	302	44										
			189.5	352	45										
			207.5	402	45										
			219.5	502	47										
			219.5	702	49										
1															
137	301	38													
137	351	39													
155	501	41													
155	701	43													

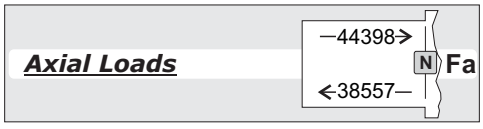
Kg

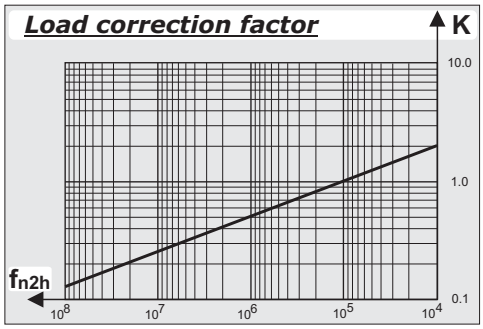


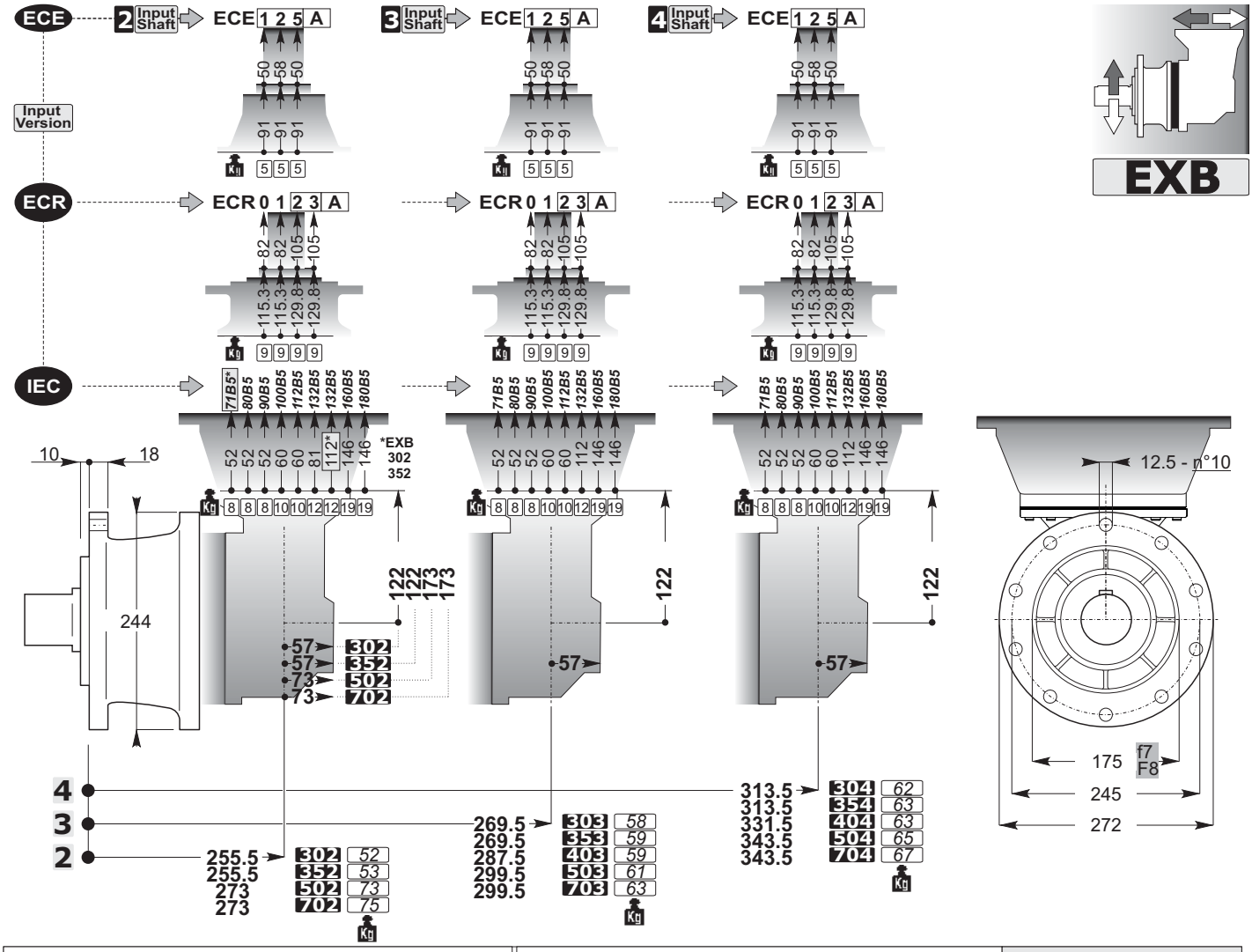


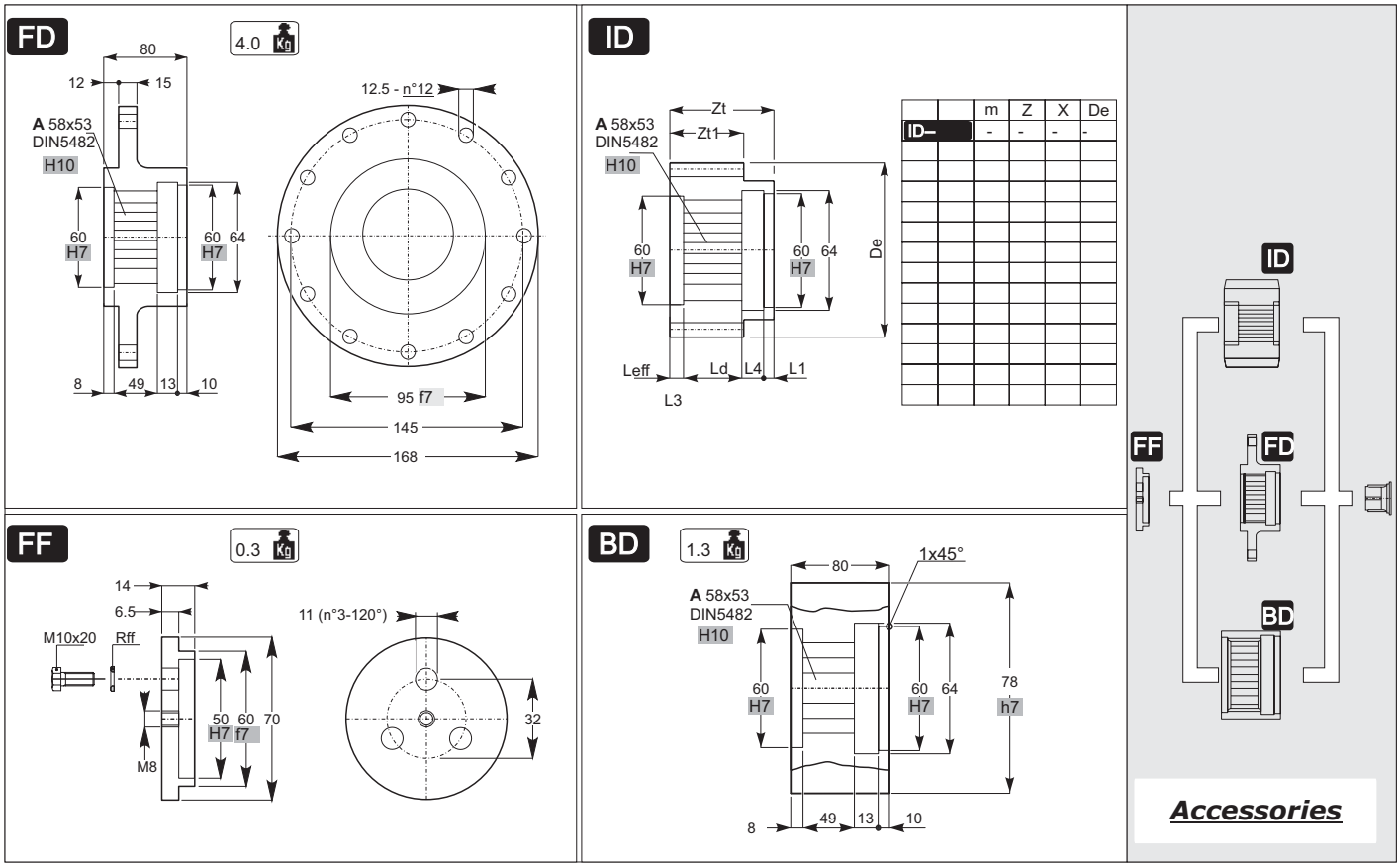
Output Shafts

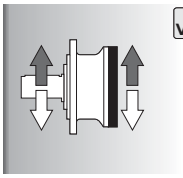







ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB 302 352
244
122 122 173 173
122
122
57 302
57 352
73 502
73 702
57
57
4
3
2
255.5 302 52
255.5 352 53
273 502 73
273 702 75
269.5 303 58
269.5 353 59
287.5 403 59
299.5 503 61
299.5 703 63
313.5 304 62
313.5 354 63
331.5 404 63
343.5 504 65
343.5 704 67
12.5 - n°10
175 f7 F8
245
272
EXB


FD
4.0 Kg
80
12
15
A 58x53 DIN5482
H10
60 H7
60 H7
64
8
49
13
10
12.5 - n°12
95 f7
145
168
ID
A 58x53 DIN5482
H10
Zt
Zt1
60 H7
60 H7
64
De
Leff
Ld
L4
L1
L3
m Z X De
ID-
FF
0.3 Kg
14
6.5
M10x20
Rff
50 60 70
H7 f7
M8
11 (n°3-120°)
32
BD
1.3 Kg
80
1x45°
A 58x53 DIN5482
H10
60 H7
60 H7
64
78
h7
8
49
13
10
ID
FF
FD
BD
Accessories



EX

Input Version

1 Input Shaft | 2 Input Shaft | 3 Input Shaft | 4 Input Shaft

ECE

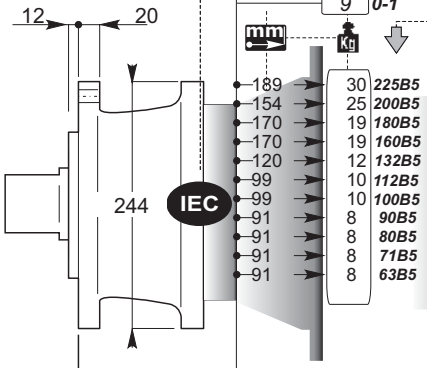
117	50	5B-ø28													
117	82	4-ø48													
117	82	3-ø42	91	50	5A-ø28	91	50	5A-ø28	91	50	5A-ø28	91	50	5A-ø28	
117	58	2B-ø38	91	58	2A-ø38	91	58	2A-ø38	91	58	2A-ø38	91	58	2A-ø38	
117	50	1B-ø24	91	50	1A-ø24	91	50	1A-ø24	91	50	1A-ø24	91	50	1A-ø24	
	5			5			5			5			5		

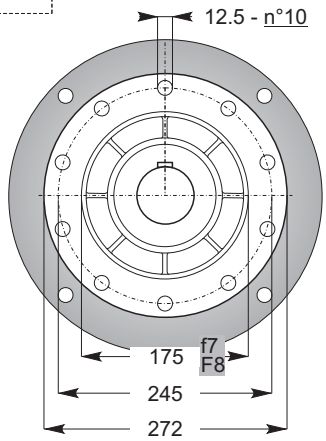
ECR

184.5	105	4-ø65													
156.5	105	3B-ø65	129.8	105	3A-ø65	129.8	105	3A-ø65	129.8	105	3A-ø65	129.8	105	3A-ø65	
156.5	105	2B-ø60	129.8	105	2A-ø60	129.8	105	2A-ø60	129.8	105	2A-ø60	129.8	105	2A-ø60	
123.8	82	1-ø50	115.3	82	1-ø50	115.3	82	1-ø50	115.3	82	1-ø50	115.3	82	1-ø50	
123.8	82	0-ø42	115.3	82	0-ø42	115.3	82	0-ø42	115.3	82	0-ø42	115.3	82	0-ø42	
	26	4													
	17	2B-3B													
	9	0-1		9			9			9			9		

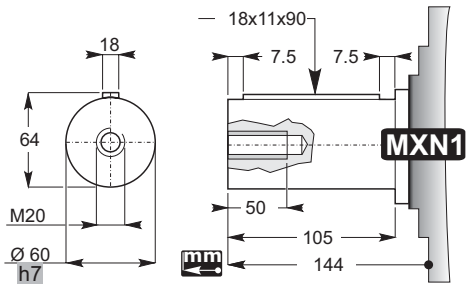
IEC

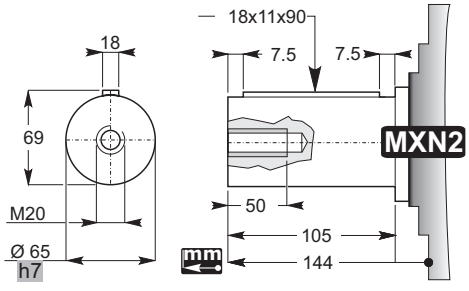
189	30	225B5													
154	25	200B5													
170	19	180B5	146	19	180B5	146	19	180B5	146	19	180B5	146	19		
170	19	160B5	146	19	160B5	146	19	160B5	146	19	160B5	146	19		
120	12	132B5	112	12	132B5	112	12	132B5	112	12	132B5	112	12		
99	10	112B5	91	10	112B5	91	10	112B5	91	10	112B5	91	10		
99	10	100B5	91	10	100B5	91	10	100B5	91	10	100B5	91	10		
91	8	90B5	83	8	90B5	83	8	90B5	83	8	90B5	83	8		
91	8	80B5	83	8	80B5	83	8	80B5	83	8	80B5	83	8		
91	8	71B5	83	8	71B5	83	8	71B5	83	8	71B5	83	8		
91	8	63B5	83	8	63B5	83	8	63B5	83	8	63B5	83	8		

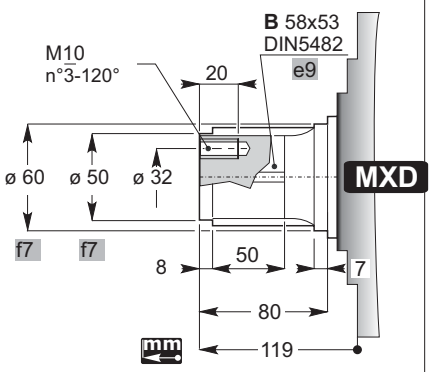




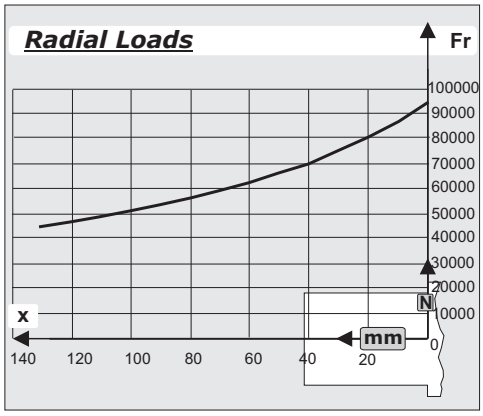
4												297.5	304	52	
3												297.5	354	53	
									253.5	303	48	315.5	404	53	
									253.5	353	49	327.5	504	55	Kg
2			209.5	302	44				271.5	403	49	327.5	704	57	
			209.5	352	45				283.5	503	51				
			227.5	402	45				283.5	703	53				Kg
			239.5	502	47										
1	157	301	38	239.5	702	49	Kg								
	157	351	39												
	175	501	41												
	175	701	43	Kg											

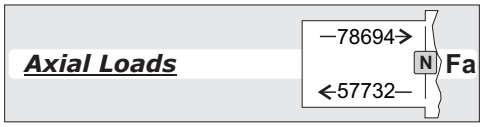


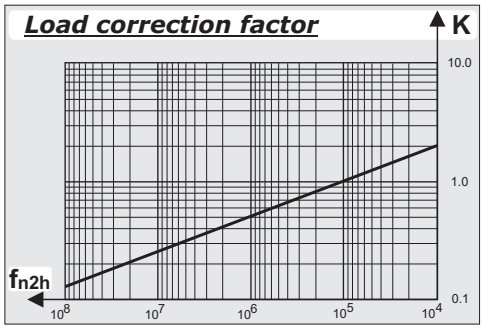


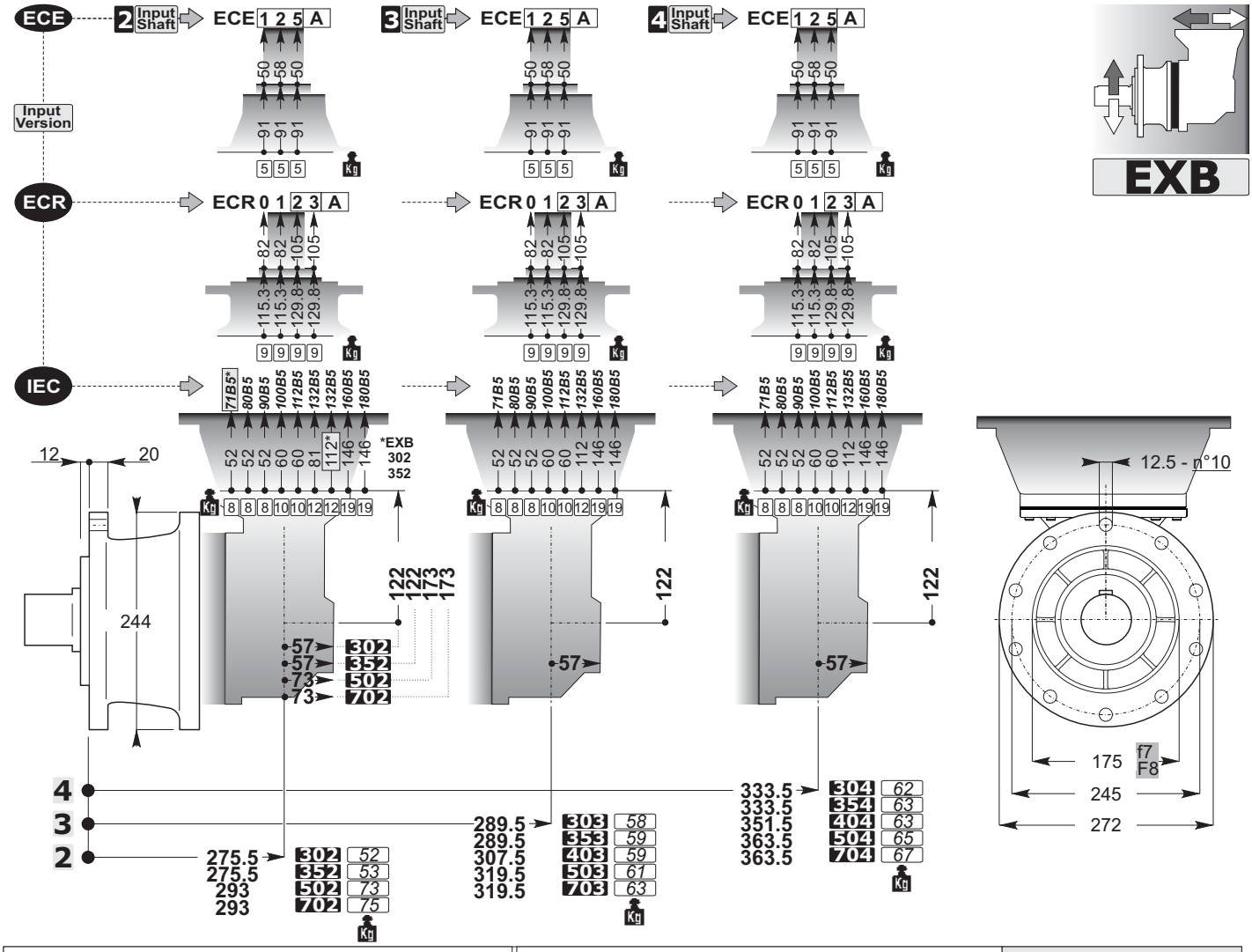


Output Shafts

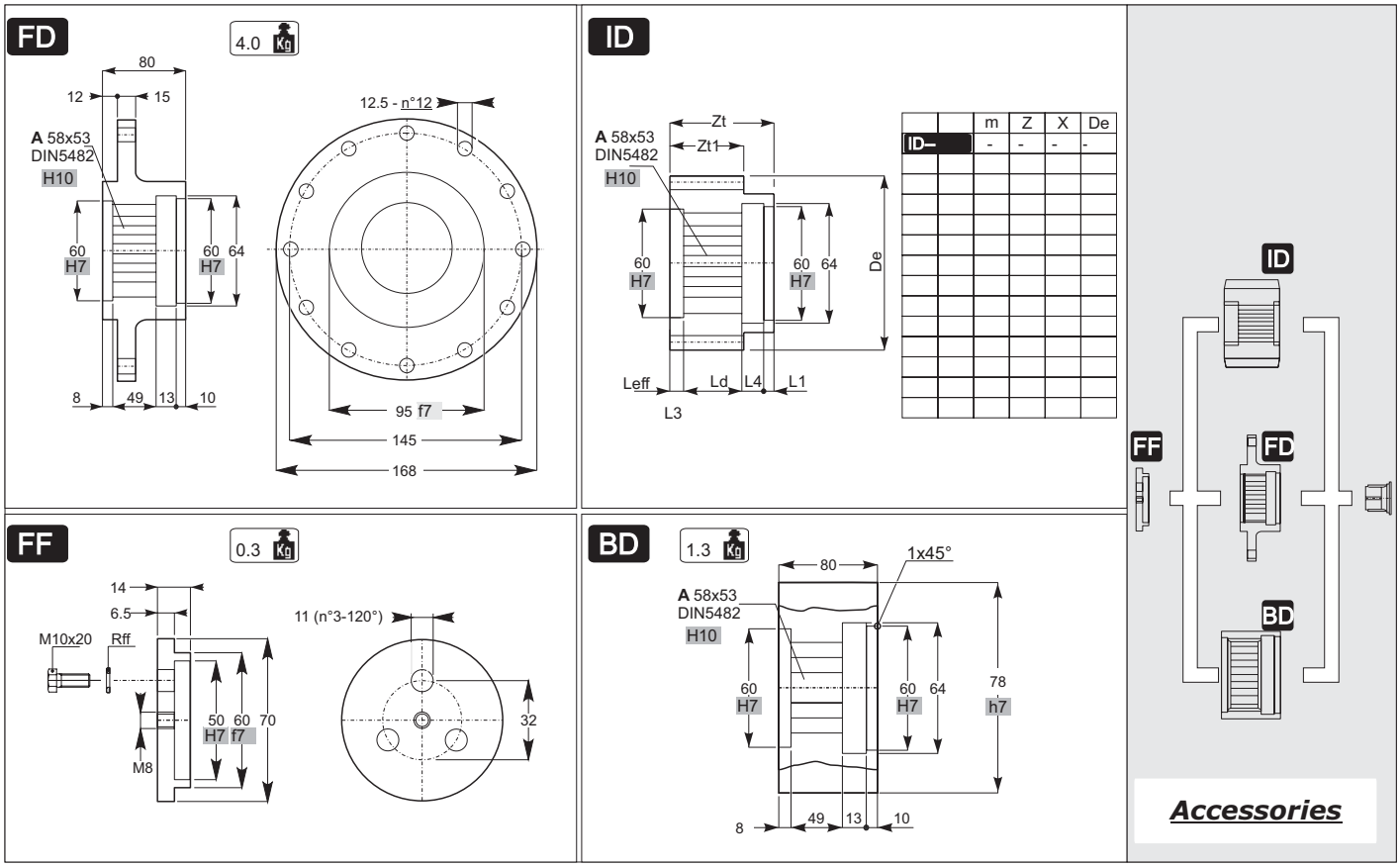




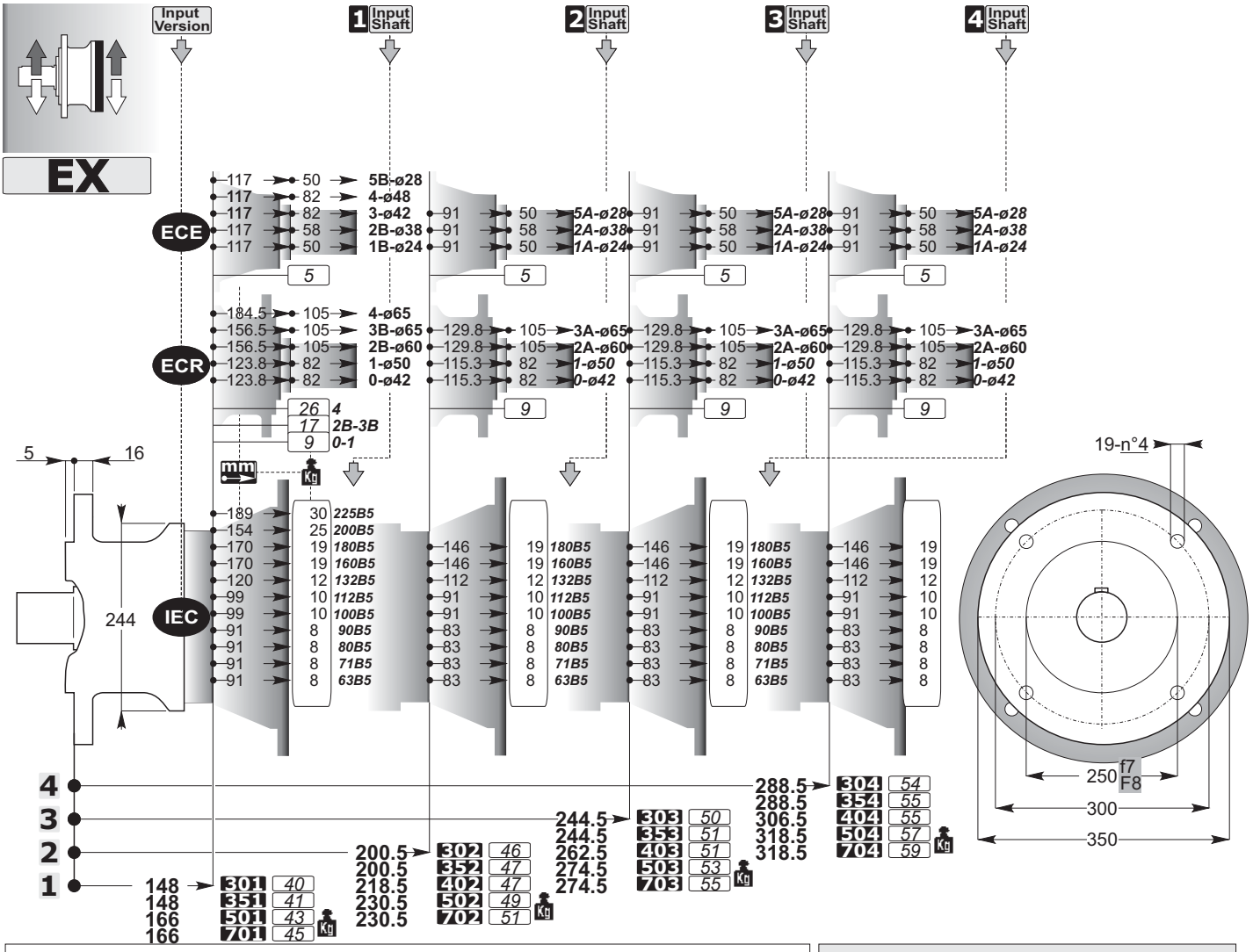


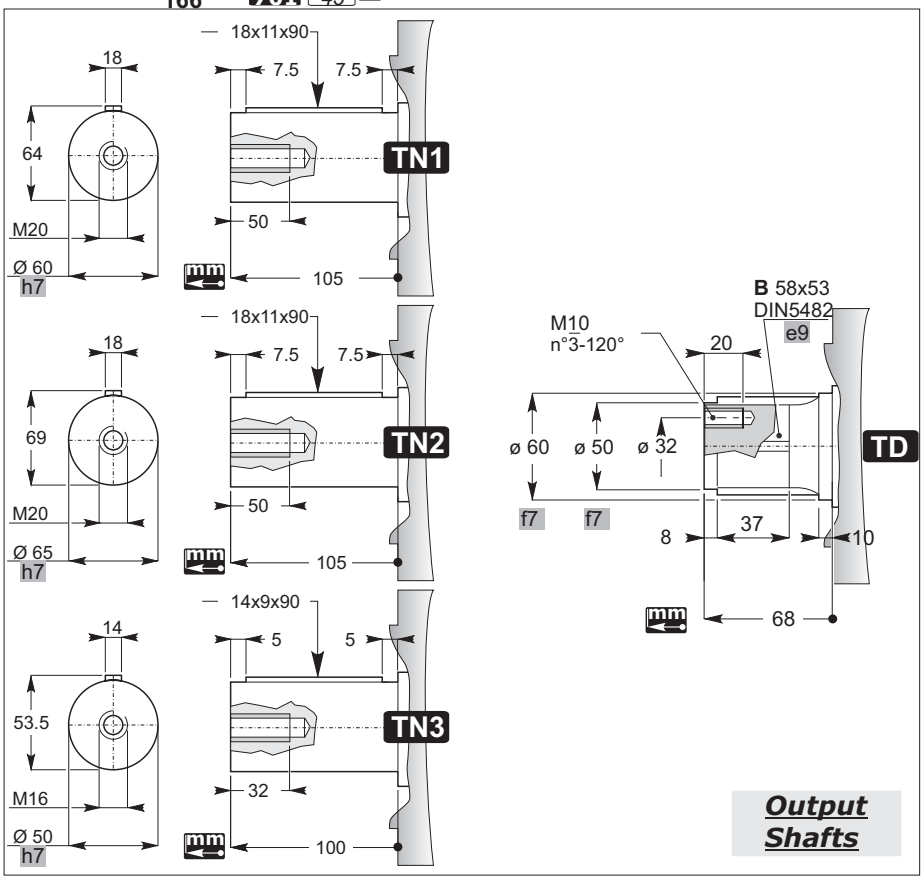

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB
302
352
12
20
244
122
122
173
173
57
57
73
73
302
352
502
702
4
3
2
275.5
275.5
293
293
289.5
289.5
307.5
319.5
319.5
303 58
353 59
403 59
503 61
703 63
333.5
333.5
351.5
363.5
363.5
304 62
354 63
404 63
504 65
704 67
12.5 - n°10
175 f7 F8
245
272

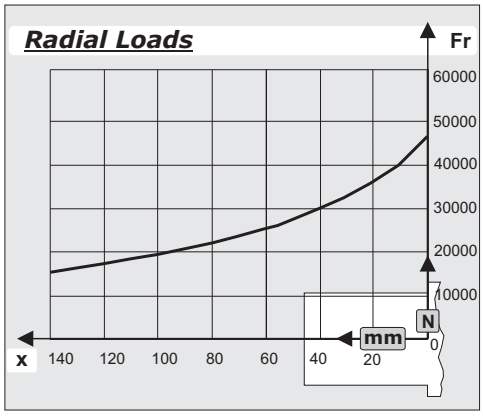
EXB

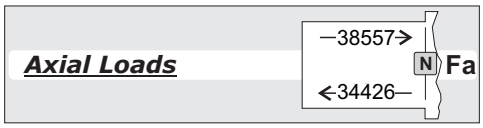

FD
4.0 Kg
80
12
15
A 58x53
DIN5482
H10
60 H7
60 H7
64
8
49
13
10
12.5 - n°12
95 f7
145
168
ID
A 58x53
DIN5482
H10
Zt
Zt1
60 H7
60 H7
64
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID–
FF
0.3 Kg
14
6.5
M10x20
Rff
50 H7
60 f7
70
M8
11 (n°3-120°)
32
BD
1.3 Kg
80
1x45°
A 58x53
DIN5482
H10
60 H7
60 H7
64
78 h7
8
49
13
10
ID
FF
FD
BD
Accessories

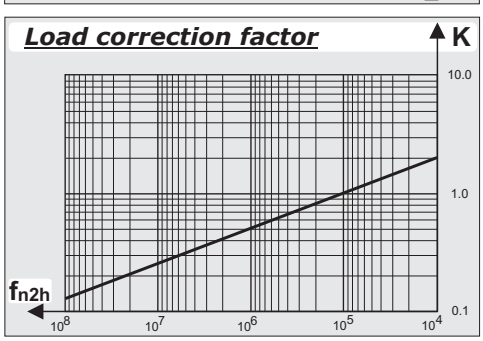
mm
C

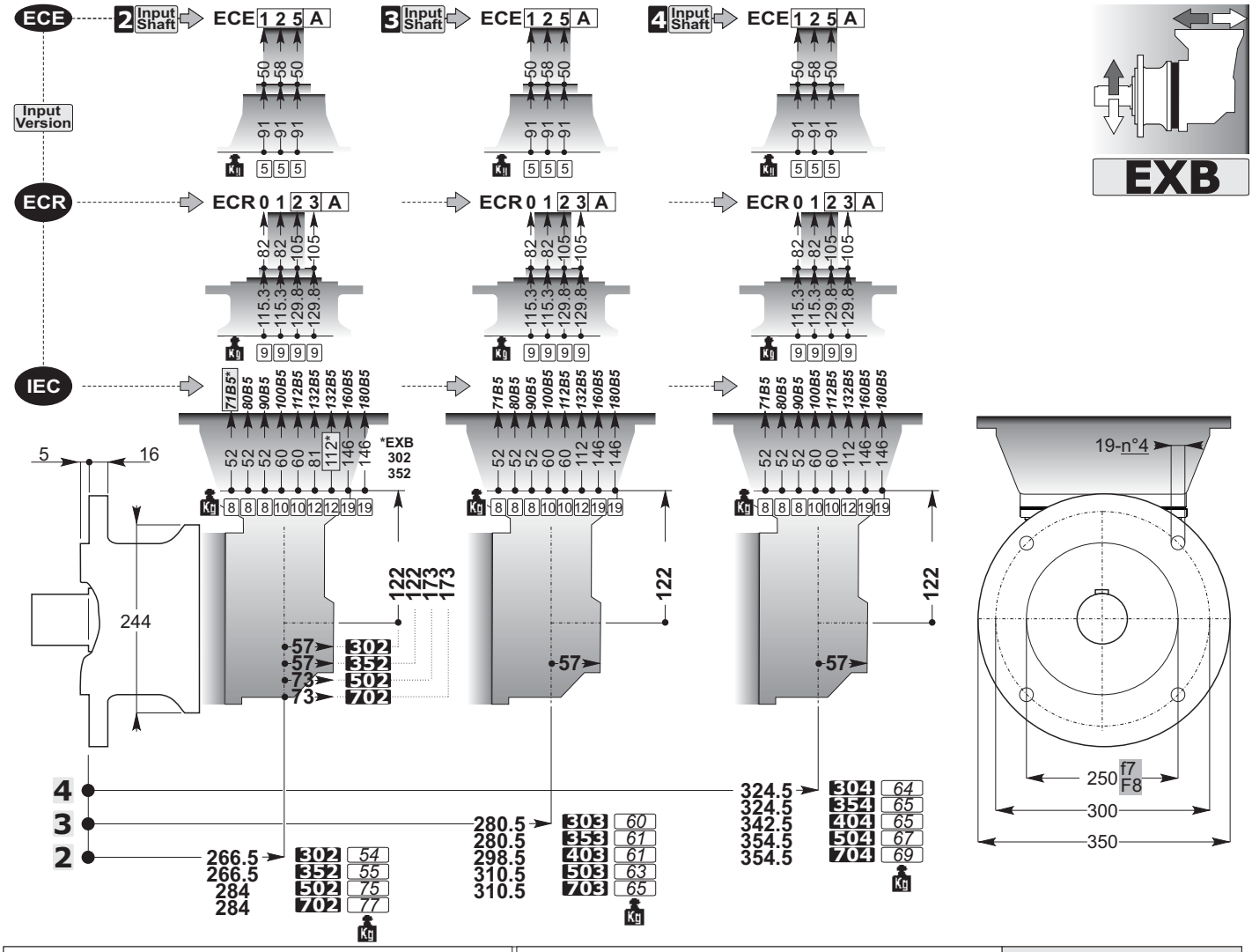

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
117 → 50 → 5B-ø28
117 → 82 → 4-ø48
117 → 82 → 3-ø42
117 → 58 → 2B-ø38
117 → 50 → 1B-ø24
91 → 50 → 5A-ø28
91 → 58 → 2A-ø38
91 → 50 → 1A-ø24
5
ECR
184.5 → 105 → 4-ø65
156.5 → 105 → 3B-ø65
156.5 → 105 → 2B-ø60
123.8 → 82 → 1-ø50
123.8 → 82 → 0-ø42
129.8 → 105 → 3A-ø65
129.8 → 105 → 2A-ø60
115.3 → 82 → 1-ø50
115.3 → 82 → 0-ø42
9
26 4
17 2B-3B
9 0-1
mm
Kg
5
16
244
IEC
189 → 30 225B5
154 → 25 200B5
170 → 19 180B5
170 → 19 160B5
120 → 12 132B5
99 → 10 112B5
99 → 10 100B5
91 → 8 90B5
91 → 8 80B5
91 → 8 71B5
91 → 8 63B5
146 → 19 180B5
146 → 19 160B5
112 → 12 132B5
91 → 10 112B5
91 → 10 100B5
83 → 8 90B5
83 → 8 80B5
83 → 8 71B5
83 → 8 63B5
19-n°4
250 f7 F8
300
350
4
3
2
1
148 → 301 40
148 351 41
166 501 43
166 701 45
200.5 → 302 46
200.5 352 47
218.5 402 47
230.5 502 49
230.5 702 51
244.5 → 303 50
244.5 353 51
262.5 403 51
274.5 503 53
274.5 703 55
288.5 → 304 54
288.5 354 55
306.5 404 55
318.5 504 57
318.5 704 59


18x11x90
18
7.5
7.5
64
M20
Ø 60
h7
50
105
TN1
TN2
69
Ø 65
TN3
14x9x90
14
5
5
53.5
M16
Ø 50
32
100
M10
n°3-120°
B 58x53
DIN5482
e9
20
ø 60
ø 50
ø 32
TD
f7
8
37
10
68
Output Shafts

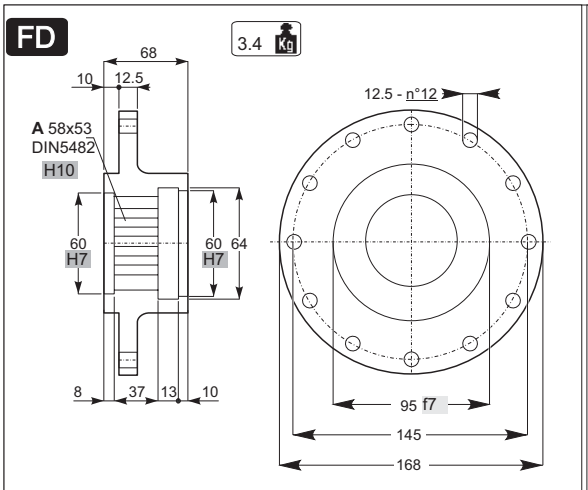

Radial Loads
Fr
60000
50000
40000
30000
20000
10000
N
mm
x
140
120
100
80
60
40
20
0


Axial Loads
38557
N
Fa
34426

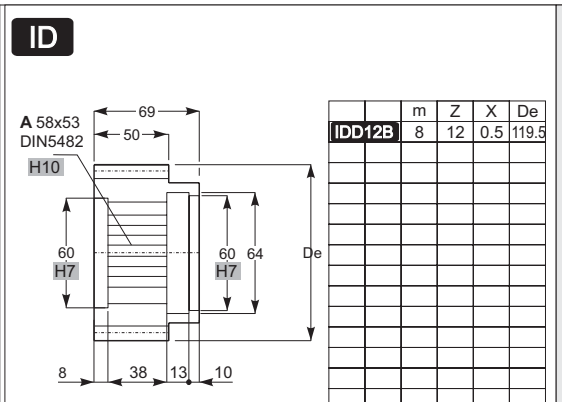

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4



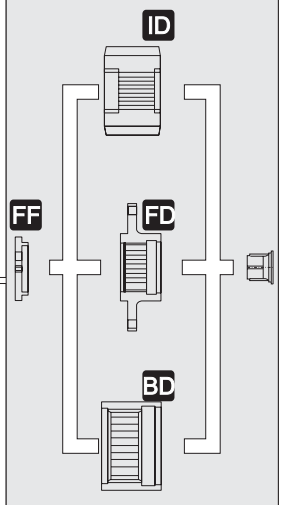
FD



ID

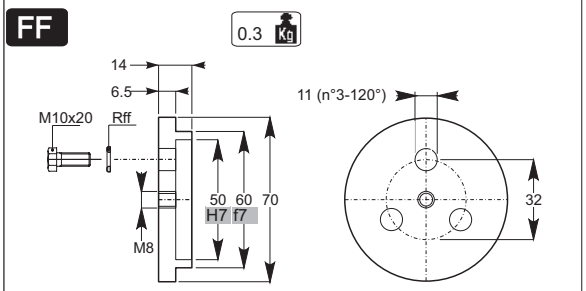


IDD12B	m	Z	X	De
	8	12	0.5	119.5

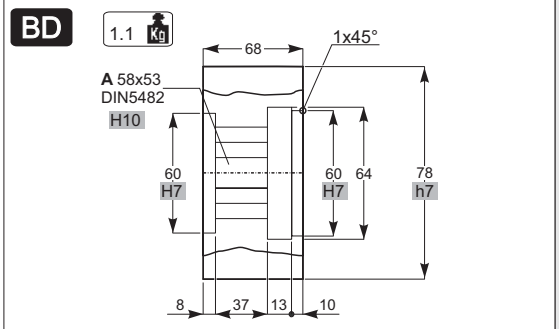


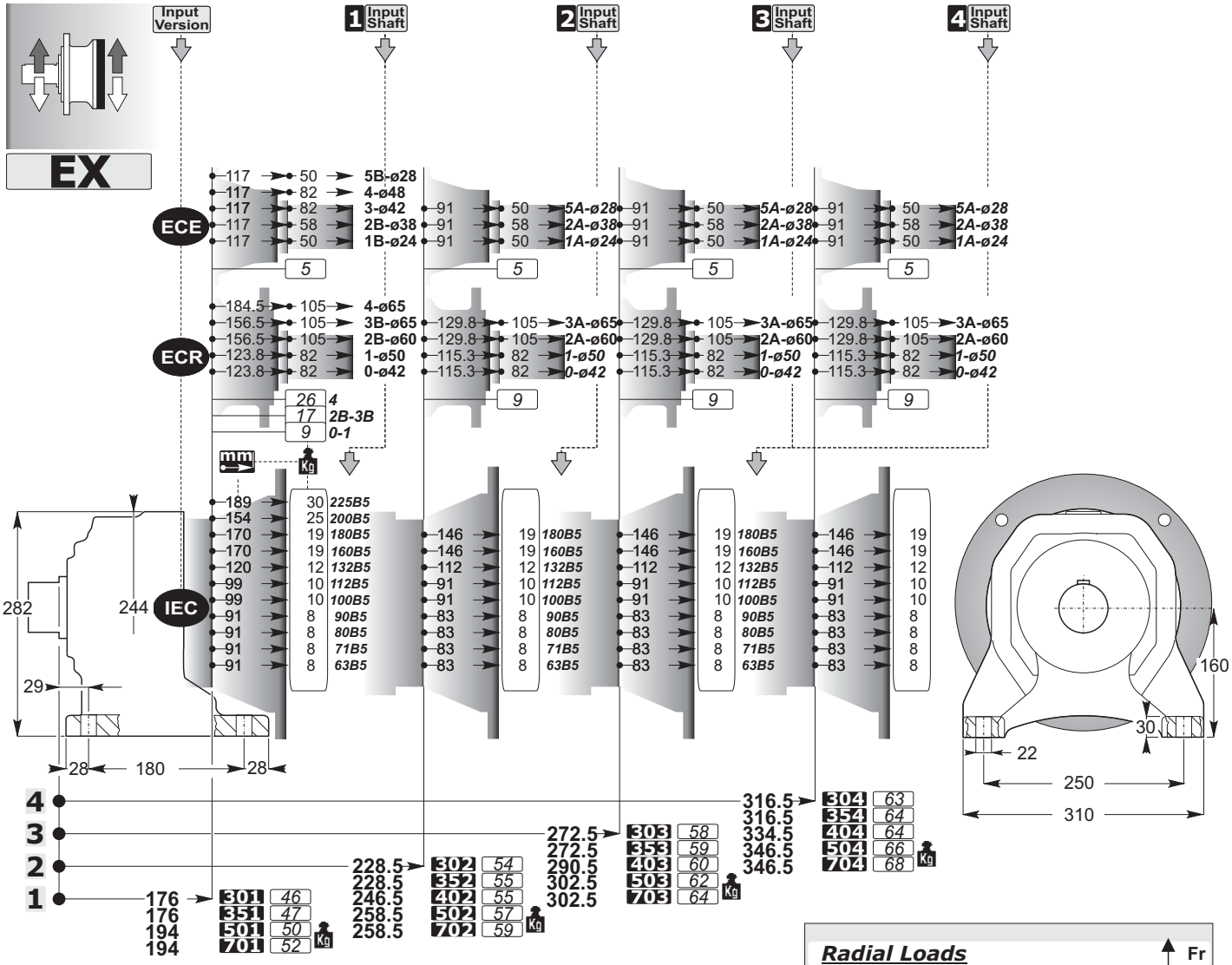
Accessories

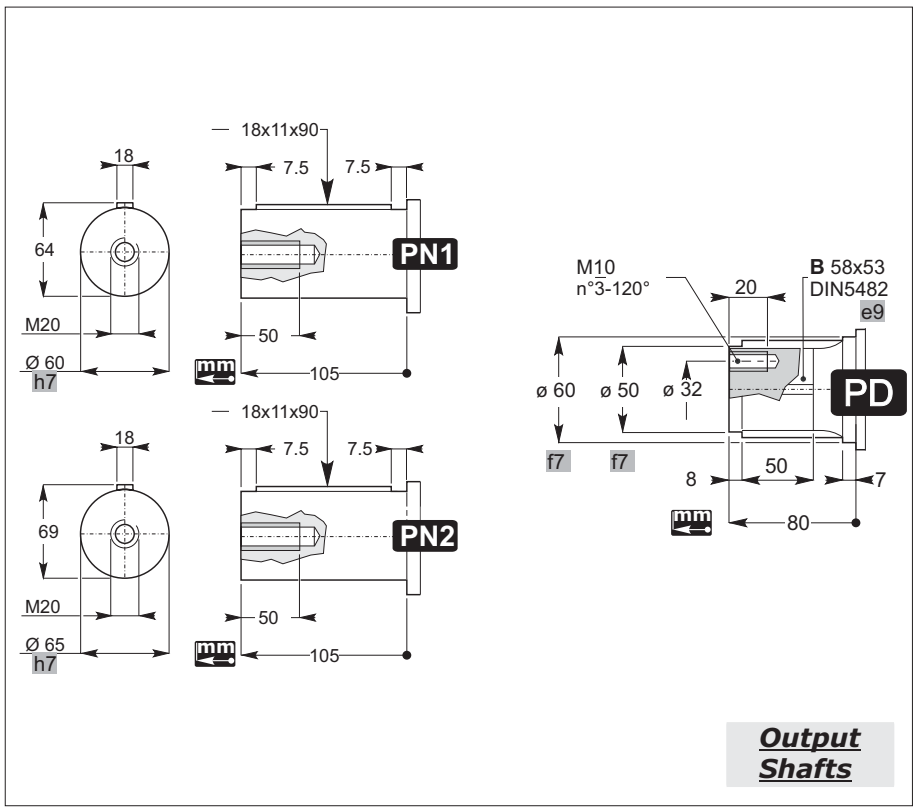
FF

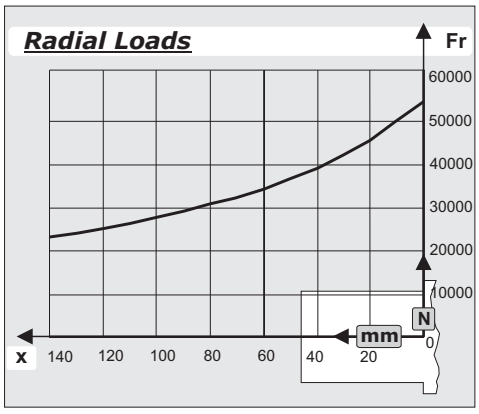


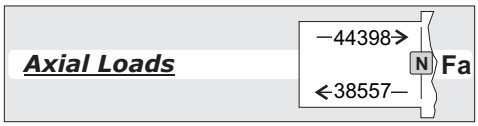
BD

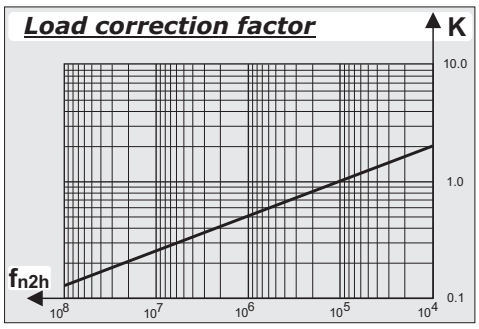




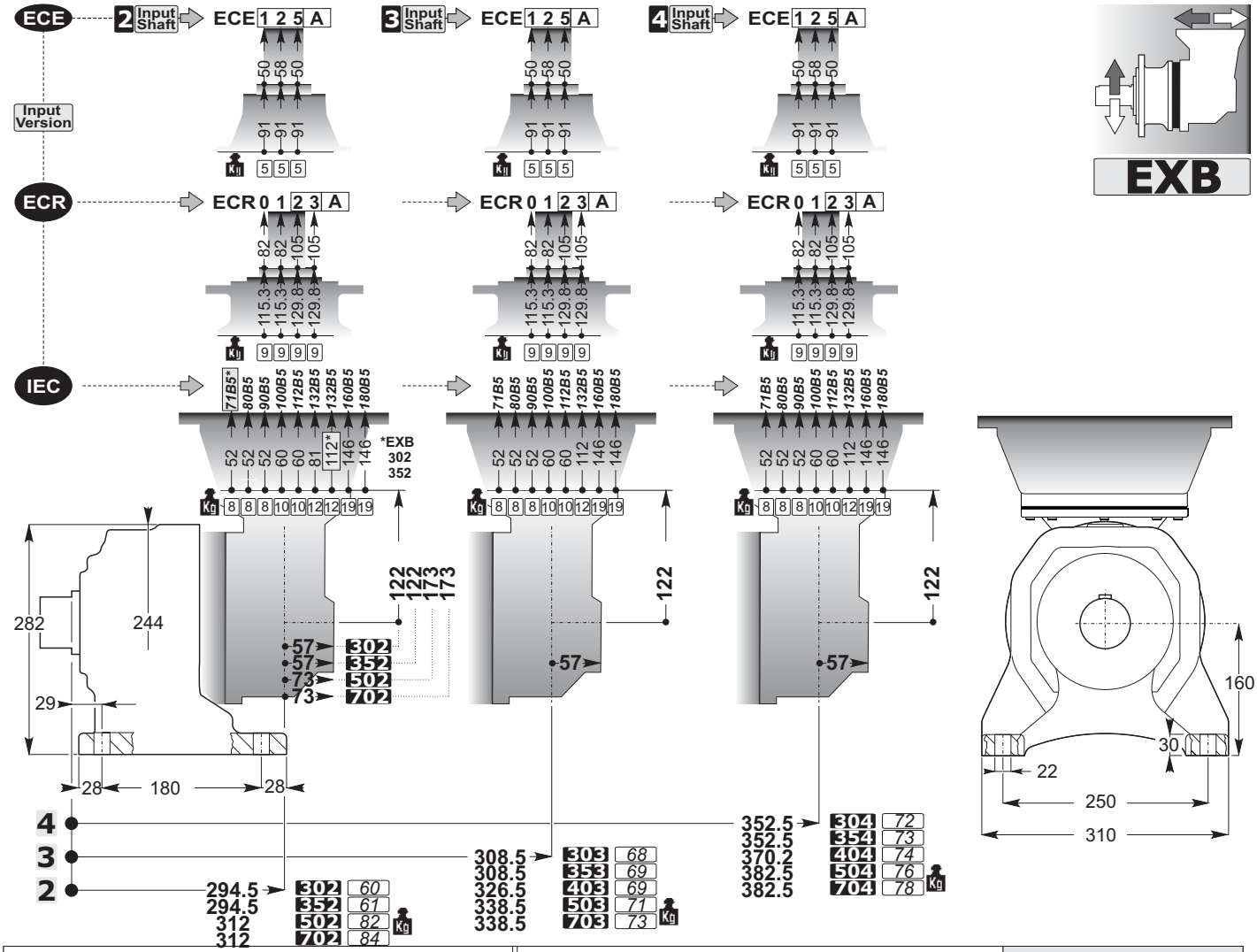




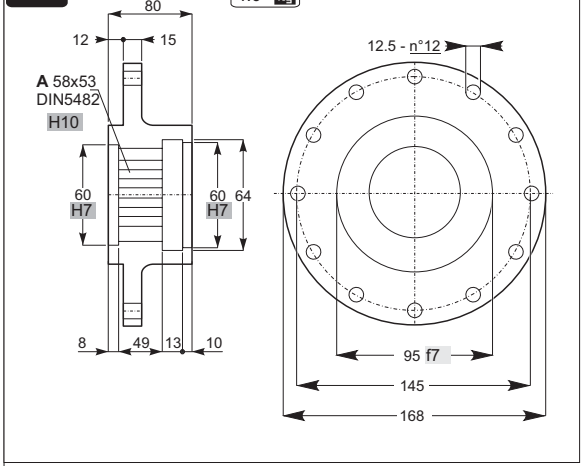




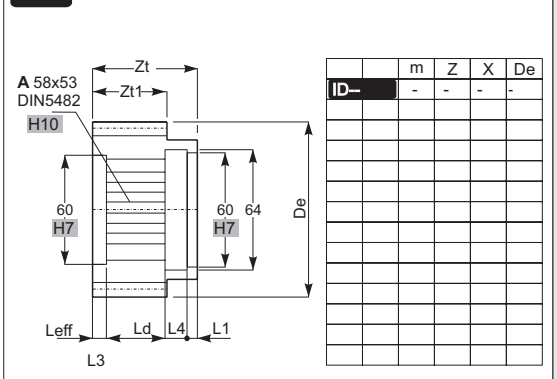
Output Shafts



FD

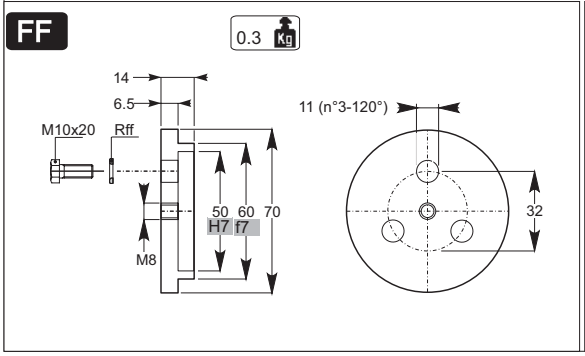


ID

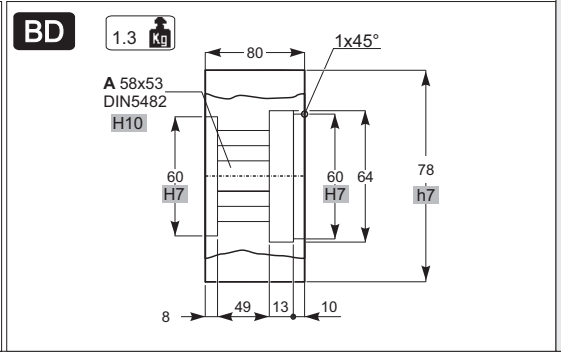


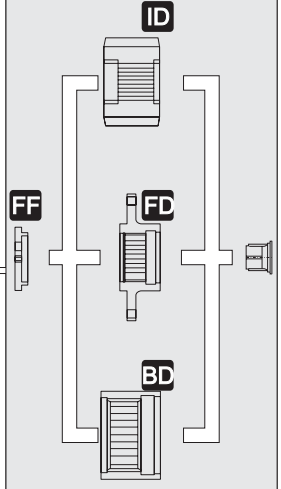
ID–	m	Z	X	De
	-	-	-	-

FF



BD

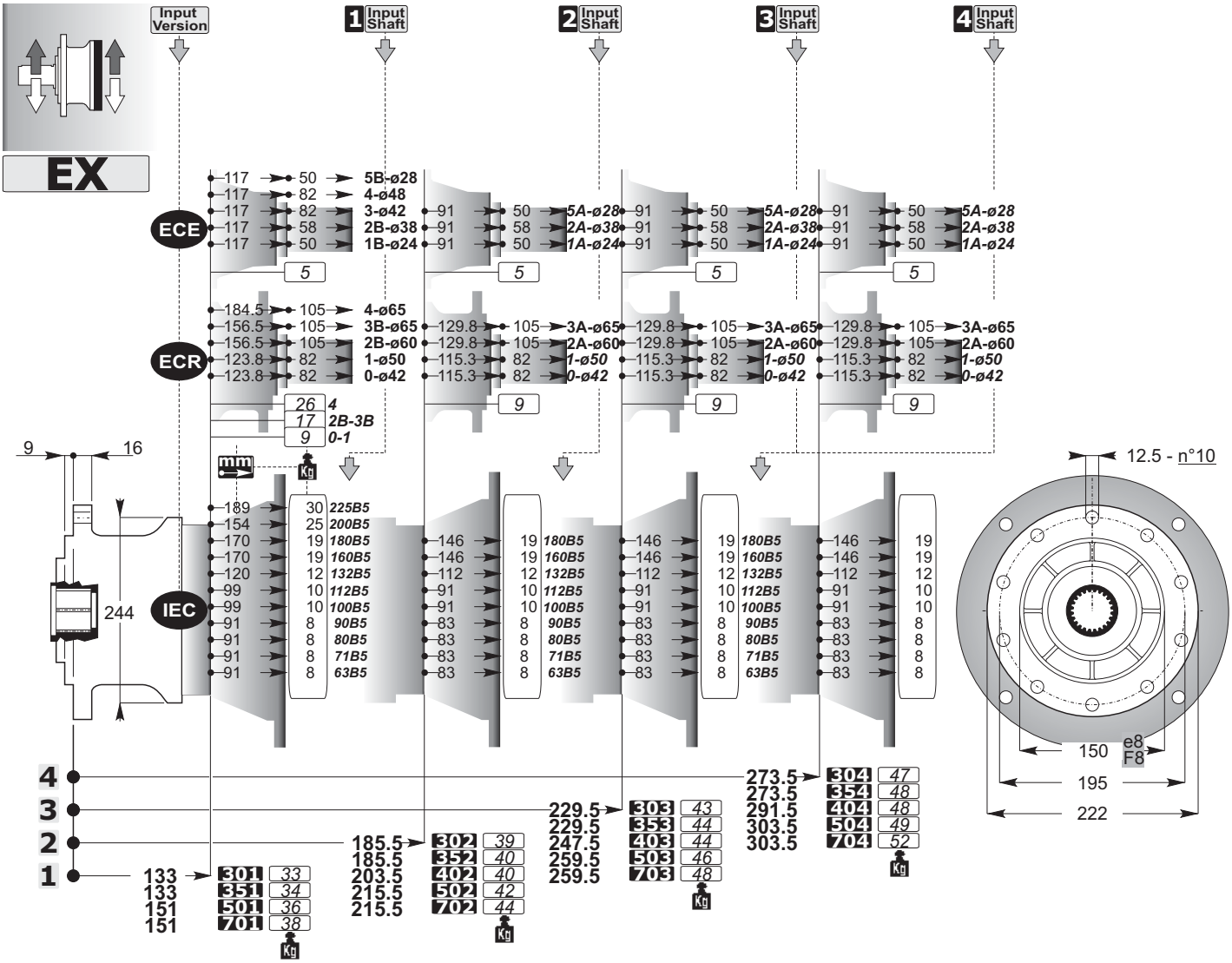


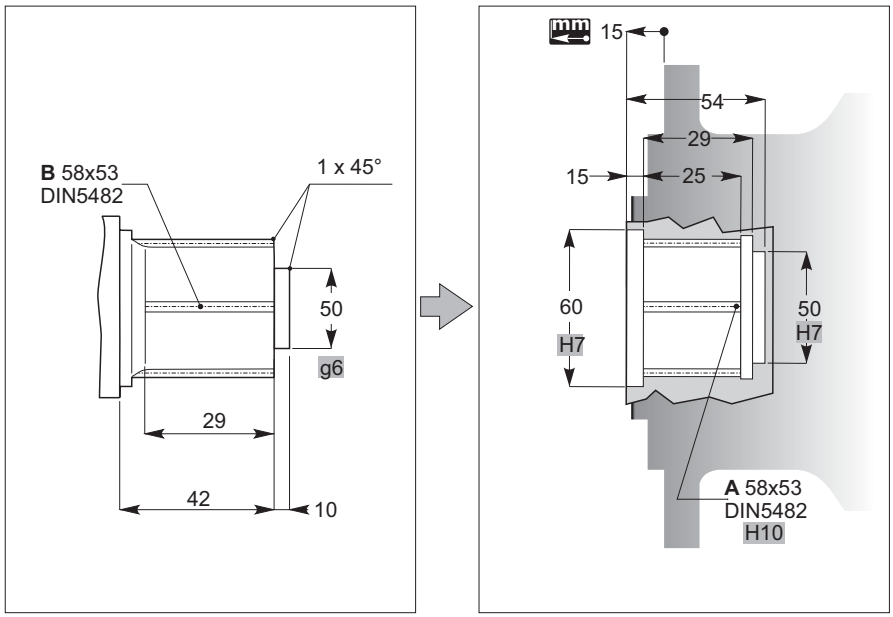


Accessories

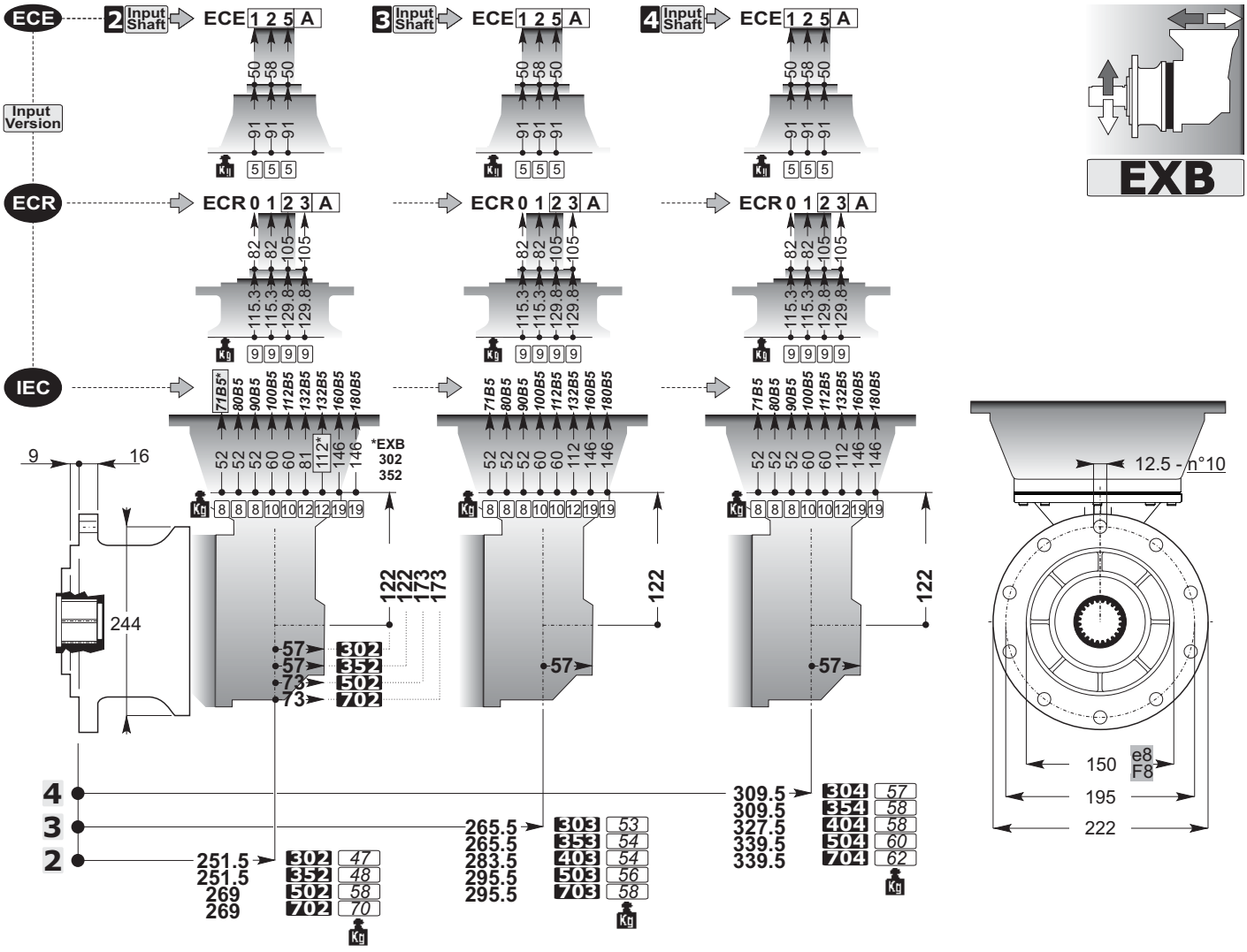
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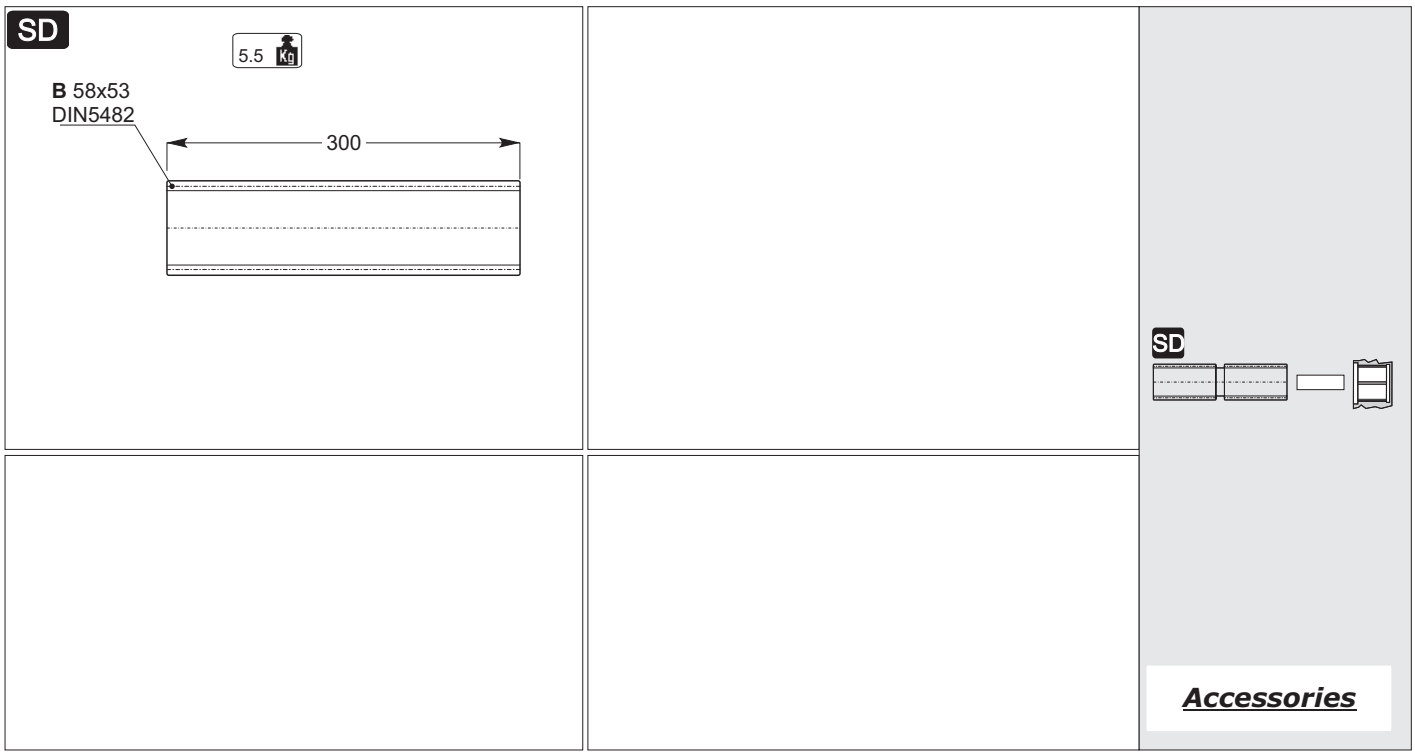
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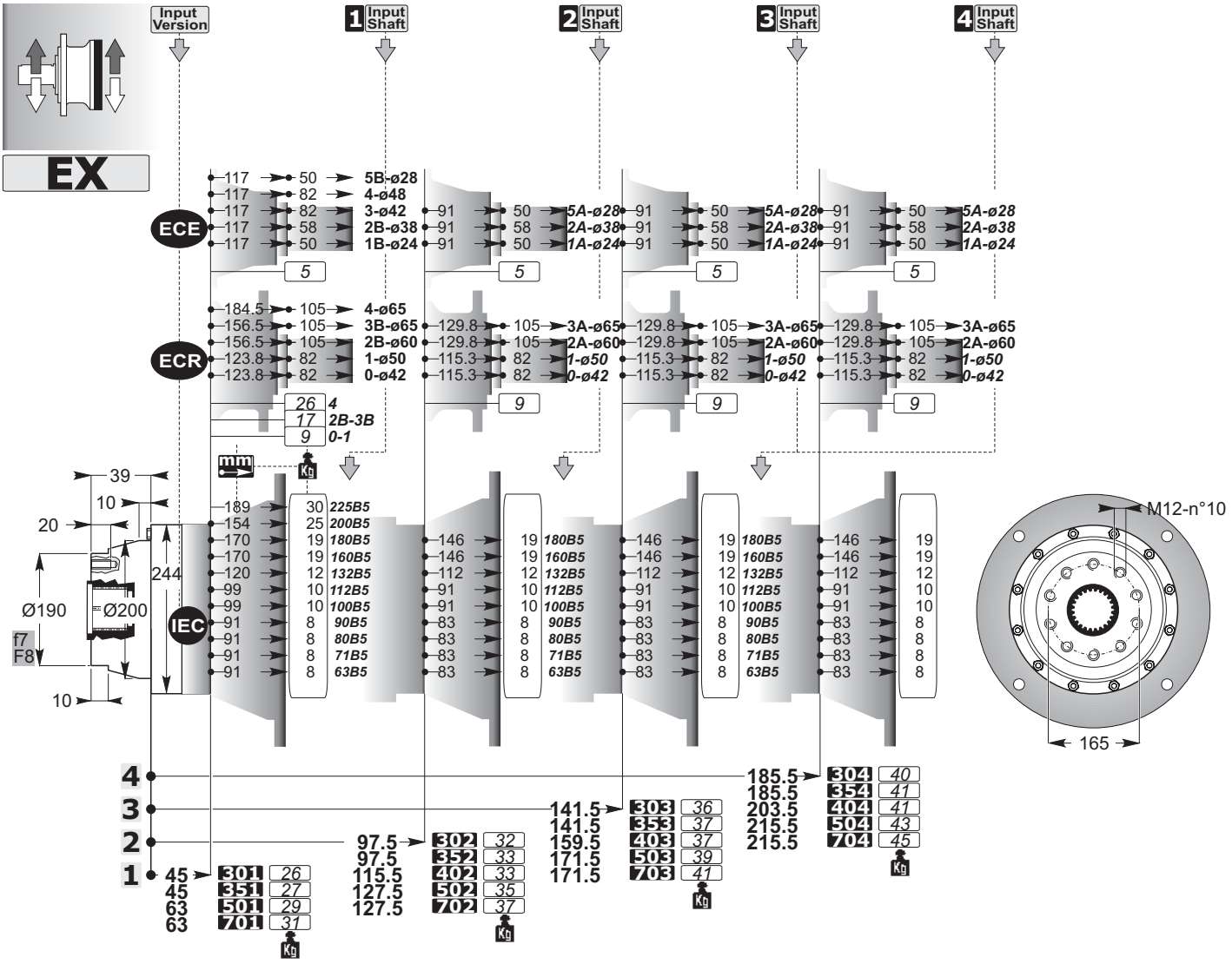


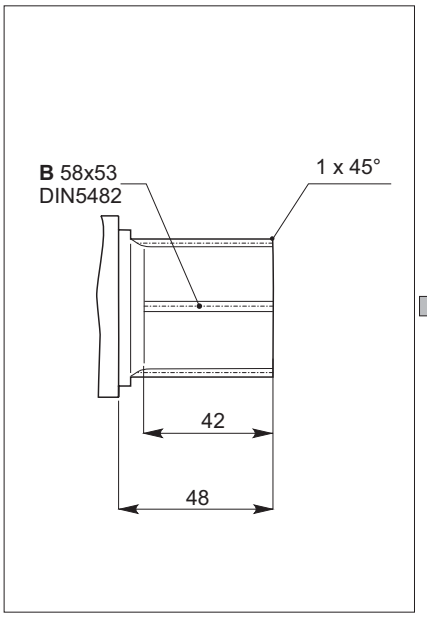


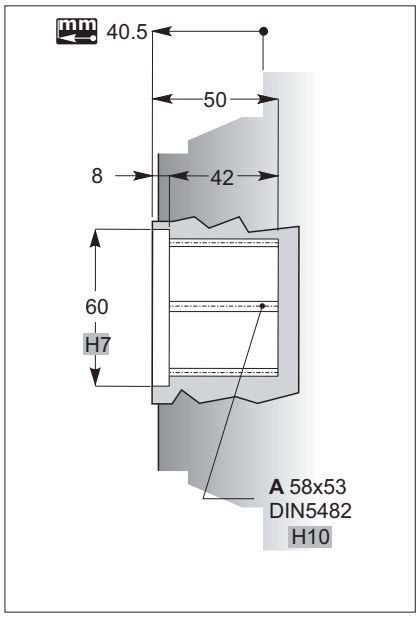
Output Shafts


ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB
302
352
9
16
244
122
122
173
173
57
57
73
73
302
352
502
702
4
3
2
251.5
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265.5
265.5
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295.5
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309.5
327.5
339.5
339.5
303 53
353 54
403 54
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703 58
304 57
354 58
404 58
504 60
704 62
12.5 - n°10
150 e8 F8
195
222
EXB

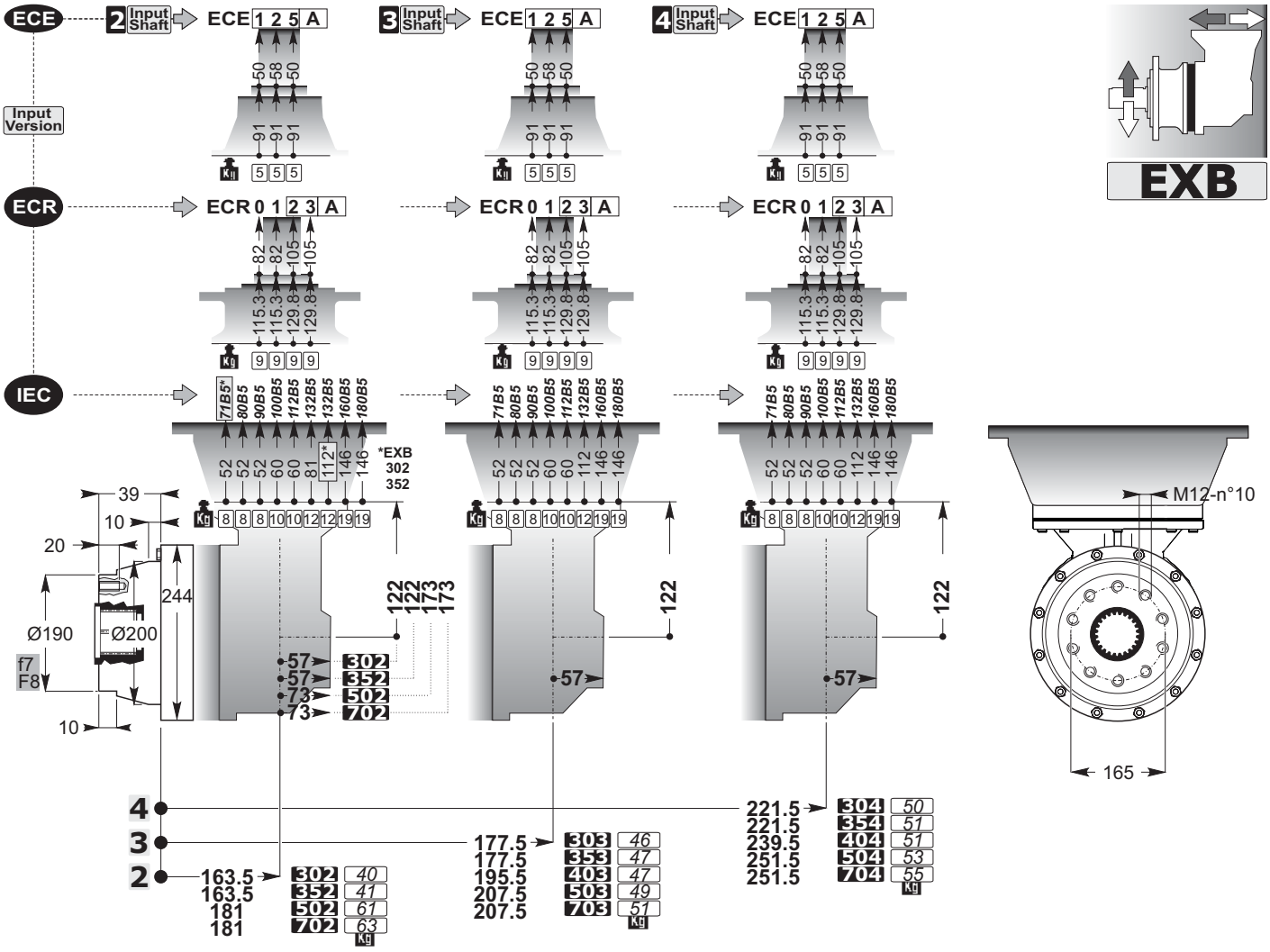

SD
5.5
B 58x53
DIN5482
300
SD
Accessories

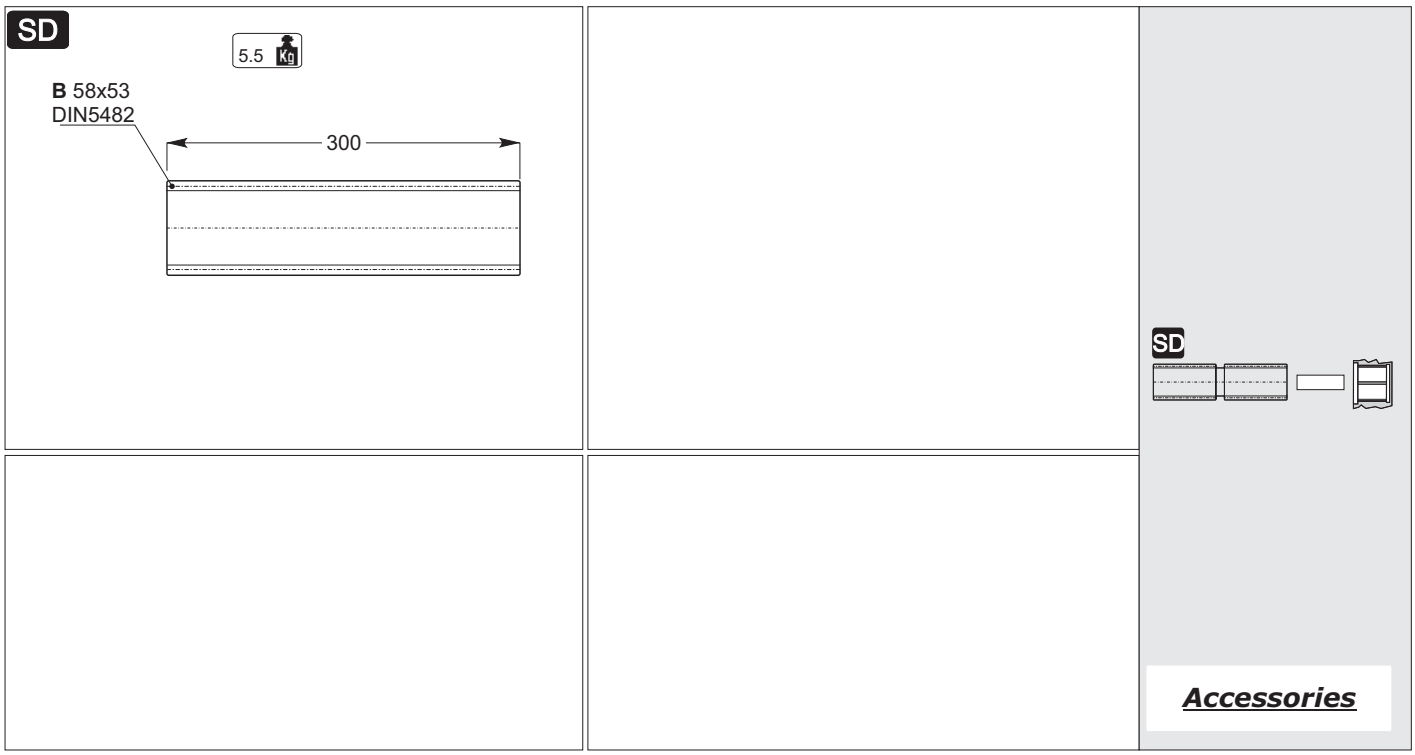


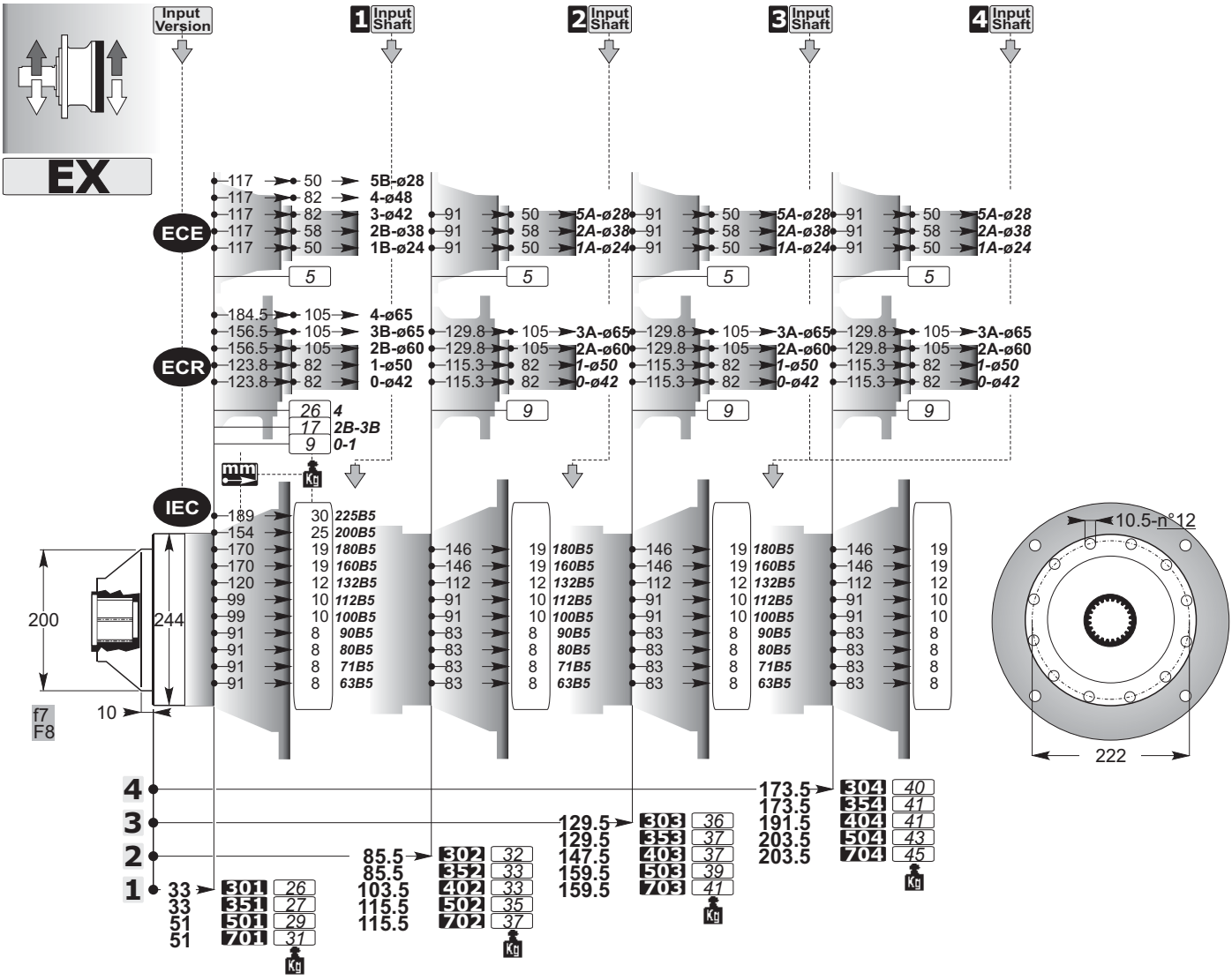


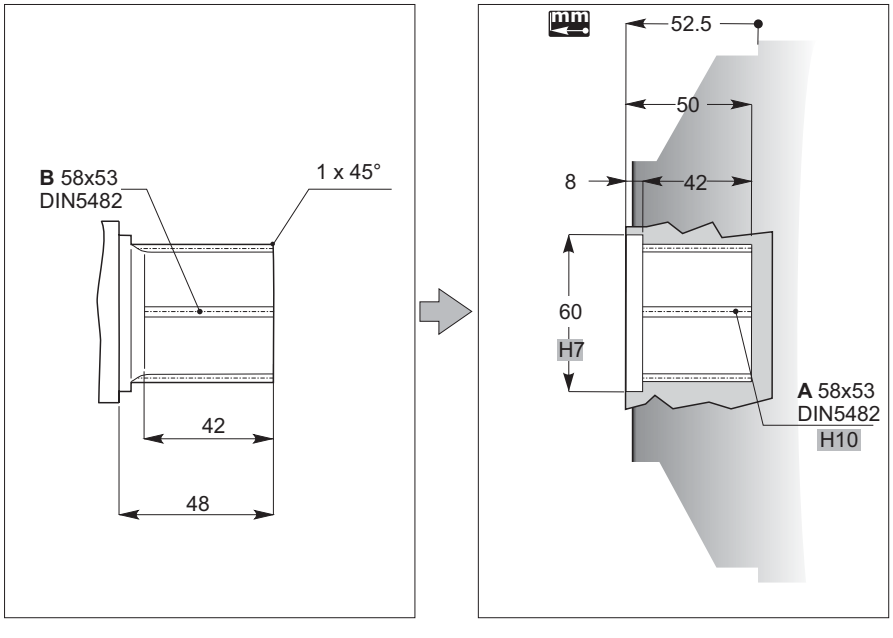


Output Shafts

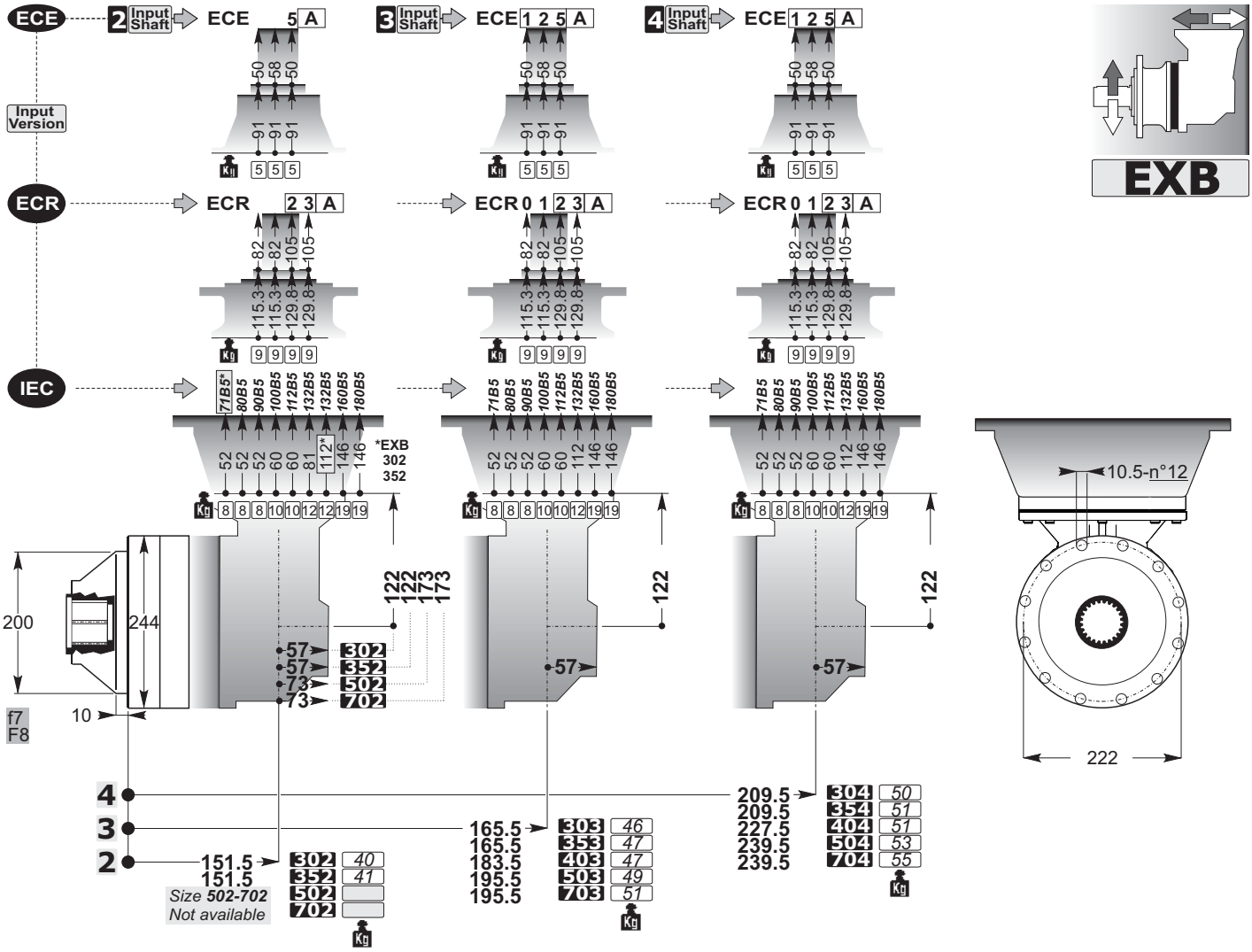

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
EXB
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB
302
352
M12-n°10
165
39
10
20
244
Ø190
Ø200
f7
F8
10
122
122
173
173
122
122
57
57
73
73
302
352
502
702
4
3
2
163.5
163.5
181
181
177.5
177.5
195.5
207.5
207.5
221.5
221.5
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251.5
251.5
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353 47
403 47
503 49
703 51
304 50
354 51
404 51
504 53
704 55

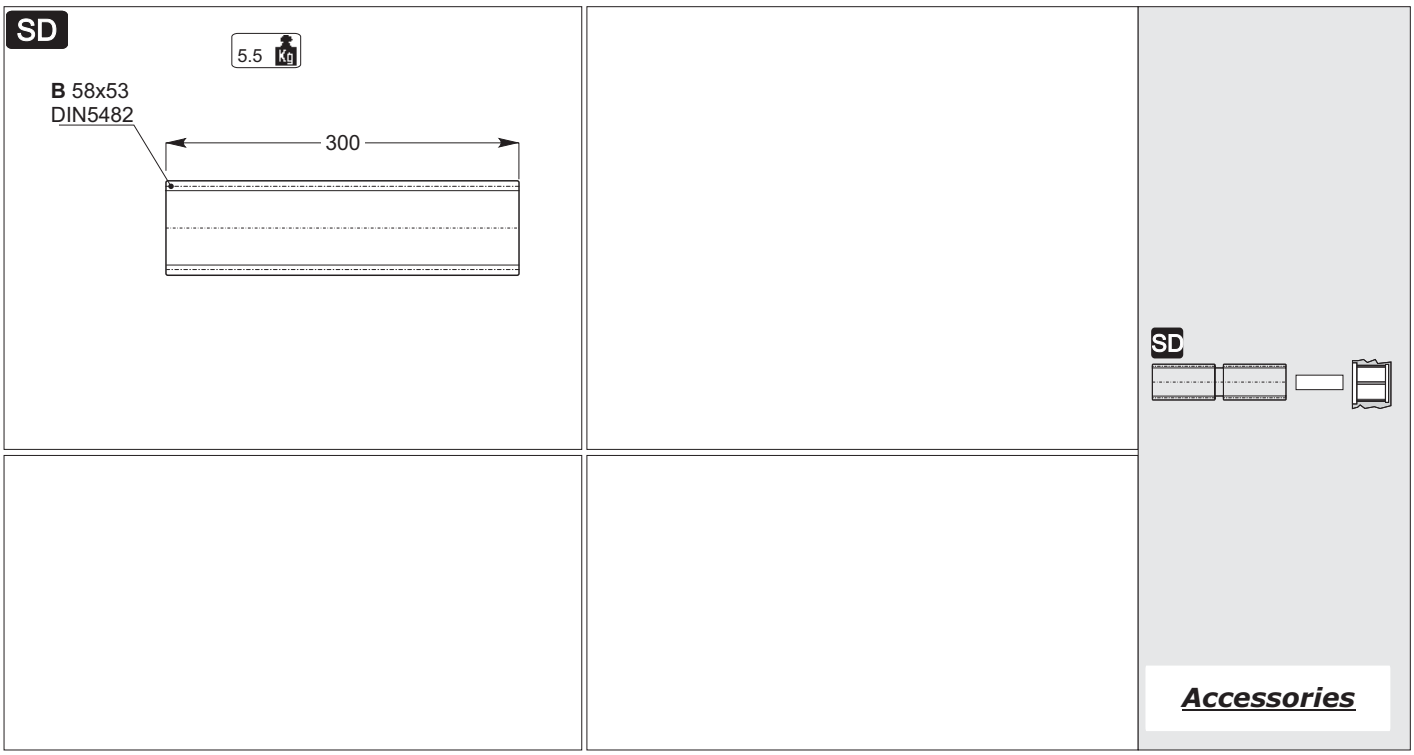

SD
5.5
B 58x53
DIN5482
300
SD
Accessories

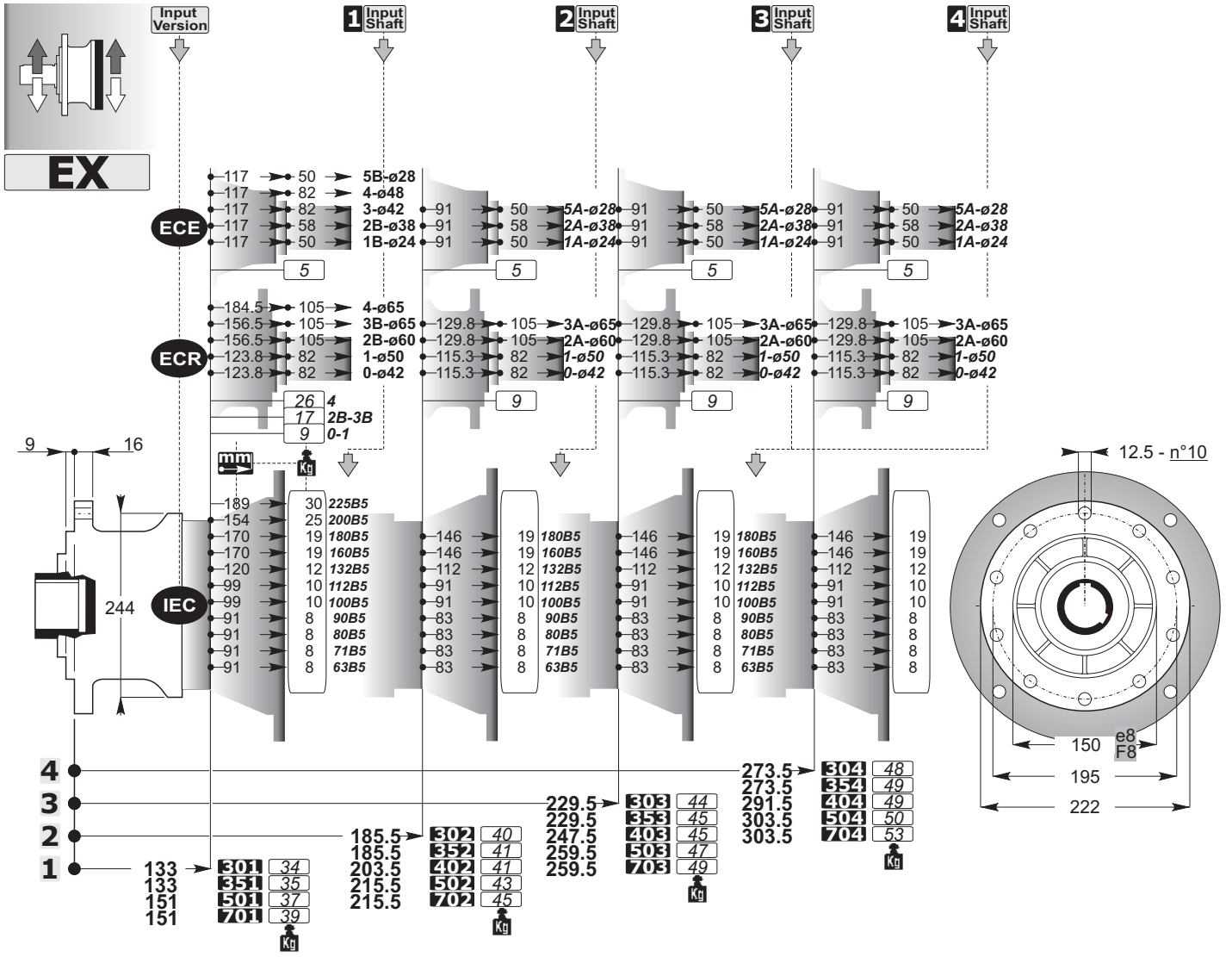


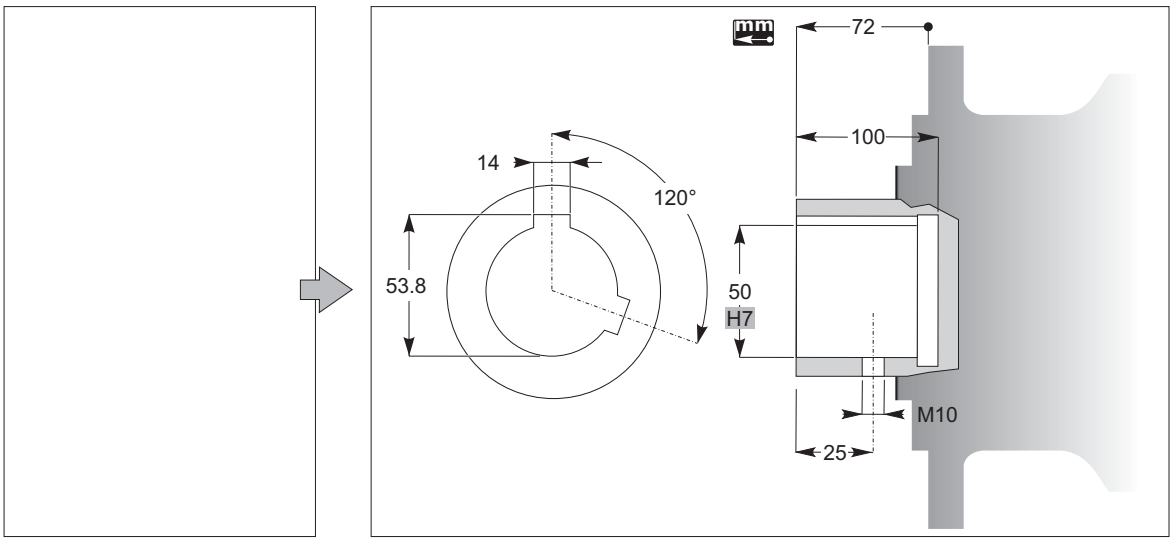


Output Shafts

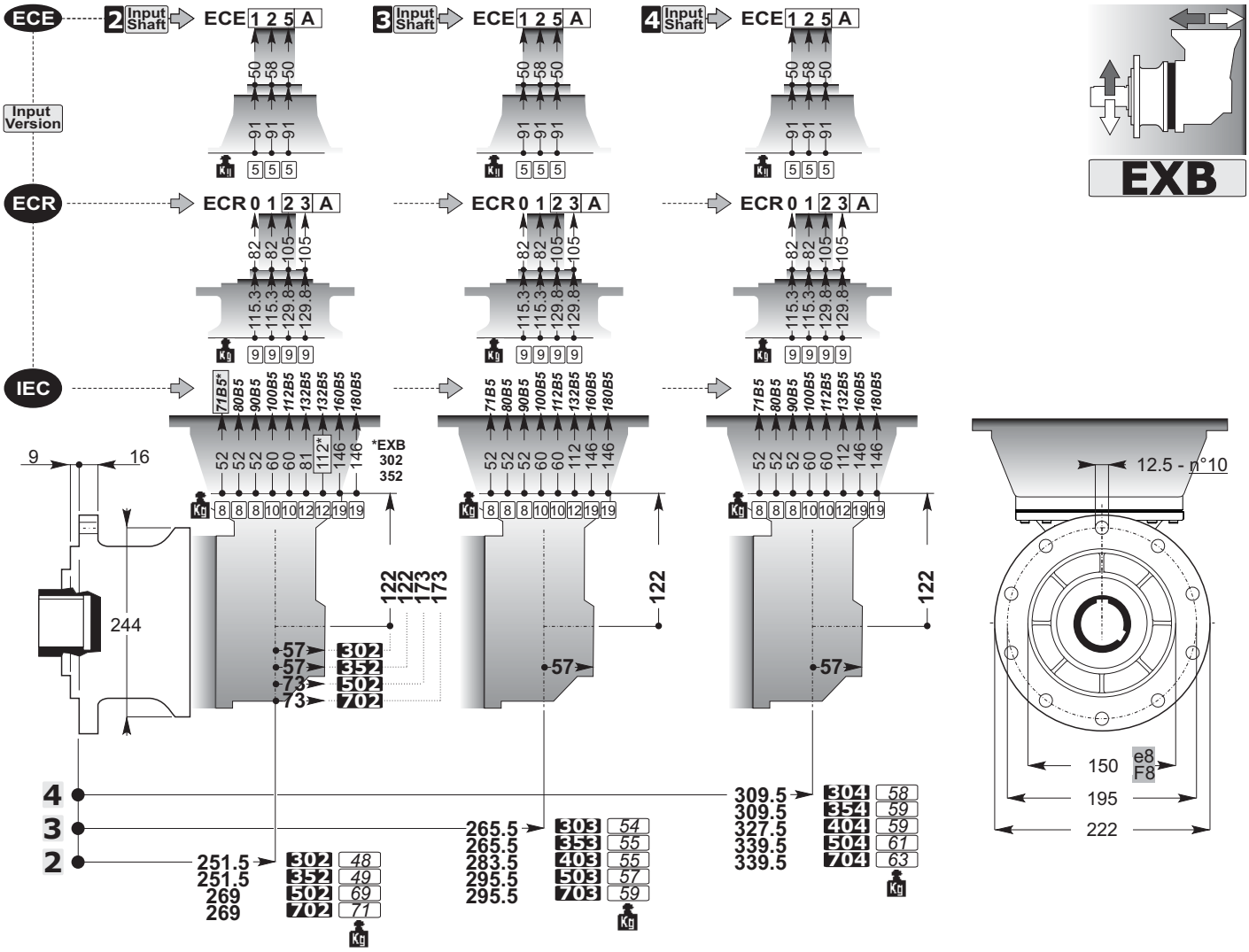

ECE
2 Input Shaft
ECE 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
302
352
10.5-n°12
222
200
244
f7
F8
10
122
122
173
173
57
302
57
352
73
502
73
702
4
3
2
209.5
209.5
227.5
239.5
239.5
304 50
354 51
404 51
504 53
704 55
165.5
165.5
183.5
195.5
195.5
303 46
353 47
403 47
503 49
703 51
151.5
151.5
302 40
352 41
502
702
Size 502-702
Not available


SD
5.5
B 58x53
DIN5482
300
SD
Accessories

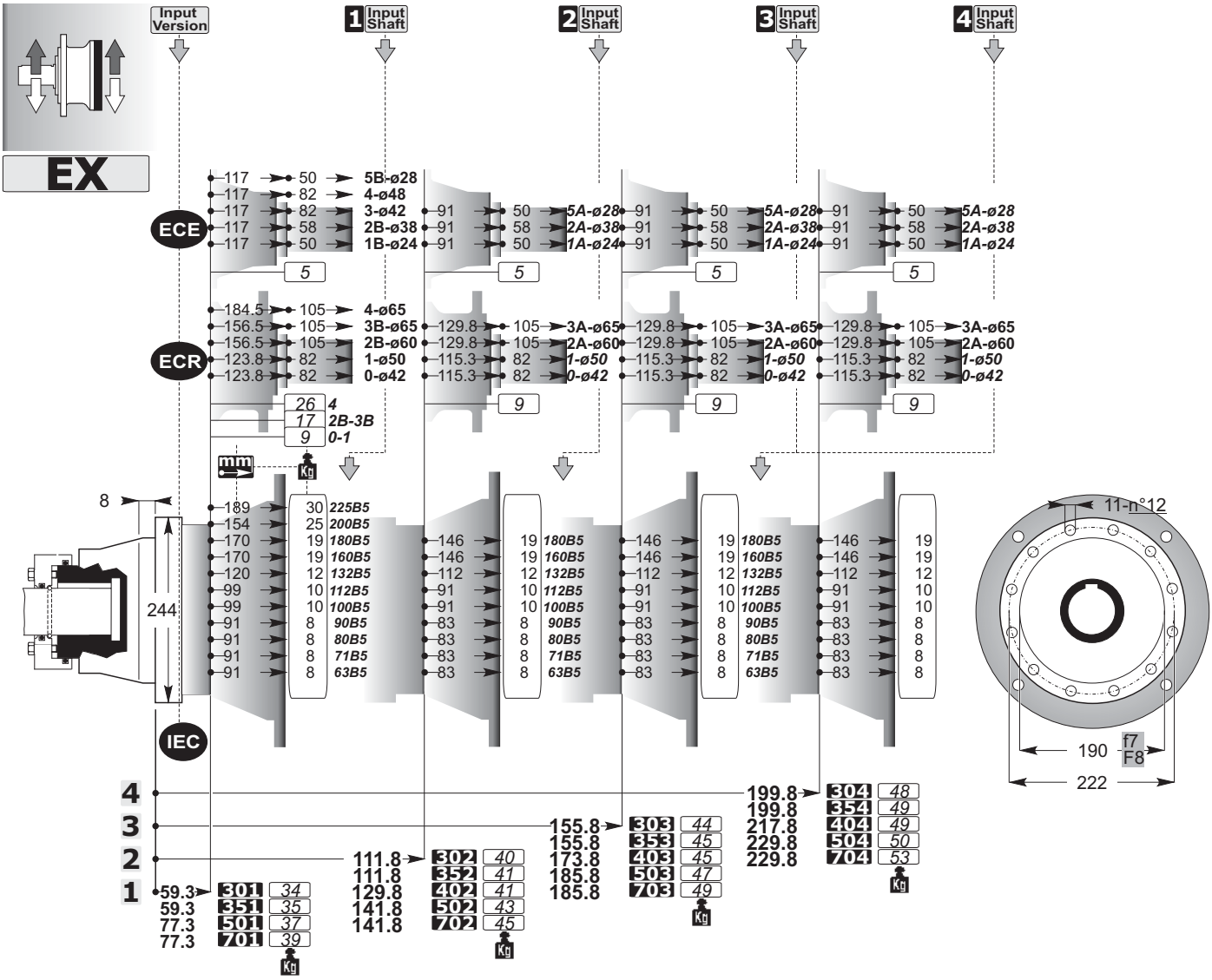


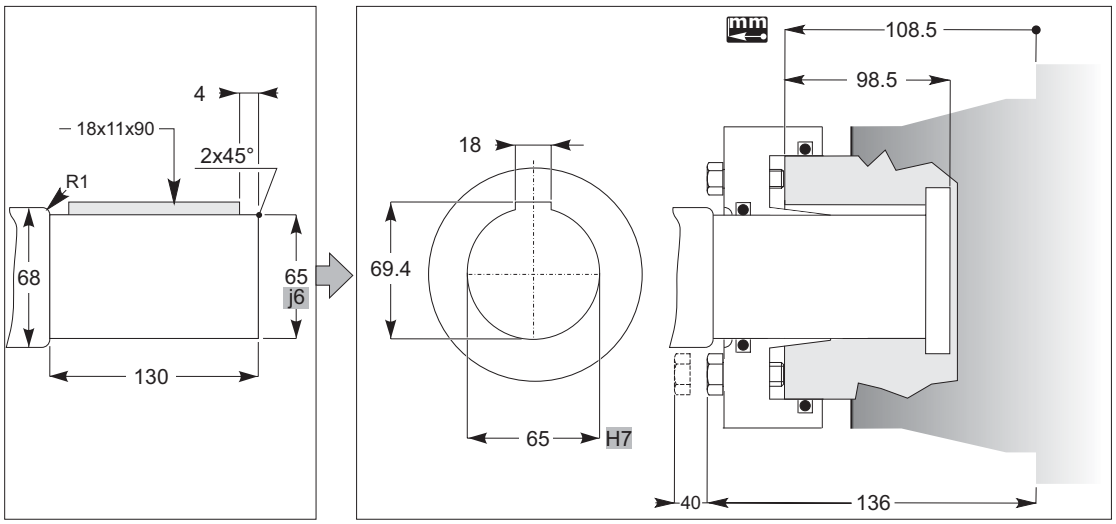


Output Shafts

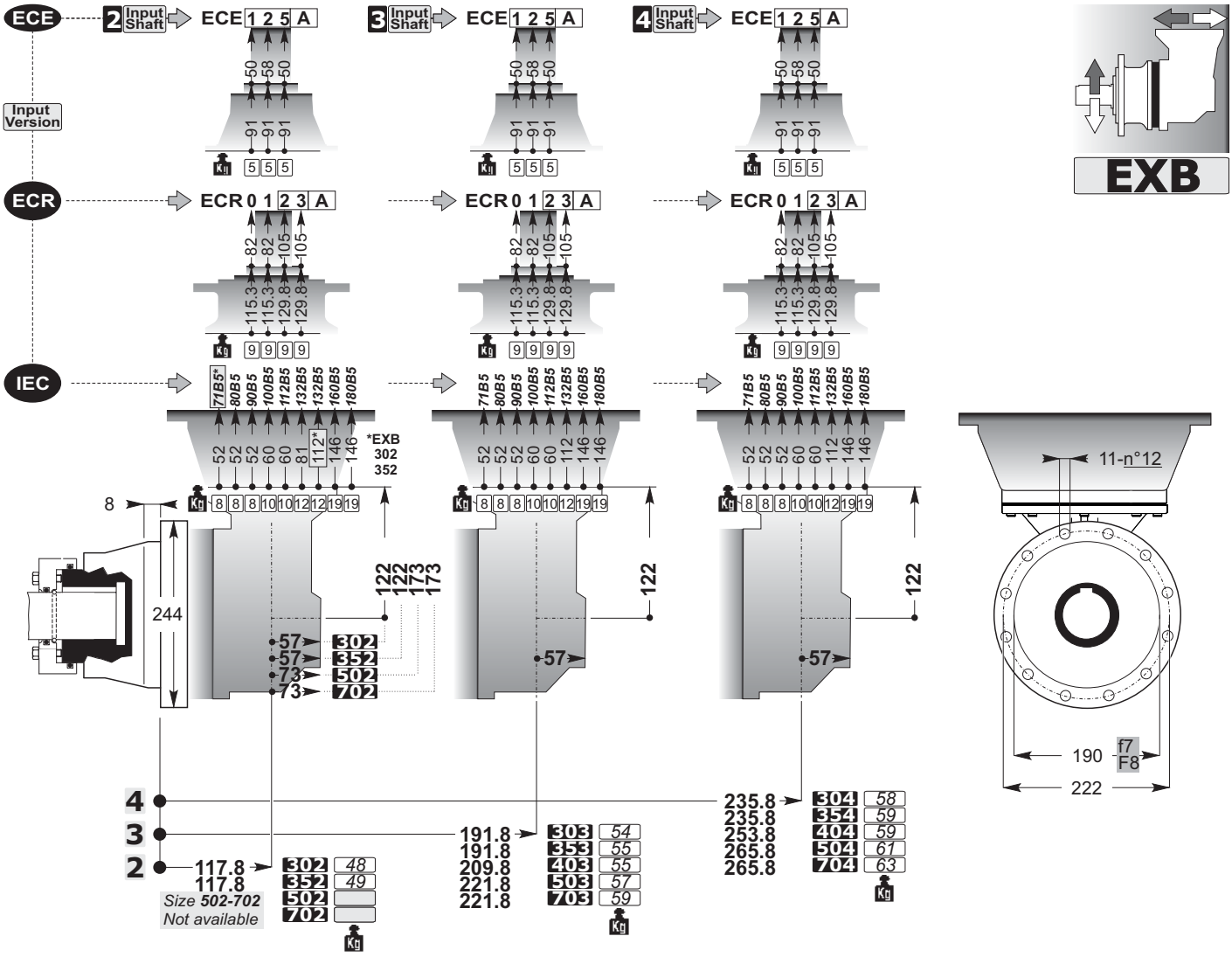

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 A
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB
302
352
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339.5
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404 59
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704 63
12.5 - n°10
150 e8 F8
195
222

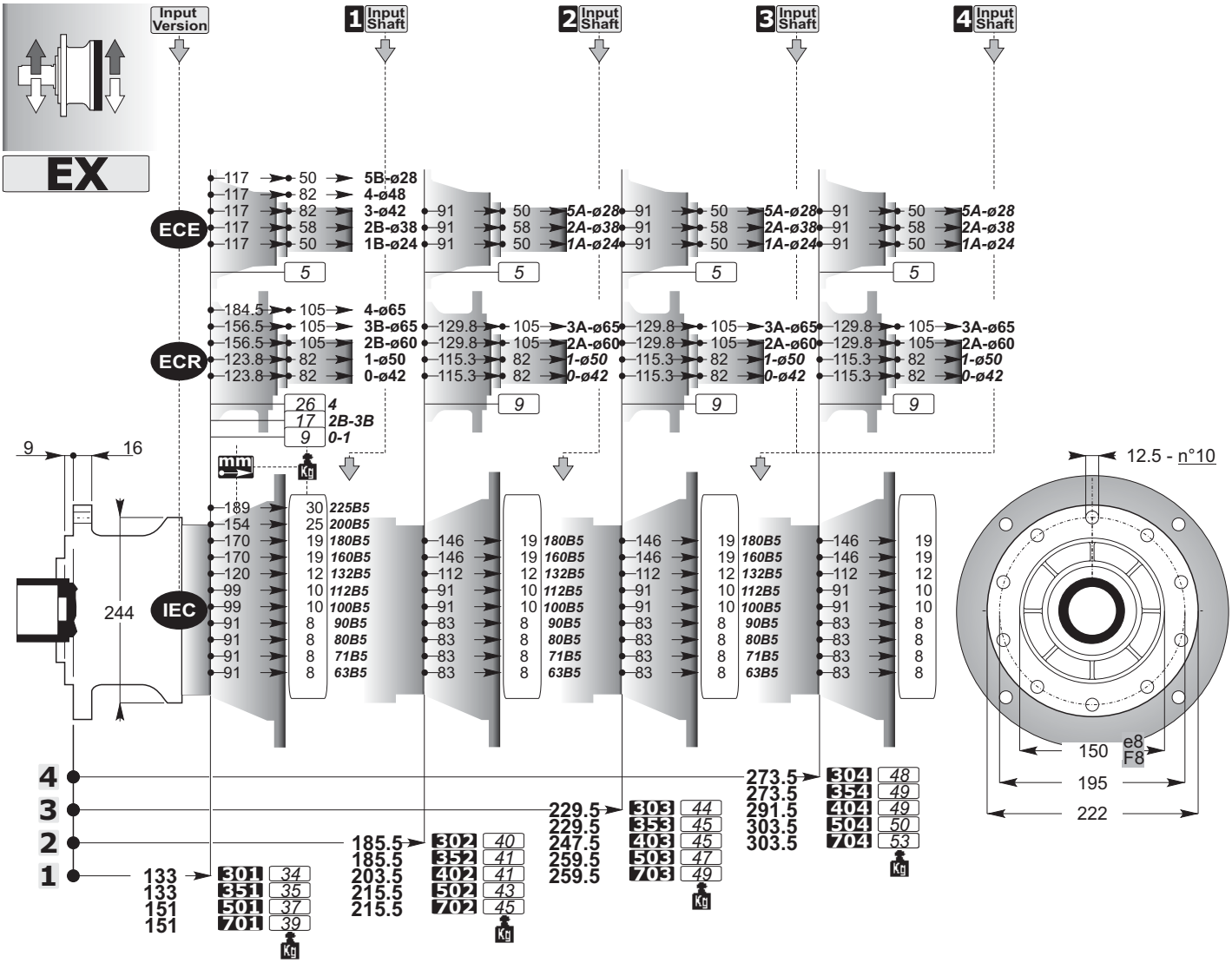
EXB

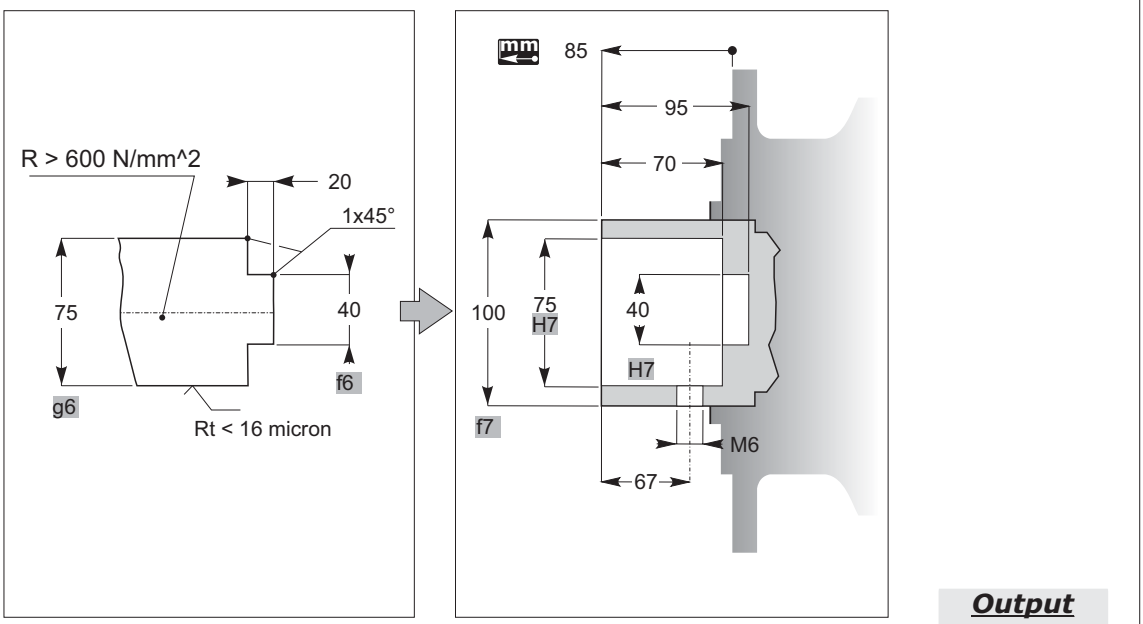




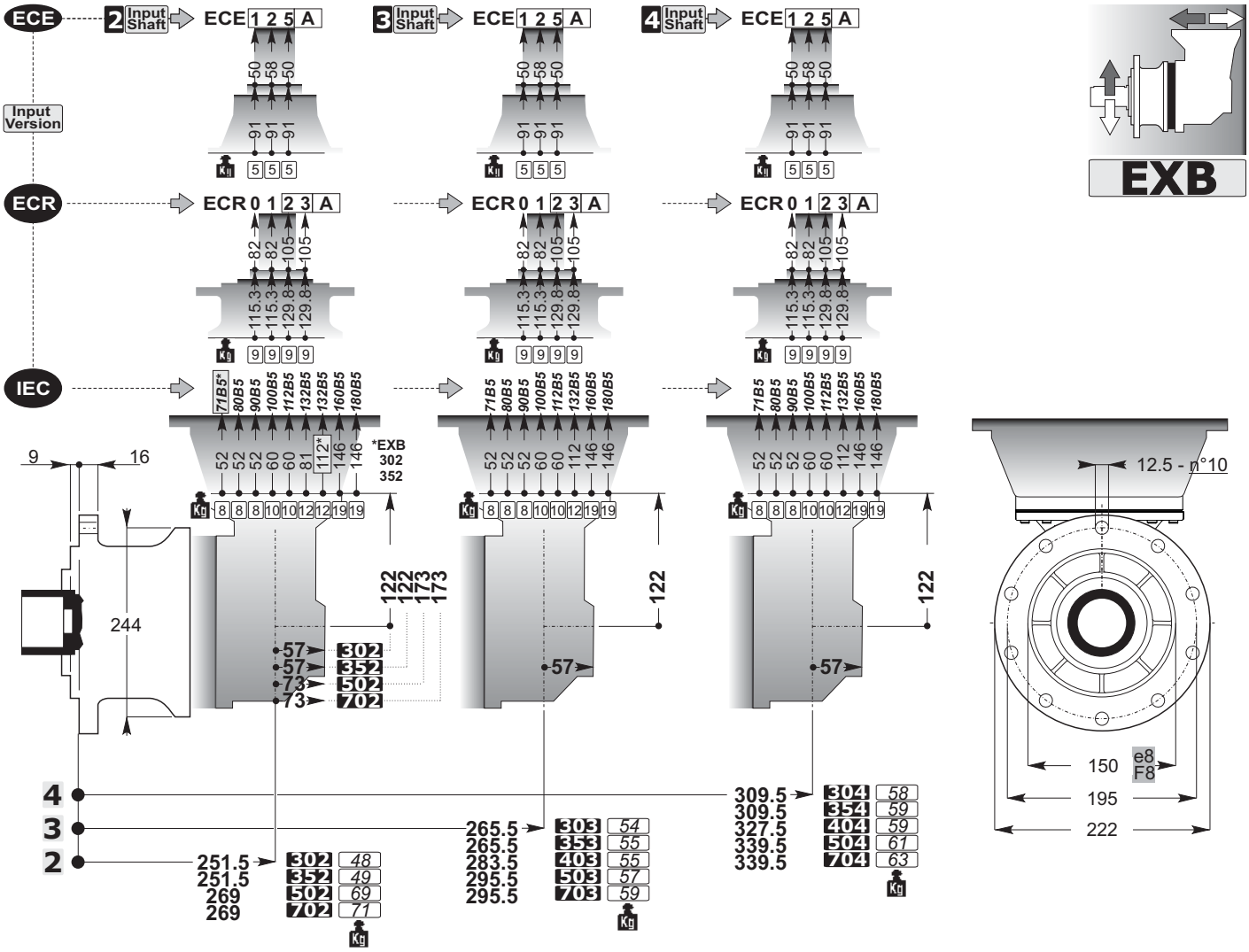
Output Shafts

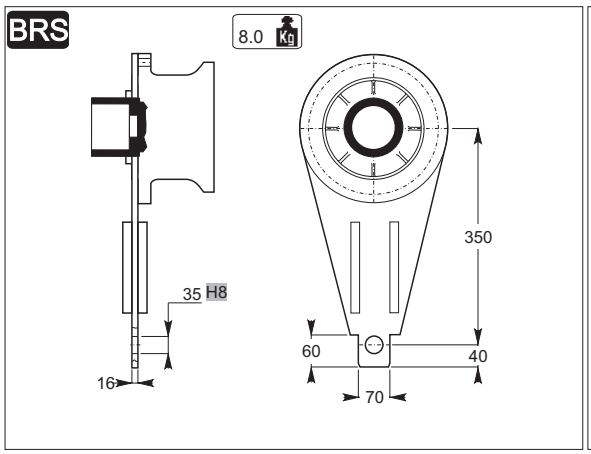

ECE
2 Input Shaft
ECE 1 2 5 A
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
50 58 50
91 91 91
5 5 5
ECR
ECR 0 1 2 3 A
82 82 105 105
115.3 115.3 129.8 129.8
9 9 9 9
IEC
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
52 52 52 60 60 81 112* 146 146
52 52 52 60 60 112 146 146
*EXB
302
352
8 8 8 8 10 10 12 12 19 19
8
244
122 122 173 173
122
122
57 302
57 352
73 502
73 702
57
57
4
3
2
117.8 302 48
117.8 352 49
Size 502-702
Not available
502
702
191.8 303 54
191.8 353 55
209.8 403 55
221.8 503 57
221.8 703 59
235.8 304 58
235.8 354 59
253.8 404 59
265.8 504 61
265.8 704 63
EXB
11-n°12
190 f7 F8
222

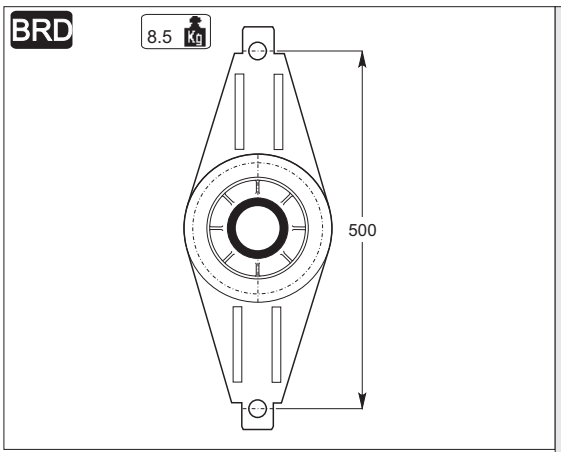


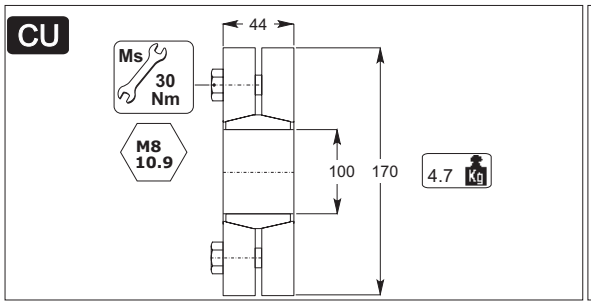


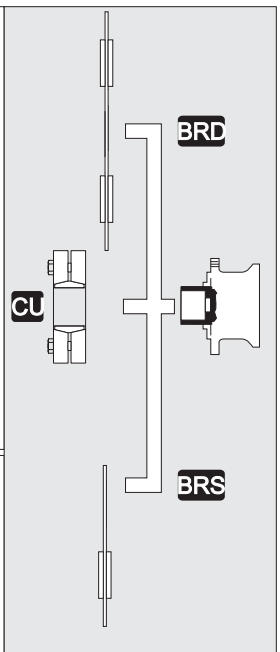
Output Shafts





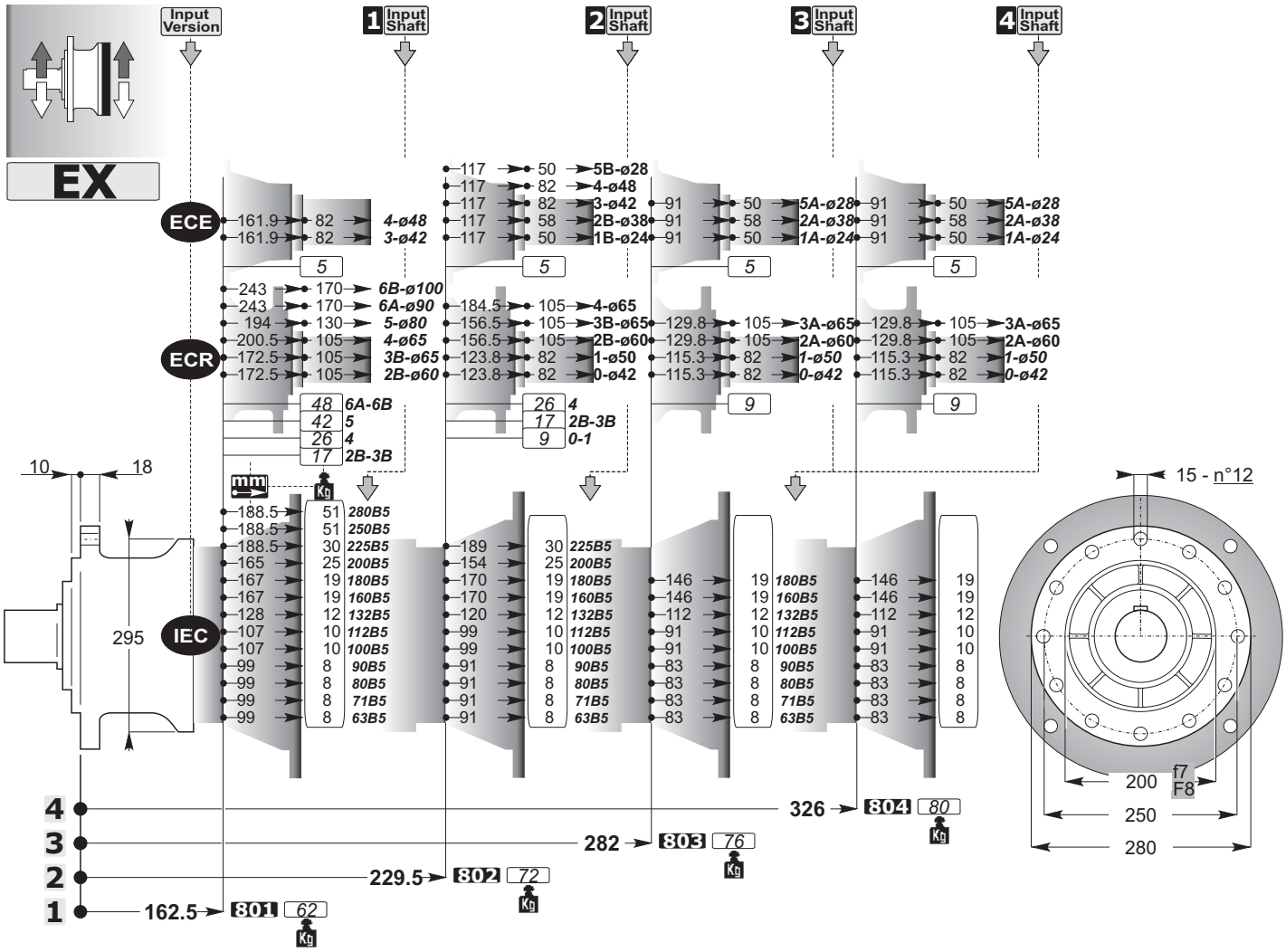


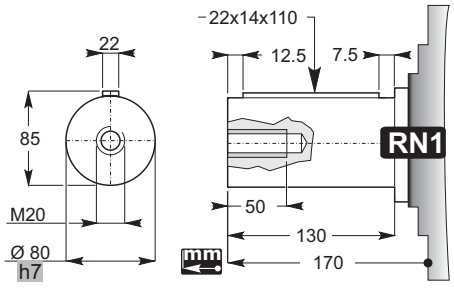


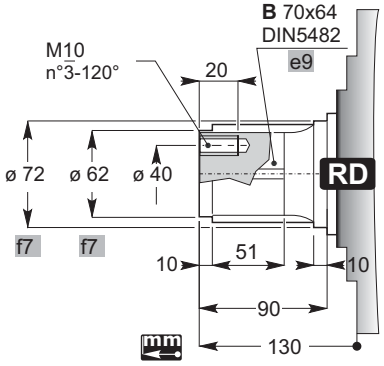


Accessories

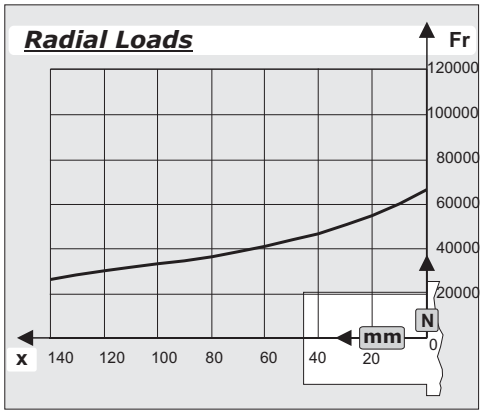
mm
C

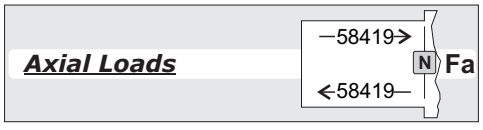


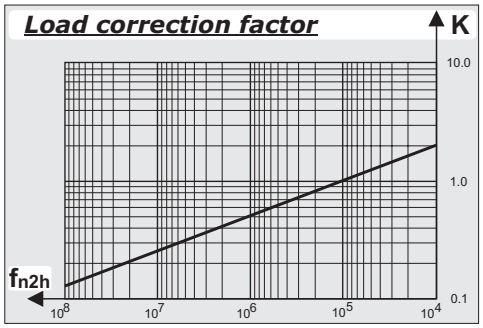


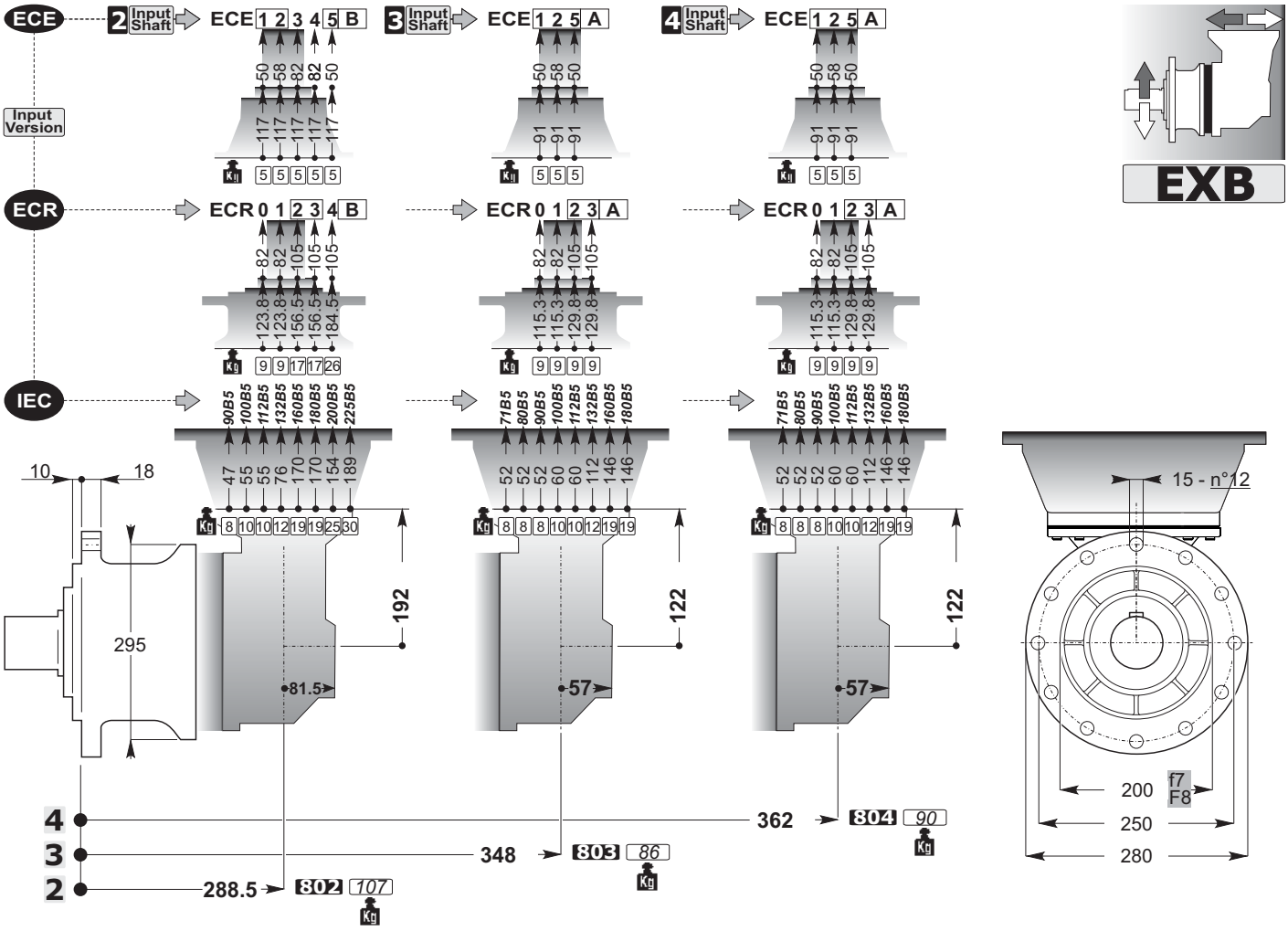


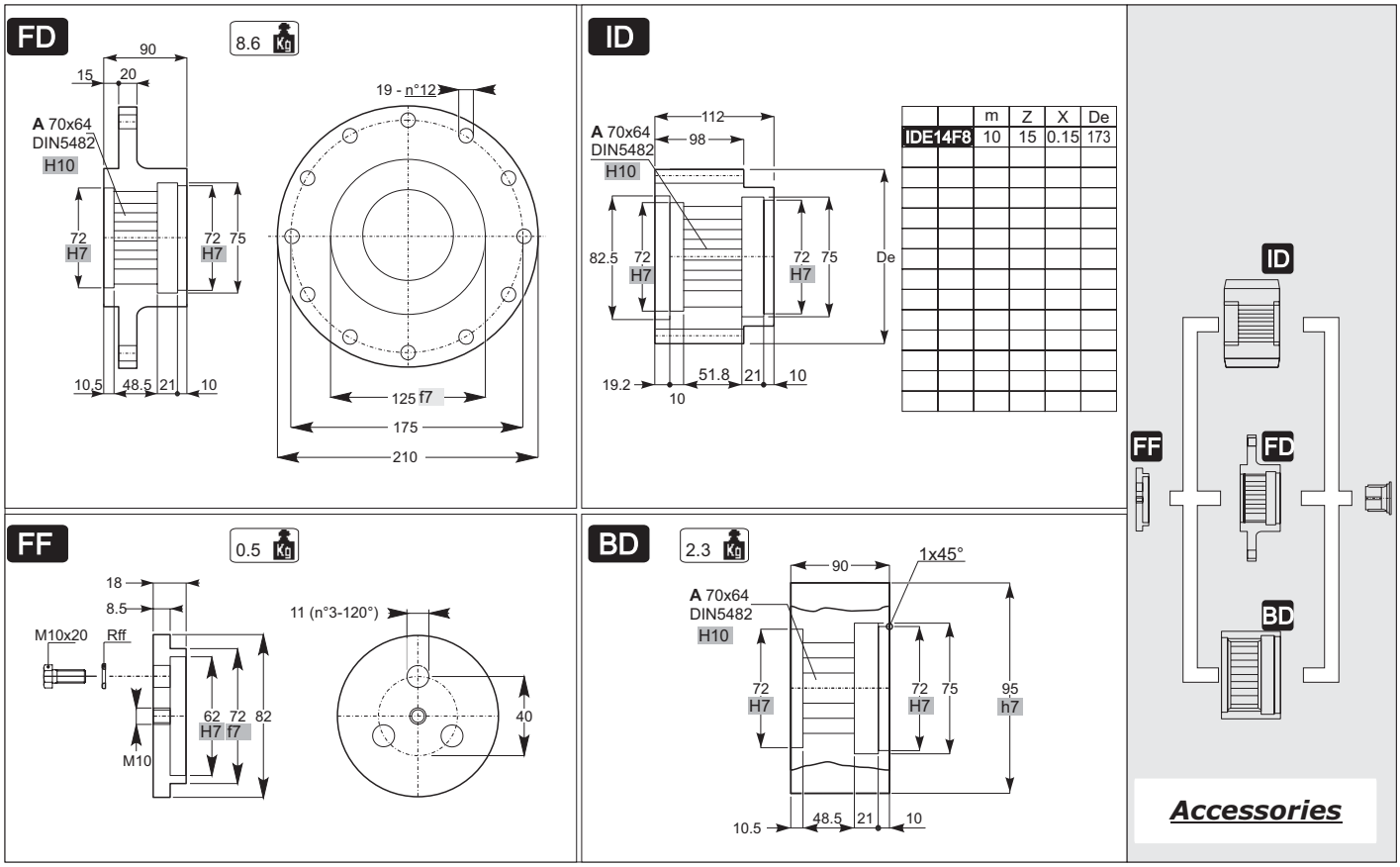
Output Shafts

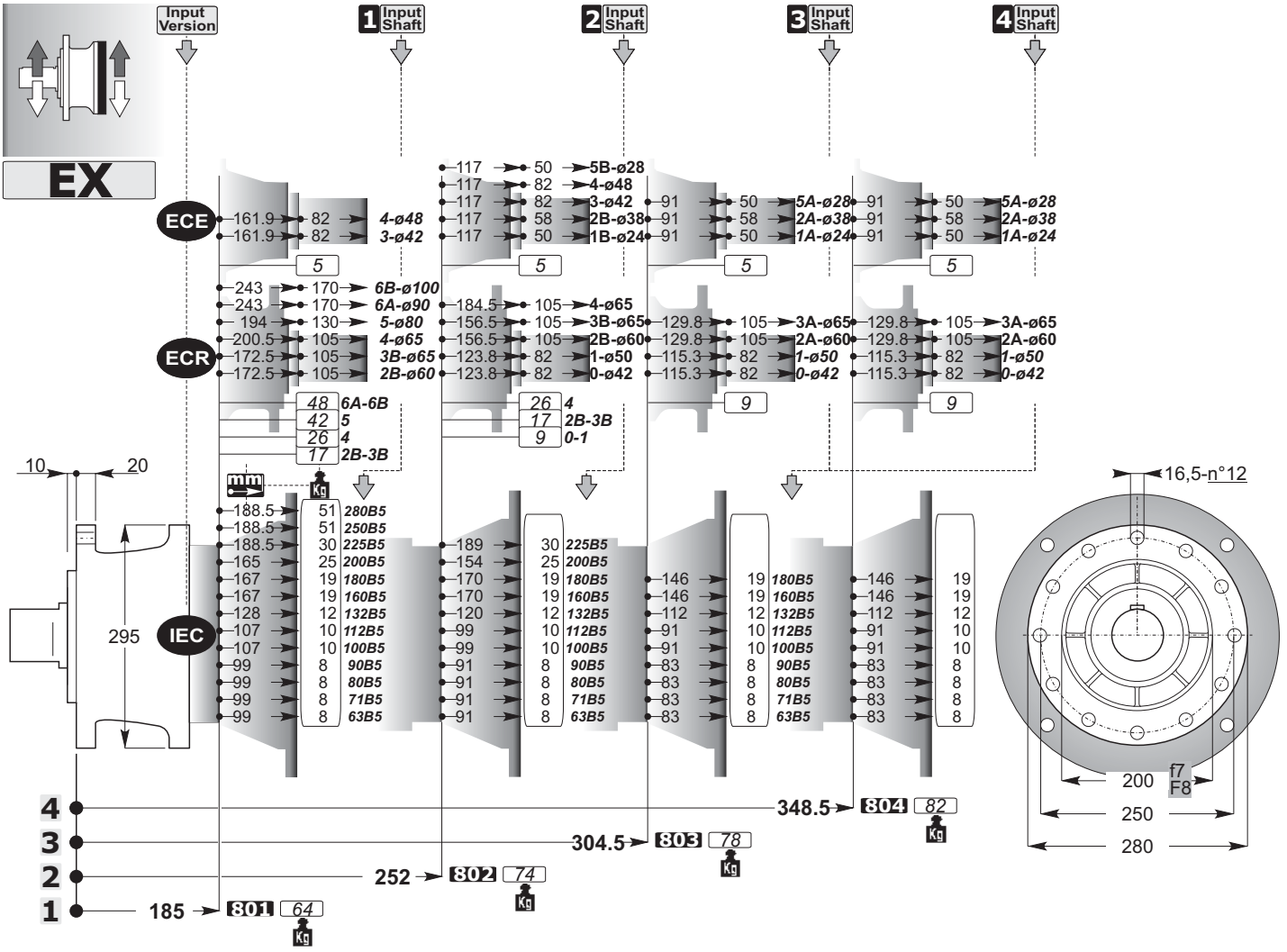


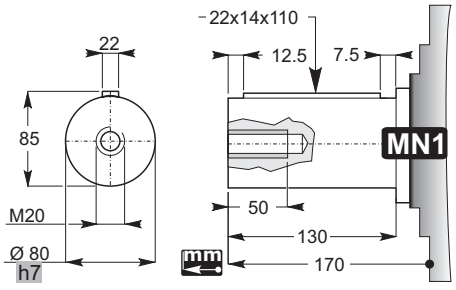


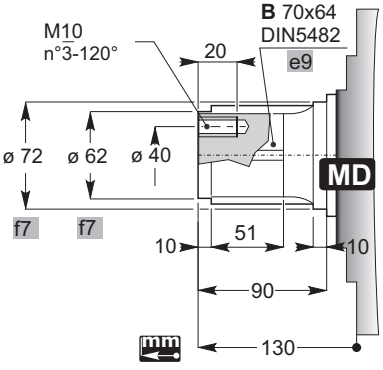



ECE
Input Version
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
EXB
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
10
18
295
192
122
122
81.5
57
57
15 - n°12
200 f7 F8
250
280
4
3
2
362
348
288.5
B04 90
B03 86
B02 107

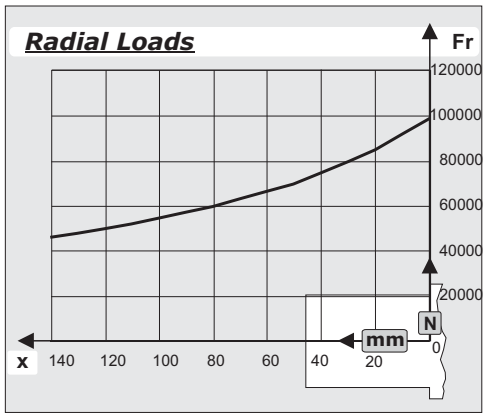

FD
8.6
90
15
20
A 70x64 DIN5482 H10
72 H7
72 H7
75
10.5
48.5
21
10
19 - n°12
125 f7
175
210
ID
112
98
A 70x64 DIN5482 H10
82.5
72 H7
72 H7
75
De
19.2
51.8
21
10
10
m Z X De
IDE14F8 10 15 0.15 173
FF
0.5
18
8.5
M10x20
Rff
62 H7
72 f7
82
M10
11 (n°3-120°)
40
BD
2.3
90
1x45°
A 70x64 DIN5482 H10
72 H7
72 H7
75
95 h7
10.5
48.5
21
10
ID
FF
FD
BD
Accessories

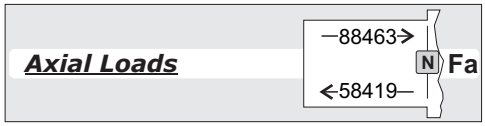


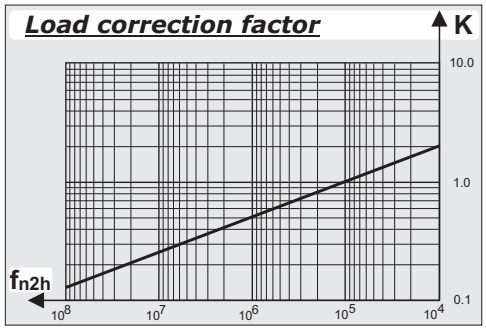


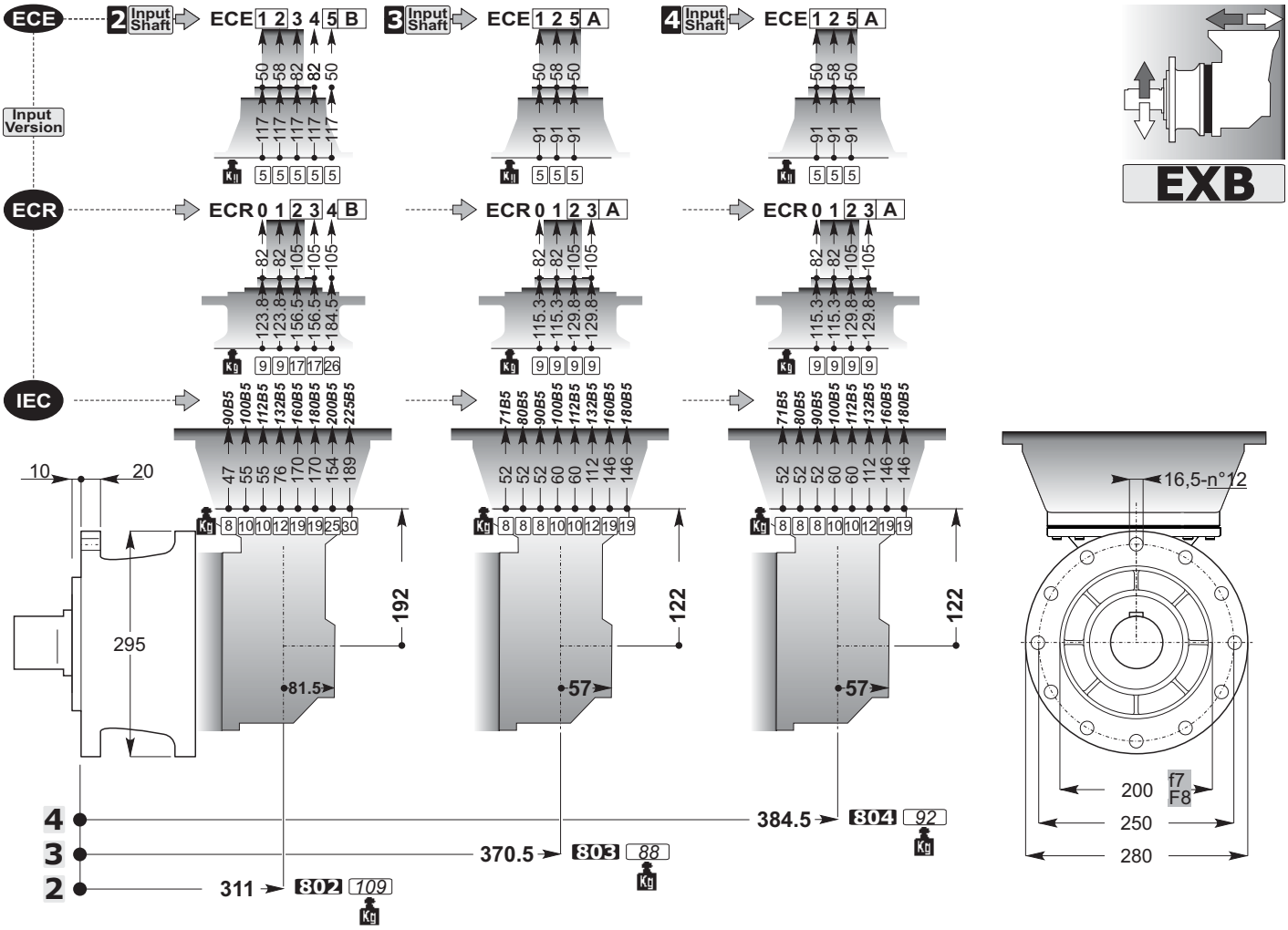


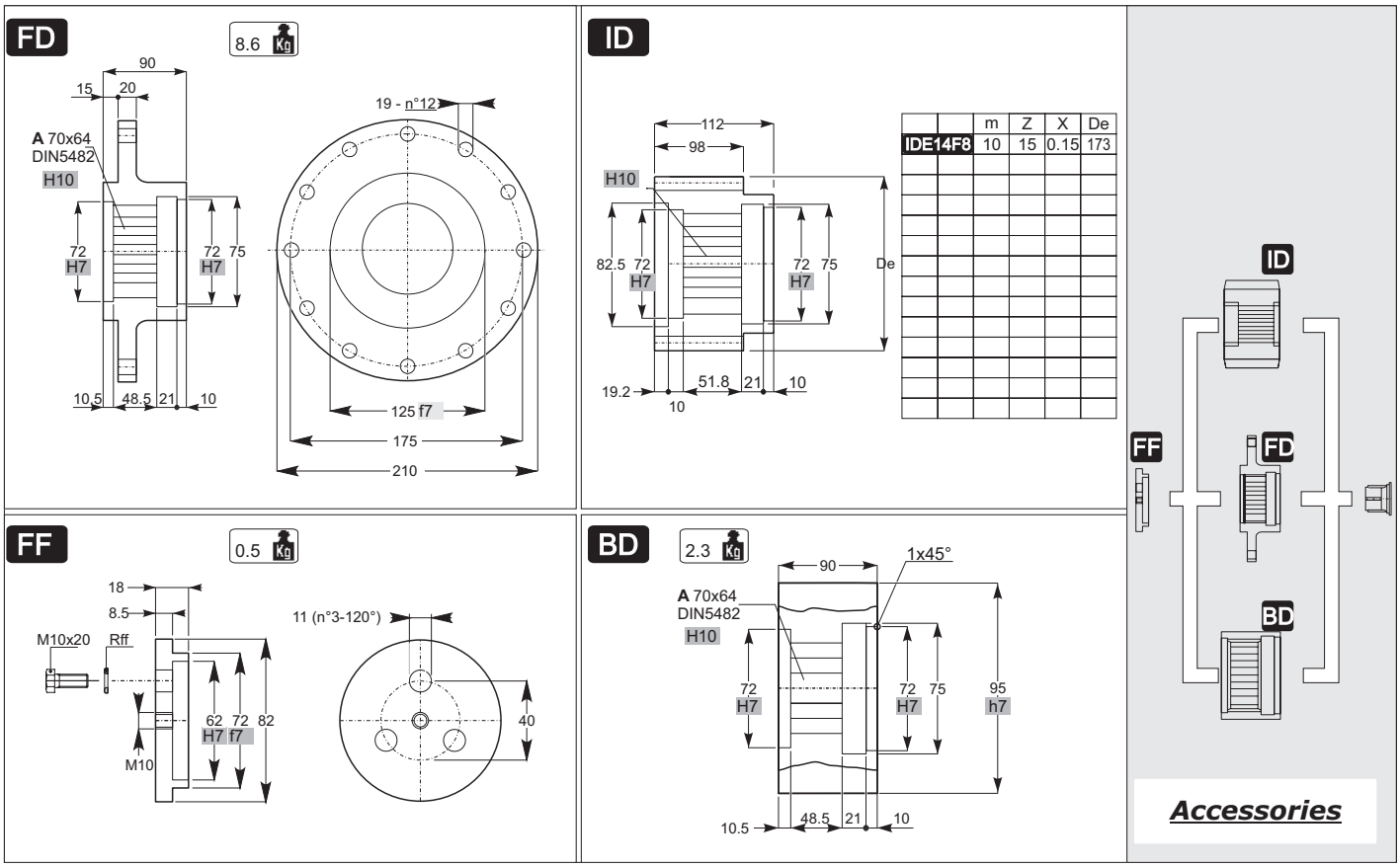
Output Shafts

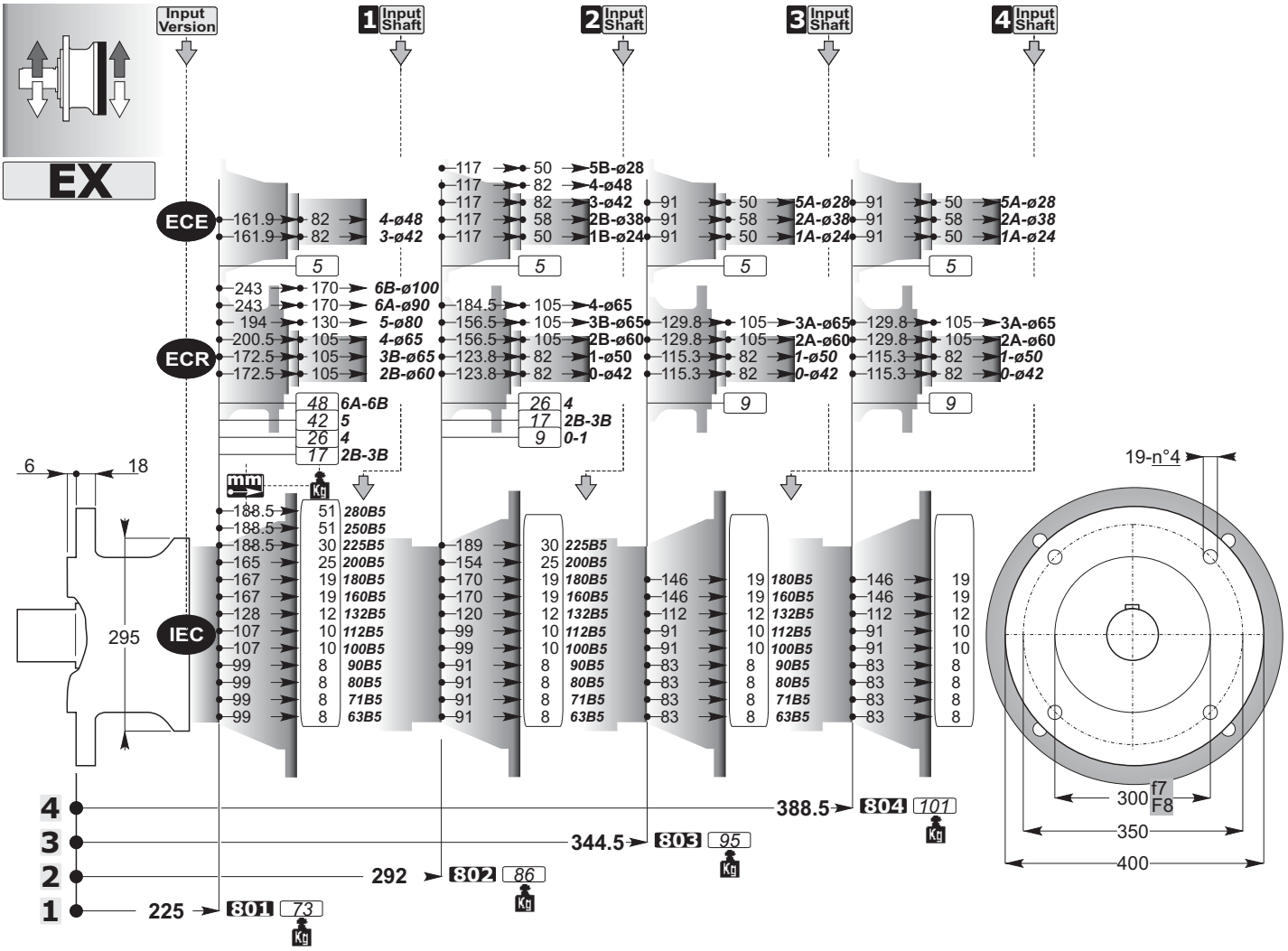


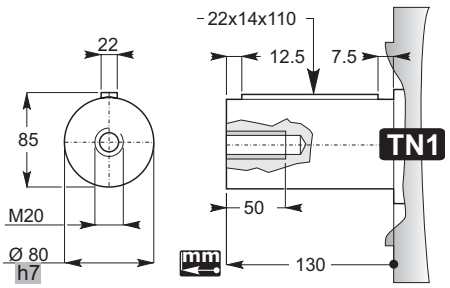


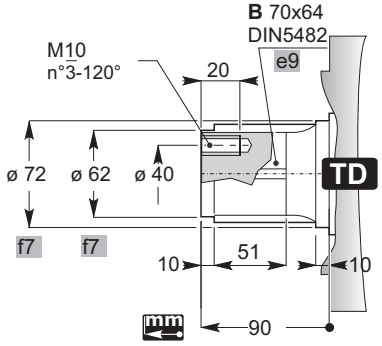



ECE
2 Input Shaft ECE 1 2 3 4 5 B
3 Input Shaft ECE 1 2 5 A
4 Input Shaft ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
10
20
295
192
122
122
81.5
57
57
16,5-n°12
200 f7 F8
250
280
4
3
2
384.5
304 92
370.5
303 88
311
302 109

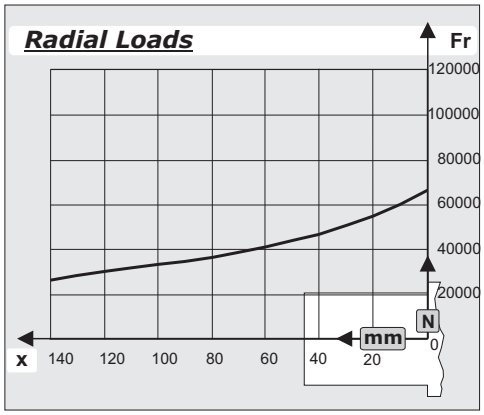

FD
8.6 Kg
90
15
20
A 70x64 DIN5482
H10
72 H7
72 H7
75
10.5
48.5
21
10
19 - n°12
125 f7
175
210
ID
112
98
H10
82.5
72 H7
72 H7
75
De
19.2
10
51.8
21
10
m Z X De
IDE14F8 10 15 0.15 173
FF
0.5 Kg
18
8.5
M10x20
Rff
62 H7
72 f7
82
M10
11 (n°3-120°)
40
BD
2.3 Kg
90
1x45°
A 70x64 DIN5482
H10
72 H7
72 H7
75
95 h7
10.5
48.5
21
10
ID
FF
FD
BD
Accessories

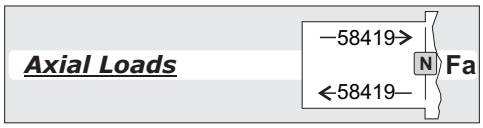


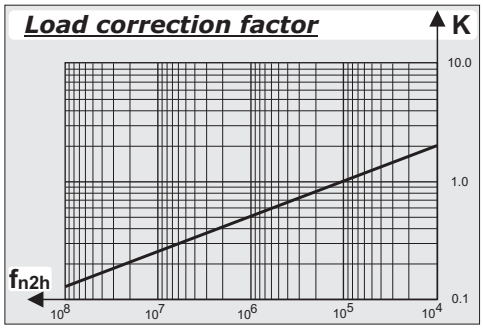


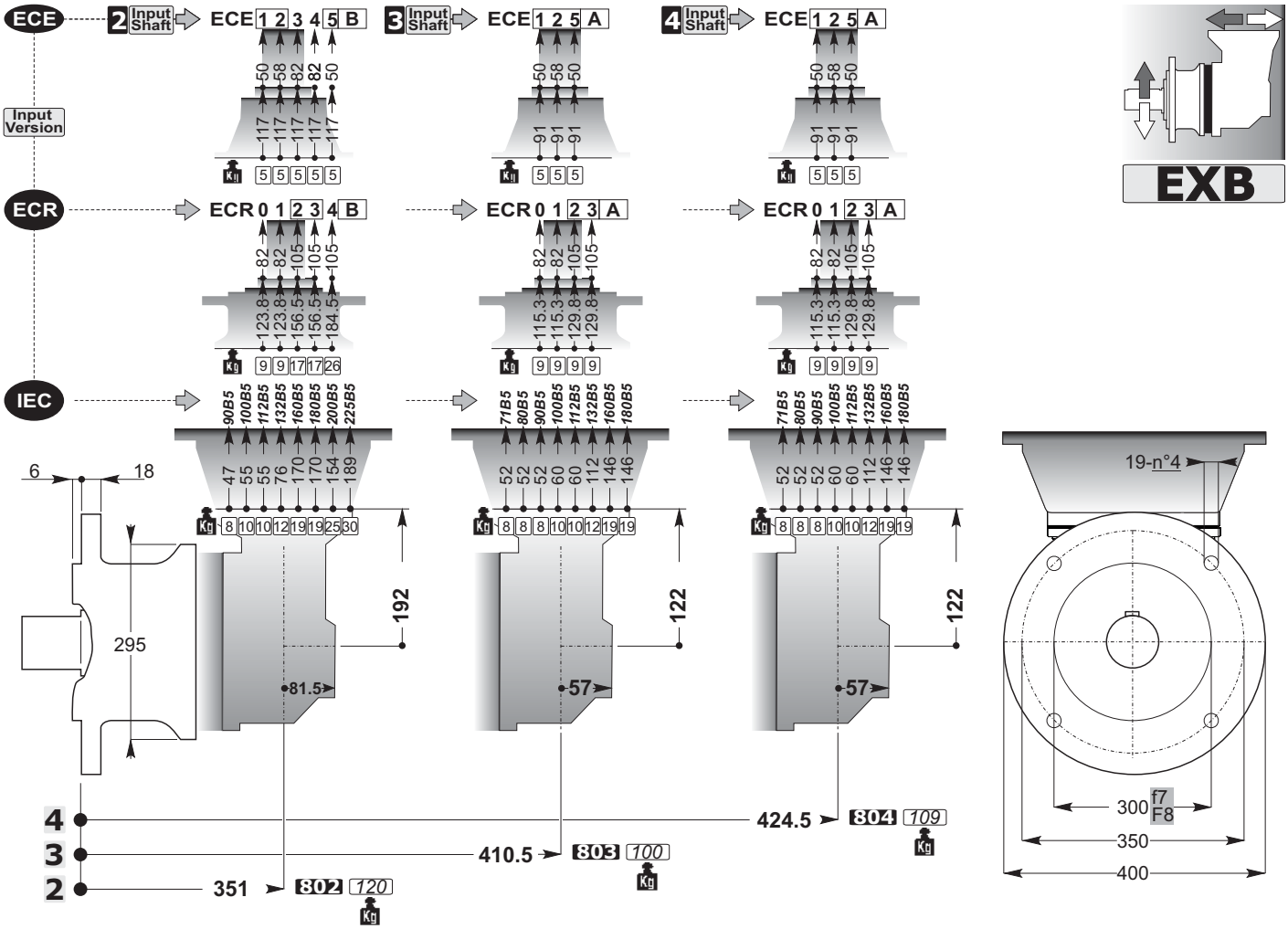


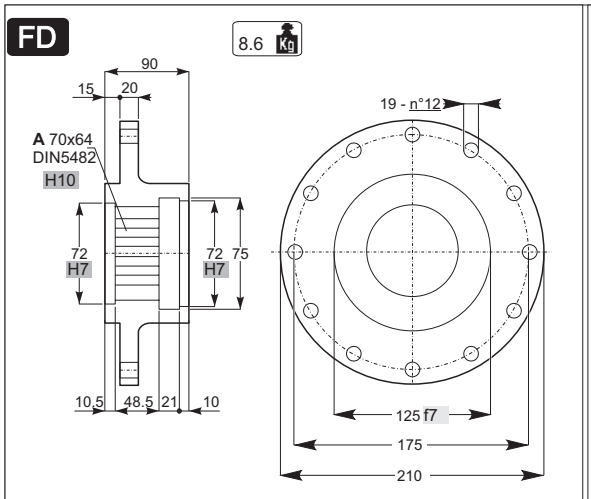
Output Shafts

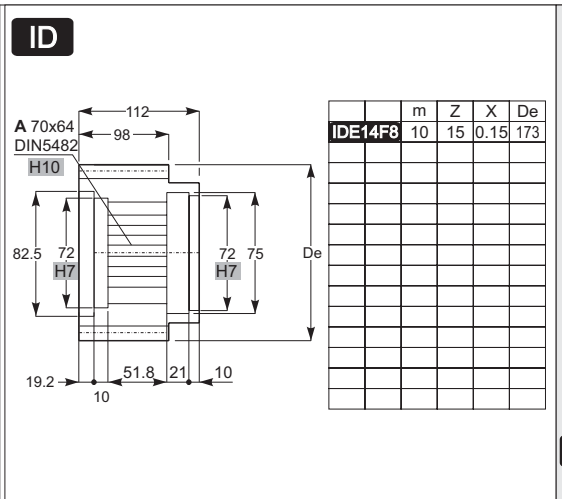




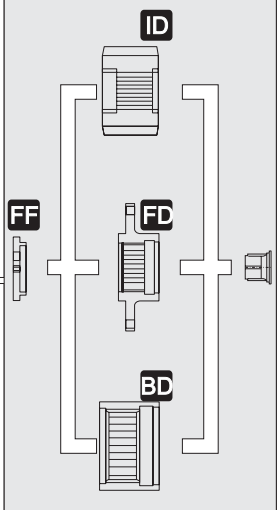




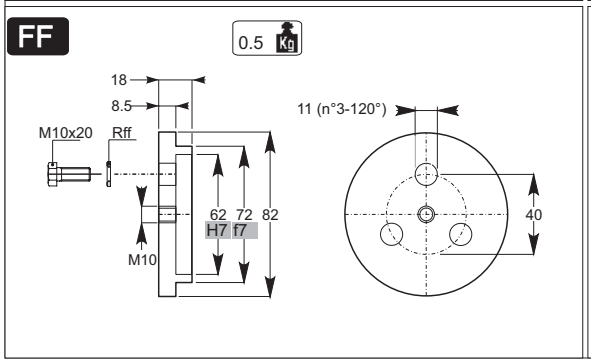


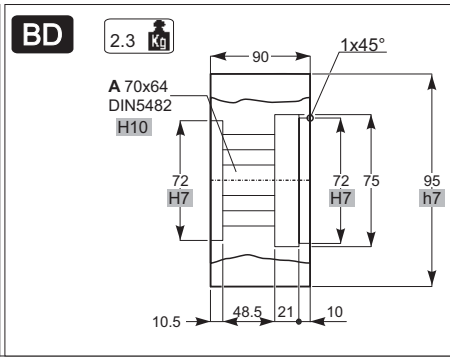


	m	Z	X	De
IDE14F8	10	15	0.15	173

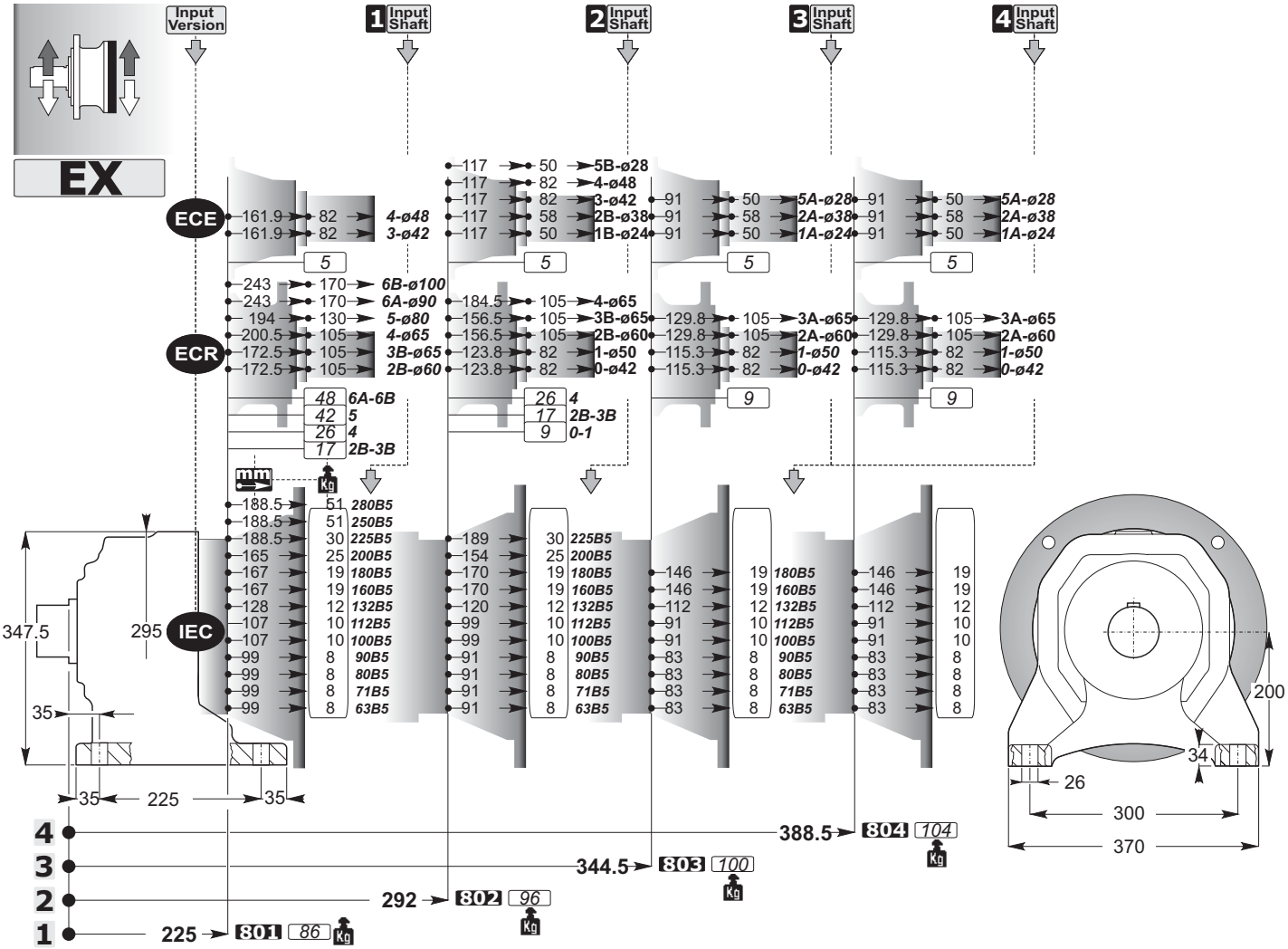


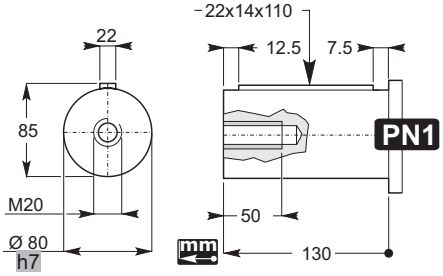
Accessories

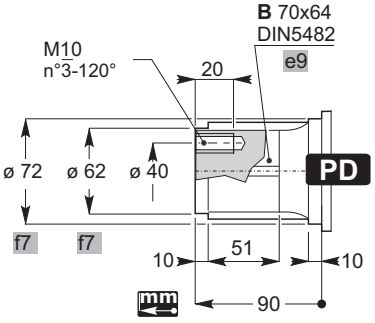




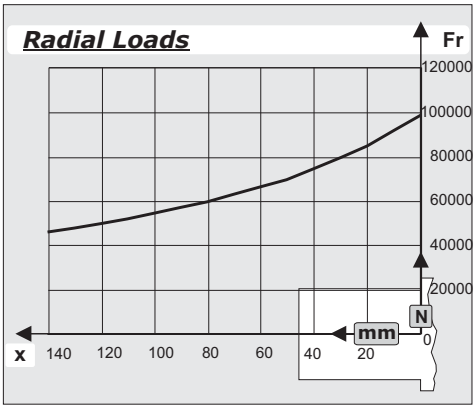
mm
C

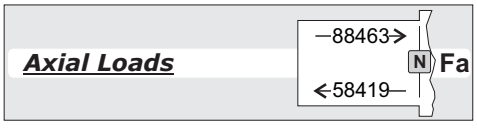


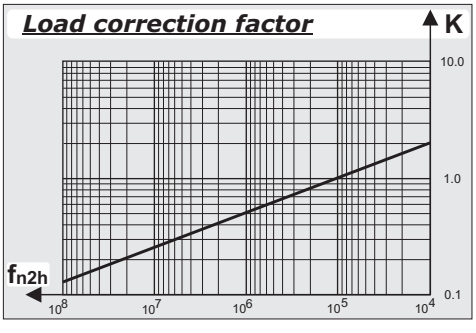


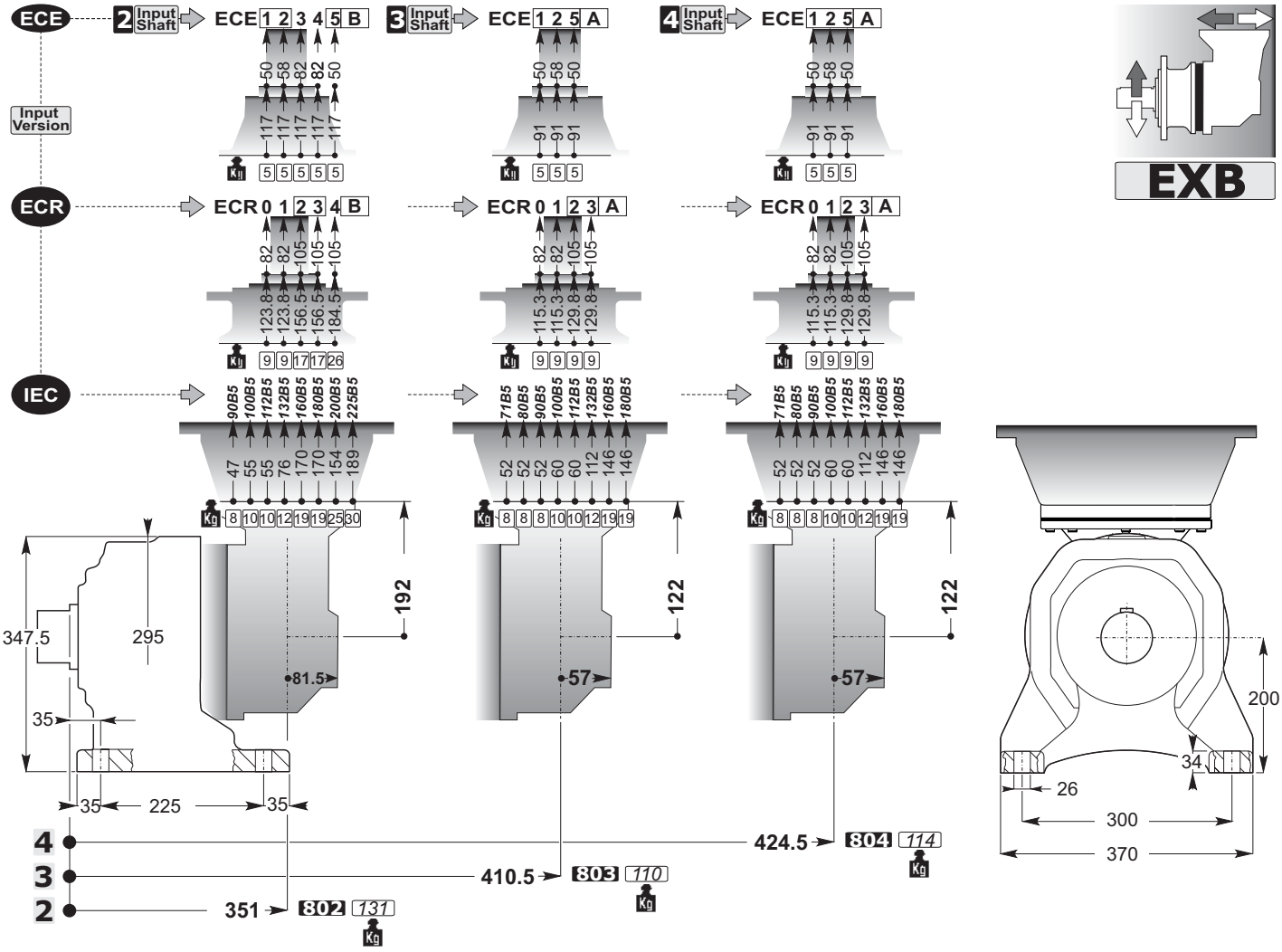


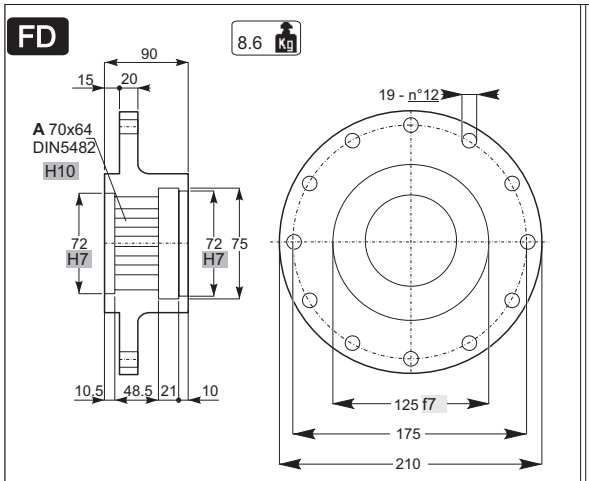
Output Shafts

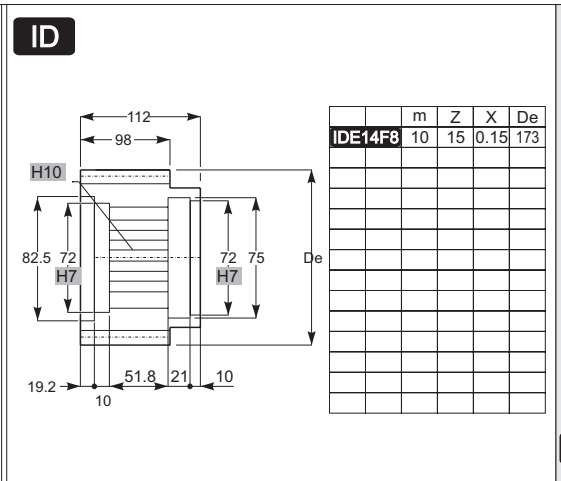




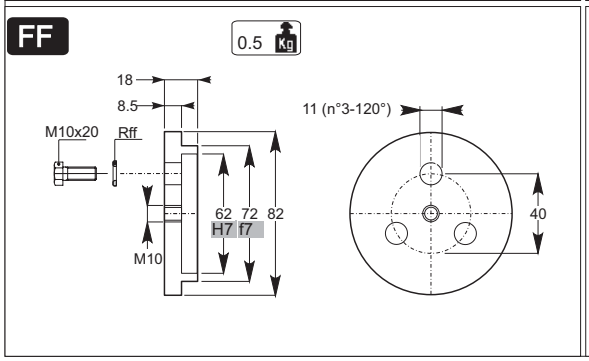


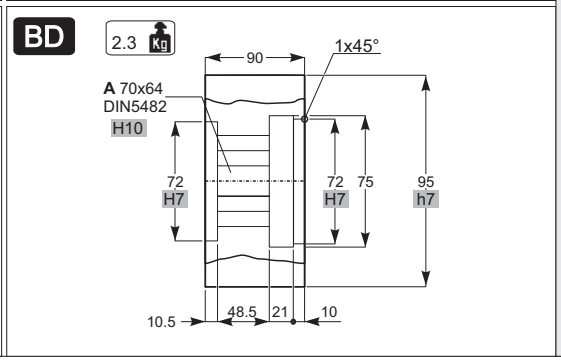


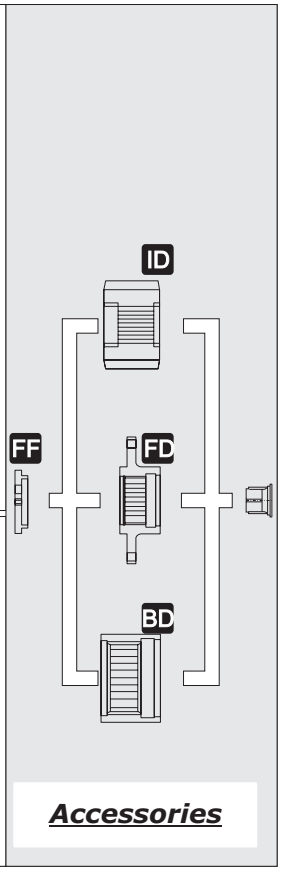




	m	Z	X	De
IDE14F8	10	15	0.15	173

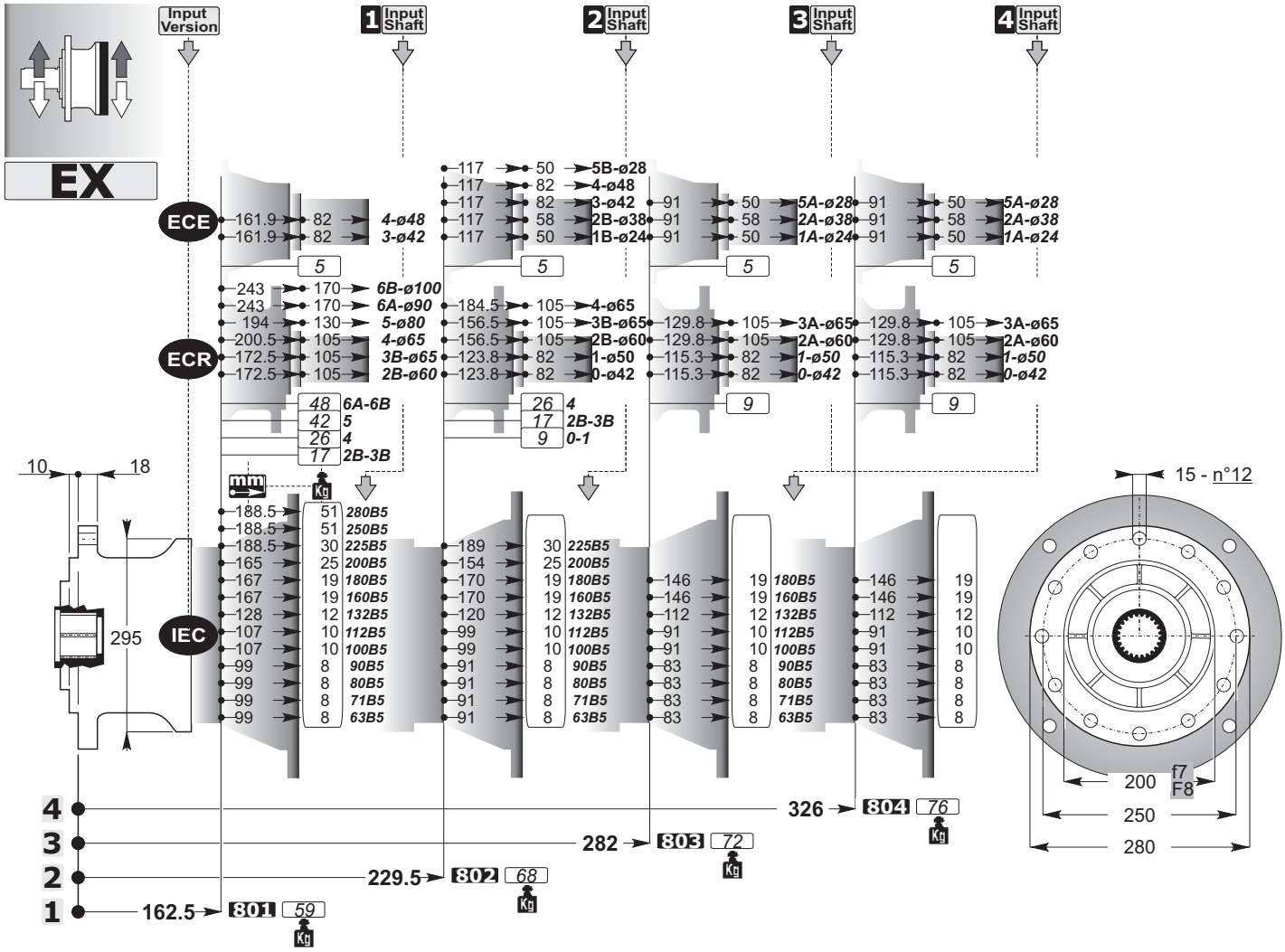


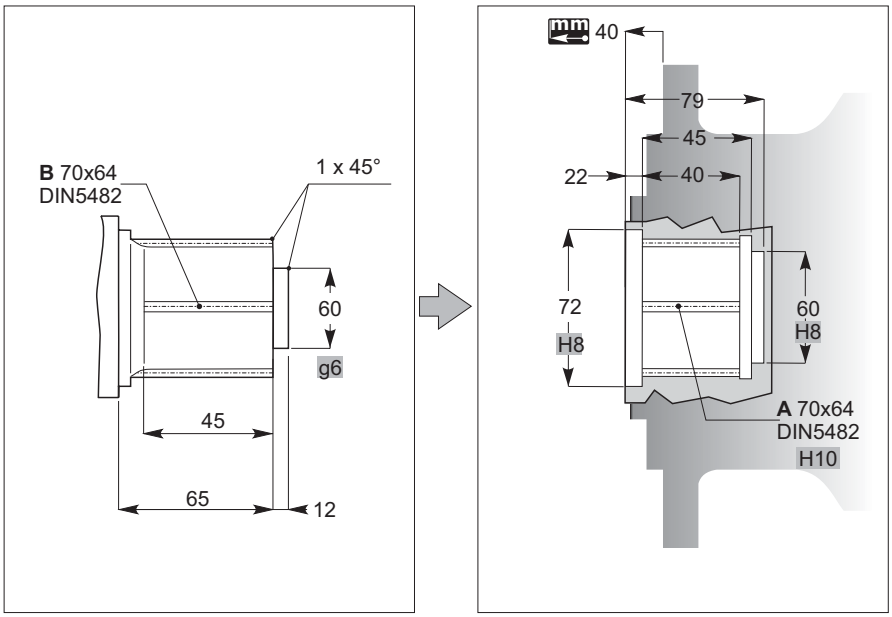




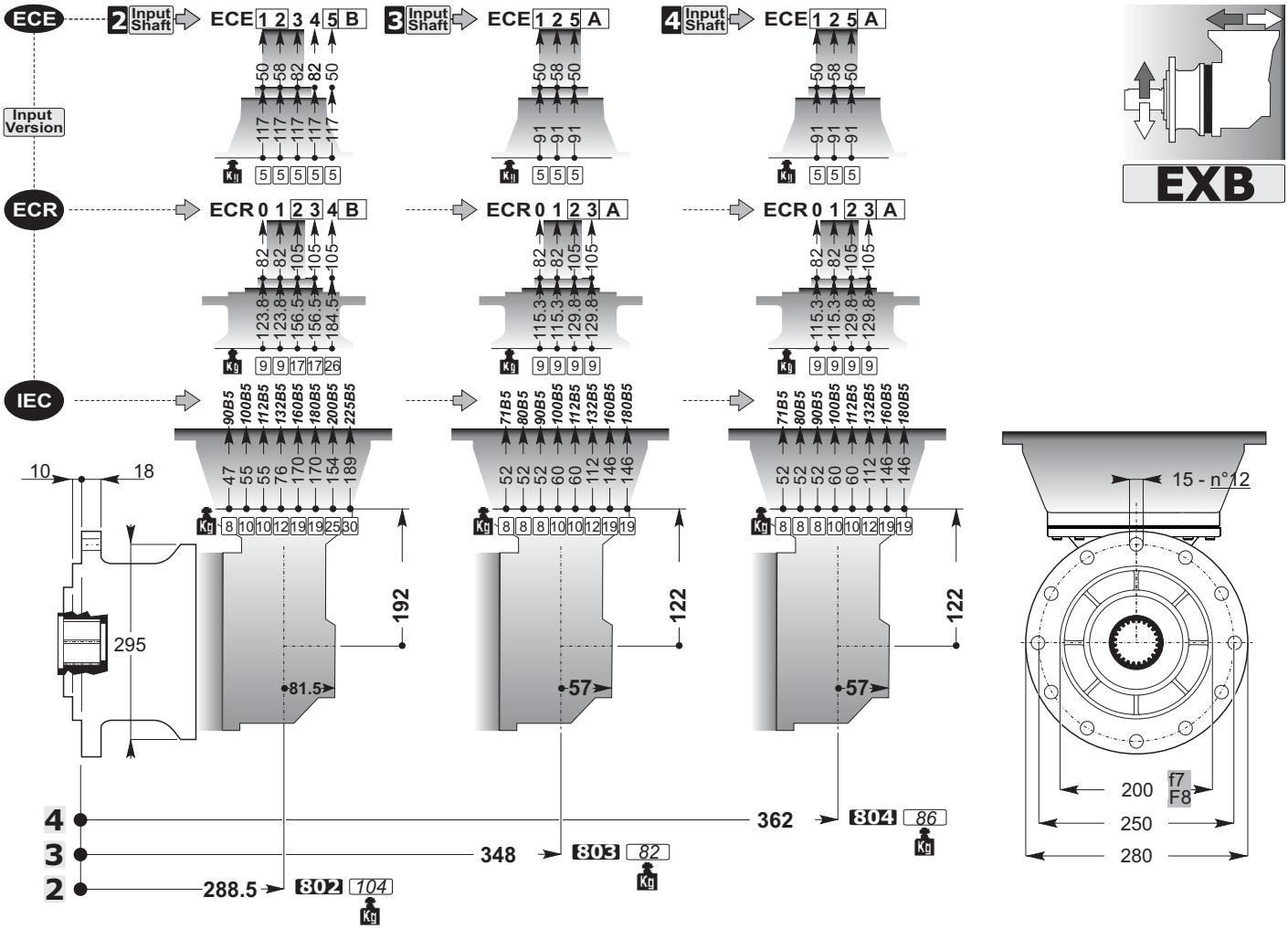
Accessories

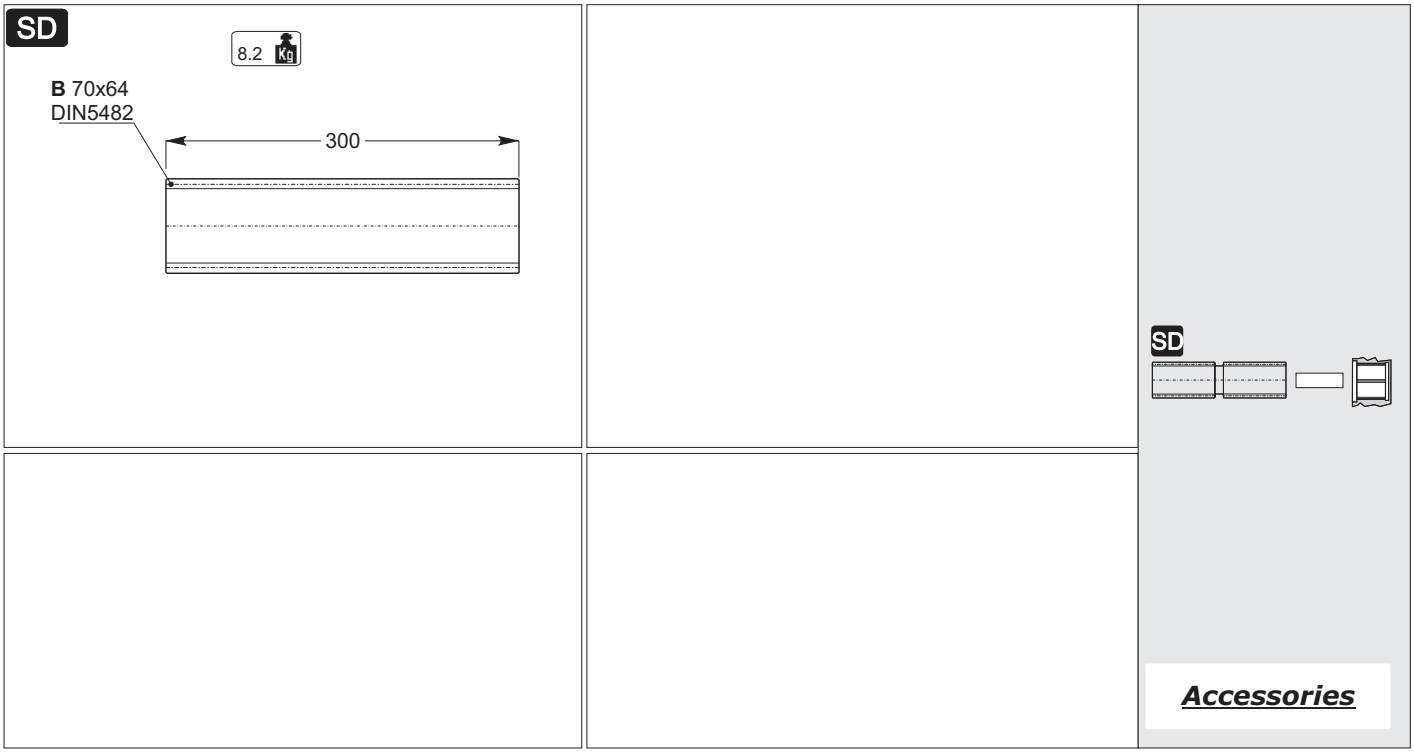
mm
C

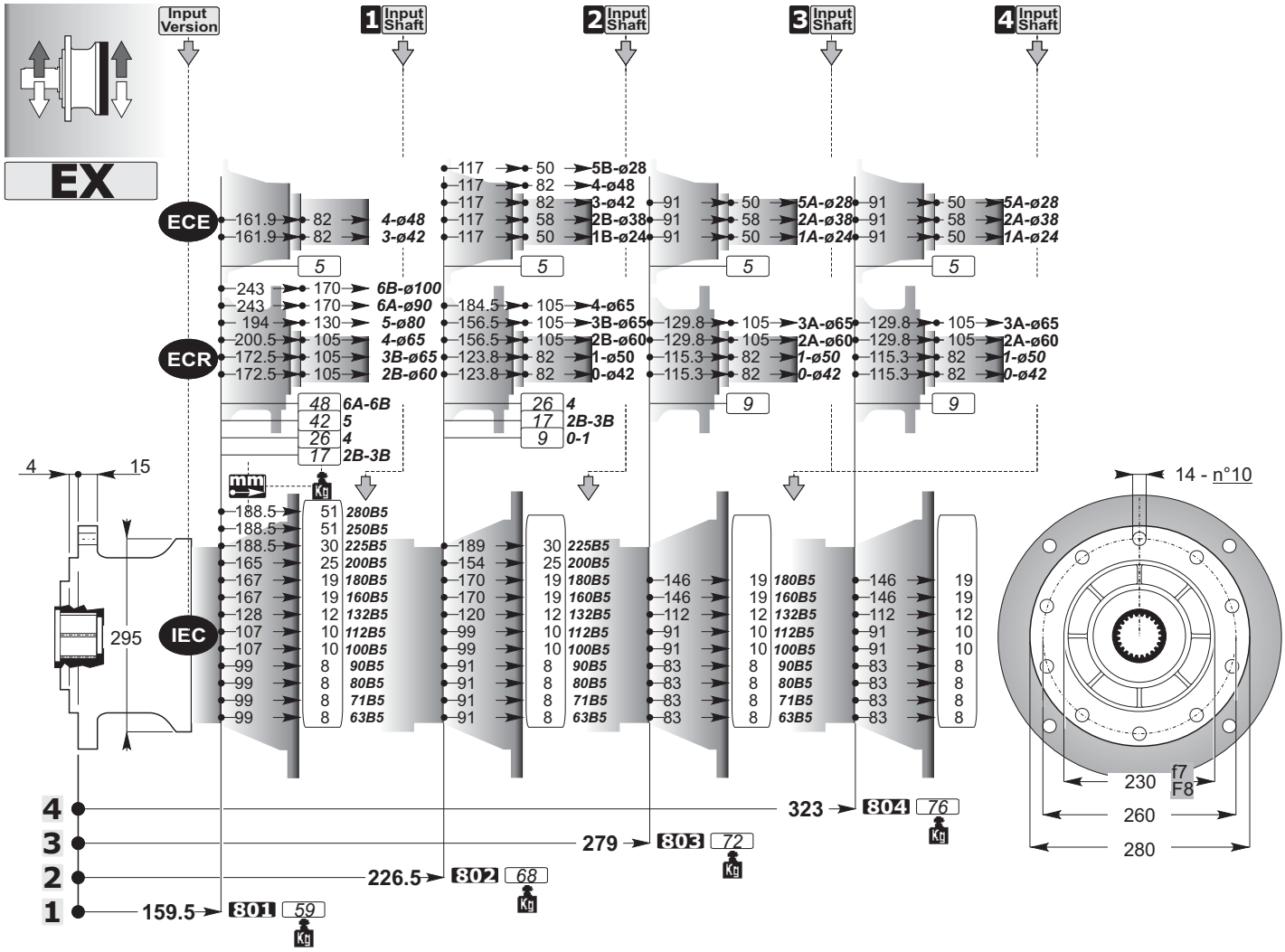


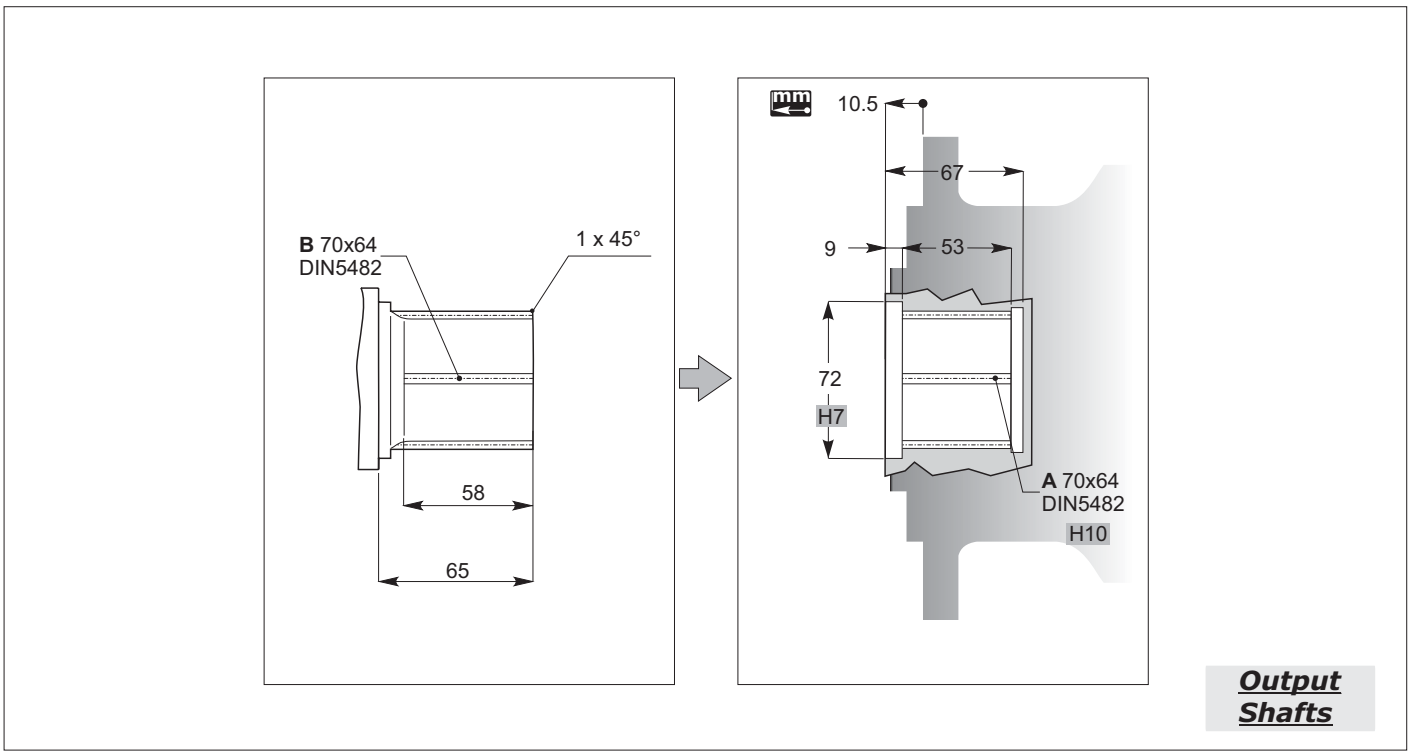


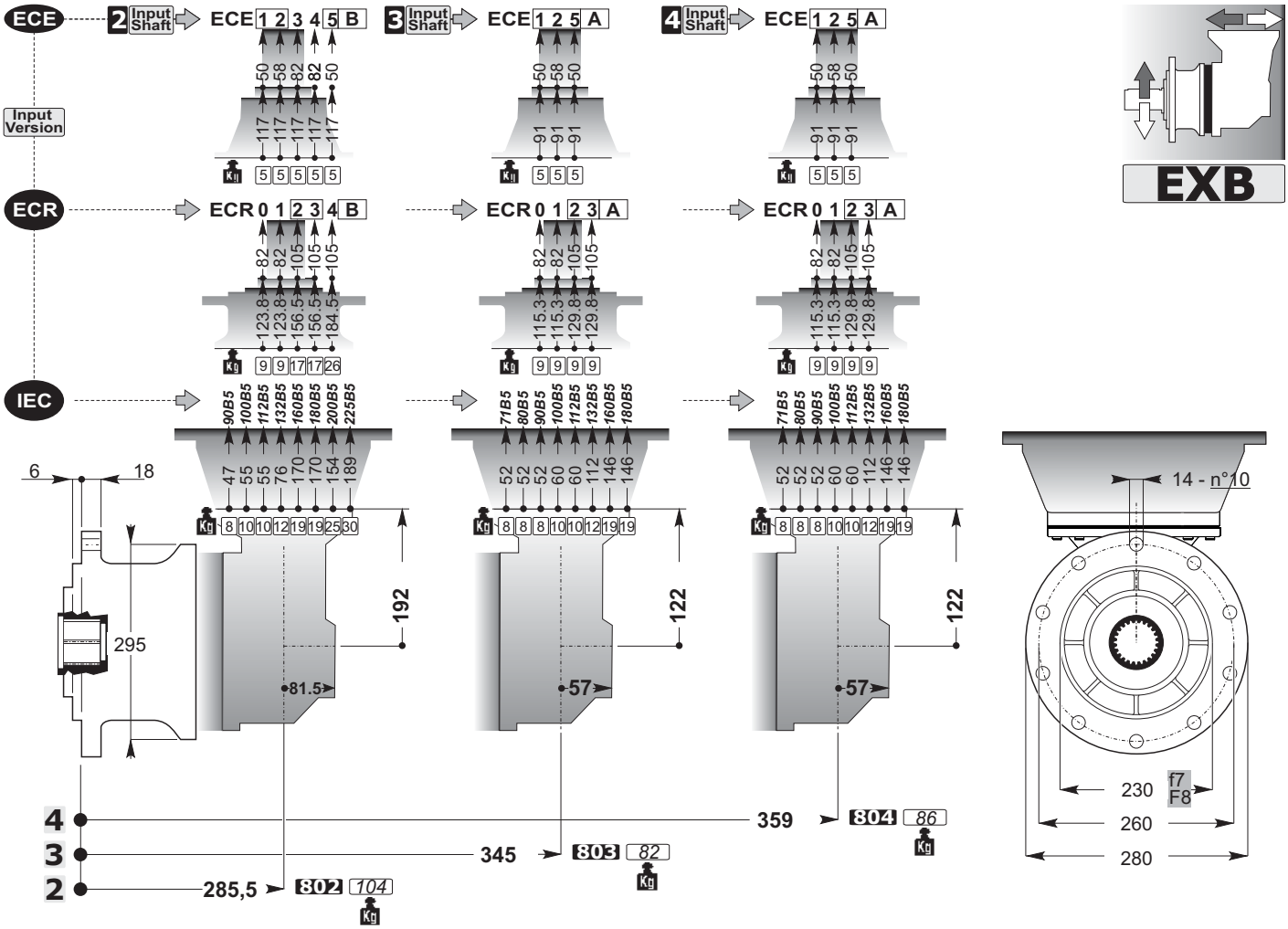
Output Shafts

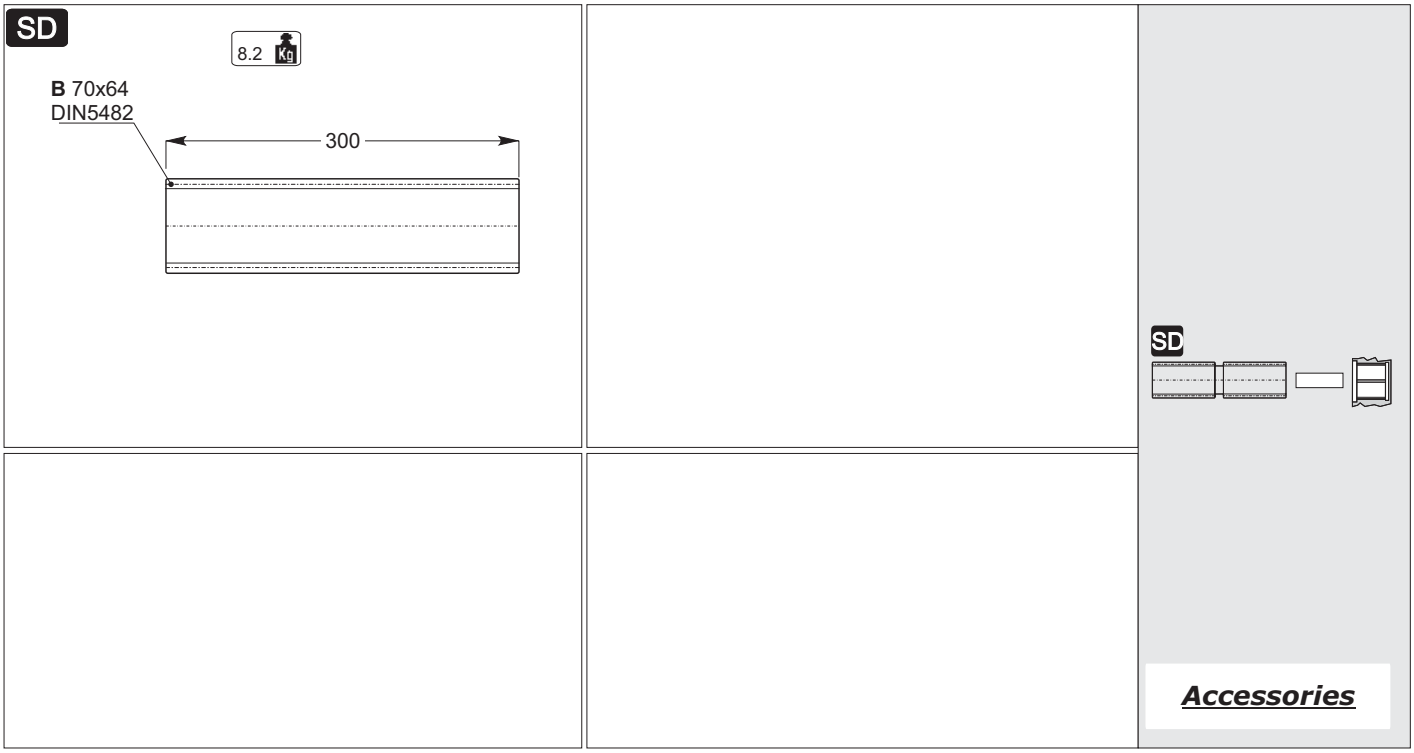

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
10
18
295
192
122
122
81.5
57
57
15 - n°12
200 f7 F8
250
280
4
3
2
362
348
288.5
304 86
303 82
302 104

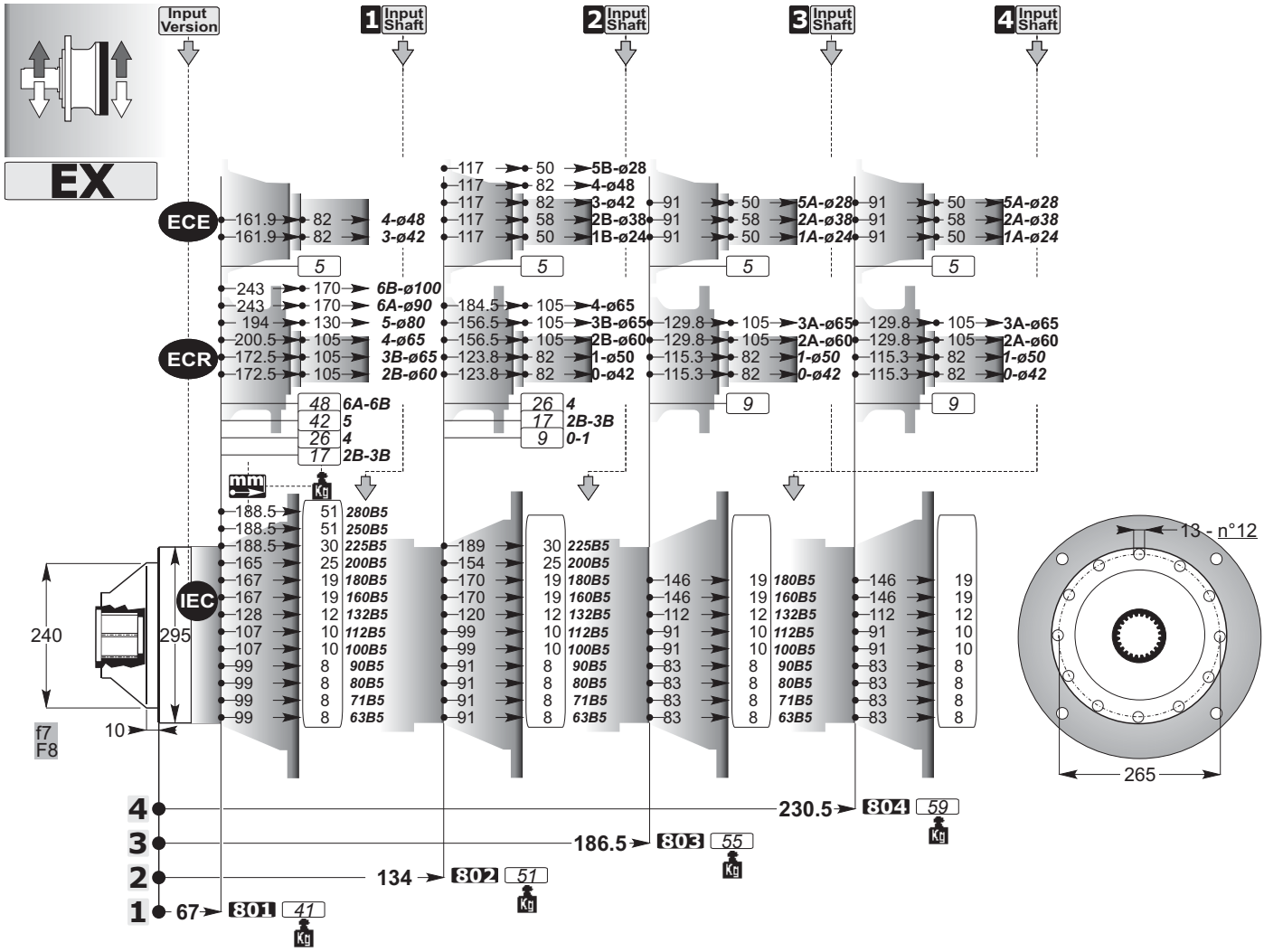

SD
8.2
B 70x64
DIN5482
300
SD
Accessories

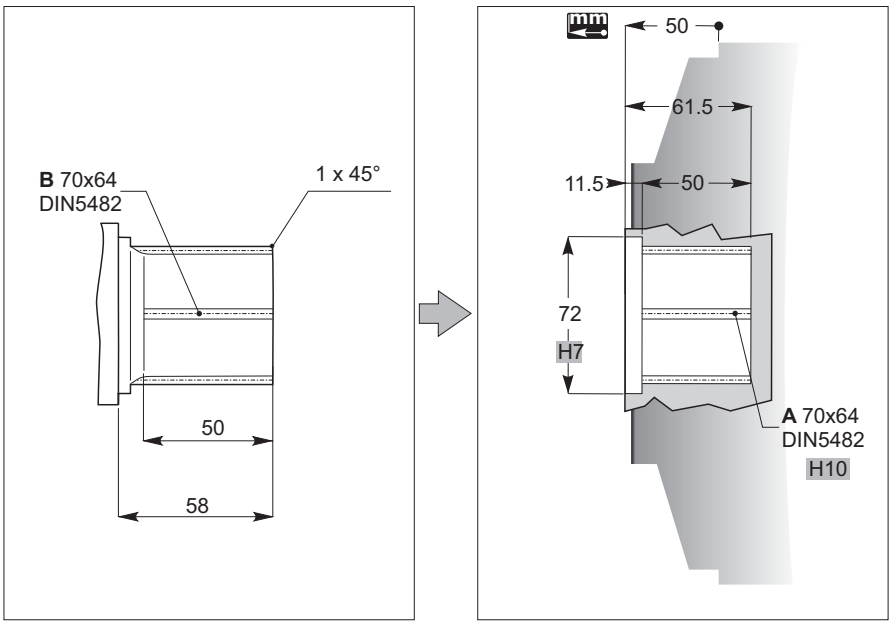

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
4-ø48
3-ø42
6B-ø100
6A-ø90
5-ø80
4-ø65
3B-ø65
2B-ø60
6A-6B
5
4
2B-3B
5B-ø28
4-ø48
3-ø42
2B-ø38
1B-ø24
0-ø42
0-1
5A-ø28
2A-ø38
1A-ø24
3A-ø65
2A-ø60
1-ø50
280B5
250B5
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
4
15
295
14 - n°10
230
f7
F8
260
280
323
304
76
279
303
72
226.5
302
68
159.5
301
59
Kg


B 70x64
DIN5482
1 x 45°
58
65
10.5
67
9
53
72
H7
A 70x64
DIN5482
H10
Output Shafts

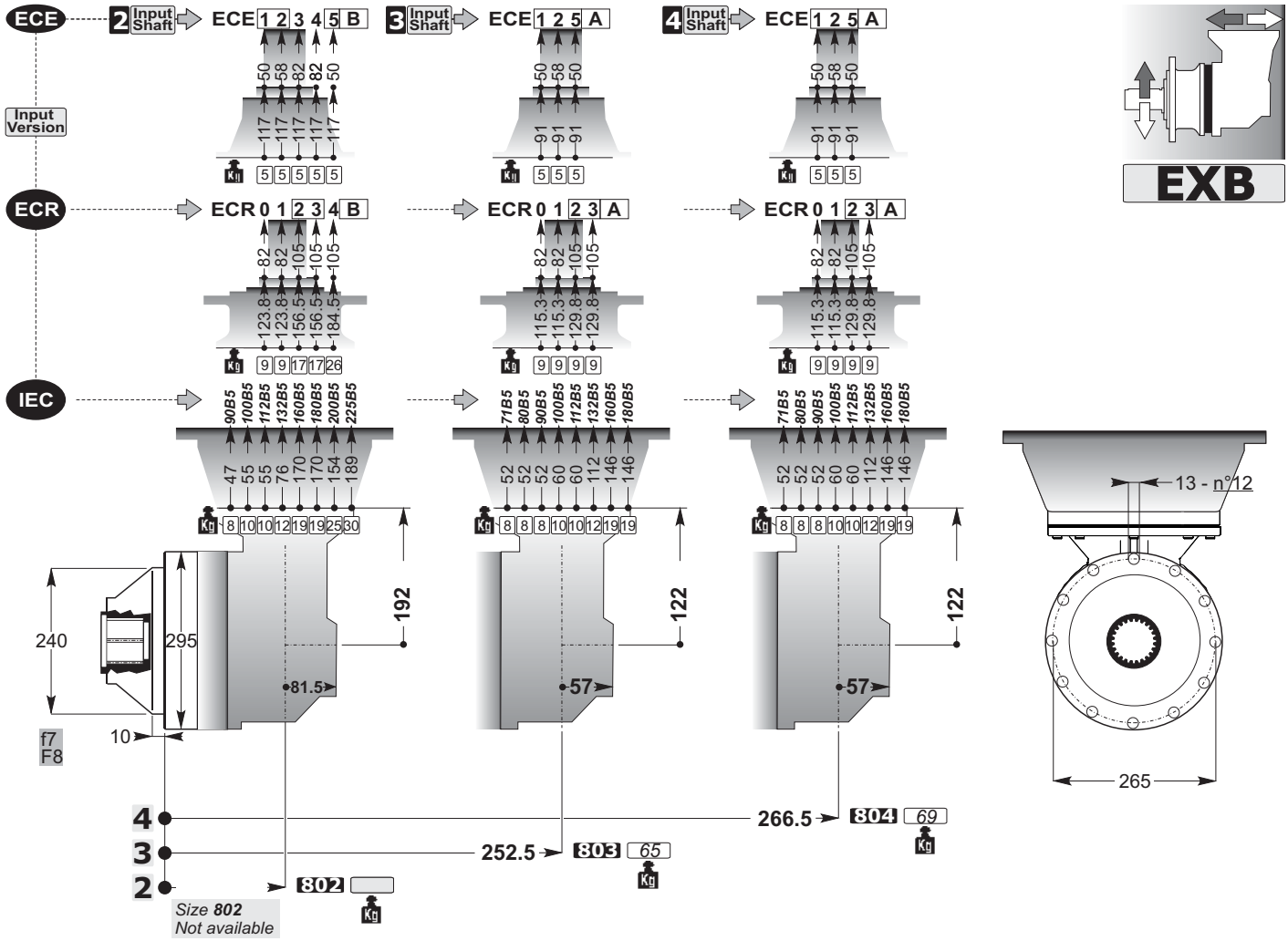

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
14 - n°10
230 f7 F8
260
280
6
18
295
192
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122
81.5
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359
345
285,5
304 86
303 82
302 104

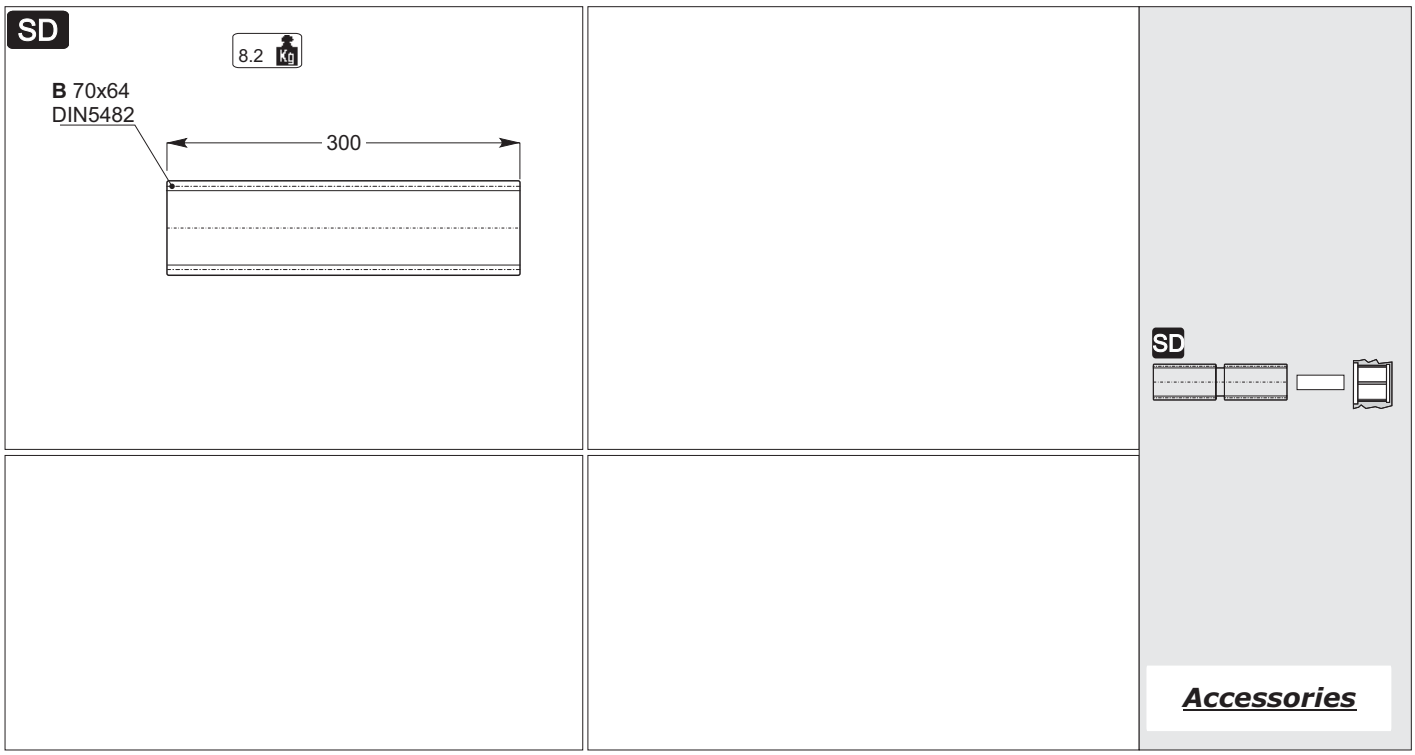

SD
8.2
B 70x64
DIN5482
300
SD
Accessories

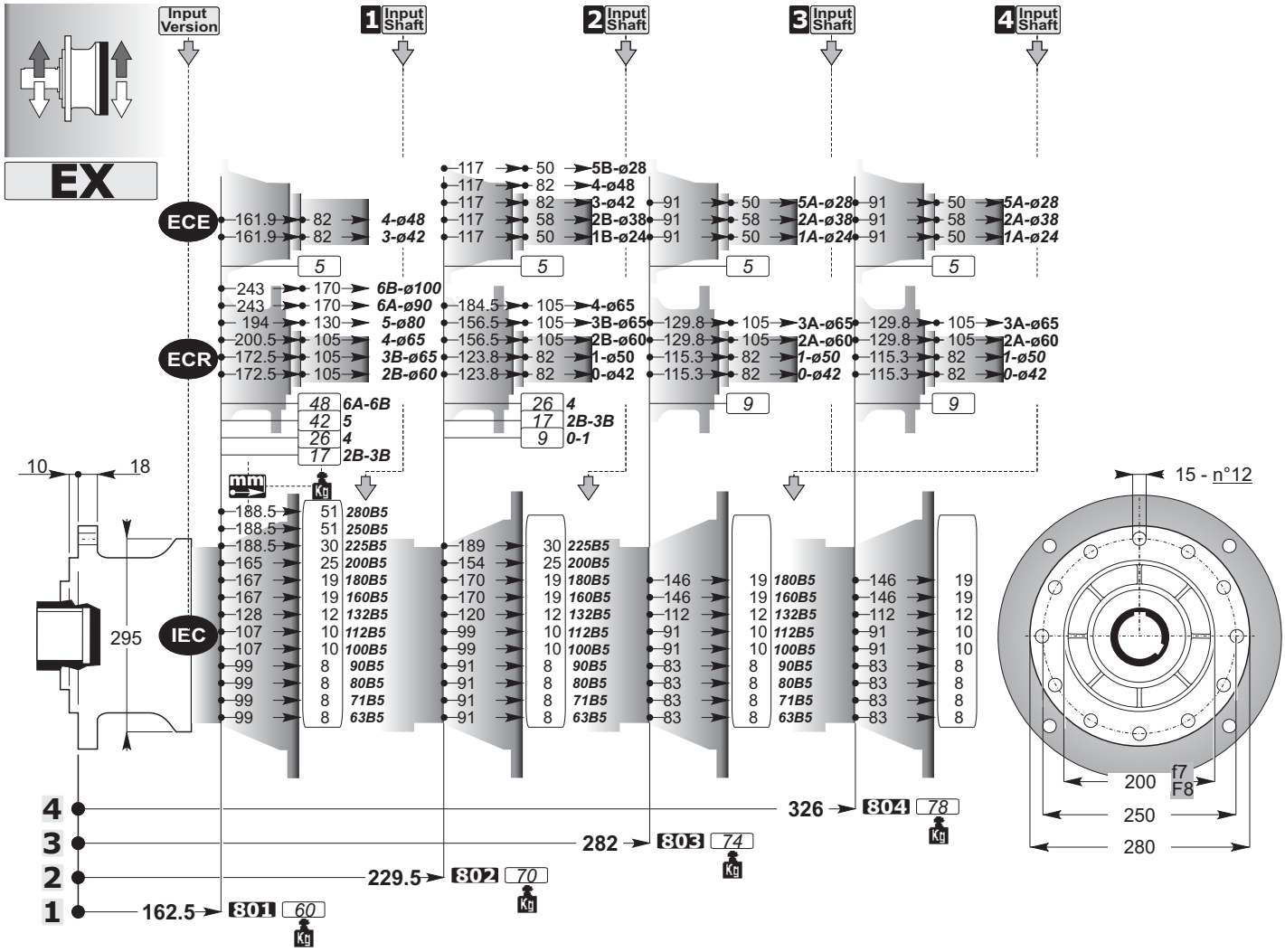


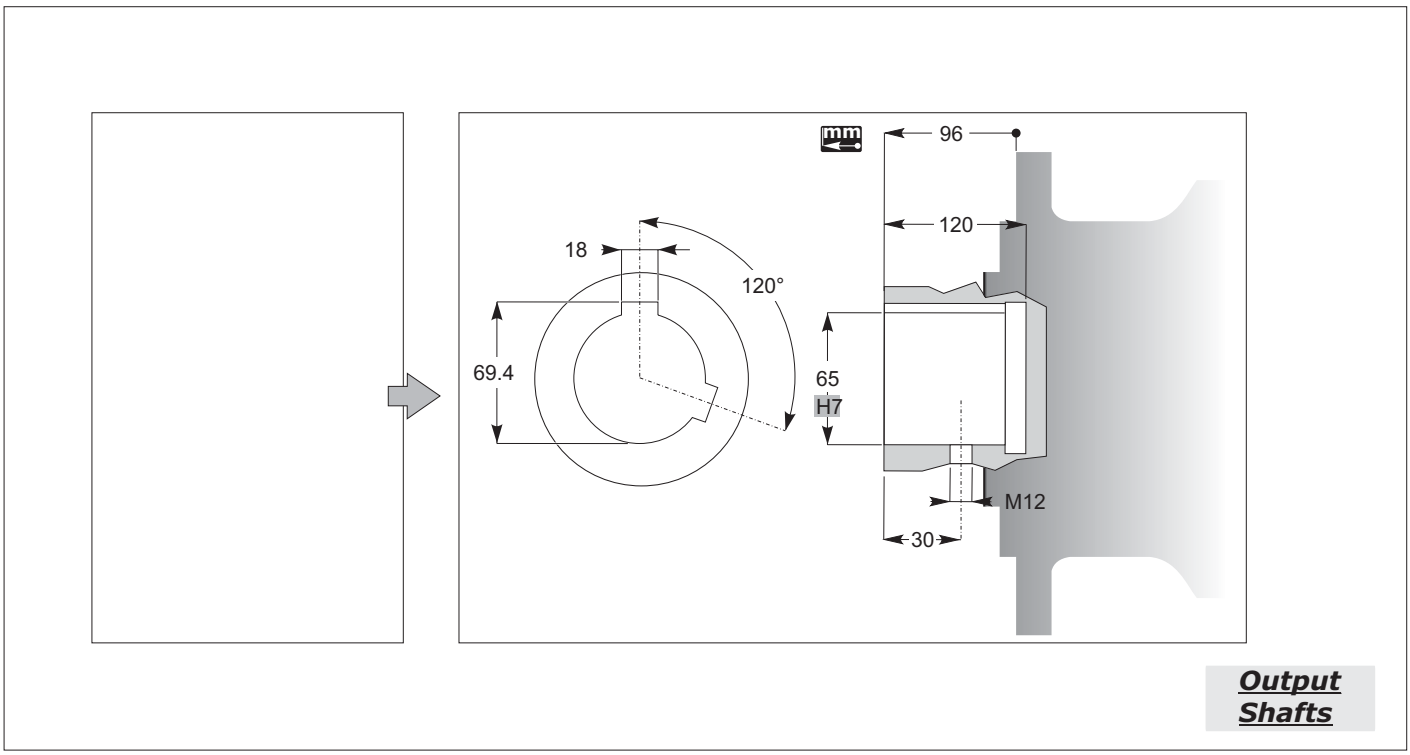


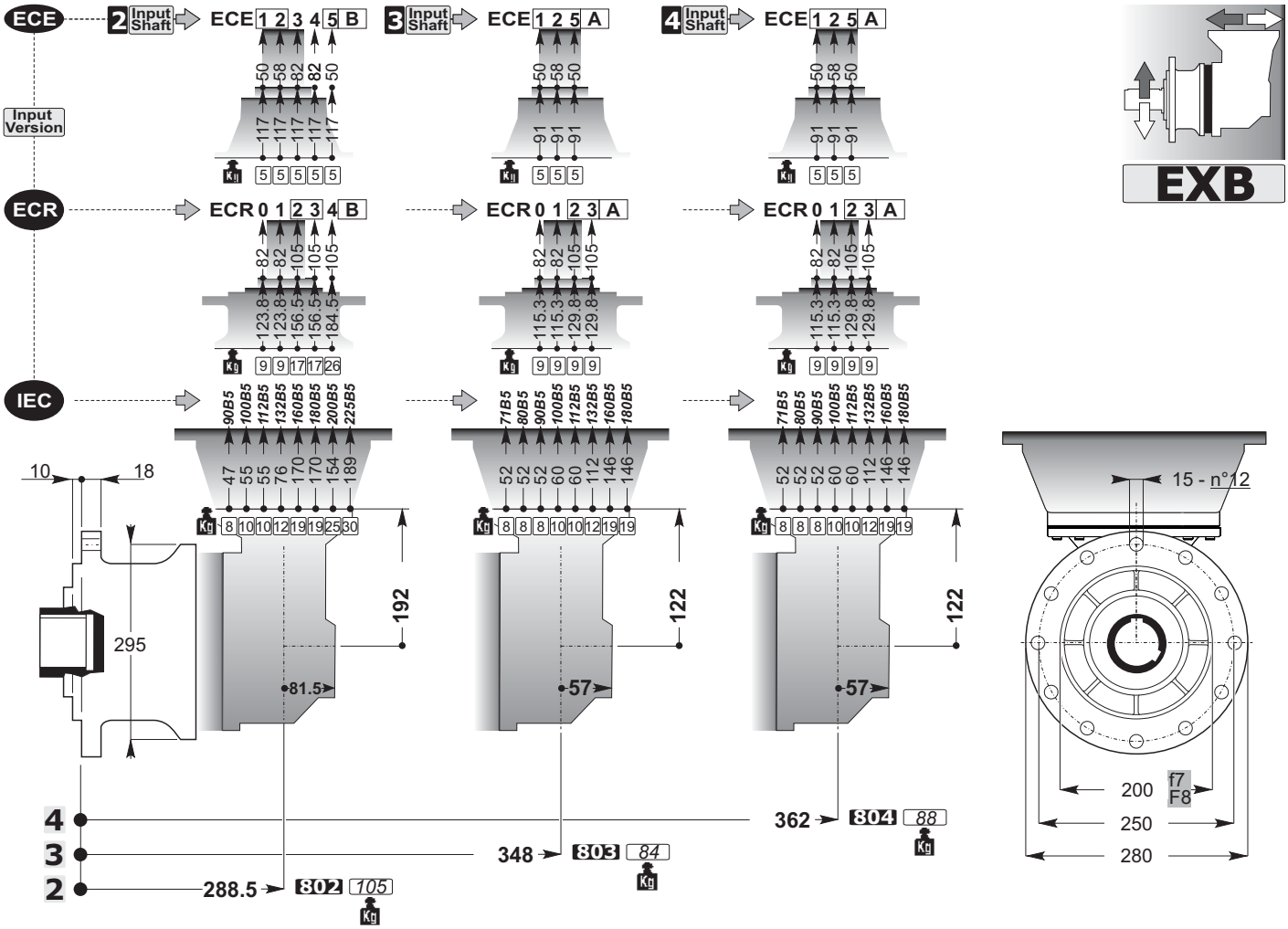
Output Shafts

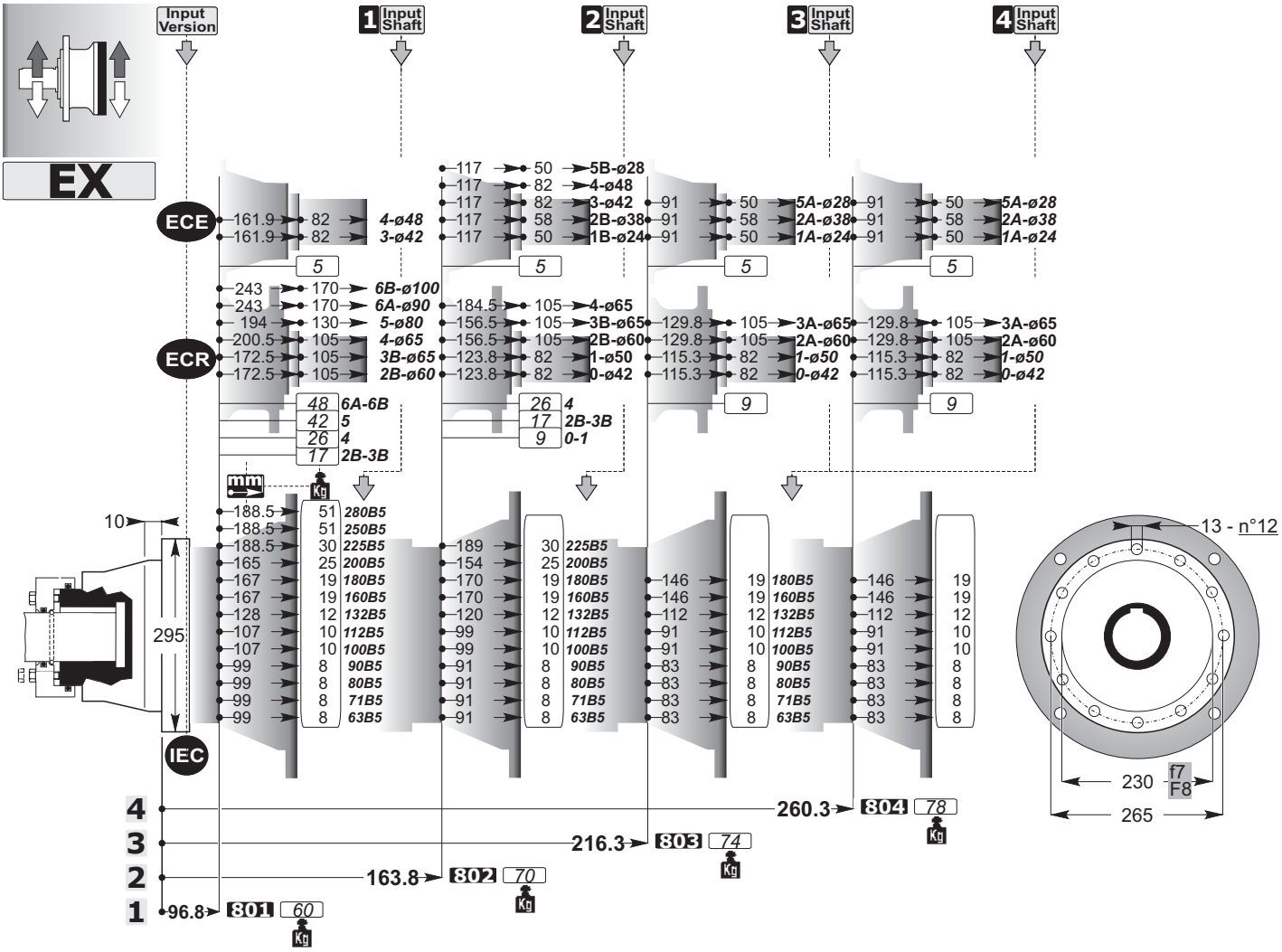

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
13 - n°12
265
240
295
192
122
122
81.5
57
57
f7
F8
10
4
3
2
266.5
304
69
252.5
303
65
802
Size 802
Not available

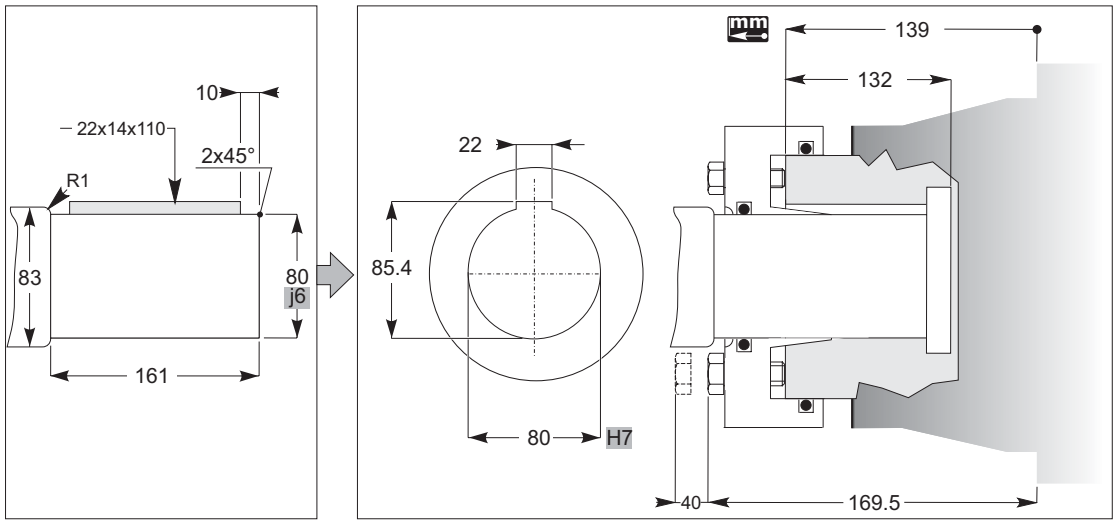

SD
8.2
B 70x64
DIN5482
300
SD
Accessories


Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
4-ø48
3-ø42
5-ø80
4-ø65
3B-ø65
2B-ø60
6B-ø100
6A-ø90
6A-6B
5
4
2B-3B
5B-ø28
4-ø48
3-ø42
2B-ø38
1B-ø24
5A-ø28
2A-ø38
1A-ø24
4-ø65
3B-ø65
2B-ø60
1-ø50
0-ø42
3A-ø65
2A-ø60
4
2B-3B
0-1
280B5
250B5
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
295
10
18
15 - n°12
200 f7 F8
250
280
326 804 78
282 803 74
229.5 802 70
162.5 801 60

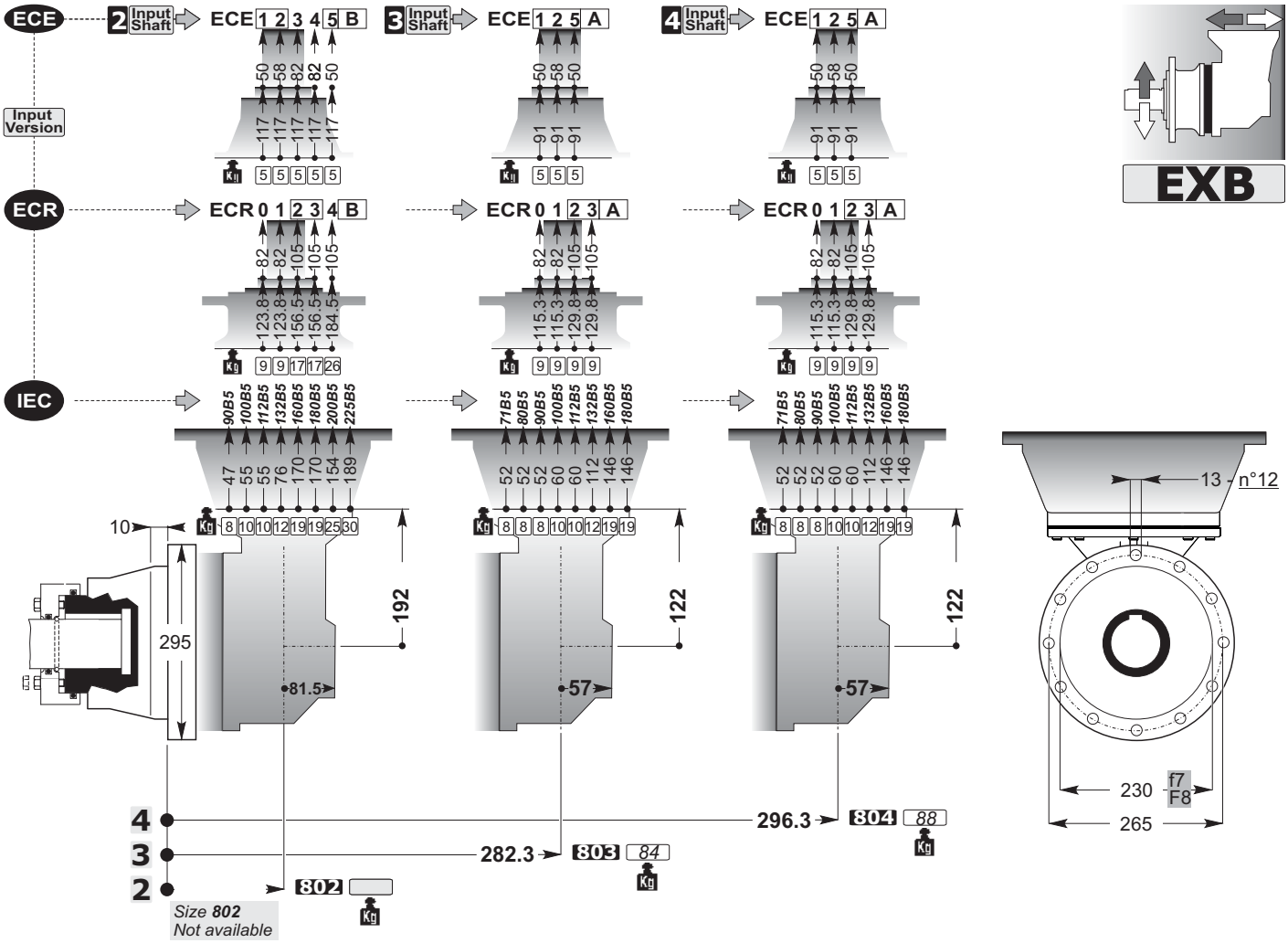

96
120
18
120°
69.4
65 H7
M12
30
Output Shafts

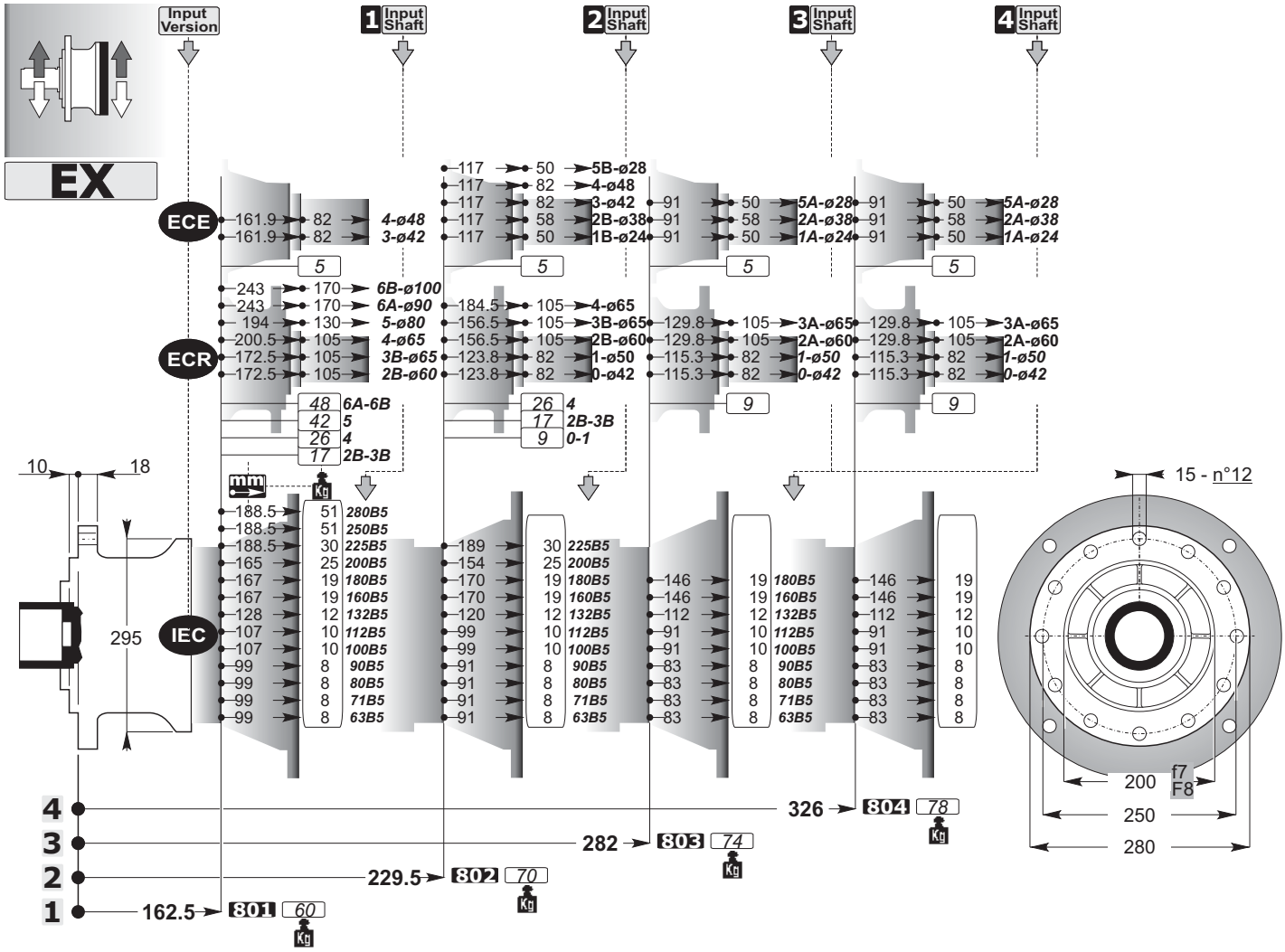

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
10
18
295
192
122
122
81.5
57
57
15 - n°12
200 f7 F8
250
280
4
3
2
362
304 88
348
303 84
288.5
302 105

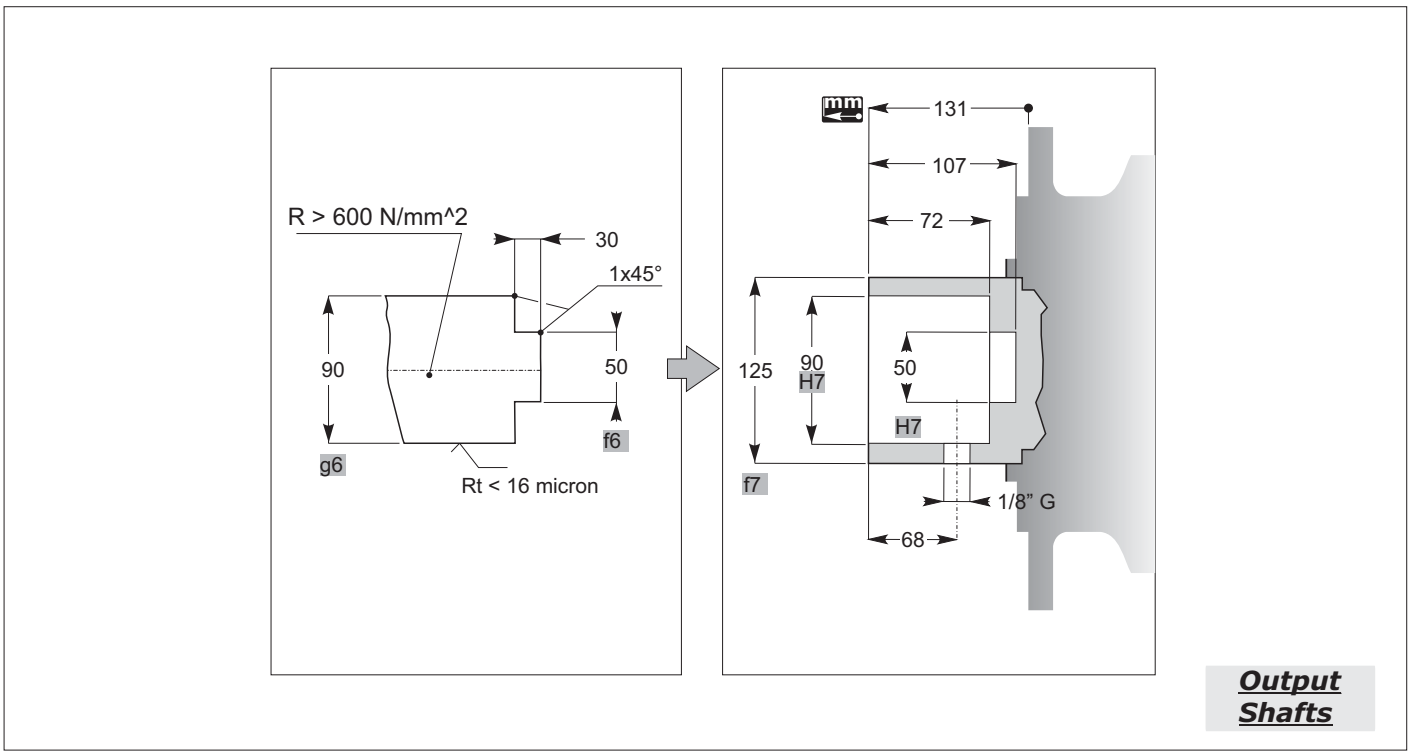




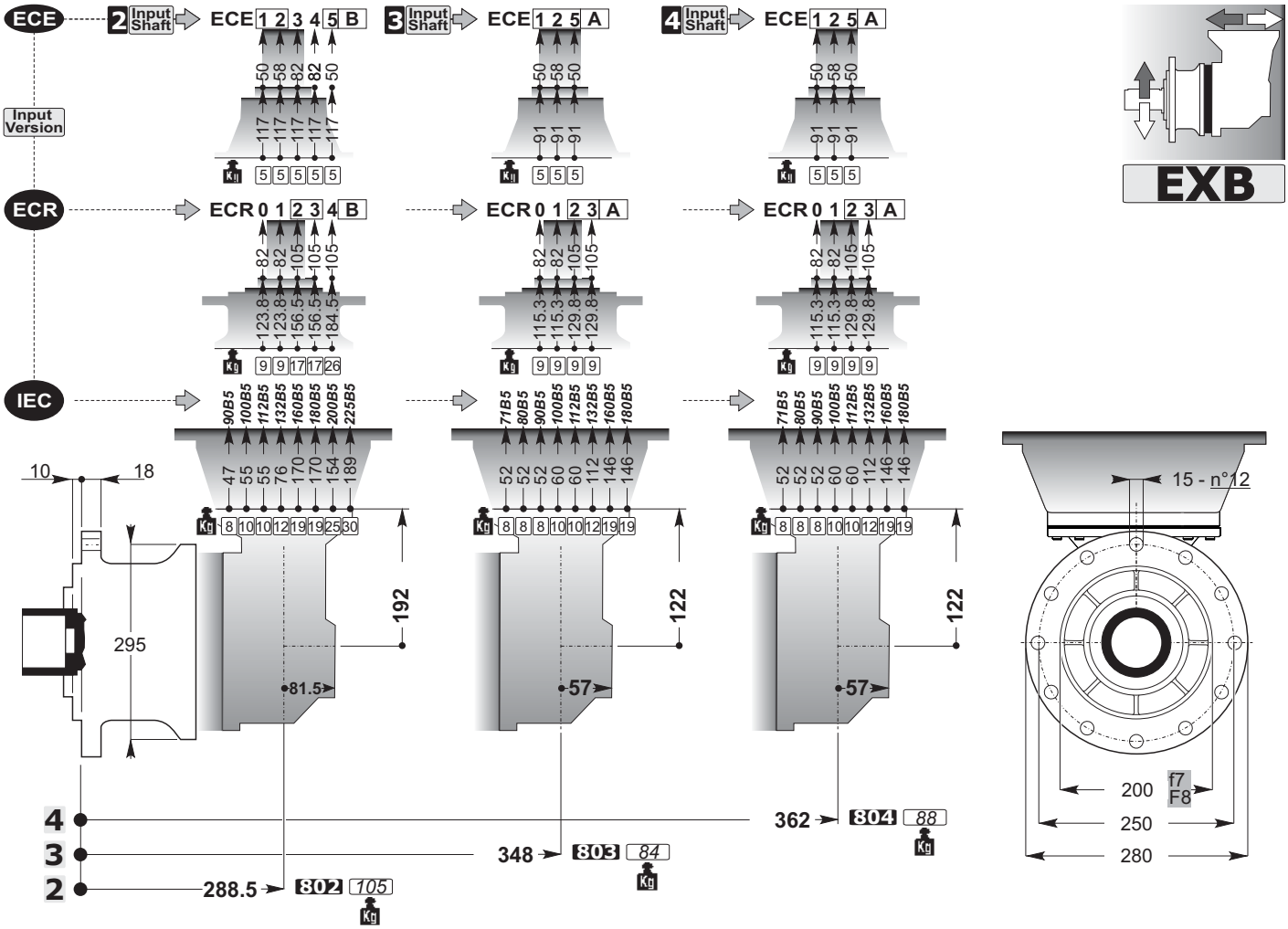
Output Shafts

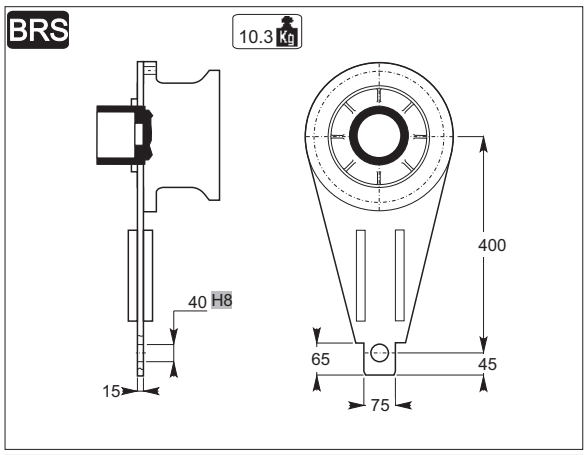

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
10
295
192
122
122
81.5
57
57
13
n°12
230
f7
F8
265
4
3
2
296.3
304
88
282.3
303
84
802
Size 802
Not available

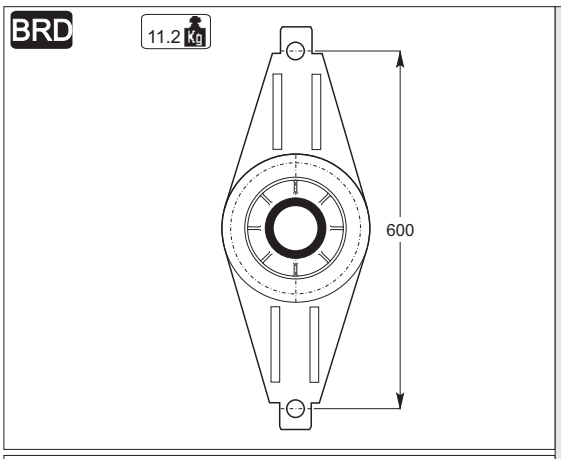


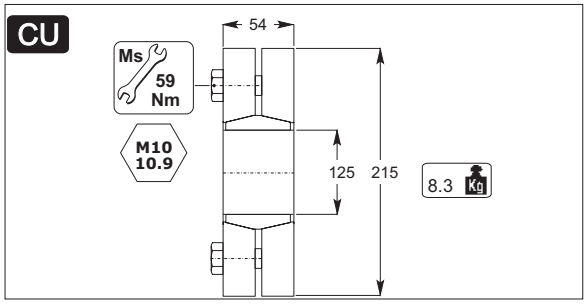


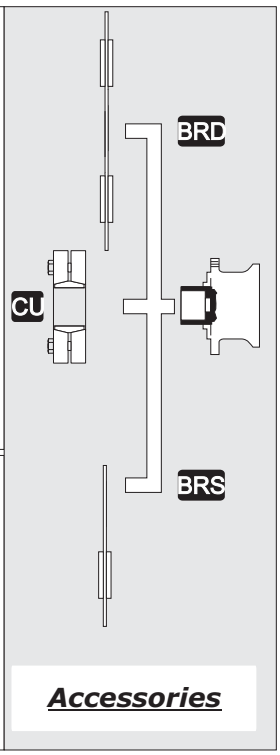
Output Shafts


ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
10
18
295
192
122
122
81.5
57
57
15 - n°12
200 f7 F8
250
280
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2
362
304
88
348
303
84
288.5
302
105

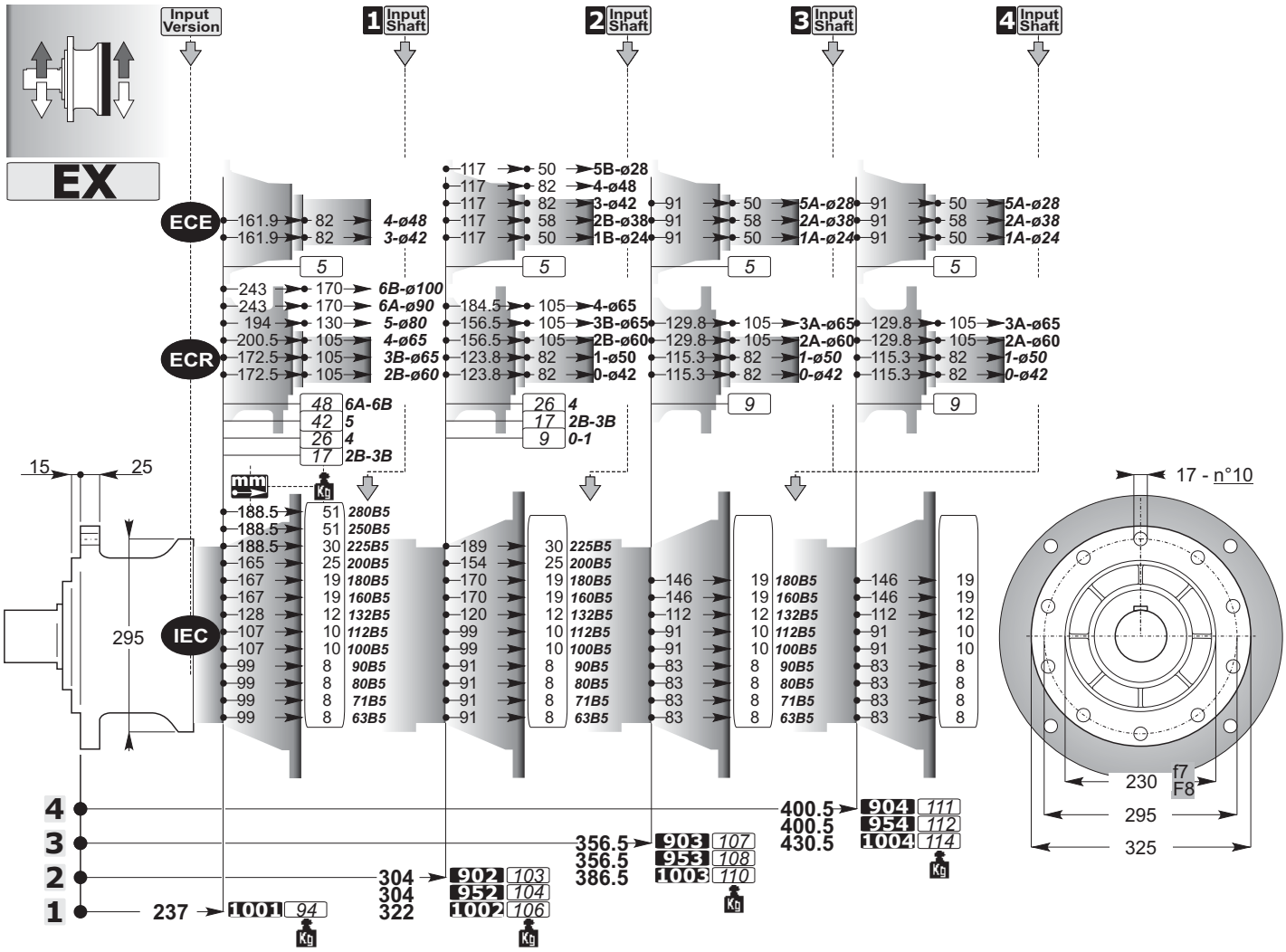

BRS
10.3 Kg
40 H8
15
400
65
45
75

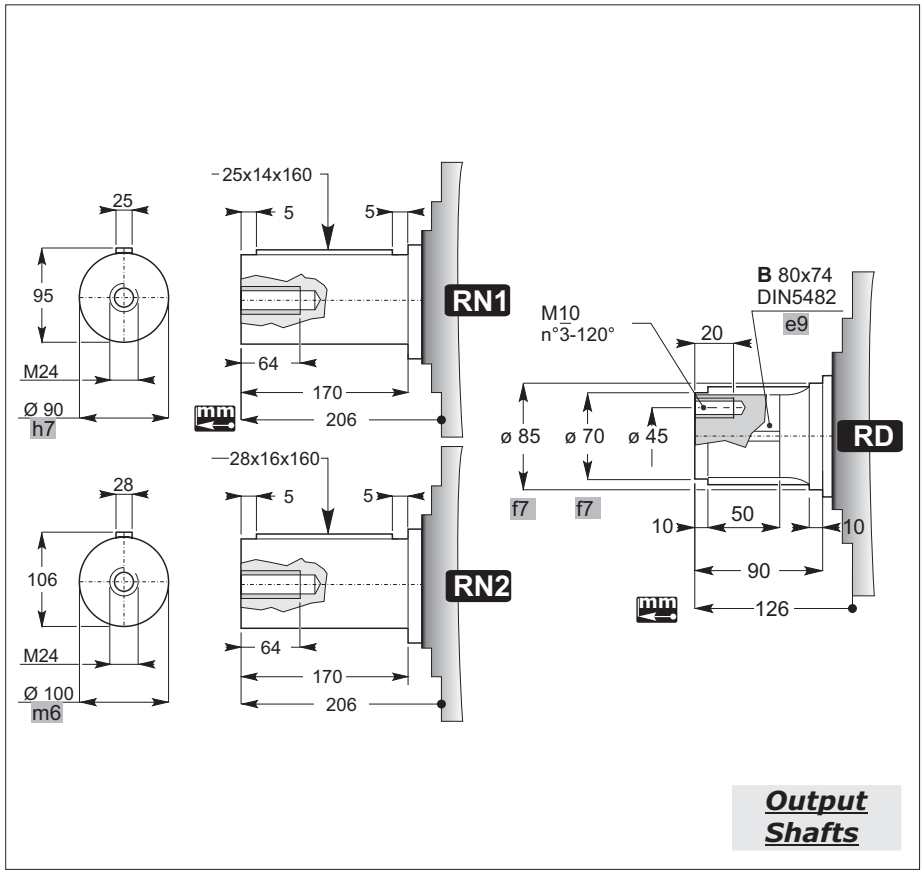

BRD
11.2 Kg
600

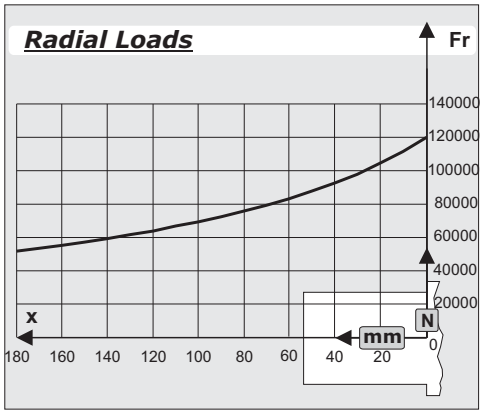

CU
Ms
59
Nm
M10
10.9
54
125
215
8.3 Kg

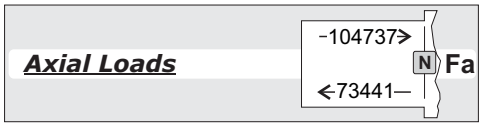

BRD
CU
BRS
Accessories

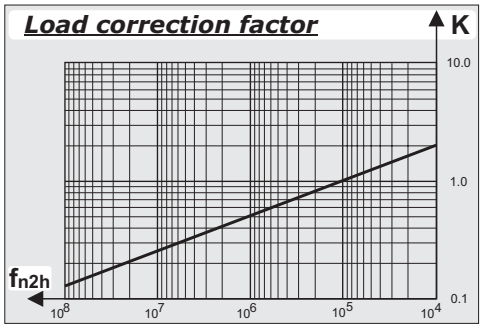
mm
C

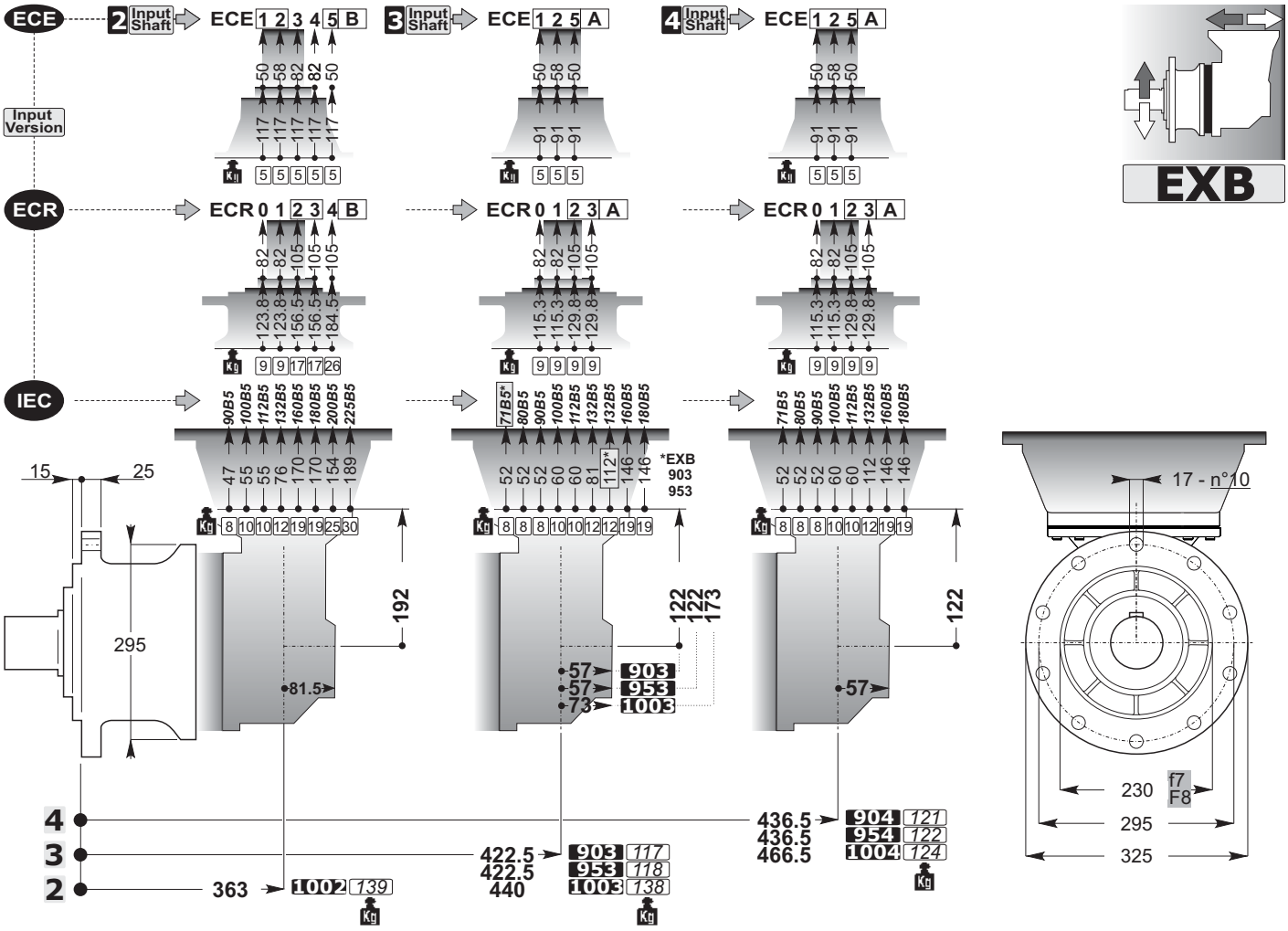

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
4-ø48
3-ø42
5B-ø28
4-ø48
3-ø42
2B-ø38
1B-ø24
5A-ø28
2A-ø38
1A-ø24
6B-ø100
6A-ø90
5-ø80
4-ø65
3B-ø65
2B-ø60
4-ø65
3B-ø65
2B-ø60
1-ø50
0-ø42
3A-ø65
2A-ø60
1-ø50
0-ø42
6A-6B
5
4
2B-3B
4
2B-3B
0-1
280B5
250B5
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
15
25
295
17 - n°10
230
f7
F8
295
325
400.5
400.5
430.5
356.5
356.5
386.5
304
304
322
237
904 111
954 112
1004 114
903 107
953 108
1003 110
902 103
952 104
1002 106
1001 94
Kg
mm

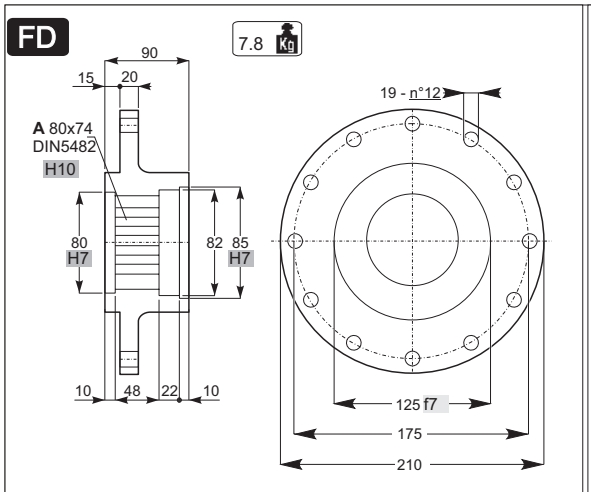

25
95
M24
Ø 90
h7
25x14x160
5
5
64
170
206
RN1
28
106
M24
Ø 100
m6
28x16x160
5
5
64
170
206
RN2
M10
n°3-120°
B 80x74
DIN5482
e9
20
ø 85
ø 70
ø 45
f7
f7
RD
10
50
10
90
126
mm
Output Shafts

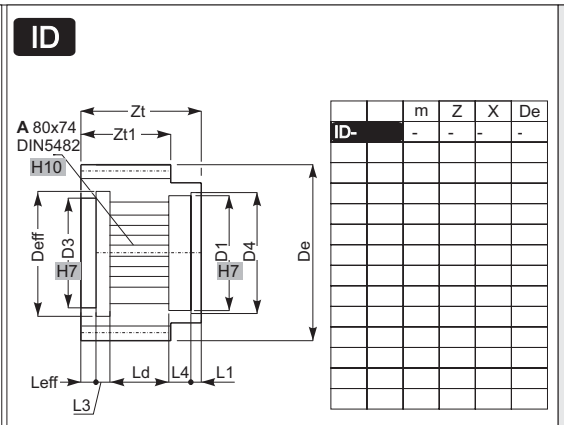

Radial Loads
Fr
140000
120000
100000
80000
60000
40000
20000
0
x
N
mm
180
160
140
120
100
80
60
40
20

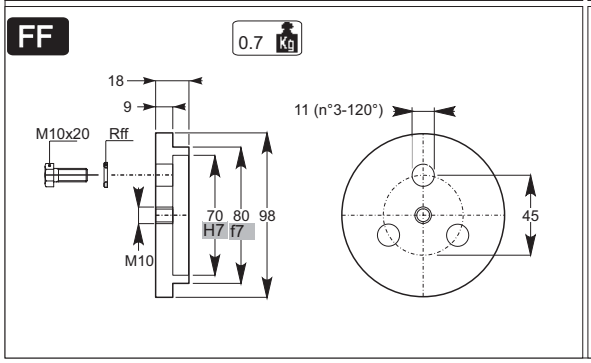

Axial Loads
-104737>
N
Fa
<73441-

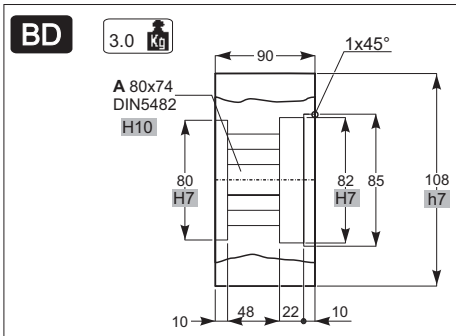

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

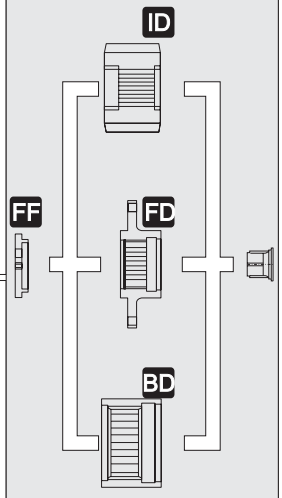






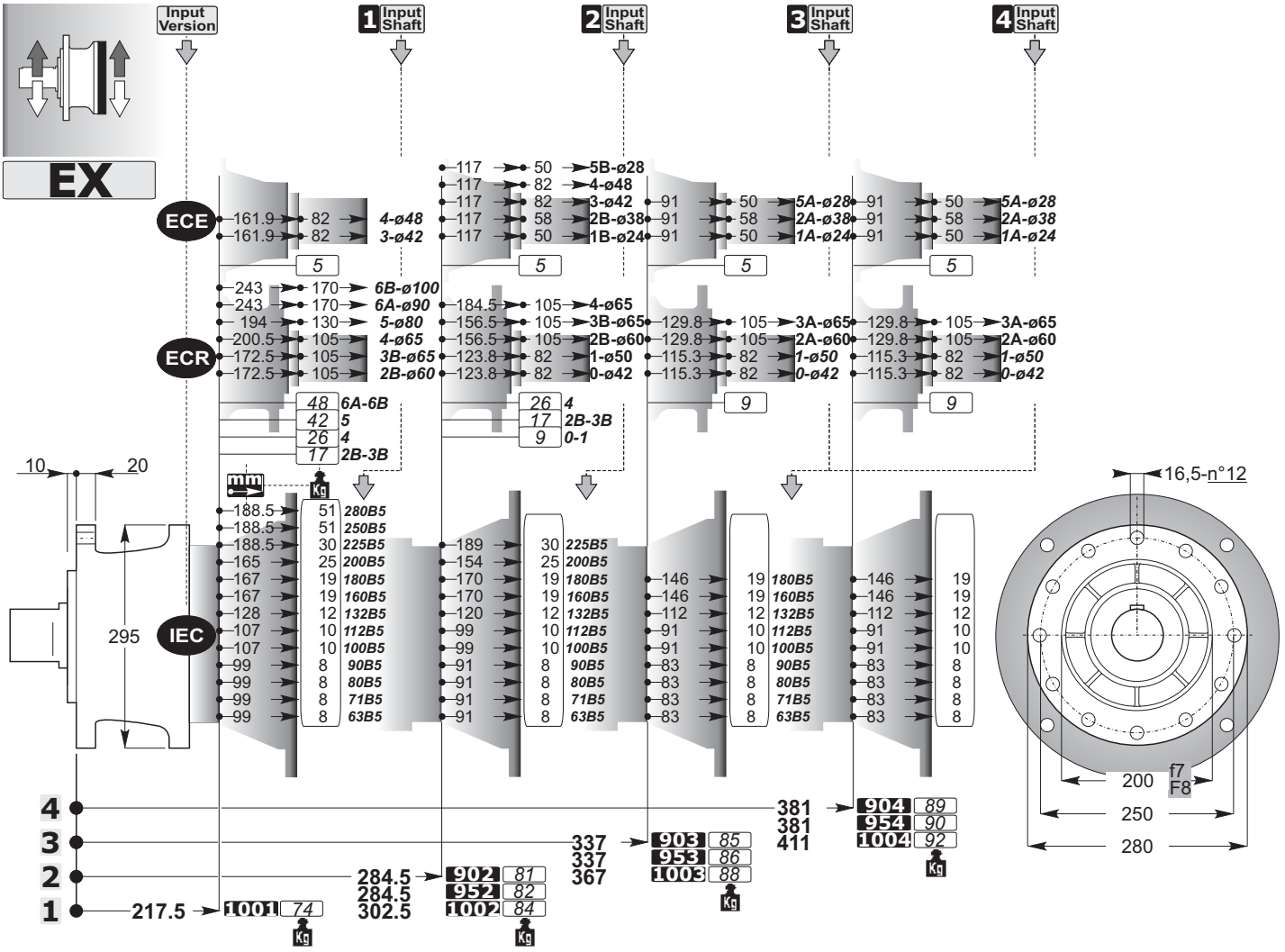


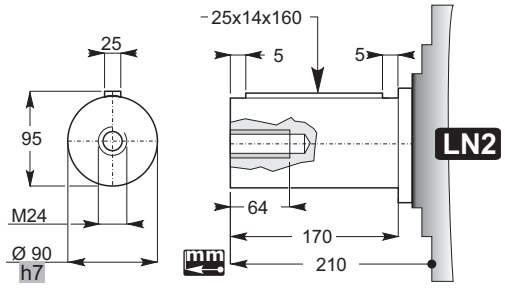


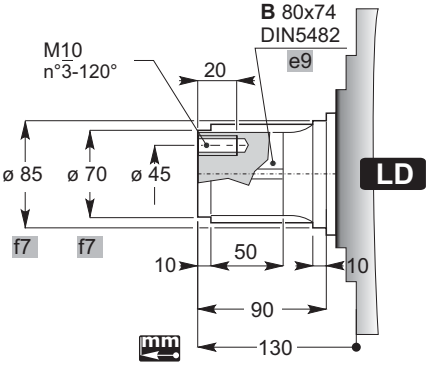


Accessories

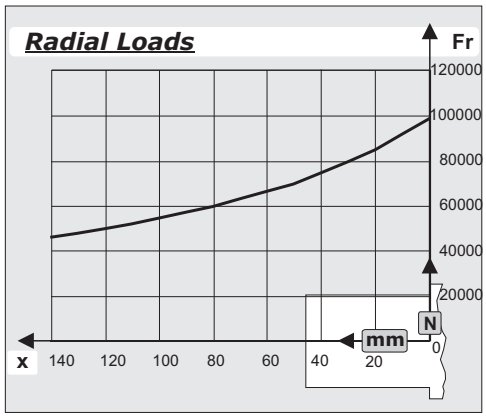
mm
C

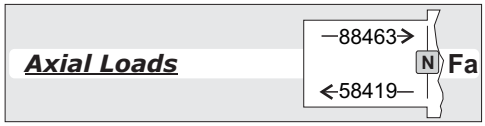


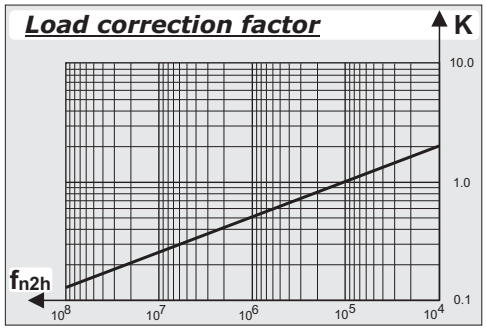


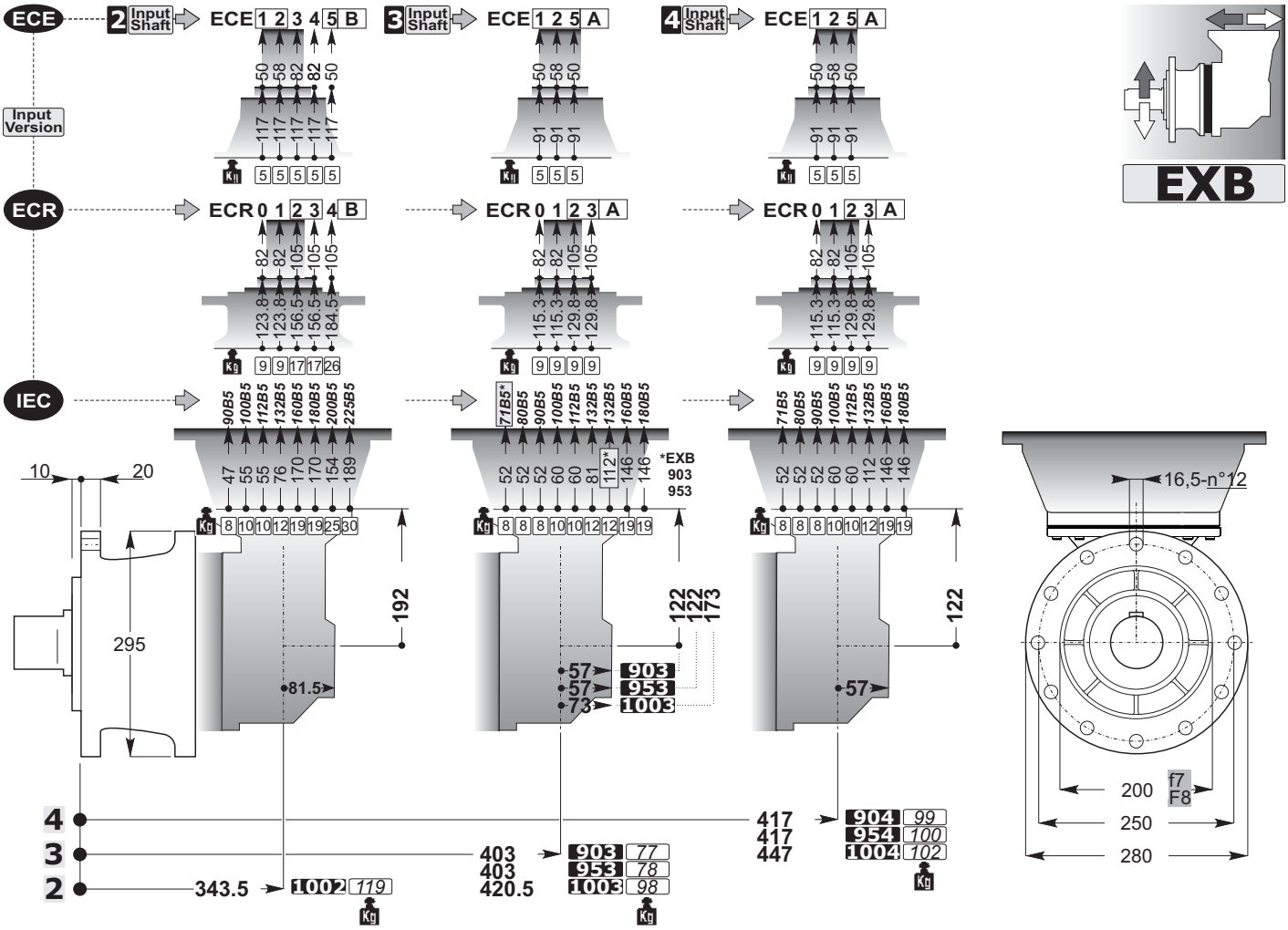


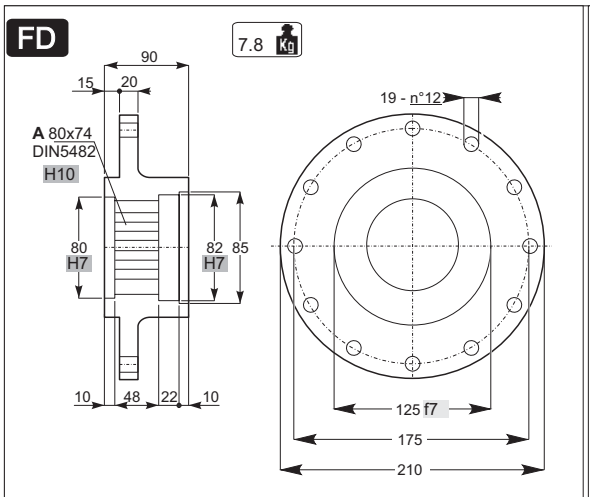
Output Shafts

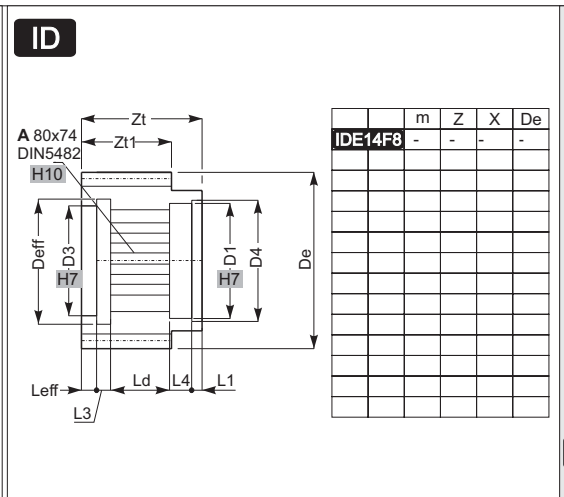


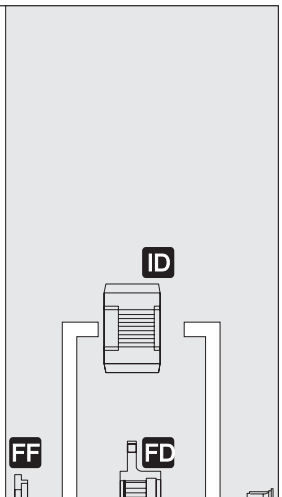


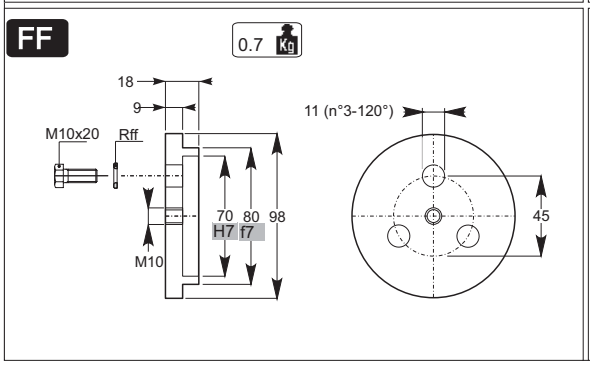


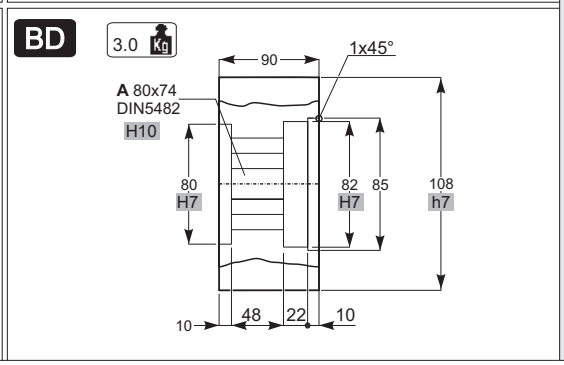

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
EXB
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
*EXB
903
953
16,5-n°12
200 f7 F8
250
280
295
192
122
122
173
122
81.5
57
57
73
903
953
1003
57
4
3
2
417
417
447
904 99
954 100
1004 102
403
403
420.5
903 77
953 78
1003 98
343.5
1002 119

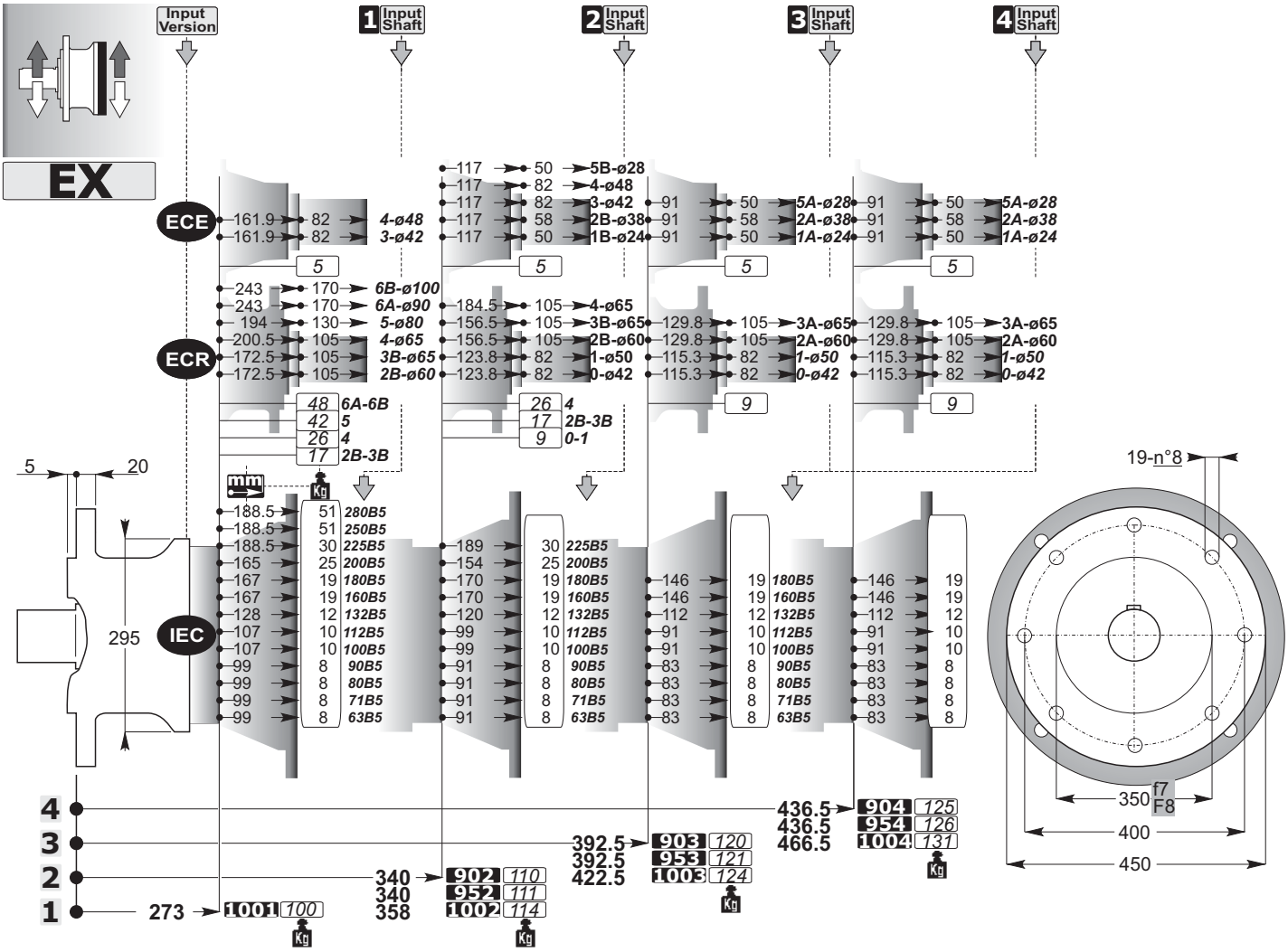

FD
7.8 Kg
90
15
20
A 80x74
DIN5482
H10
80
H7
82
H7
85
10
48
22
10
19 - n°12
125 f7
175
210

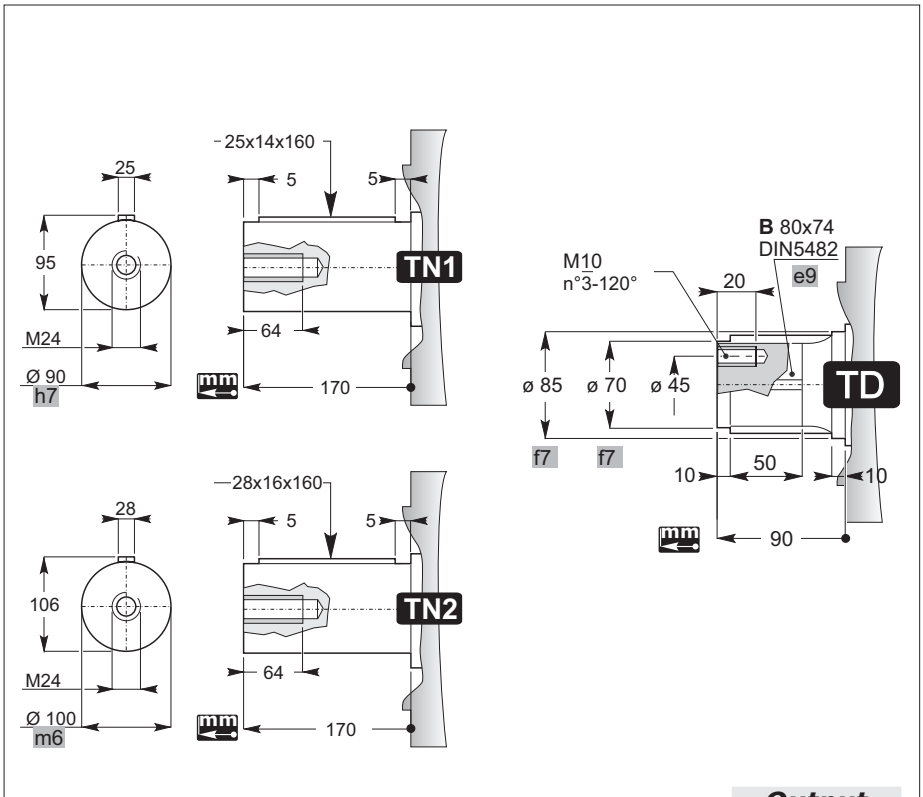

ID
Zt
Zt1
A 80x74
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
m Z X De
IDE14F8 - - - -

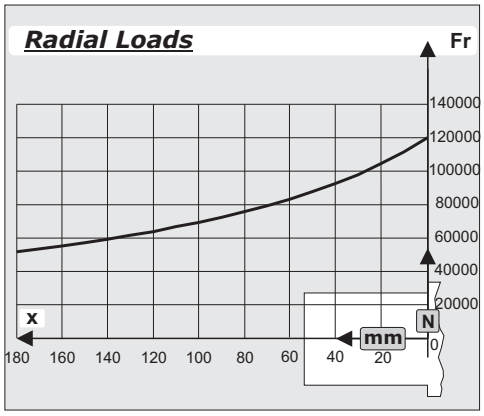

ID
FF
FD
BD
Accessories

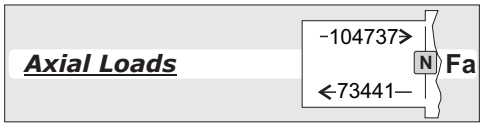

FF
0.7 Kg
18
9
M10x20
Rff
70
H7
80
f7
98
M10
11 (n°3-120°)
45

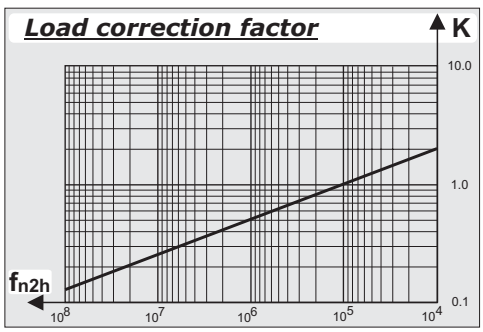

BD
3.0 Kg
90
1x45°
A 80x74
DIN5482
H10
80
H7
82
H7
85
108
h7
10
48
22
10



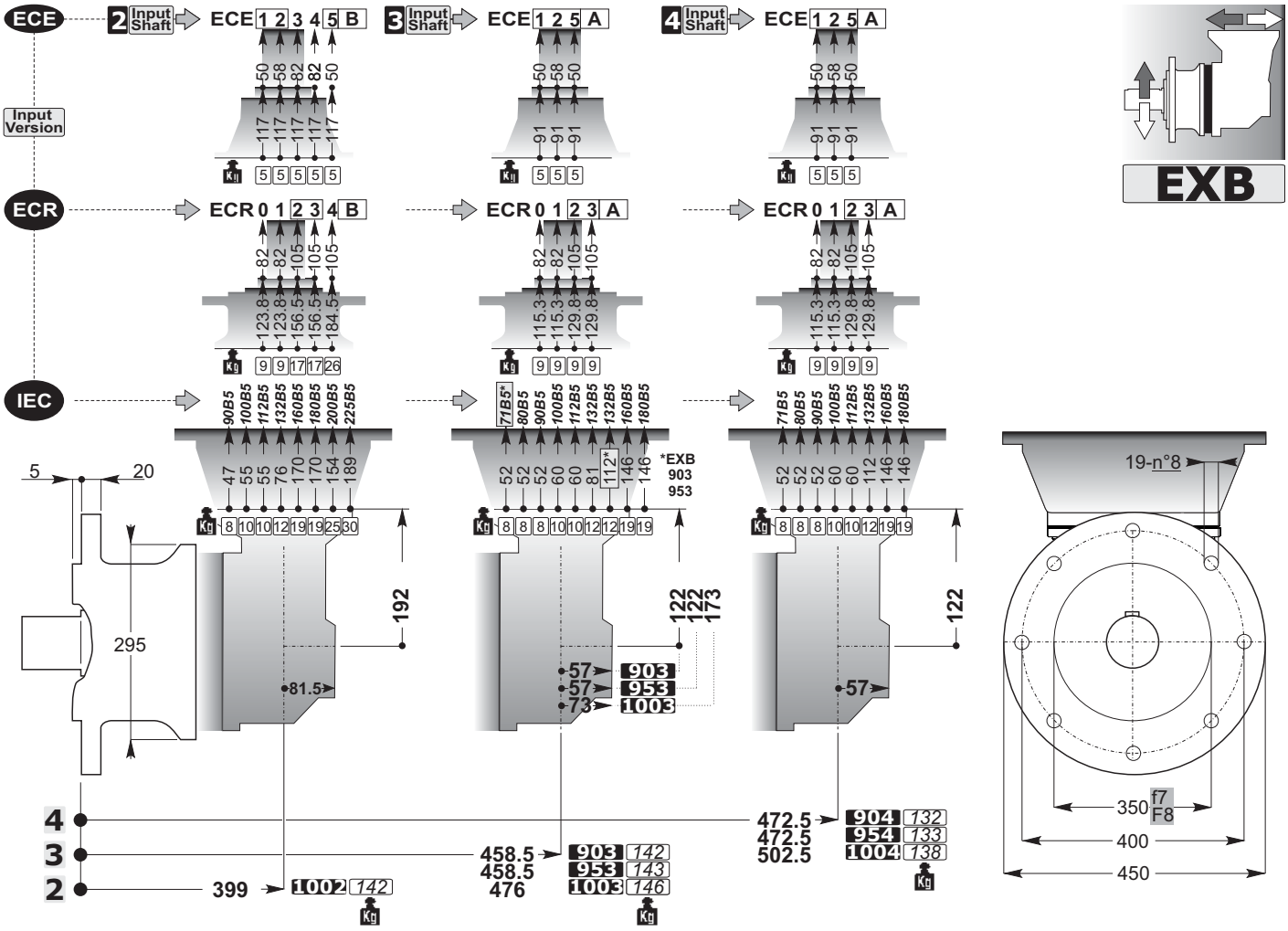


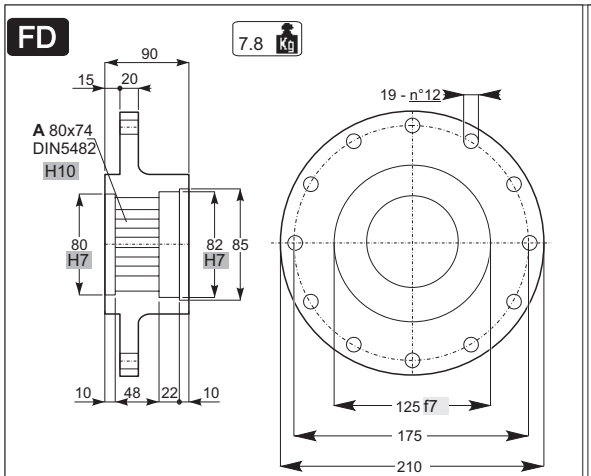


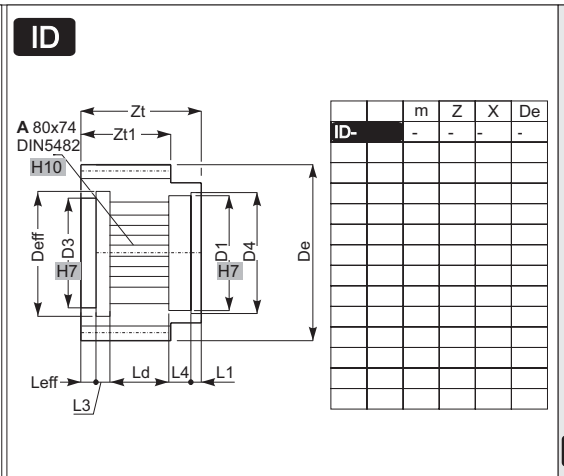


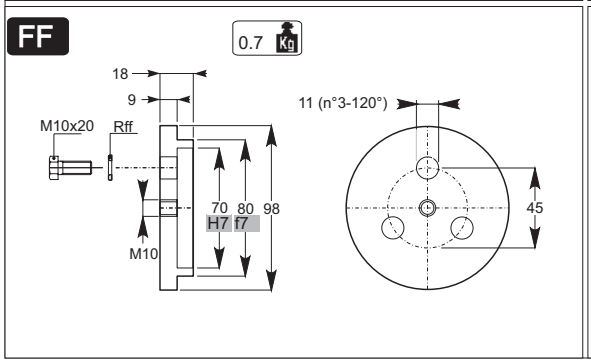


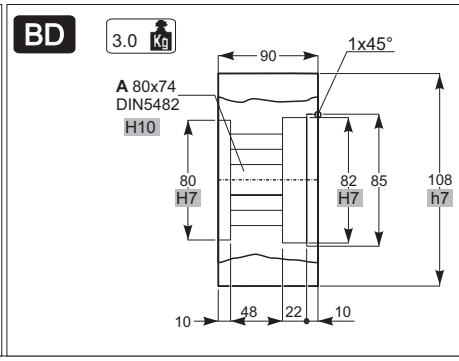
Output Shafts

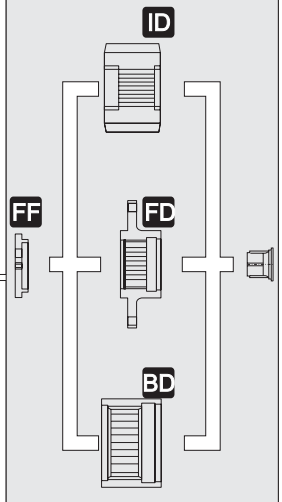






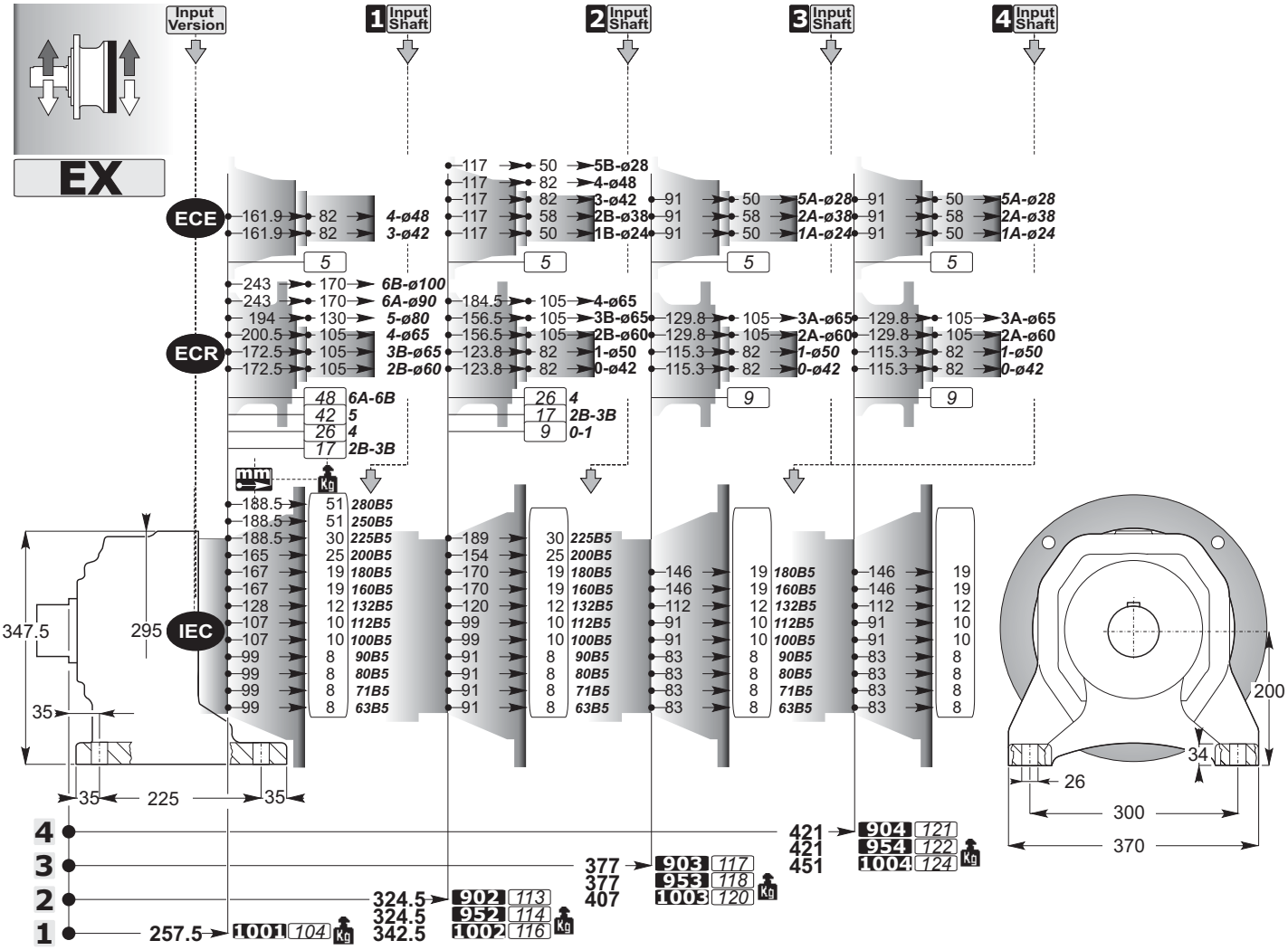


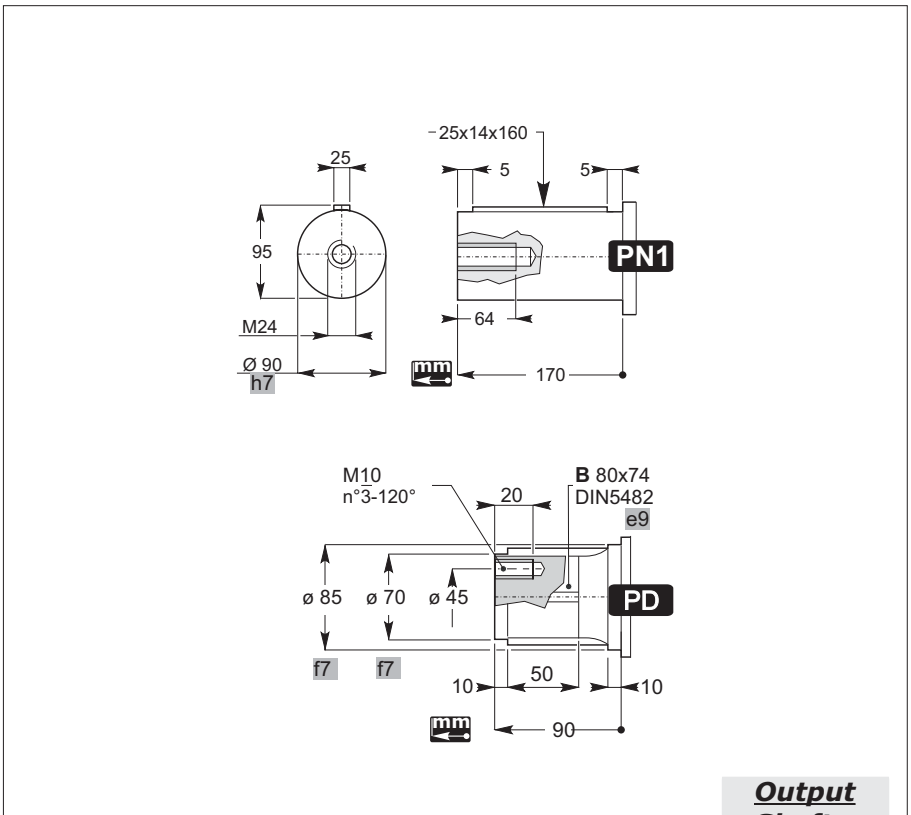


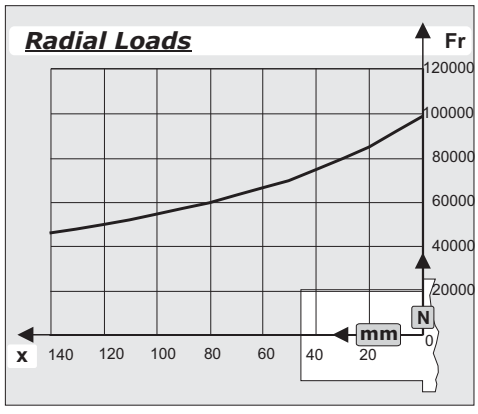


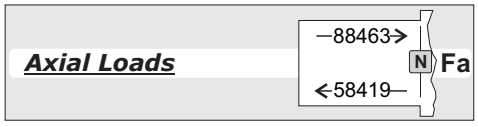
Accessories

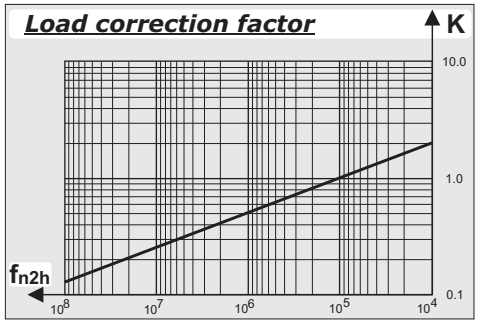
mm
C

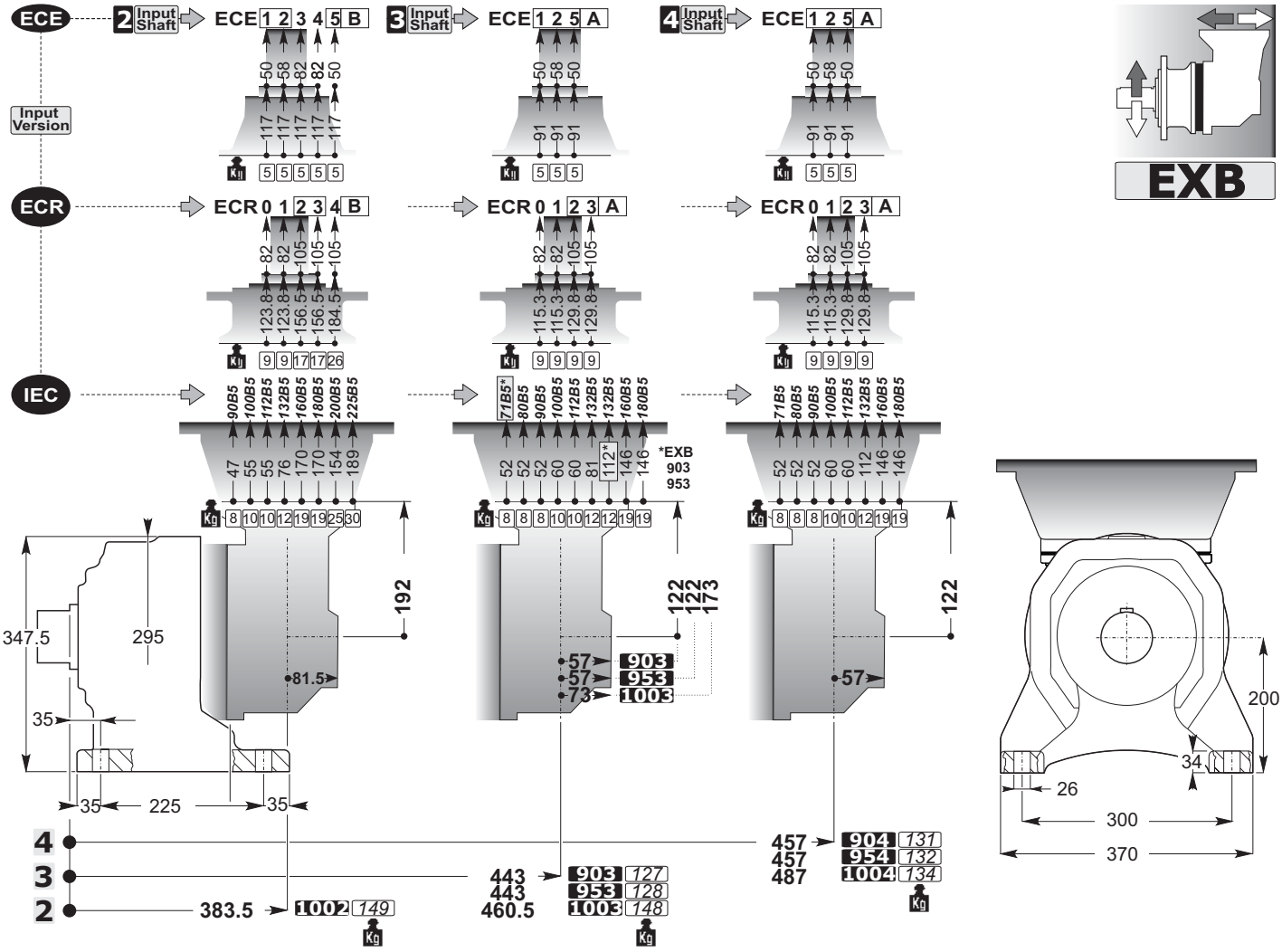

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
347.5
295
35
225
35
200
34
26
300
370

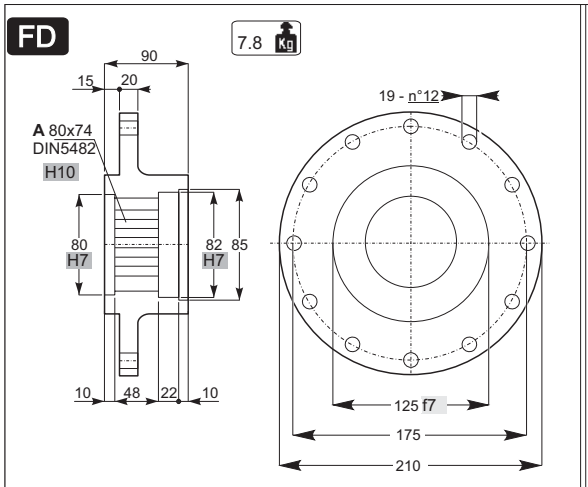

PN1
25x14x160
PD
M10
n°3-120°
B 80x74
DIN5482
e9
Output Shafts

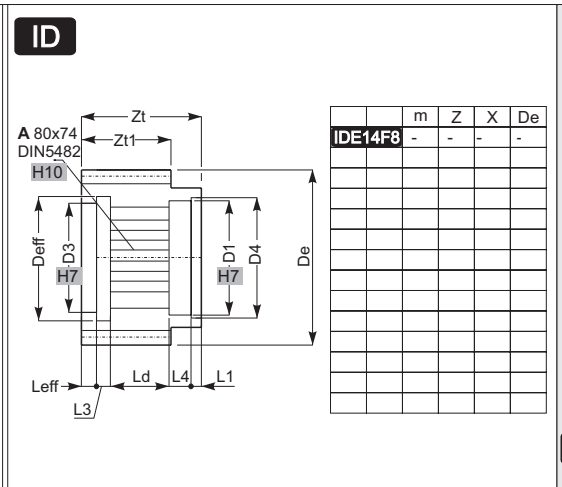

Radial Loads
Fr
120000
100000
80000
60000
40000
20000
N
mm
x
140
120
100
80
60
40
20
0

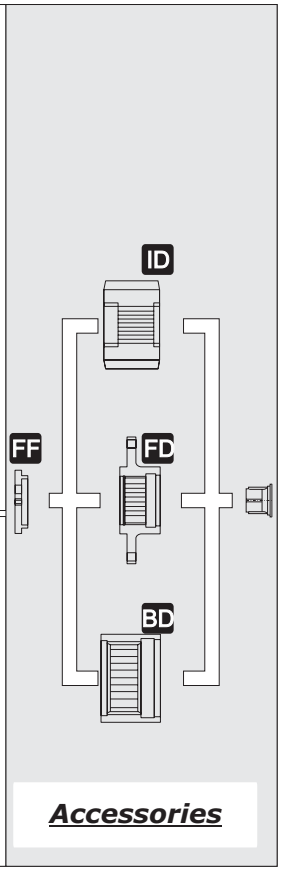

Axial Loads
88463
N
Fa
58419

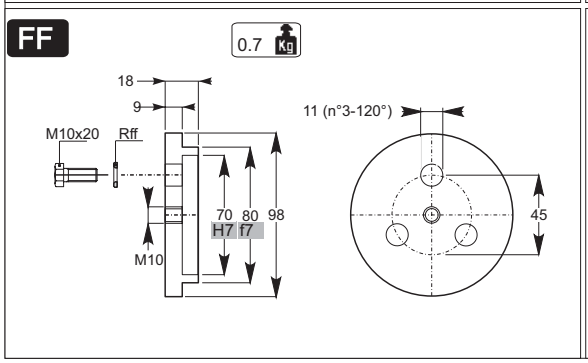

Load correction factor
K
10.0
1.0
0.1
fn2h

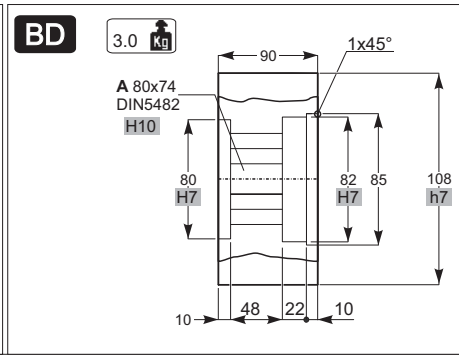

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
71B5* 80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
*EXB 903 953
EXB
347.5
295
192
81.5
35
35 225 35
122 122 173
57 903
57 953
73 1003
122
57
200
34
26
300
370
4
3
2
383.5 1002 149
443 903 127
443 953 128
460.5 1003 148
457 904 131
457 954 132
487 1004 134


FD
7.8 Kg
90
15
20
A 80x74
DIN5482
H10
80
H7
82
H7
85
19 - n°12
10
48
22
10
125 f7
175
210

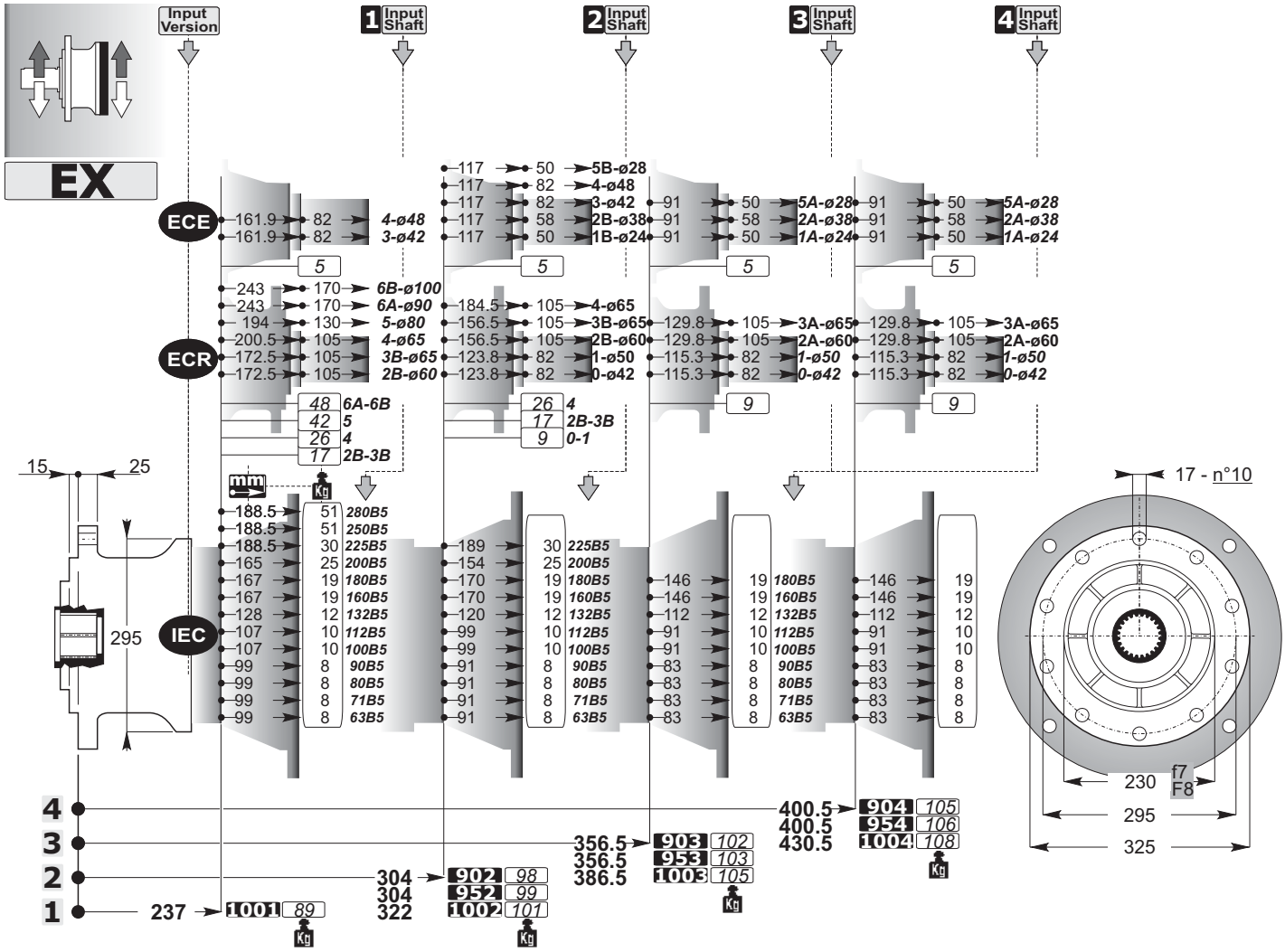

ID
Zt
Zt1
A 80x74
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
m Z X De
IDE14F8 - - - -

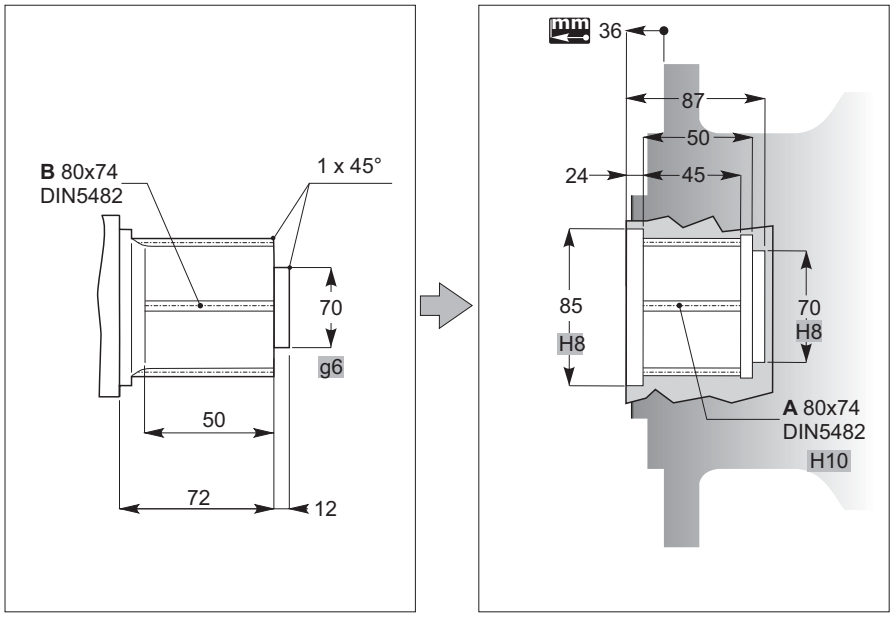

ID
FF
FD
BD
Accessories


FF
0.7 Kg
18
9
M10x20
Rff
M10
70 80 98
H7 f7
11 (n°3-120°)
45

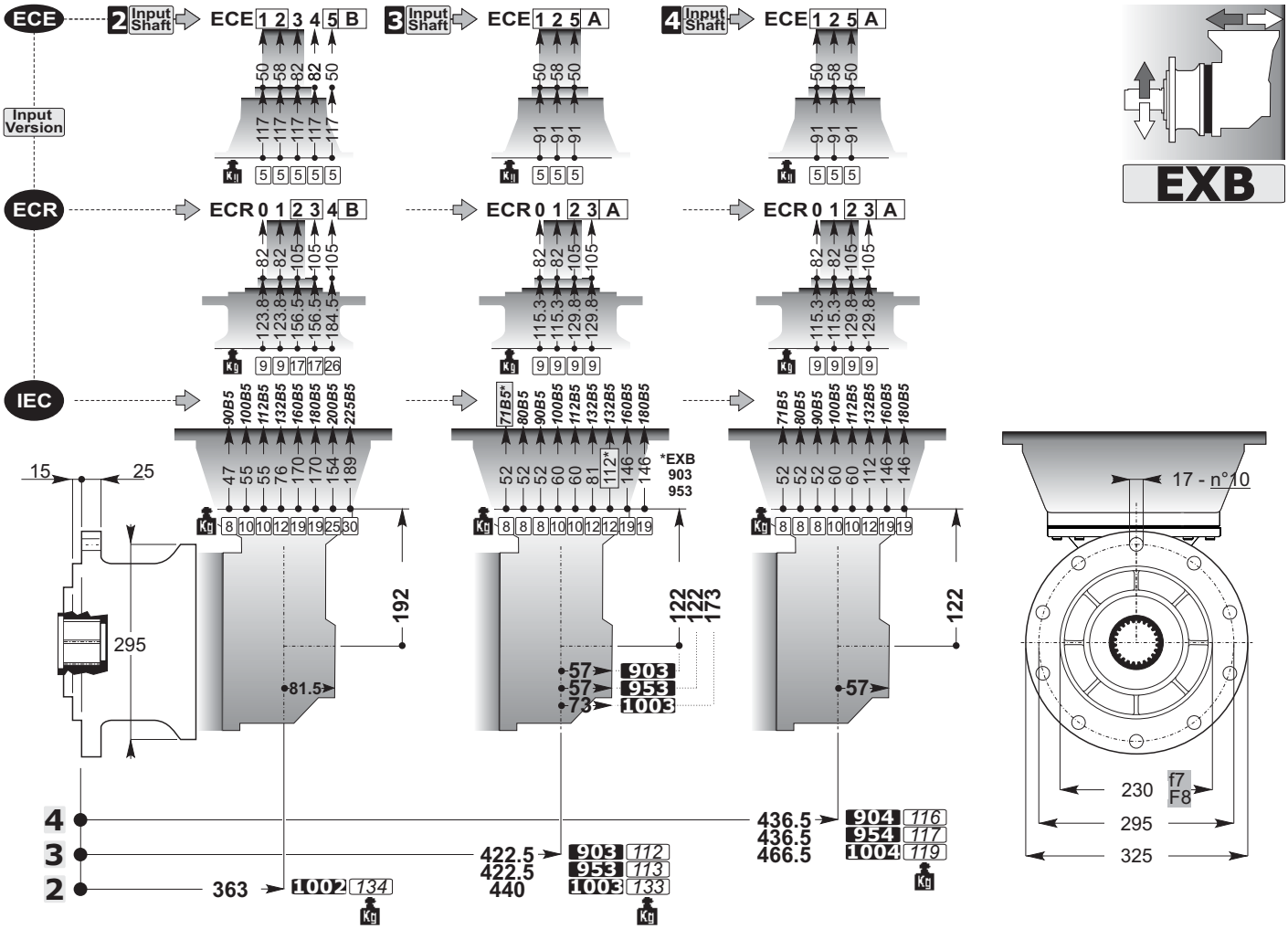

BD
3.0 Kg
90
1x45°
A 80x74
DIN5482
H10
80
H7
82
H7
85
108
h7
10
48
22
10

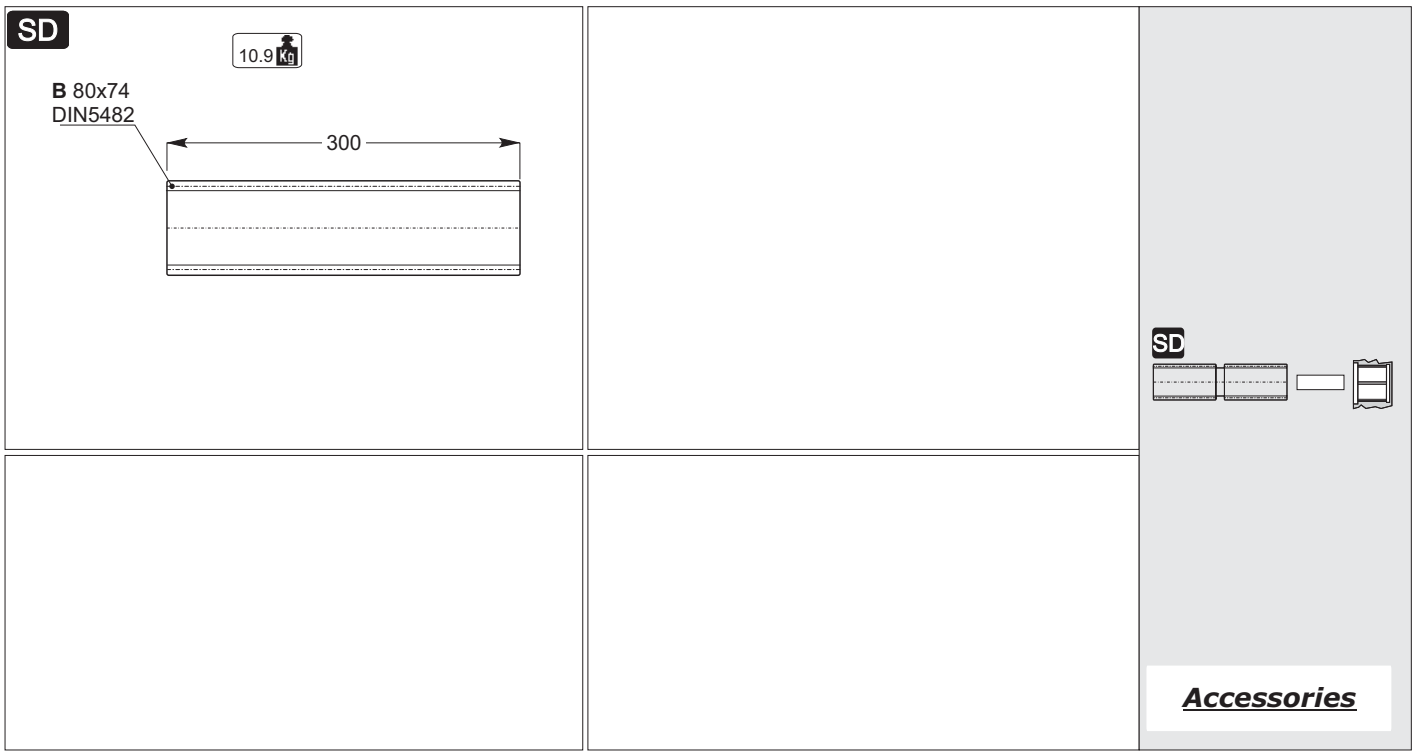
mm
C

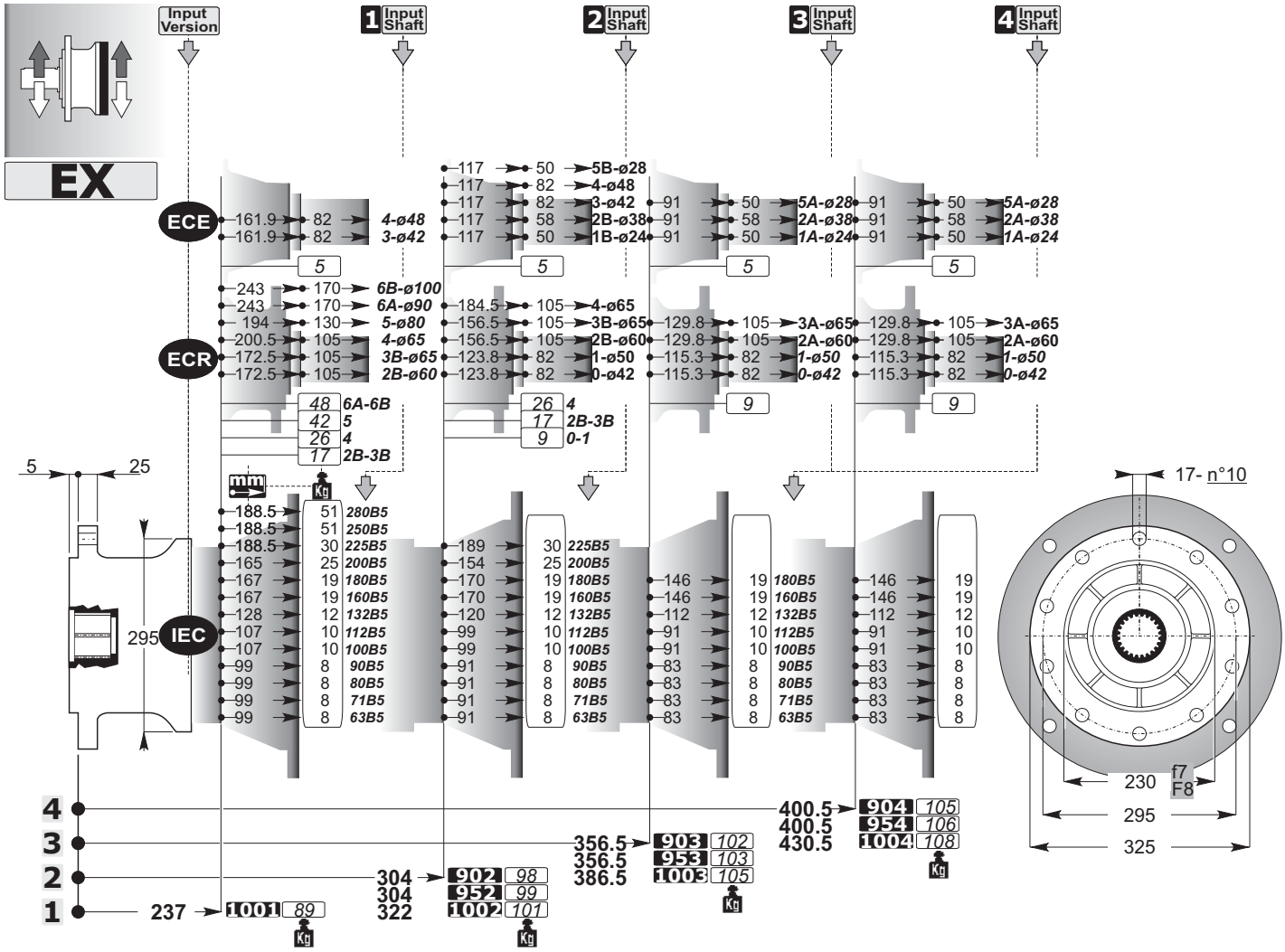


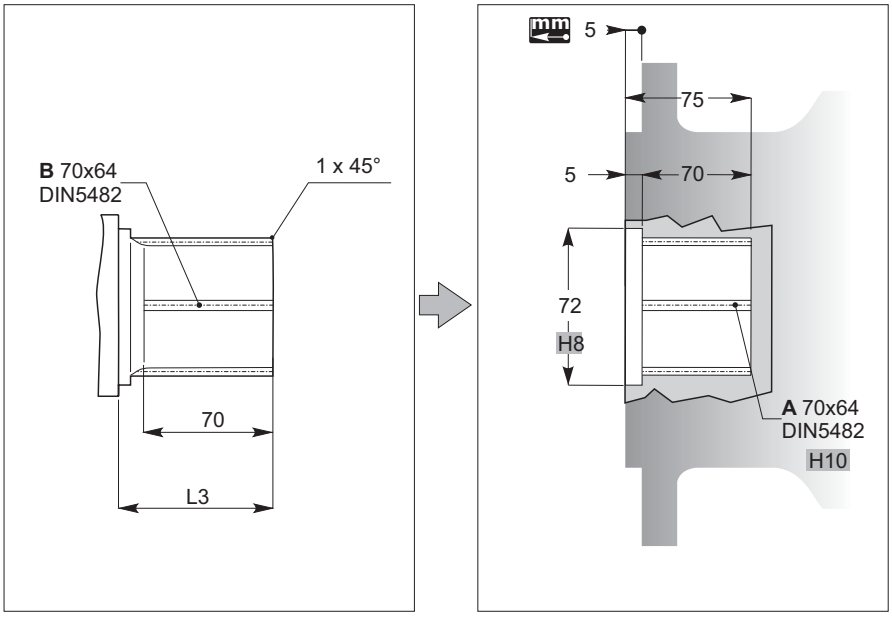


Output Shafts

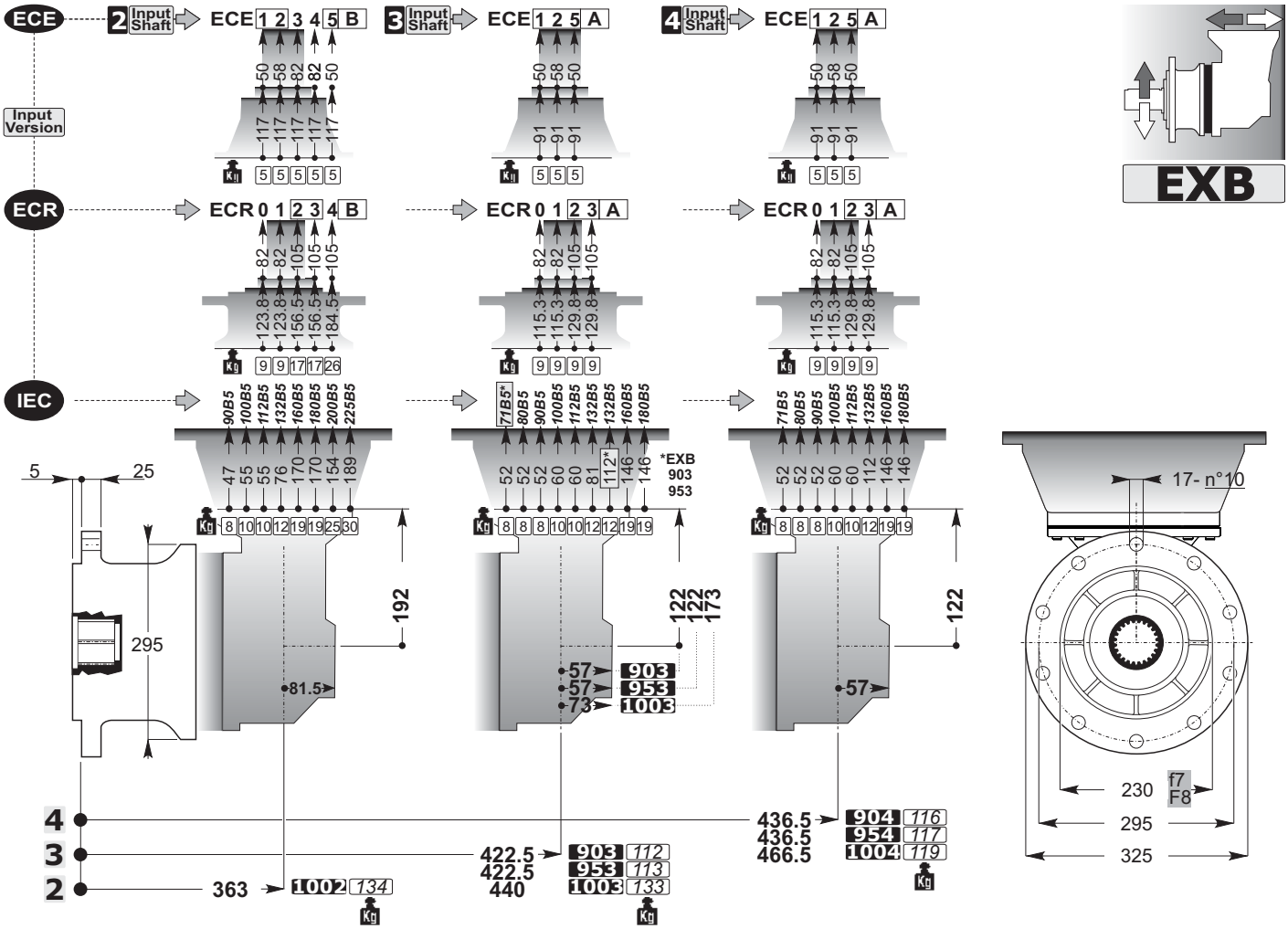

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
903
953
15
25
295
192
81.5
122
122
173
57
903
57
953
73
1003
122
57
17 - n°10
230
f7
F8
295
325
4
3
2
363
1002 134
422.5
422.5
440
903 112
953 113
1003 133
436.5
436.5
466.5
904 116
954 117
1004 119

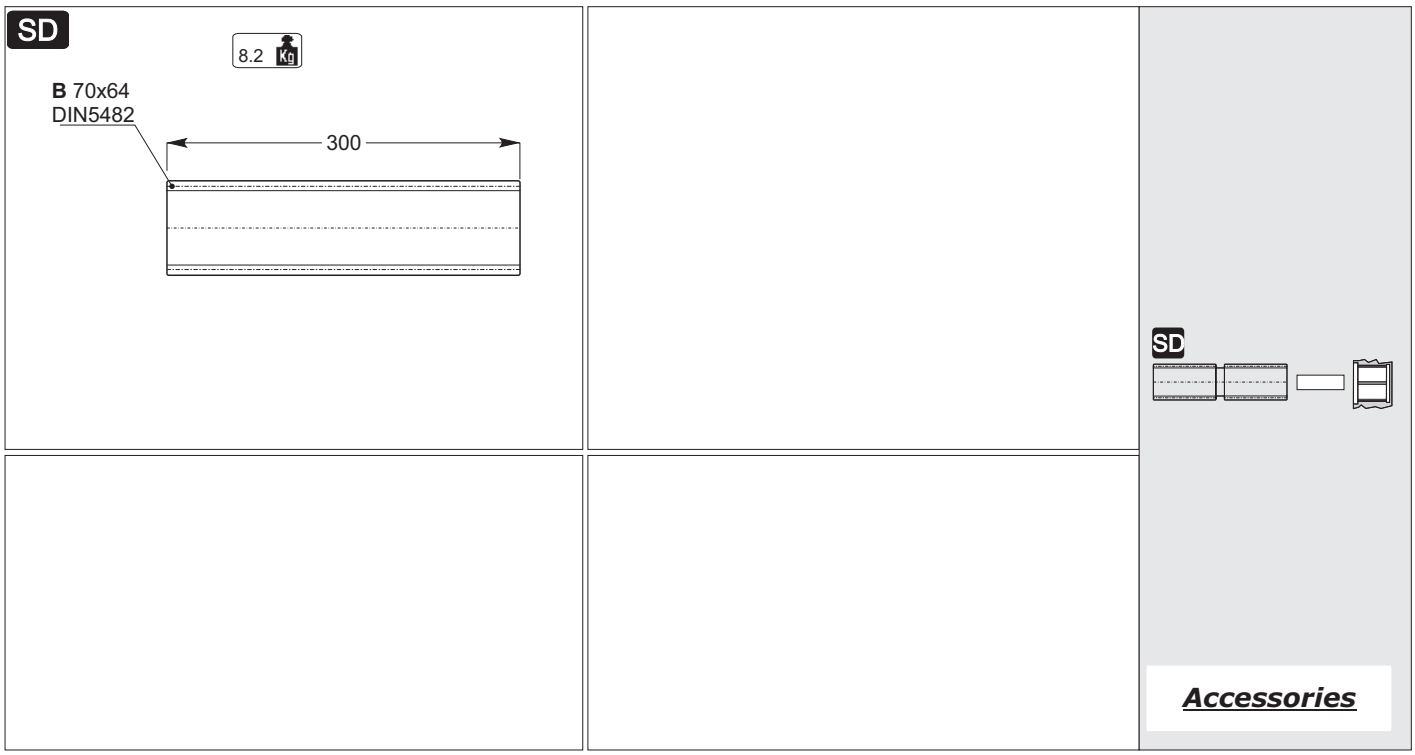

SD
10.9
B 80x74
DIN5482
300
SD
Accessories

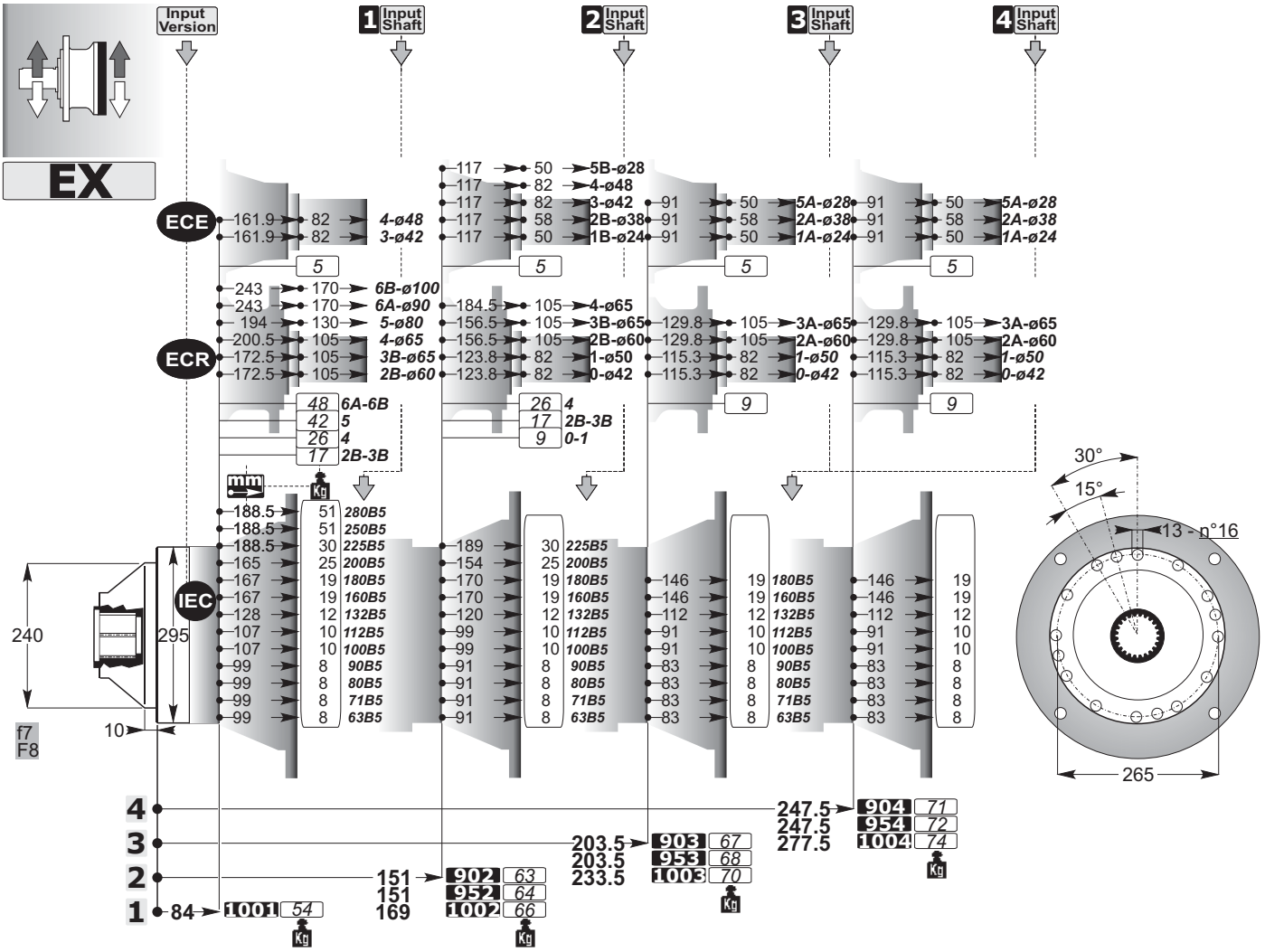


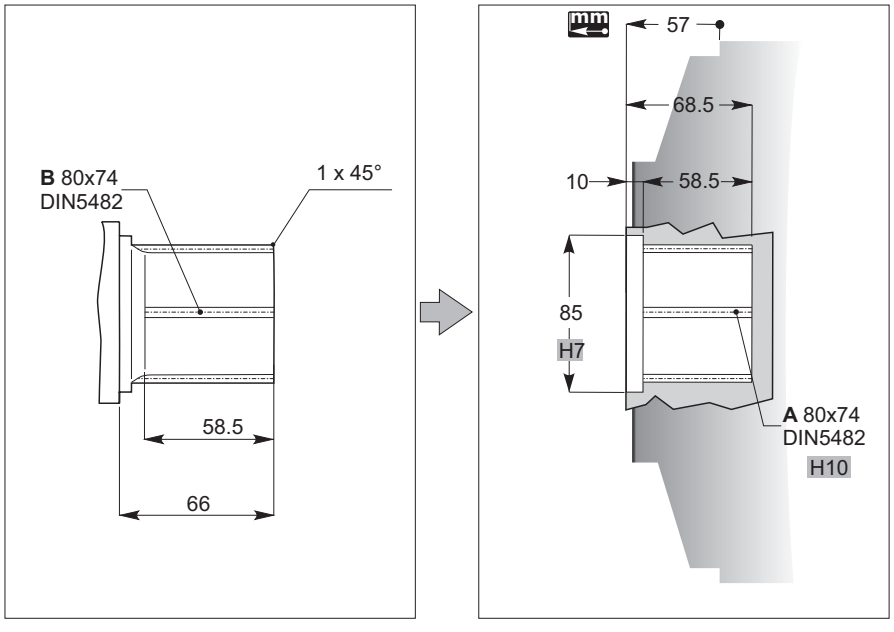


Output Shafts

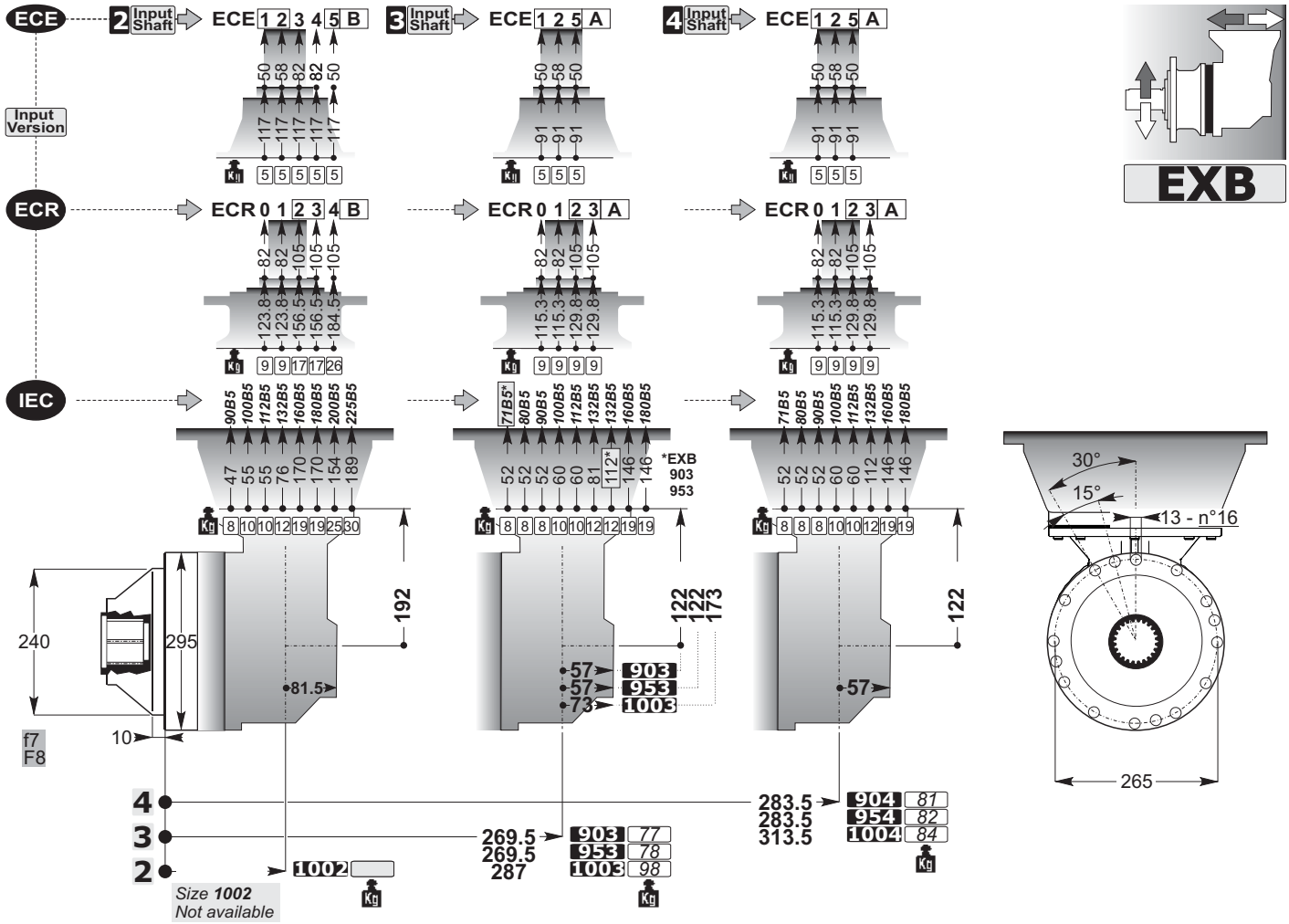

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
903
953
17- n°10
5
25
295
192
81.5
122
122
173
57
903
57
953
73
1003
122
57
4
3
2
363
1002 134
422.5
422.5
440
903 112
953 113
1003 133
436.5
436.5
466.5
904 116
954 117
1004 119
230
f7
F8
295
325

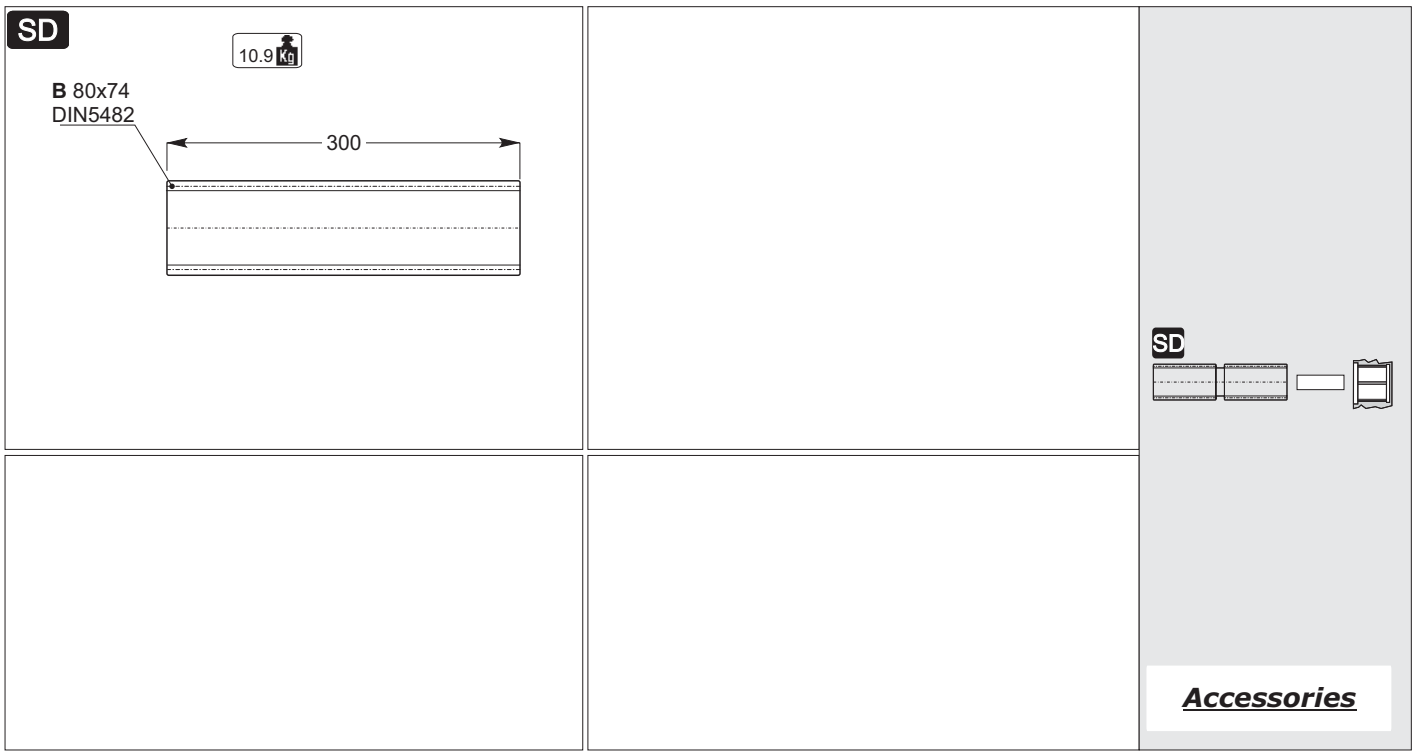

SD
8.2
B 70x64
DIN5482
300
SD
Accessories

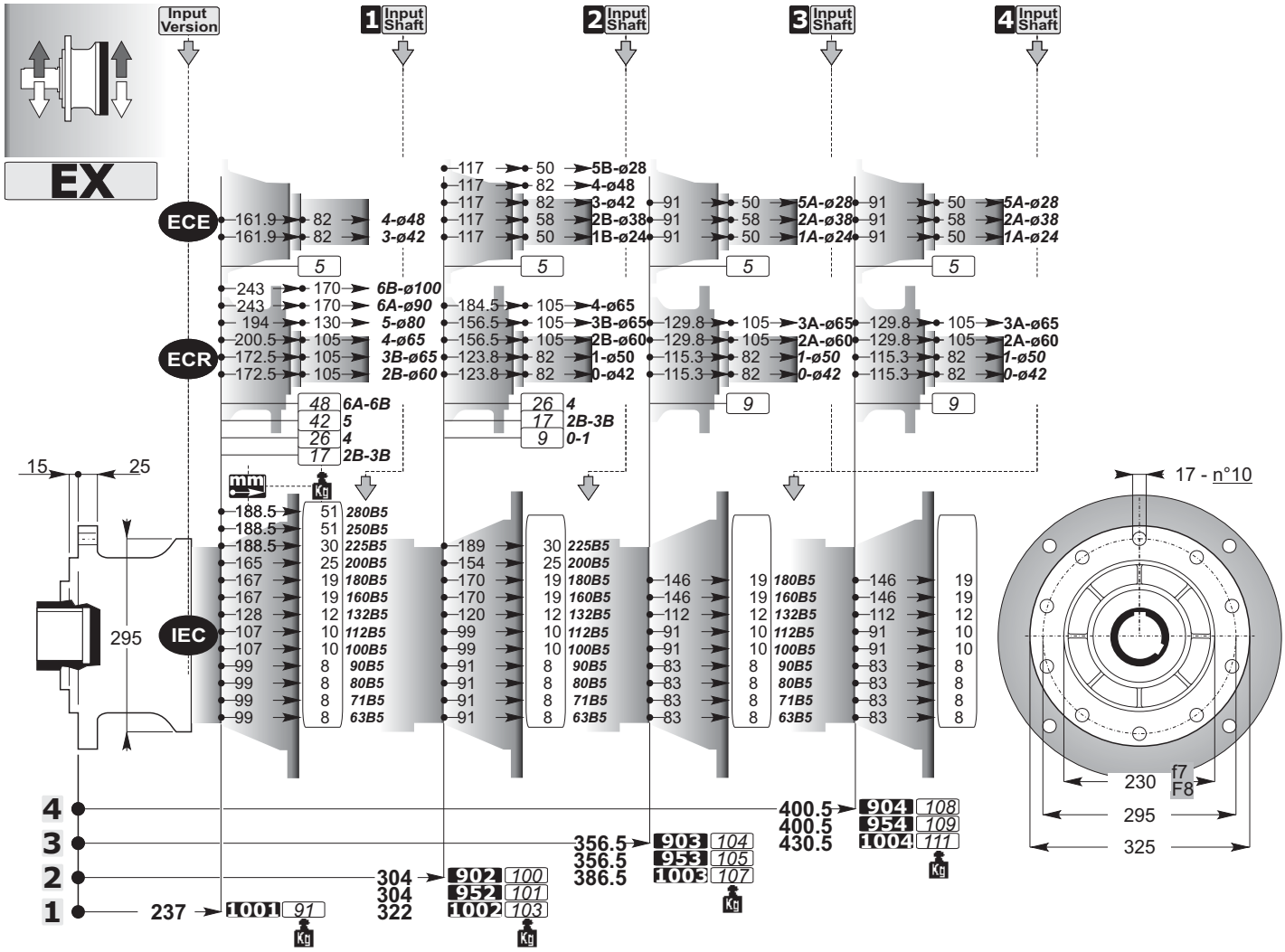


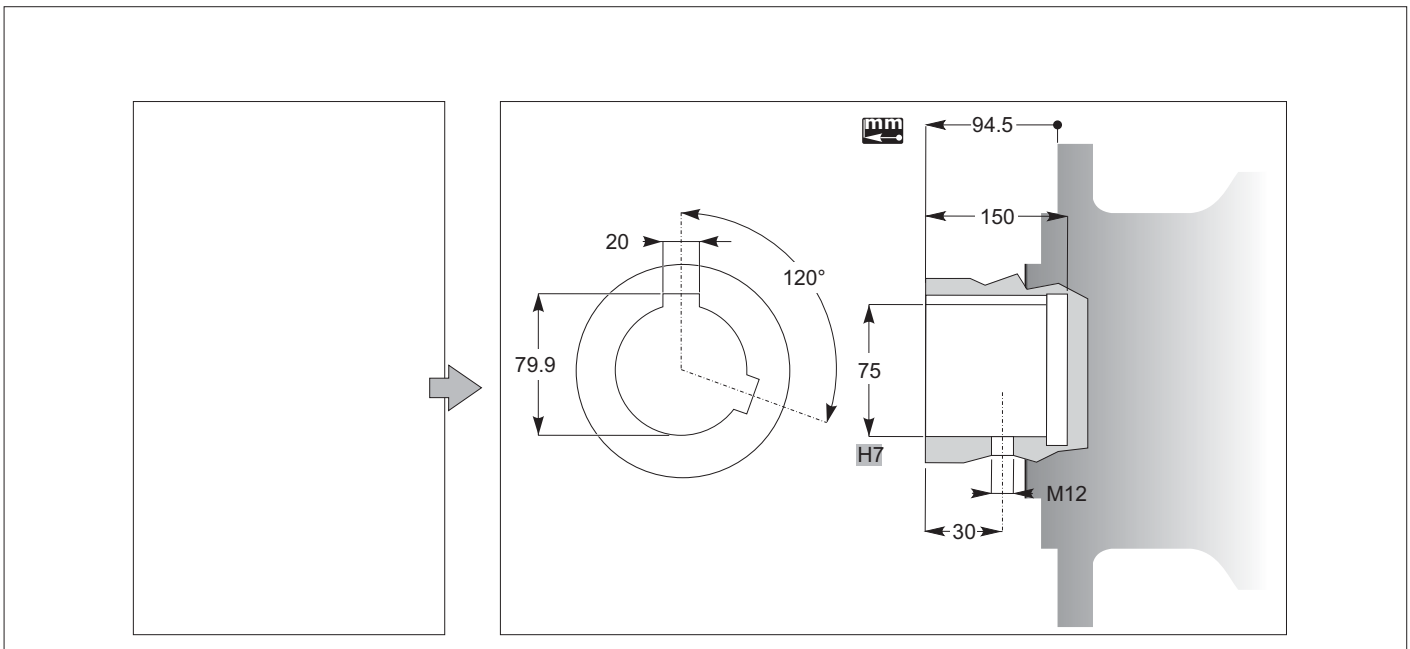


Output Shafts

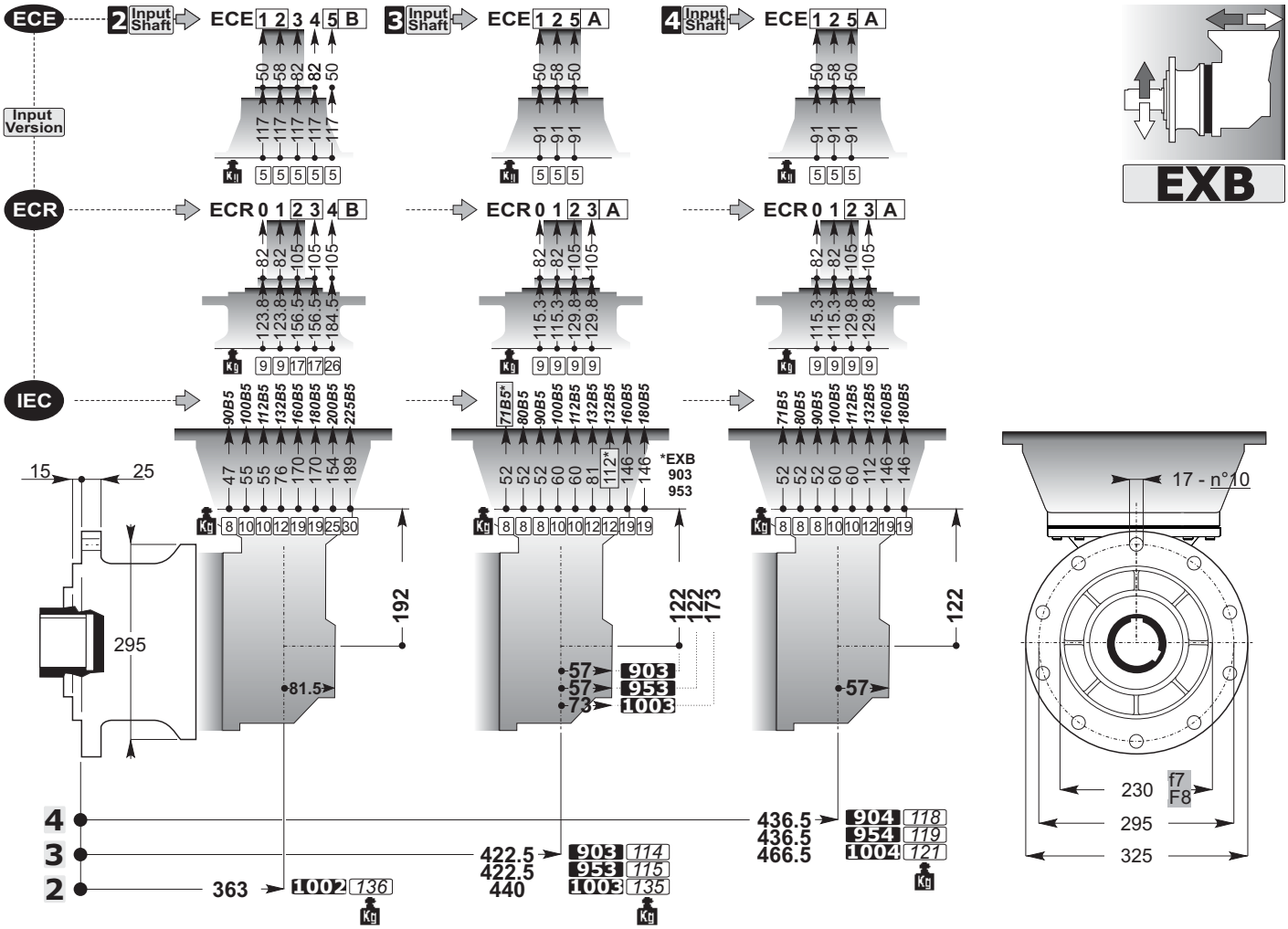

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
903
953
30°
15°
13 - n°16
265
240
295
192
122
122
173
122
81.5
57
903
57
953
73
1003
57
f7
F8
10
4
3
2
283.5
283.5
313.5
904 81
954 82
1004 84
269.5
269.5
287
903 77
953 78
1003 98
1002
Size 1002
Not available

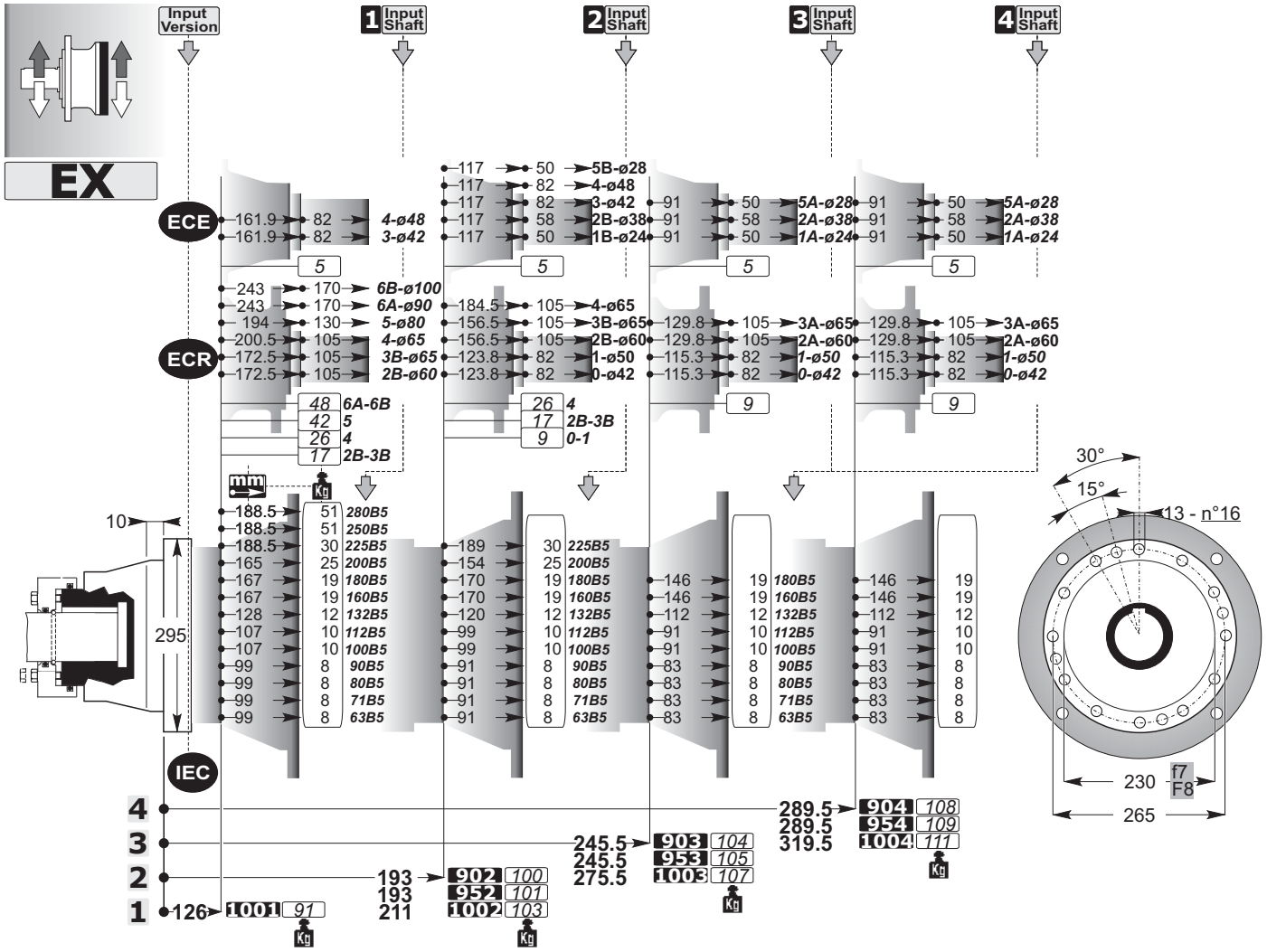

SD
10.9
B 80x74
DIN5482
300
SD
Accessories

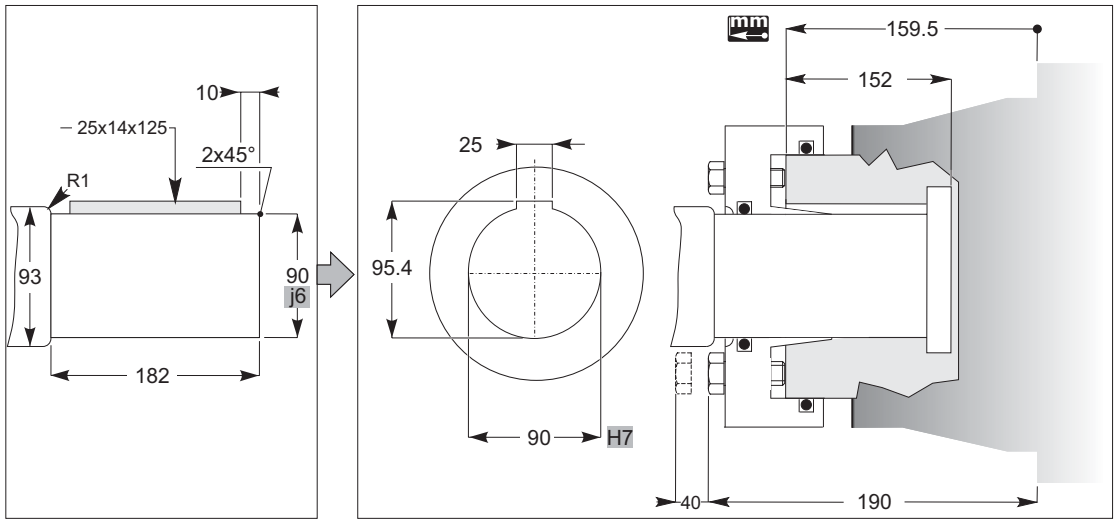




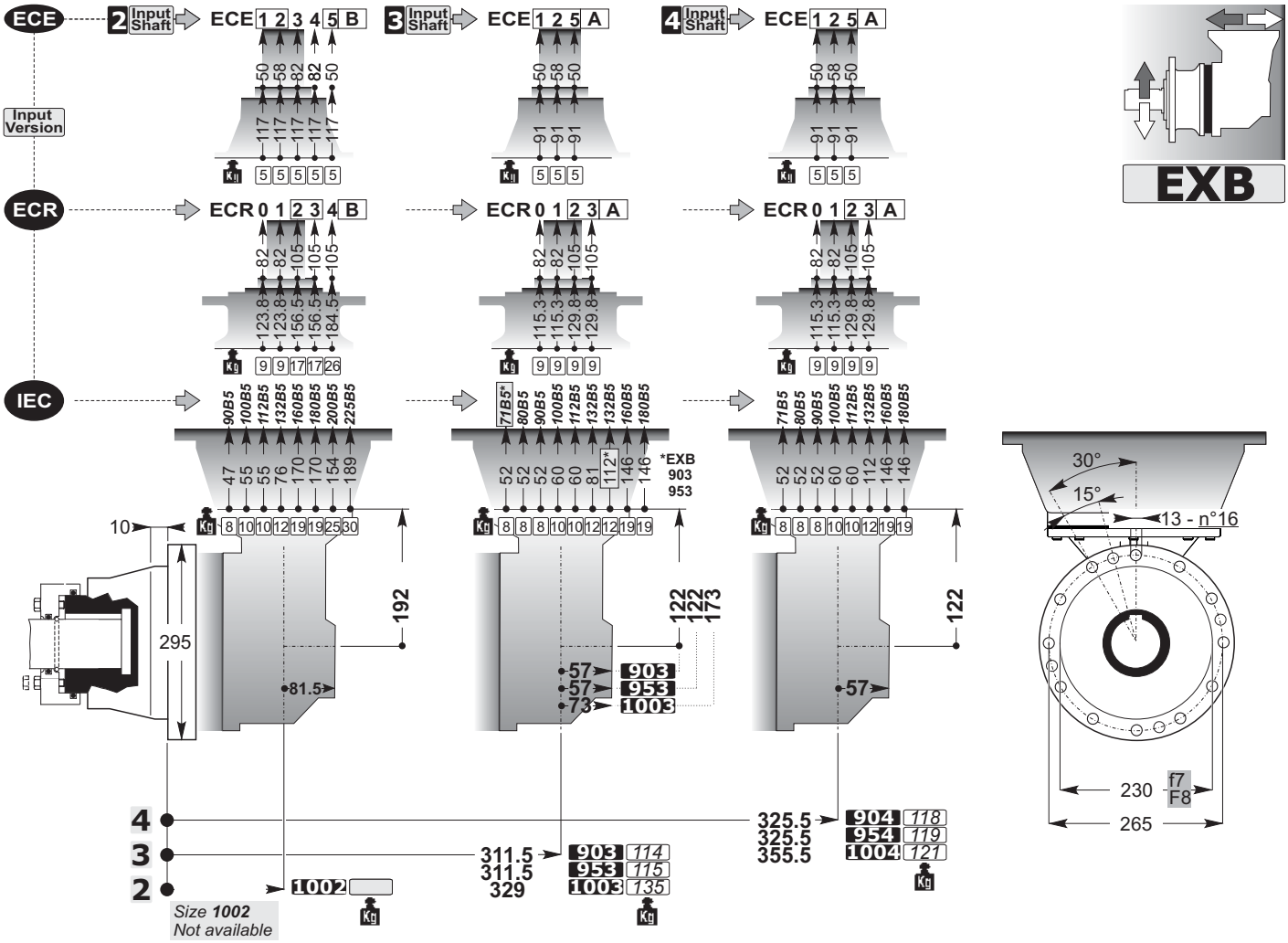
Output Shafts

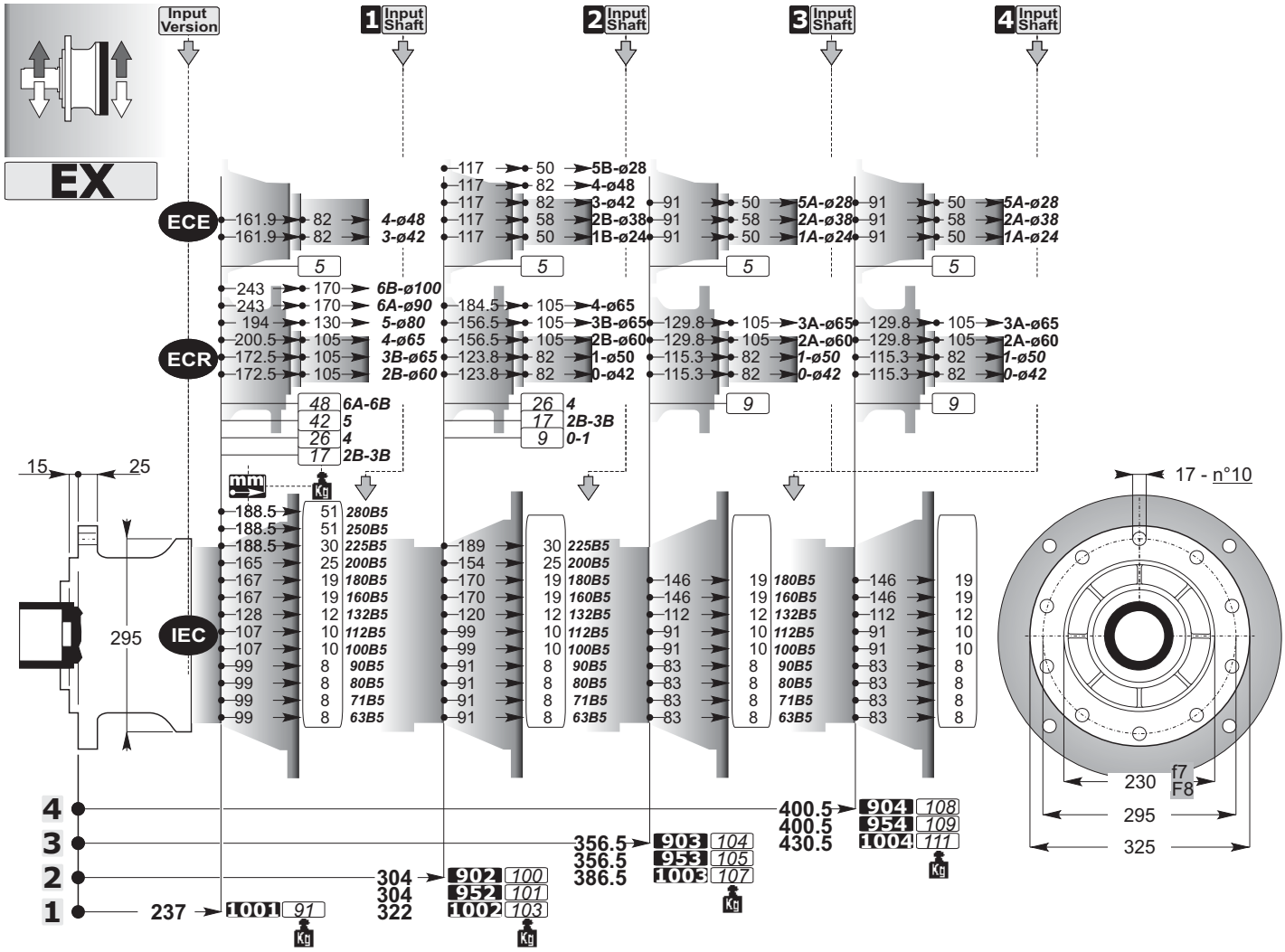

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
903
953
15
25
295
192
81.5
122
122
173
57
903
57
953
73
1003
122
57
17 - n°10
230 f7 F8
295
325
4
3
2
436.5 904 118
436.5 954 119
466.5 1004 121
422.5 903 114
422.5 953 115
440 1003 135
363 1002 136

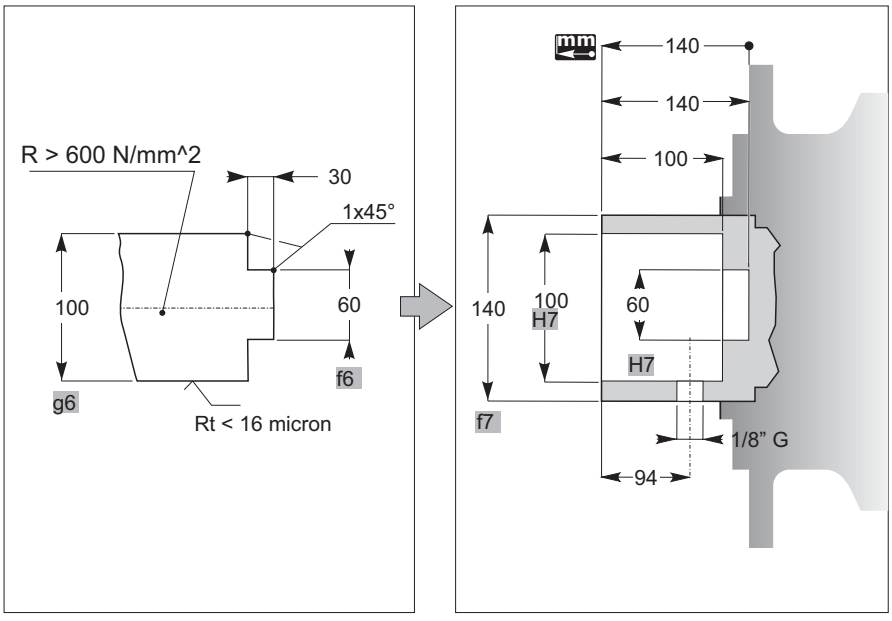




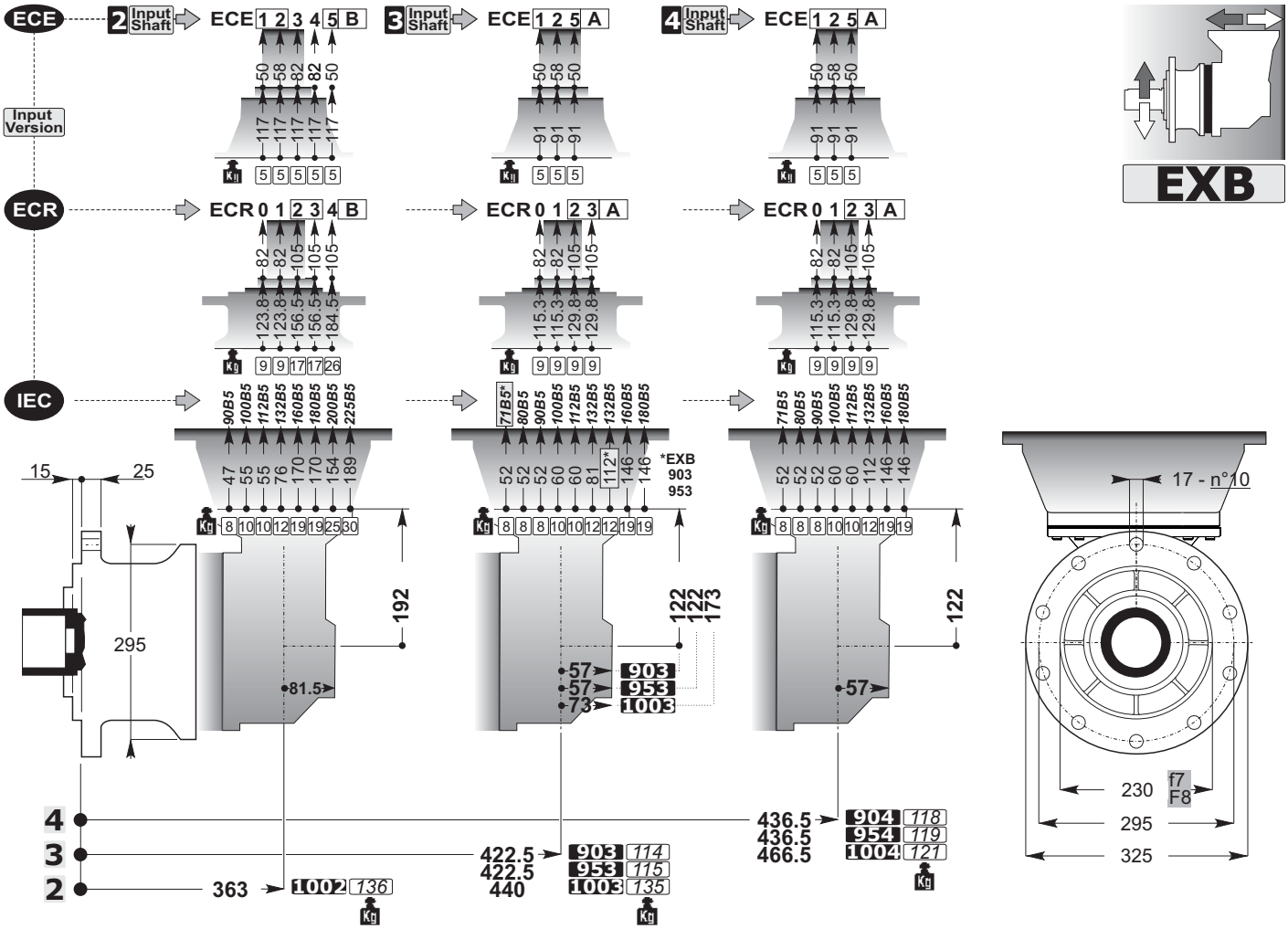
Output Shafts

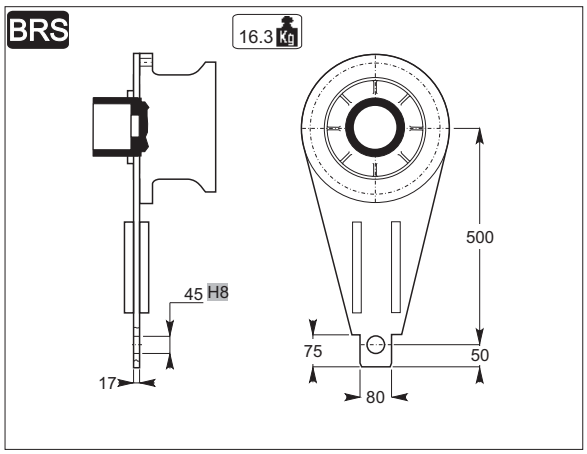

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
903
953
10
295
192
81.5
122
122
173
57
57
73
903
953
1003
122
57
4
3
2
325.5
325.5
355.5
904 118
954 119
1004 121
311.5
311.5
329
903 114
953 115
1003 135
1002
Size 1002
Not available
30°
15°
13 - n°16
230
265
f7
F8

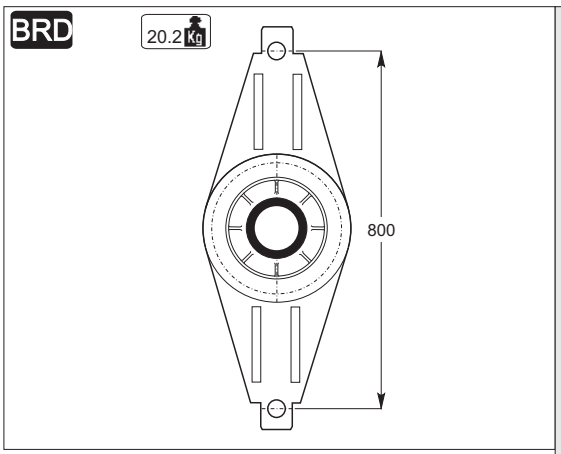


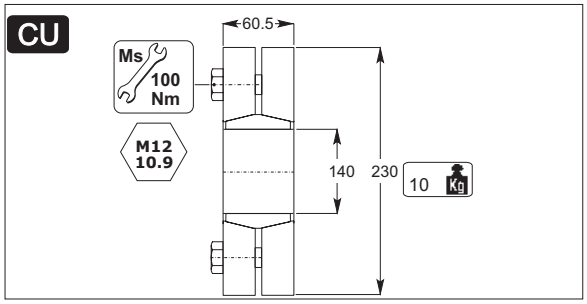


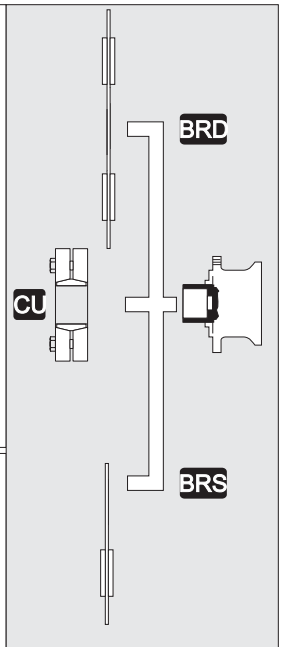
Output Shafts


ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
*EXB
903
953
15
25
295
192
81.5
122
122
173
57
903
57
953
73
1003
122
57
17 - n°10
230
f7
F8
295
325
4
3
2
363
1002 136
422.5
422.5
440
903 114
953 115
1003 135
436.5
436.5
466.5
904 118
954 119
1004 121

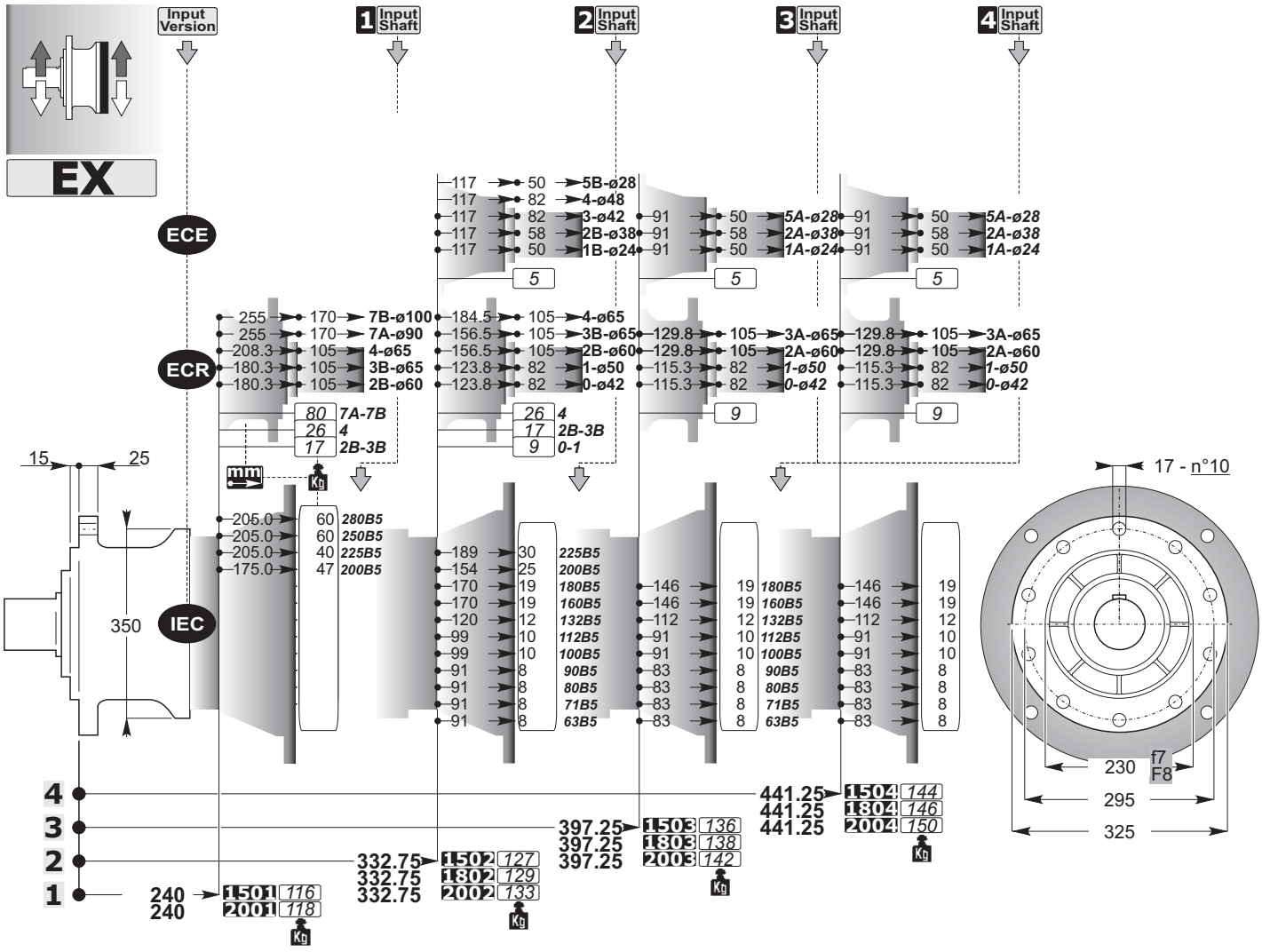

BRS
16.3 Kg
45 H8
17
500
75
50
80

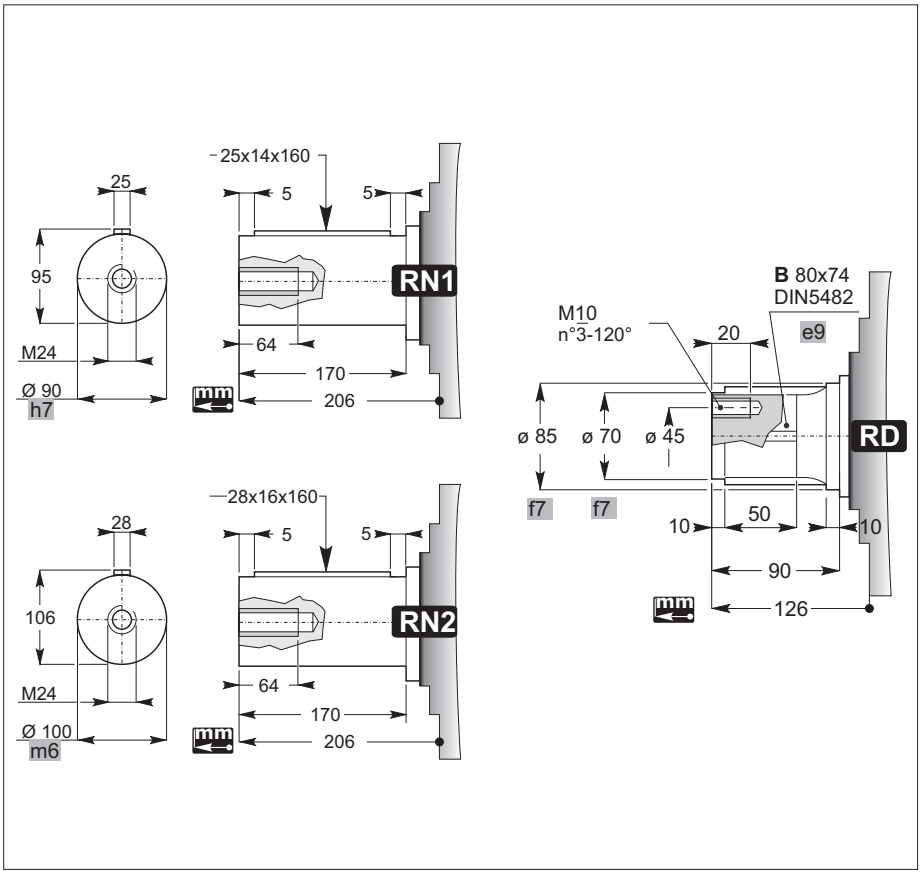

BRD
20.2 Kg
800

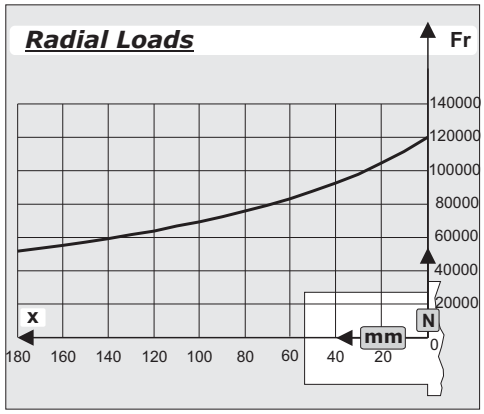

CU
Ms
100
Nm
M12
10.9
60.5
140
230
10 Kg

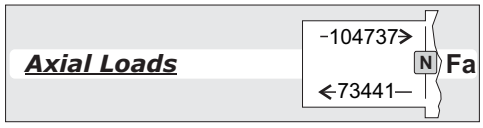

BRD
CU
BRS
Accessories

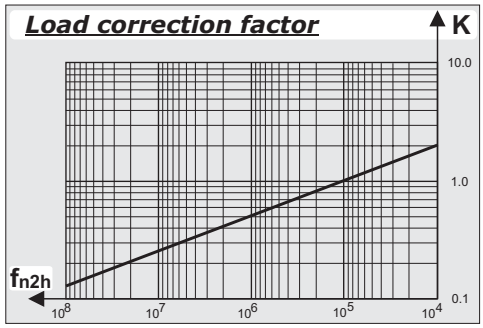
mm
C

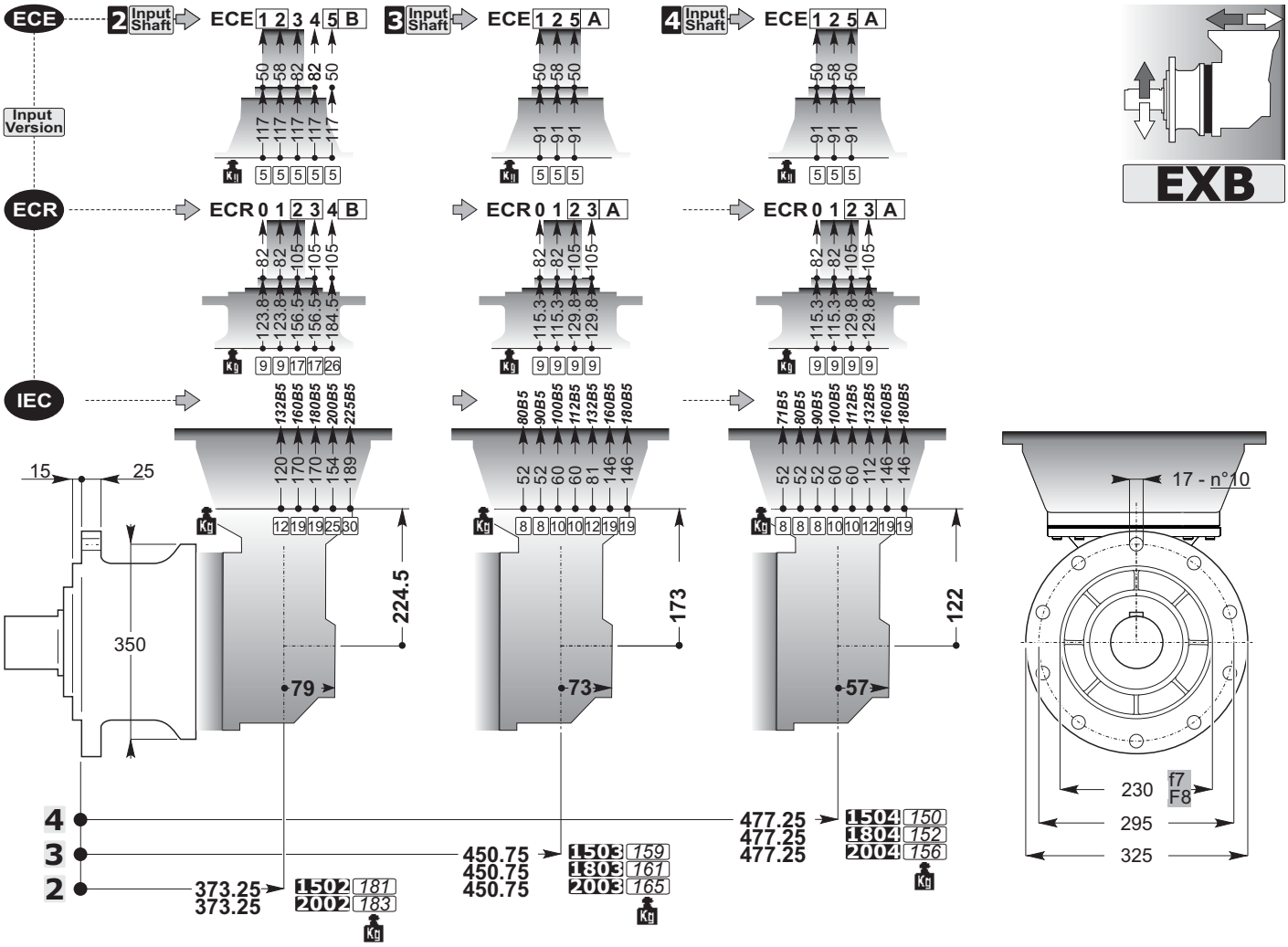

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
5B-ø28
4-ø48
3-ø42
2B-ø38
1B-ø24
5A-ø28
2A-ø38
1A-ø24
7B-ø100
7A-ø90
4-ø65
3B-ø65
2B-ø60
1-ø50
0-ø42
3A-ø65
2A-ø60
7A-7B
4
2B-3B
0-1
280B5
250B5
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
17 - n°10
230
295
325
441.25
397.25
332.75
240

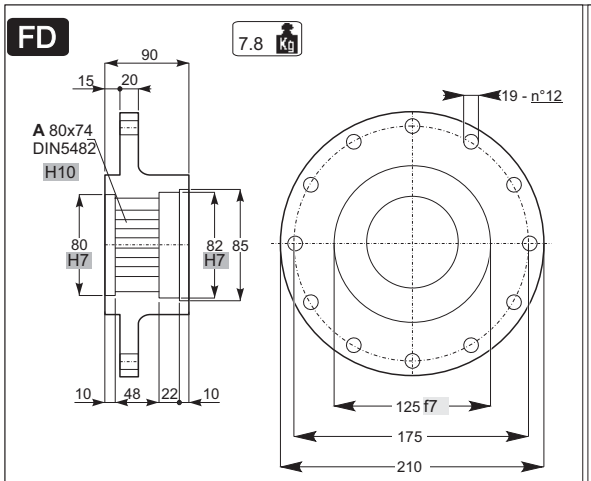

25x14x160
RN1
28x16x160
RN2
M10
n°3-120°
B 80x74
DIN5482
e9
RD
M24
Ø 90
h7
Ø 100
m6
64
170
206
50
90
126

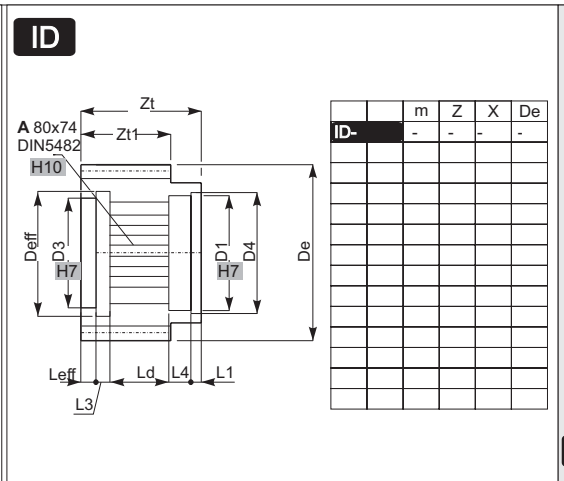

Radial Loads
Fr
140000
120000
100000
80000
60000
40000
20000
x
N
mm
180
160
140
120
100
80
60
40
20
0

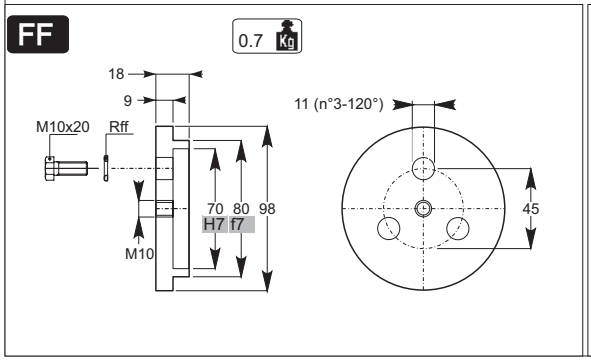

Axial Loads
-104737>
N
Fa
<73441-

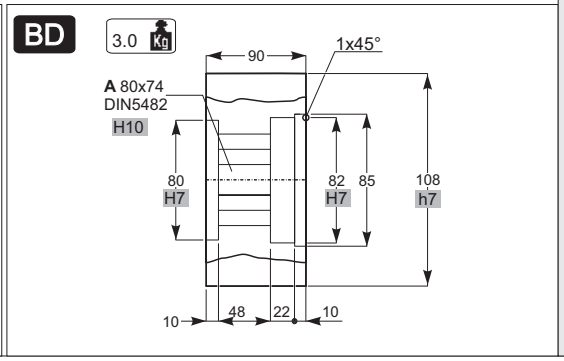

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

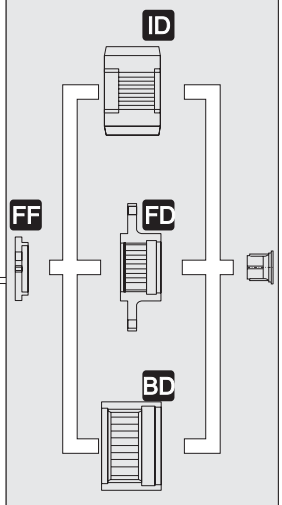






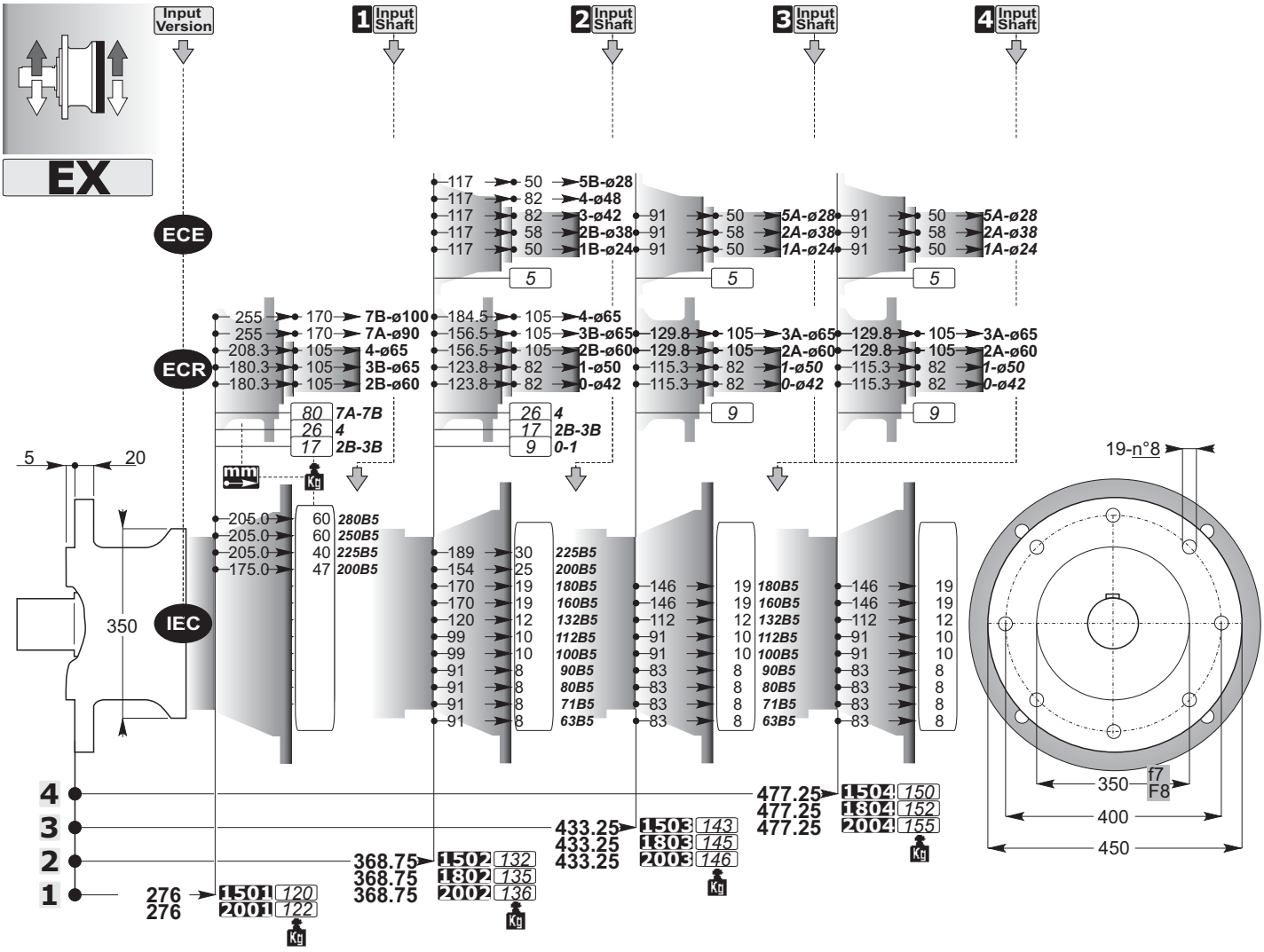


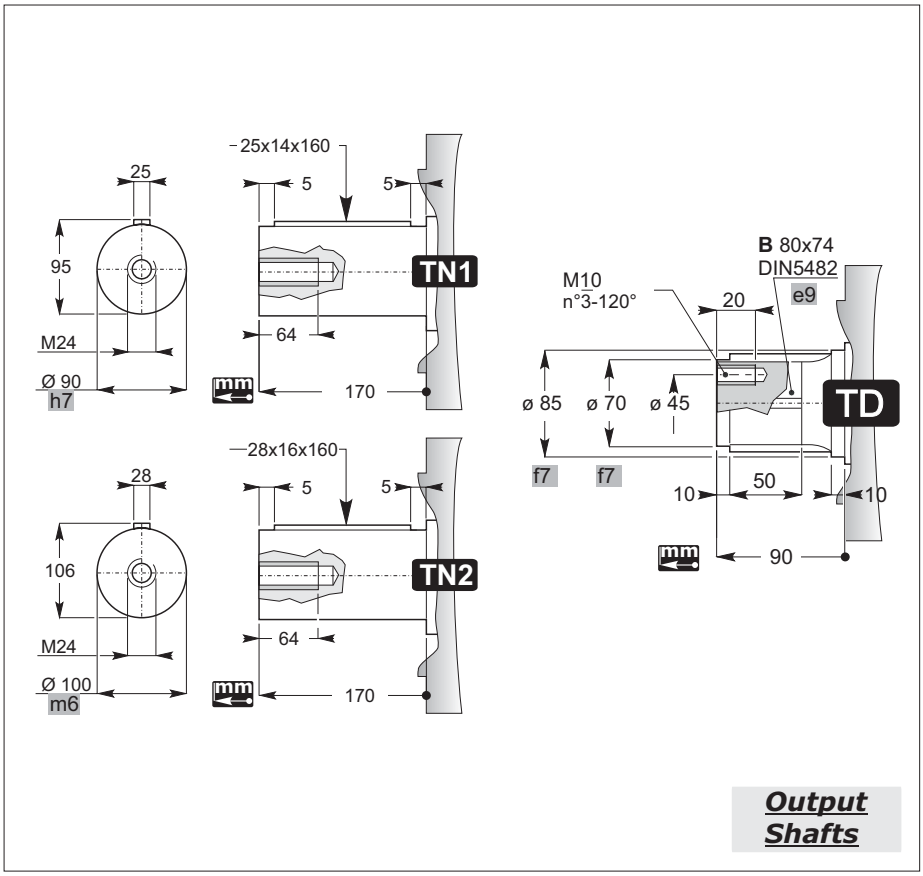




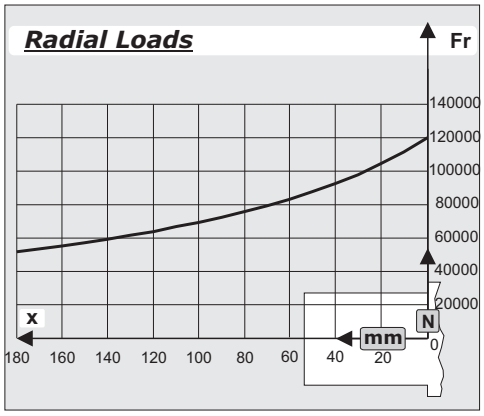
Accessories

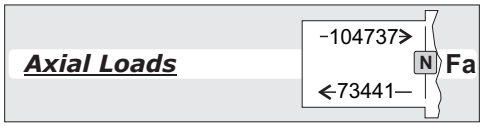
mm
C

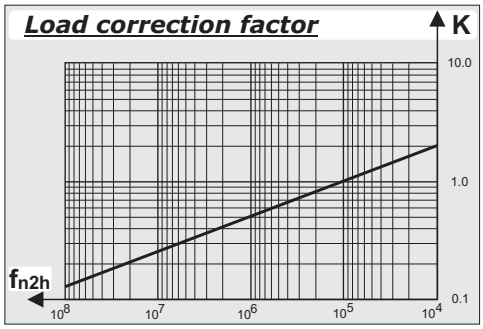


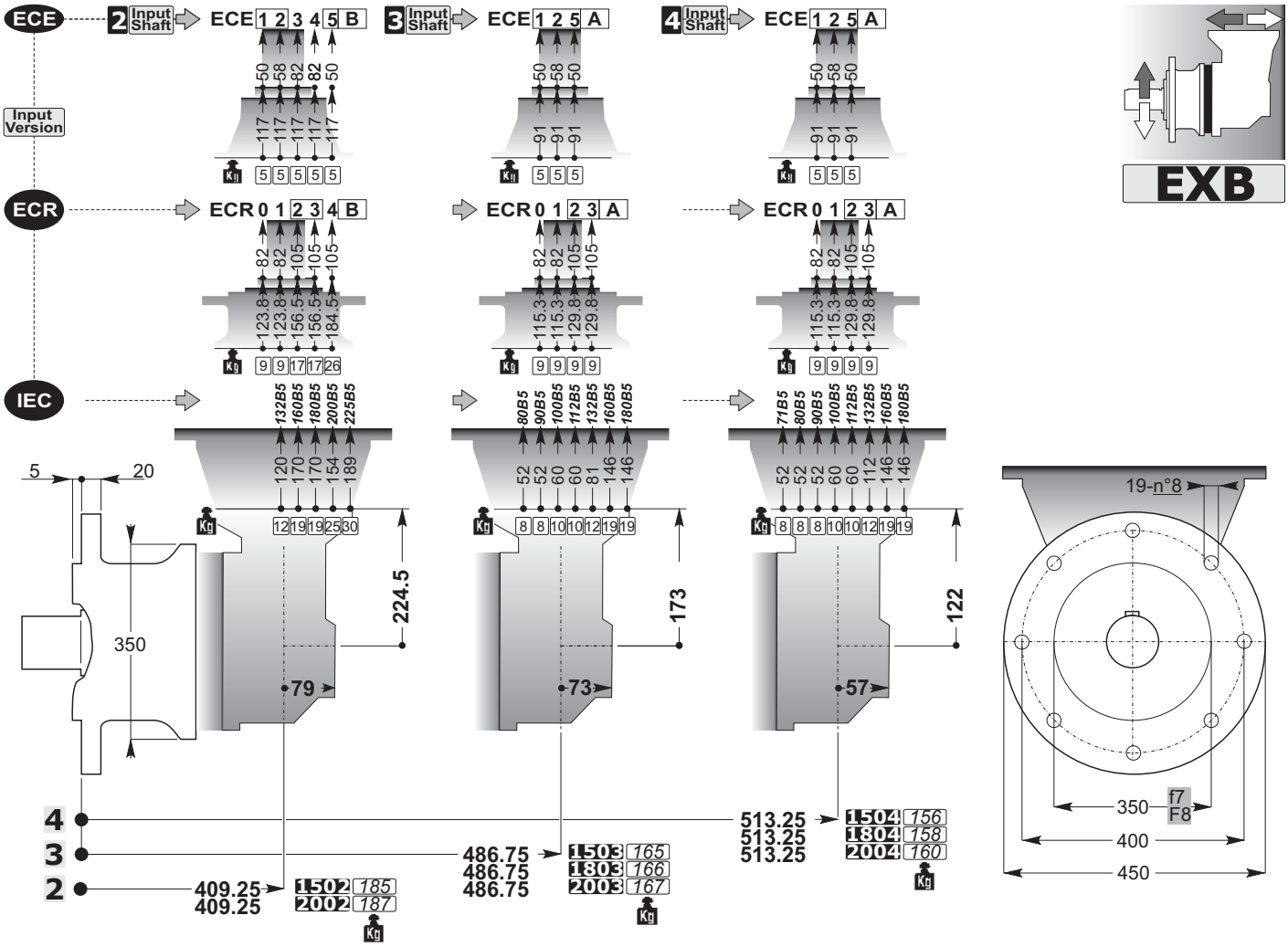


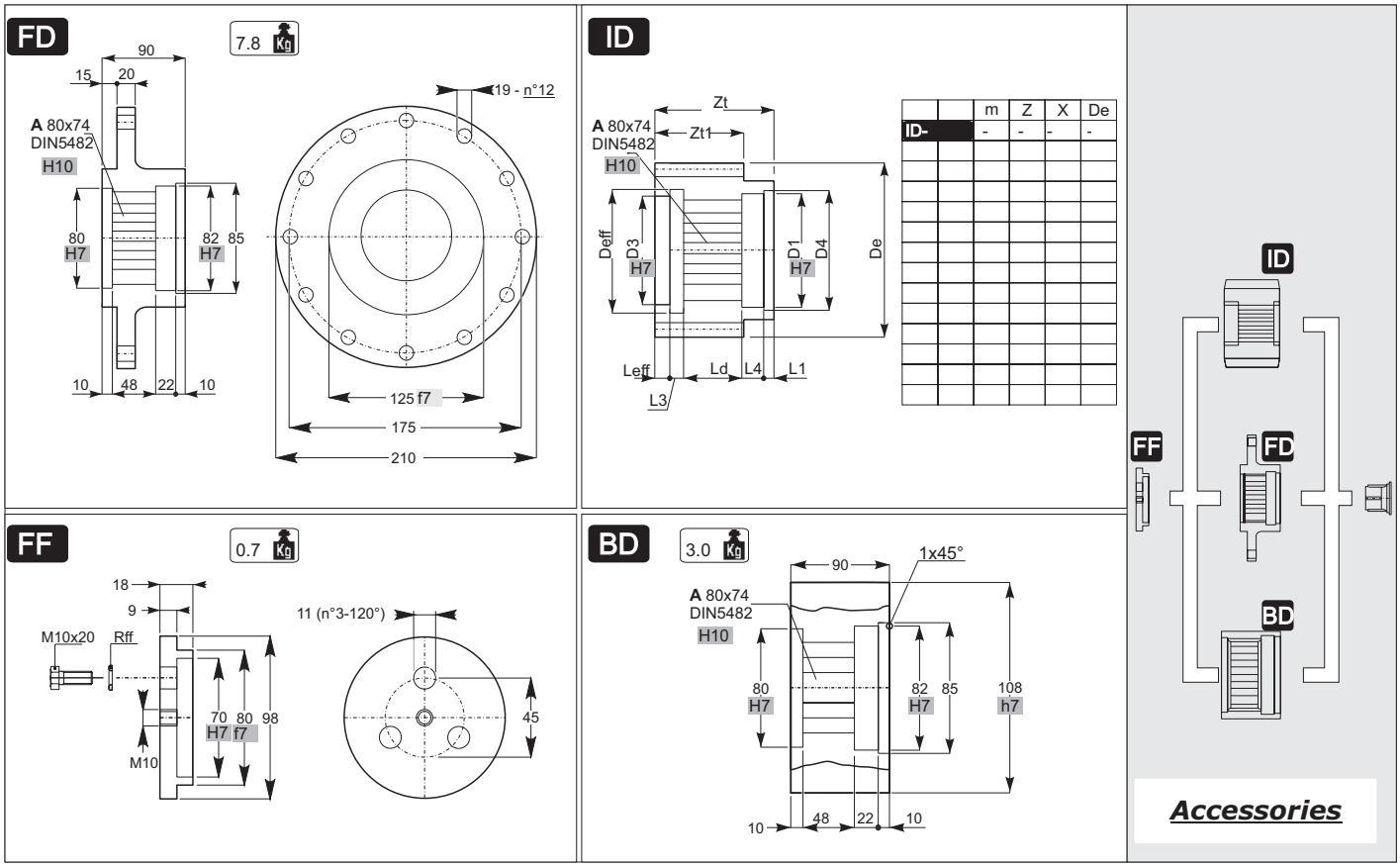
Output Shafts





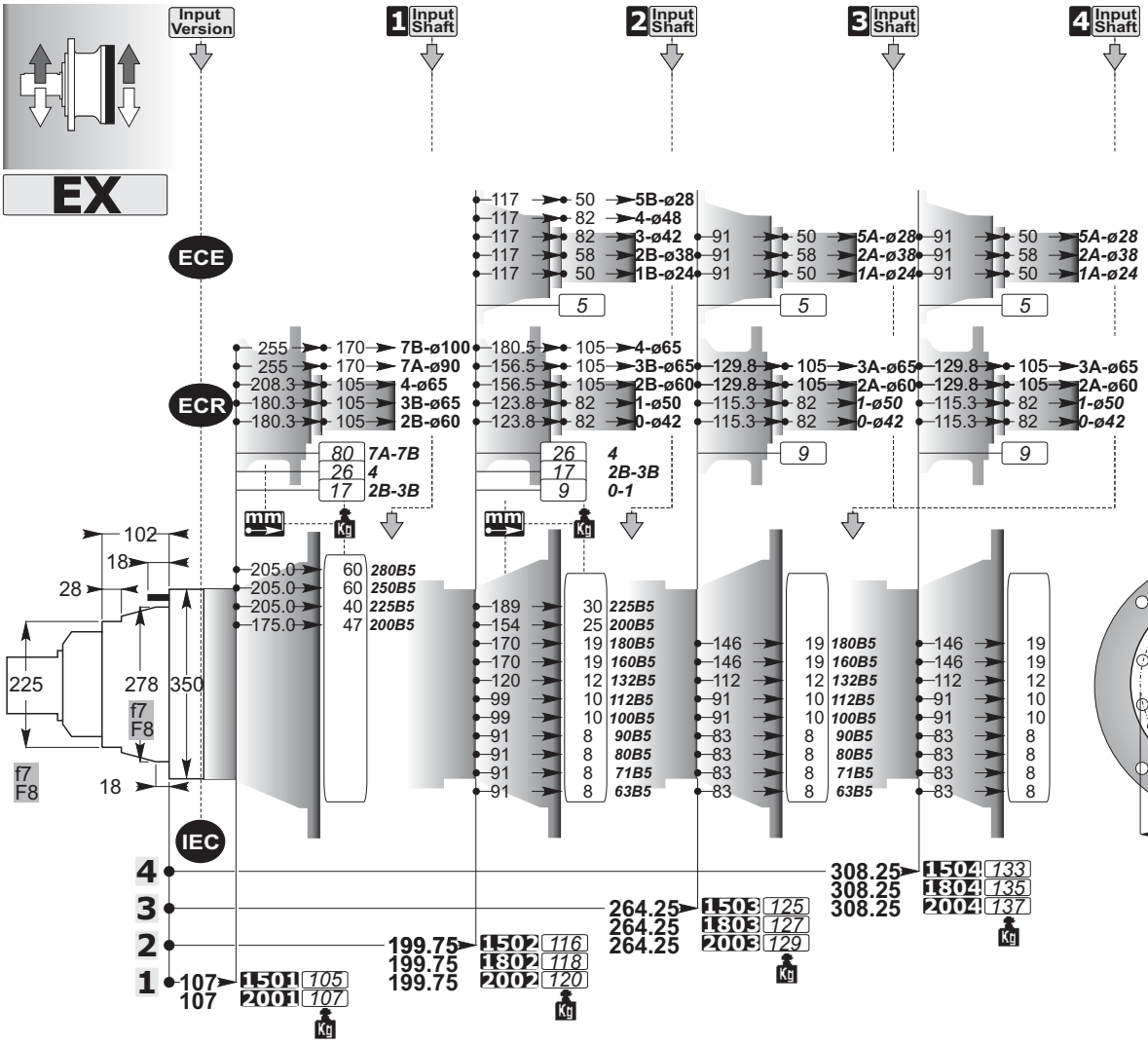


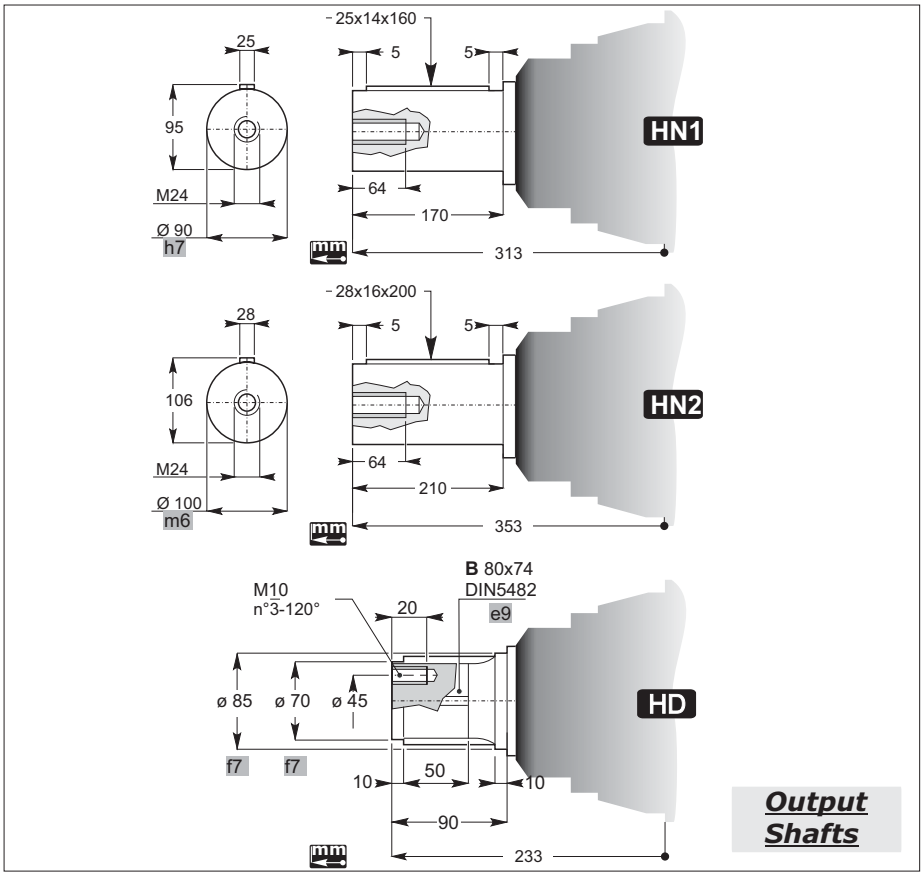

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
5
20
350
224.5
173
122
79
73
57
19-n°8
350 f7 F8
400
450
513.25
513.25
513.25
1504 156
1804 158
2004 160
486.75
486.75
486.75
1503 165
1803 166
2003 167
409.25
409.25
1502 185
2002 187

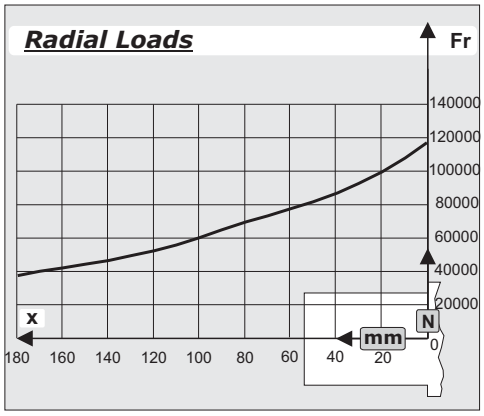

FD
7.8 Kg
90
15
20
A 80x74
DIN5482
H10
80
H7
82
H7
85
10
48
22
10
19 - n°12
125 f7
175
210
ID
Zt
Zt1
A 80x74
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
m Z X De
ID-
FF
0.7 Kg
18
9
M10x20
Rff
70
H7
80
f7
98
M10
11 (n°3-120°)
45
BD
3.0 Kg
90
1x45°
A 80x74
DIN5482
H10
80
H7
82
H7
85
108
h7
10
48
22
10
ID
FF
FD
BD
Accessories

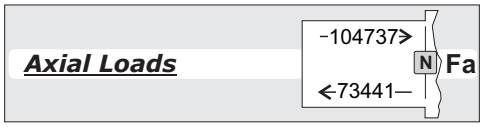
mm

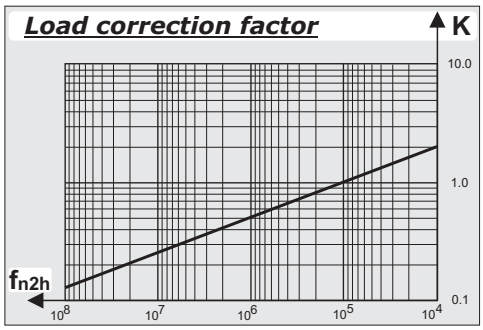
C

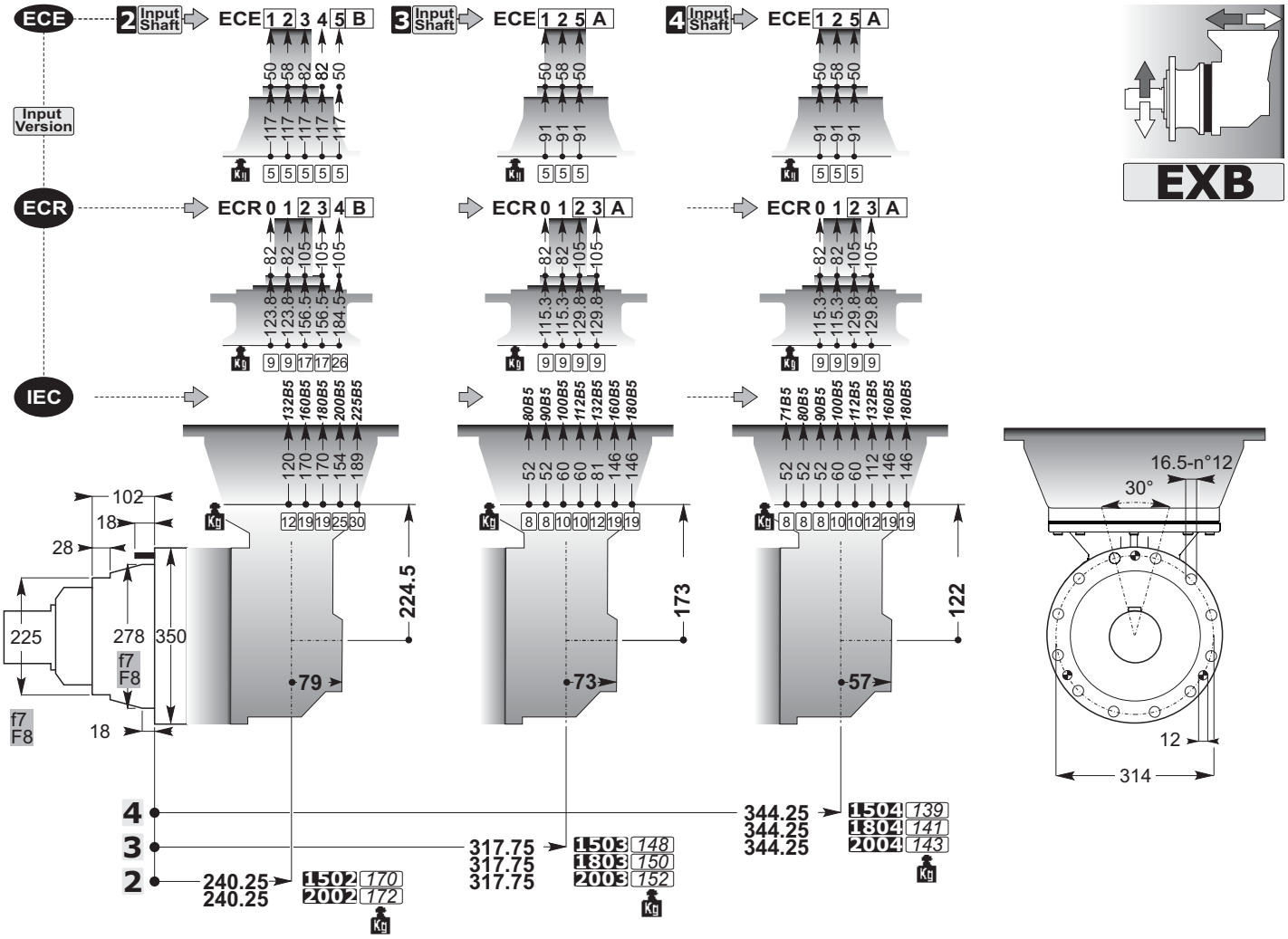

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
16.5-n°12
30°
12
314
102
18
28
225
278
350
f7
F8
18
mm
Kg

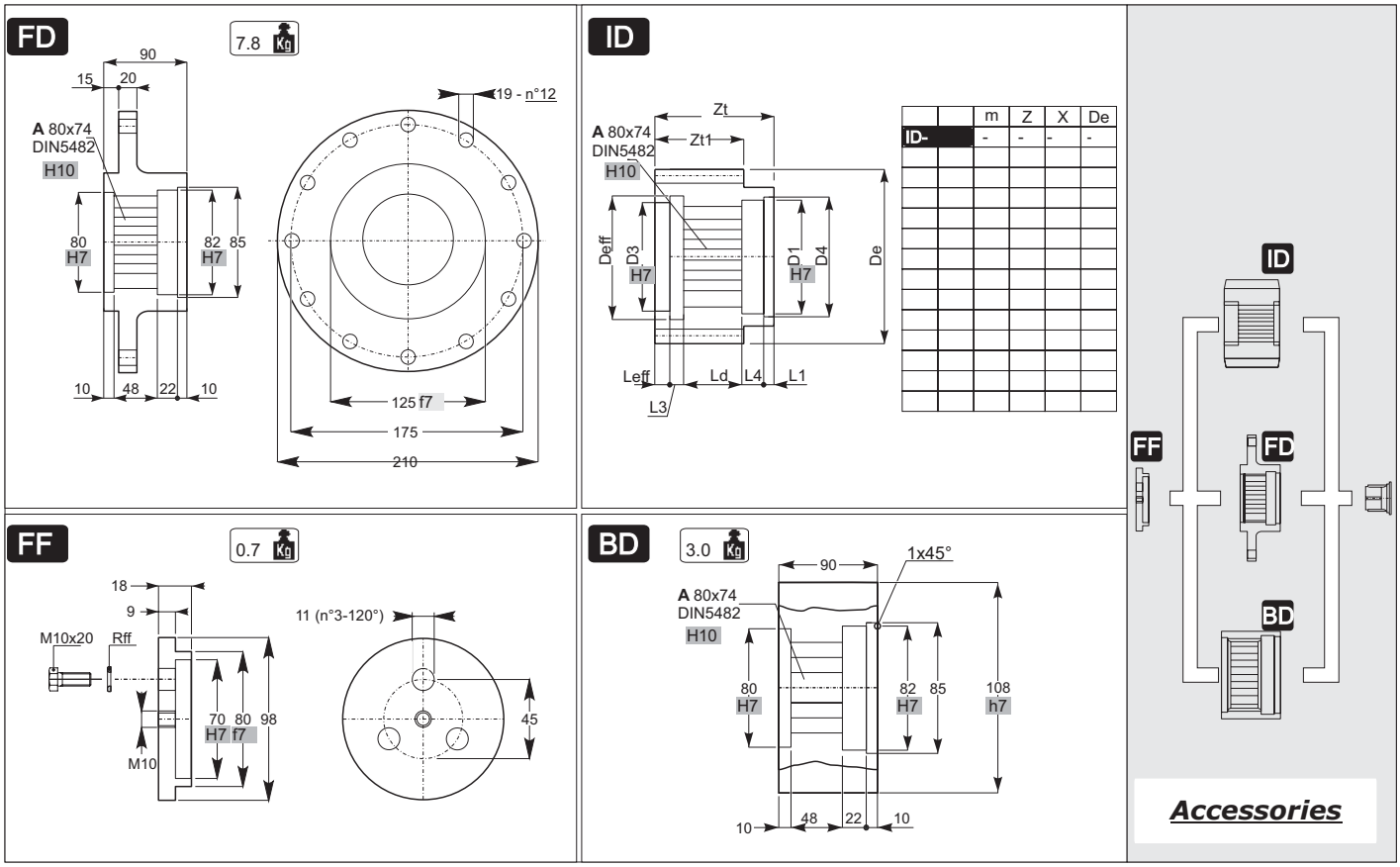

HN1
HN2
HD
25x14x160
28x16x200
B 80x74
DIN5482
e9
M10
n°3-120°
Ø 90
h7
Ø 100
m6
ø 85
ø 70
ø 45
M24
95
106
64
170
210
313
353
233
50
90
Output Shafts

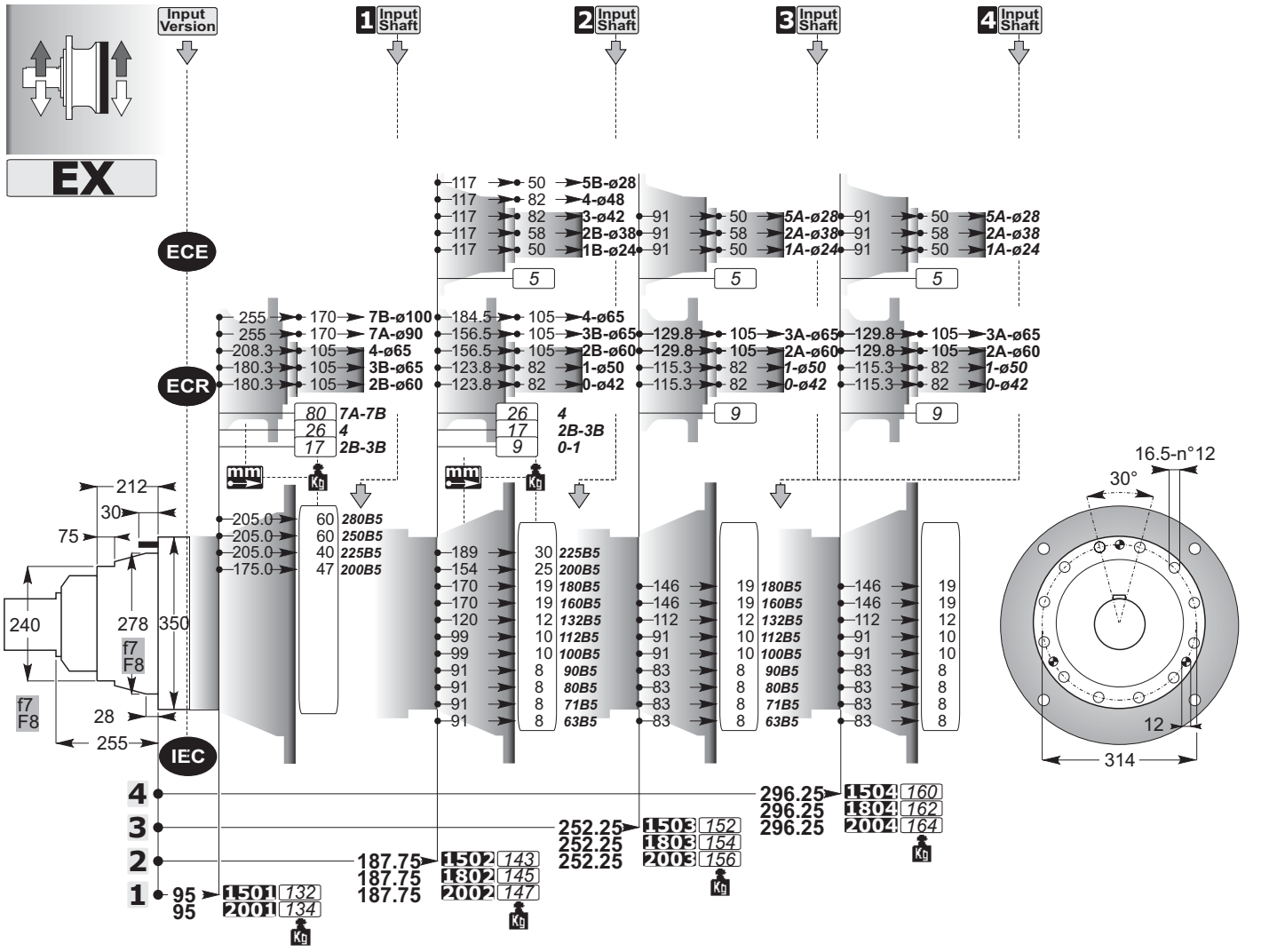

Radial Loads
Fr
140000
120000
100000
80000
60000
40000
20000
0
x
mm
N
180 160 140 120 100 80 60 40 20

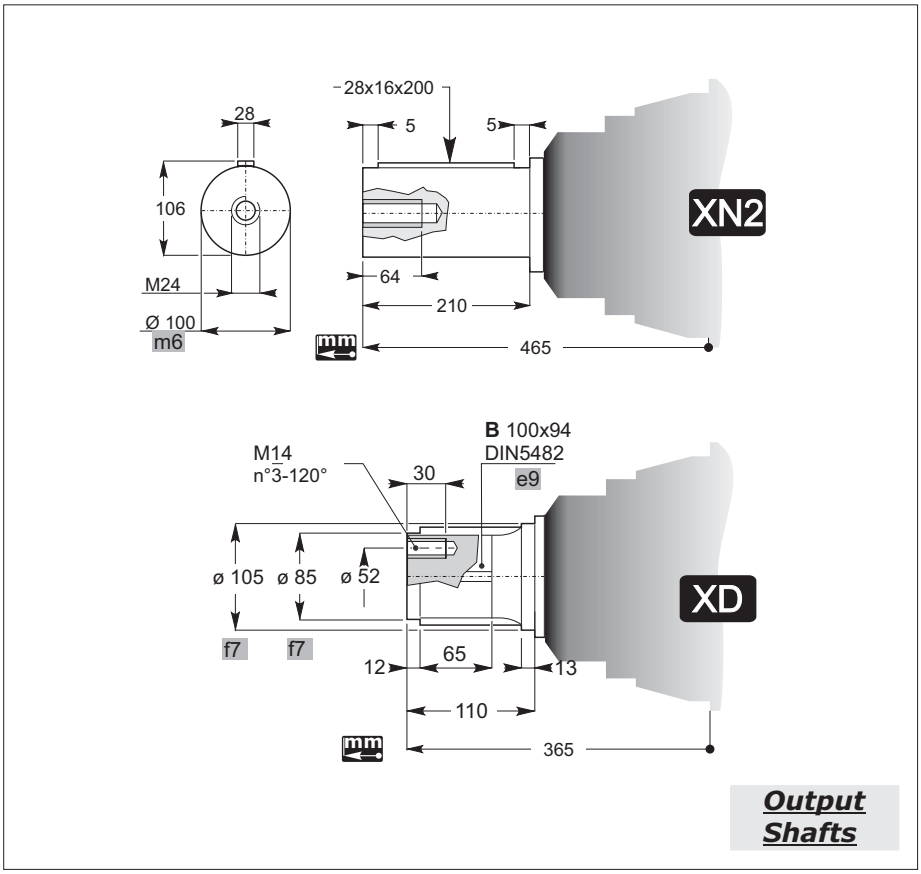

Axial Loads
104737
73441
N
Fa

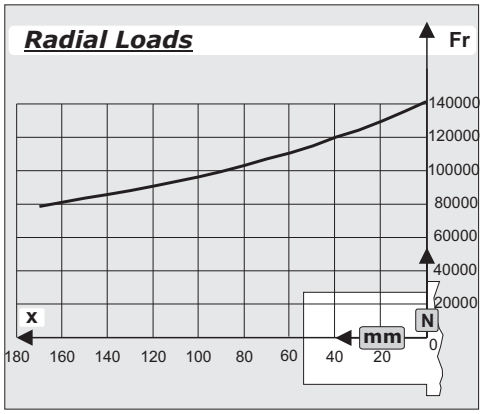

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

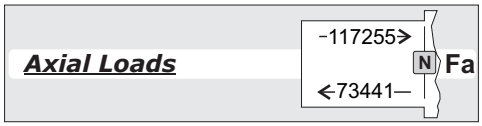

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
EXB
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
102
18
28
225
278
350
f7
F8
79
73
57
224.5
173
122
16.5-n°12
30°
12
314
4
3
2
240.25
240.25
1502 170
2002 172
317.75
317.75
317.75
1503 148
1803 150
2003 152
344.25
344.25
344.25
1504 139
1804 141
2004 143

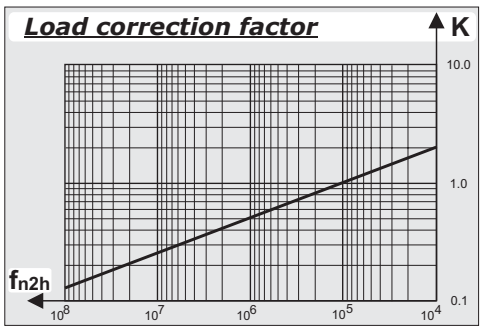

FD
7.8 Kg
90
15
20
A 80x74
DIN5482
H10
80
H7
82
H7
85
10
48
22
10
19 - n°12
125 f7
175
210
ID
Zt
Zt1
A 80x74
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
ID-
m
Z
X
De
FF
0.7 Kg
18
9
M10x20
Rff
70
H7
80
f7
98
M10
11 (n°3-120°)
45
BD
3.0 Kg
90
1x45°
A 80x74
DIN5482
H10
80
H7
82
H7
85
108
h7
10
48
22
10
ID
FF
FD
BD
Accessories

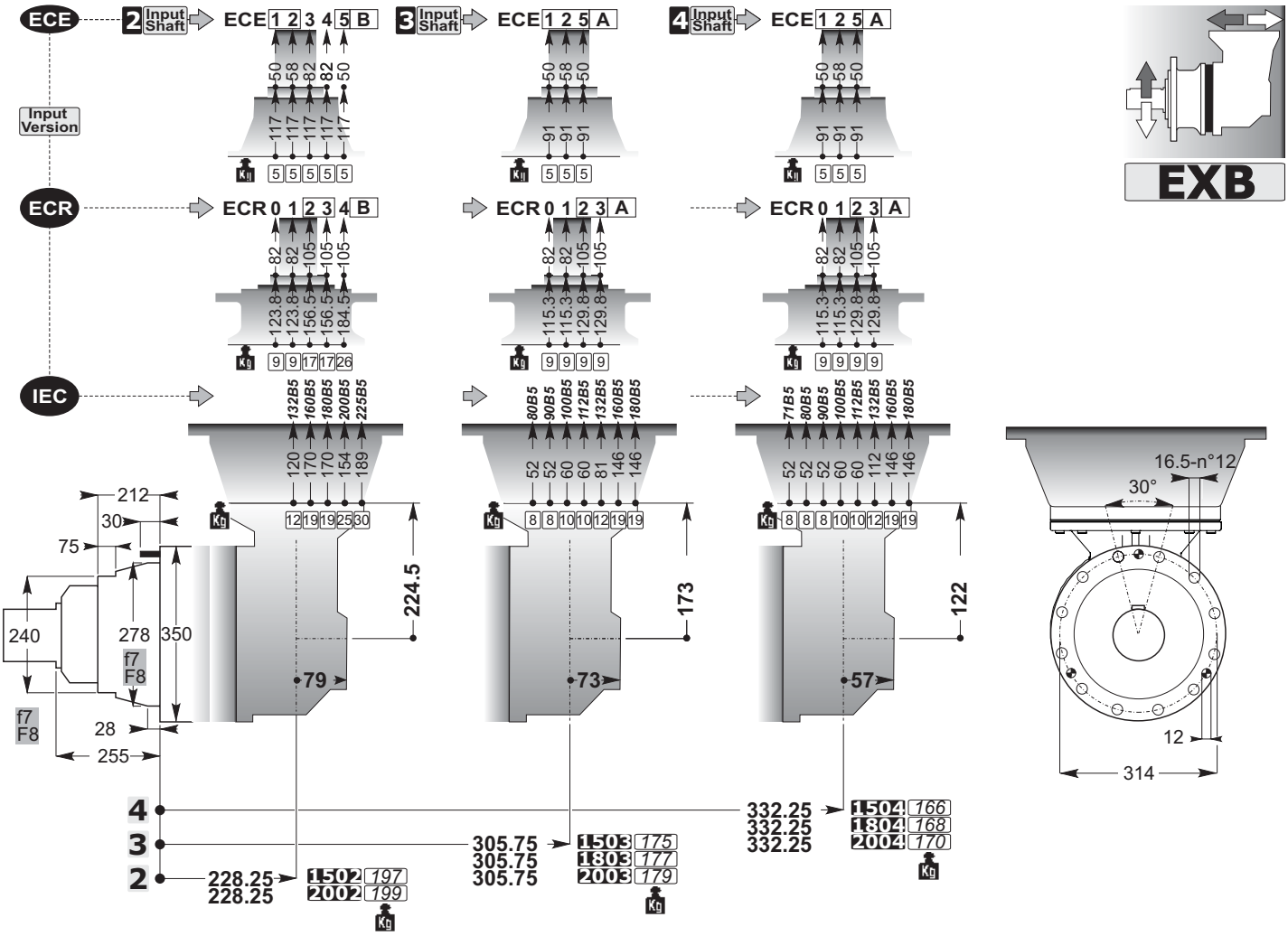

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
91 50 5A-ø28
91 58 2A-ø38
91 50 1A-ø24
5
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
129.8 105 3A-ø65
129.8 105 2A-ø60
115.3 82 1-ø50
115.3 82 0-ø42
9
80 7A-7B
26 4
17 2B-3B
26 4
17 2B-3B
9 0-1
mm
Kg
212
30
75
240
278
350
f7
F8
28
255
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
189 30 225B5
154 25 200B5
170 19 180B5
170 19 160B5
120 12 132B5
99 10 112B5
99 10 100B5
91 8 90B5
91 8 80B5
91 8 71B5
91 8 63B5
146 19 180B5
146 19 160B5
112 12 132B5
91 10 112B5
91 10 100B5
83 8 90B5
83 8 80B5
83 8 71B5
83 8 63B5
16.5-n°12
30°
12
314
4
3
2
1
296.25 1504 160
296.25 1804 162
296.25 2004 164
252.25 1503 152
252.25 1803 154
252.25 2003 156
187.75 1502 143
187.75 1802 145
187.75 2002 147
95 1501 132
95 2001 134

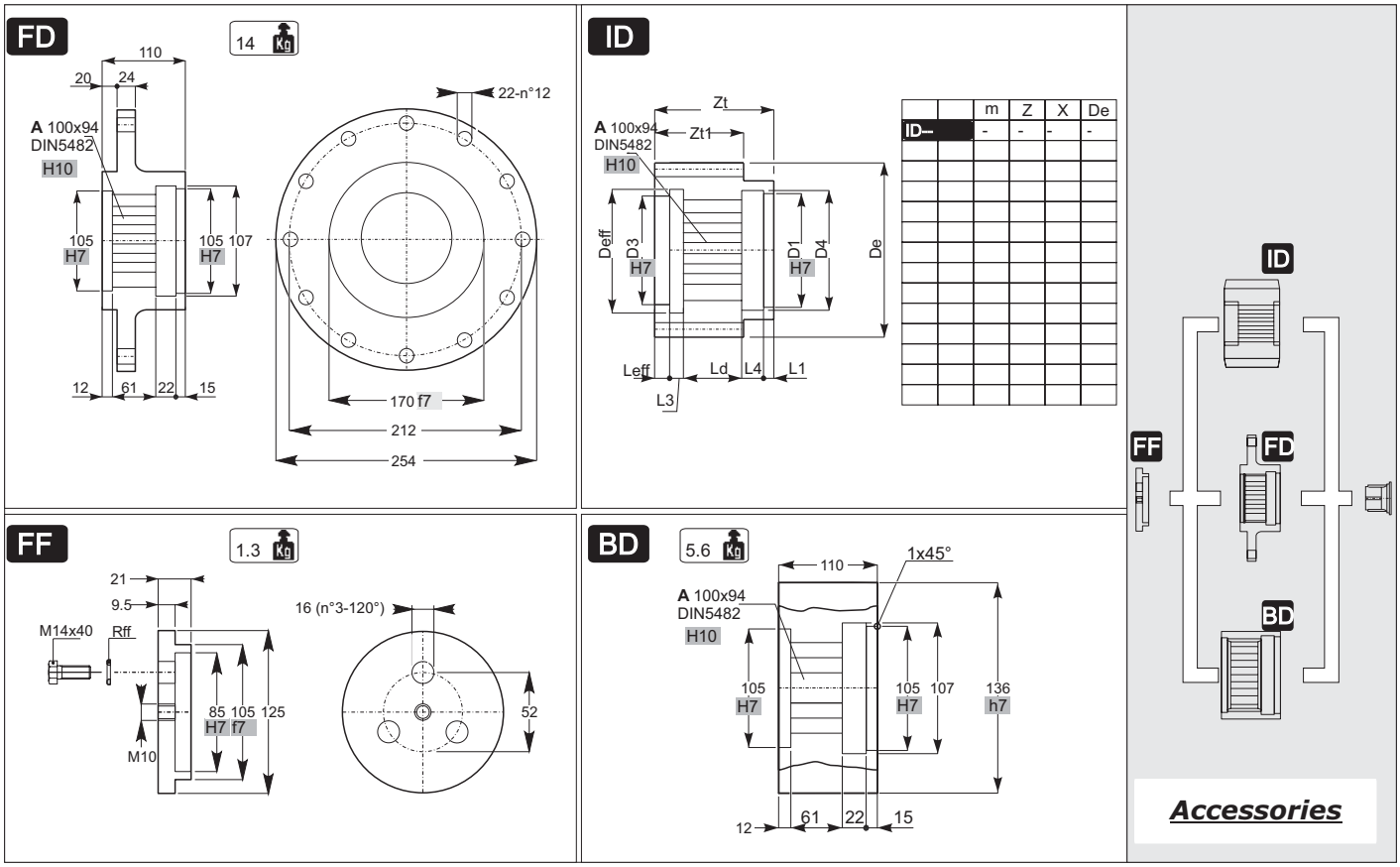

28
106
M24
Ø 100
m6
28x16x200
5
5
64
210
465
XN2
M14
n°3-120°
B 100x94
DIN5482
30
e9
ø 105
ø 85
ø 52
f7
f7
12
65
13
110
365
XD
Output Shafts

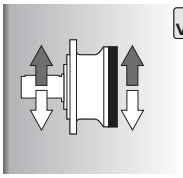

Radial Loads
Fr
140000
120000
100000
80000
60000
40000
20000
0
x
N
mm
180 160 140 120 100 80 60 40 20


Axial Loads
-117255>
N
Fa
<-73441—


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
EXB
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
16.5-n°12
30°
12
314
212
30
75
240
278
350
f7
F8
28
255
224.5
173
122
79
73
57
4
3
2
332.25
332.25
332.25
305.75
305.75
305.75
228.25
228.25
1504 166
1804 168
2004 170
1503 175
1803 177
2003 179
1502 197
2002 199


FD
14
110
20
24
A 100x94
DIN5482
H10
105
H7
105 107
H7
12
61
22
15
22-n°12
170 f7
212
254
ID
Zt
Zt1
A 100x94
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
ID-- m Z X De
FF
1.3
21
9.5
M14x40
Rff
85 105 125
H7 f7
M10
16 (n°3-120°)
52
BD
5.6
110
1x45°
A 100x94
DIN5482
H10
105
H7
105 107
H7
136
h7
12
61
22
15
ID
FF
FD
BD
Accessories



EX

Input Version

1 Input Shaft

2 Input Shaft

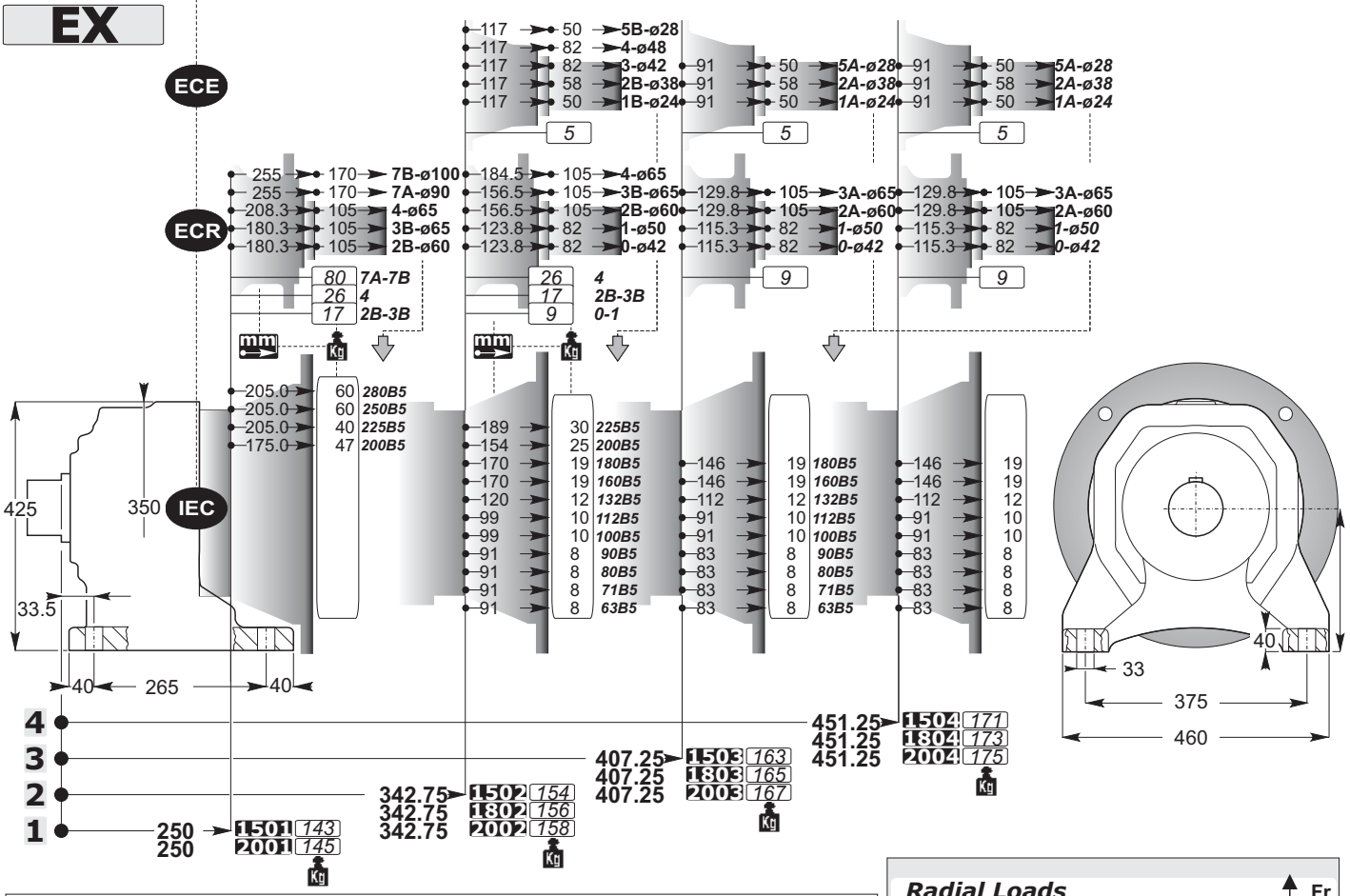
3 Input Shaft

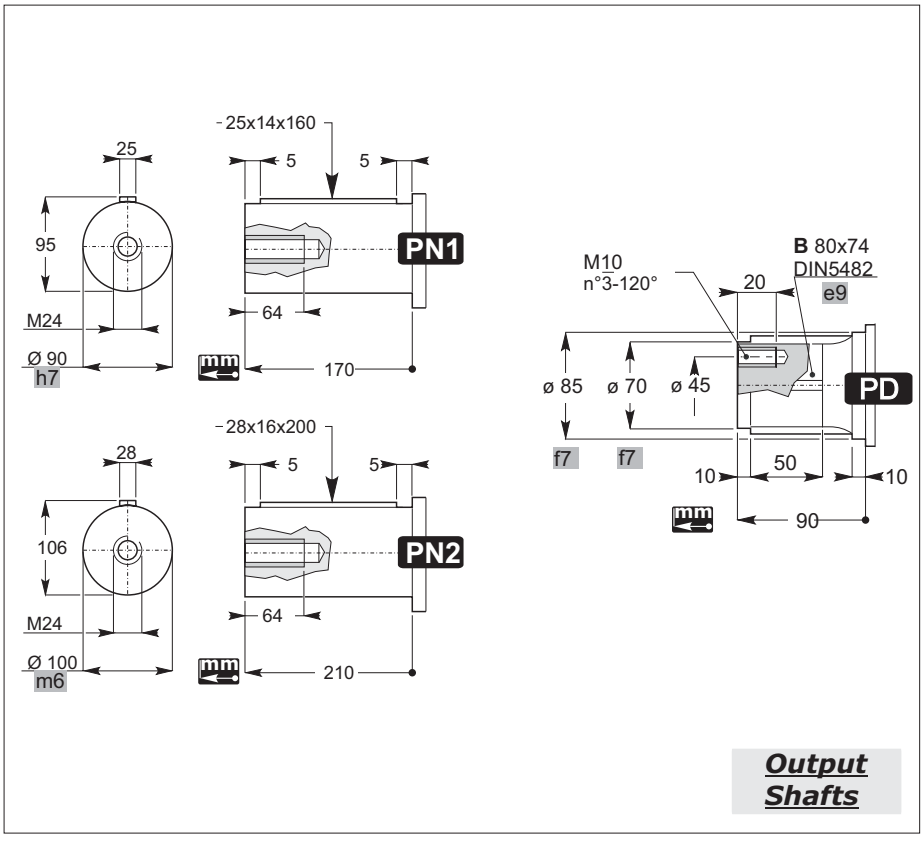
4 Input Shaft

ECE

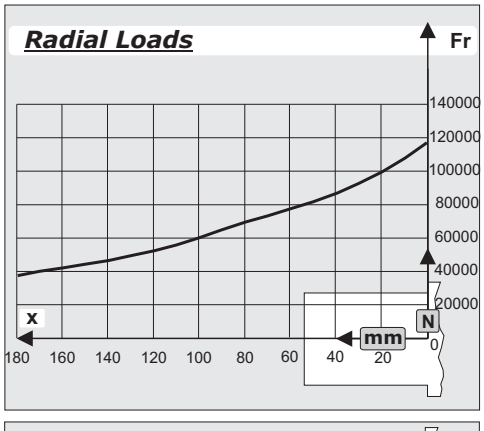
ECR

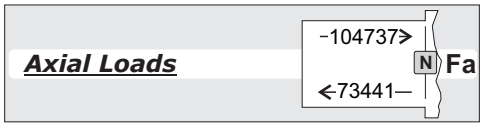
IEC

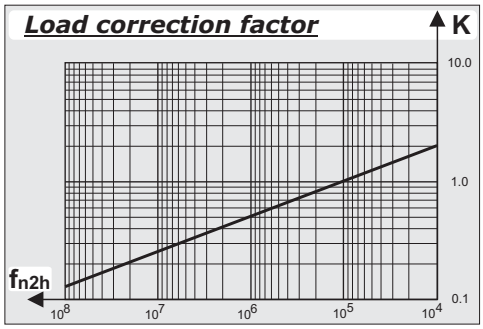


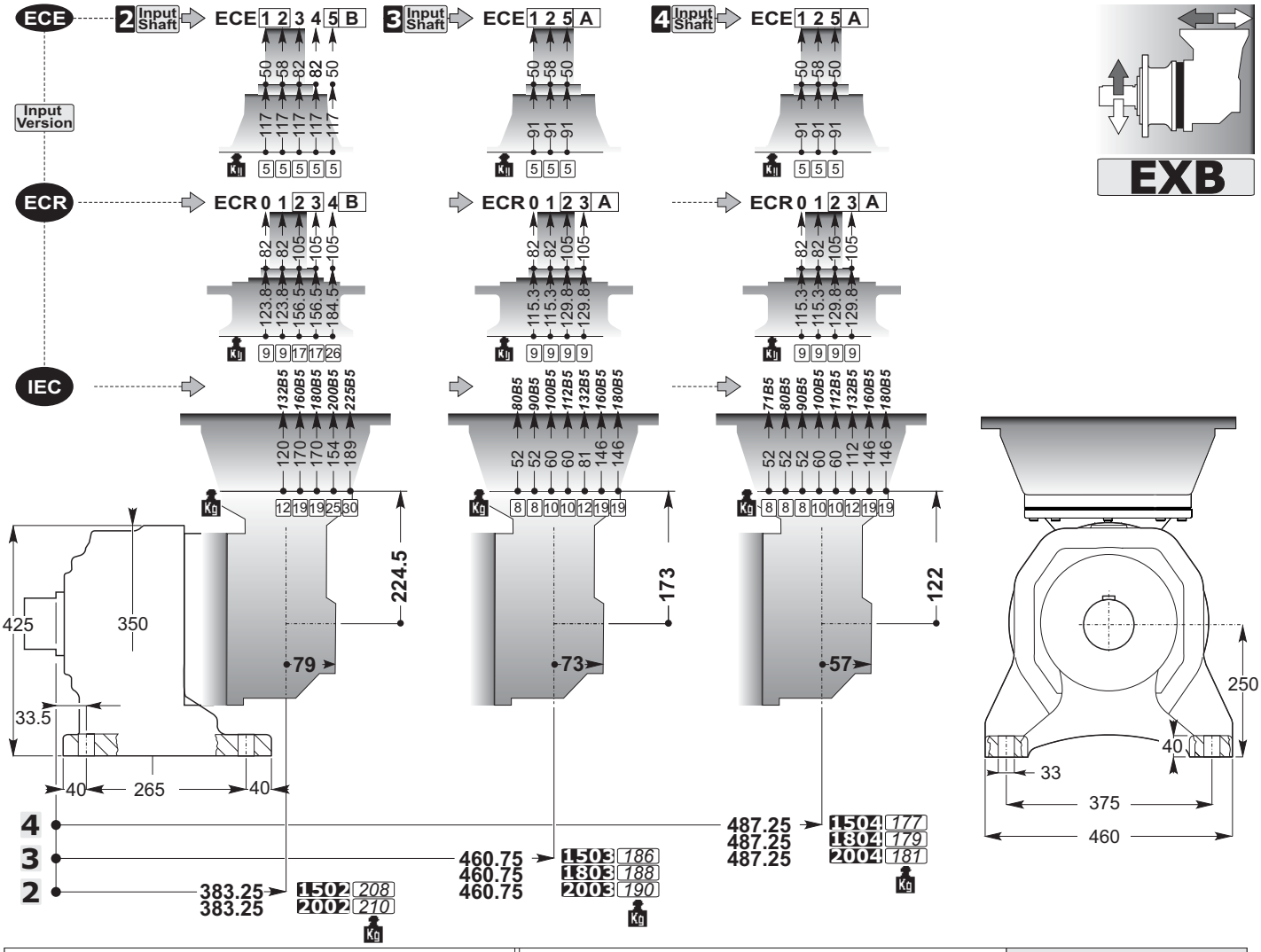


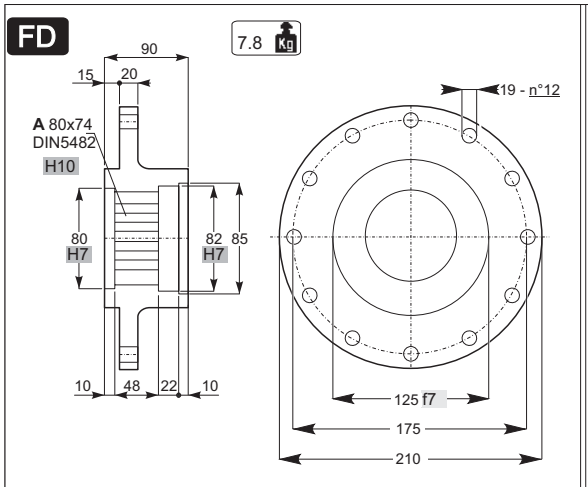
Output Shafts

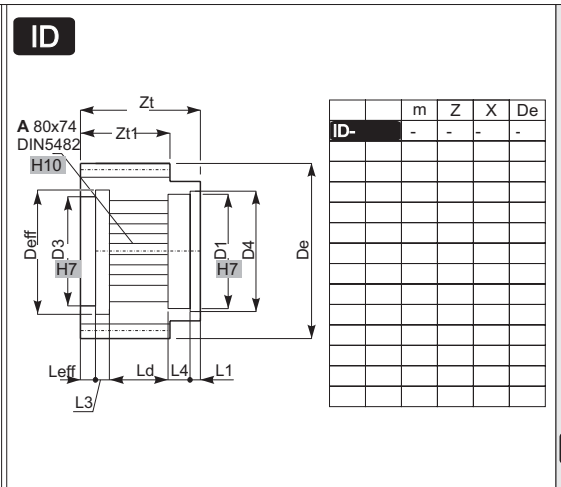


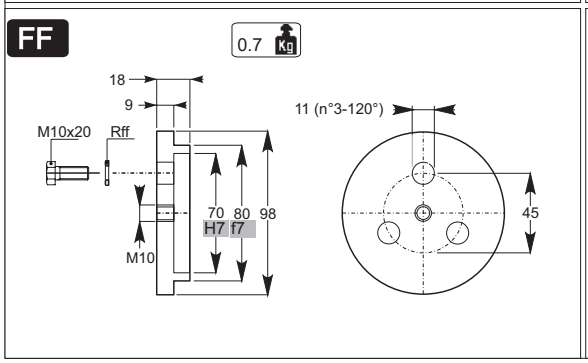


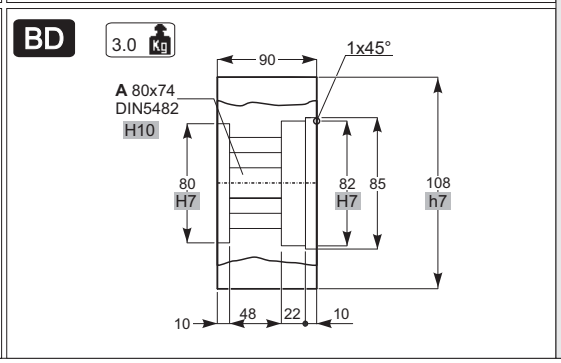


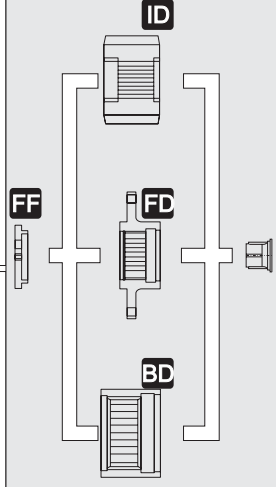






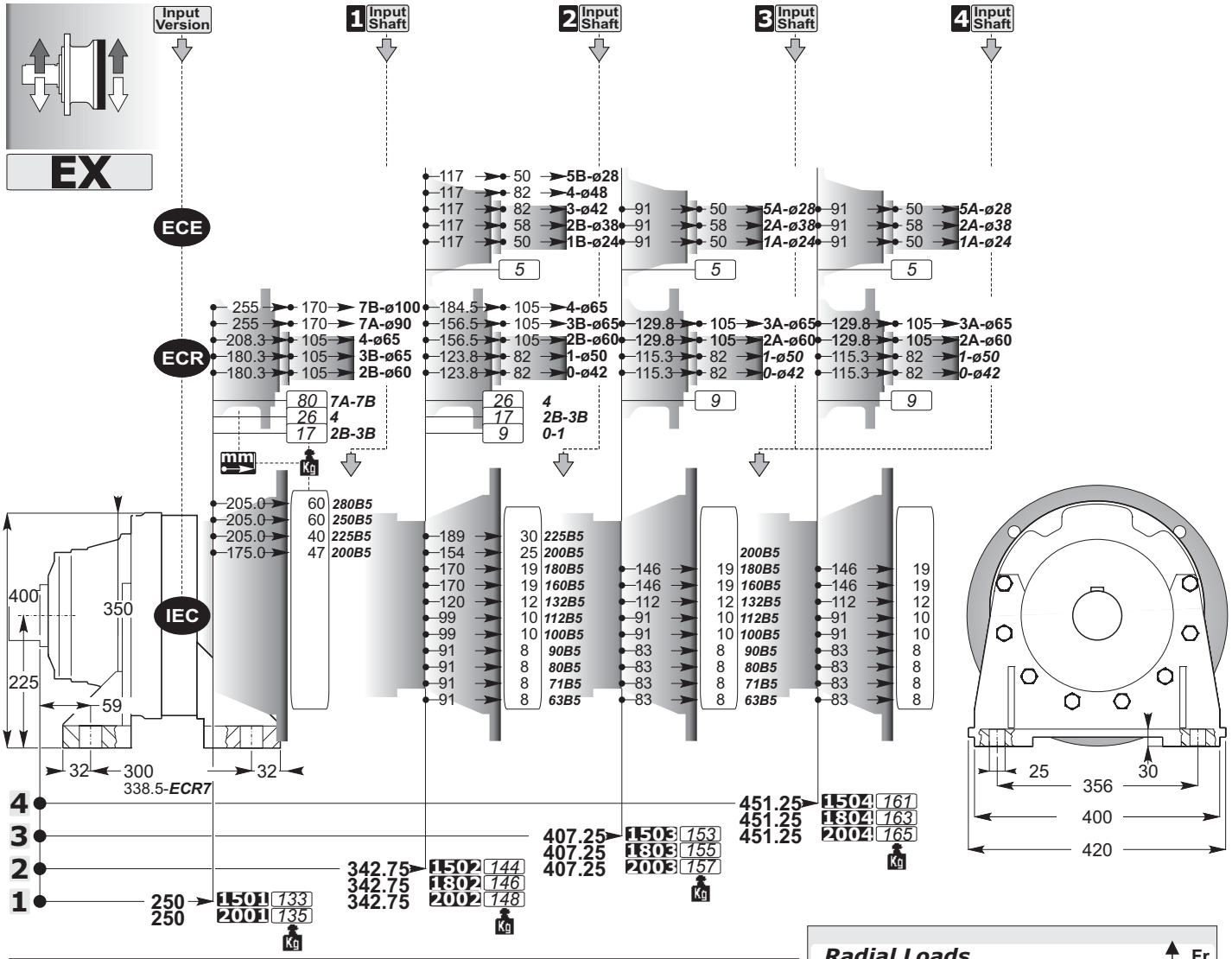


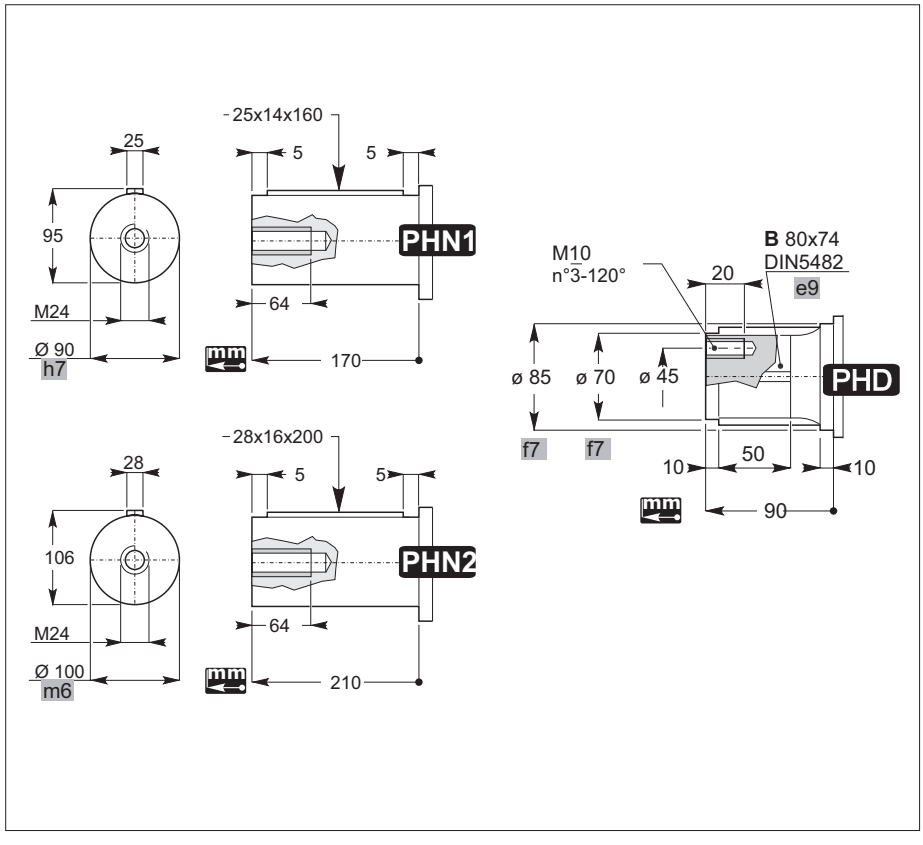


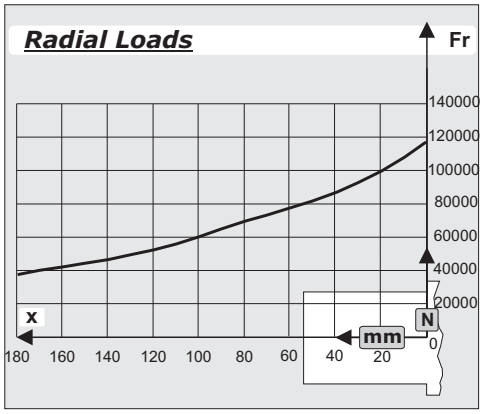


Accessories

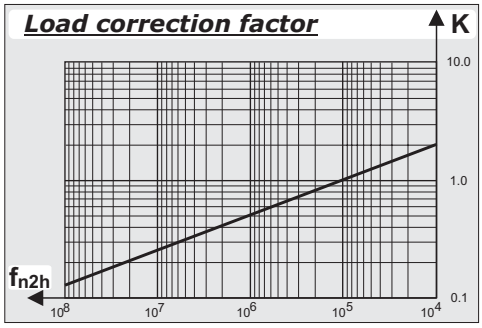
mm
C

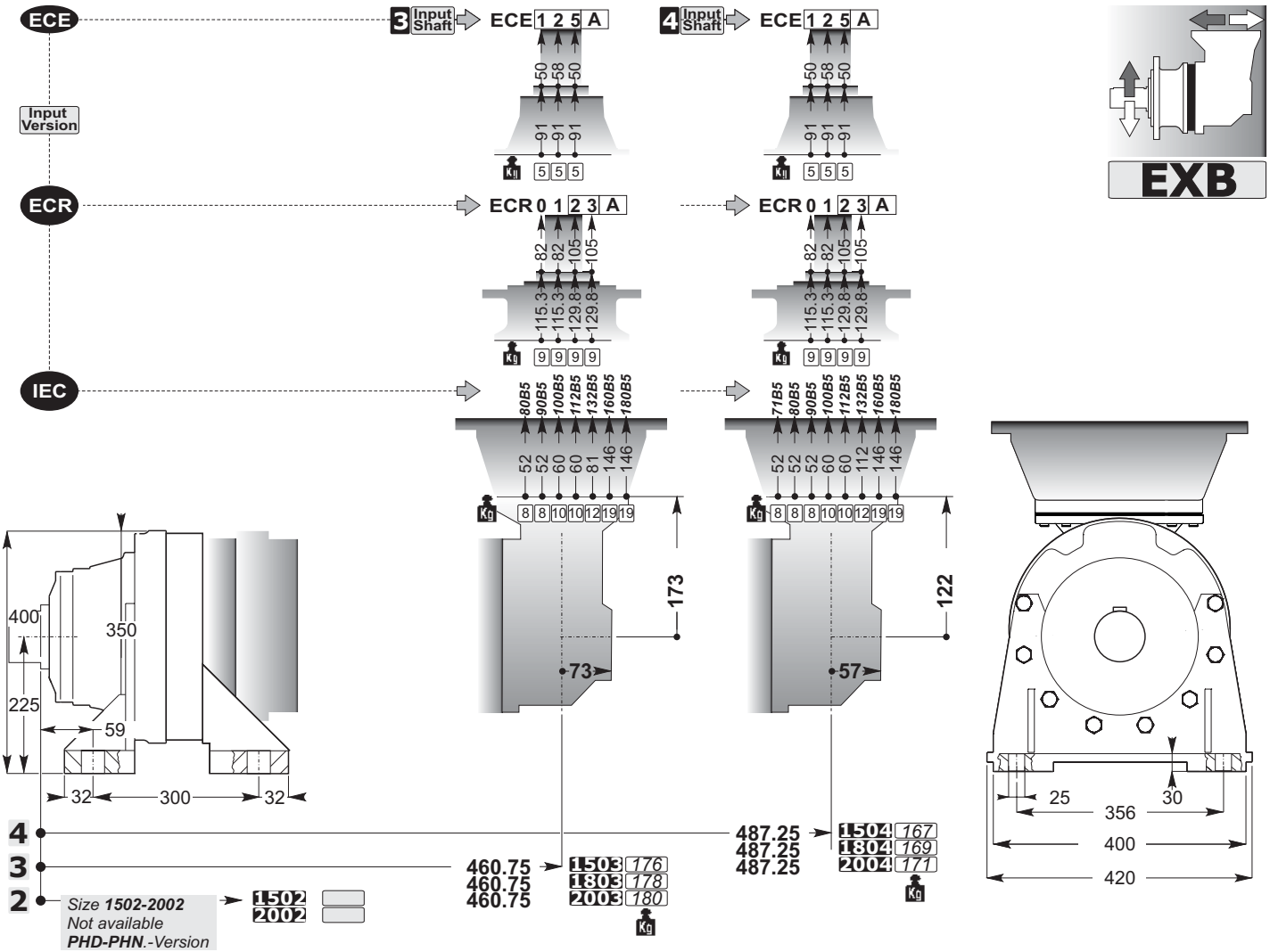

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
91 50 5A-ø28
91 58 2A-ø38
91 50 1A-ø24
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
129.8 105 3A-ø65
129.8 105 2A-ø60
115.3 82 1-ø50
115.3 82 0-ø42
80 7A-7B
26 4
17 2B-3B
26 4
17 2B-3B
9 0-1
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
189 30 225B5
154 25 200B5
170 19 180B5
170 19 160B5
120 12 132B5
99 10 112B5
99 10 100B5
91 8 90B5
91 8 80B5
91 8 71B5
91 8 63B5
146 19 180B5
146 19 160B5
112 12 132B5
91 10 112B5
91 10 100B5
83 8 90B5
83 8 80B5
83 8 71B5
83 8 63B5
400
350
225
59
32 300 32
338.5-ECR7
4
3
2
1
250 1501 133
250 2001 135
342.75 1502 144
342.75 1802 146
342.75 2002 148
407.25 1503 153
407.25 1803 155
407.25 2003 157
451.25 1504 161
451.25 1804 163
451.25 2004 165
25
356
30
400
420

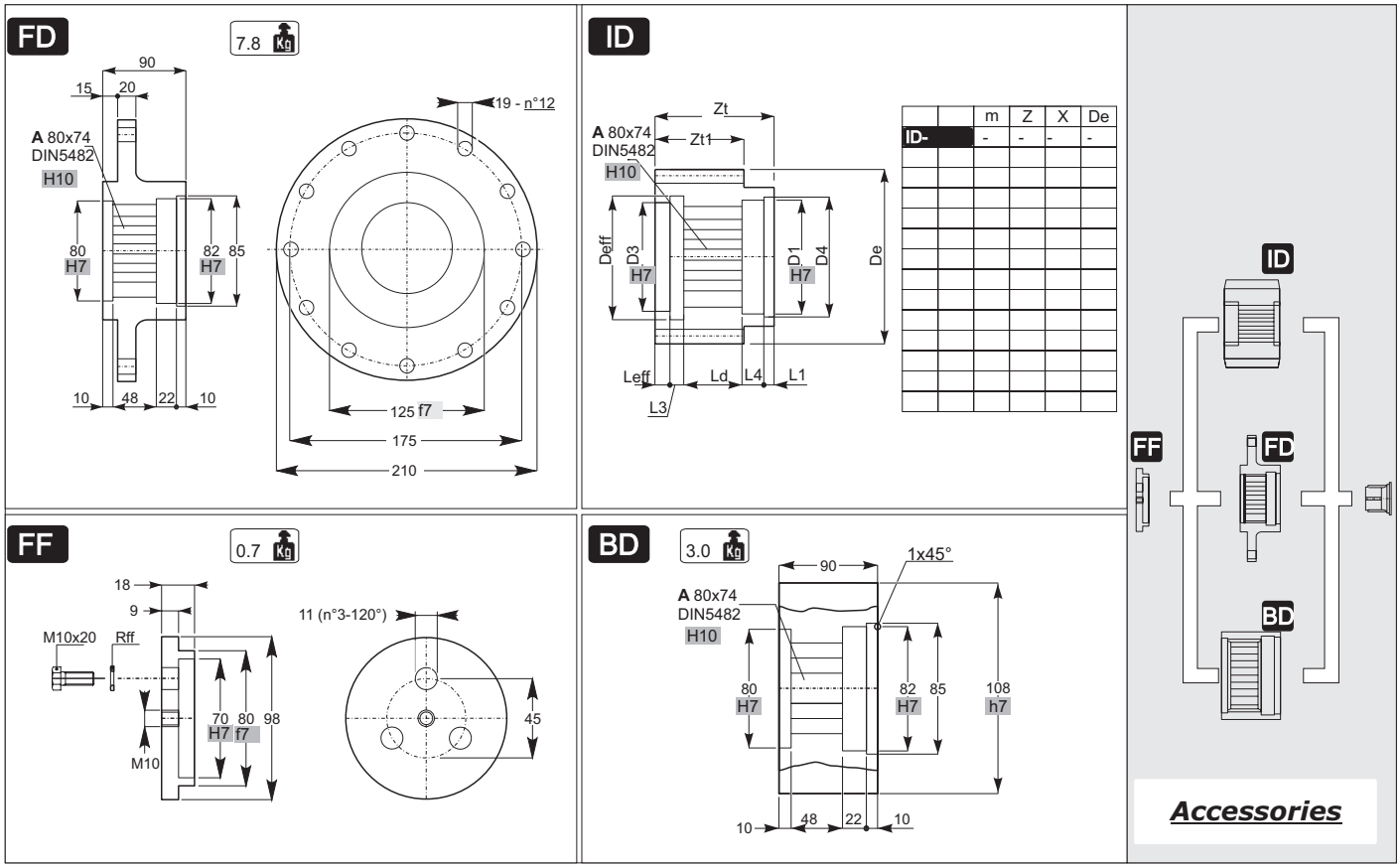

25x14x160
25
5
5
95
M24
Ø 90 h7
64
170
PHN1
28x16x200
28
106
M24
Ø 100 m6
64
210
PHN2
M10 n°3-120°
B 80x74 DIN5482
20
e9
ø 85
ø 70
ø 45
f7
f7
10
50
10
90
PHD

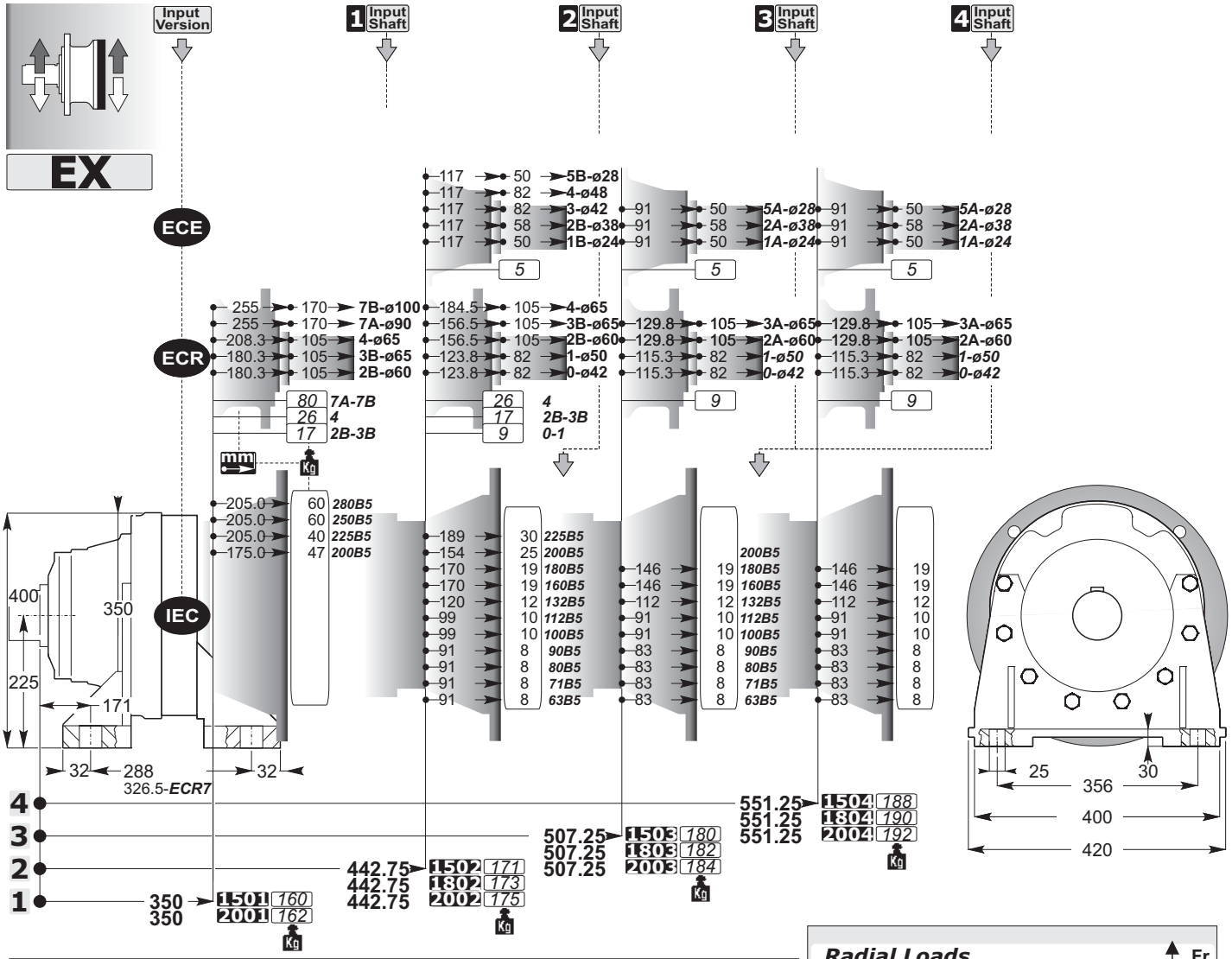

Radial Loads
Fr
140000
120000
100000
80000
60000
40000
20000
0
x
N
mm
180 160 140 120 100 80 60 40 20

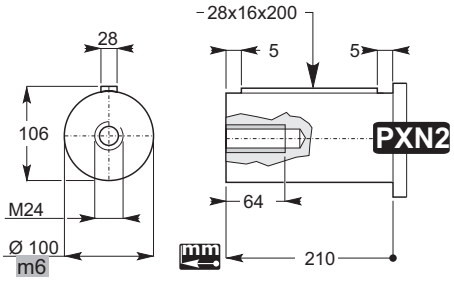

Axial Loads
-104737>
N
Fa
<73441-

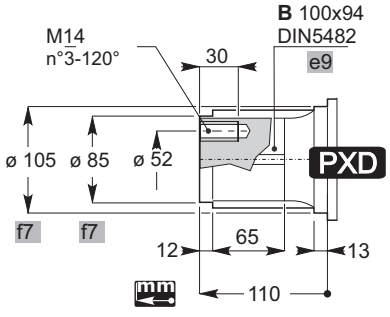

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8 10^7 10^6 10^5 10^4


ECE
Input Version
3 Input Shaft ECE 1 2 5 A
4 Input Shaft ECE 1 2 5 A
50 58 50
91 91 91
5 5 5
EXB
ECR
ECR 0 1 2 3 A
82 82 105 105
115.3 115.3 129.8 129.8
9 9 9 9
IEC
80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
52 52 60 60 81 146 146
52 52 52 60 60 112 146 146
8 8 10 10 12 19 19
8 8 8 10 10 12 19 19
173
122
73
57
400
350
225
59
32
300
32
25
30
356
400
420
4
3
2
487.25
487.25
487.25
1504 167
1804 169
2004 171
460.75
460.75
460.75
1503 176
1803 178
2003 180
Size 1502-2002
Not available
PHD-PHN.-Version
1502
2002

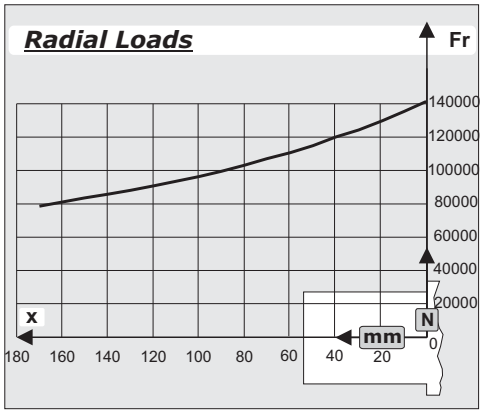

FD
7.8
90
15
20
A 80x74
DIN5482
H10
80
H7
82
H7
85
10
48
22
10
19 - n°12
125 f7
175
210
ID
Zt
Zt1
A 80x74
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
ID-
m
Z
X
De
FF
0.7
18
9
M10x20
Rff
11 (n°3-120°)
70
H7
80
f7
98
M10
45
BD
3.0
90
1x45°
A 80x74
DIN5482
H10
80
H7
82
H7
85
108
h7
10
48
22
10
ID
FF
FD
BD
Accessories

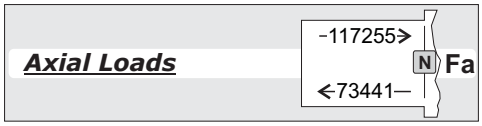


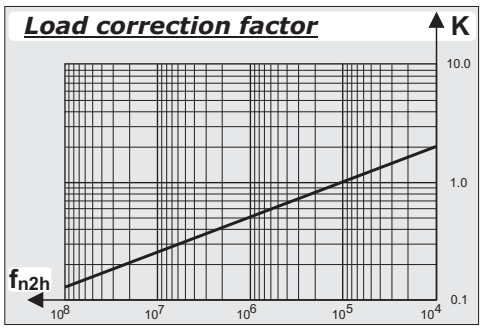


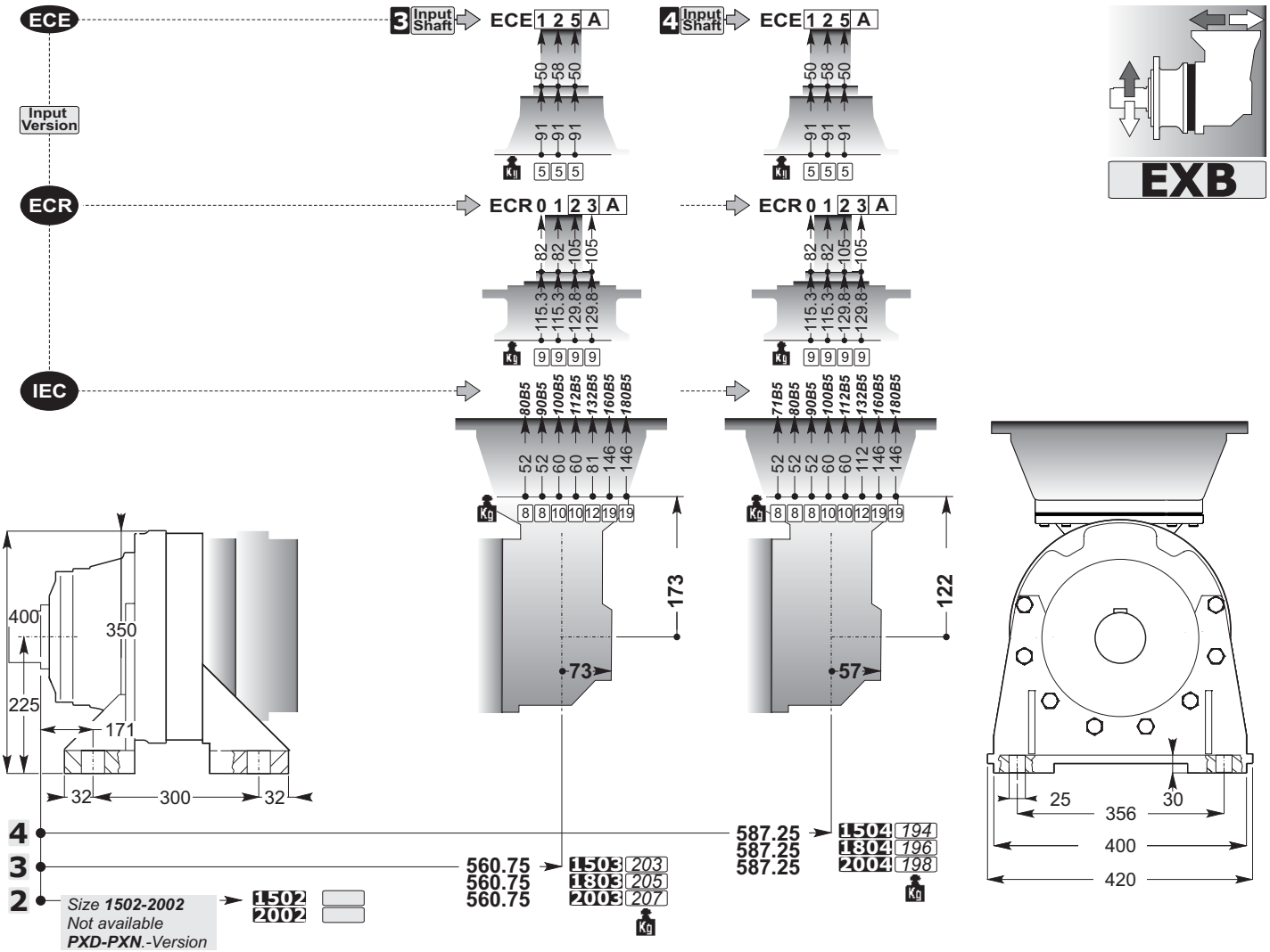


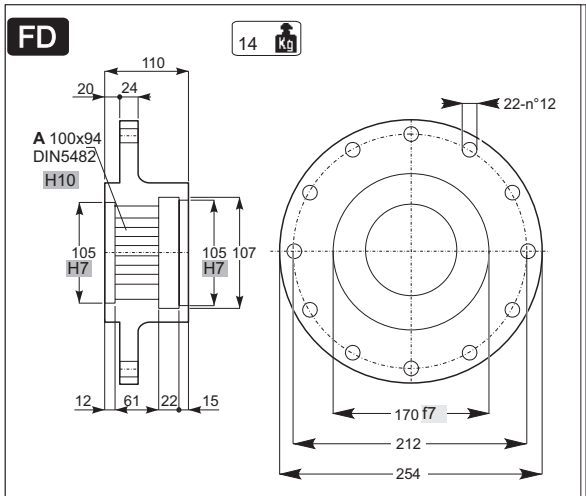
Output Shafts

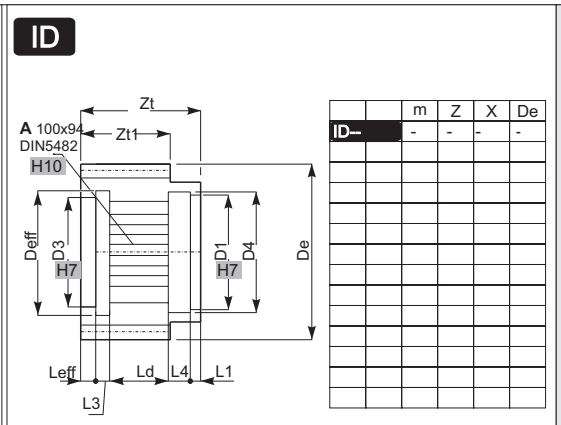


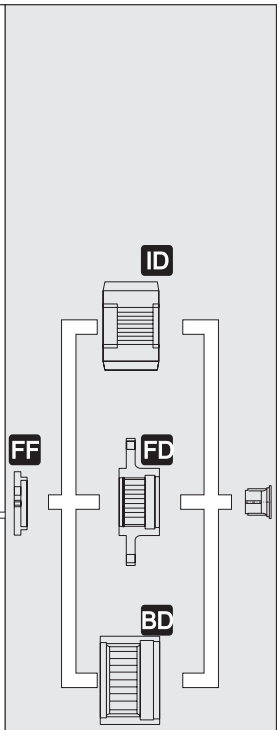


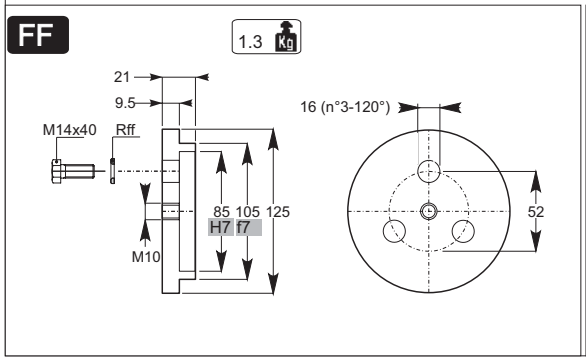


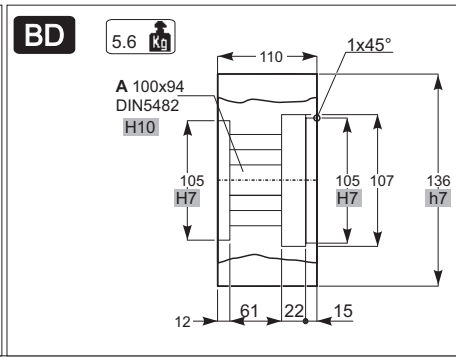




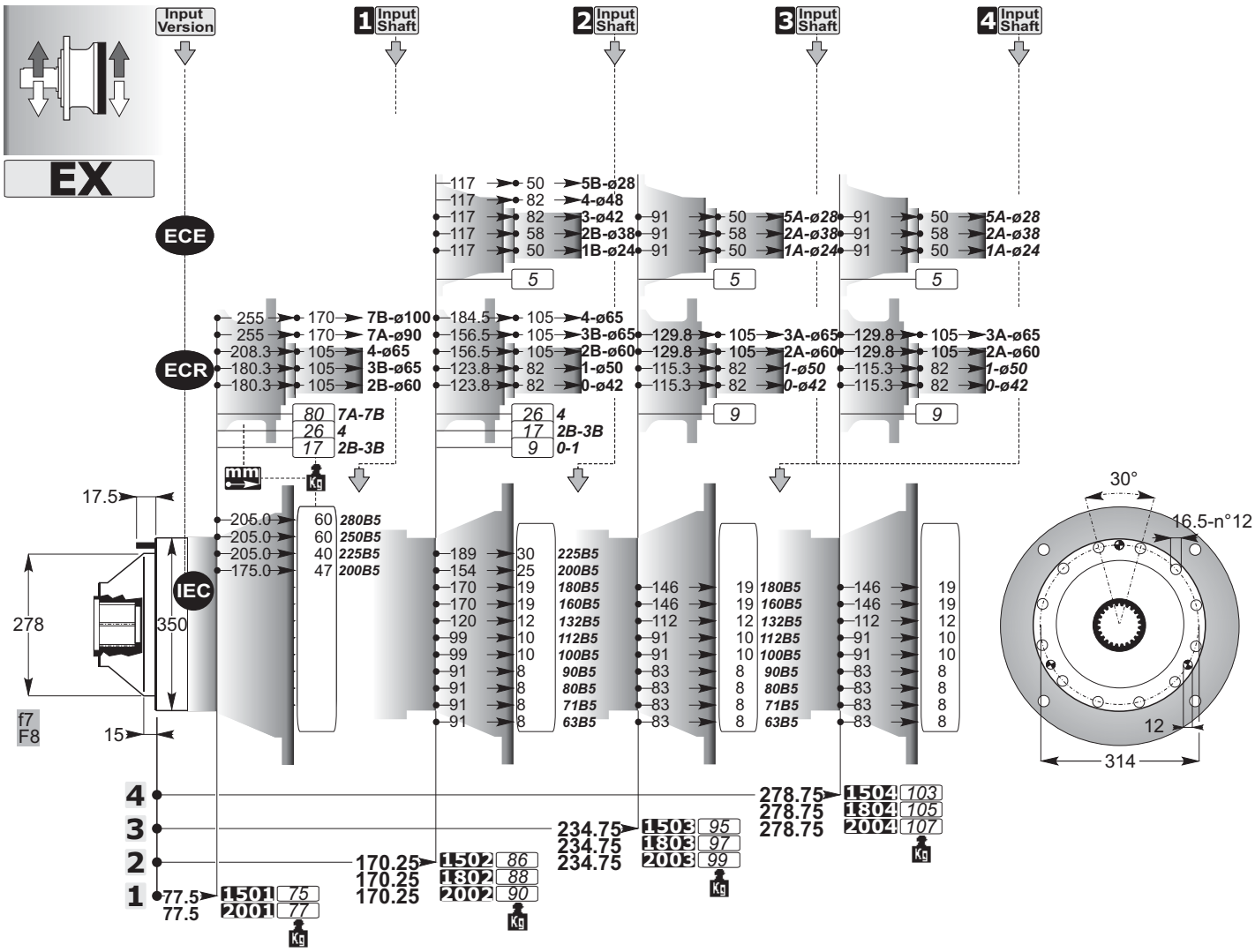


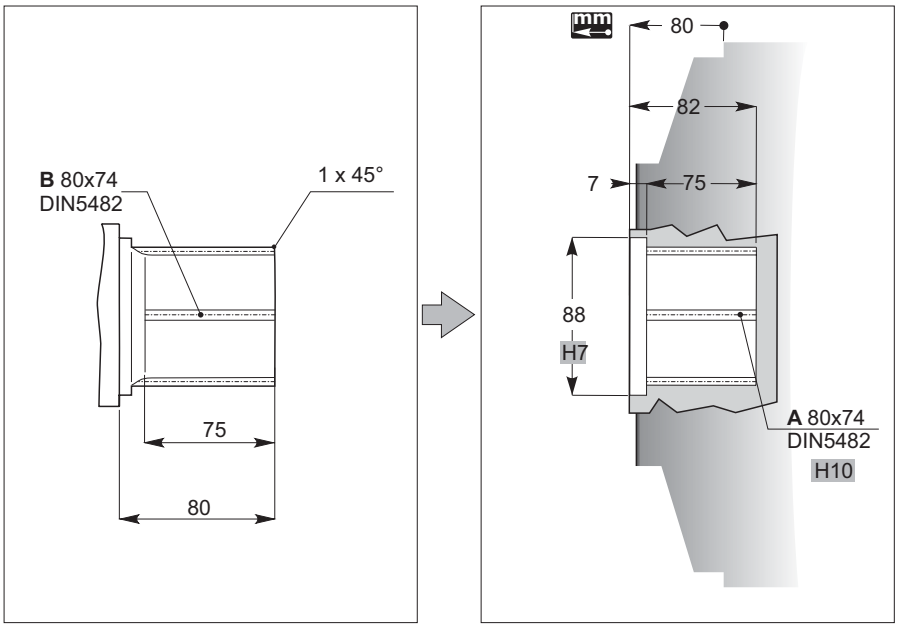




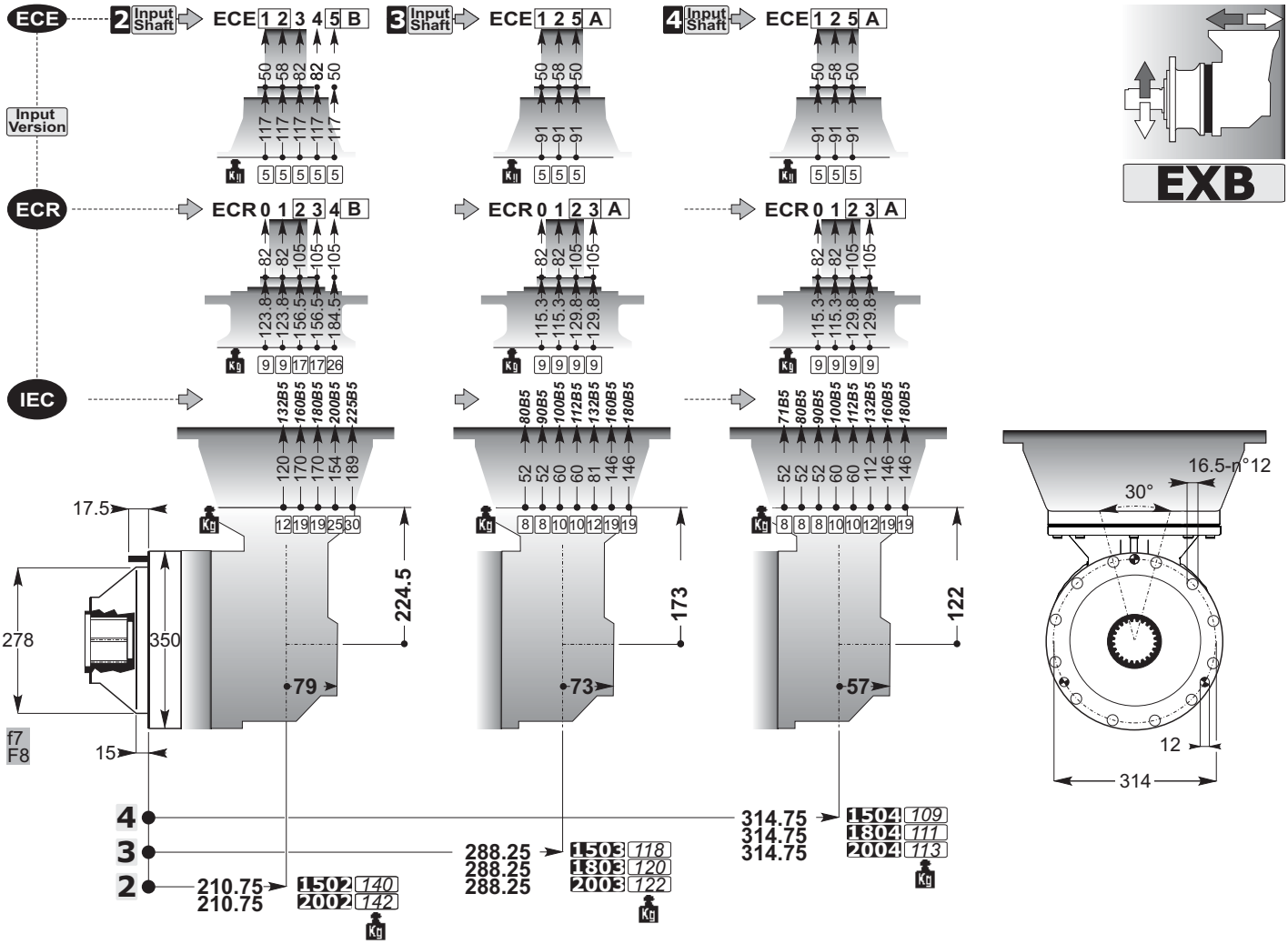


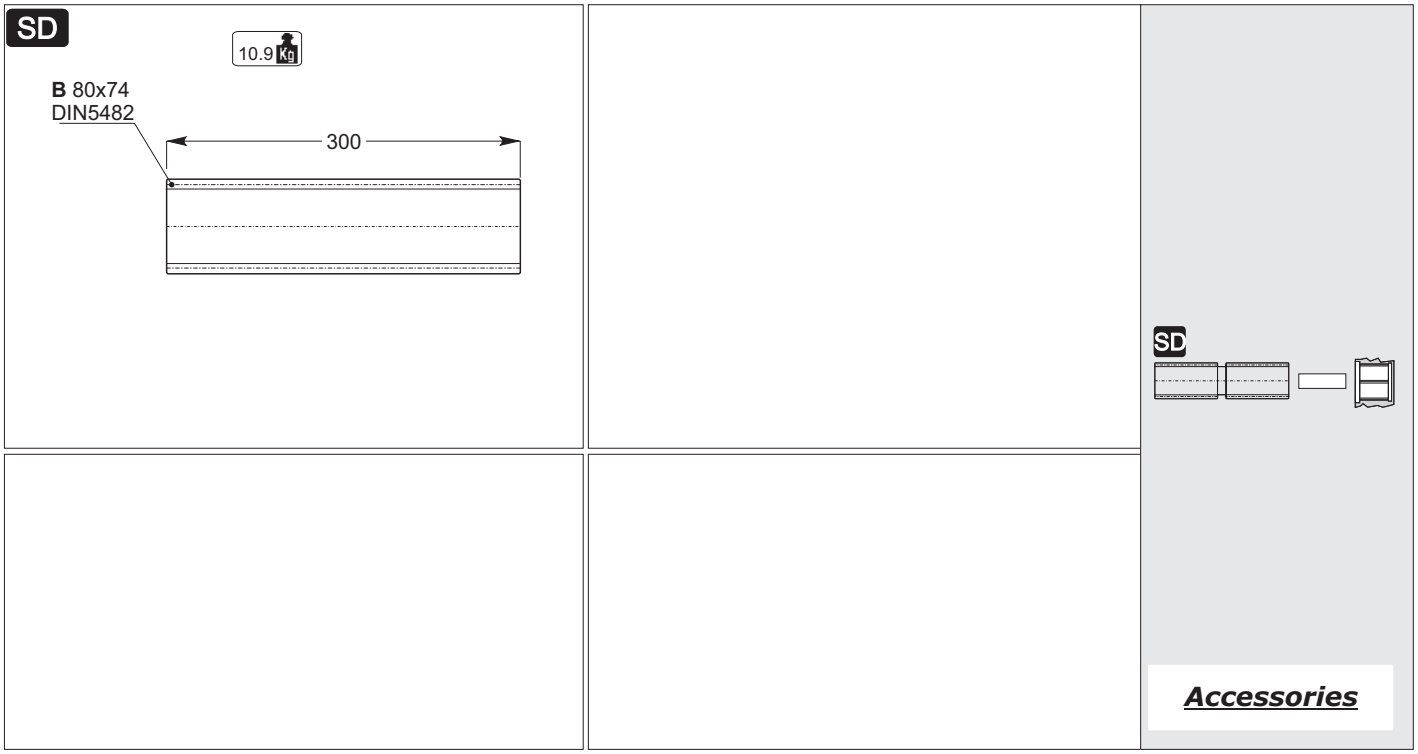
Accessories

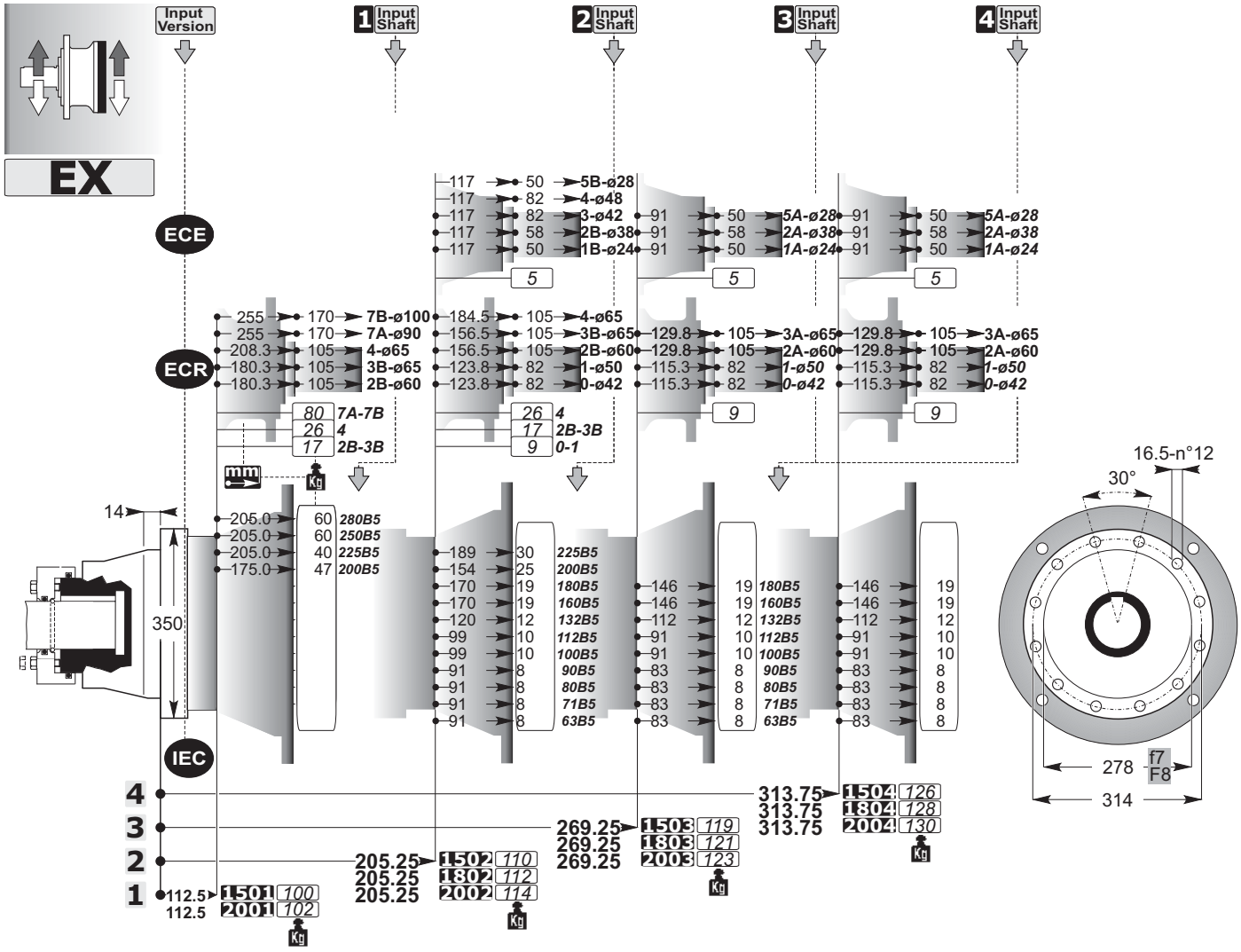


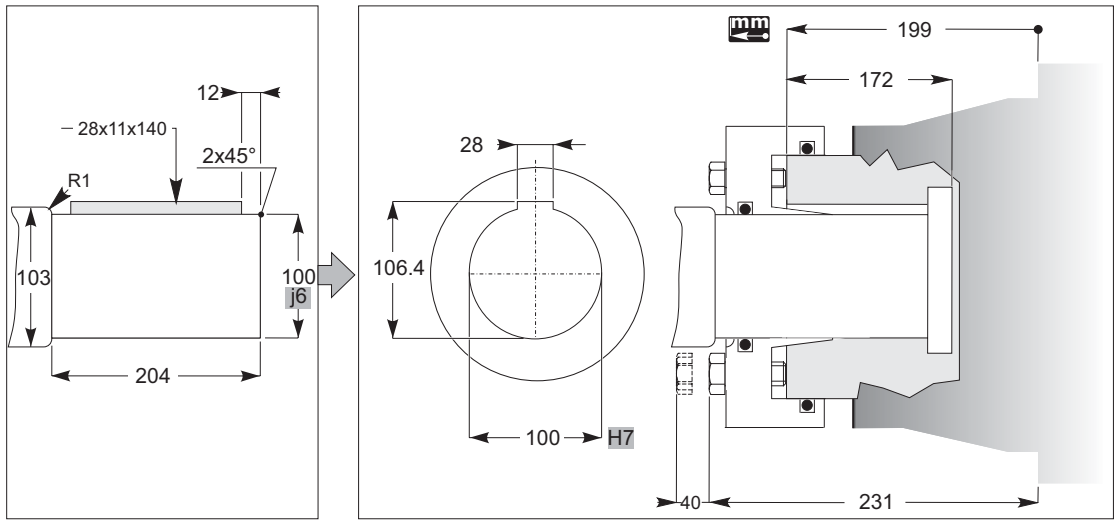


Output Shafts

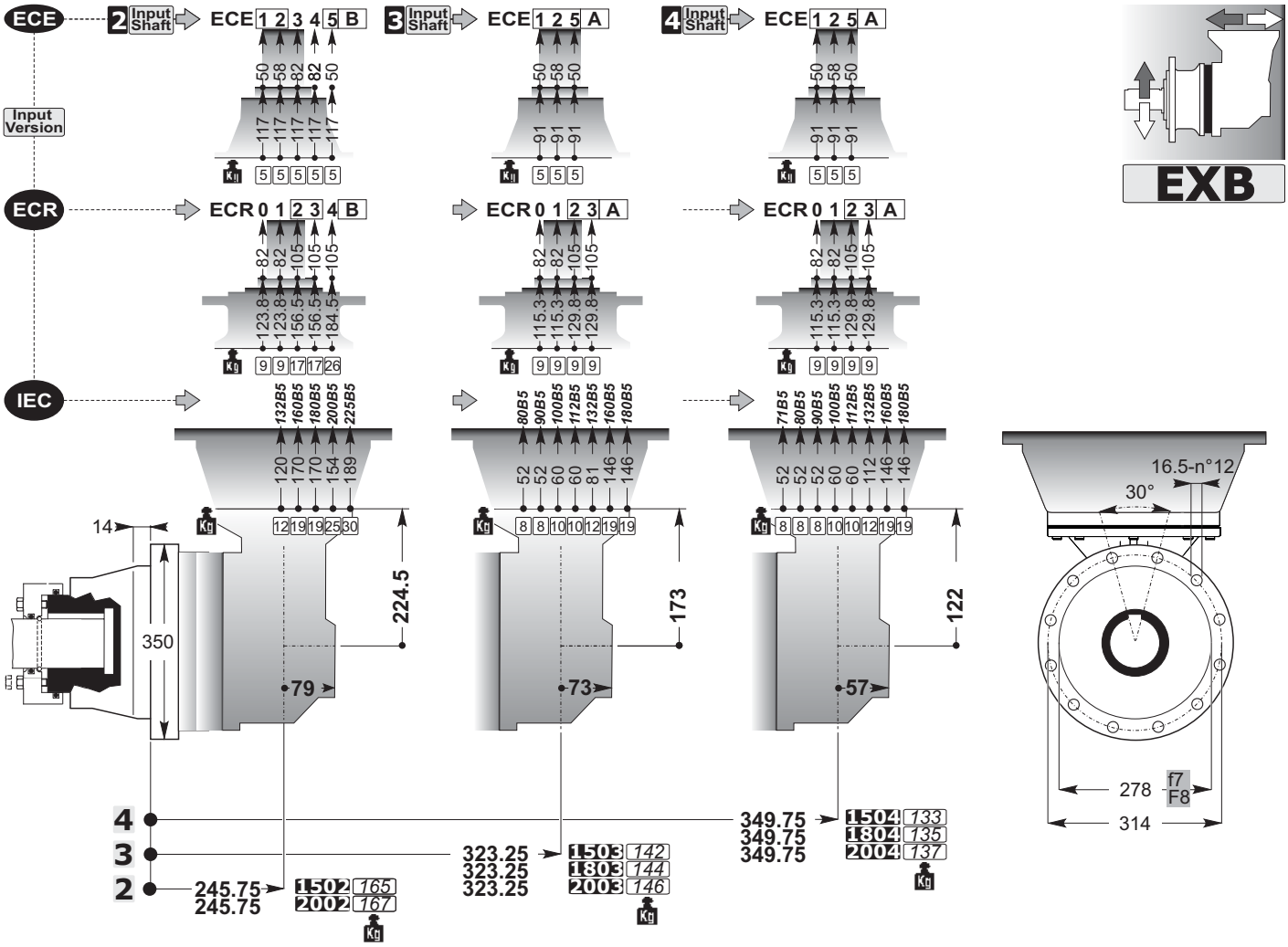

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
16.5-n°12
30°
12
314
17.5
278
350
224.5
173
122
79
73
57
f7
F8
15
4
3
2
314.75
314.75
314.75
1504 109
1804 111
2004 113
288.25
288.25
288.25
1503 118
1803 120
2003 122
210.75
210.75
1502 140
2002 142

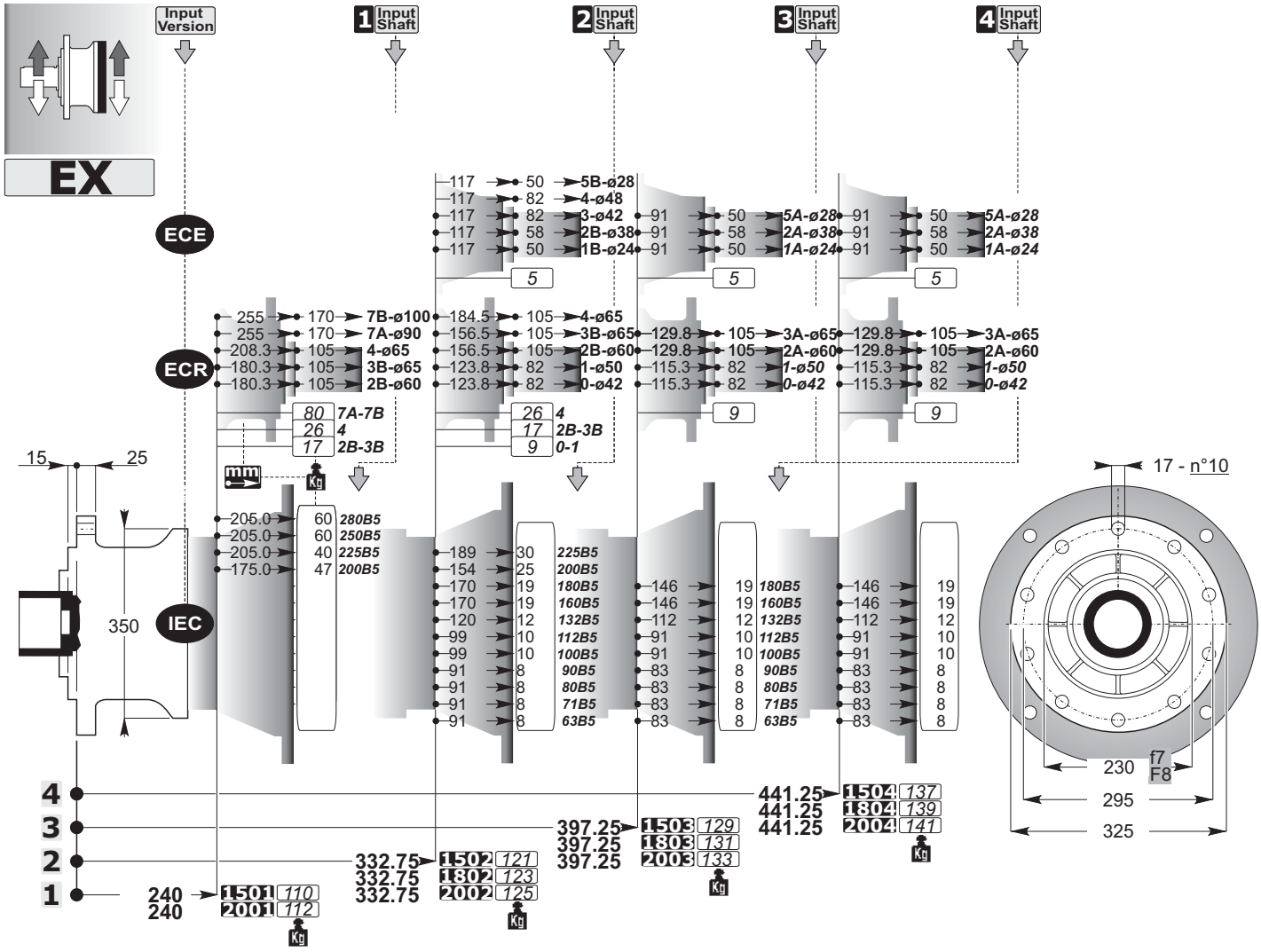

SD
10.9
B 80x74
DIN5482
300
SD
Accessories

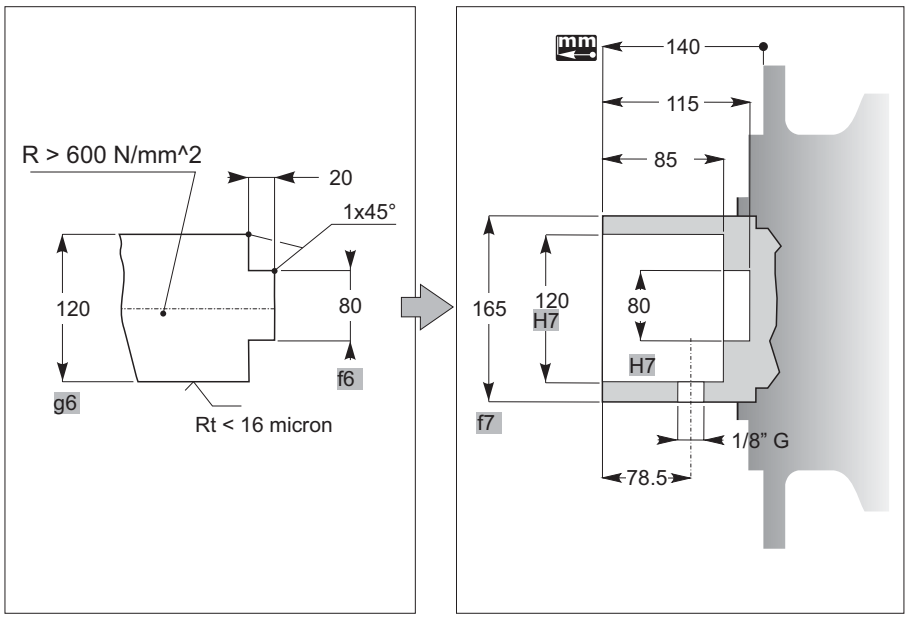




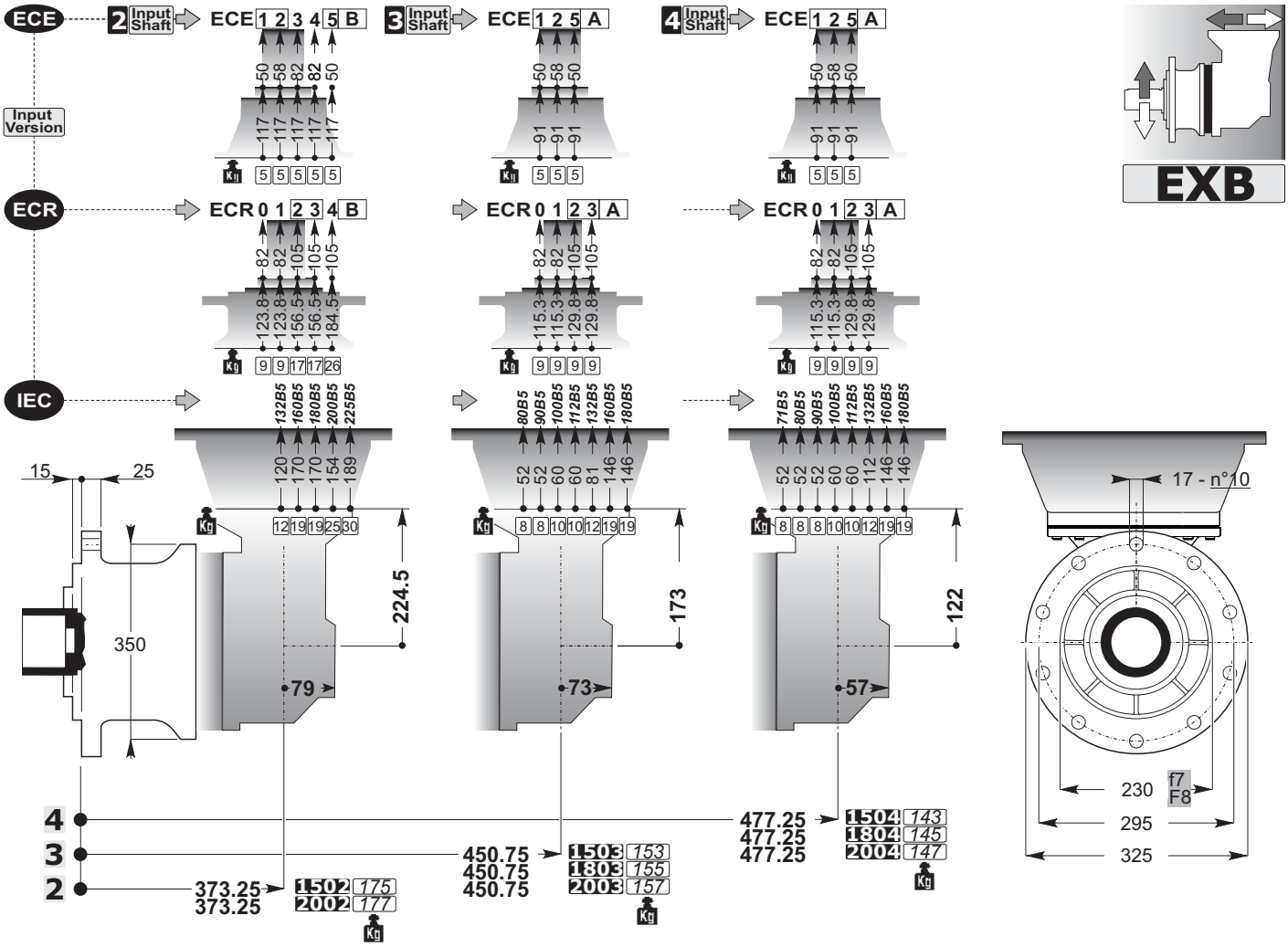
Output Shafts

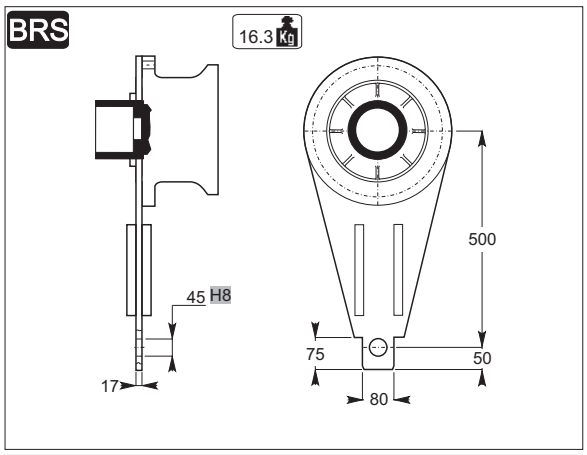

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5
14
350
224.5
173
122
79
73
57
16.5-n°12
30°
278 f7 F8
314
4
3
2
245.75
245.75
1502 165
2002 167
323.25
323.25
323.25
1503 142
1803 144
2003 146
349.75
349.75
349.75
1504 133
1804 135
2004 137

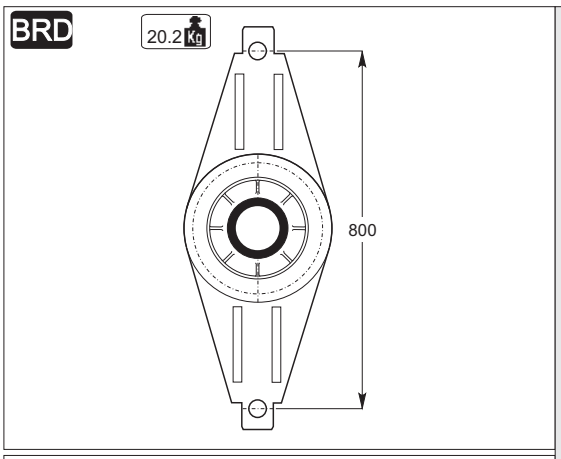


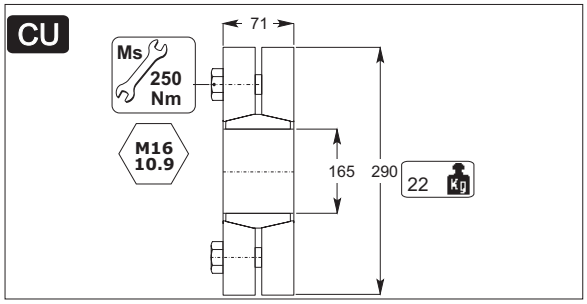


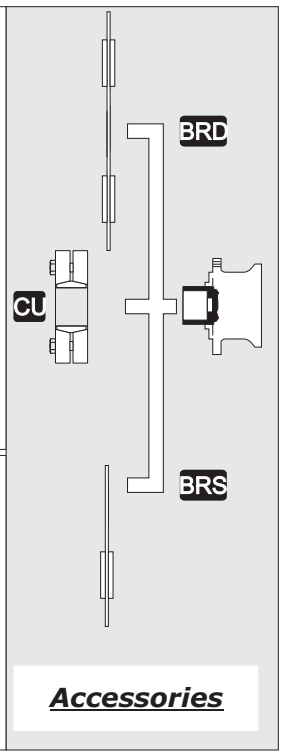
Output Shafts


ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
15
25
350
224.5
173
122
79
73
57
17 - n°10
230
295
325
f7
F8
4
3
2
477.25
477.25
477.25
450.75
450.75
450.75
373.25
373.25
1504 143
1804 145
2004 147
1503 153
1803 155
2003 157
1502 175
2002 177

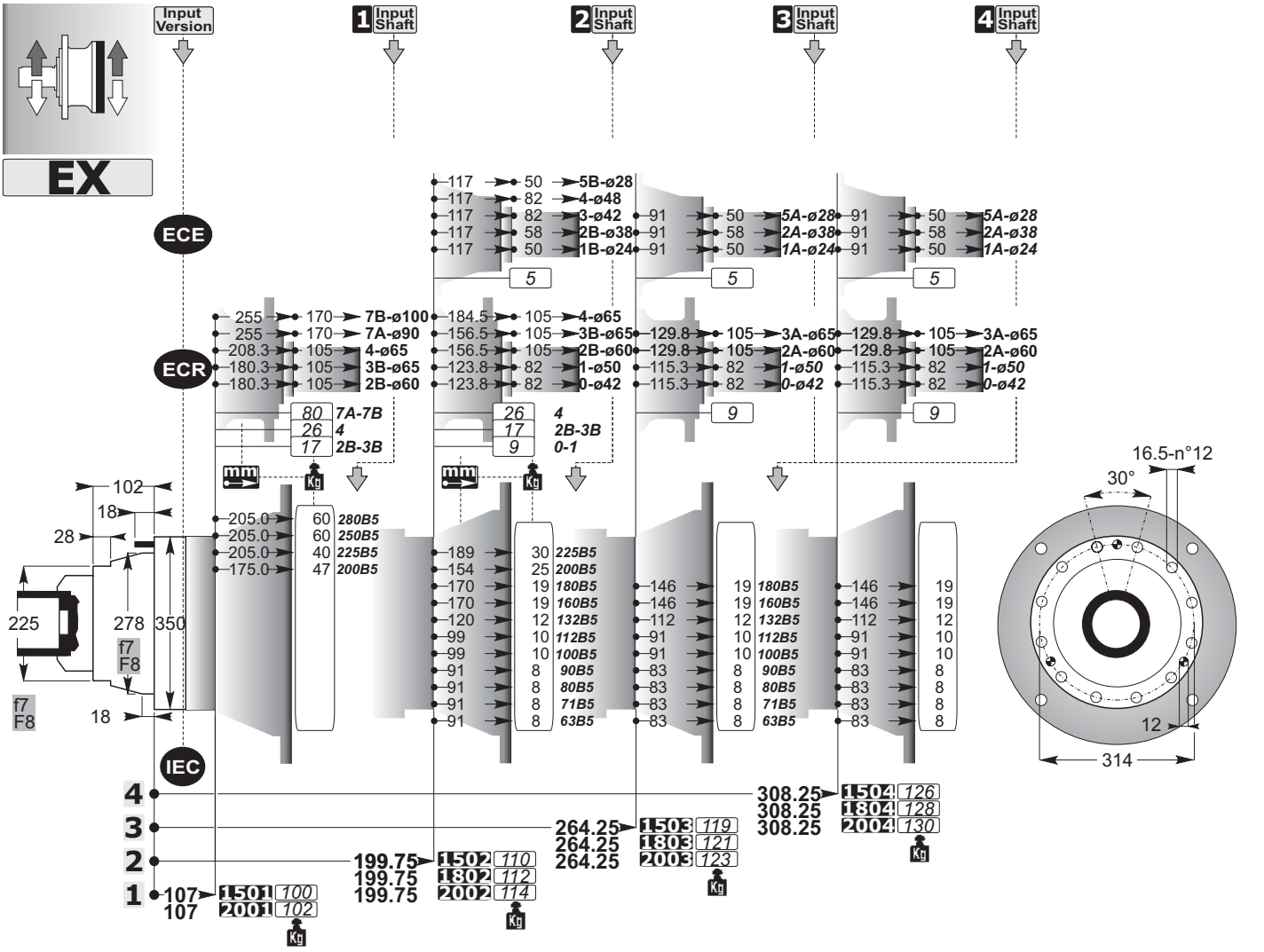

BRS
16.3 Kg
45 H8
17
500
75
50
80

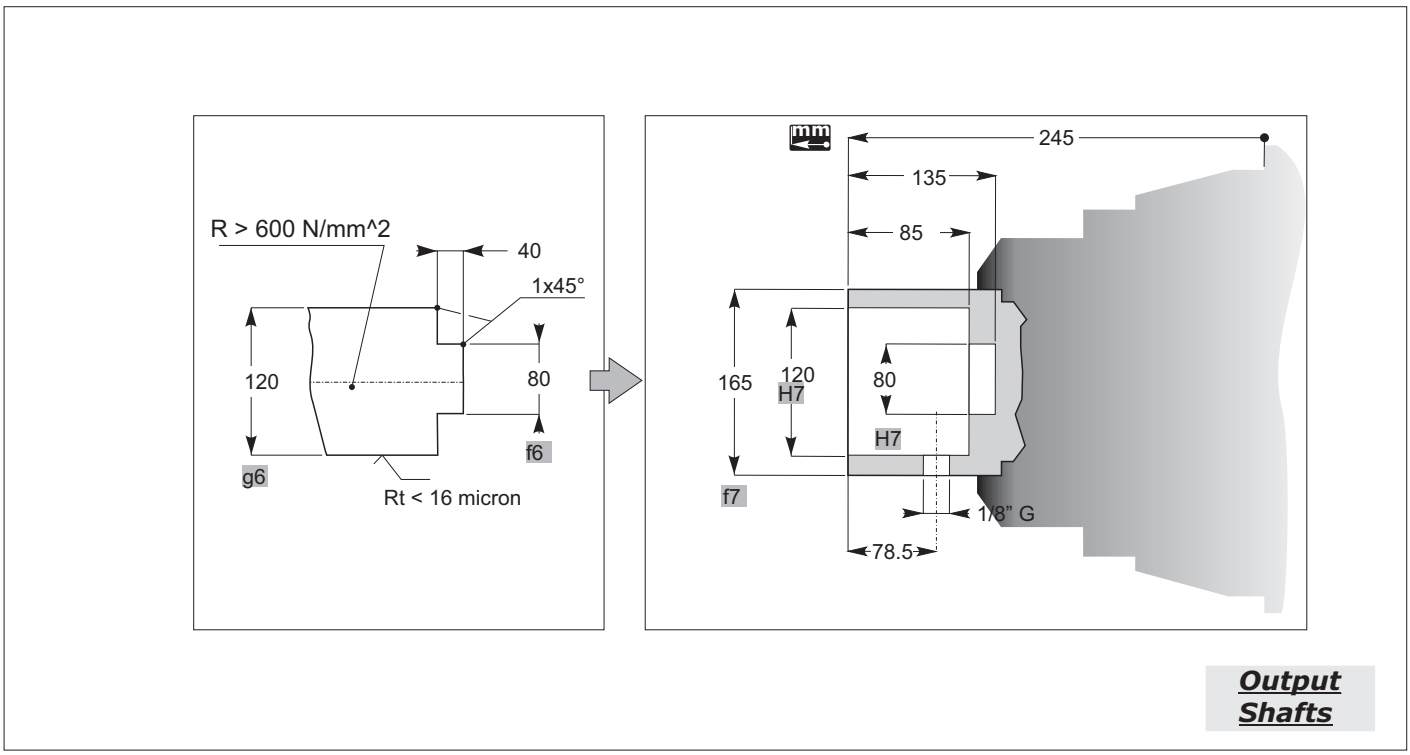

BRD
20.2 Kg
800


CU
Ms
250
Nm
M16
10.9
71
165
290
22 Kg

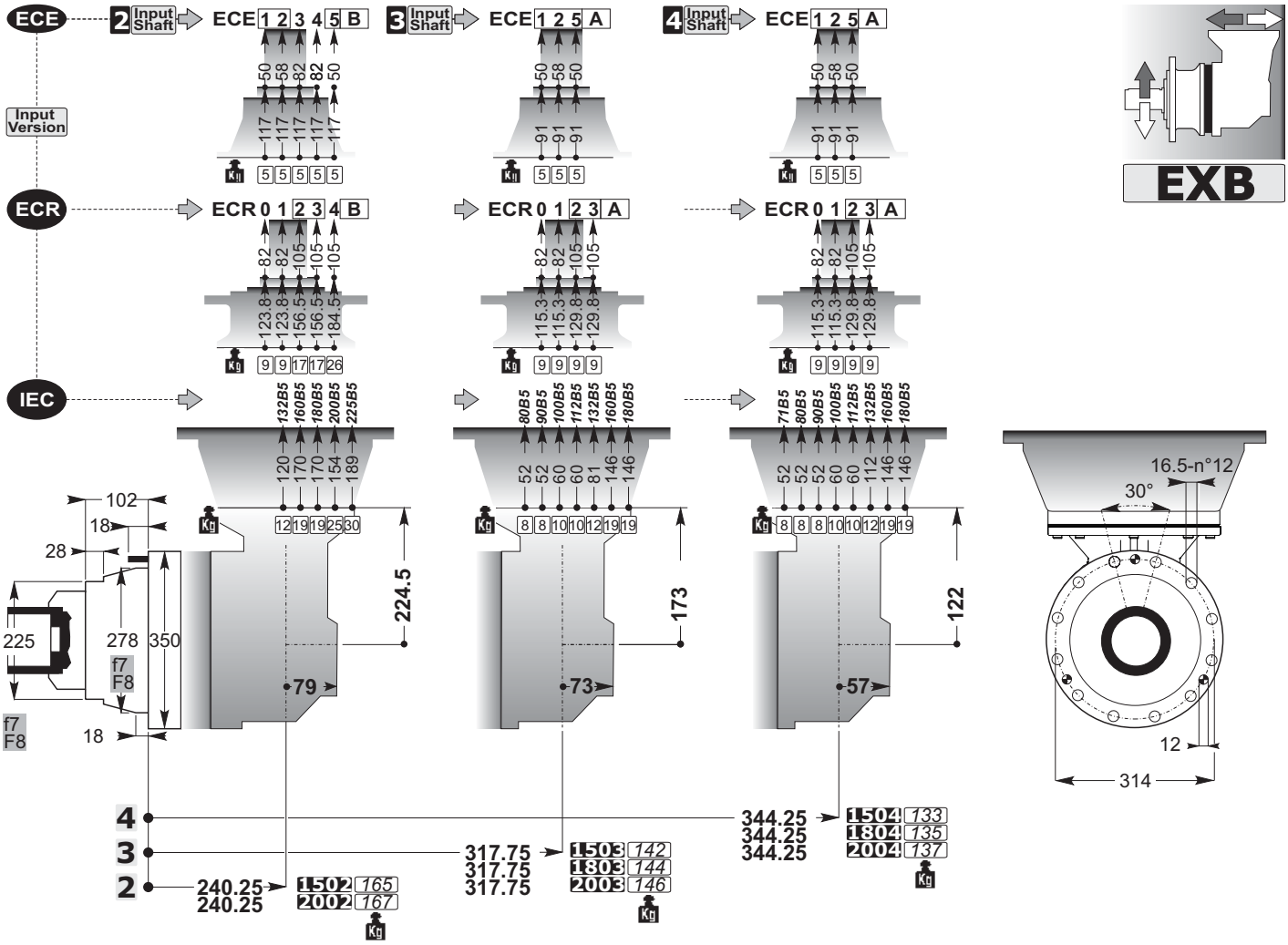

BRD
CU
BRS
Accessories

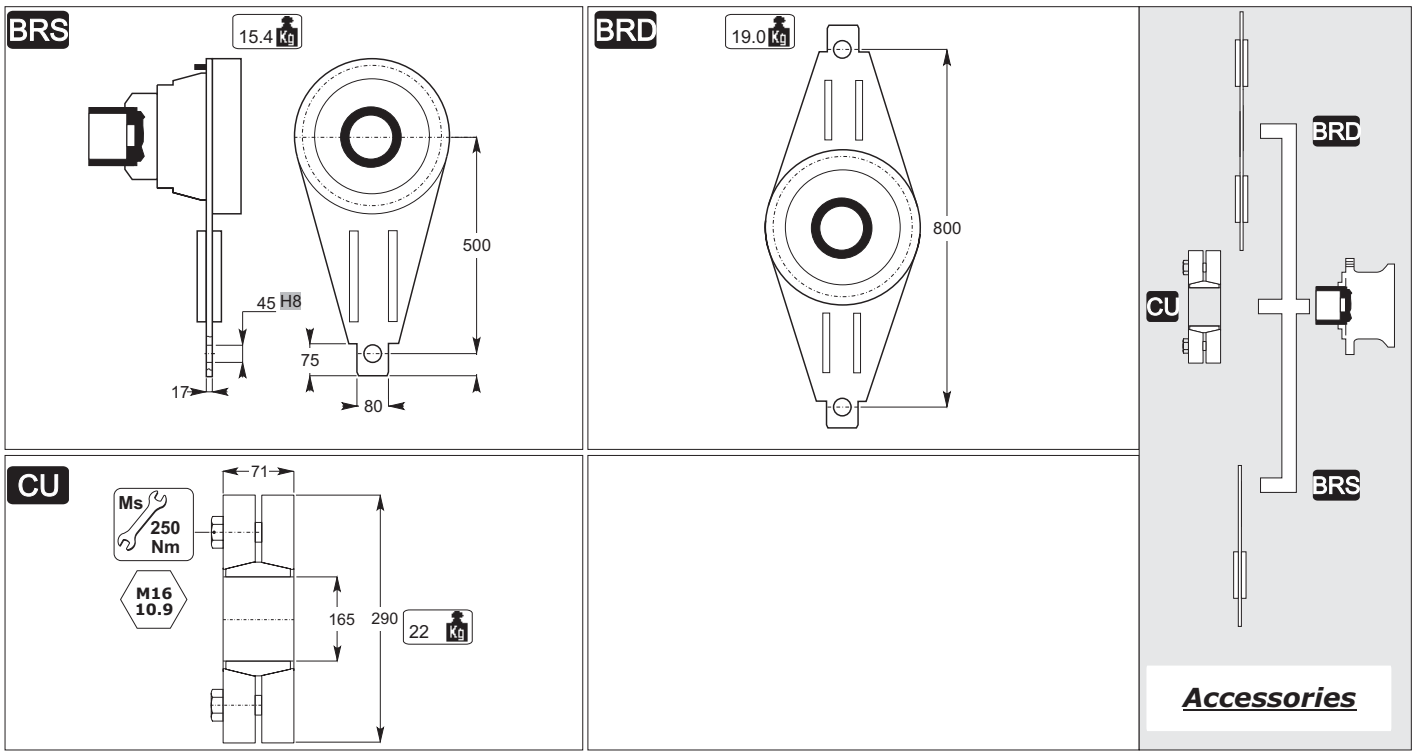
mm
C

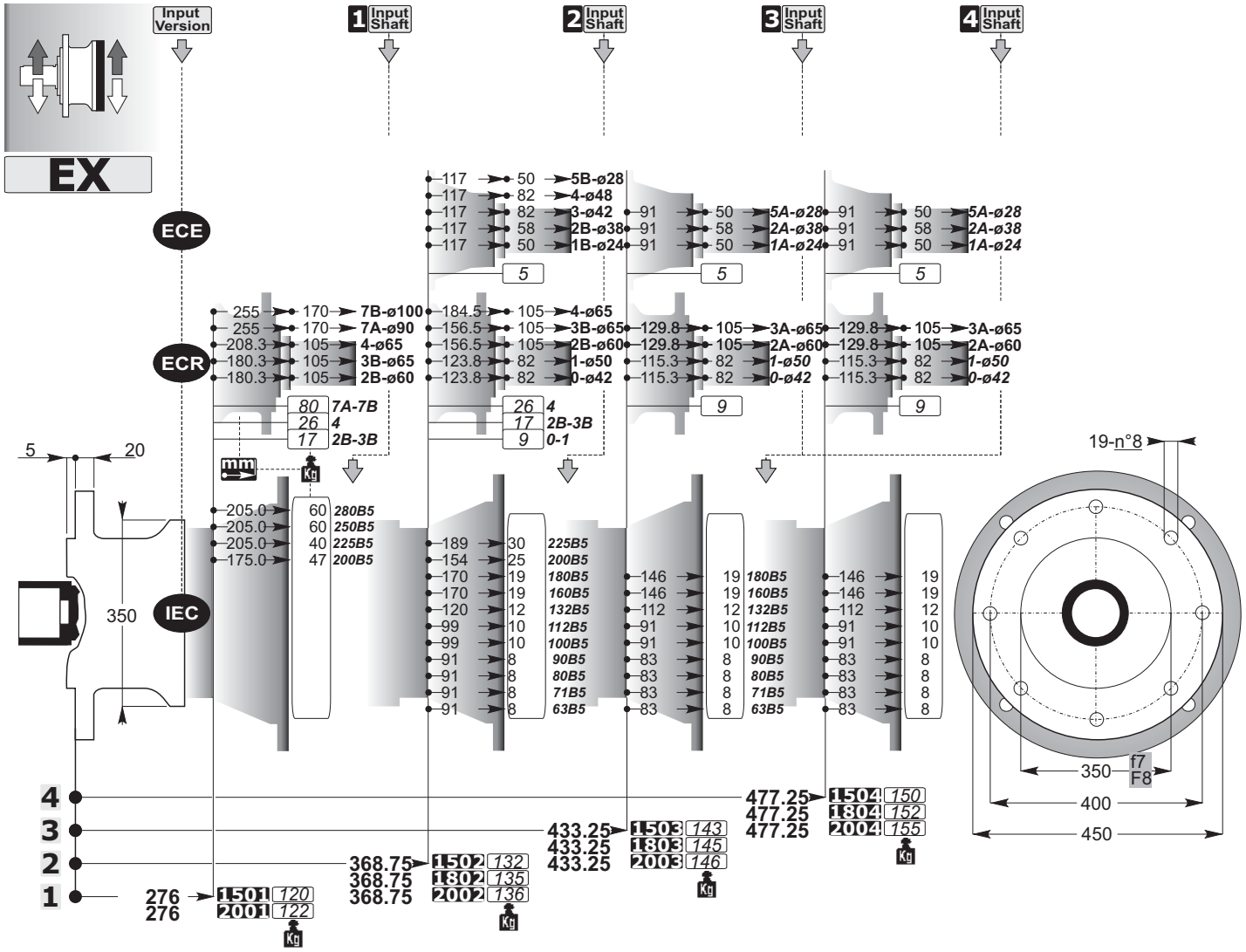


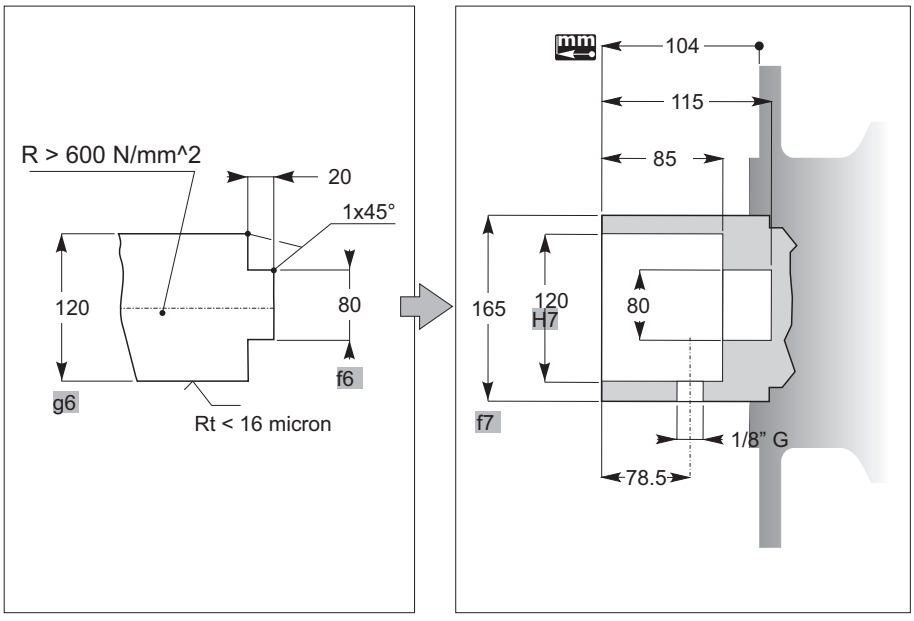


Output Shafts

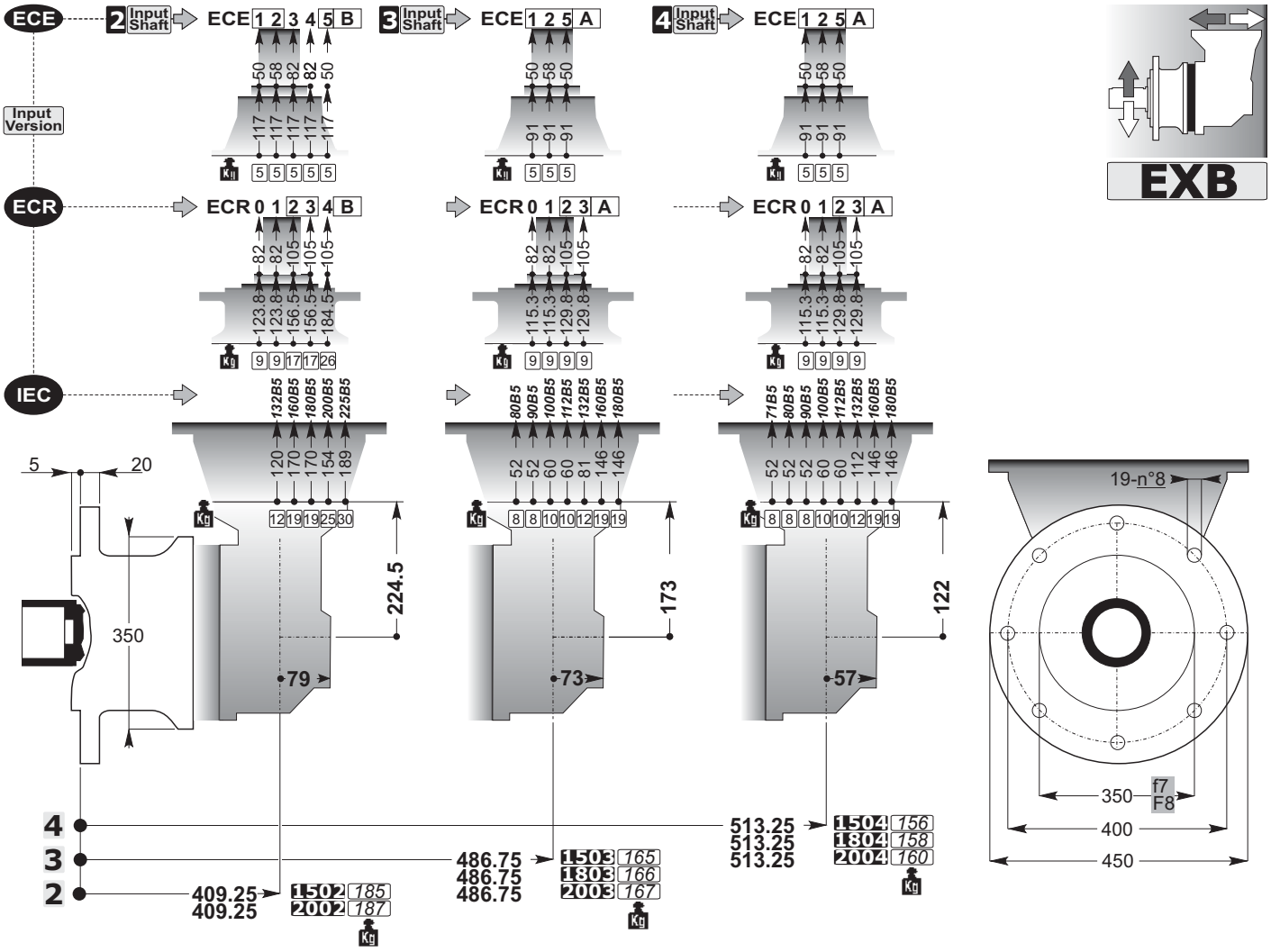

ECE
2 Input Shaft
ECE 1 2 3 4 5 B
3 Input Shaft
ECE 1 2 5 A
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
ECR 0 1 2 3 A
IEC
EXB
16.5-n°12
30°
102
18
28
225
278
350
f7
F8
224.5
173
122
79
73
57
12
314
4
3
2
344.25
344.25
344.25
1504 133
1804 135
2004 137
317.75
317.75
317.75
1503 142
1803 144
2003 146
240.25
240.25
1502 165
2002 167


BRS
15.4 Kg
500
45 H8
75
17
80
BRD
19.0 Kg
800
CU
Ms
250
Nm
M16
10.9
71
165
290
22 Kg
BRD
CU
BRS
Accessories



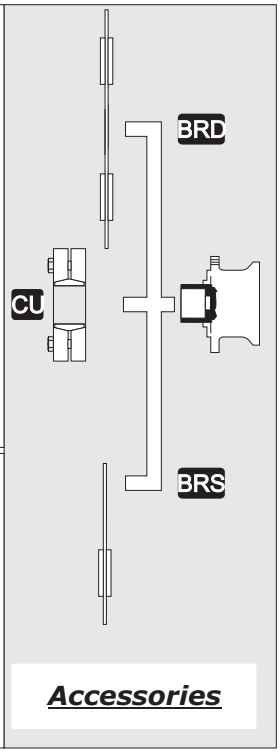


Output Shafts

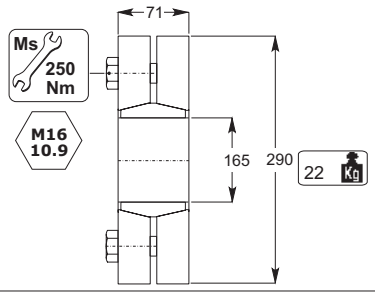


BRS

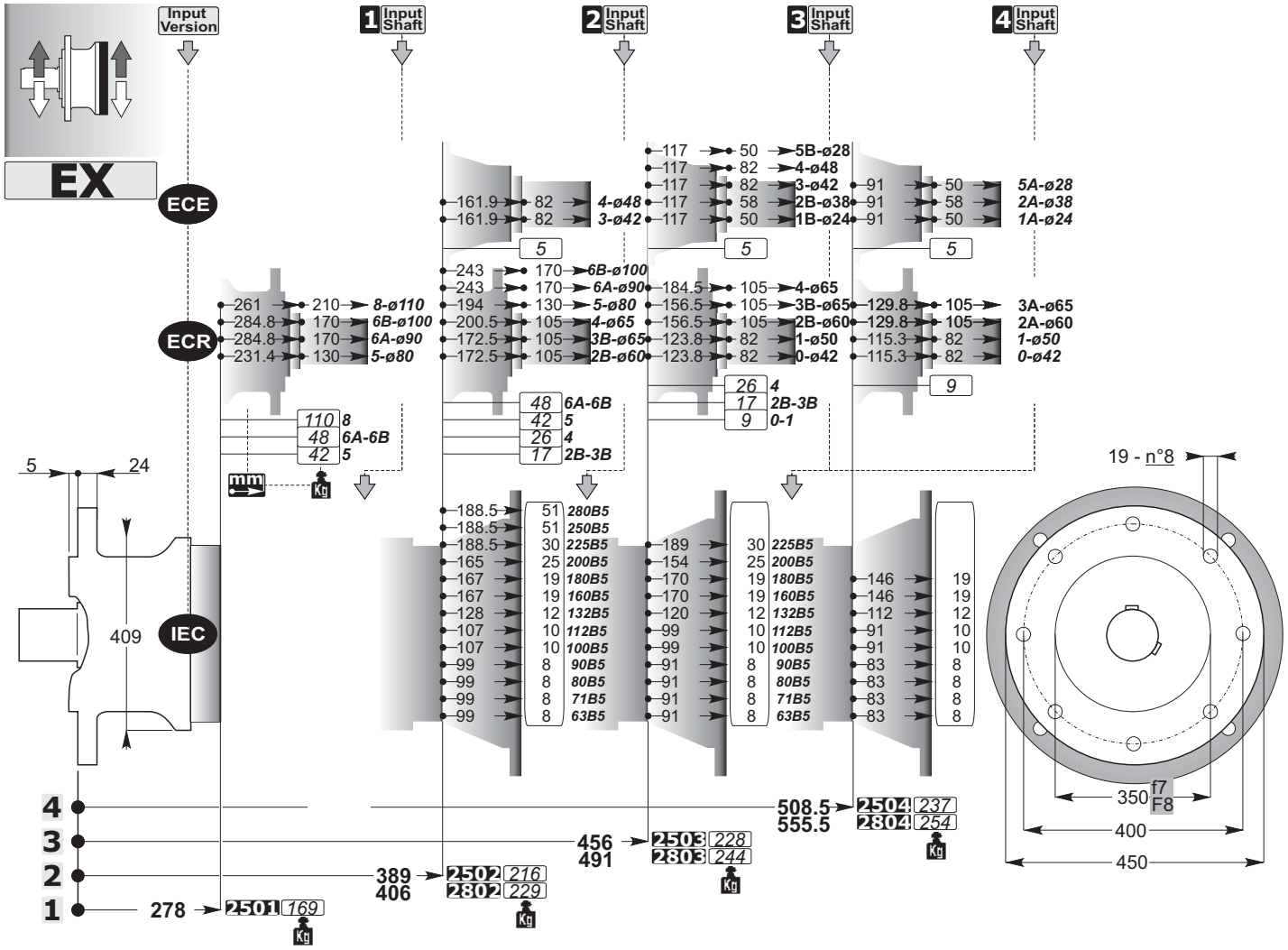
BRD

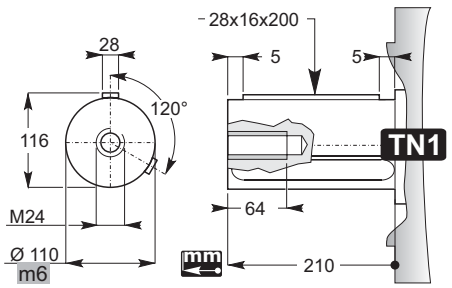


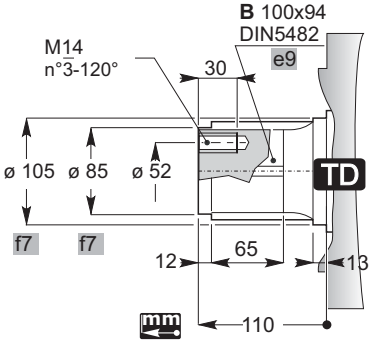
CU



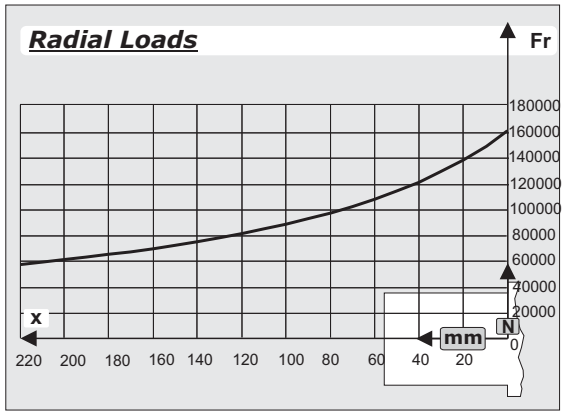
Accessories

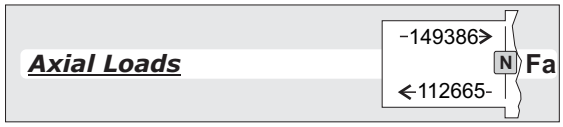


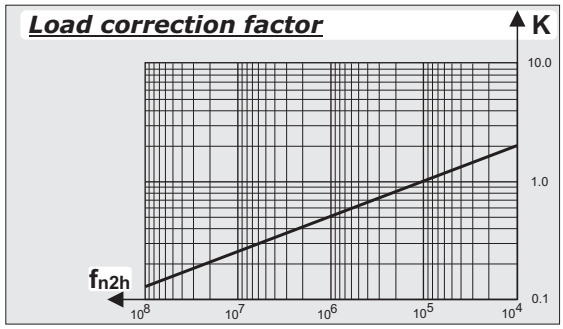


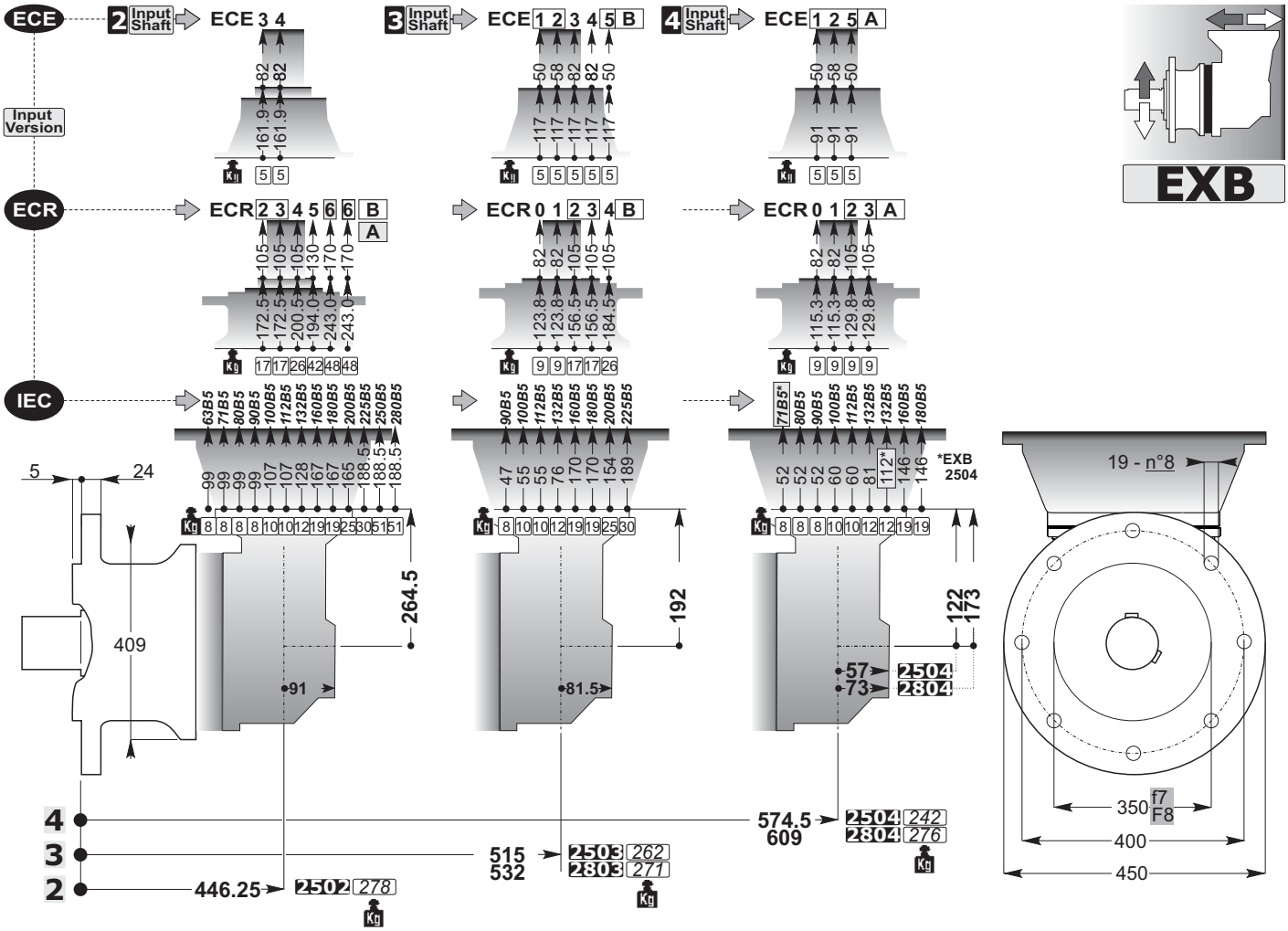


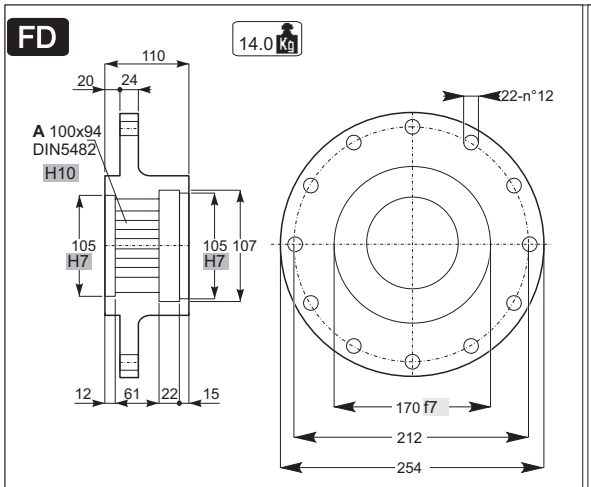
Output Shafts

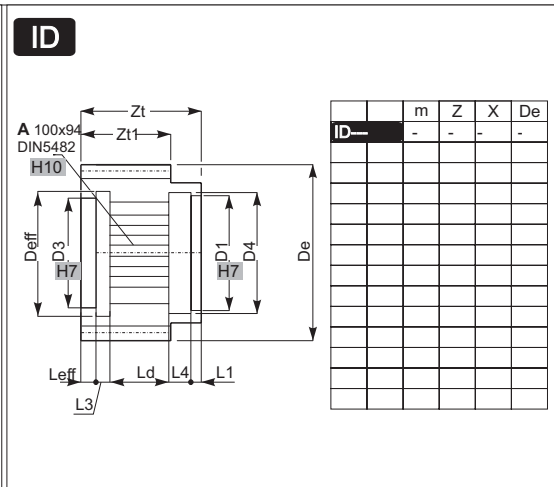


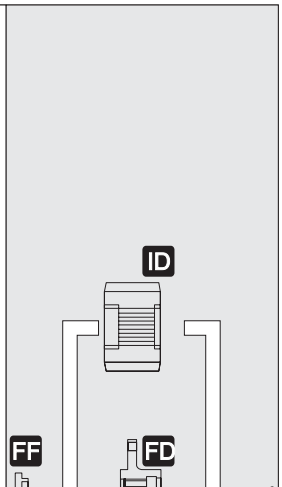


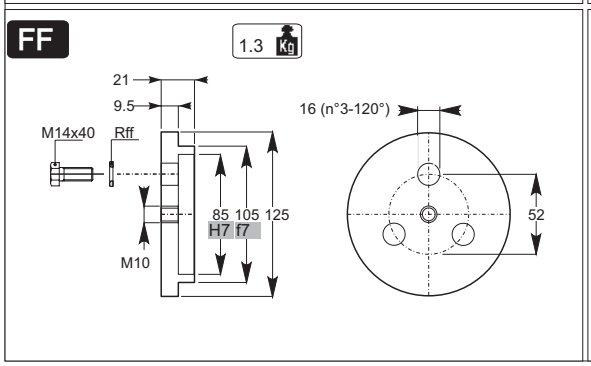


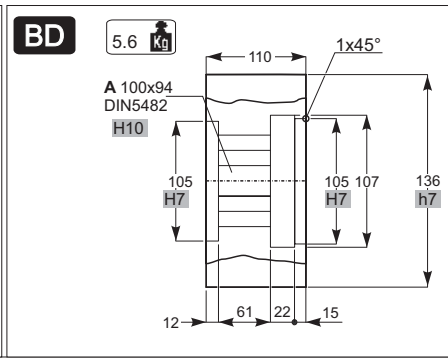

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
*EXB 2504
19 - n°8
264.5
192
122
173
409
91
81.5
57
73
2504
2804
574.5
609
2504 242
2804 276
515
532
2503 262
2803 271
446.25
2502 278
350 f7
F8
400
450

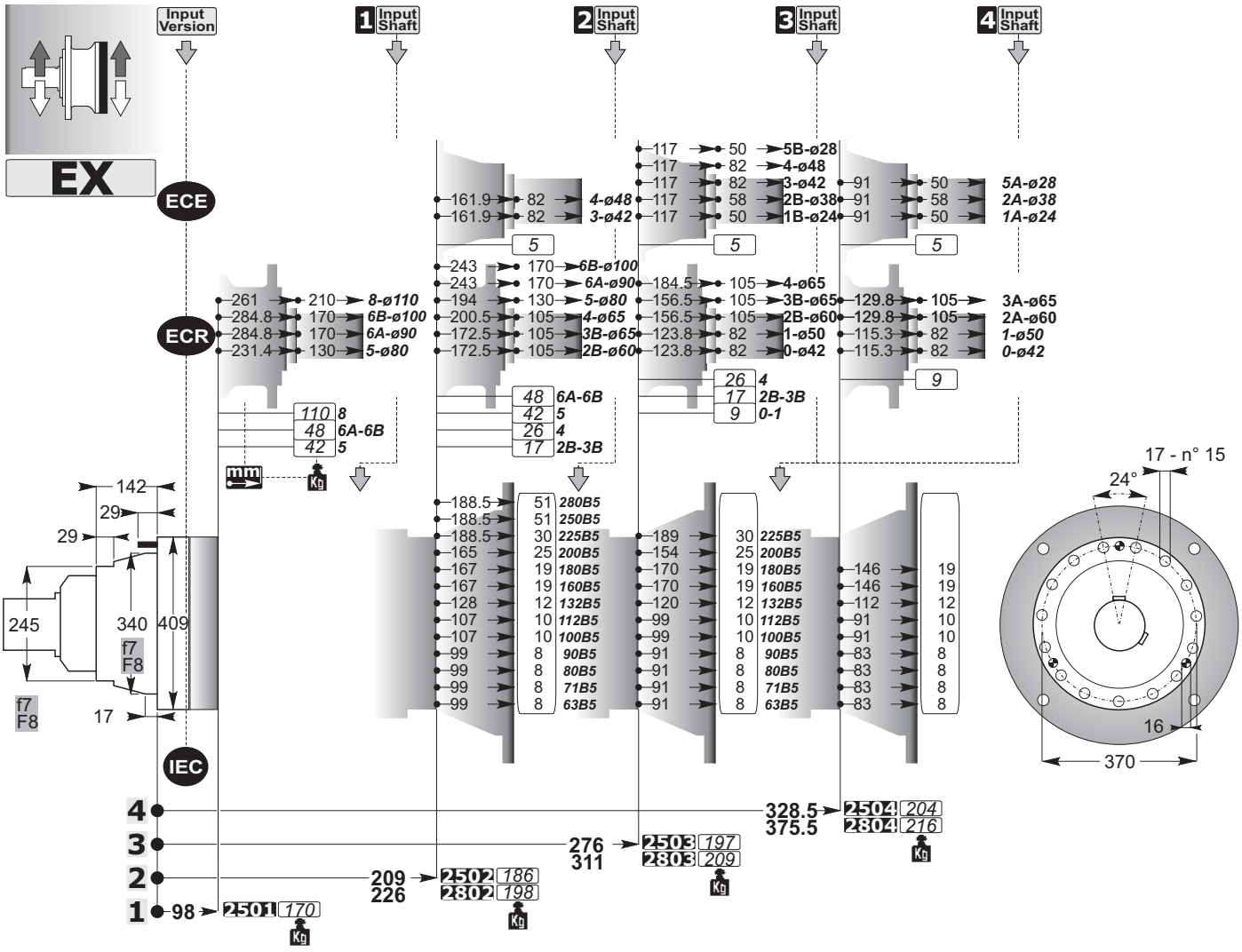

FD
14.0 Kg
110
20
24
A 100x94
DIN5482
H10
105
H7
105 107
H7
12
61
22
15
22-n°12
170 f7
212
254

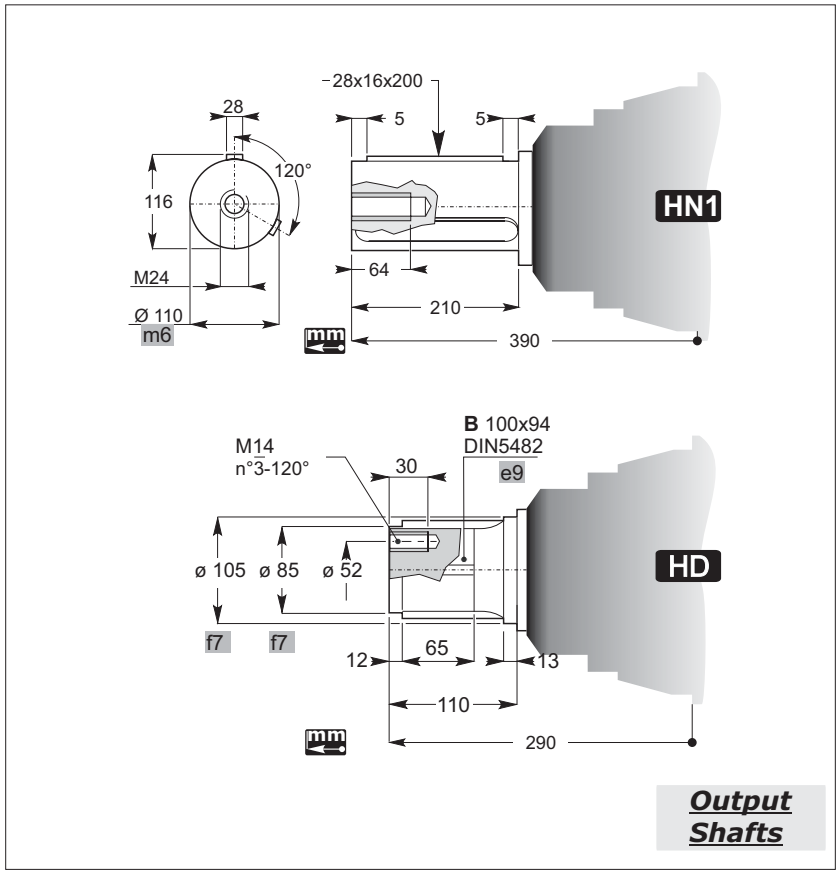

ID
Zt
Zt1
A 100x94
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
ID—
m
Z
X
De

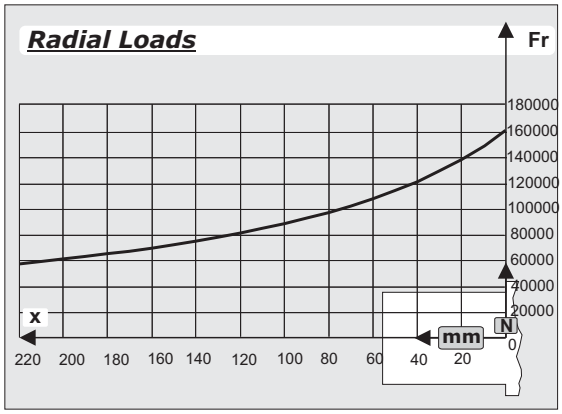

ID
FF
FD
BD
Accessories

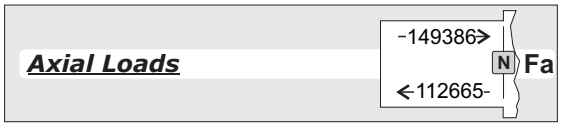

FF
1.3 Kg
21
9.5
M14x40
Rff
M10
85 105 125
H7 f7
16 (n°3-120°)
52

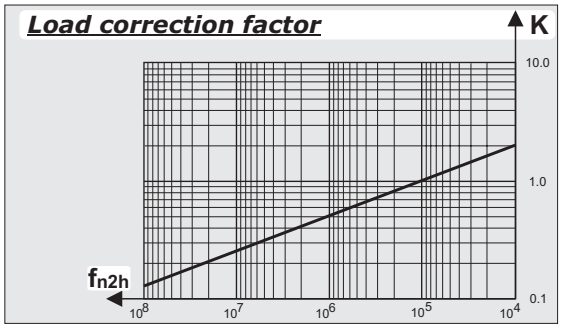

BD
5.6 Kg
110
1x45°
A 100x94
DIN5482
H10
105
H7
105 107
H7
136
h7
12
61
22
15

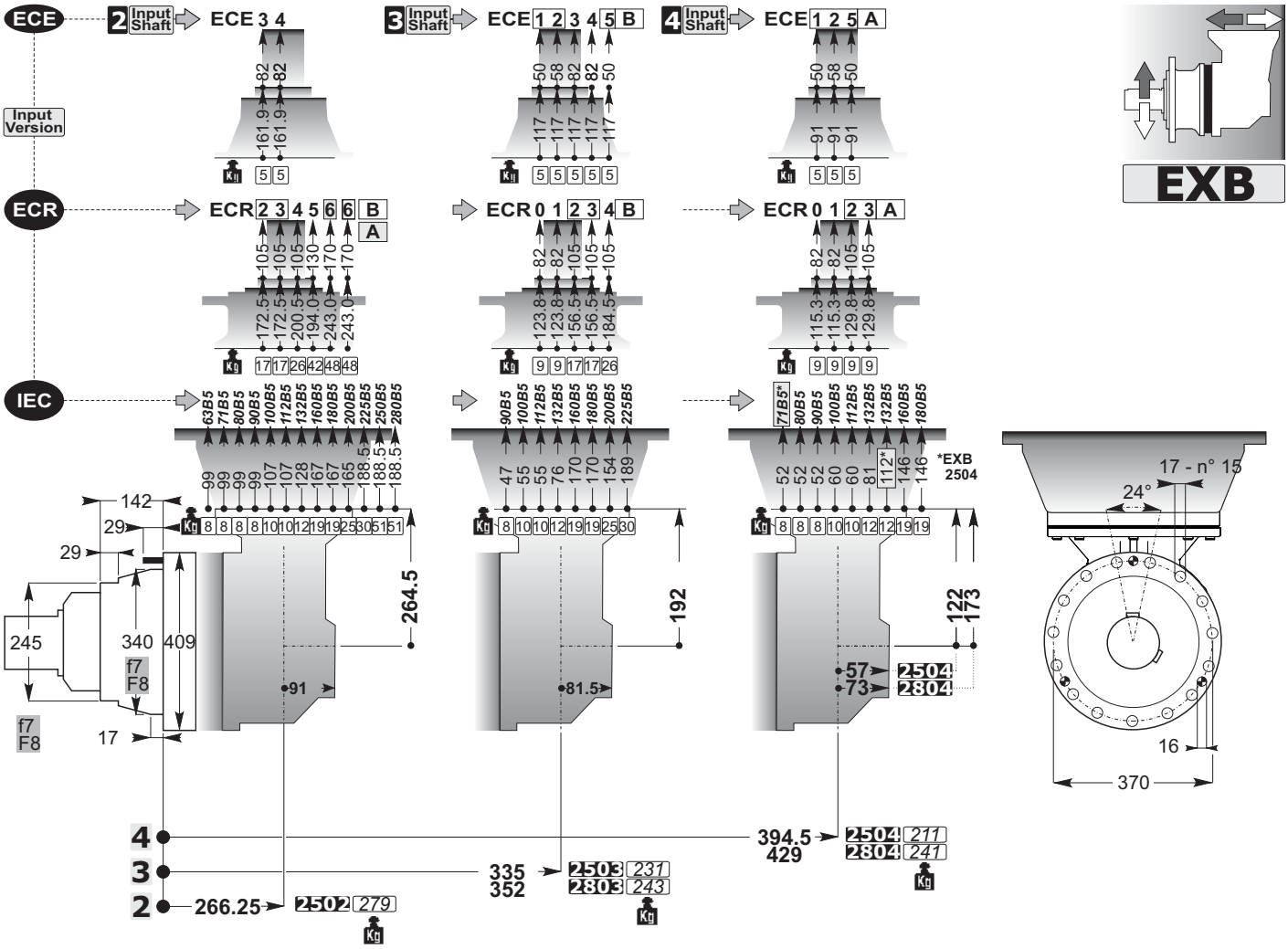

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
mm
Kg
17 - n° 15
24°
16
370
142
29
29
245
340
409
f7
F8
17
4
3
2
1
98
2501 170
209
226
2502 186
2802 198
276
311
2503 197
2803 209
328.5
375.5
2504 204
2804 216

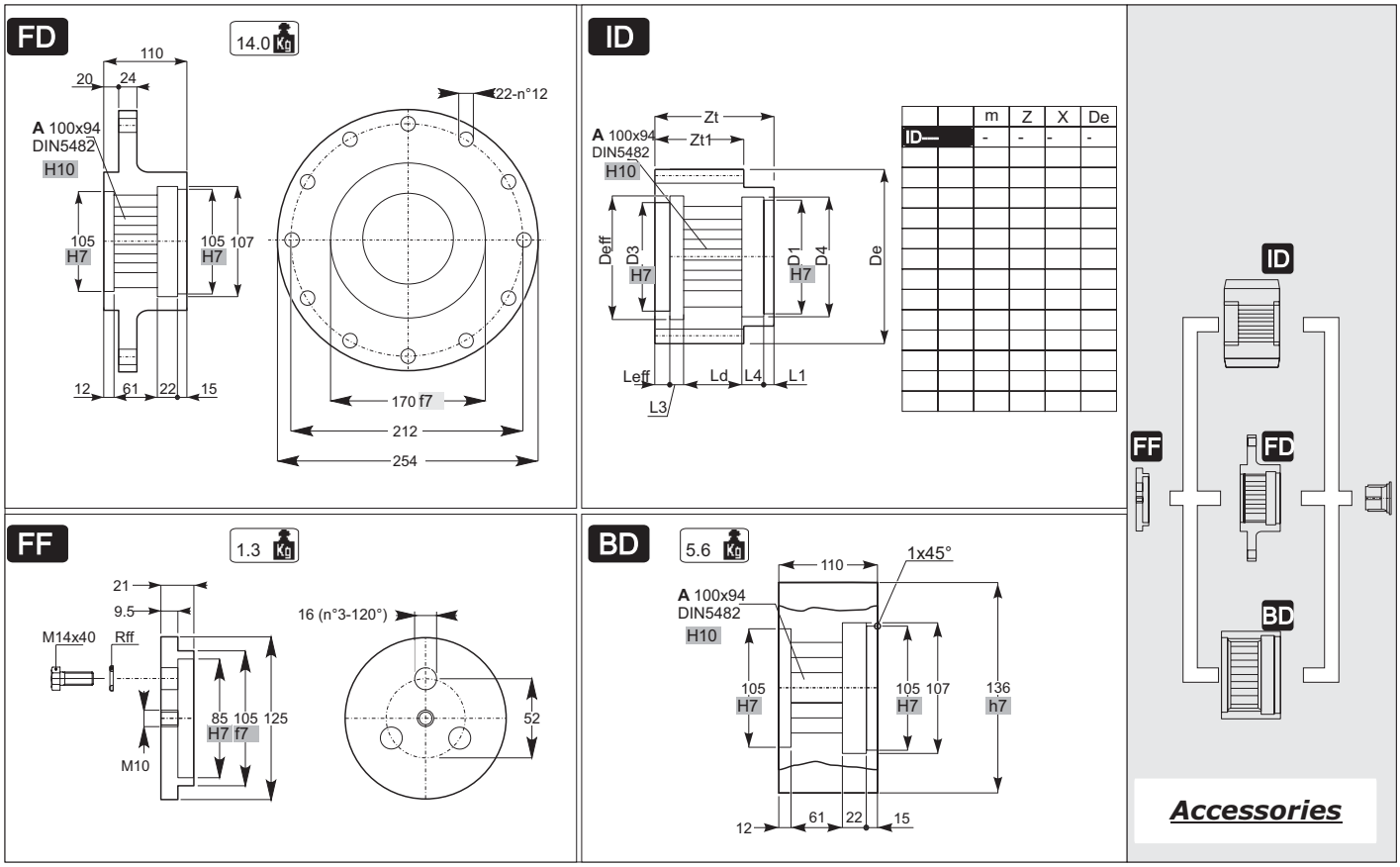

28x16x200
28
5
5
120°
116
M24
Ø 110
m6
64
210
390
HN1
B 100x94
DIN5482
M14
n°3-120°
30
e9
ø 105
ø 85
ø 52
f7
f7
12
65
13
110
290
HD
mm
Output Shafts

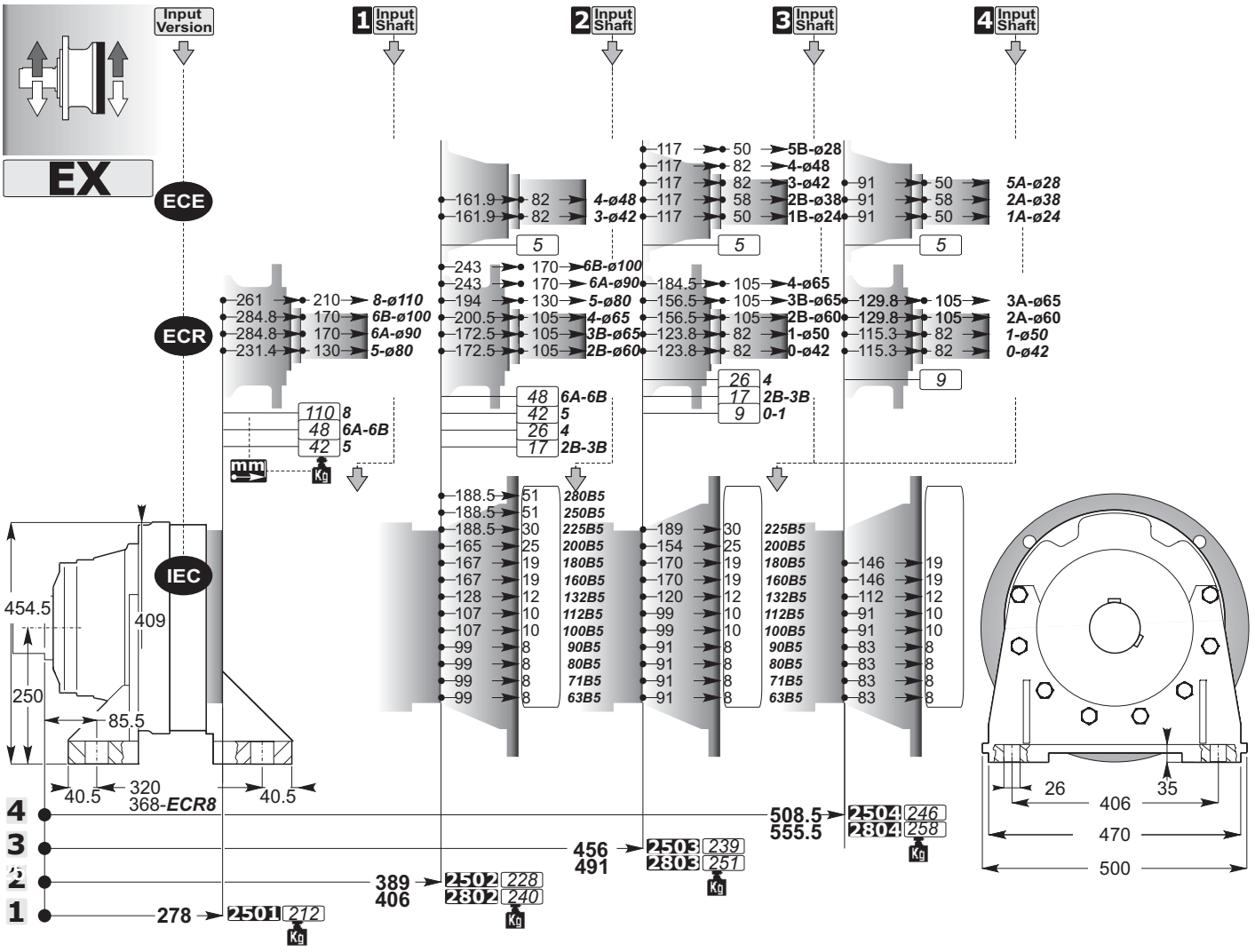

Radial Loads
Fr
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
x
220 200 180 160 140 120 100 80 60 40 20
mm
N

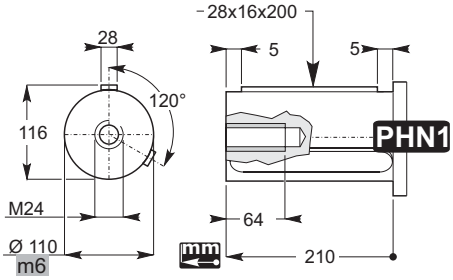

Axial Loads
-149386>
N
Fa
<112665-

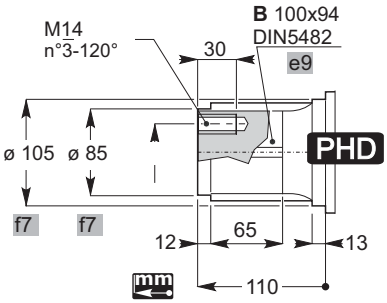

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
Input Version
2 Input Shaft ECE 3 4
3 Input Shaft ECE 1 2 3 4 5 B
4 Input Shaft ECE 1 2 5 A
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
*EXB 2504
142
29
245
340
409
f7 F8
17
264.5
192
122
173
91
81.5
57
73
2504
2804
17 - n° 15
24°
16
370
4
3
2
394.5
429
2504 217
2804 241
335
352
2503 231
2803 243
266.25
2502 279

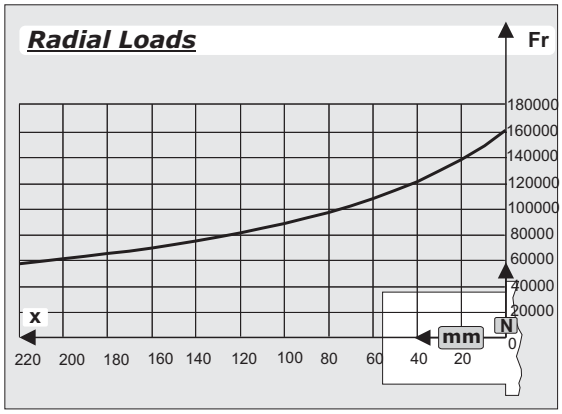

FD
14.0 Kg
110
20
24
A 100x94 DIN5482
H10
105 H7
105 H7
107
12
61
22
15
22-n°12
170 f7
212
254
ID
Zt
Zt1
A 100x94 DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
ID
m
Z
X
De
FF
1.3 Kg
21
9.5
M14x40
Rff
16 (n°3-120°)
85 105 125
H7 f7
M10
52
BD
5.6 Kg
110
1x45°
A 100x94 DIN5482
H10
105 H7
105 H7
107
136 h7
12
61
22
15
FF
FD
BD
Accessories

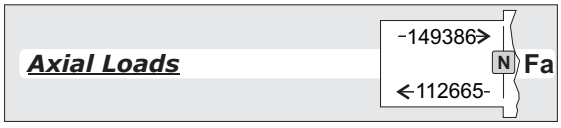


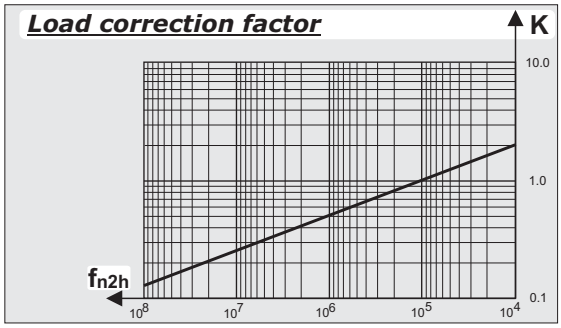


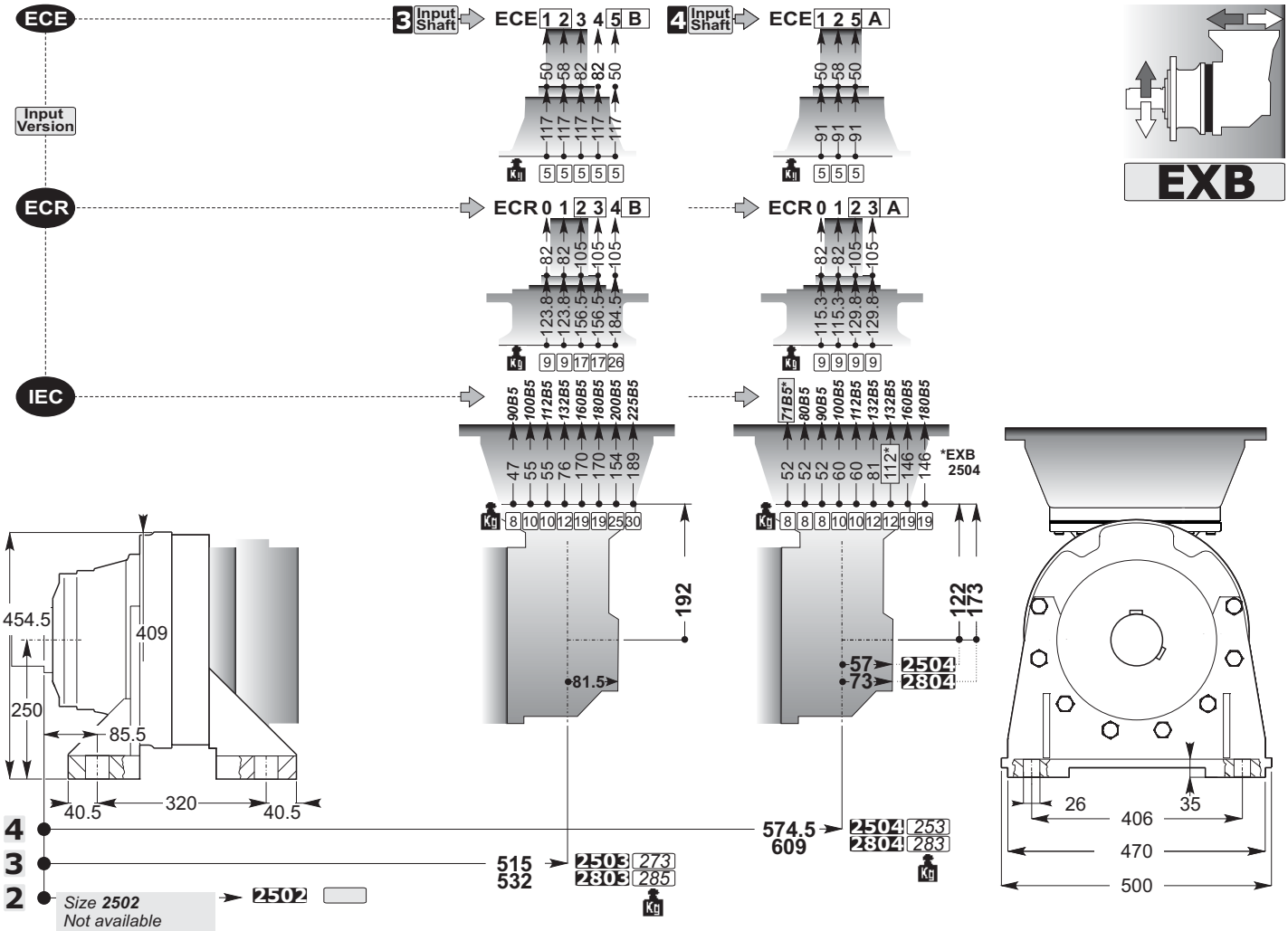


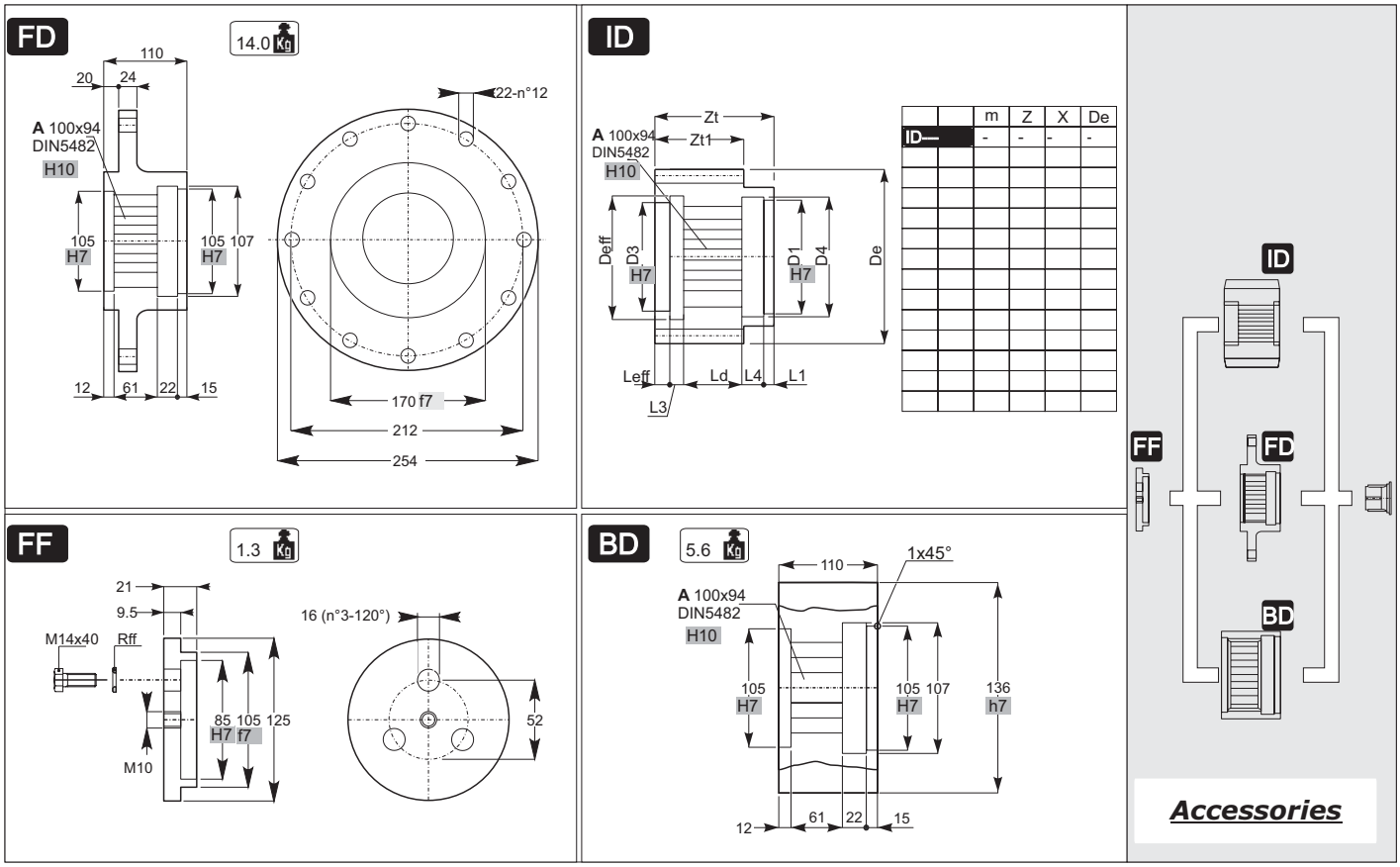
Output Shafts

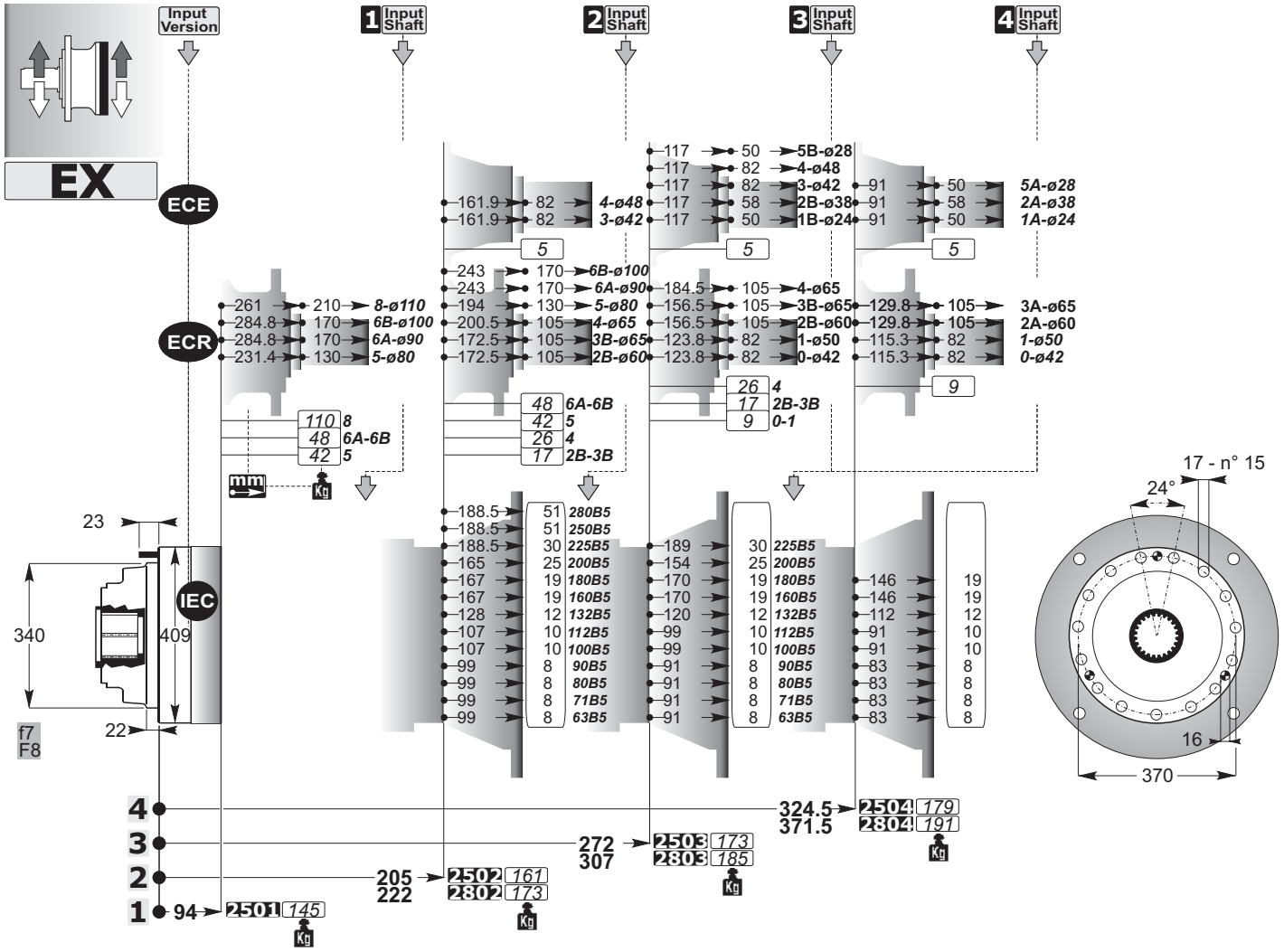


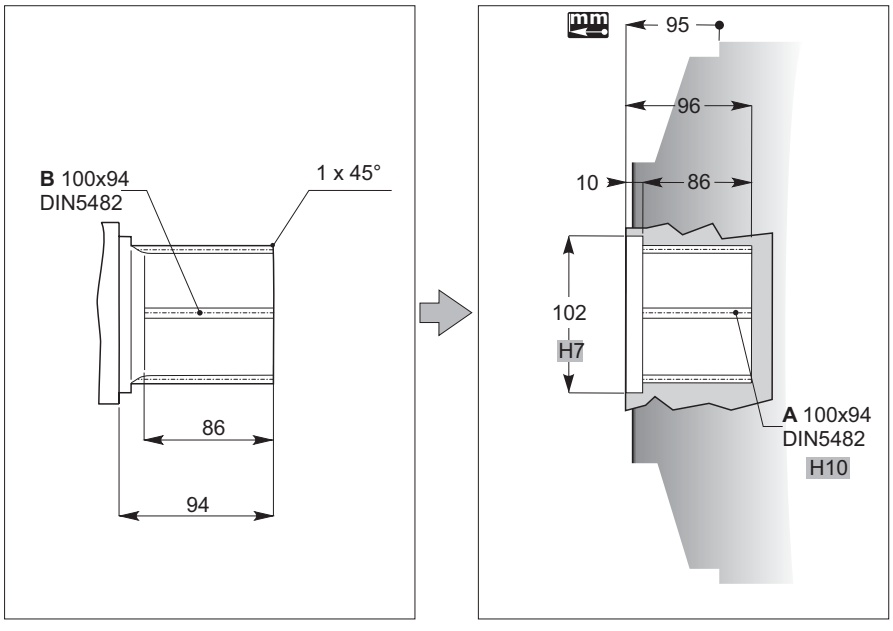




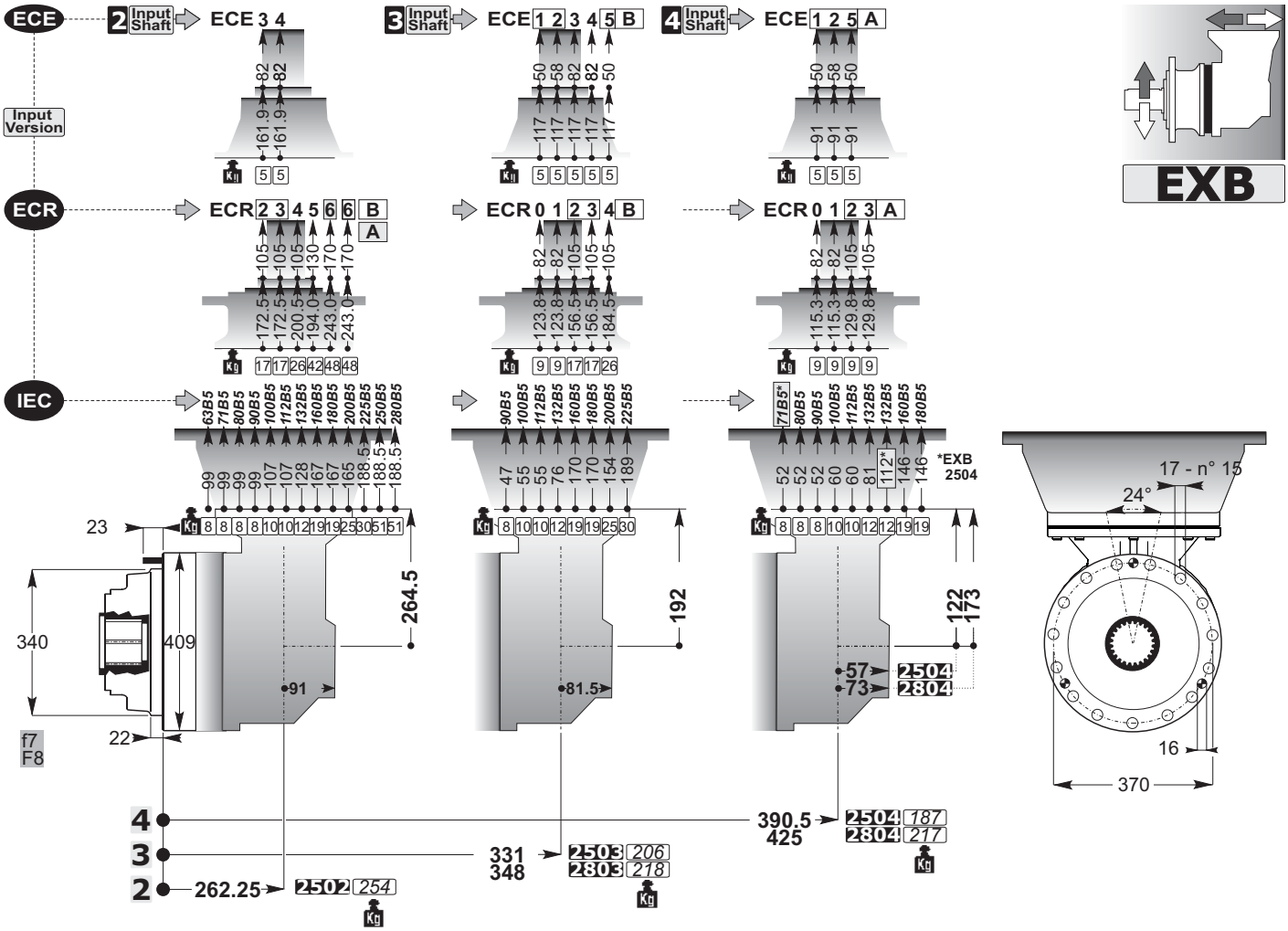

ECE
Input Version
ECR
IEC
3 Input Shaft ECE 1 2 3 4 5 B
4 Input Shaft ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
71B5* 80B5 90B5 100B5 112B5 132B5 132B5 160B5 180B5
*EXB 2504
EXB
454.5
409
250
85.5
40.5
320
40.5
192
81.5
122
173
57
73
2504
2804
26
406
35
470
500
574.5
609
2504 253
2804 283
515
532
2503 273
2803 285
Size 2502
Not available
PHD-PHN.-Version
2502

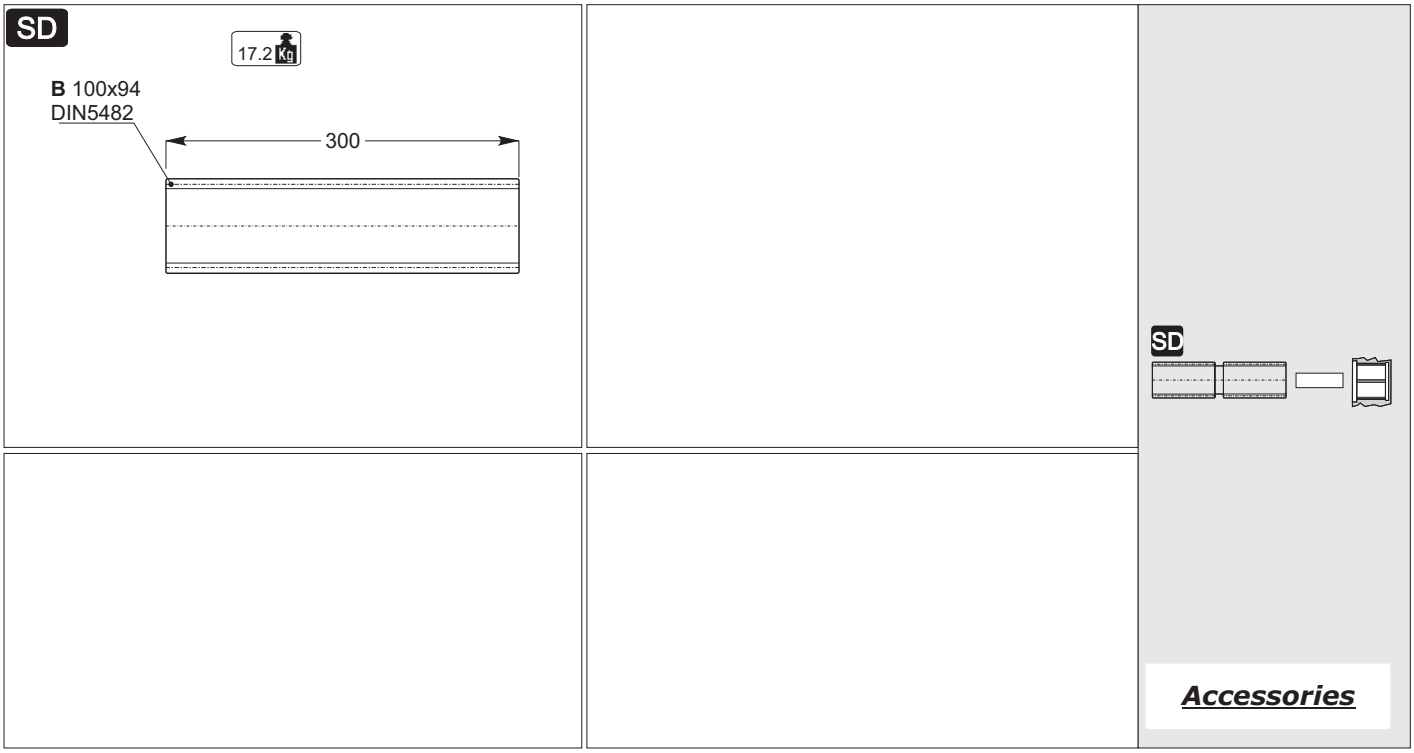

FD
14.0 Kg
110
20
24
A 100x94
DIN5482
H10
105
H7
105 107
H7
12
61
22
15
22-n°12
170 f7
212
254
ID
Zt
Zt1
A 100x94
DIN5482
H10
Deff
D3
H7
D1
H7
D4
De
Leff
Ld
L4
L1
L3
ID—
m
Z
X
De
FF
1.3 Kg
21
9.5
M14x40
Rff
16 (n°3-120°)
85 105 125
H7 f7
M10
52
BD
5.6 Kg
110
1x45°
A 100x94
DIN5482
H10
105
H7
105 107
H7
136
h7
12
61
22
15
ID
FF
FD
BD
Accessories

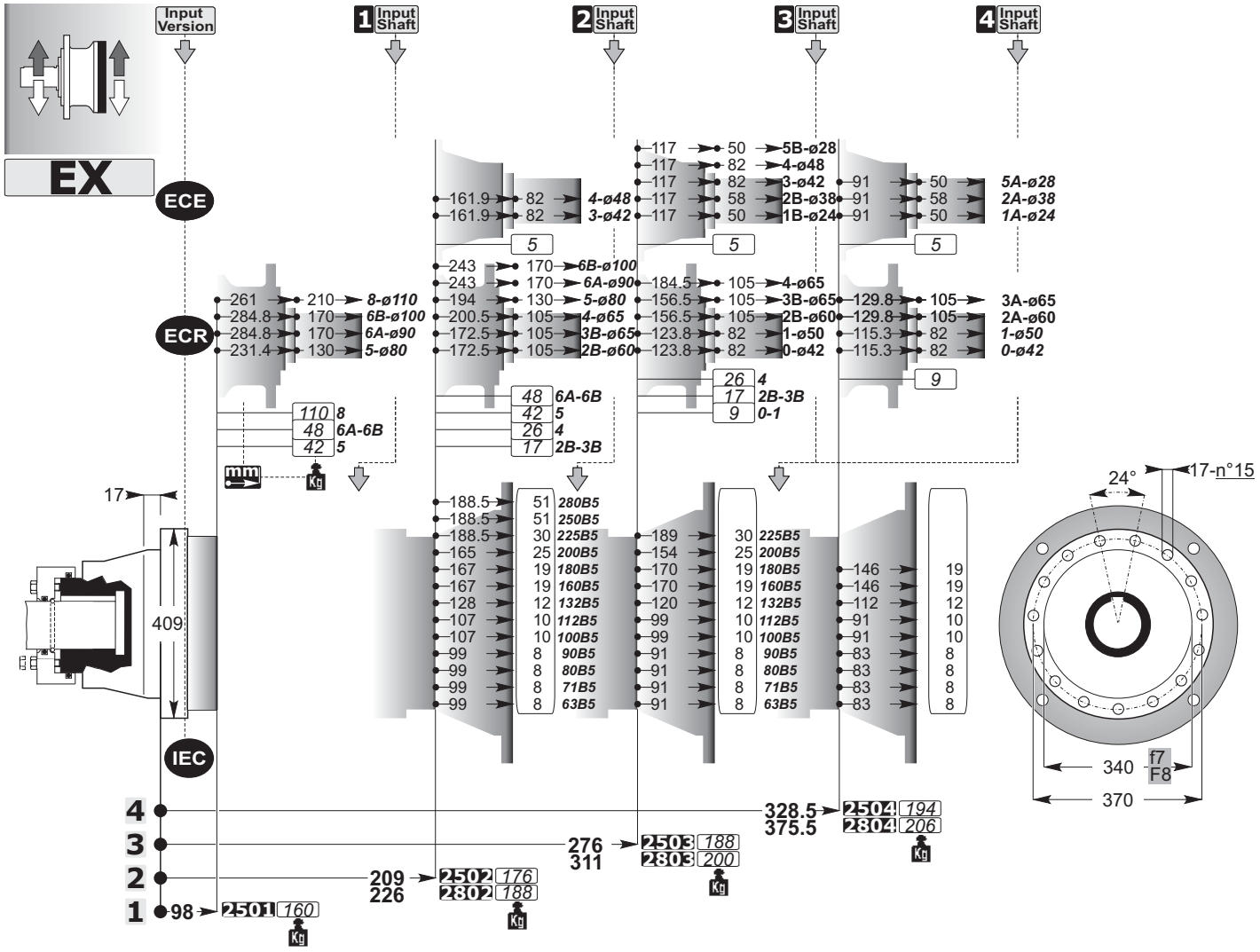


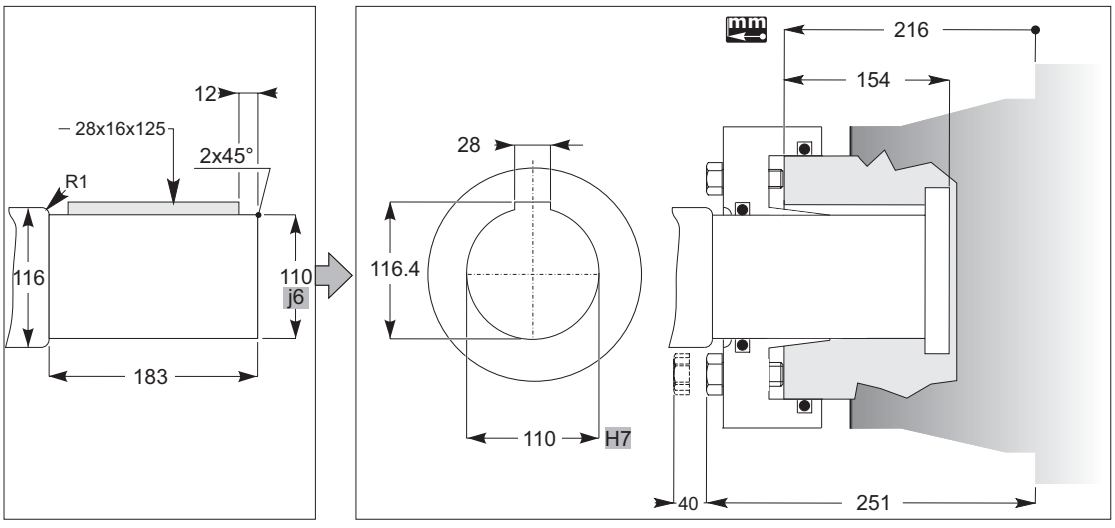


Output Shafts

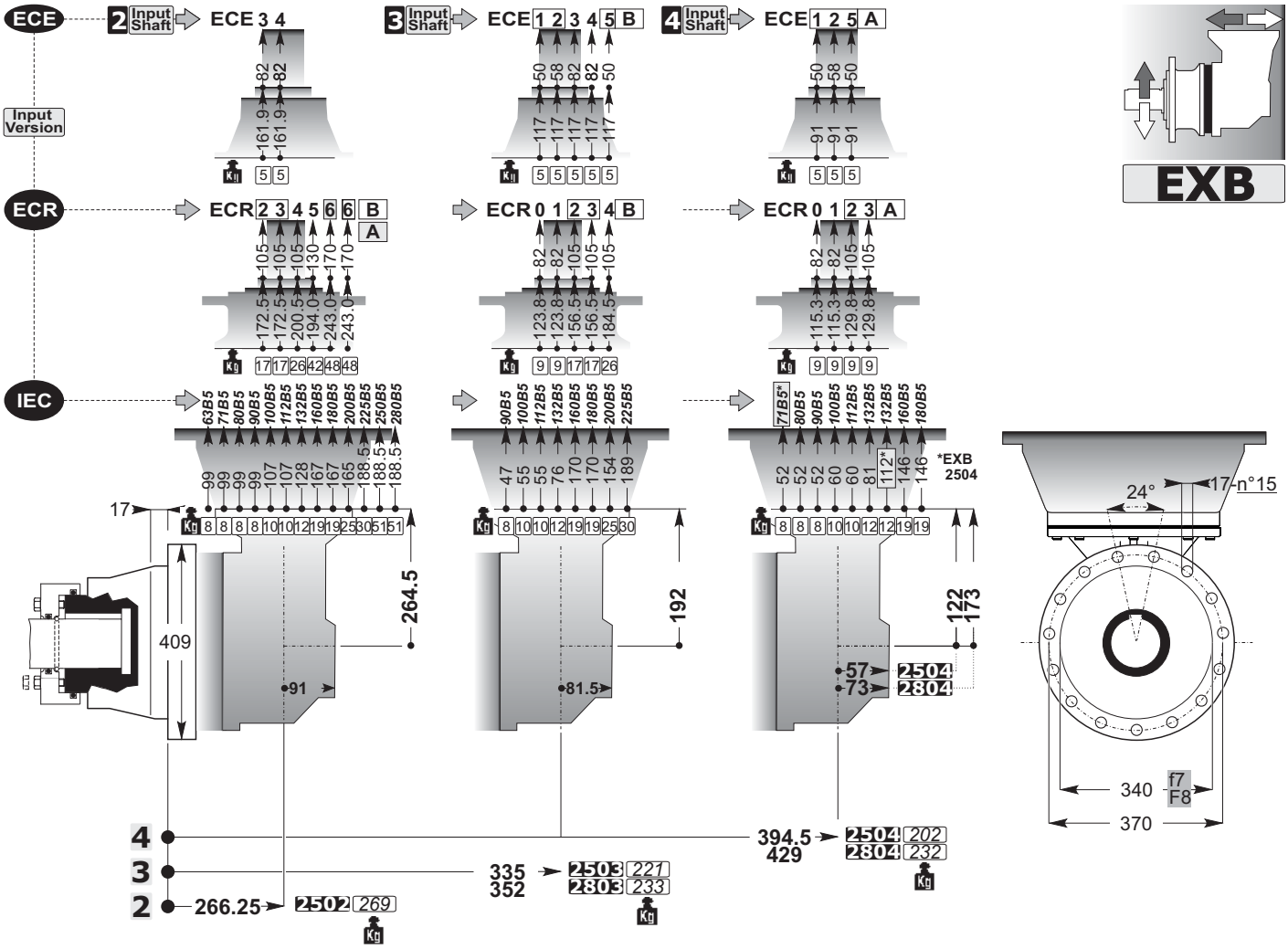

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
*EXB 2504
17 - n° 15
24°
16
370
23
340
409
264.5
192
122
173
91
81.5
57
73
2504
2804
22
f7
F8
4
3
2
390.5
425
2504 187
2804 217
331
348
2503 206
2803 218
262.25
2502 254

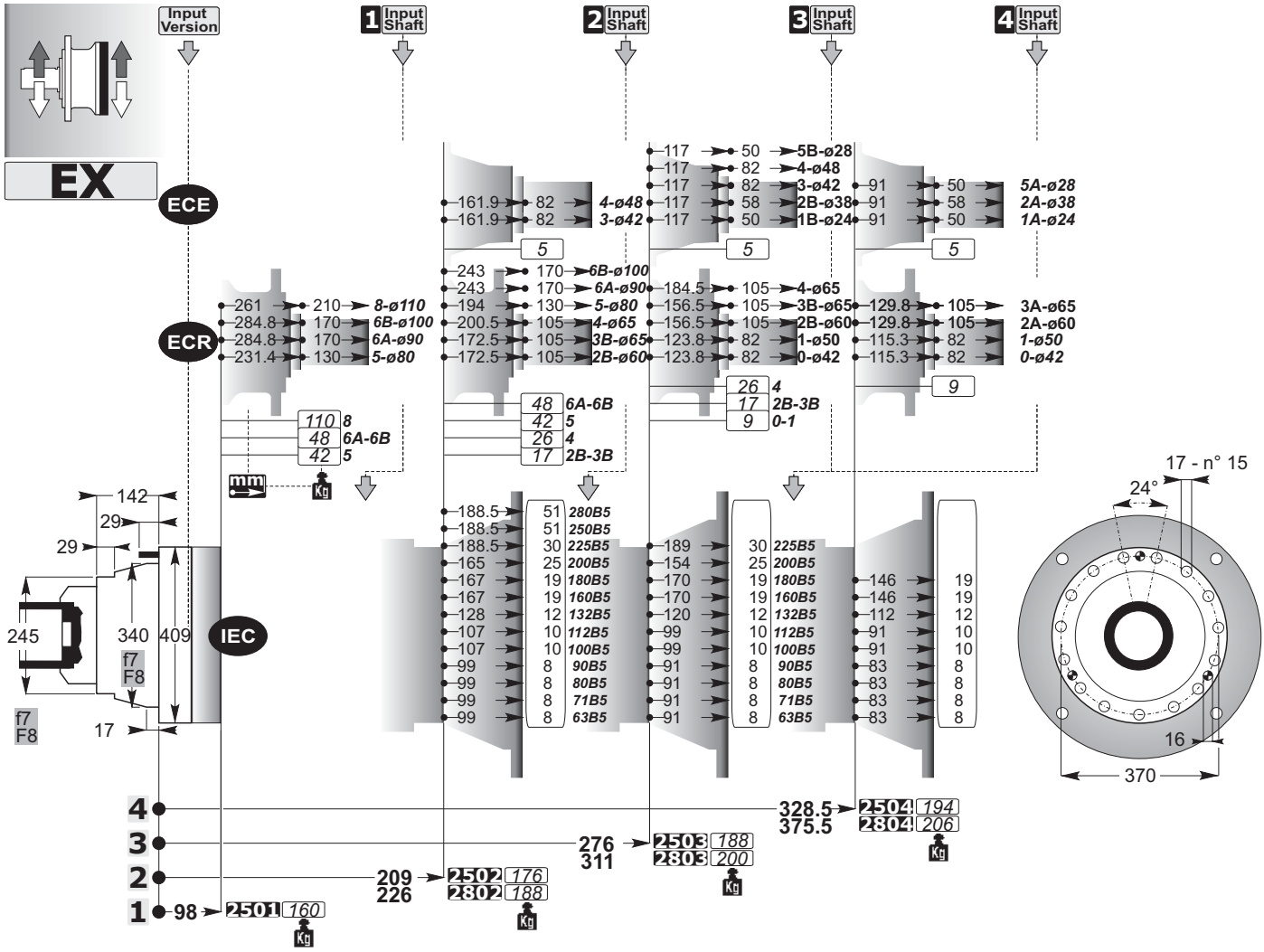

SD
17.2 Kg
B 100x94
DIN5482
300
SD
Accessories

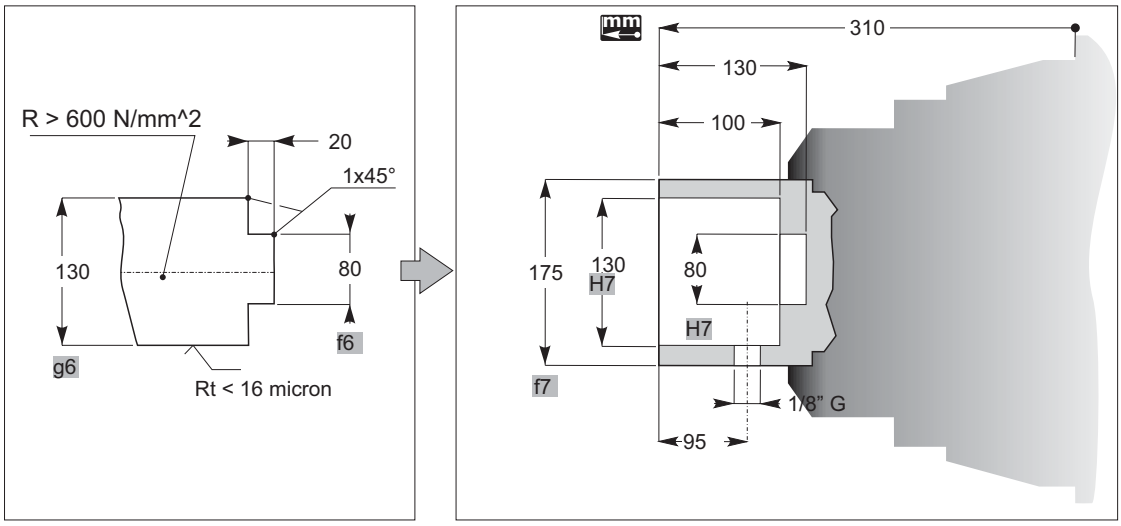




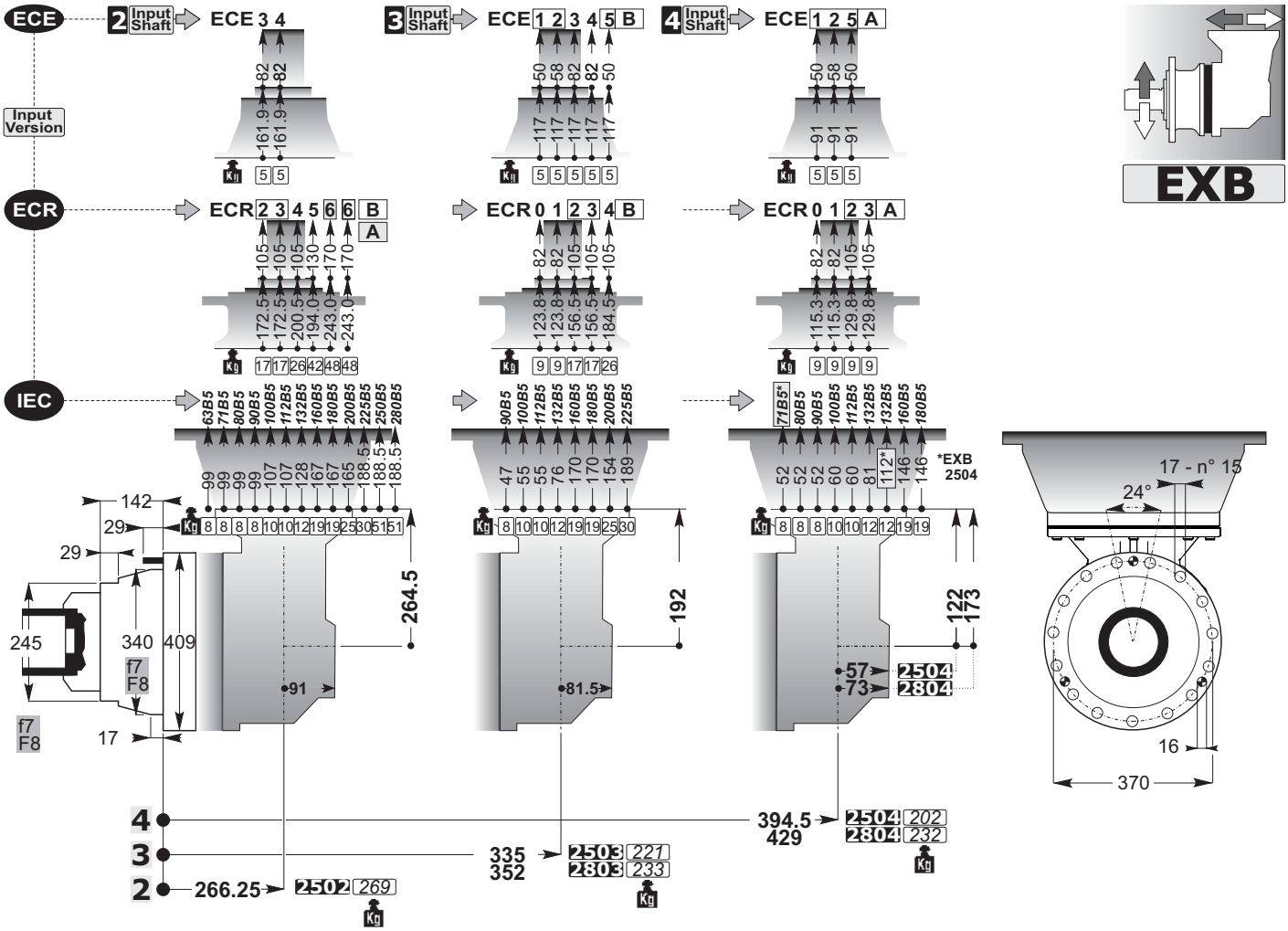
Output Shafts

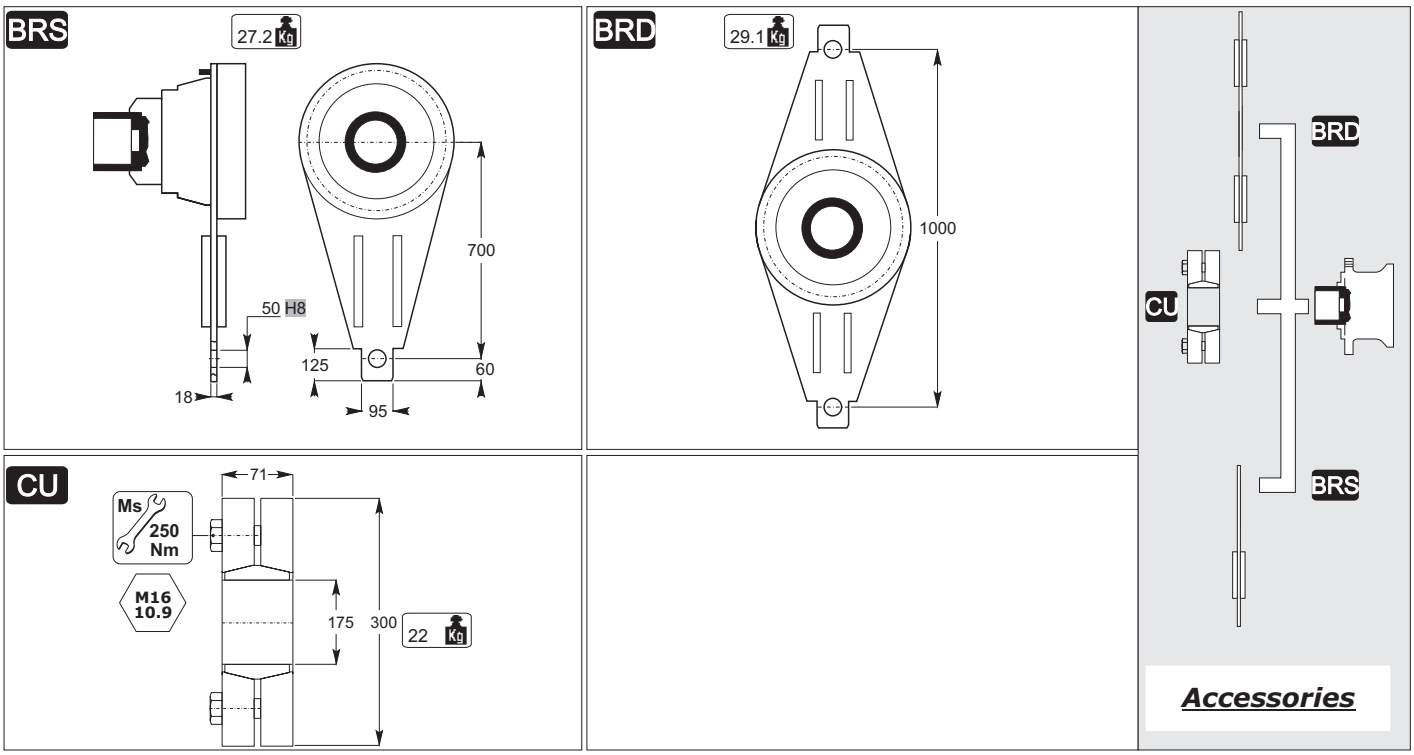

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
*EXB 2504
17
409
264.5
192
122
173
91
81.5
57
73
2504
2804
24°
17-n°15
340 f7 F8
370
4
3
2
394.5
429
2504 202
2804 232
335
352
2503 221
2803 233
266.25
2502 269

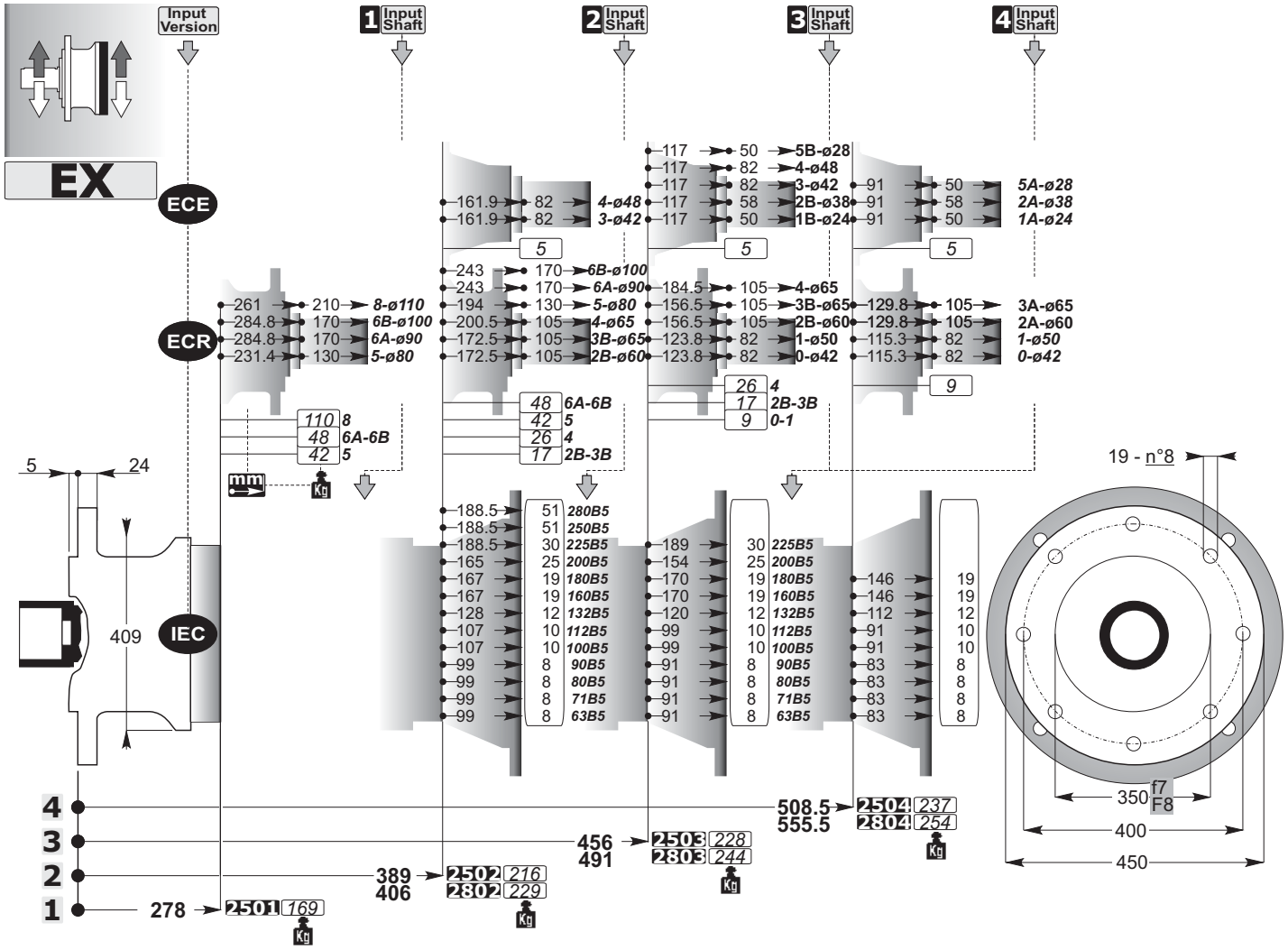


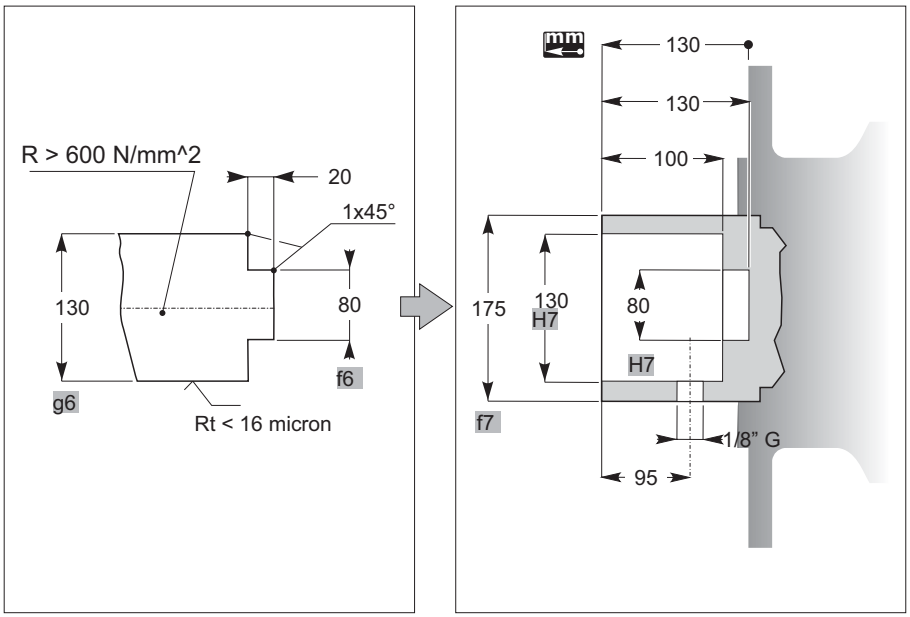


Output Shafts

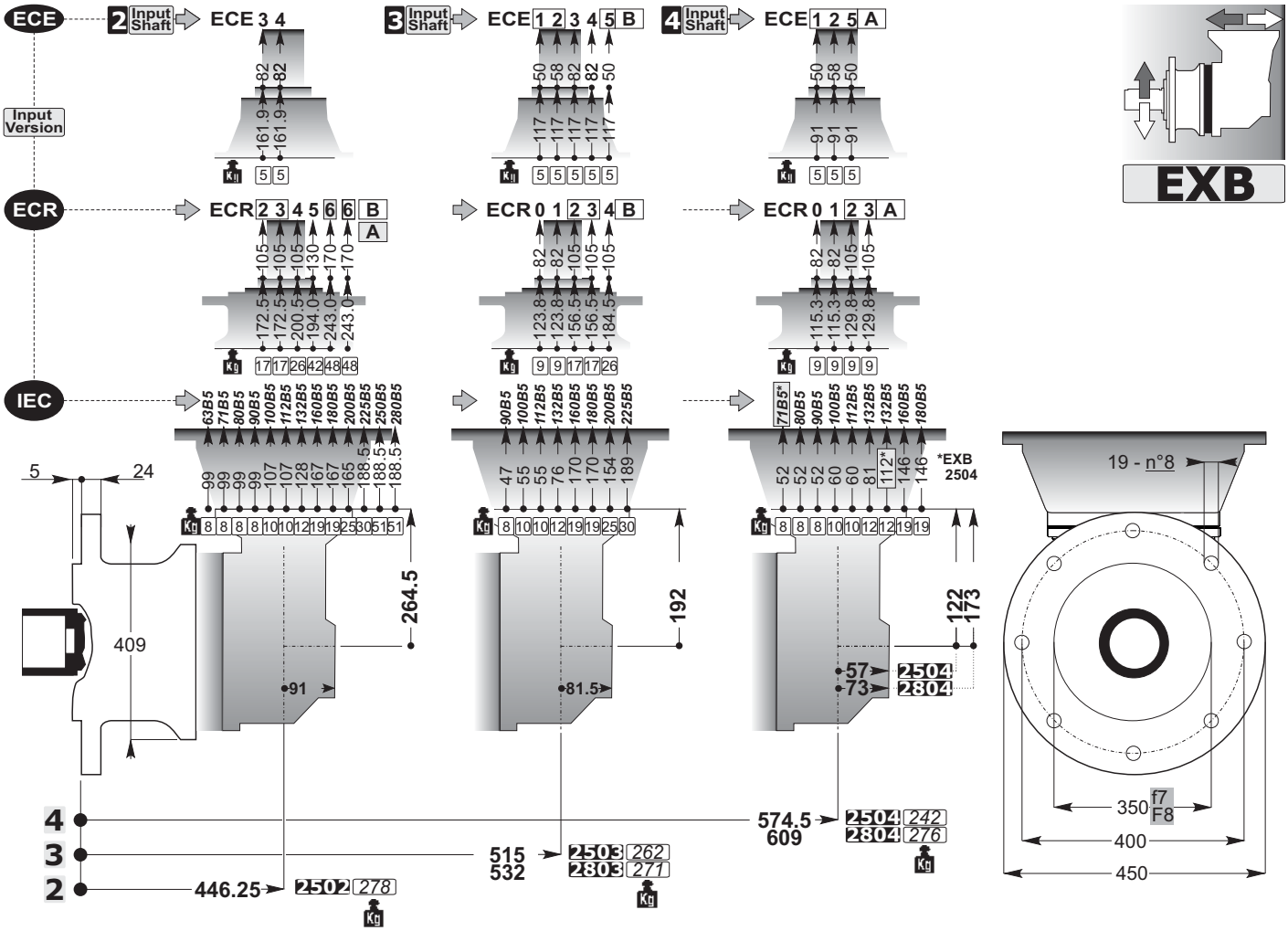

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
*EXB 2504
17 - n° 15
24°
16
370
142
29
245
340
409
f7 F8
17
264.5
192
122
173
91
81.5
57
73
2504
2804
4
3
2
394.5
429
2504 202
2804 232
335
352
2503 221
2803 233
266.25
2502 269


BRS
27.2 Kg
700
50 H8
125
60
18
95
BRD
29.1 Kg
1000
CU
Ms
250 Nm
M16 10.9
71
175
300
22 Kg
BRD
CU
BRS
Accessories



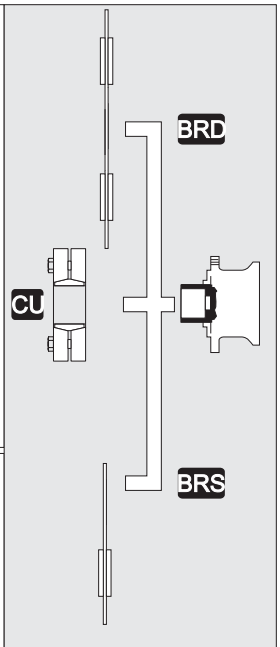


Output Shafts

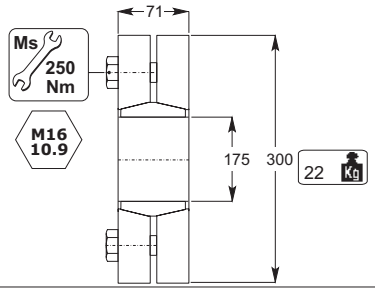


BRS

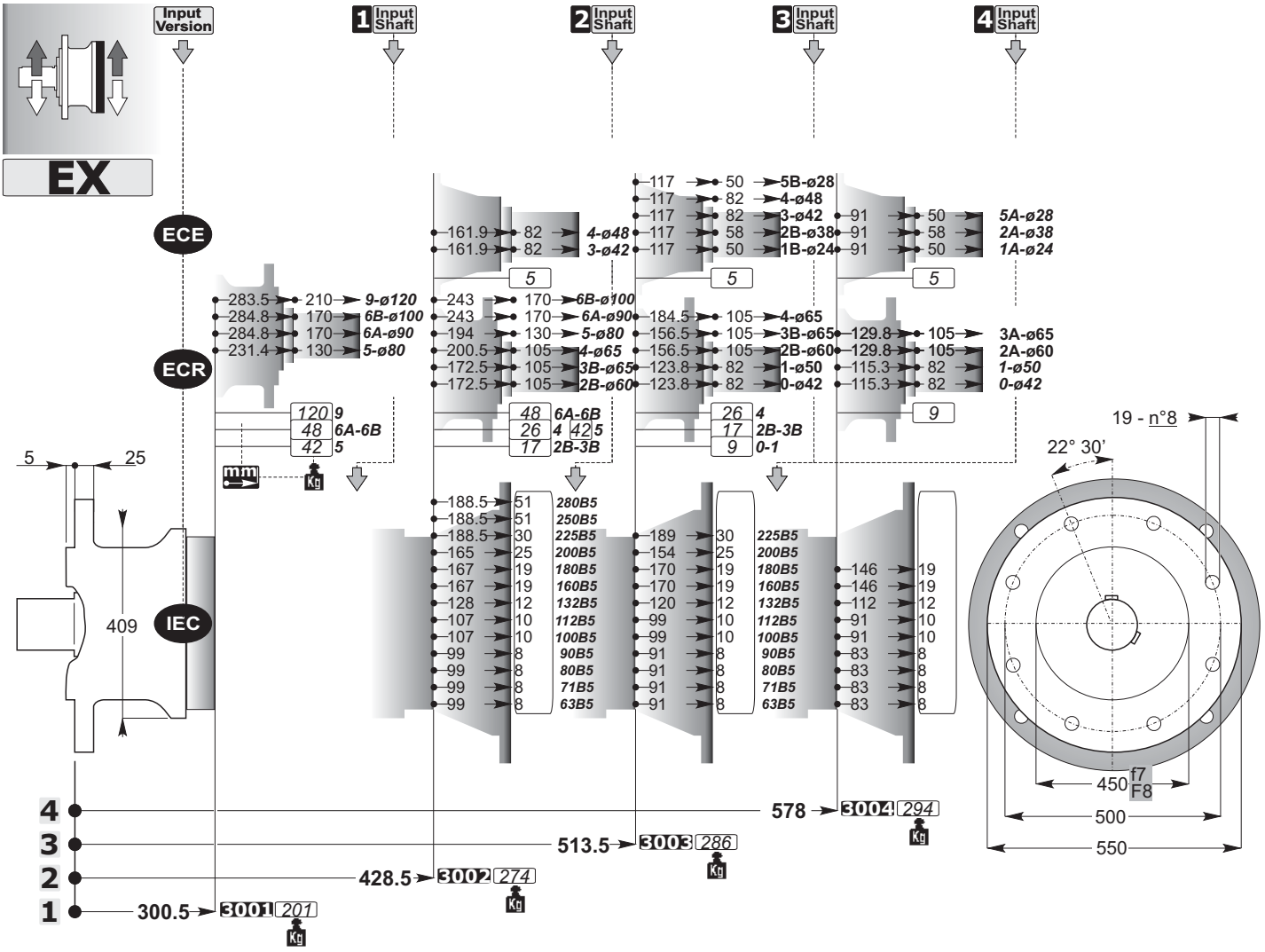
BRD

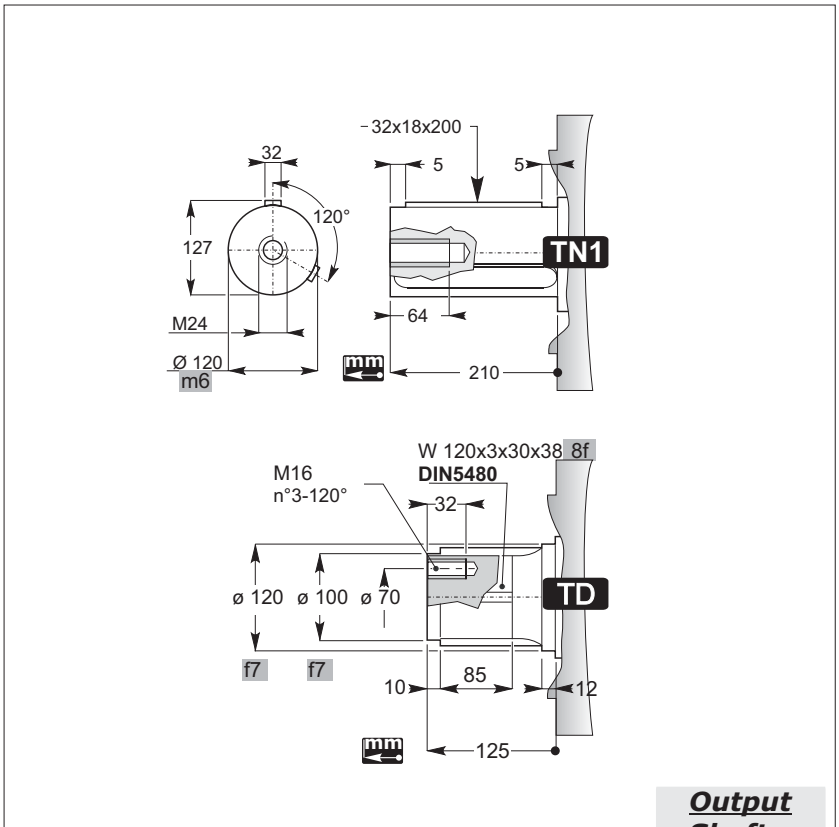


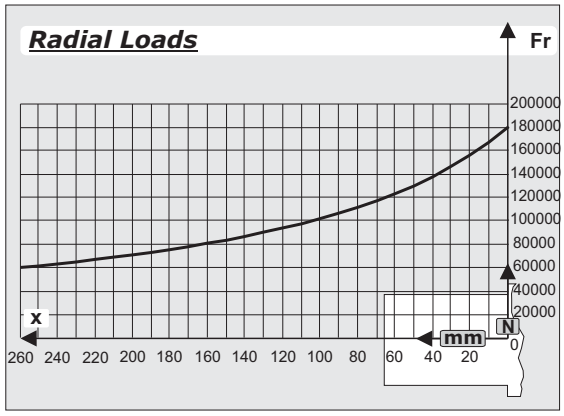
CU

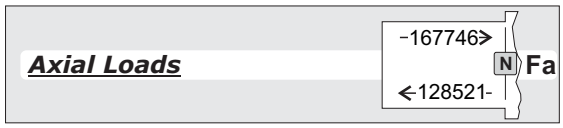


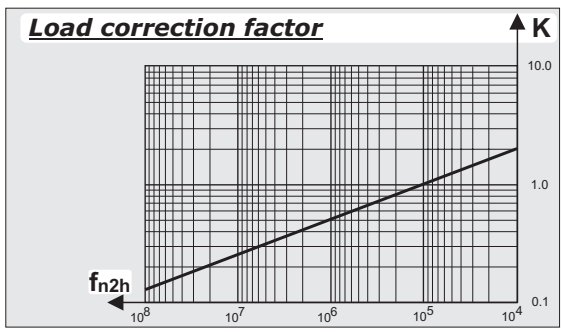
Accessories

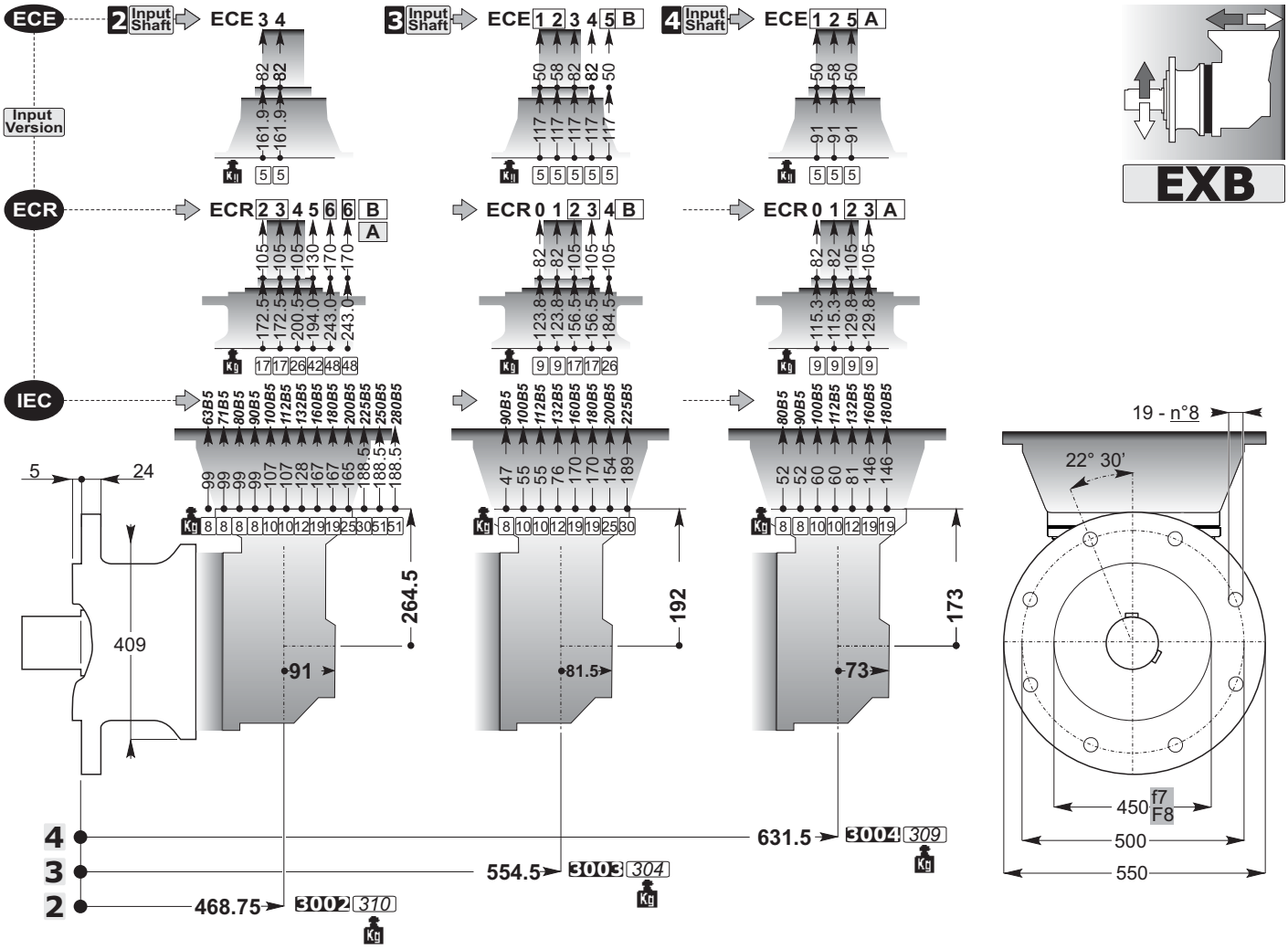

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
409
5
25
19 - n°8
22° 30'
450 f7 F8
500
550
4
3
2
1
578 3004 294 Kg
513.5 3003 286 Kg
428.5 3002 274 Kg
300.5 3001 201 Kg

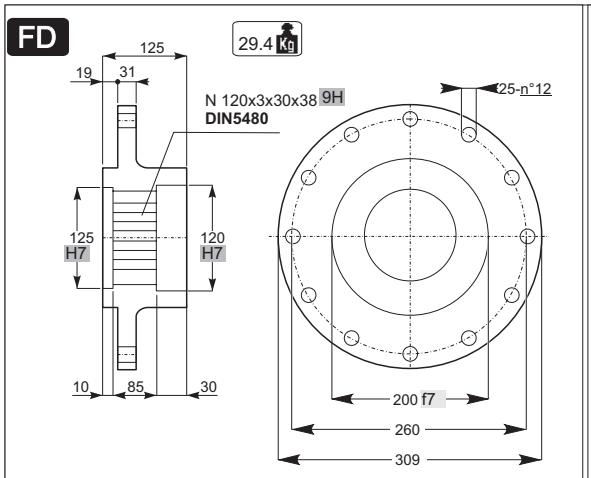

32
120°
127
M24
Ø 120
m6
32x18x200
5
5
TN1
64
210
mm
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
32
ø 120
ø 100
ø 70
f7
f7
TD
10
85
12
125
mm
Output Shafts

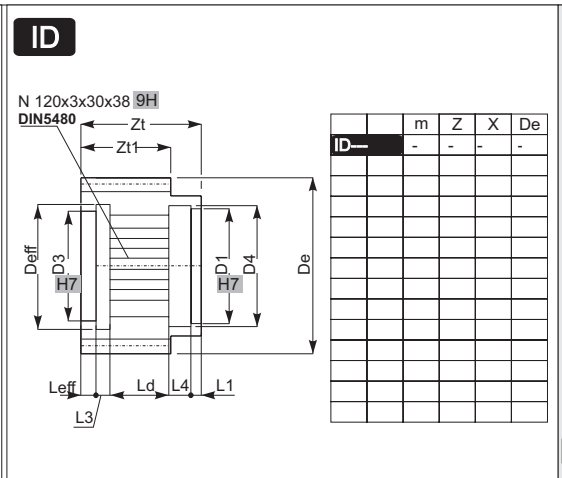

Radial Loads
Fr
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
N
x
260 240 220 200 180 160 140 120 100 80 60 40 20
mm

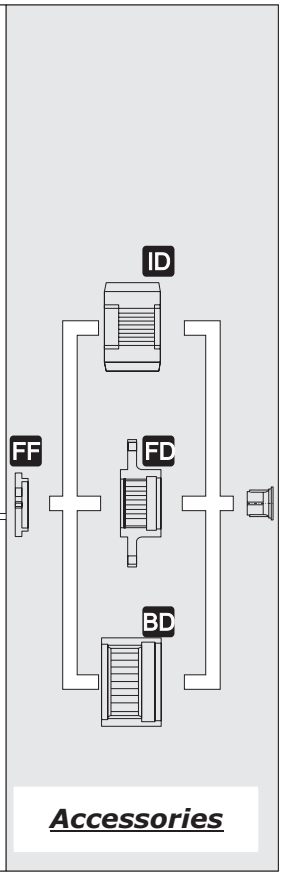

Axial Loads
167746
N
Fa
128521

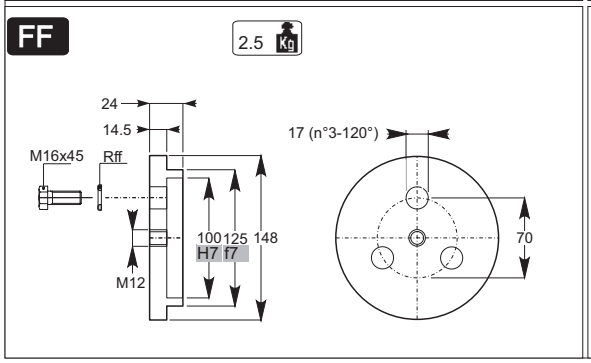

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

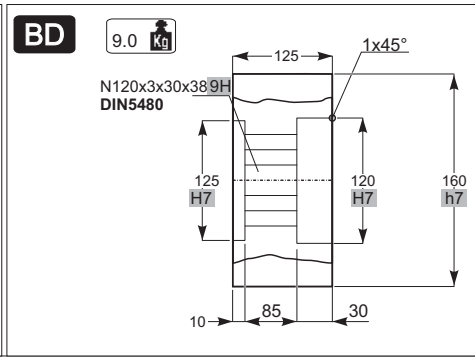

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
5
24
409
264.5
192
173
91
81.5
73
19 - n°8
22° 30'
450 f7 F8
500
550
4
3
2
631.5
3004 309
554.5
3003 304
468.75
3002 310


FD
29.4 Kg
125
19
31
N 120x3x30x38 9H
DIN5480
25-n°12
125 H7
120 H7
10
85
30
200 f7
260
309


ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—

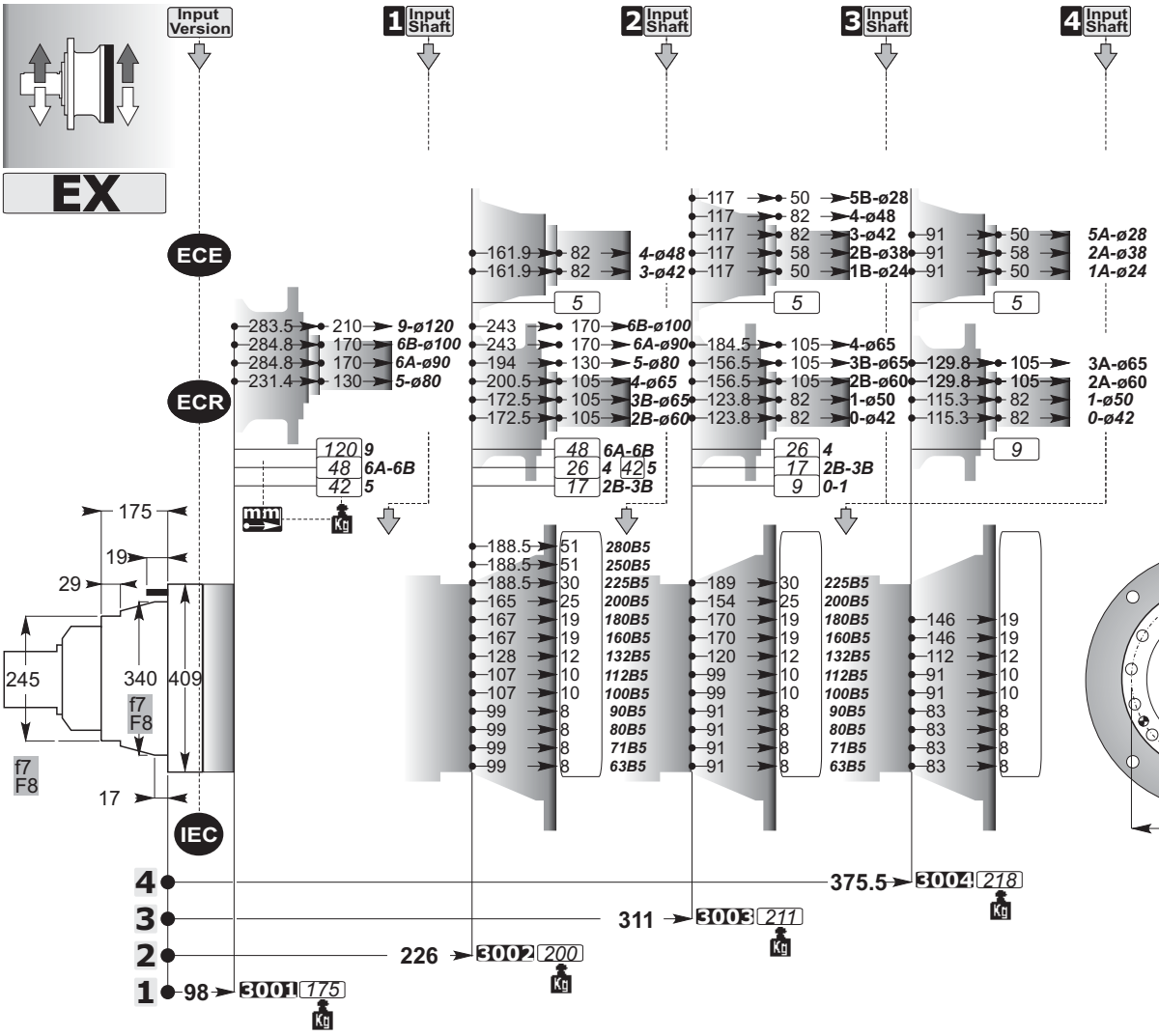

ID
FF
FD
BD
Accessories

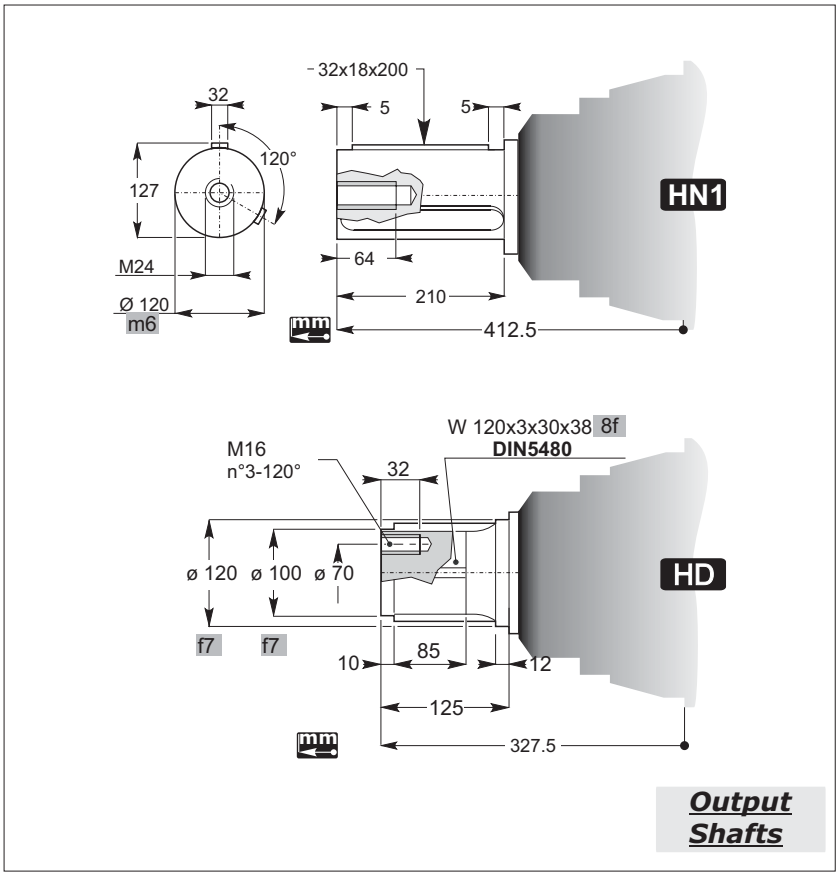

FF
2.5 Kg
24
14.5
M16x45
Rff
17 (n°3-120°)
100 125 148
H7 f7
M12
70

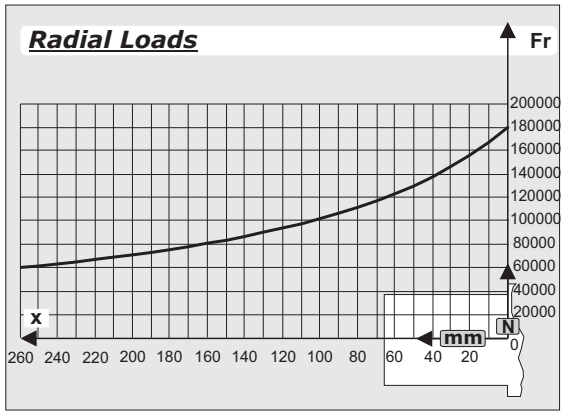

BD
9.0 Kg
125
1x45°
N120x3x30x38 9H
DIN5480
125 H7
120 H7
160 h7
10
85
30

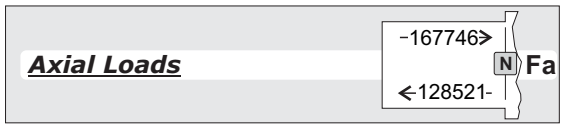
mm

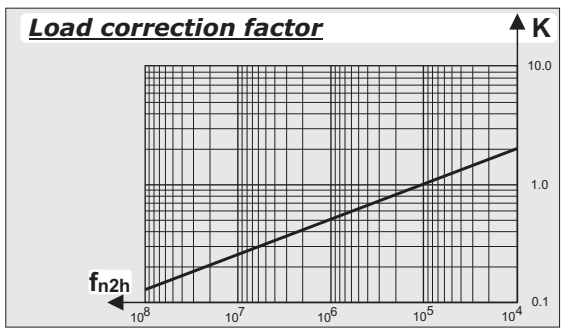
C

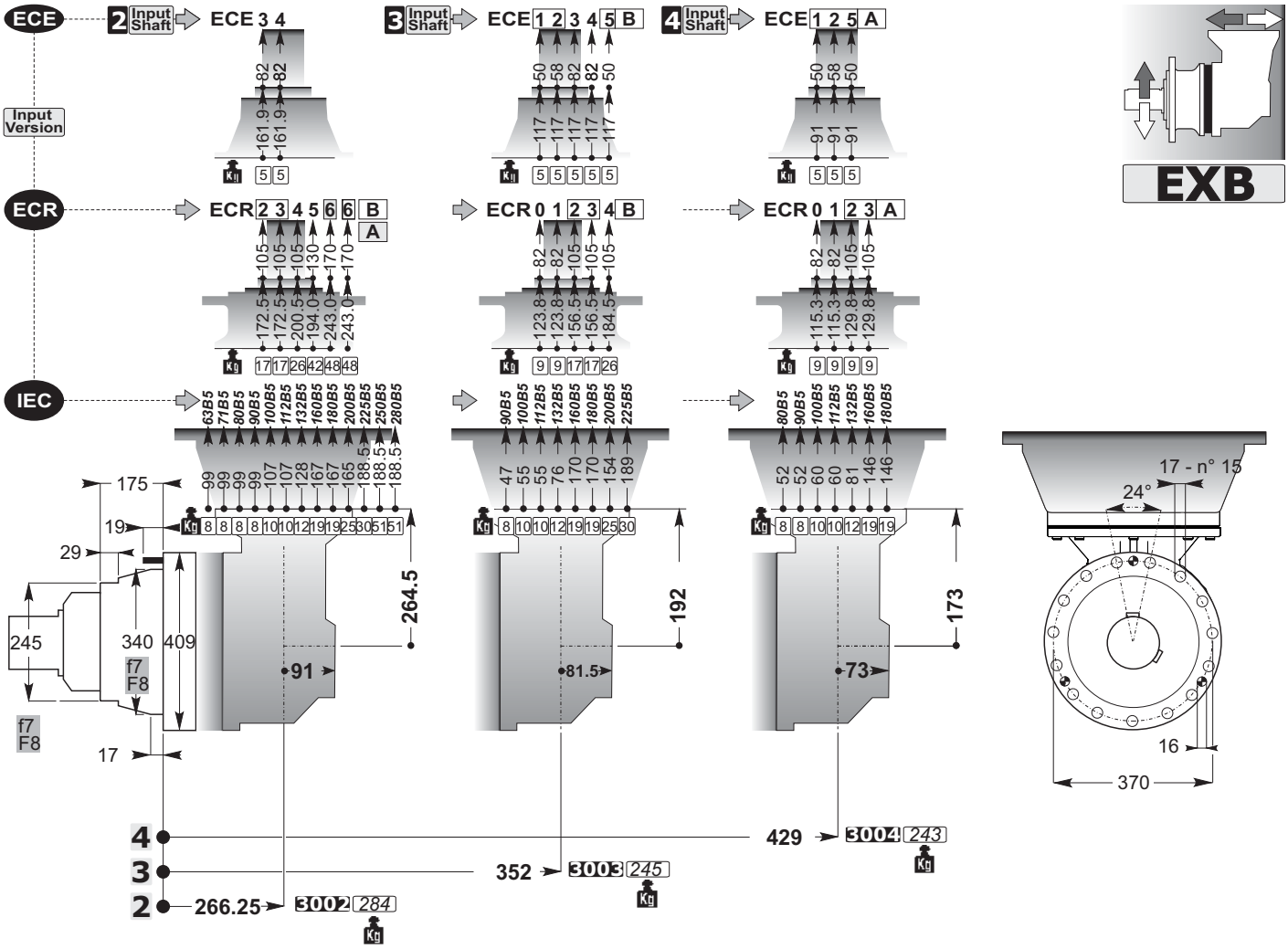

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
175
19
29
245
340
409
f7
F8
17
mm
Kg
4
3
2
1
98 3001 175
226 3002 200
311 3003 211
375.5 3004 218
5
9
4
5A-ø28
2A-ø38
1A-ø24
3A-ø65
2A-ø60
1-ø50
0-ø42
6A-6B
4
2B-3B
0-1
280B5
250B5
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
17 - n° 15
24°
16
370

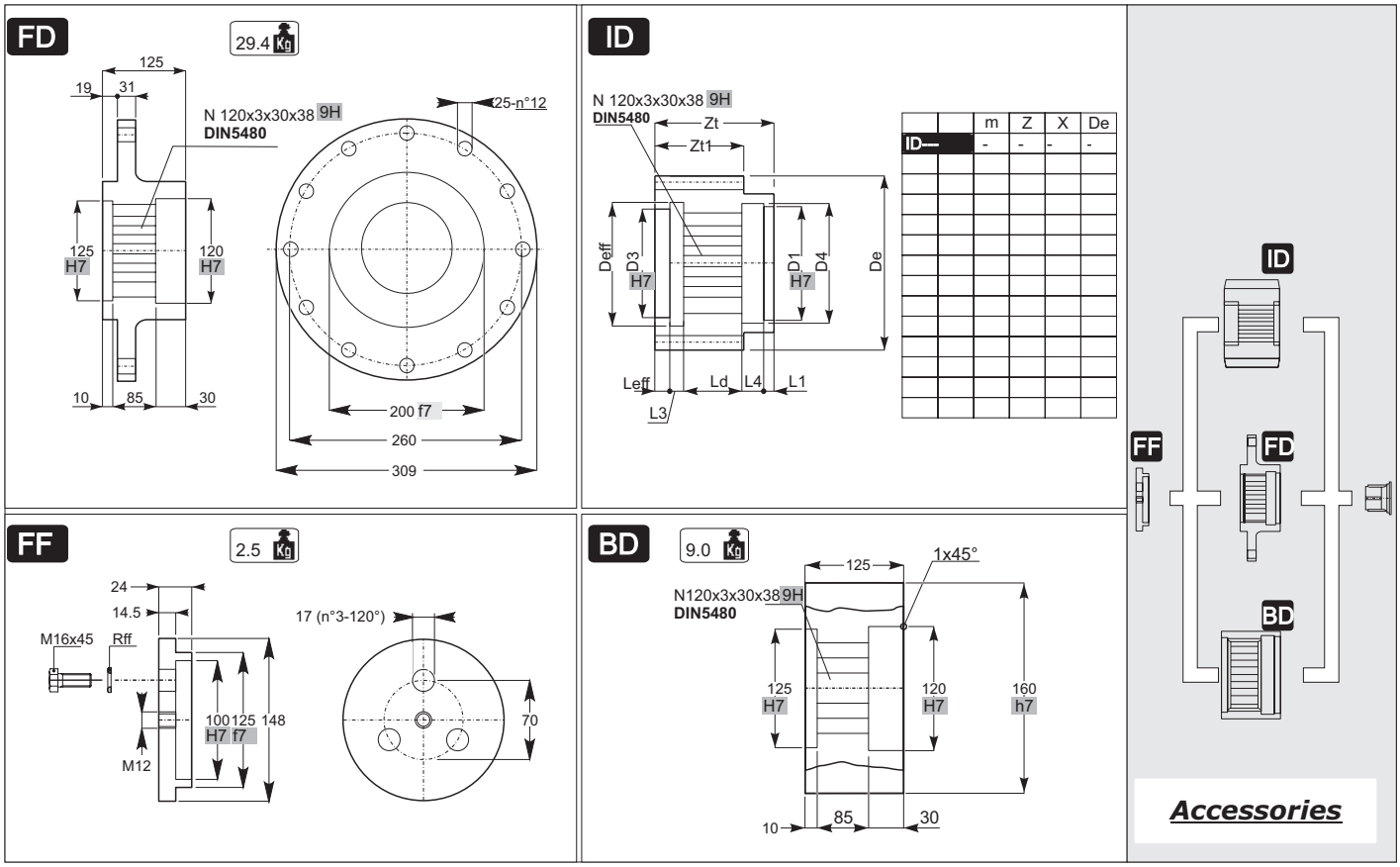

32x18x200
32
5
5
120°
127
M24
Ø 120
m6
64
210
412.5
HN1
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
32
ø 120
ø 100
ø 70
f7
f7
10
85
12
125
327.5
HD
Output Shafts

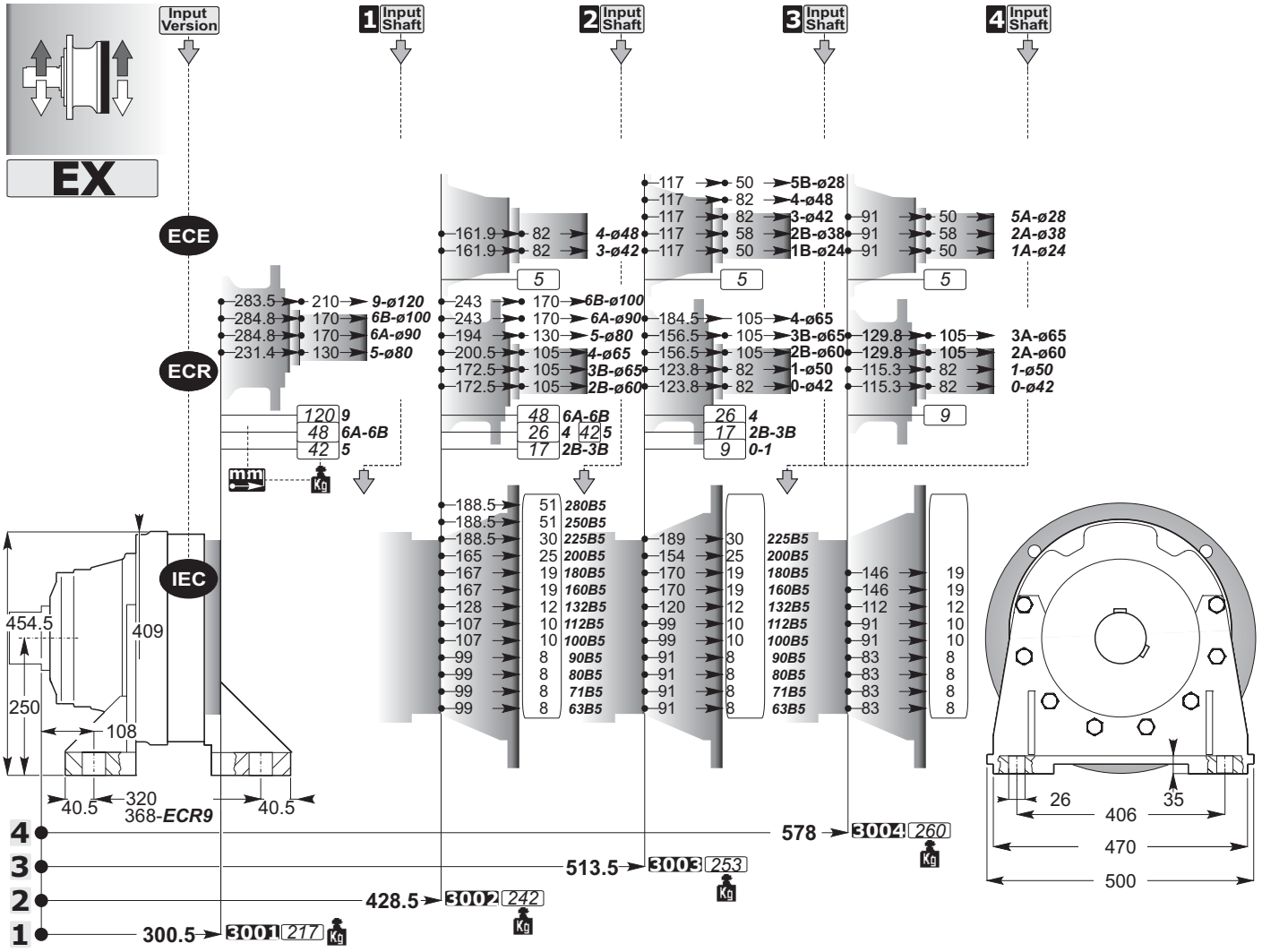

Radial Loads
Fr
200000
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
x
260 240 220 200 180 160 140 120 100 80 60 40 20
mm
N

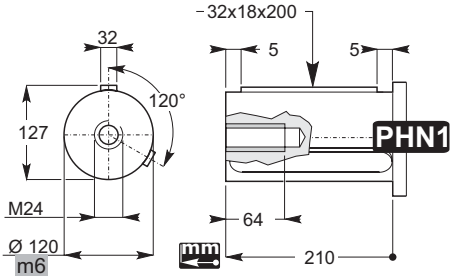

Axial Loads
-167746>
N
Fa
<-128521-

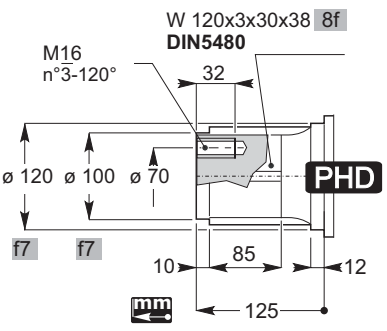

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
Input Version
2 Input Shaft ECE 3 4
3 Input Shaft ECE 1 2 3 4 5 B
4 Input Shaft ECE 1 2 5 A
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
175
19
29
245
340
409
f7
F8
91
264.5
81.5
192
73
173
17
4
3
2
429
3004 243
352
3003 245
266.25
3002 284
17 - n° 15
24°
16
370

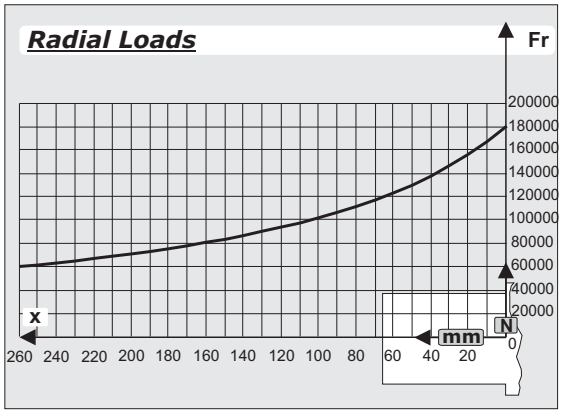

FD
29.4 Kg
125
19
31
N 120x3x30x38 9H
DIN5480
25-n°12
125 H7
120 H7
10
85
30
200 f7
260
309
ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
2.5 Kg
24
14.5
M16x45
Rff
100 H7
125 f7
148
M12
17 (n°3-120°)
70
BD
9.0 Kg
125
1x45°
N120x3x30x38 9H
DIN5480
125 H7
120 H7
160 h7
10
85
30
Accessories

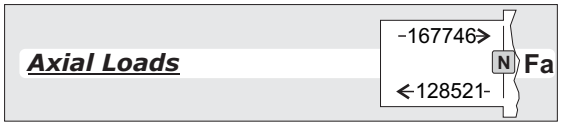


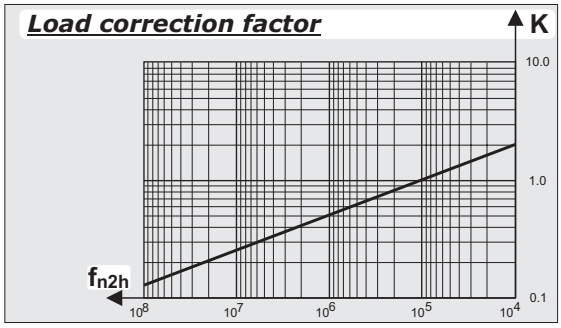


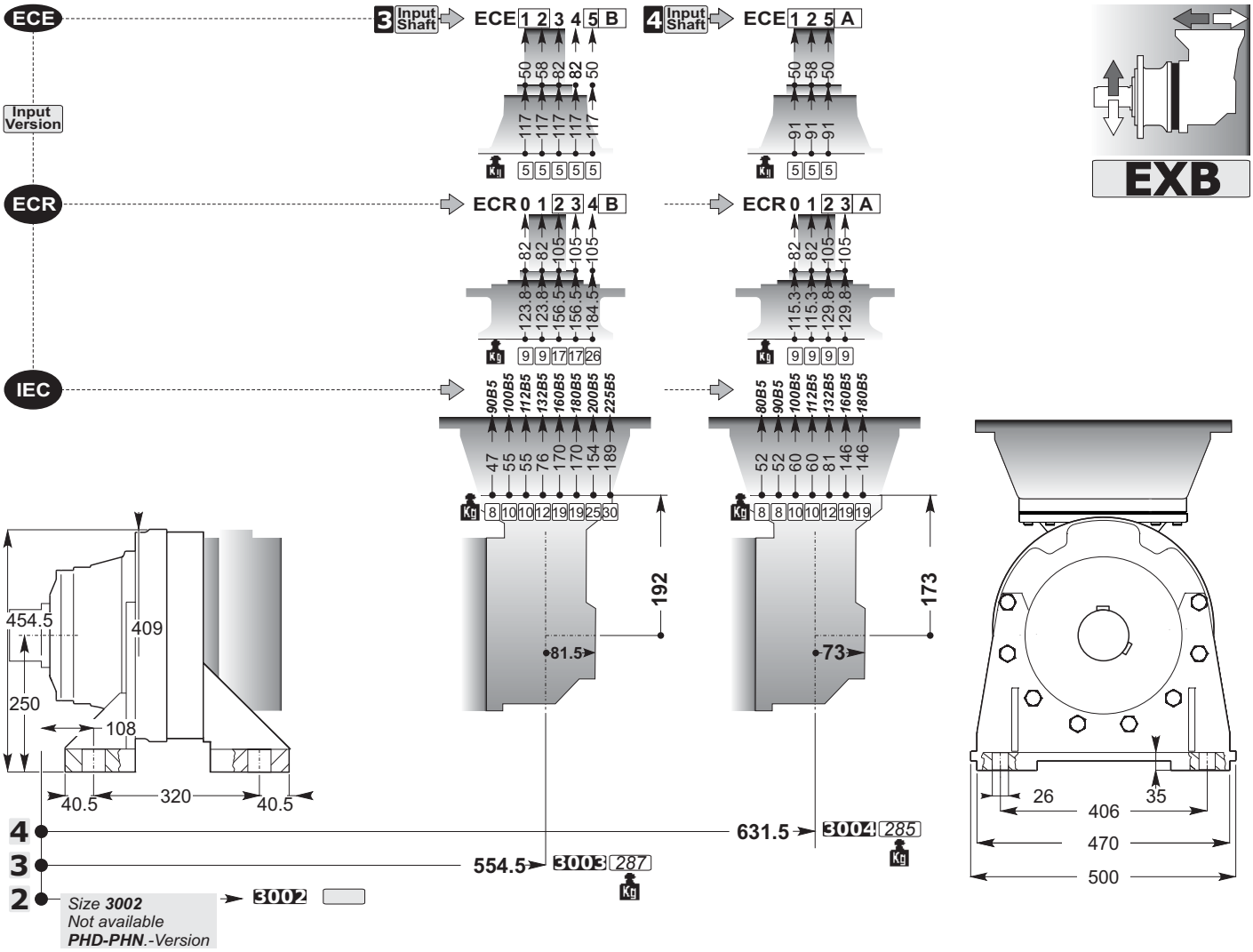


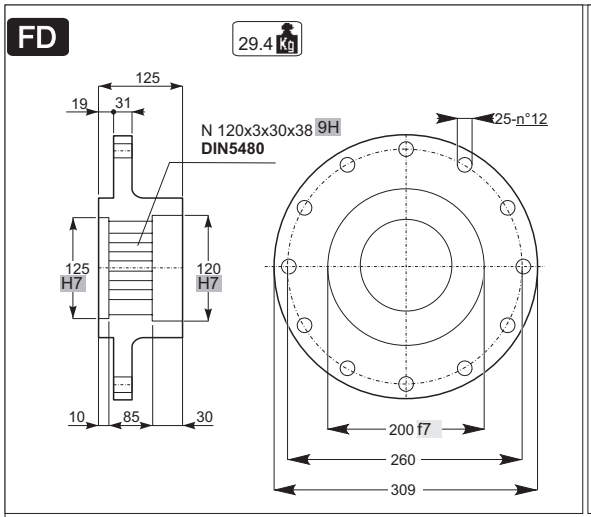
Output Shafts

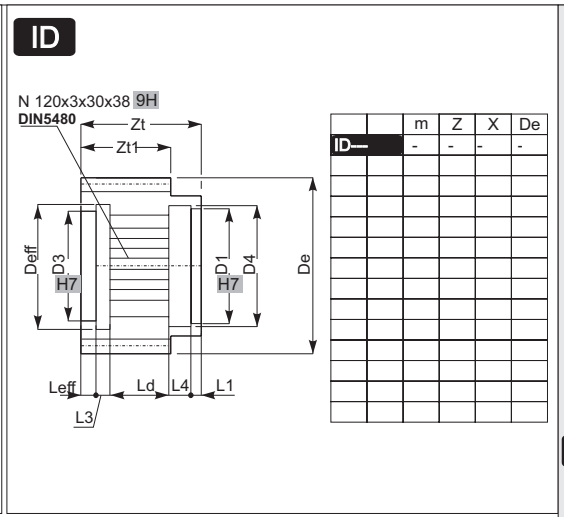


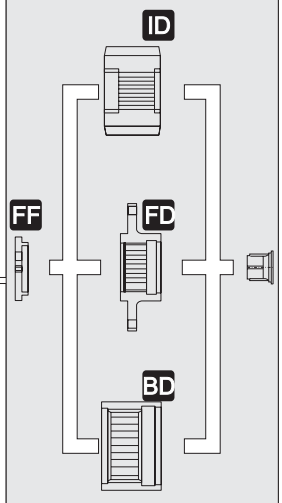


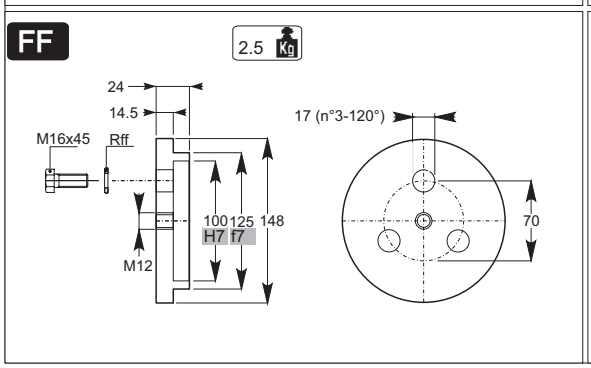


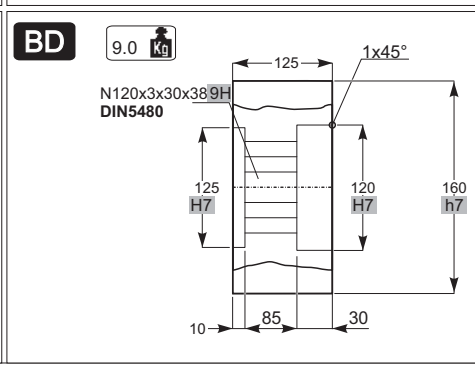




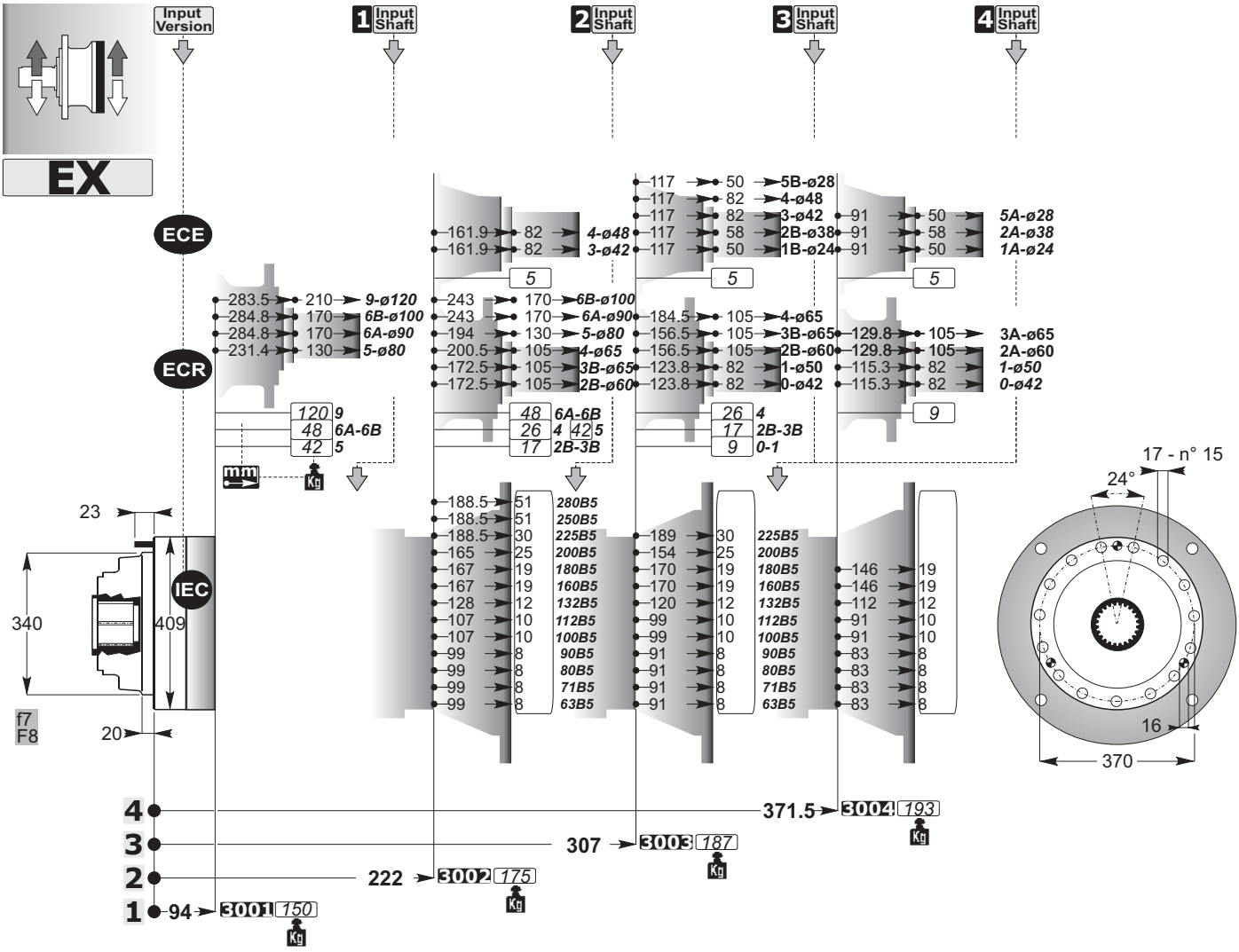


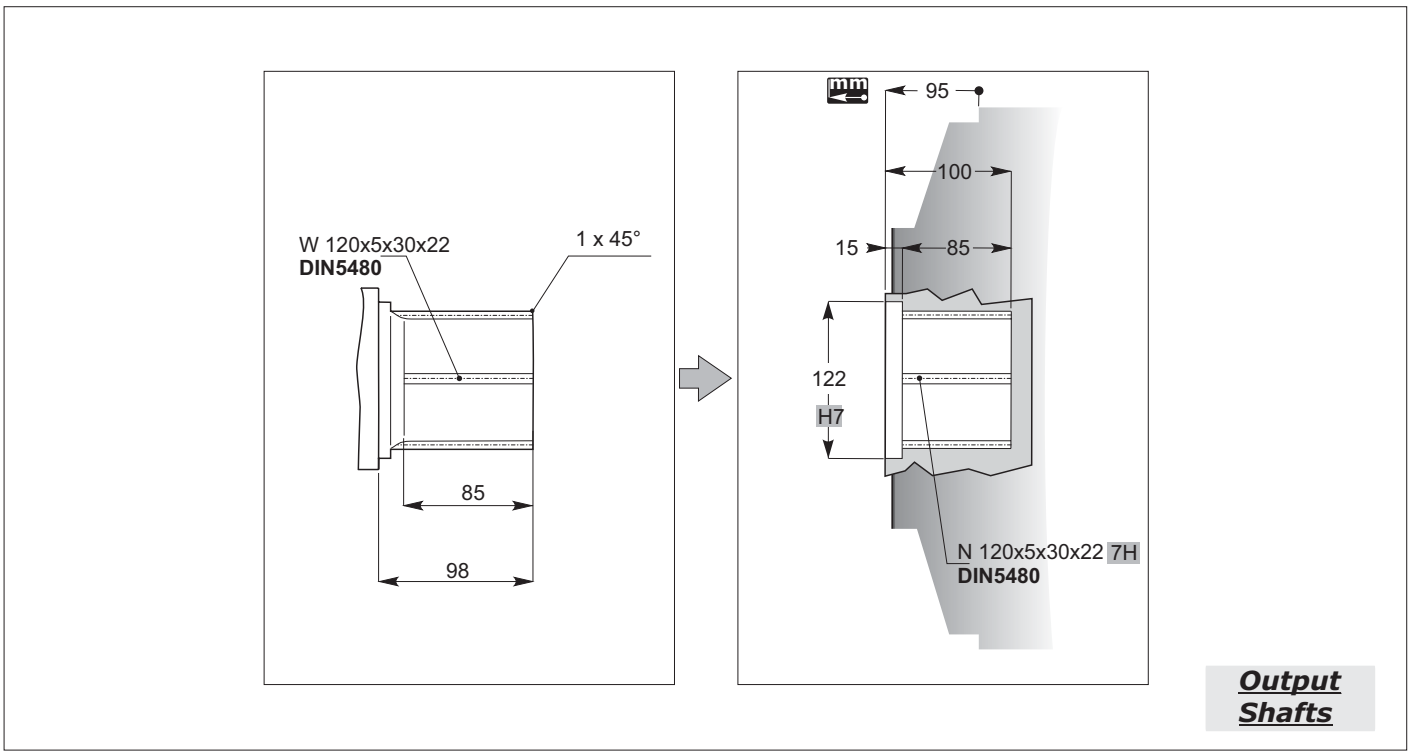


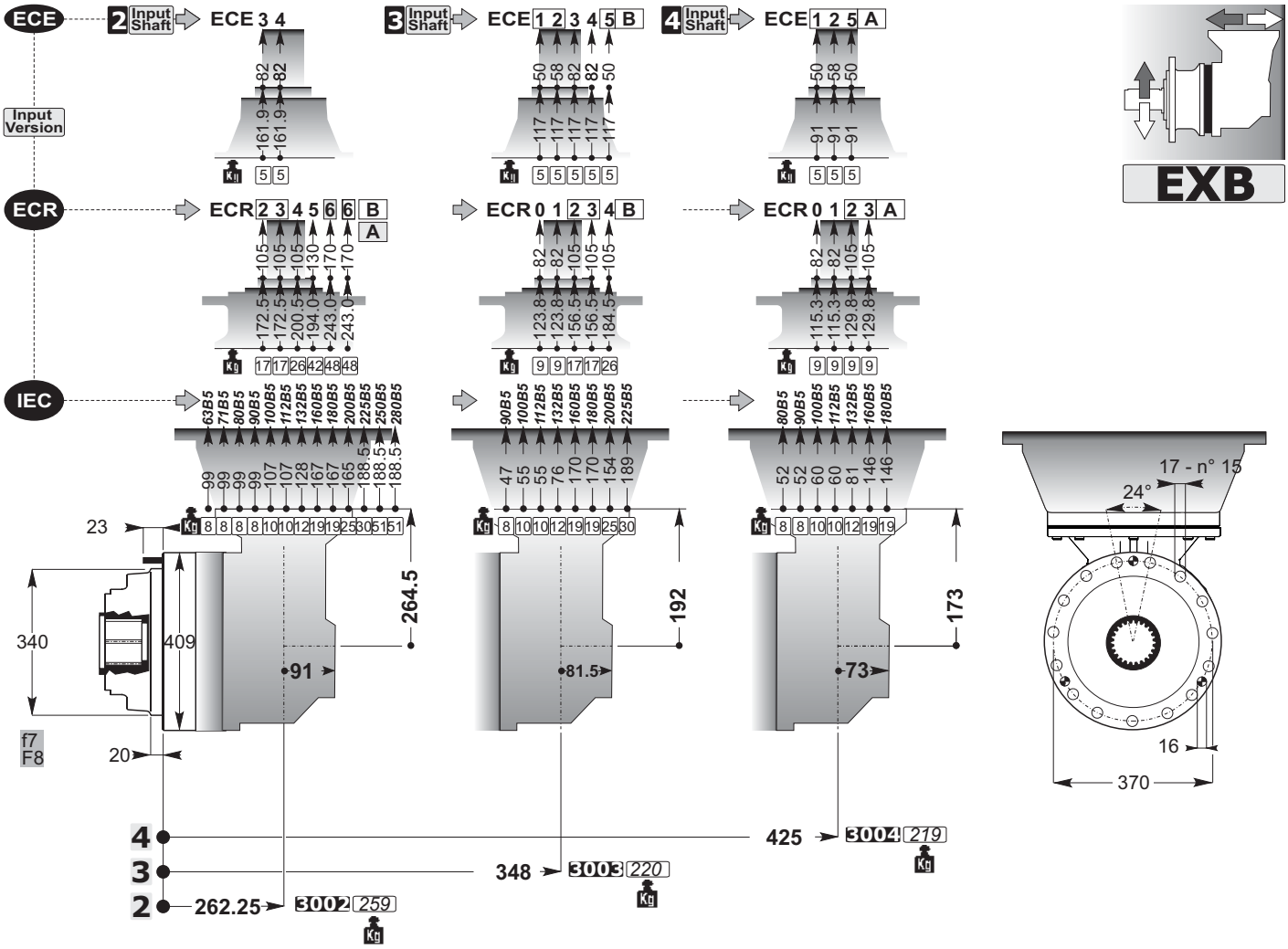


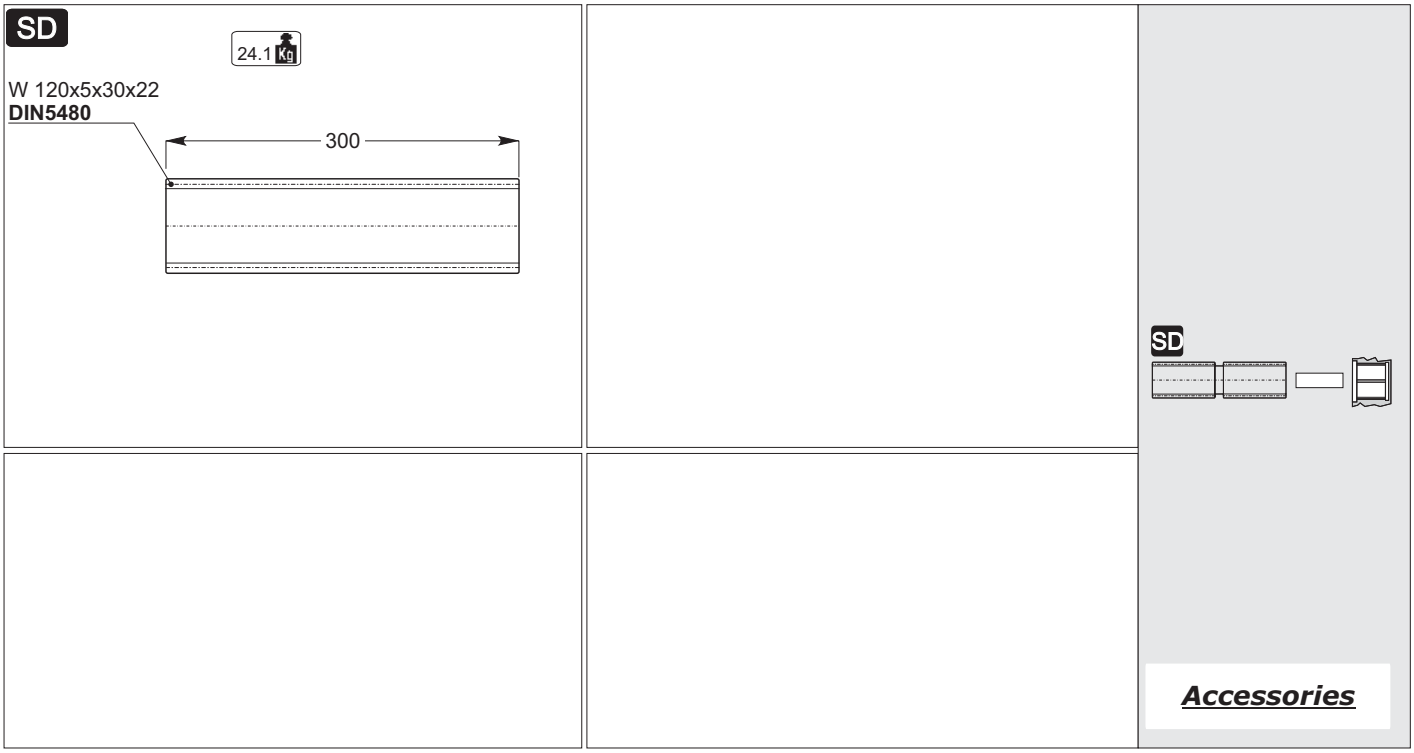


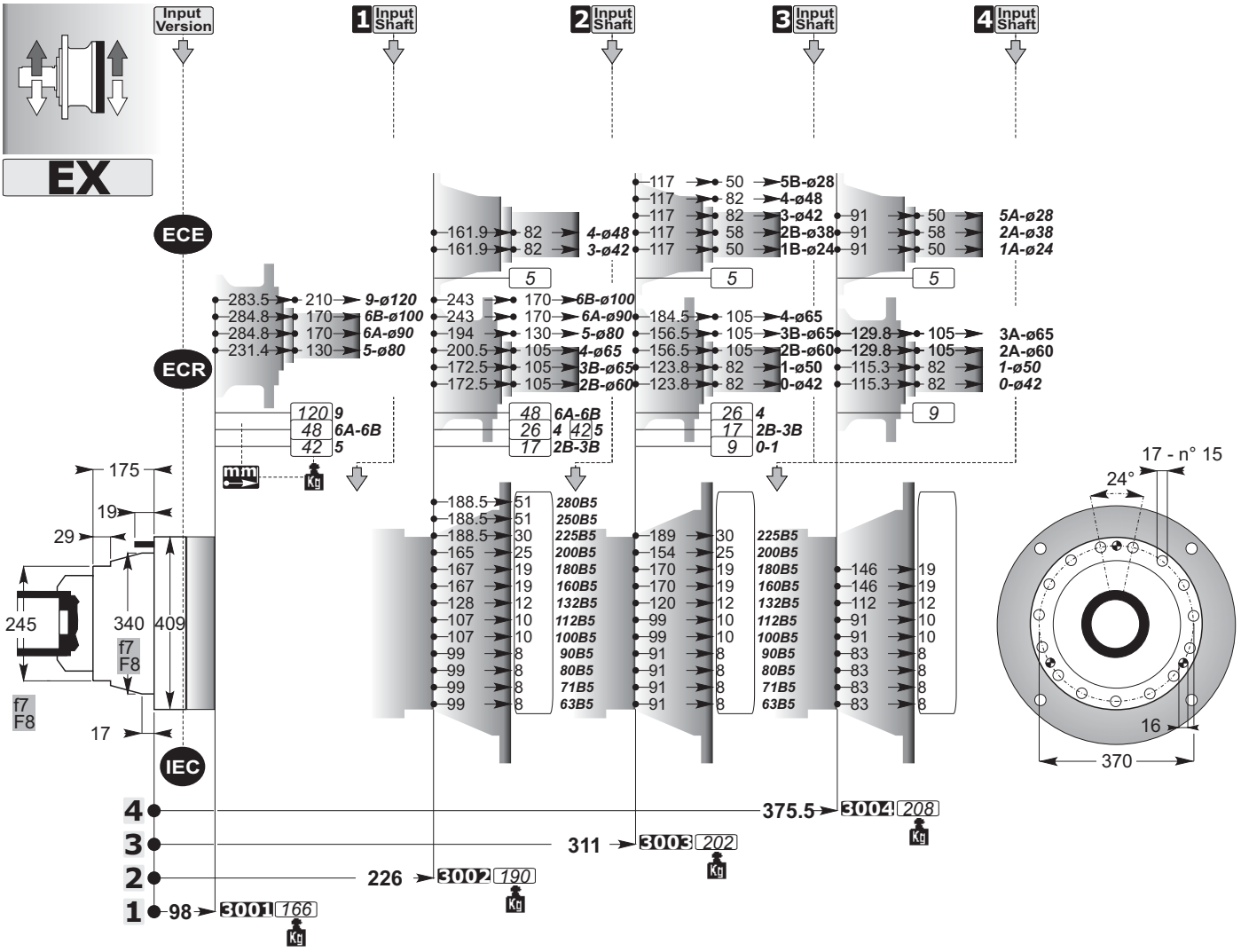
Accessories

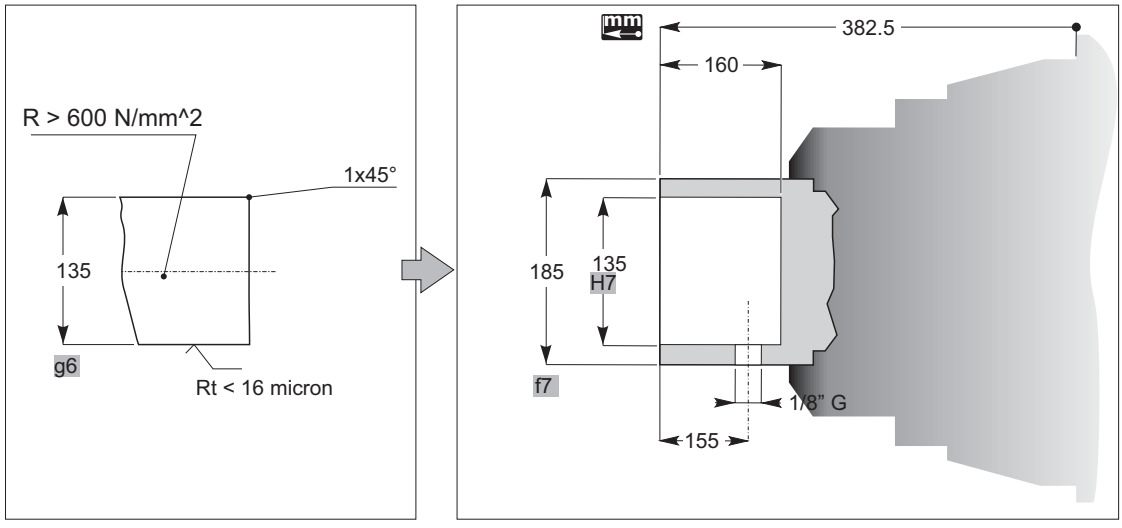

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
23
340
409
f7
F8
20
17 - n° 15
24°
16
370
mm
Kg
4
3
2
1
94 3001 150
222 3002 175
307 3003 187
371.5 3004 193


W 120x5x30x22
DIN5480
1 x 45°
85
98
mm
95
100
15
85
122
H7
N 120x5x30x22 7H
DIN5480
Output Shafts

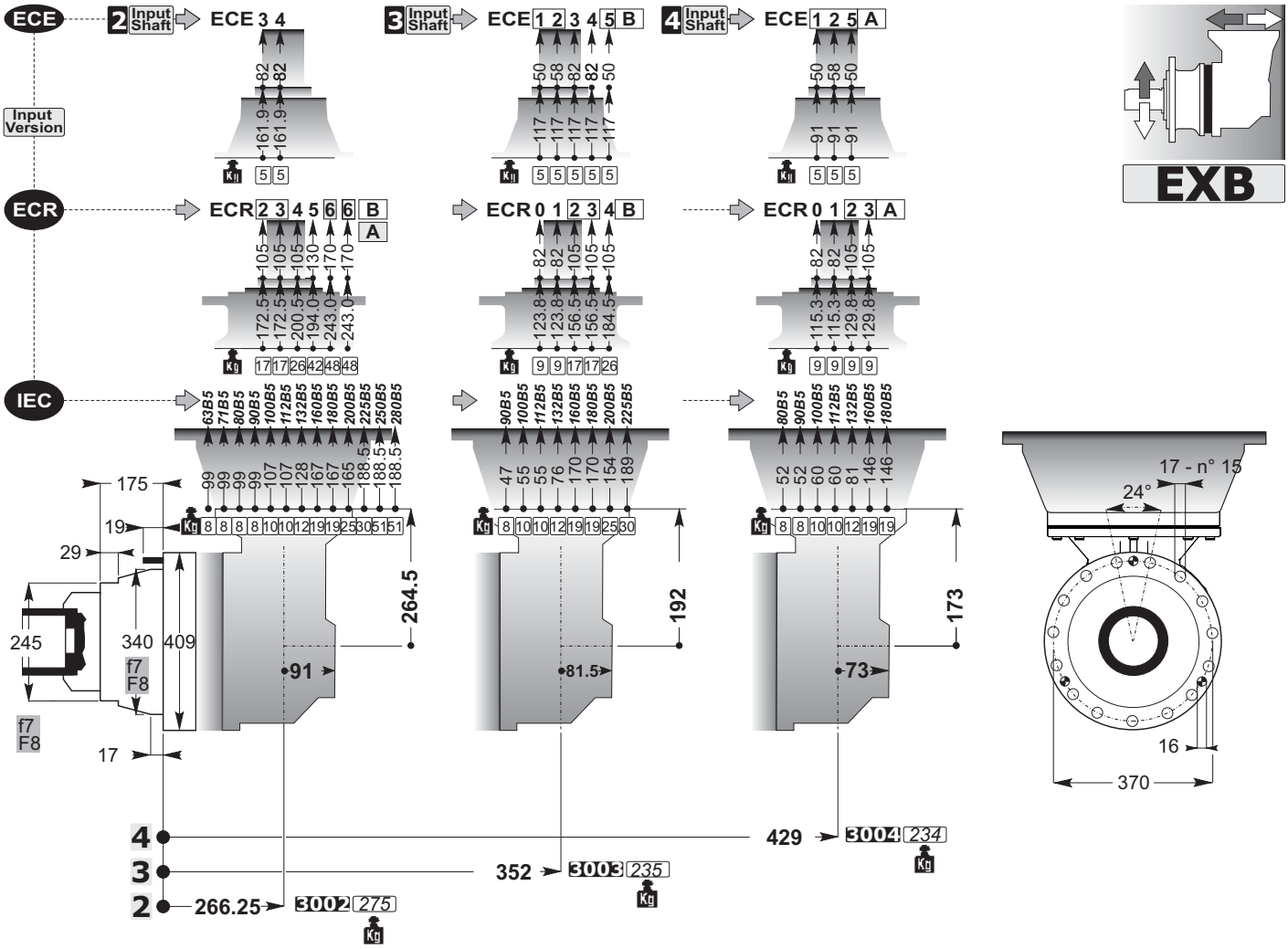

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
EXB
17 - n° 15
24°
16
370
23
340
409
91
264.5
81.5
192
73
173
20
f7
F8
4
3
2
425
3004 219
348
3003 220
262.25
3002 259

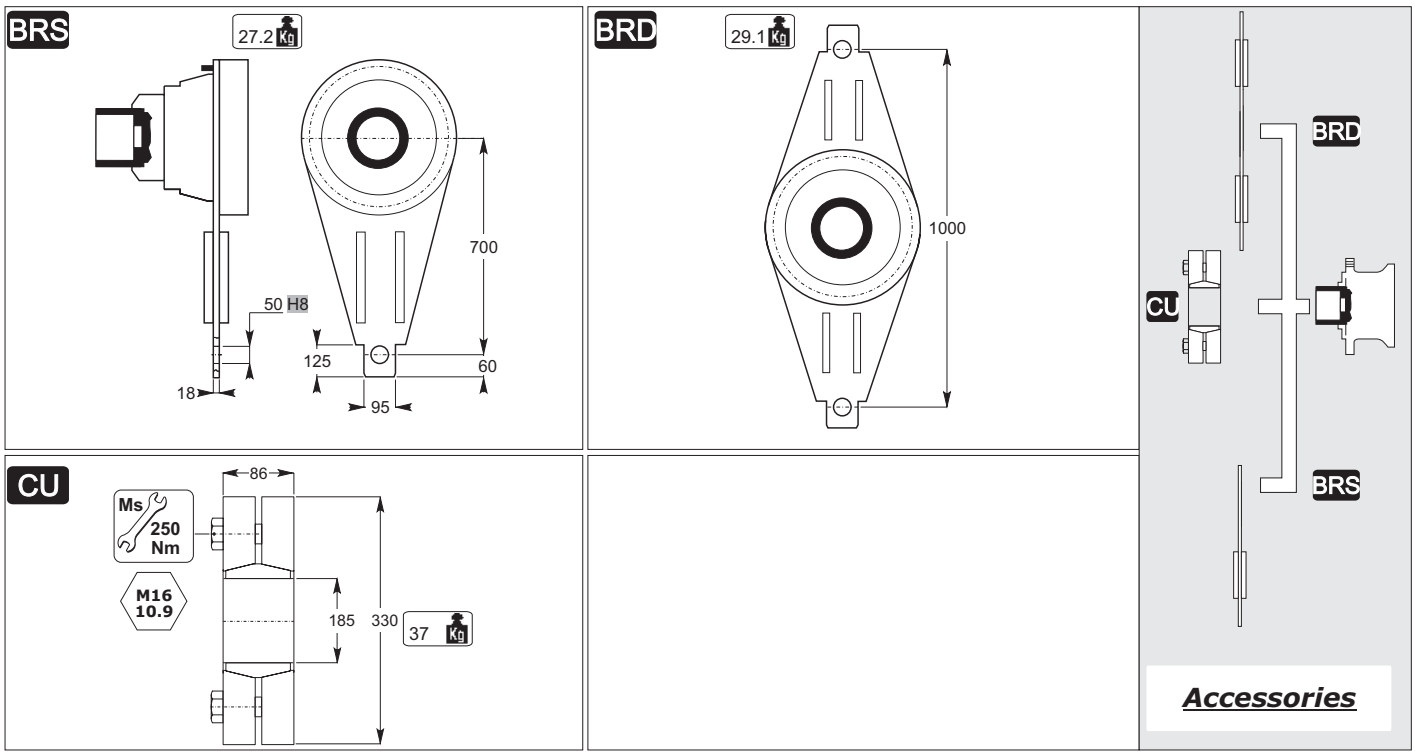

SD
24.1 Kg
W 120x5x30x22
DIN5480
300
SD
Accessories

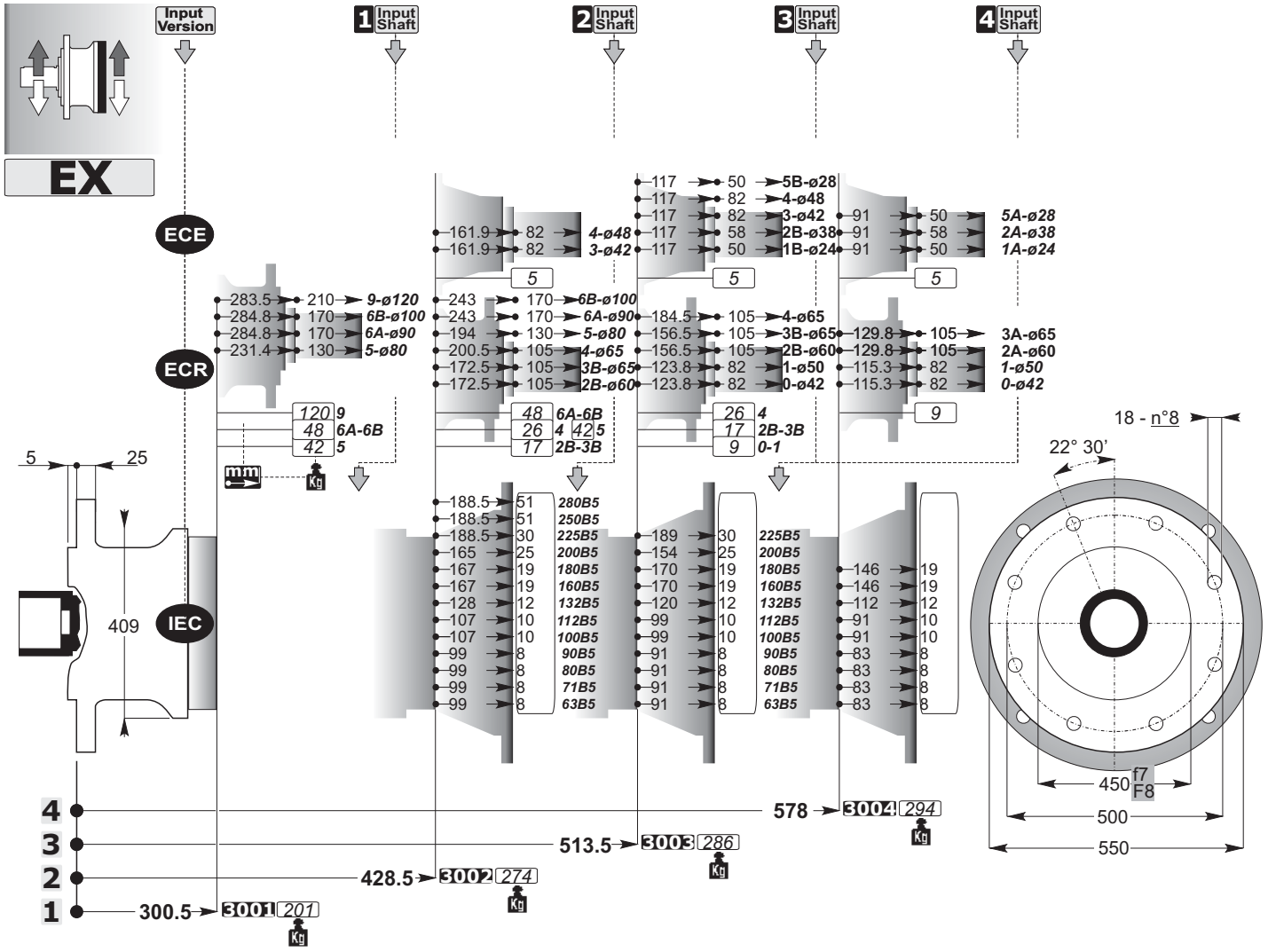


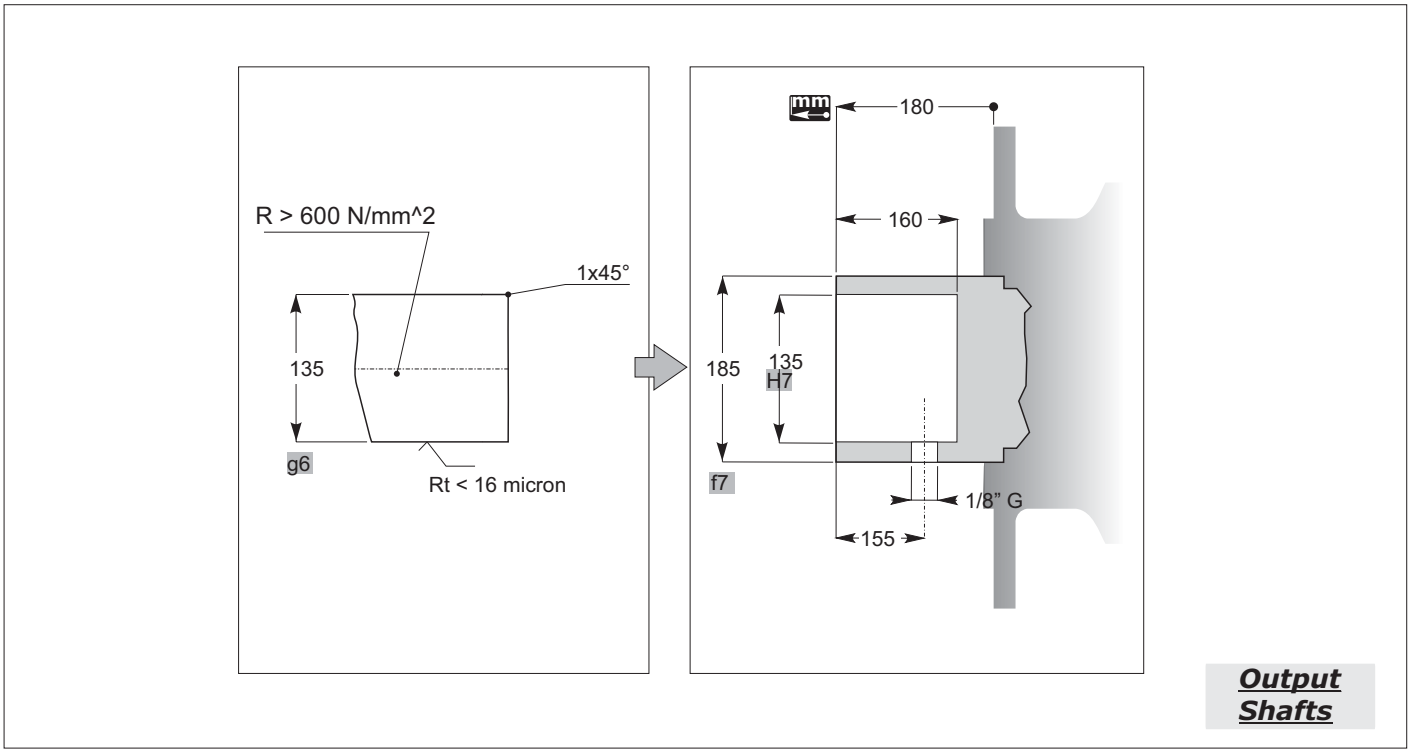


Output Shafts

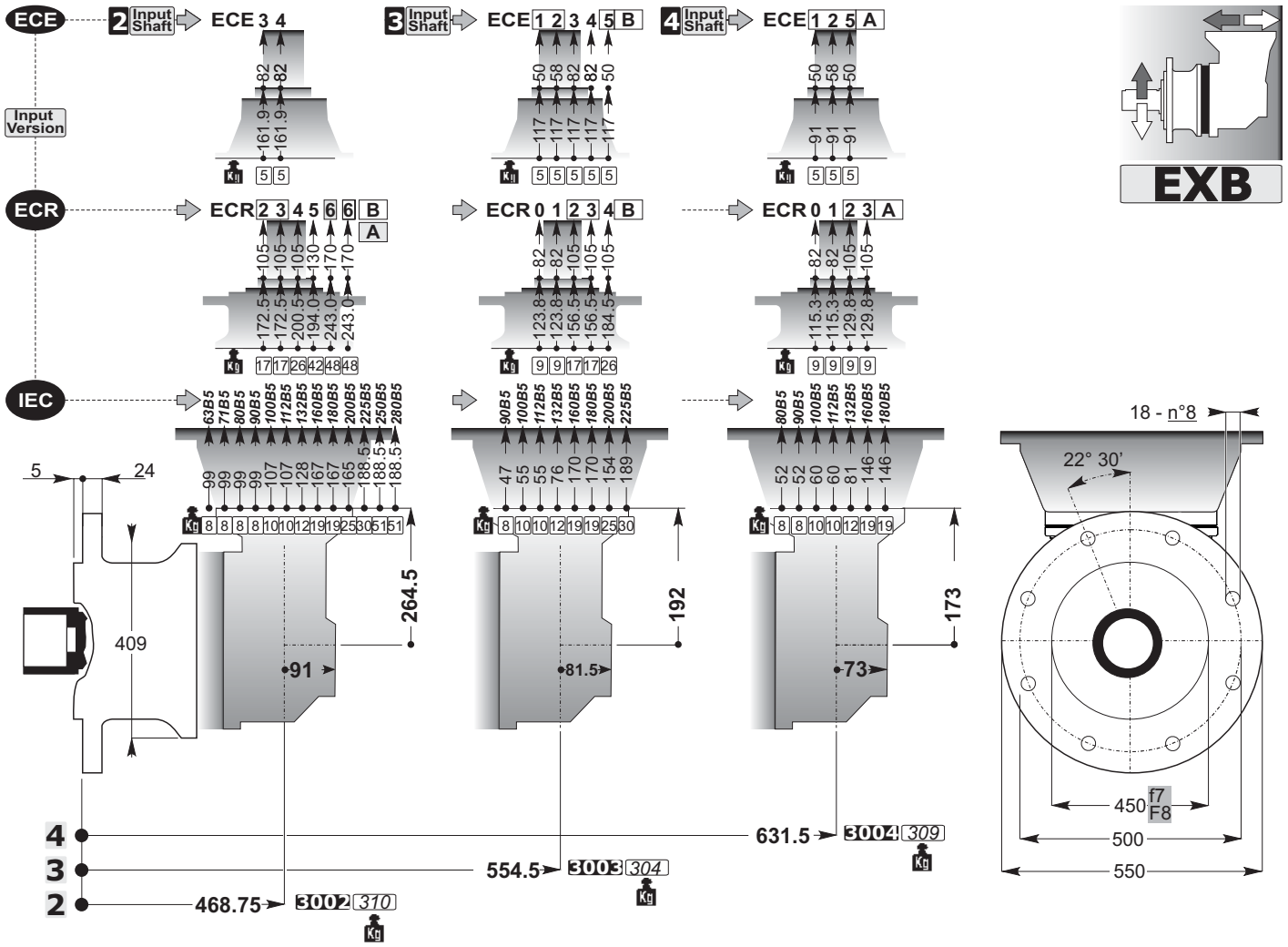

ECE
2 Input Shaft
ECE 3 4
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
Input Version
ECR
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
175
19
29
245
340
409
f7
F8
17
264.5
192
173
91
81.5
73
4
3
2
429
3004 234
352
3003 235
266.25
3002 275
17 - n° 15
24°
16
370


BRS
27.2
700
50 H8
125
60
18
95
BRD
29.1
1000
CU
Ms
250
Nm
M16
10.9
86
185
330
37
BRD
CU
BRS
Accessories



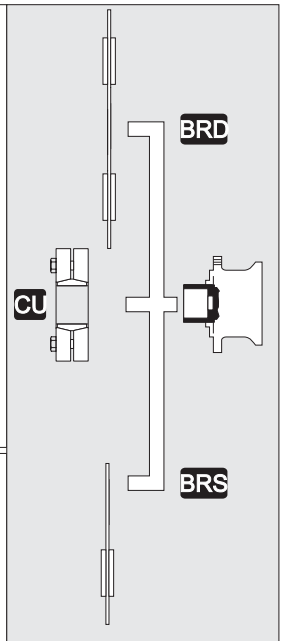


Output Shafts



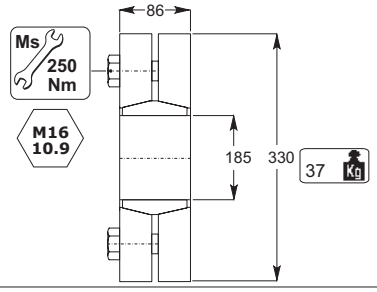
BRS

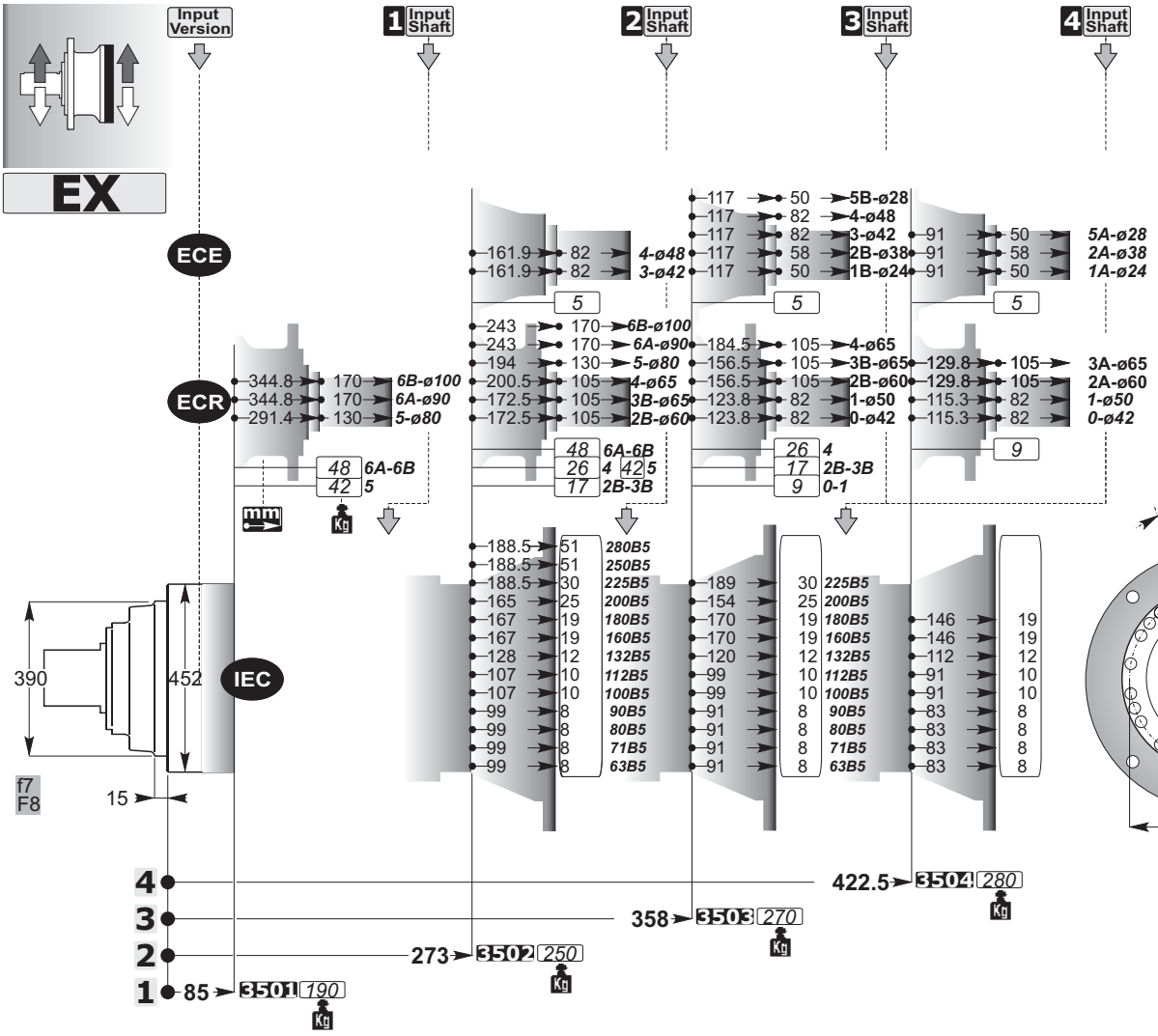
BRD

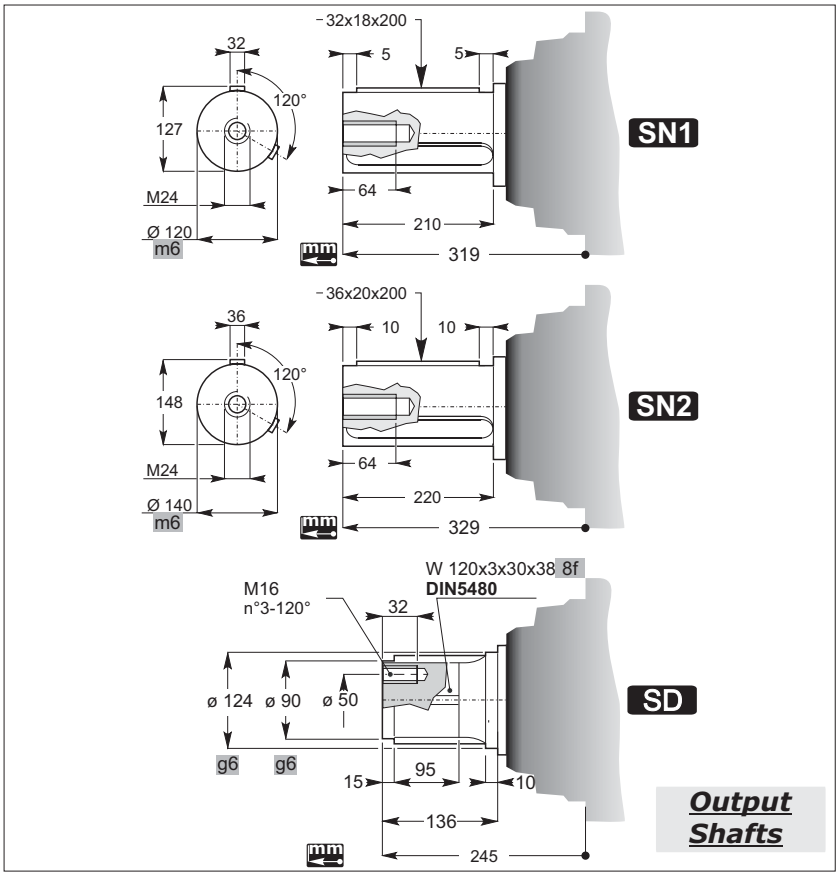


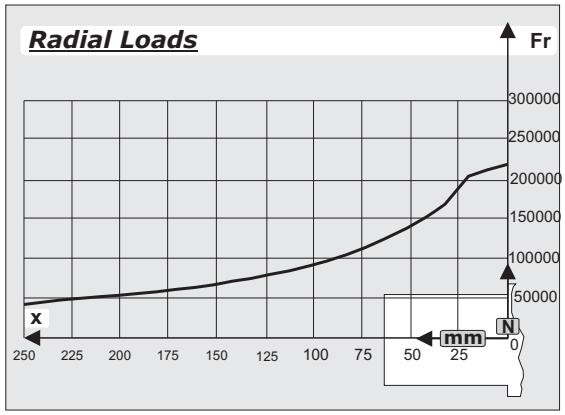
Accessories

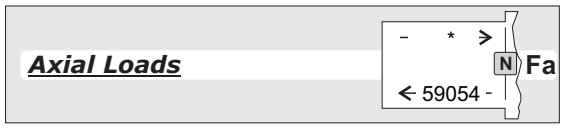
CU

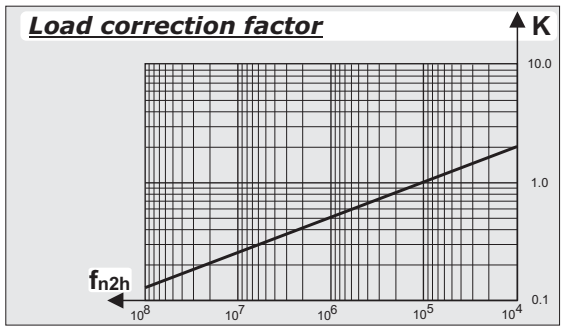


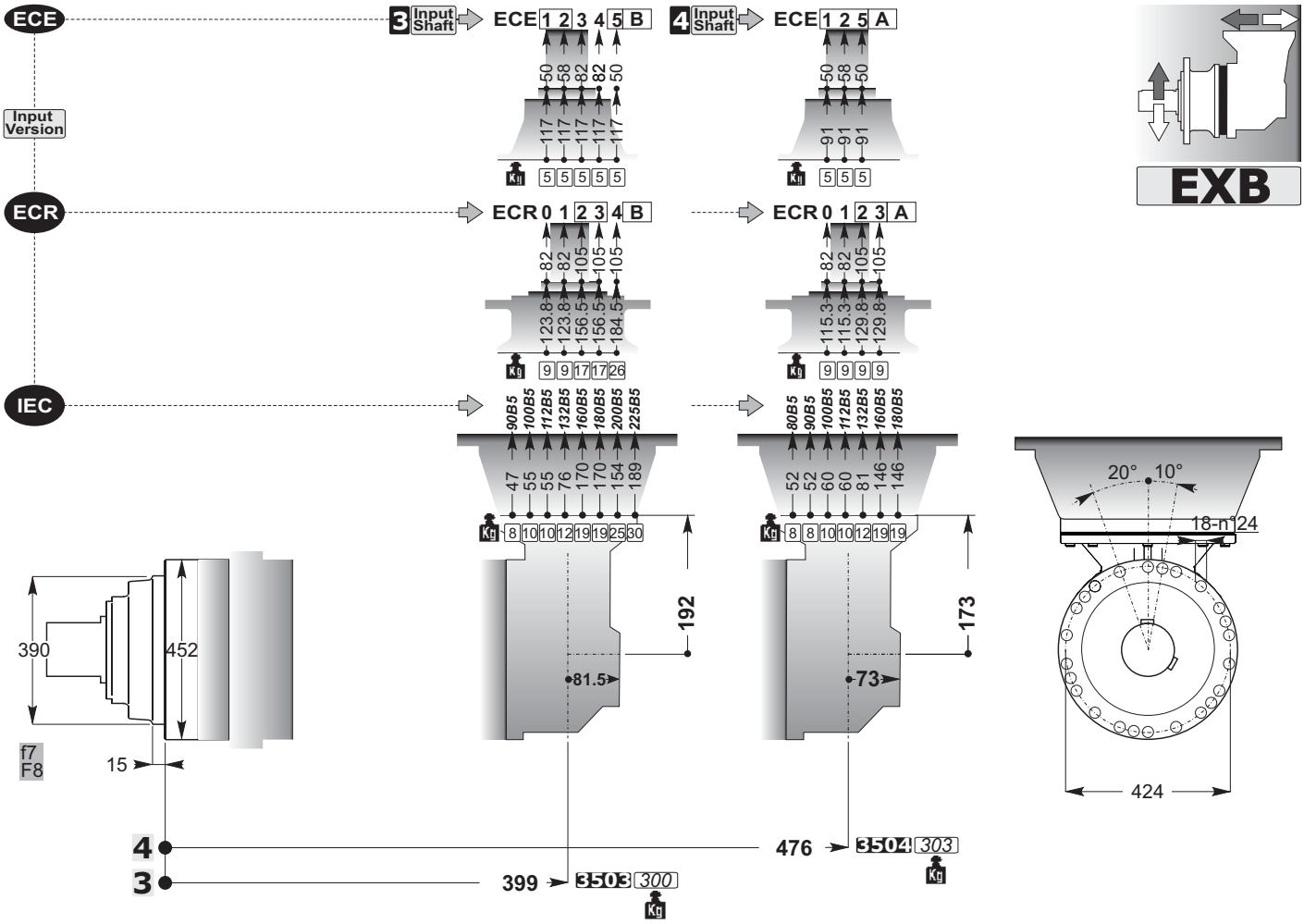

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
390
452
f7
F8
15
mm
Kg
4
3
2
1
85 3501 190
273 3502 250
358 3503 270
422.5 3504 280
20°
10°
18-n°24
424

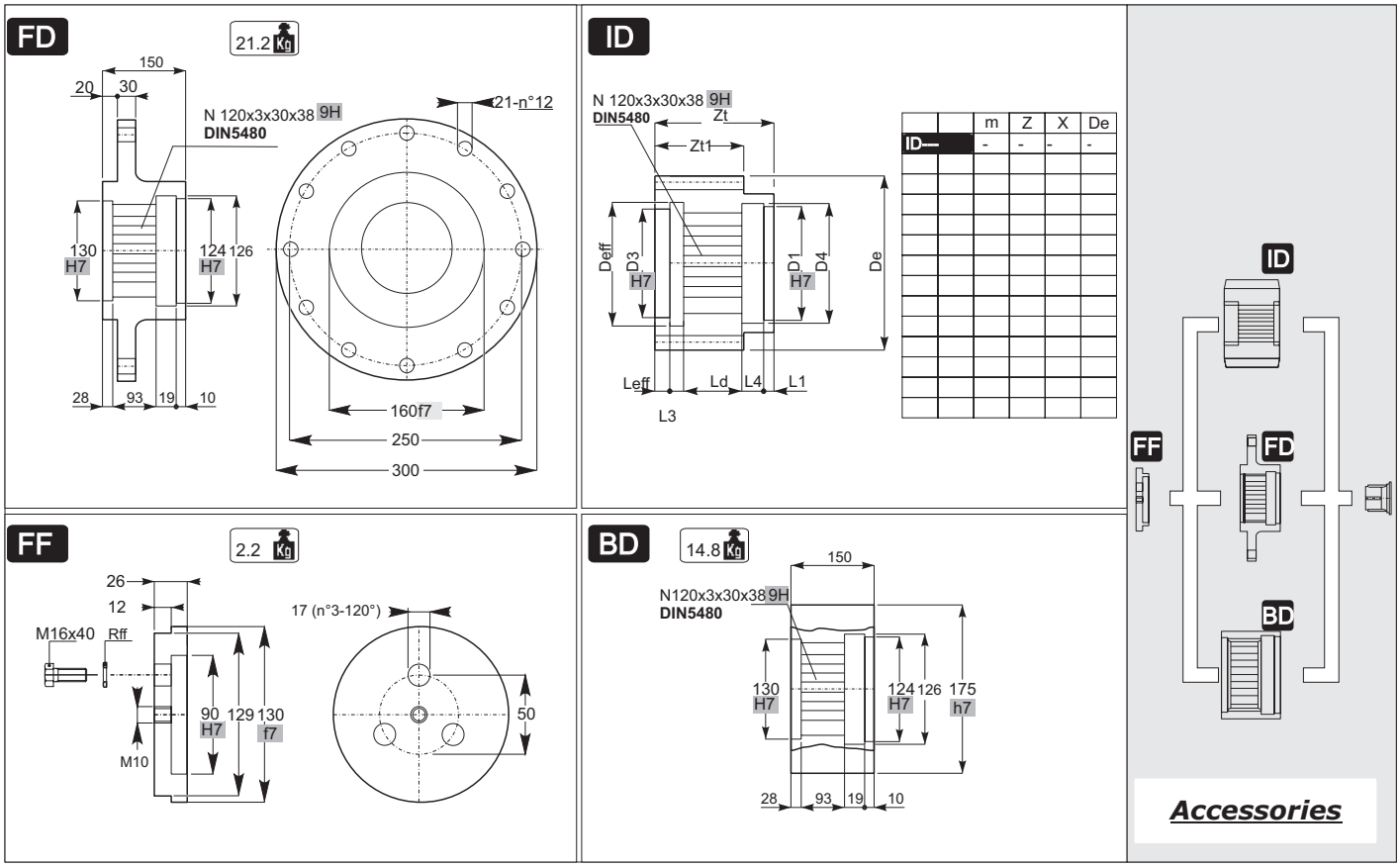

SN1
32x18x200
SN2
36x20x200
SD
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
M24
Ø 120
m6
Ø 140
ø 124
ø 90
ø 50
g6
Output Shafts


Radial Loads
Fr
300000
250000
200000
150000
100000
50000
0
N
mm
250
225
200
175
150
125
100
75
50
25

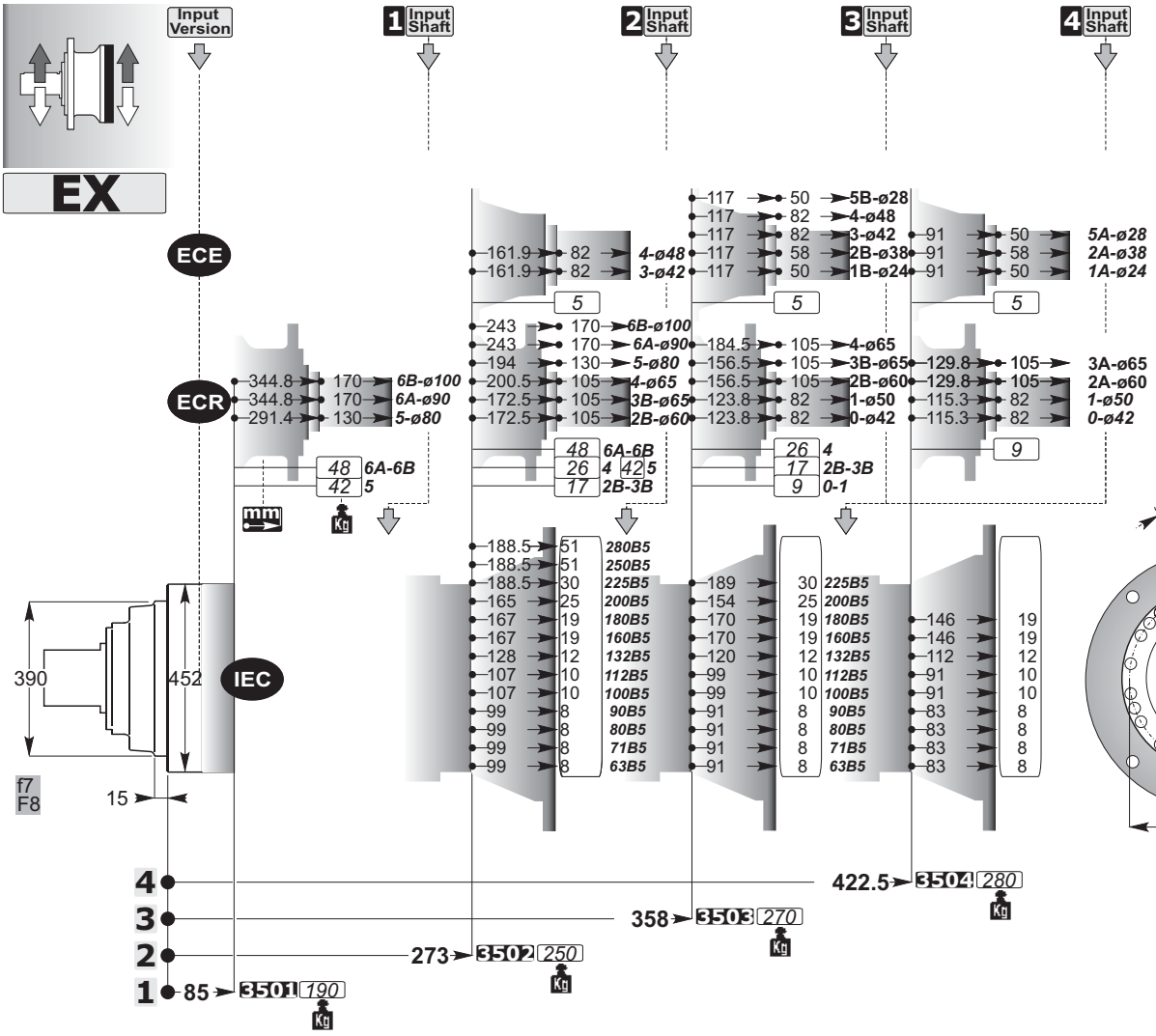

Axial Loads
N
Fa
59054

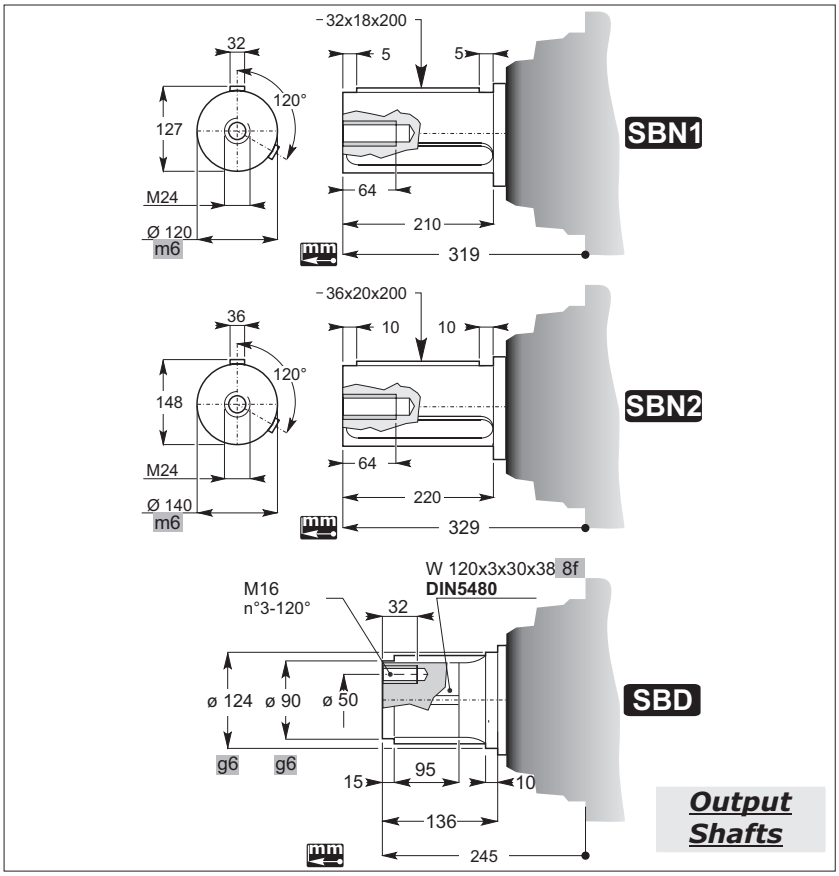

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

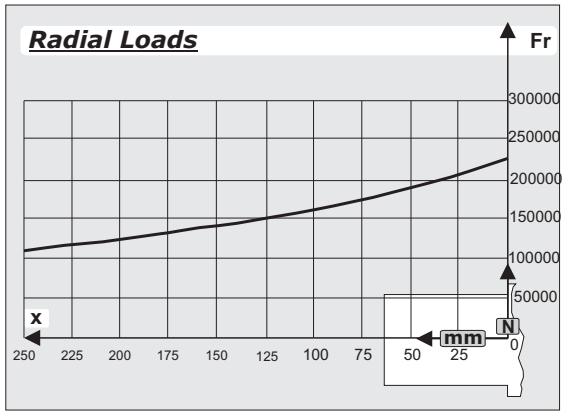

ECE
Input Version
ECR
IEC
3 Input Shaft
4 Input Shaft
ECE 1 2 3 4 5 B
ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
390
452
f7
F8
15
192
173
81.5
73
20°
10°
18-n124
424
4
3
476
399
3504 303
3503 300

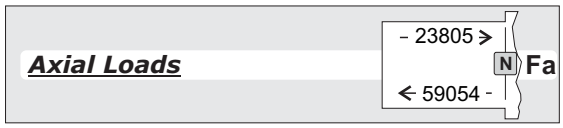

FD
21.2 Kg
150
20
30
N 120x3x30x38 9H
DIN5480
21-n°12
130 H7
124 H7
126
28
93
19
10
160f7
250
300
ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
2.2 Kg
26
12
M16x40
Rff
17 (n°3-120°)
90 H7
129
130 f7
M10
50
BD
14.8 Kg
150
N120x3x30x38 9H
DIN5480
130 H7
124 H7
126
175 h7
28
93
19
10
ID
FF
FD
BD
Accessories

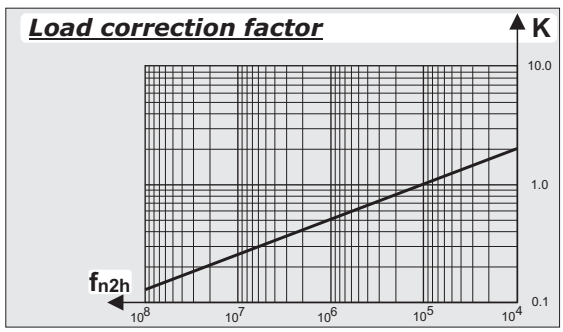
mm
C

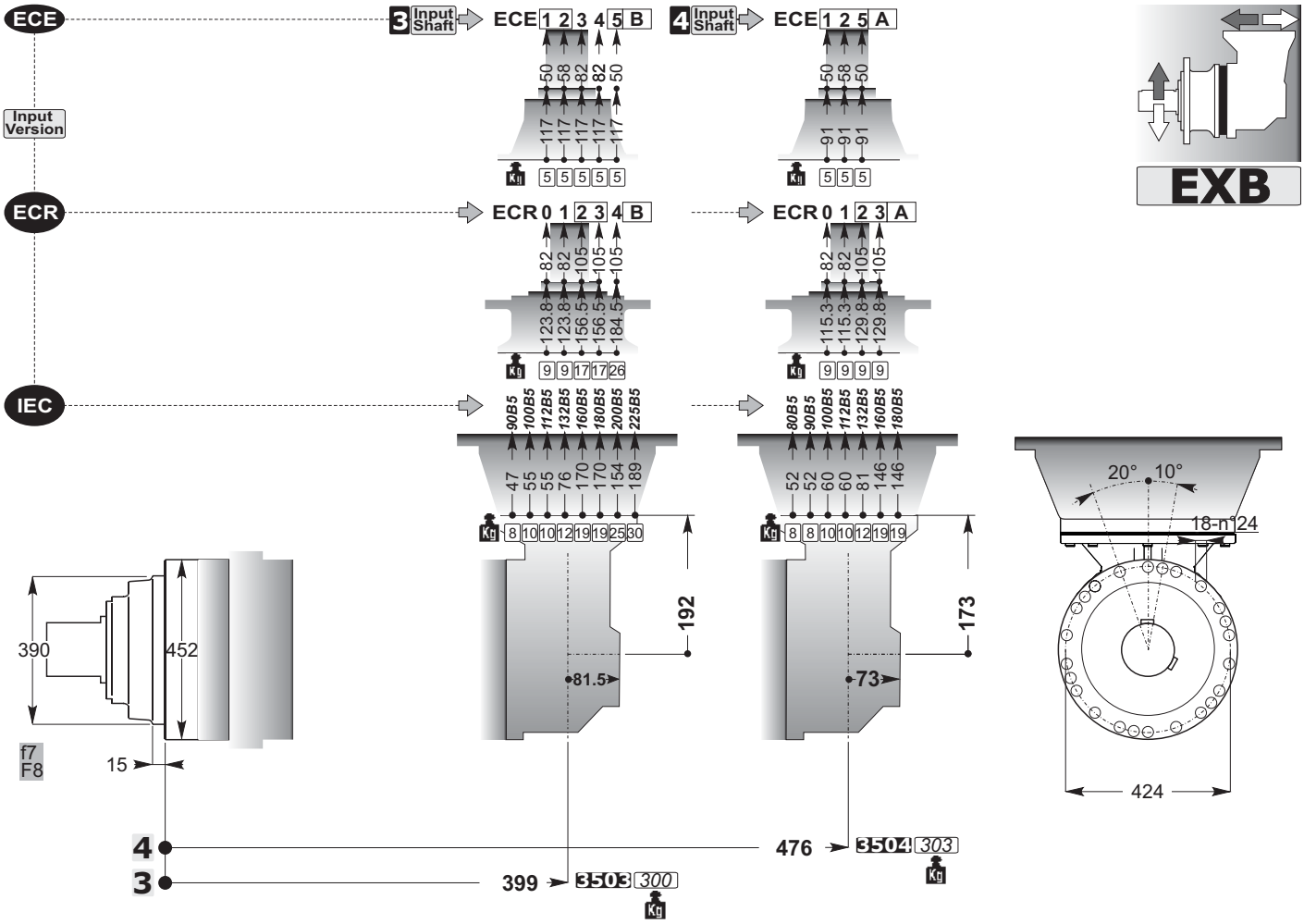

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
390
452
f7
F8
15
mm
Kg
4
3
2
1
85 3501 190
273 3502 250
358 3503 270
422.5 3504 280
20°
10°
18-n°24
424

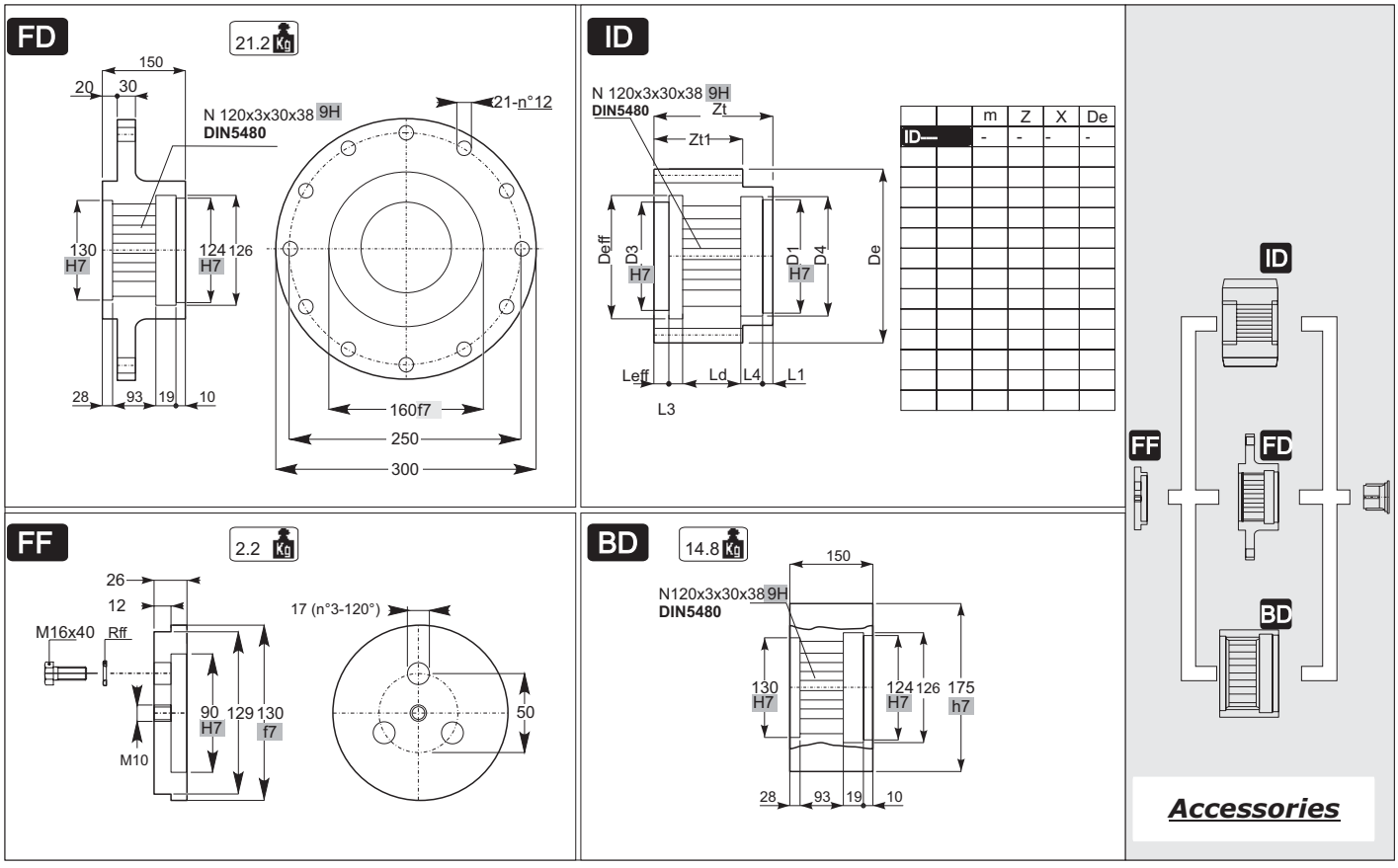

SBN1
32x18x200
SBN2
36x20x200
SBD
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
Output Shafts

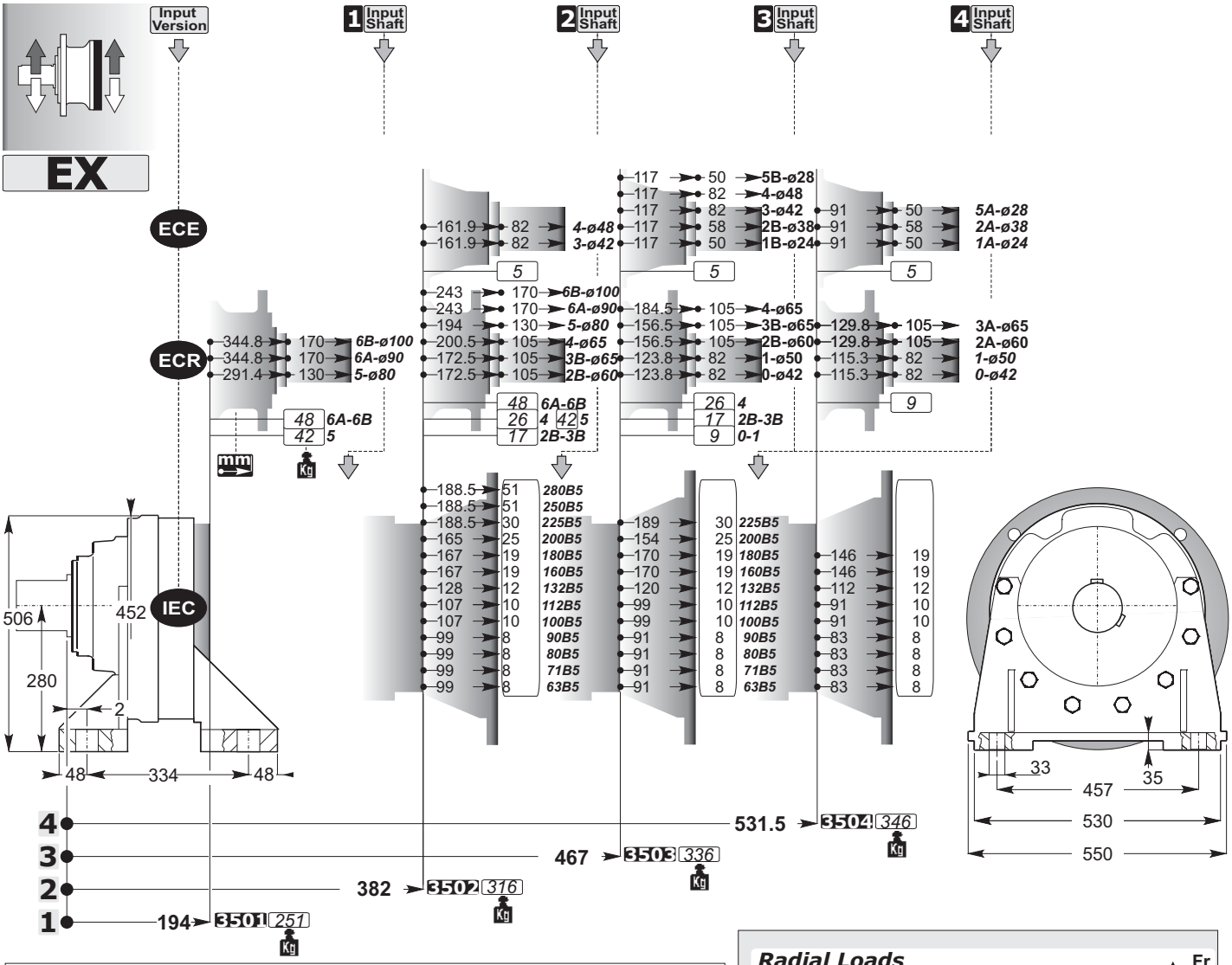

Radial Loads
Fr
x
mm
N

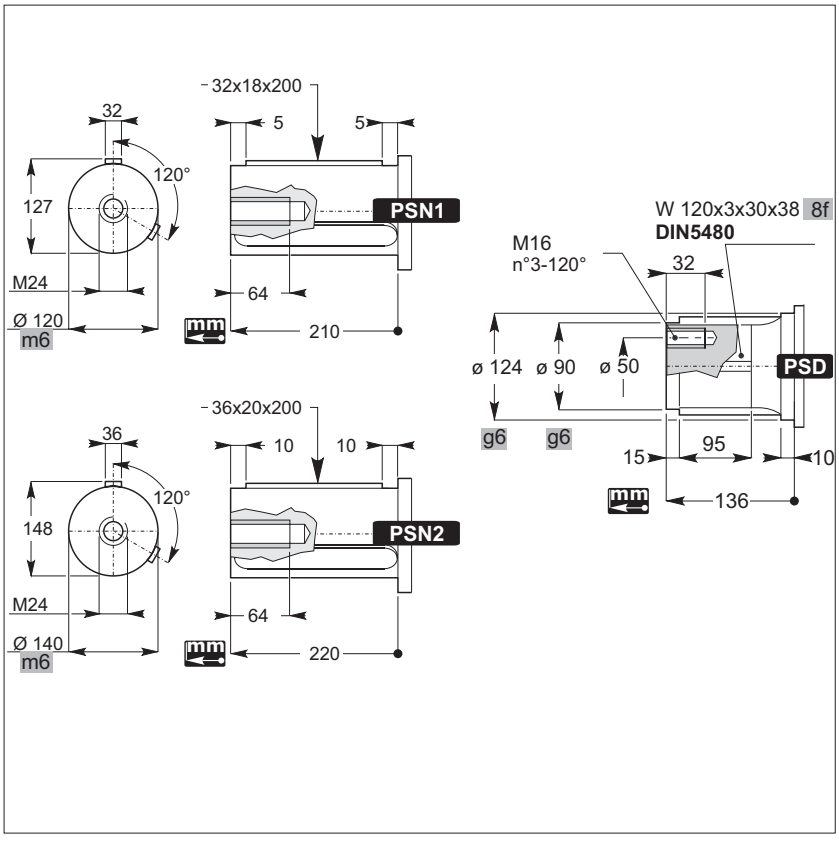

Axial Loads
23805
59054
N
Fa

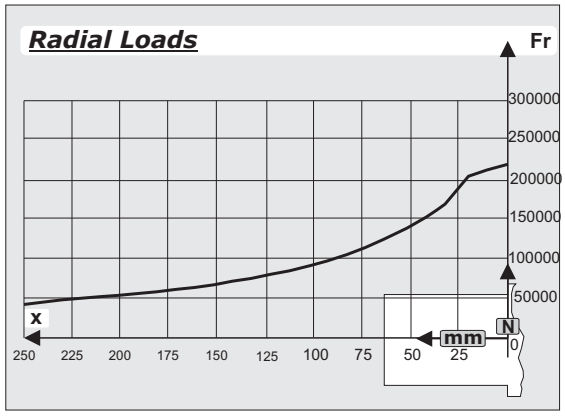

Load correction factor
K
fn2h

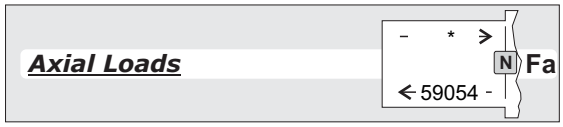

ECE
Input Version
ECR
IEC
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
390
452
f7
F8
15
192
173
81.5
73
20°
10°
18-n124
424
4
3
476
399
3504 303
3503 300

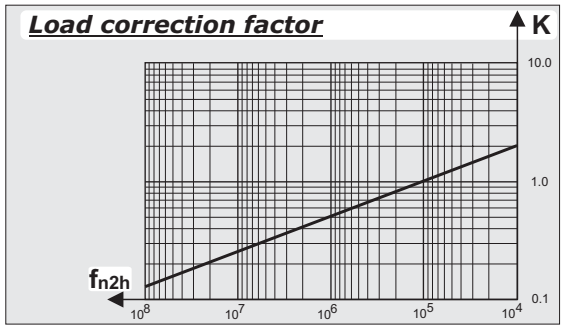

FD
21.2 Kg
150
20
30
N 120x3x30x38 9H
DIN5480
21-n°12
130 H7
124 126 H7
28
93
19
10
160f7
250
300
ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
2.2 Kg
26
12
M16x40
Rff
17 (n°3-120°)
90 H7
129
130 f7
M10
50
BD
14.8 Kg
150
N120x3x30x38 9H
DIN5480
130 H7
124 126 H7
175 h7
28
93
19
10
ID
FF
FD
BD
Accessories

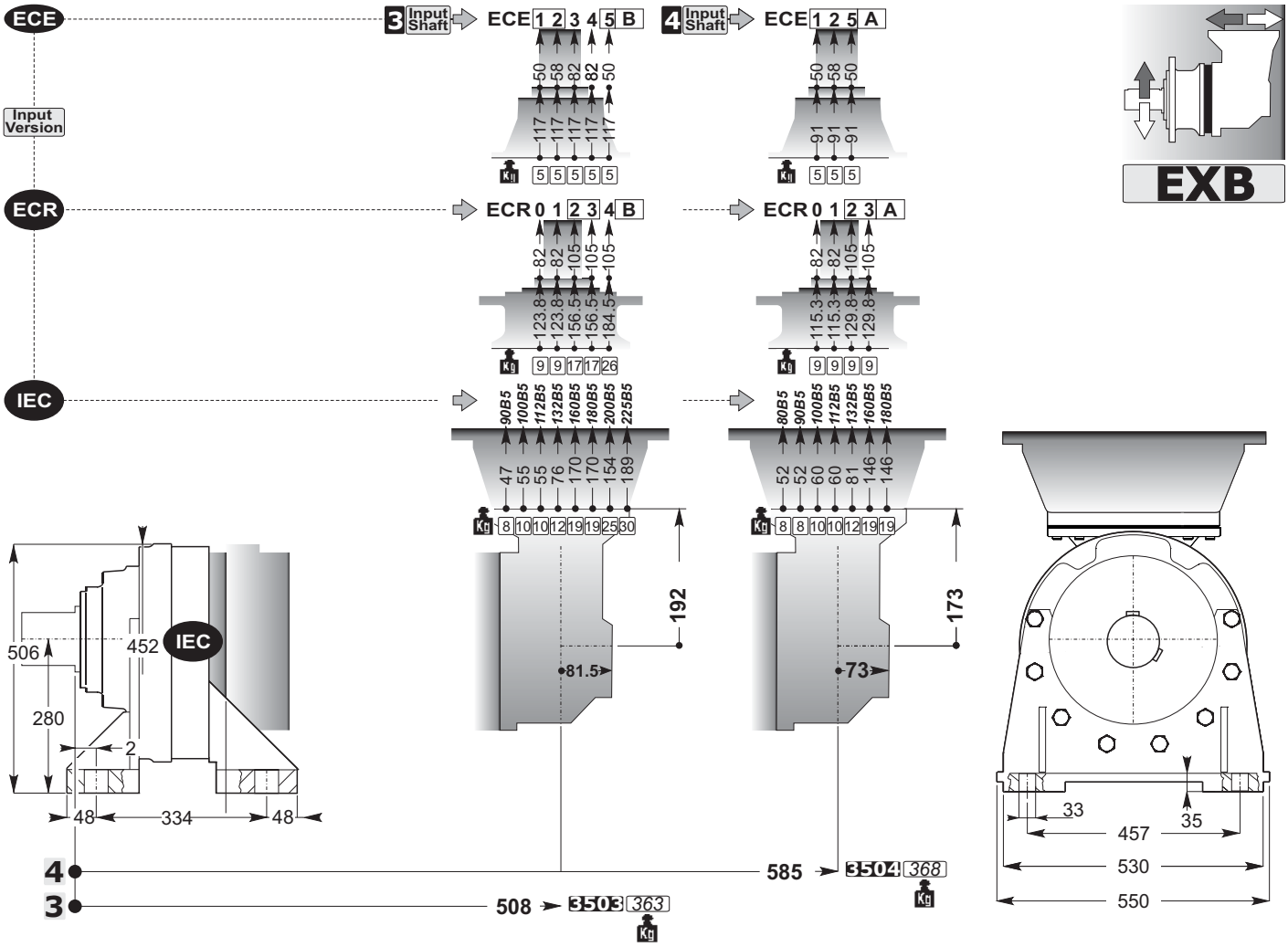

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
mm
Kg
506
452
280
2
48
334
48
531.5
3504 346
467
3503 336
382
3502 316
194
3501 251

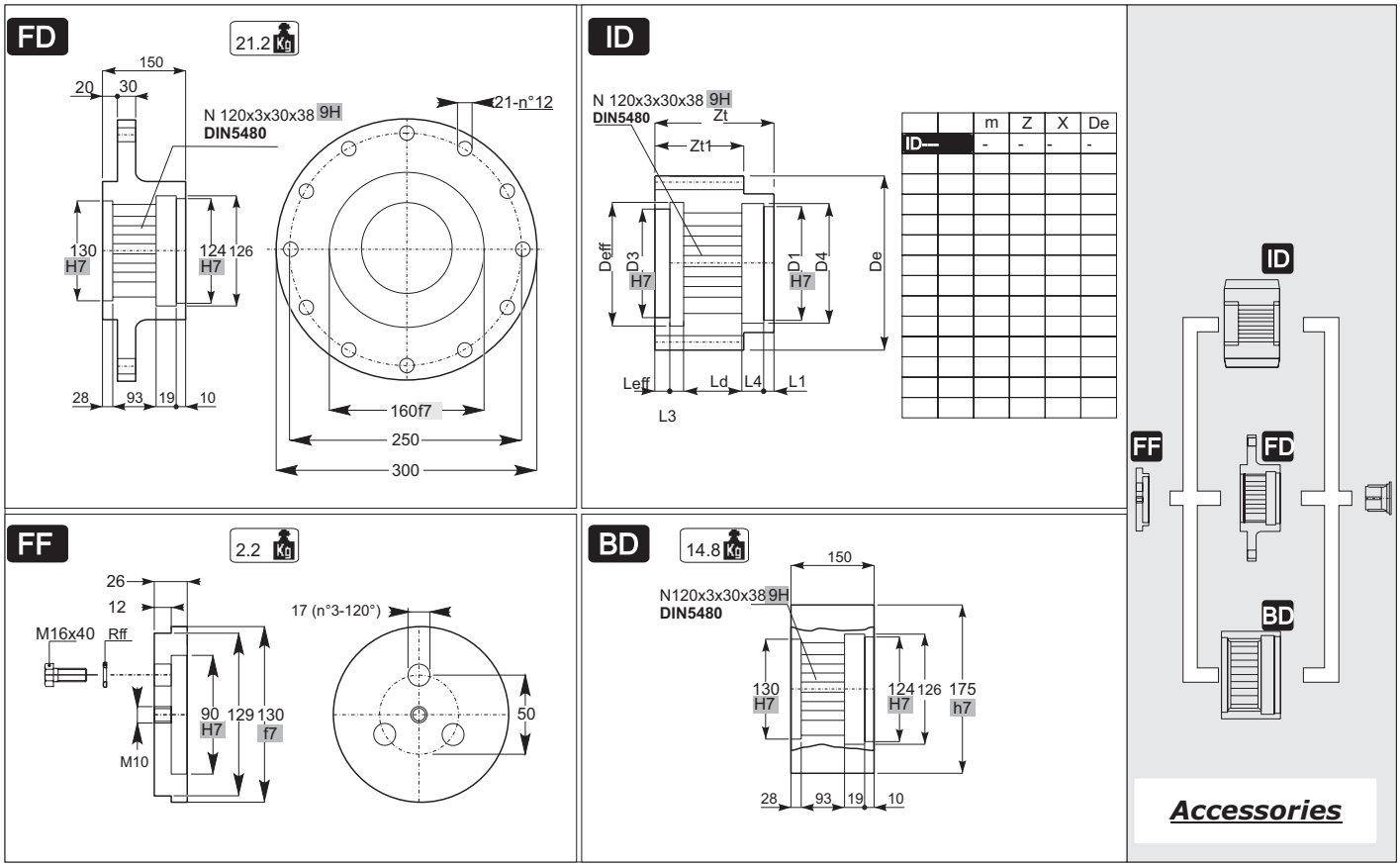

32x18x200
PSN1
M24
Ø 120
m6
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
PSD
ø 124
ø 90
ø 50
g6
36x20x200
PSN2
M24
Ø 140
m6


Radial Loads
Fr
300000
250000
200000
150000
100000
50000
x
250
225
200
175
150
125
100
75
50
25
mm
N
0


Axial Loads
N
Fa
59054


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
Input Version
ECR
IEC
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
EXB
192
173
81.5
73
506
452
IEC
280
2
48
334
48
585
3504 368
508
3503 363
33
35
457
530
550


FD
21.2
N 120x3x30x38 9H
DIN5480
21-n°12
160f7
250
300
ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3
D1
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
FF
2.2
M16x40
Rff
M10
17 (n°3-120°)
50
BD
14.8
N120x3x30x38 9H
DIN5480
175
h7
Accessories

EX

Input Version

ECE

ECR

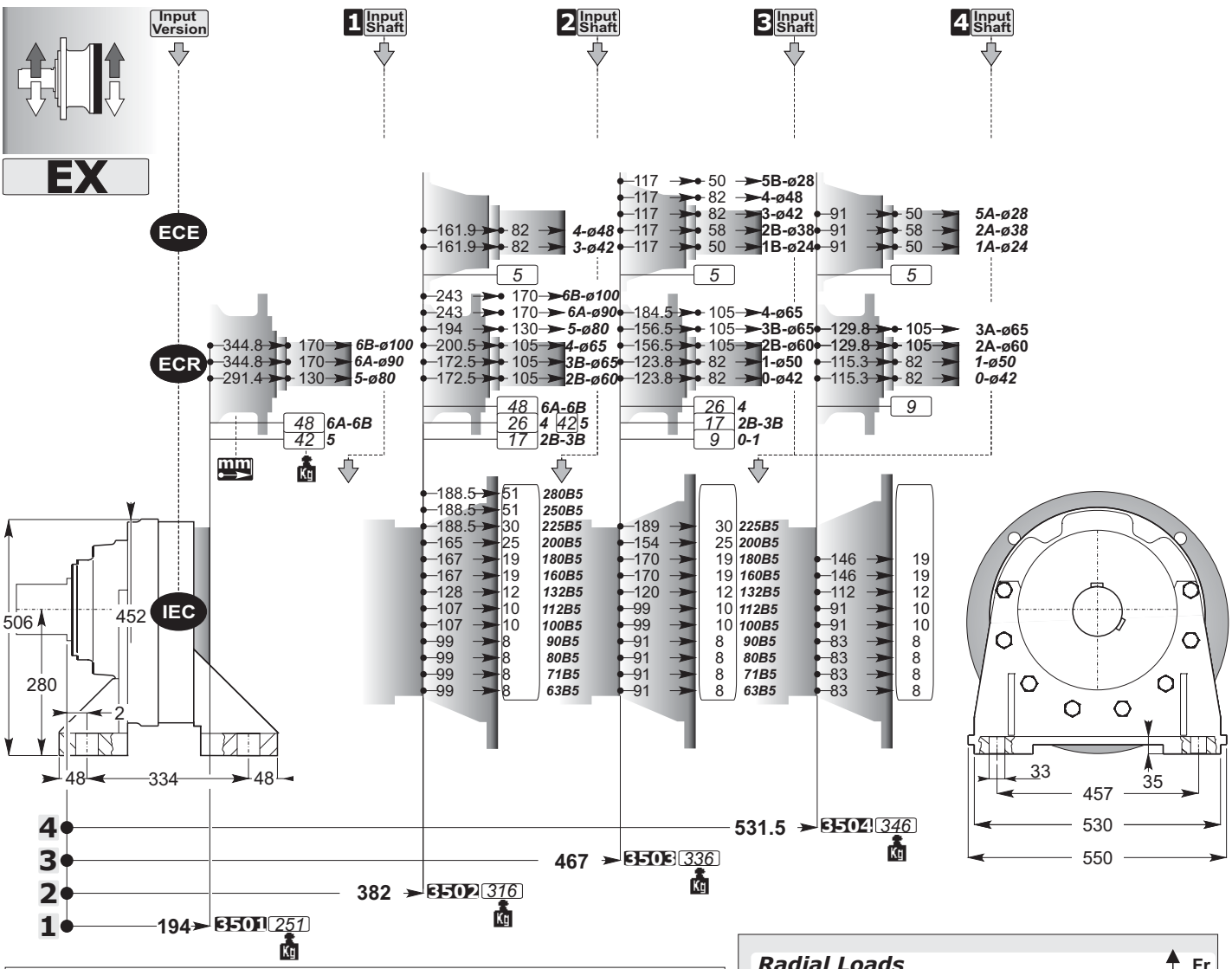
IEC

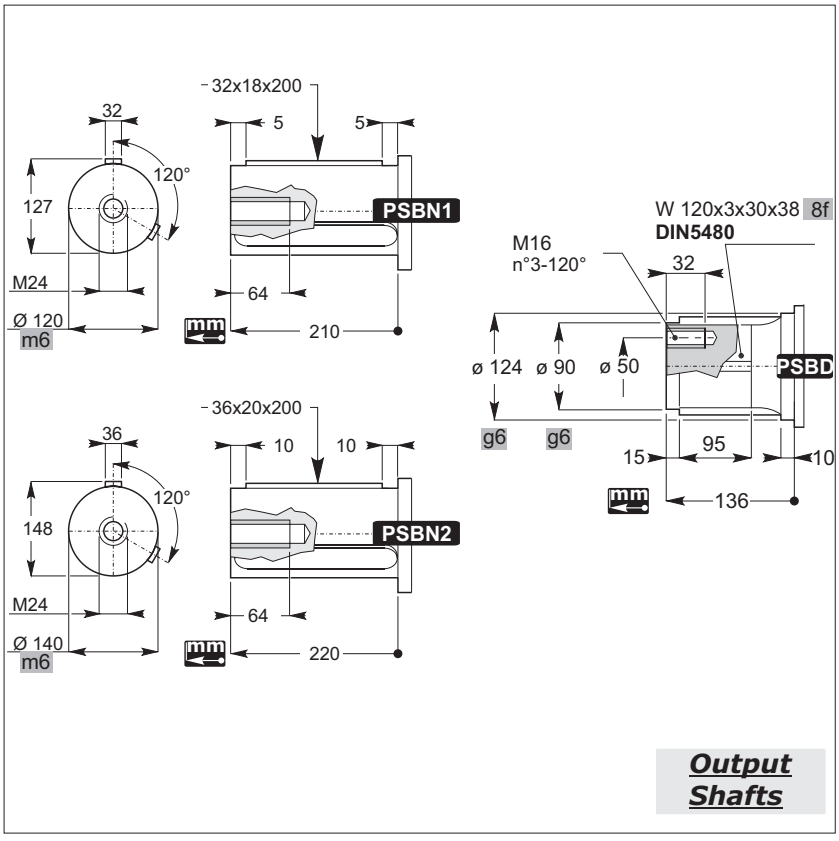
1 Input Shaft

2 Input Shaft

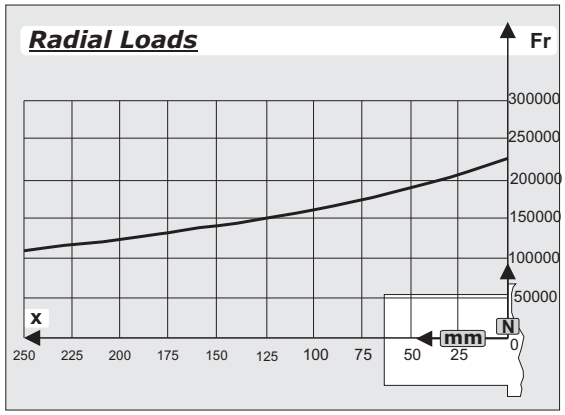
3 Input Shaft

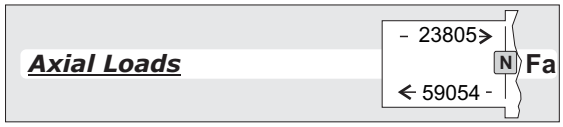
4 Input Shaft

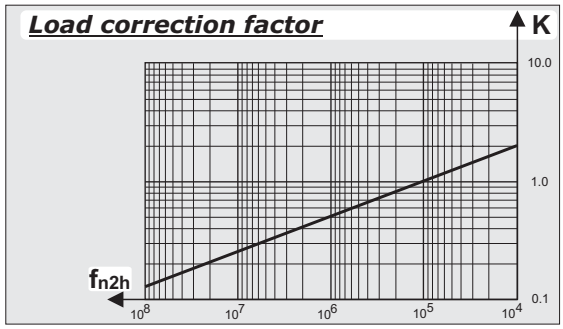


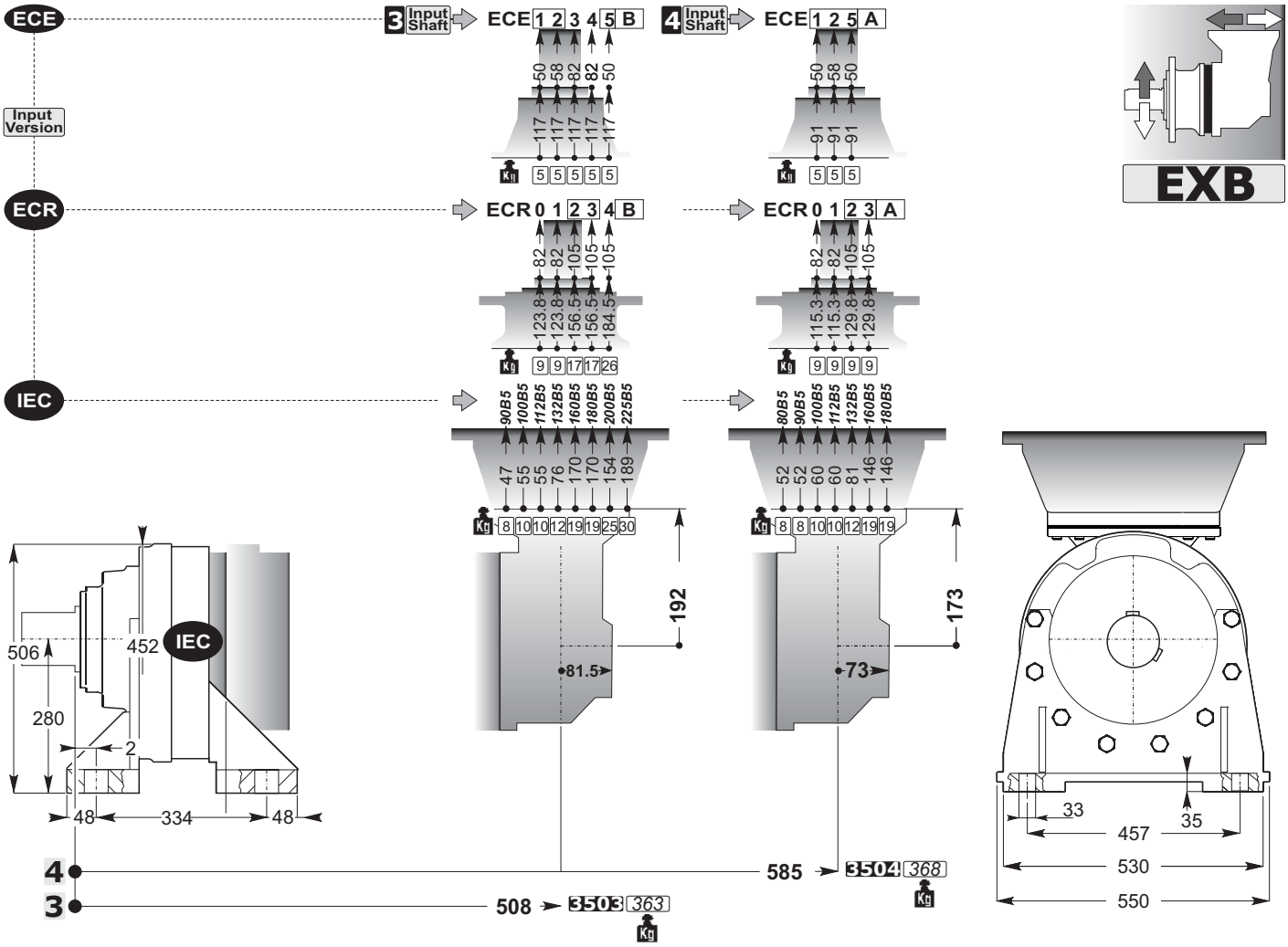


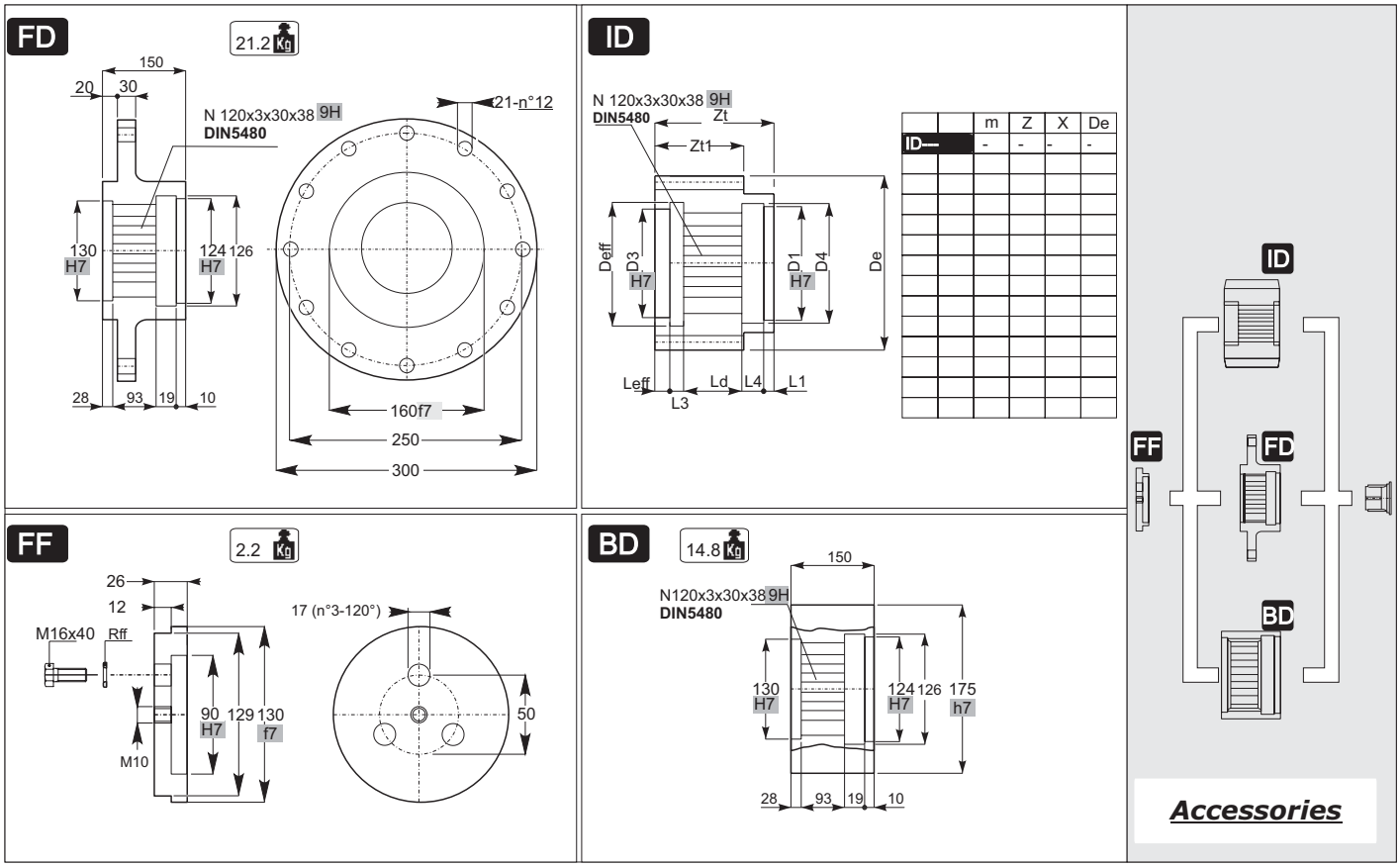
Output Shafts

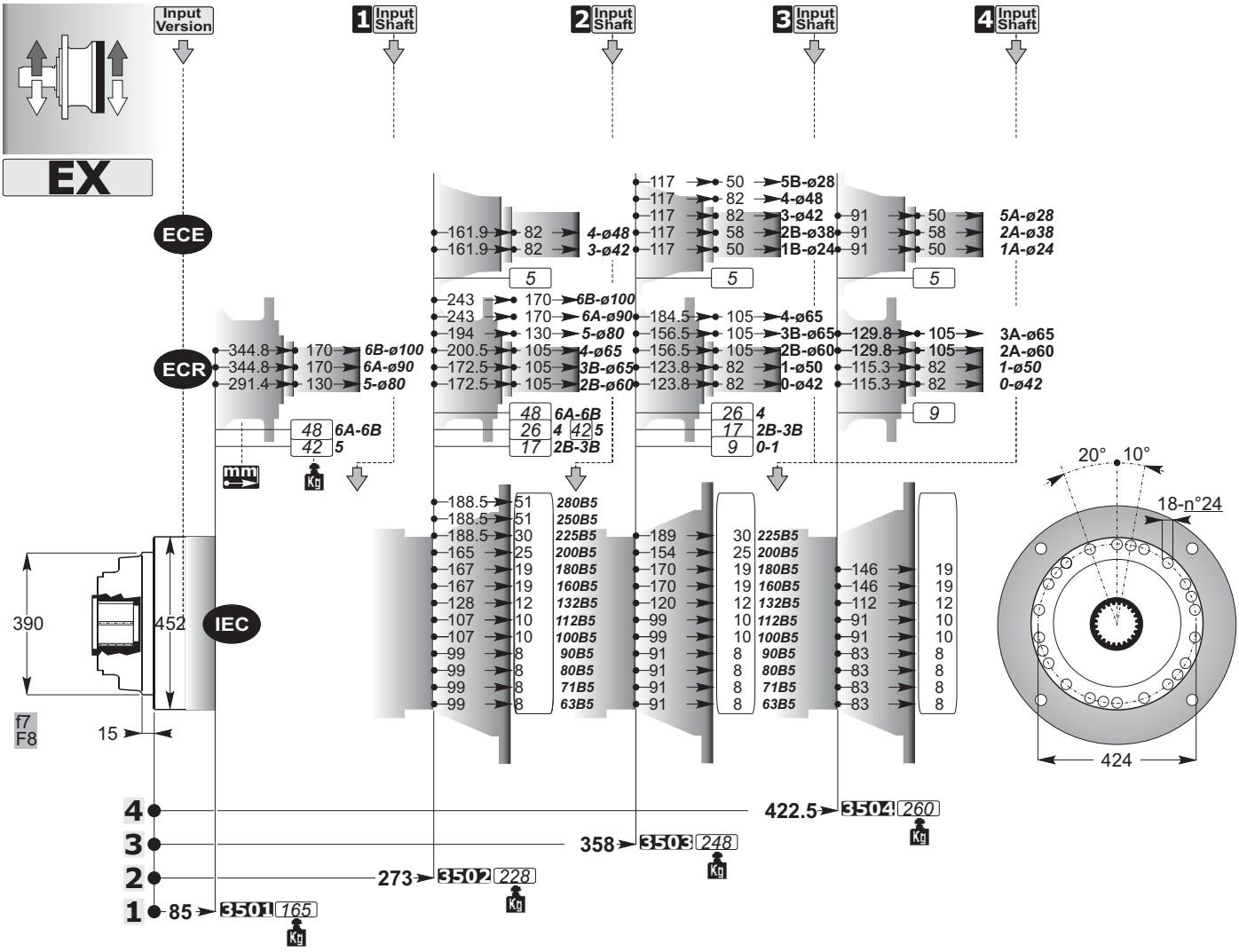


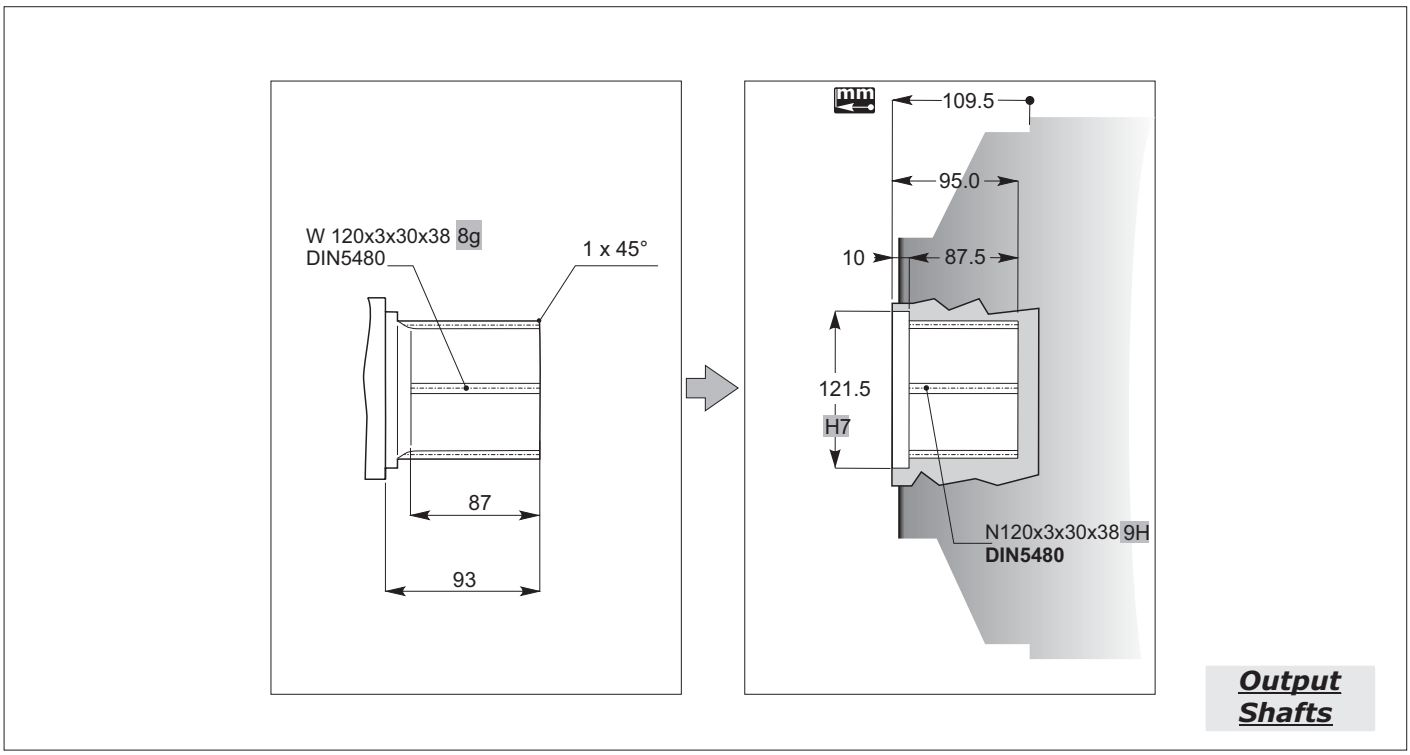




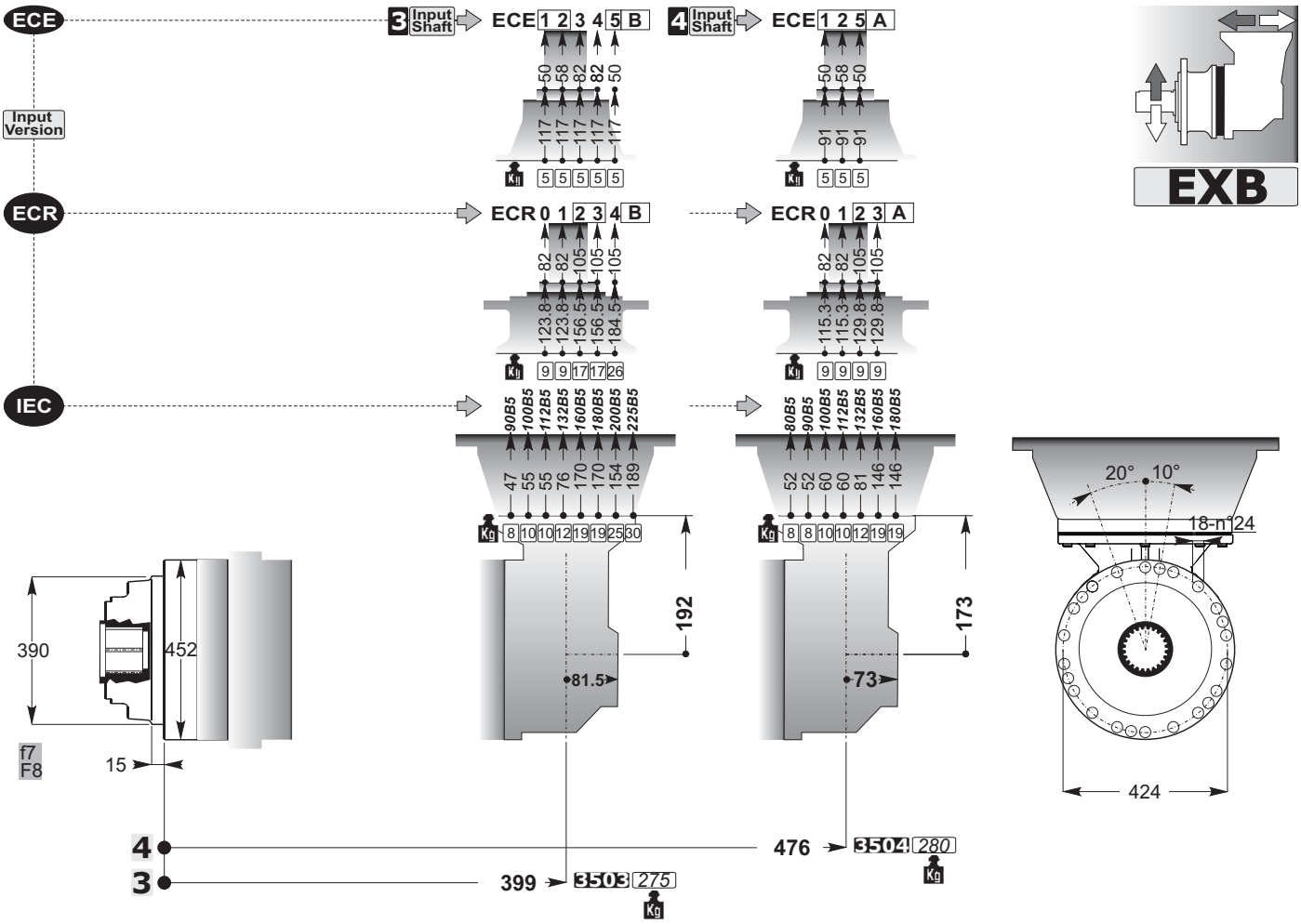

ECE
Input Version
ECR
IEC
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
IEC
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
EXB
506
452
IEC
280
2
48
334
48
192
81.5
173
73
33
35
457
530
550
4
3
585
3504 368
508
3503 363

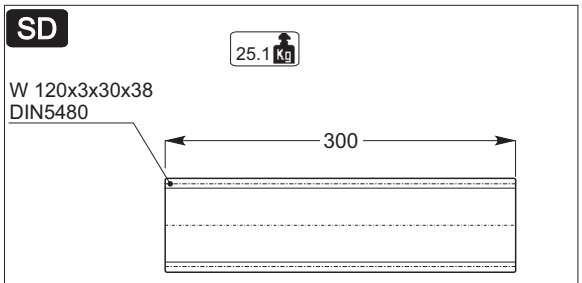

FD
21.2
150
20
30
N 120x3x30x38 9H
DIN5480
21-n°12
130 H7
124 H7
126
28
93
19
10
160f7
250
300
ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
2.2
26
12
M16x40
Rff
17 (n°3-120°)
90 H7
129
130 f7
M10
50
BD
14.8
150
N120x3x30x38 9H
DIN5480
130 H7
124 H7
126
175 h7
28
93
19
10
ID
FF
FD
BD
Accessories





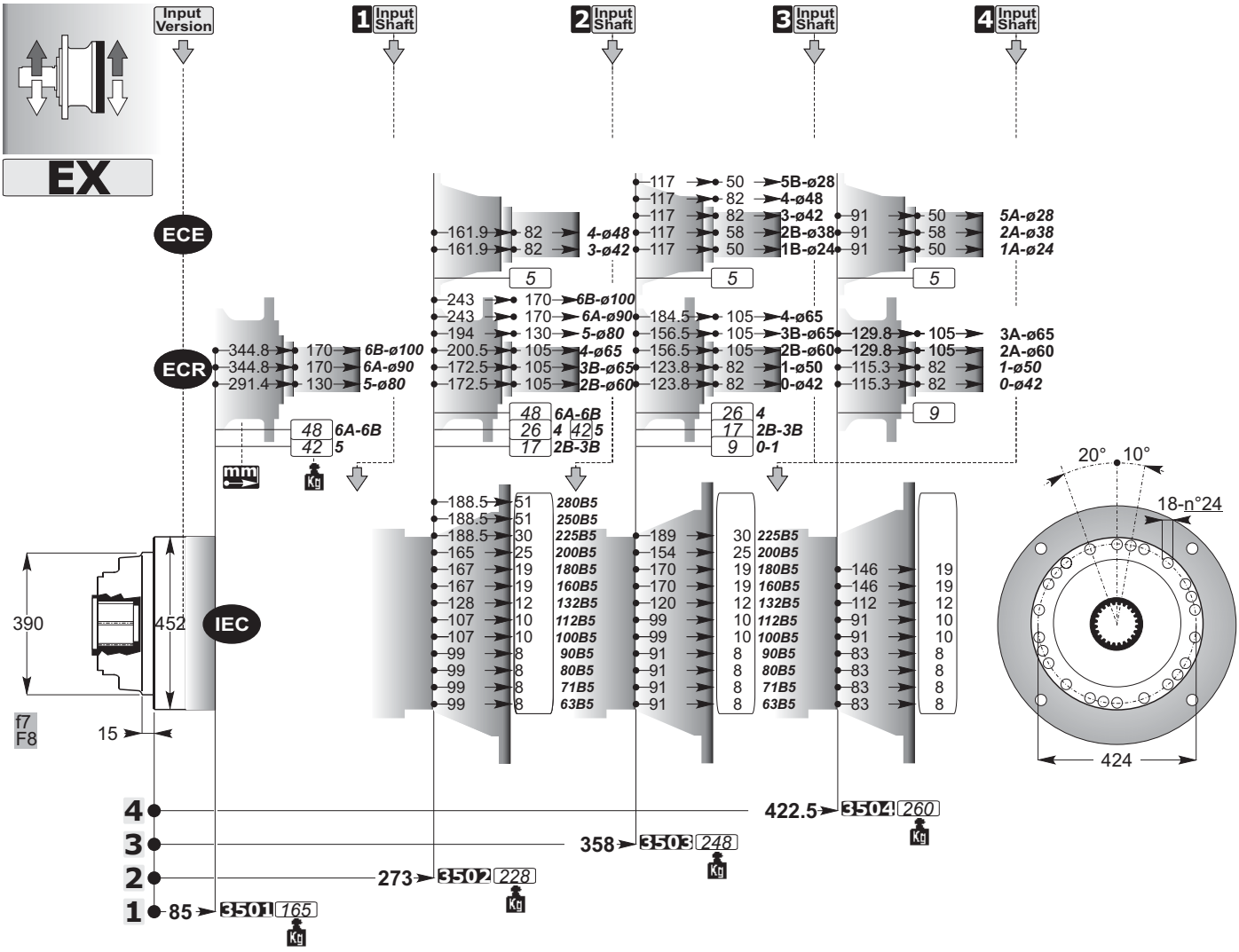
Output Shafts

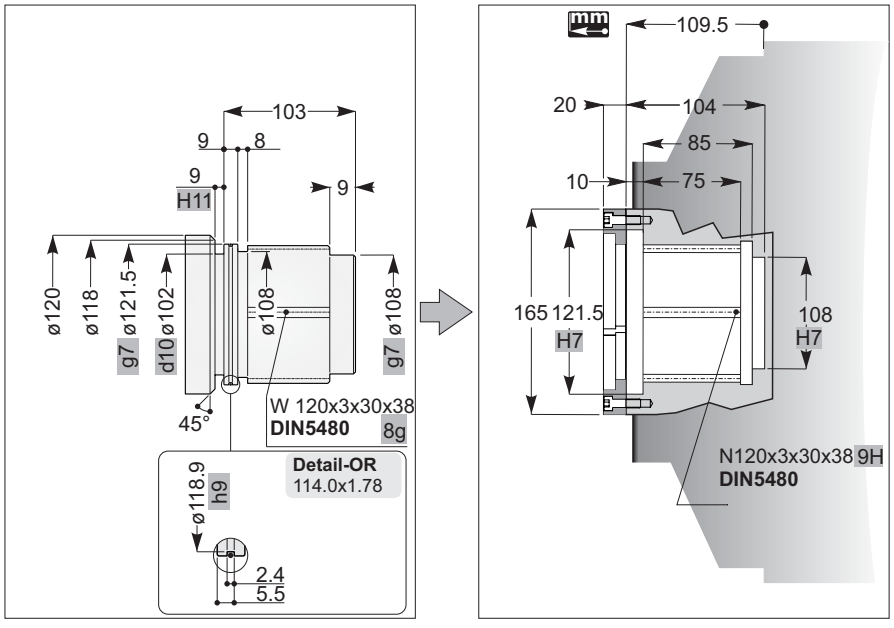




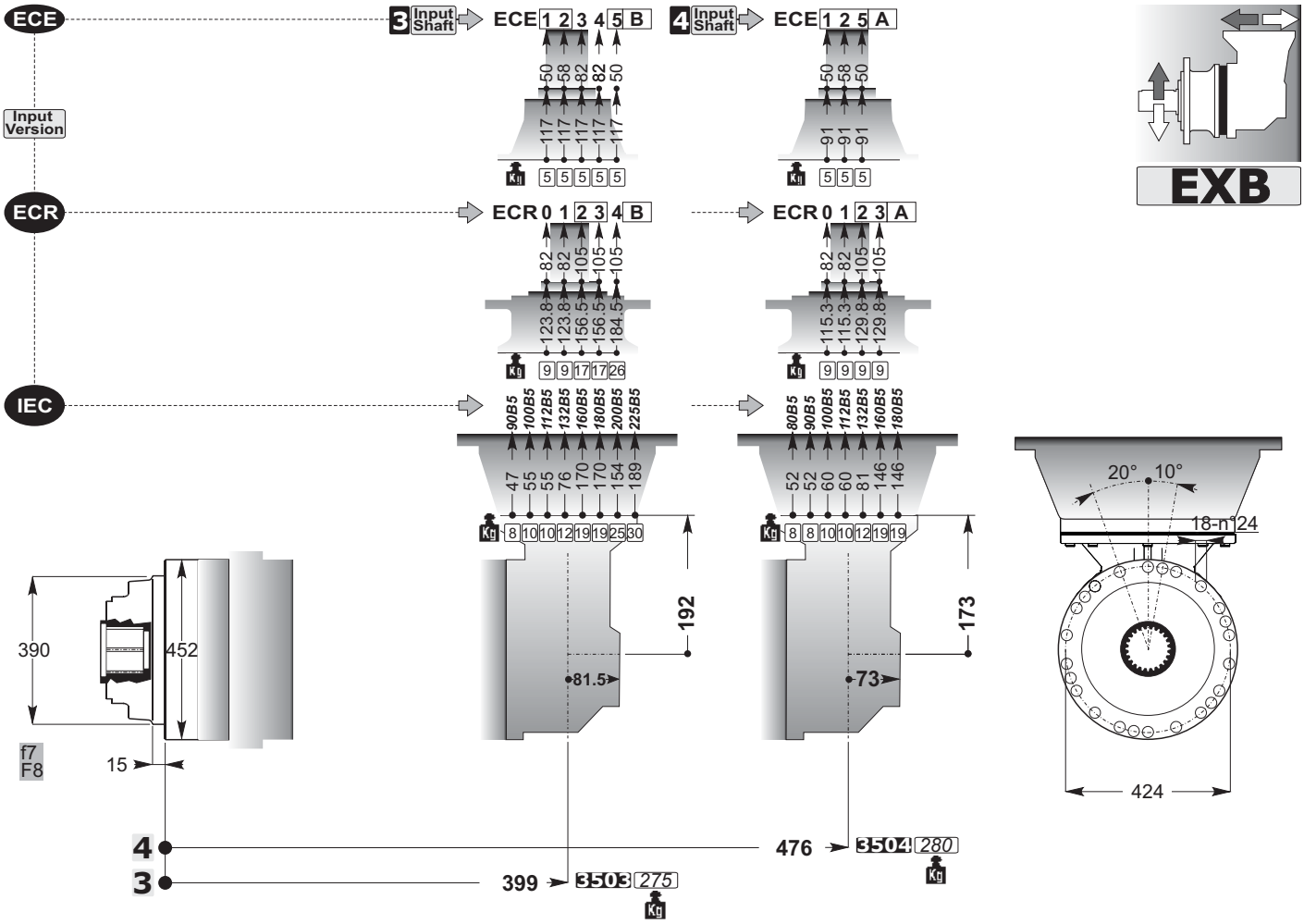


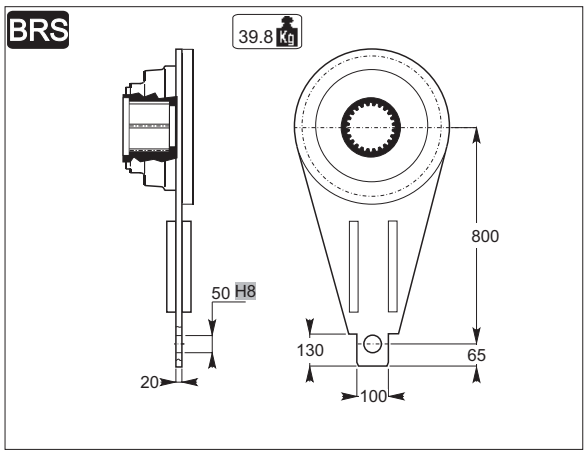
Accessories

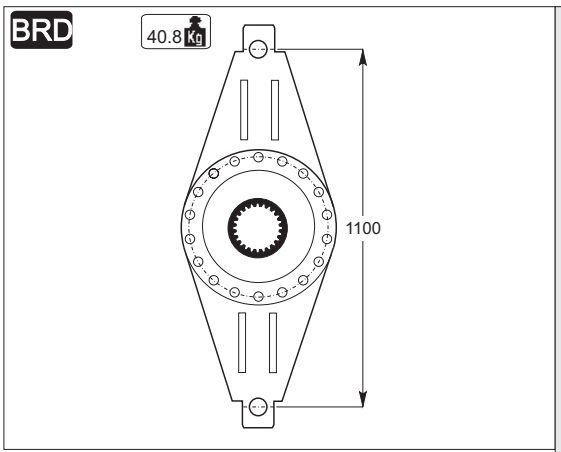


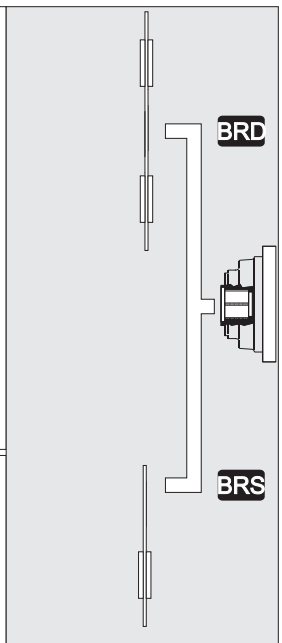


Output Shafts

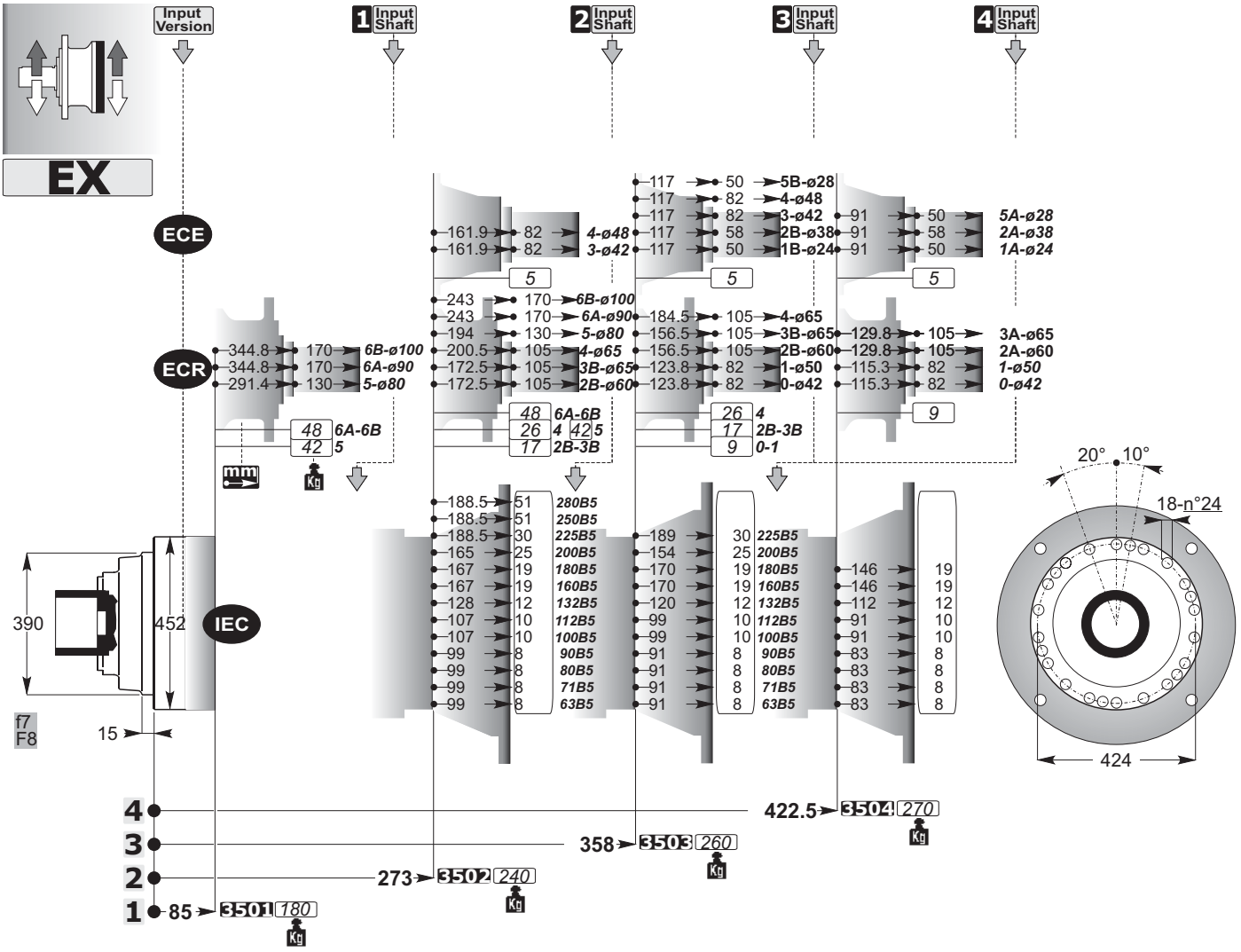


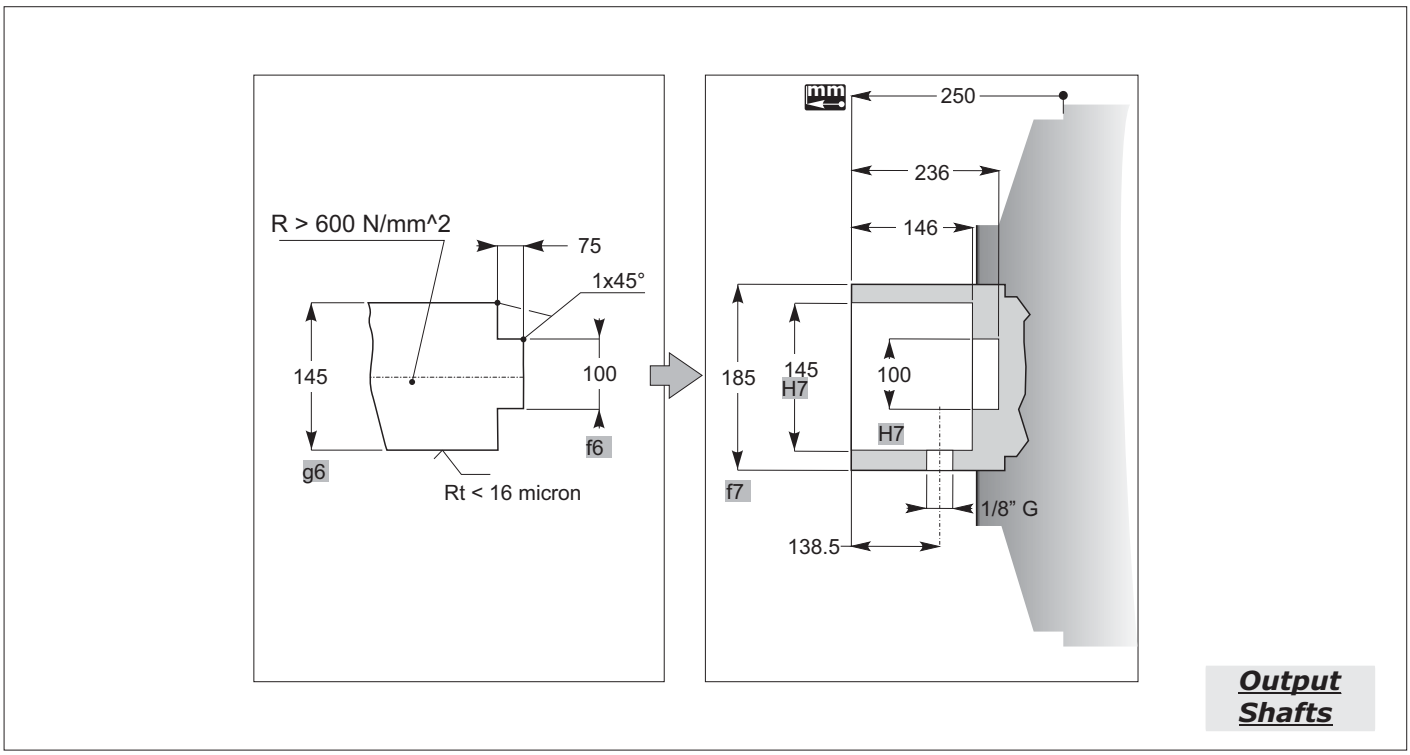




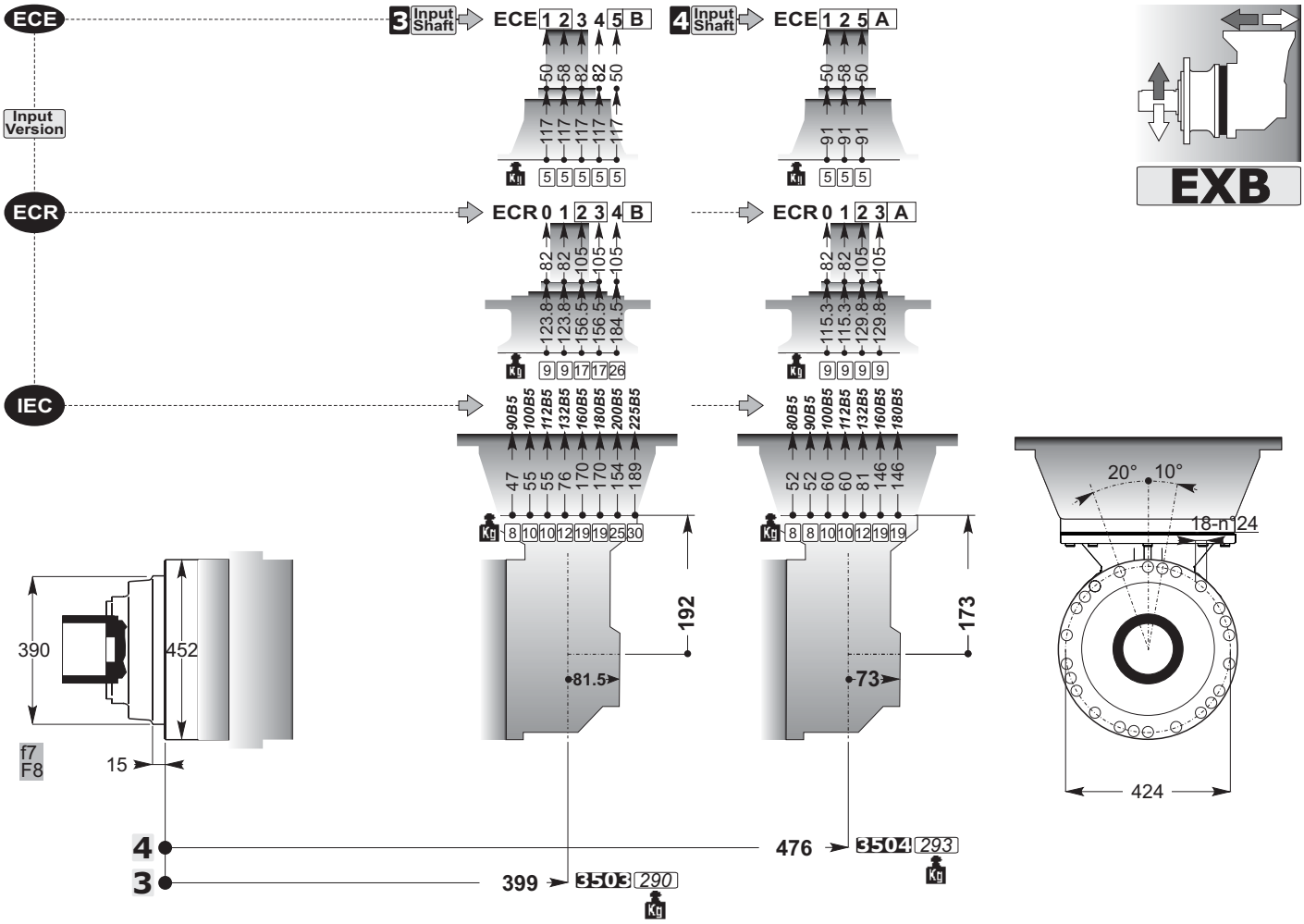


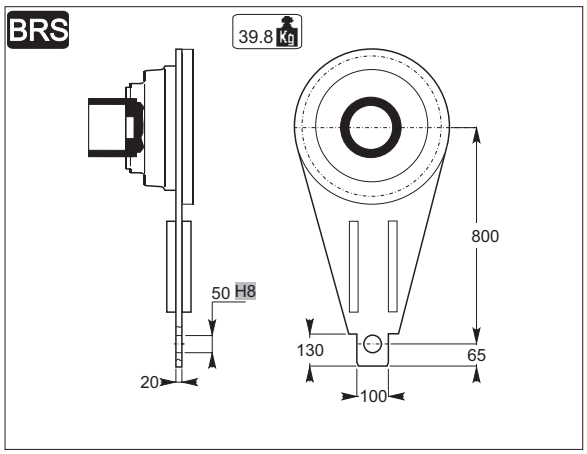
Accessories

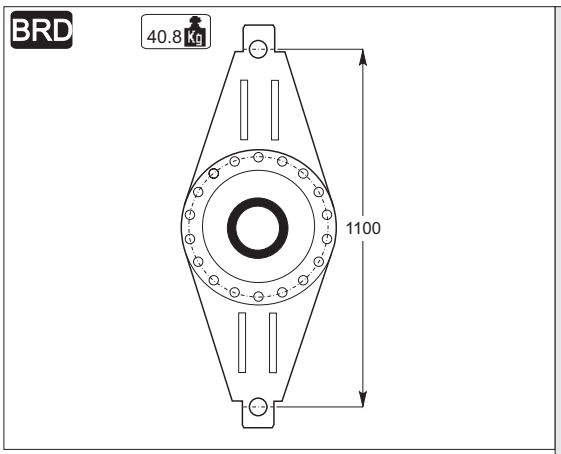


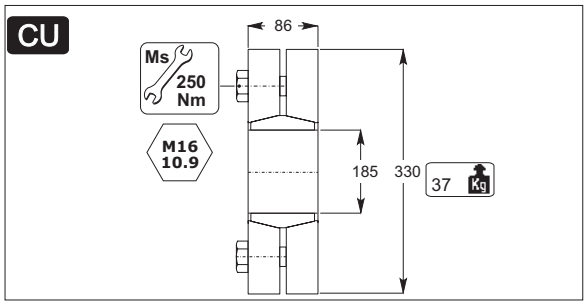


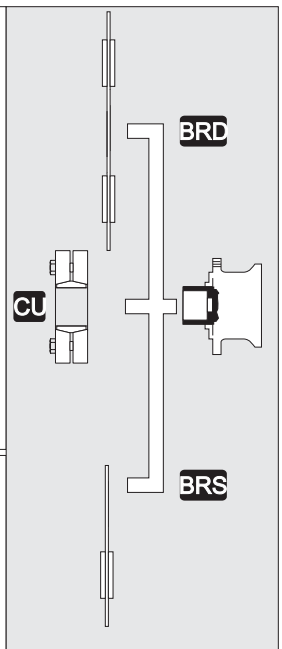
Output Shafts





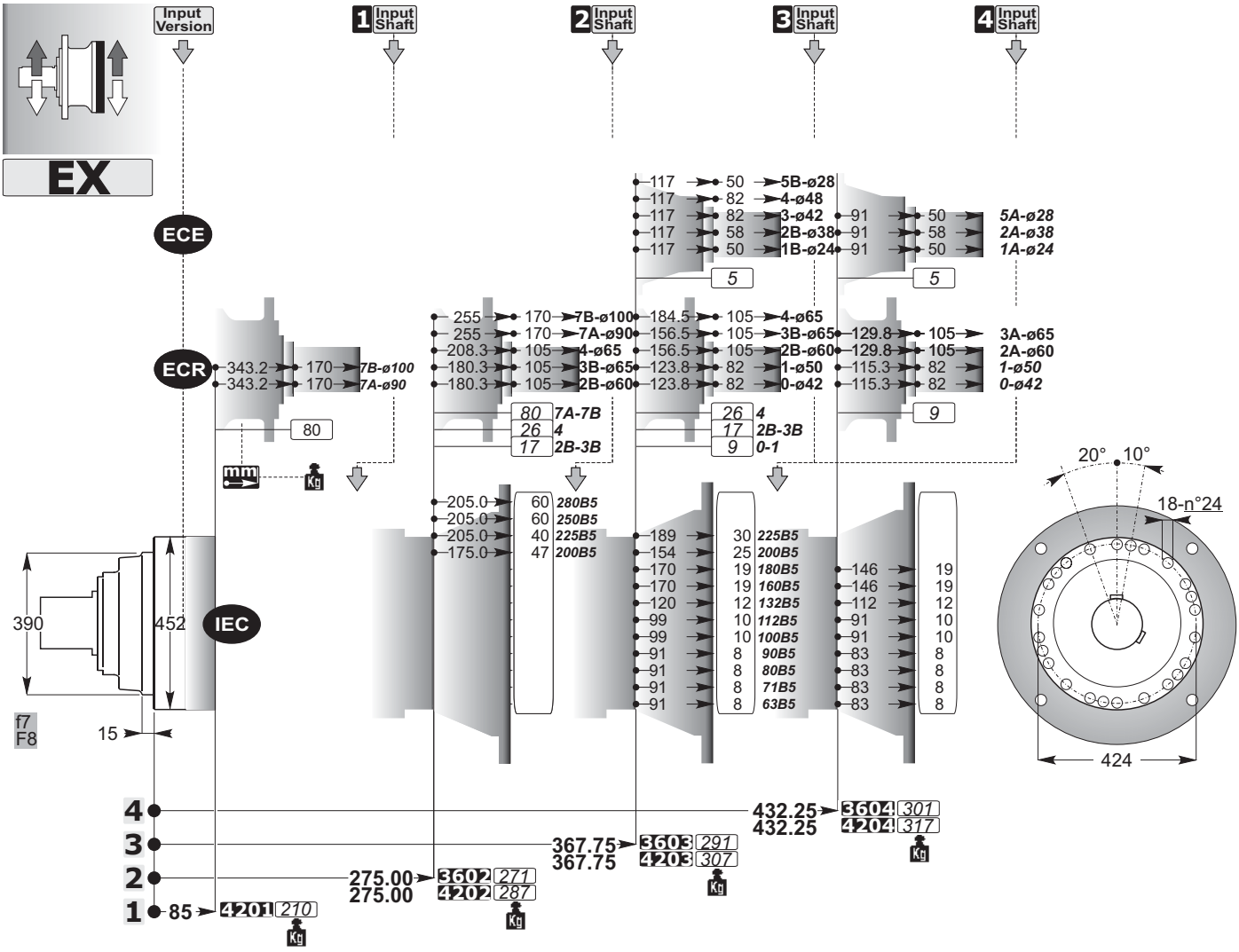


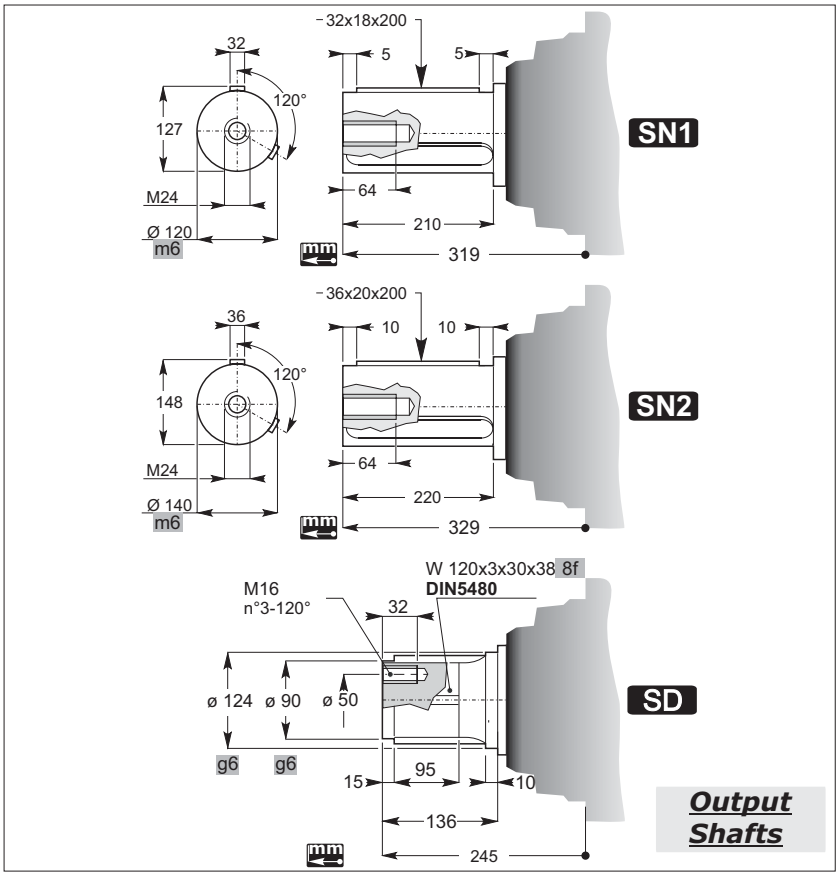


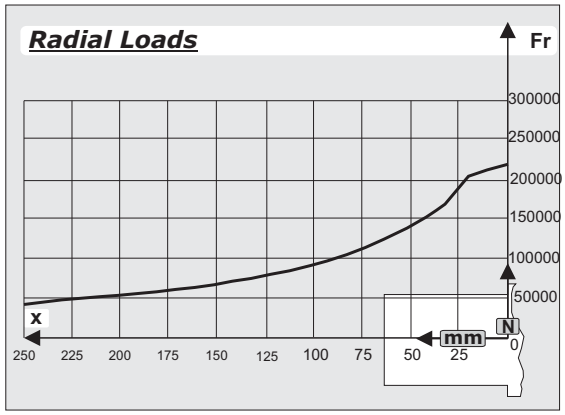


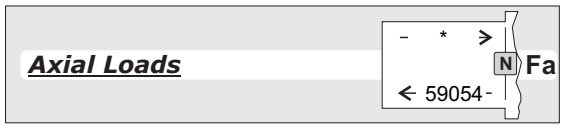
Accessories

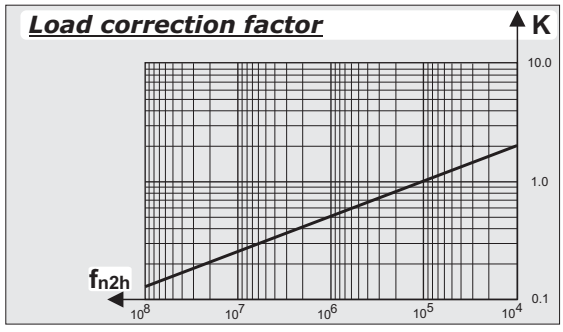
mm
C

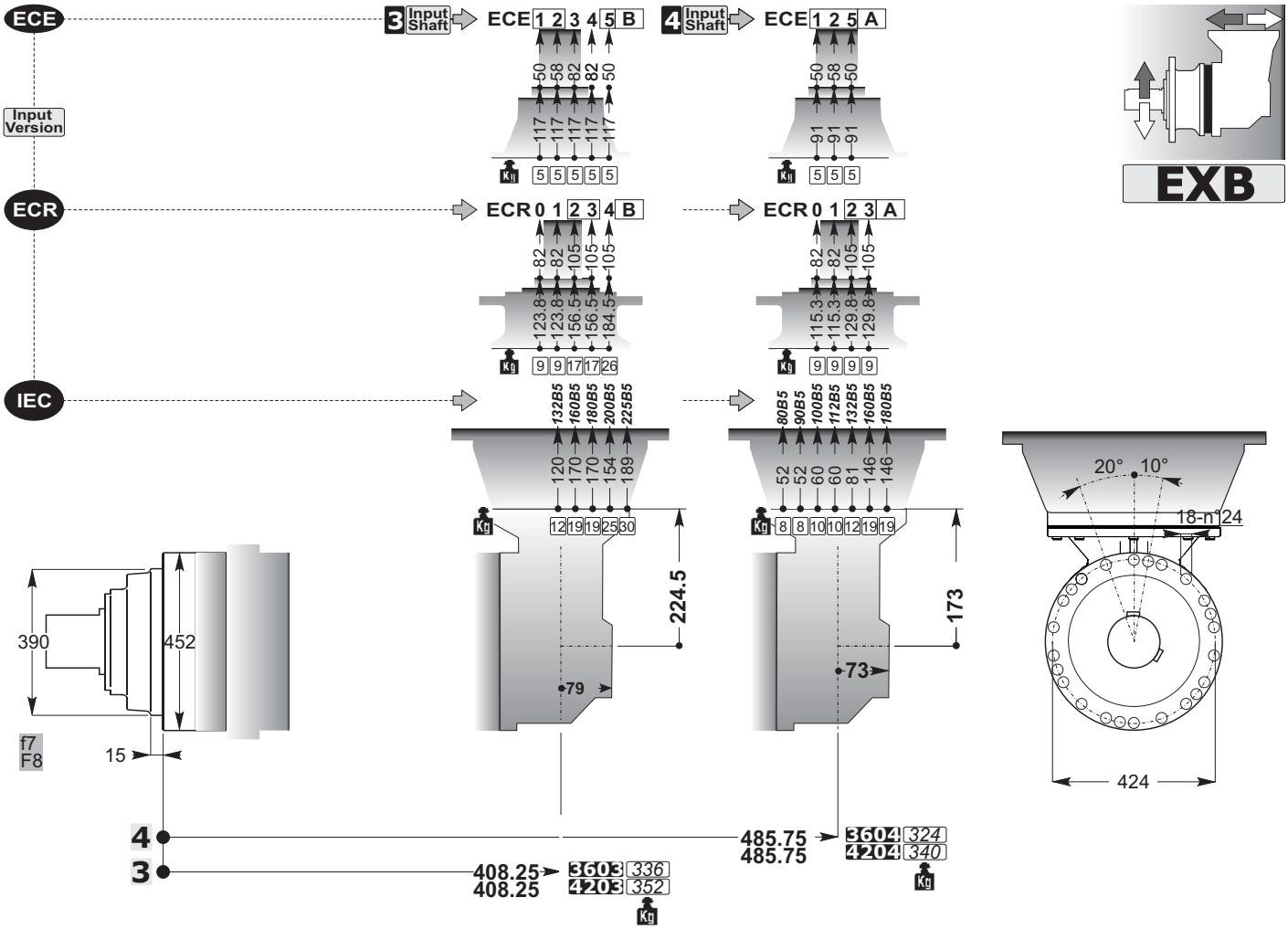

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
91 50 5A-ø28
91 58 2A-ø38
91 50 1A-ø24
5
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
129.8 105 3A-ø65
129.8 105 2A-ø60
115.3 82 1-ø50
115.3 82 0-ø42
9
80 7A-7B
26 4
17 2B-3B
26 4
17 2B-3B
9 0-1
343.2 170 7B-ø100
343.2 170 7A-ø90
80
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
189 30 225B5
154 25 200B5
170 19 180B5
170 19 160B5
120 12 132B5
99 10 112B5
99 10 100B5
91 8 90B5
91 8 80B5
91 8 71B5
91 8 63B5
146 19
146 19
112 12
91 10
91 10
83 8
83 8
83 8
83 8
20° 10°
18-n°24
424
390
452
f7
F8
15
4
3
2
1
85 4201 210
275.00 3602 271
275.00 4202 287
367.75 3603 291
367.75 4203 307
432.25 3604 301
432.25 4204 317

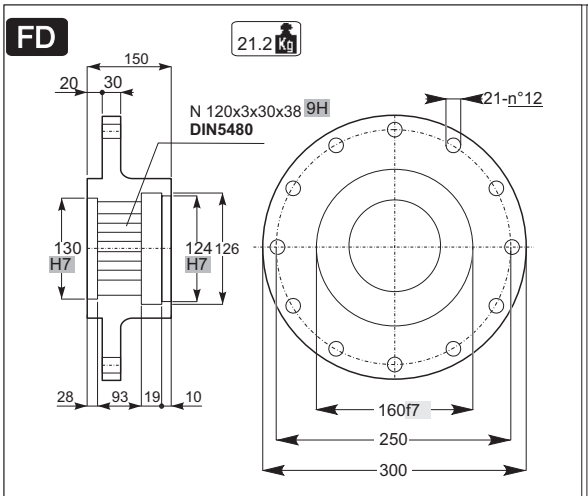

32x18x200
32
120°
127
M24
Ø 120
m6
5
5
64
210
319
SN1
36x20x200
36
120°
148
M24
Ø 140
m6
10
10
64
220
329
SN2
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
32
ø 124
ø 90
ø 50
g6
g6
15
95
10
136
245
SD
Output Shafts

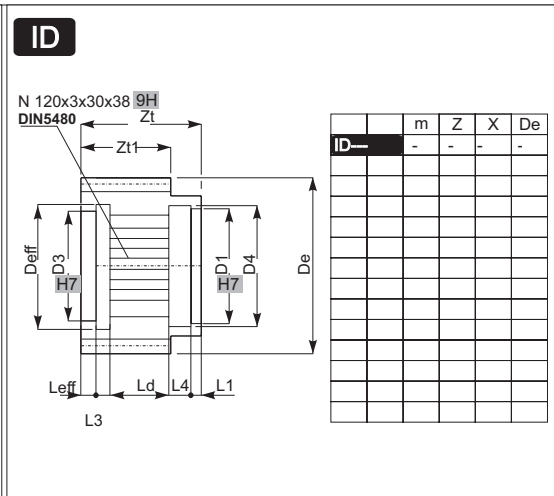

Radial Loads
Fr
300000
250000
200000
150000
100000
50000
0
x
250 225 200 175 150 125 100 75 50 25
mm
N

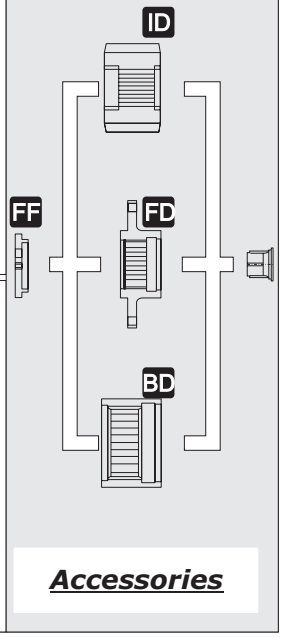

Axial Loads
N
Fa
59054

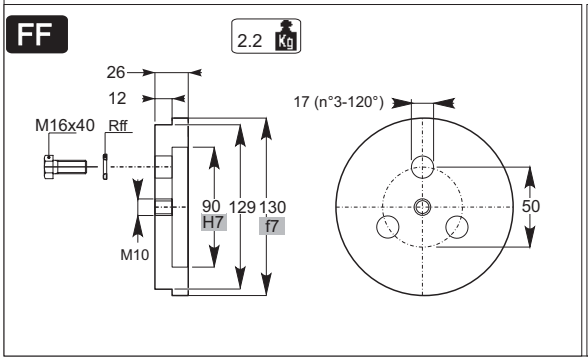

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8 10^7 10^6 10^5 10^4

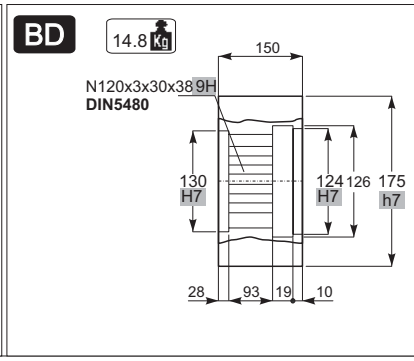

ECE
Input Version
ECR
IEC
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
EXB
132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
224.5
173
79
73
390
452
f7
F8
15
20°
10°
18-n124
424
4
3
485.75
485.75
3604 324
4204 340
408.25
408.25
3603 336
4203 352

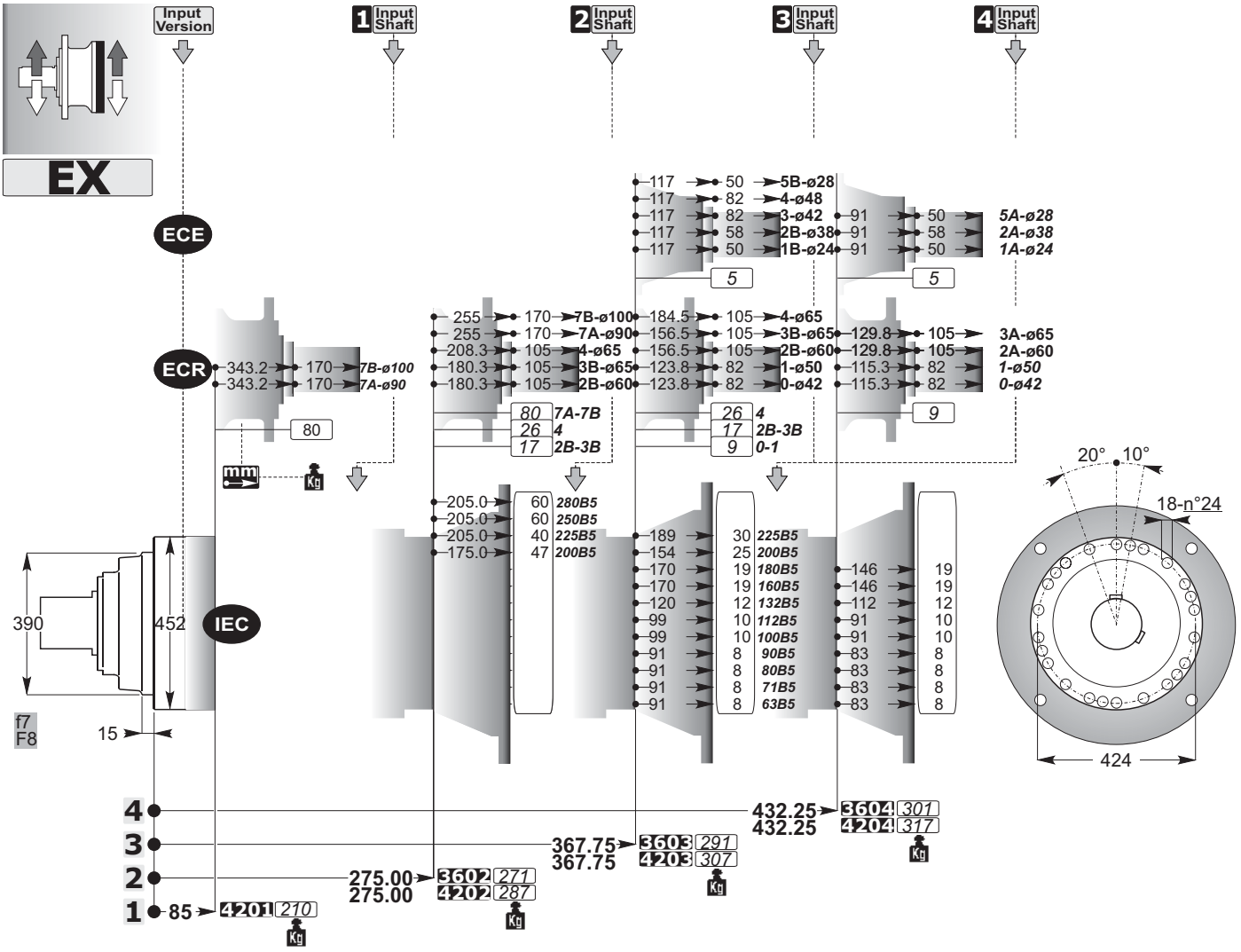

FD
21.2 Kg
150
20
30
N 120x3x30x38 9H
DIN5480
21-n°12
130 H7
124 126 H7
28
93
19
10
160f7
250
300

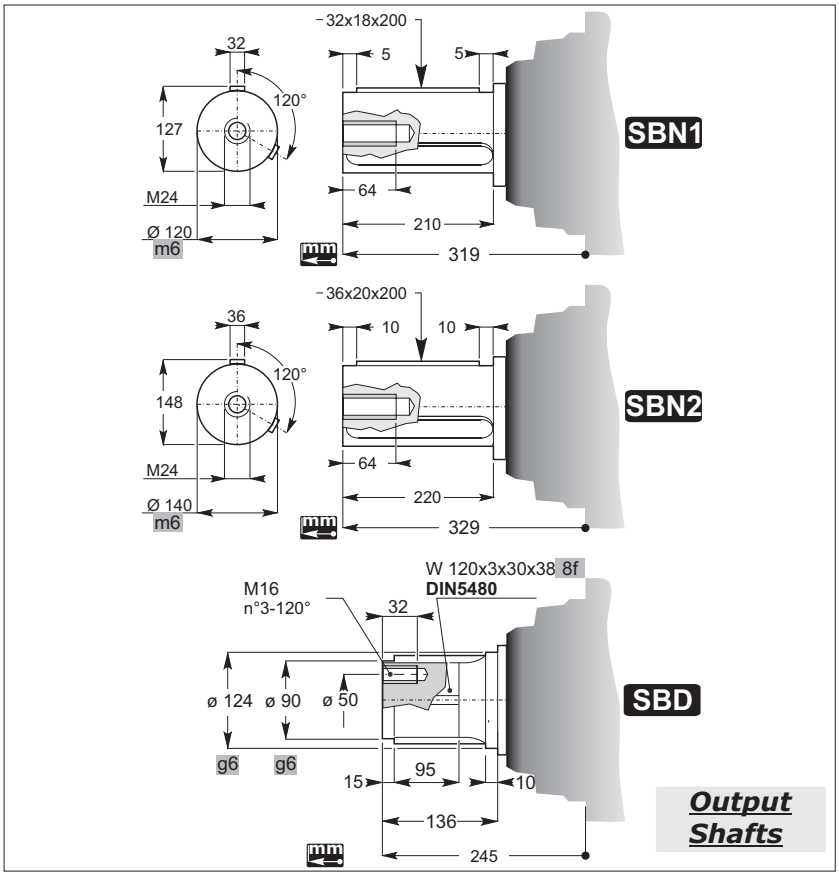

ID
N 120x3x30x38 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—

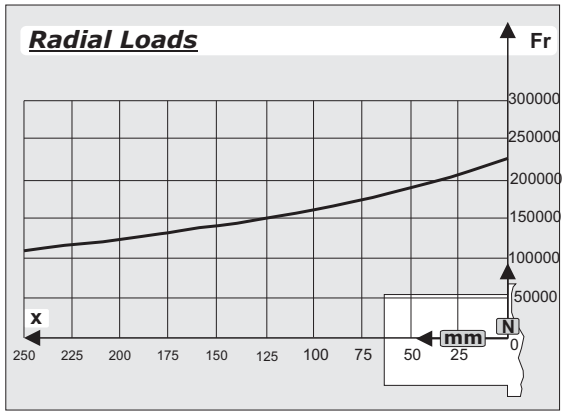

ID
FF
FD
BD
Accessories

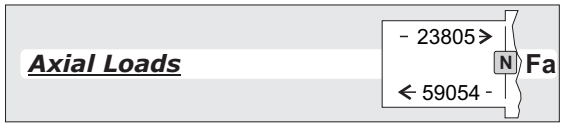

FF
2.2 Kg
26
12
M16x40
Rff
17 (n°3-120°)
90 H7
129
130 f7
M10
50

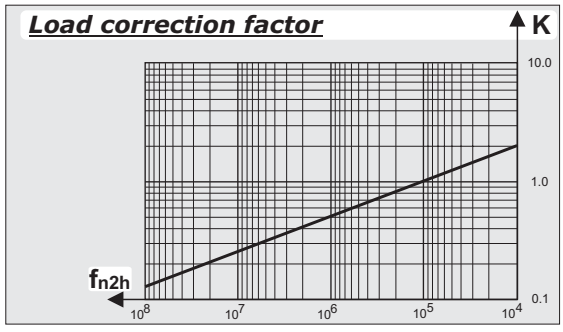

BD
14.8 Kg
150
N120x3x30x38 9H
DIN5480
130 H7
124 126 H7
175 h7
28
93
19
10

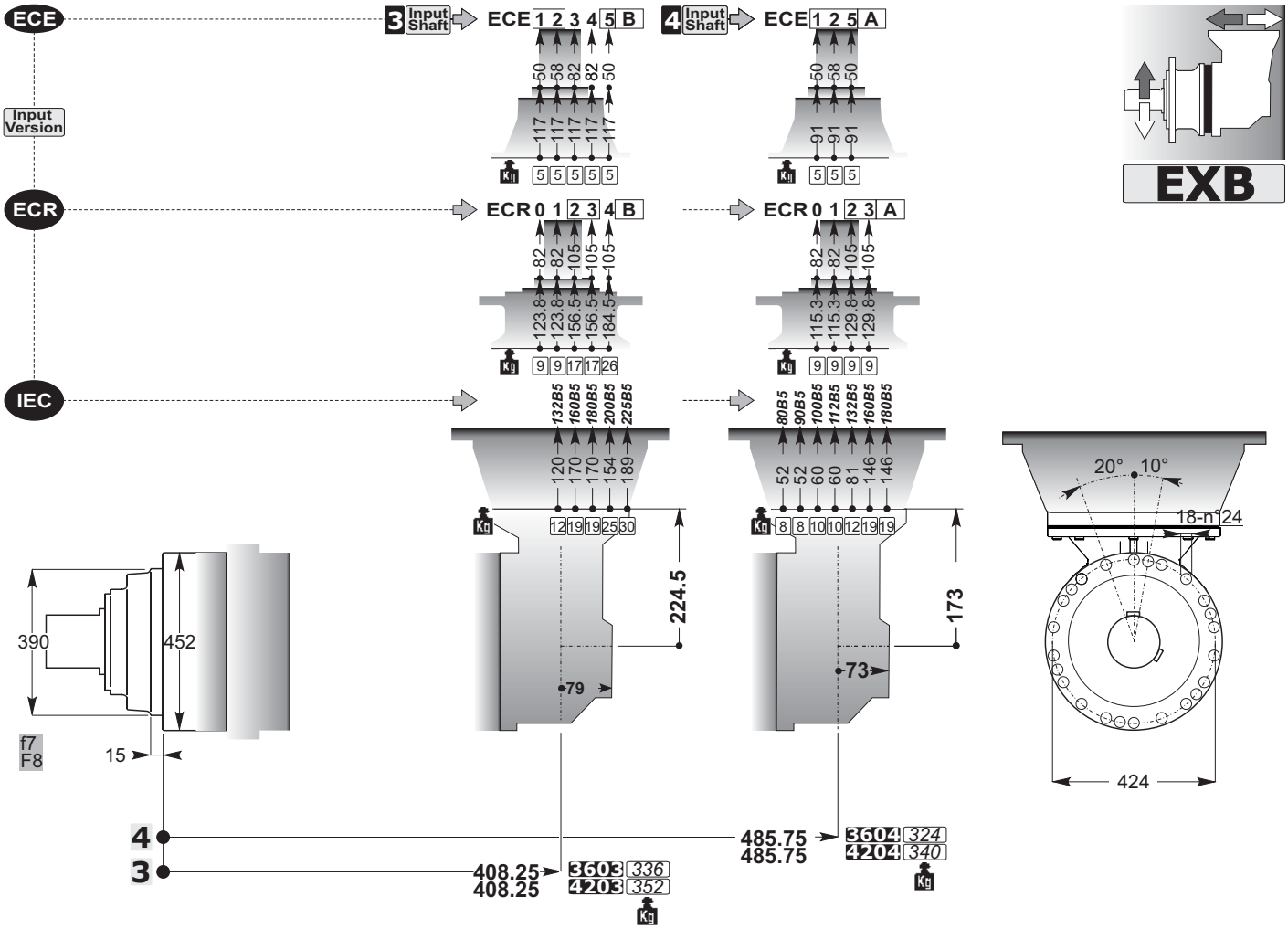

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
91 50 5A-ø28
91 58 2A-ø38
91 50 1A-ø24
5
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
129.8 105 3A-ø65
129.8 105 2A-ø60
115.3 82 1-ø50
115.3 82 0-ø42
80 7A-7B
26 4
17 2B-3B
26 4
17 2B-3B
9 0-1
9
343.2 170 7B-ø100
343.2 170 7A-ø90
80
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
189 30 225B5
154 25 200B5
170 19 180B5
170 19 160B5
120 12 132B5
99 10 112B5
99 10 100B5
91 8 90B5
91 8 80B5
91 8 71B5
91 8 63B5
146 19
146 19
112 12
91 10
91 10
83 8
83 8
83 8
83 8
20° 10°
18-n°24
424
390
452
f7
F8
15
4
3
2
1
85 4201 210
275.00 3602 271
275.00 4202 287
367.75 3603 291
367.75 4203 307
432.25 3604 301
432.25 4204 317

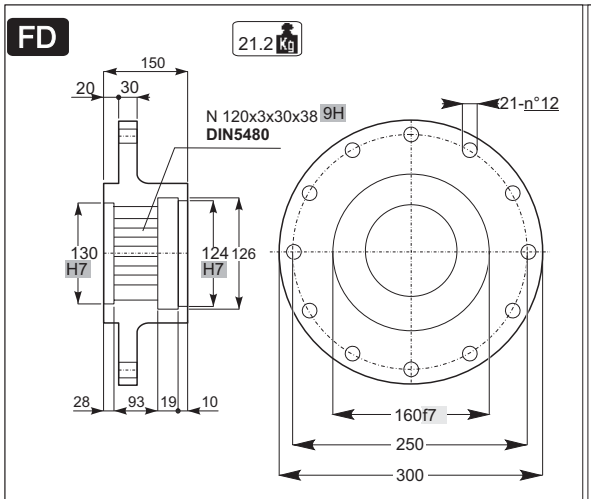

32x18x200
32
120°
127
M24
Ø 120
m6
5
5
64
210
319
SBN1
36x20x200
36
120°
148
M24
Ø 140
m6
10
10
64
220
329
SBN2
W 120x3x30x38 8f
DIN5480
M16
n°3-120°
32
ø 124
ø 90
ø 50
g6
g6
15
95
10
136
245
SBD
Output Shafts

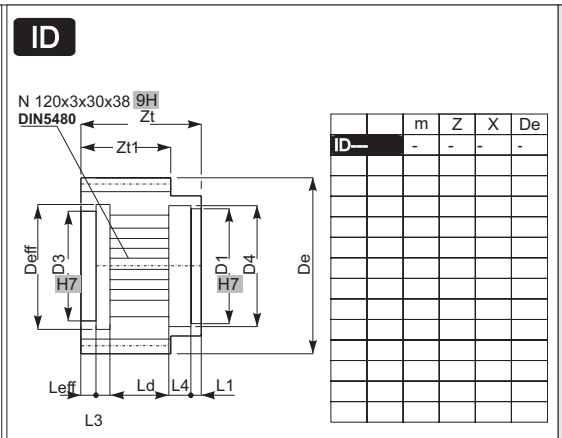

Radial Loads
Fr
300000
250000
200000
150000
100000
50000
0
x
250 225 200 175 150 125 100 75 50 25
mm
N

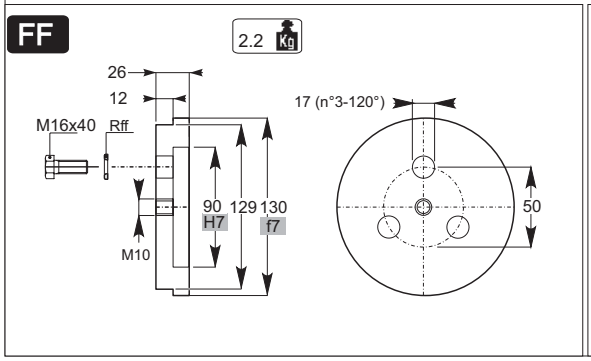

Axial Loads
23805
N
Fa
59054

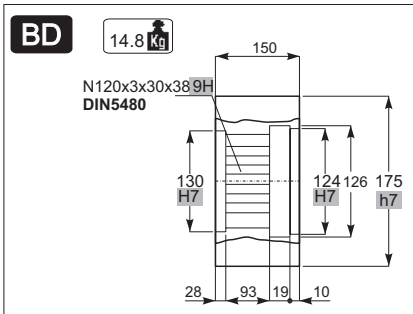

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8 10^7 10^6 10^5 10^4

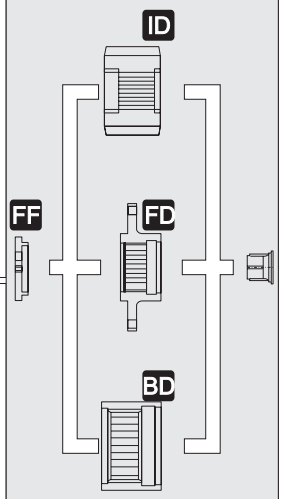












Accessories

mm
C

EX

Input Version

ECE

ECR

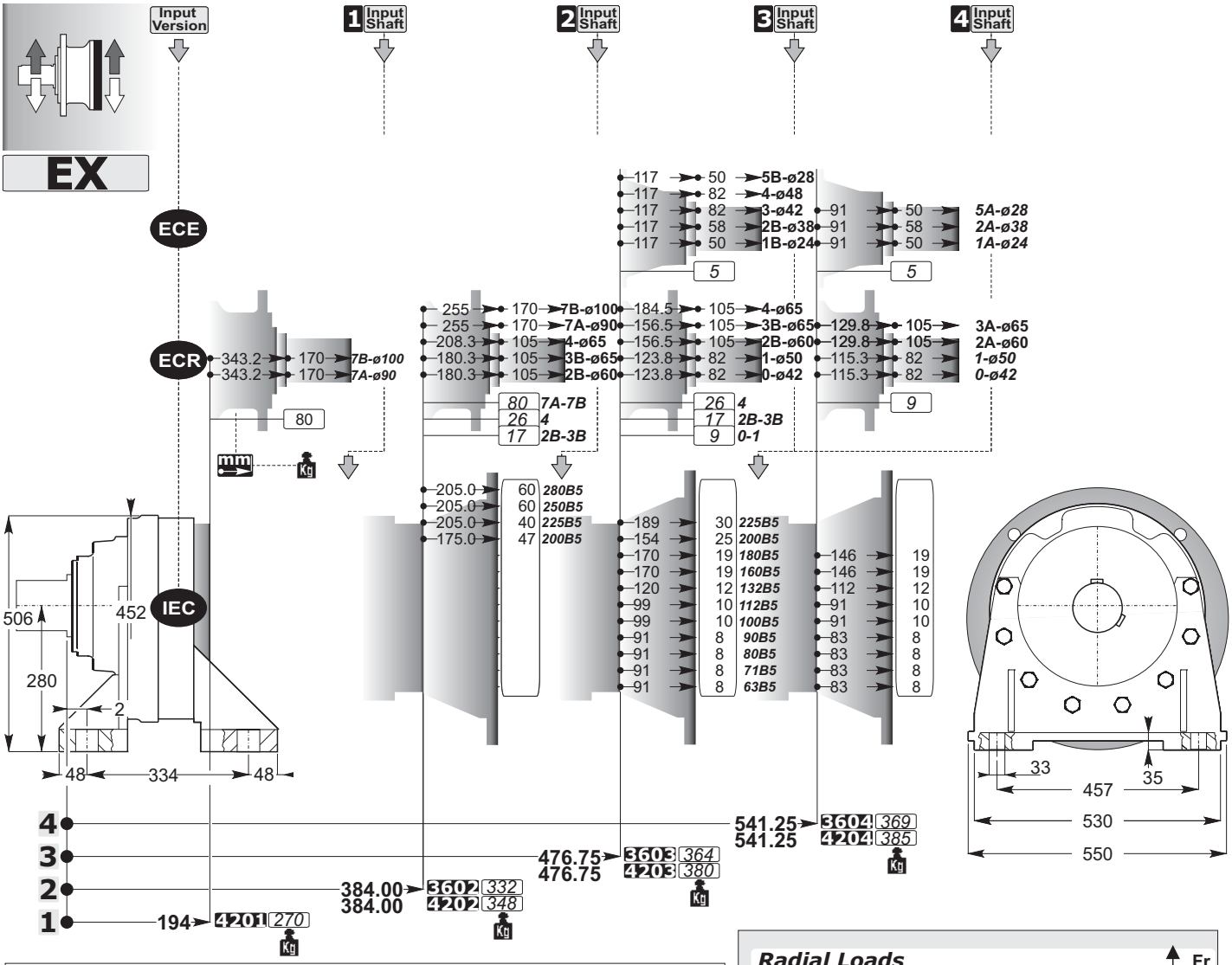
IEC

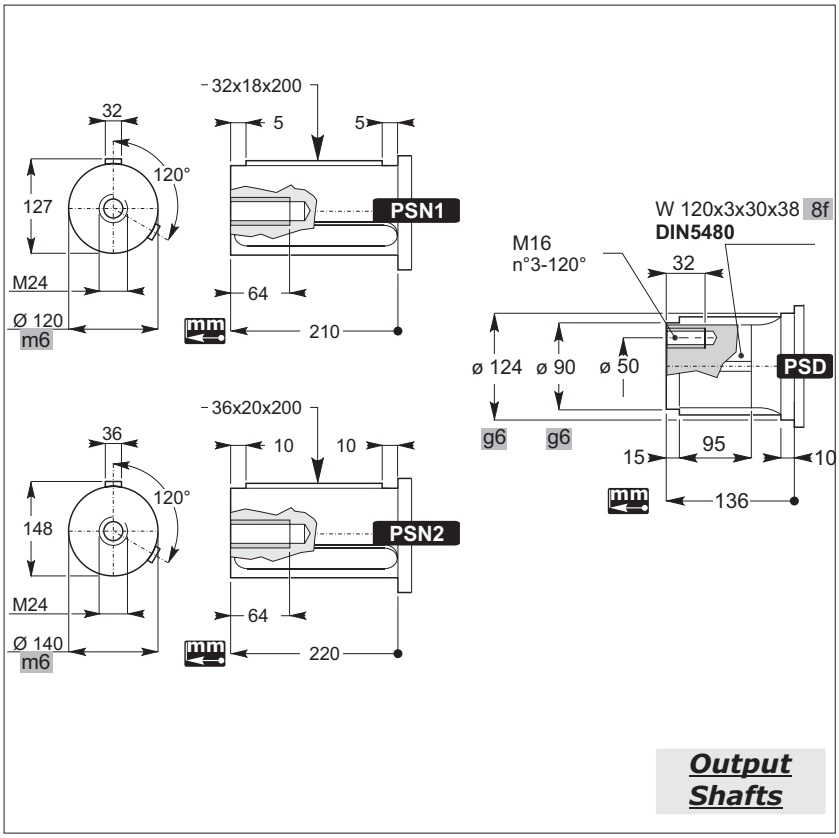
1 Input Shaft

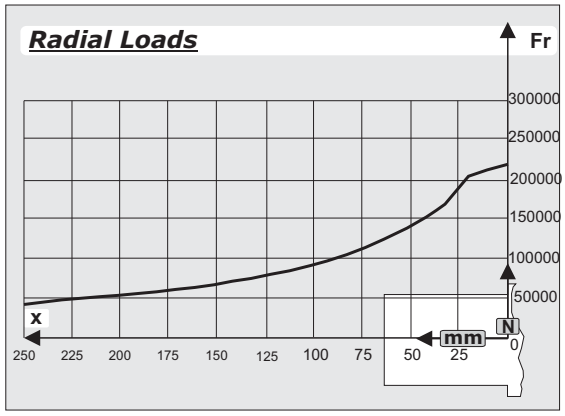
2 Input Shaft

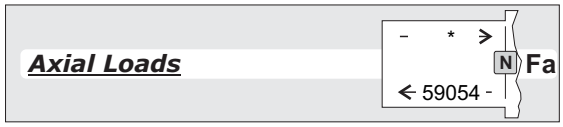
3 Input Shaft

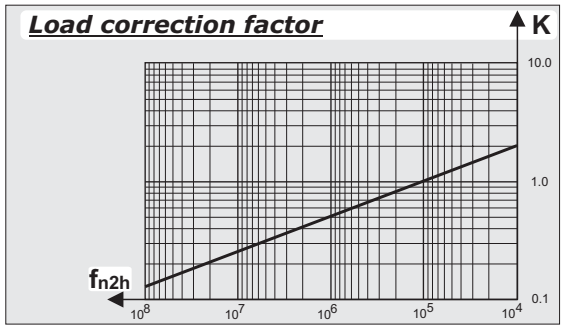
4 Input Shaft

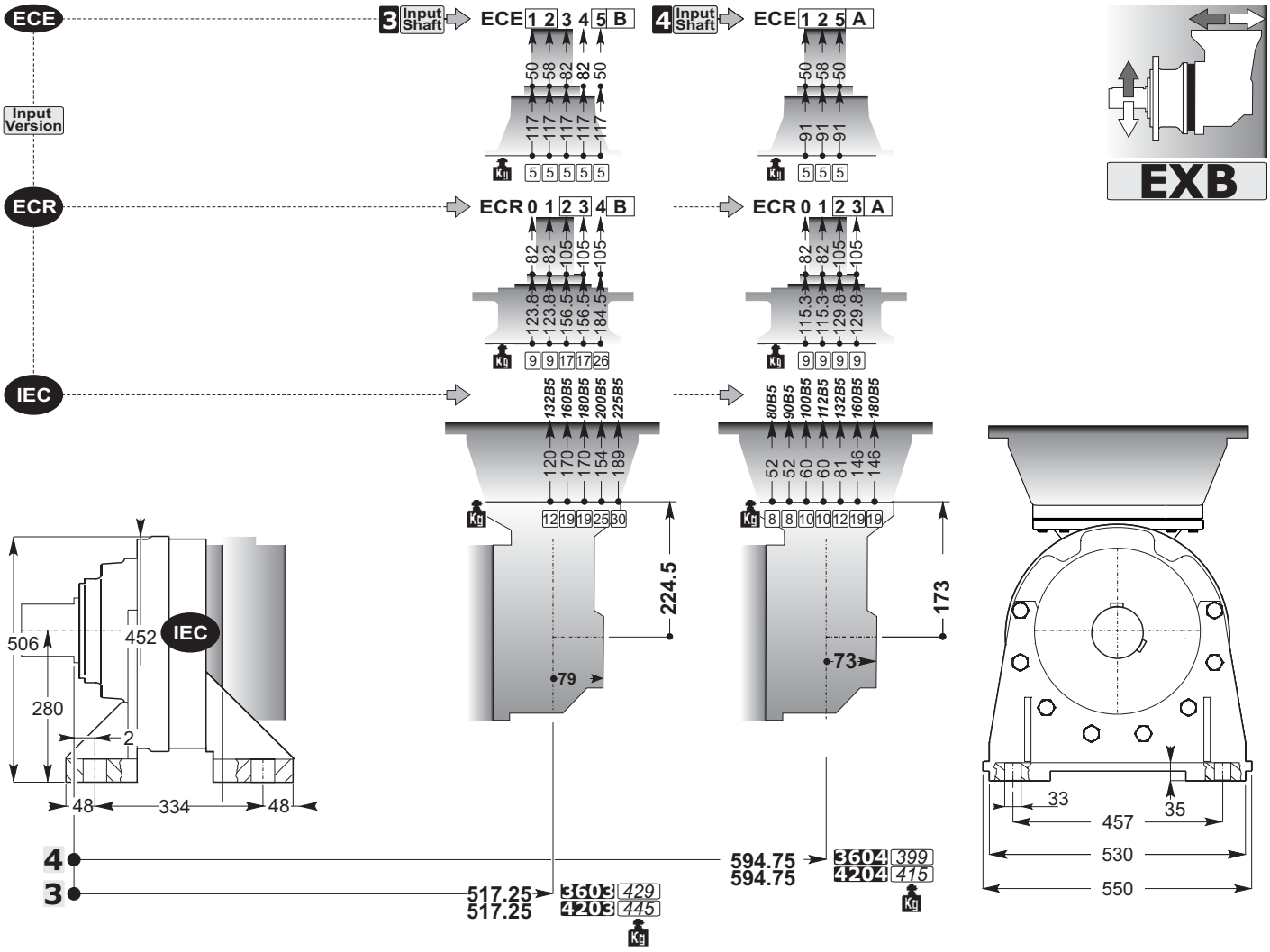


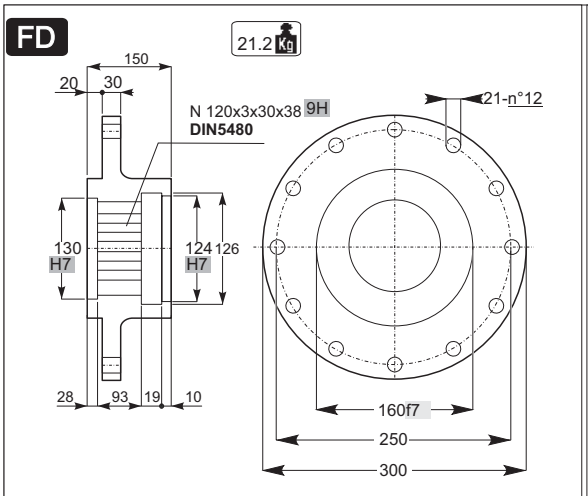


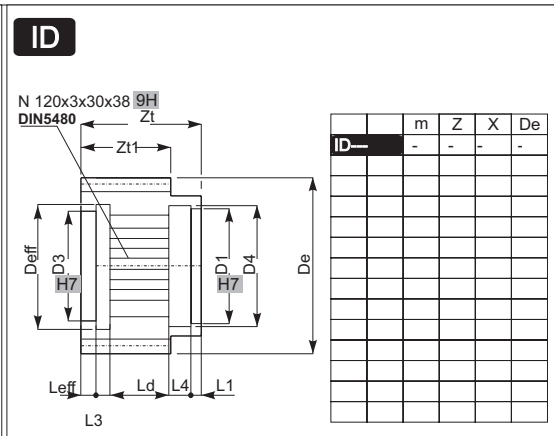


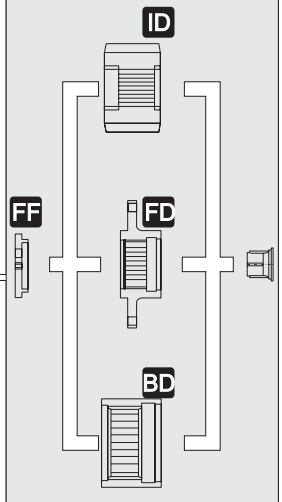


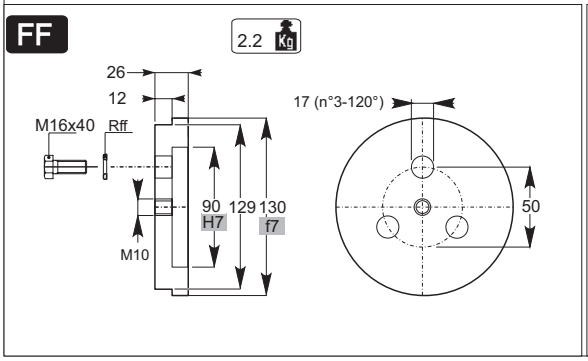


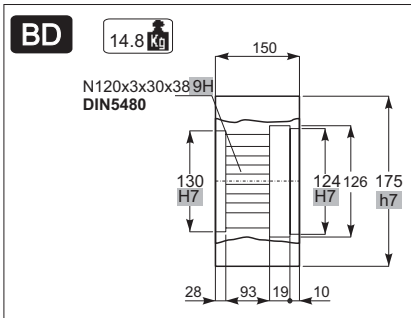






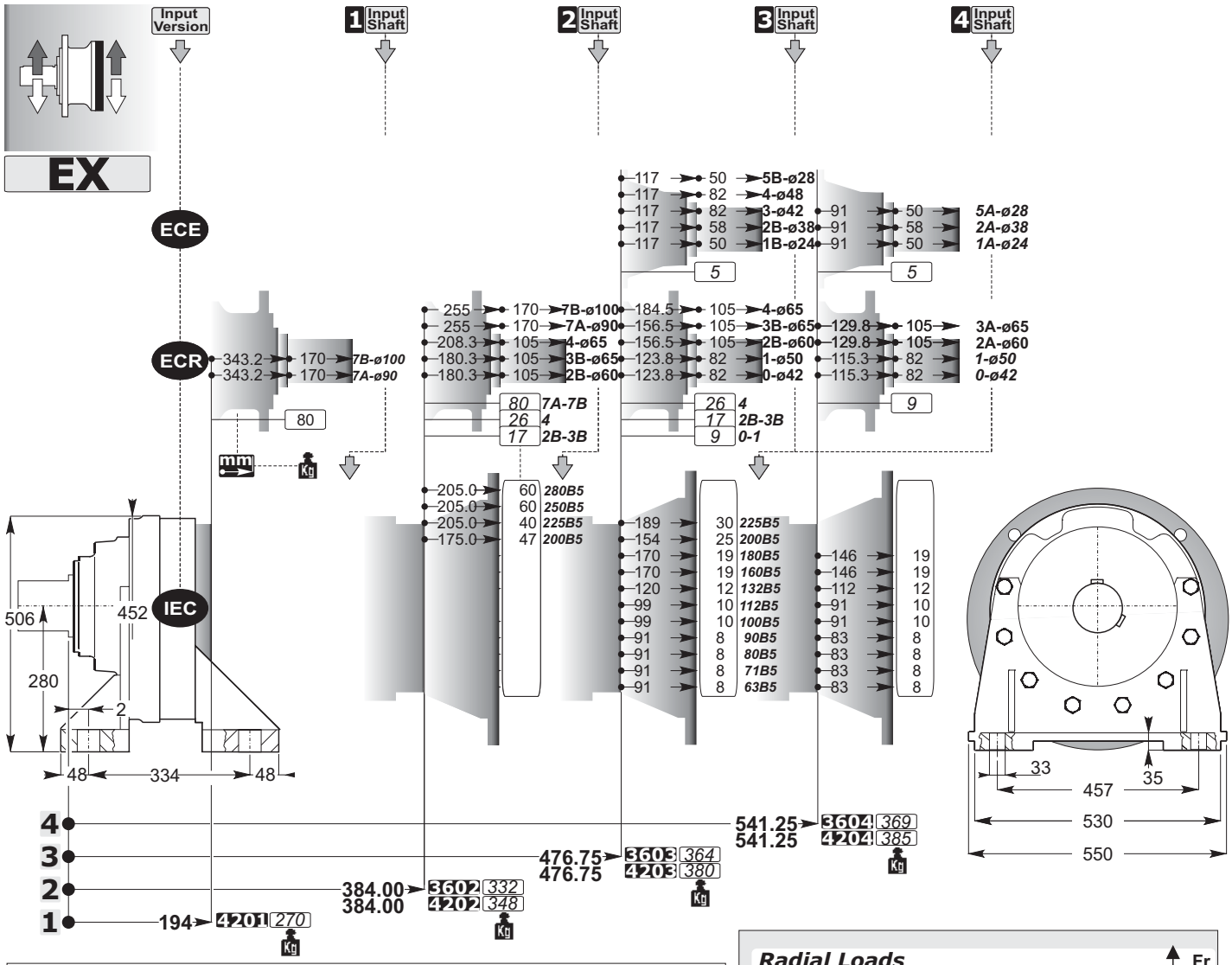


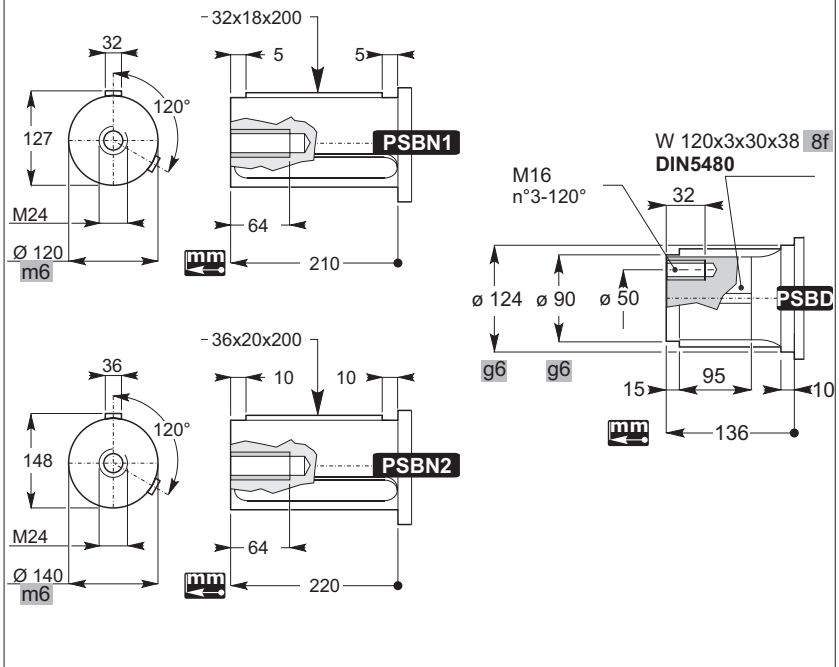




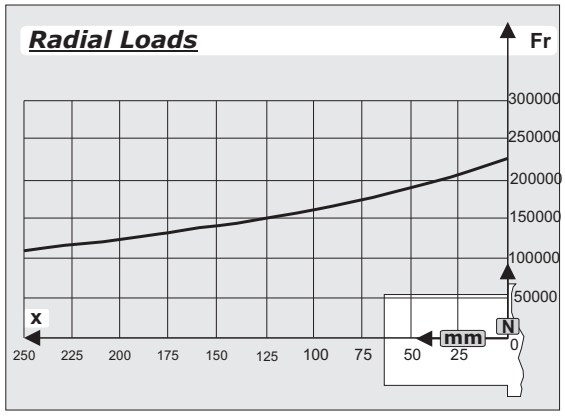
Accessories

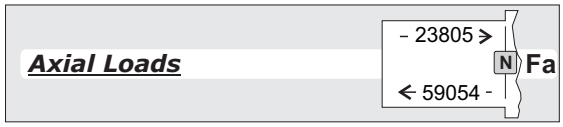
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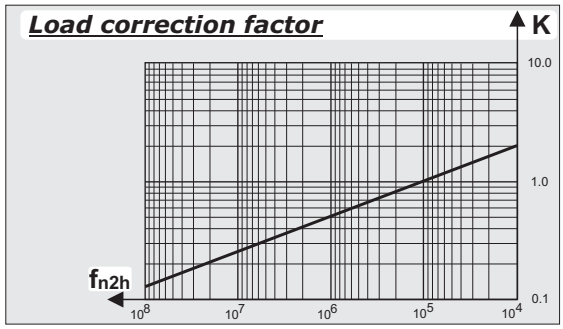


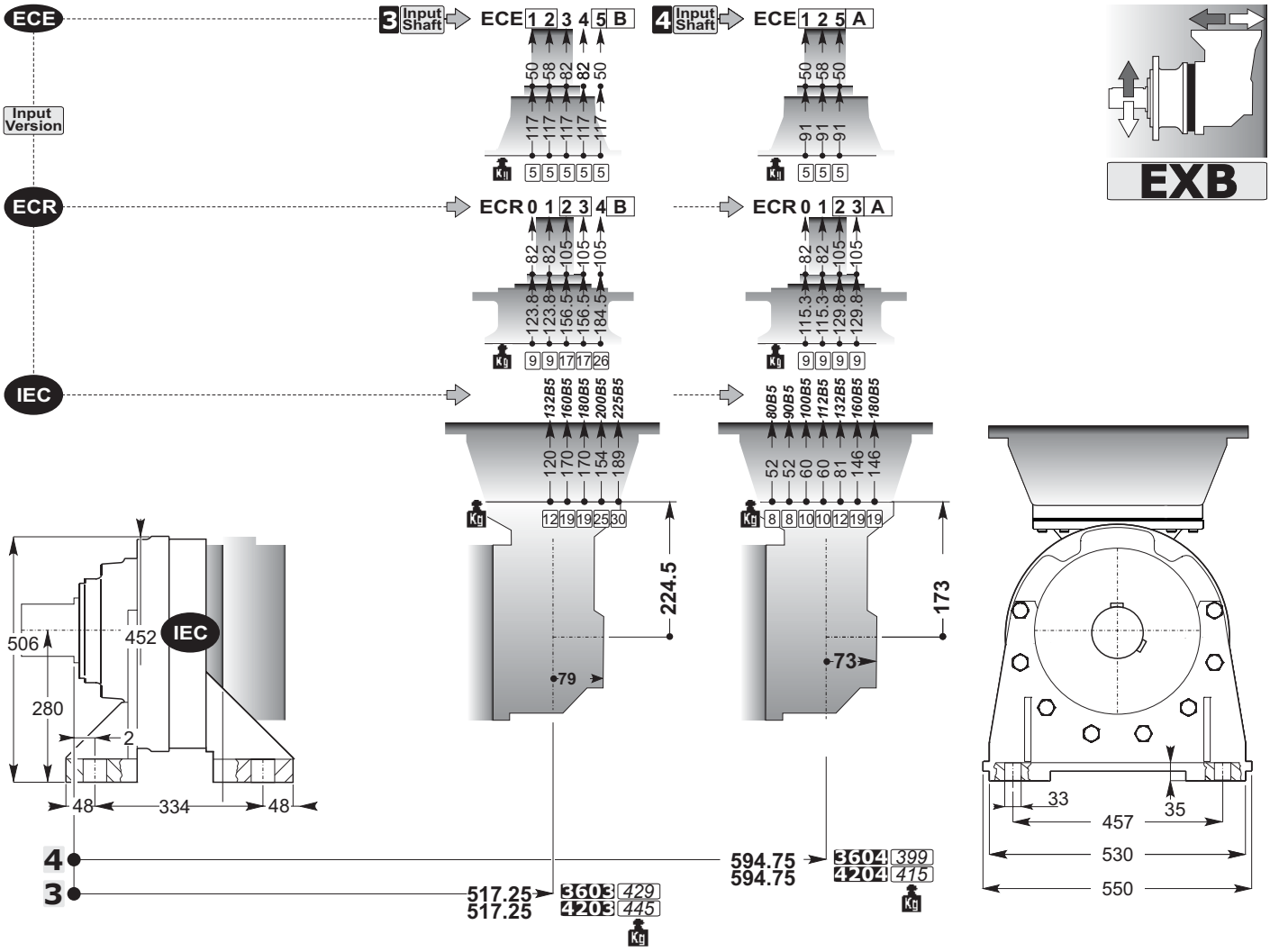


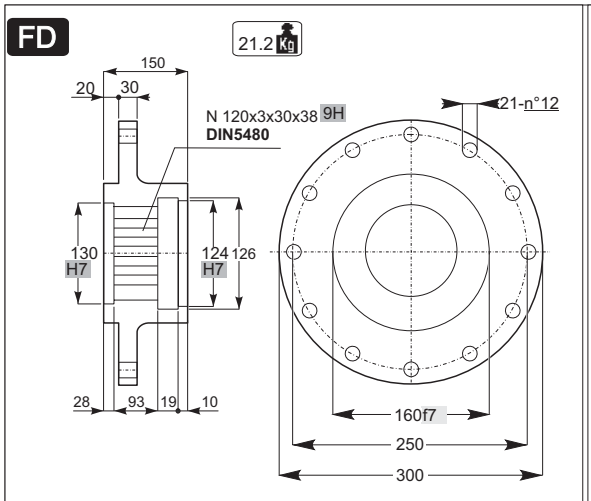
Output Shafts

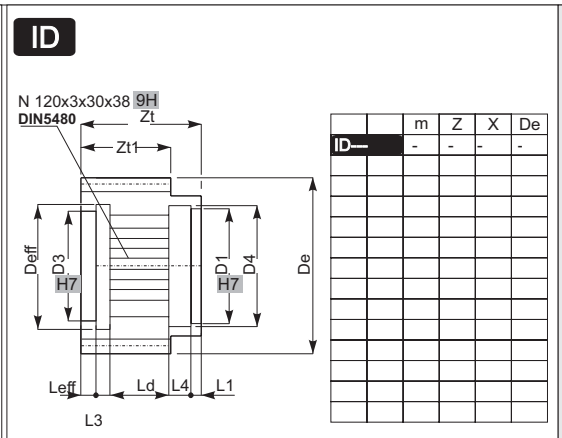


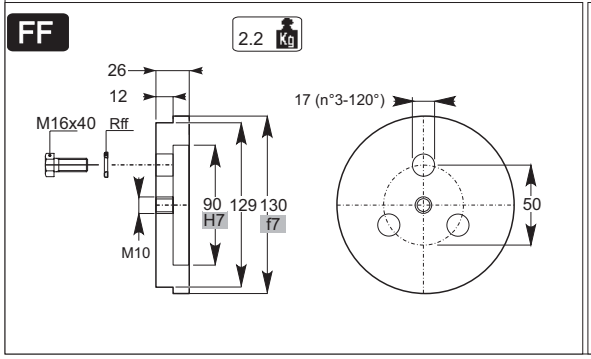


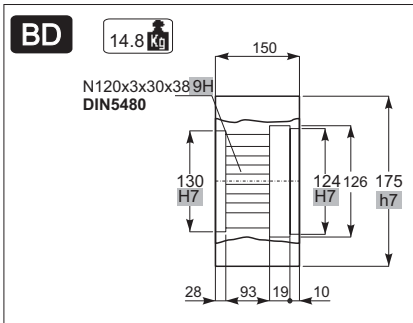


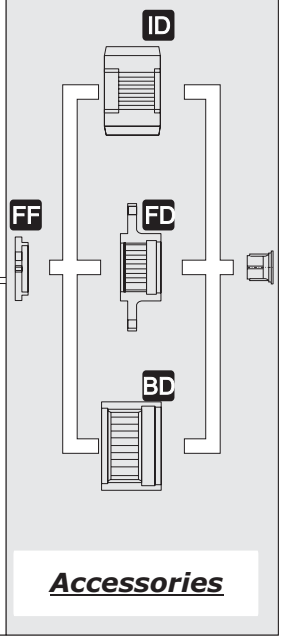






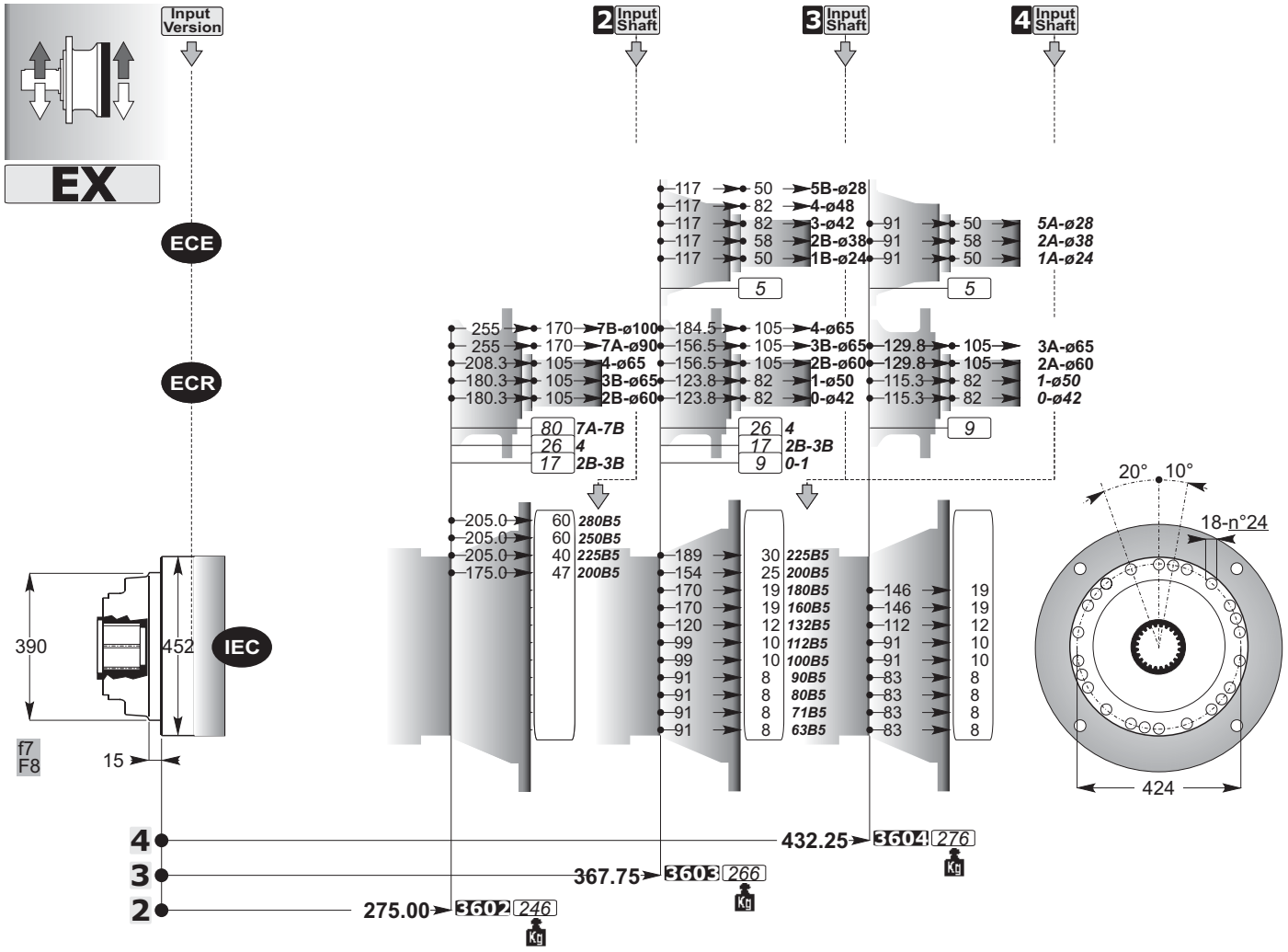


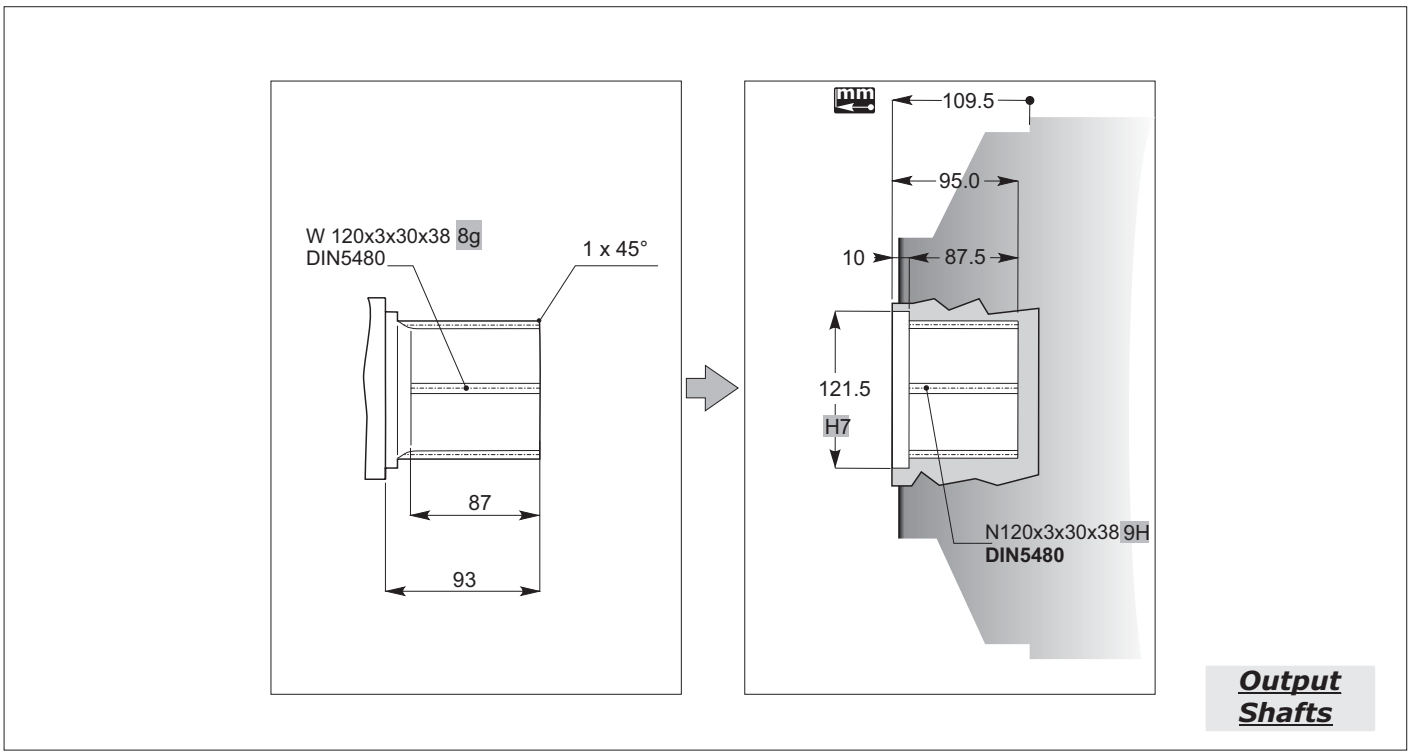




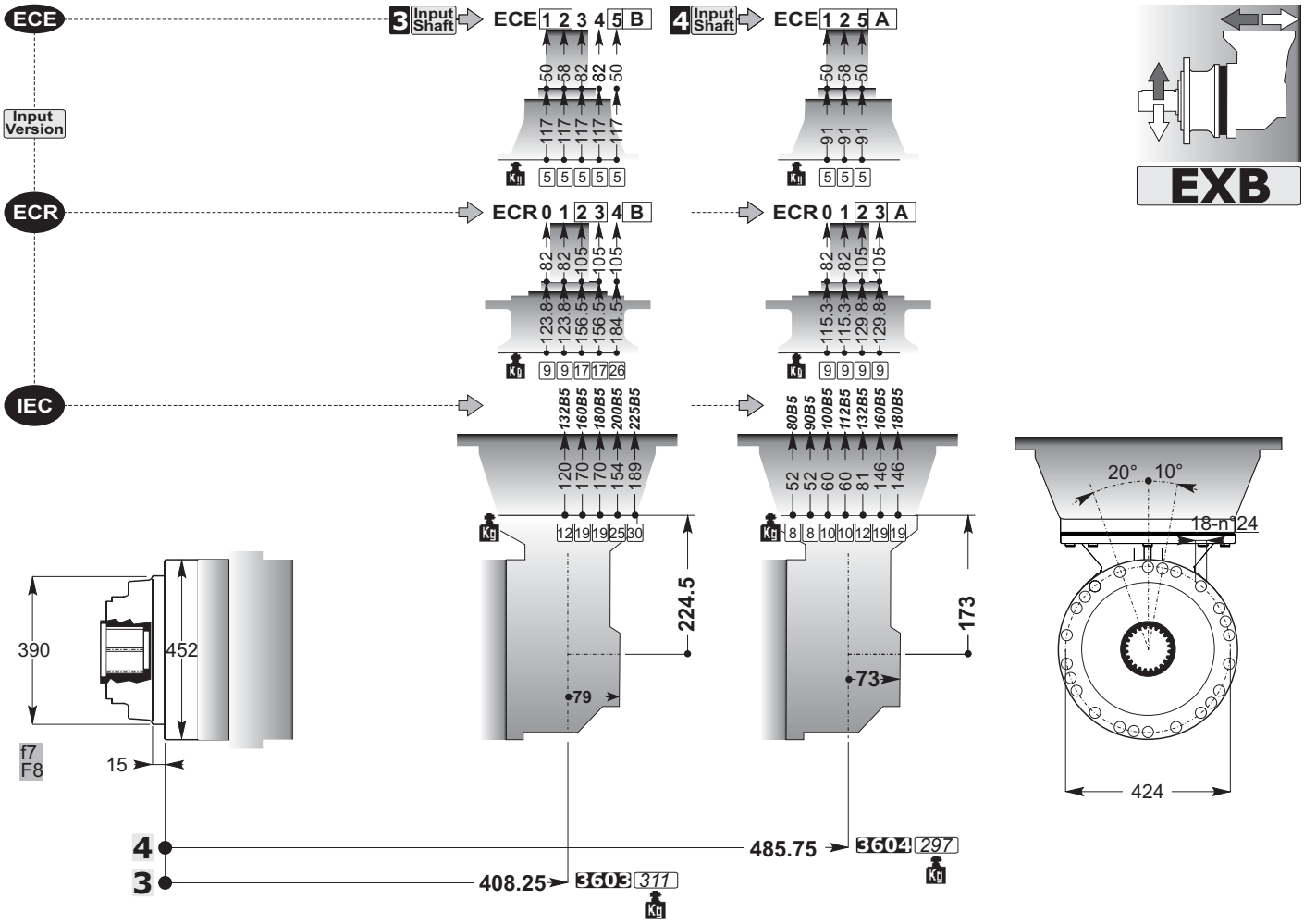
Accessories

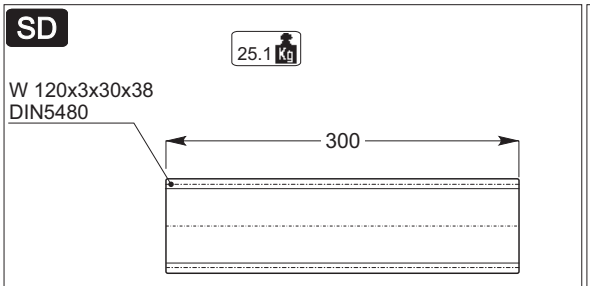
mm
C

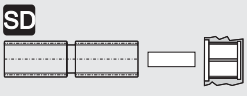




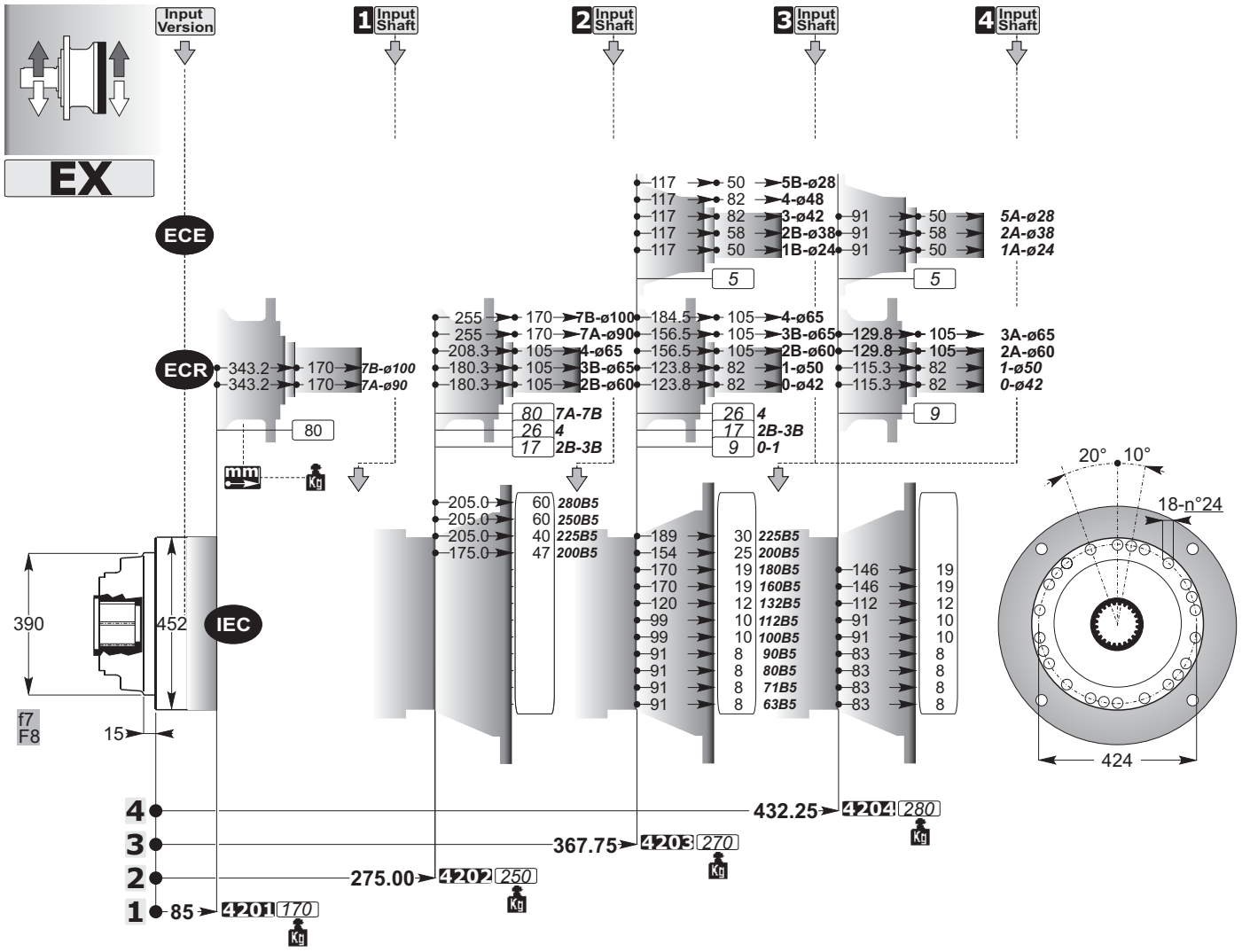
Output Shafts

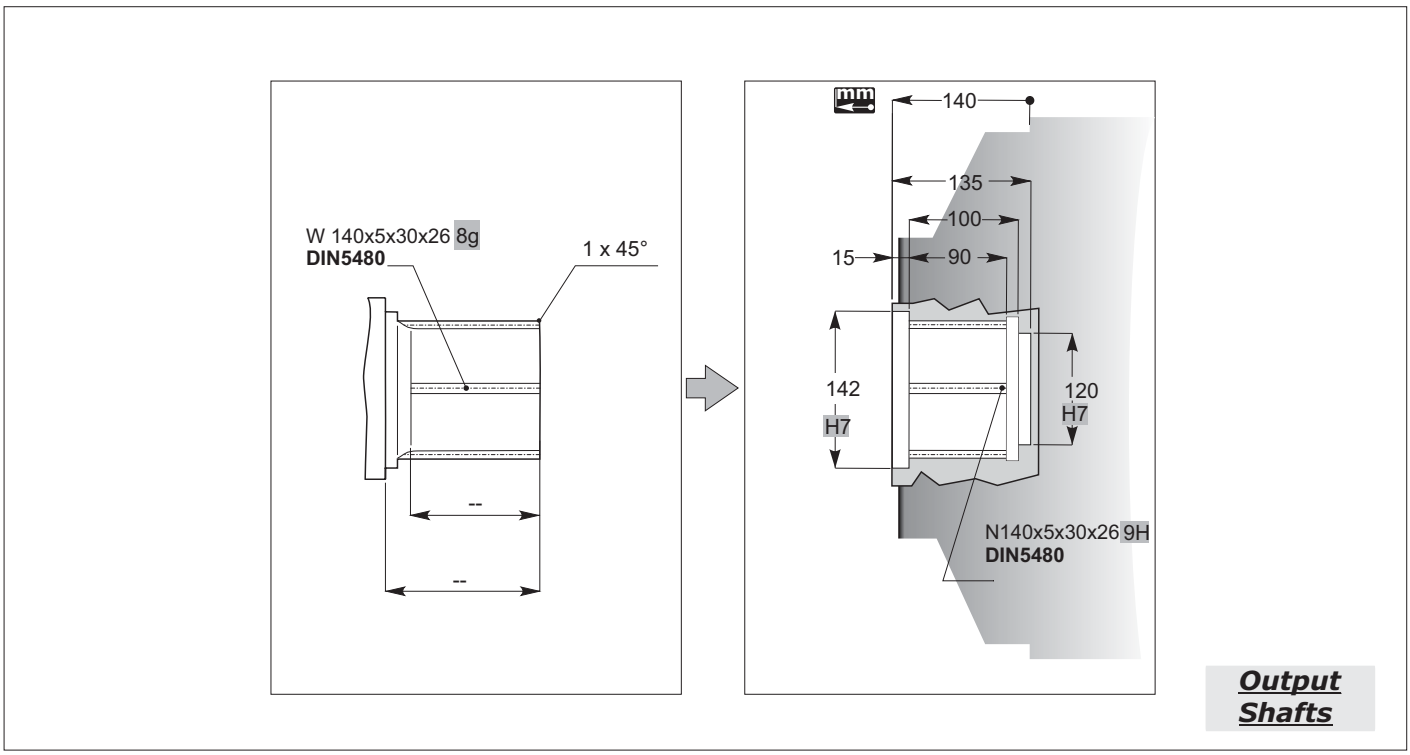


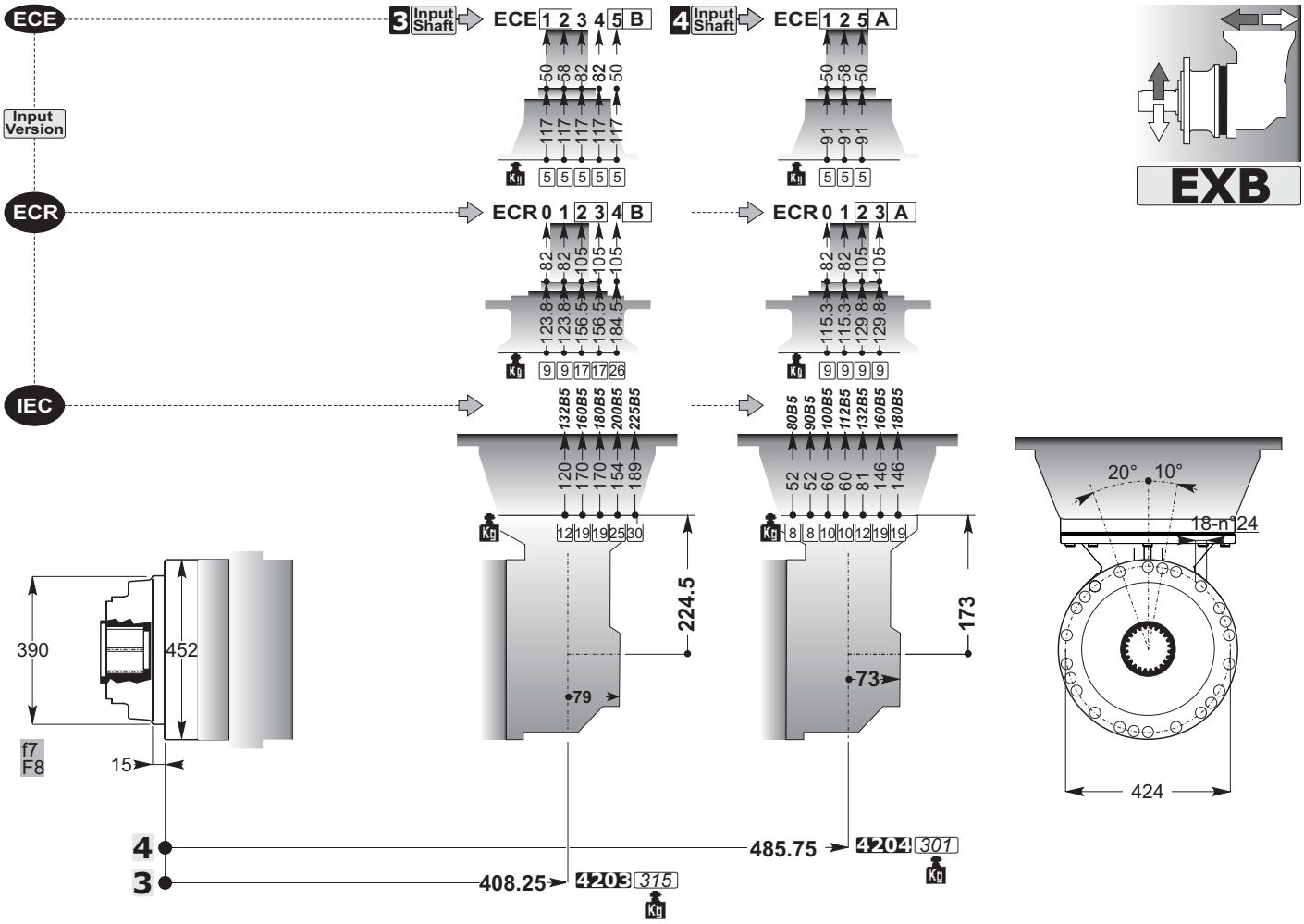




Accessories


Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
91 50 5A-ø28
91 58 2A-ø38
91 50 1A-ø24
5
5
343.2 170 7B-ø100
343.2 170 7A-ø90
80
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
80 7A-7B
26 4
17 2B-3B
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
26 4
17 2B-3B
9 0-1
129.8 105 3A-ø65
129.8 105 2A-ø60
115.3 82 1-ø50
115.3 82 0-ø42
9
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
189 30 225B5
154 25 200B5
170 19 180B5
170 19 160B5
120 12 132B5
99 10 112B5
99 10 100B5
91 8 90B5
91 8 80B5
91 8 71B5
91 8 63B5
146 19
146 19
112 12
91 10
91 10
83 8
83 8
83 8
83 8
20° 10°
18-n°24
424
390
452
f7
F8
15
4
3
2
1
85 4201 170
275.00 4202 250
367.75 4203 270
432.25 4204 280


W 140x5x30x26 8g
DIN5480
1 x 45°
140
135
100
15
90
142
H7
120
H7
N140x5x30x26 9H
DIN5480
Output Shafts



SD

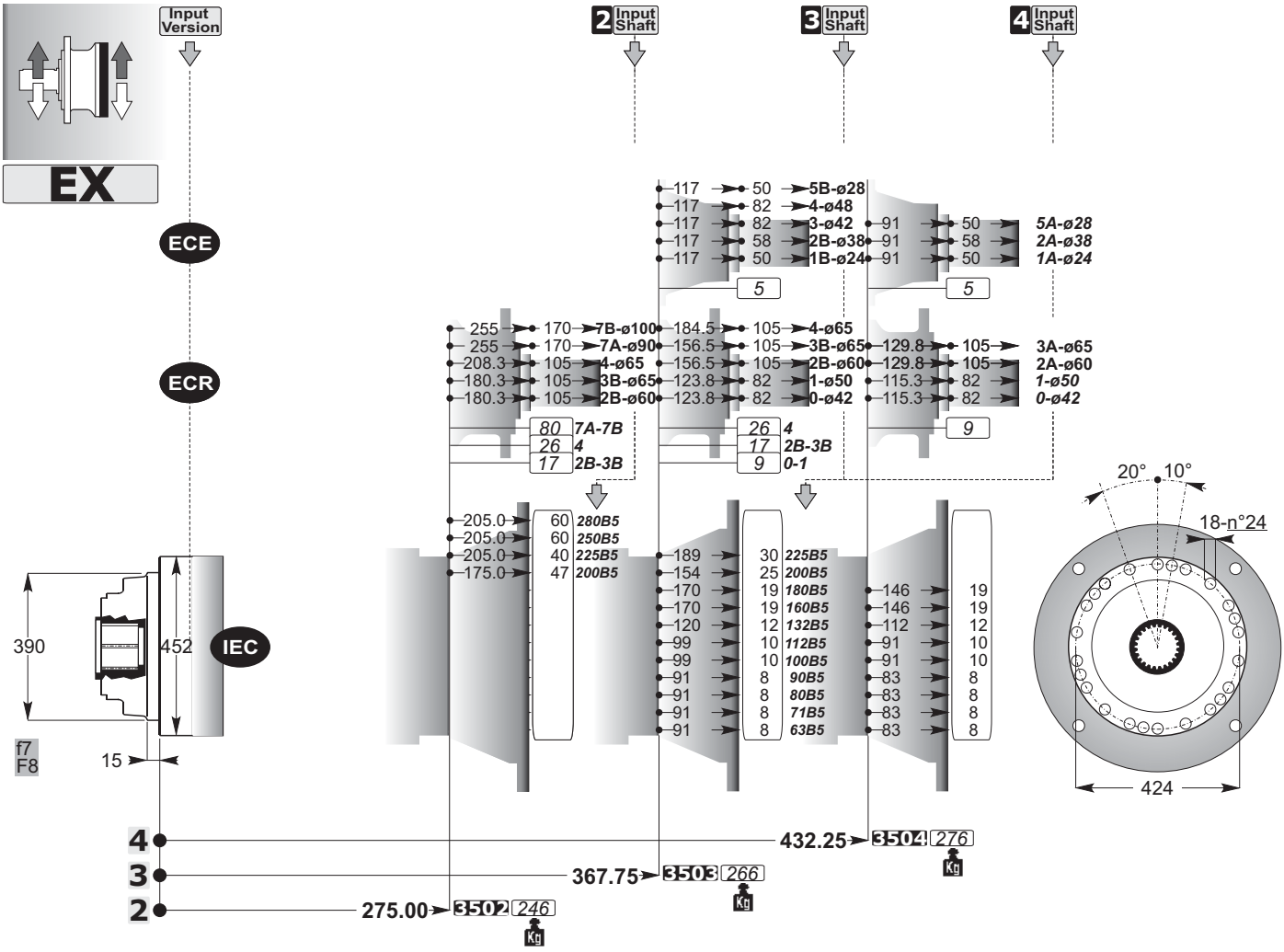
33.4 Kg

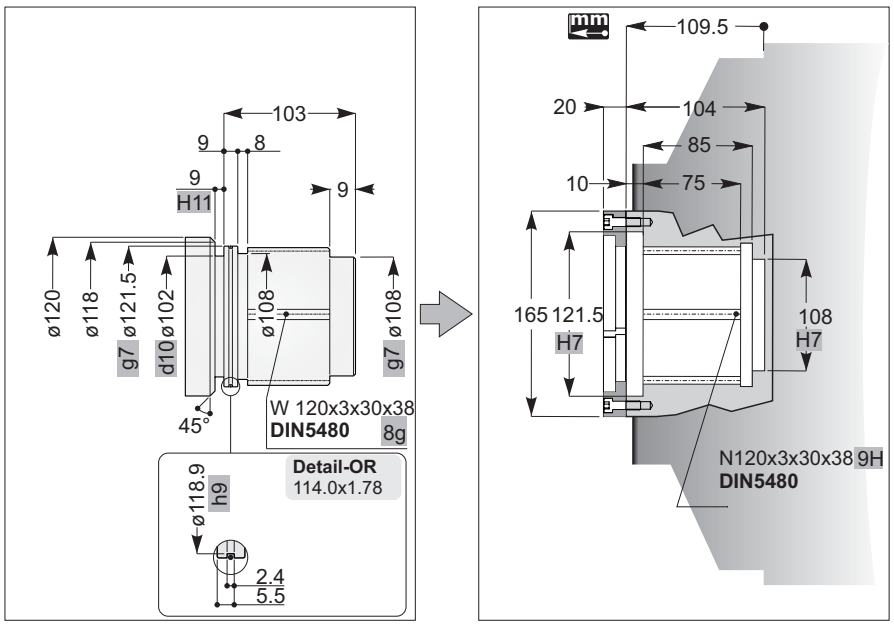
W 140x5x30x26
DIN5480

300

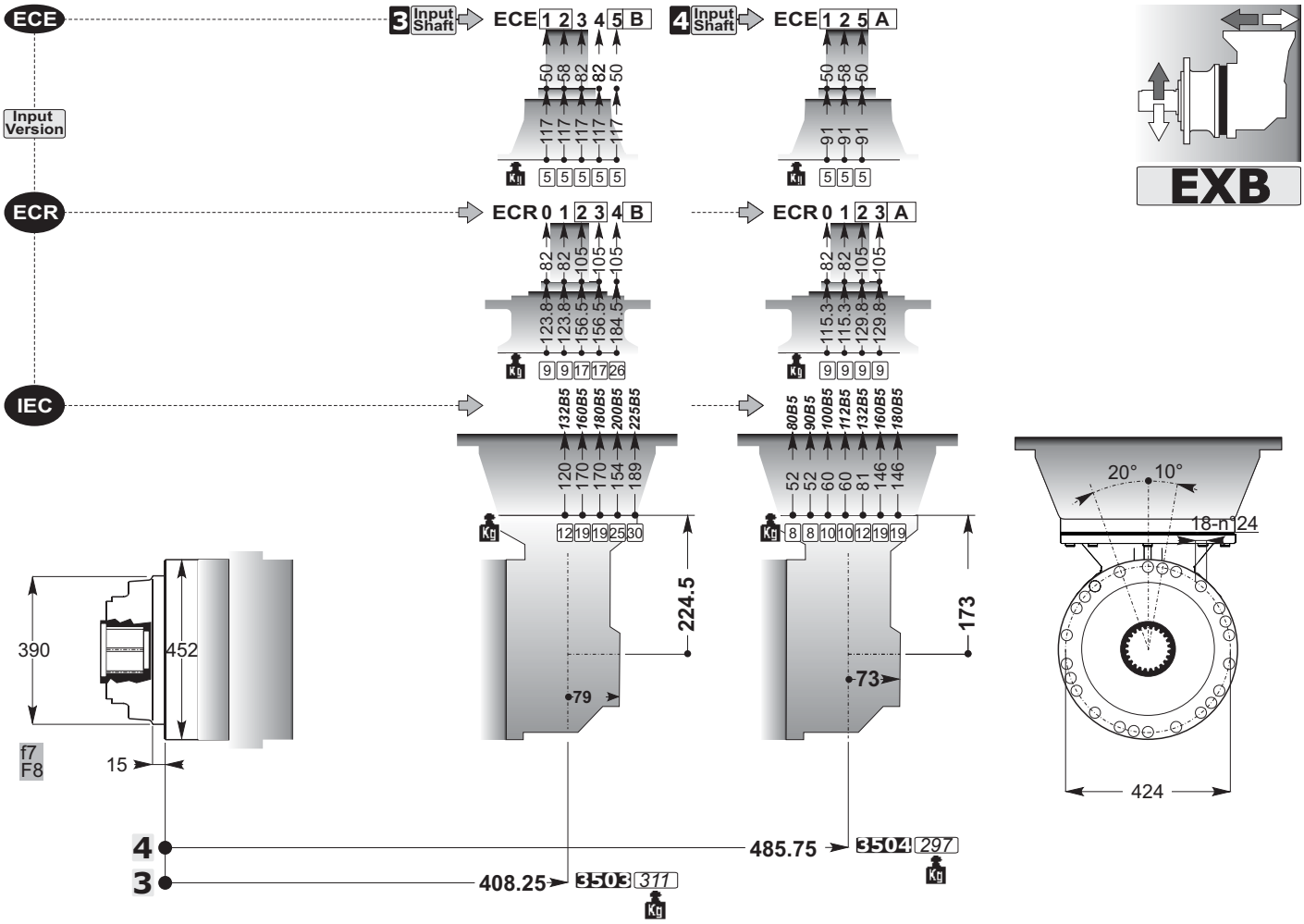
SD

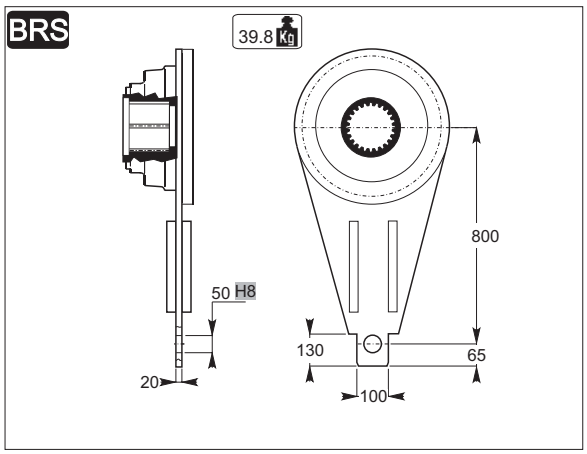
Accessories

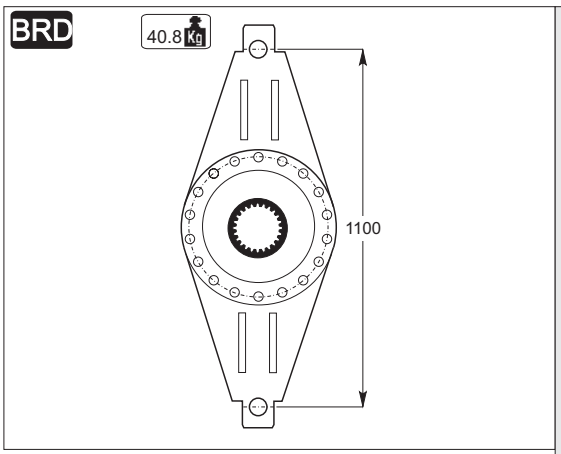


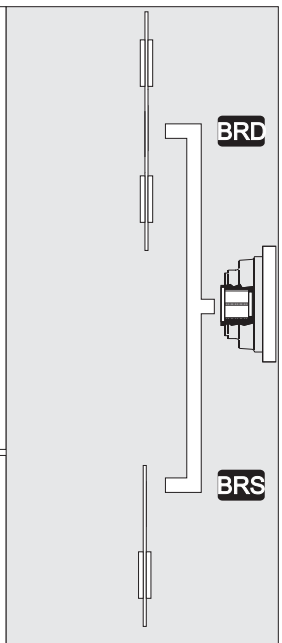


Output Shafts

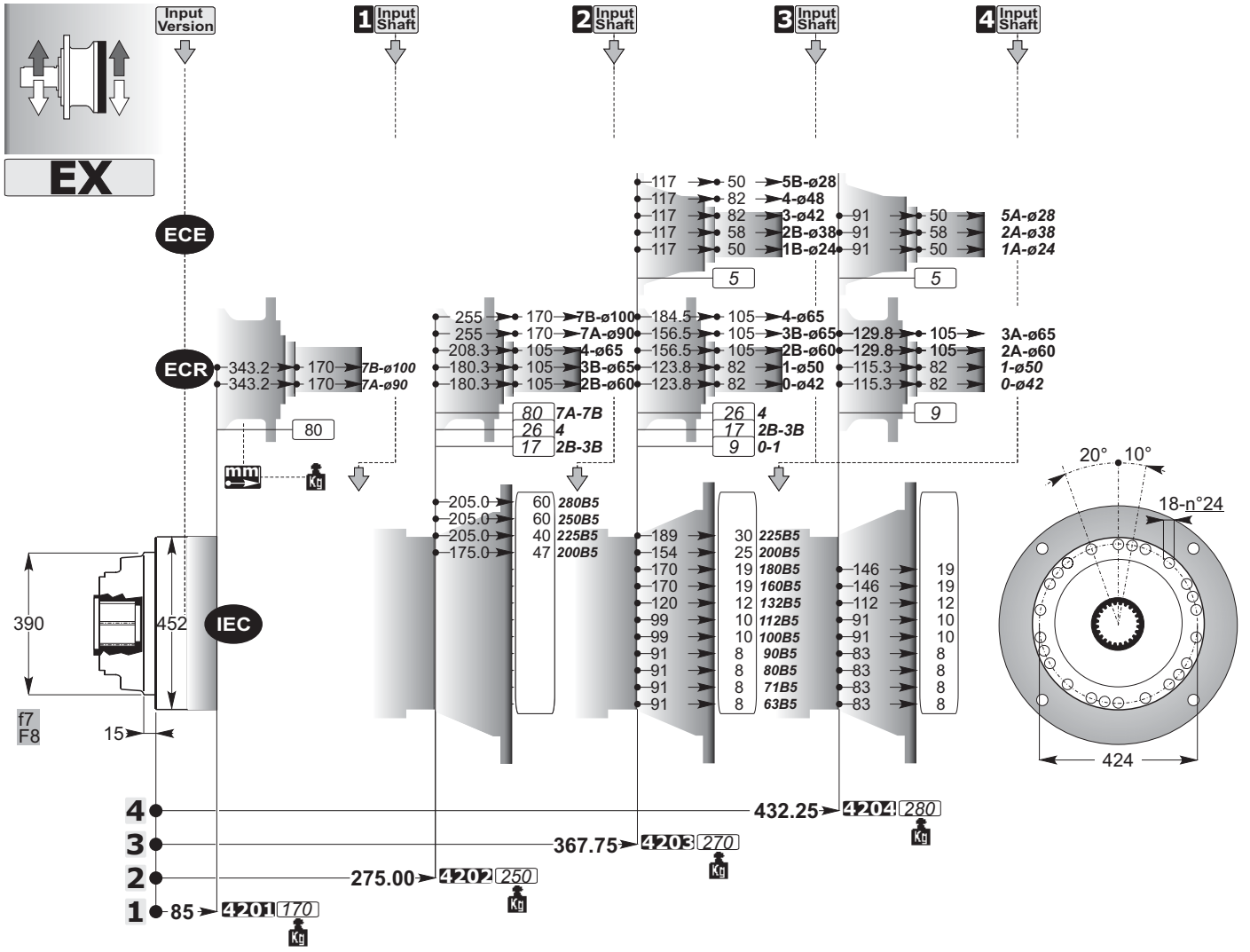


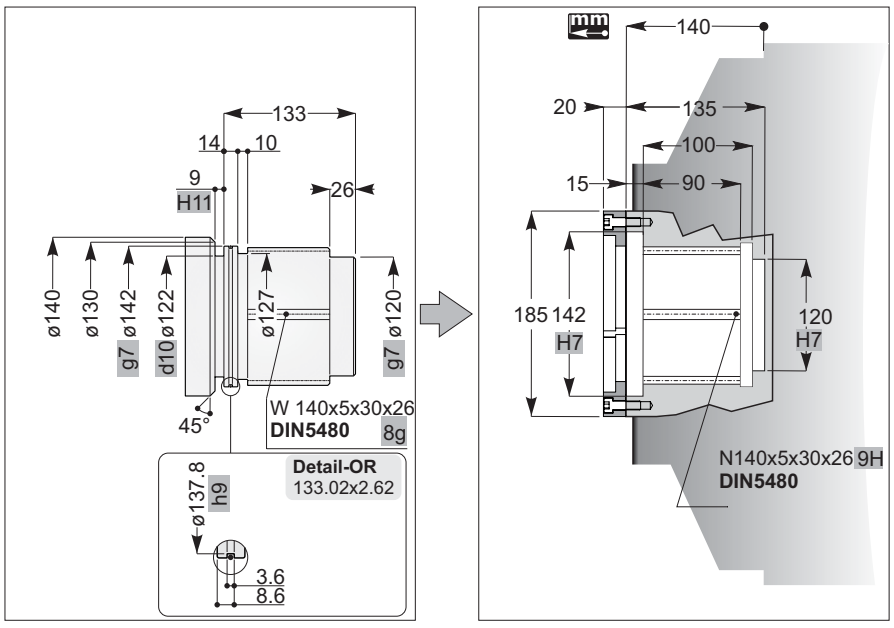




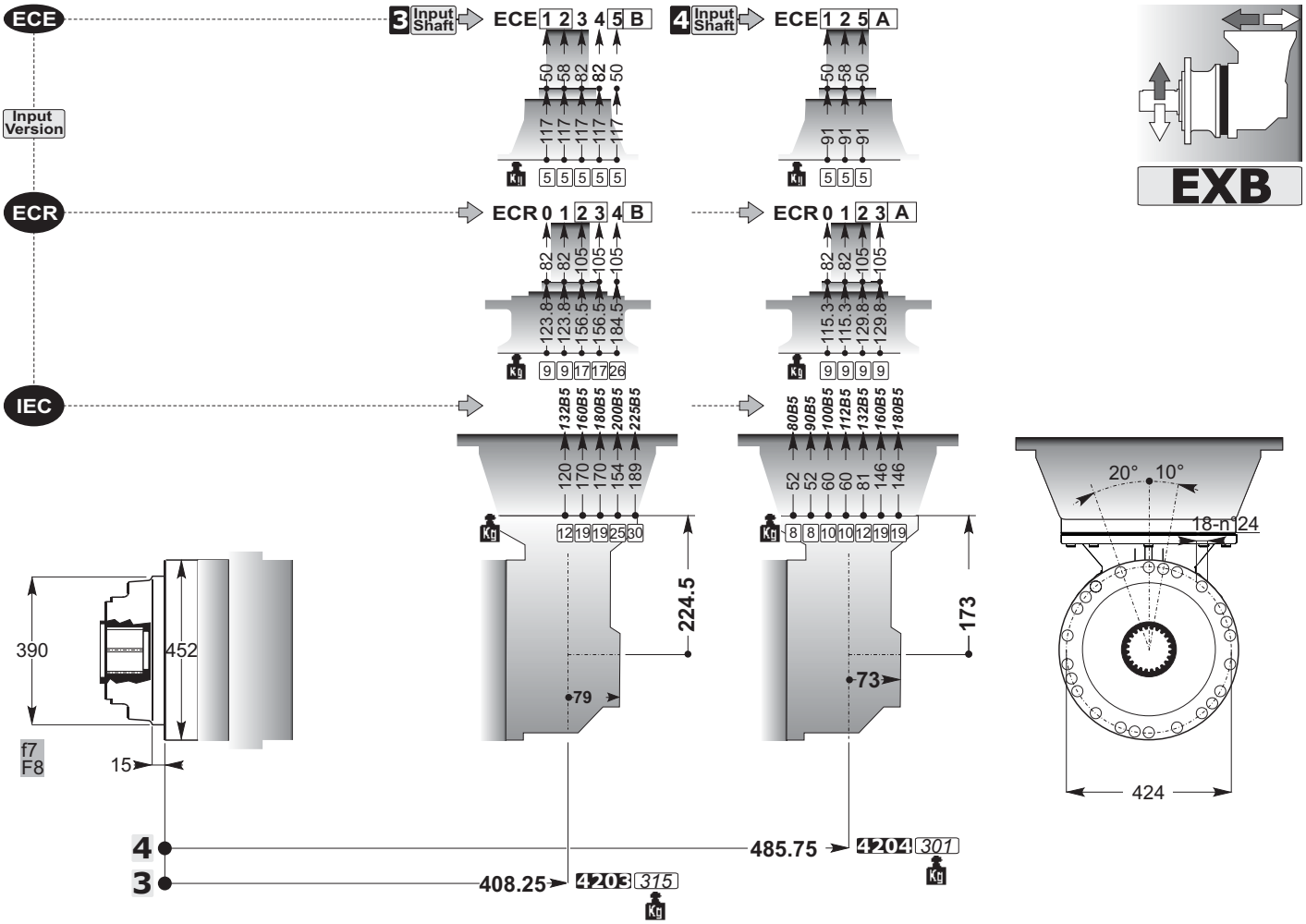


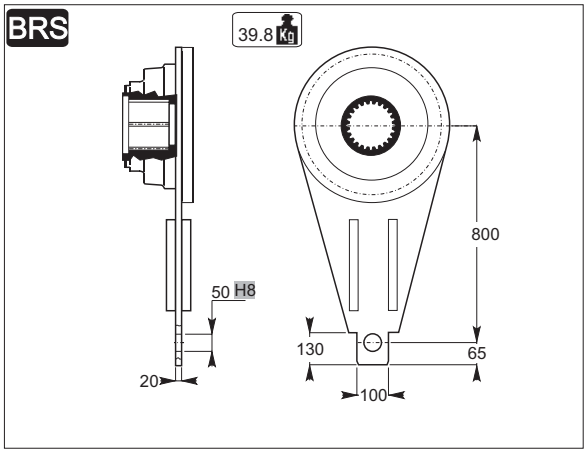
Accessories

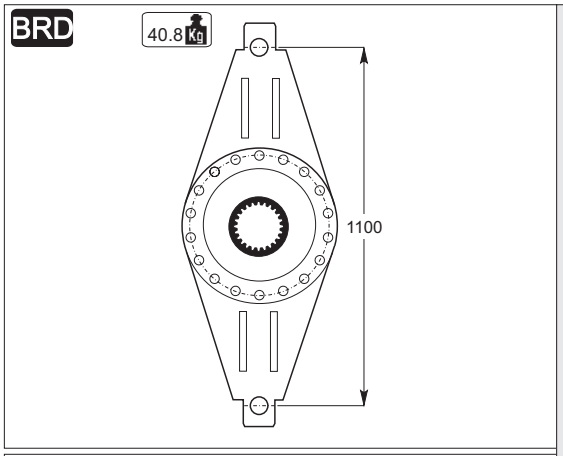


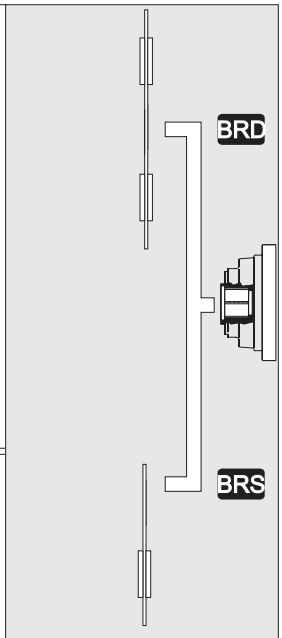


Output Shafts



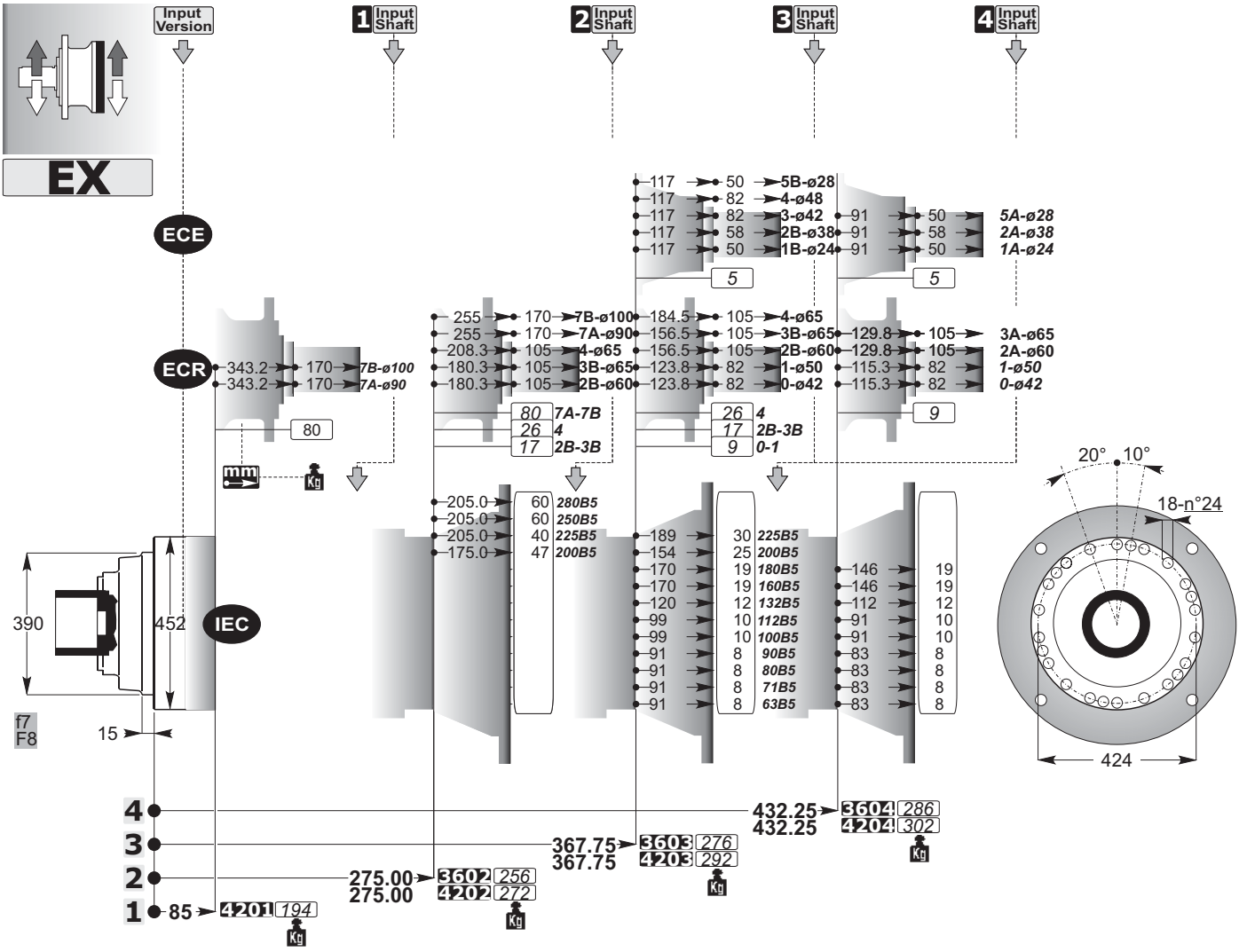


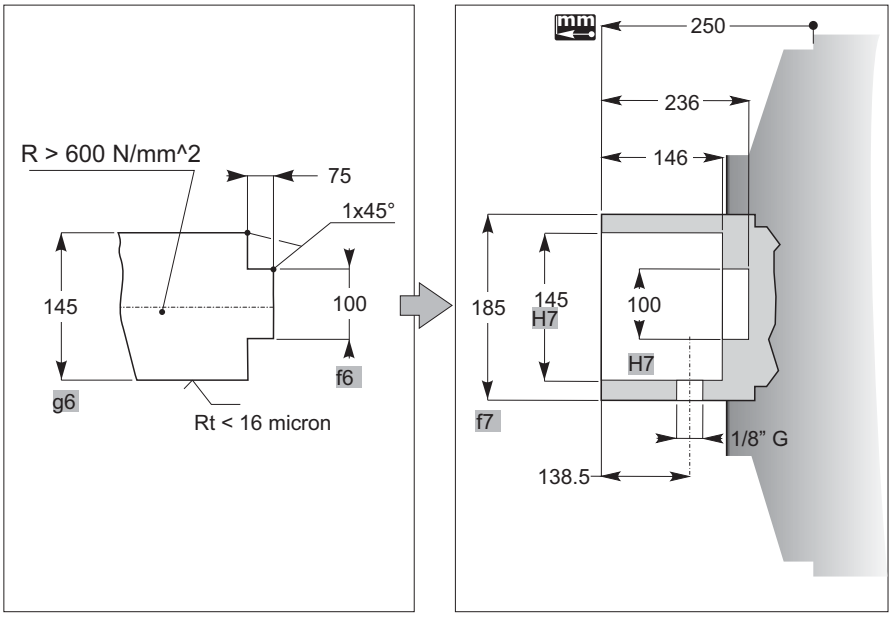




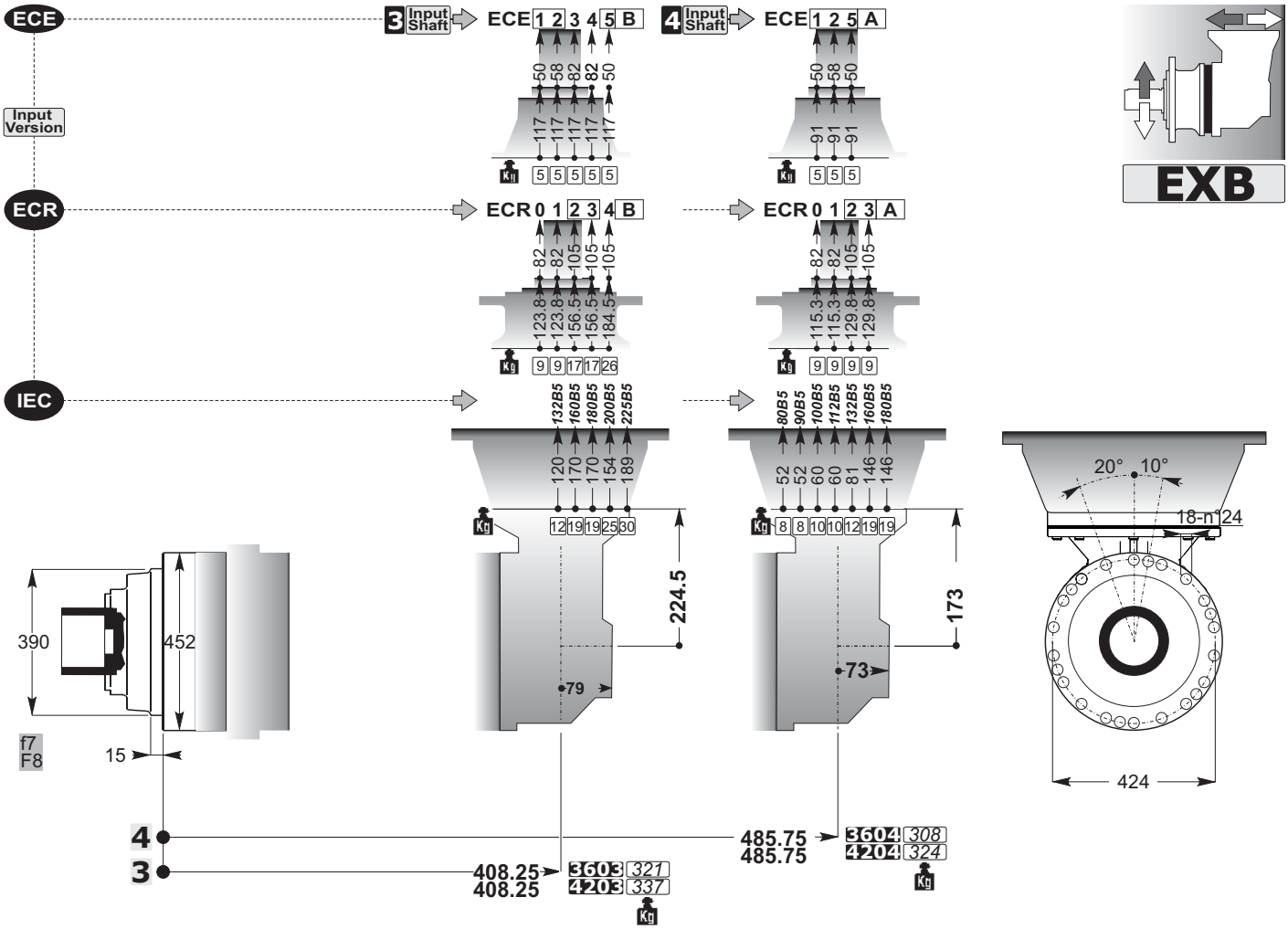
Accessories

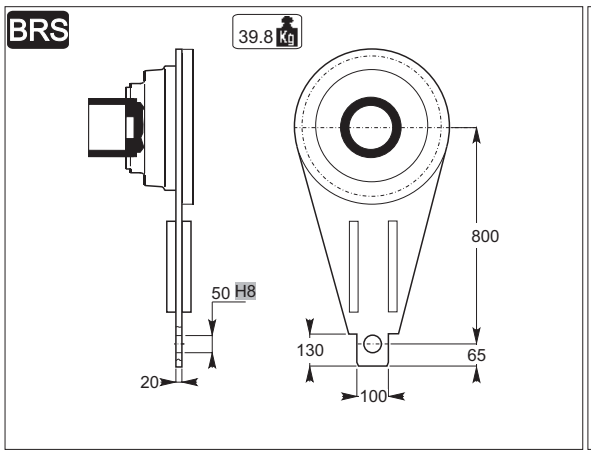
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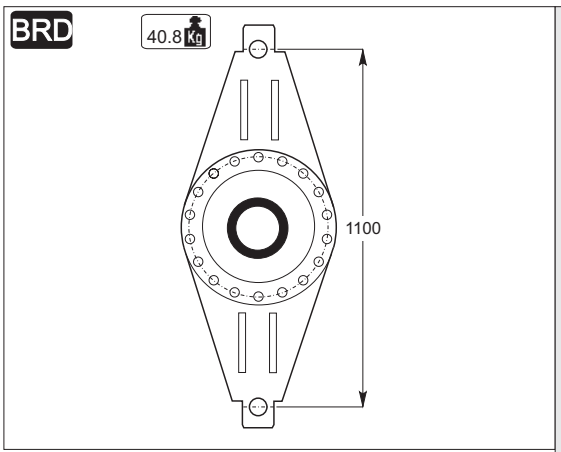


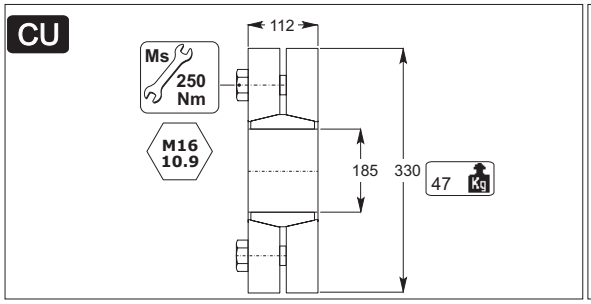


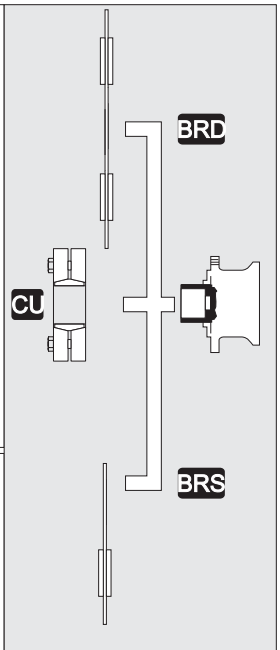
Output Shafts





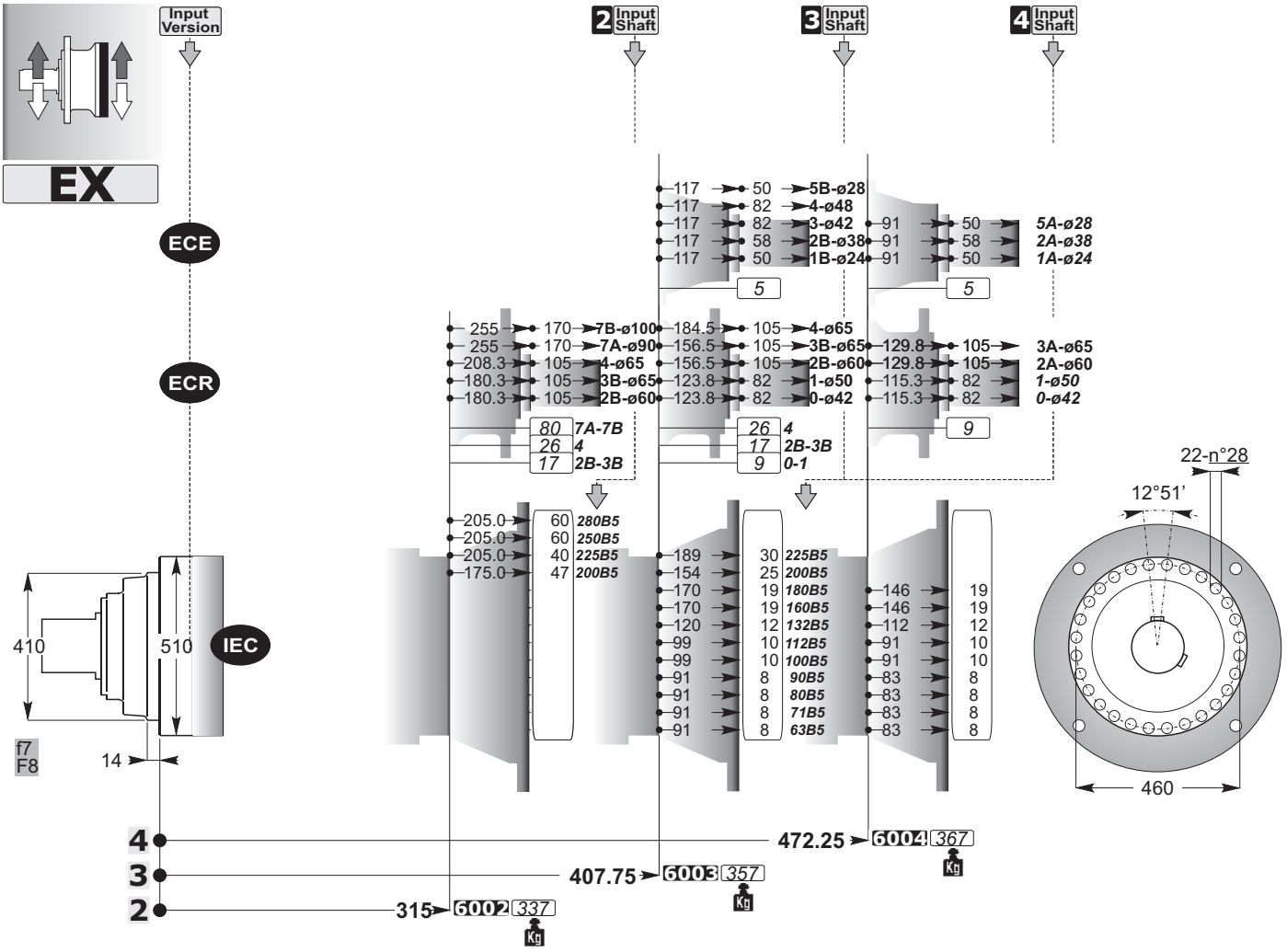


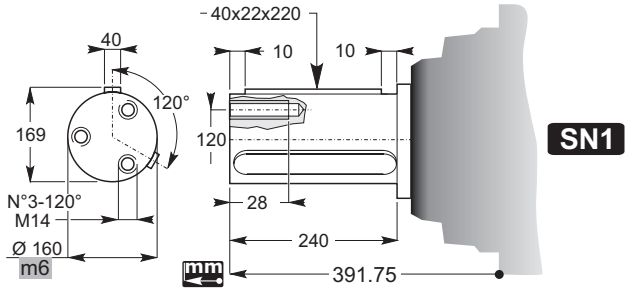


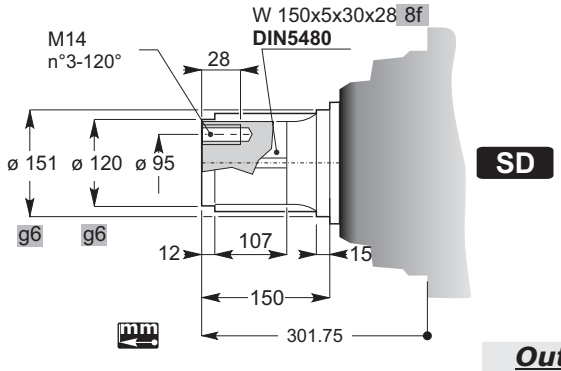


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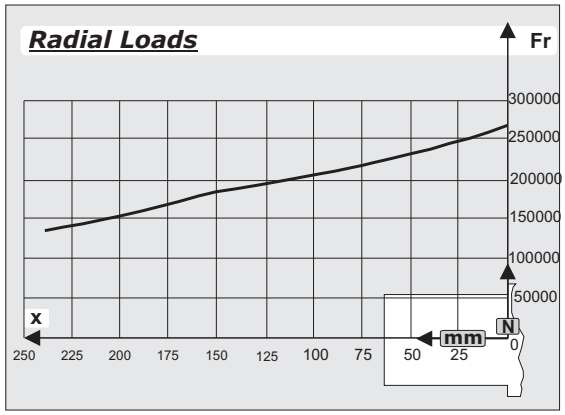
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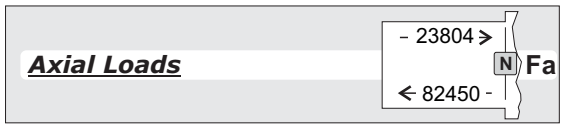


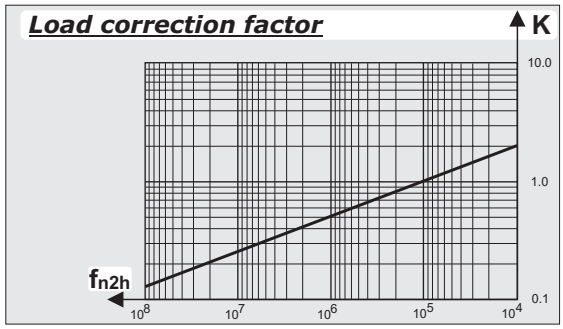


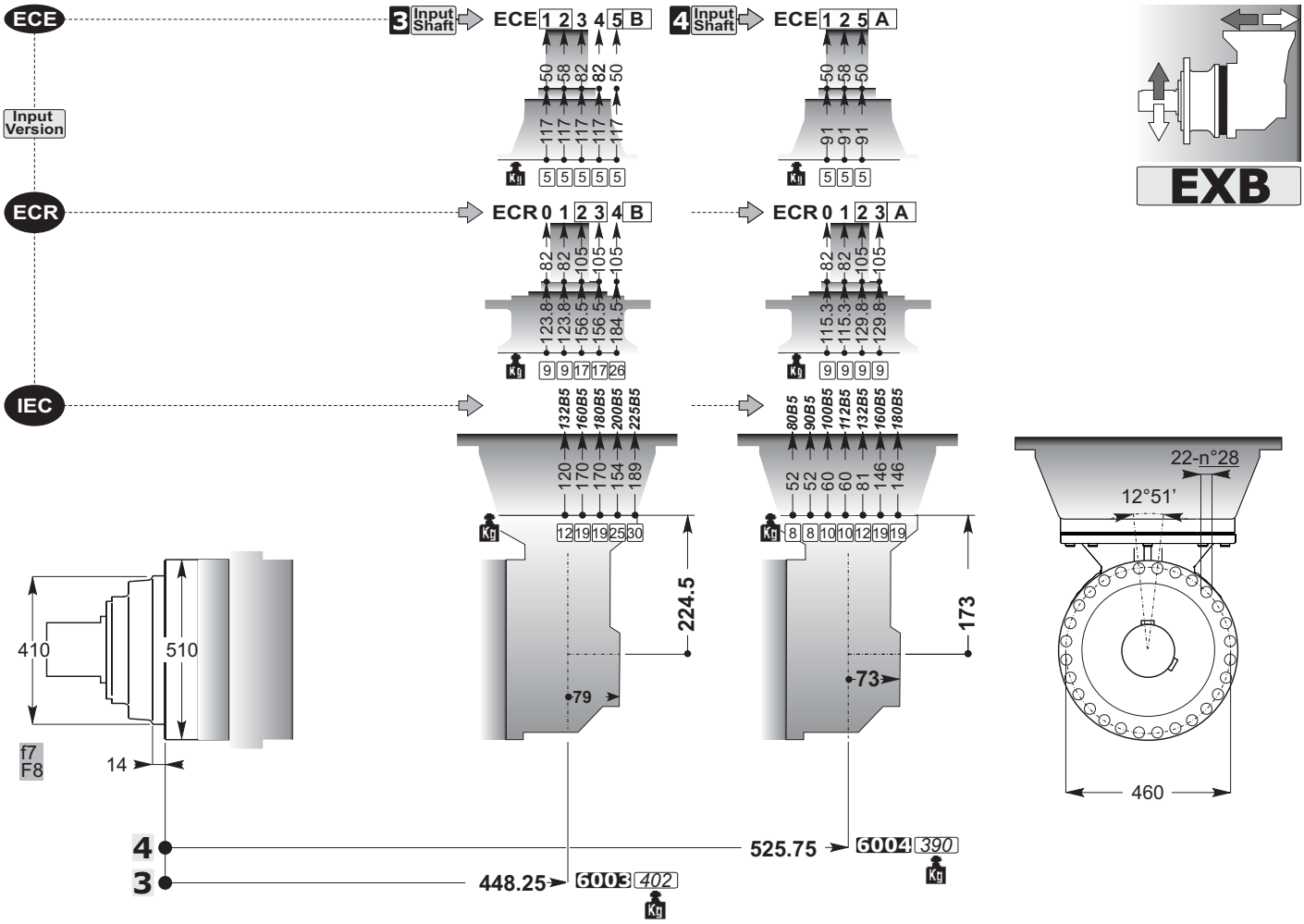


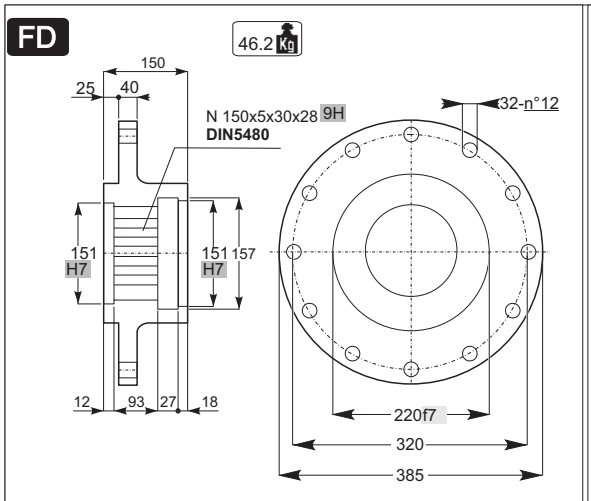
Output Shafts

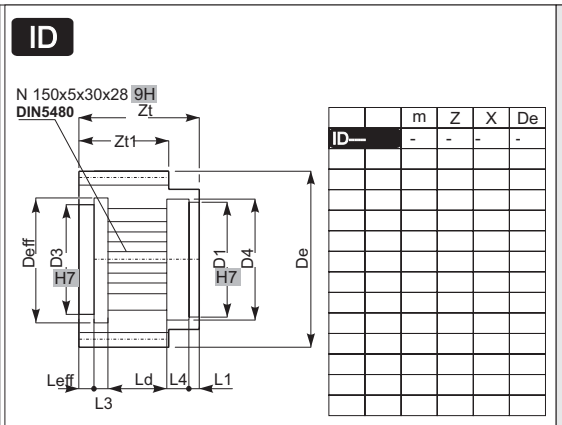


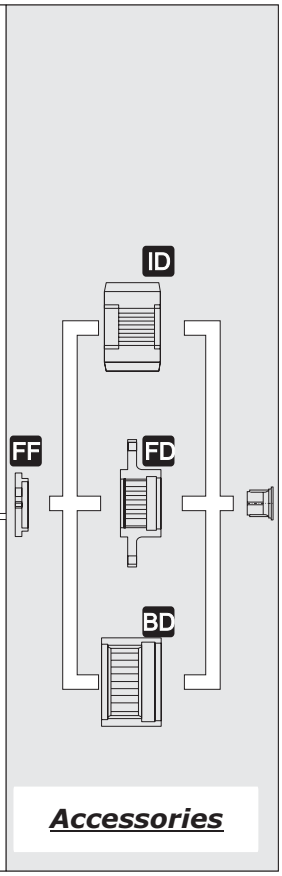


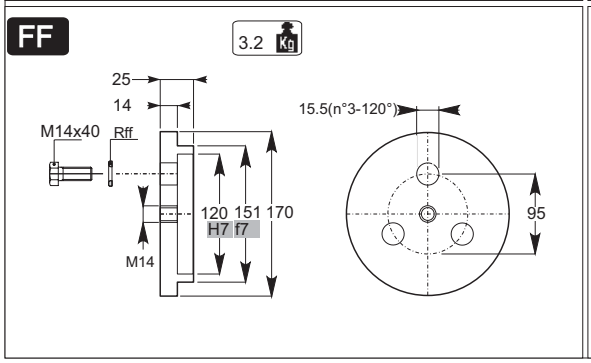


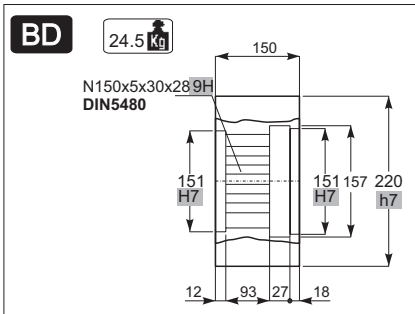

ECE
Input Version
ECR
IEC
3 Input Shaft
ECE 1 2 3 4 5 B
4 Input Shaft
ECE 1 2 5 A
ECR 0 1 2 3 4 B
ECR 0 1 2 3 A
EXB
132B5 160B5 180B5 200B5 225B5
80B5 90B5 100B5 112B5 132B5 160B5 180B5
224.5
173
79
73
410
510
f7
F8
14
22-n°28
12°51'
460
4
3
525.75
6004 390
448.25
6003 402

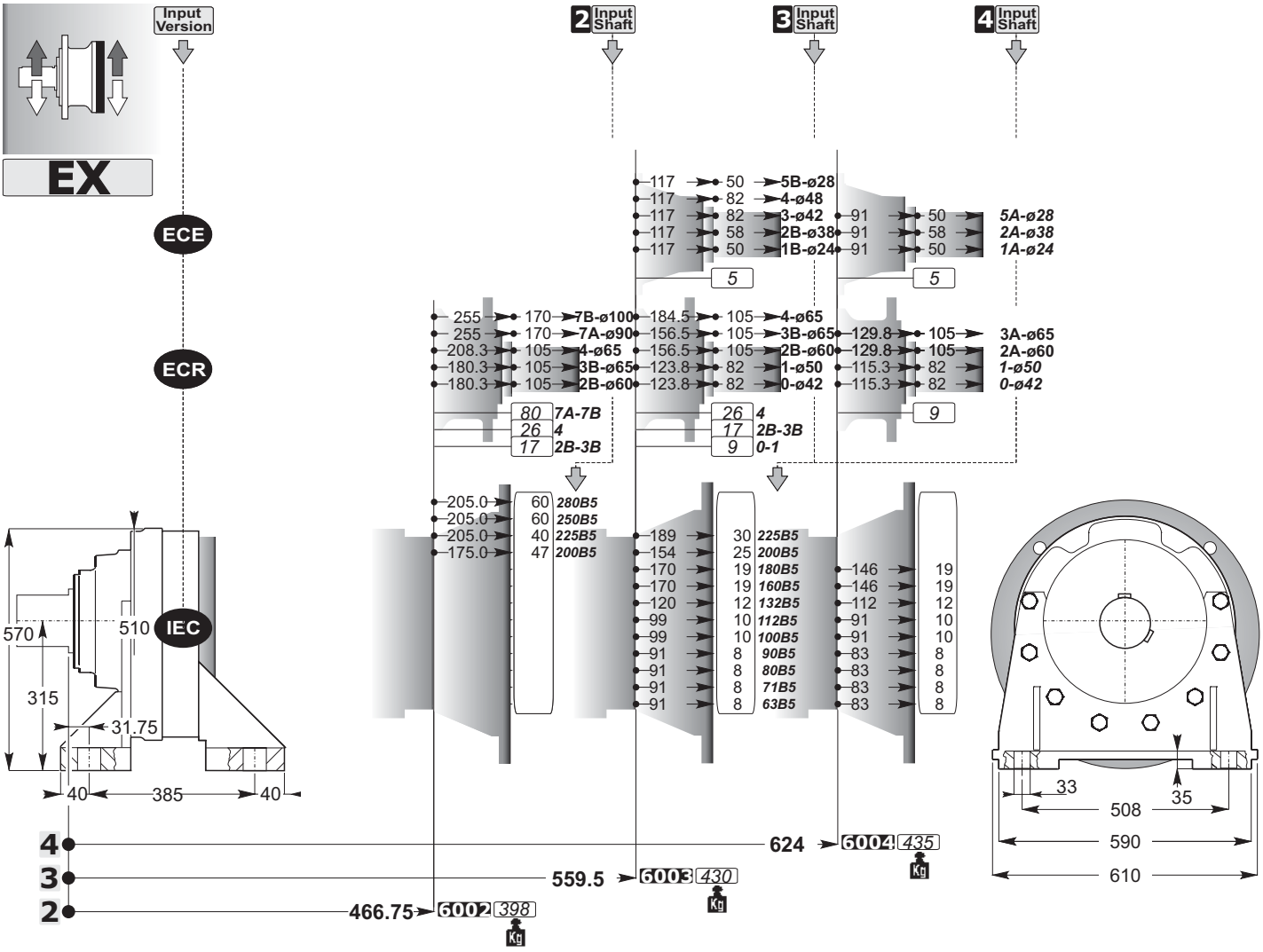

FD
46.2 Kg
150
25
40
N 150x5x30x28 9H
DIN5480
32-n°12
151 H7
151 H7
157
12
93
27
18
220f7
320
385

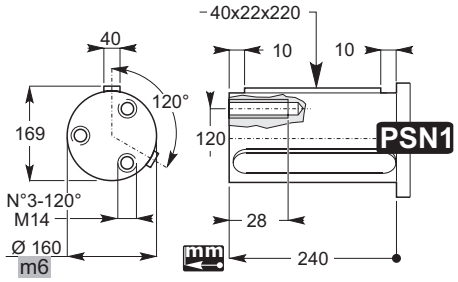

ID
N 150x5x30x28 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
ID—
m
Z
X
De

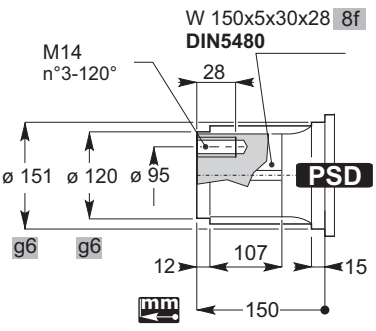

ID
FF
FD
BD
Accessories


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3.2 Kg
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14
M14x40
Rff
15.5(n°3-120°)
120 H7
151 f7
170
95
M14

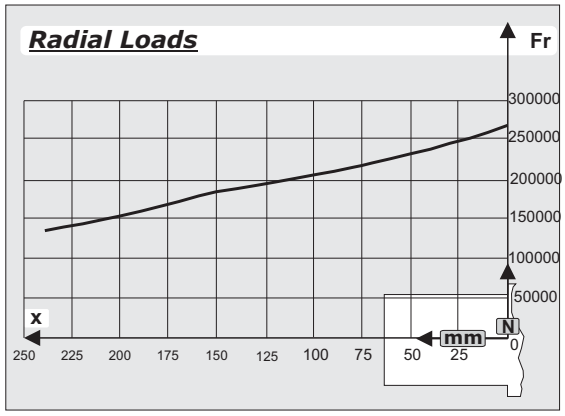

BD
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DIN5480
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151 H7
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220 h7
12
93
27
18

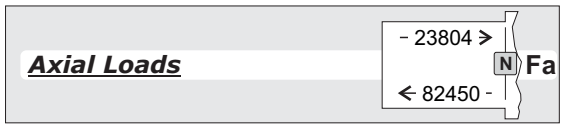


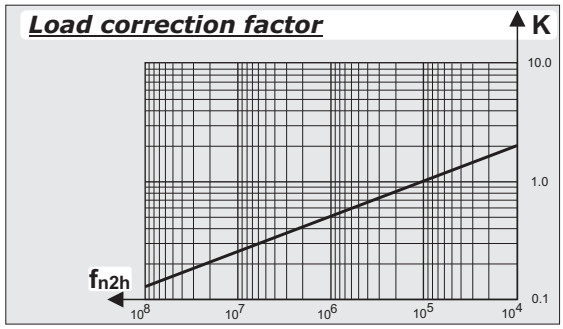


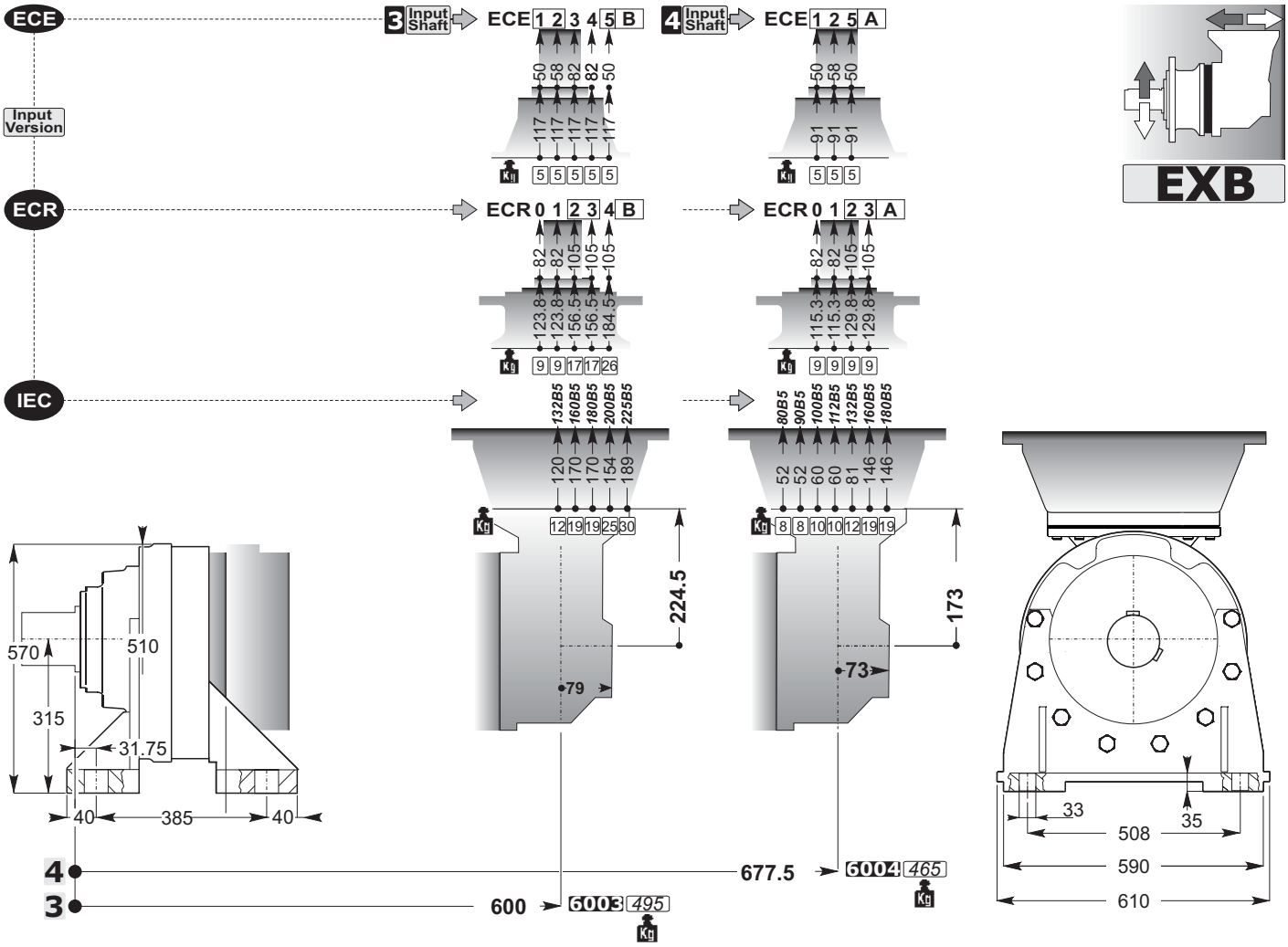


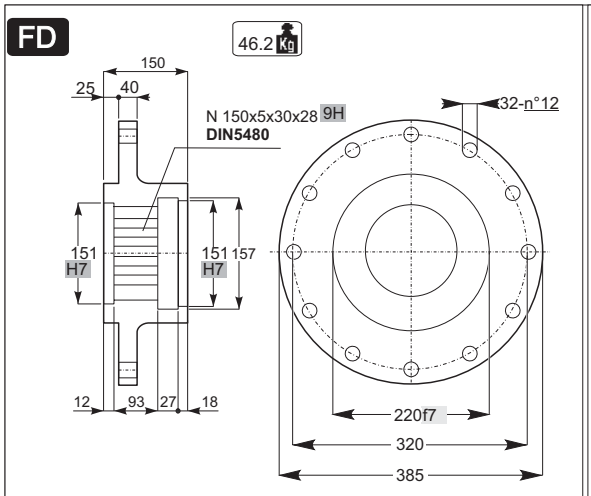
Output Shafts

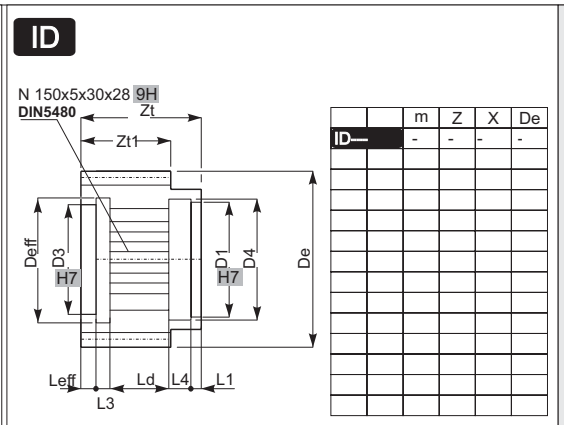


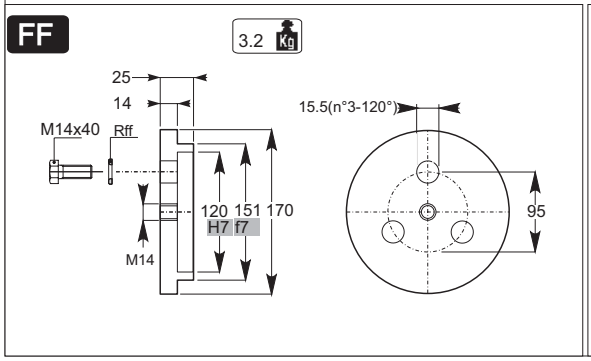


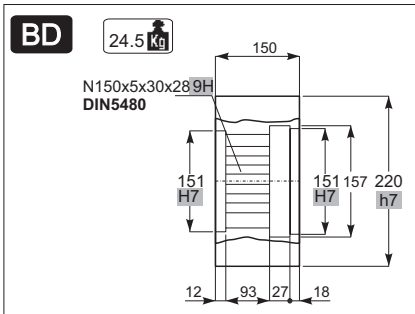


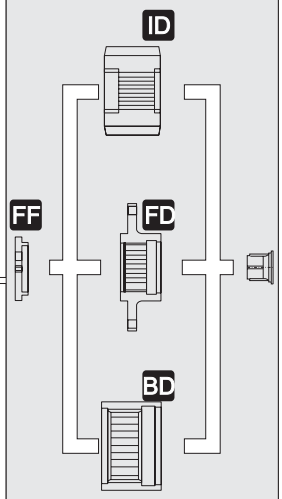






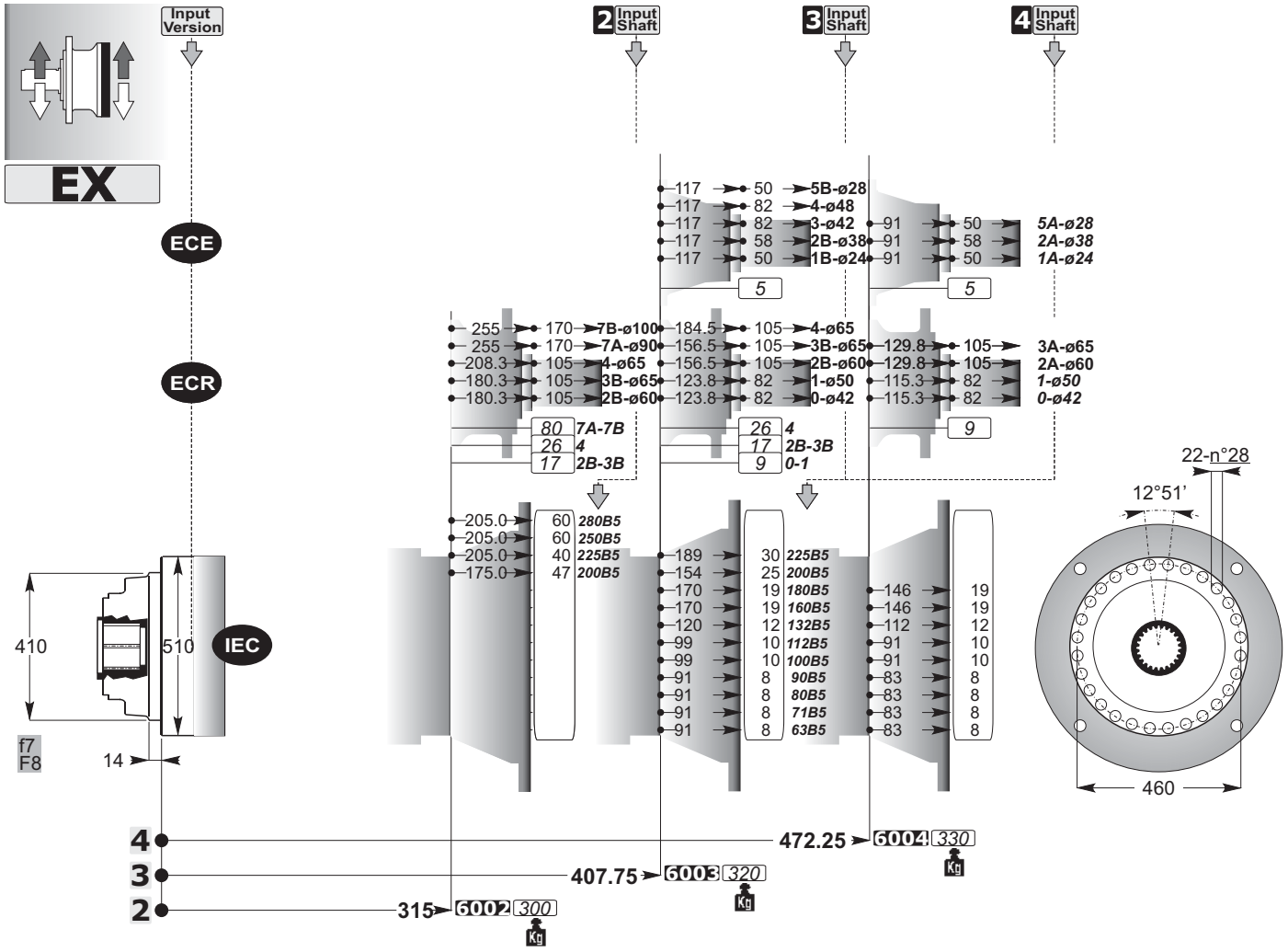


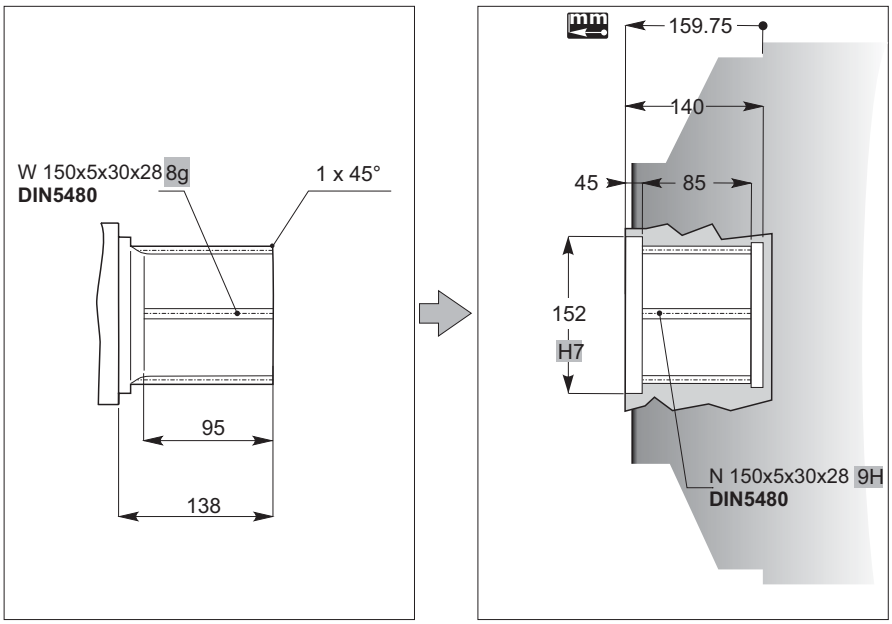




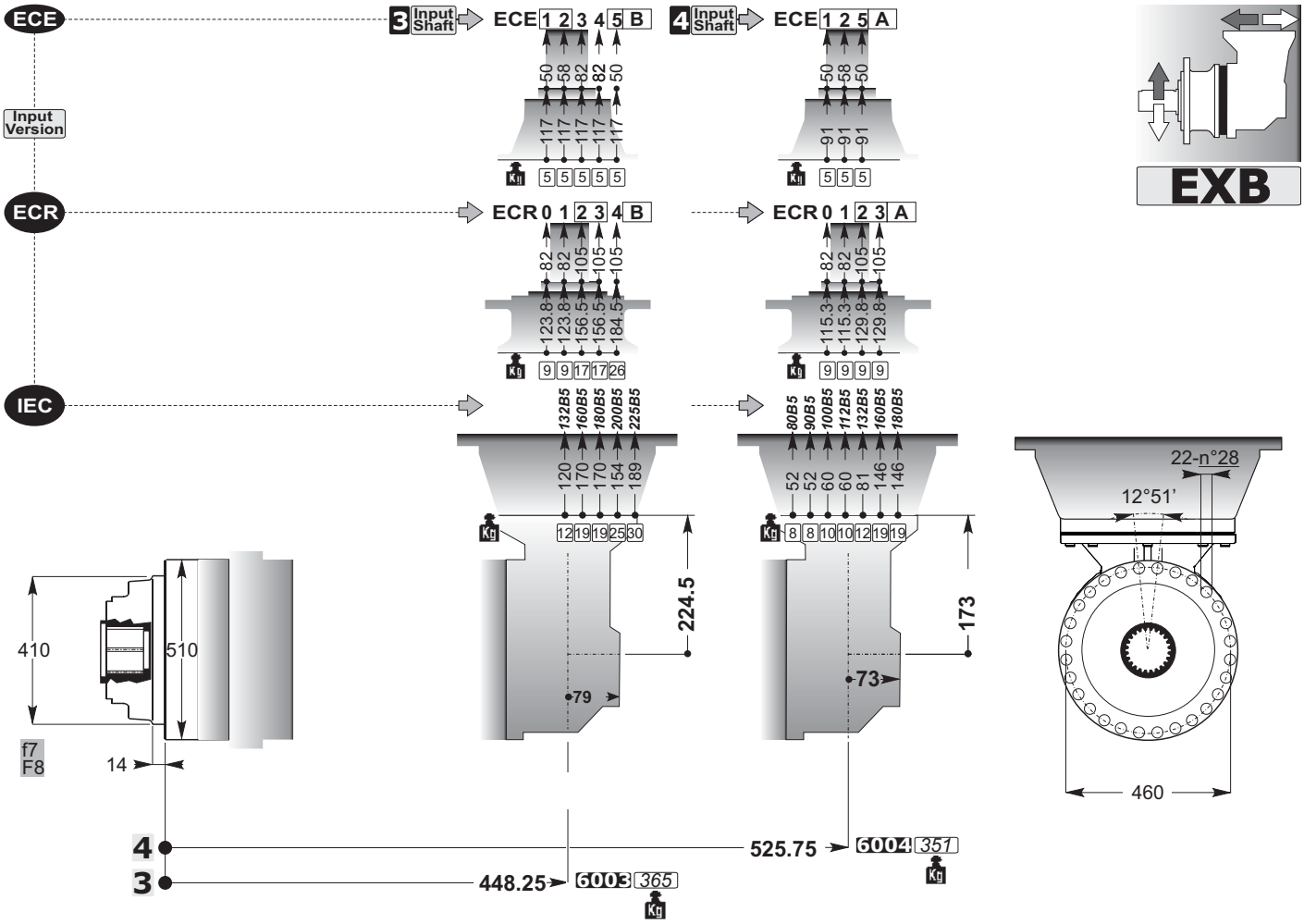
Accessories

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C

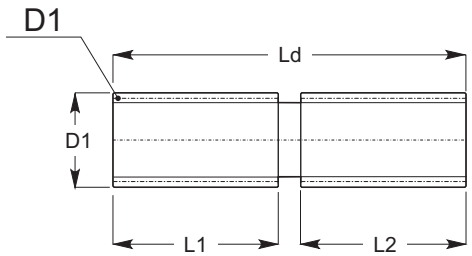




Output Shafts



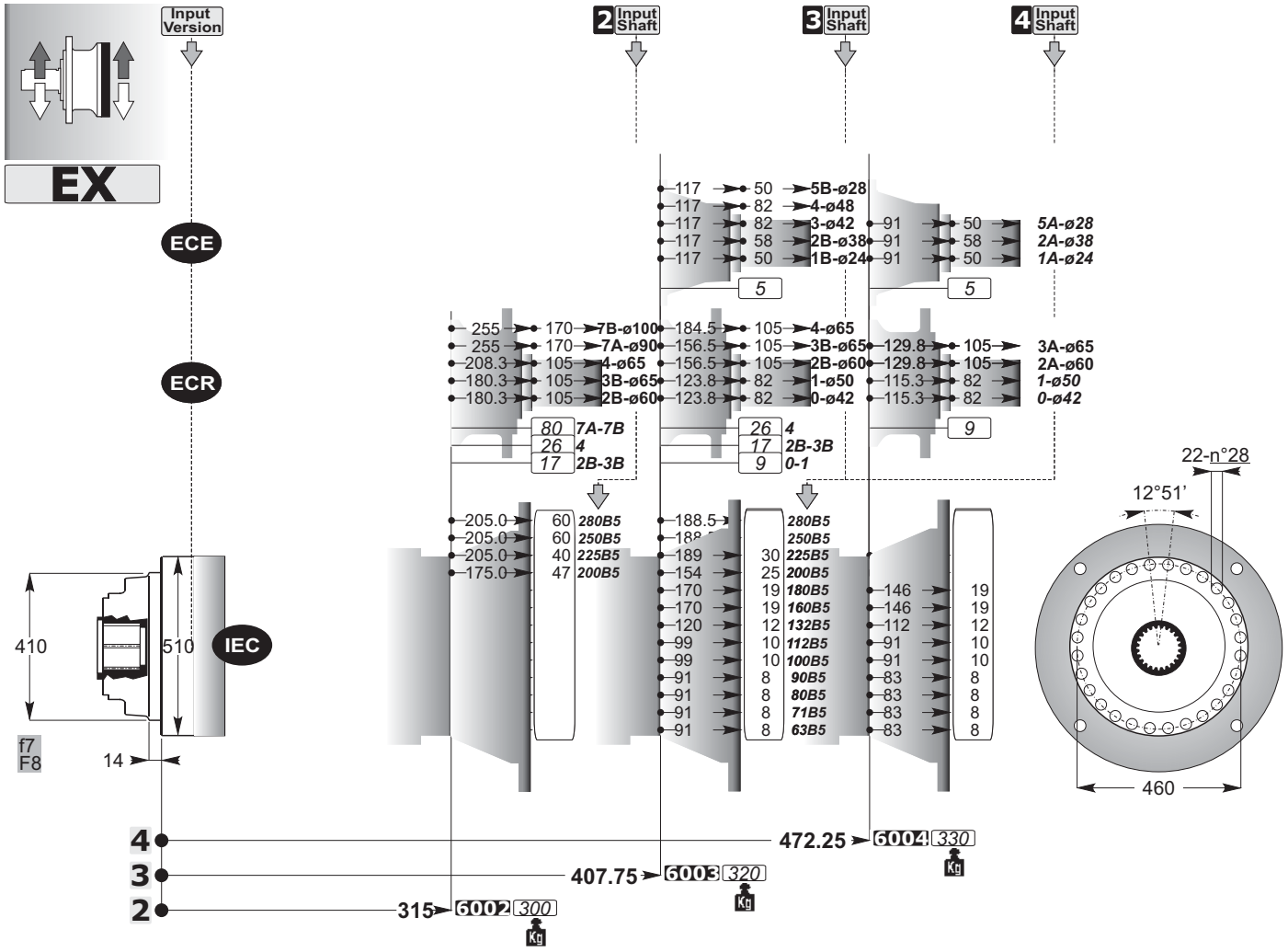
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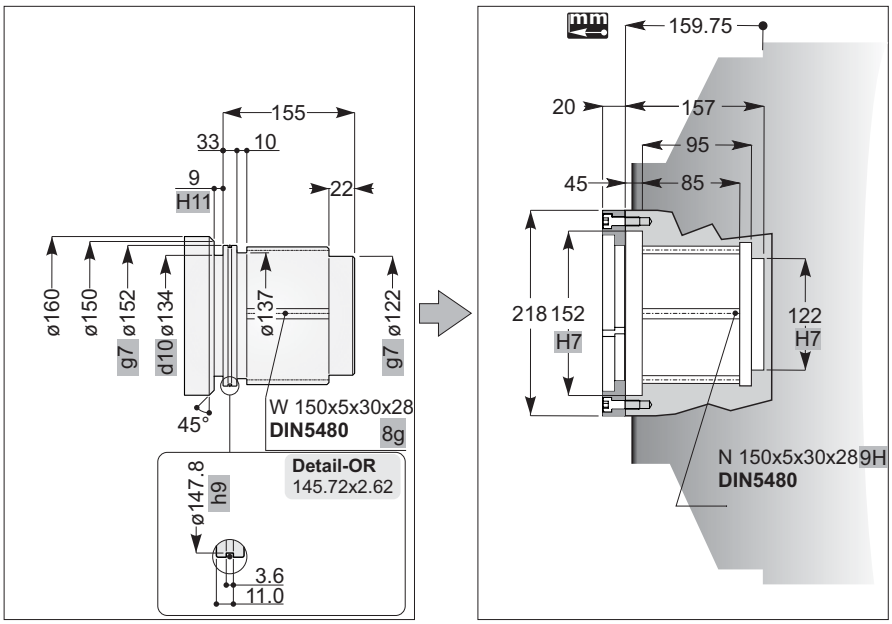


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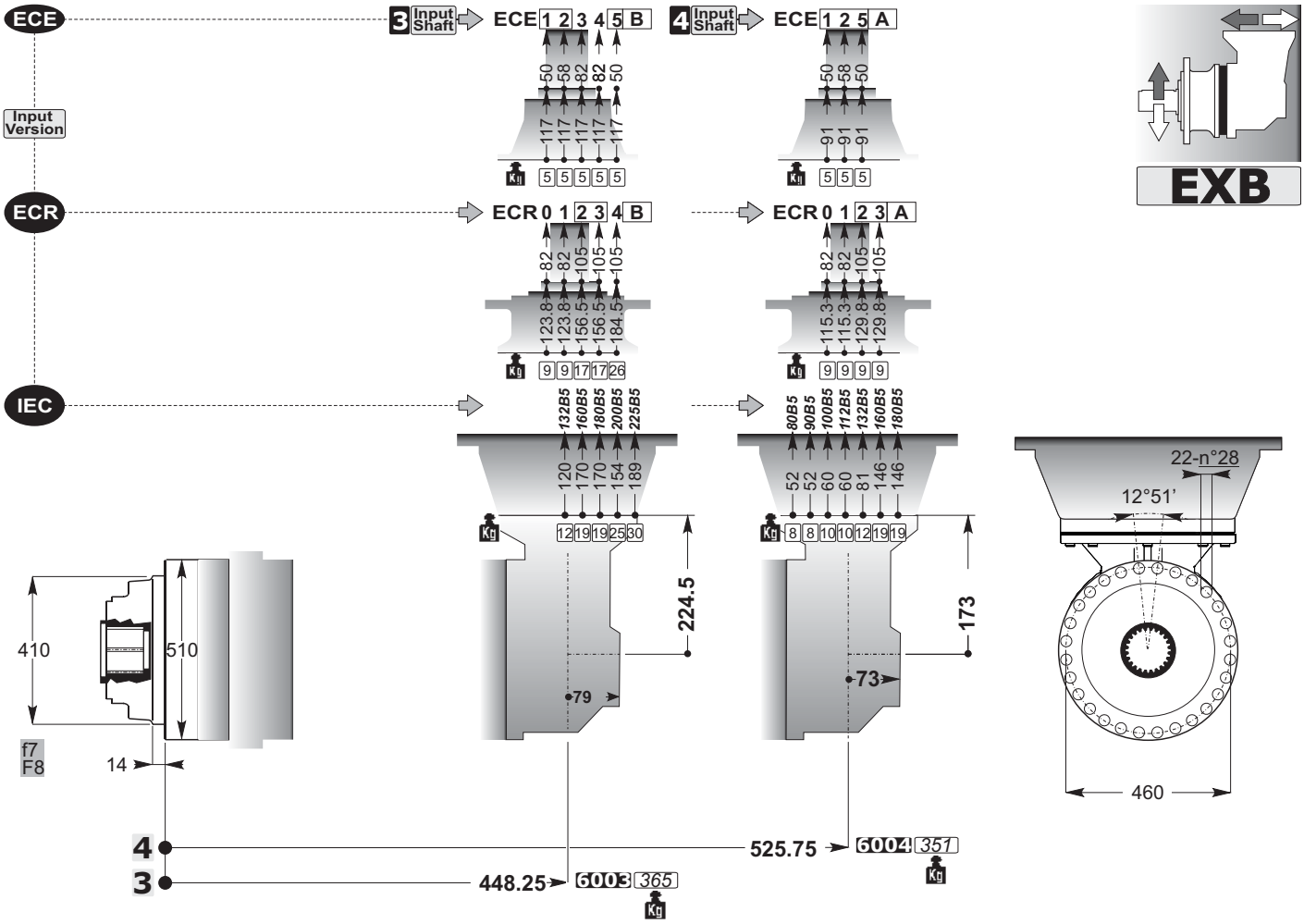


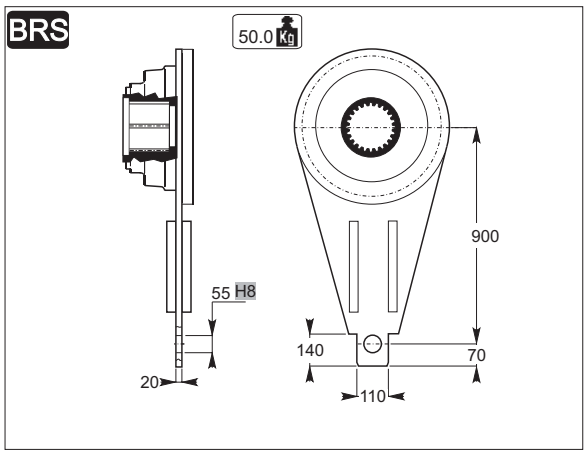
Accessories

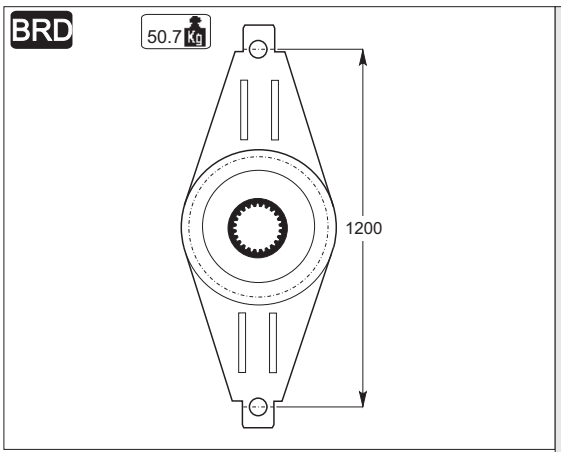


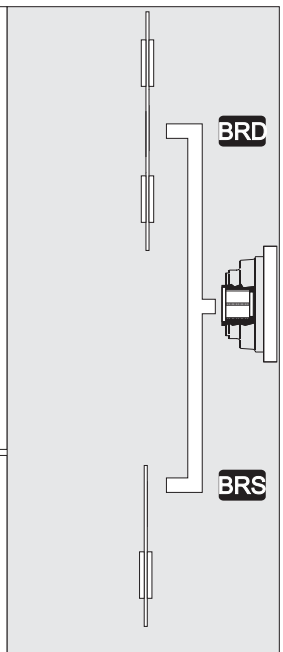


Output Shafts

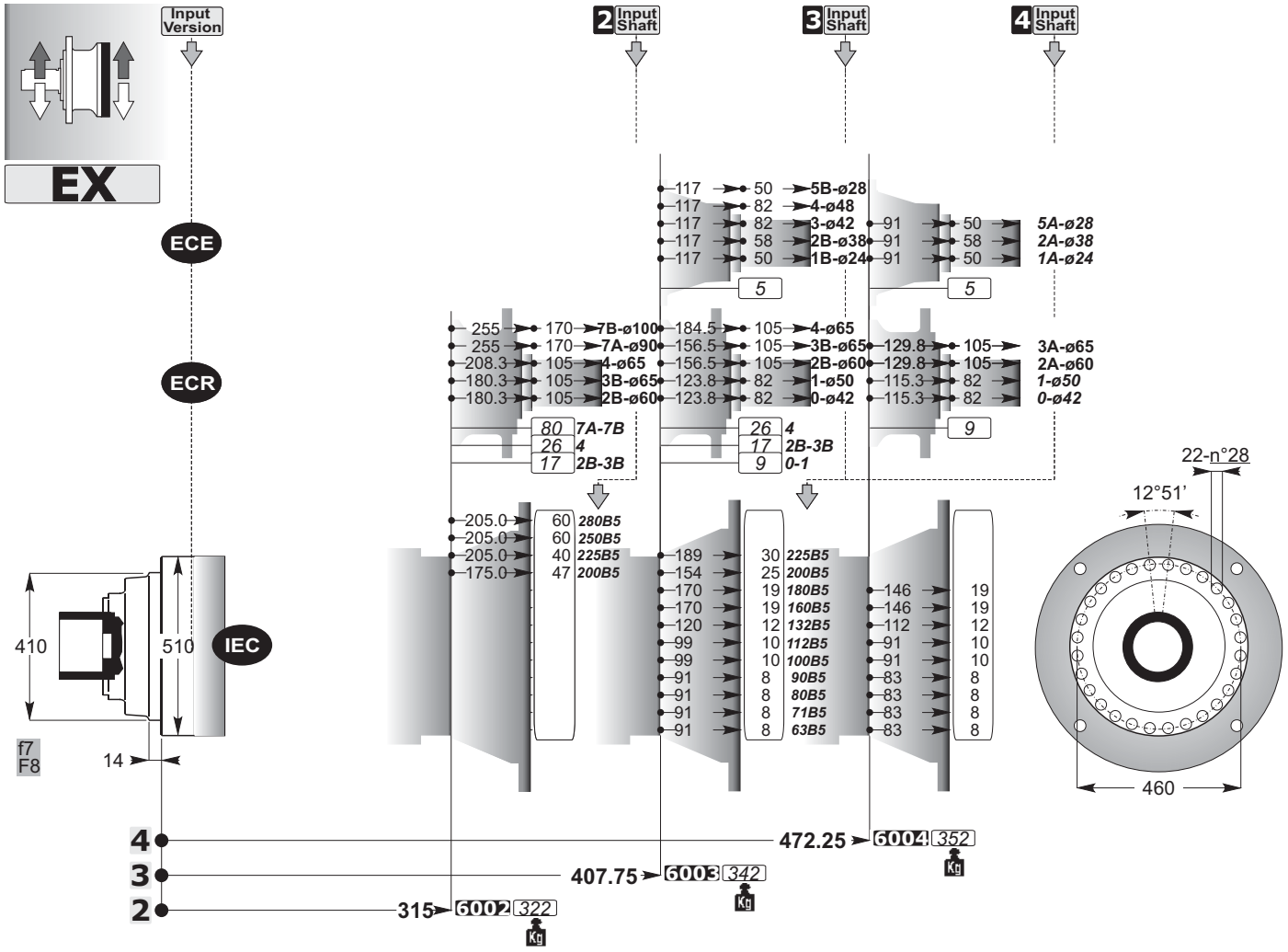


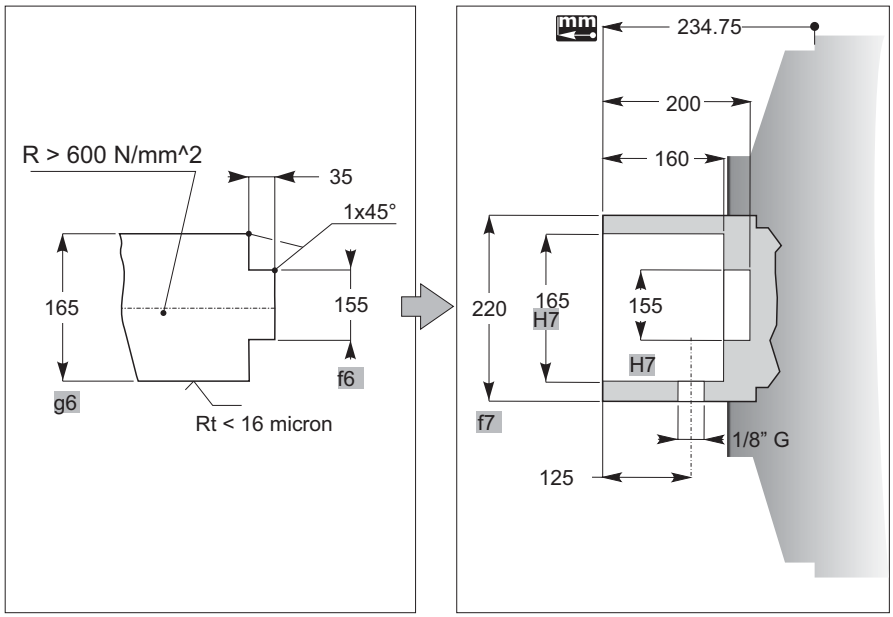




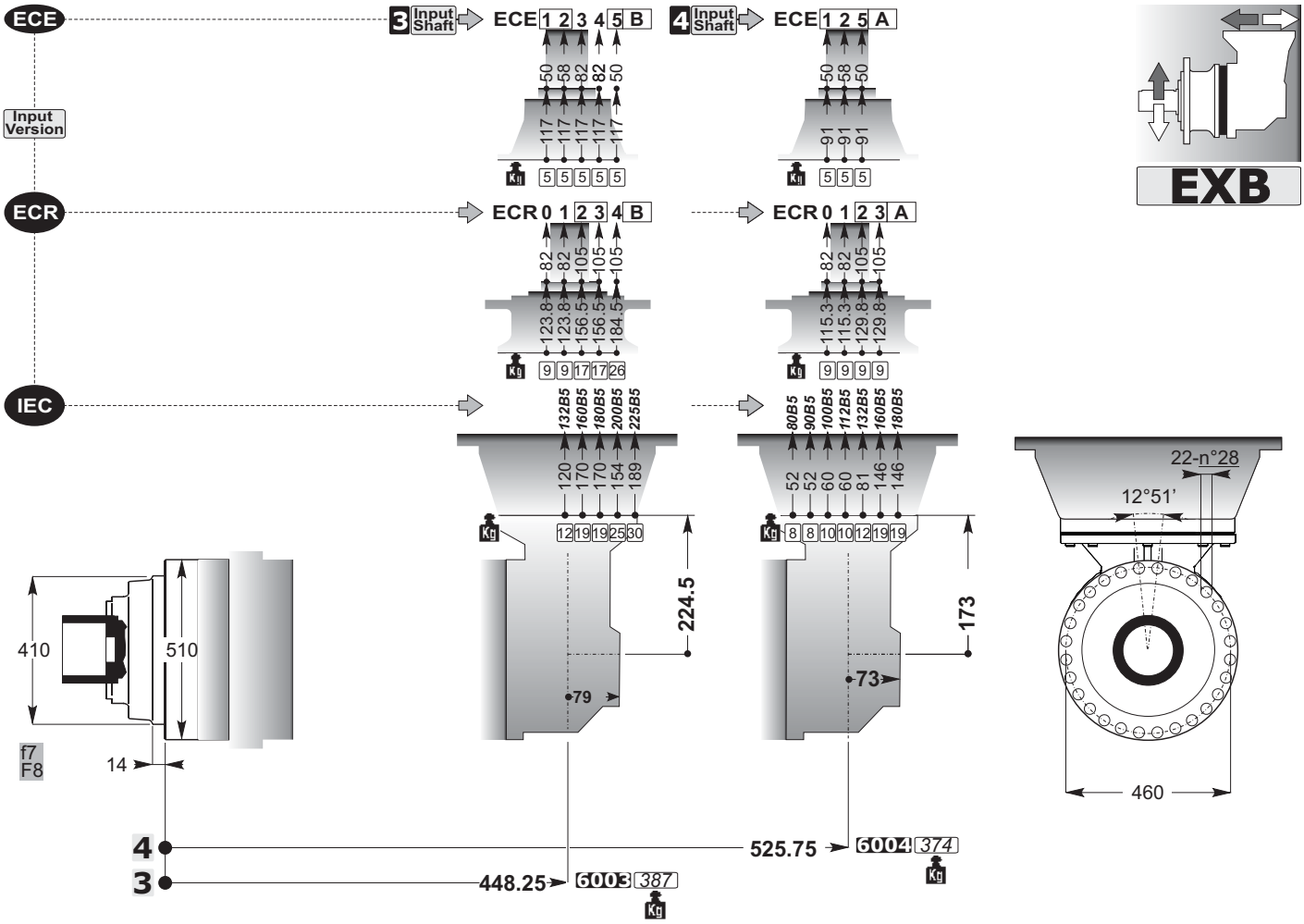


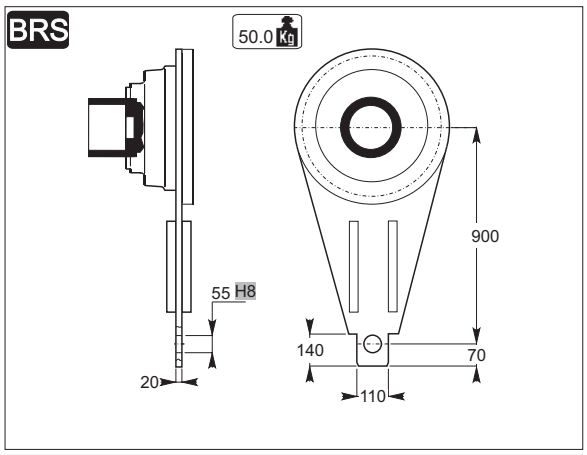
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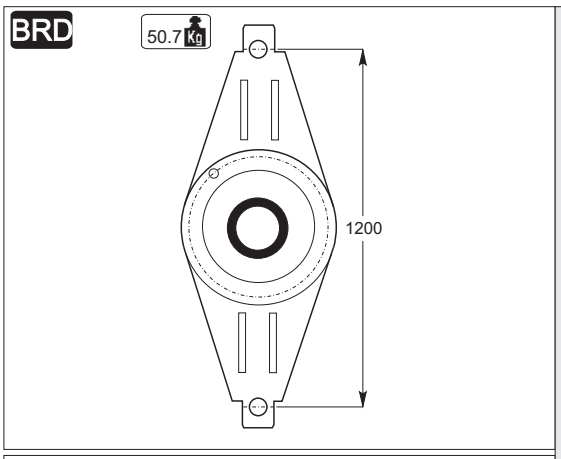


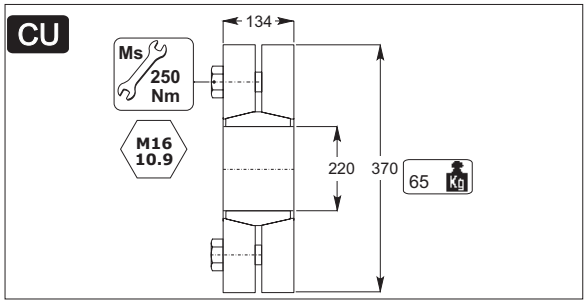


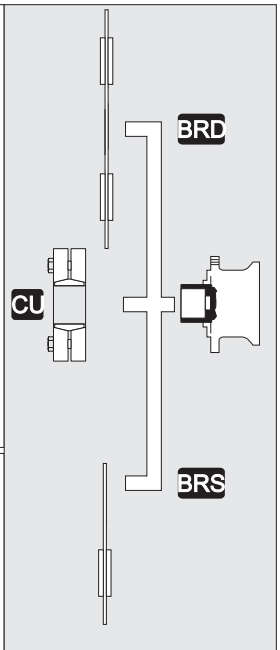
Output Shafts





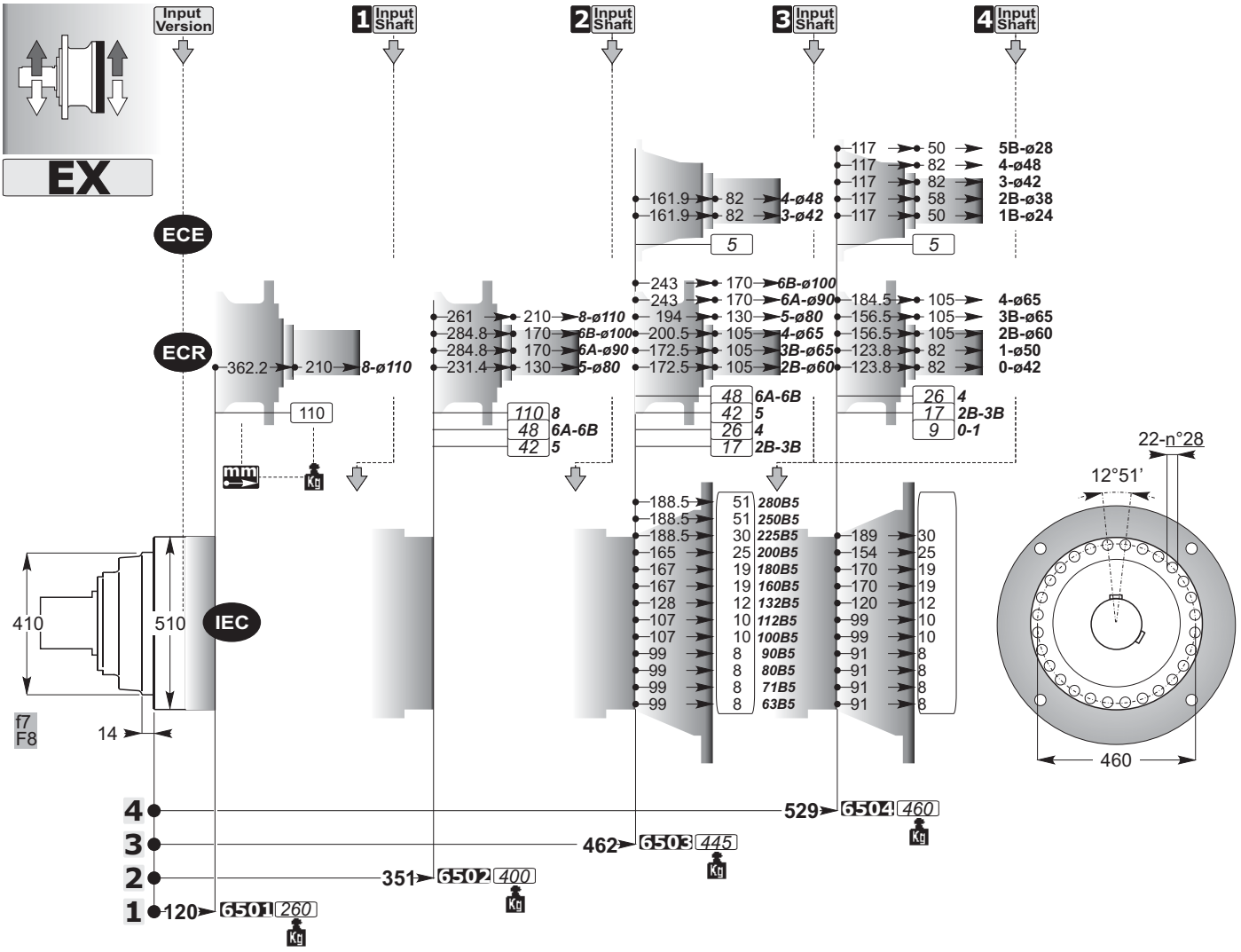


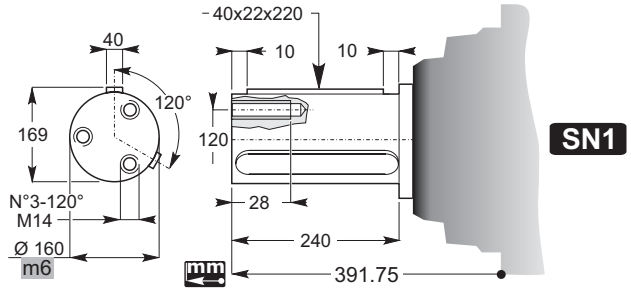


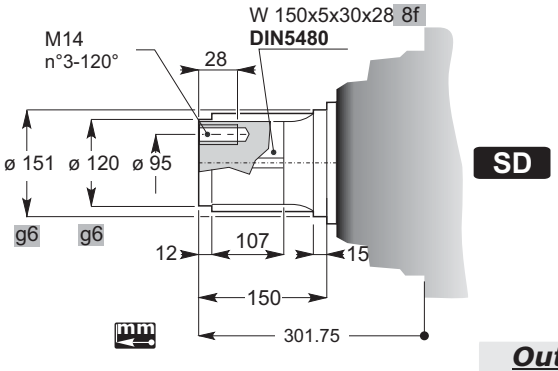


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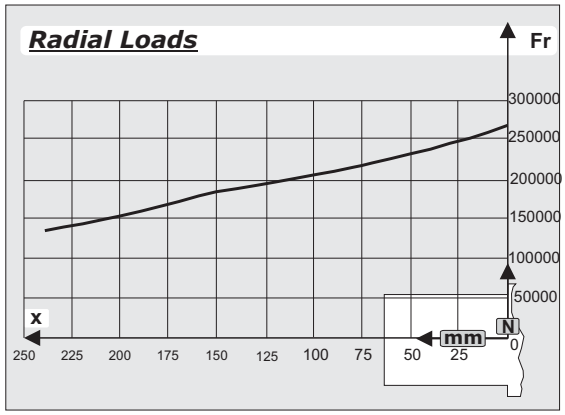
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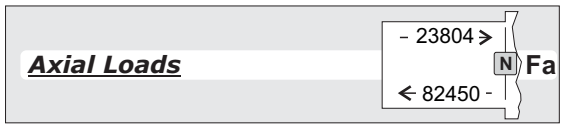


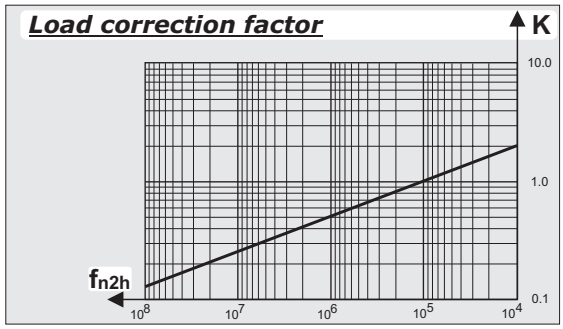


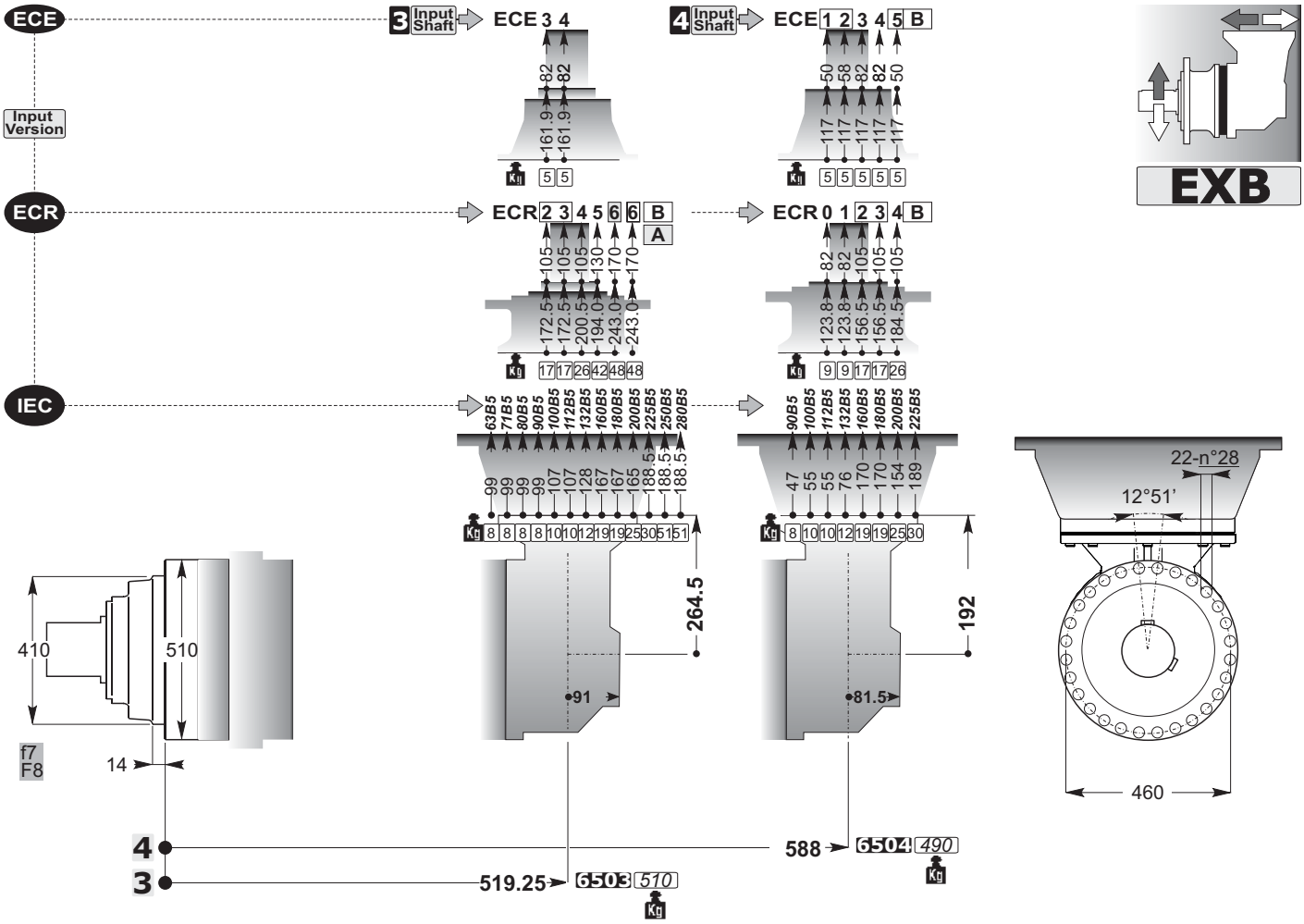


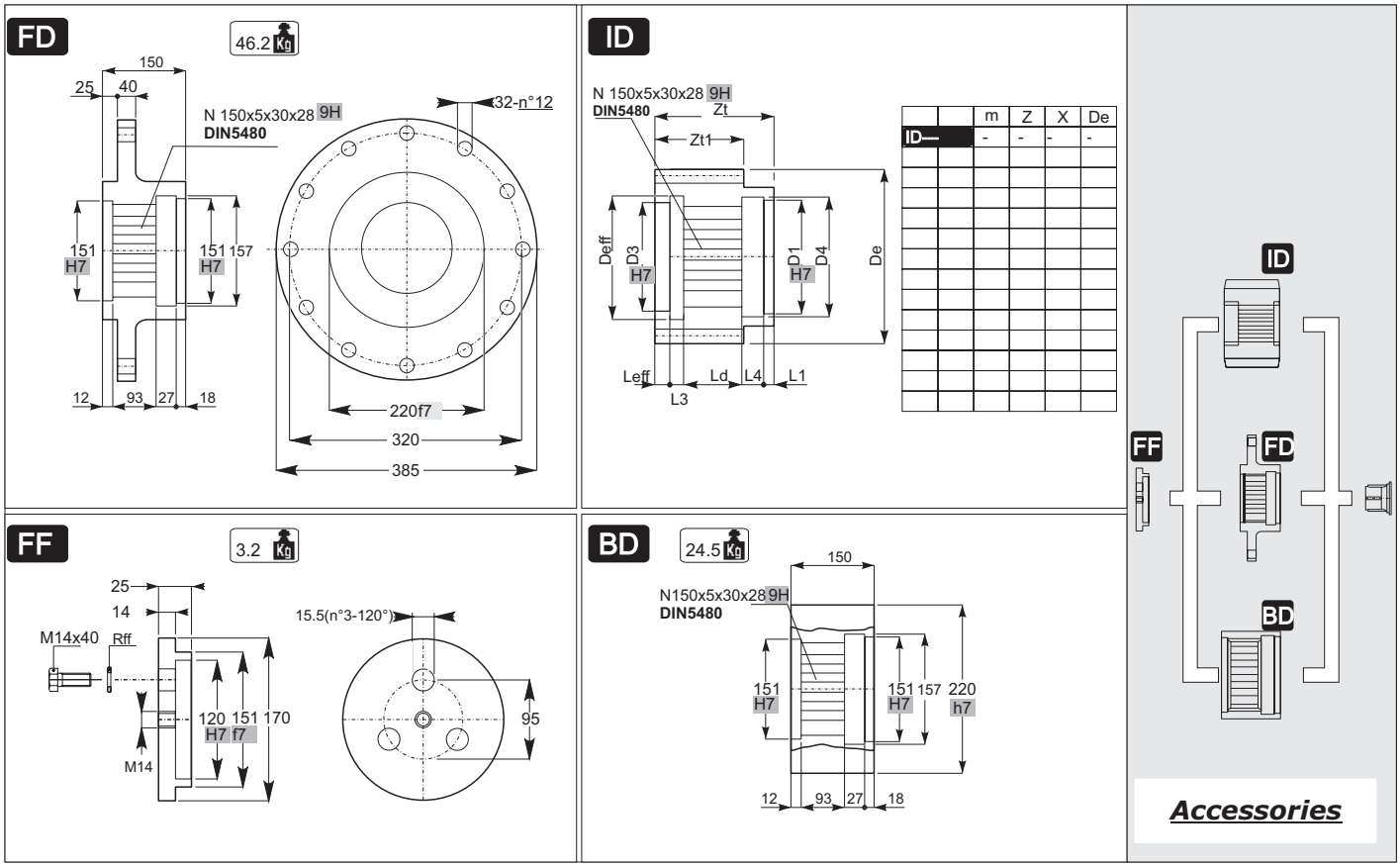
Output Shafts

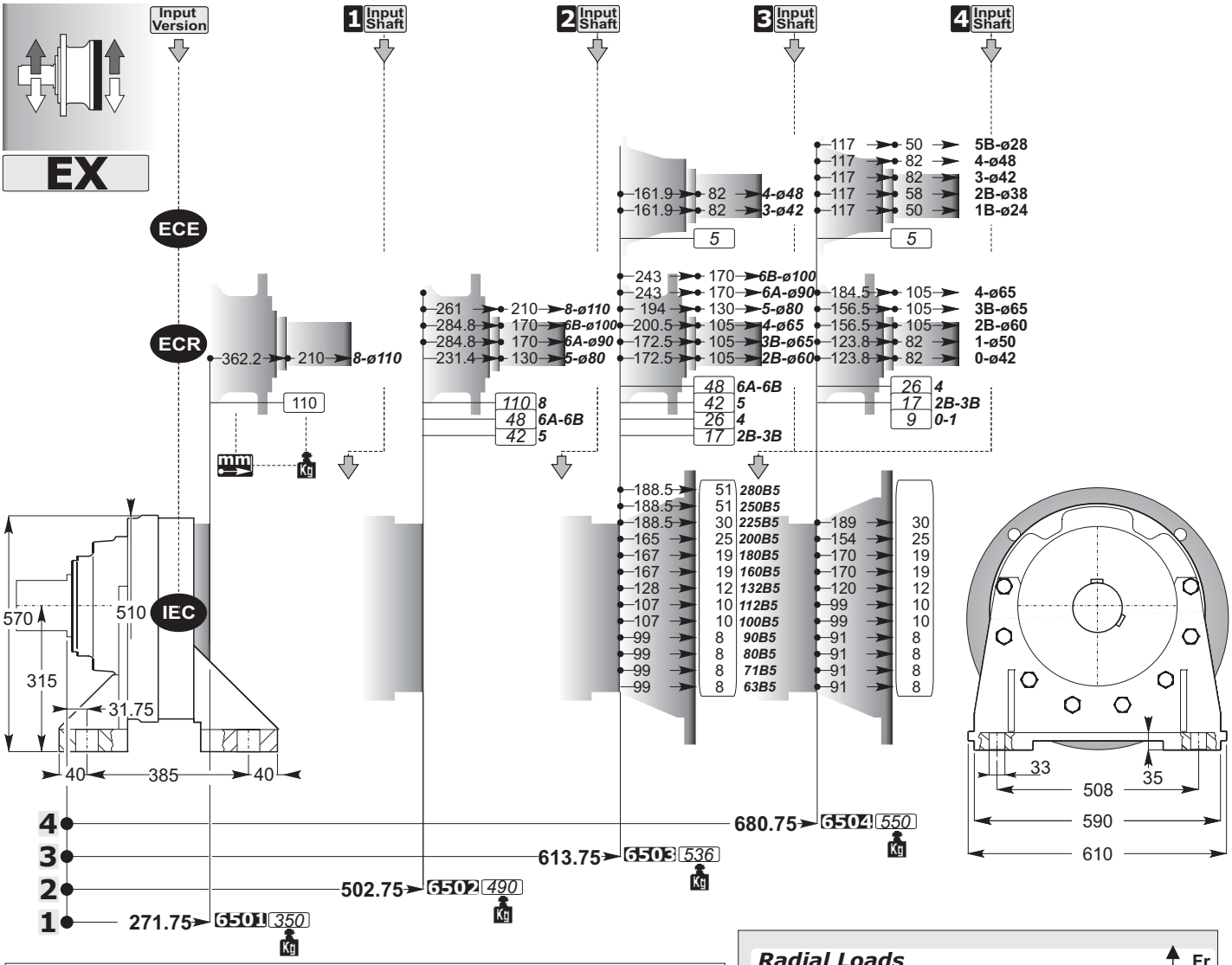


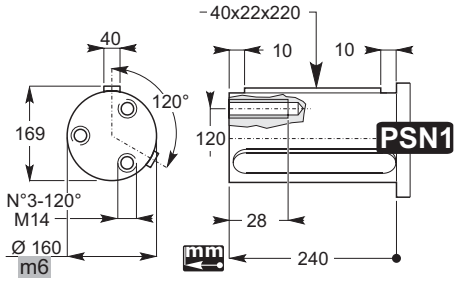


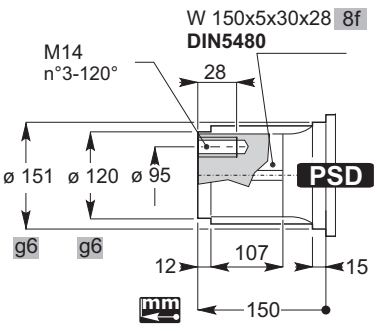



ECE
Input Version
ECR
IEC
3 Input Shaft ECE 3 4
4 Input Shaft ECE 1 2 3 4 5 B
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
EXB
22-n°28
12°51'
460
410
510
f7
F8
14
264.5
192
91
81.5
4
3
588
6504 490
519.25
6503 510

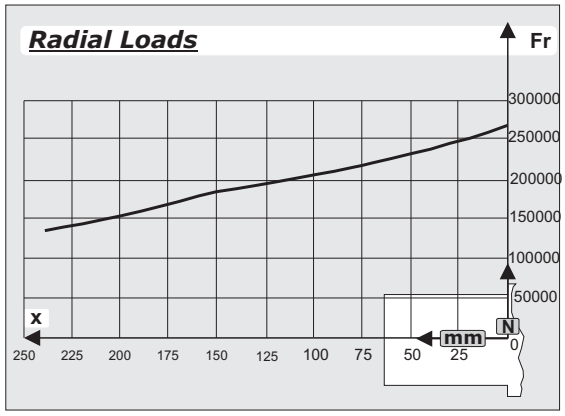

FD
46.2 Kg
150
25
40
N 150x5x30x28 9H
DIN5480
32-n°12
151 H7
151 H7
157
12
93
27
18
220f7
320
385
ID
N 150x5x30x28 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
3.2 Kg
25
14
M14x40
Rff
15.5(n°3-120°)
120 H7
151 f7
170
M14
95
BD
24.5 Kg
150
N150x5x30x28 9H
DIN5480
151 H7
151 H7
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220 h7
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27
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ID
FF
FD
BD
Accessories

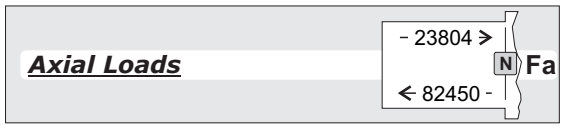


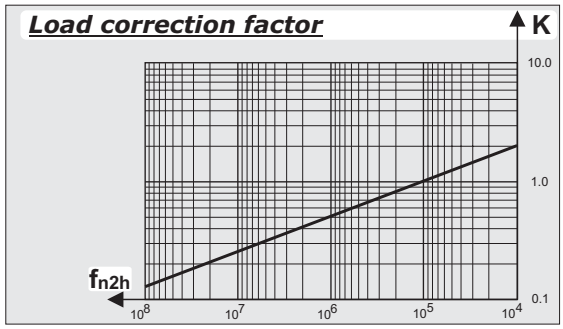


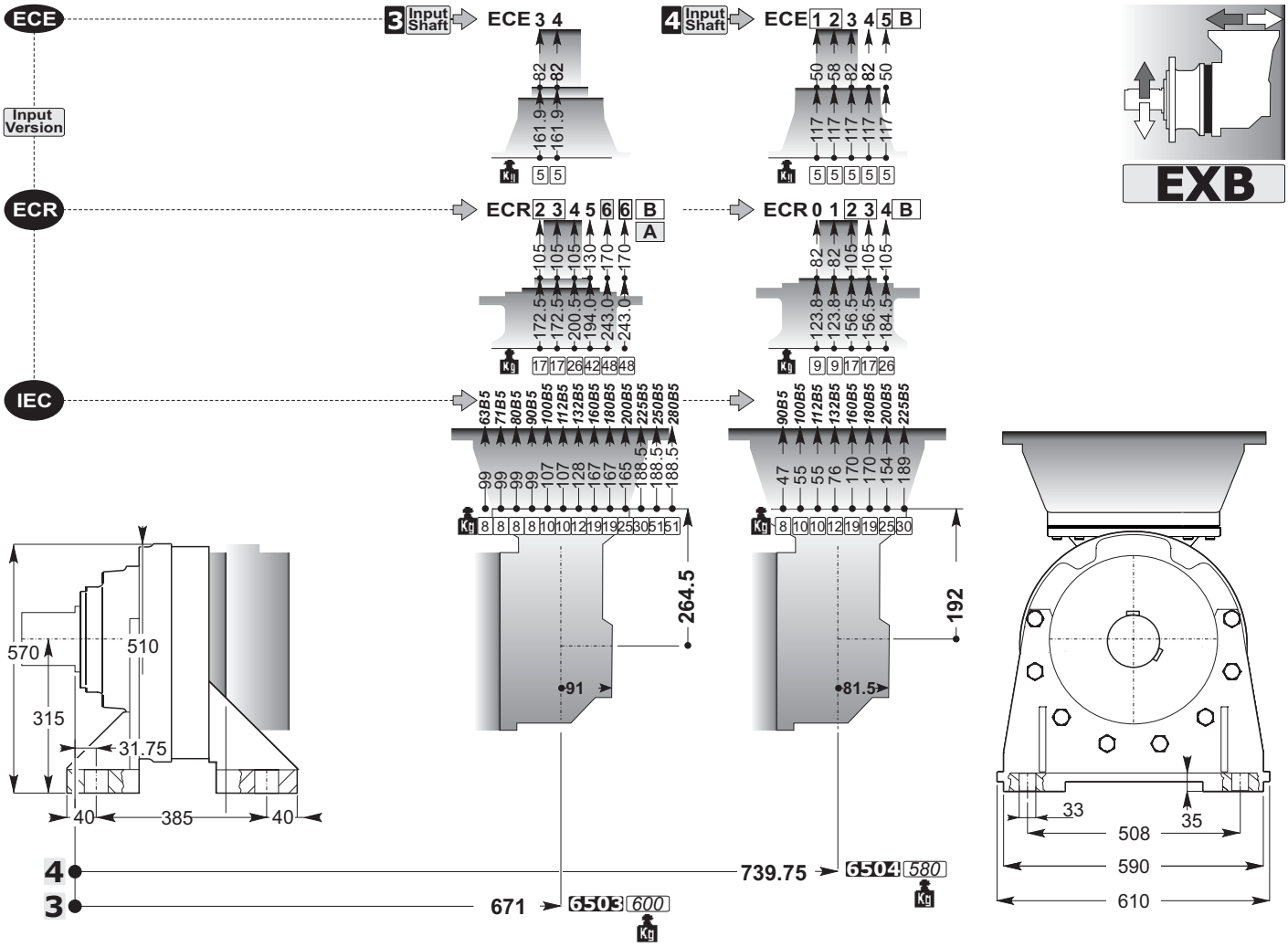


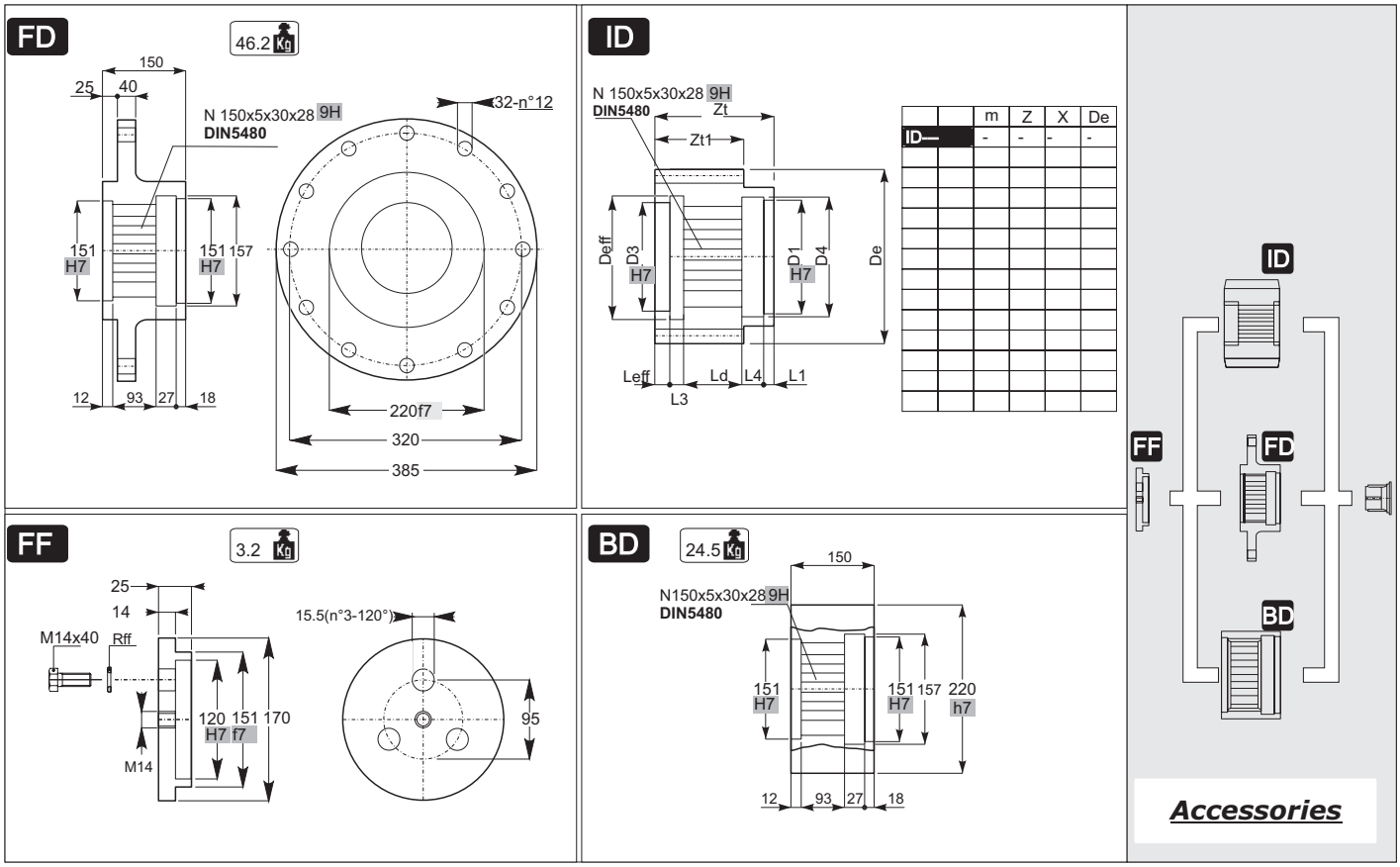
Output Shafts

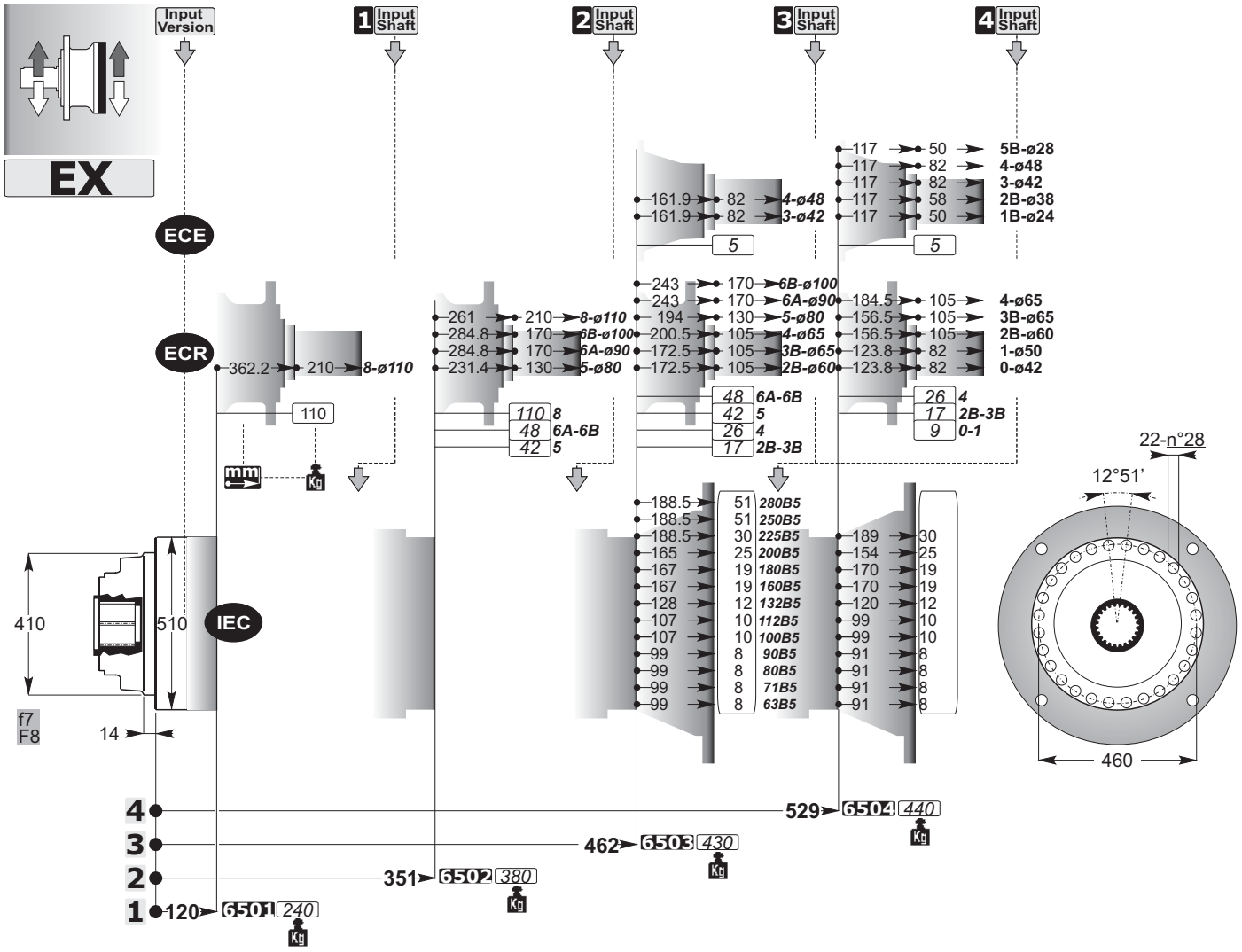


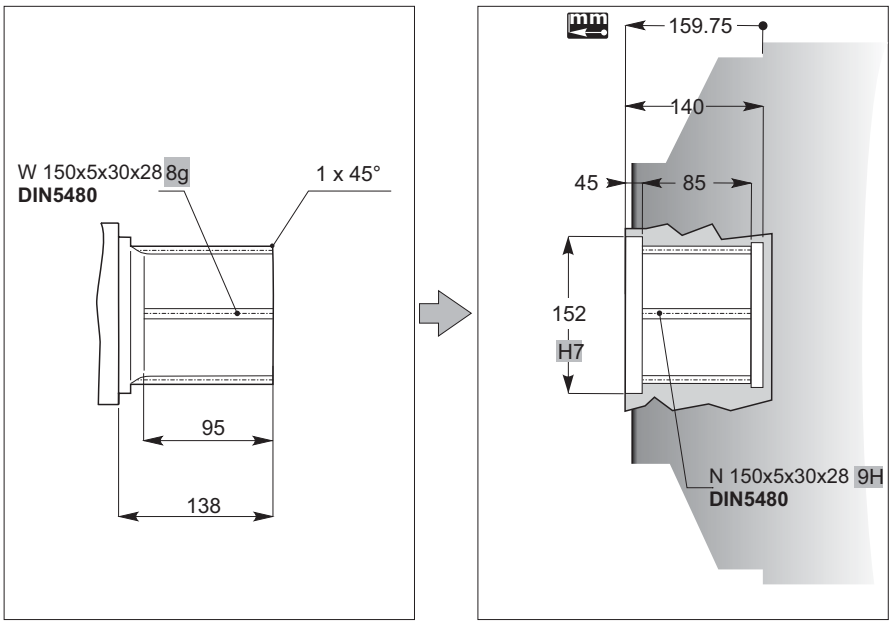




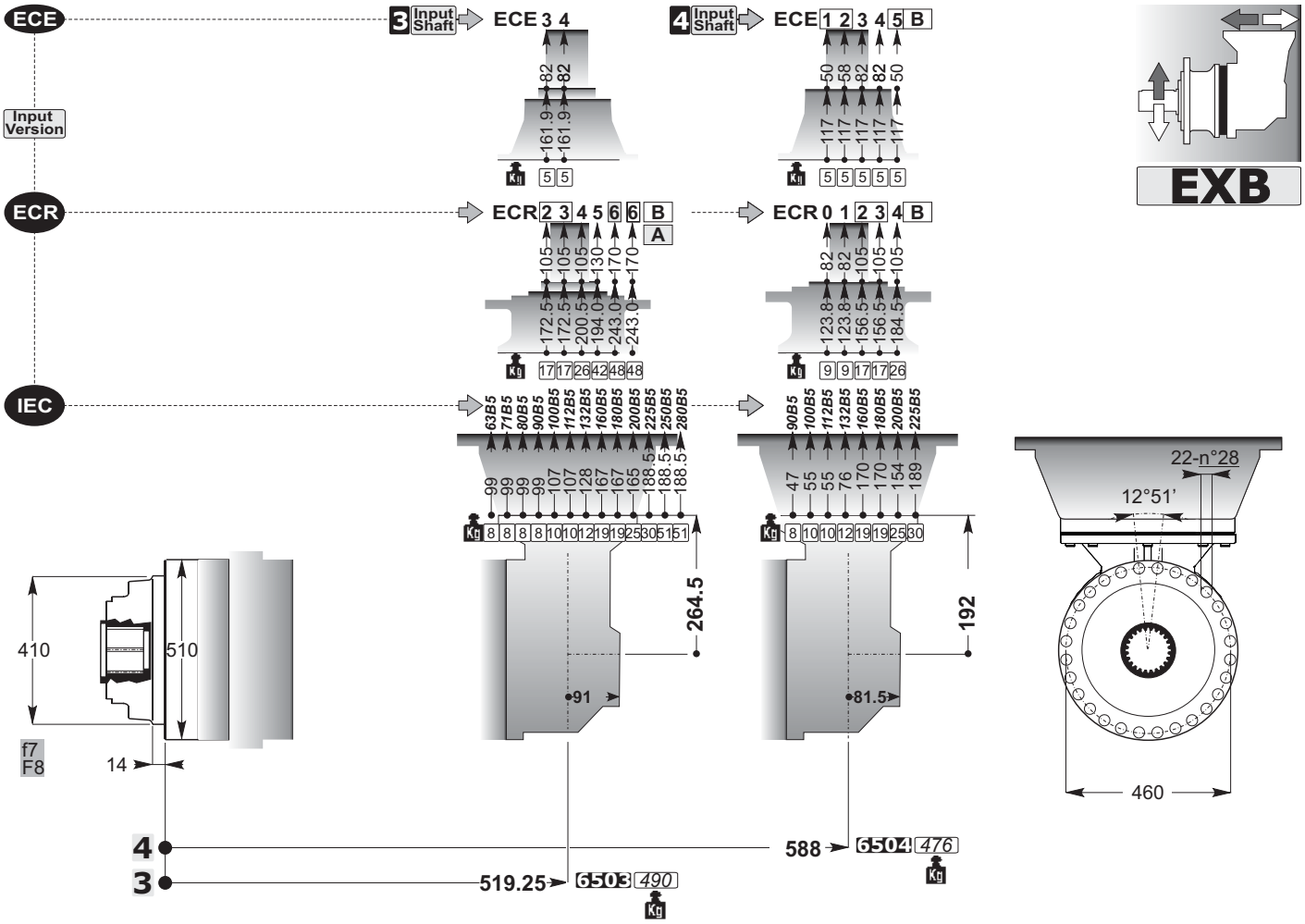

ECE
Input Version
ECR
IEC
3 Input Shaft ECE 3 4
4 Input Shaft ECE 1 2 3 4 5 B
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
EXB
264.5
192
91
81.5
570
510
315
31.75
40
385
40
33
35
508
590
610
4
3
739.75
671
6504 580
6503 600


FD
46.2 Kg
150
25
40
N 150x5x30x28 9H
DIN5480
32-n°12
151 H7
151 H7
157
12
93
27
18
220f7
320
385
ID
N 150x5x30x28 9H
DIN5480
Zt
Zt1
Deff
D3 H7
D1 H7
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
3.2 Kg
25
14
M14x40
Rff
15.5(n°3-120°)
120 H7
151 f7
170
M14
95
BD
24.5 Kg
150
N150x5x30x28 9H
DIN5480
151 H7
151 H7
157
220 h7
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93
27
18
ID
FF
FD
BD
Accessories

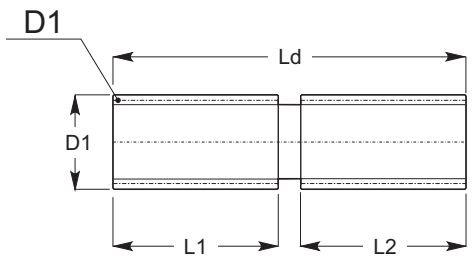




Output Shafts



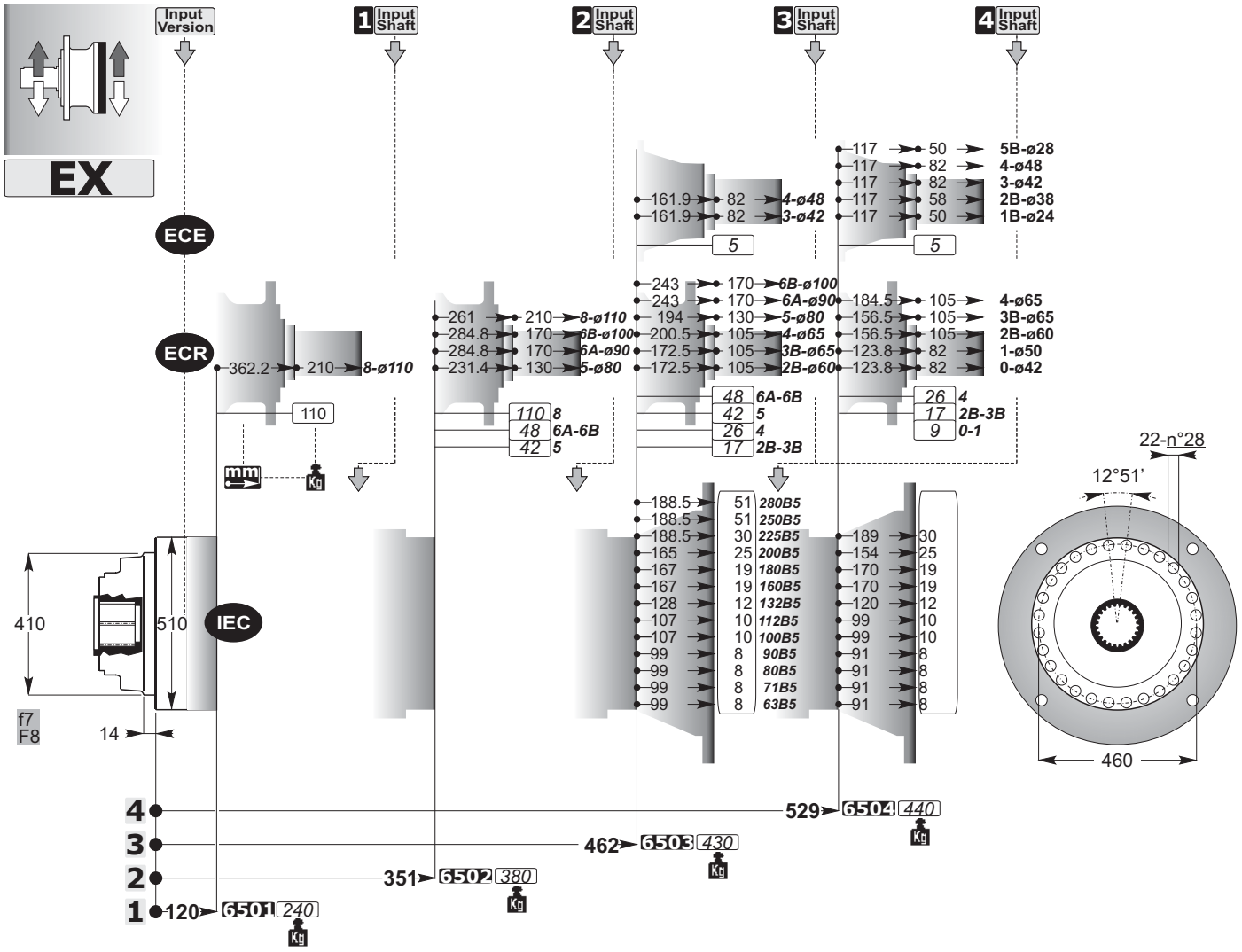
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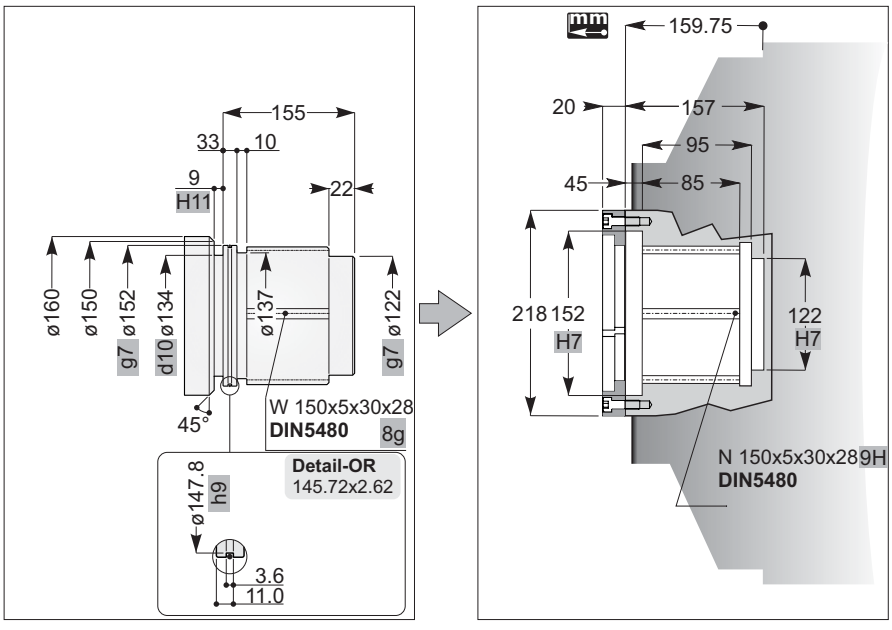


SD

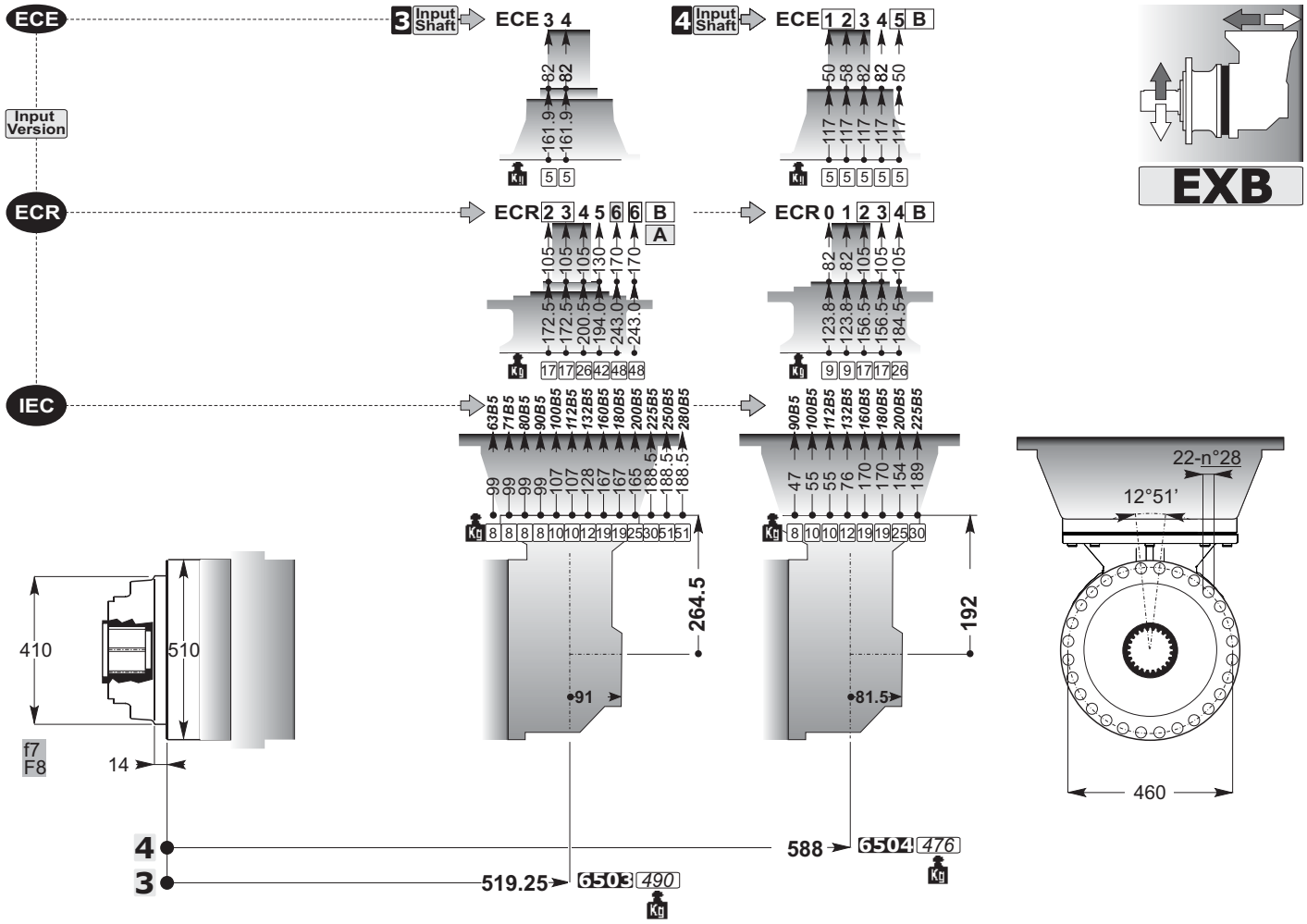


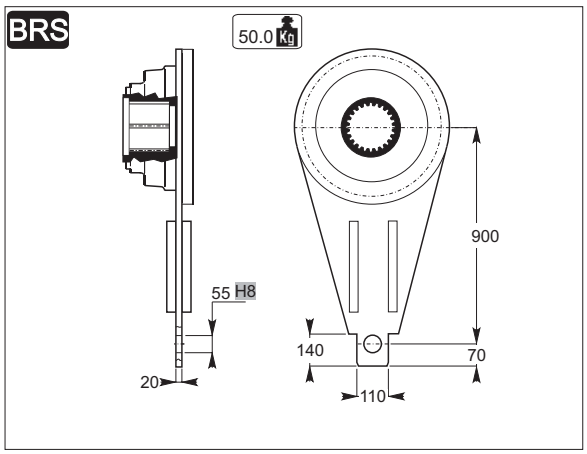
Accessories

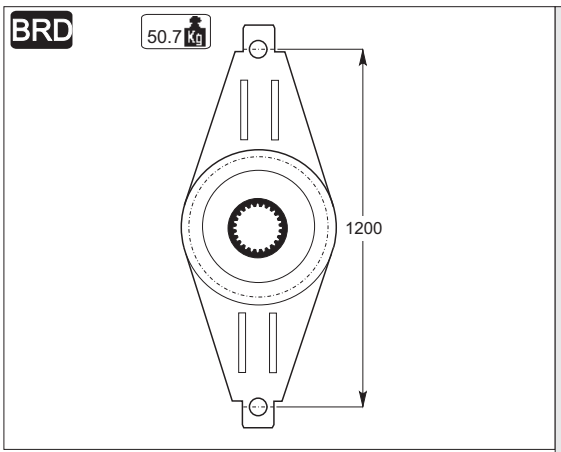


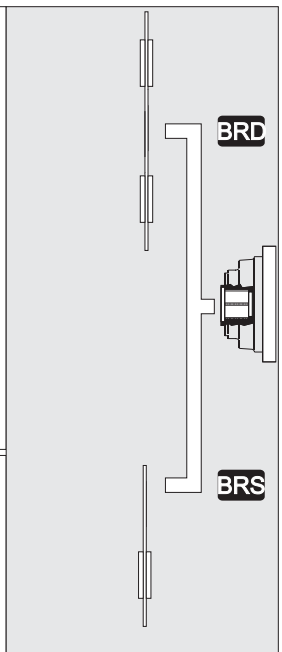


Output Shafts

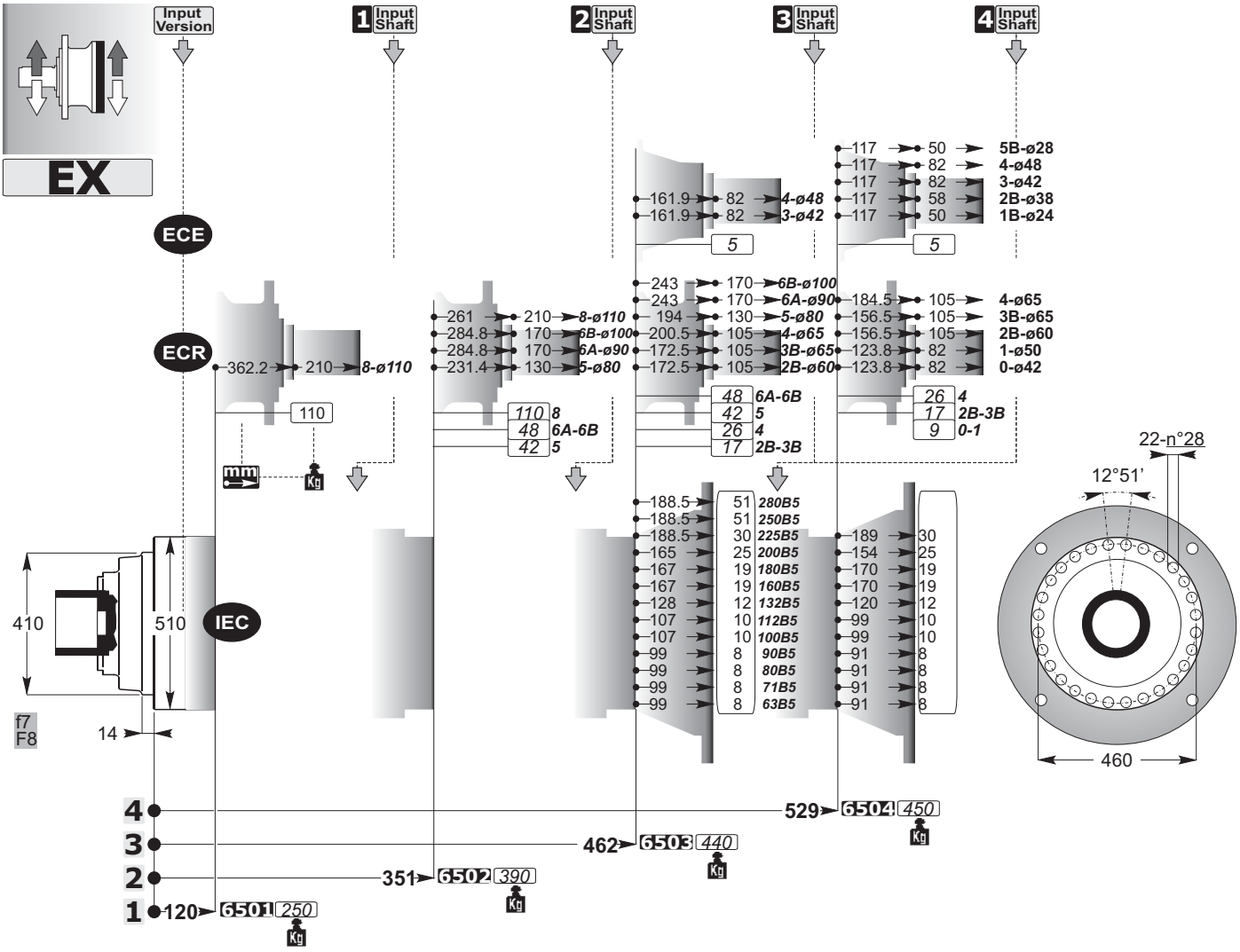


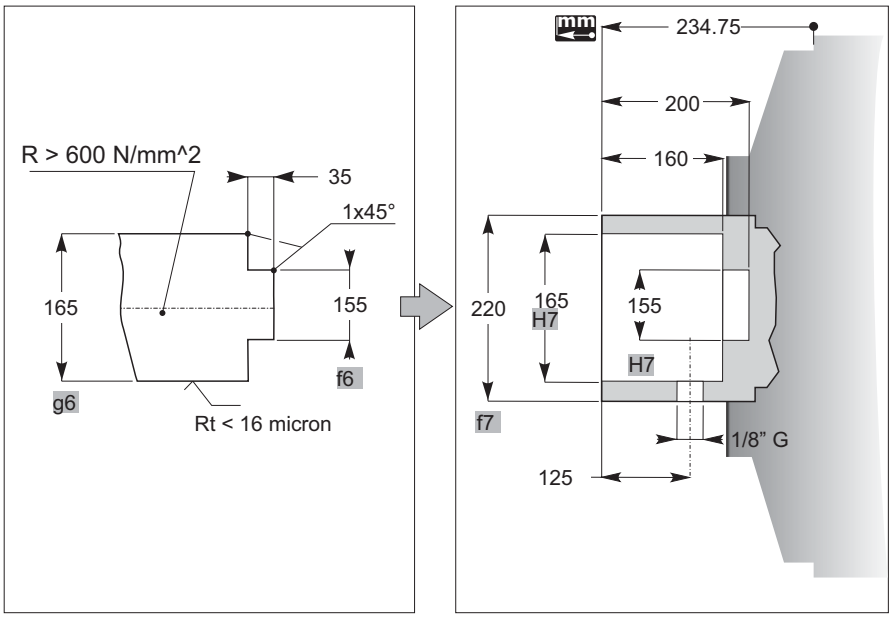




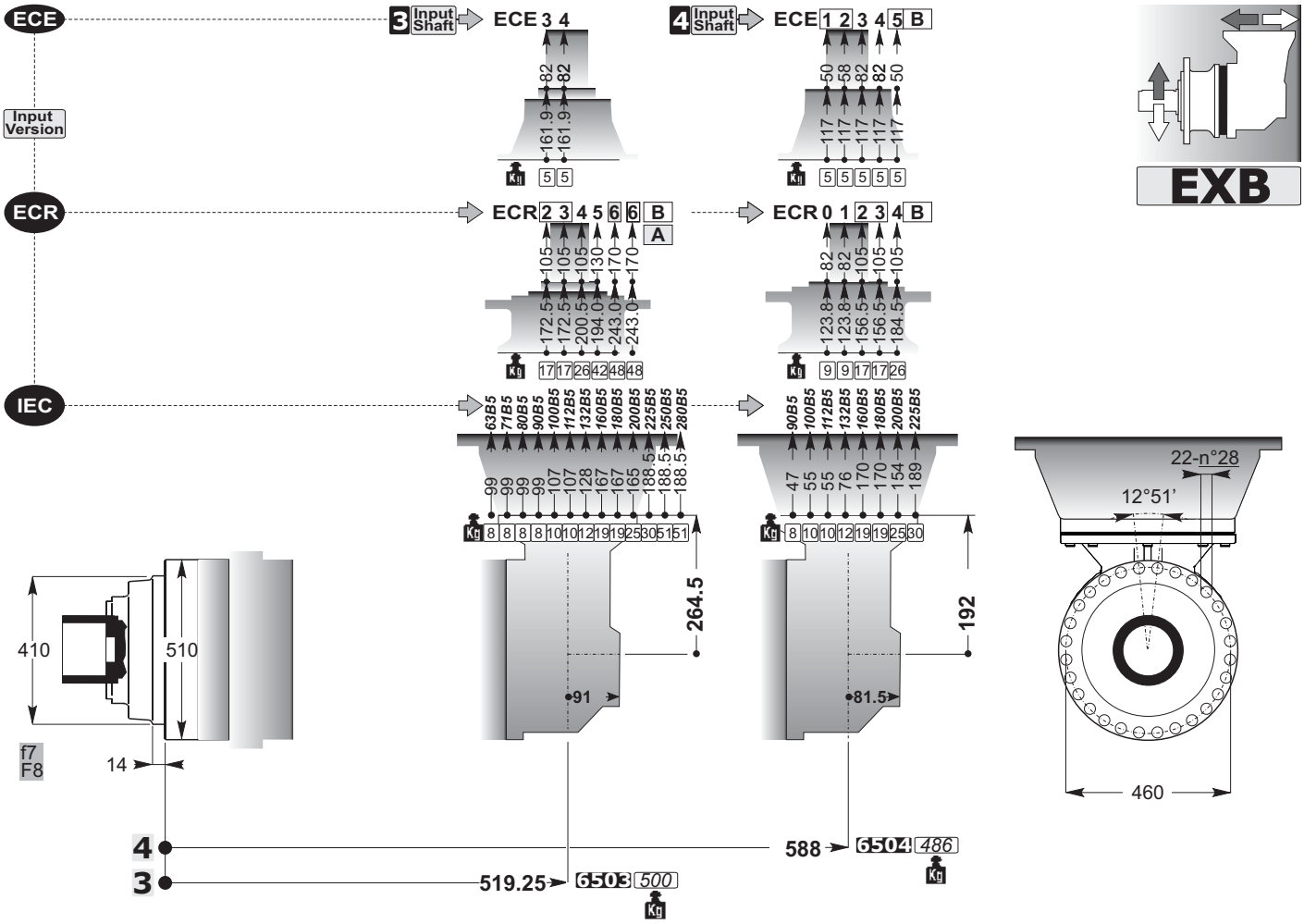


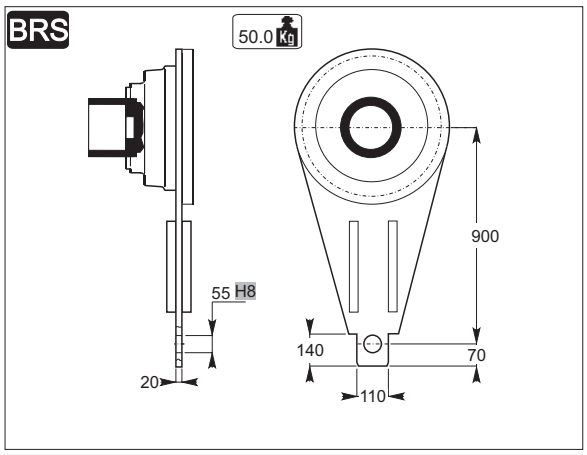
Accessories

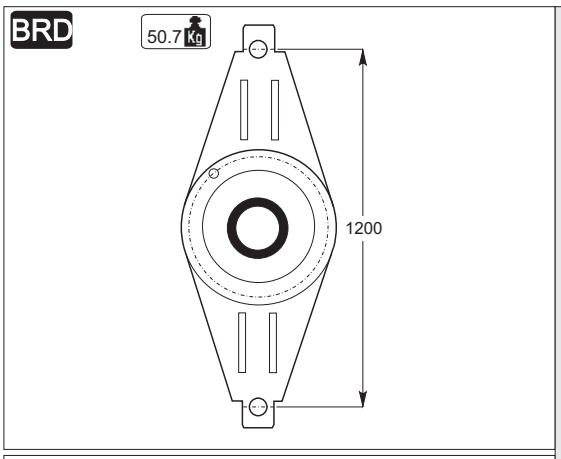


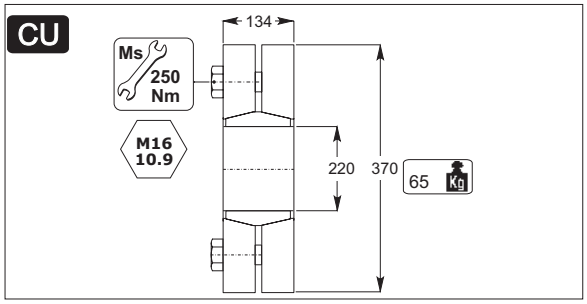


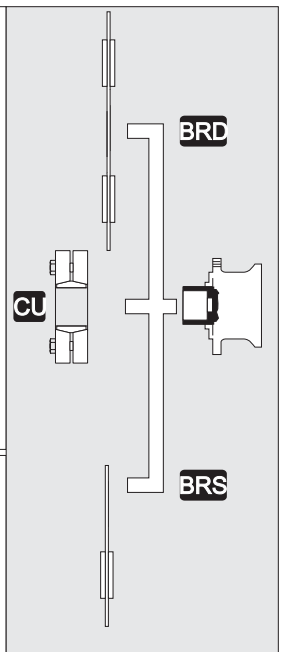
Output Shafts





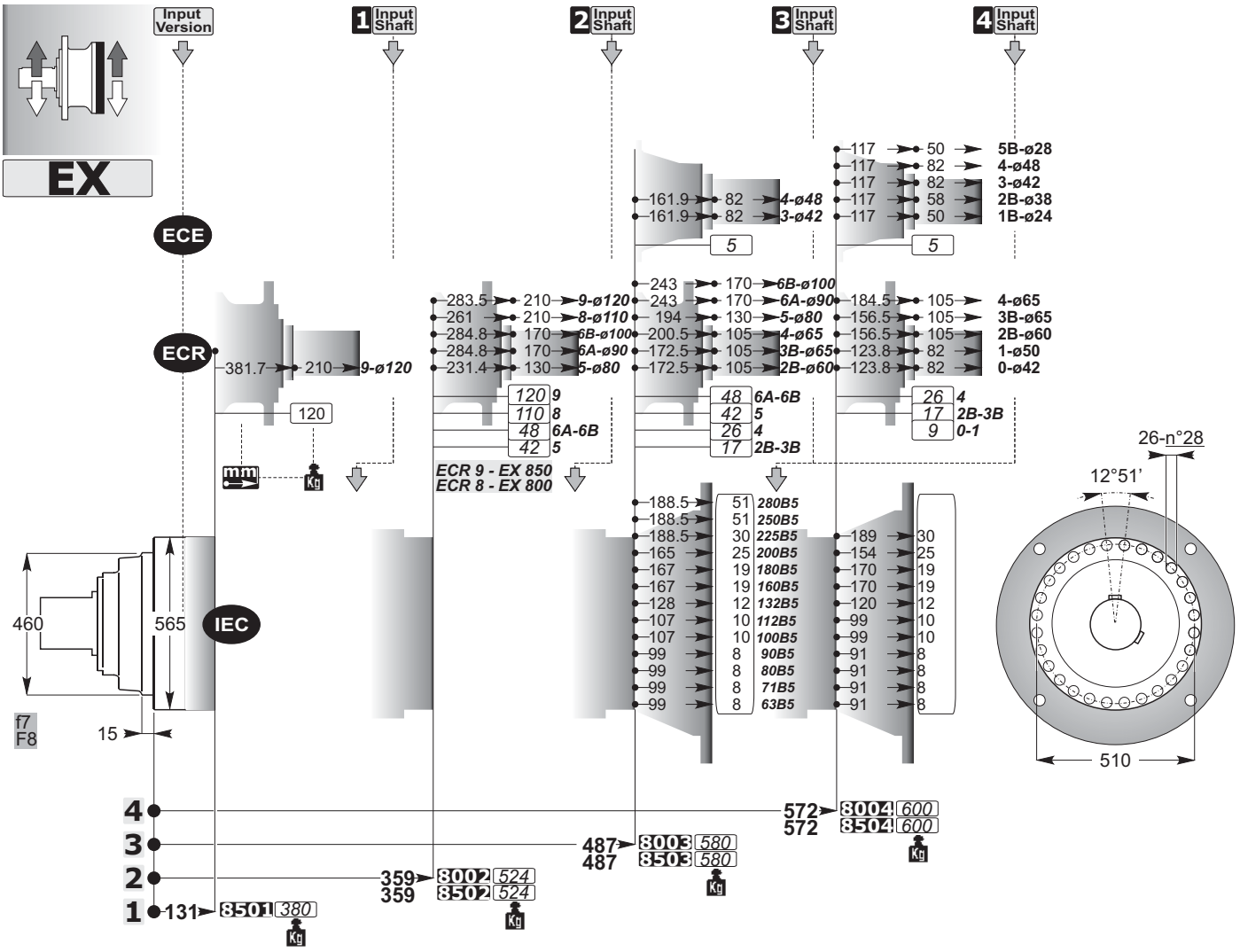


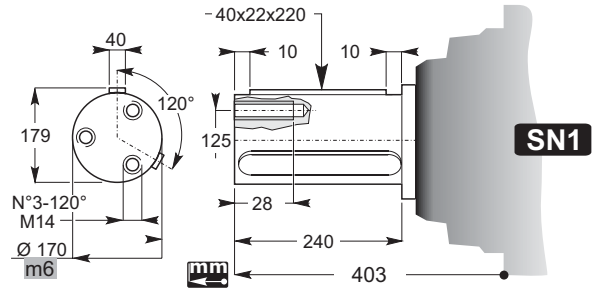


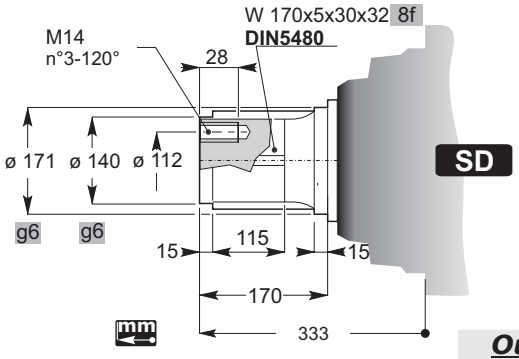


Accessories

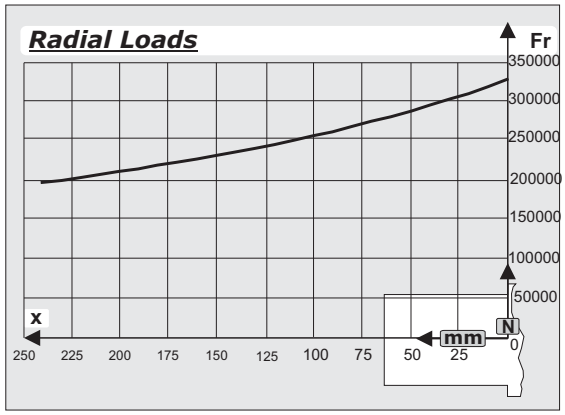
mm
C

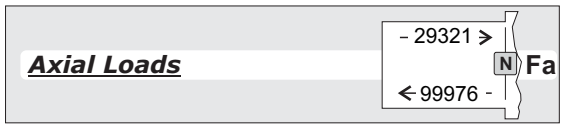


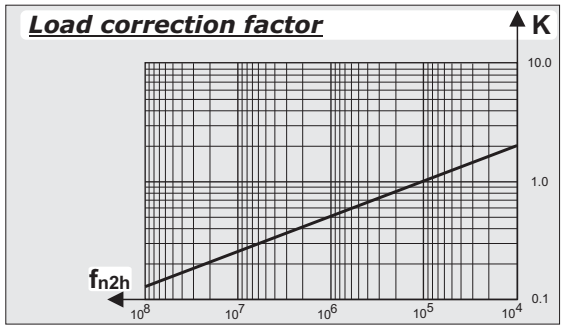


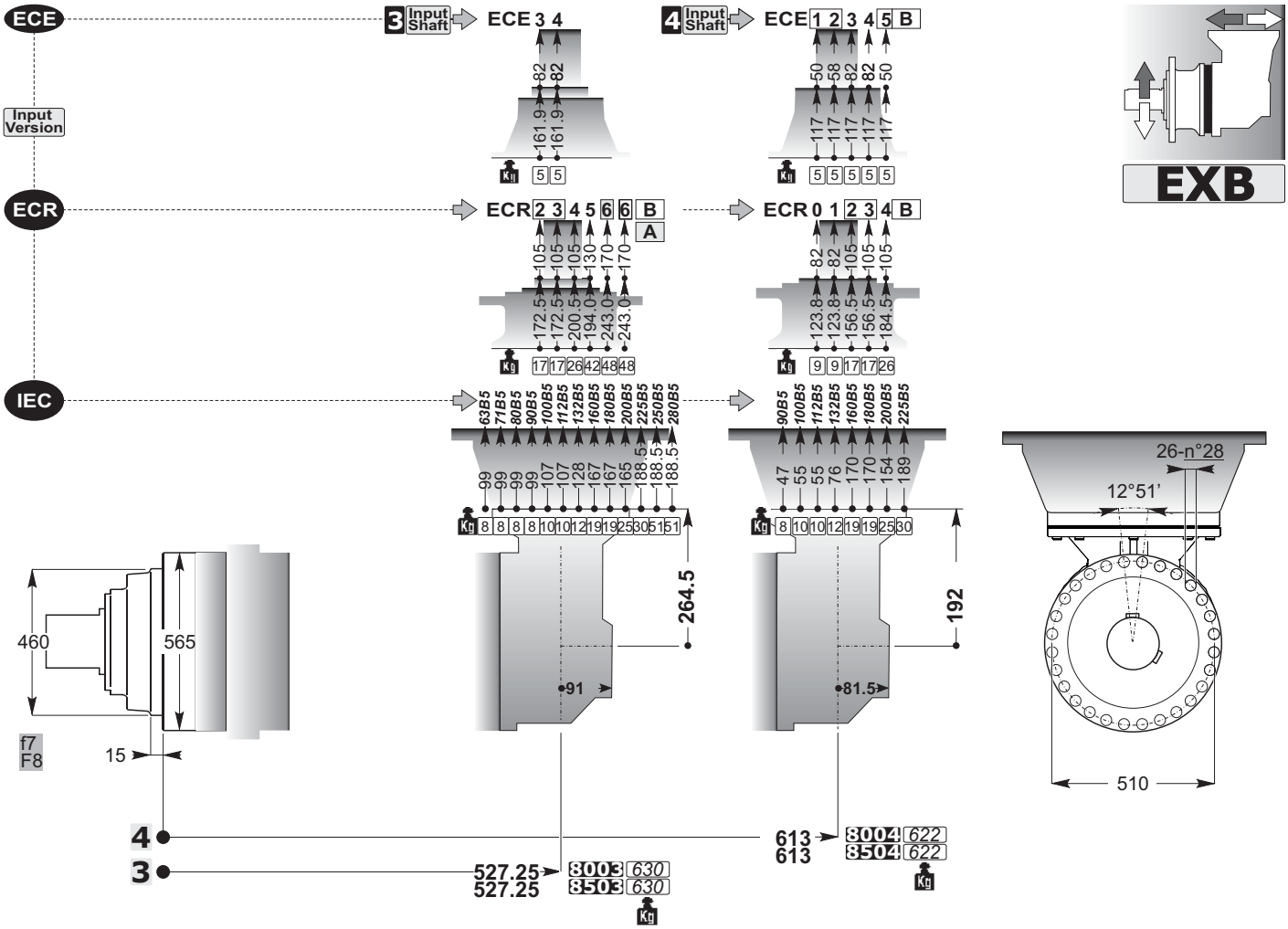


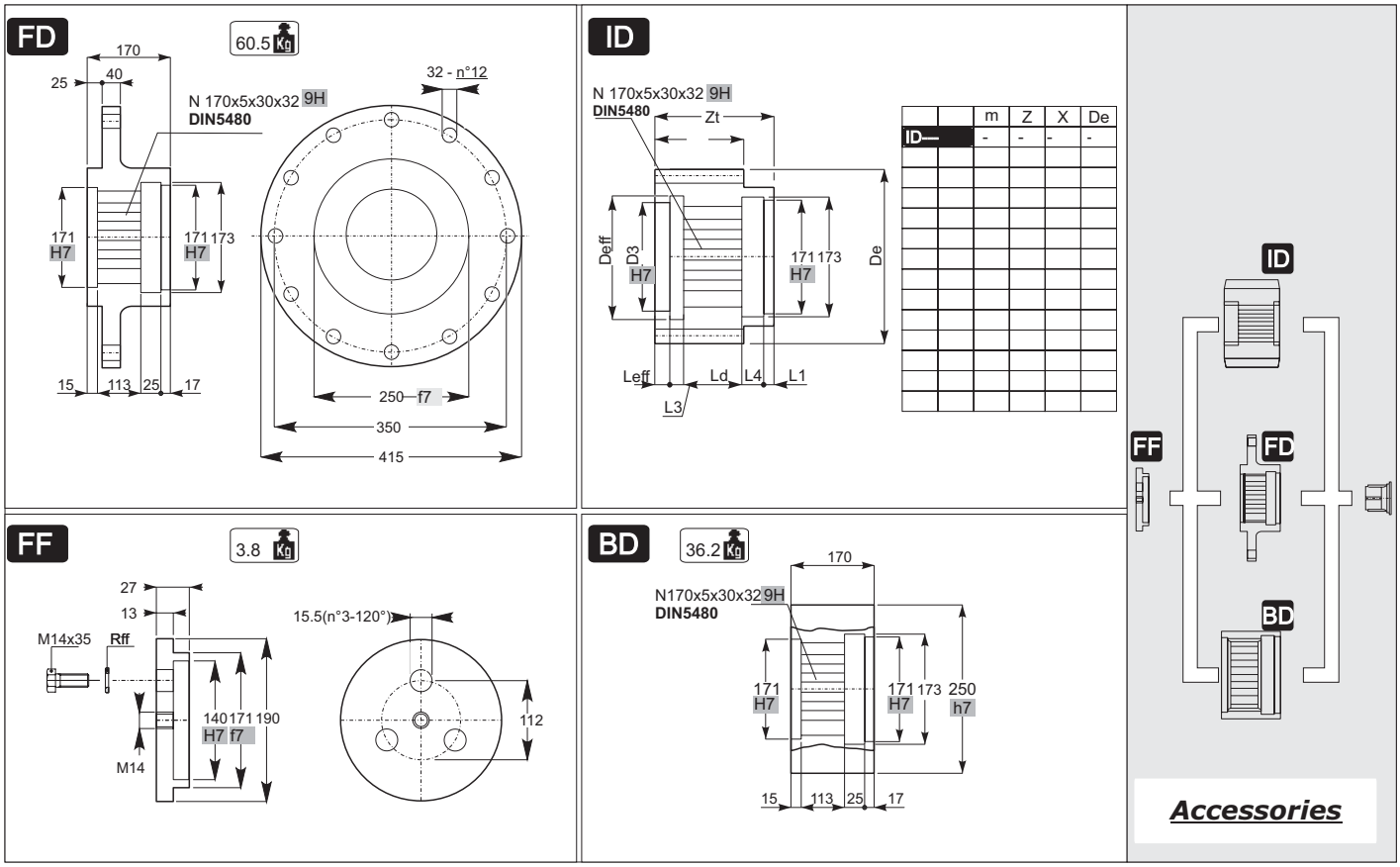
Output Shafts

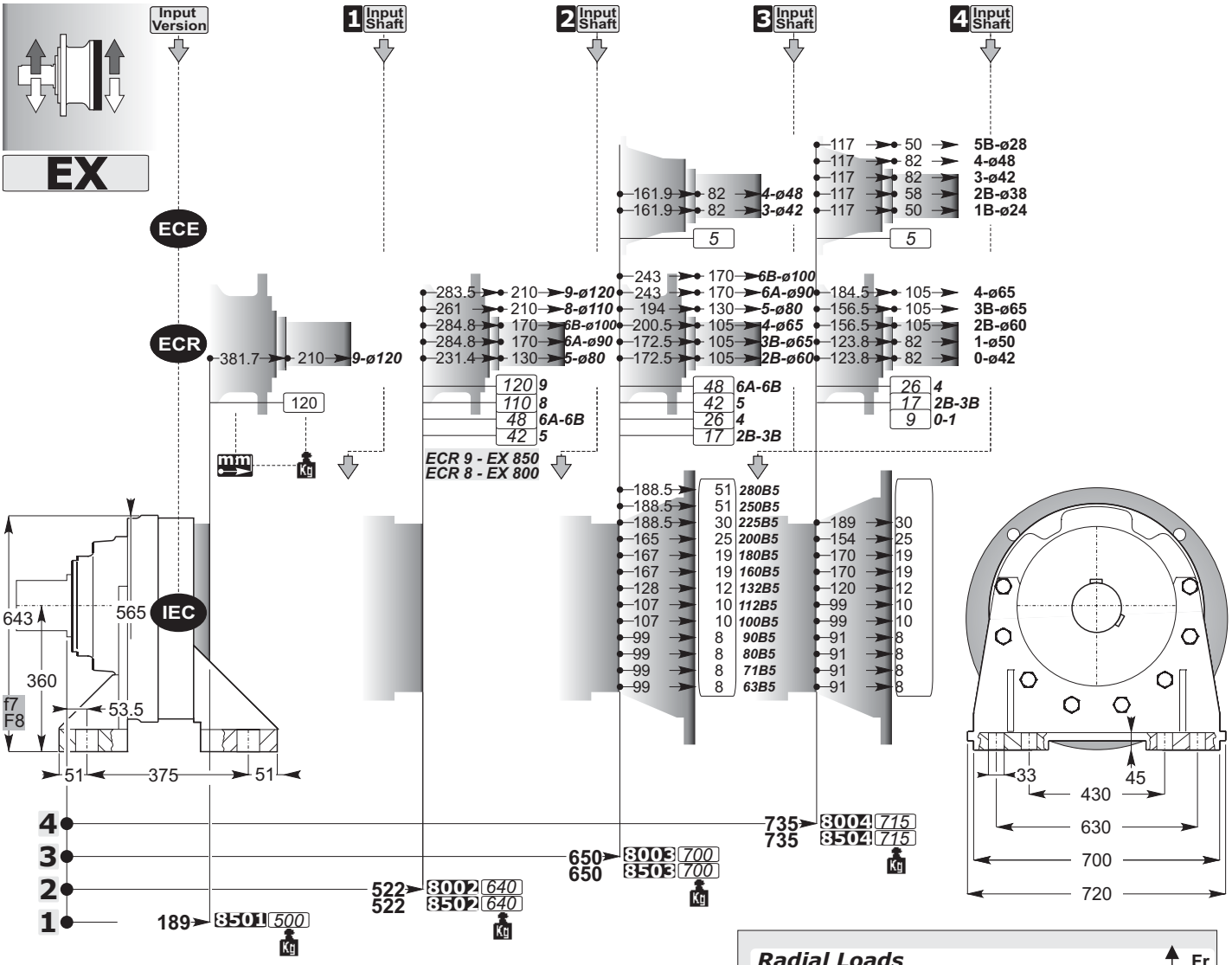


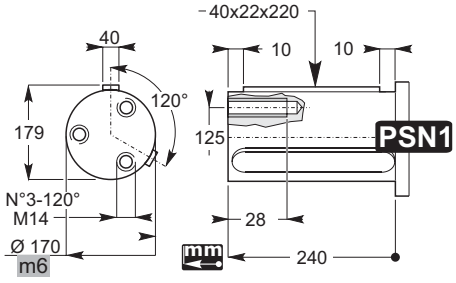


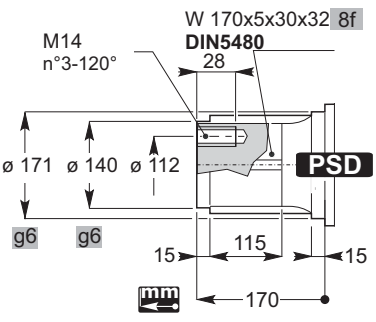



ECE
Input Version
ECR
IEC
3 Input Shaft ECE 3 4
4 Input Shaft ECE 1 2 3 4 5 B
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
EXB
460
565
f7
F8
15
264.5
192
91
81.5
26-n°28
12°51'
510
4
3
613
613
8004 622
8504 622
527.25
527.25
8003 630
8503 630

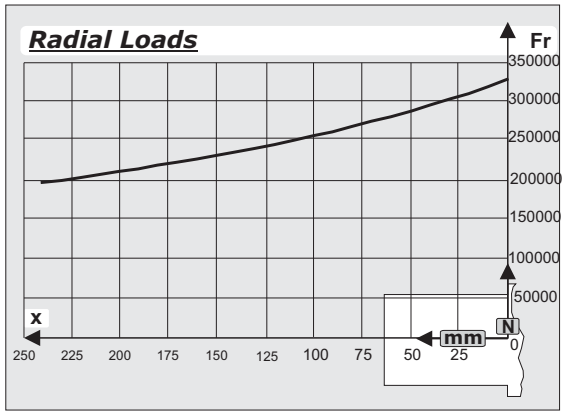

FD
60.5 Kg
170
25
40
N 170x5x30x32 9H
DIN5480
32 - n°12
171 H7
171 173 H7
15
113
25
17
250 f7
350
415
ID
N 170x5x30x32 9H
DIN5480
Zt
Deff
D3 H7
171 173 H7
De
Leff
Ld
L4
L1
L3
m Z X De
ID
FF
3.8 Kg
27
13
M14x35
Rff
15.5(n°3-120°)
140 171 190
H7 f7
M14
112
BD
36.2 Kg
170
N170x5x30x32 9H
DIN5480
171 H7
171 173 H7
250 h7
15
113
25
17
ID
FF
FD
BD
Accessories

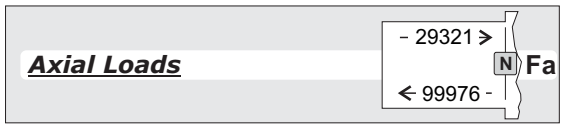


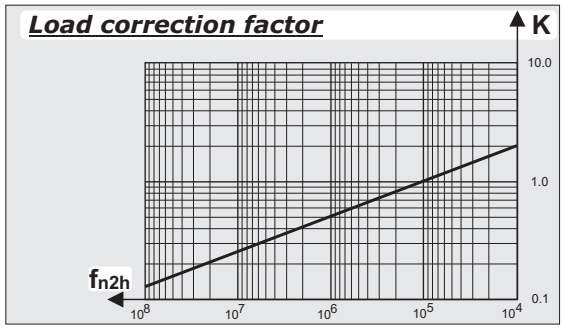


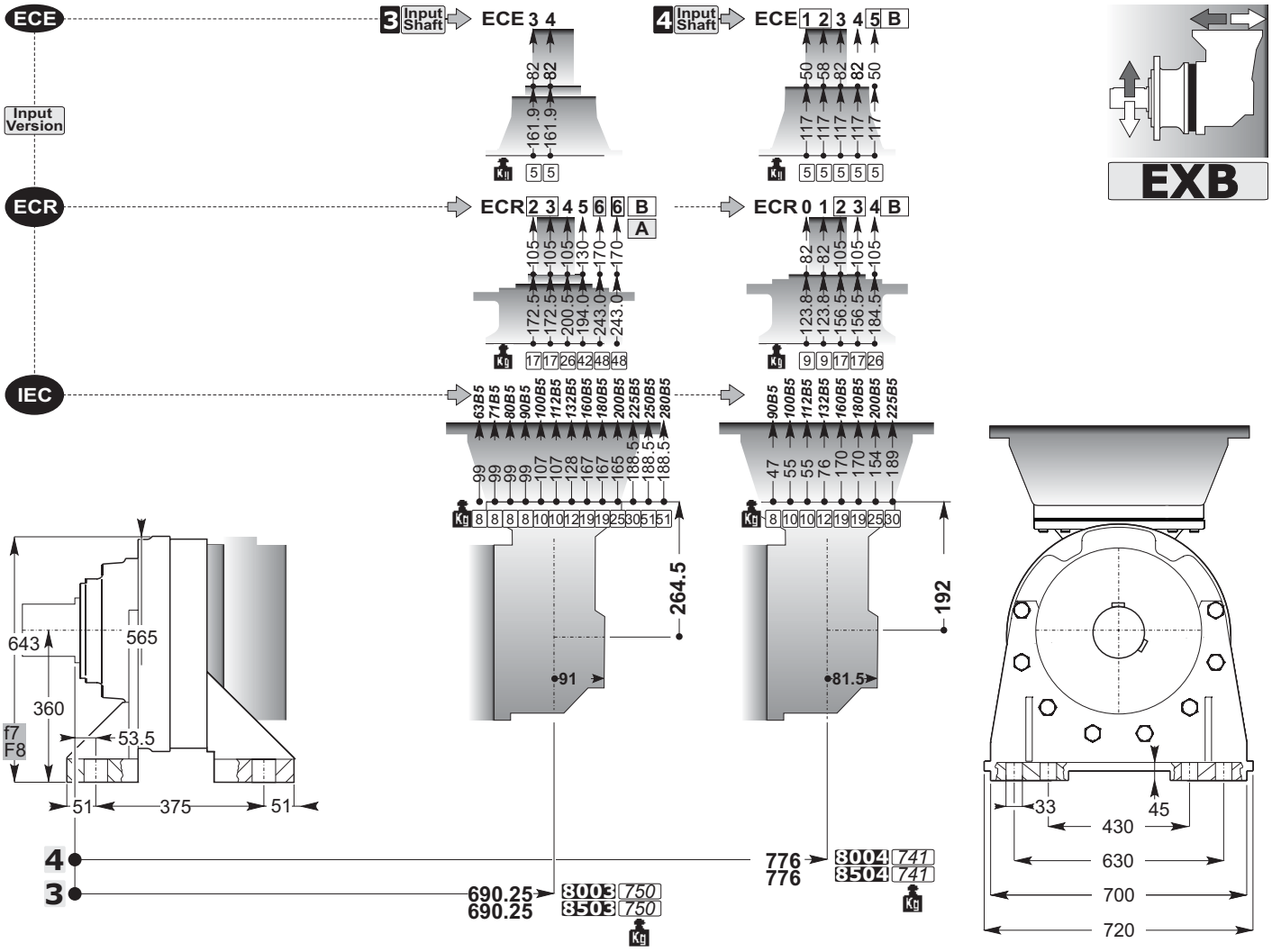


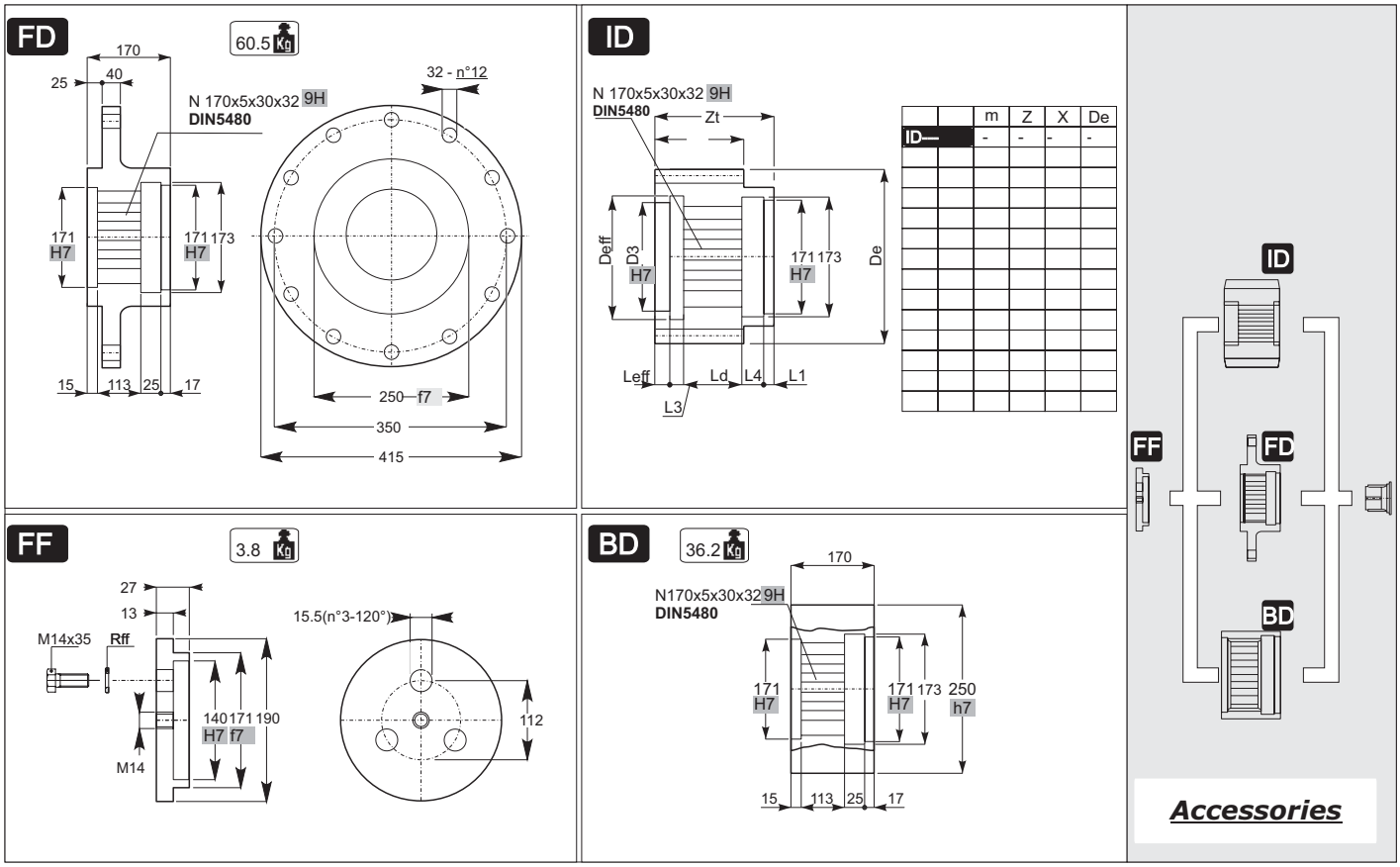
Output Shafts



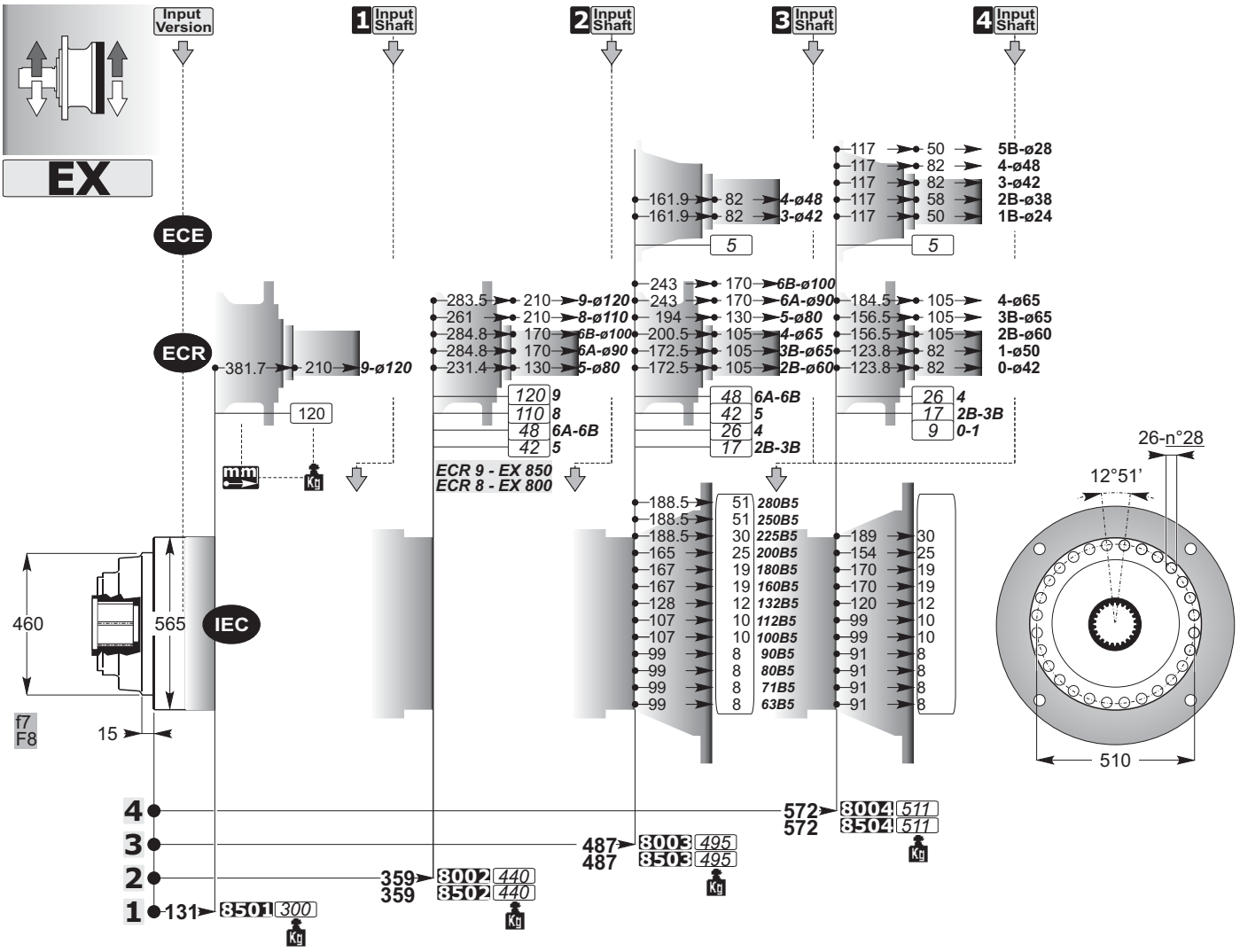


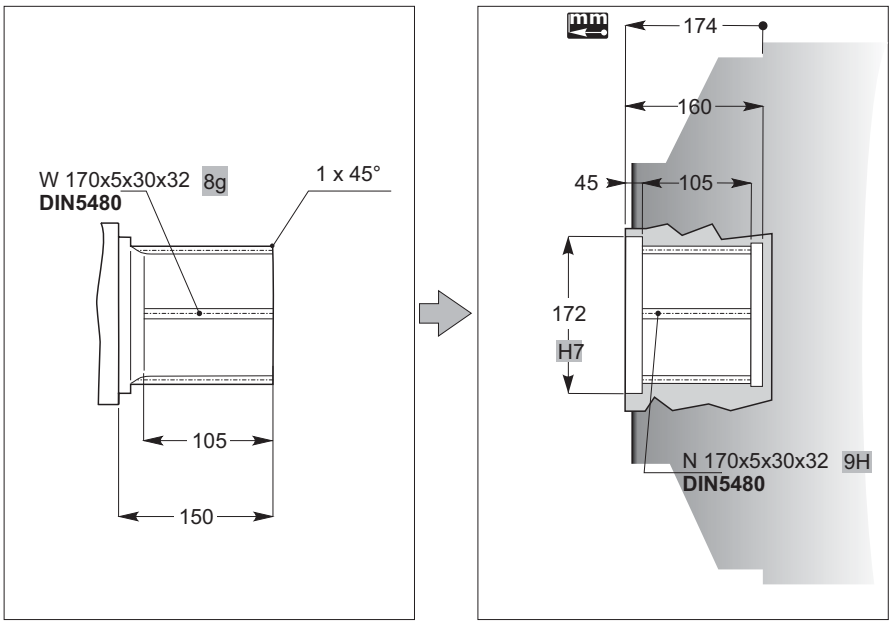



ECE
Input Version
ECR
IEC
3 Input Shaft ECE 3 4
4 Input Shaft ECE 1 2 3 4 5 B
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
EXB
264.5
192
91
81.5
643
565
360
f7
F8
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776 8504 741
690.25 8003 750
690.25 8503 750

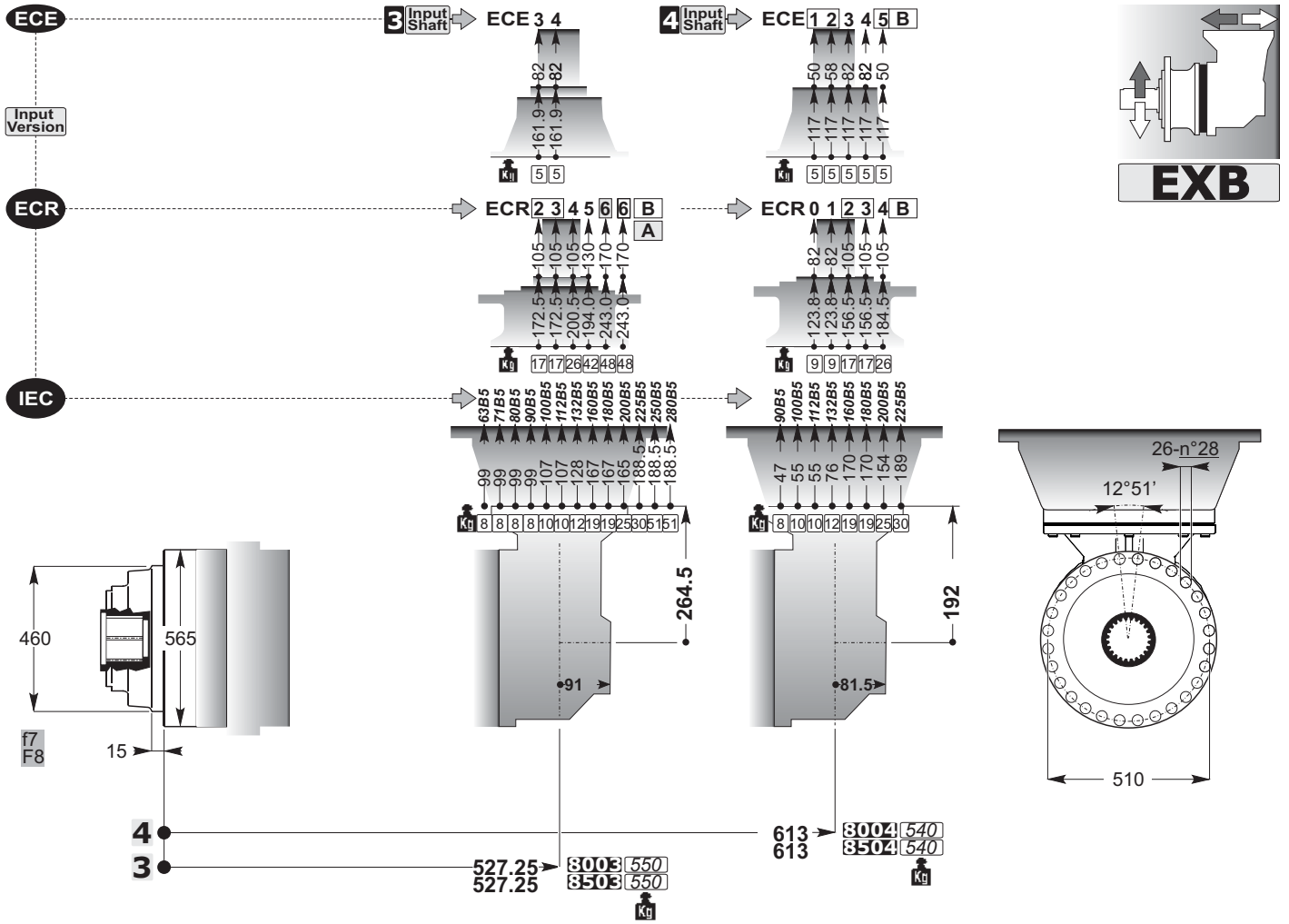

FD
60.5 Kg
170
25
40
N 170x5x30x32 9H
DIN5480
32 - n°12
171 H7
171 173 H7
15
113
25
17
250 f7
350
415
ID
N 170x5x30x32 9H
DIN5480
Zt
Deff
D3 H7
171 173 H7
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
3.8 Kg
27
13
M14x35
Rff
15.5(n°3-120°)
140 171 190
H7 f7
M14
112
BD
36.2 Kg
170
N170x5x30x32 9H
DIN5480
171 H7
171 173 H7
250 h7
15
113
25
17
ID
FF
FD
BD
Accessories

mm
C

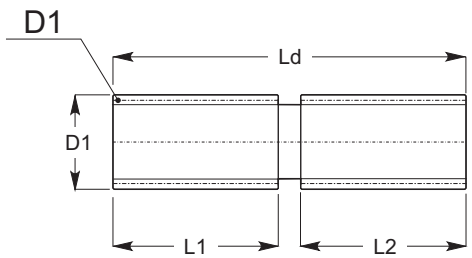




Output Shafts



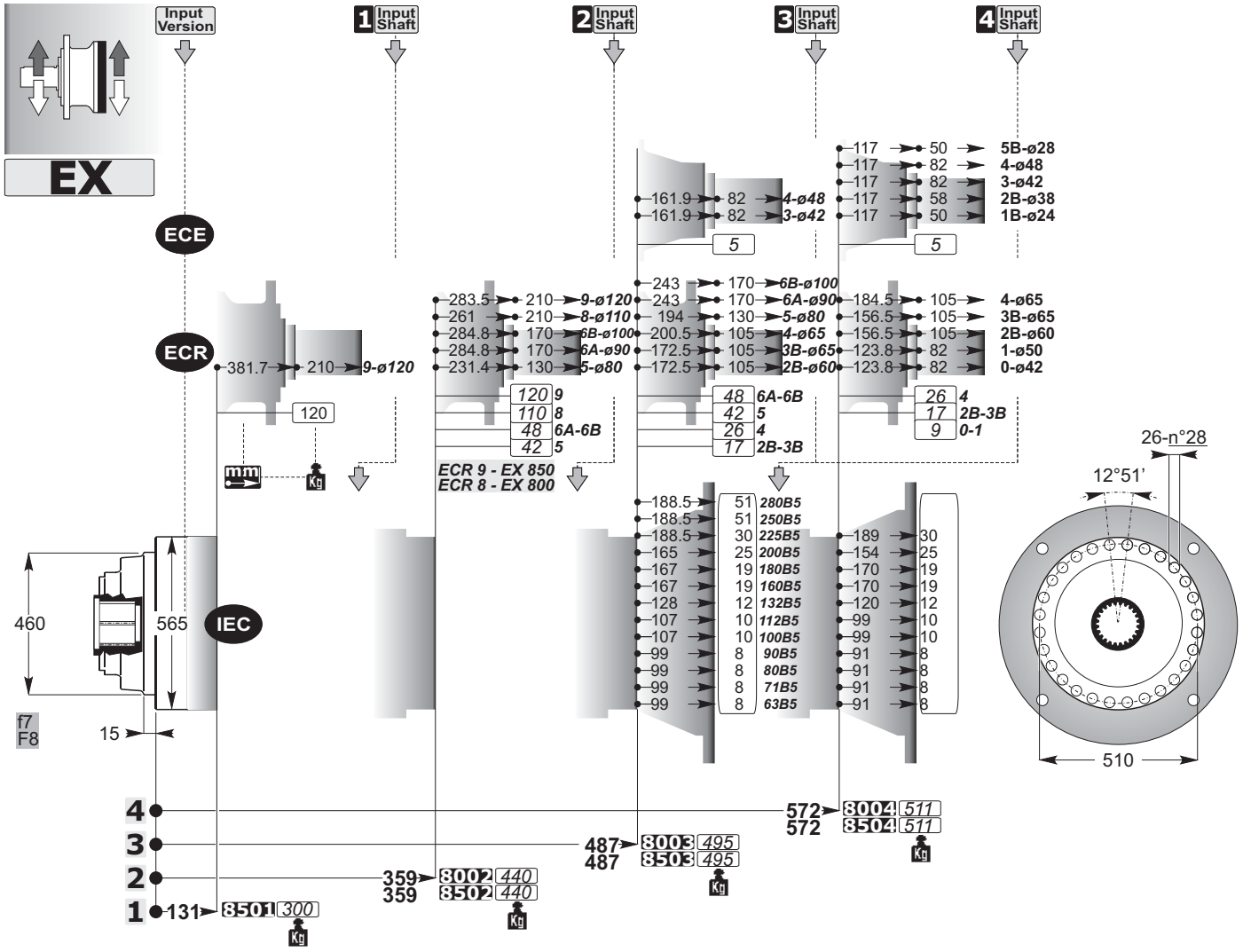
SD

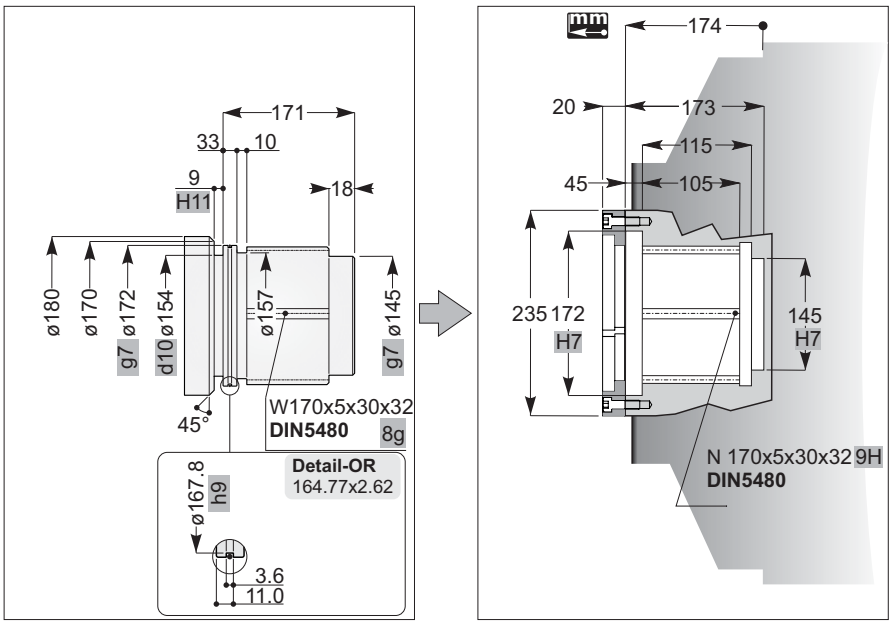


SD

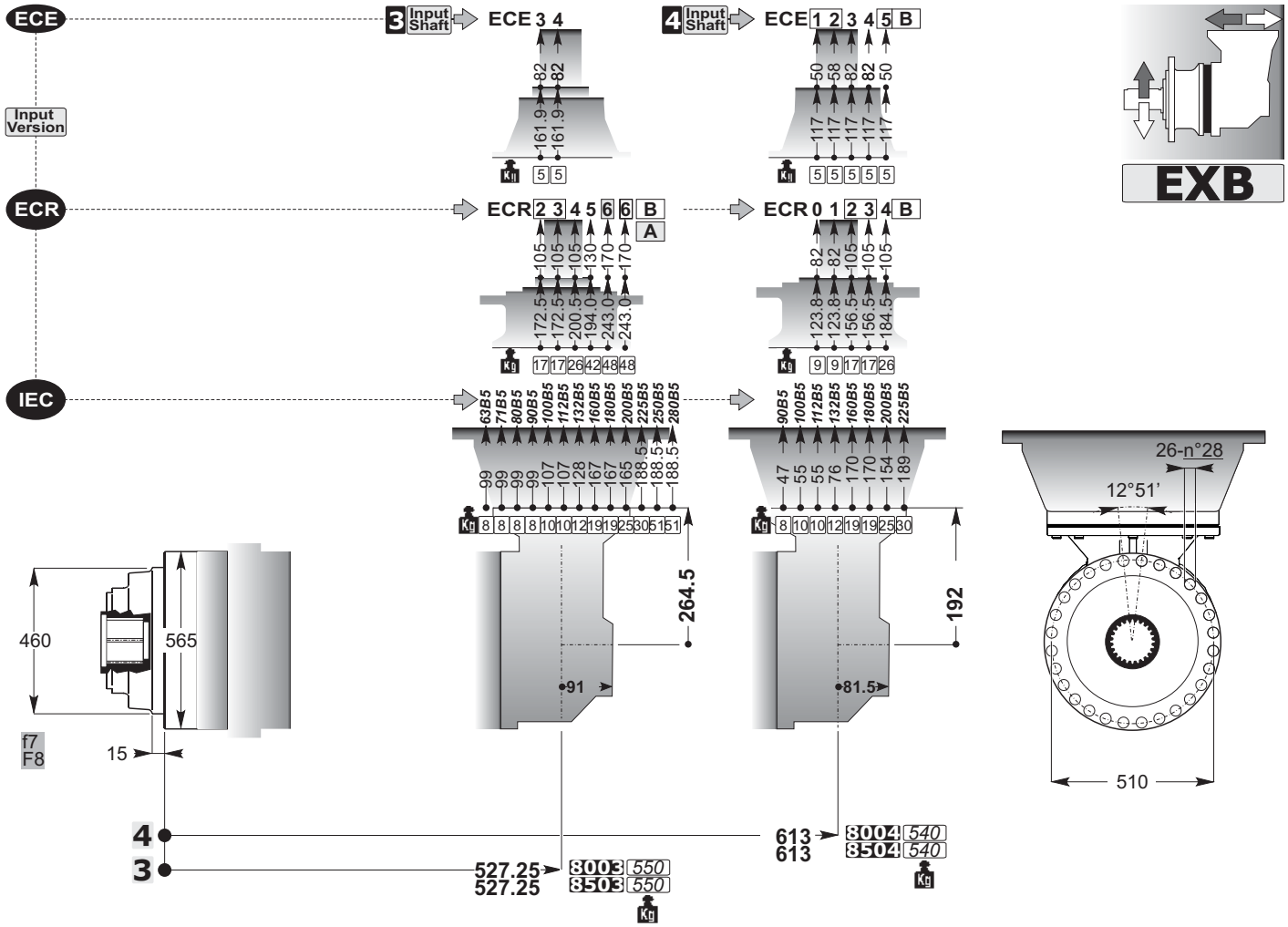


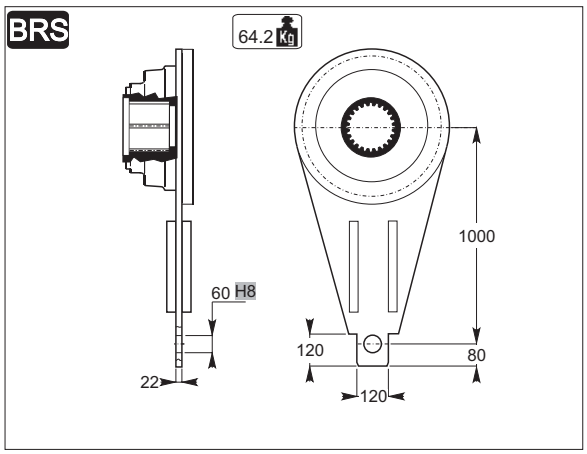
Accessories

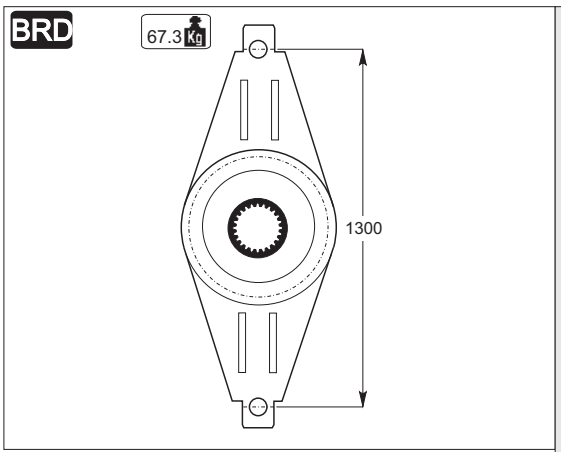


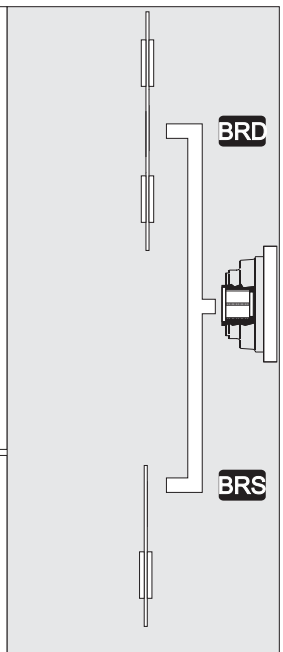


Output Shafts



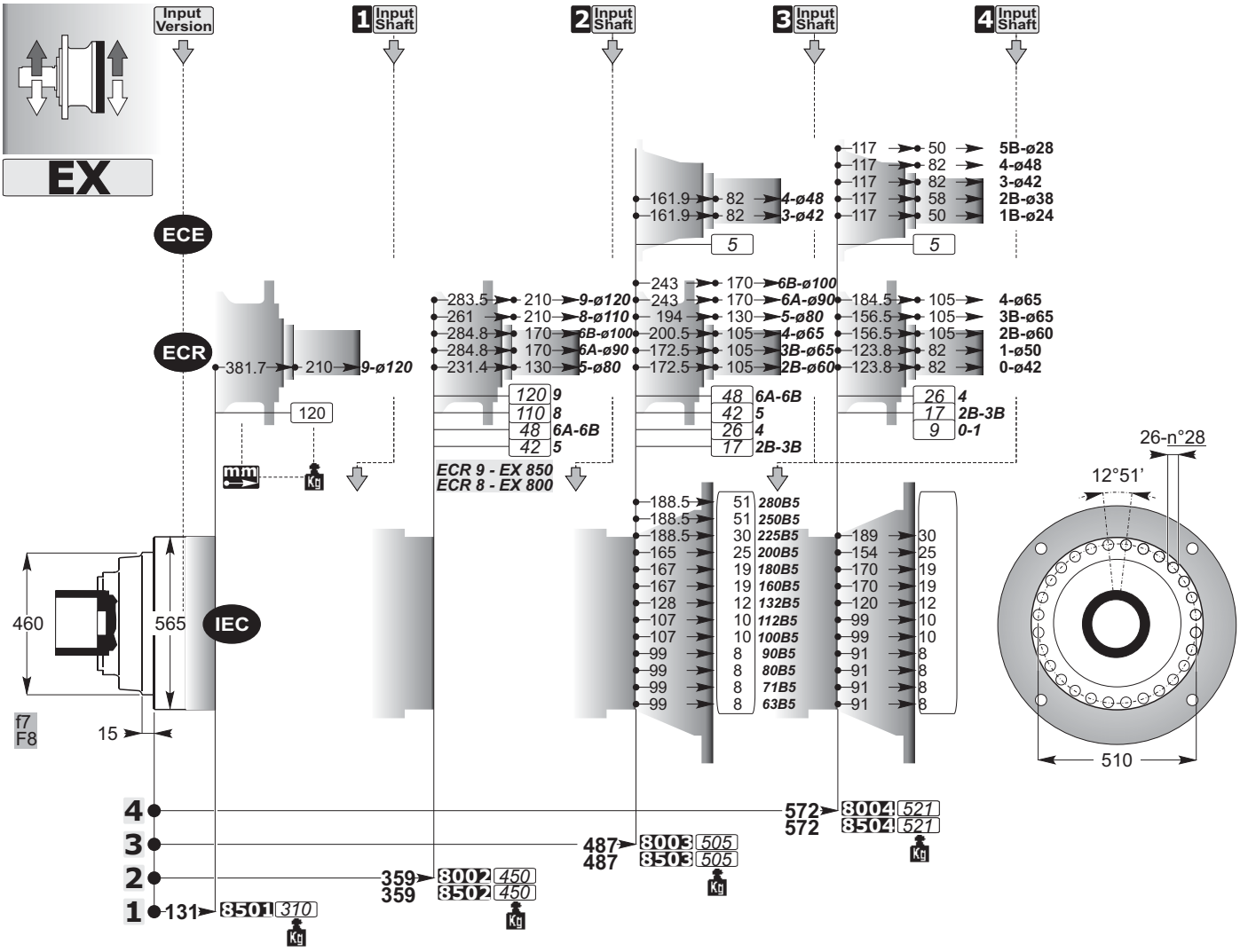


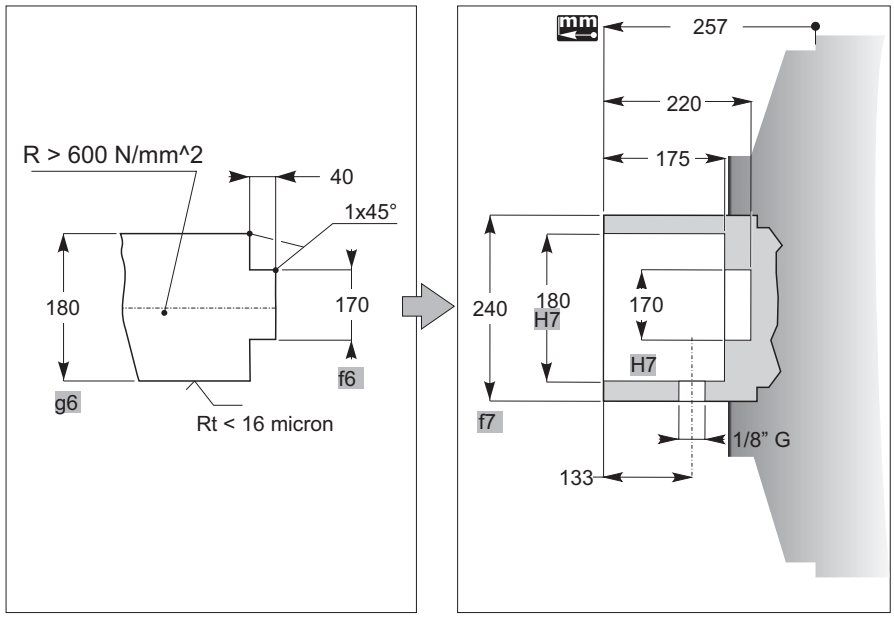




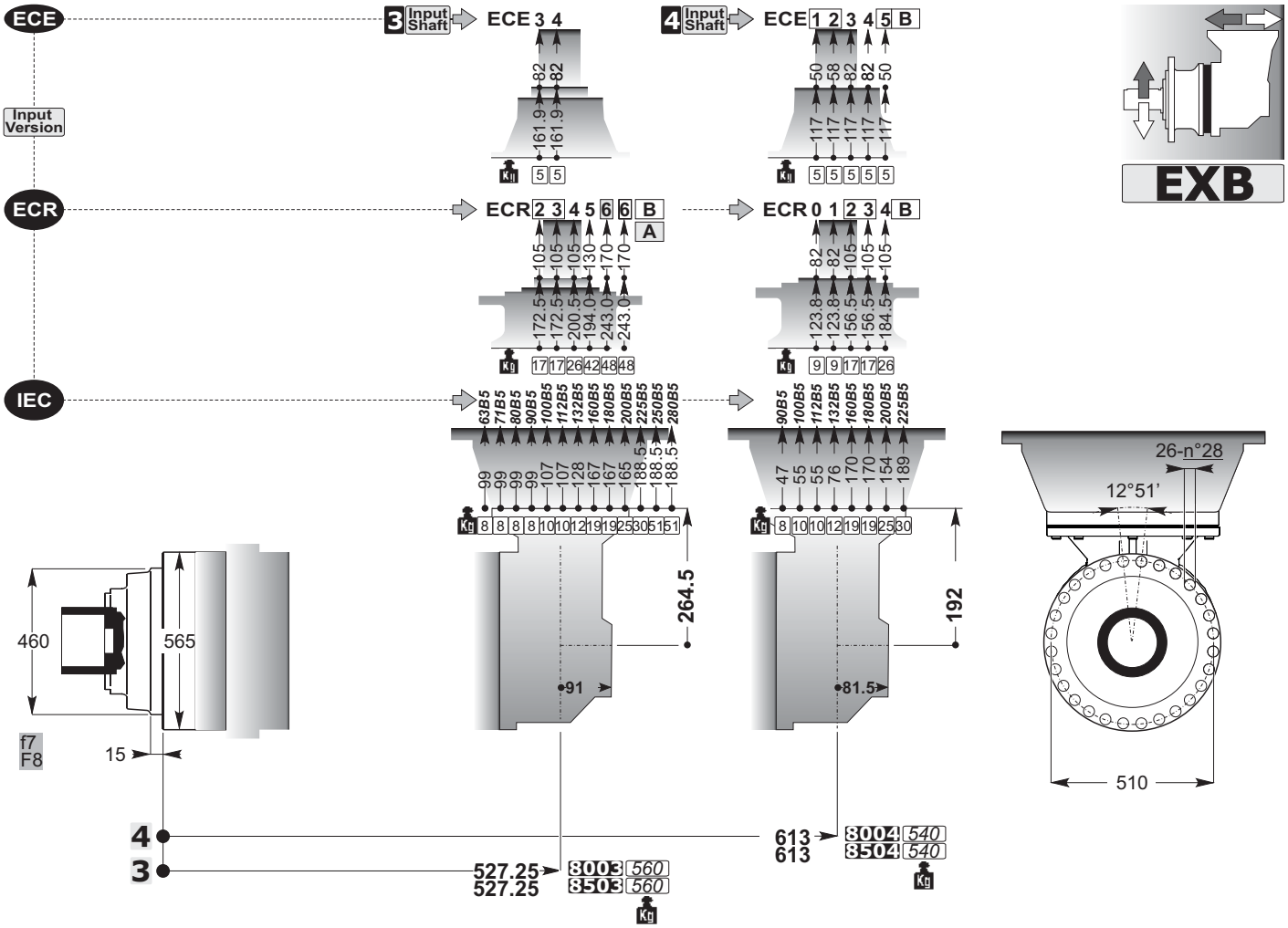
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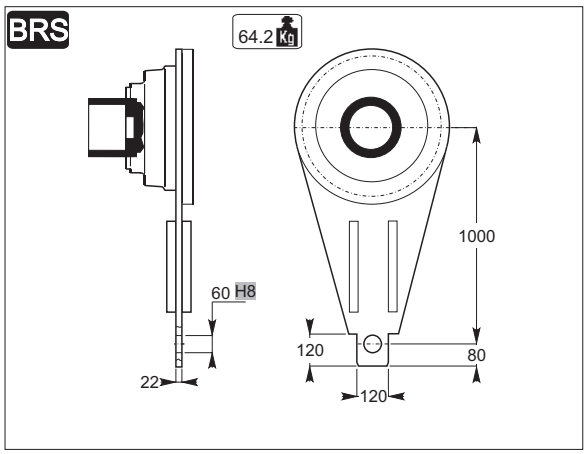
mm
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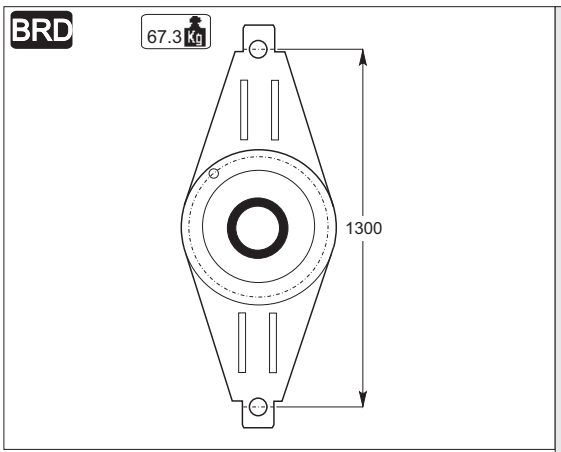


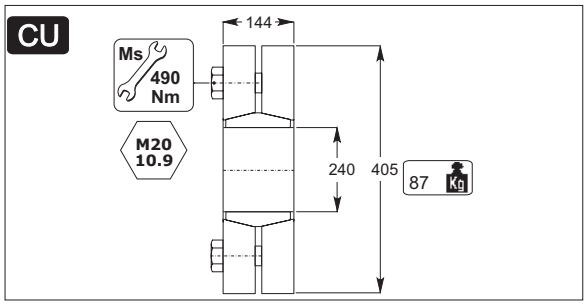


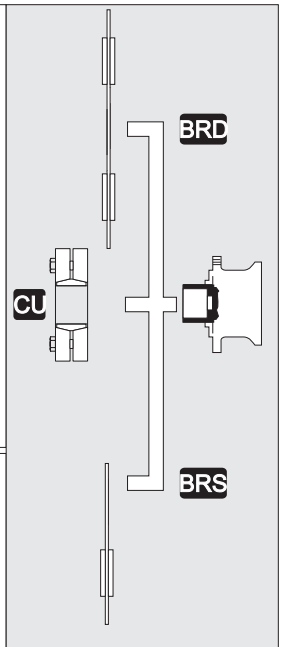
Output Shafts





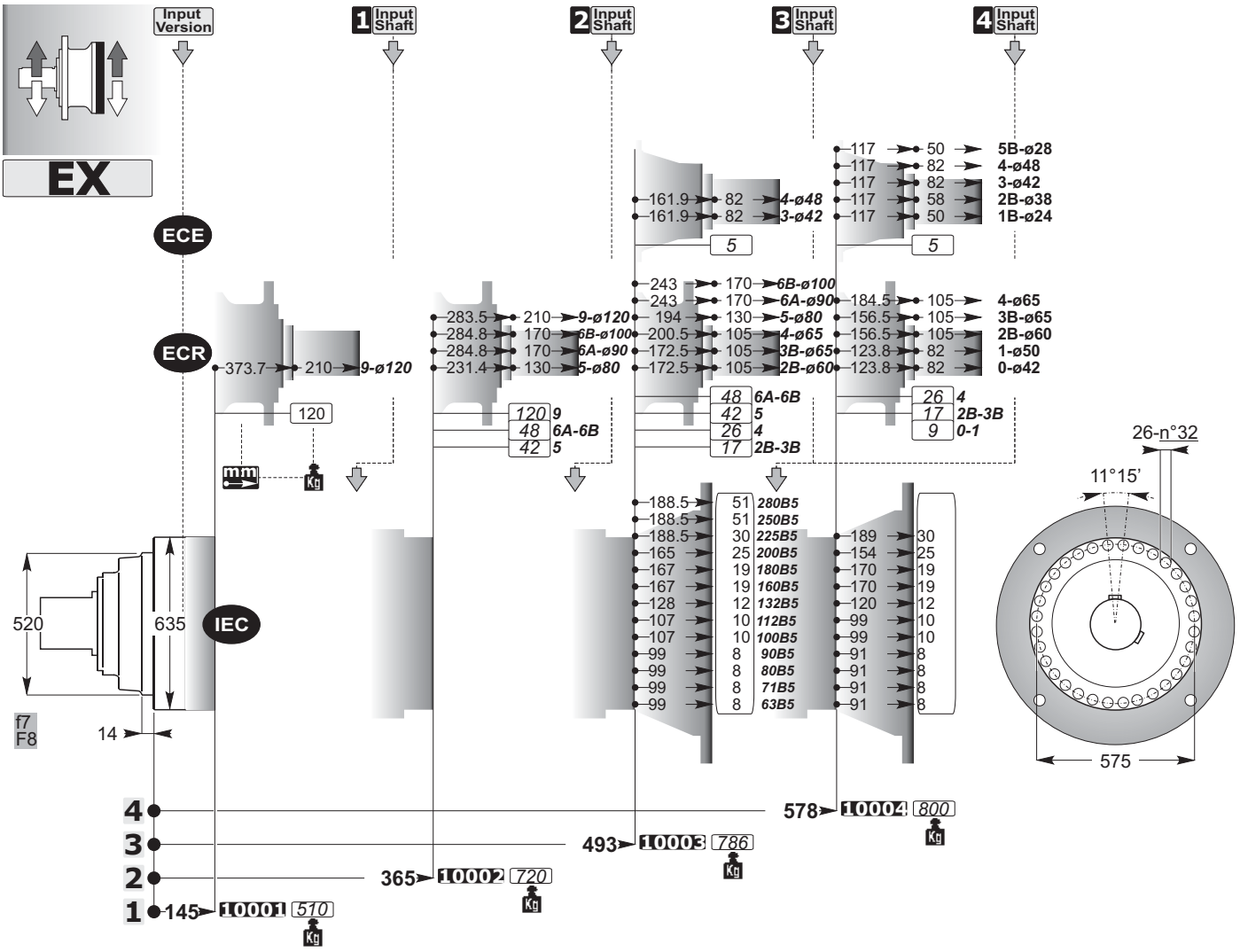


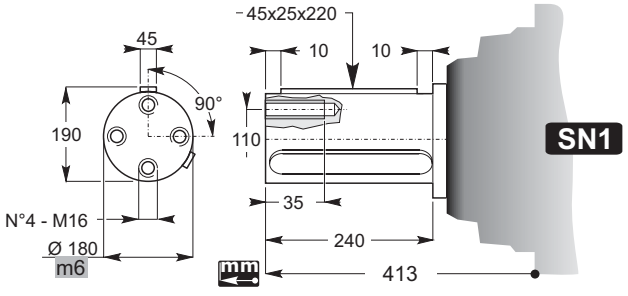


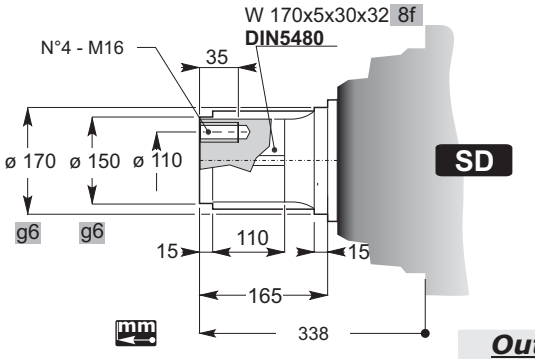


Accessories

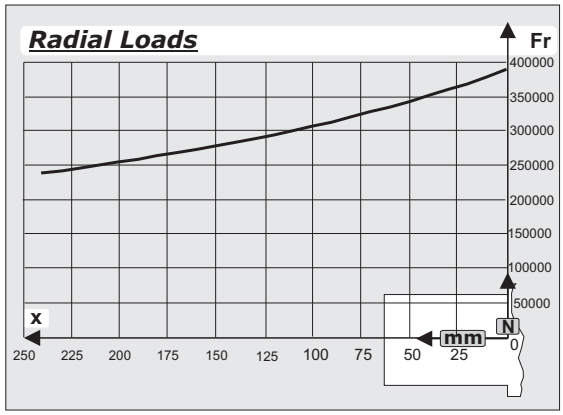
mm
C

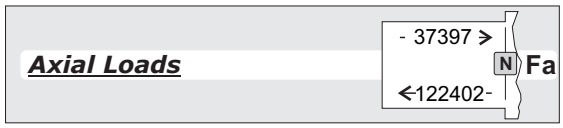


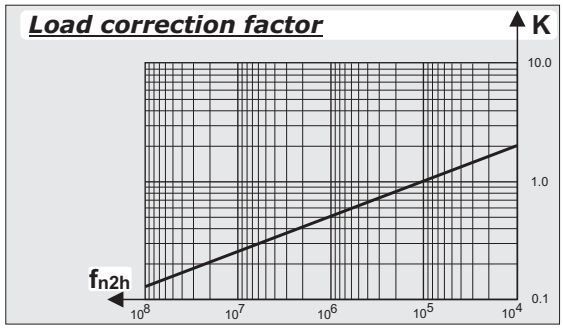


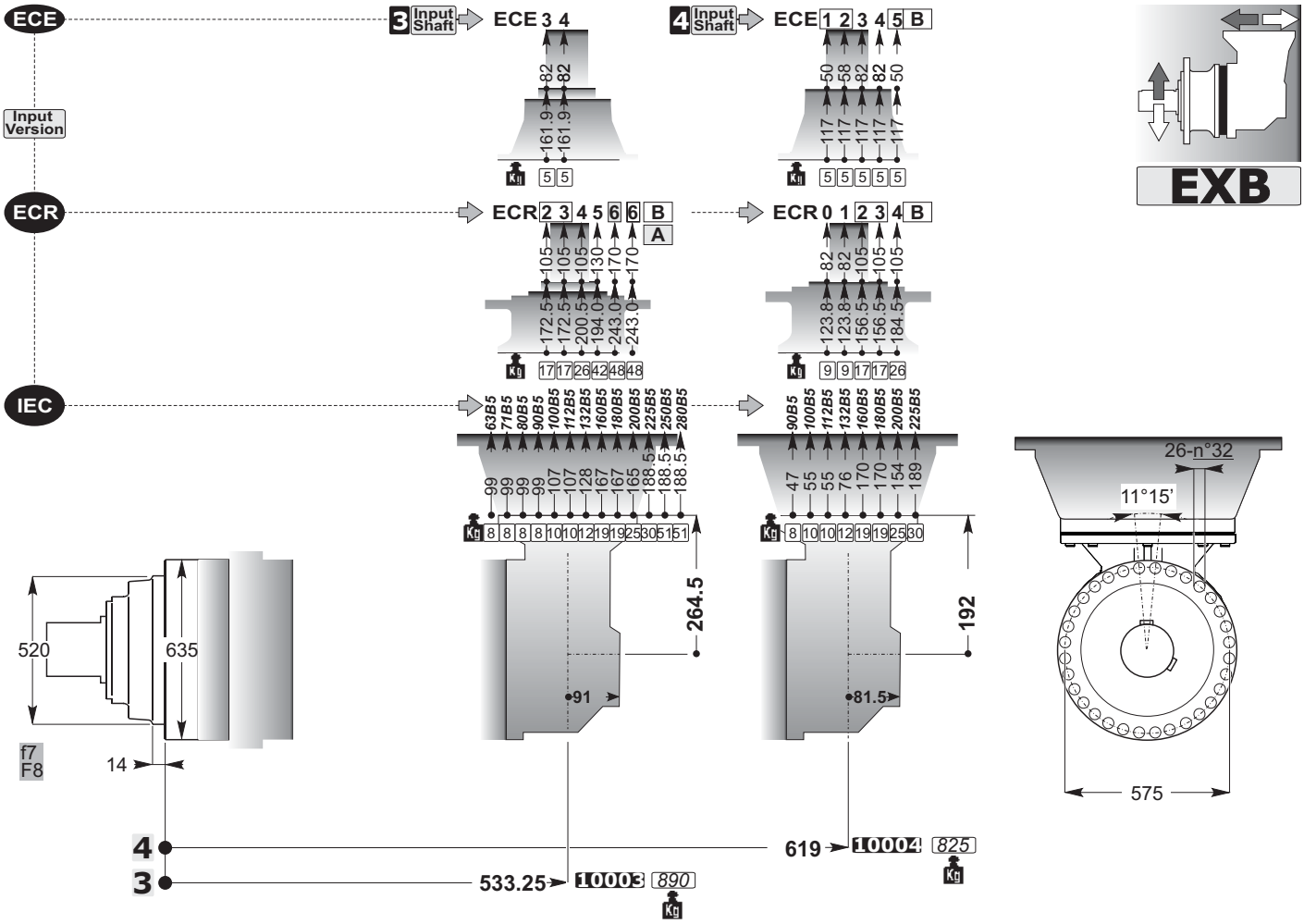


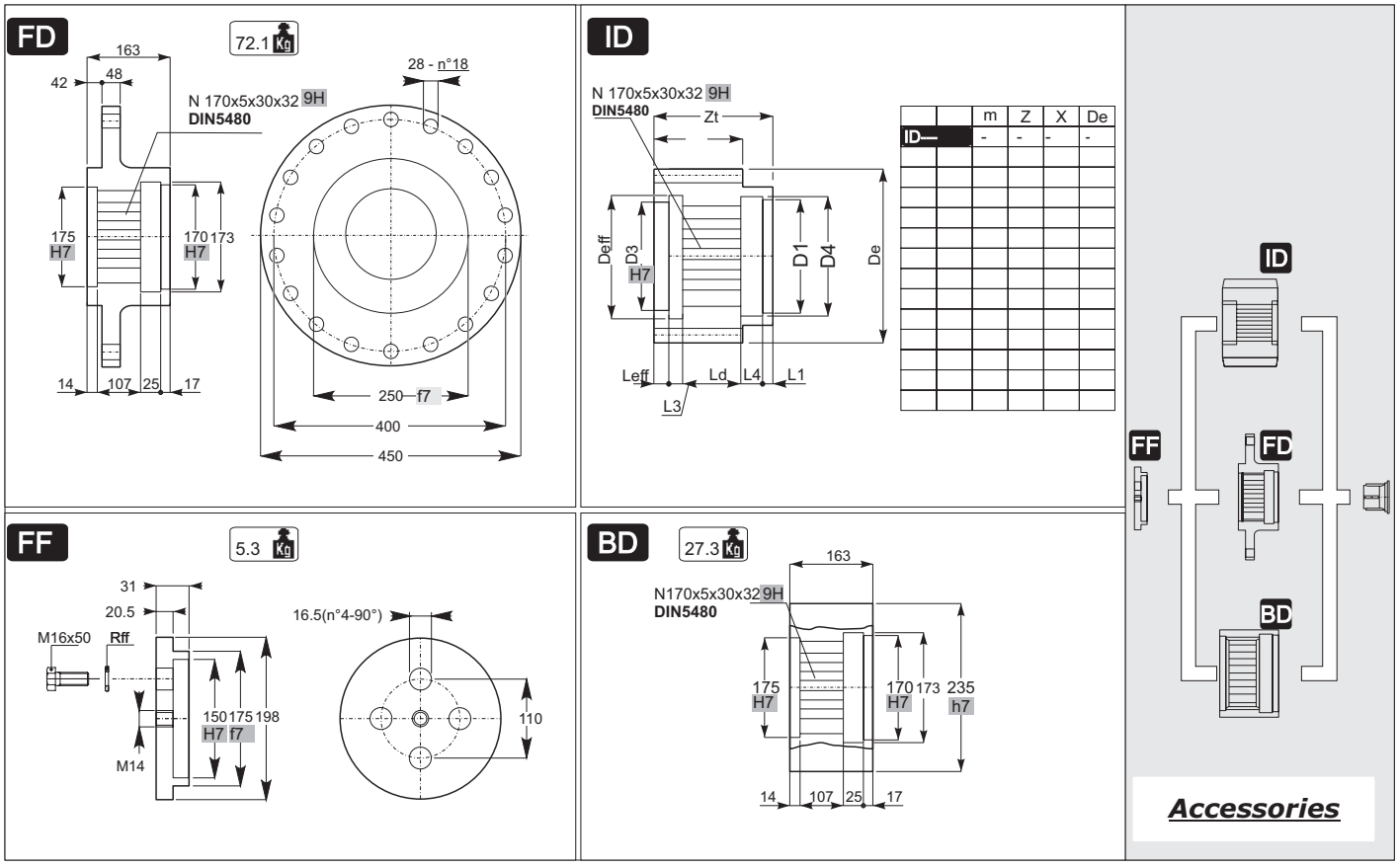
Output Shafts

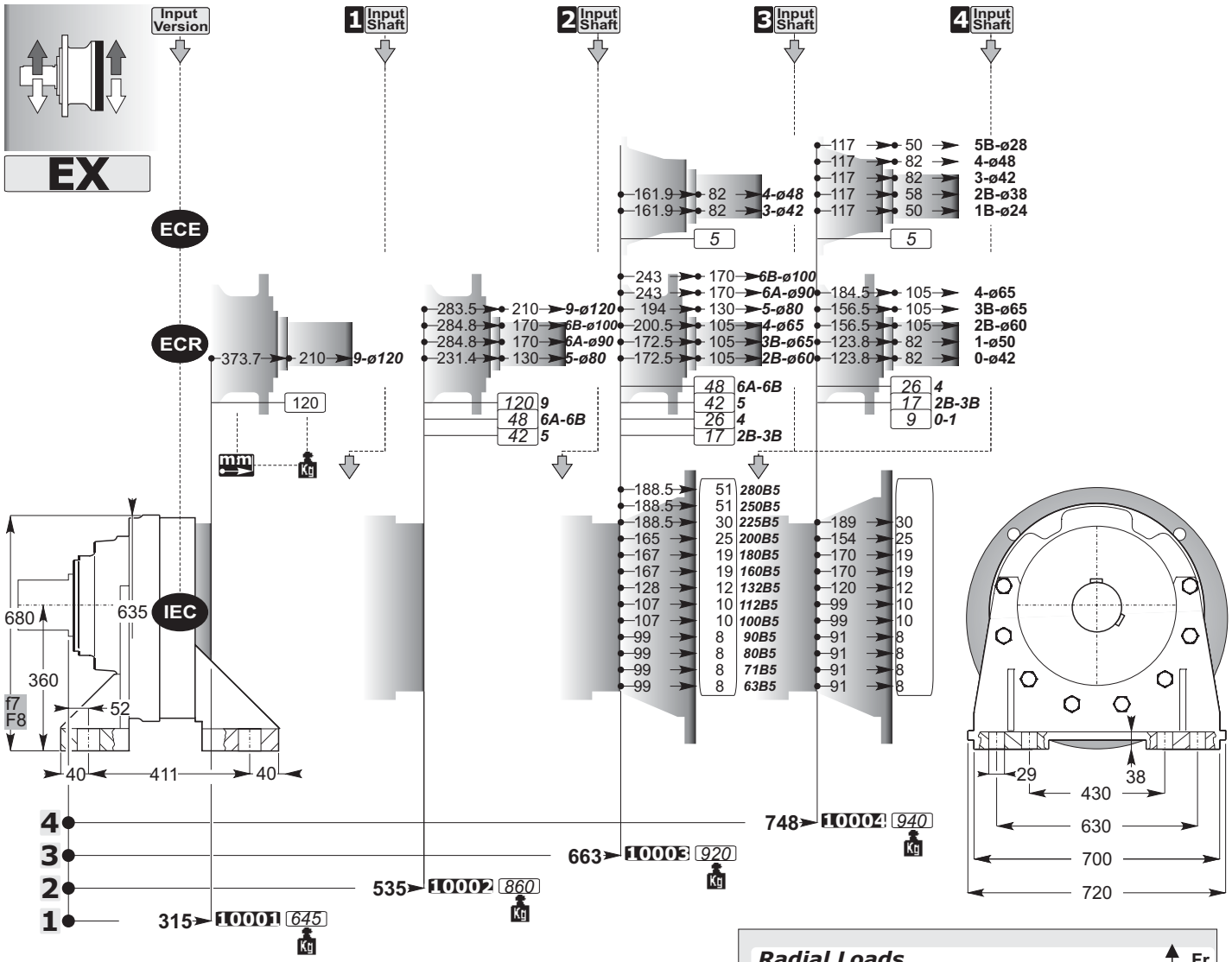


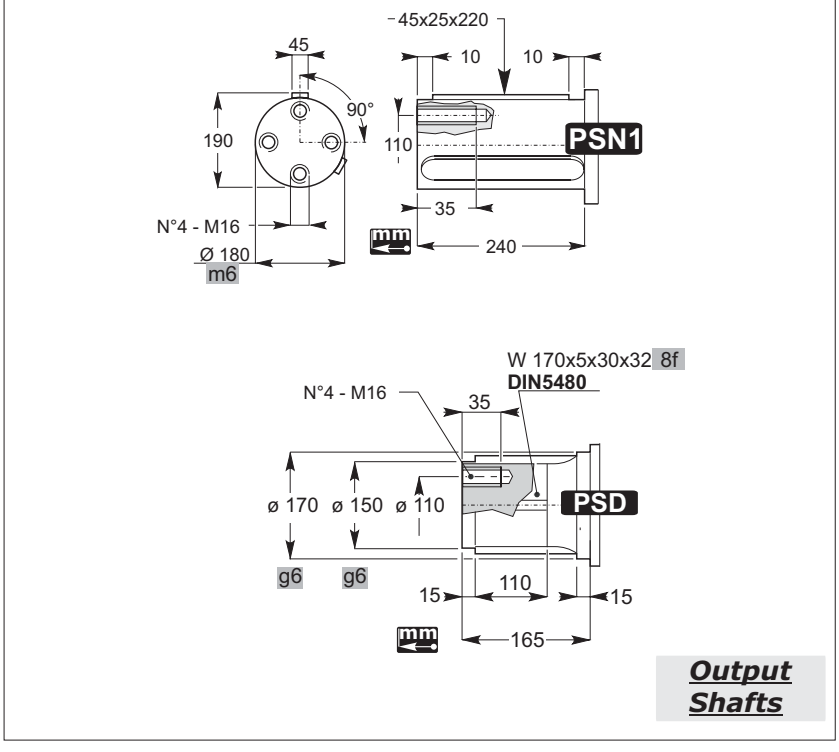




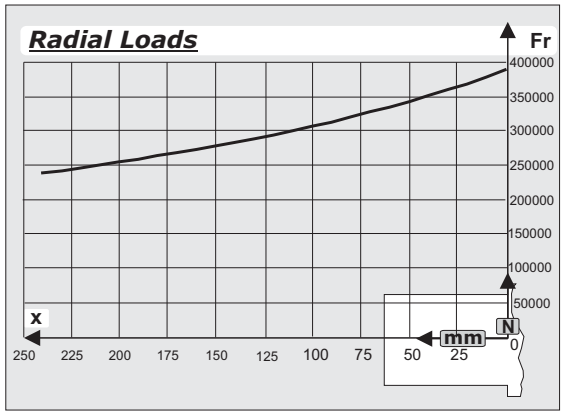

ECE
Input Version
ECR
IEC
3 Input Shaft ECE 3 4
4 Input Shaft ECE 1 2 3 4 5 B
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
EXB
520
635
f7
F8
14
264.5
192
91
81.5
26-n°32
11°15'
575
4
3
619
10004
825
533.25
10003
890

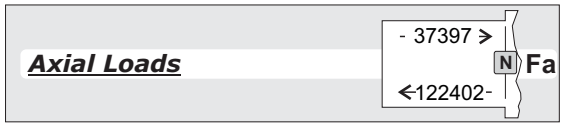

FD
72.1
163
42
48
N 170x5x30x32 9H
DIN5480
28 - n°18
175 H7
170 H7
173
14
107
25
17
250 f7
400
450
ID
N 170x5x30x32 9H
DIN5480
Zt
Deff
D3 H7
D1
D4
De
Leff
Ld
L4
L1
L3
ID—
m
Z
X
De
FF
5.3
31
20.5
M16x50
Rff
16.5(n°4-90°)
150 H7
175 f7
198
M14
110
BD
27.3
163
N170x5x30x32 9H
DIN5480
175 H7
170 H7
173
235 h7
14
107
25
17
Accessories

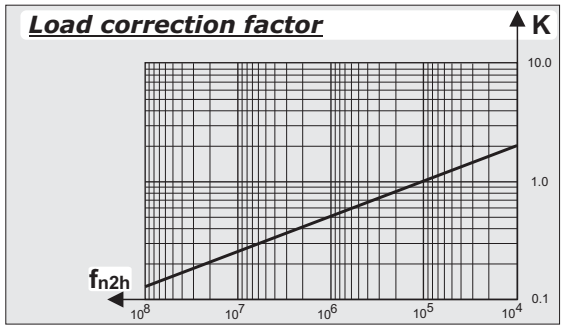


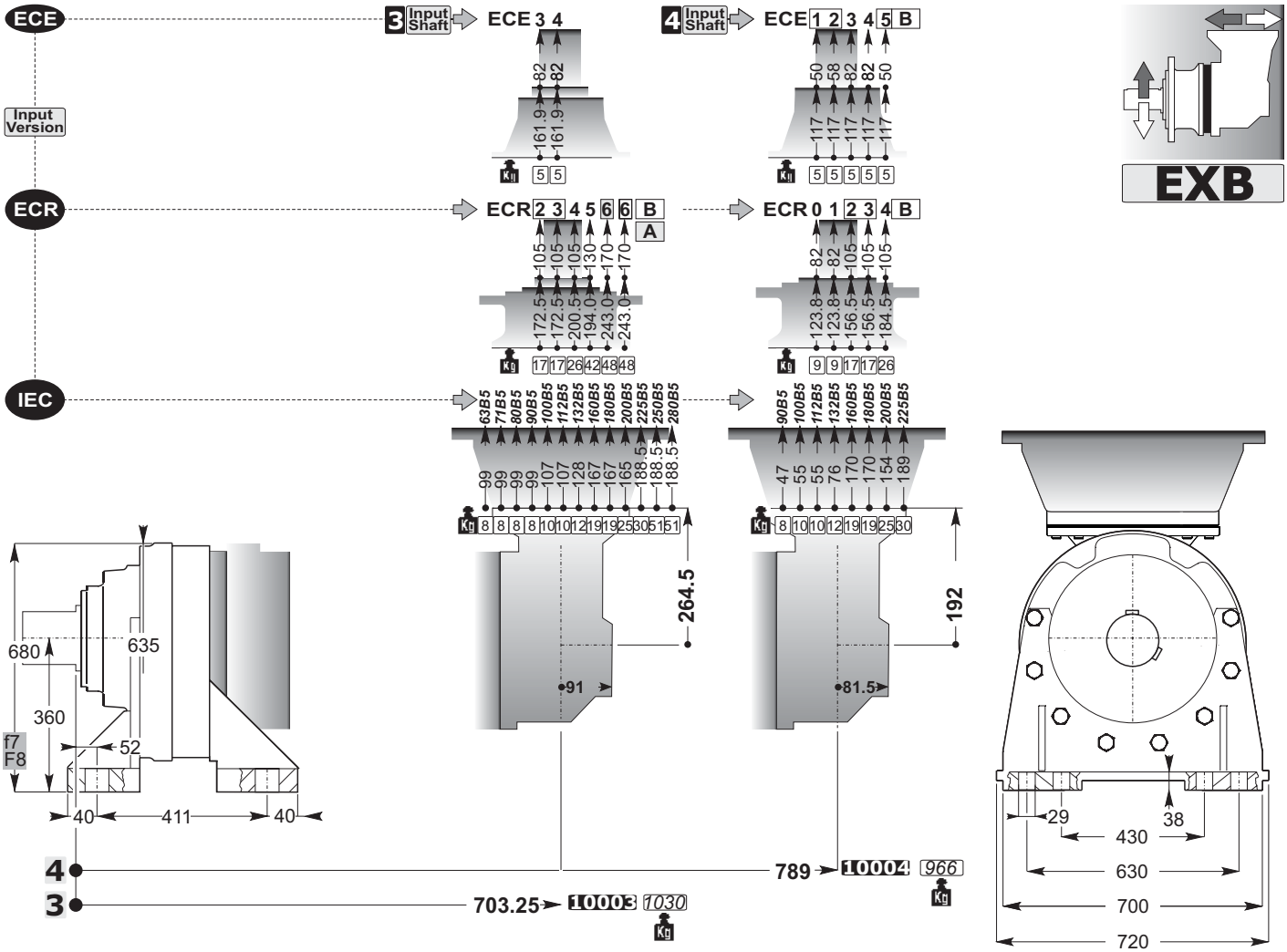


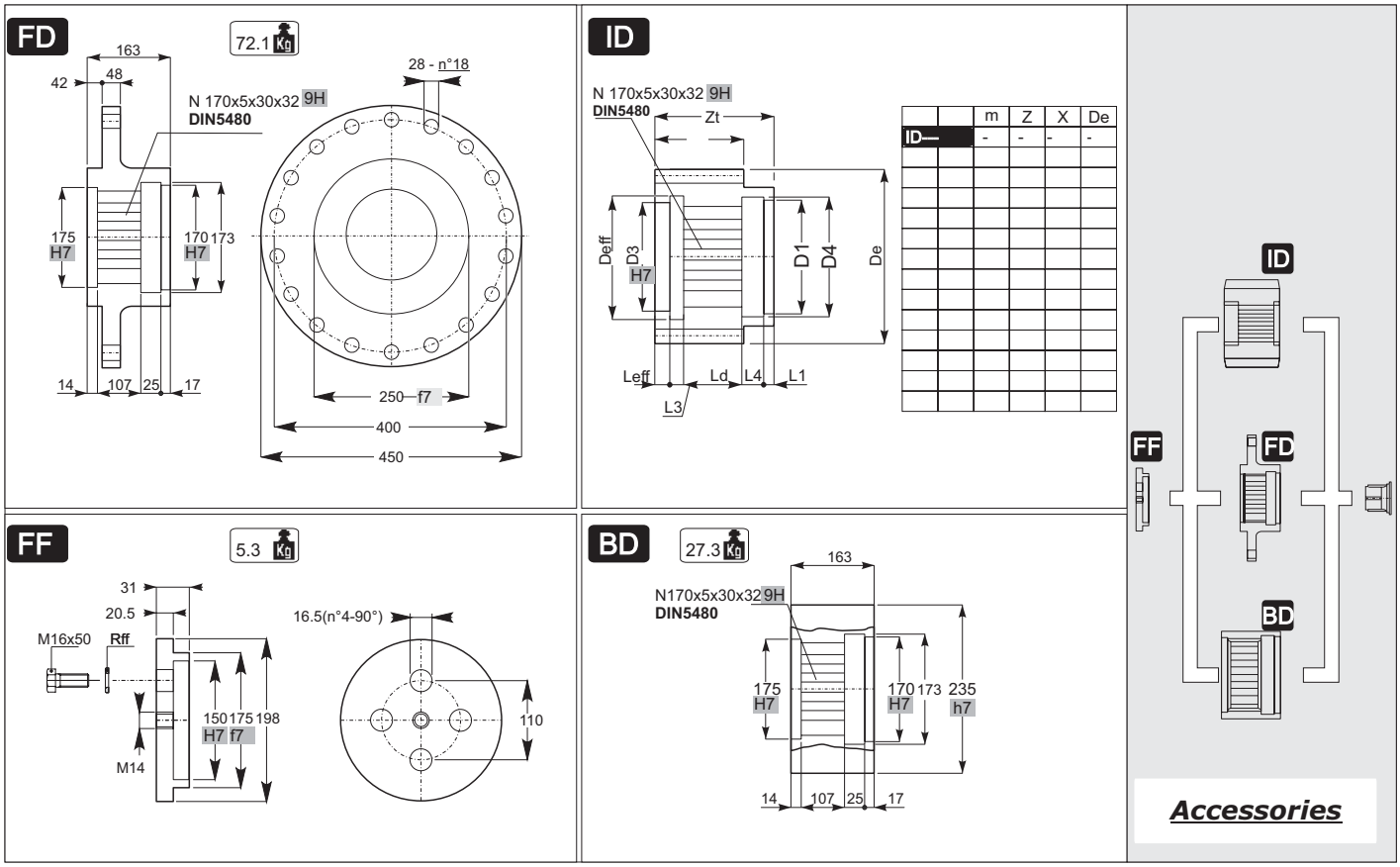
Output Shafts

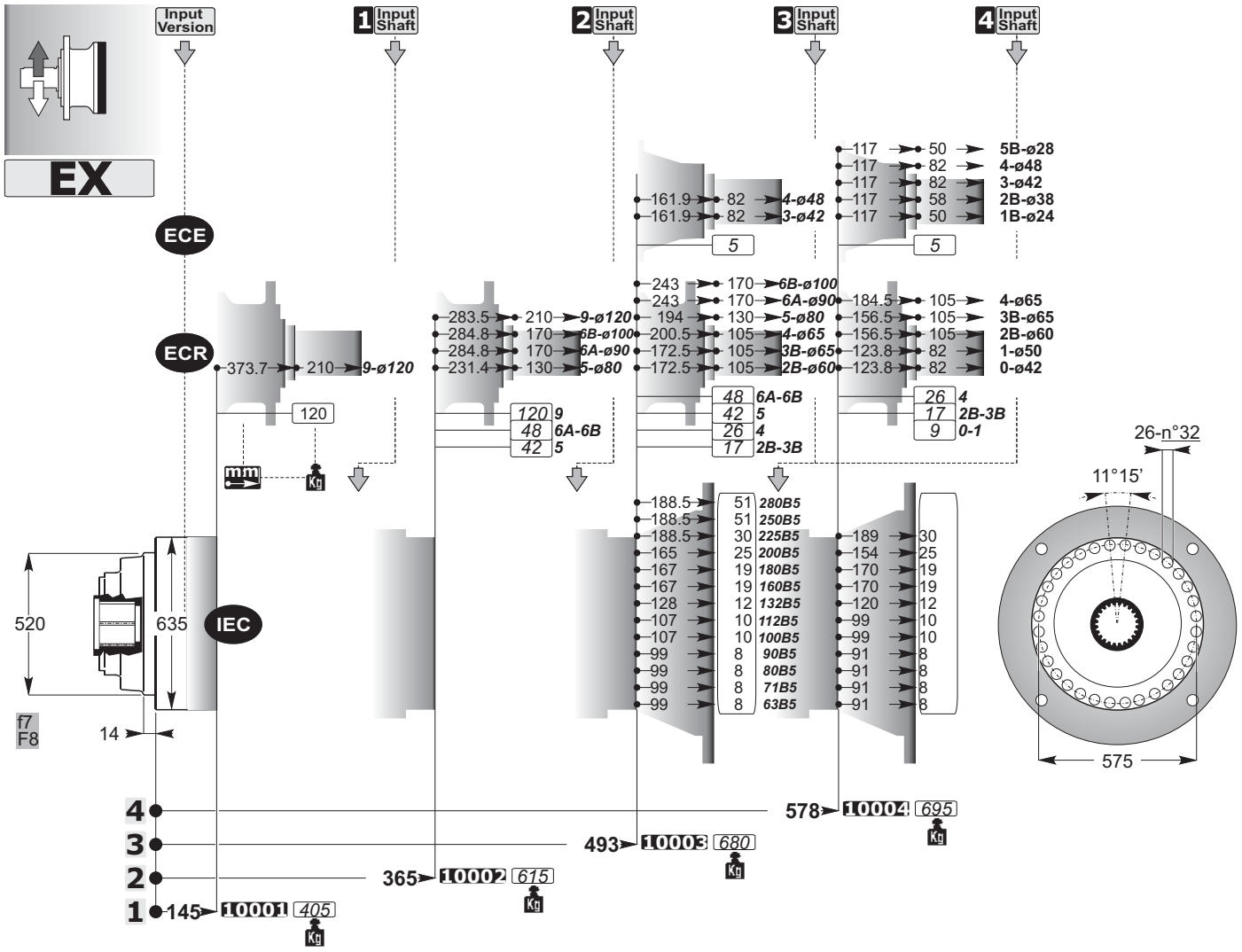


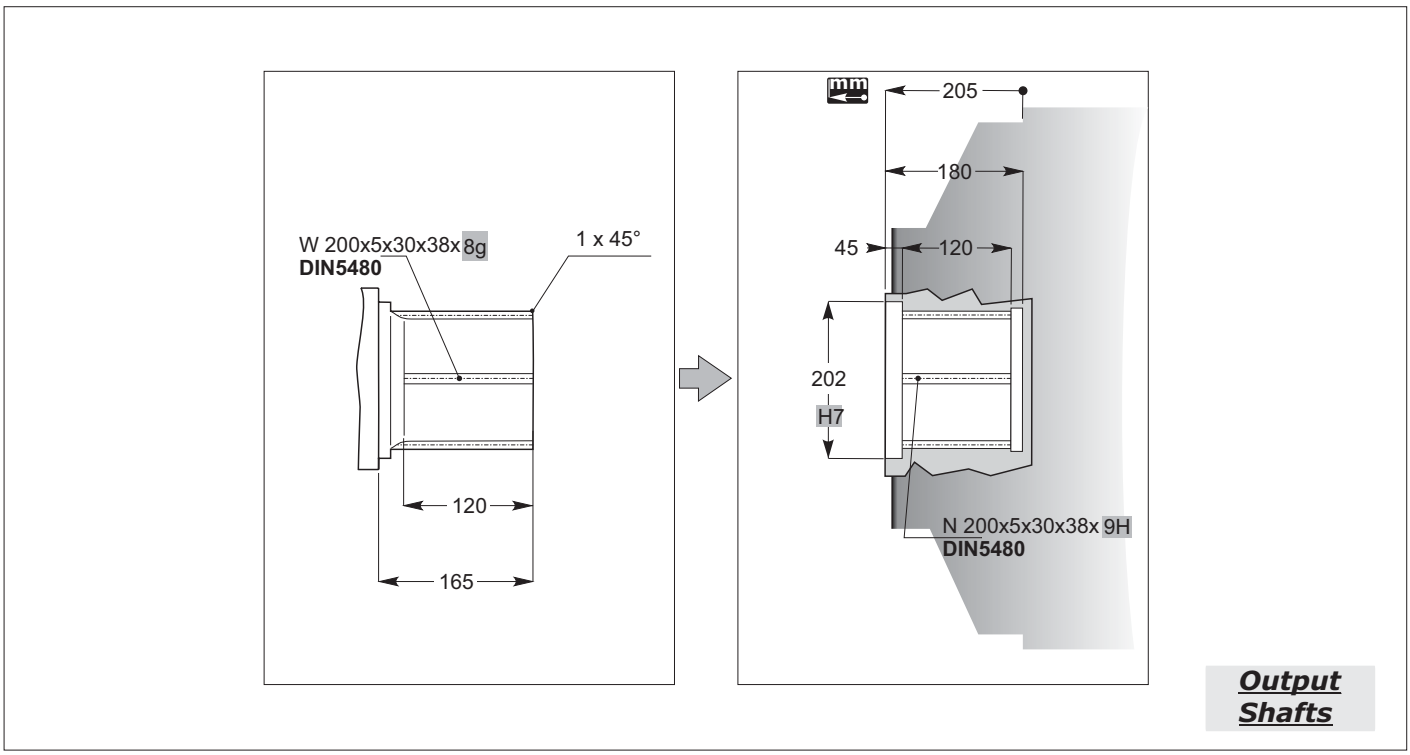


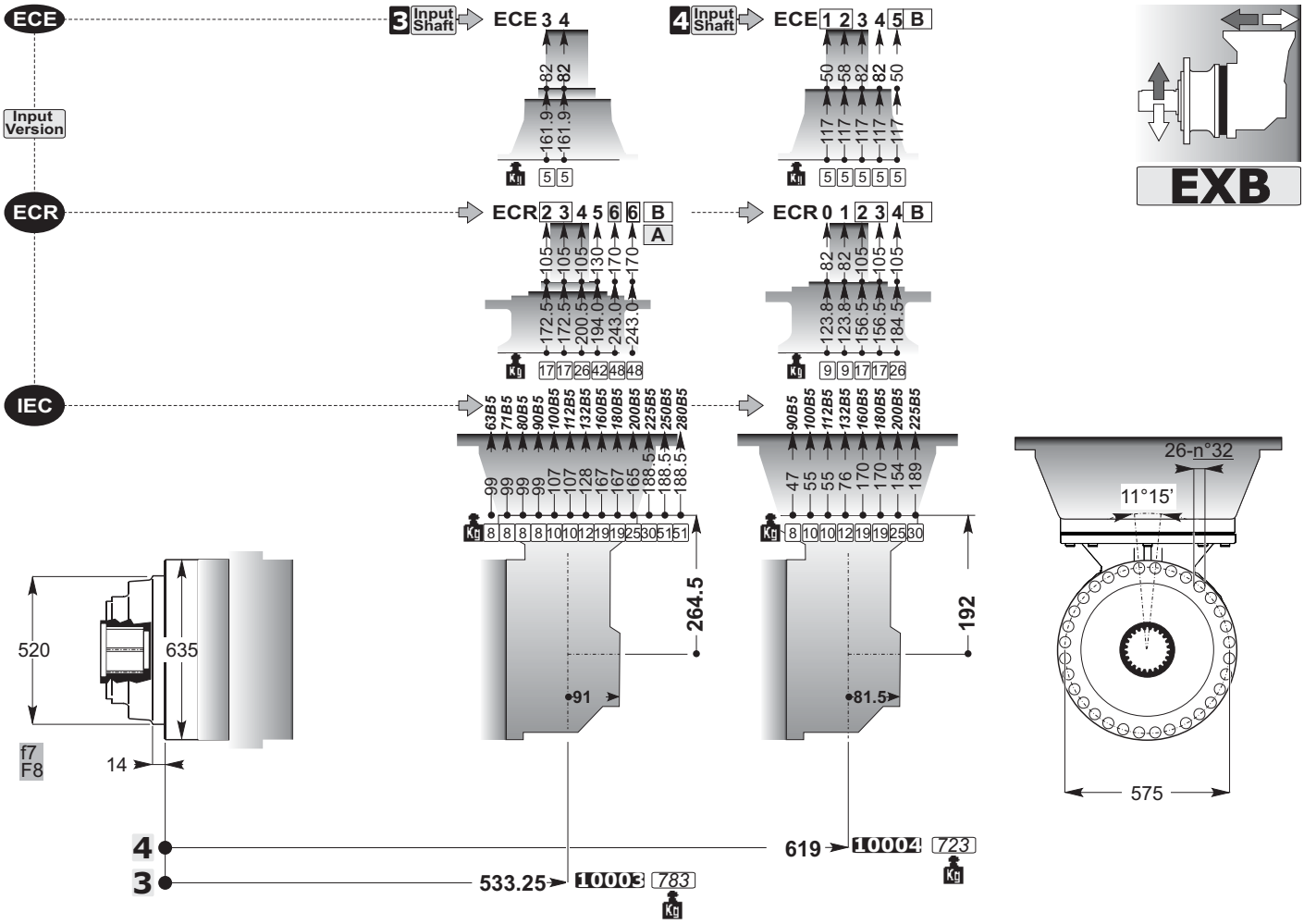



ECE
Input Version
ECR
IEC
3 Input Shaft ECE 3 4
4 Input Shaft ECE 1 2 3 4 5 B
ECR 2 3 4 5 6 6 B A
ECR 0 1 2 3 4 B
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
EXB
264.5
192
91
81.5
680
635
360
52
f7
F8
40
411
40
29
38
430
630
700
720
789
10004
966
703.25
10003
1030

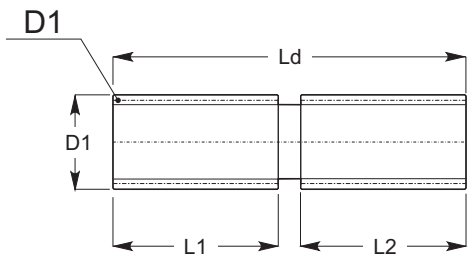

FD
72.1 Kg
163
42
48
28 - n°18
N 170x5x30x32 9H
DIN5480
175 H7
170 H7
173
14
107
25
17
250 f7
400
450
ID
N 170x5x30x32 9H
DIN5480
Zt
Deff
D3 H7
D1
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
5.3 Kg
31
20.5
M16x50
Rff
16.5(n°4-90°)
150 H7
175 f7
198
M14
110
BD
27.3 Kg
163
N170x5x30x32 9H
DIN5480
175 H7
170 H7
173
235 h7
14
107
25
17
ID
FF
FD
BD
Accessories


Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
373.7 → 210 → 9-ø120
120
283.5 → 210 → 9-ø120
284.8 → 170 → 6B-ø100
284.8 → 170 → 6A-ø90
231.4 → 130 → 5-ø80
120 9
48 6A-6B
42 5
161.9 → 82 → 4-ø48
161.9 → 82 → 3-ø42
5
243 → 170 → 6B-ø100
243 → 170 → 6A-ø90
194 → 130 → 5-ø80
200.5 → 105 → 4-ø65
172.5 → 105 → 3B-ø65
172.5 → 105 → 2B-ø60
48 6A-6B
42 5
26 4
17 2B-3B
117 → 50 → 5B-ø28
117 → 82 → 4-ø48
117 → 82 → 3-ø42
117 → 58 → 2B-ø38
117 → 50 → 1B-ø24
5
184.5 → 105 → 4-ø65
156.5 → 105 → 3B-ø65
156.5 → 105 → 2B-ø60
123.8 → 82 → 1-ø50
123.8 → 82 → 0-ø42
26 4
17 2B-3B
9 0-1
26-n°32
11°15'
575
188.5 → 51 280B5
188.5 → 51 250B5
188.5 → 30 225B5
165 → 25 200B5
167 → 19 180B5
167 → 19 160B5
128 → 12 132B5
107 → 10 112B5
107 → 10 100B5
99 → 8 90B5
99 → 8 80B5
99 → 8 71B5
99 → 8 63B5
189 → 30
154 → 25
170 → 19
170 → 19
120 → 12
99 → 10
99 → 10
91 → 8
91 → 8
91 → 8
91 → 8
520
635
f7
F8
14
4
3
2
1
145 10001 405
365 10002 615
493 10003 680
578 10004 695


W 200x5x30x38x 8g
DIN5480
1 x 45°
120
165
205
180
45
120
202
H7
N 200x5x30x38x 9H
DIN5480
Output Shafts



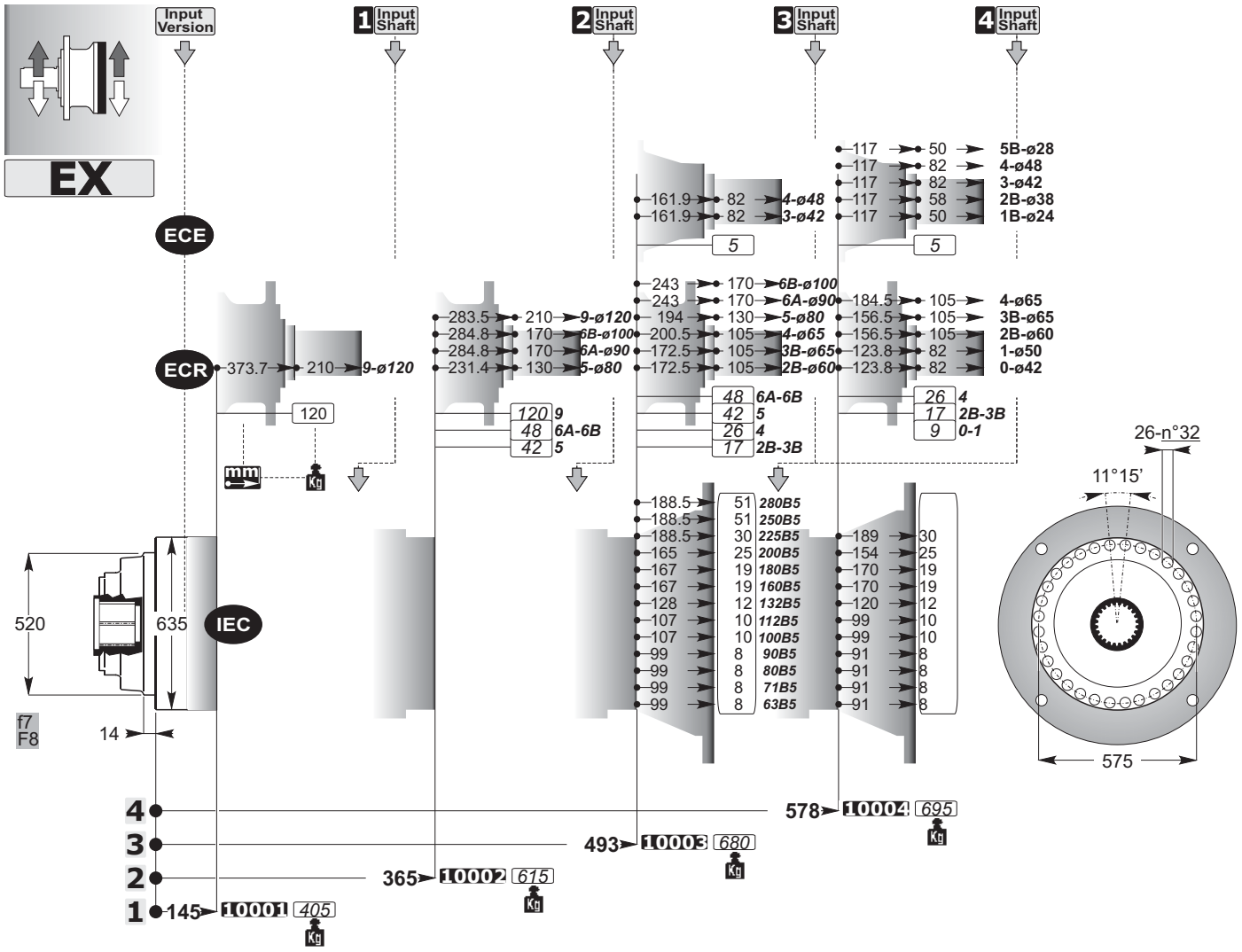
SD

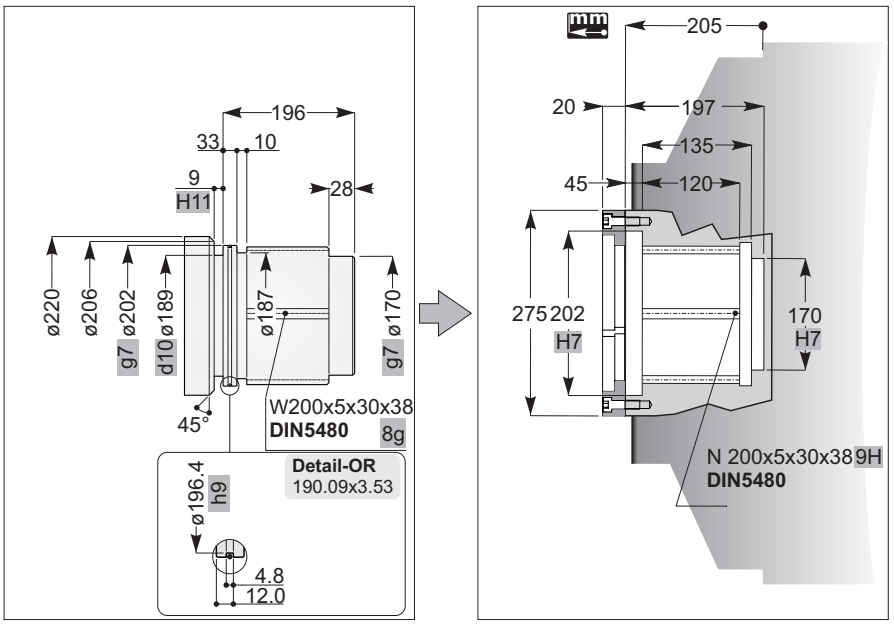


SD

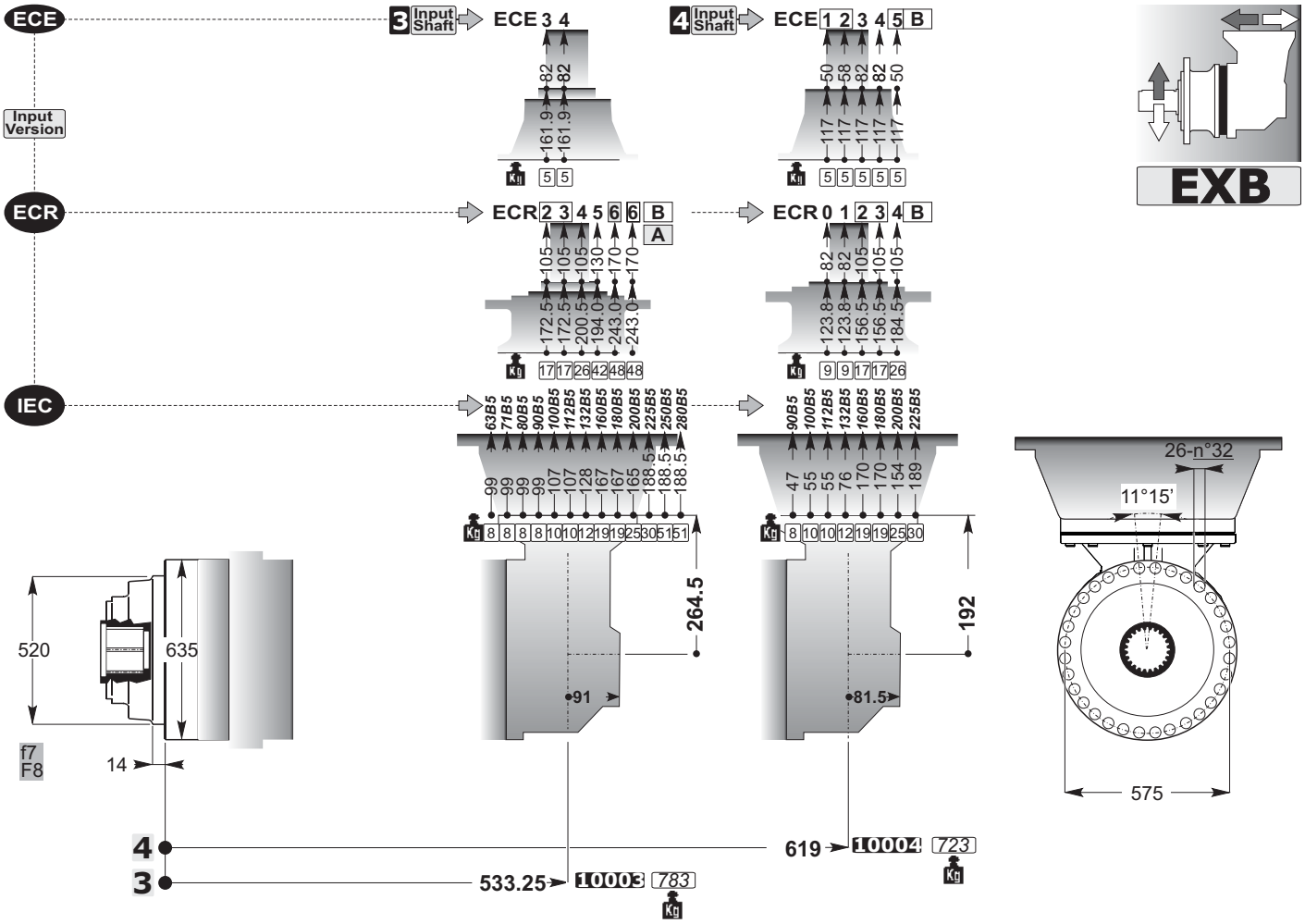


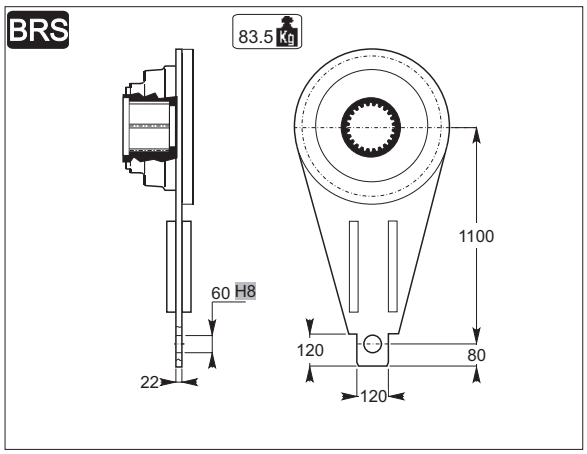
Accessories

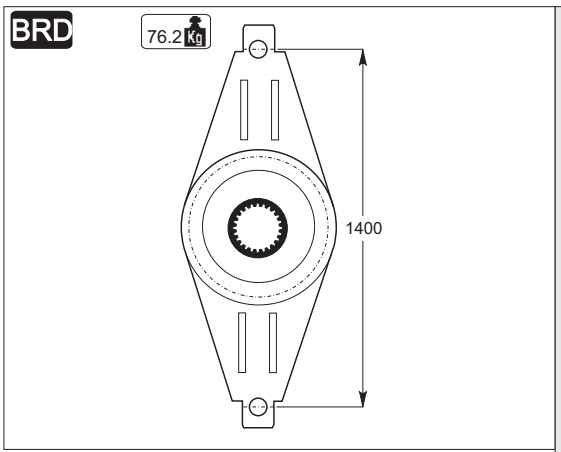


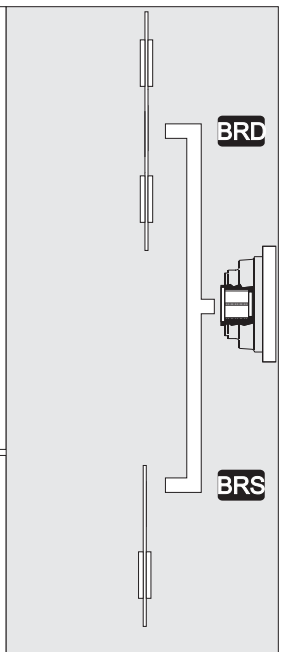


Output Shafts

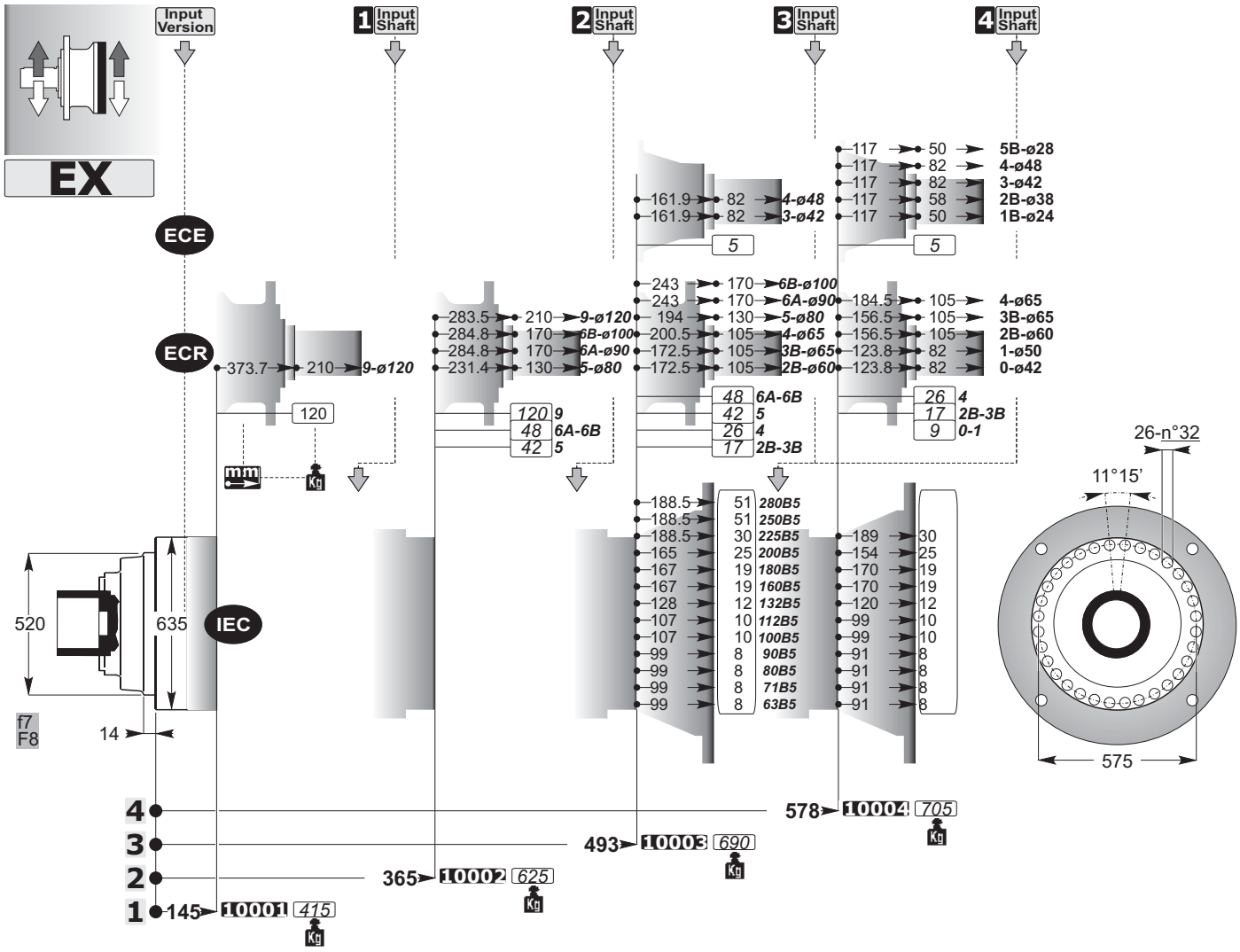


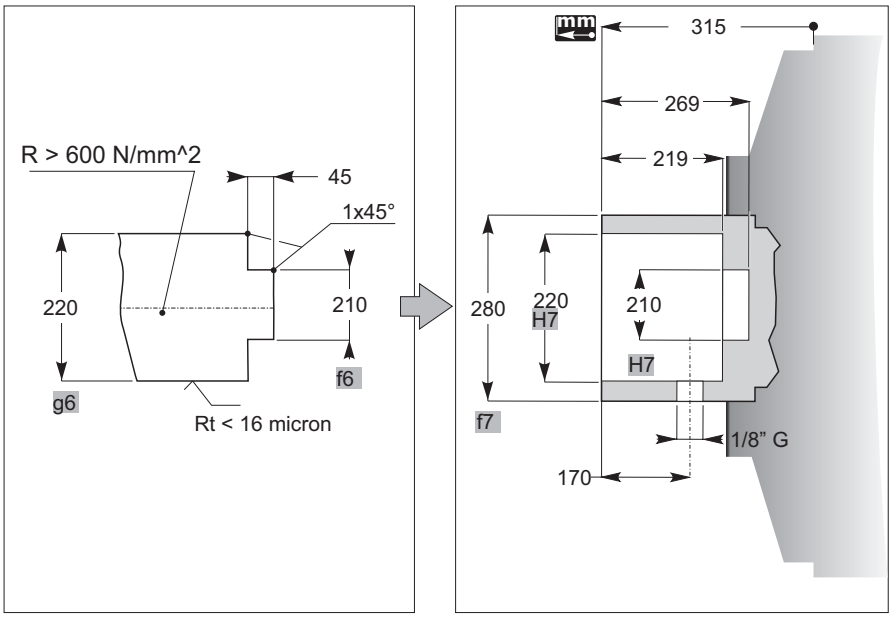




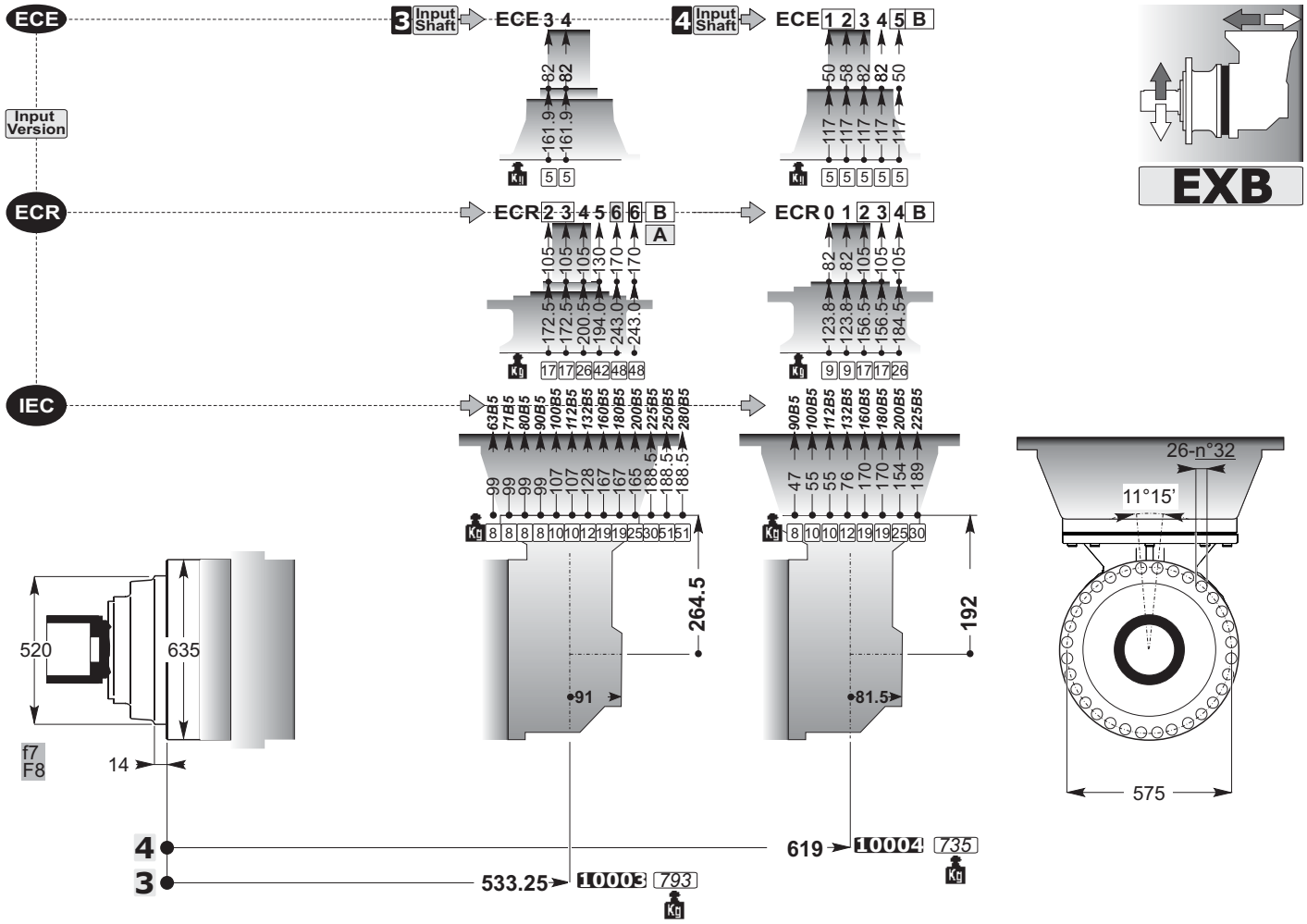


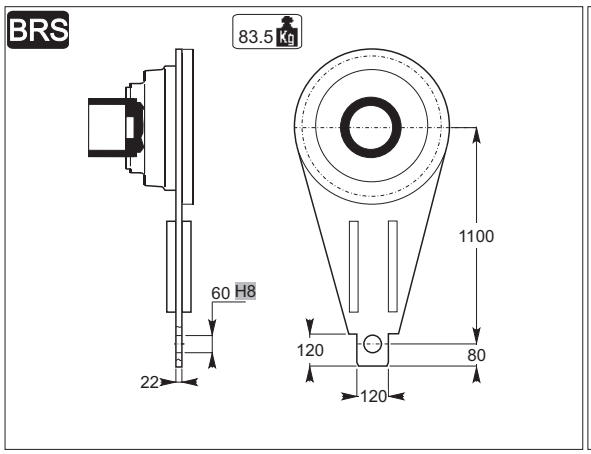
Accessories

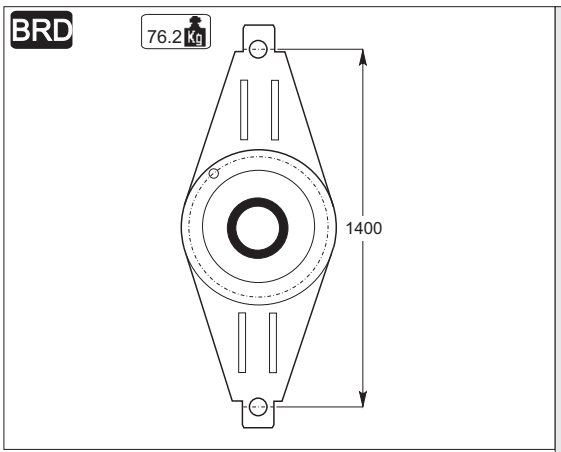


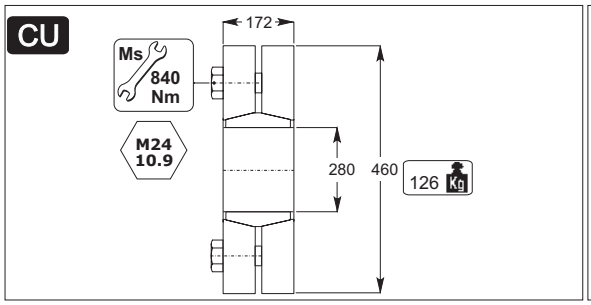


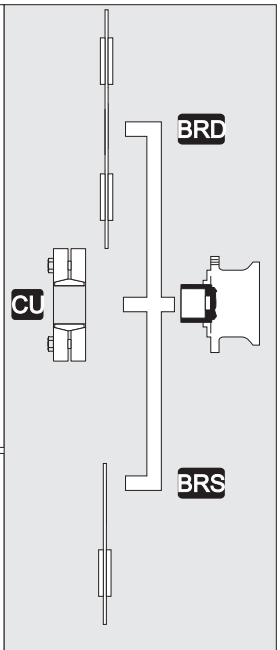
Output Shafts





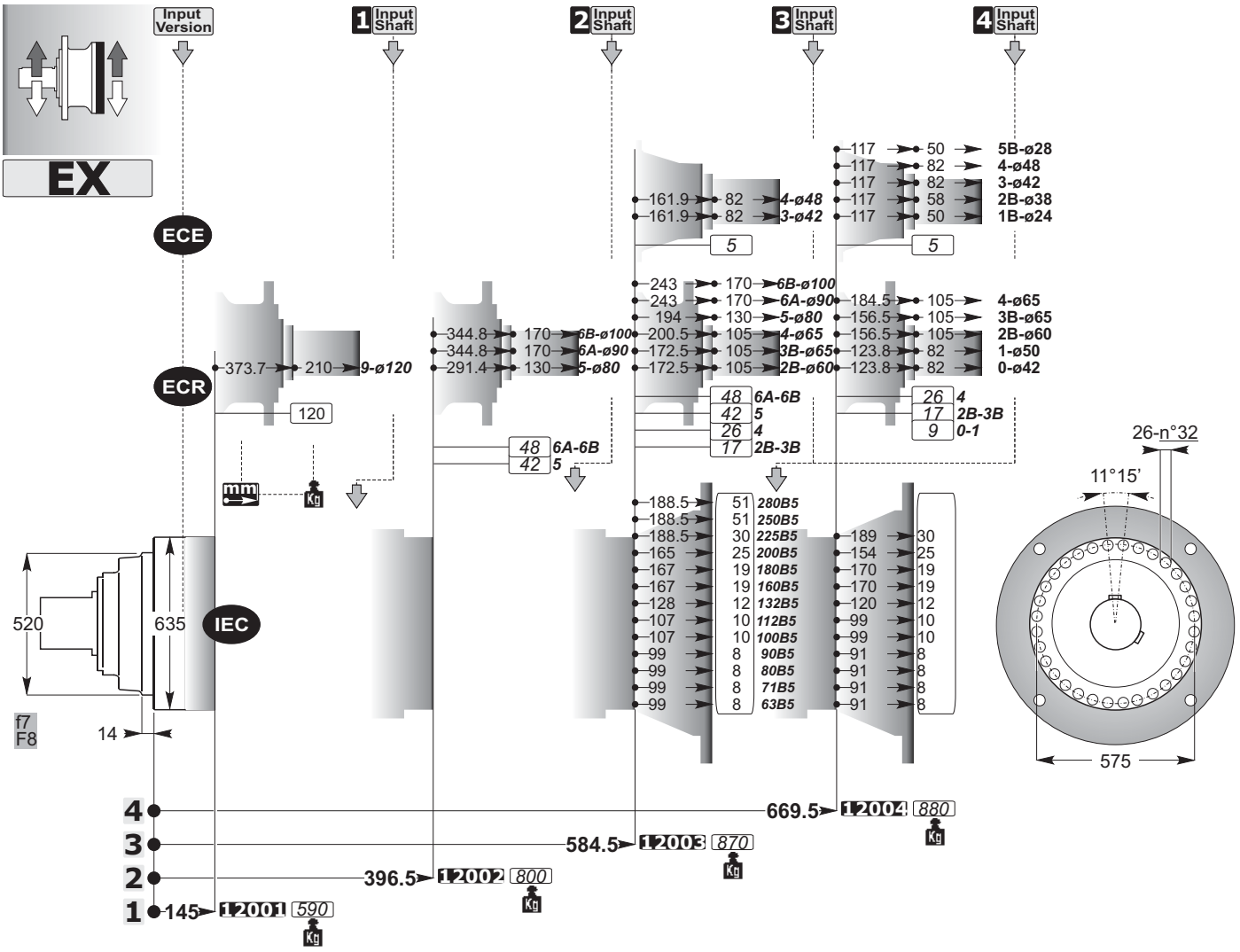


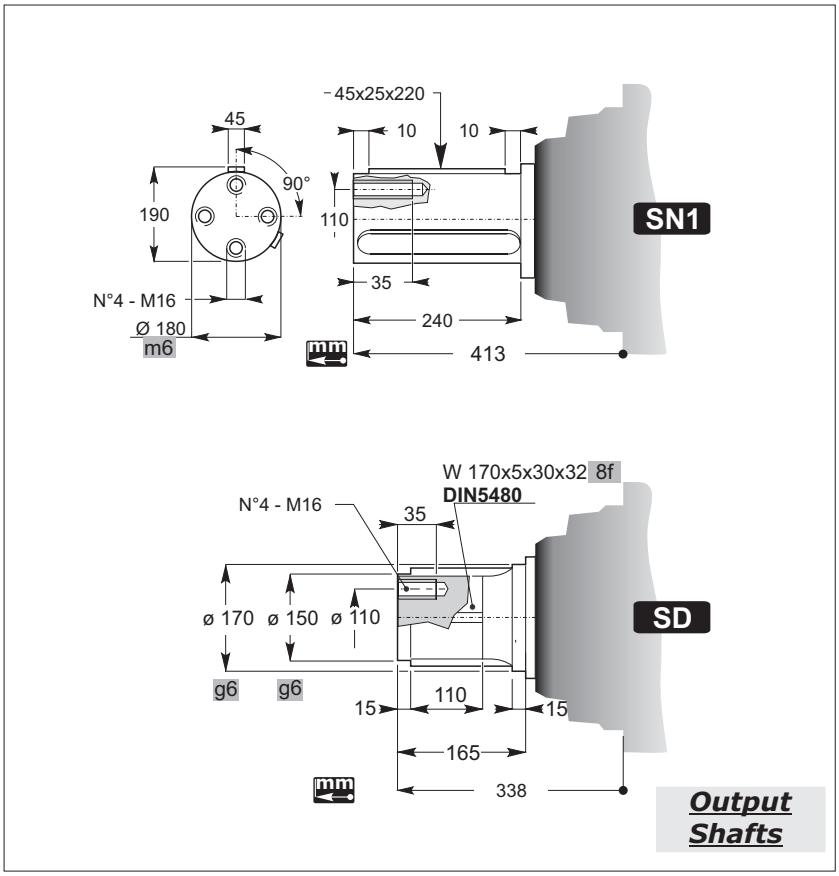


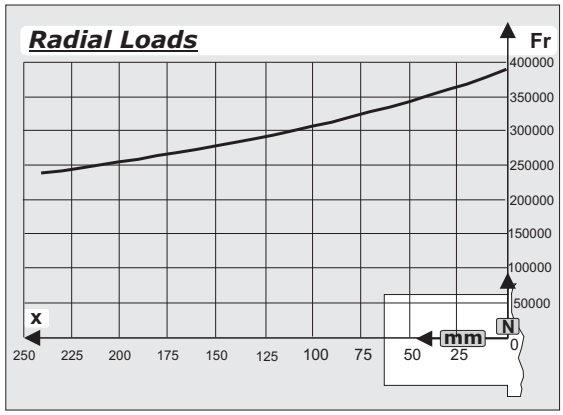


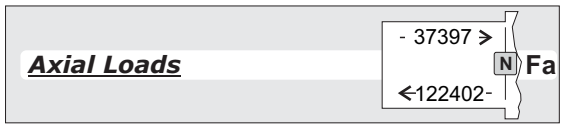
Accessories

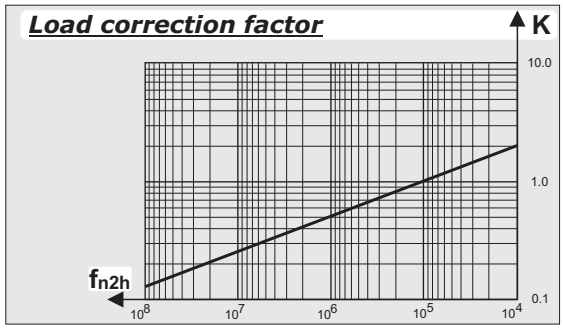
mm
C

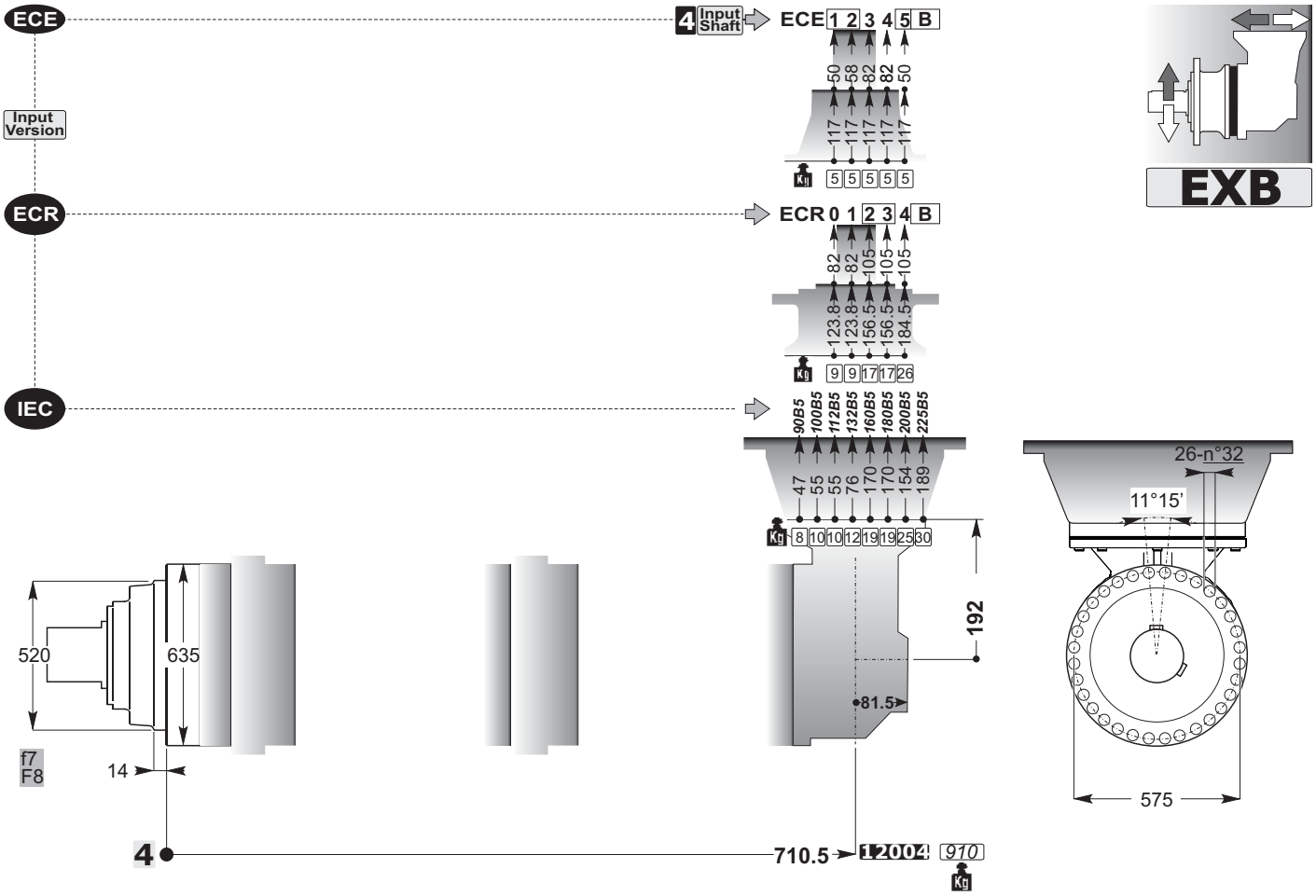

Input Version
1 Input Shaft
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
373.7 → 210 → 9-ø120
120
344.8 → 170 → 6B-ø100
344.8 → 170 → 6A-ø90
291.4 → 130 → 5-ø80
48 6A-6B
42 5
161.9 → 82 → 4-ø48
161.9 → 82 → 3-ø42
5
243 → 170 → 6B-ø100
243 → 170 → 6A-ø90
194 → 130 → 5-ø80
200.5 → 105 → 4-ø65
172.5 → 105 → 3B-ø65
172.5 → 105 → 2B-ø60
48 6A-6B
42 5
26 4
17 2B-3B
117 → 50 → 5B-ø28
117 → 82 → 4-ø48
117 → 82 → 3-ø42
117 → 58 → 2B-ø38
117 → 50 → 1B-ø24
5
184.5 → 105 → 4-ø65
156.5 → 105 → 3B-ø65
156.5 → 105 → 2B-ø60
123.8 → 82 → 1-ø50
123.8 → 82 → 0-ø42
26 4
17 2B-3B
9 0-1
188.5 → 51 280B5
188.5 → 51 250B5
188.5 → 30 225B5
165 → 25 200B5
167 → 19 180B5
167 → 19 160B5
128 → 12 132B5
107 → 10 112B5
107 → 10 100B5
99 → 8 90B5
99 → 8 80B5
99 → 8 71B5
99 → 8 63B5
189 → 30
154 → 25
170 → 19
170 → 19
120 → 12
99 → 10
99 → 10
91 → 8
91 → 8
91 → 8
91 → 8
26-n°32
11°15'
575
520
635
f7
F8
14
4
3
2
1
669.5 → 12004 880
584.5 → 12003 870
396.5 → 12002 800
145 → 12001 590

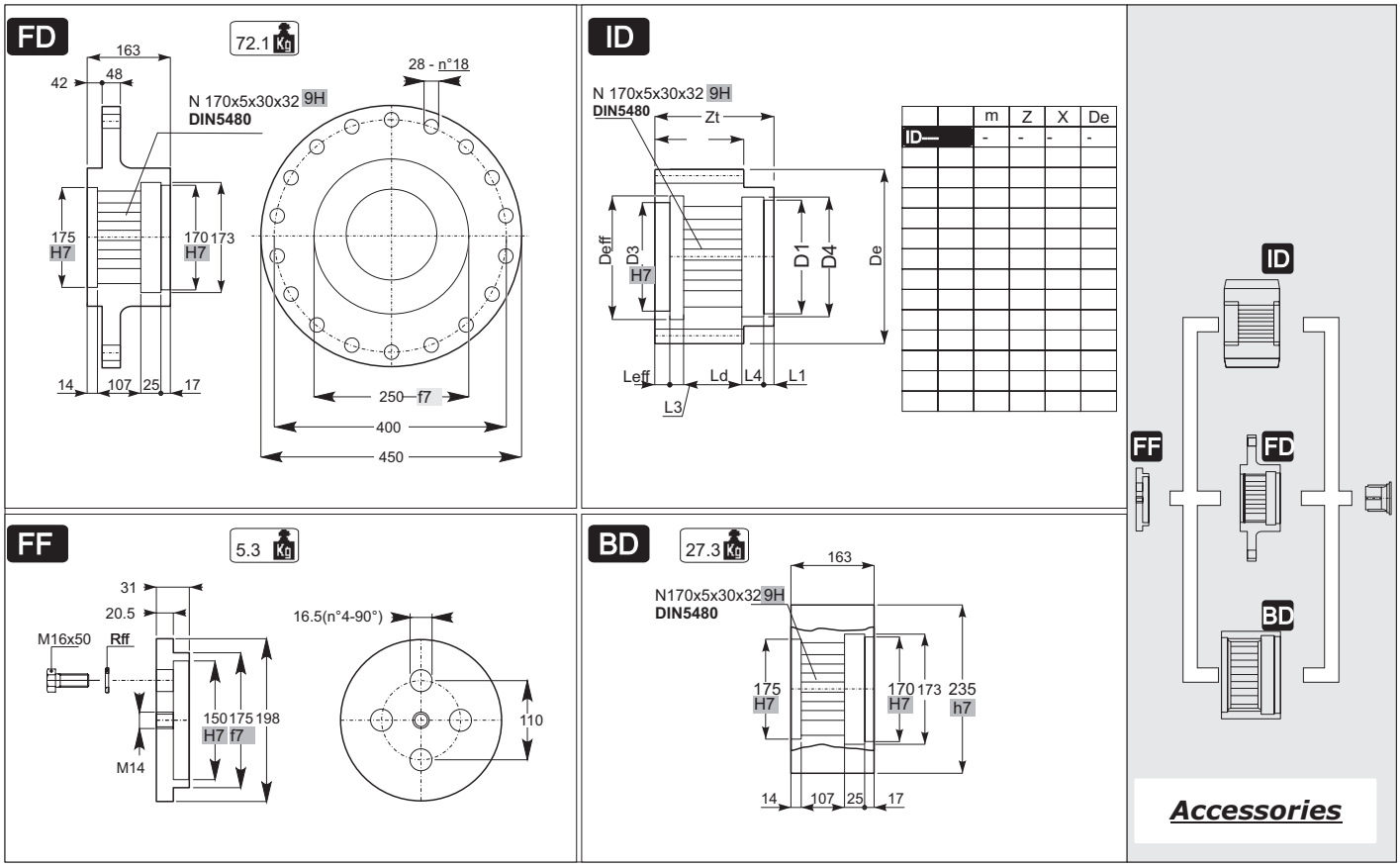

45
45x25x220
10
10
90°
190
110
SN1
35
N°4 - M16
240
Ø 180
m6
413
W 170x5x30x32 8f
DIN5480
N°4 - M16
35
ø 170
ø 150
ø 110
SD
g6
g6
110
15
15
165
338
Output Shafts

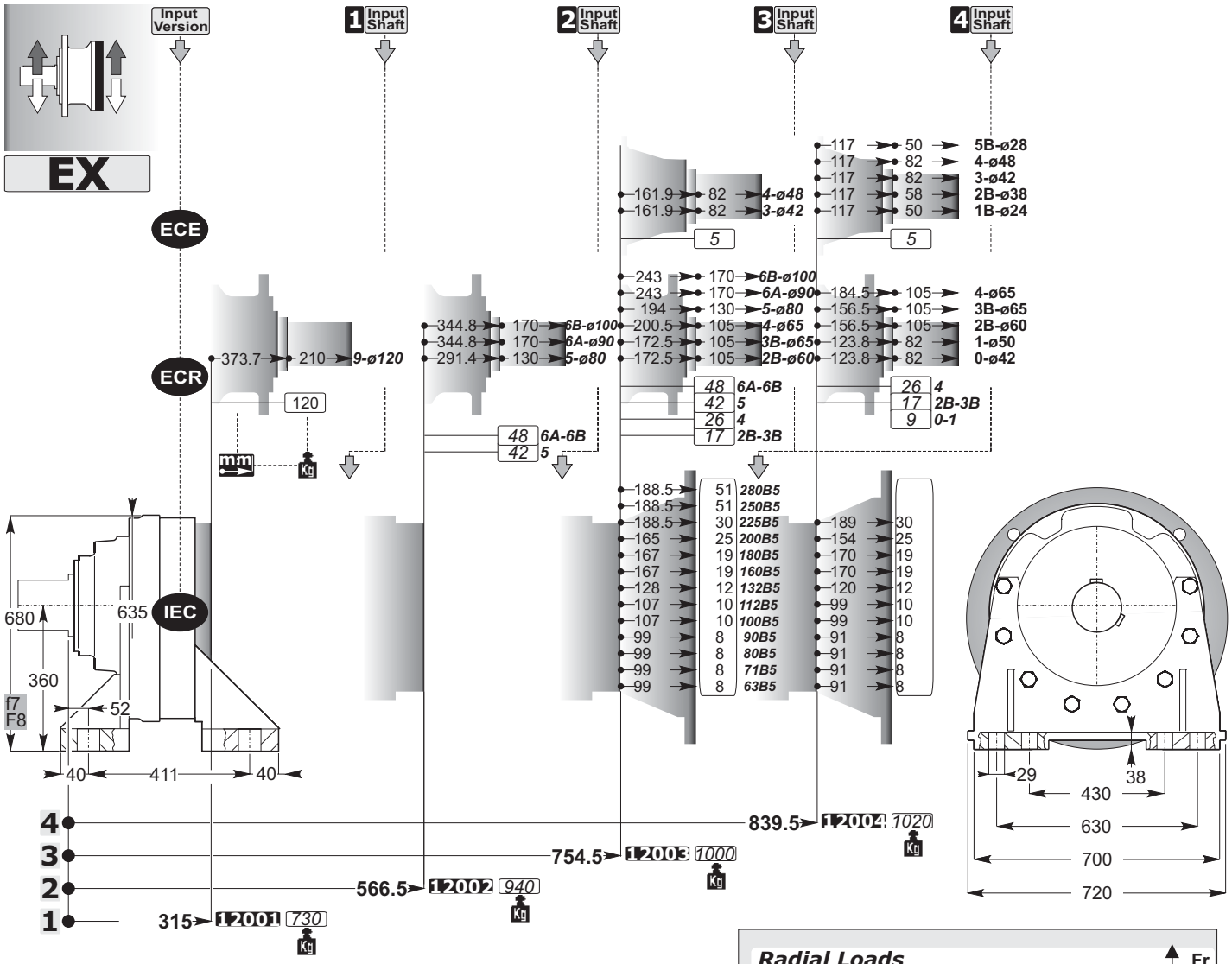

Radial Loads
Fr
400000
350000
300000
250000
200000
150000
100000
50000
0
x
250
225
200
175
150
125
100
75
50
25
mm
N

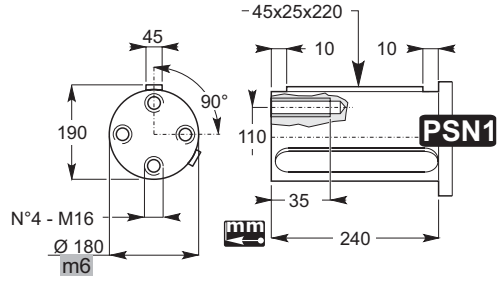

Axial Loads
- 37397 >
N
Fa
<122402-

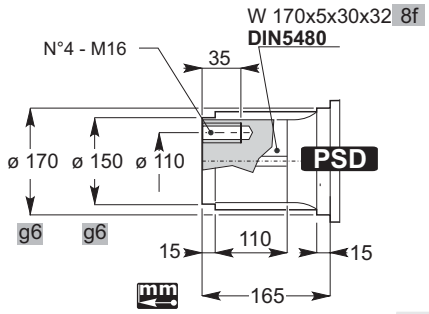

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
Input Version
ECR
IEC
4 Input Shaft
ECE 1 2 3 4 5 B
50 58 82 82 50
117 117 117 117 117
5 5 5 5 5
ECR 0 1 2 3 4 B
82 82 105 105 105
123.8 123.8 156.5 156.5 184.5
9 9 17 17 26
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
47 55 55 76 170 170 154 189
8 10 10 12 19 19 25 30
192
81.5
520
635
f7
F8
14
4
710.5
L2004
910
EXB
26-n°32
11°15'
575

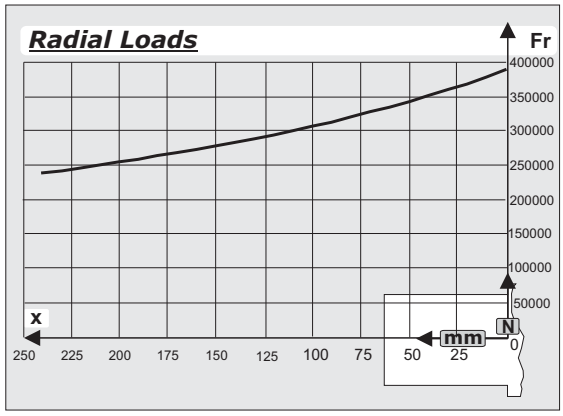

FD
72.1
163
42
48
N 170x5x30x32 9H
DIN5480
28 - n°18
175 H7
170 H7
173
14
107
25
17
250 f7
400
450
ID
N 170x5x30x32 9H
DIN5480
Zt
Deff
D3 H7
D1
D4
De
Leff
Ld
L4
L1
L3
ID—
m
Z
X
De
FF
5.3
31
20.5
M16x50
Rff
16.5(n°4-90°)
150 H7
175 f7
198
M14
110
BD
27.3
163
N170x5x30x32 9H
DIN5480
175 H7
170 H7
173
235 h7
14
107
25
17
ID
FF
FD
BD
Accessories

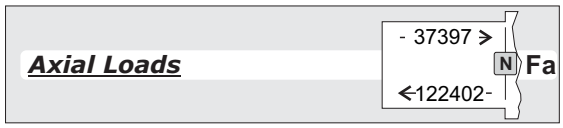


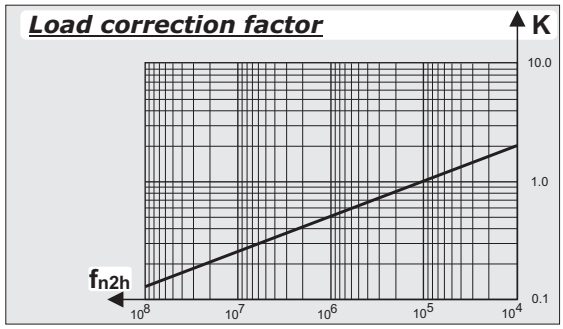


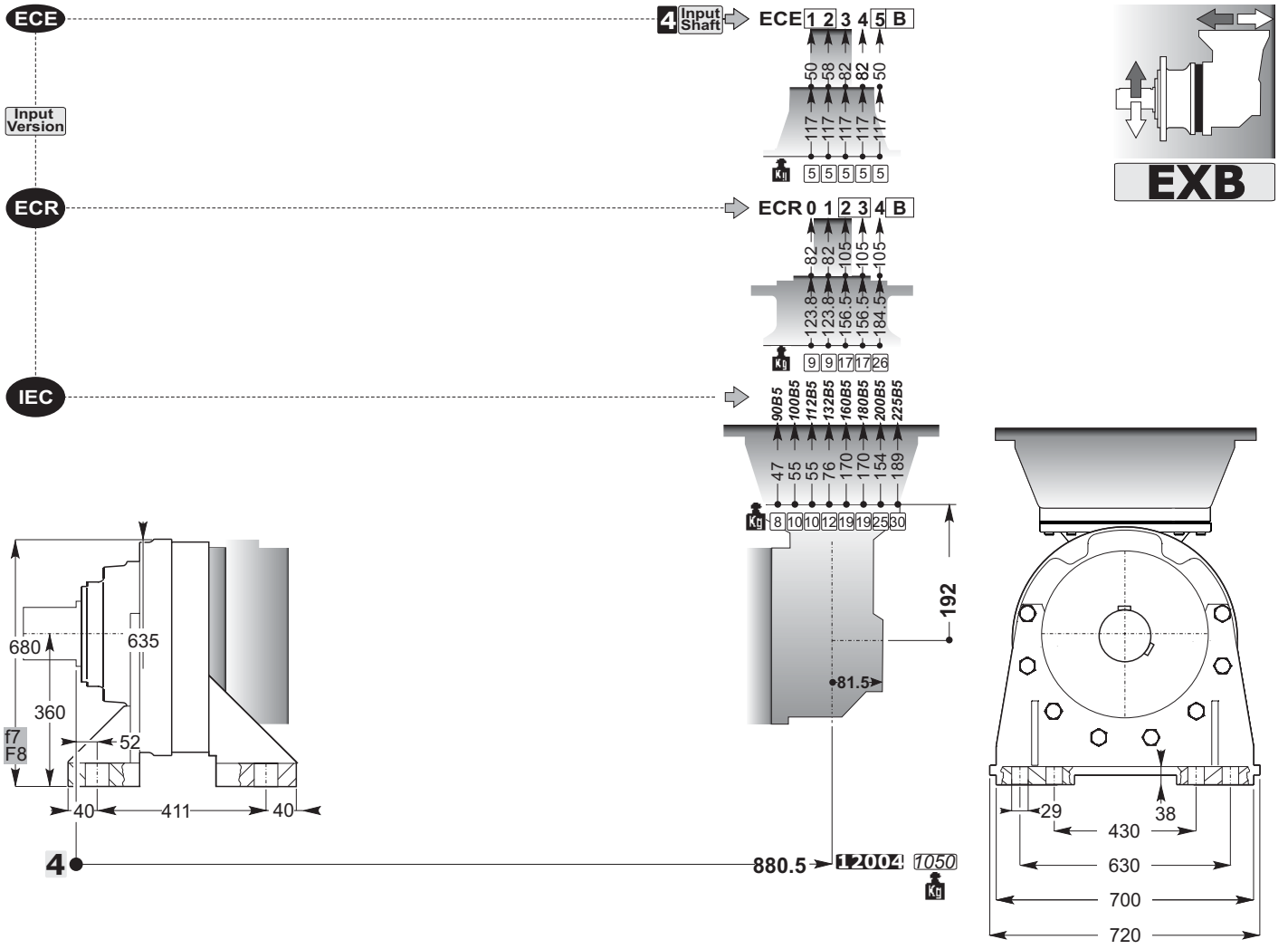


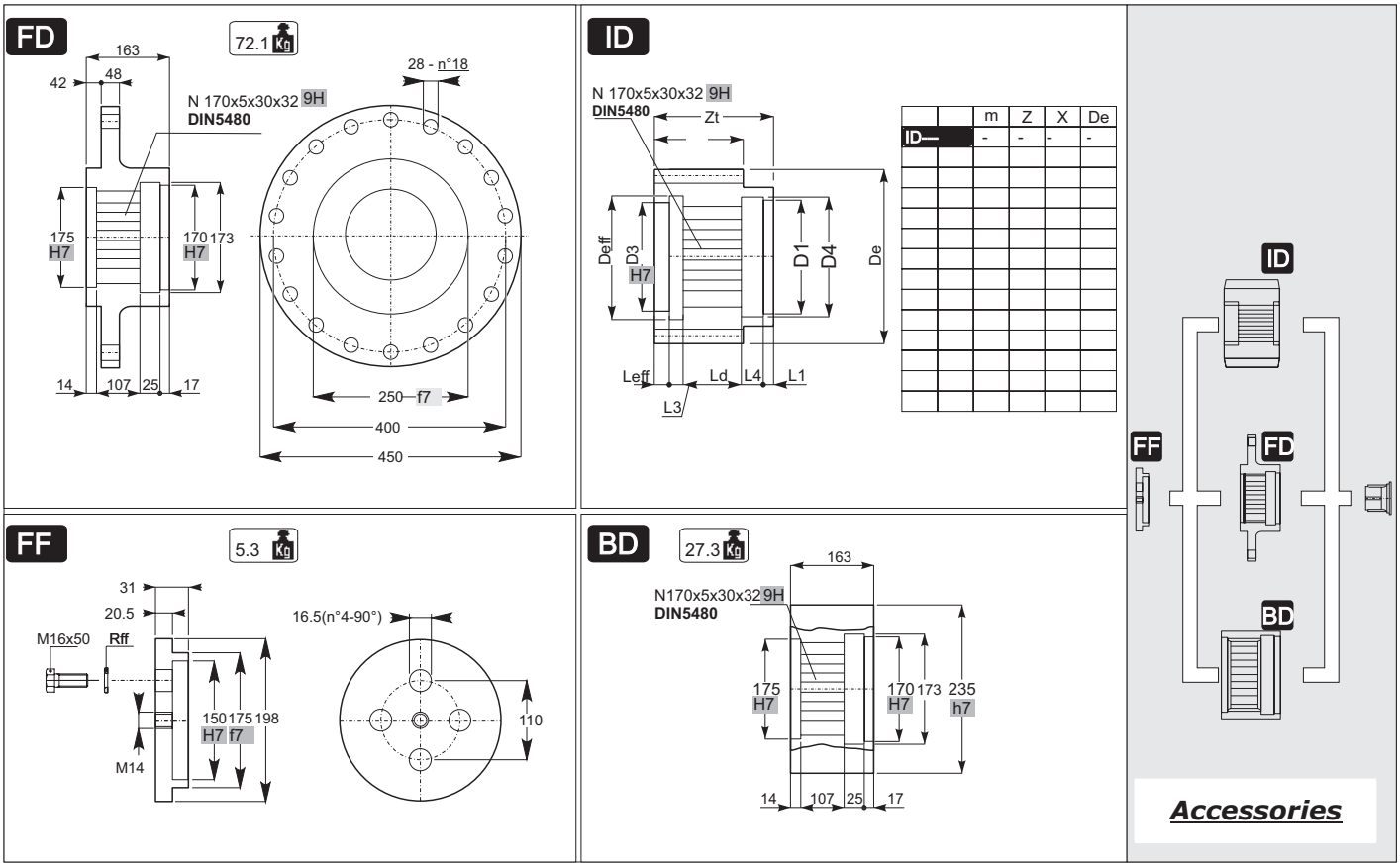
Output Shafts

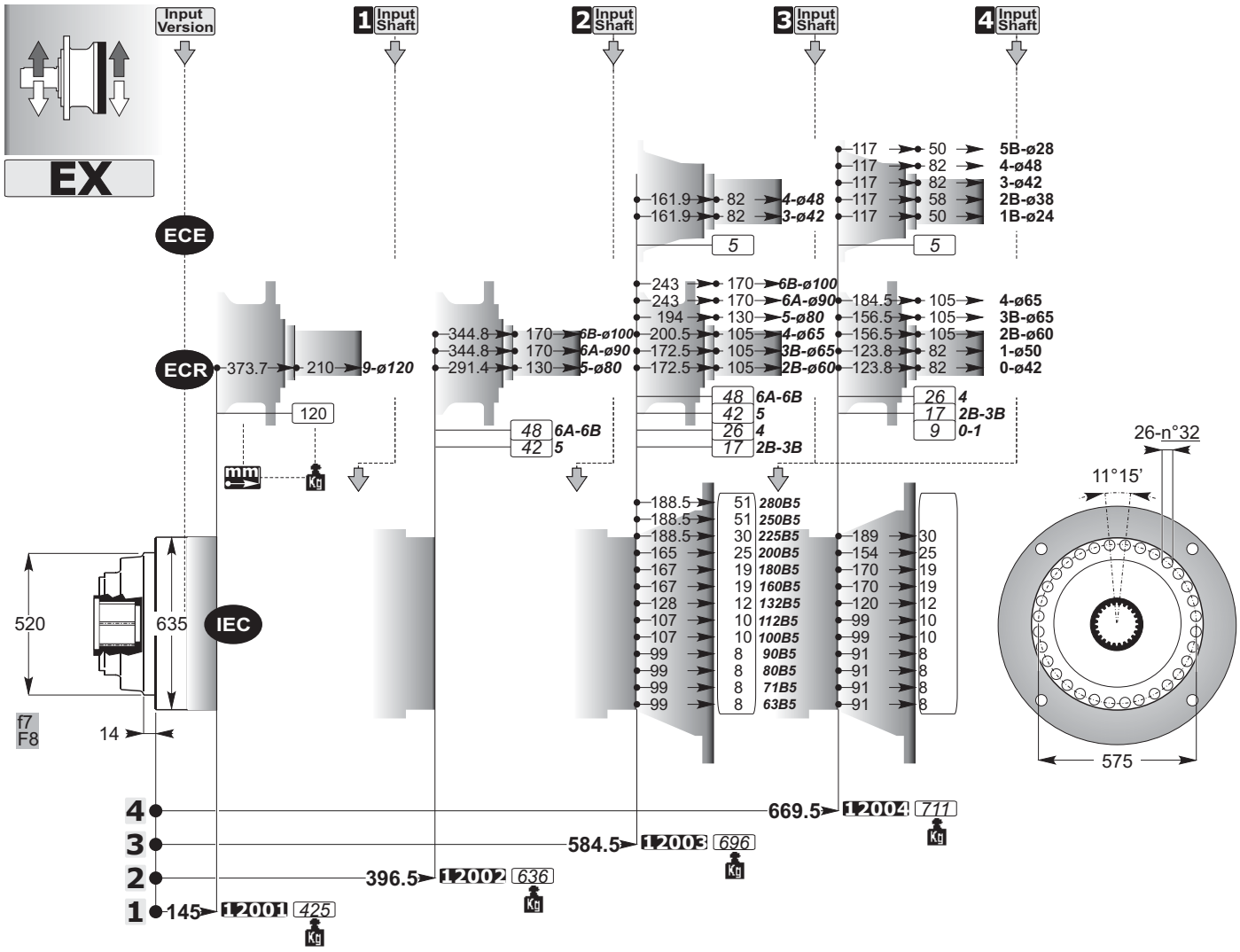


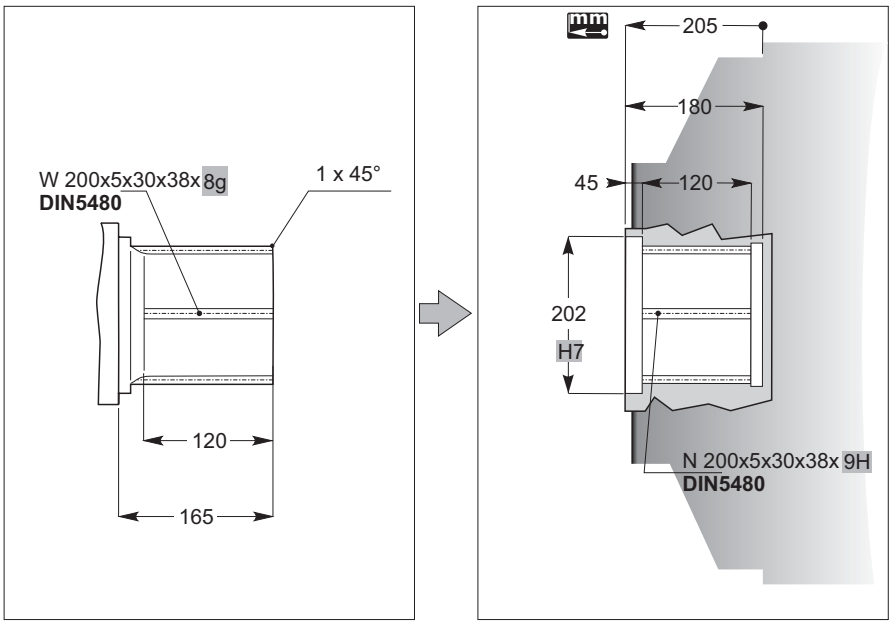




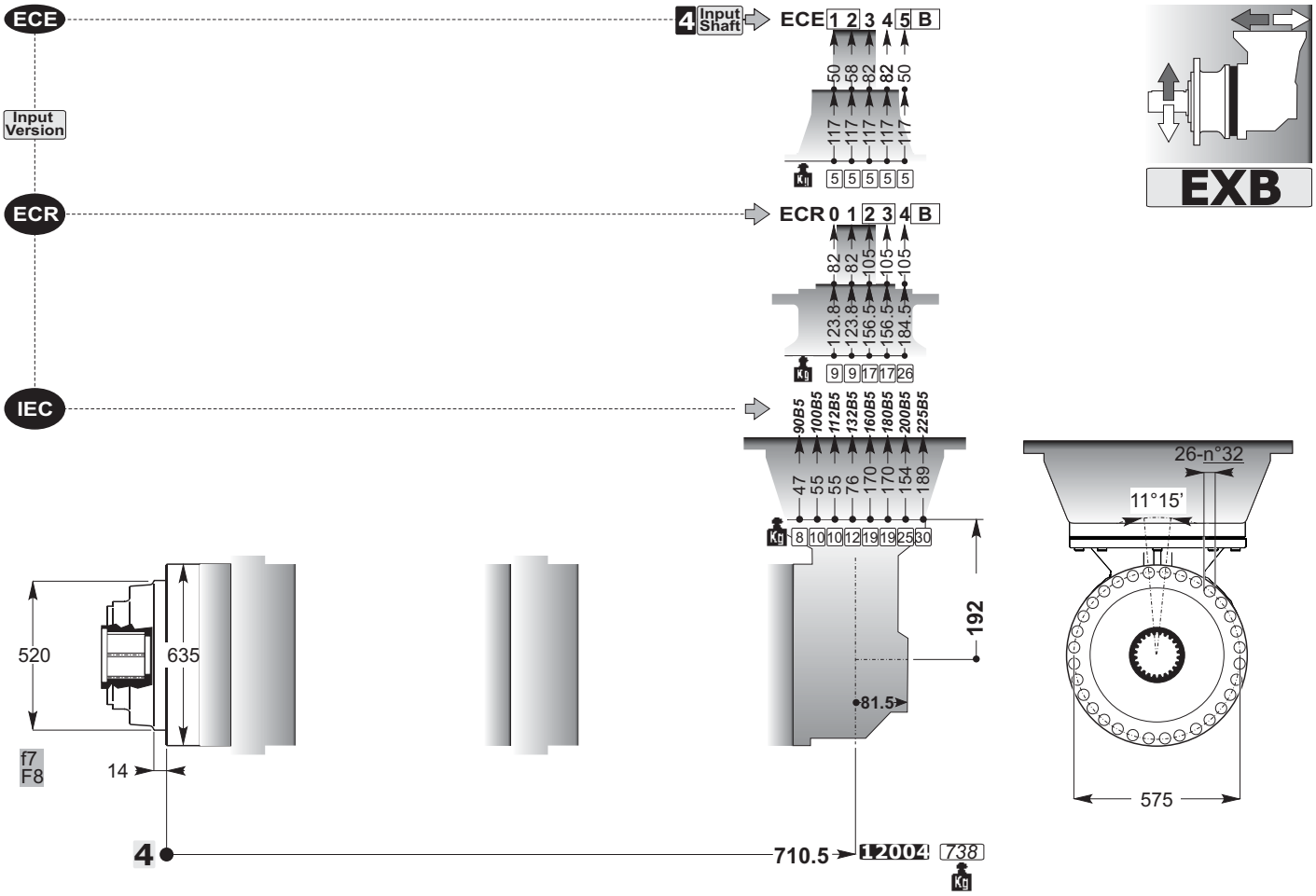

ECE
Input Version
ECR
IEC
4 Input Shaft
ECE 1 2 3 4 5 B
50 58 82 82 50
117 117 117 117 117
5 5 5 5 5
ECR 0 1 2 3 4 B
82 82 105 105 105
123.8 123.8 156.5 156.5 184.5
9 9 17 17 26
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
47 55 55 76 170 170 154 189
8 10 10 12 19 19 25 30
192
81.5
680
635
360
f7
F8
52
40
411
40
4
880.5
120004
1050
EXB
29
38
430
630
700
720


FD
72.1 Kg
163
42
48
N 170x5x30x32 9H
DIN5480
28 - n°18
175 H7
170 H7
173
14
107
25
17
250 f7
400
450
ID
N 170x5x30x32 9H
DIN5480
Zt
Deff
D3 H7
D1
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
5.3 Kg
31
20.5
M16x50
Rff
16.5(n°4-90°)
150 H7
175 f7
198
M14
110
BD
27.3 Kg
163
N170x5x30x32 9H
DIN5480
175 H7
170 H7
173
235 h7
14
107
25
17
ID
FF
FD
BD
Accessories

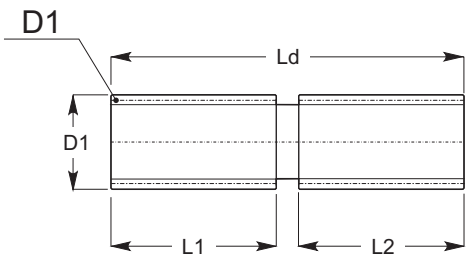




Output Shafts



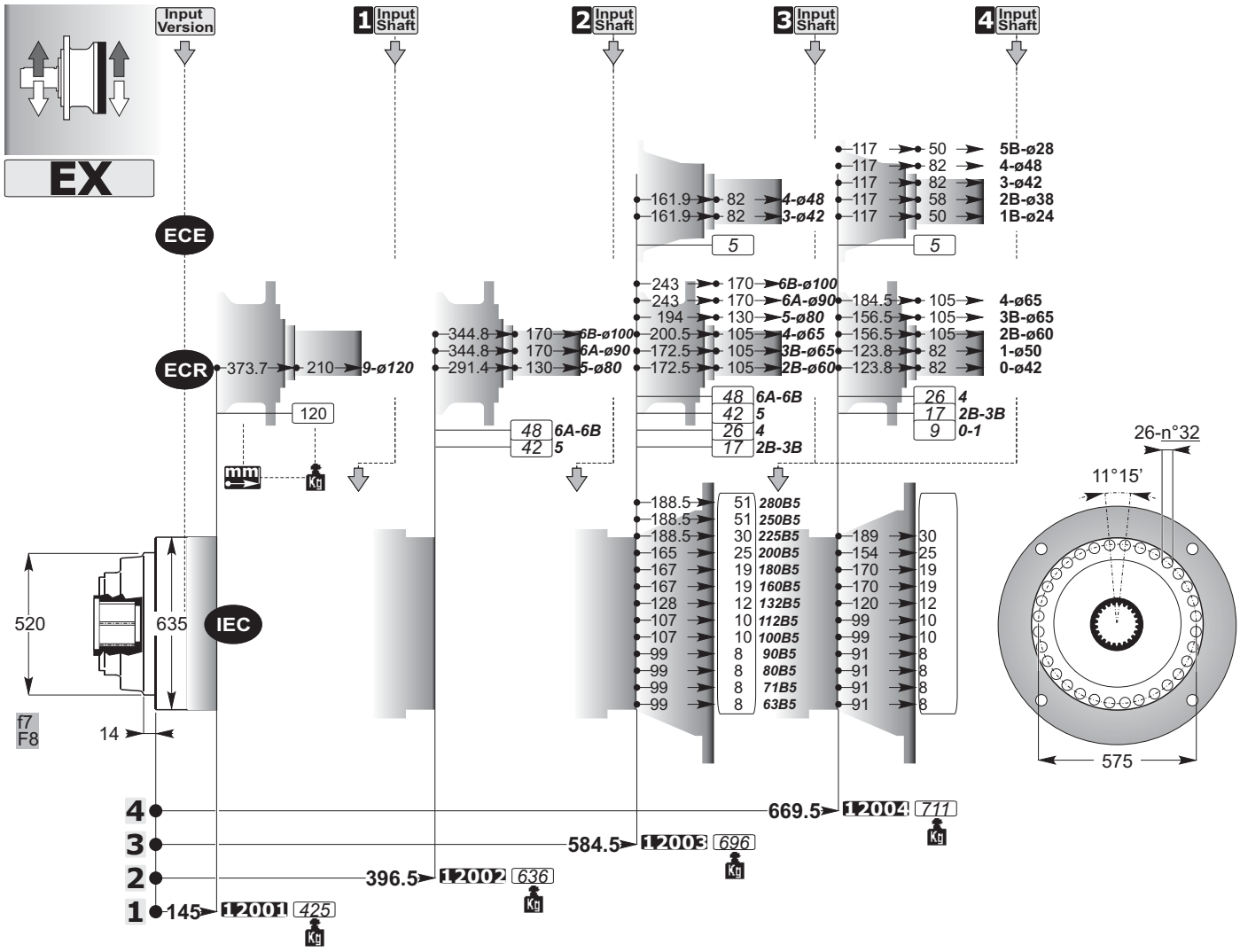
SD

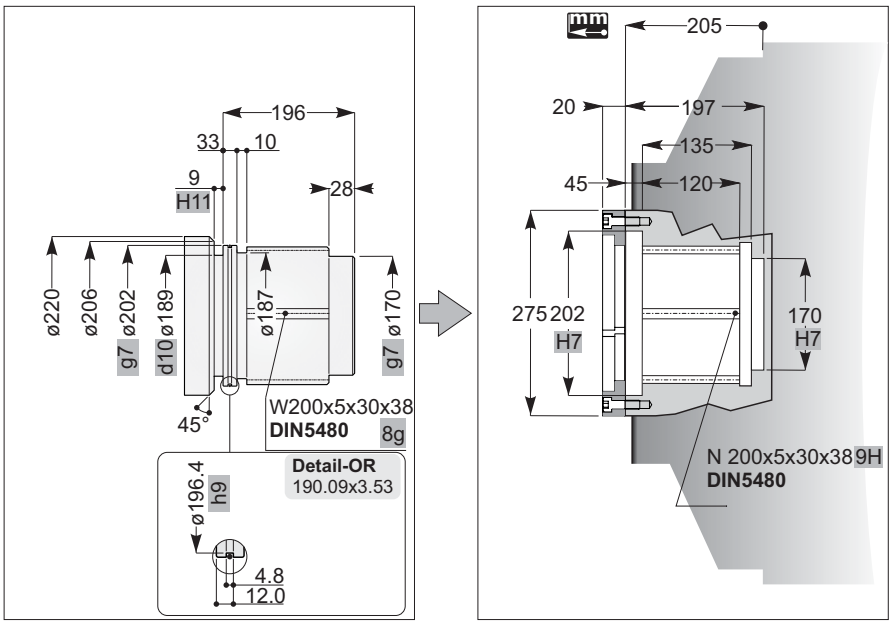


SD

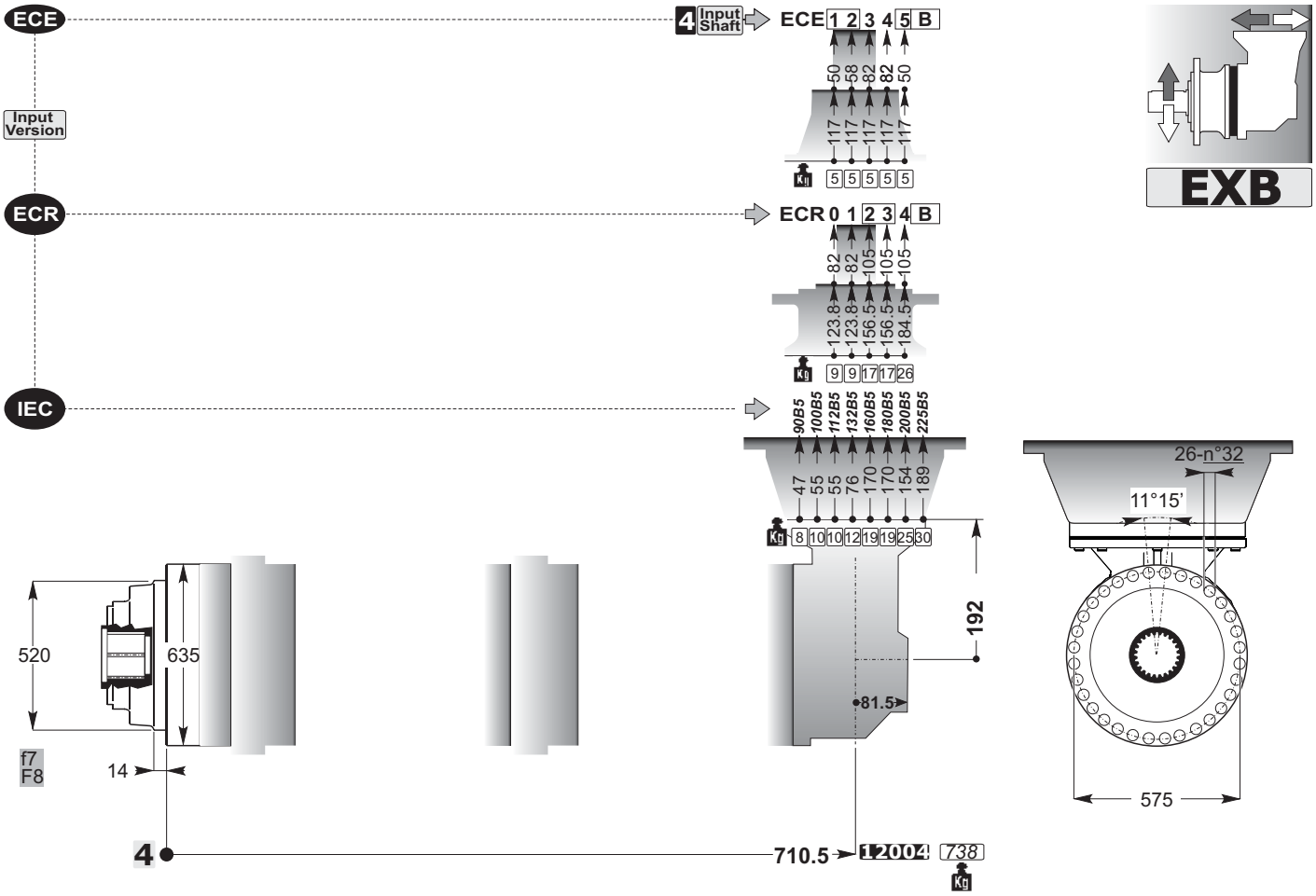


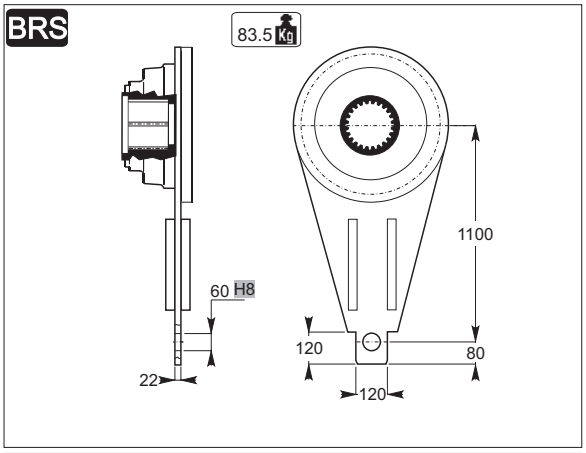
Accessories

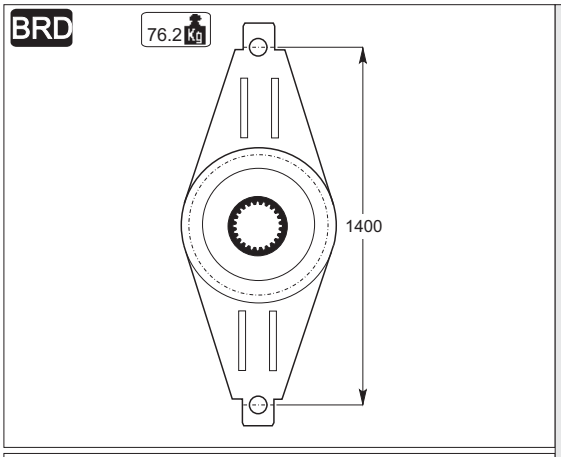


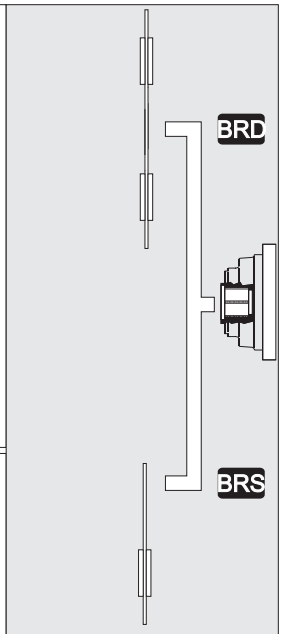


Output Shafts



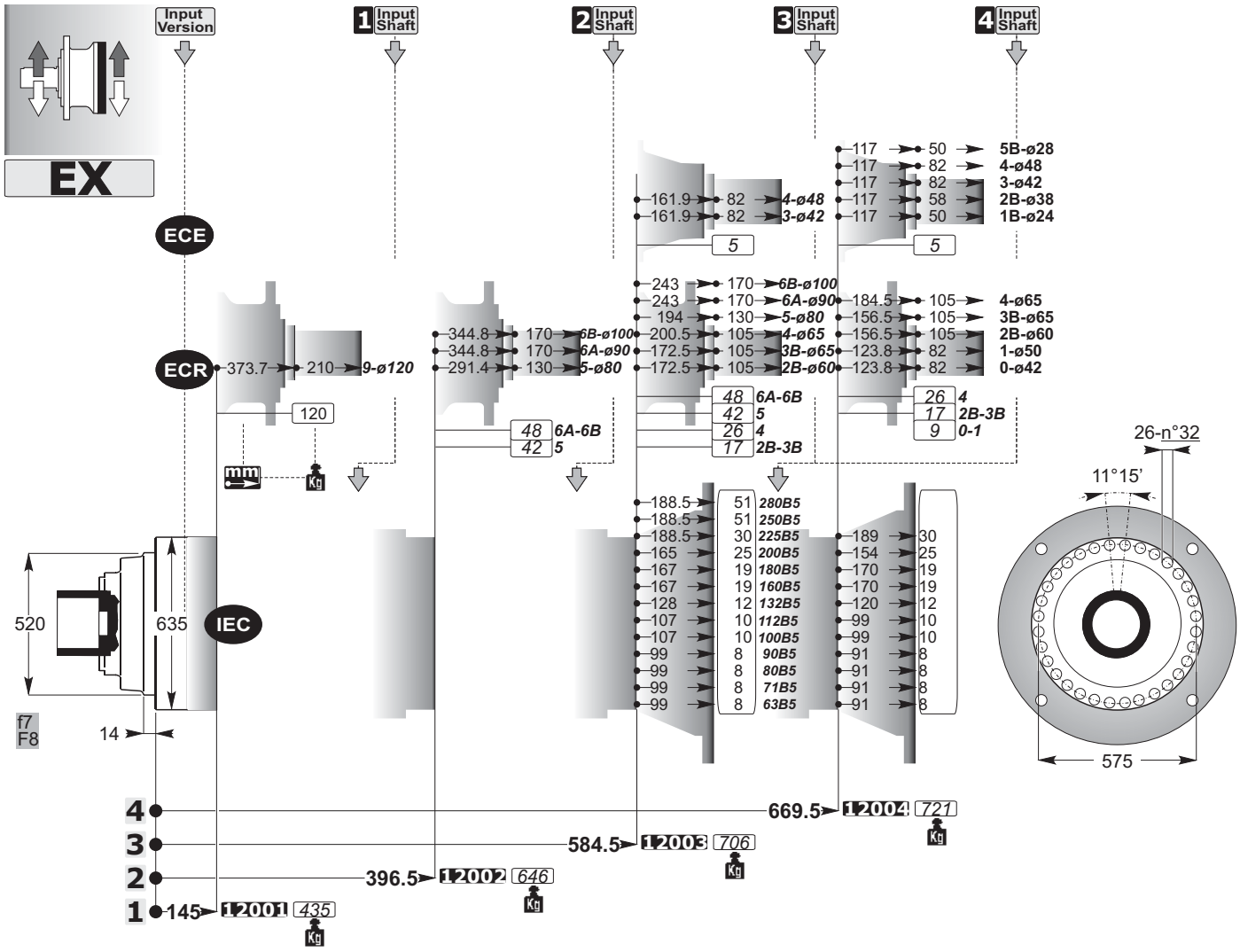


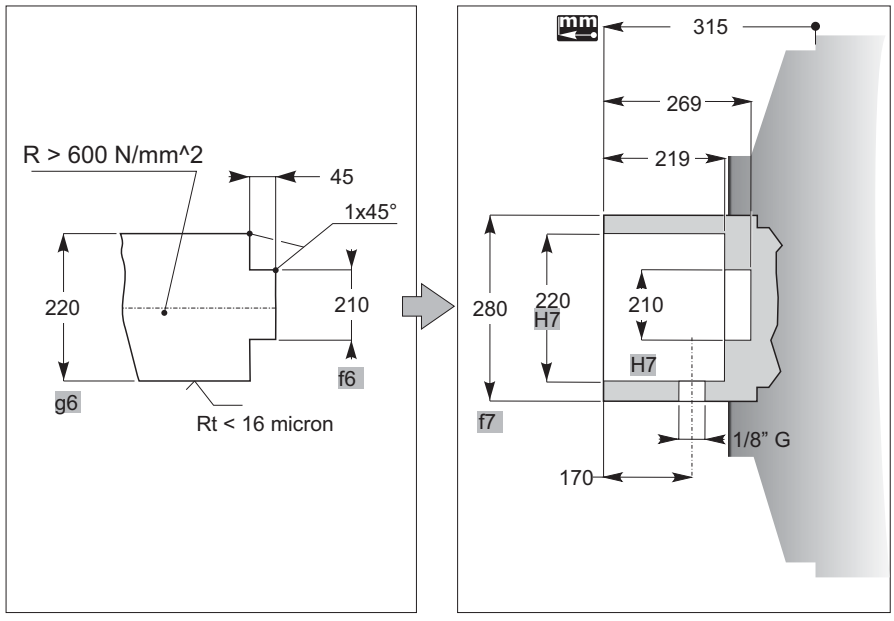




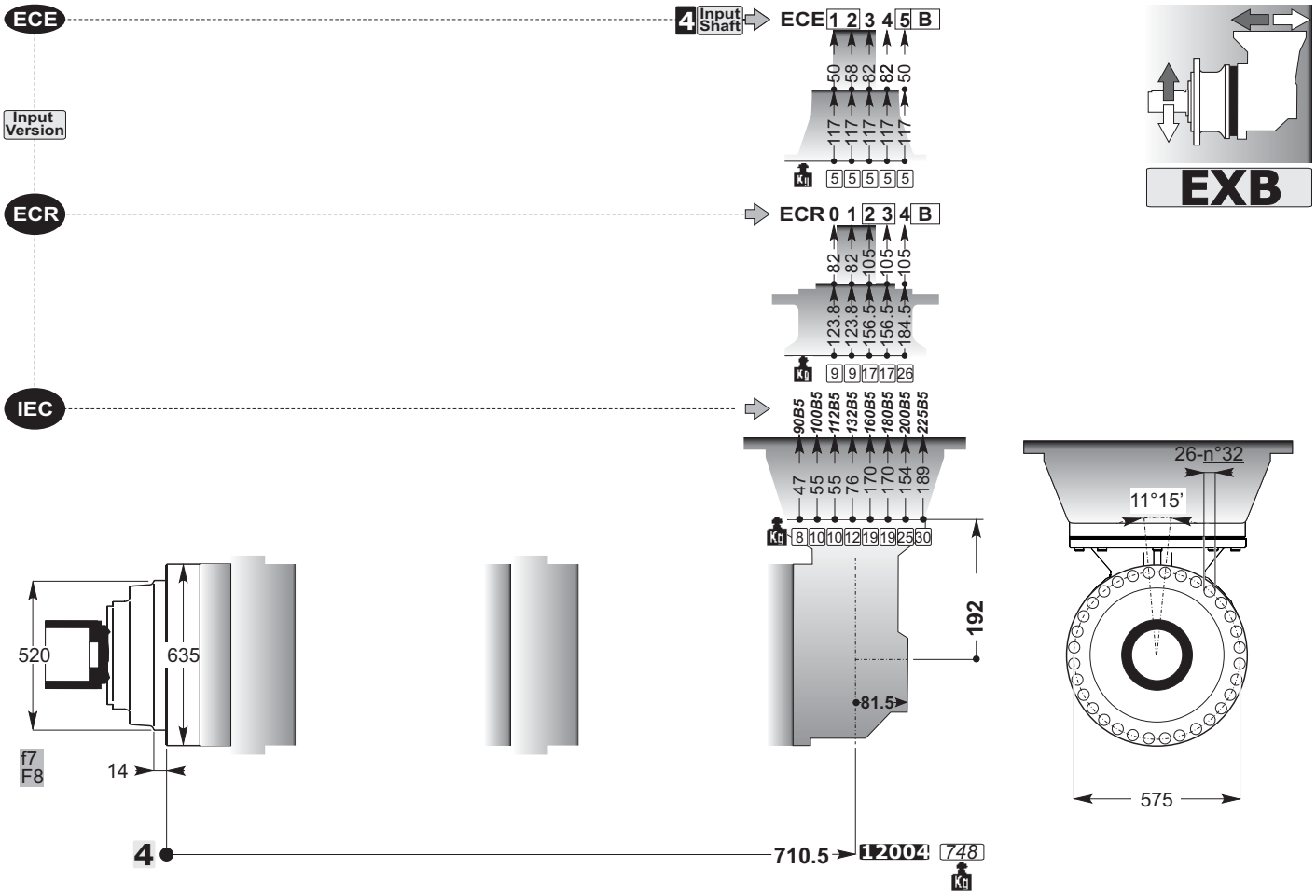
Accessories

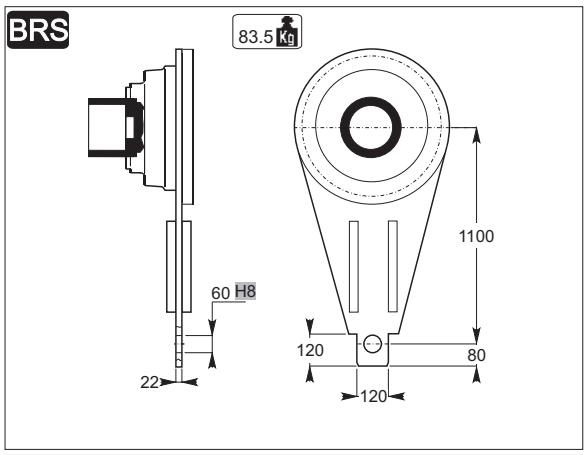
mm
C

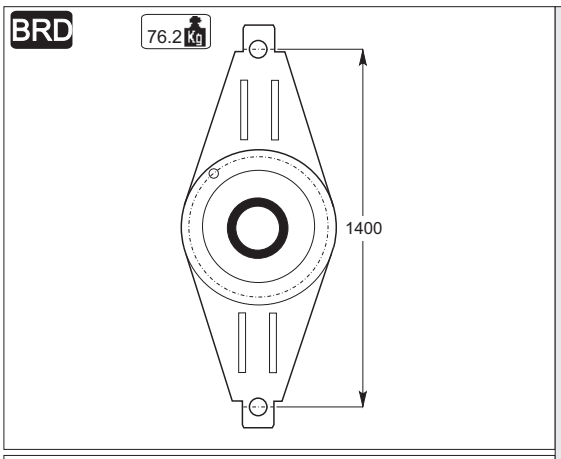


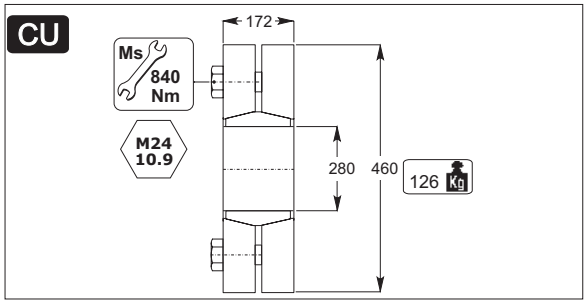


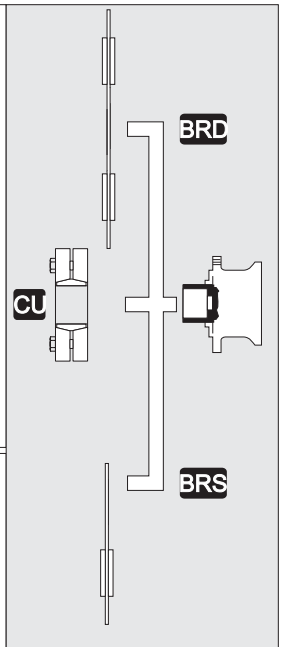
Output Shafts


ECE
Input Version
ECR
IEC
4 Input Shaft
ECE 1 2 3 4 5 B
50 58 82 82 50
117 117 117 117 117
5 5 5 5 5
ECR 0 1 2 3 4 B
82 82 105 105 105
123.8 123.8 156.5 156.5 184.5
9 9 17 17 26
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
47 55 55 76 170 170 154 189
8 10 10 12 19 19 25 30
EXB
26-n°32
11°15'
575
520
635
f7
F8
14
192
81.5
4
710.5
12004
748

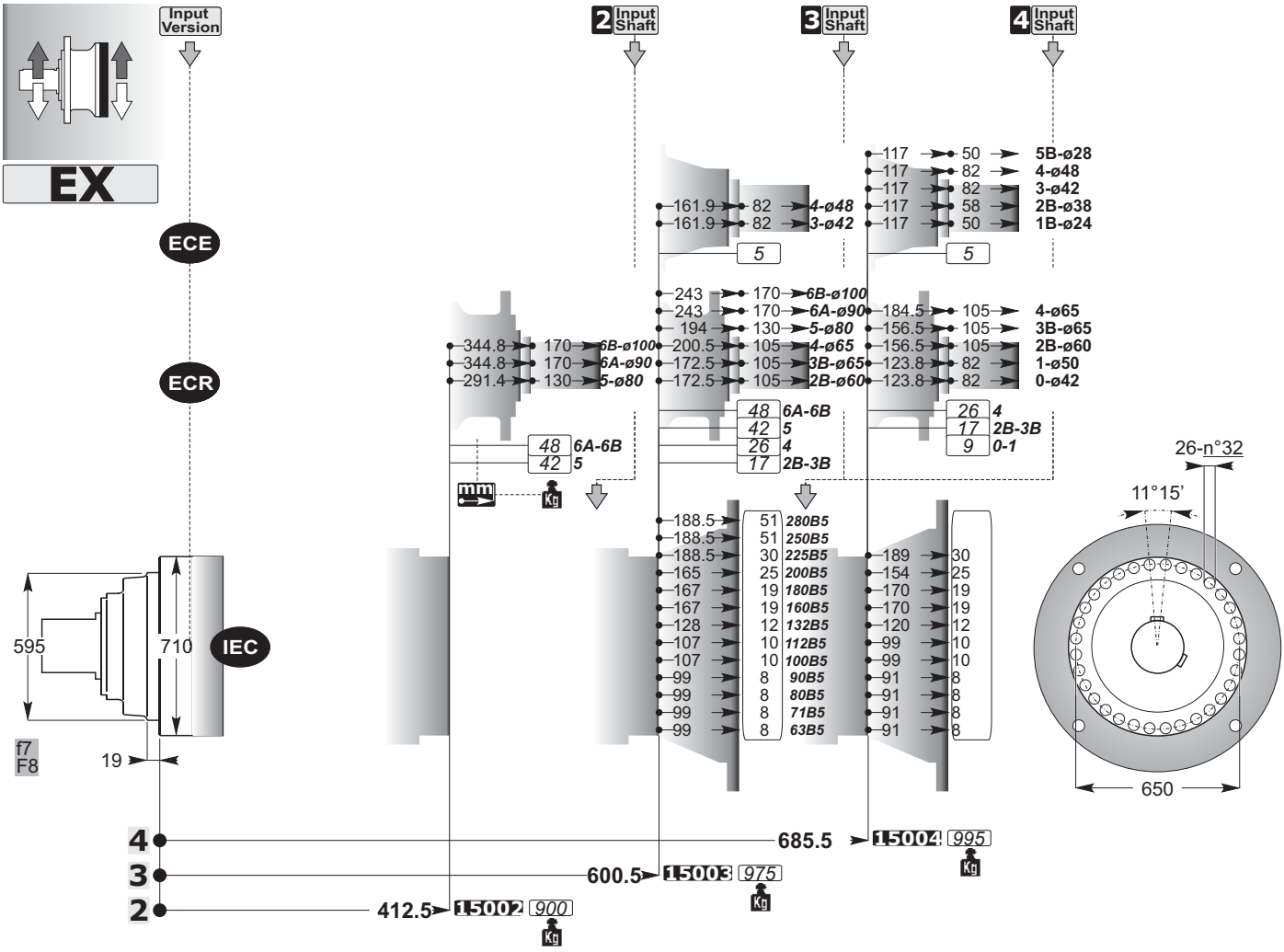

BRS
83.5 Kg
60 H8
22
1100
120
80
120

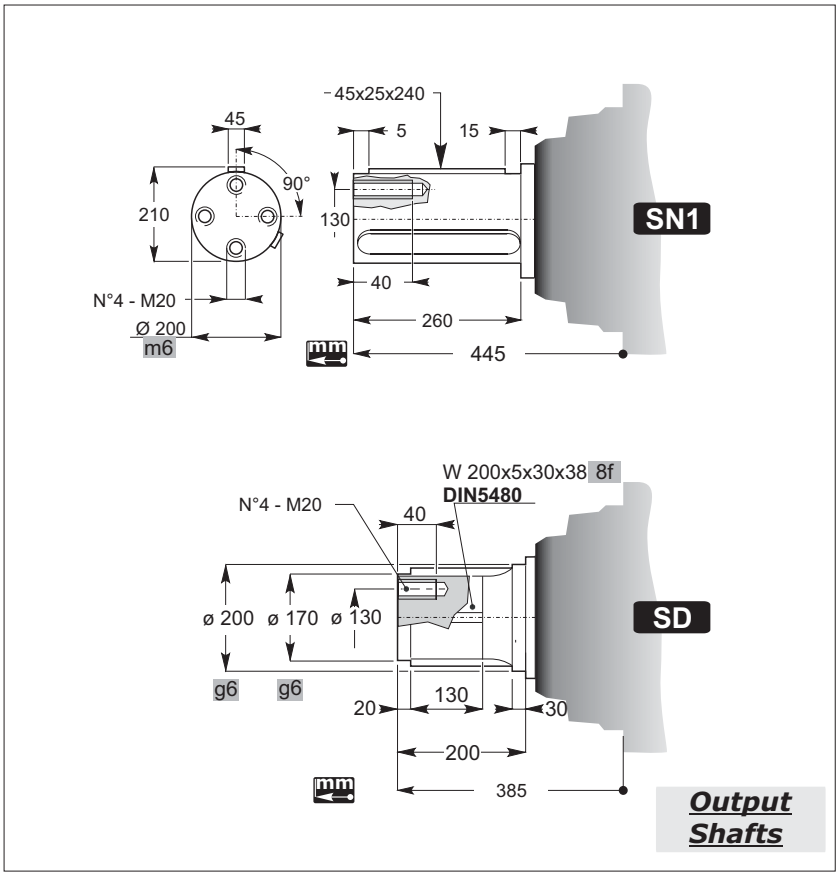

BRD
76.2 Kg
1400

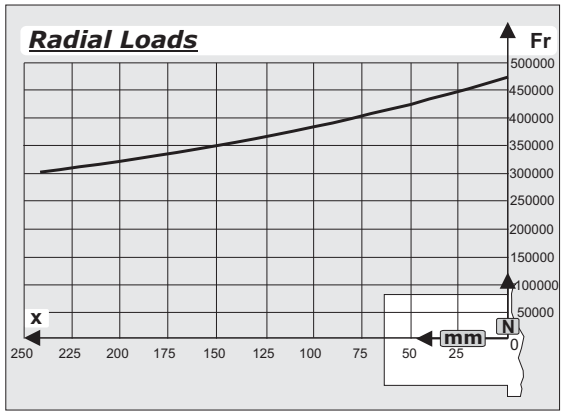

CU
Ms
840
Nm
M24
10.9
172
280
460
126 Kg

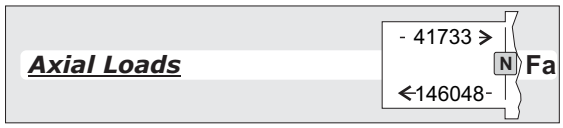

BRD
CU
BRS
Accessories

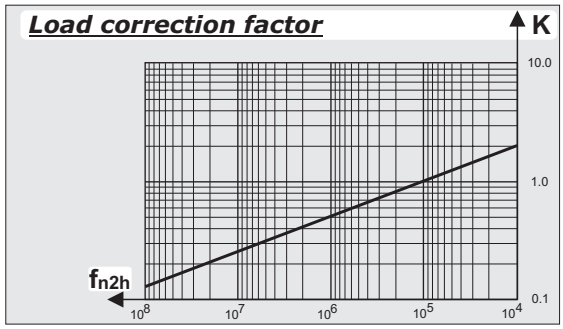
mm
C

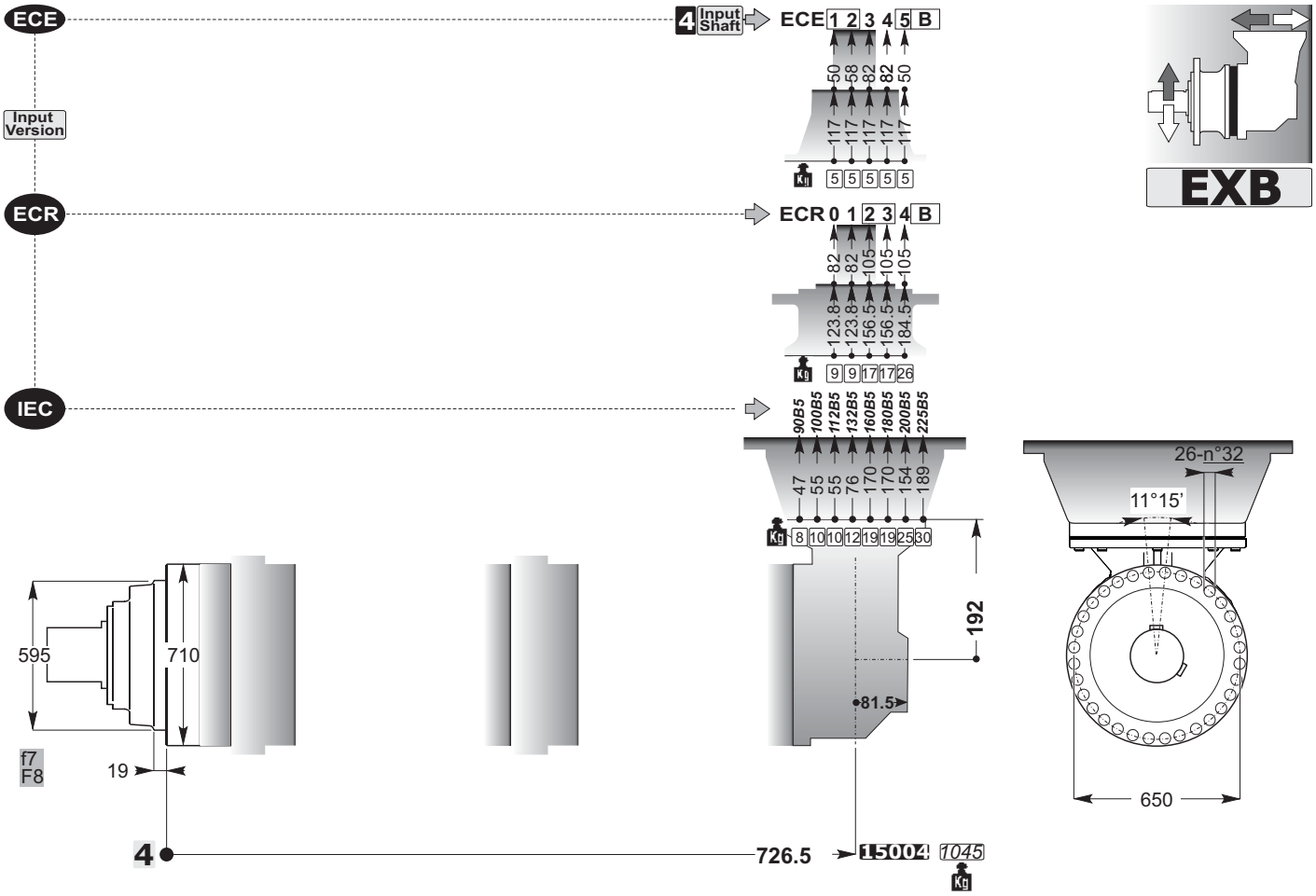

Input Version
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
595
710
f7
F8
19
161.9 82 4-ø48
161.9 82 3-ø42
5
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
5
243 170 6B-ø100
243 170 6A-ø90
194 130 5-ø80
200.5 105 4-ø65
172.5 105 3B-ø65
172.5 105 2B-ø60
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
344.8 170 6B-ø100
344.8 170 6A-ø90
291.4 130 5-ø80
48 6A-6B
42 5
26 4
17 2B-3B
48 6A-6B
42 5
26 4
17 2B-3B
9 0-1
mm
Kg
188.5 51 280B5
188.5 51 250B5
188.5 30 225B5
165 25 200B5
167 19 180B5
167 19 160B5
128 12 132B5
107 10 112B5
107 10 100B5
99 8 90B5
99 8 80B5
99 8 71B5
99 8 63B5
189 30
154 25
170 19
170 19
120 12
99 10
99 10
91 8
91 8
91 8
91 8
26-n°32
11°15'
650
4
3
2
685.5 15004 995
600.5 15003 975
412.5 15002 900
Kg

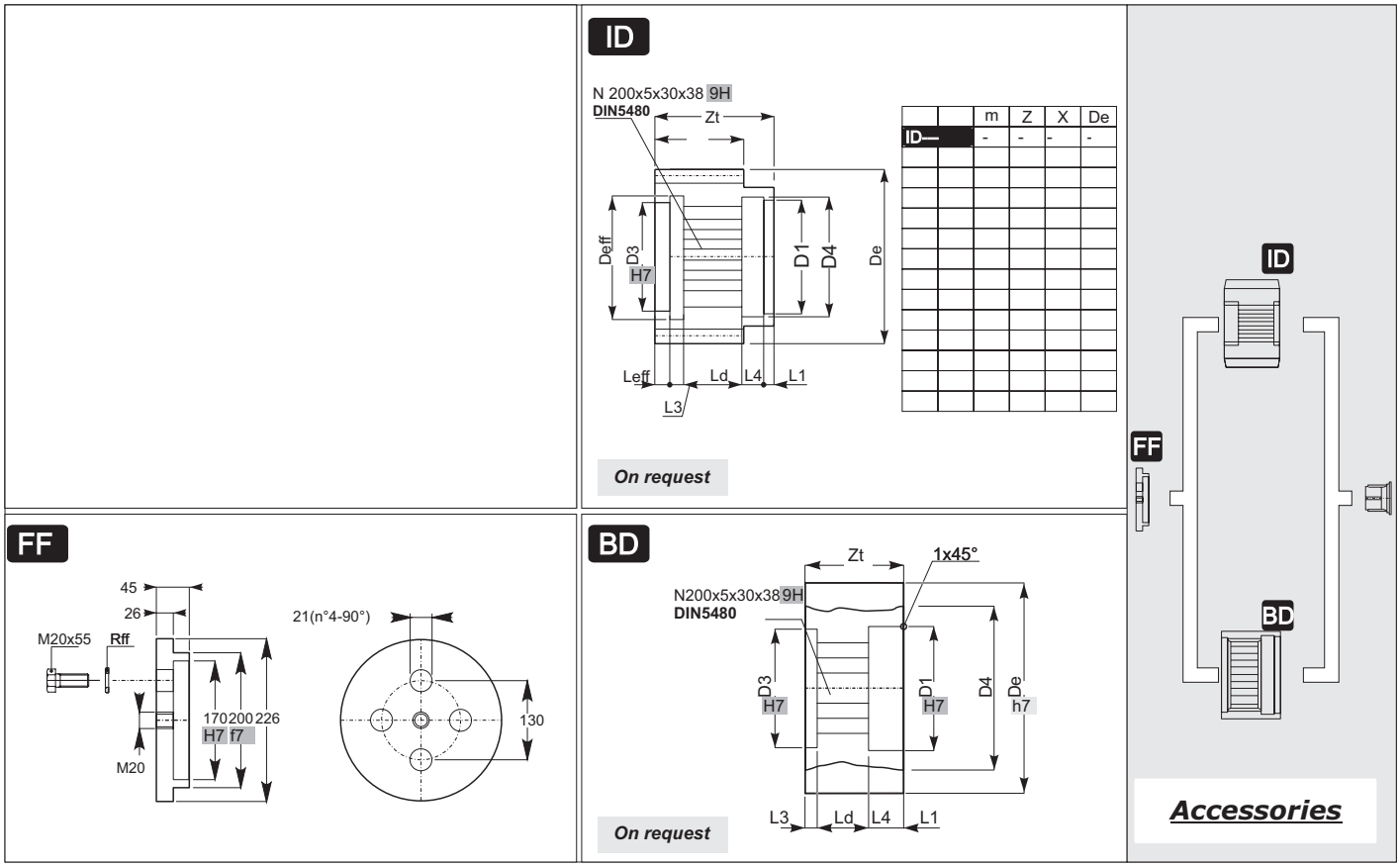

45
45x25x240
5
15
90°
210
130
SN1
N°4 - M20
Ø 200
m6
40
260
mm
445
W 200x5x30x38 8f
DIN5480
N°4 - M20
40
ø 200
ø 170
ø 130
SD
g6
g6
130
20
30
200
385
mm
Output Shafts

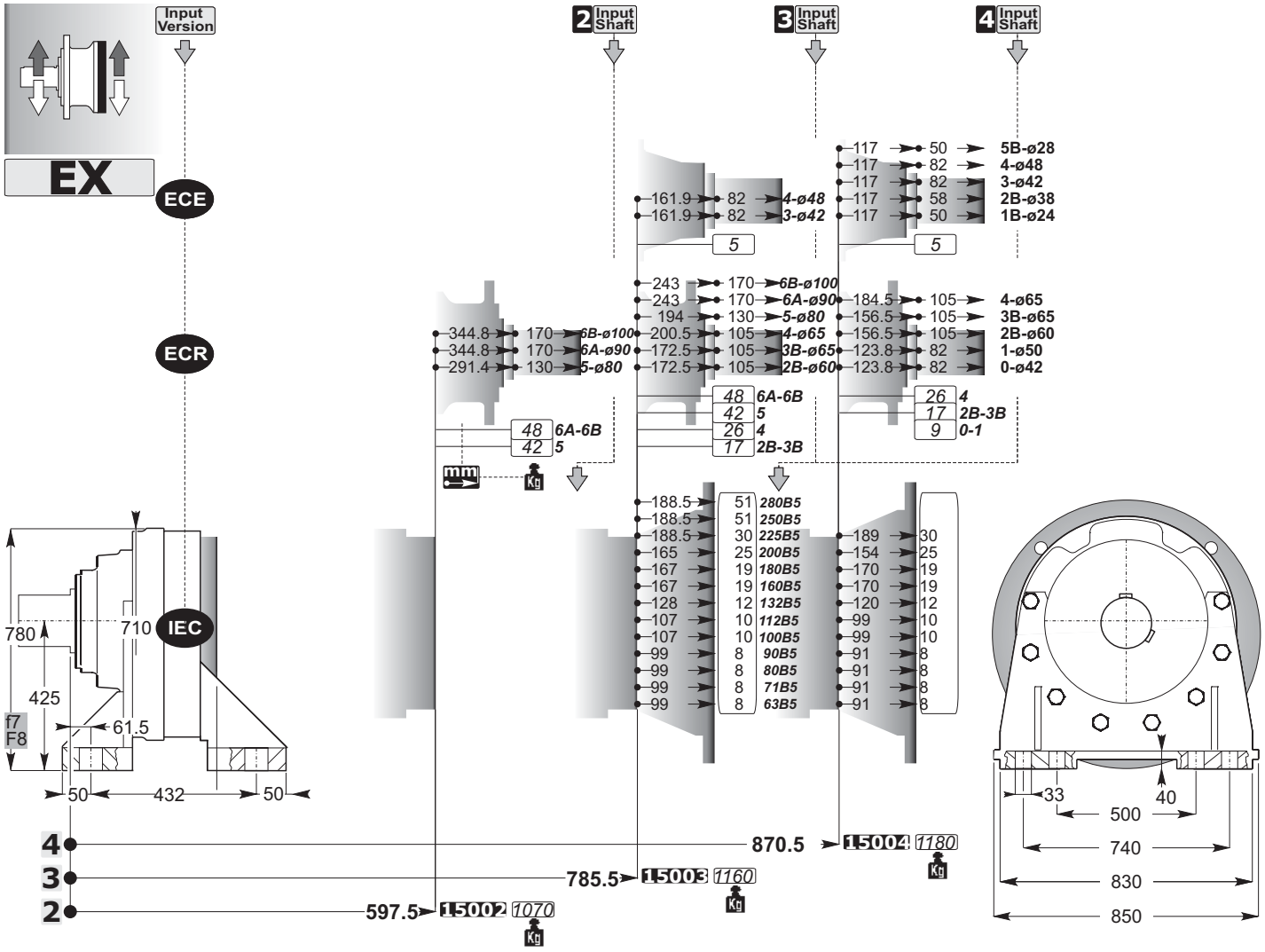

Radial Loads
Fr
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
x
250
225
200
175
150
125
100
75
50
25
mm
N

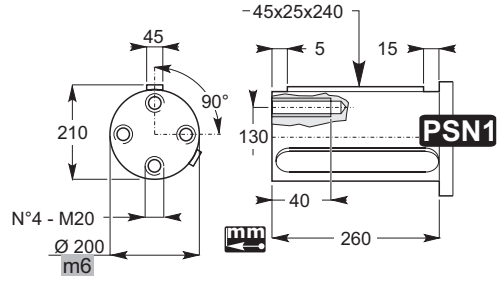

Axial Loads
- 41733 >
N
Fa
<146048-

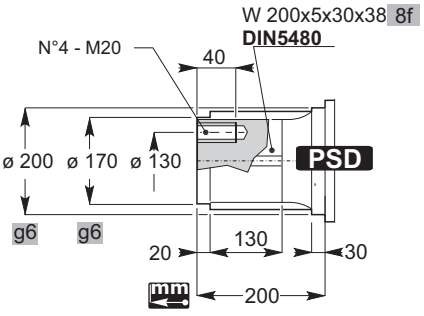

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4


ECE
Input Version
ECR
IEC
4 Input Shaft
ECE 1 2 3 4 5 B
50 58 82 82 50
117 117 117 117 117
5 5 5 5 5
ECR 0 1 2 3 4 B
82 82 105 105 105
123.8 123.8 156.5 156.5 184.5
9 9 17 17 26
90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5
47 55 55 76 170 170 154 189
8 10 10 12 19 19 25 30
192
81.5
595
710
f7
F8
19
4
726.5
15004
1045
EXB
26-n°32
11°15'
650

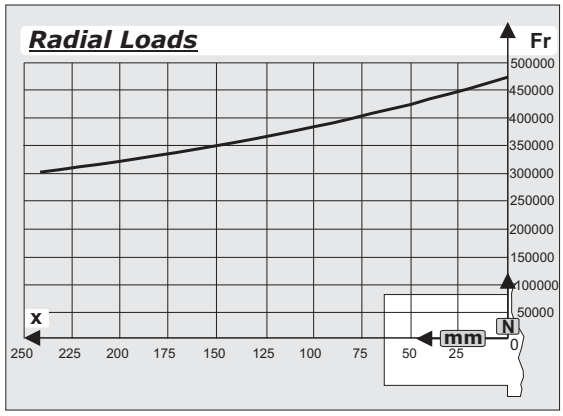

ID
N 200x5x30x38 9H
DIN5480
Zt
Deff
D3
H7
D1
D4
De
Leff
Ld
L4
L1
L3
m Z X De
ID— - - - -
On request
FF
45
26
M20x55
Rff
21(n°4-90°)
170 200 226
H7 f7
M20
130
BD
Zt
1x45°
N200x5x30x38 9H
DIN5480
D3
H7
D1
H7
D4
De
h7
L3
Ld
L4
L1
On request
ID
FF
BD
Accessories

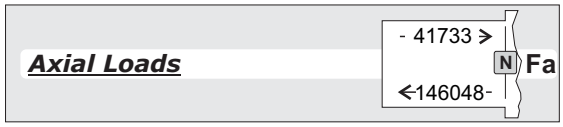


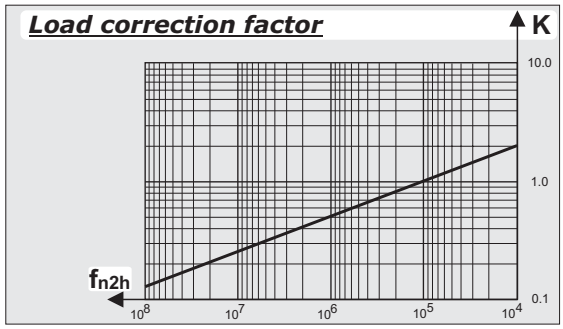


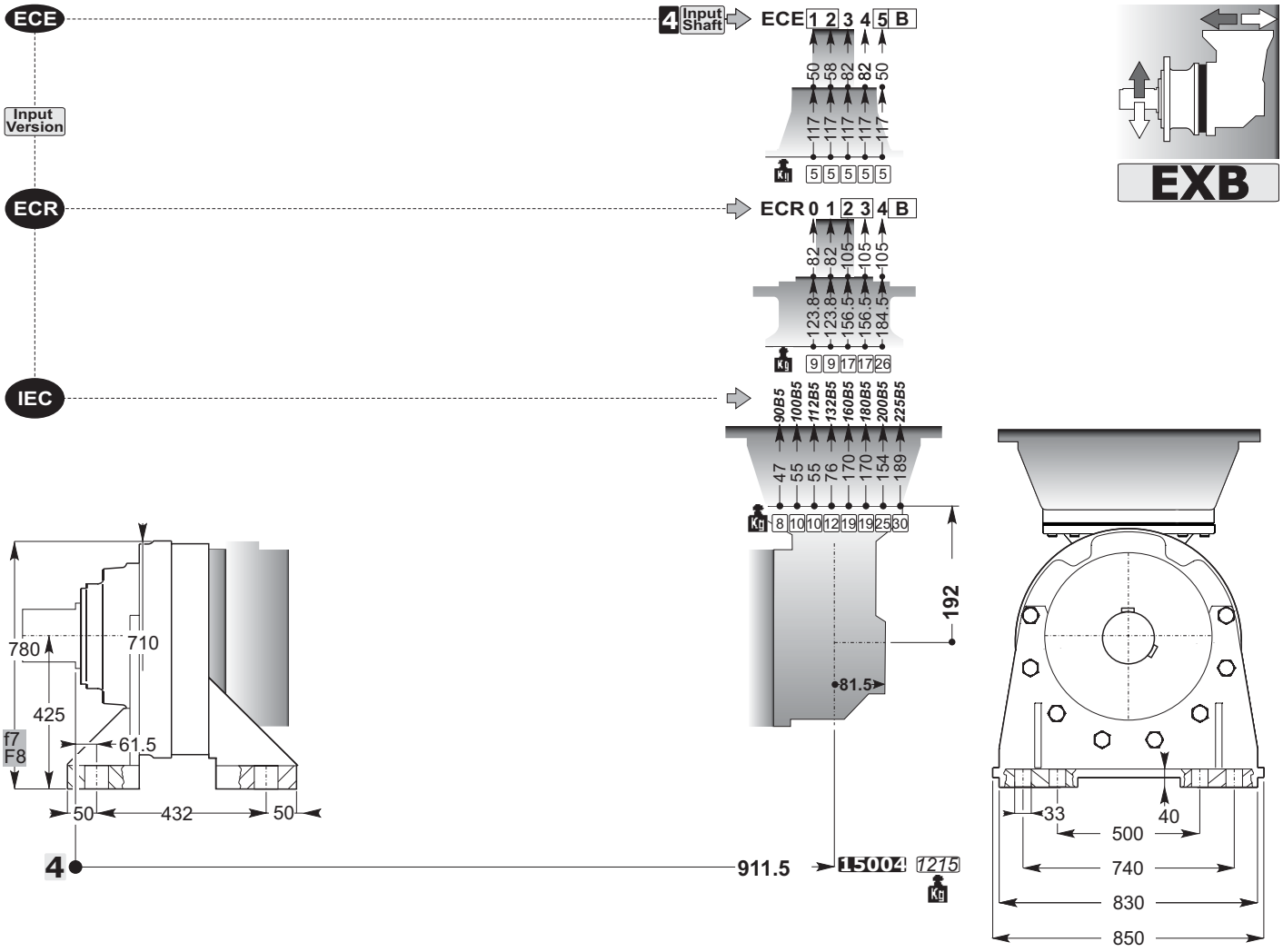


Output Shafts

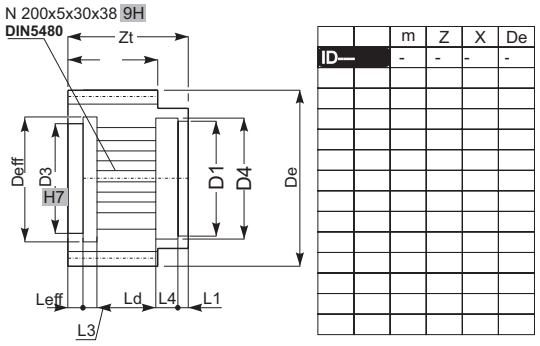








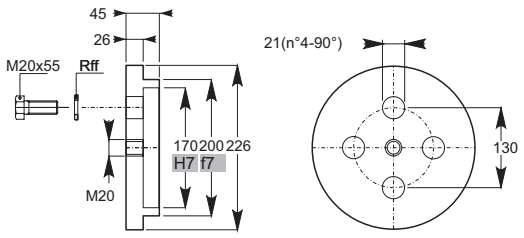
ID



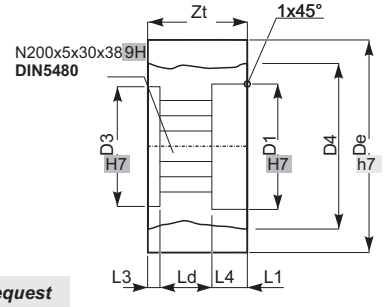
		m	Z	X	De
ID—		-	-	-	-

On request

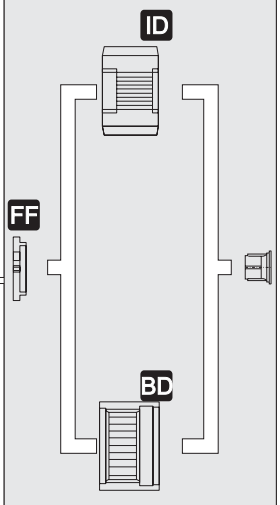
FF



BD

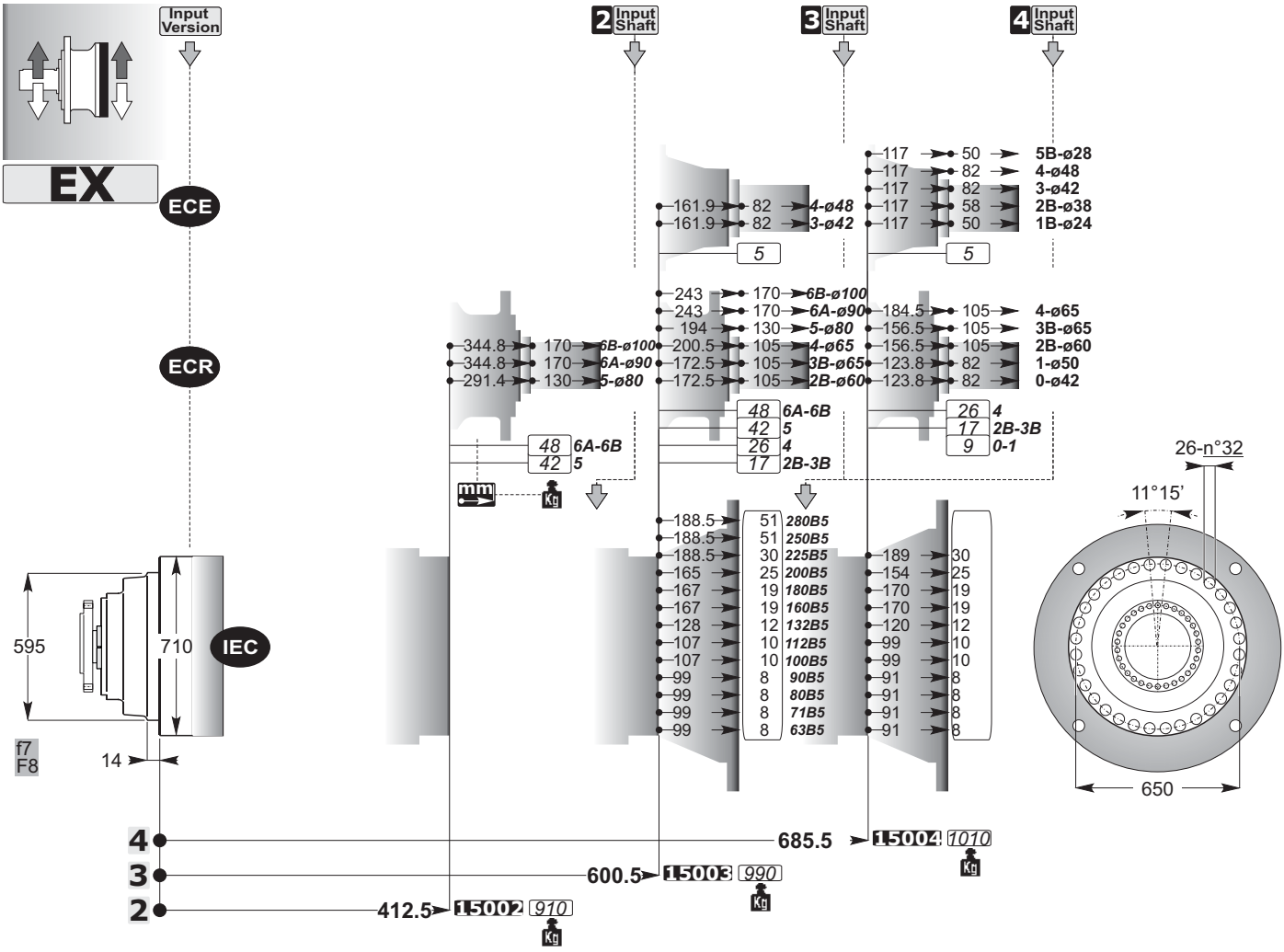


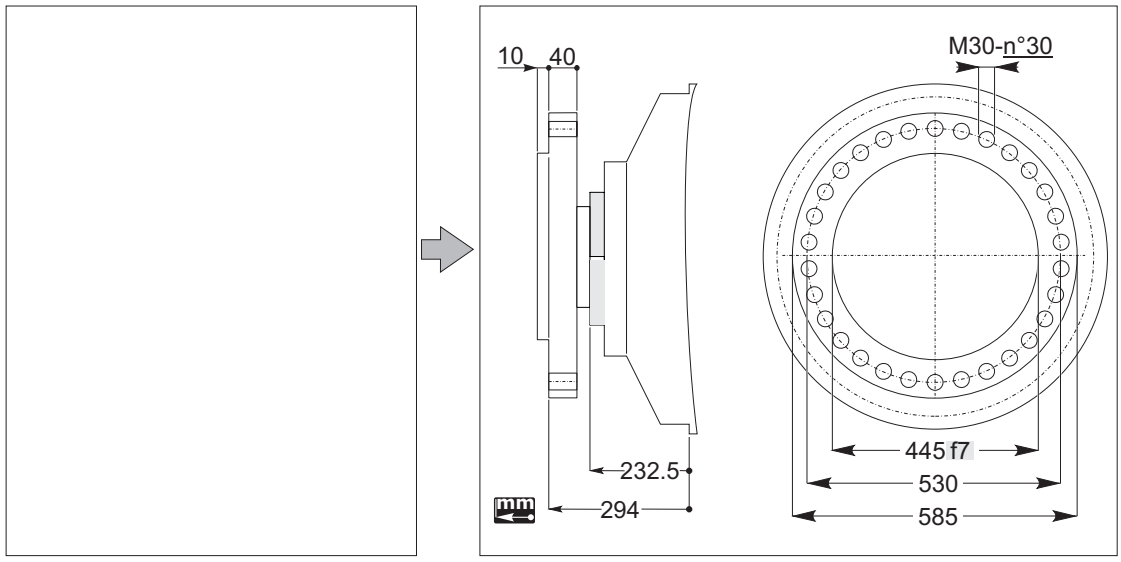
On request



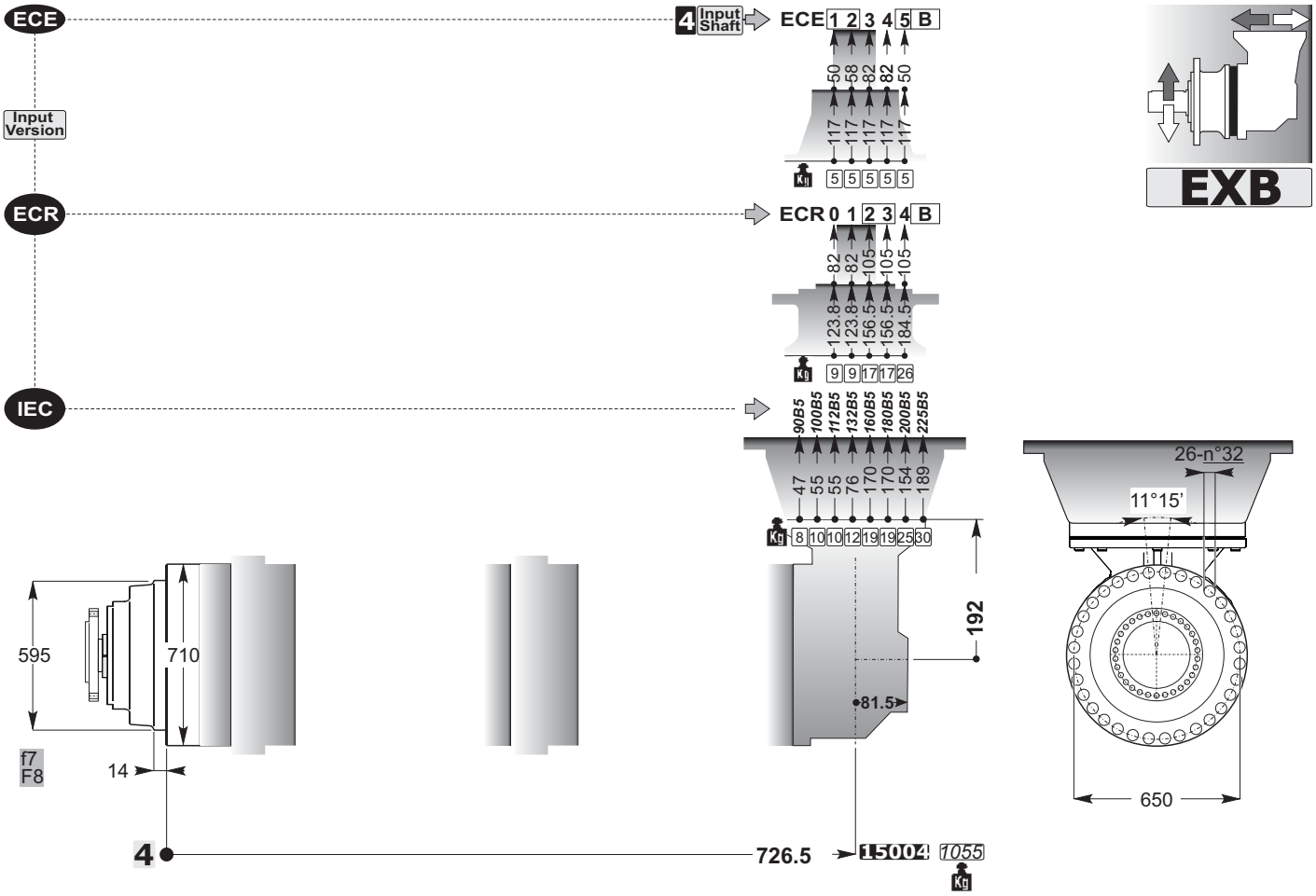
Accessories

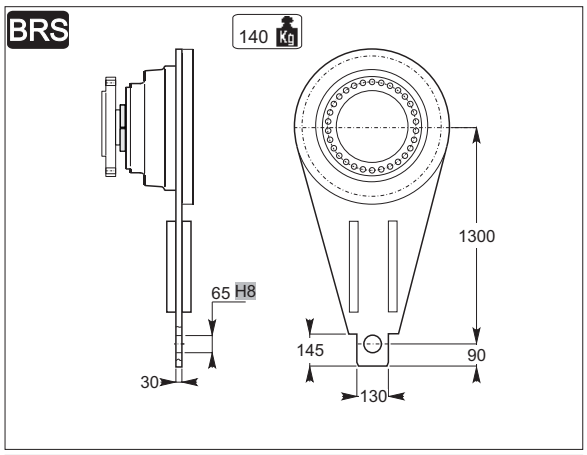
mm
C

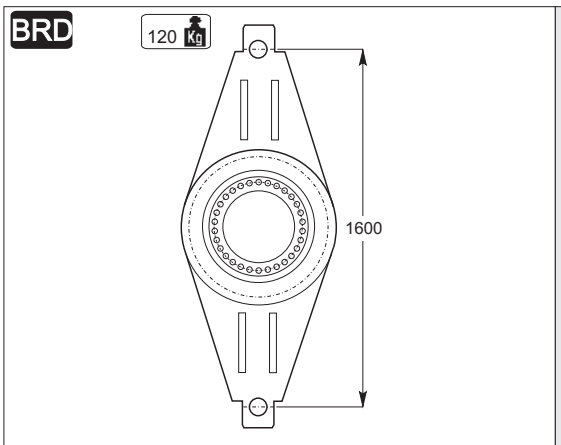


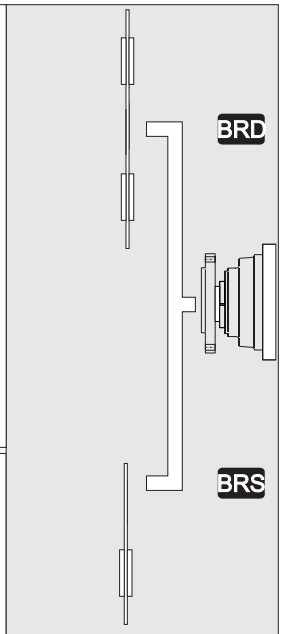


Output Shafts



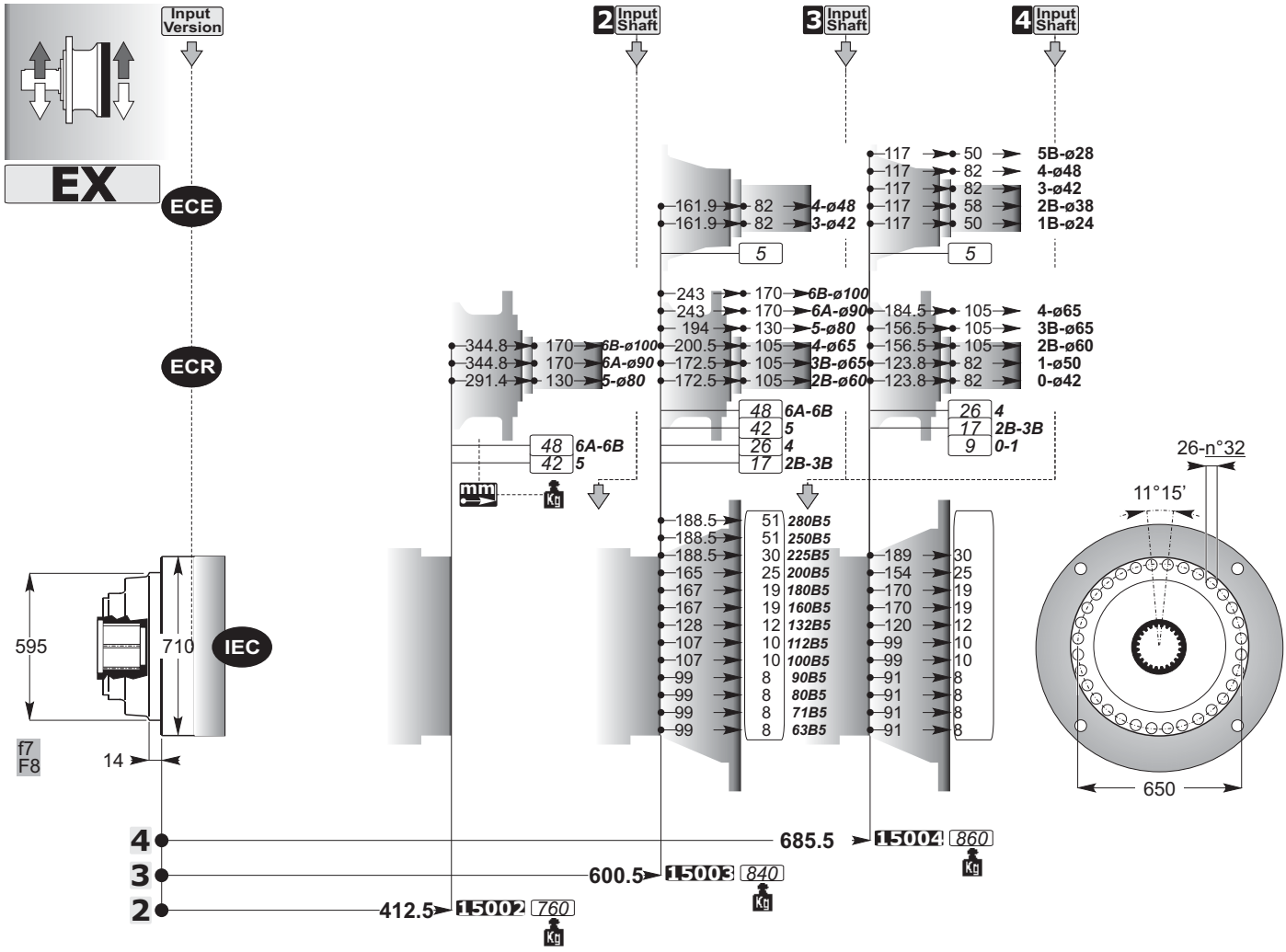


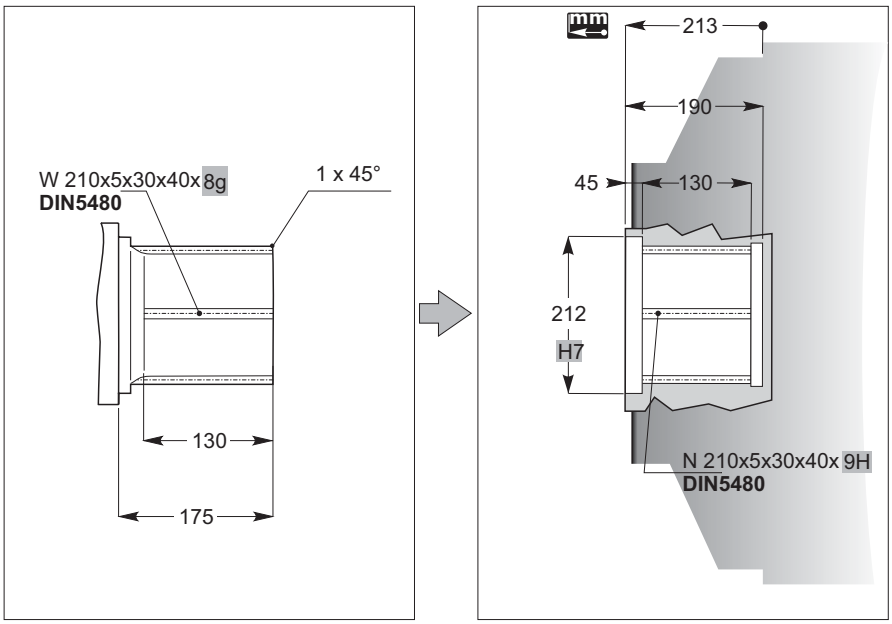




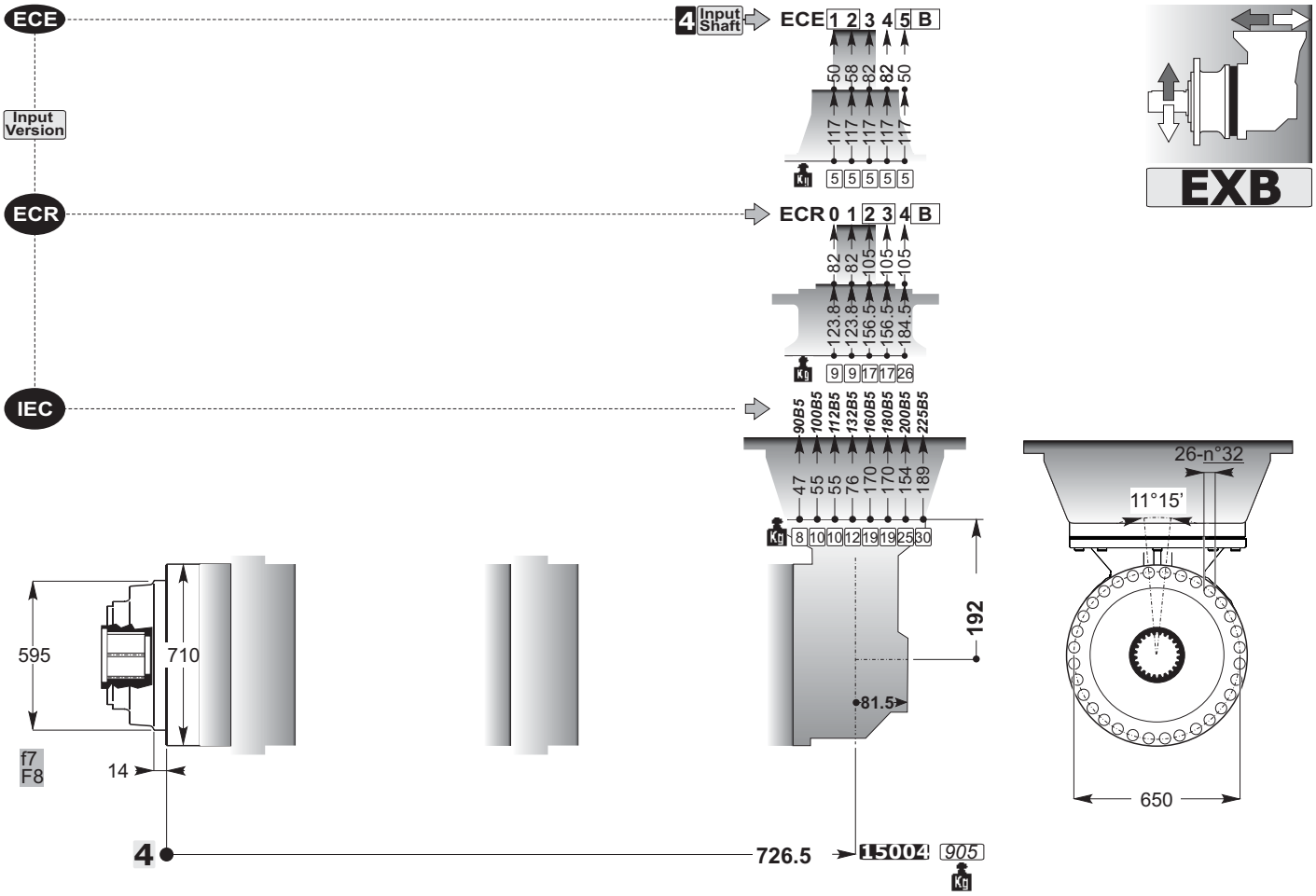
Accessories

mm
C

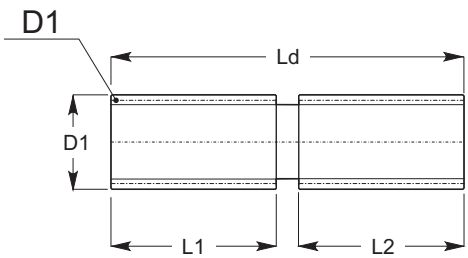




Output Shafts



SD

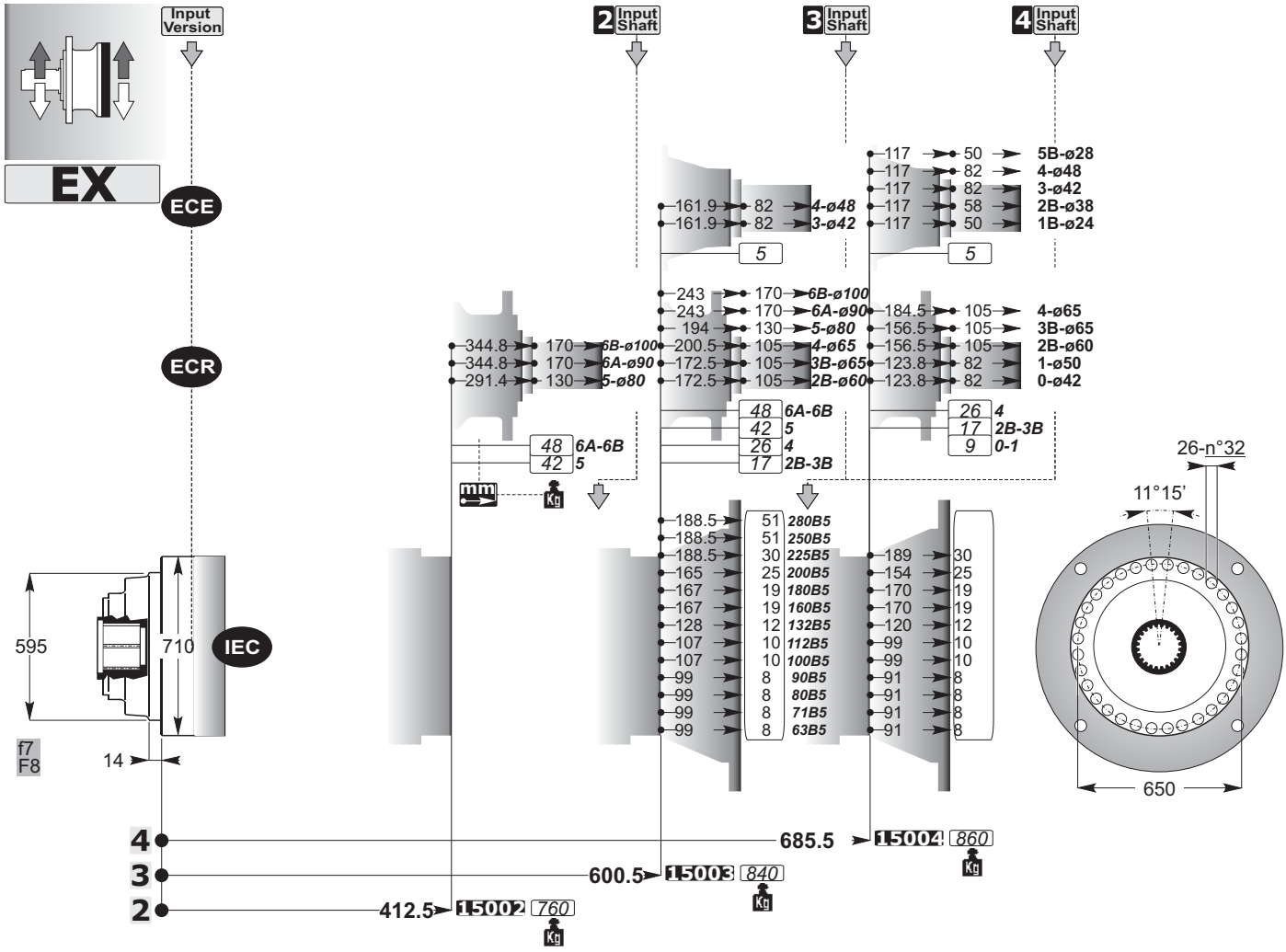


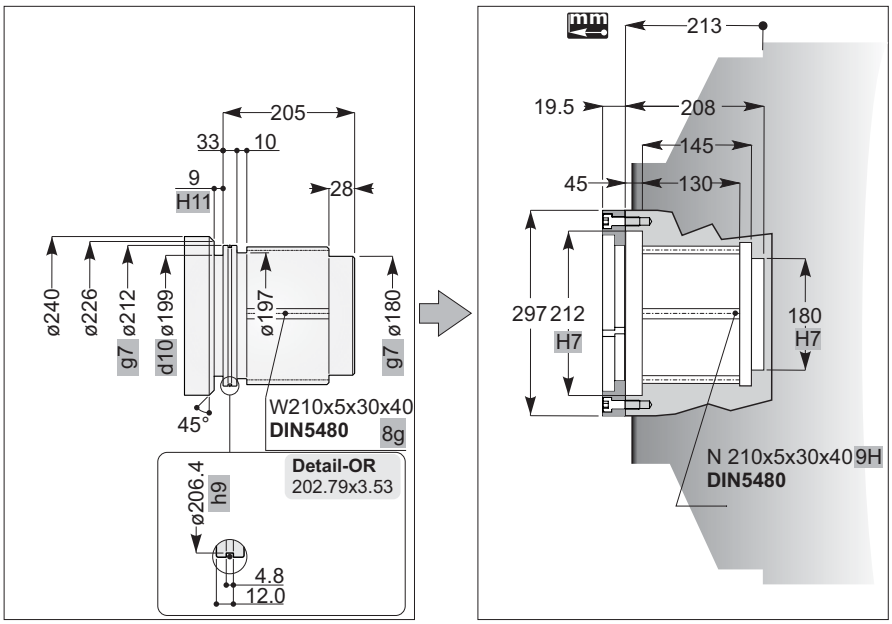
On request

SD

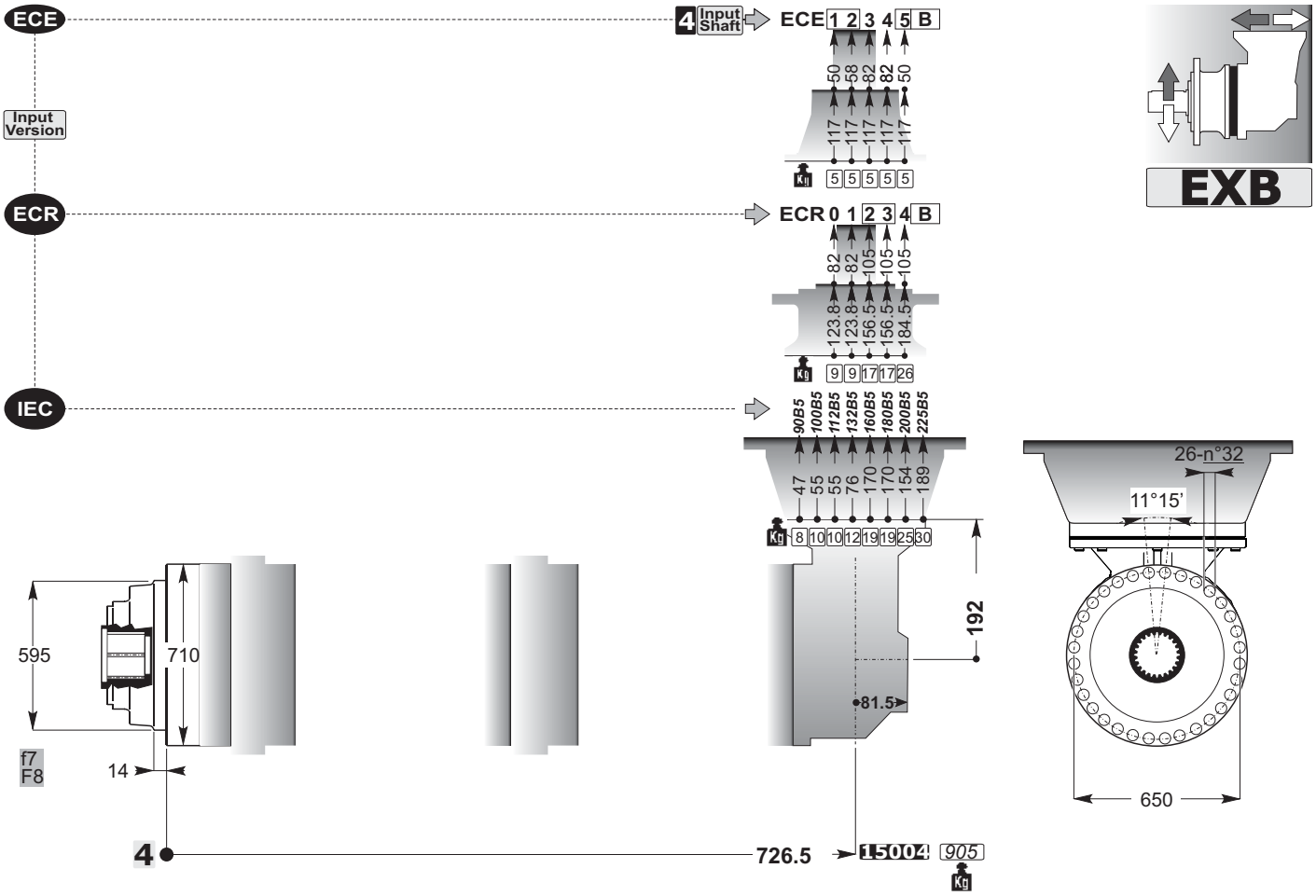


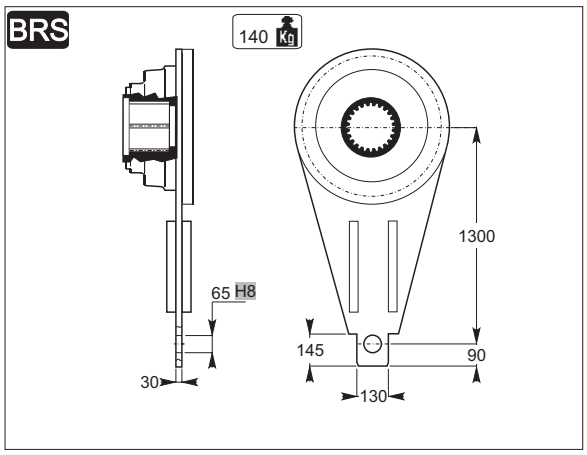
Accessories

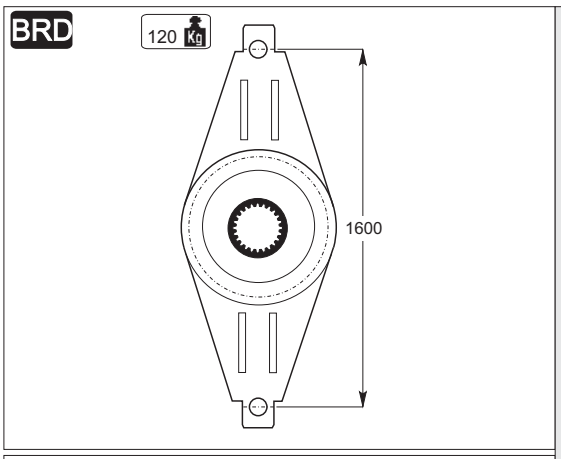


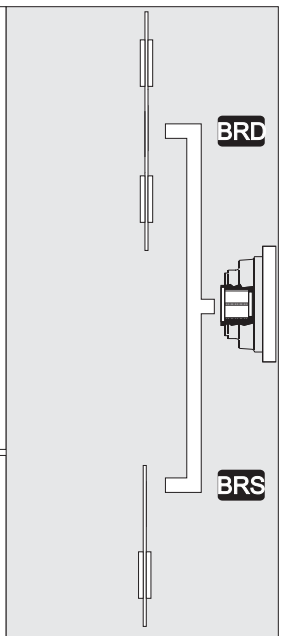


Output Shafts



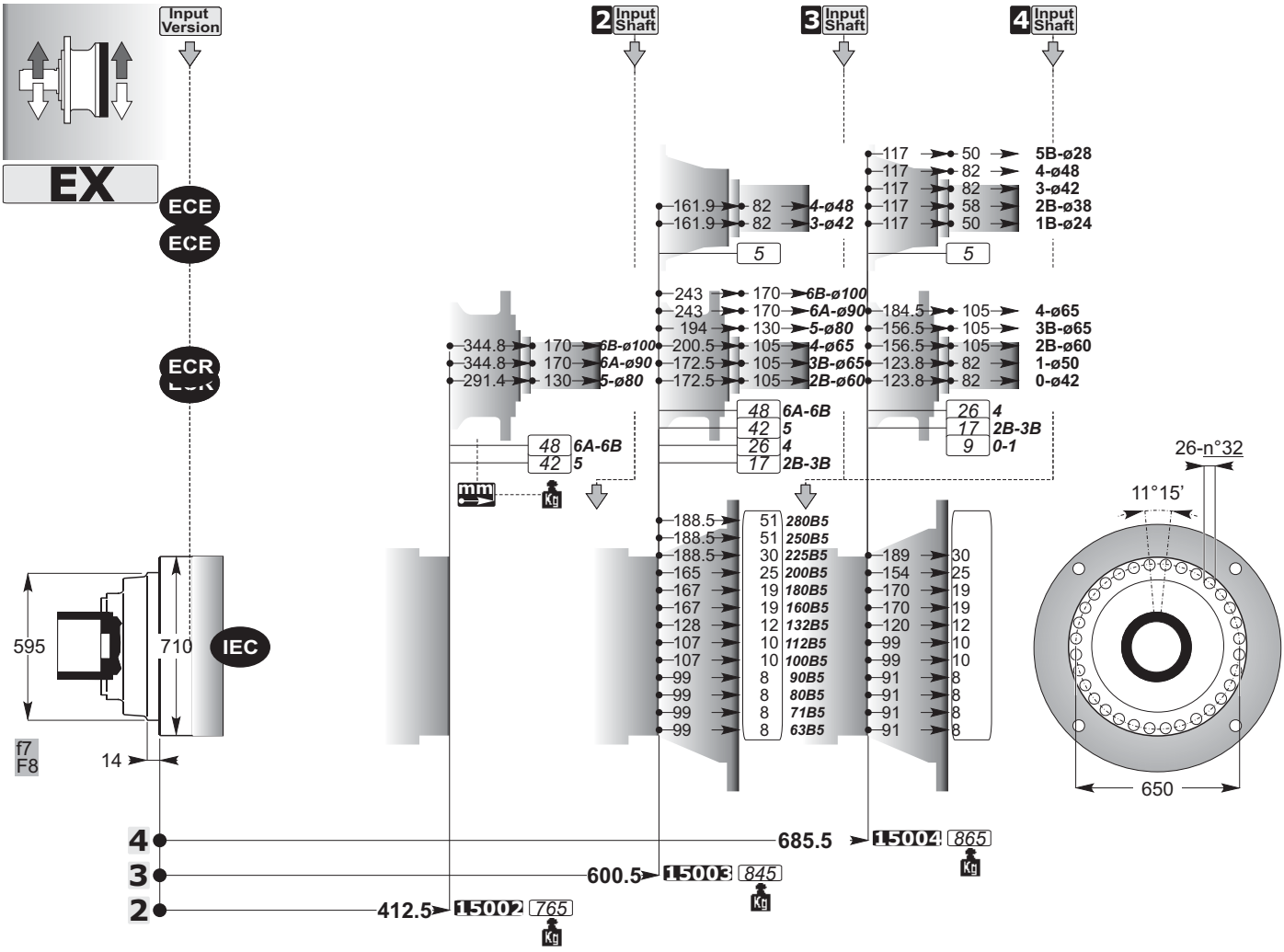


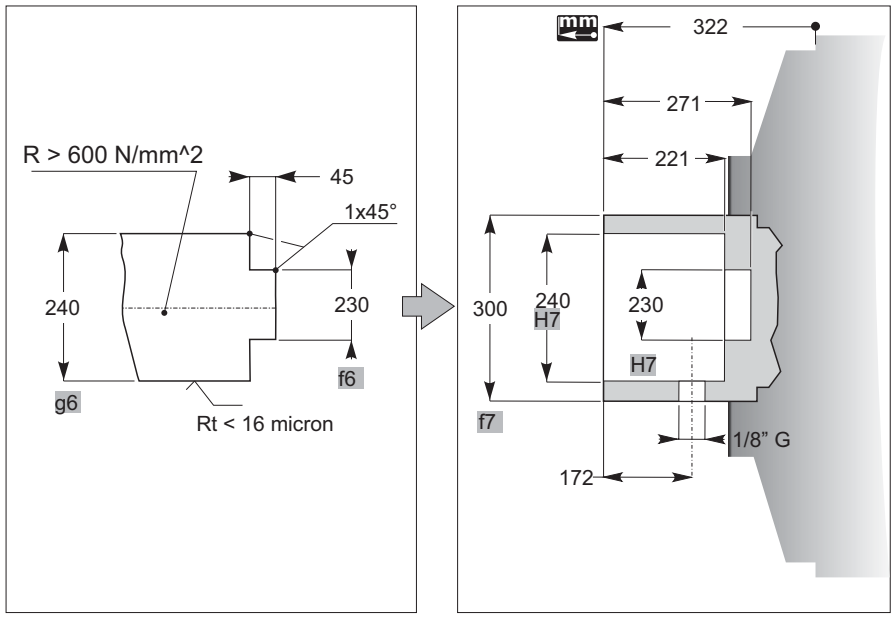




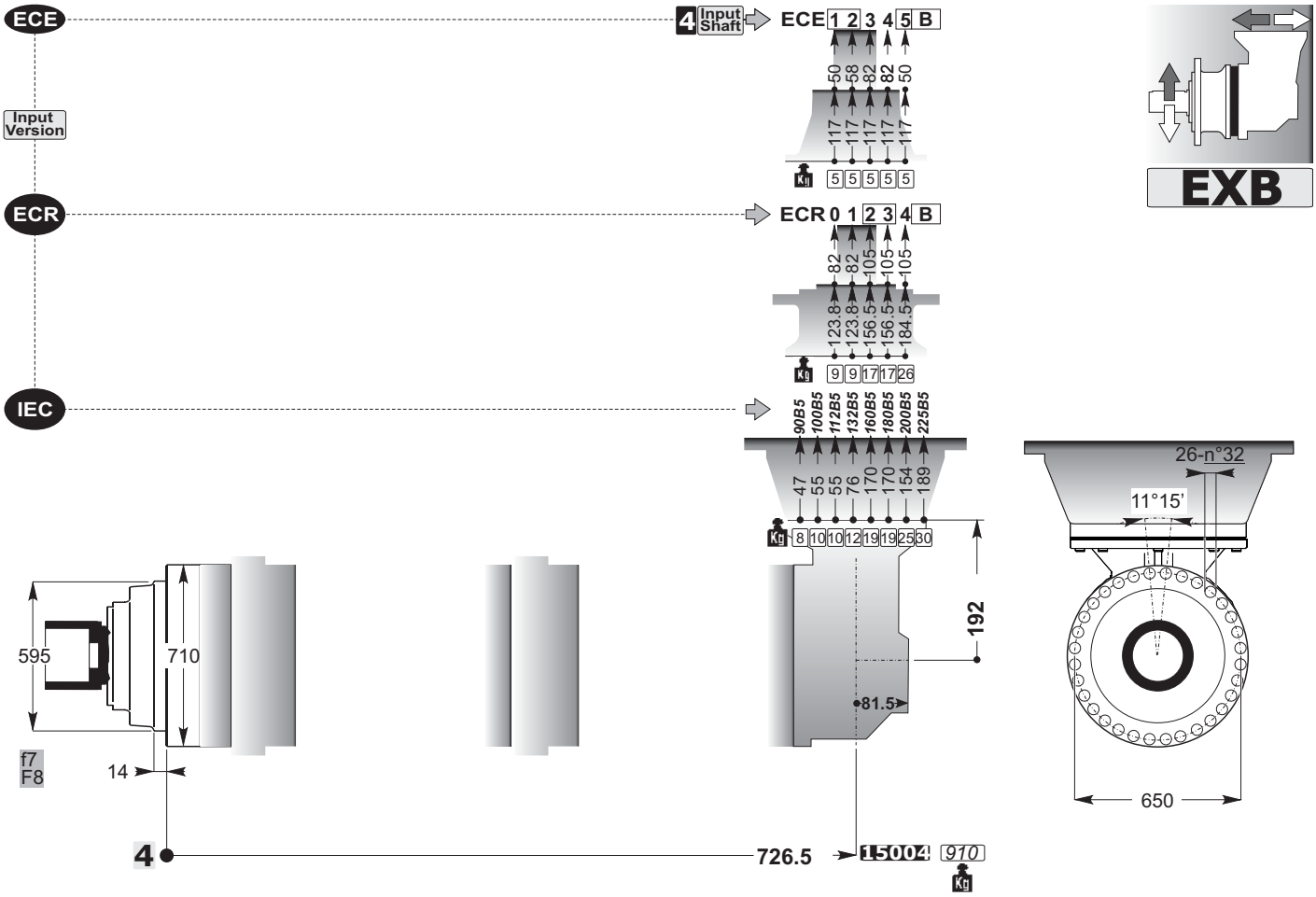
Accessories

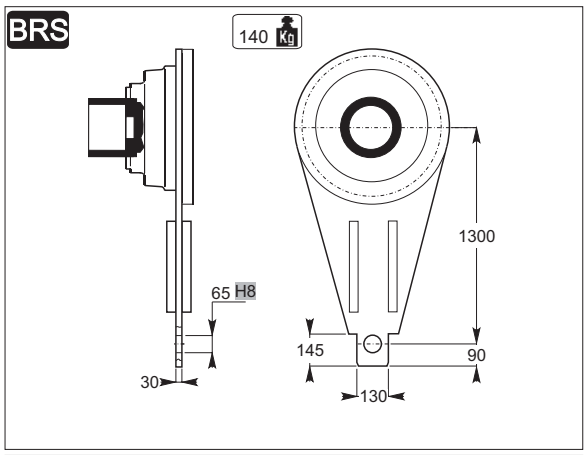
mm
C

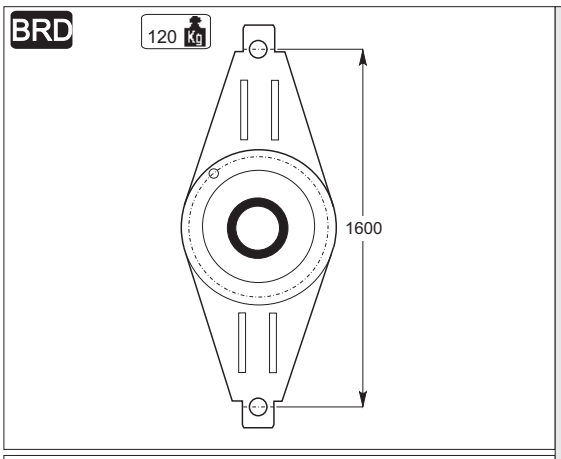


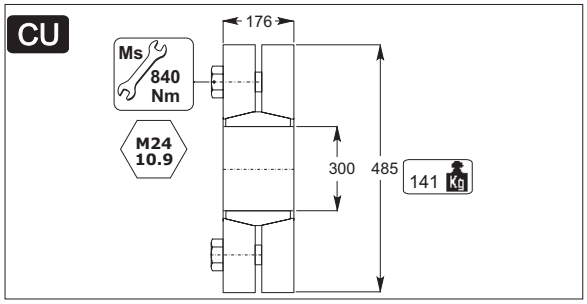


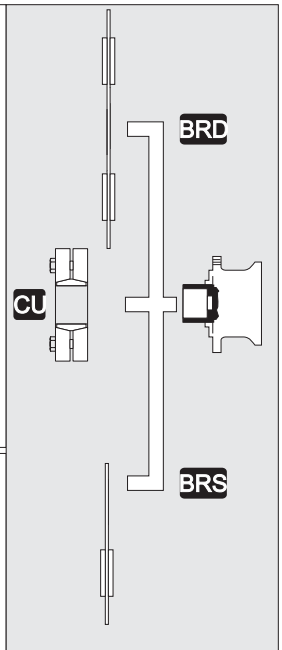
Output Shafts



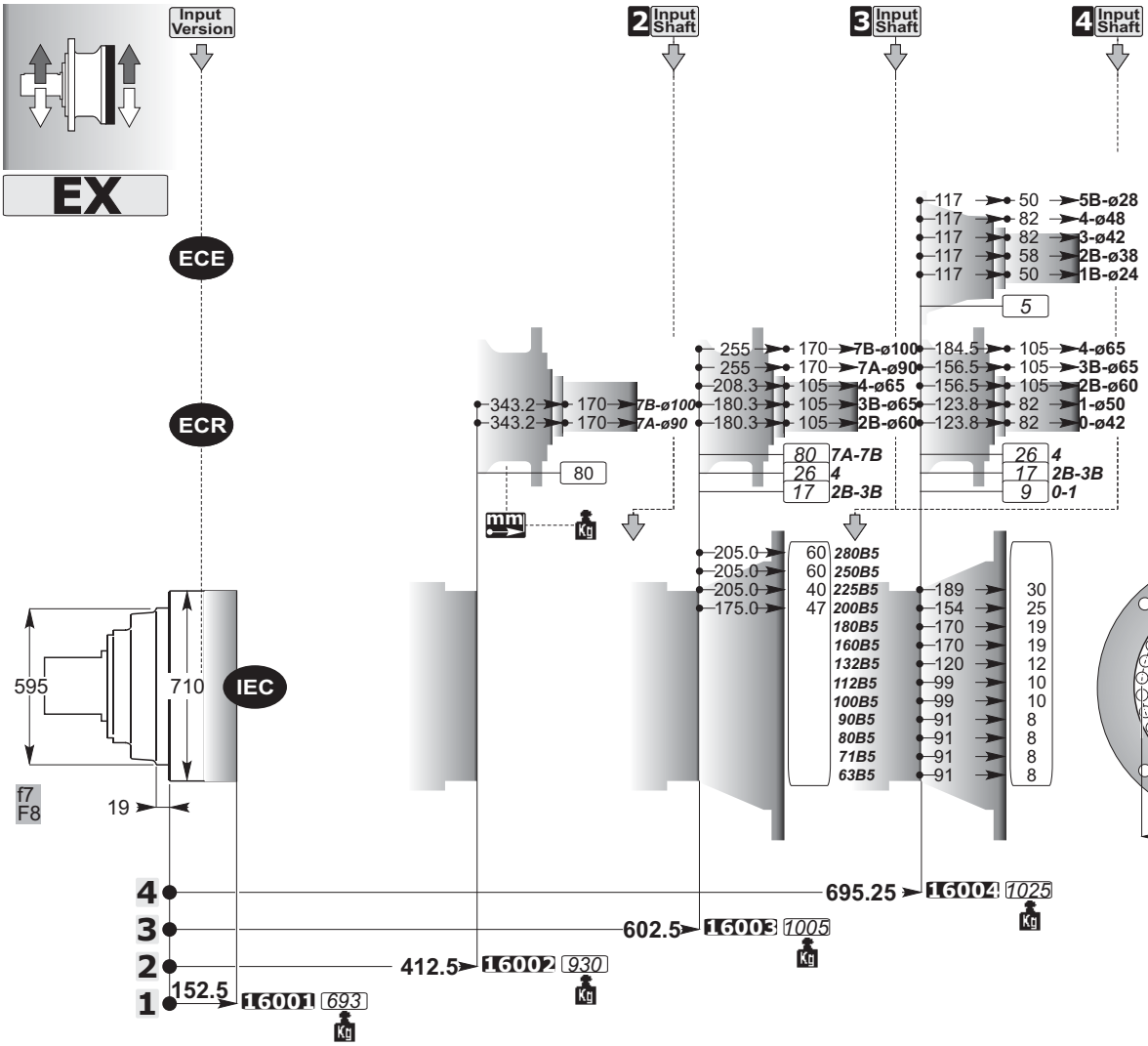


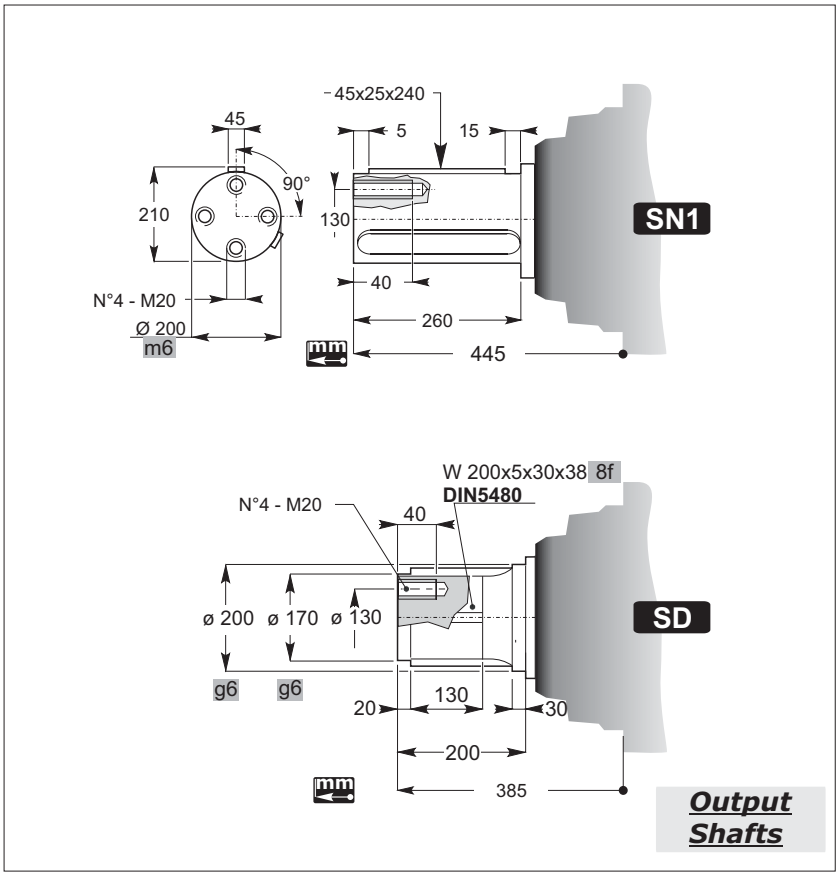


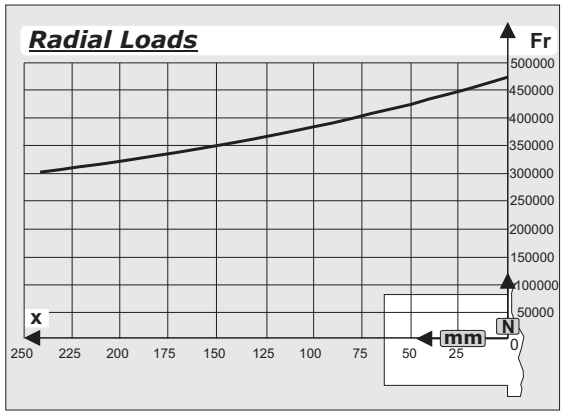


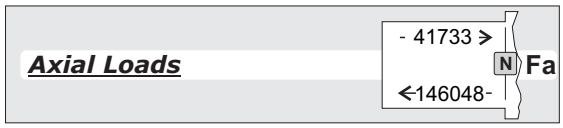


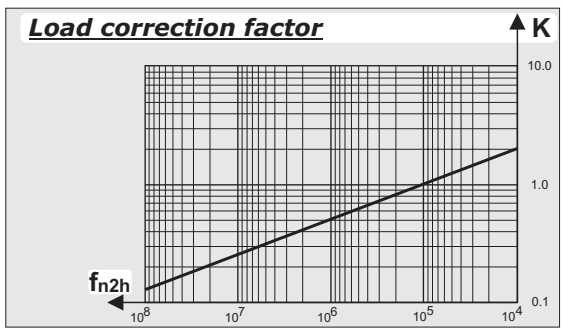
Accessories

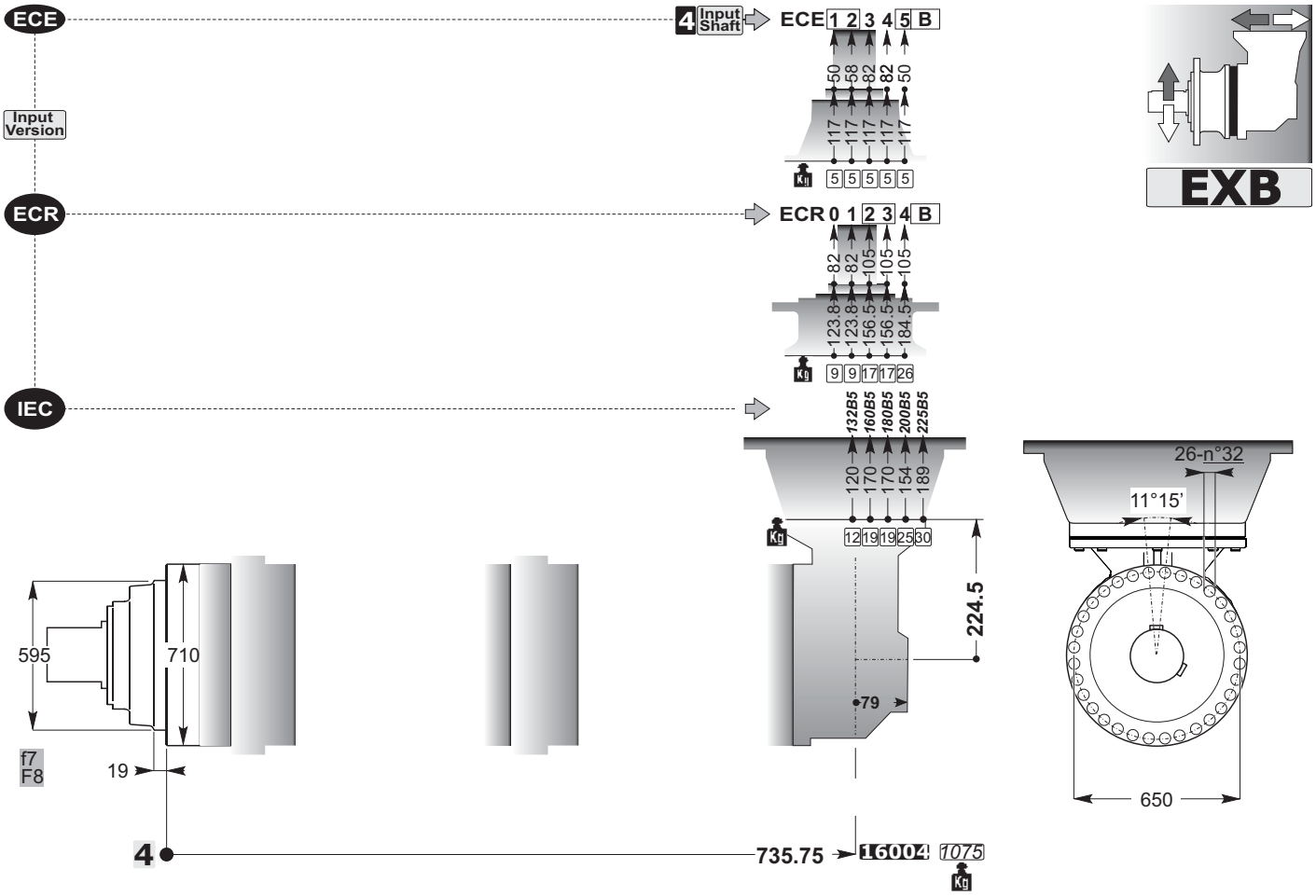

Input Version
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
595
710
f7
F8
19
80
mm
Kg
343.2 170 7B-ø100
343.2 170 7A-ø90
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
80 7A-7B
26 4
17 2B-3B
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
5
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
26 4
17 2B-3B
9 0-1
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
189 30
154 25
170 19
170 19
120 12
99 10
99 10
91 8
91 8
91 8
91 8
26-n°32
11°15'
650
4
3
2
1
152.5
L16001 693
412.5
L16002 930
602.5
L16003 1005
695.25
L16004 1025


45
45x25x240
5
15
90°
210
130
40
260
445
N°4 - M20
Ø 200
m6
mm
SN1
W 200x5x30x38 8f
DIN5480
N°4 - M20
40
ø 200
ø 170
ø 130
g6
g6
20
130
30
200
385
mm
SD
Output Shafts

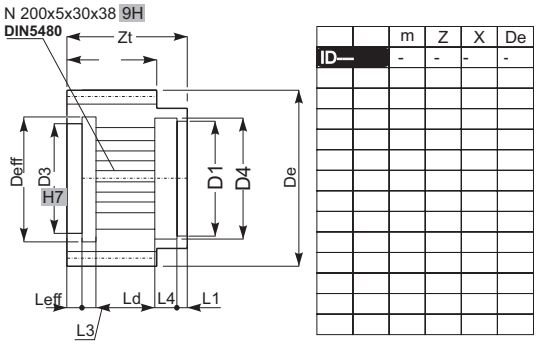

Radial Loads
Fr
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
x
250 225 200 175 150 125 100 75 50 25
mm
N


Axial Loads
- 41733 >
N
Fa
<146048-


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8 10^7 10^6 10^5 10^4



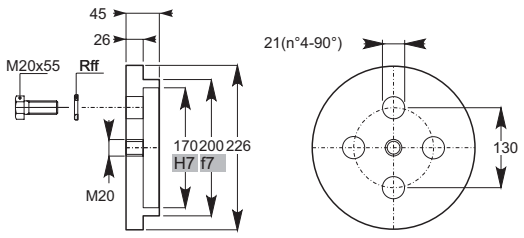
ID



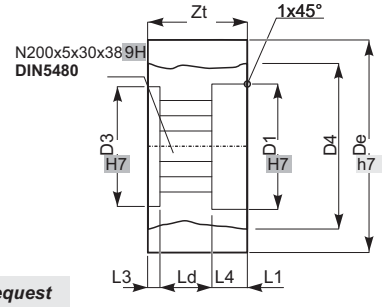
		m	Z	X	De
ID—		-	-	-	-

On request

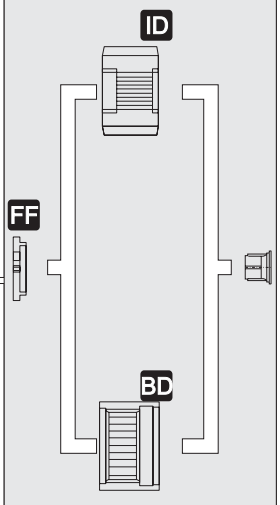
FF



BD

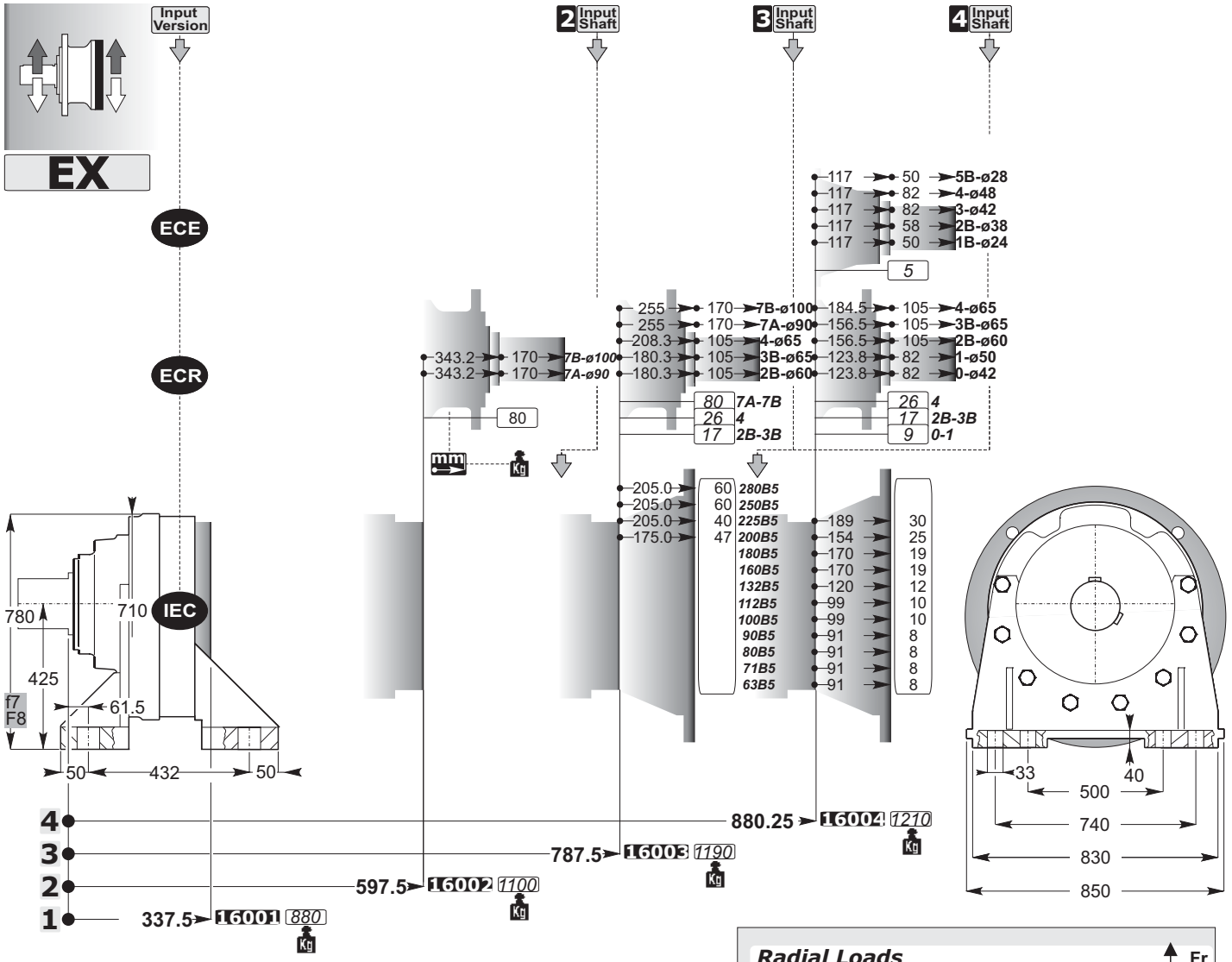


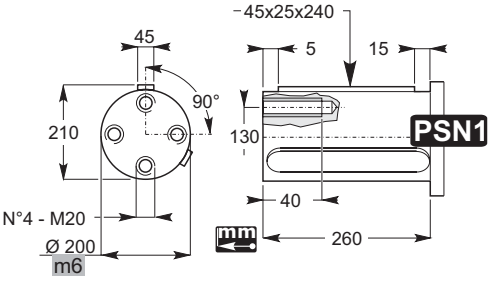
On request

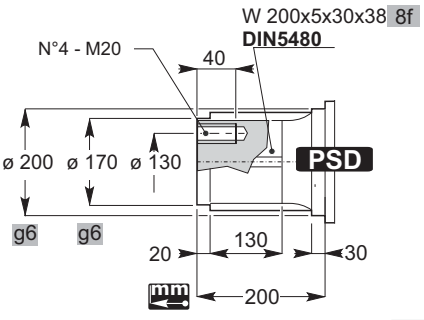


Accessories

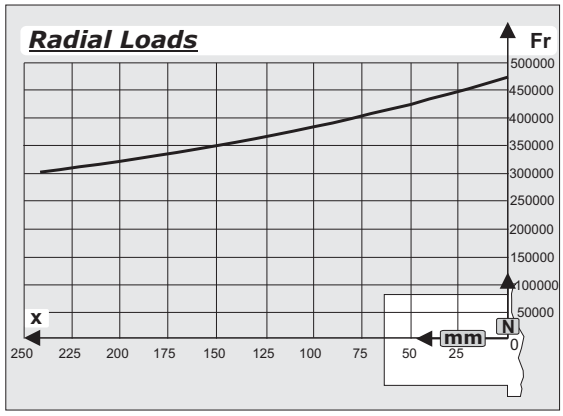
mm
C

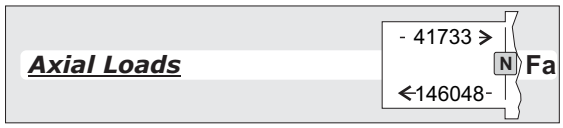


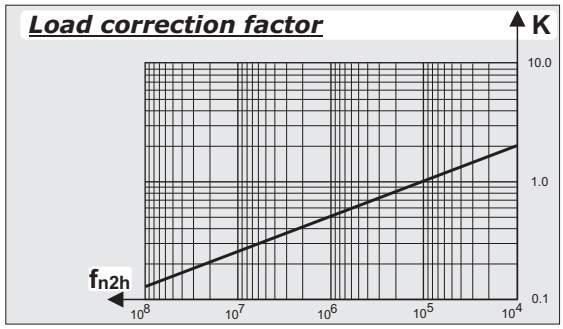


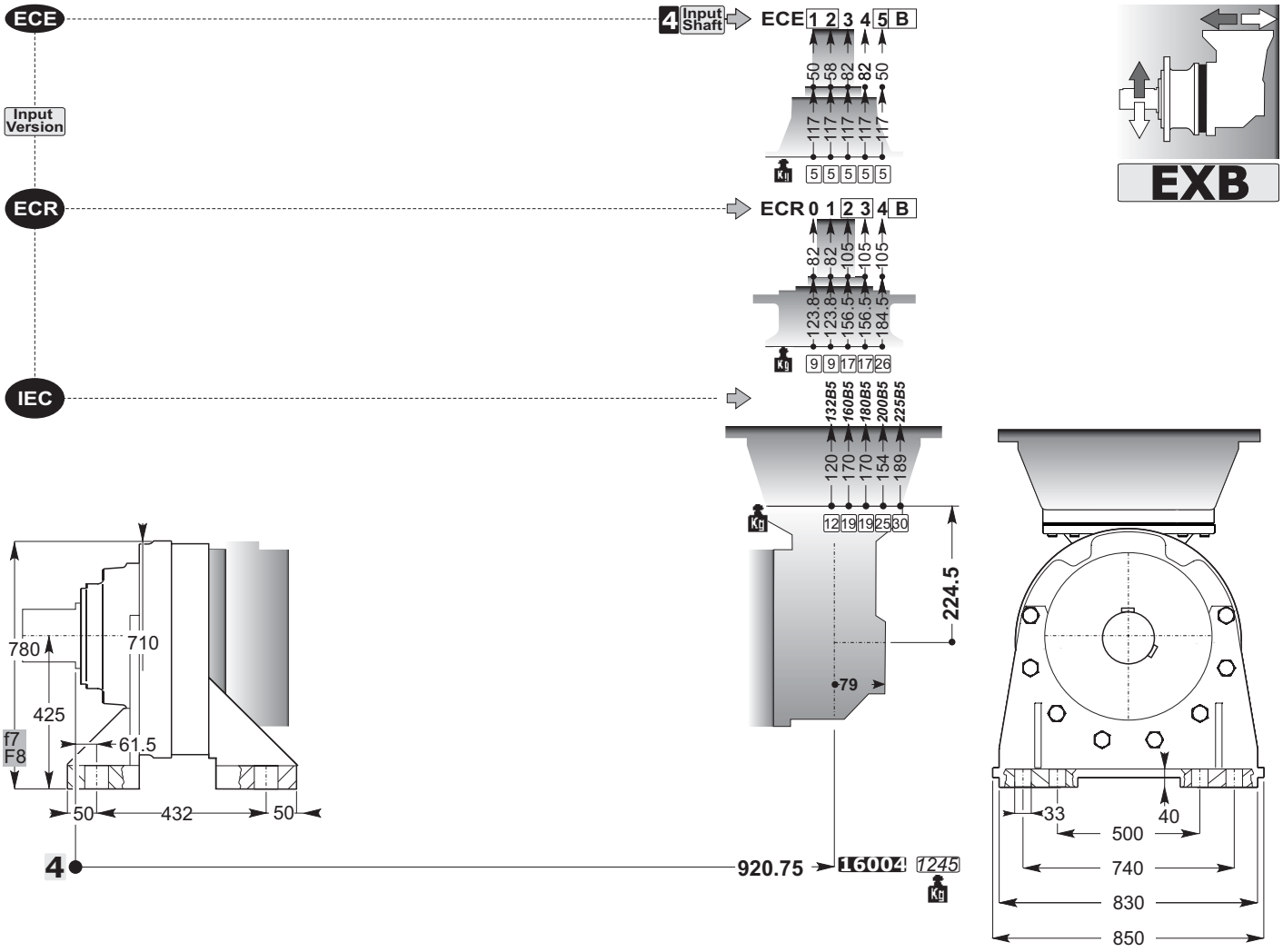


Output Shafts

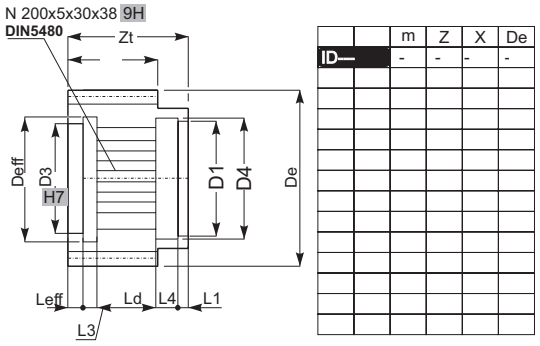








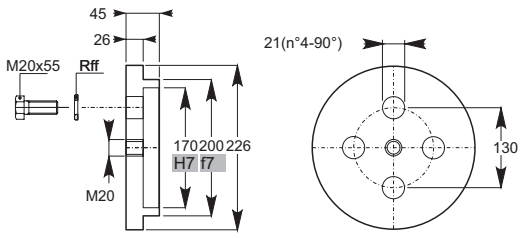
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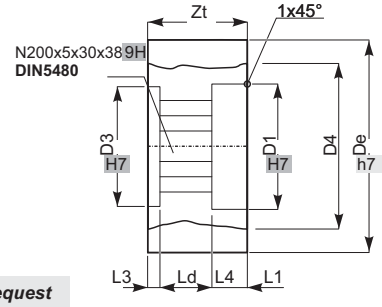
		m	Z	X	De
ID—		-	-	-	-

On request

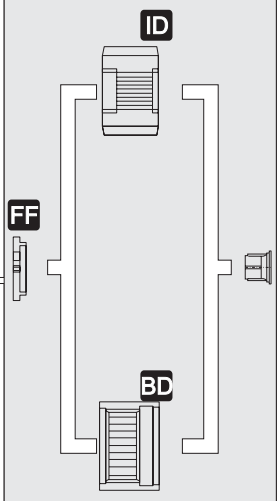
FF



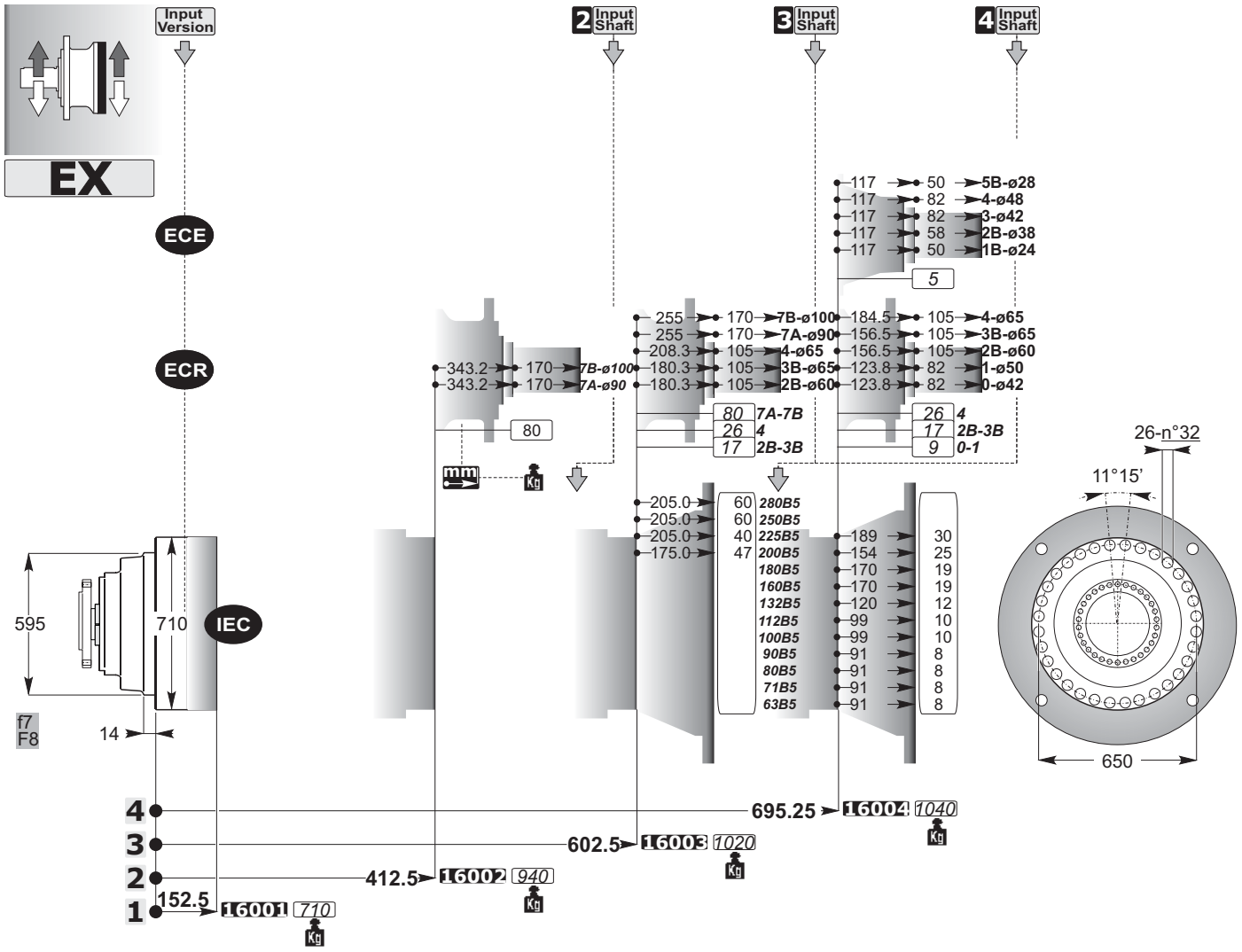
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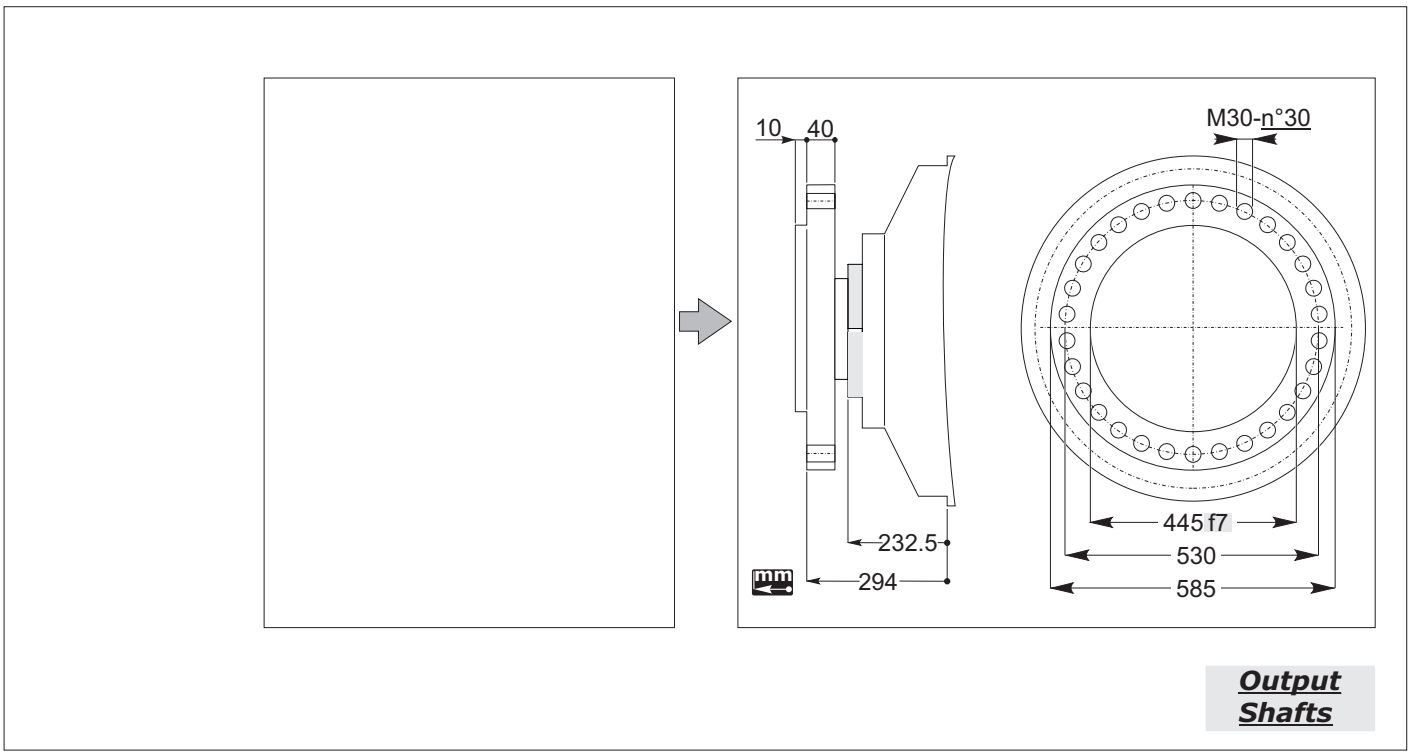


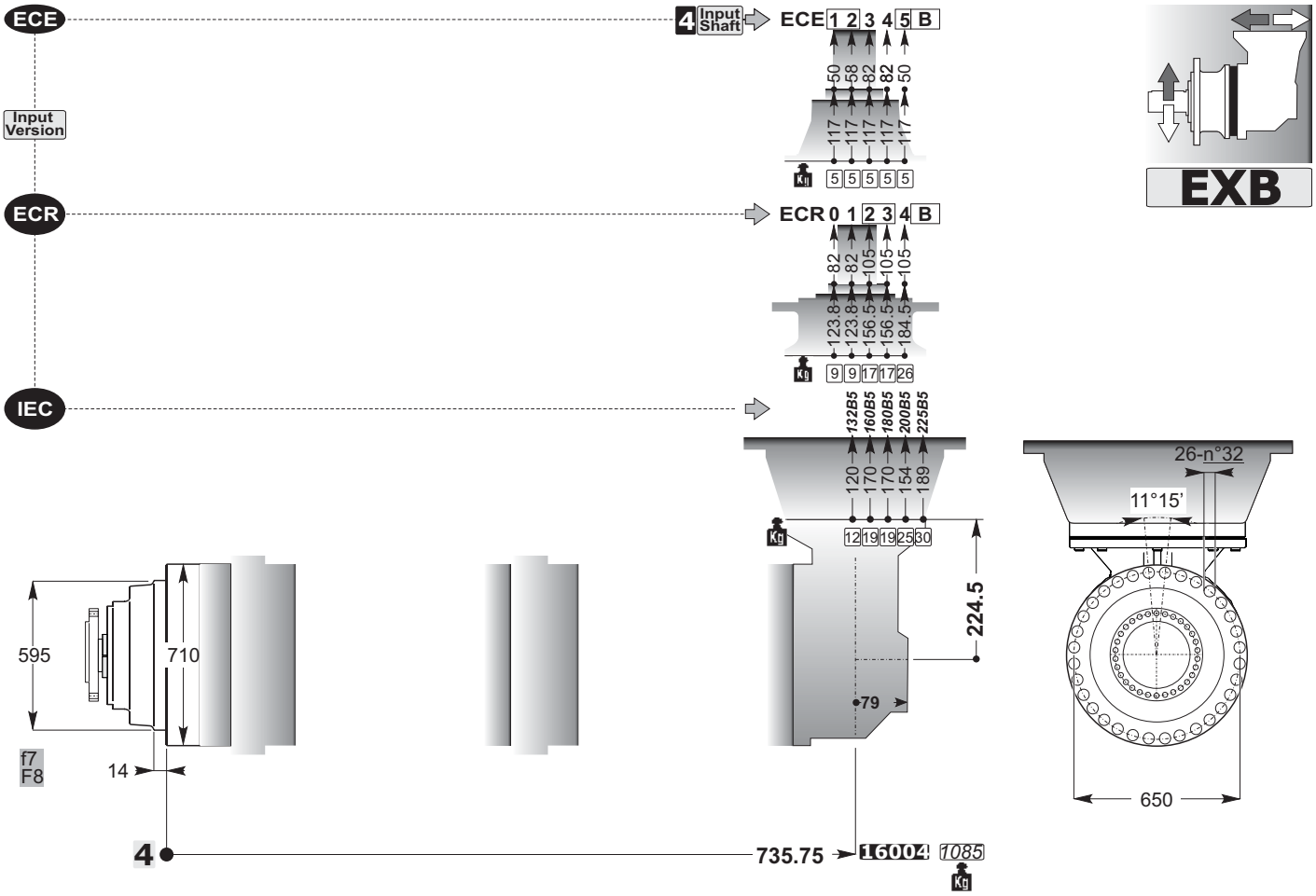
On request

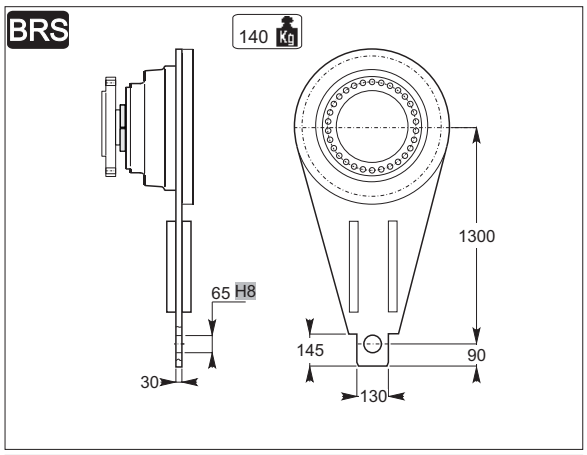


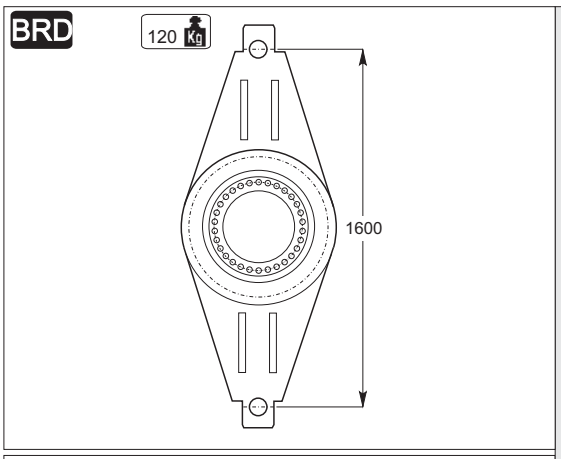
Accessories

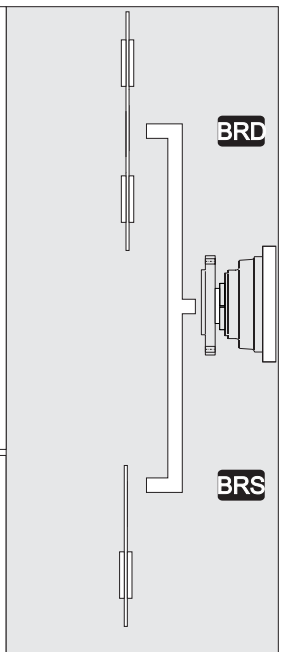

Input Version
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
595
710
f7
F8
14
80
mm
Kg
343.2 170 7B-ø100
343.2 170 7A-ø90
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
80 7A-7B
26 4
17 2B-3B
117 50 5B-ø28
117 82 4-ø48
117 82 3-ø42
117 58 2B-ø38
117 50 1B-ø24
5
184.5 105 4-ø65
156.5 105 3B-ø65
156.5 105 2B-ø60
123.8 82 1-ø50
123.8 82 0-ø42
26 4
17 2B-3B
9 0-1
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
189 30
154 25
170 19
170 19
120 12
99 10
99 10
91 8
91 8
91 8
91 8
26-n°32
11°15'
650
4
3
2
1
695.25 L6004 1040
602.5 L6003 1020
412.5 L6002 940
152.5 L6001 710


10 40
M30-n°30
232.5
294
445 f7
530
585
Output Shafts



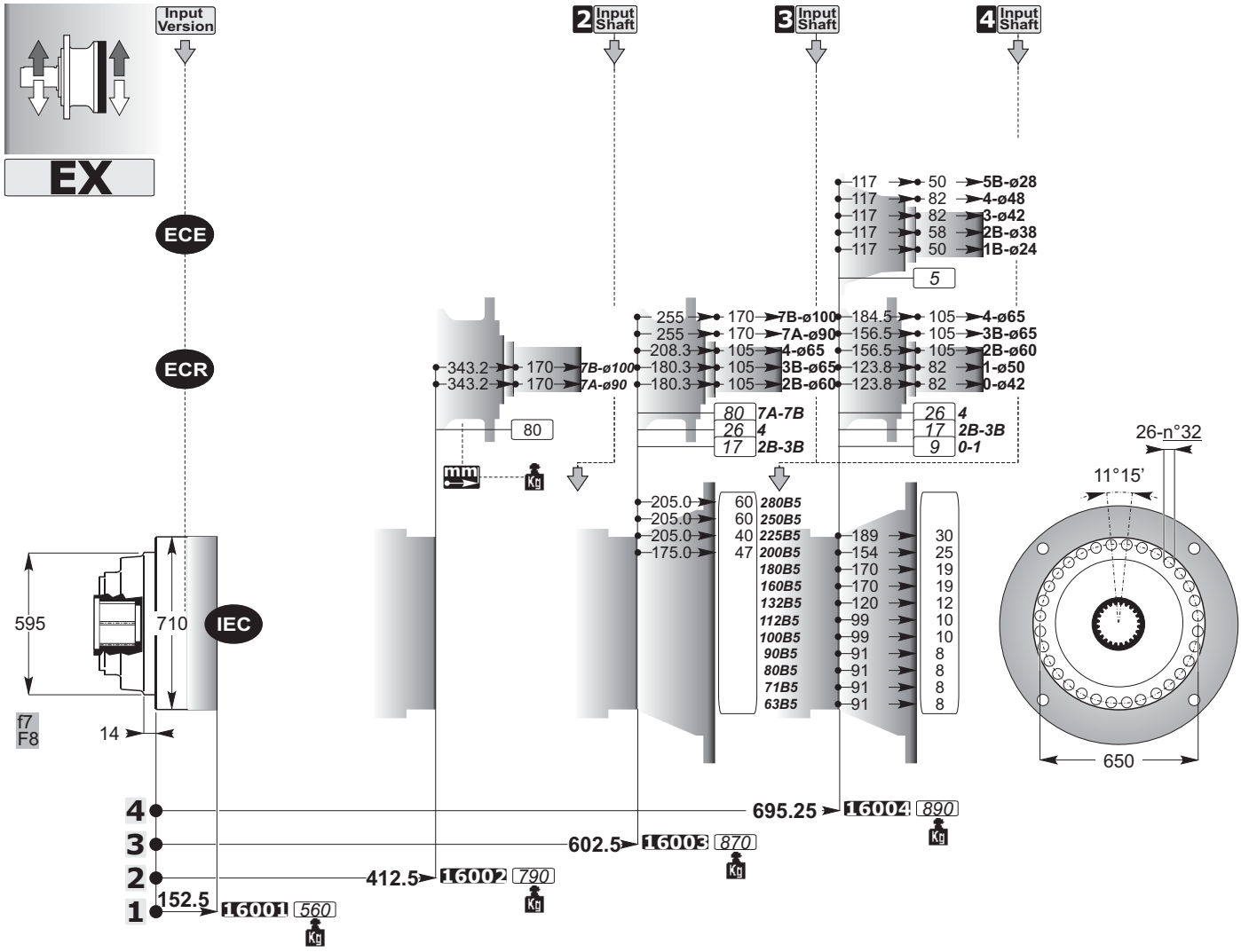


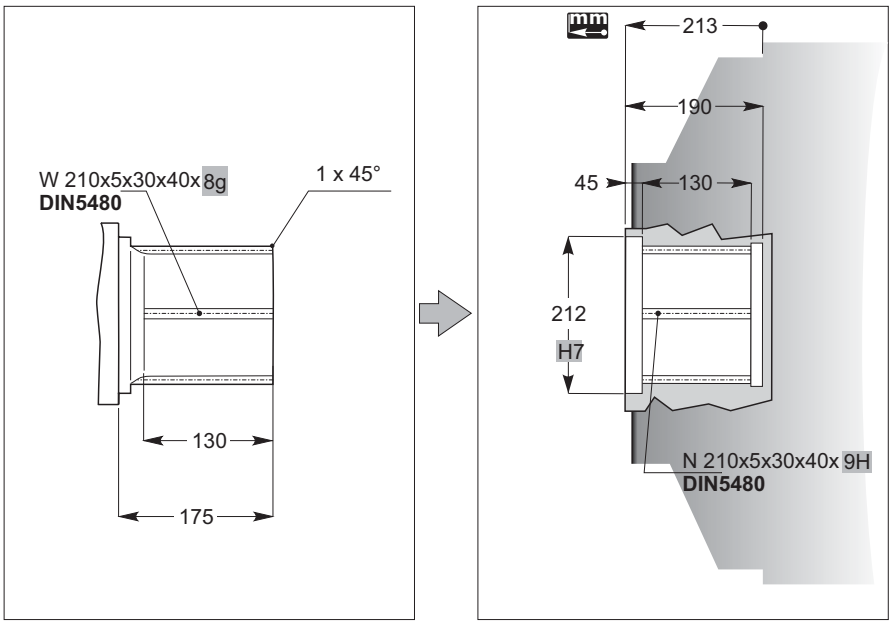




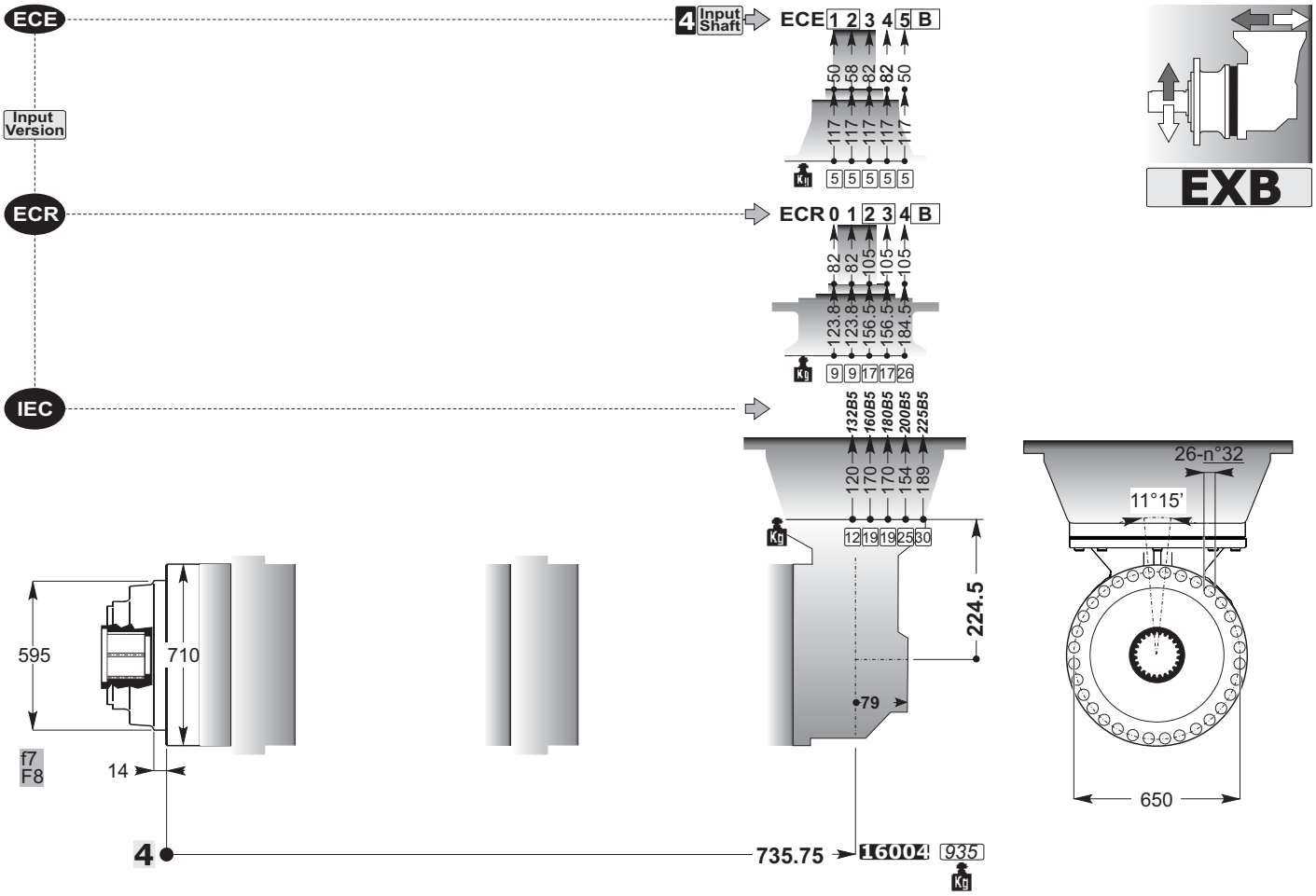
Accessories

mm
C

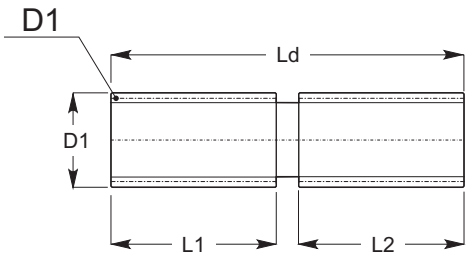




Output Shafts



SD

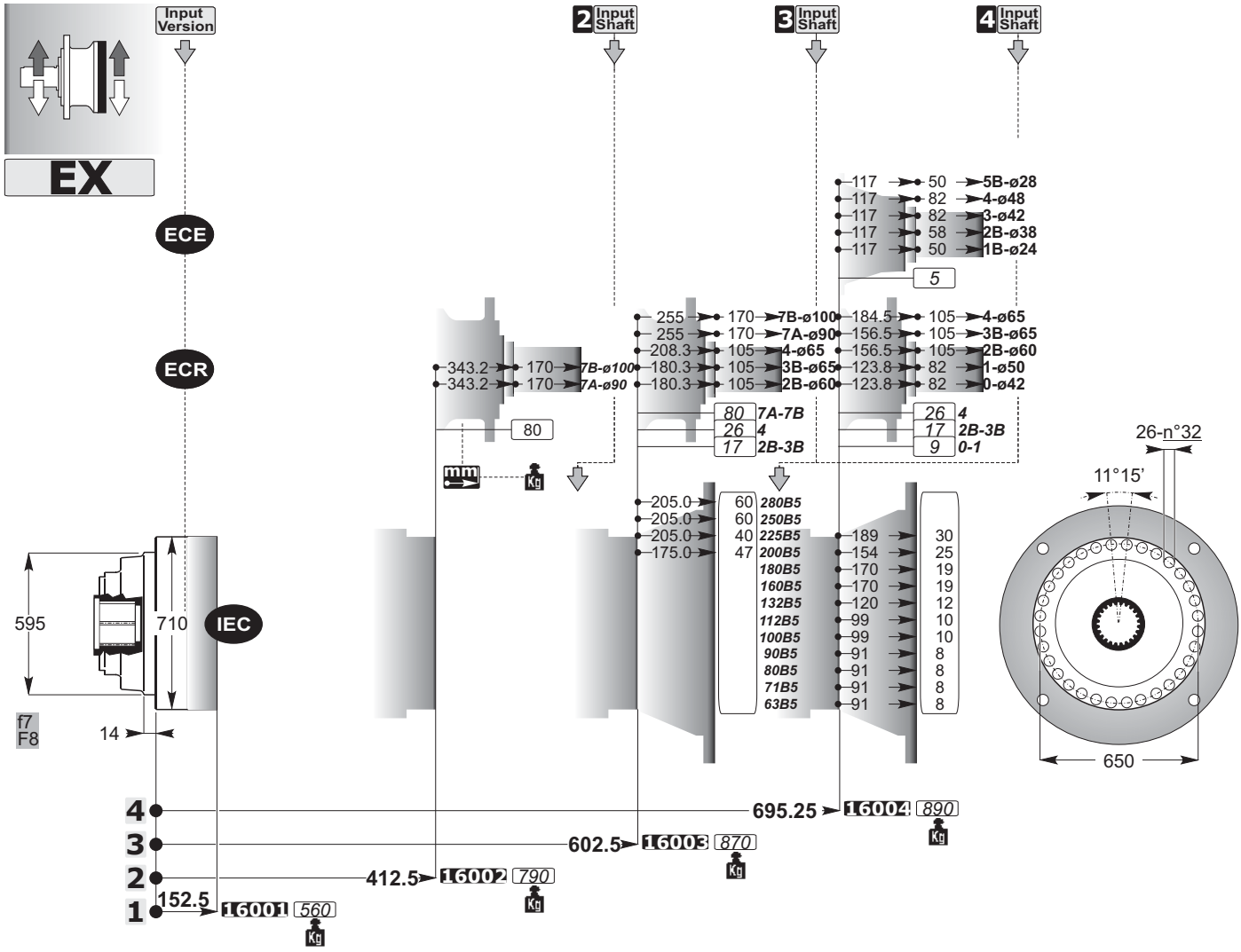


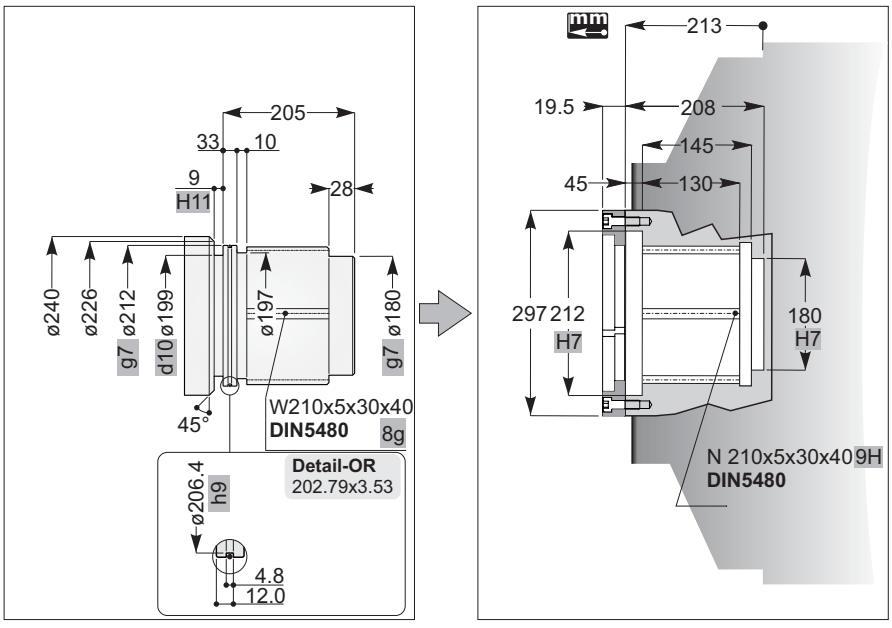
On request

SD

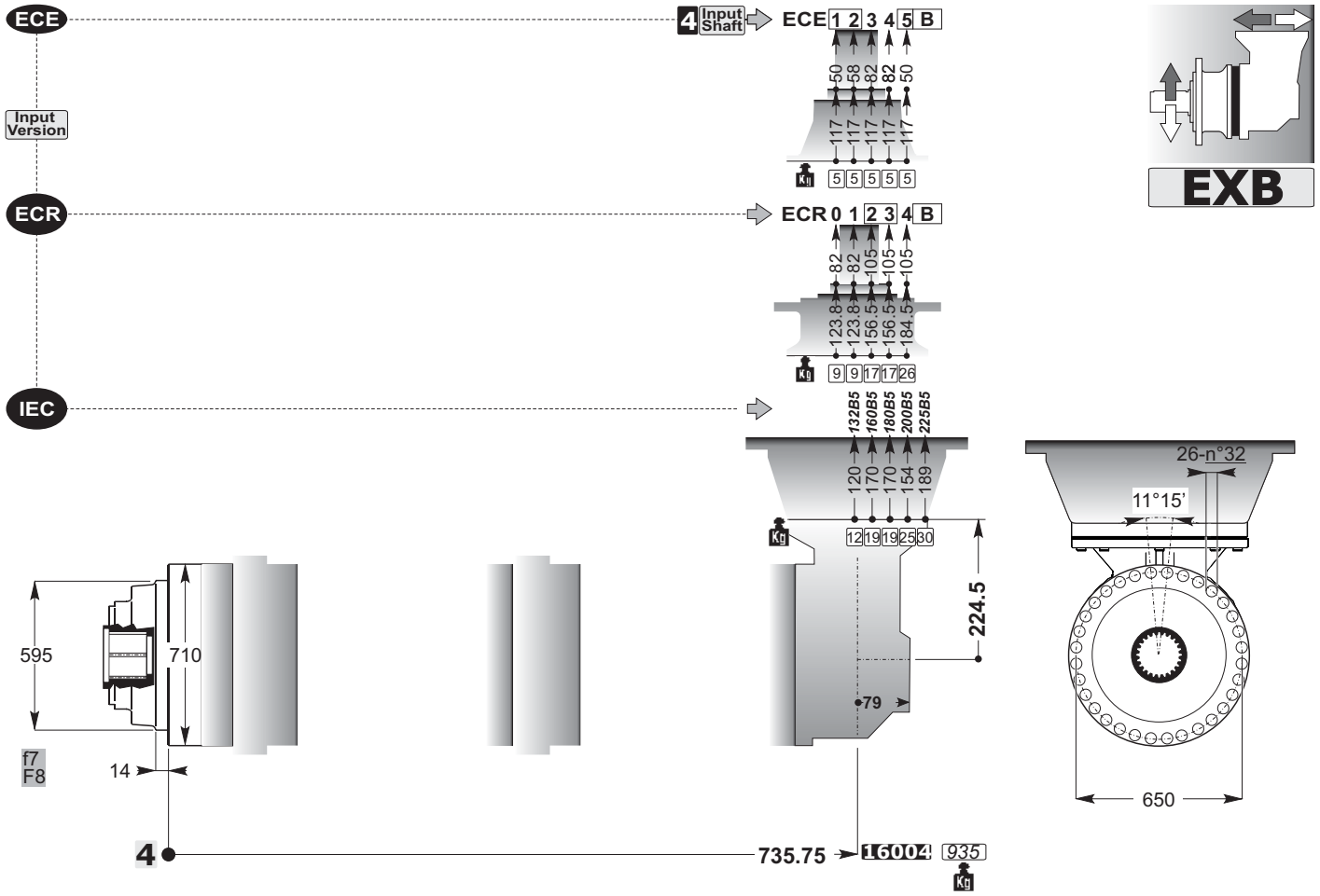


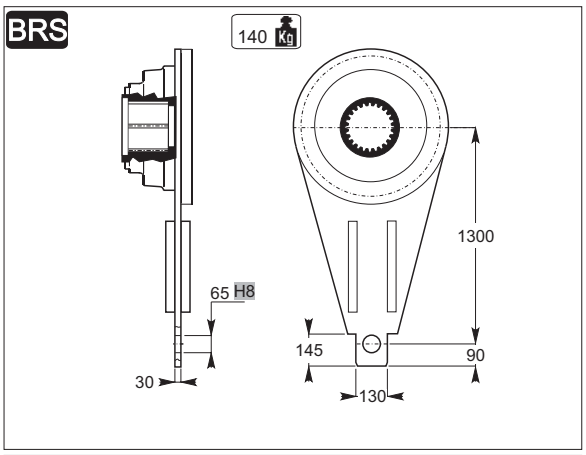
Accessories

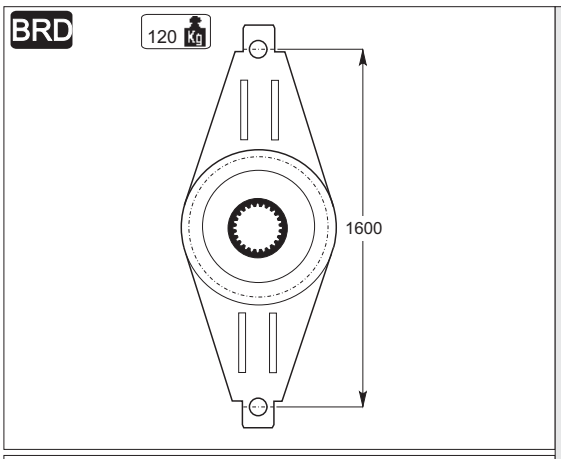


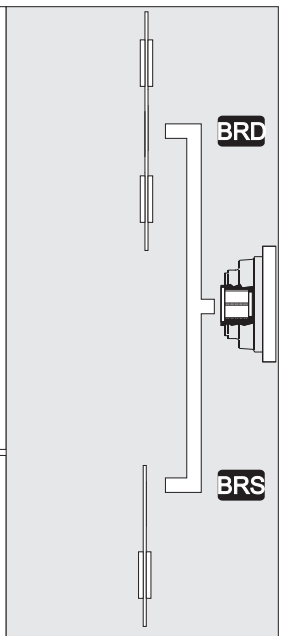


Output Shafts



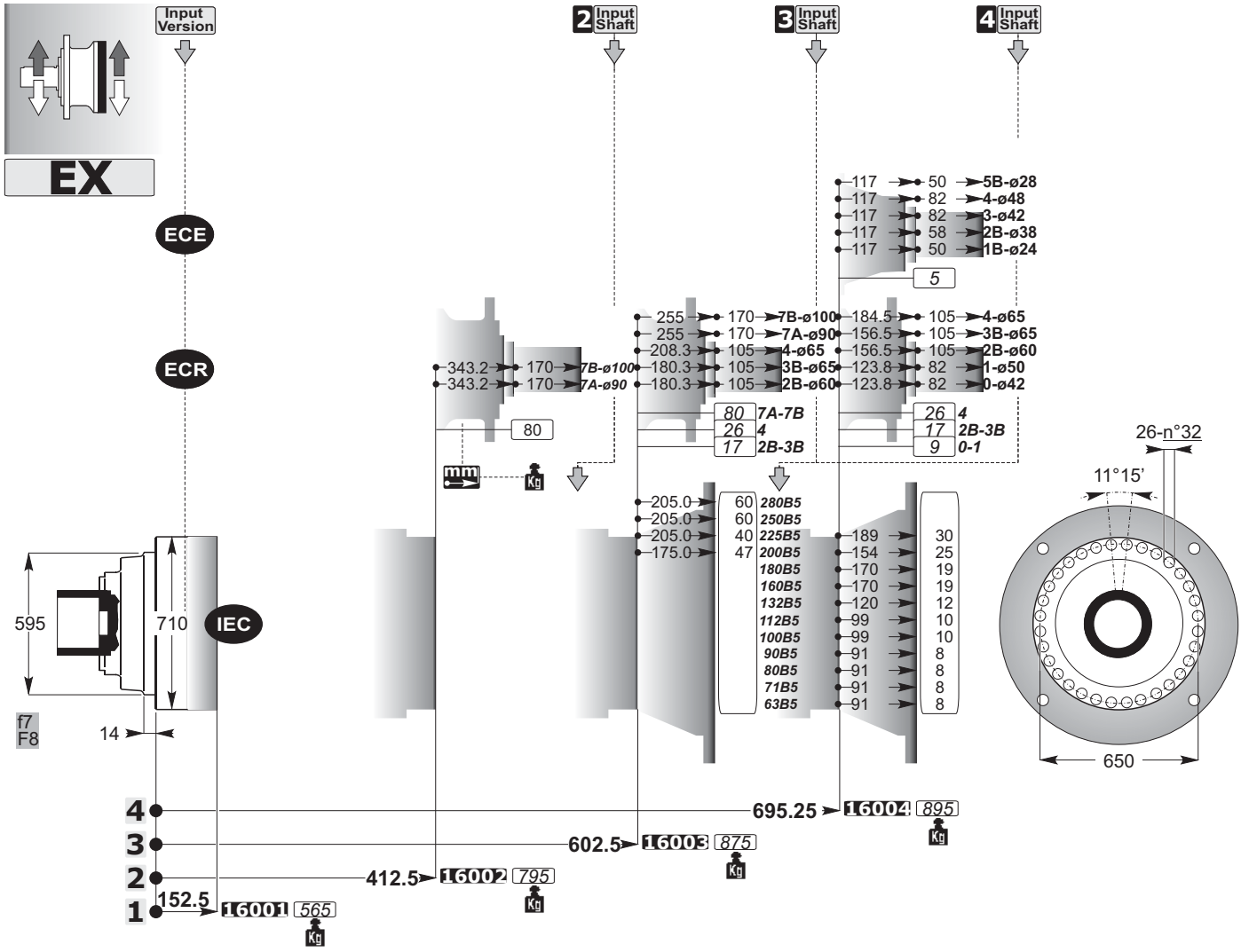


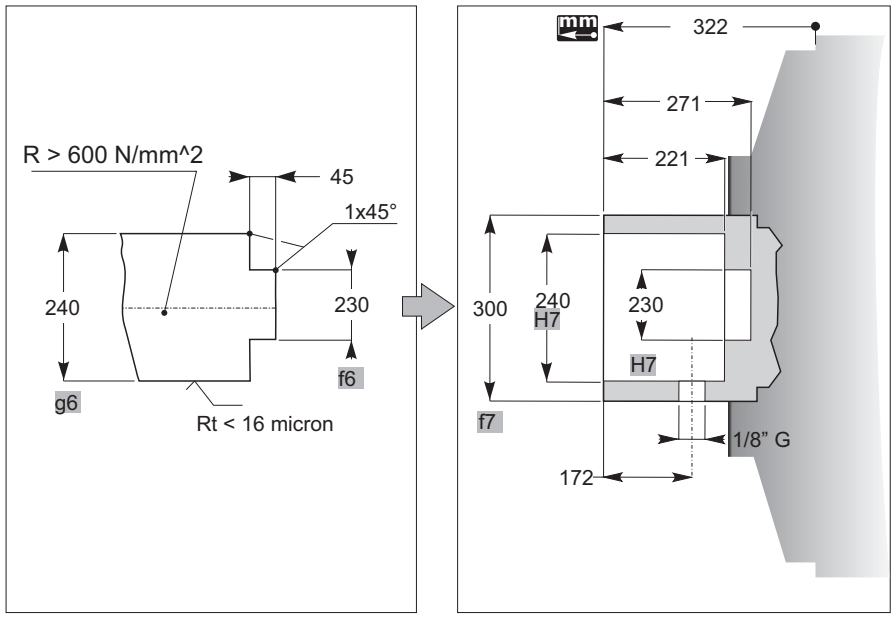




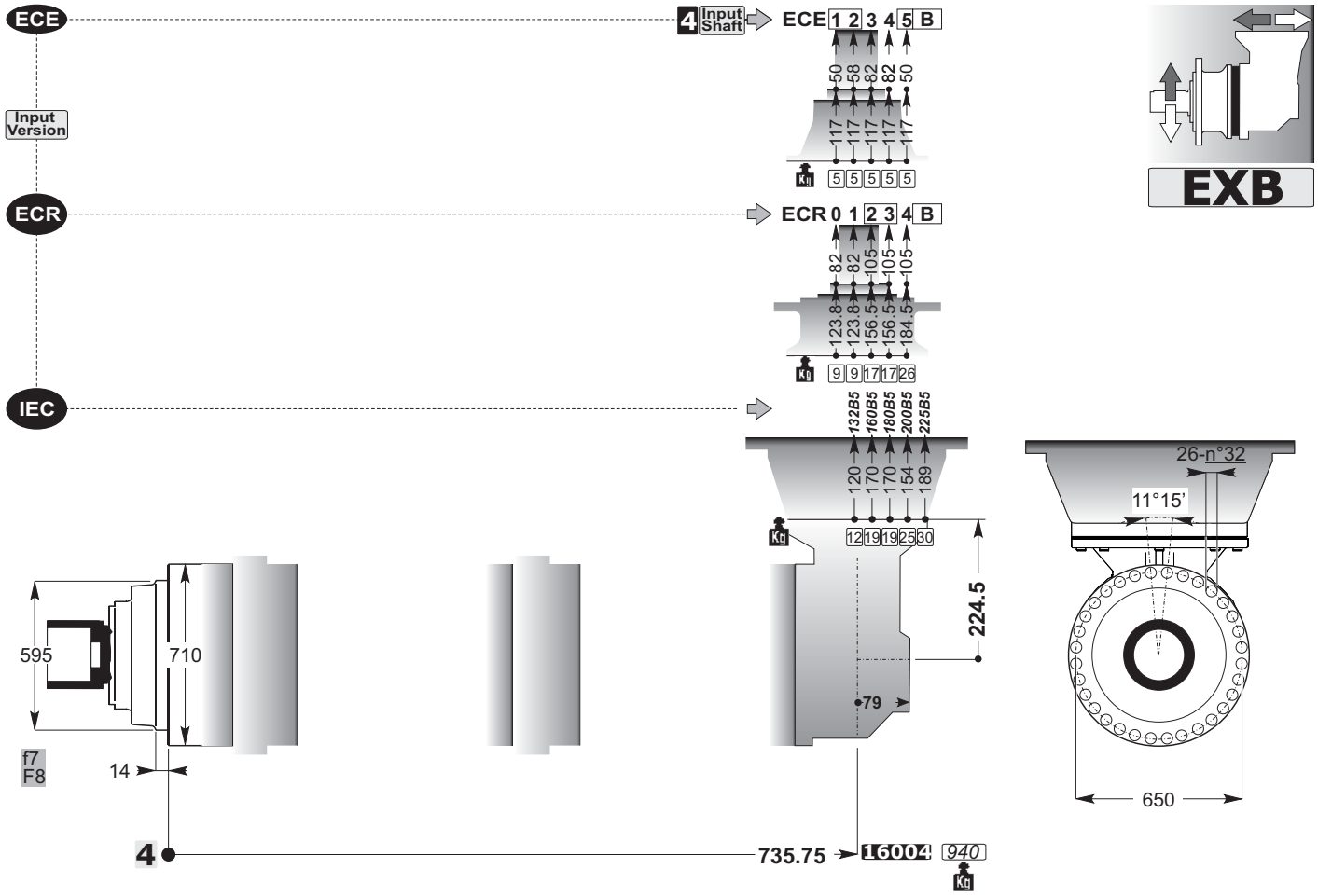
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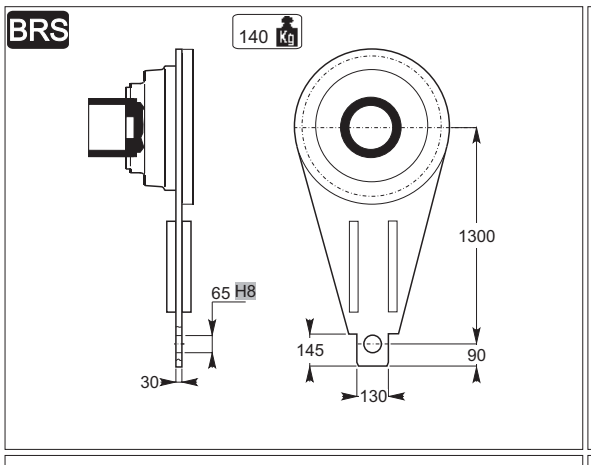
mm
C

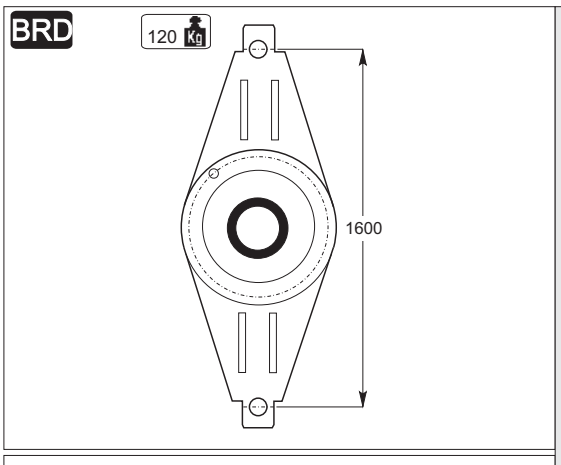


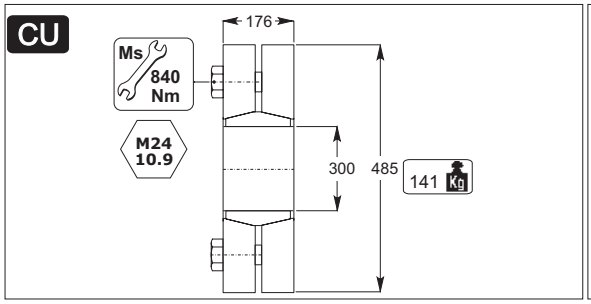


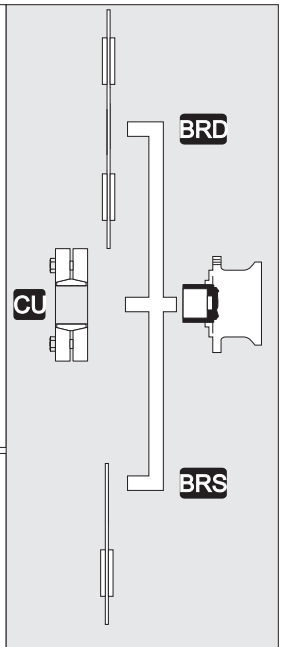
Output Shafts





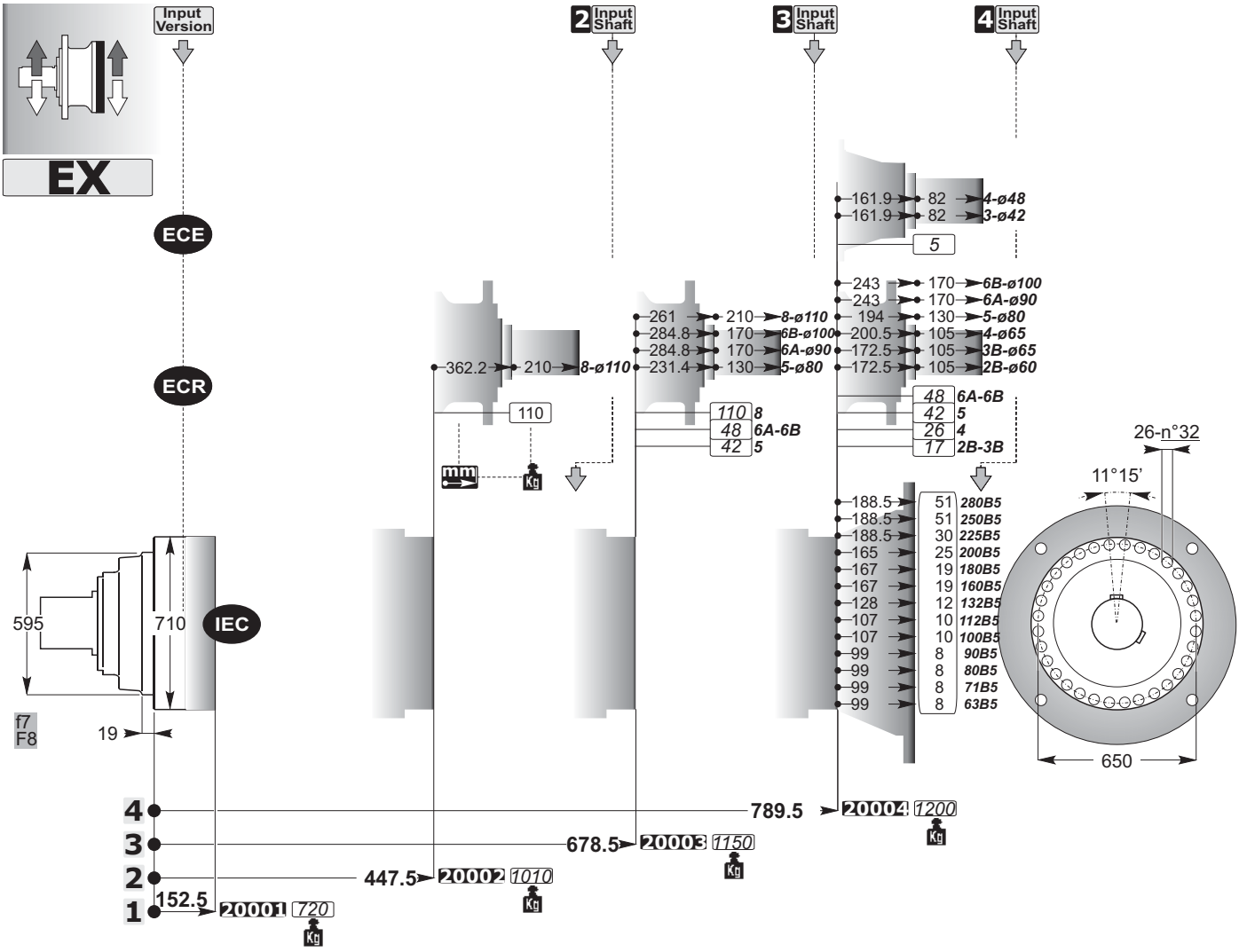


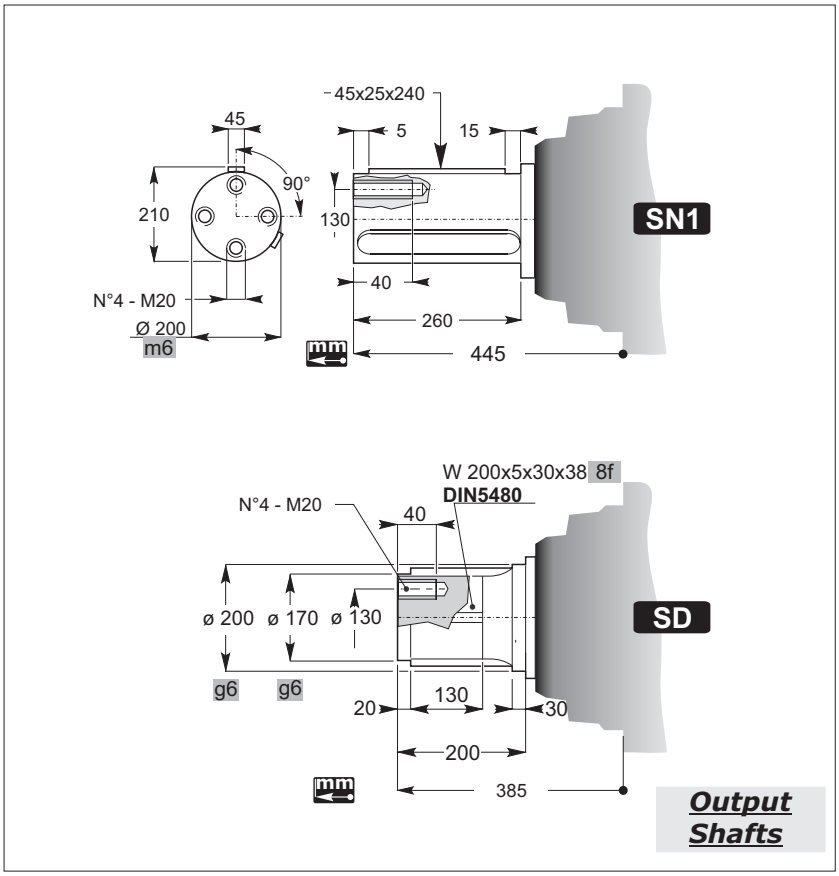


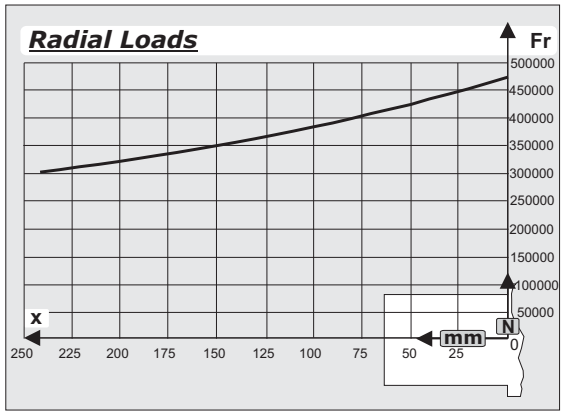


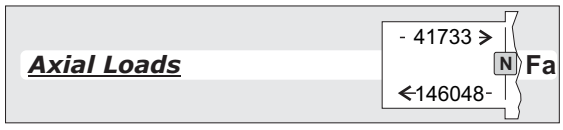
Accessories

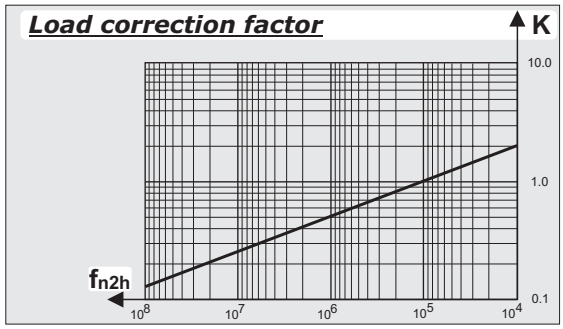
mm
C

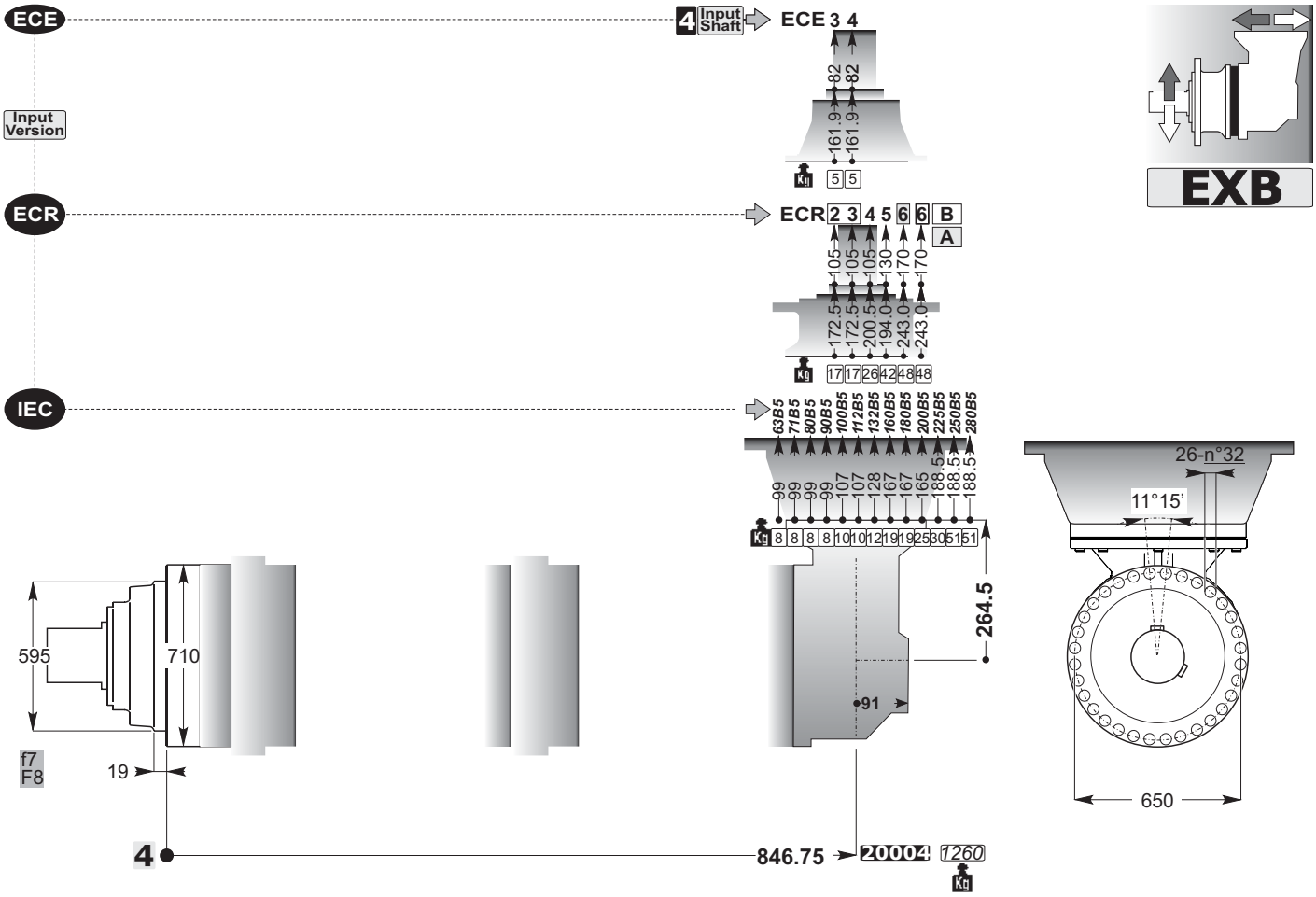

Input Version
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
595
710
f7
F8
19
110
mm
Kg
362.2 210 8-ø110
261 210 8-ø110
284.8 170 6B-ø100
284.8 170 6A-ø90
231.4 130 5-ø80
110 8
48 6A-6B
42 5
161.9 82 4-ø48
161.9 82 3-ø42
5
243 170 6B-ø100
243 170 6A-ø90
194 130 5-ø80
200.5 105 4-ø65
172.5 105 3B-ø65
172.5 105 2B-ø60
48 6A-6B
42 5
26 4
17 2B-3B
188.5 51 280B5
188.5 51 250B5
188.5 30 225B5
165 25 200B5
167 19 180B5
167 19 160B5
128 12 132B5
107 10 112B5
107 10 100B5
99 8 90B5
99 8 80B5
99 8 71B5
99 8 63B5
26-n°32
11°15'
650
4 789.5 20004 1200
3 678.5 20003 1150
2 447.5 20002 1010
1 152.5 20001 720

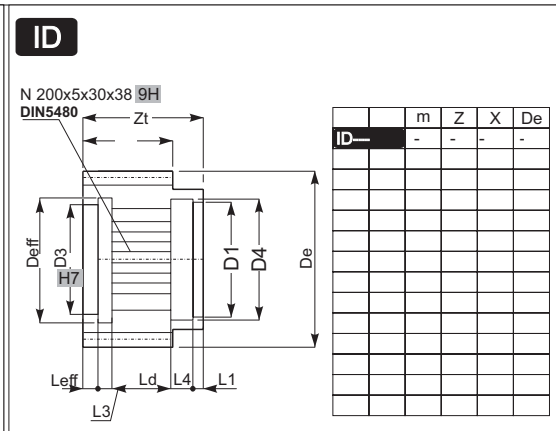

45
45x25x240
5
15
90°
210
130
SN1
N°4 - M20
Ø 200
m6
40
260
mm
445
W 200x5x30x38 8f
DIN5480
N°4 - M20
40
ø 200
ø 170
ø 130
SD
g6
g6
20
130
30
200
385
mm
Output Shafts

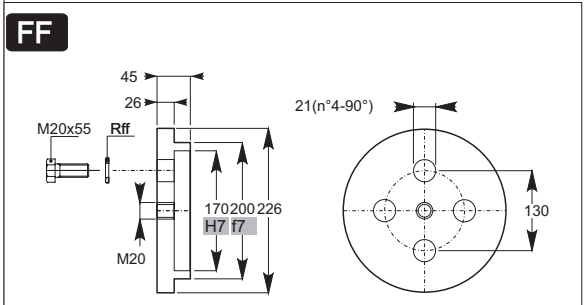

Radial Loads
Fr
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
x
250 225 200 175 150 125 100 75 50 25
mm
N

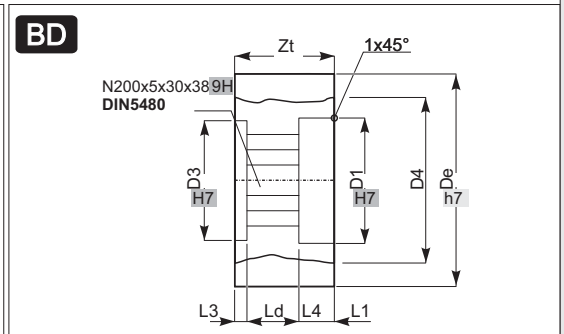

Axial Loads
- 41733 >
N
Fa
<146048-

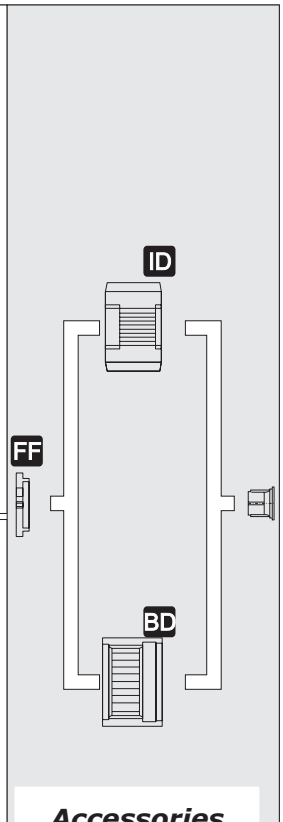

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8 10^7 10^6 10^5 10^4

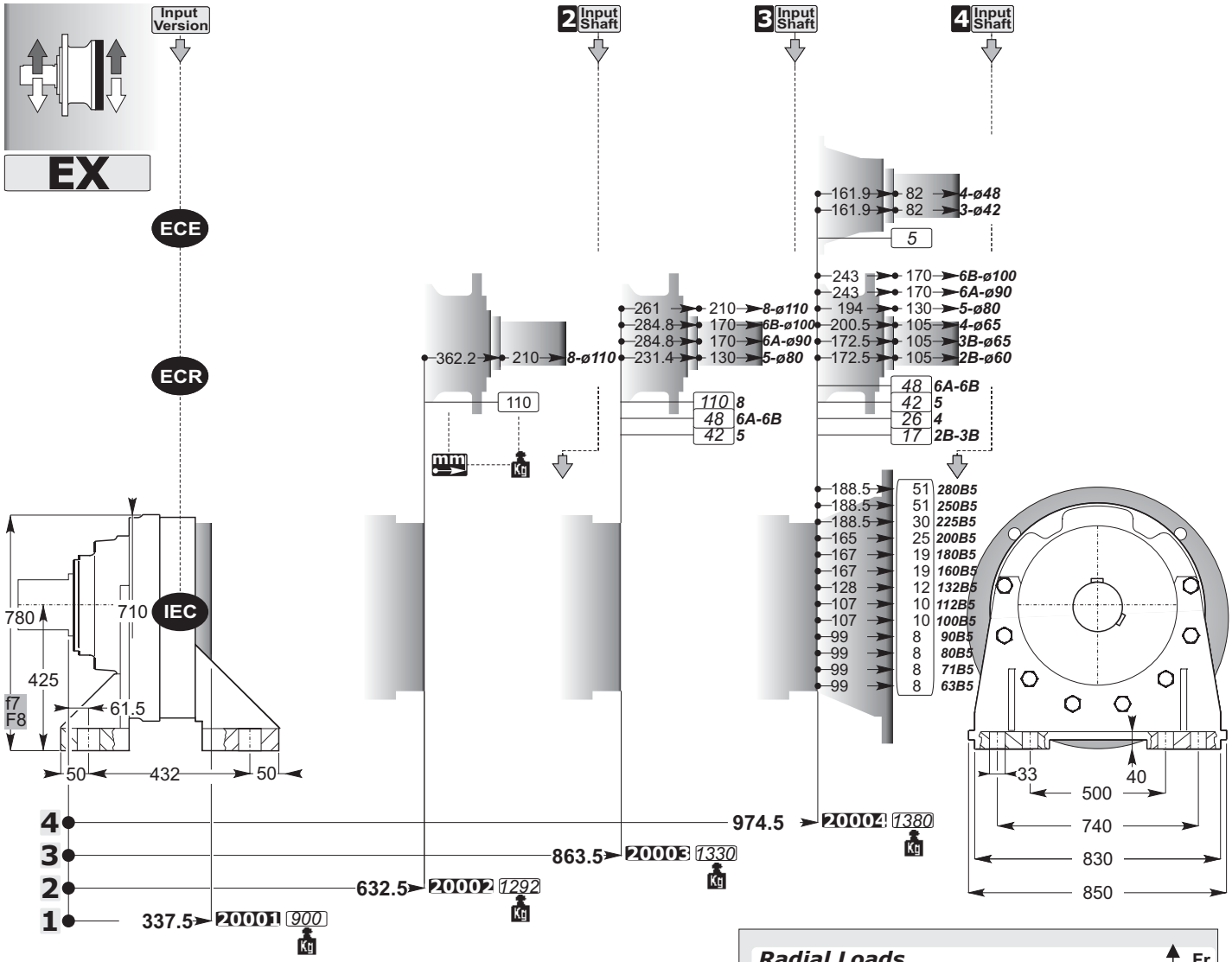

ECE
Input Version
ECR
IEC
4 Input Shaft
ECE 3 4
82
82
161.9
161.9
5 5
EXB
ECR 2 3 4 5 6 6 B A
105
105
105
130
170
170
172.5
172.5
200.5
194.0
243.0
243.0
17 17 26 42 48 48
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
99 99 99 99 107 107 128 167 167 165 188.5 188.5 188.5
8 8 8 8 10 10 12 19 19 25 30 51 51
264.5
91
595
710
f7
F8
19
4
846.75
20004
1260
26-n°32
11°15'
650

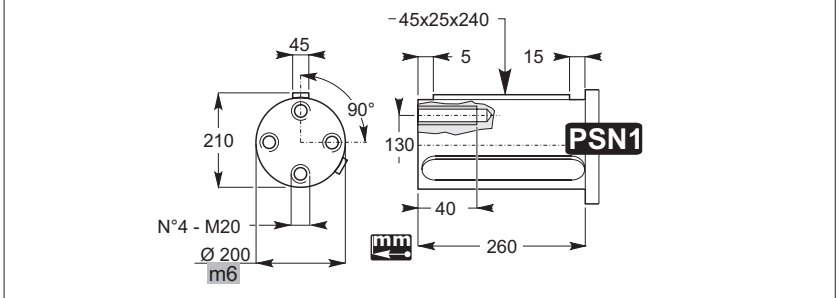

ID
N 200x5x30x38 9H
DIN5480
Zt
Deff
D3
H7
D1
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—


FF
45
26
M20x55
Rff
170 200 226
H7 f7
M20
21(n°4-90°)
130

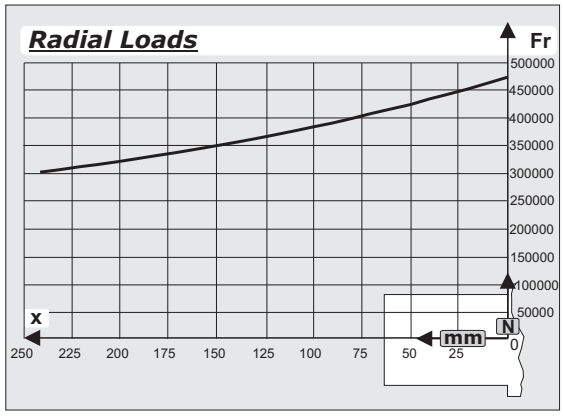

BD
Zt
1x45°
N200x5x30x38 9H
DIN5480
D3
H7
D1
H7
D4
De
h7
L3
Ld
L4
L1

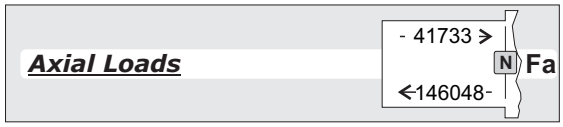

ID
FF
BD
Accessories

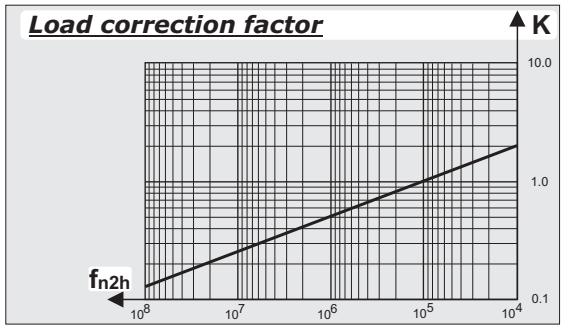


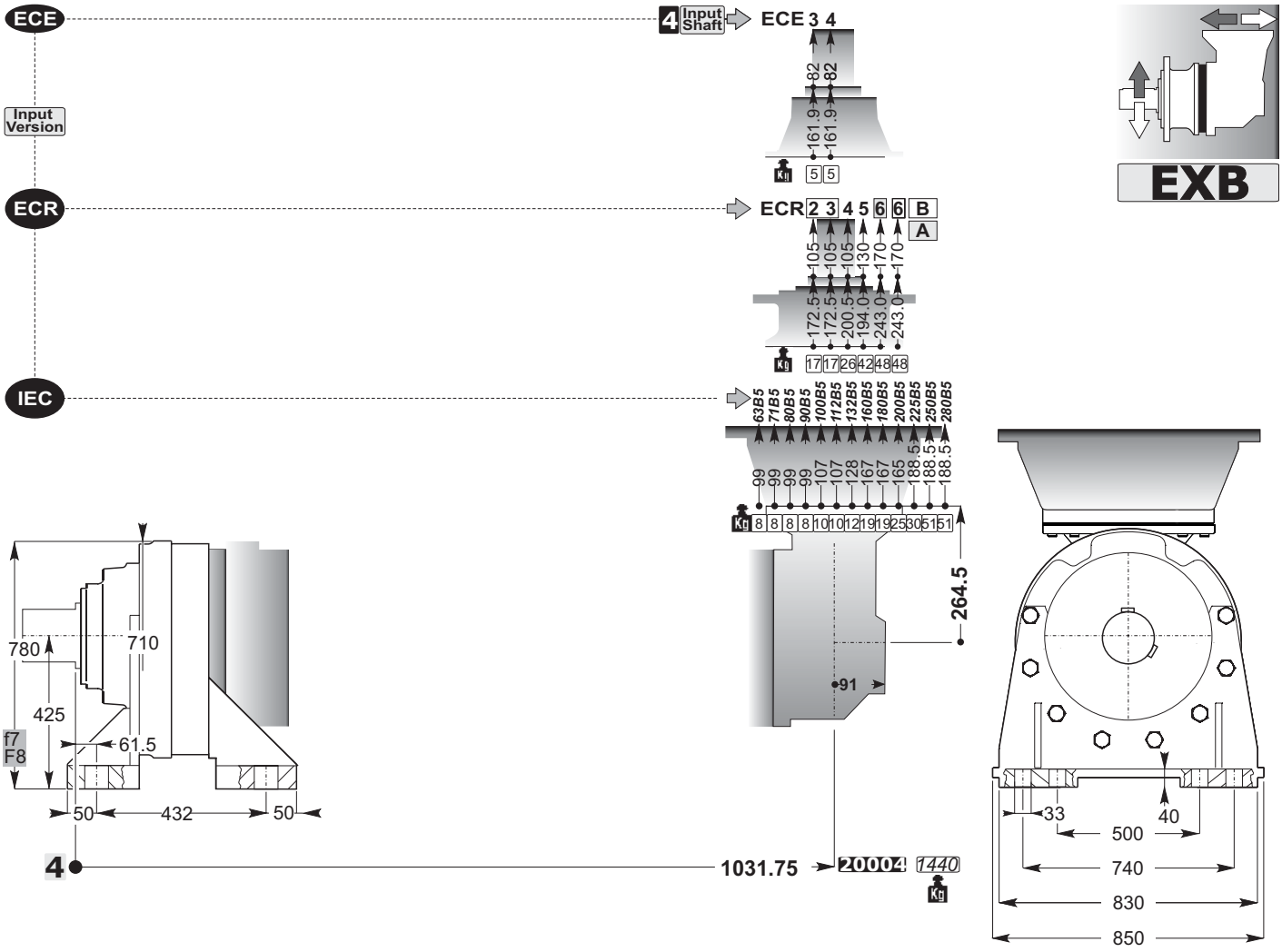


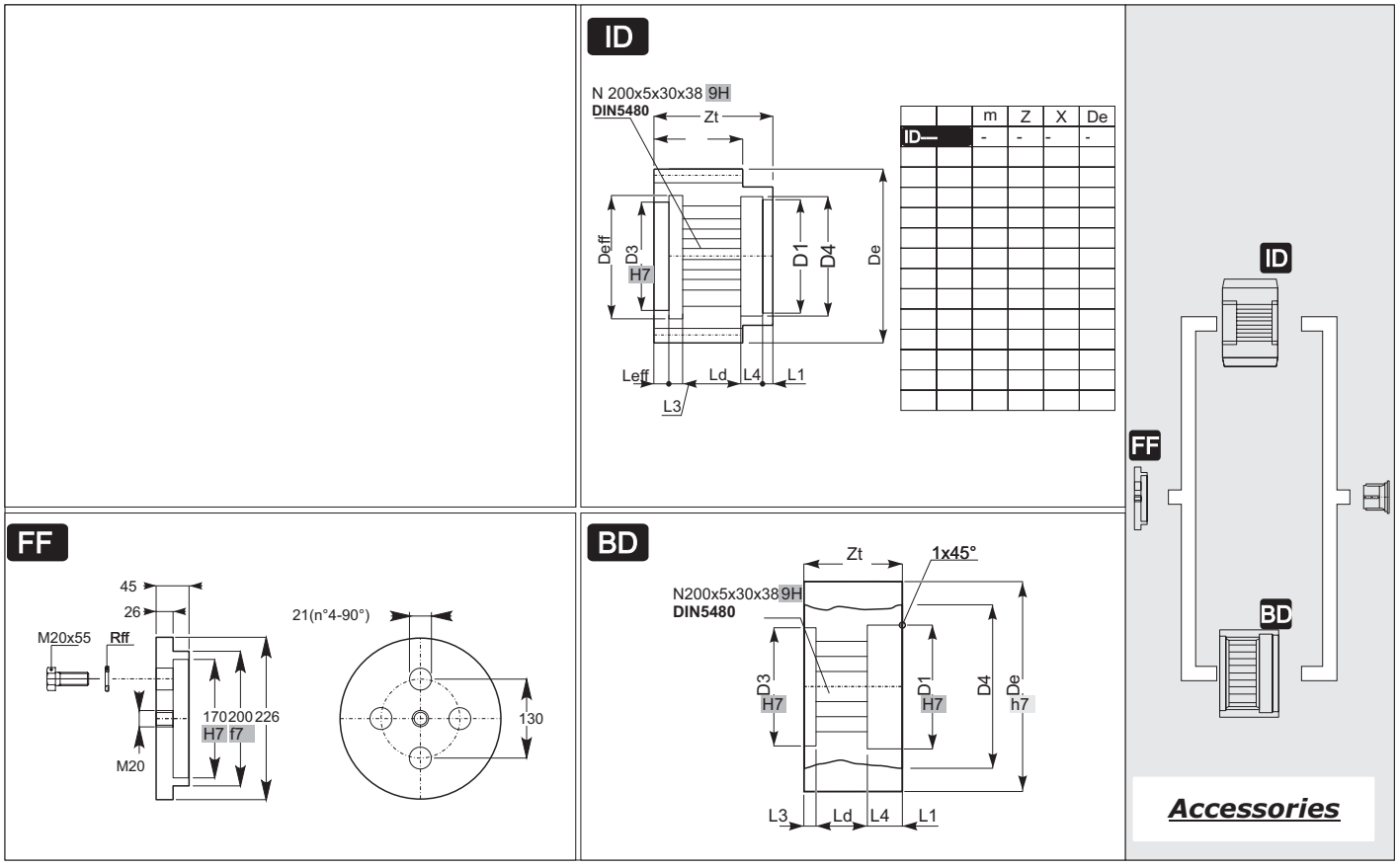
Output Shafts

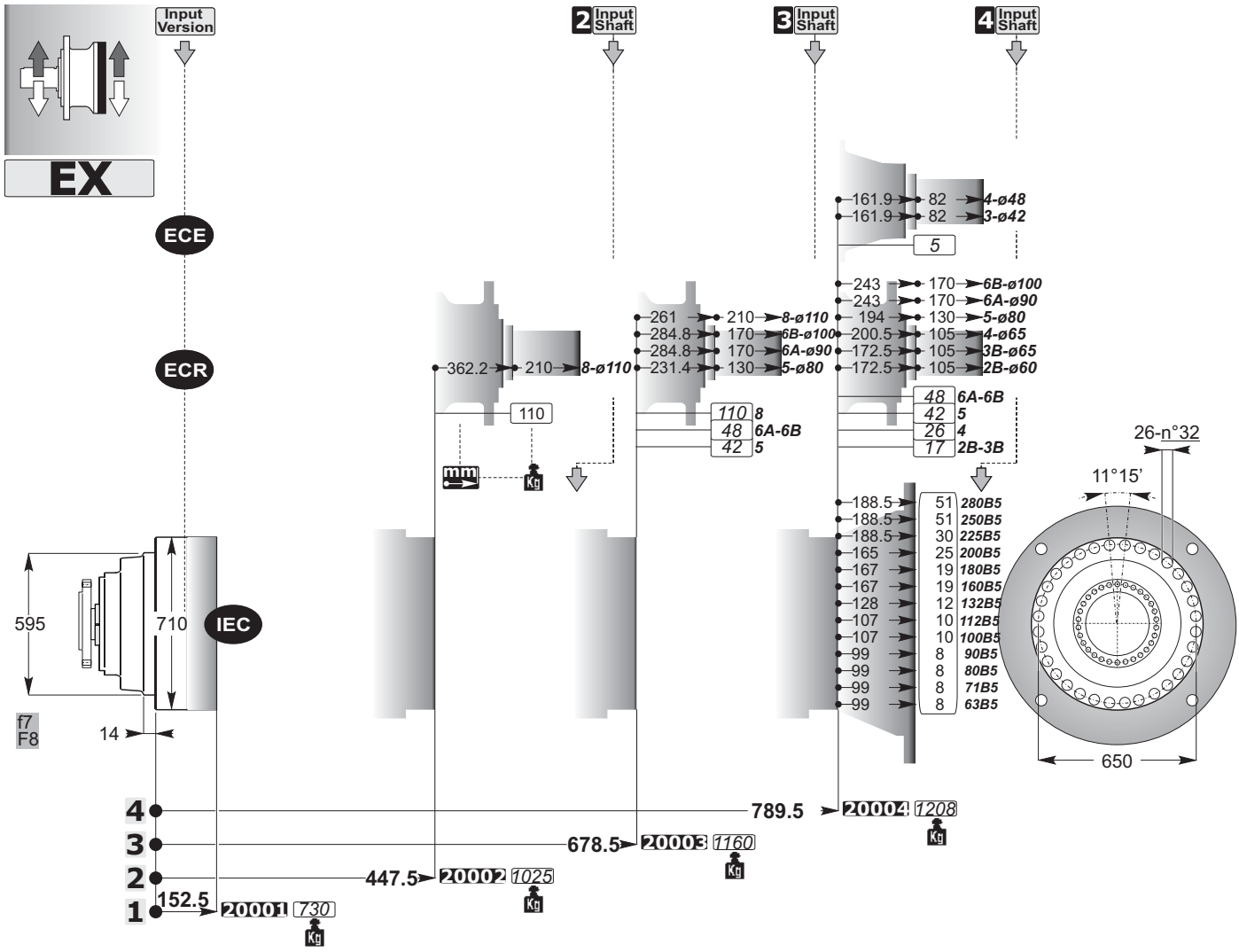


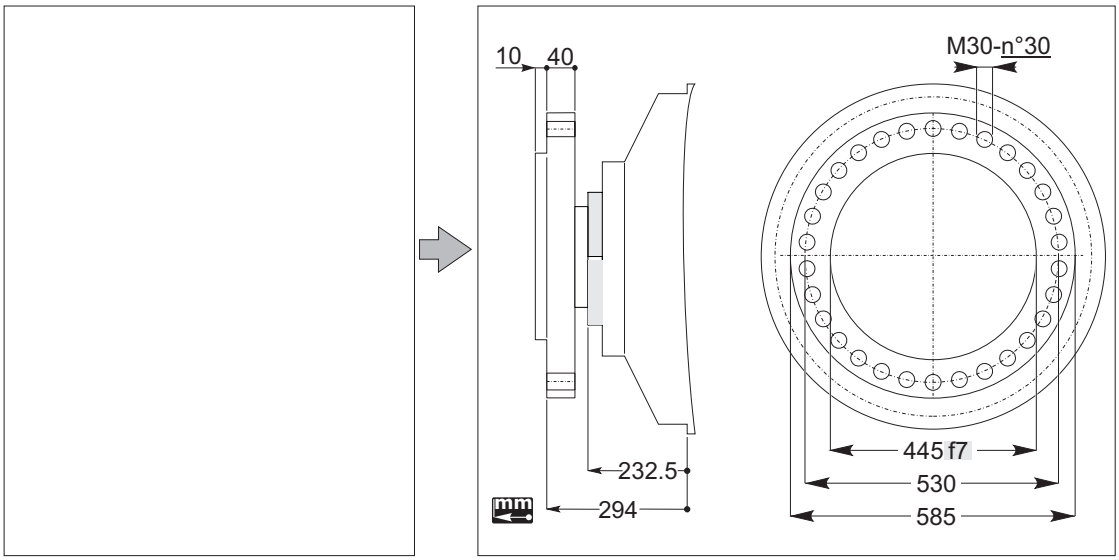




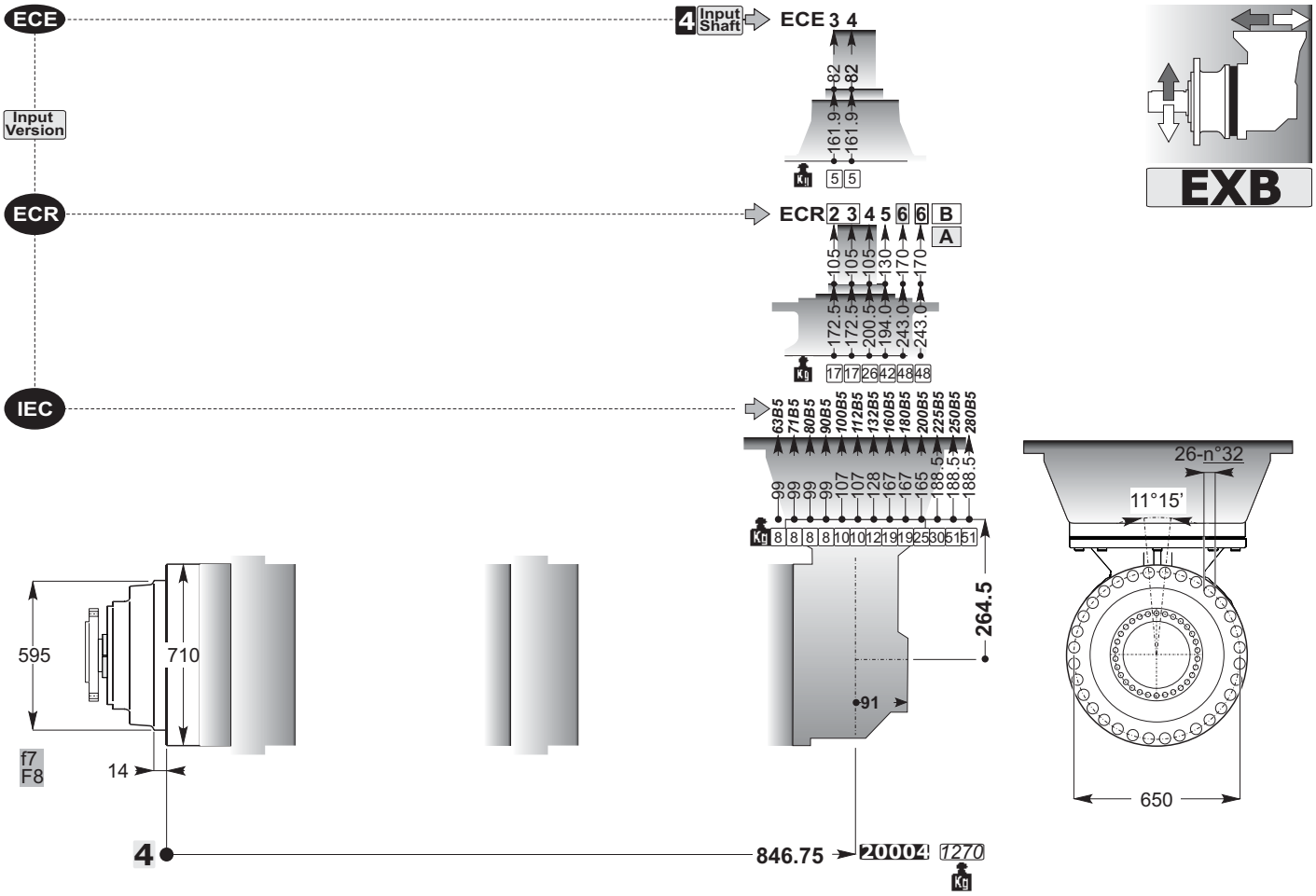

ECE
Input Version
ECR
IEC
4 Input Shaft
ECE 3 4
82
82
161.9
161.9
5 5
EXB
ECR 2 3 4 5 6 6 B A
105
105
105
130
170
170
172.5
172.5
200.5
194.0
243.0
243.0
17 17 26 42 48 48
63B5 71B5 80B5 90B5 100B5 112B5 132B5 160B5 180B5 200B5 225B5 250B5 280B5
99 99 99 99 107 107 128 167 167 165 188.5 188.5 188.5
8 8 8 8 10 10 12 19 19 25 30 51 51
264.5
91
780
710
425
61.5
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F8
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40
500
740
830
850

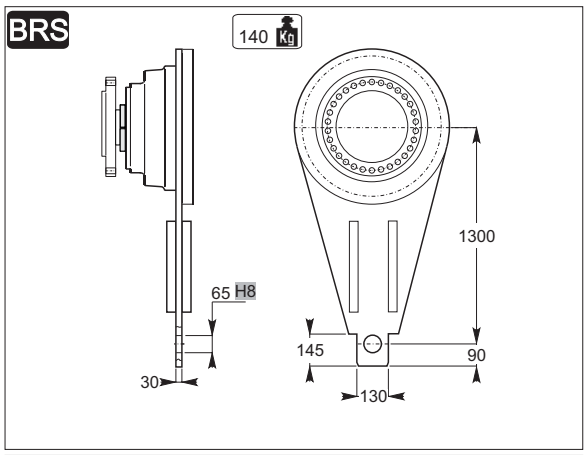

ID
N 200x5x30x38 9H
DIN5480
Zt
Deff
D3
H7
D1
D4
De
Leff
Ld
L4
L1
L3
m
Z
X
De
ID—
FF
45
26
M20x55
Rff
170 200 226
H7 f7
M20
21(n°4-90°)
130
BD
Zt
1x45°
N200x5x30x38 9H
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h7
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Ld
L4
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ID
FF
BD
Accessories

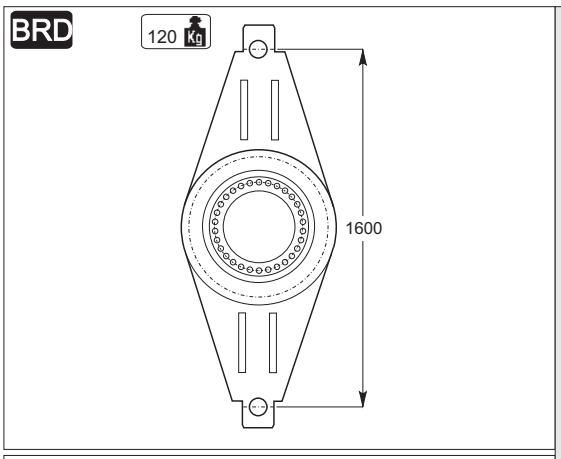


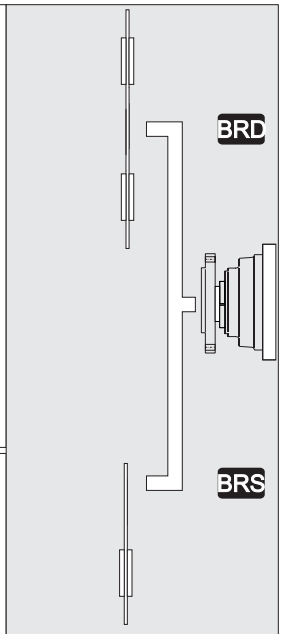


Output Shafts

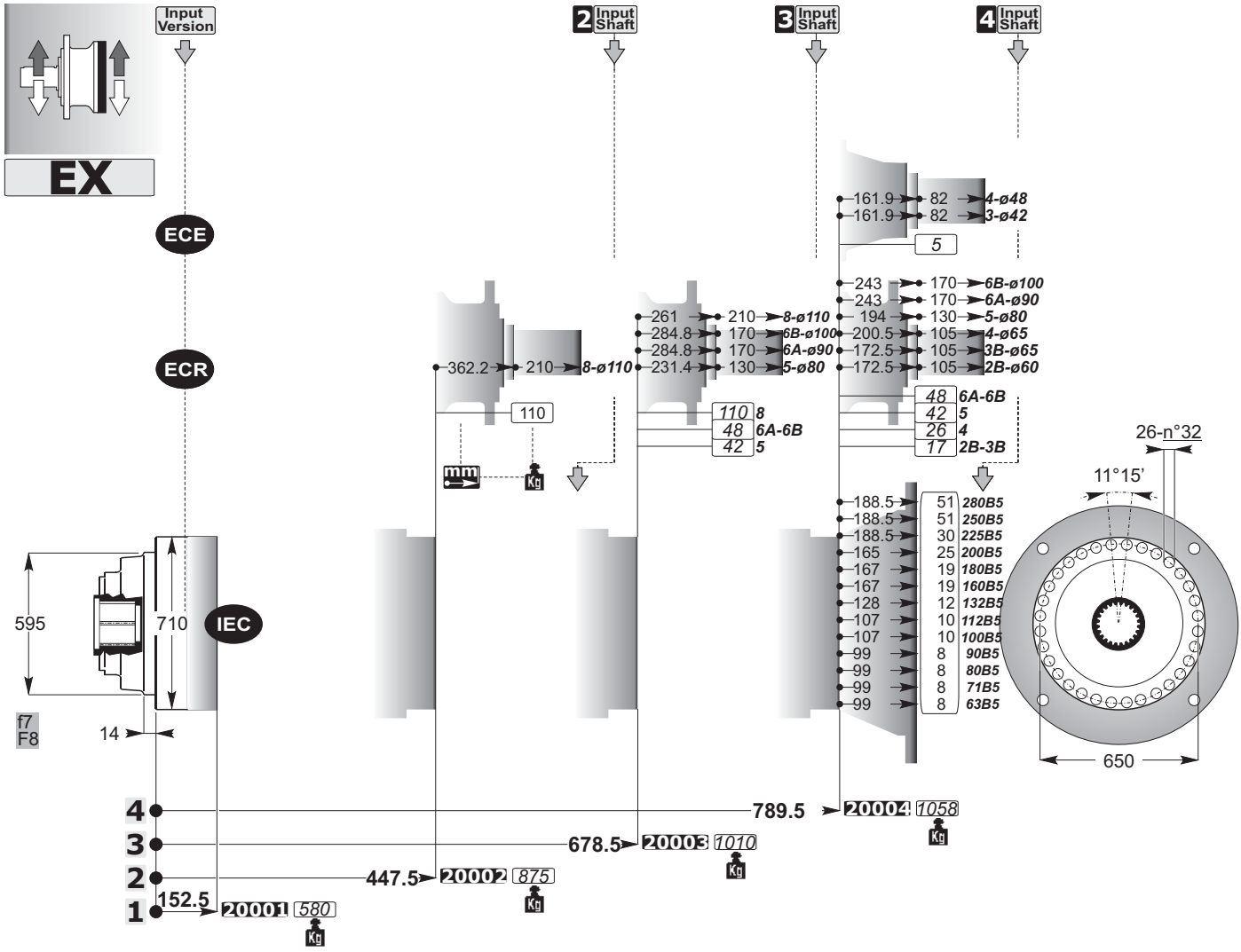


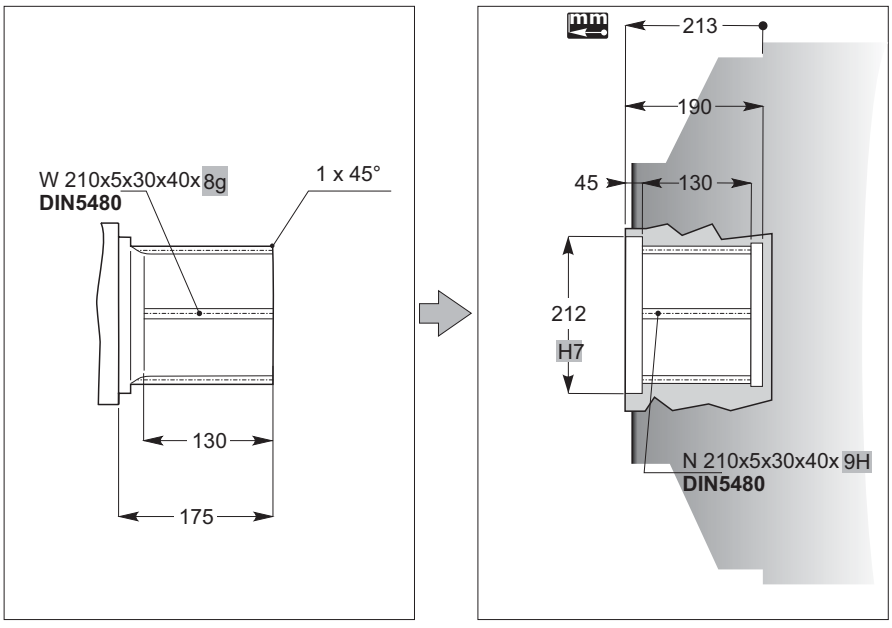




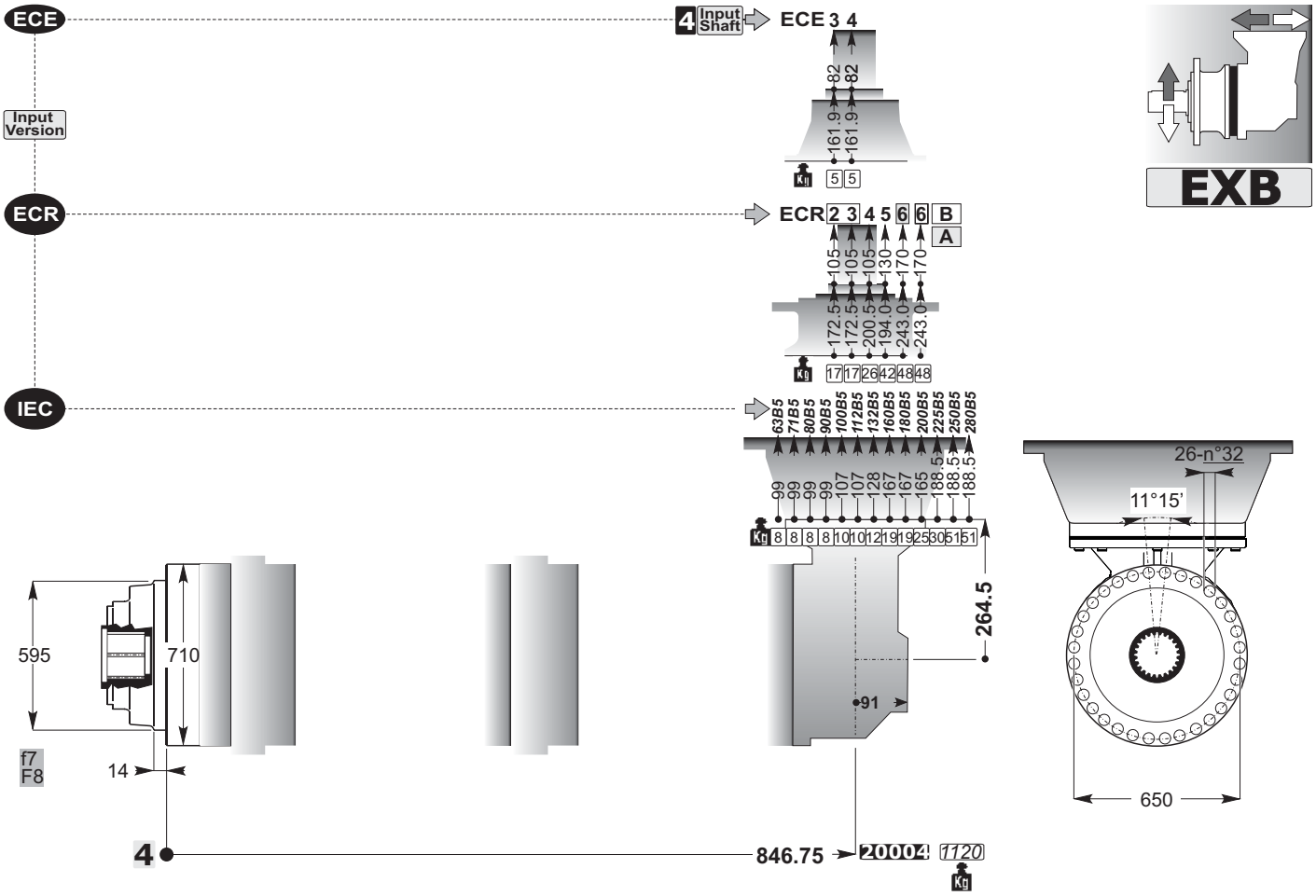


Accessories

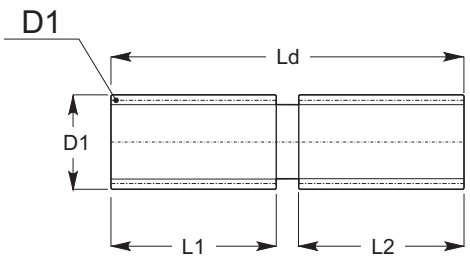




Output Shafts



SD

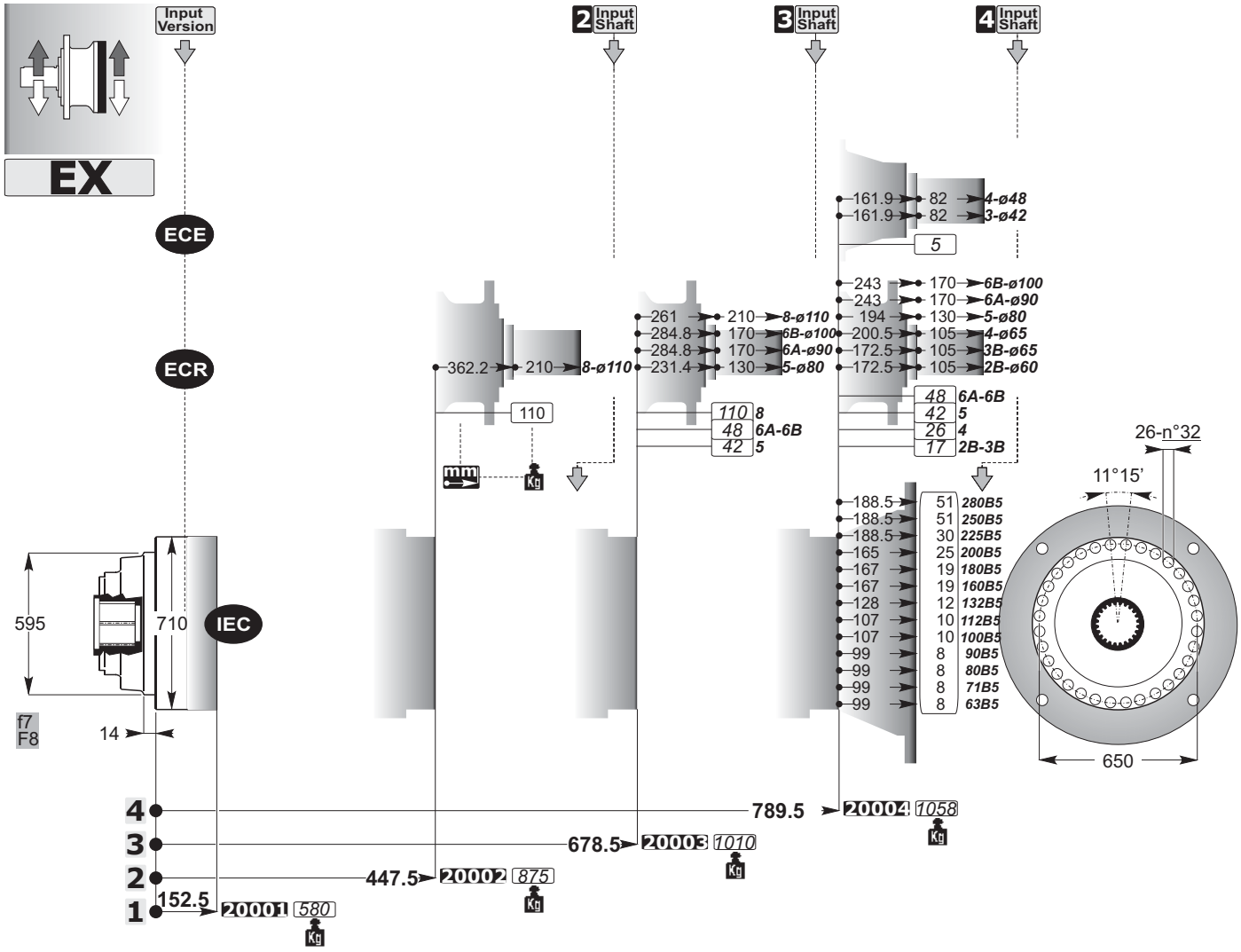


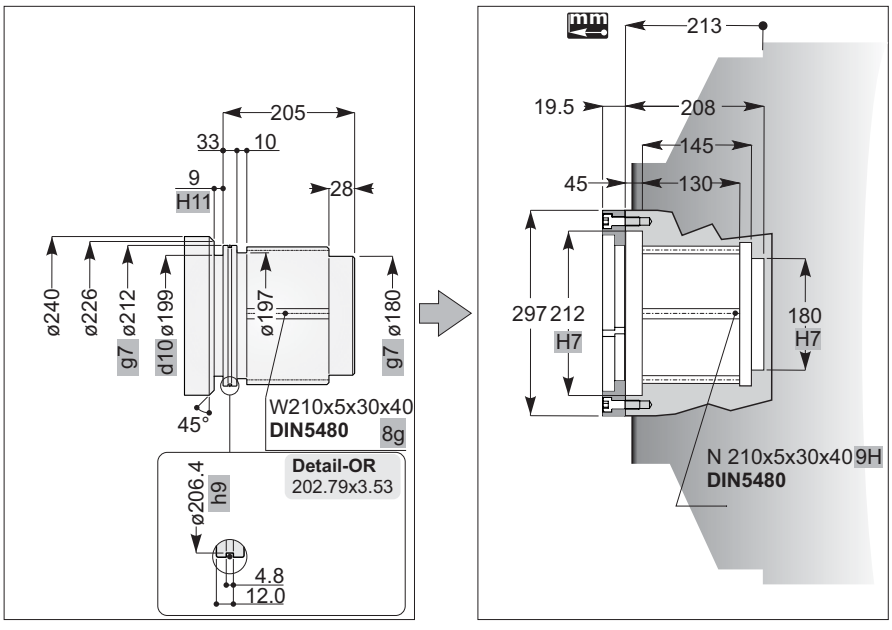
On request

SD

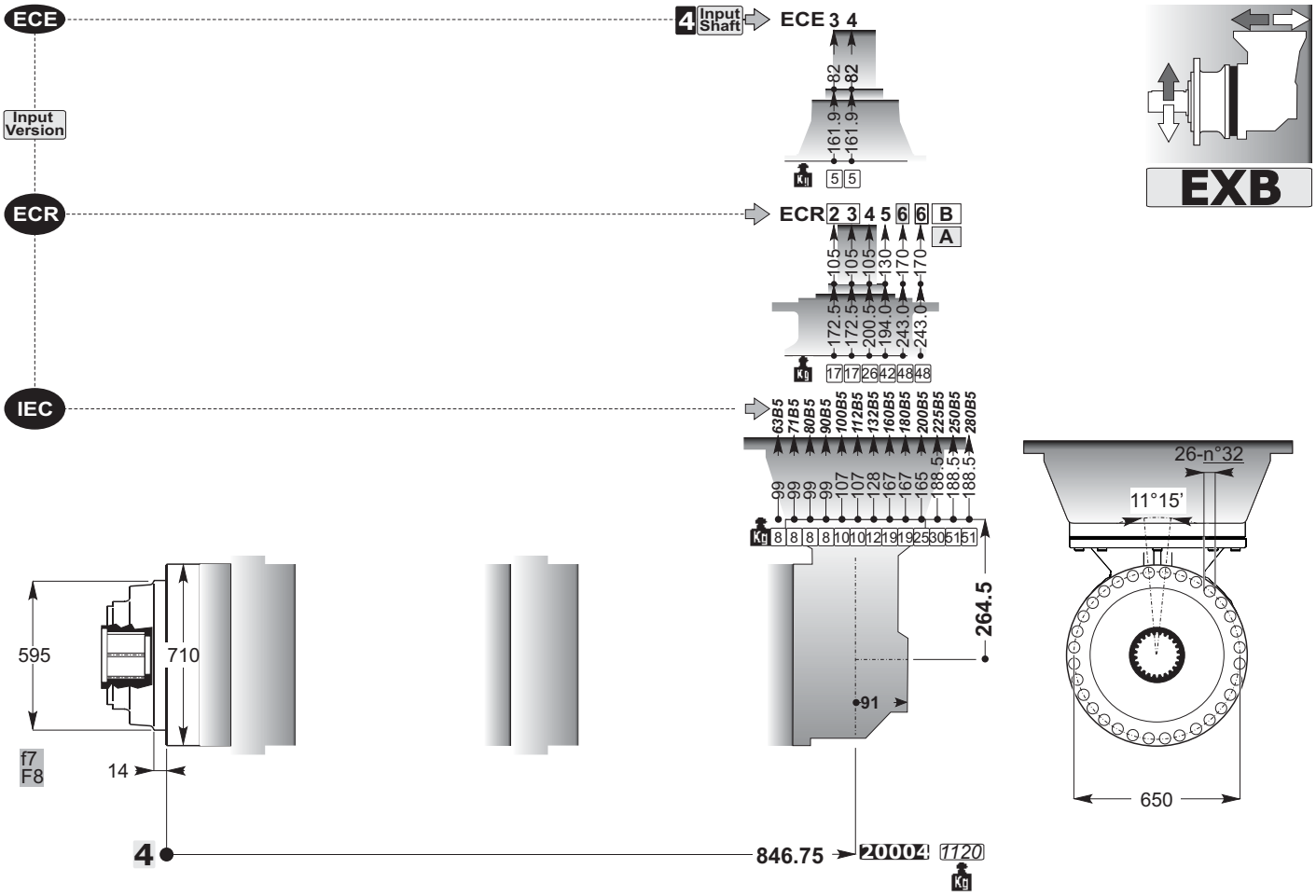


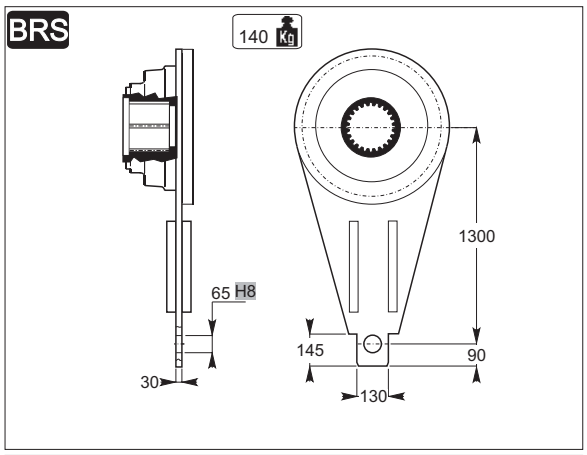
Accessories

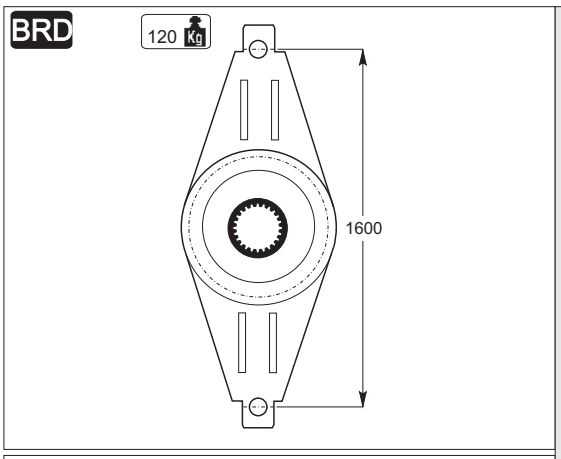


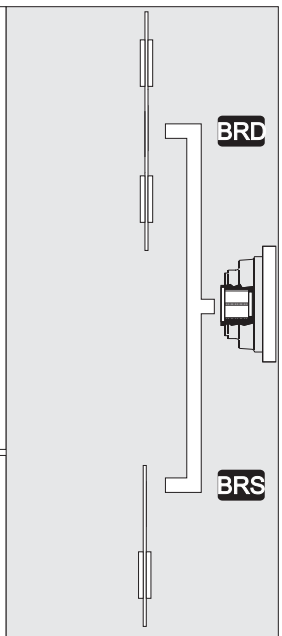


Output Shafts



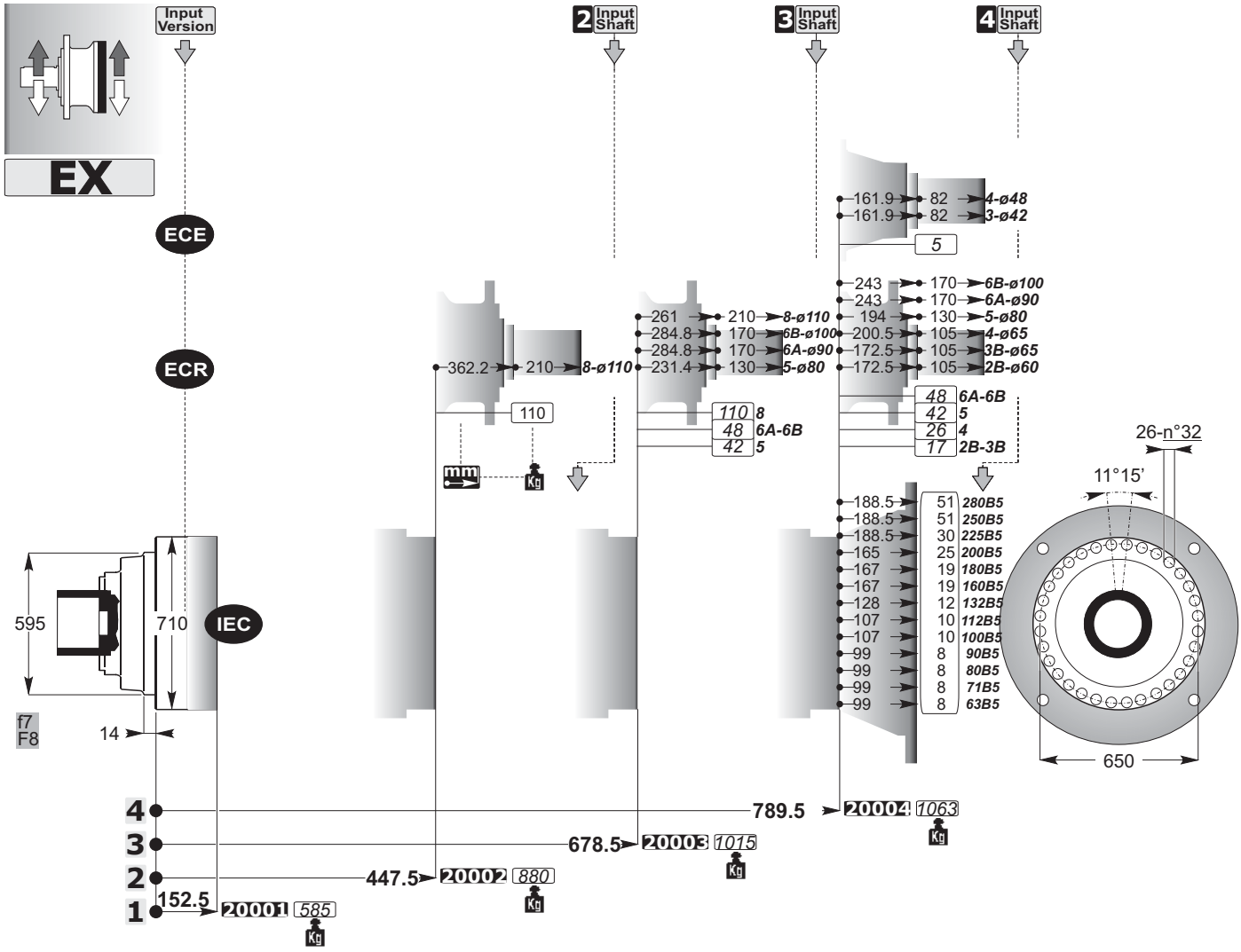


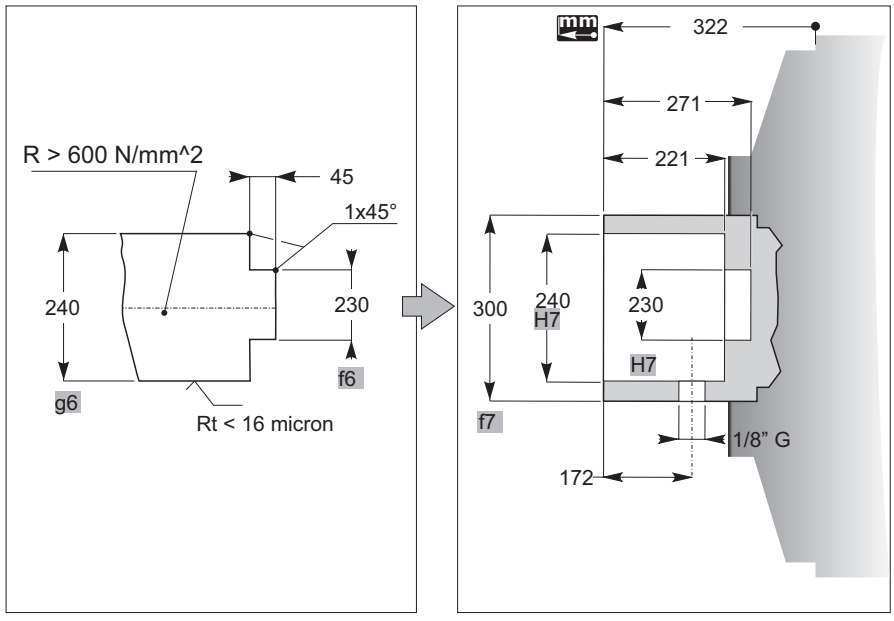




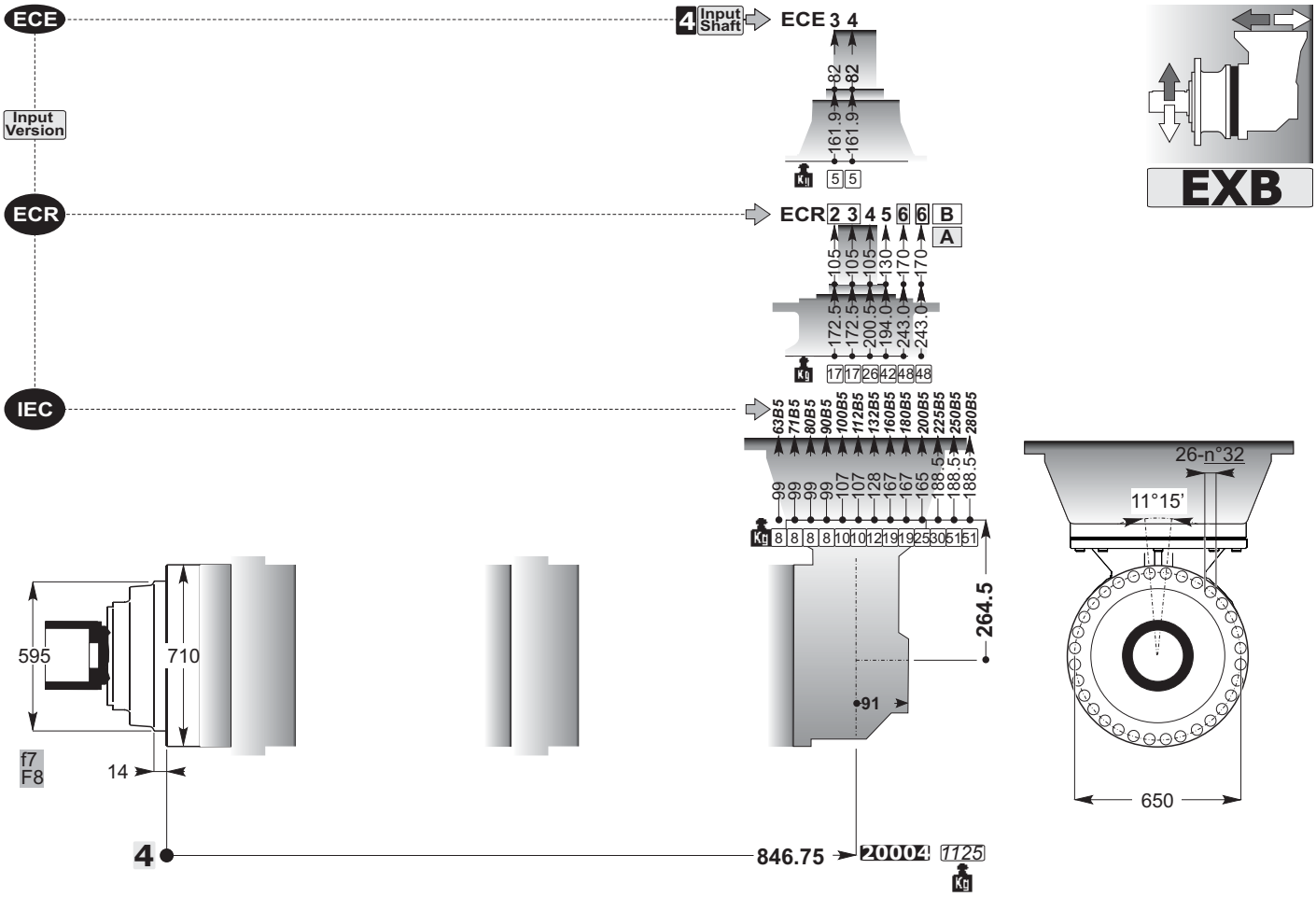
Accessories

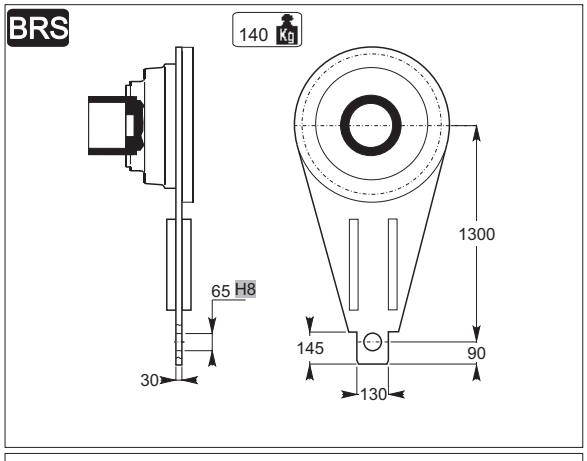
mm
C

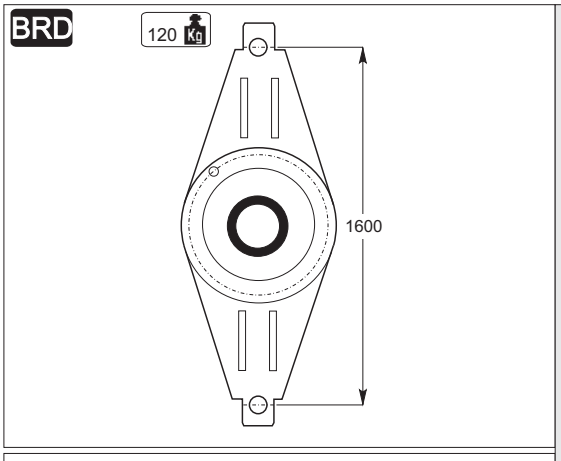


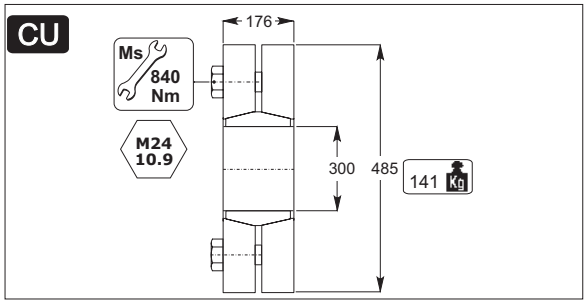


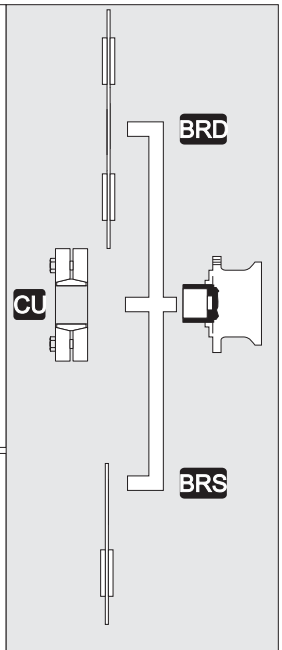
Output Shafts





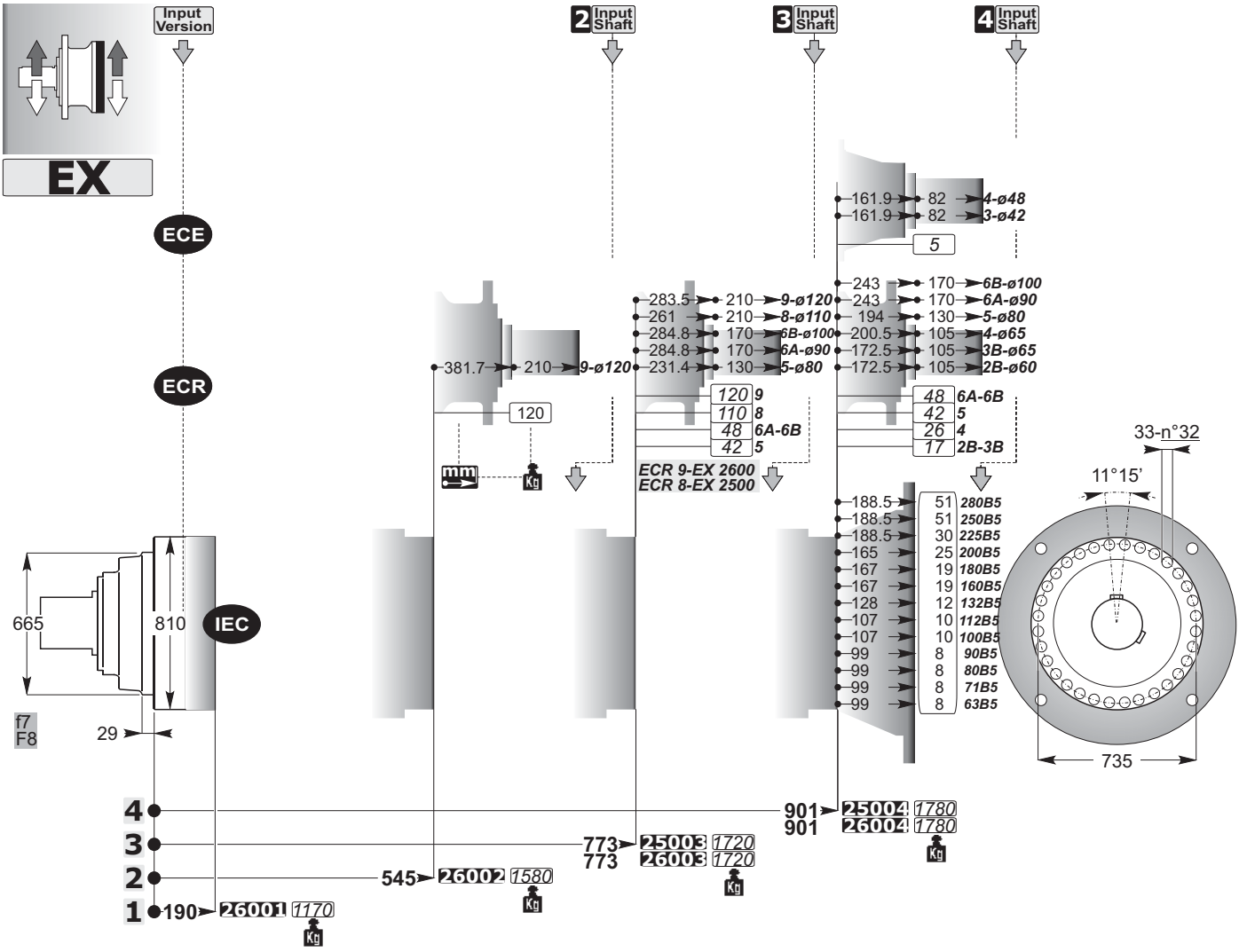


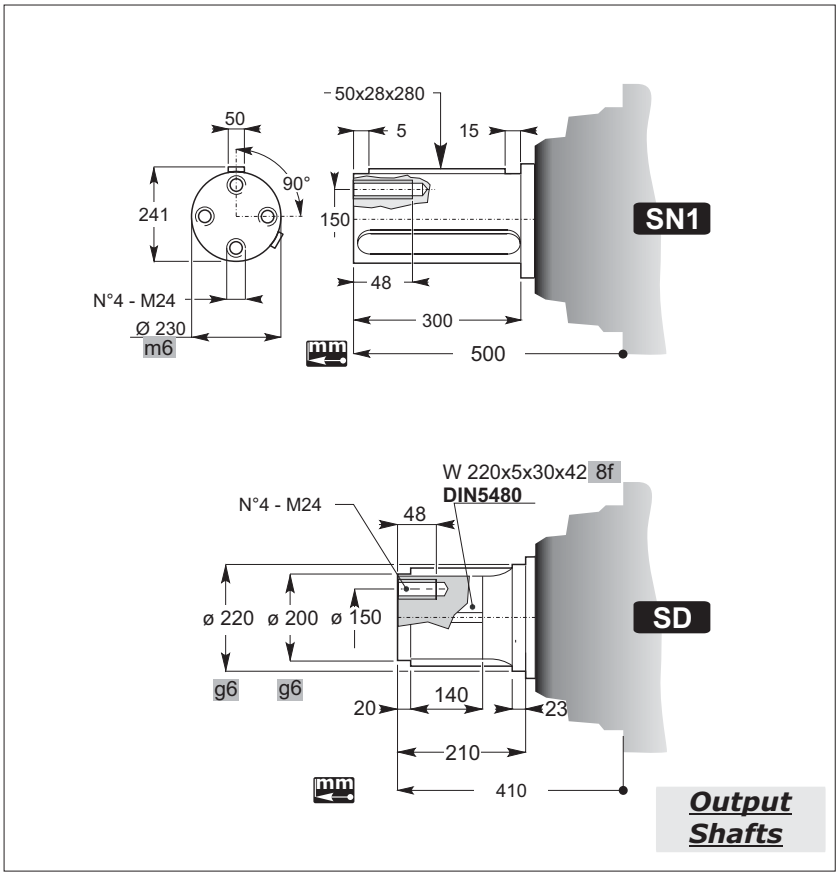


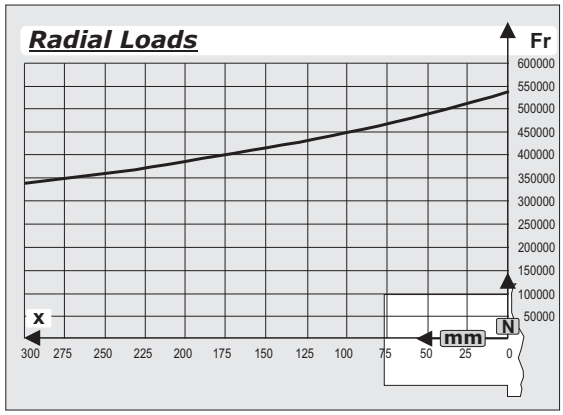


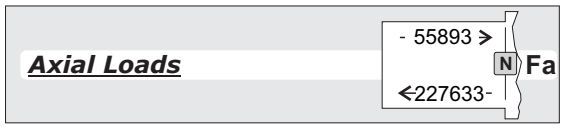
Accessories

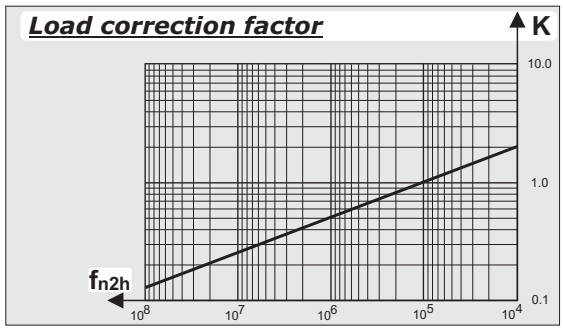
mm
C

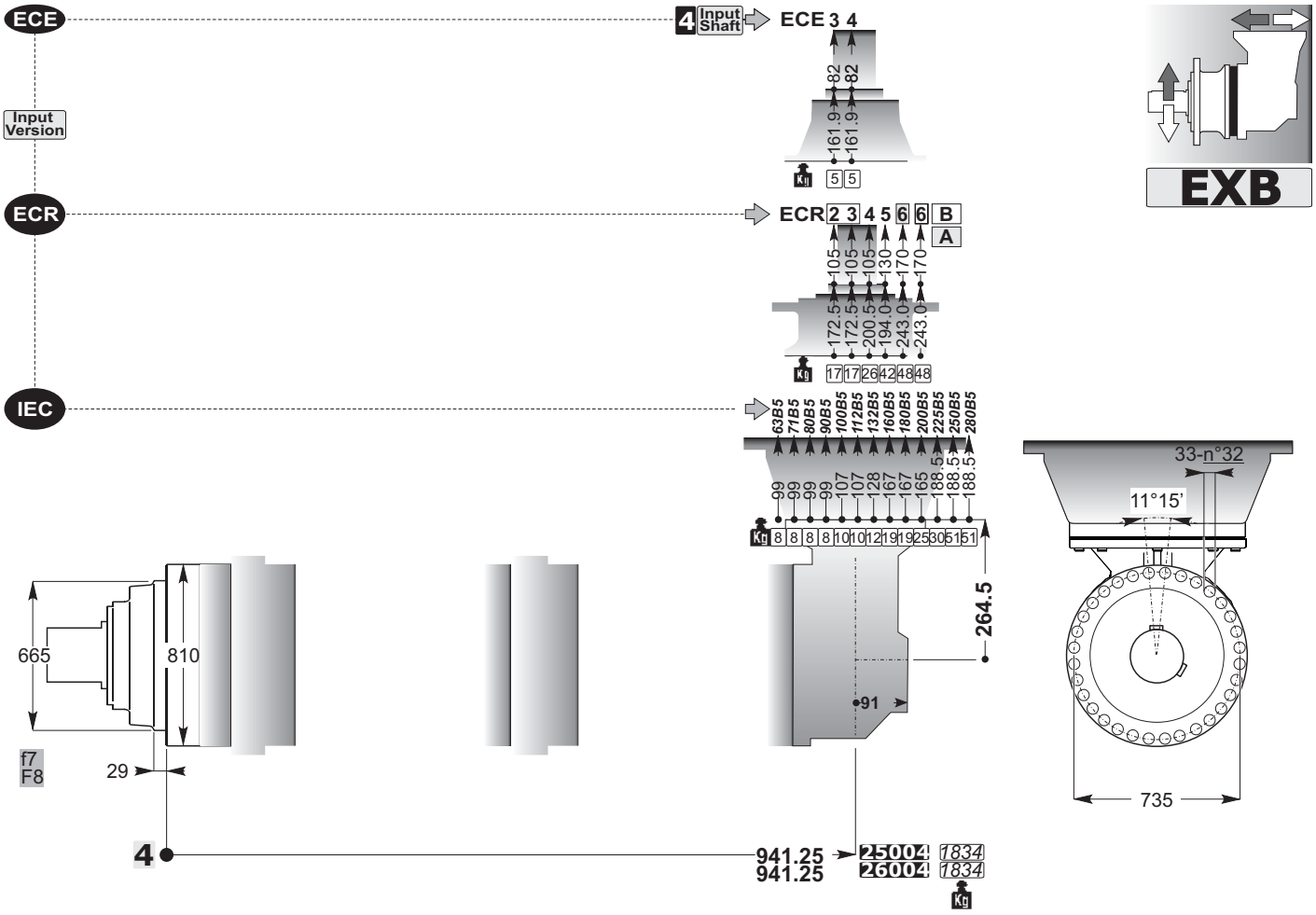

Input Version
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
665
810
f7
F8
29
381.7 210 9-ø120
120
283.5 210 9-ø120
261 210 8-ø110
284.8 170 6B-ø100
284.8 170 6A-ø90
231.4 130 5-ø80
120 9
110 8
48 6A-6B
42 5
ECR 9-EX 2600
ECR 8-EX 2500
161.9 82 4-ø48
161.9 82 3-ø42
5
243 170 6B-ø100
243 170 6A-ø90
194 130 5-ø80
200.5 105 4-ø65
172.5 105 3B-ø65
172.5 105 2B-ø60
48 6A-6B
42 5
26 4
17 2B-3B
188.5 51 280B5
188.5 51 250B5
188.5 30 225B5
165 25 200B5
167 19 180B5
167 19 160B5
128 12 132B5
107 10 112B5
107 10 100B5
99 8 90B5
99 8 80B5
99 8 71B5
99 8 63B5
33-n°32
11°15'
735
4
3
2
1
901 25004 1780
901 26004 1780
773 25003 1720
773 26003 1720
545 26002 1580
190 26001 1170


50x28x280
50
5
15
90°
241
150
SN1
N°4 - M24
Ø 230
m6
48
300
500
W 220x5x30x42 8f
DIN5480
N°4 - M24
48
ø 220
ø 200
ø 150
SD
g6
g6
140
20
23
210
410
Output Shafts

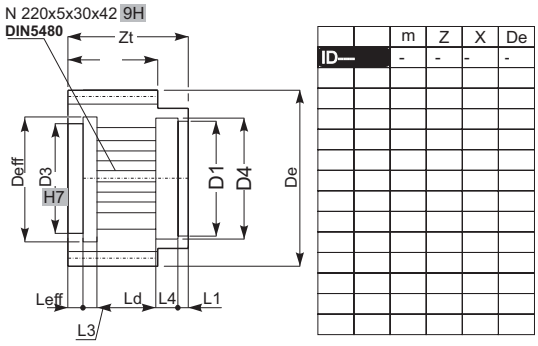

Radial Loads
Fr
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
x
300 275 250 225 200 175 150 125 100 75 50 25 0
mm
N


Axial Loads
- 55893 >
N
Fa
<227633-


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8 10^7 10^6 10^5 10^4



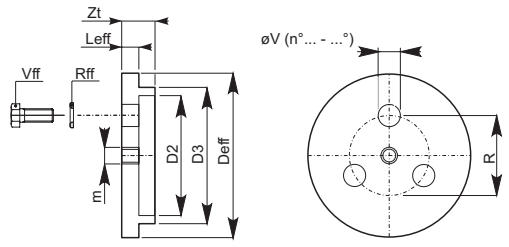
ID



	m	Z	X	De
ID—	-	-	-	-

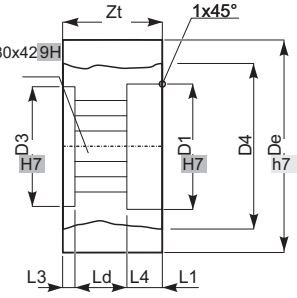
On request

FF

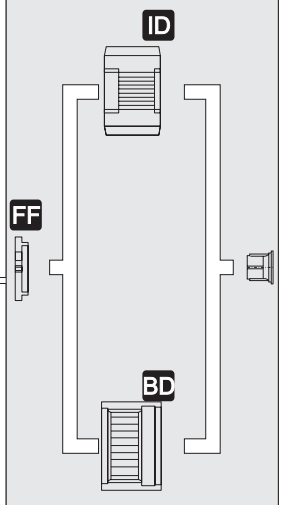


On request

BD

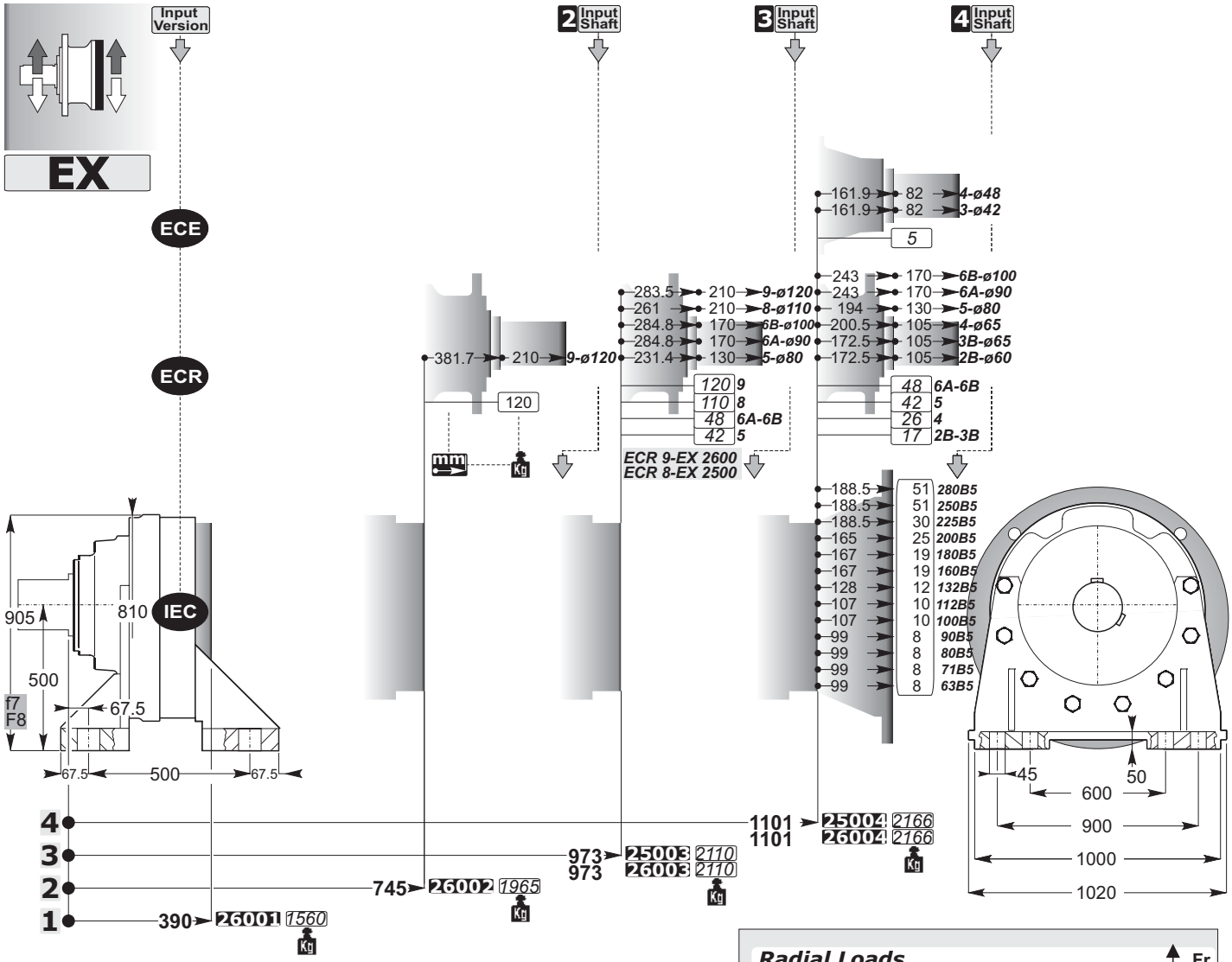


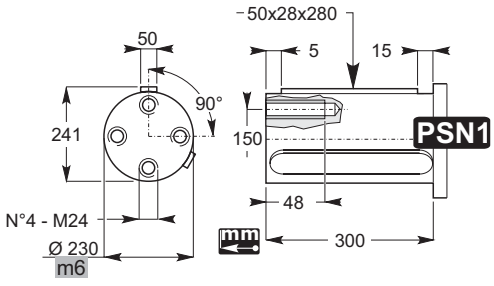
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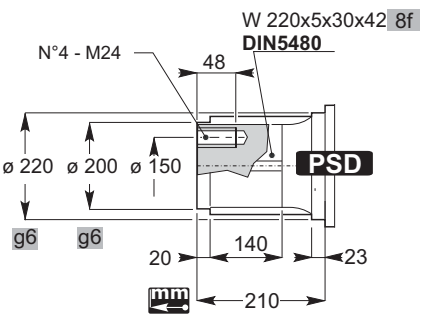


Accessories

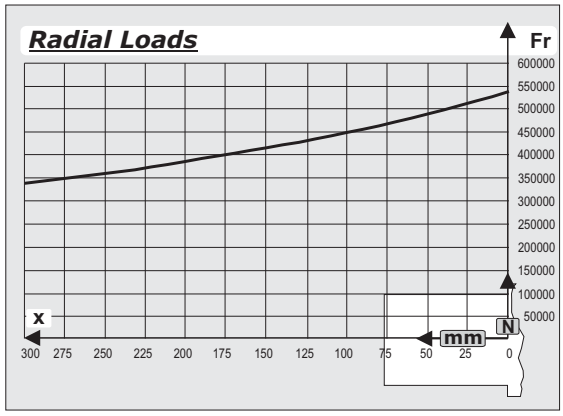
mm
C

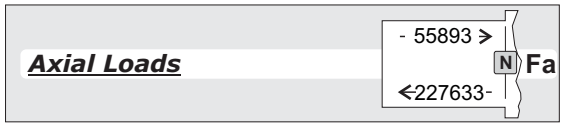


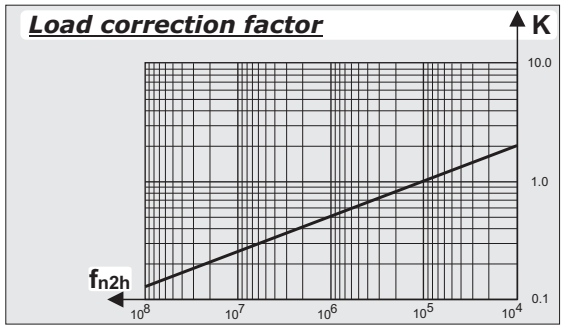


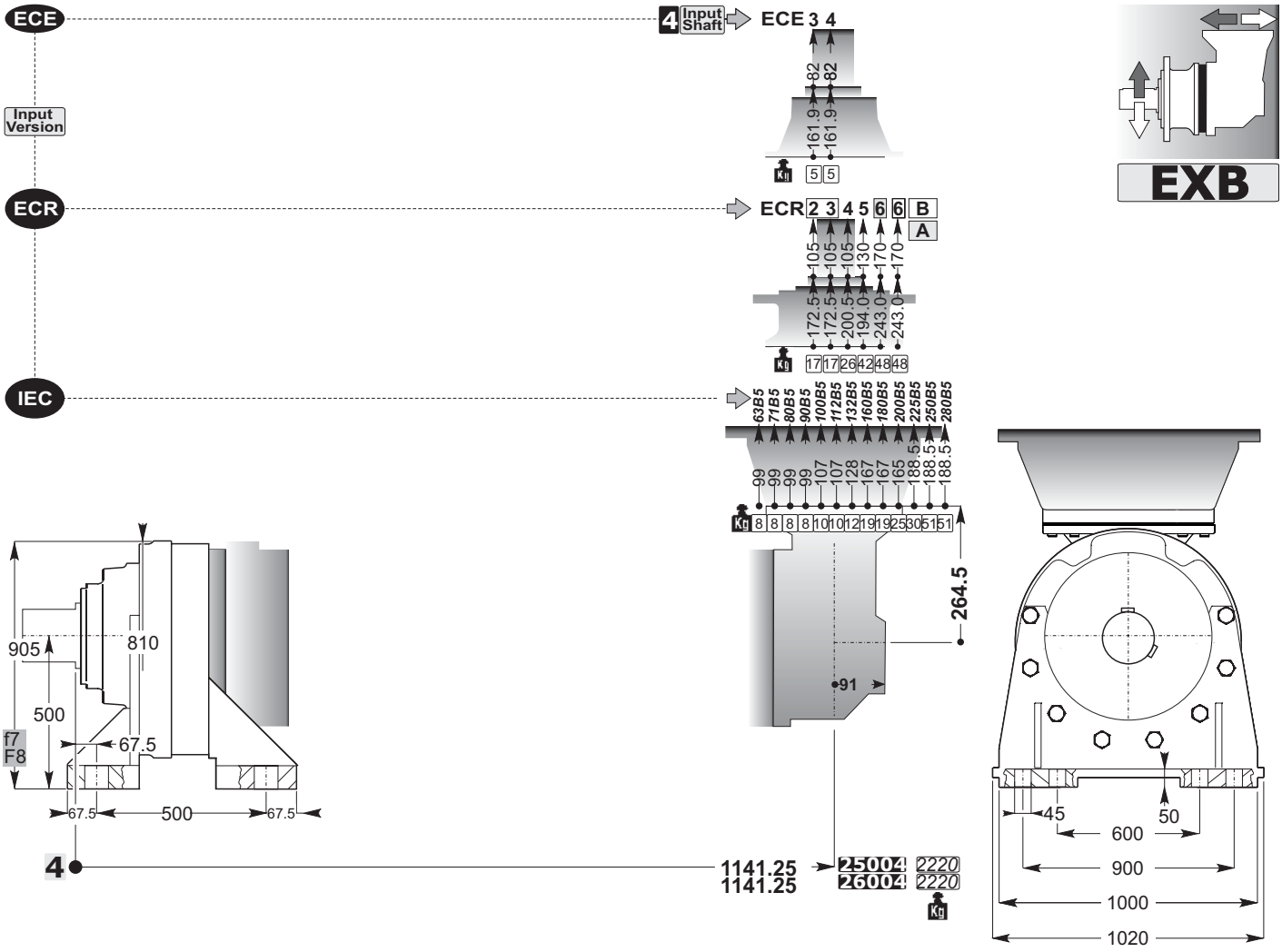


Output Shafts

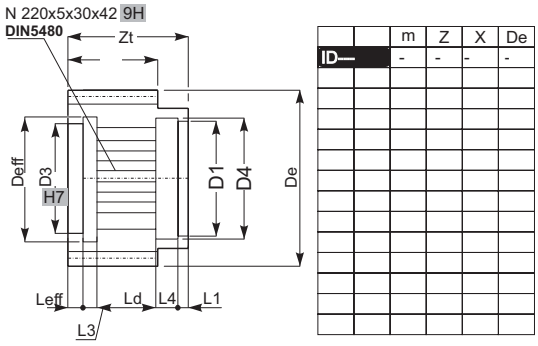








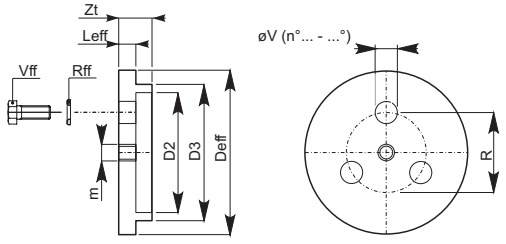
ID



	m	Z	X	De
ID—	-	-	-	-

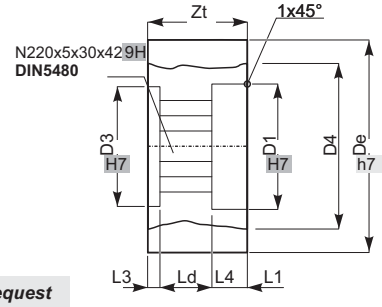
On request

FF

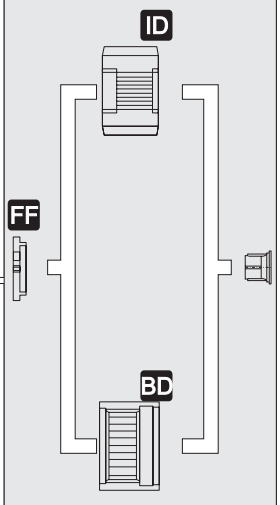


On request

BD

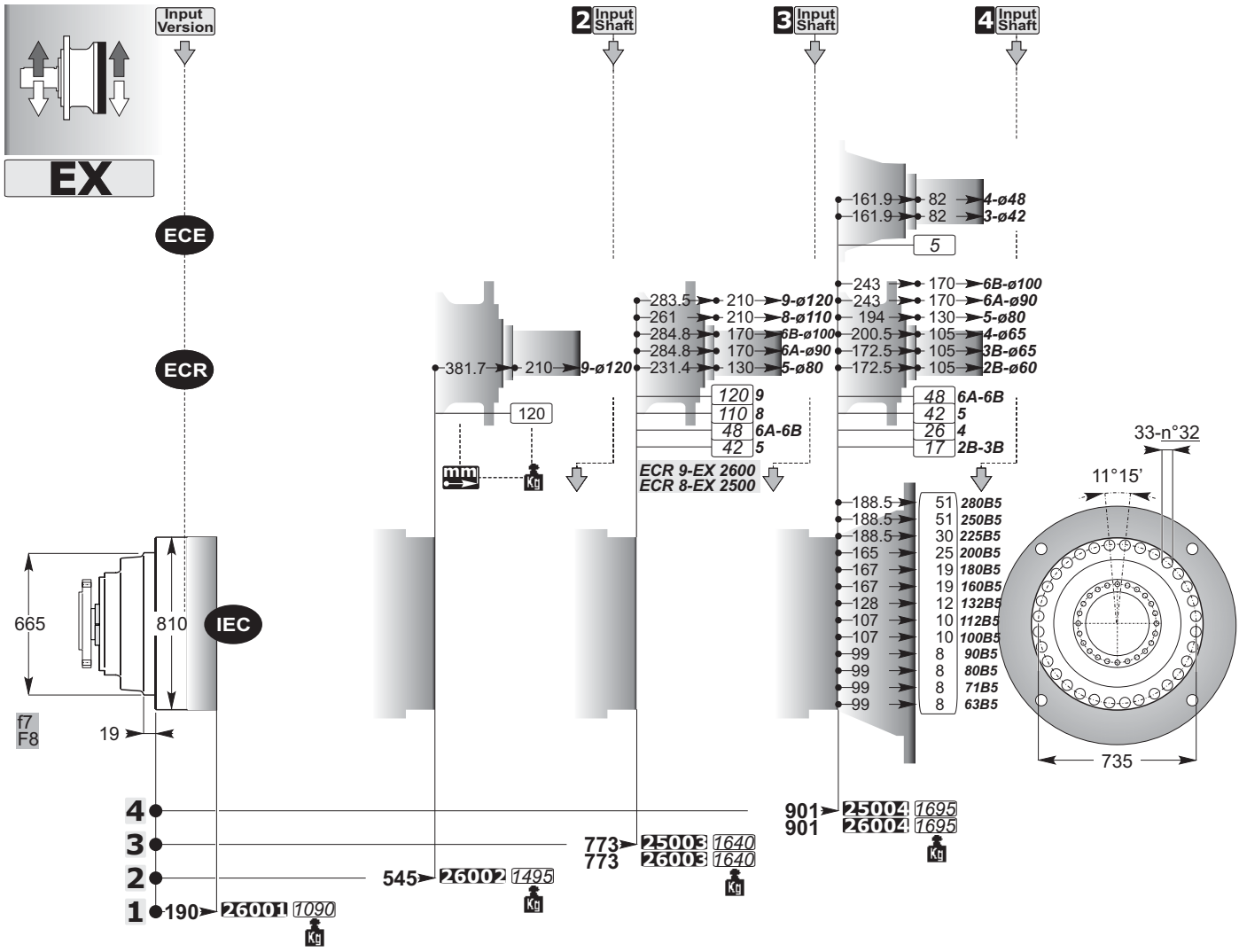


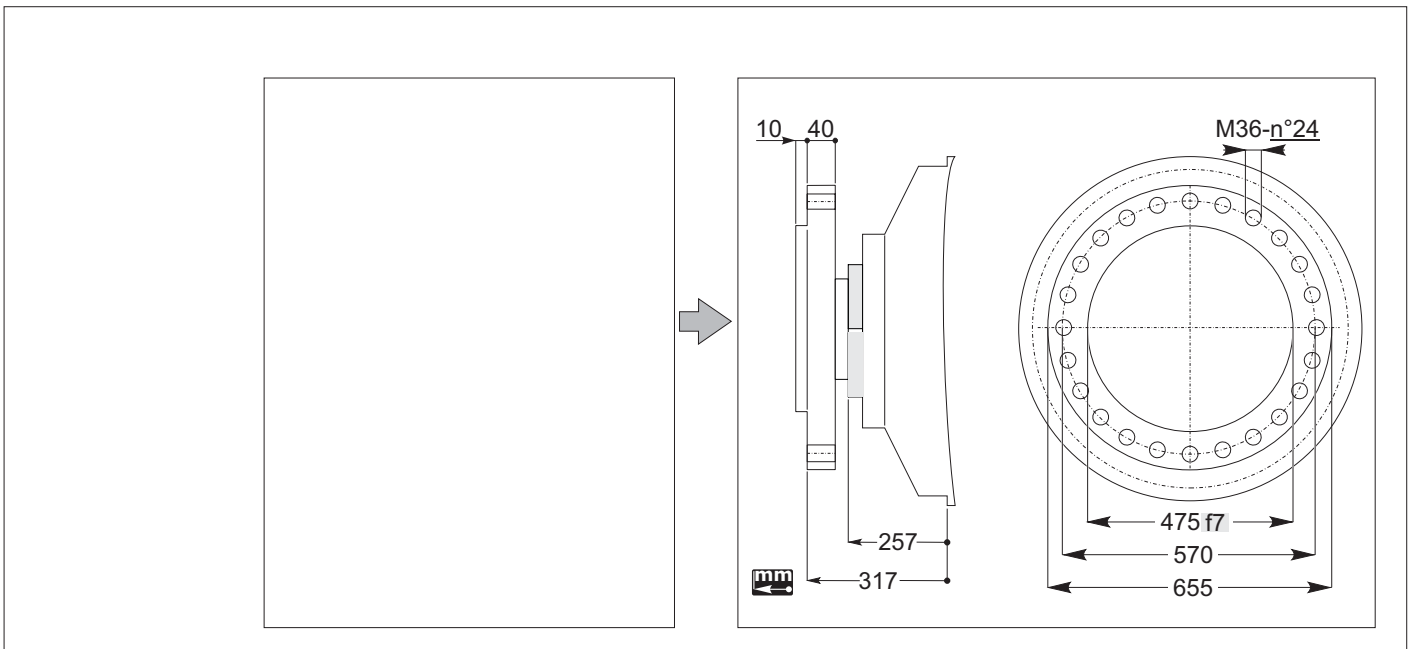
On request

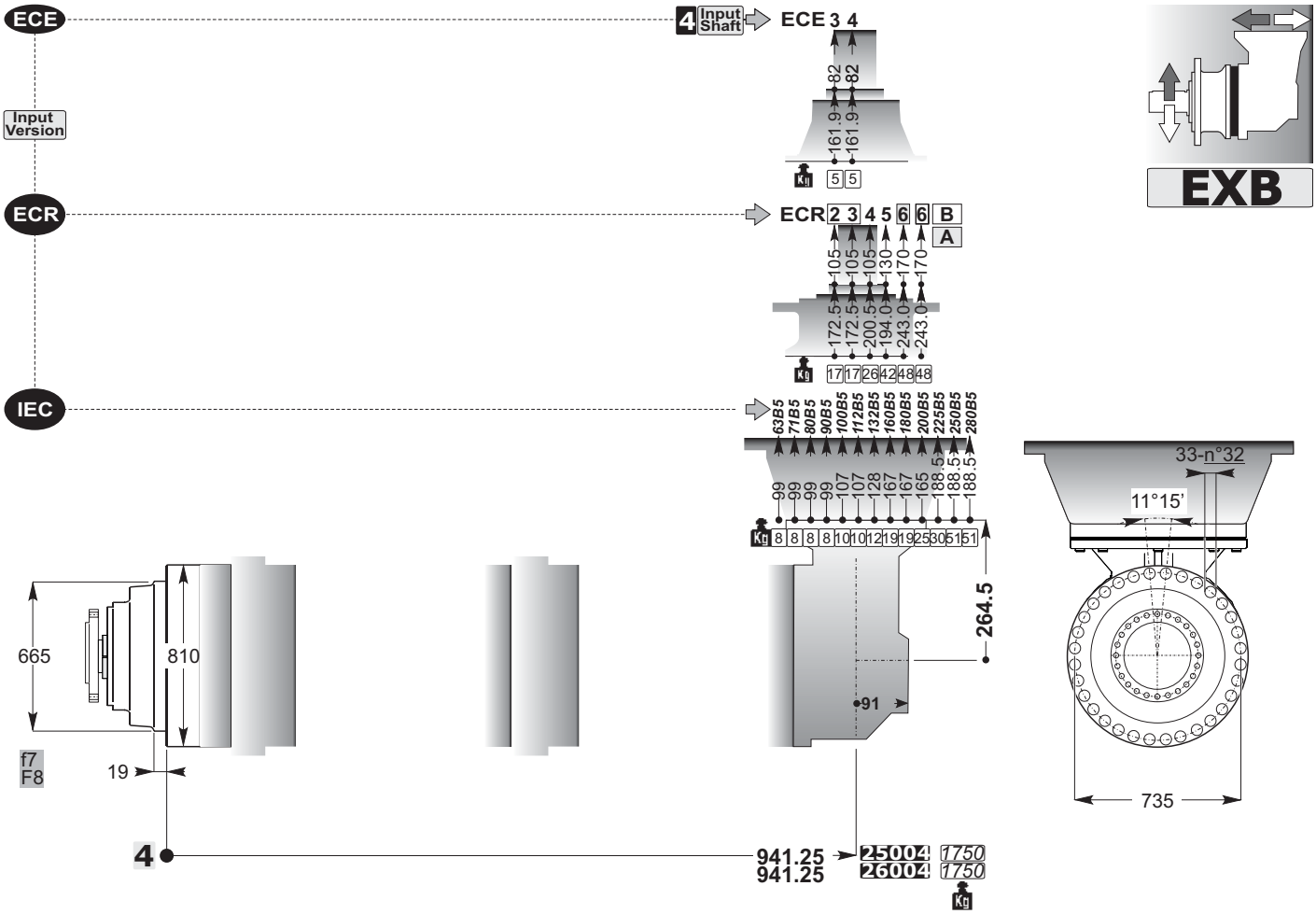


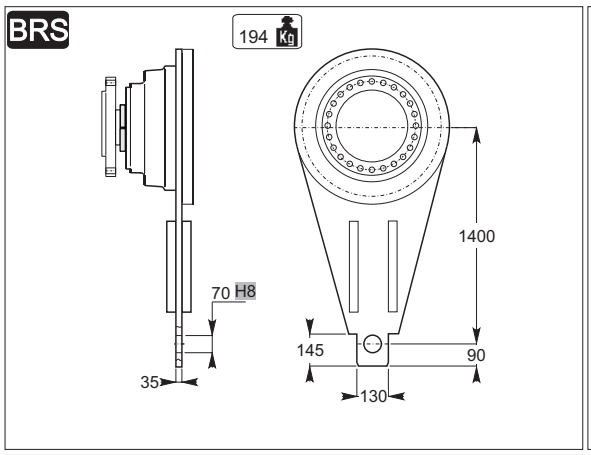
Accessories

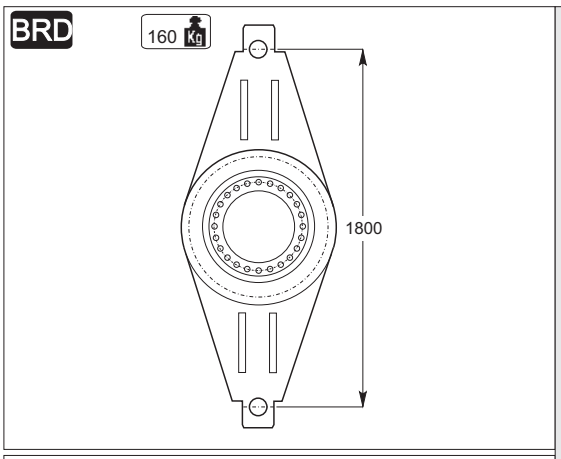
mm
C

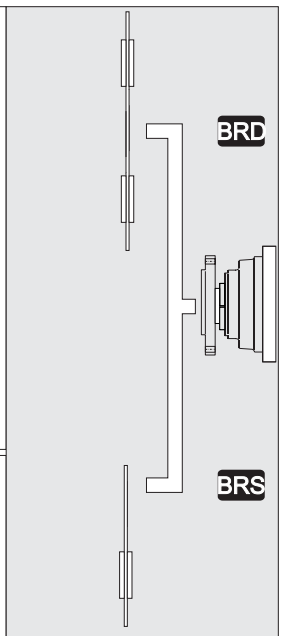

Input Version
2 Input Shaft
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
665
810
19
f7
F8
120
mm
Kg
ECR 9-EX 2600
ECR 8-EX 2500
33-n°32
11°15'
735
4
3
2
1
190 26001 1090
545 26002 1495
773 25003 1640
773 26003 1640
901 25004 1695
901 26004 1695


10
40
M36-n°24
257
317
475 f7
570
655
mm
Output Shafts

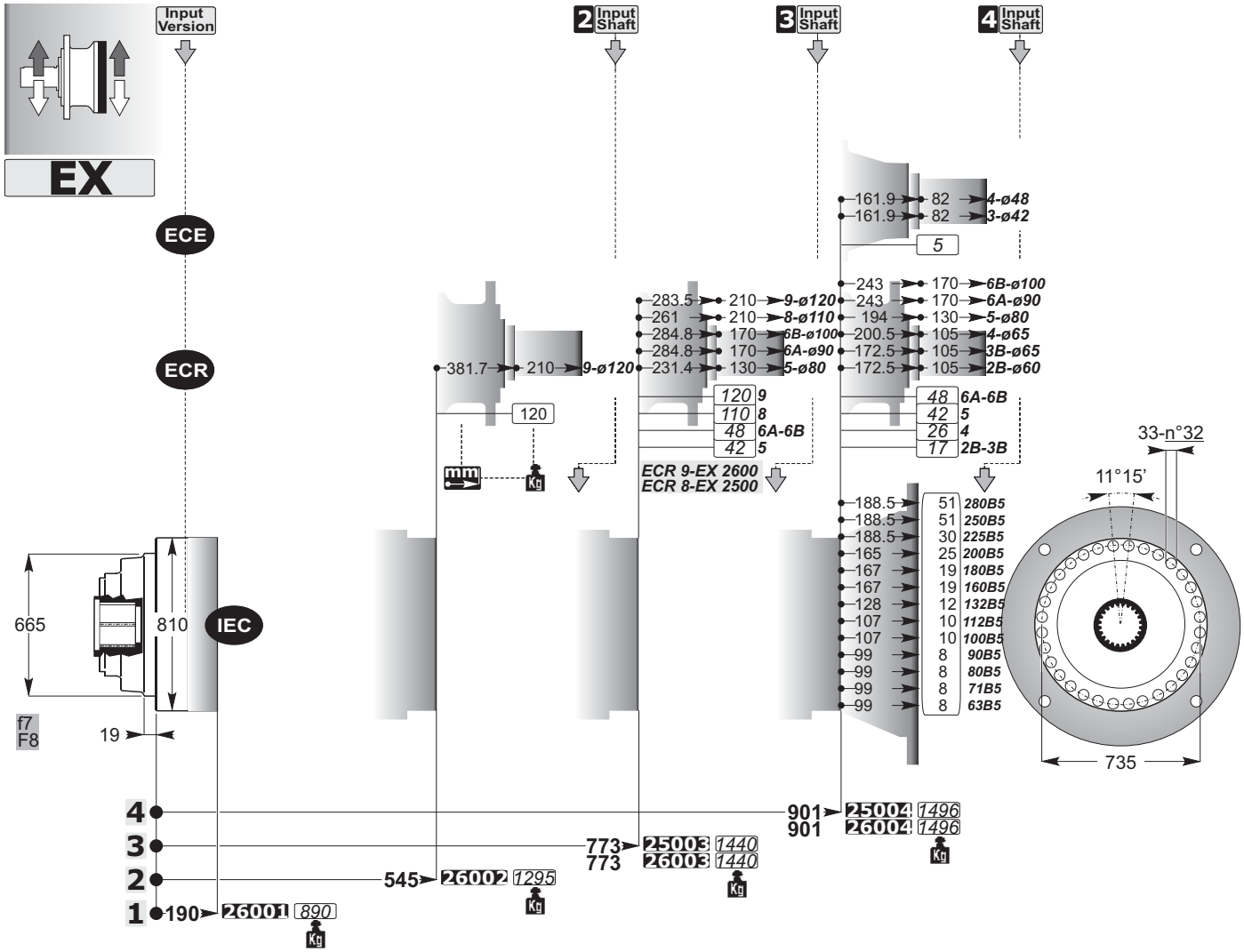


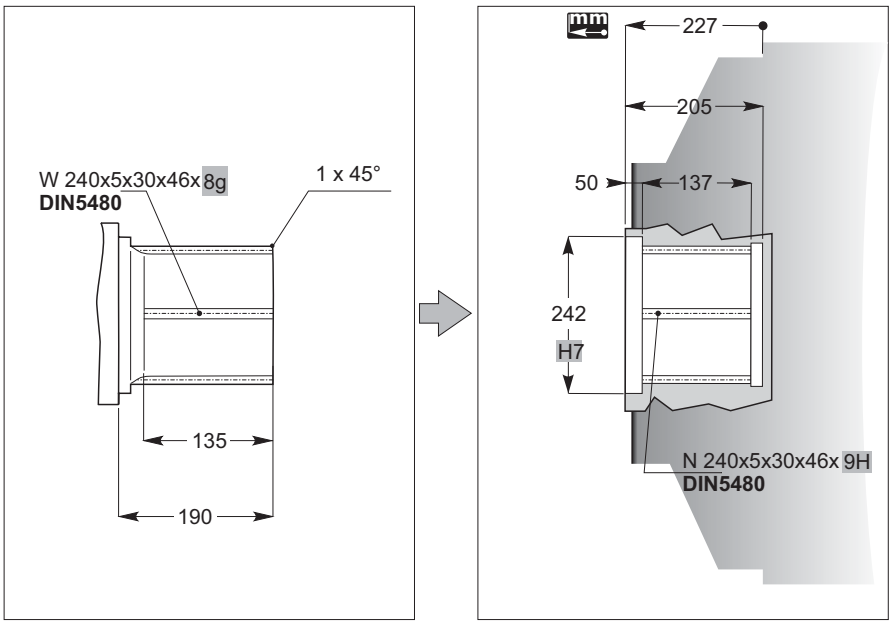




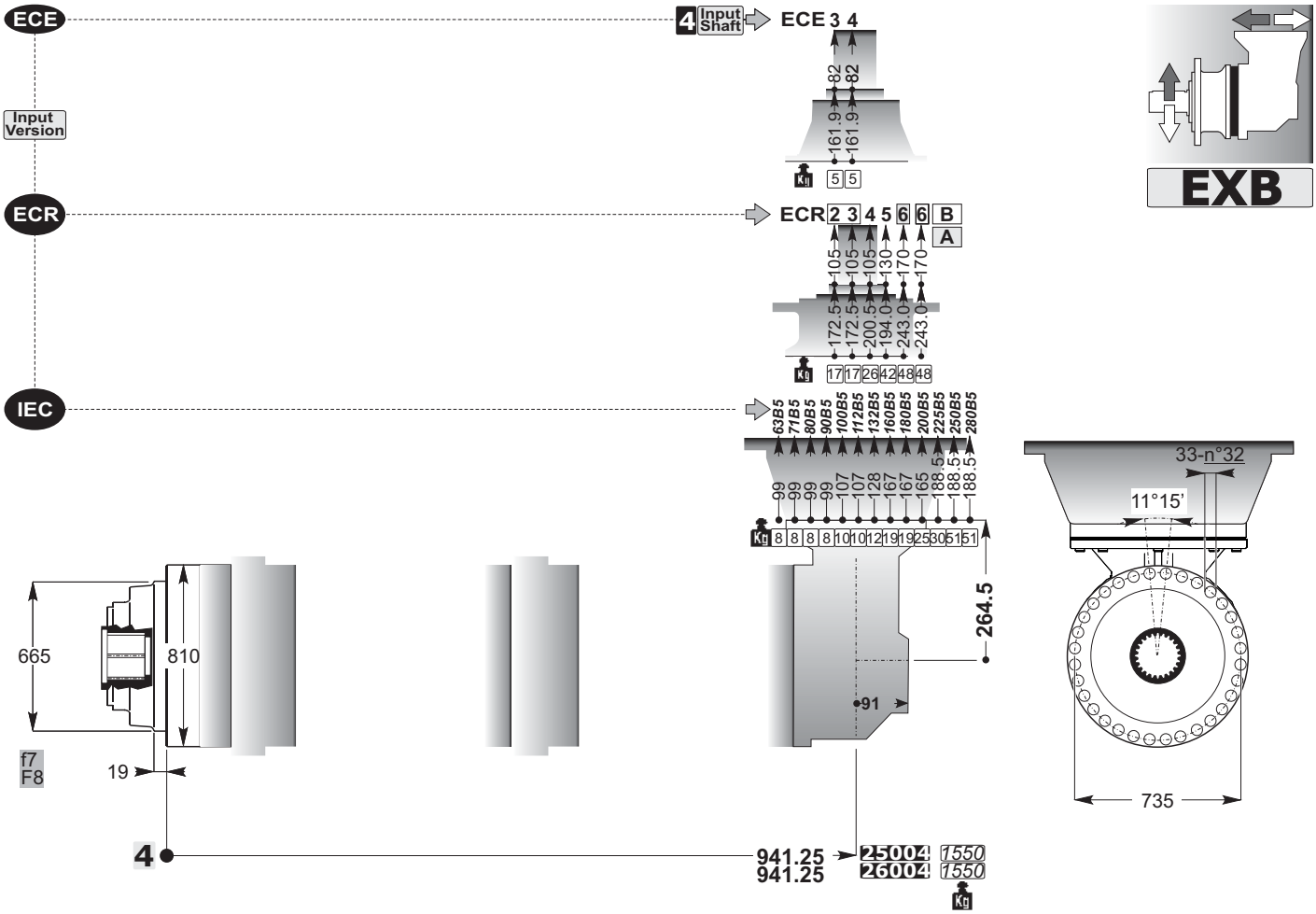


Accessories

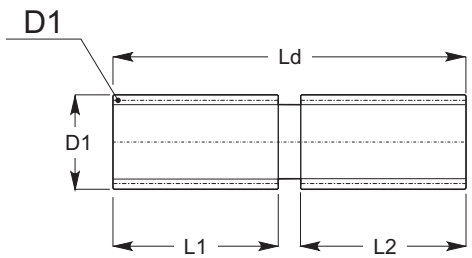




Output Shafts



SD

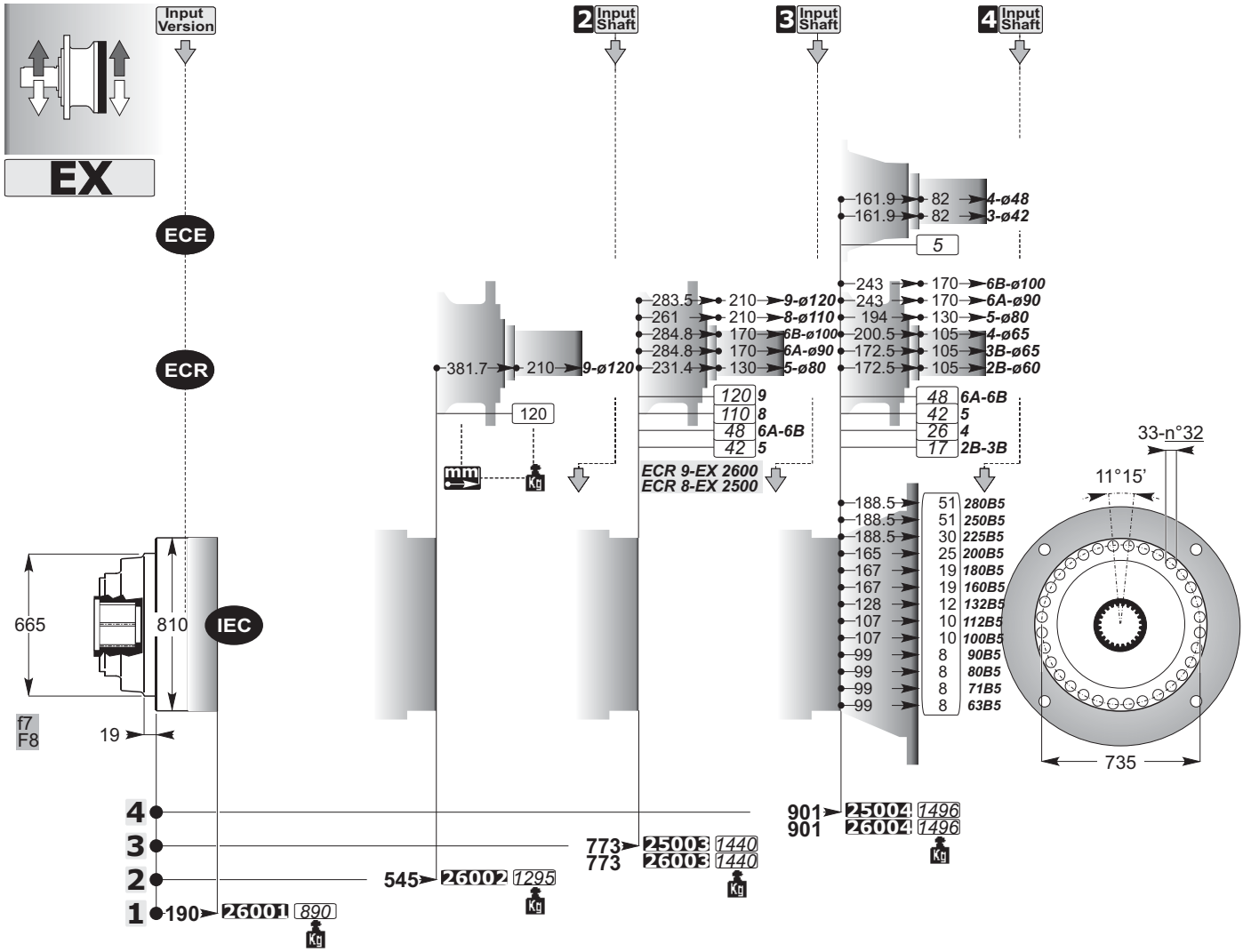


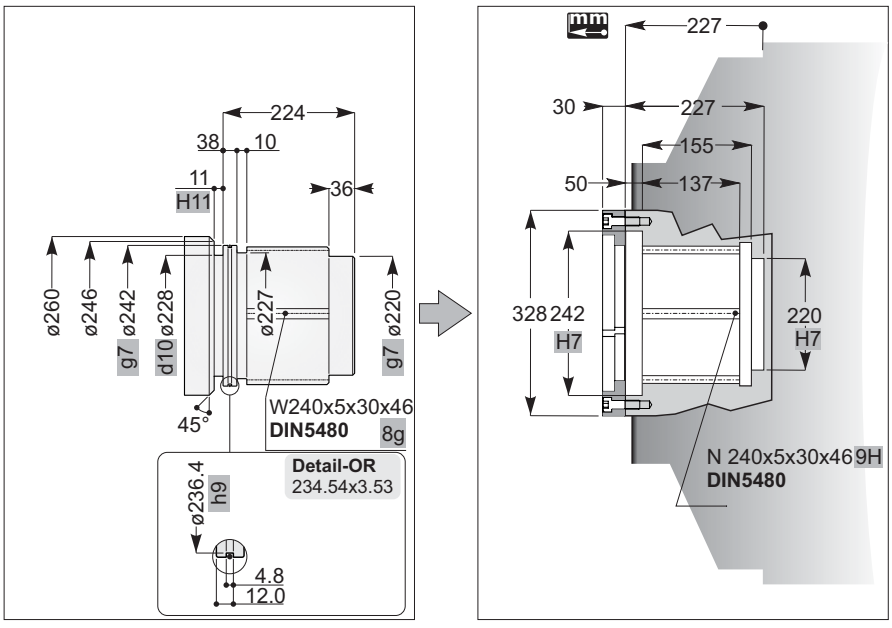
On request

SD

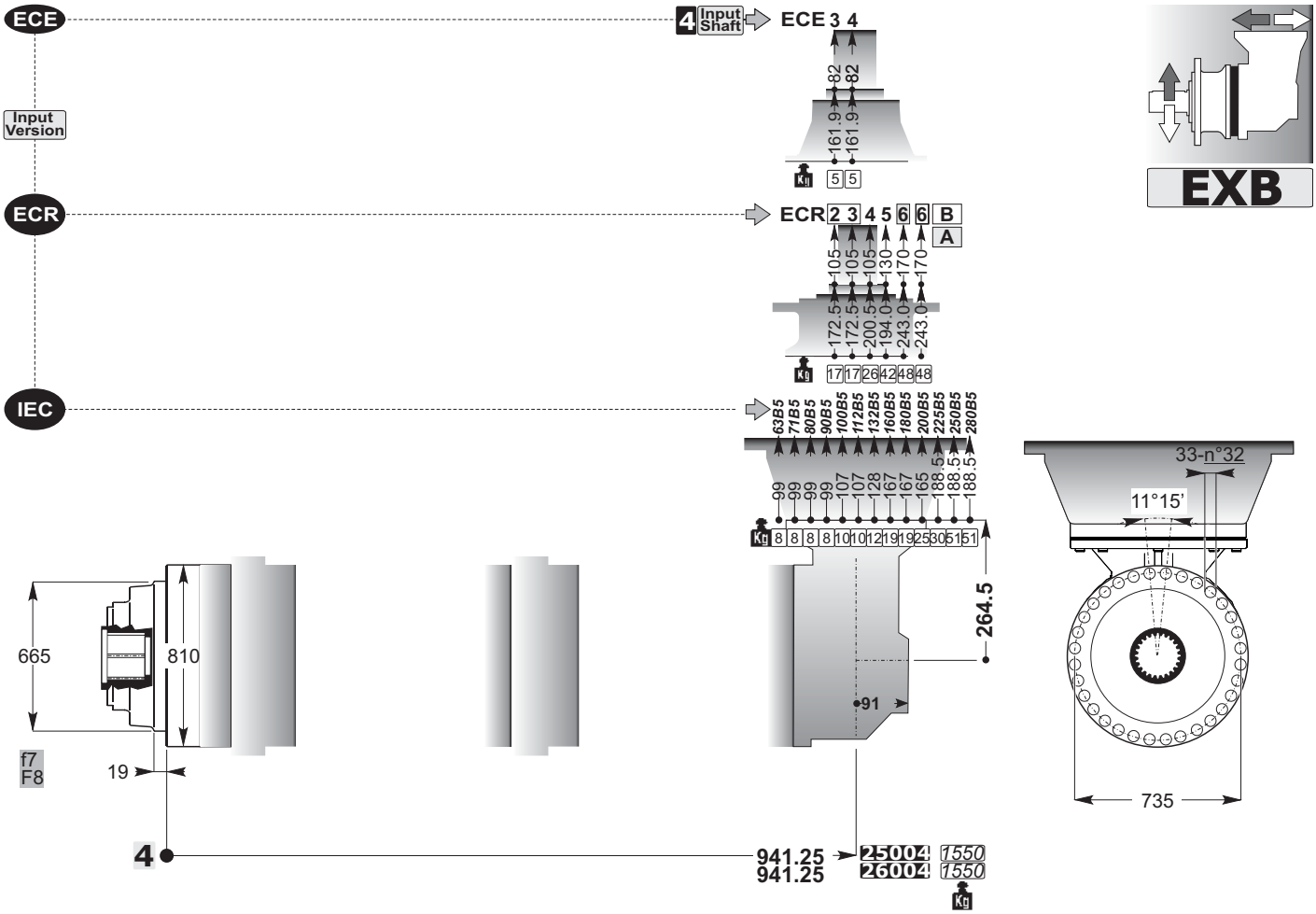


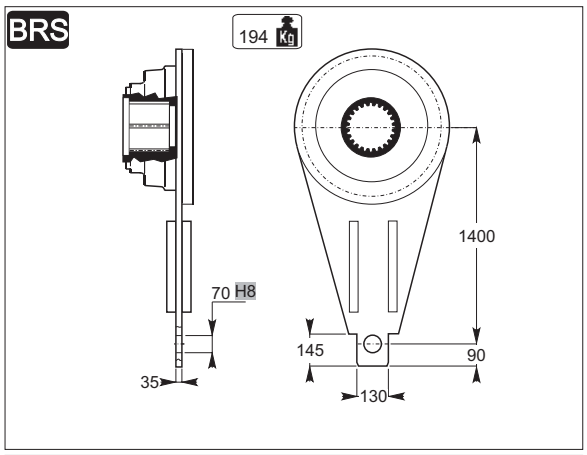
Accessories

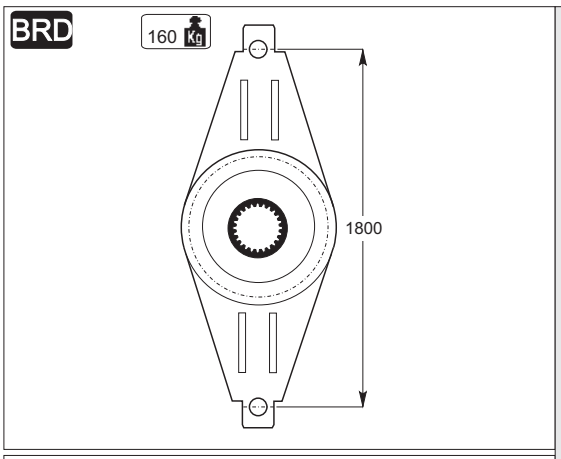


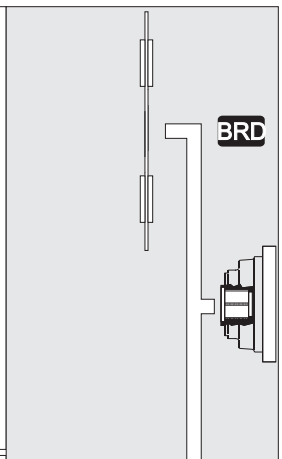


Output Shafts

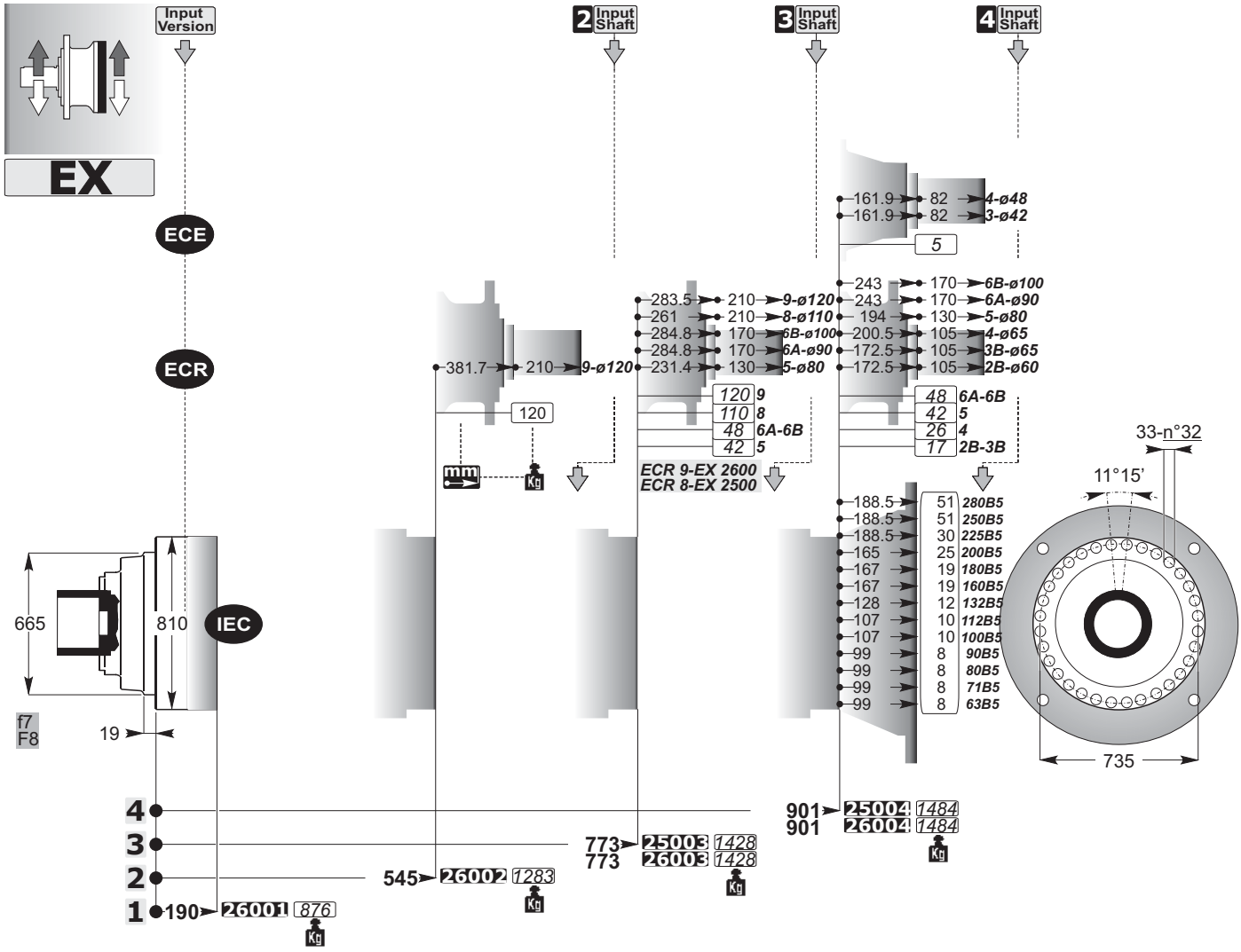


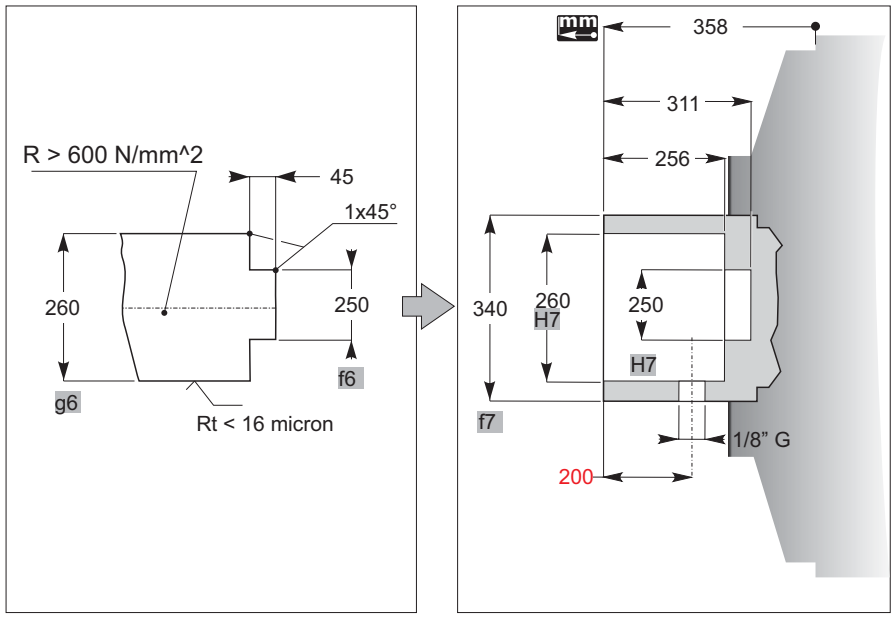




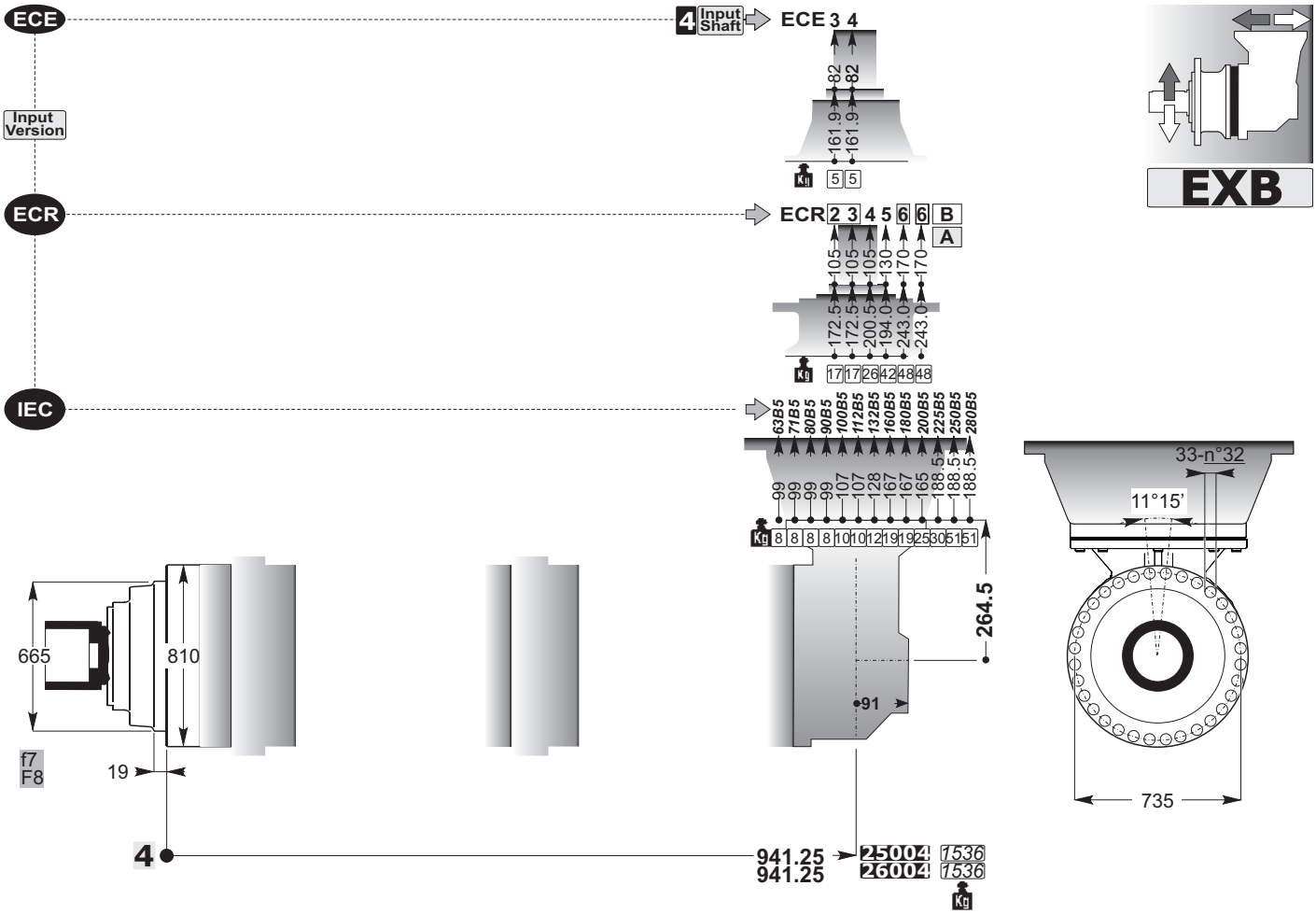


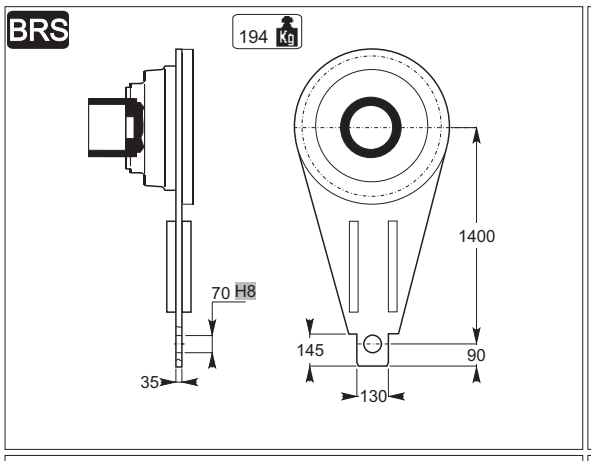
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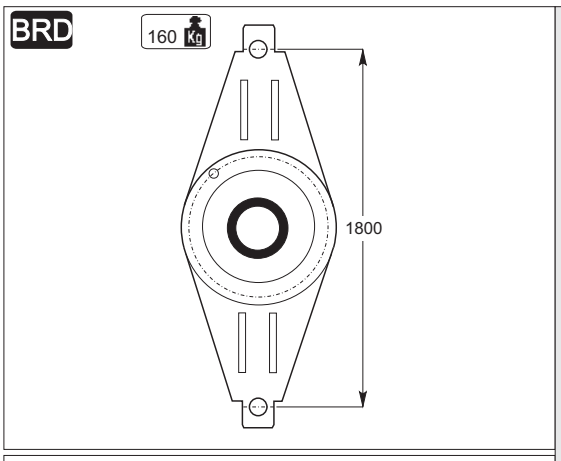


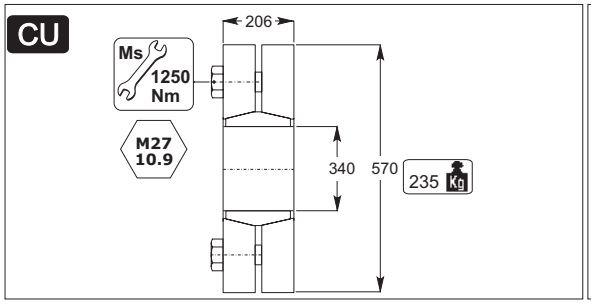


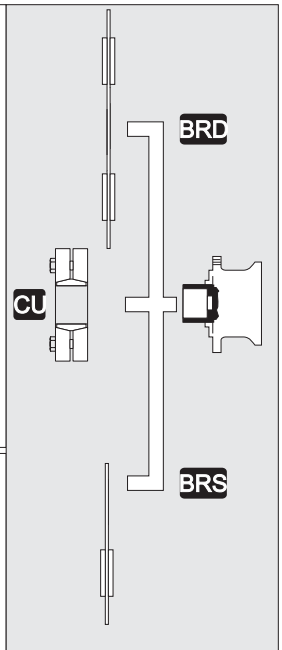
Output Shafts





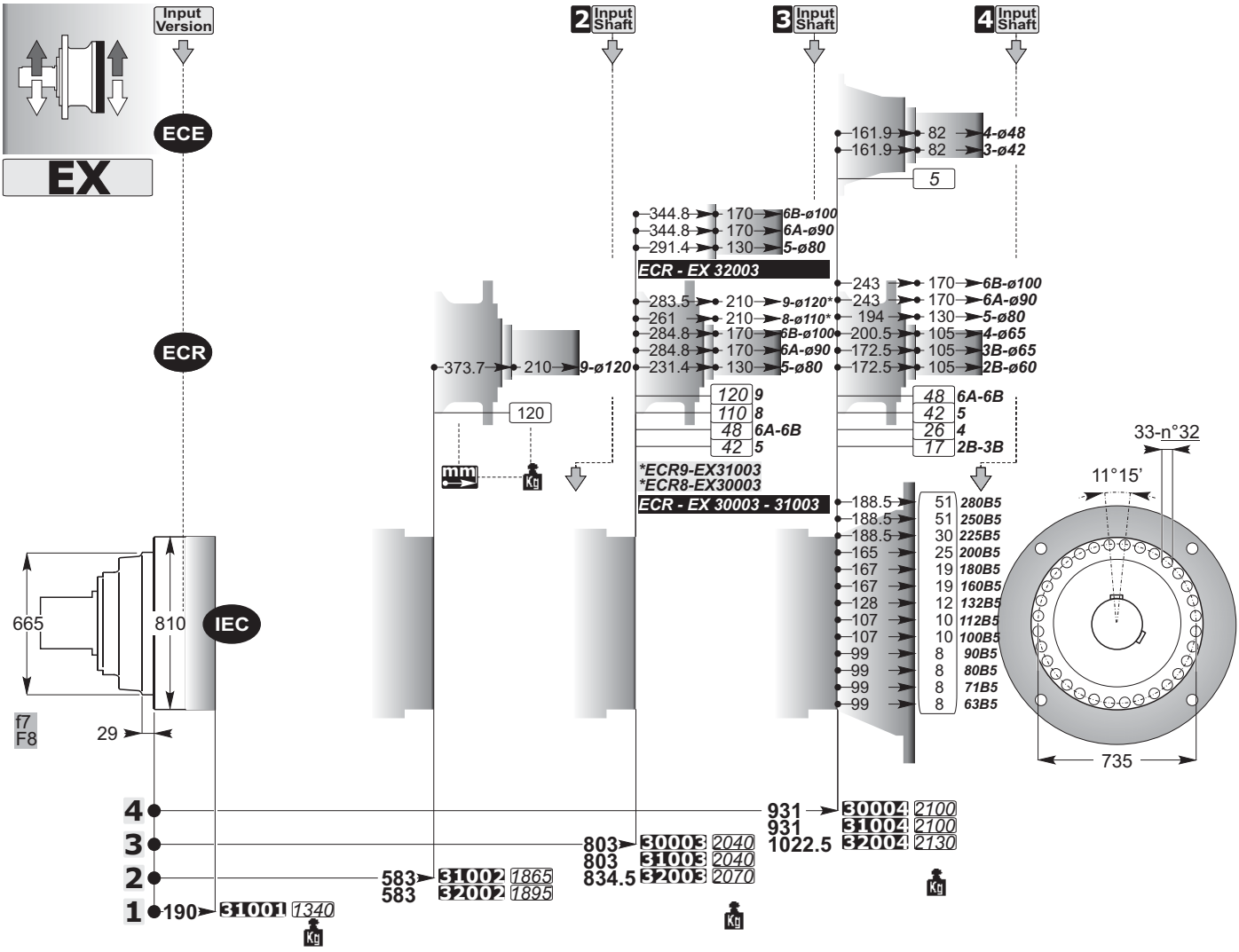


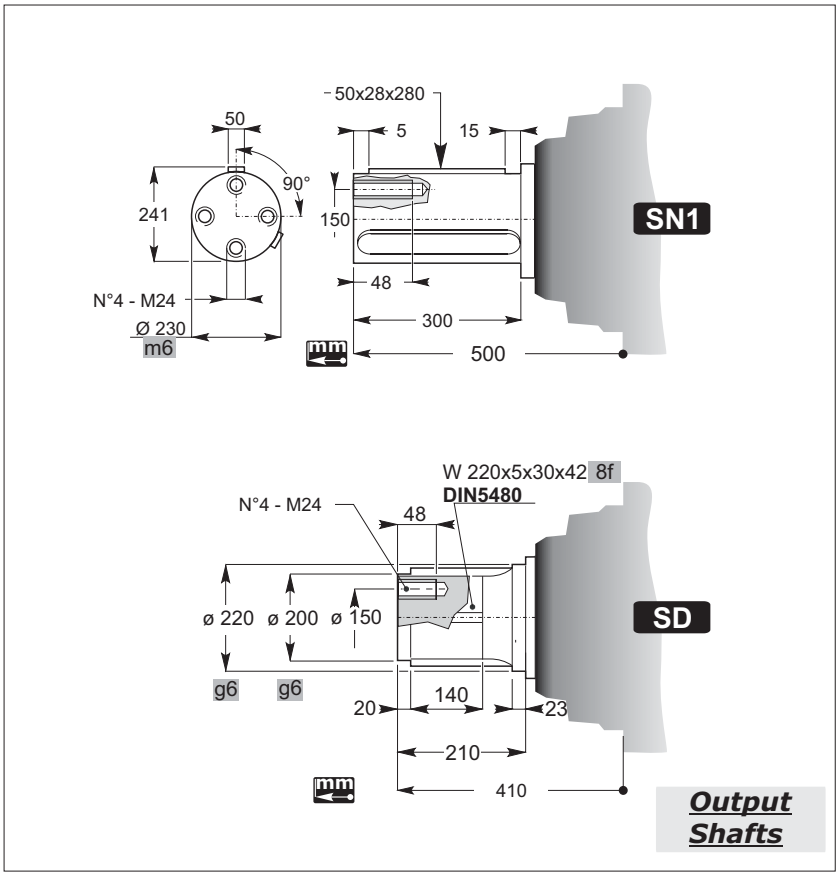




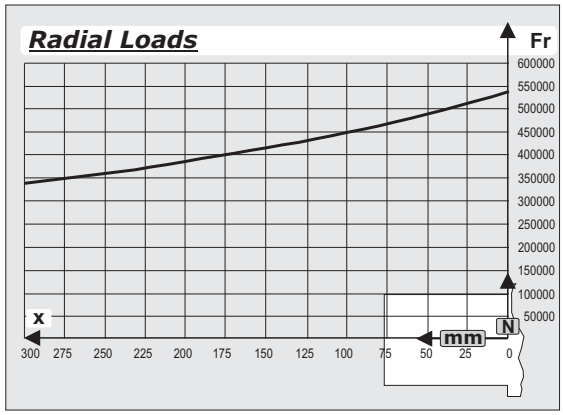
Accessories

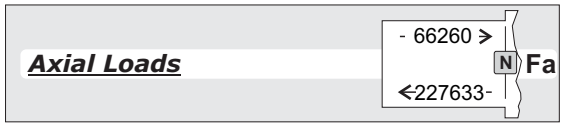
mm
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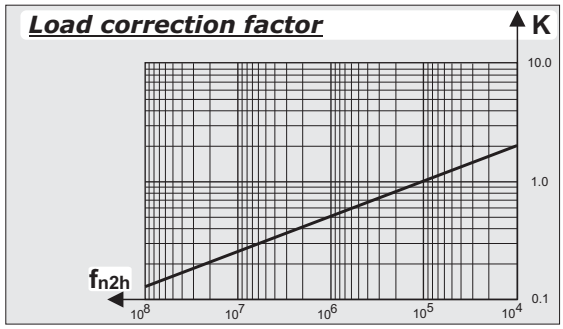


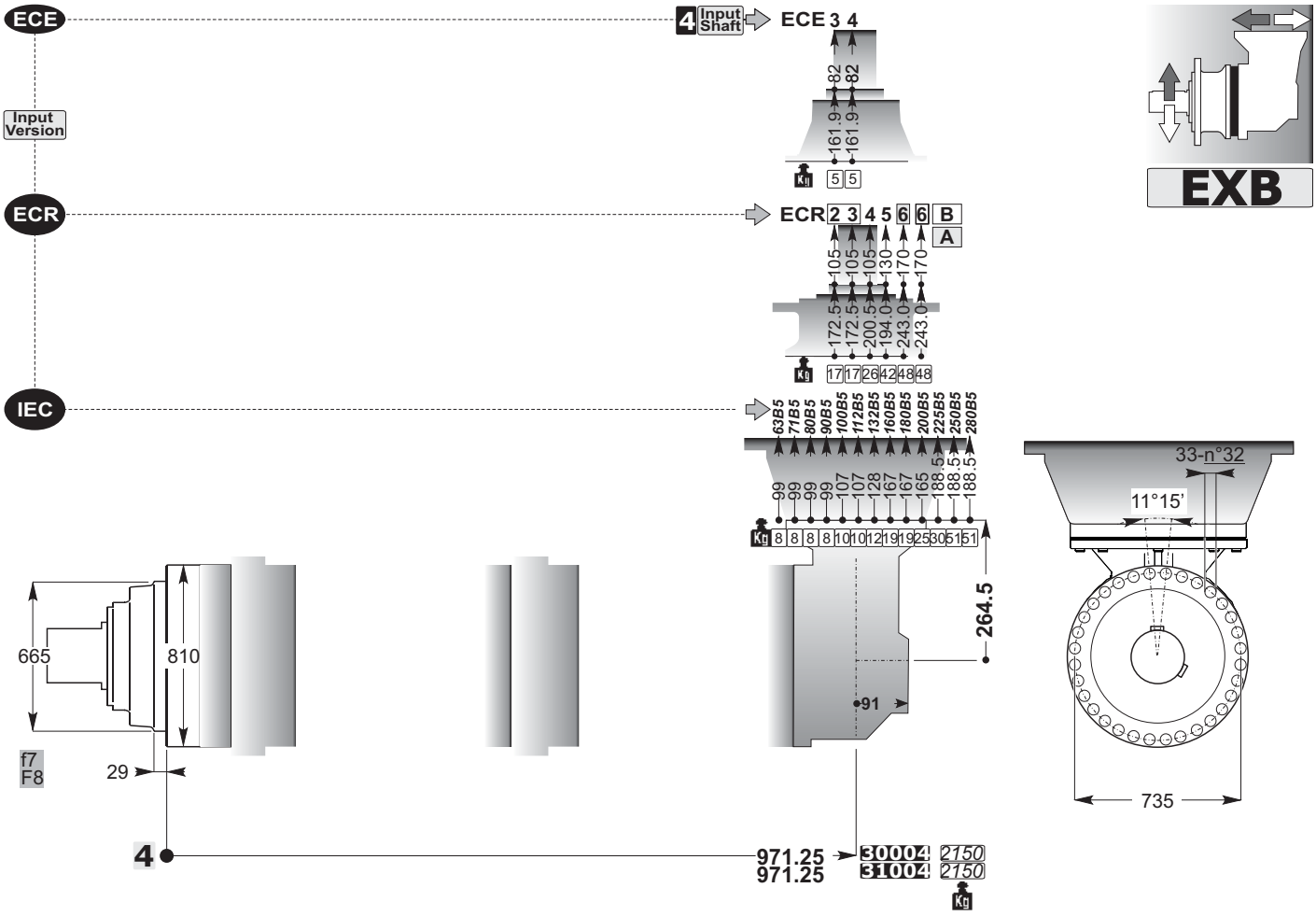


Output Shafts

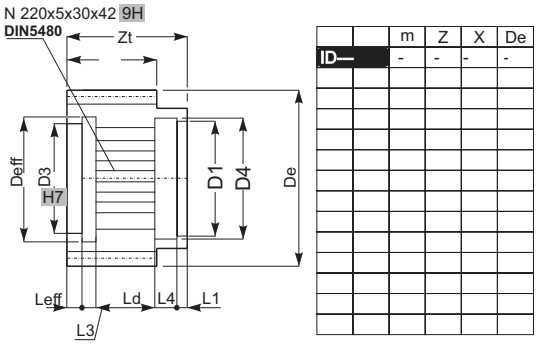








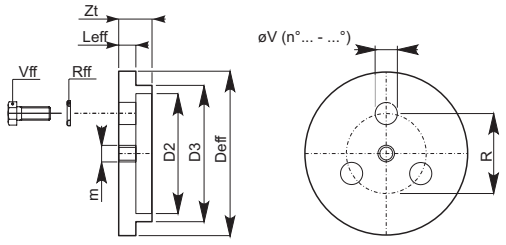
ID



	m	Z	X	De
ID—	-	-	-	-

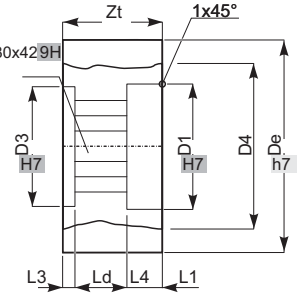
On request

FF

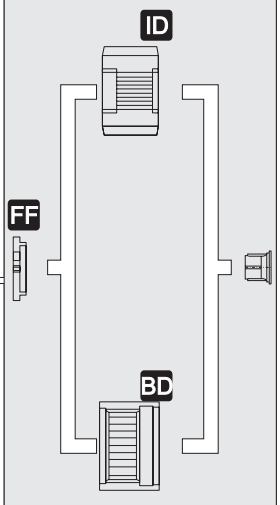


On request

BD

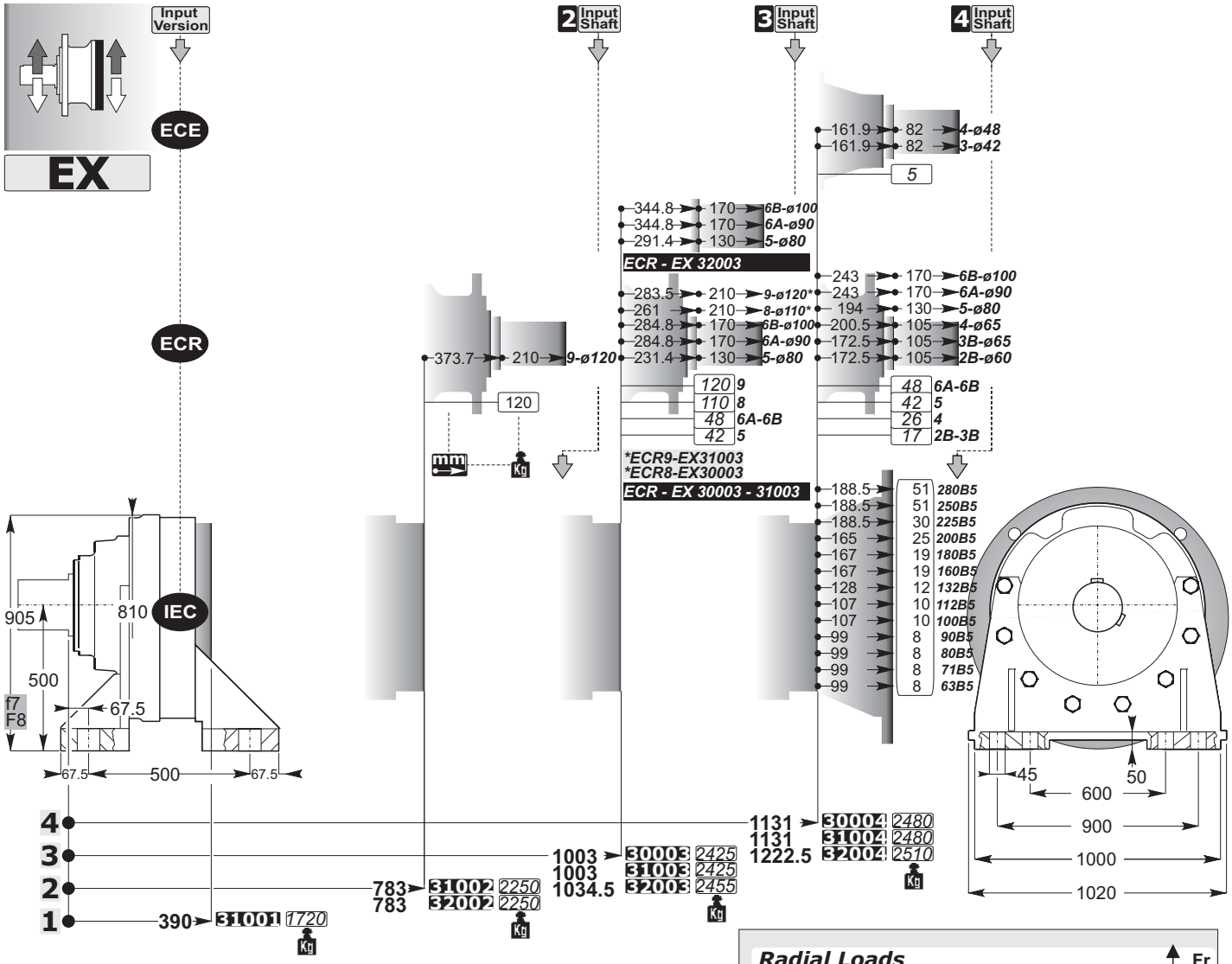


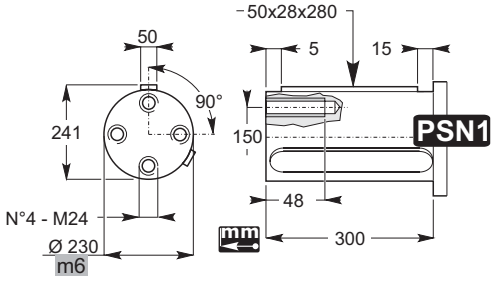
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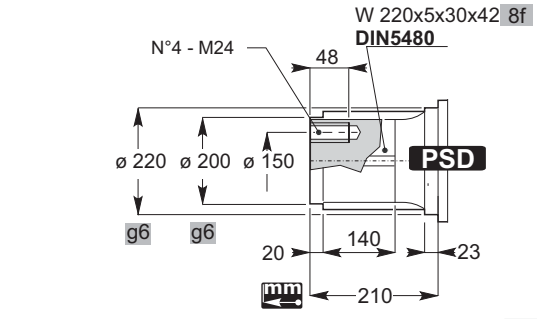


Accessories

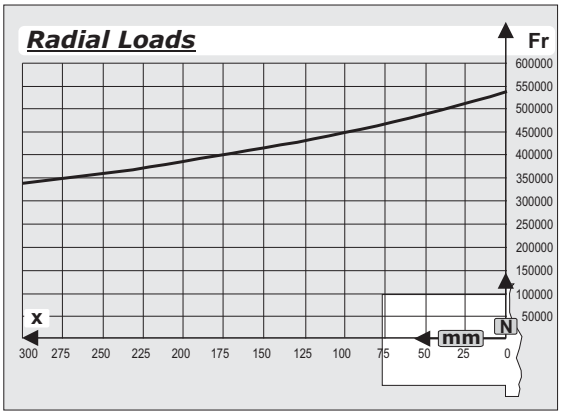
mm
C

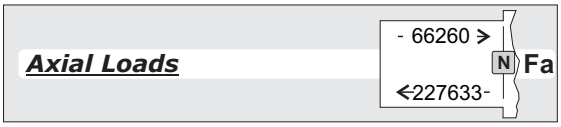


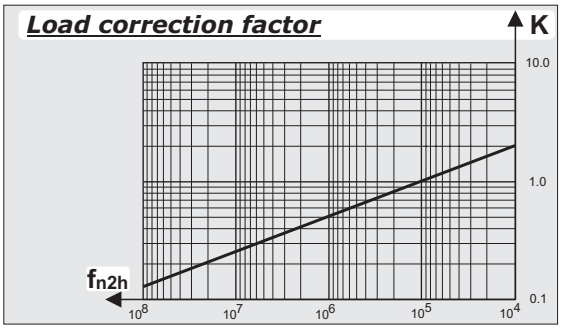


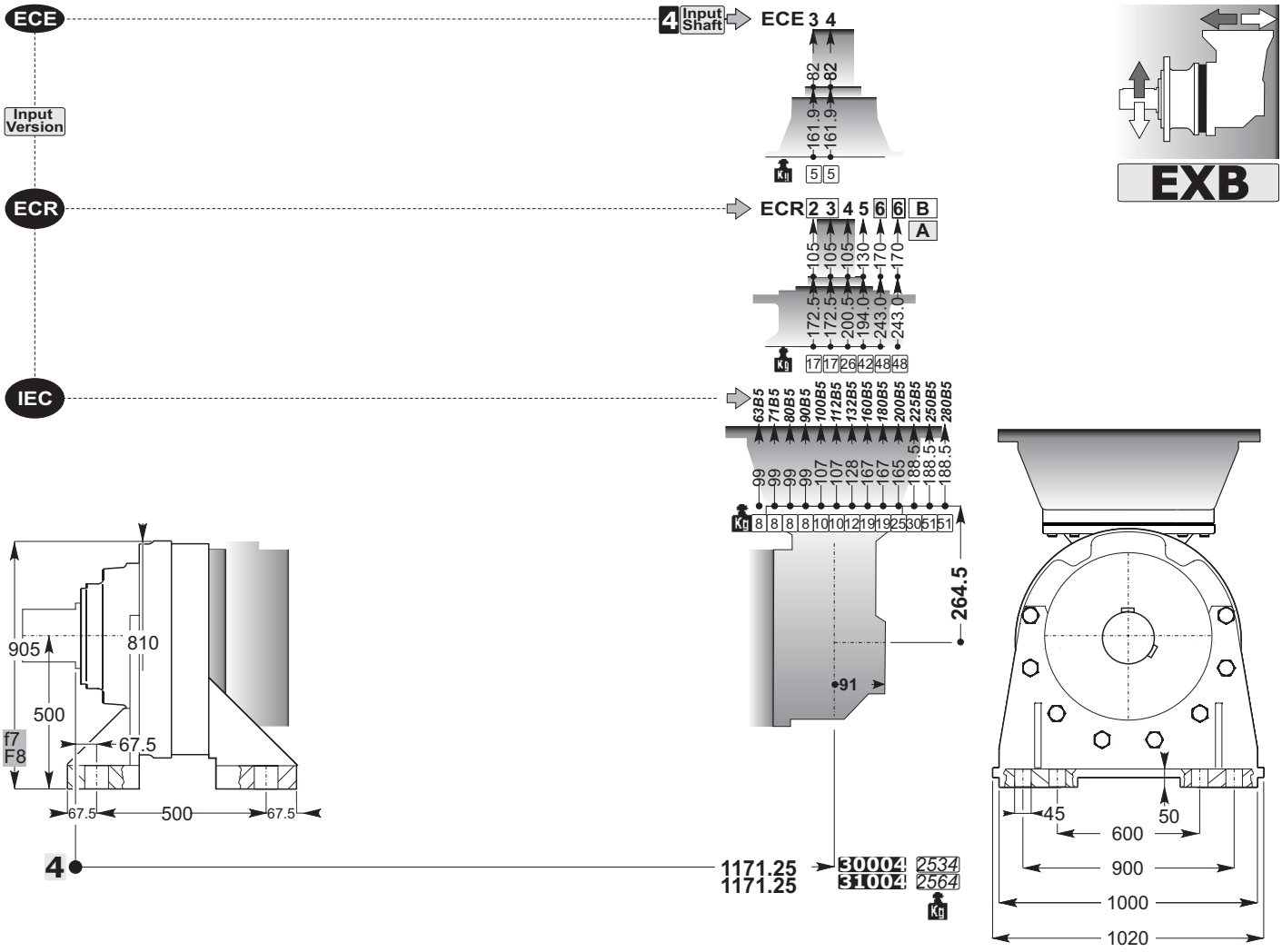


Output Shafts

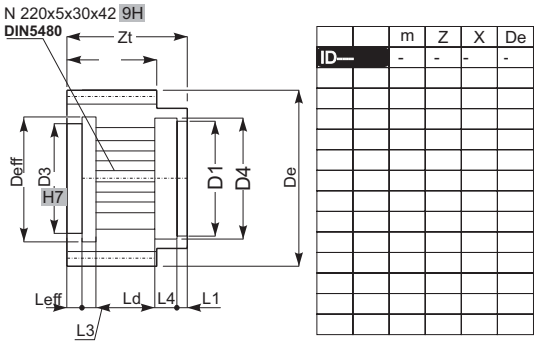








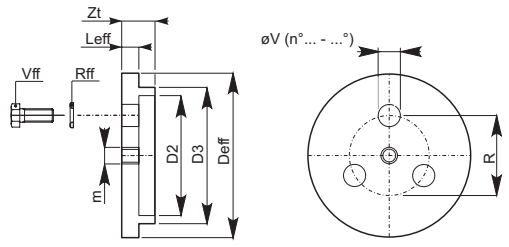
ID



	m	Z	X	De
ID—	-	-	-	-

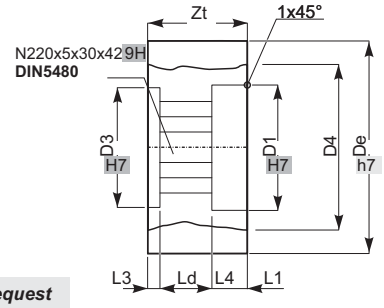
On request

FF

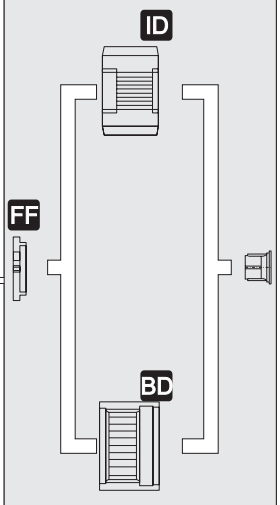


On request

BD

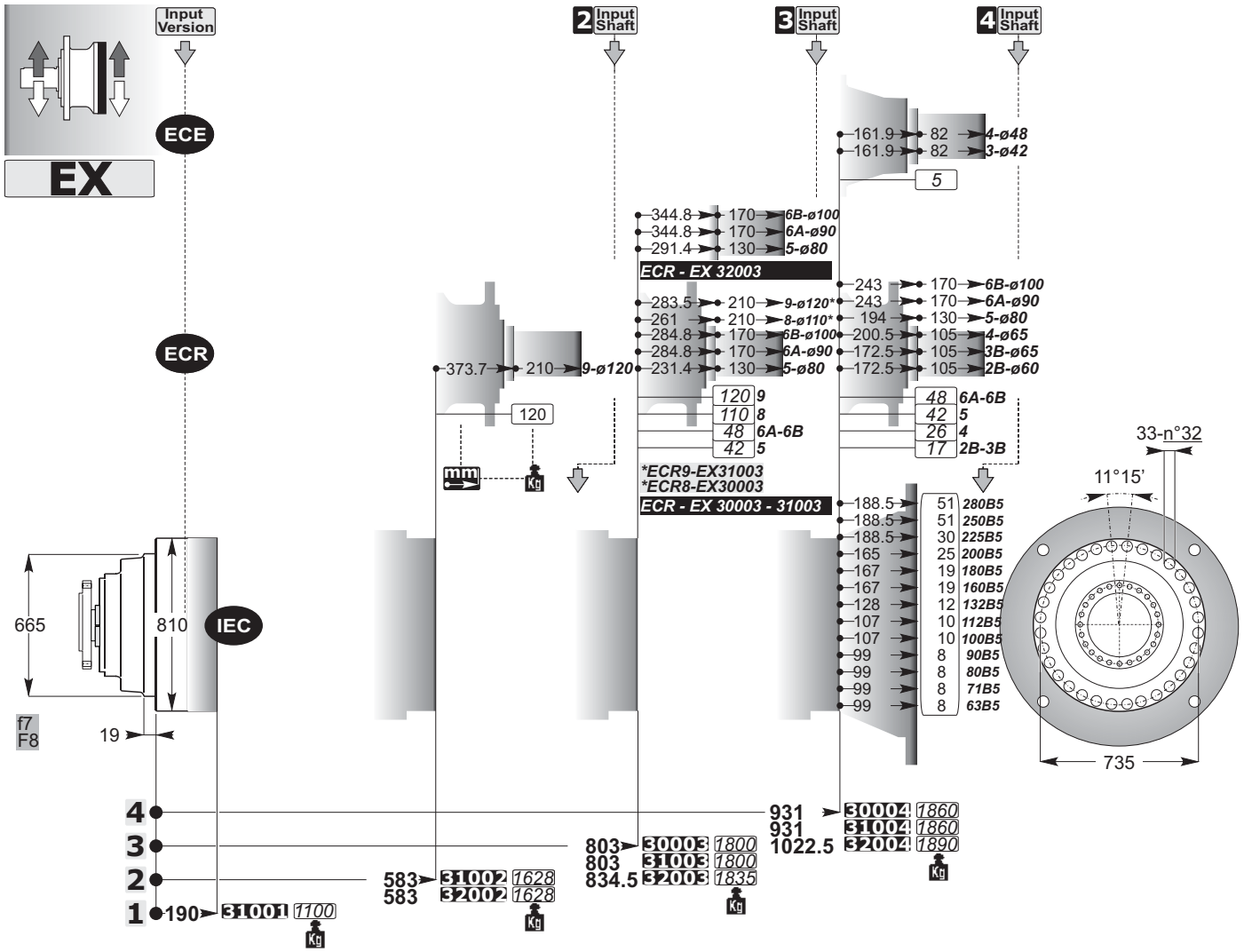


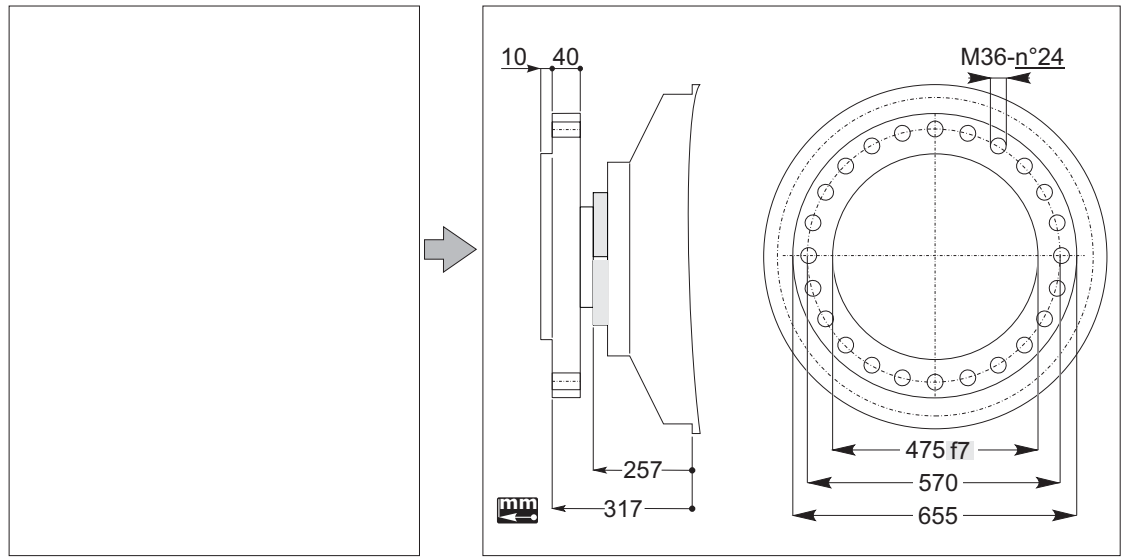
On request



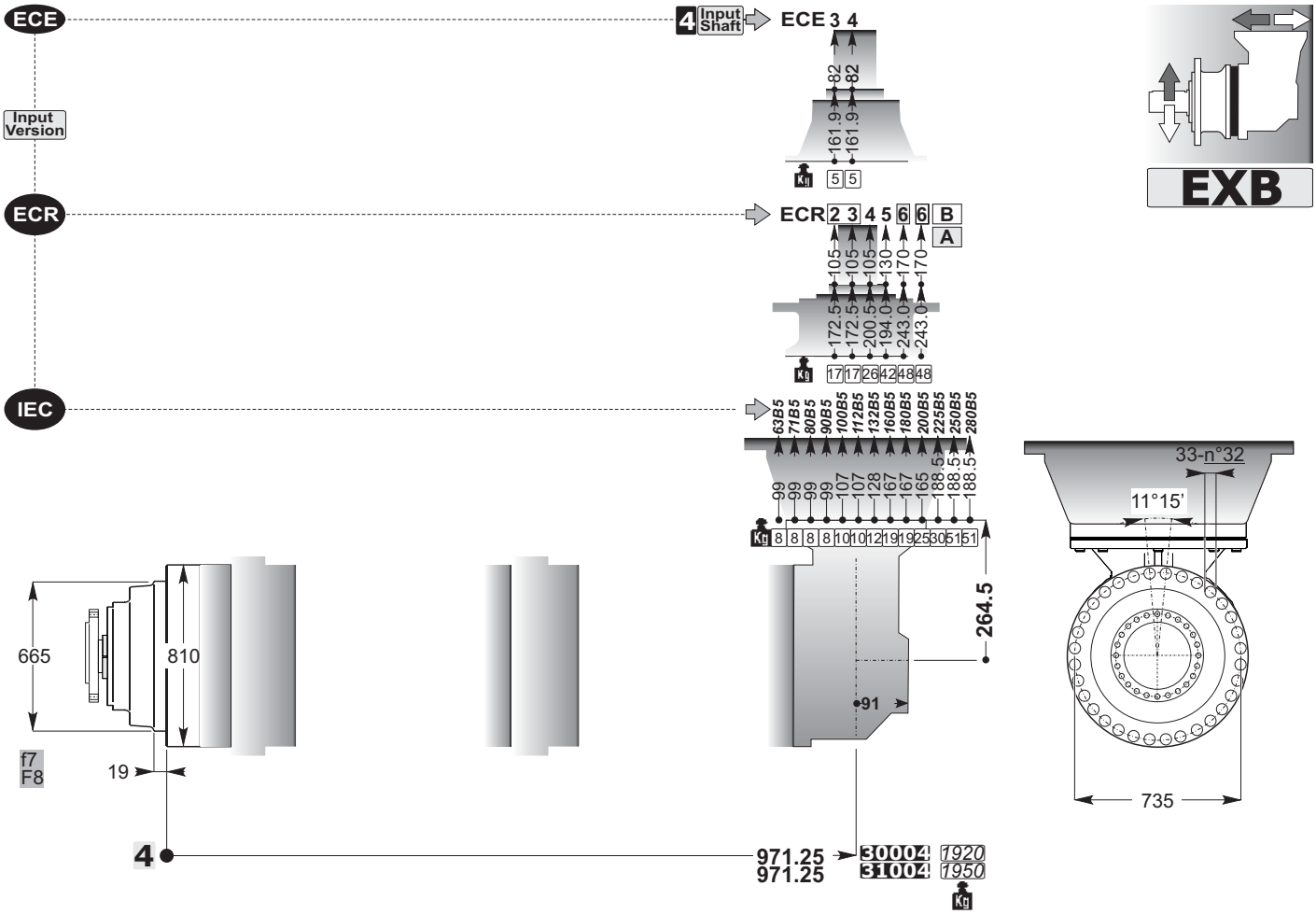
Accessories

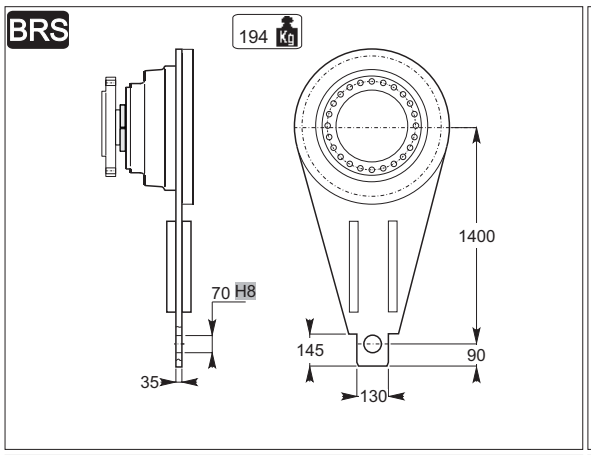
mm
C

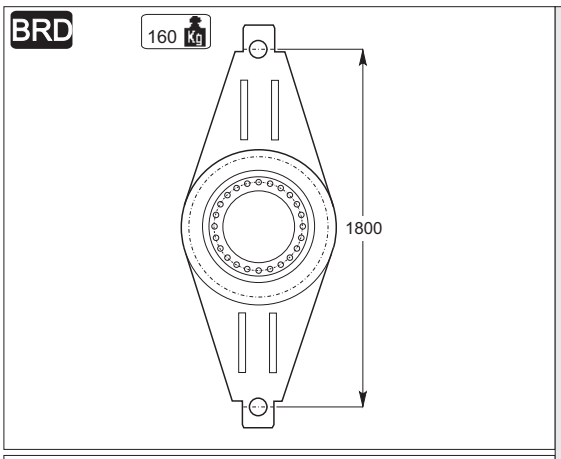


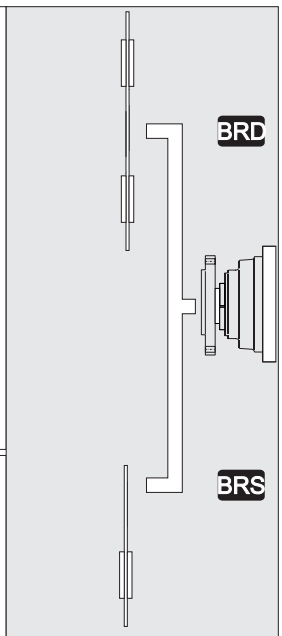


Output Shafts



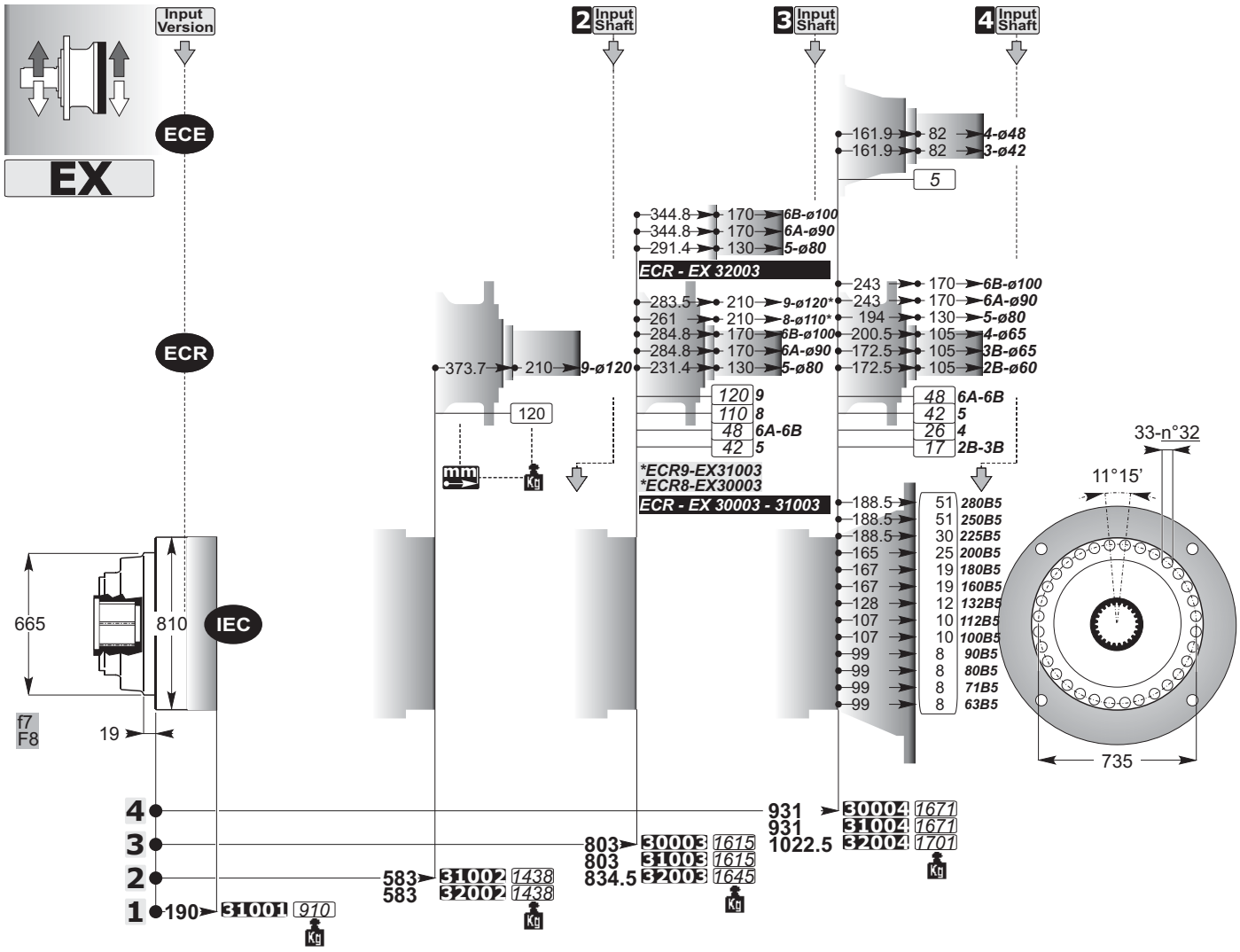


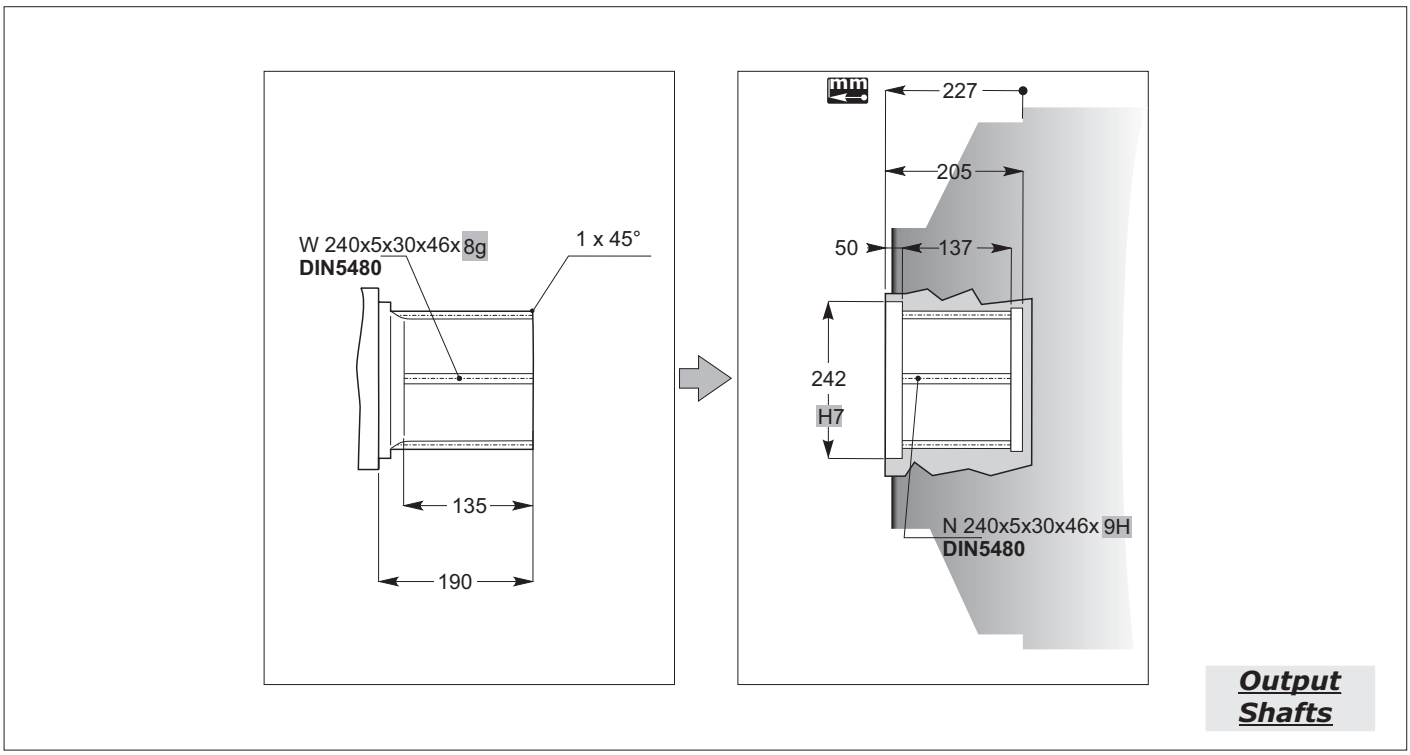


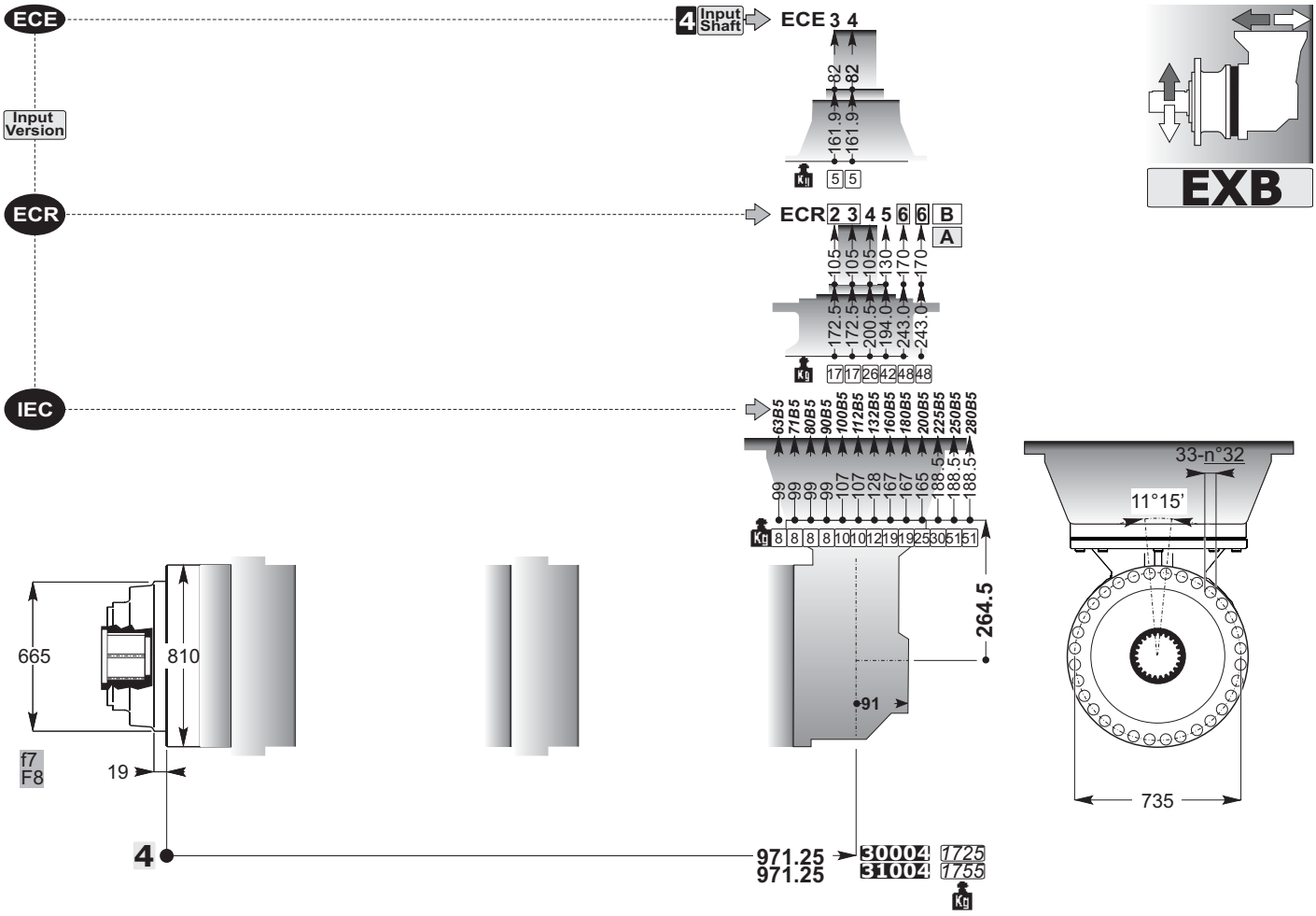


Accessories

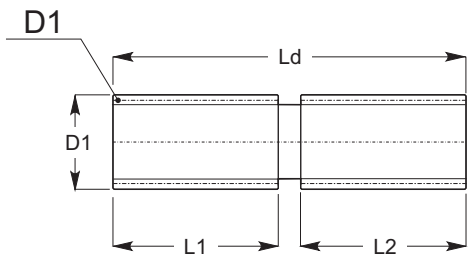
mm
C


Input Version
ECE
EX
ECR
IEC
2 Input Shaft
3 Input Shaft
4 Input Shaft
ECR - EX 32003
ECR - EX 30003 - 31003
*ECR9-EX31003
*ECR8-EX30003
665
810
19
f7
F8
120
mm
Kg
33-n°32
11°15'
735
4
3
2
1
931 30004 1671
931 31004 1671
1022.5 32004 1701
803 30003 1615
803 31003 1615
834.5 32003 1645
583 31002 1438
583 32002 1438
190 31001 910


W 240x5x30x46x 8g
DIN5480
1 x 45°
135
190
mm
227
205
50
137
242
H7
N 240x5x30x46x 9H
DIN5480
Output Shafts



SD

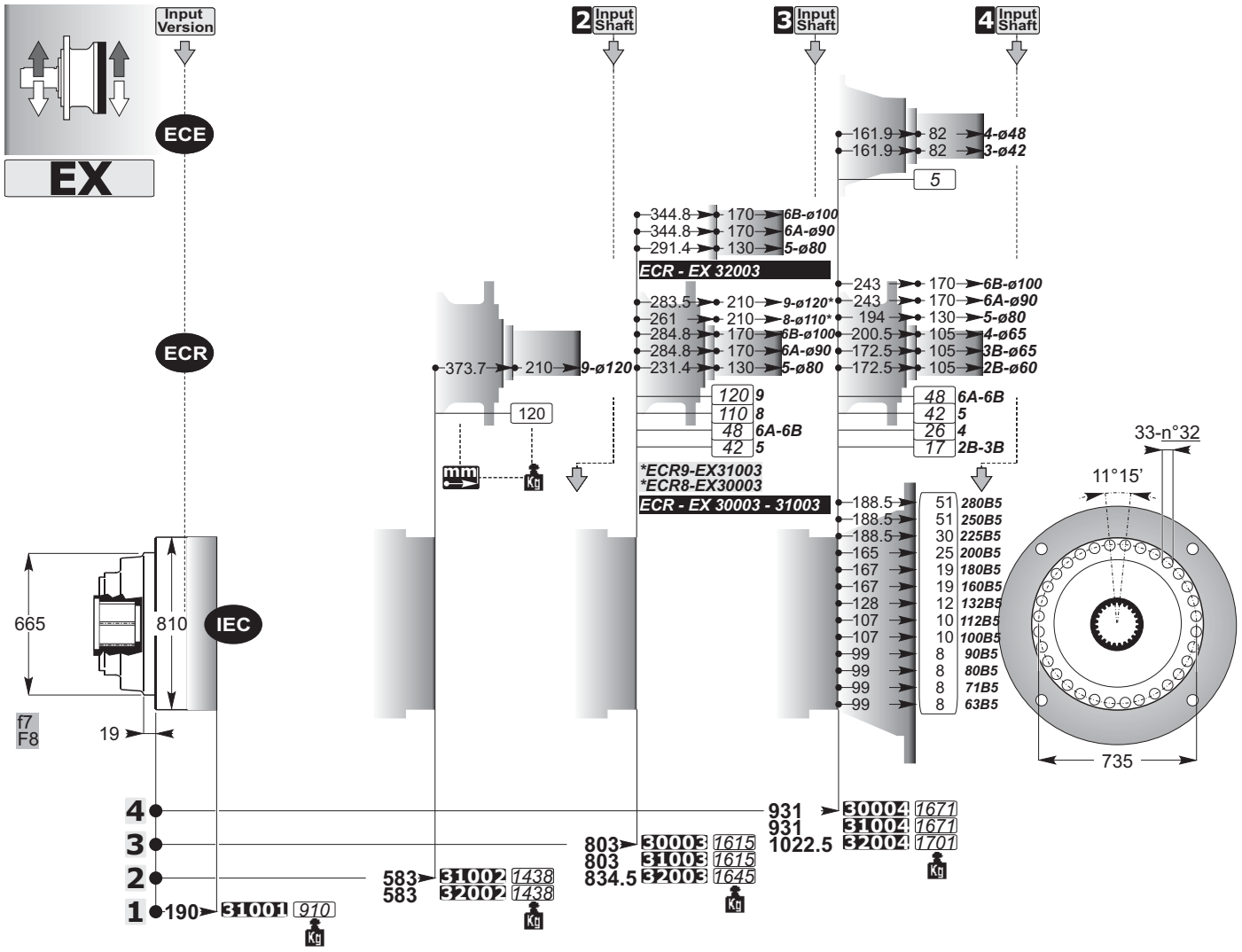


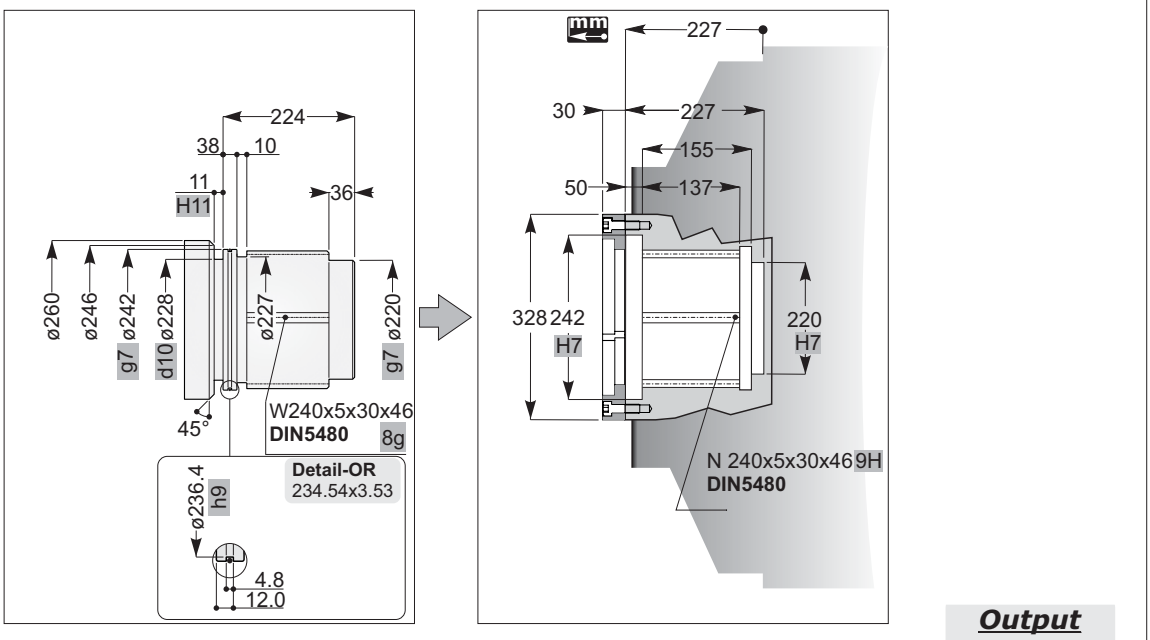
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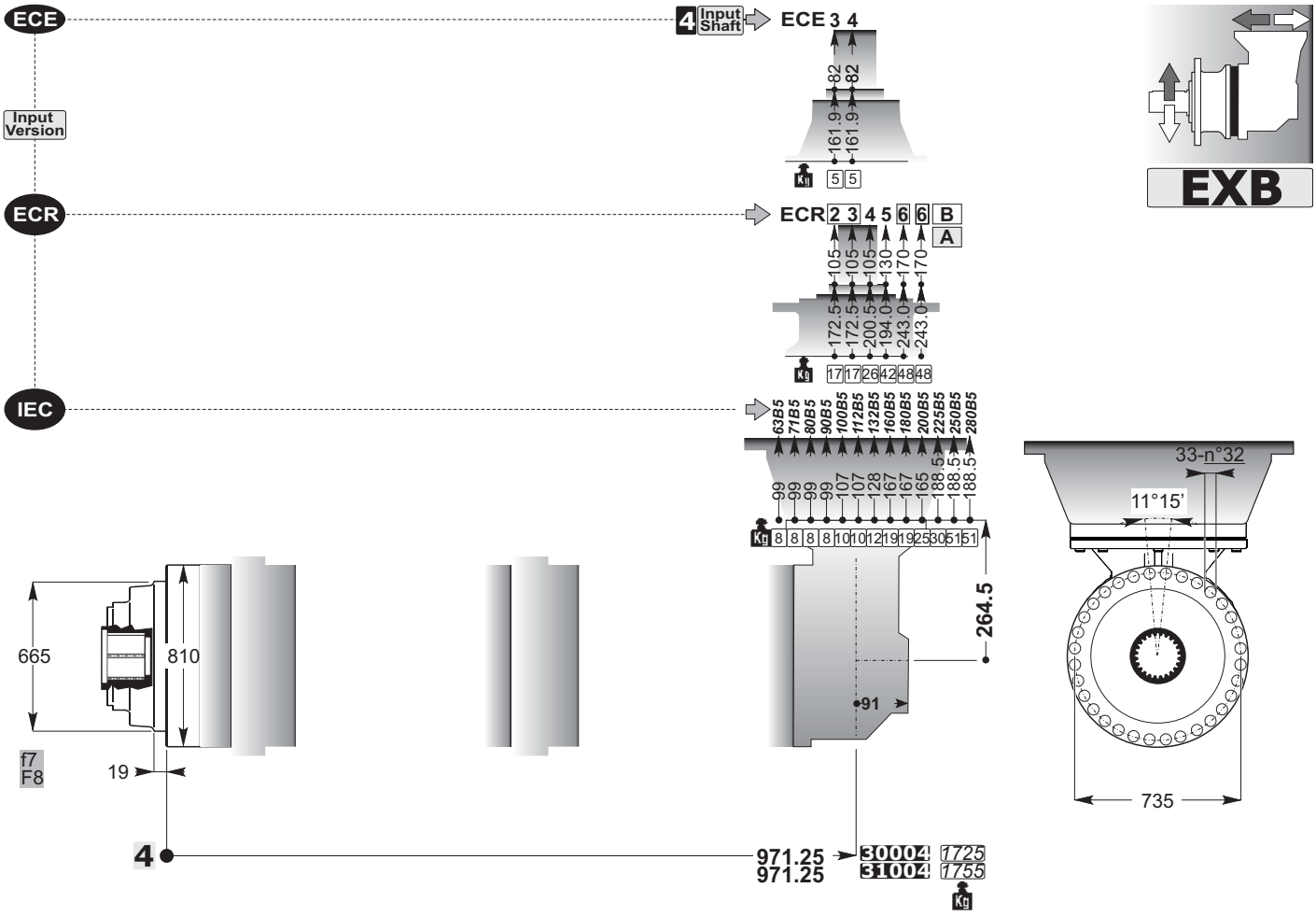


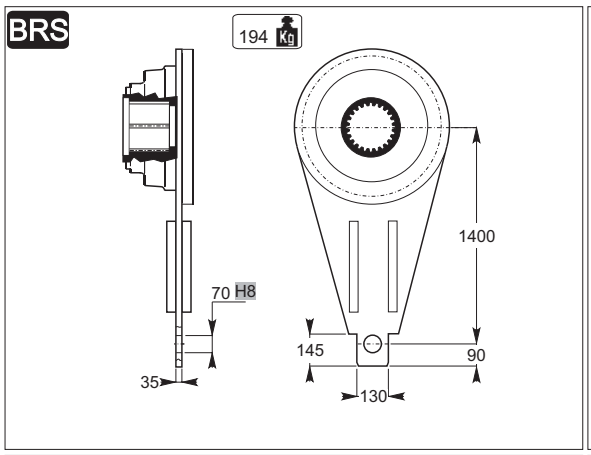
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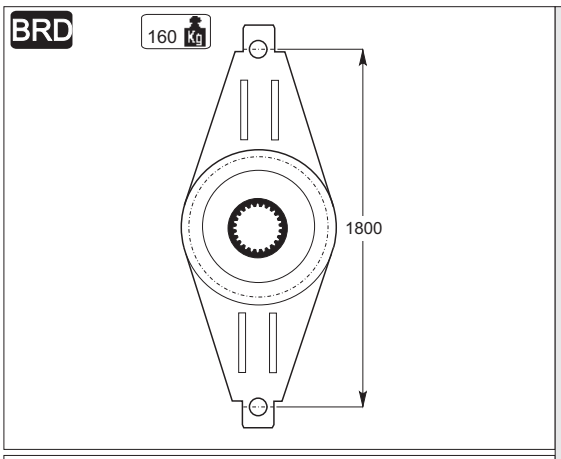


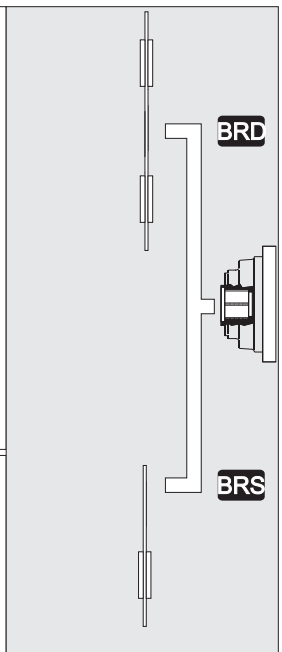


Output Shafts

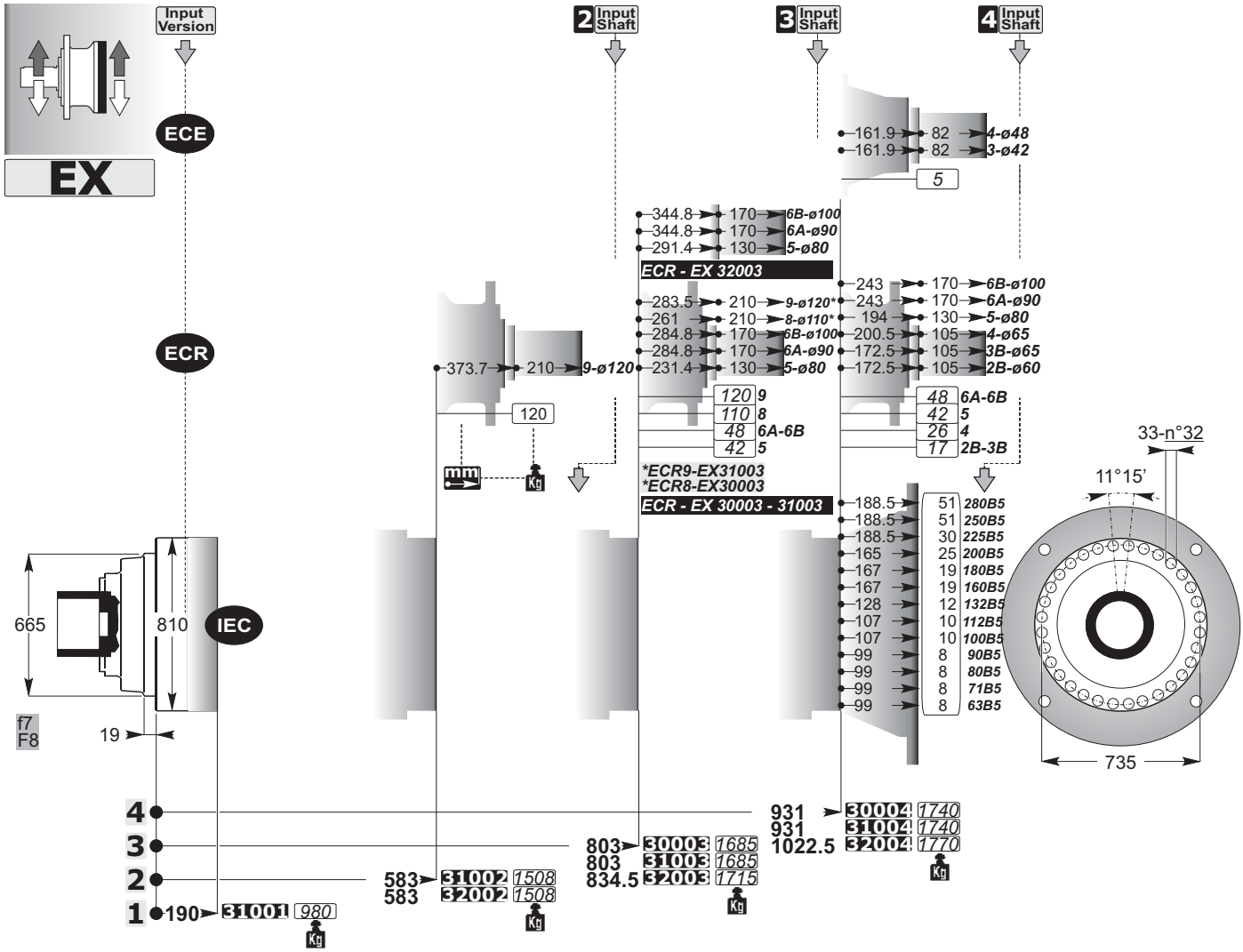


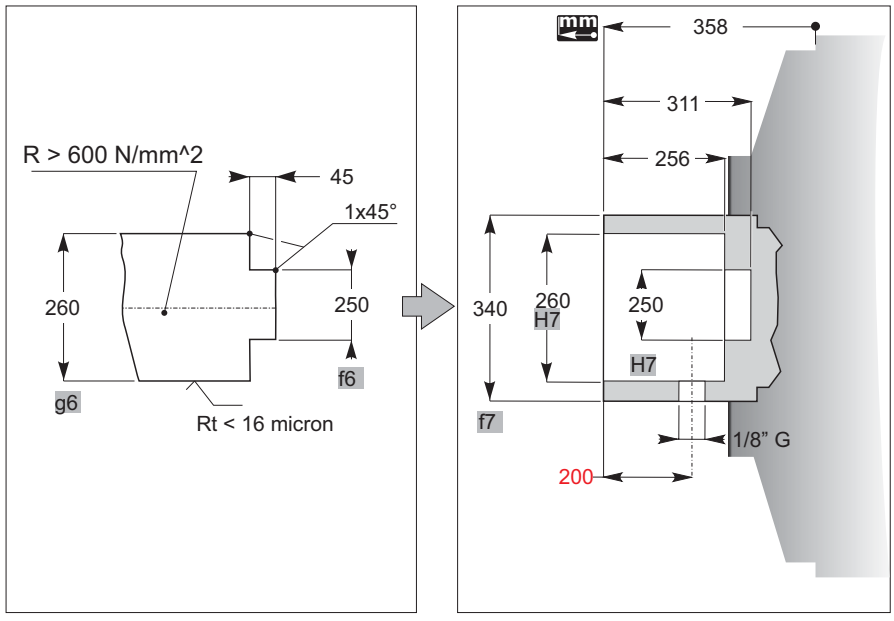




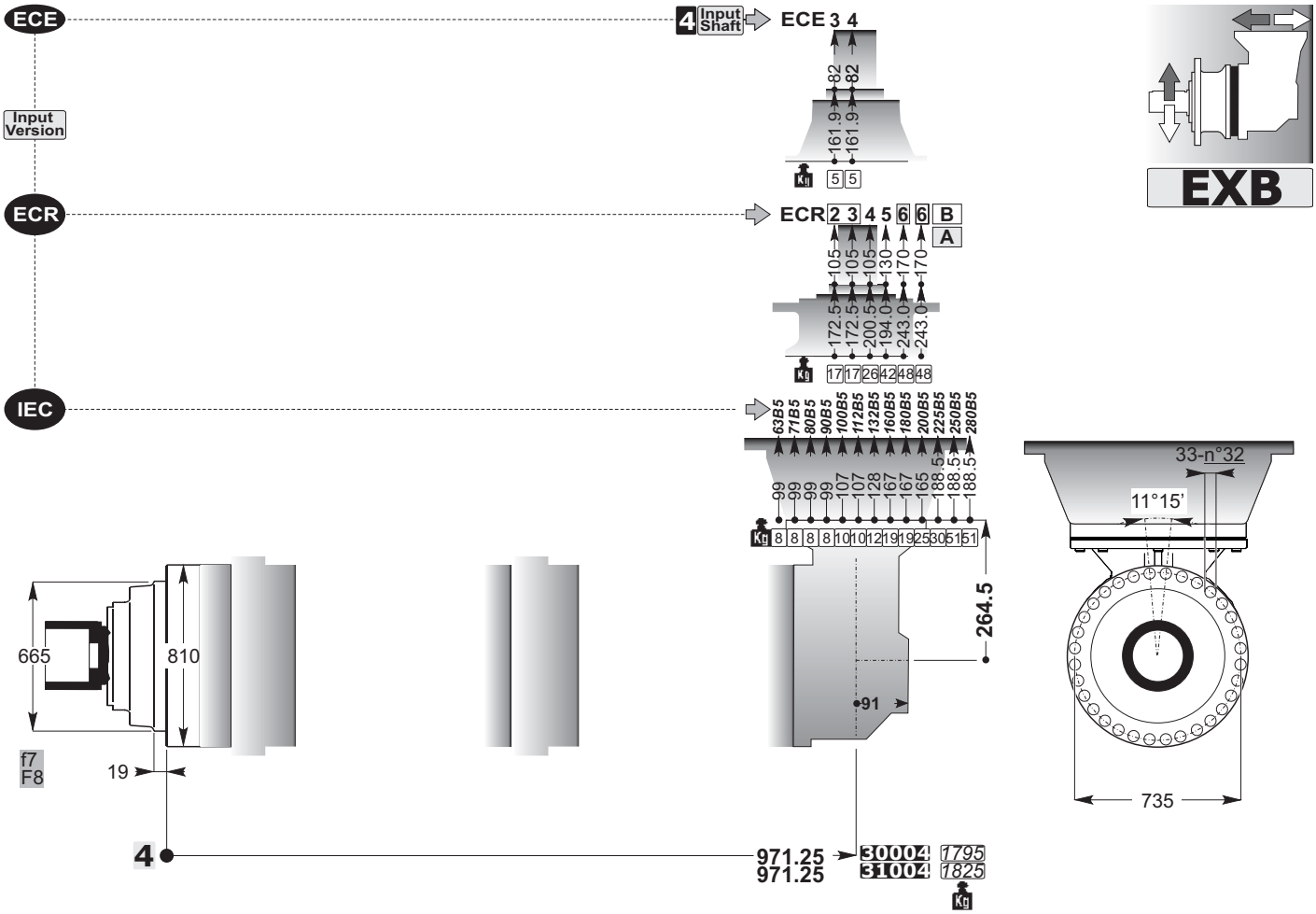


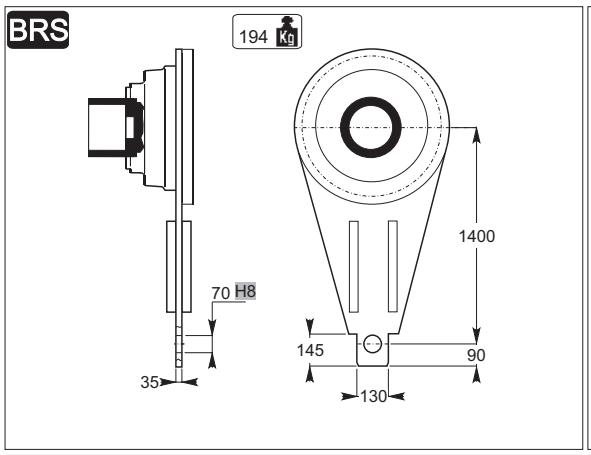
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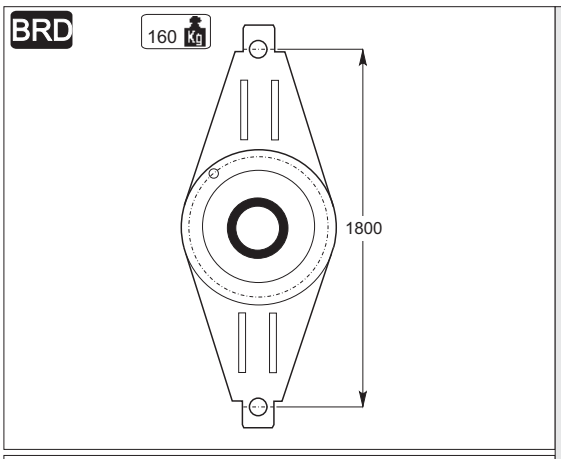


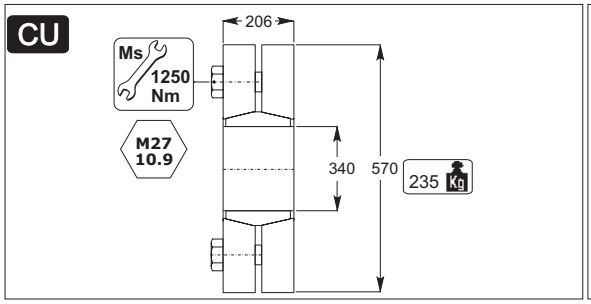


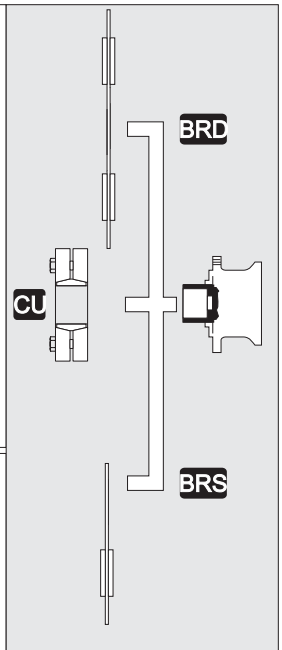
Output Shafts



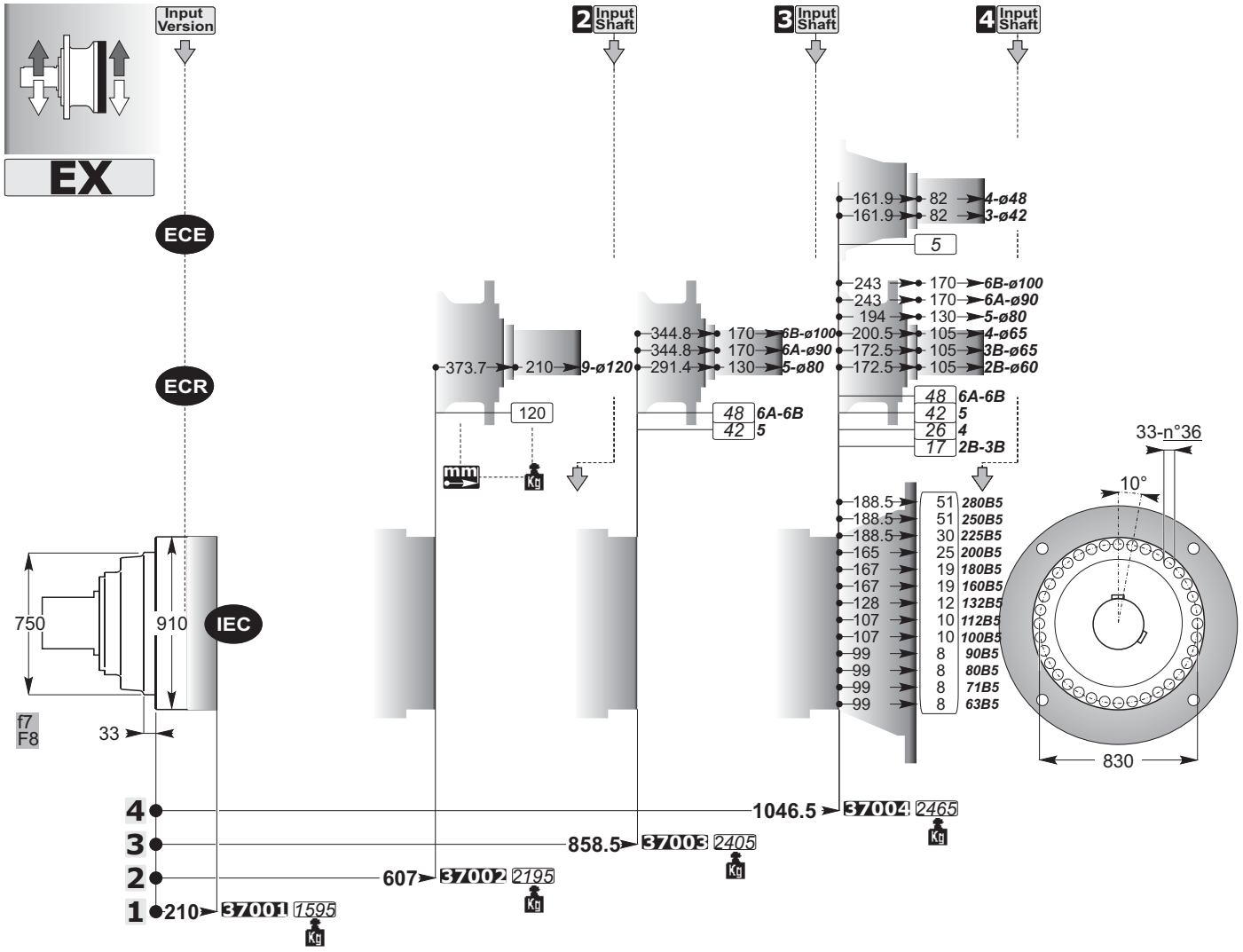


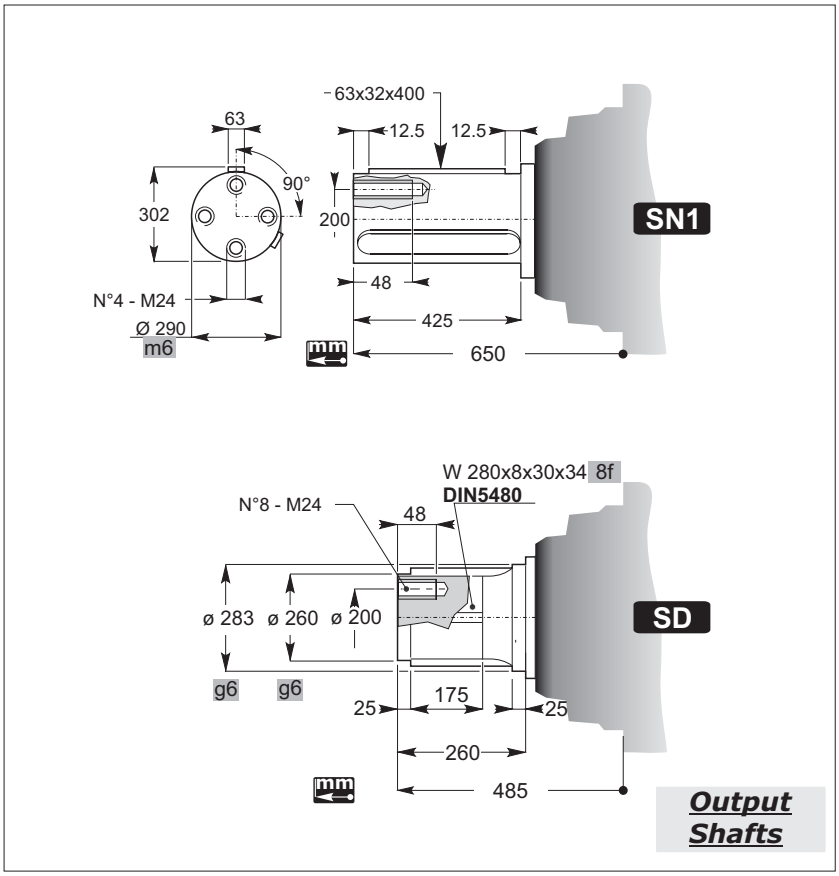




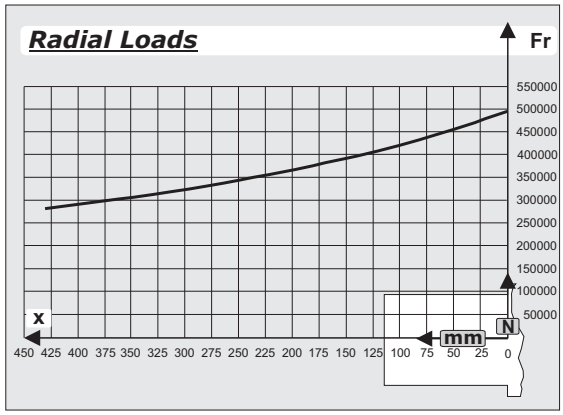


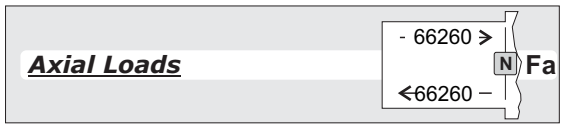
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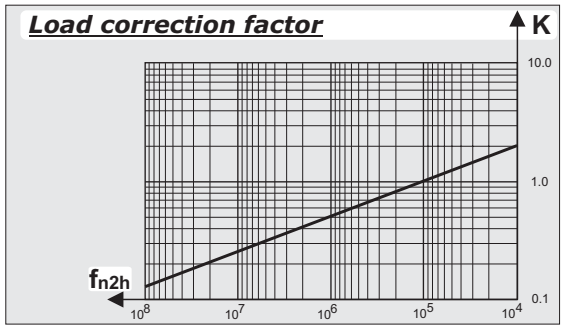




Output Shafts



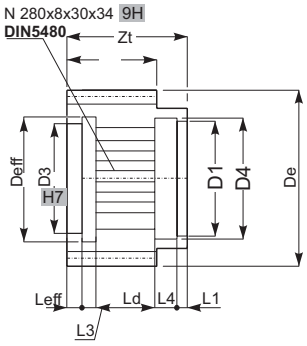




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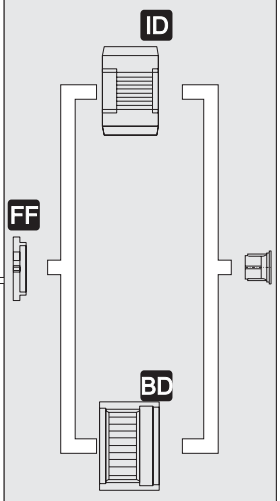
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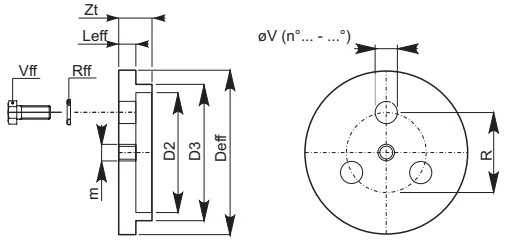
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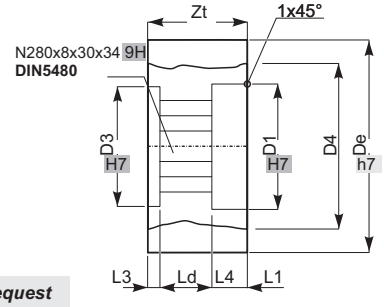
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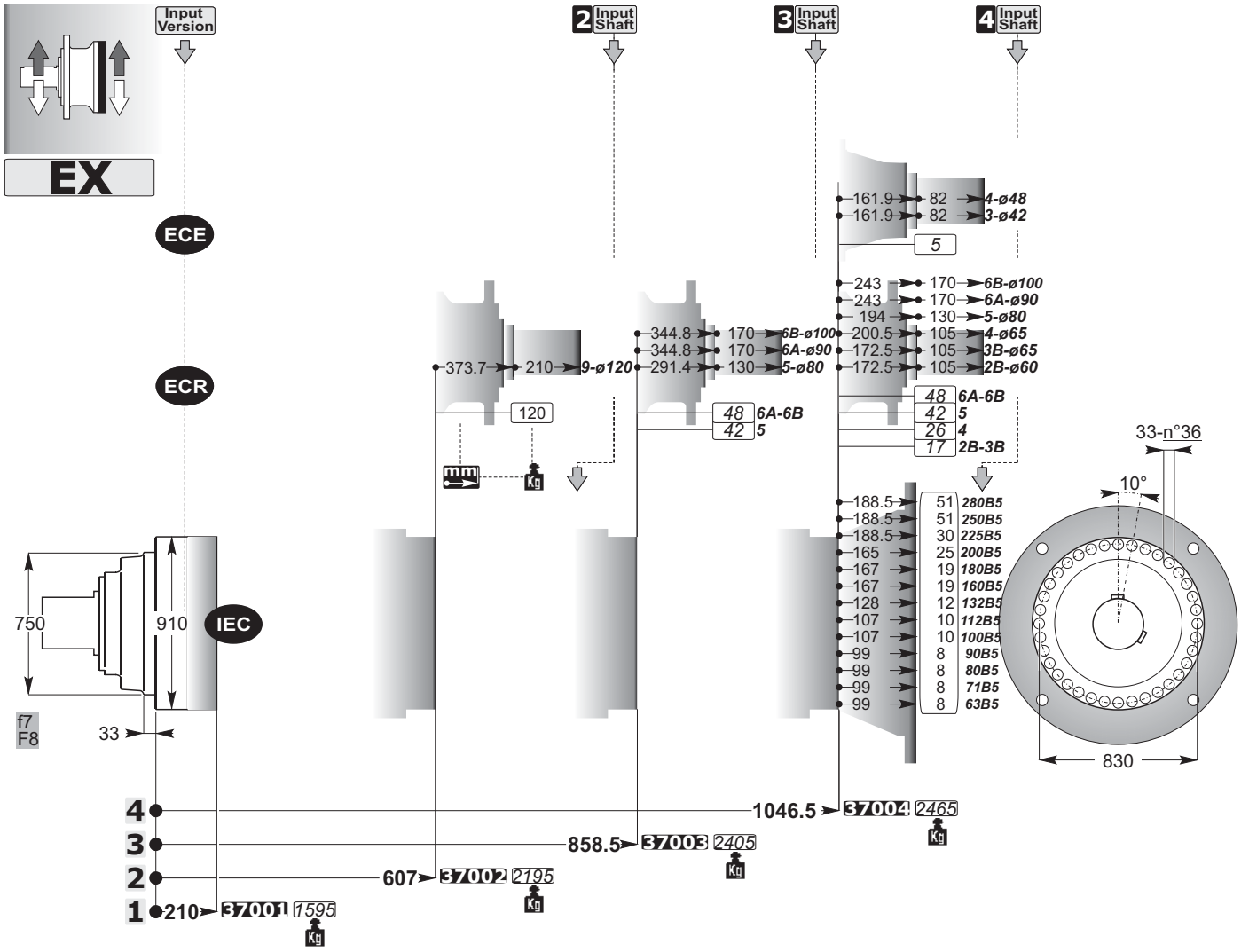


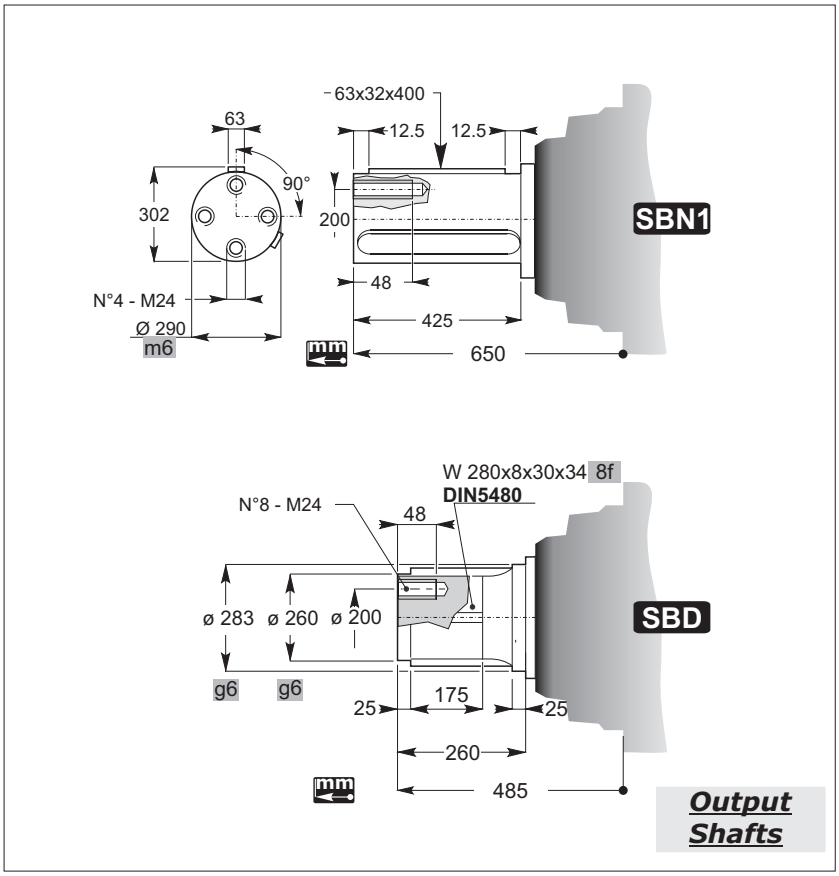
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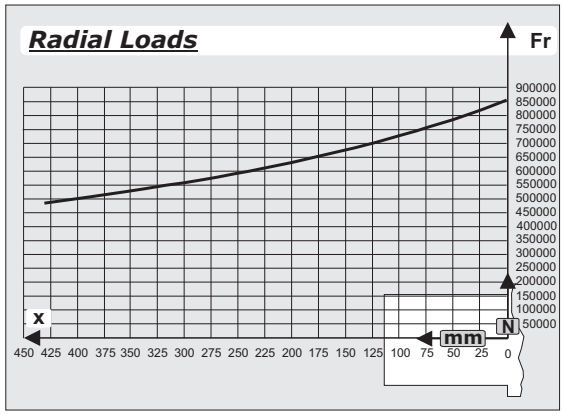
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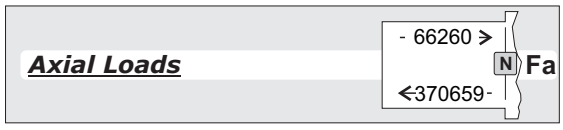


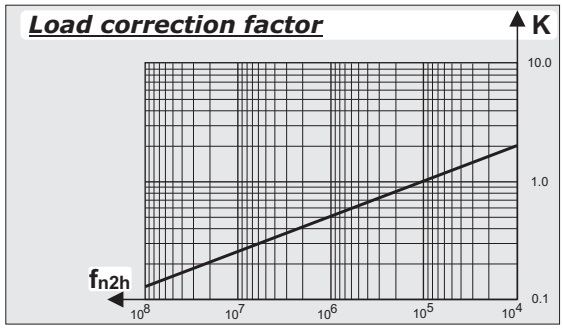
On request


Input Version
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3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
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910
f7
F8
33
373.7
210
9-ø120
120
344.8
344.8
291.4
170
170
130
6B-ø100
6A-ø90
5-ø80
48
42
6A-6B
5
161.9
161.9
82
82
4-ø48
3-ø42
5
243
243
194
200.5
172.5
172.5
170
170
130
105
105
105
6B-ø100
6A-ø90
5-ø80
4-ø65
3B-ø65
2B-ø60
48
42
26
17
6A-6B
5
4
2B-3B
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188.5
188.5
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167
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250B5
225B5
200B5
180B5
160B5
132B5
112B5
100B5
90B5
80B5
71B5
63B5
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10°
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4
3
2
1
1046.5
858.5
607
210
37004
37003
37002
37001
2465
2405
2195
1595
Kg
mm


63
63x32x400
12.5
12.5
90°
302
200
SBN1
N°4 - M24
Ø 290
m6
48
425
650
mm
W 280x8x30x34 8f
DIN5480
N°8 - M24
48
ø 283
ø 260
ø 200
SBD
g6
g6
25
175
25
260
485
mm
Output Shafts


Radial Loads
Fr
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
N
x
450 425 400 375 350 325 300 275 250 225 200 175 150 125 100 75 50 25 0
mm

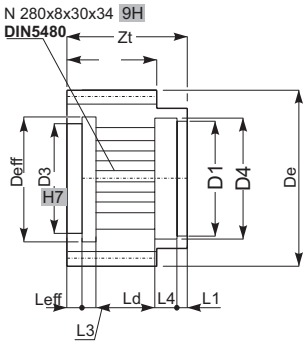

Axial Loads
- 66260 >
N
Fa
<370659-


Load correction factor
K
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1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

EXB

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not available
nicht verfügbar

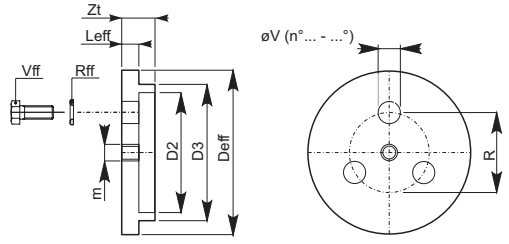
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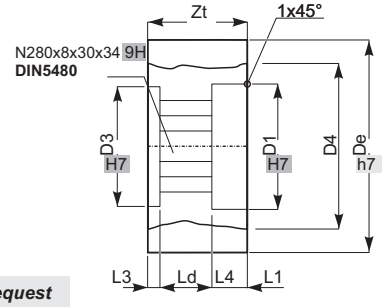
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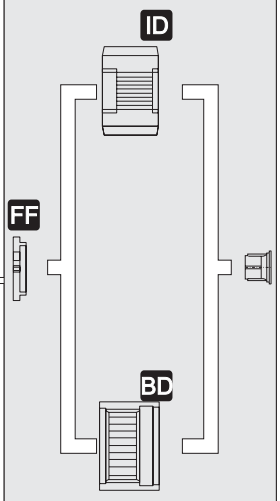


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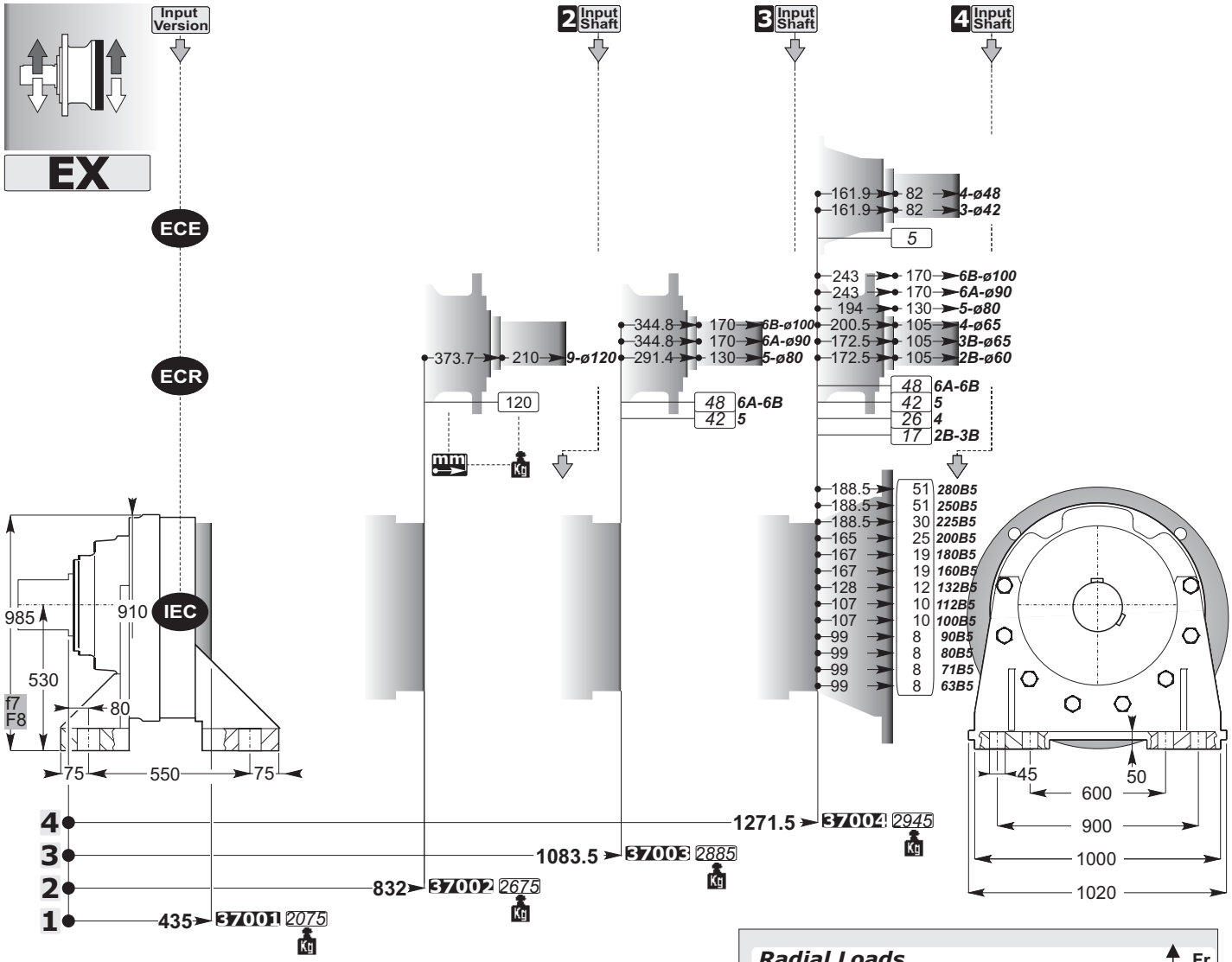
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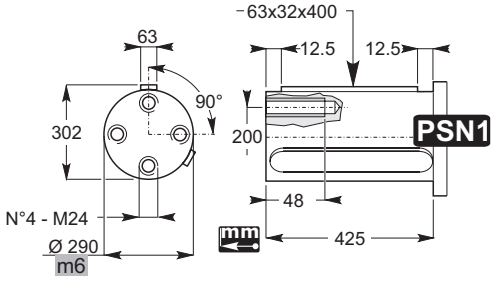


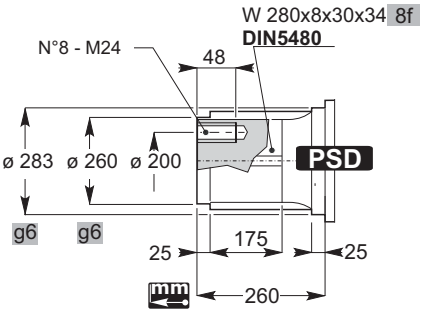
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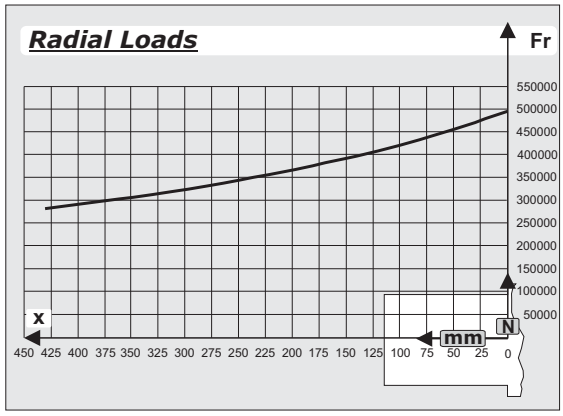
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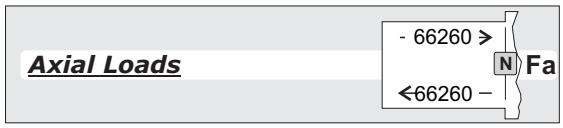


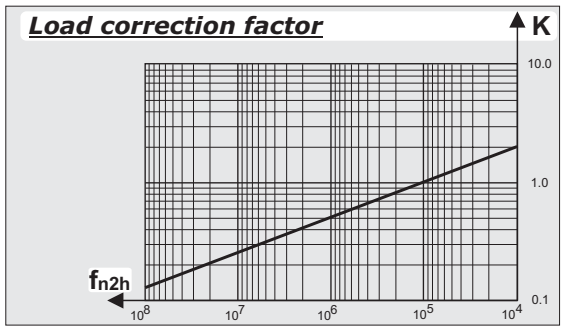




Output Shafts



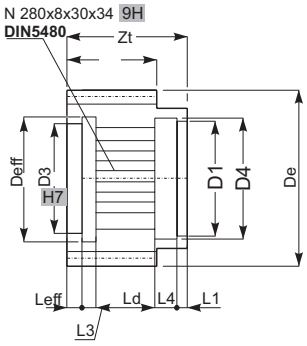




EXB

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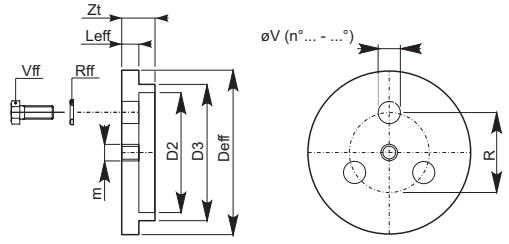
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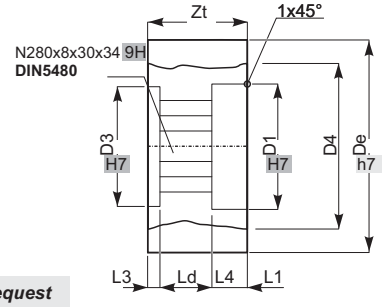
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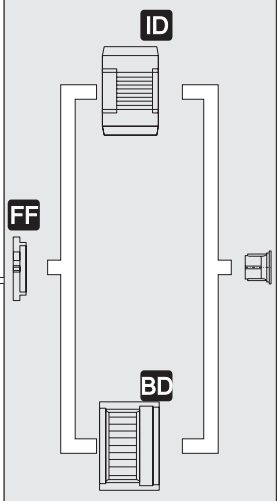


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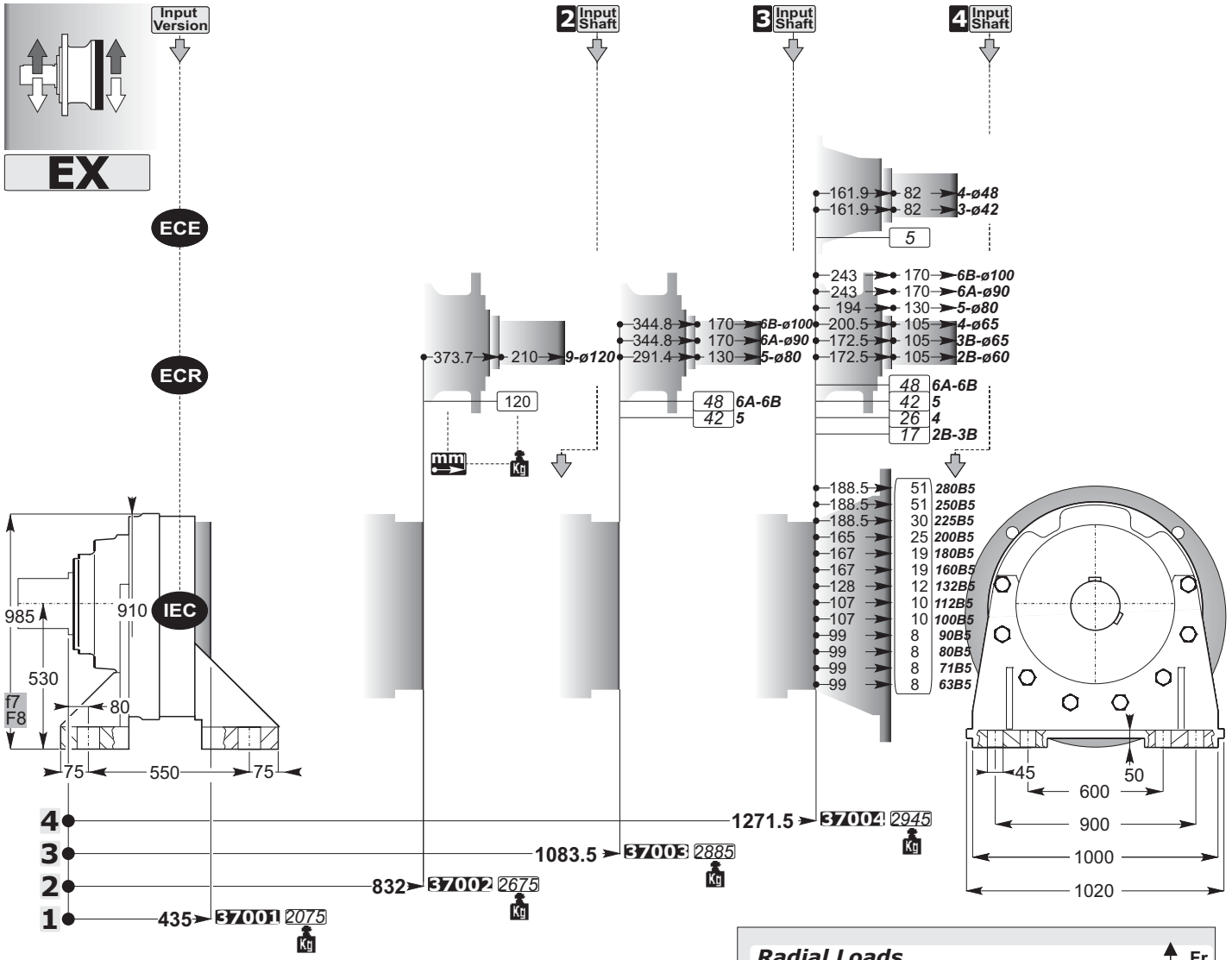
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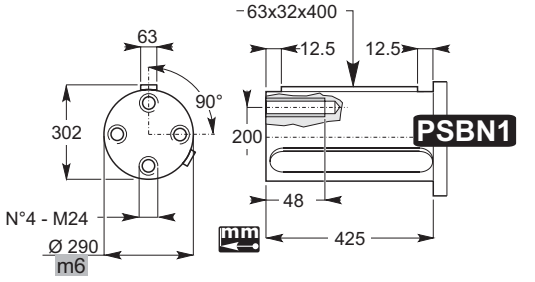


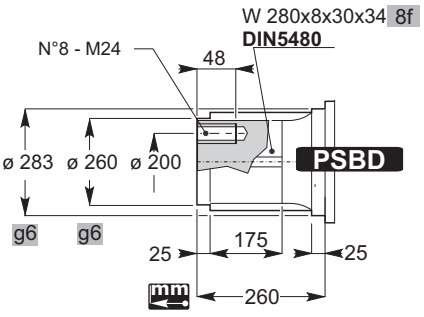
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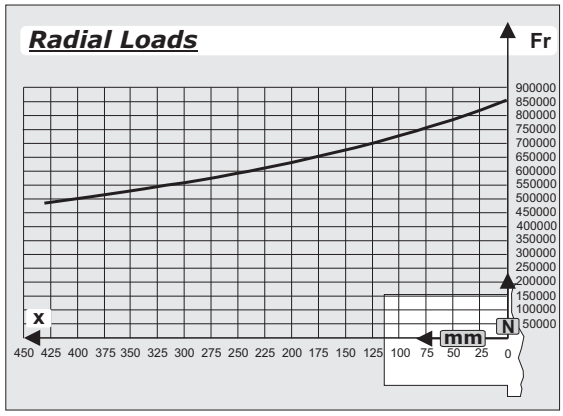
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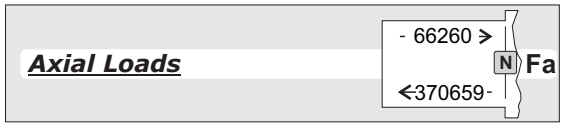


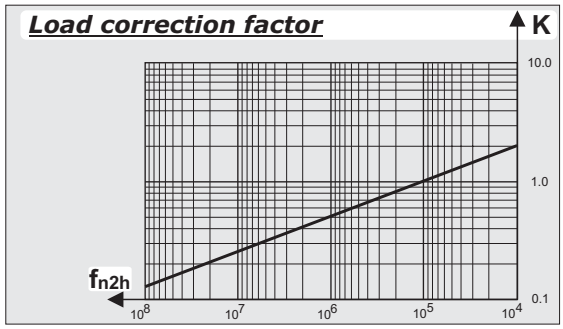




Output Shafts



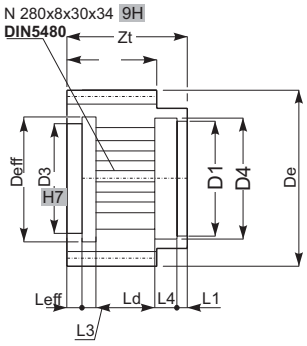




EXB

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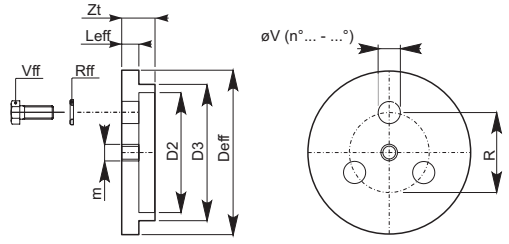
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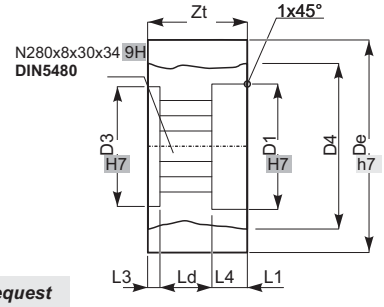
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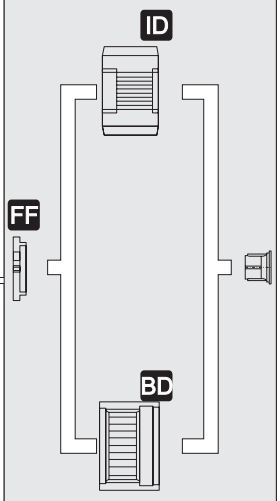


On request

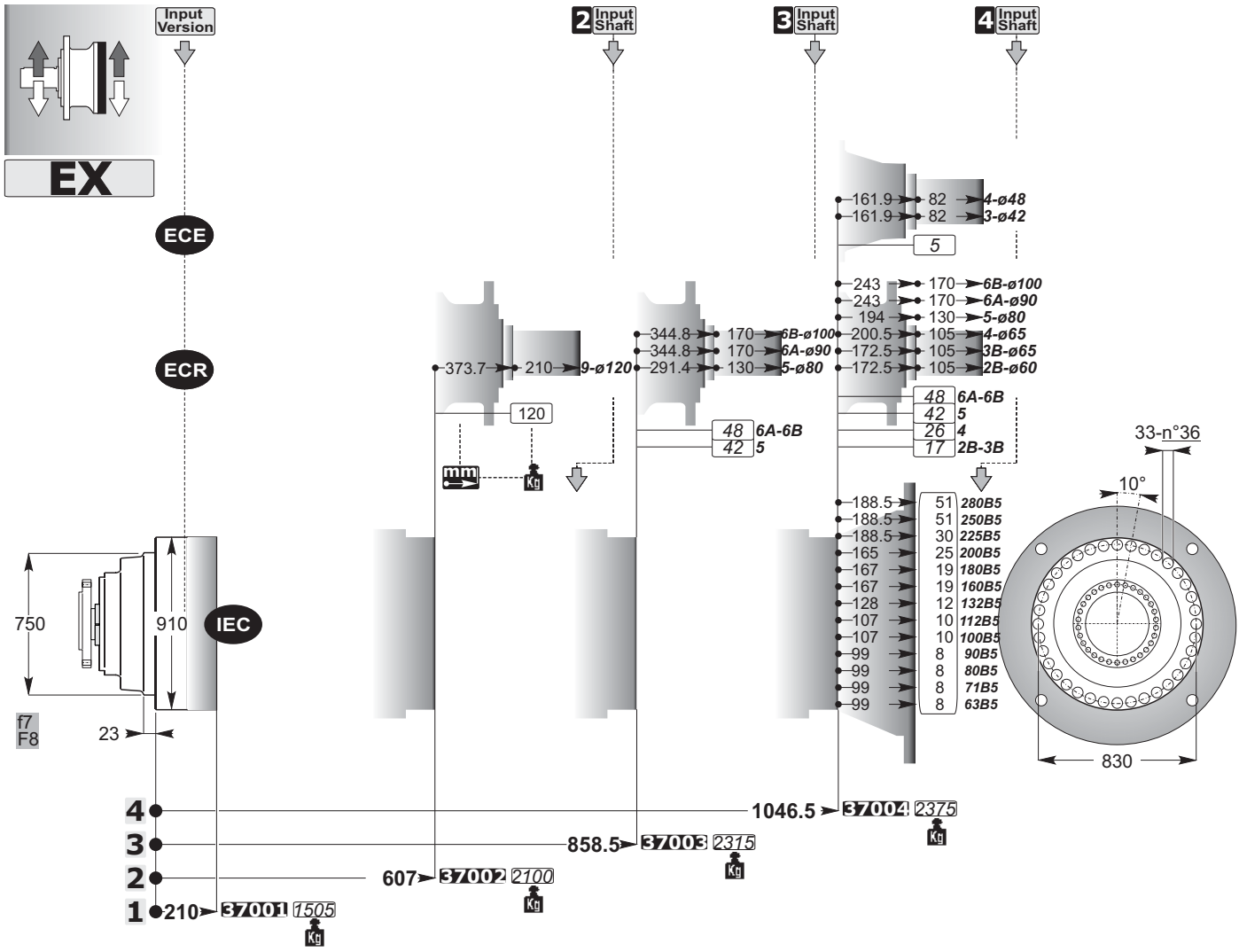
BD

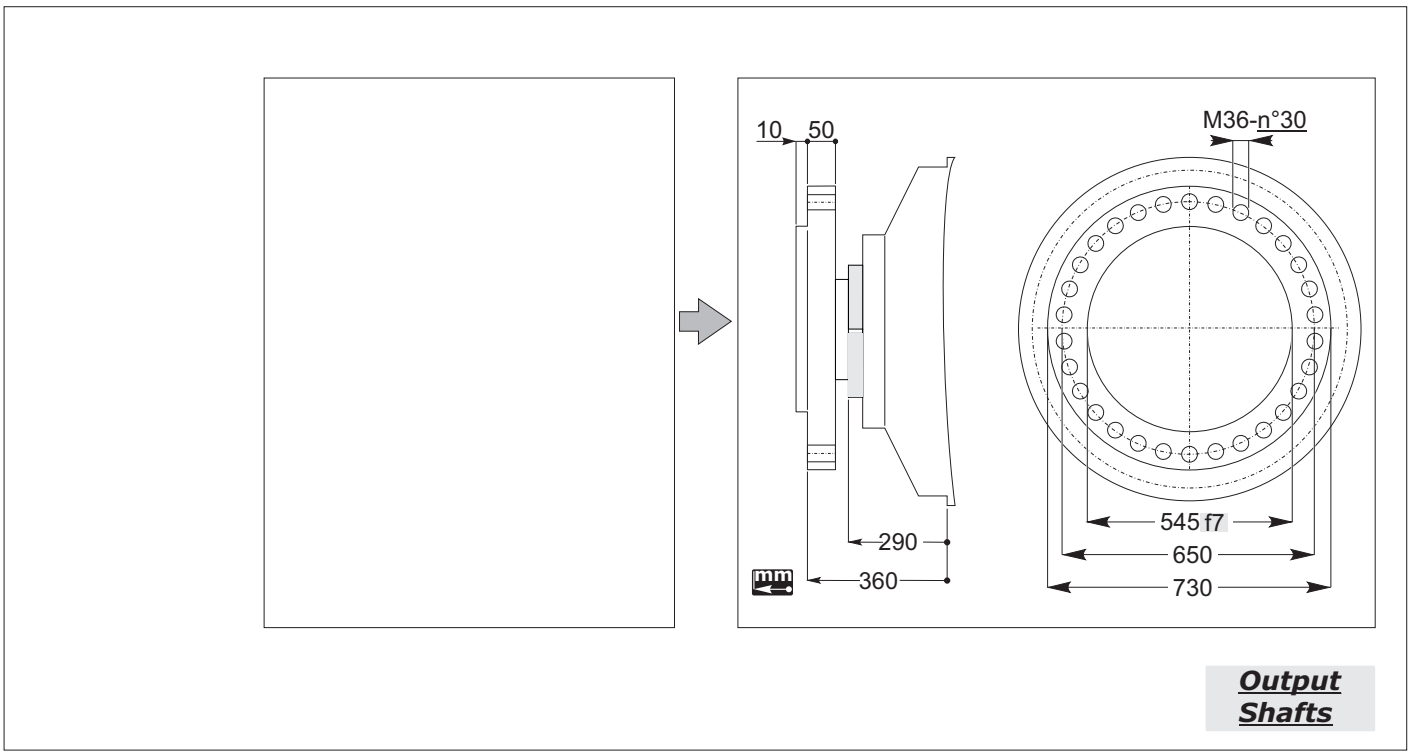


On request



Accessories



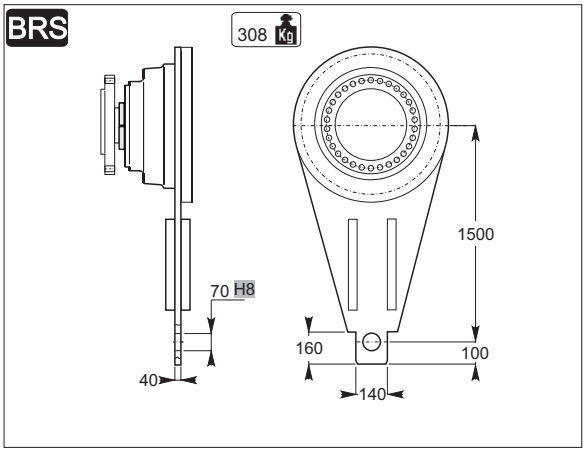


Output Shafts

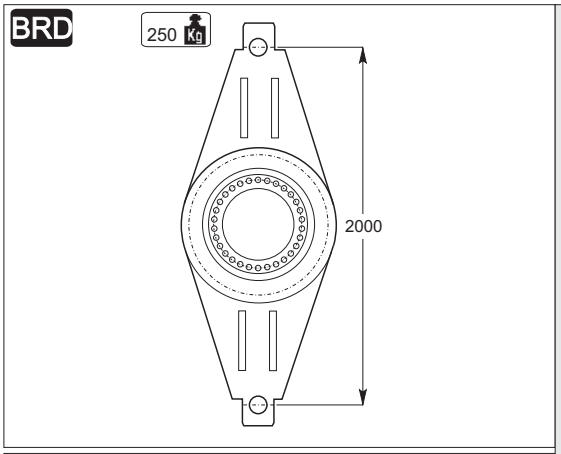
EXB

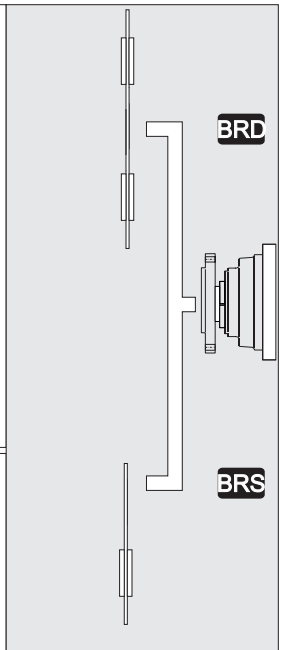
non disponibile
not available
nicht verfügbar

BRS

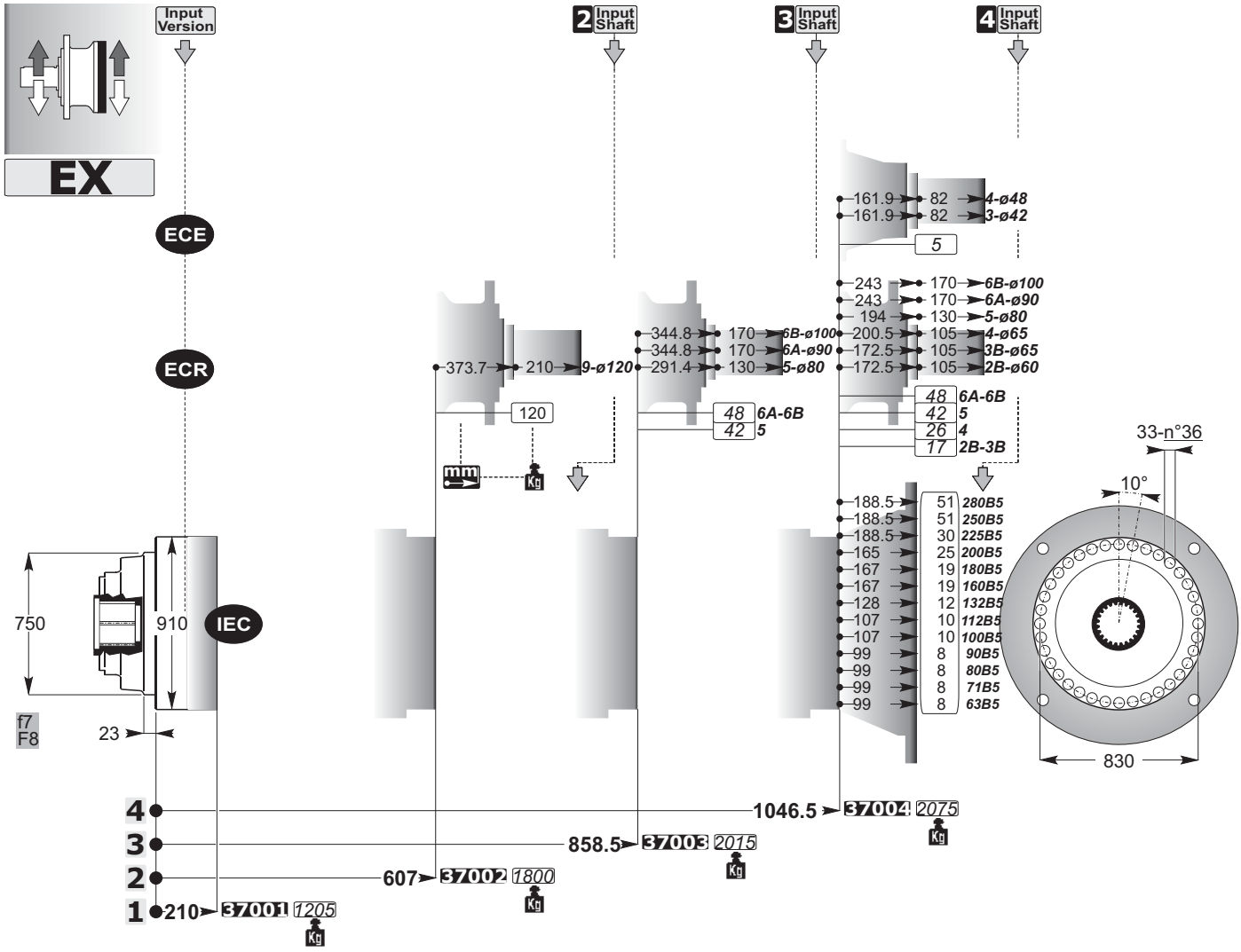


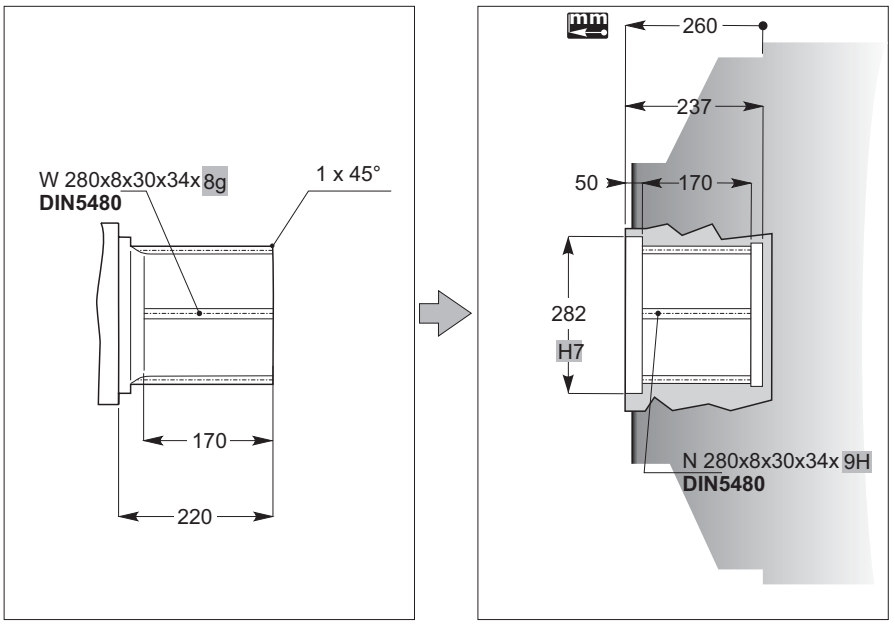
BRD





Accessories



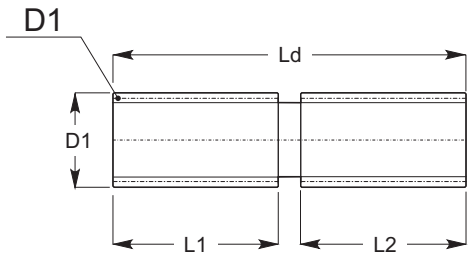


Output Shafts

EXB

non disponibile
not available
nicht verfügbar

SD

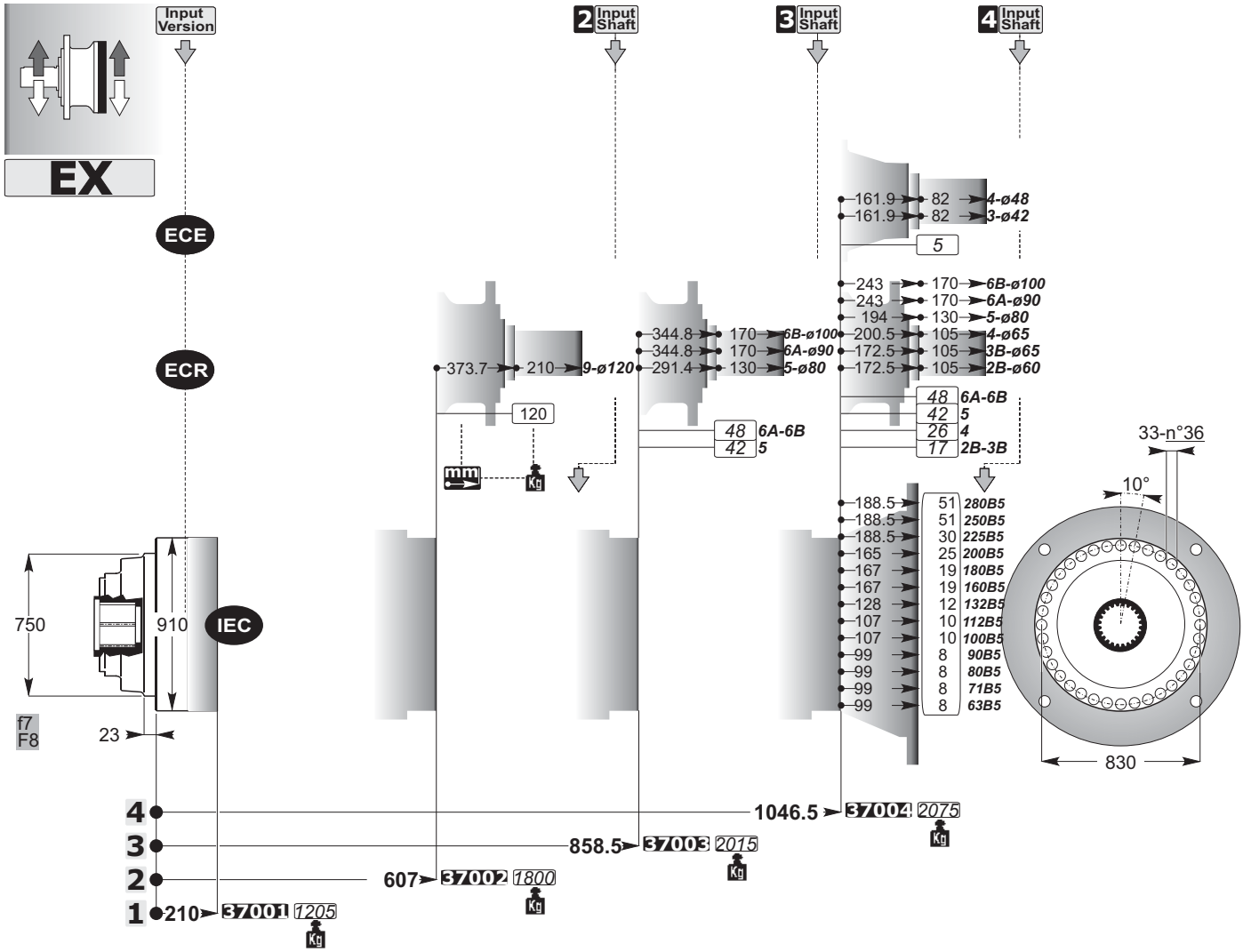


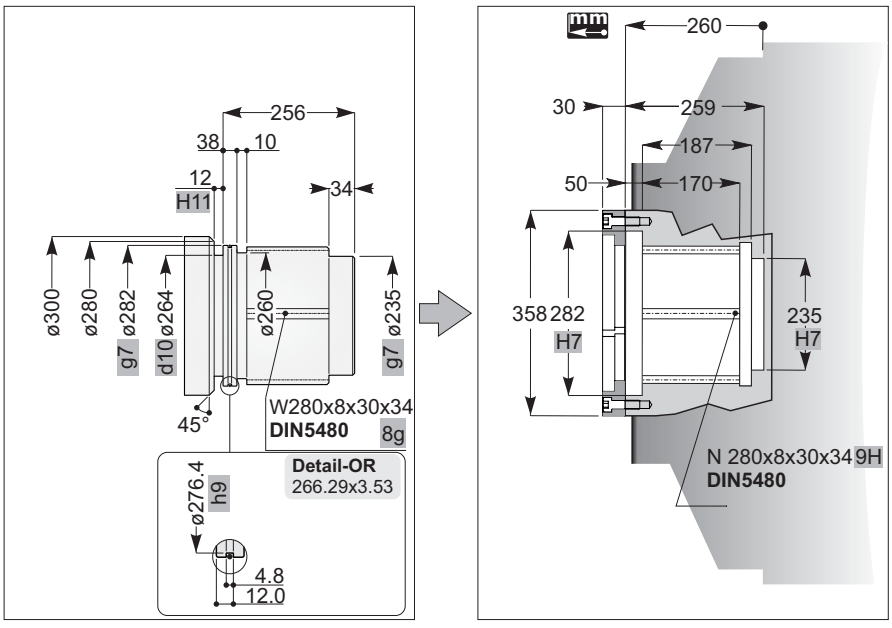
On request

SD



Accessories



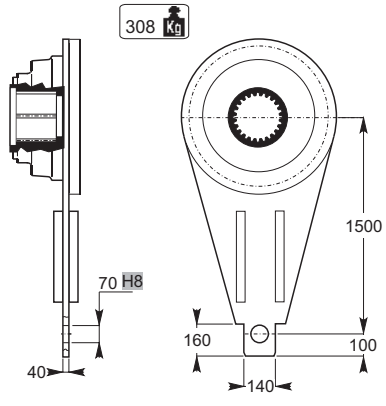


Output Shafts

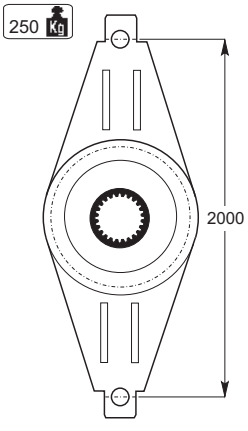
EXB

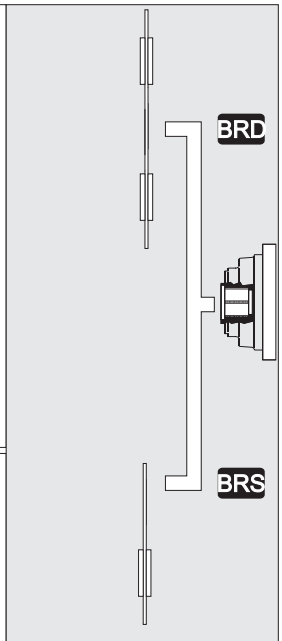
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not available
nicht verfügbar

BRS

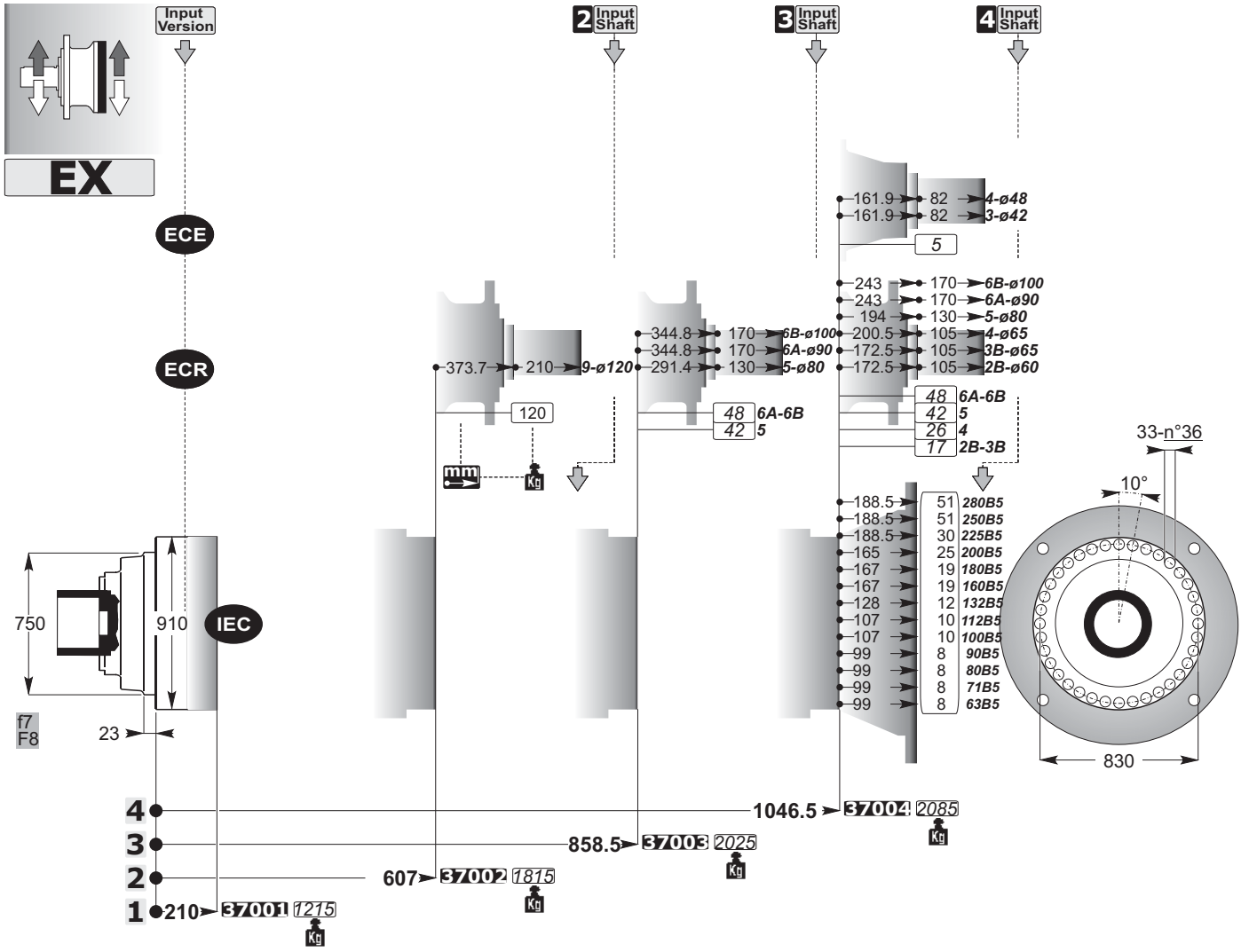


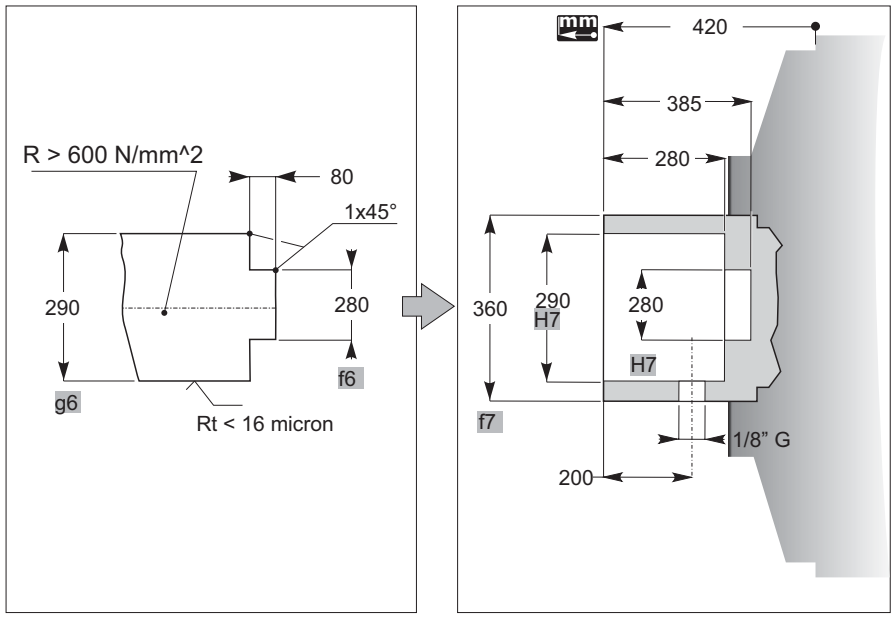
BRD





Accessories

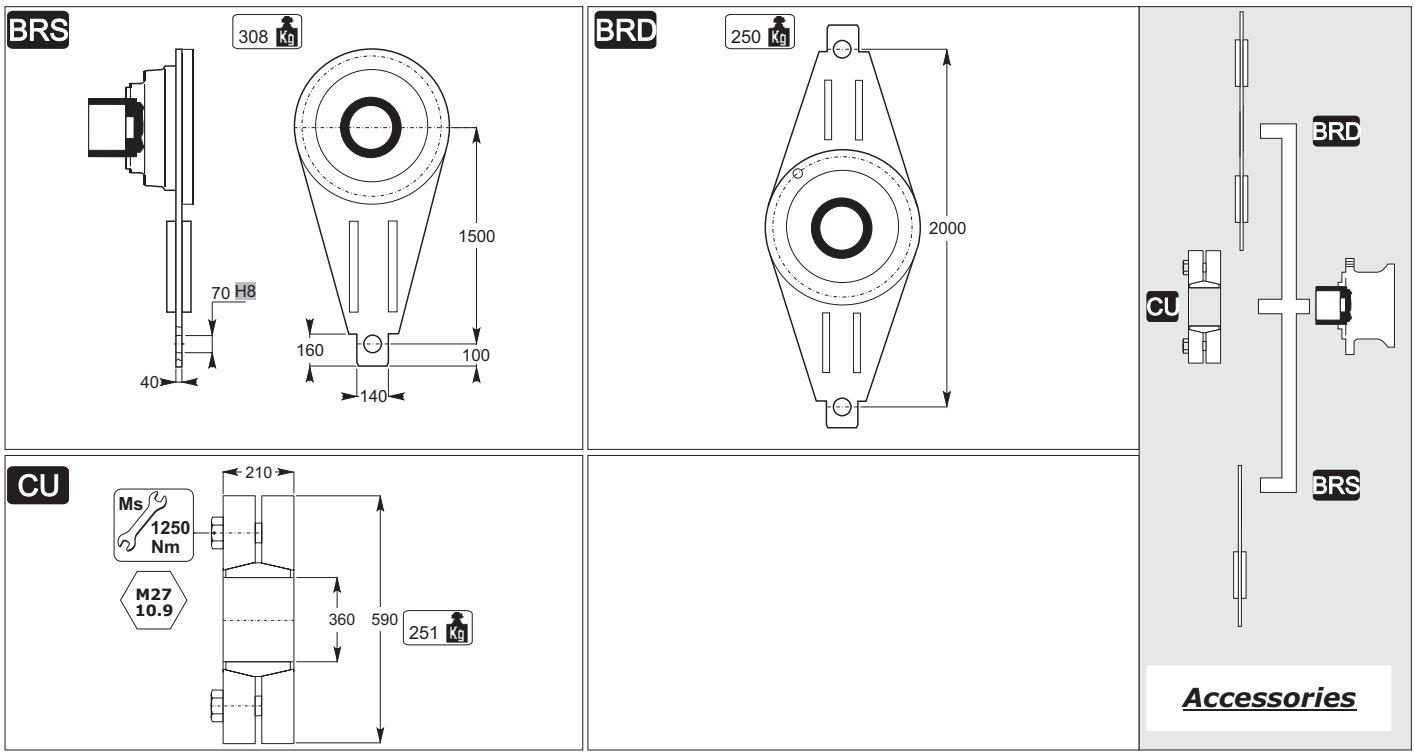


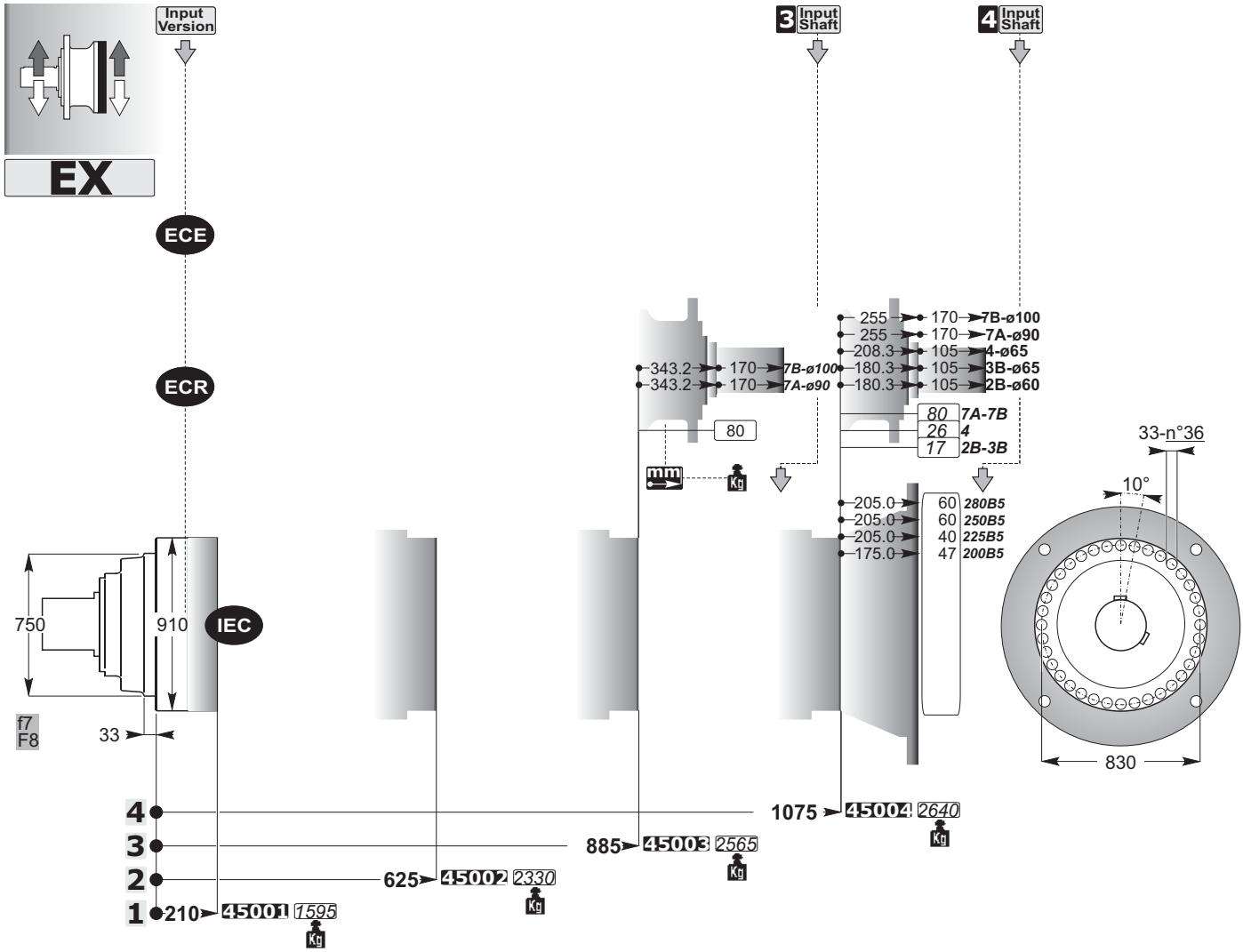


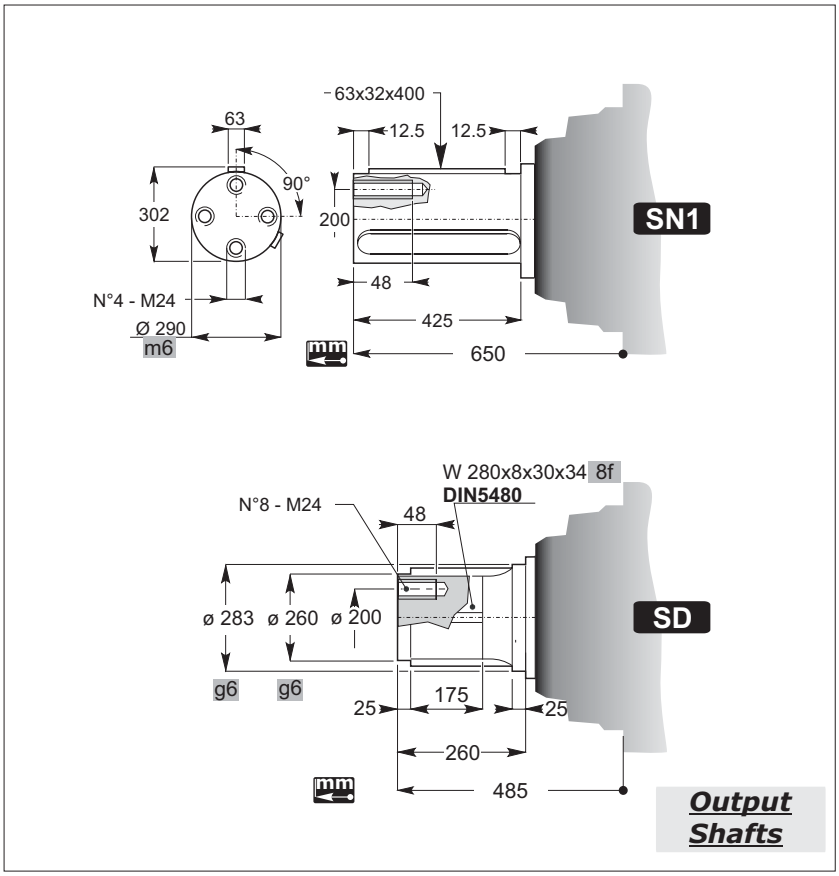
Output Shafts

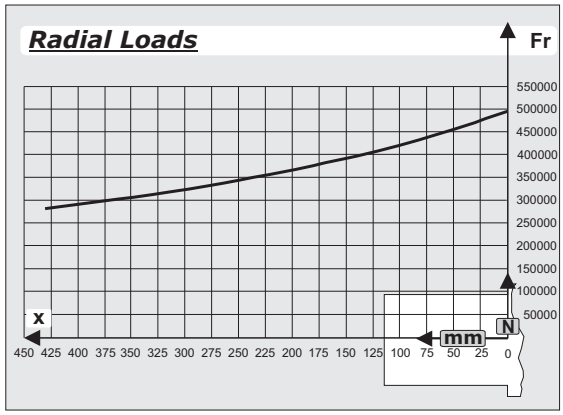
EXB

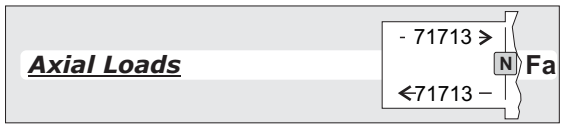
non disponibile
not available
nicht verfügbar

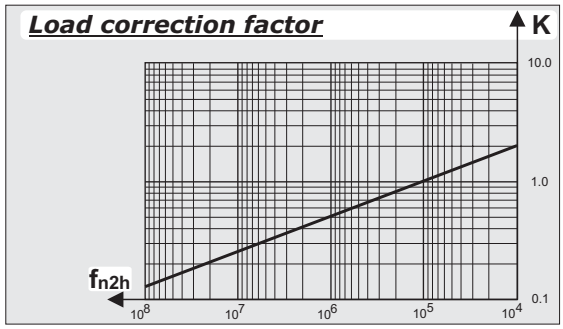



Input Version
EX
ECE
ECR
IEC
750
910
f7
F8
33
3 Input Shaft
4 Input Shaft
343.2 170 7B-ø100
343.2 170 7A-ø90
80
mm
Kg
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
80 7A-7B
26 4
17 2B-3B
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
33-n°36
10°
830
4
3
2
1
210 45001 1595
625 45002 2330
885 45003 2565
1075 45004 2640


63x32x400
63
12.5
12.5
90°
302
200
SN1
N°4 - M24
Ø 290
m6
48
425
650
mm
W 280x8x30x34 8f
DIN5480
N°8 - M24
48
ø 283
ø 260
ø 200
SD
g6
g6
25
175
25
260
485
mm
Output Shafts


Radial Loads
Fr
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
x
450 425 400 375 350 325 300 275 250 225 200 175 150 125 100 75 50 25 0
mm
N

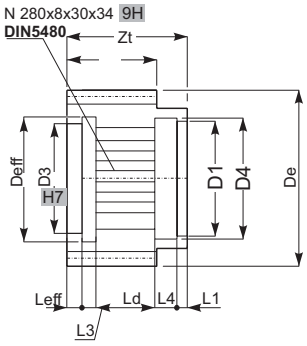

Axial Loads
- 71713 >
N
Fa
<71713 –


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

EXB

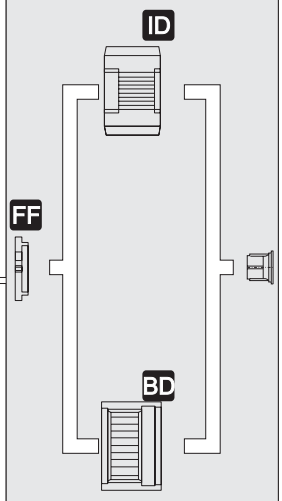
non disponibile
not available
nicht verfügbar

ID



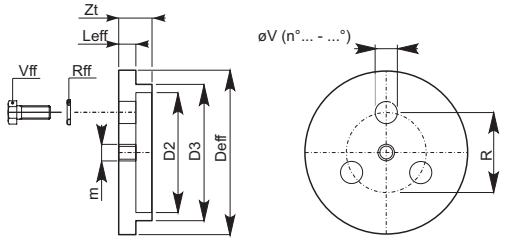
	m	Z	X	De
ID—	-	-	-	-

On request



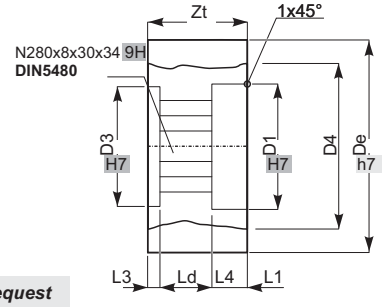
Accessories

FF

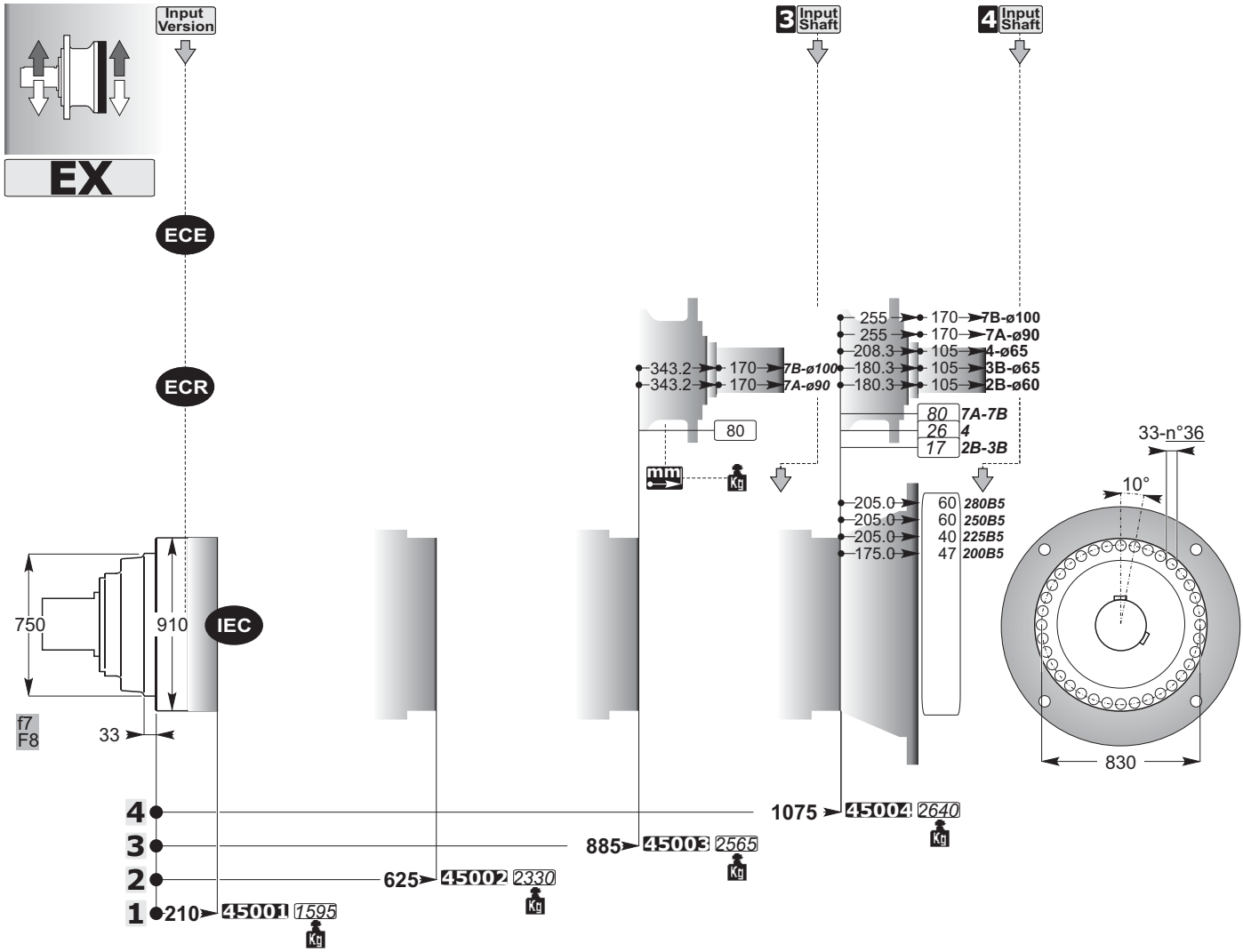


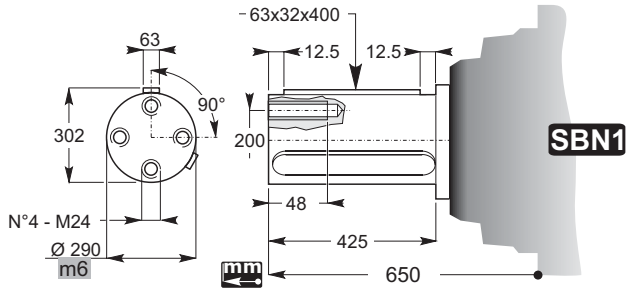
On request

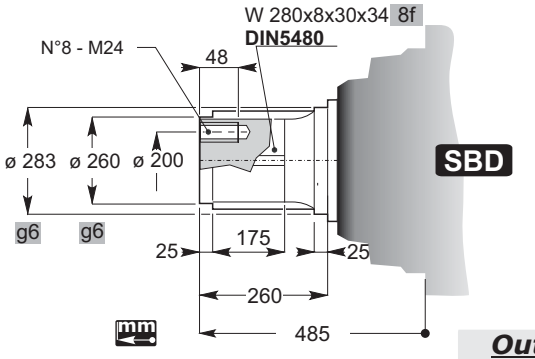
BD



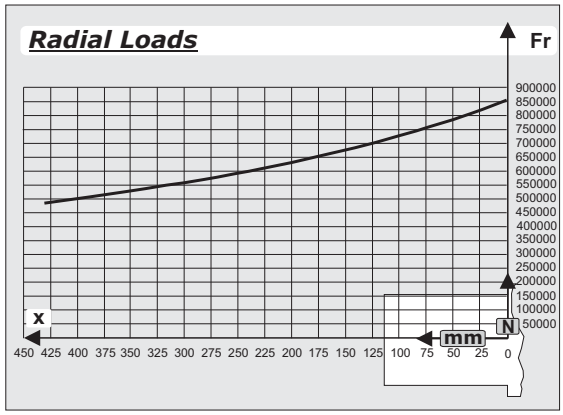
On request

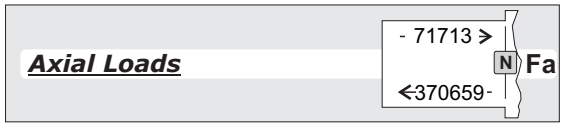


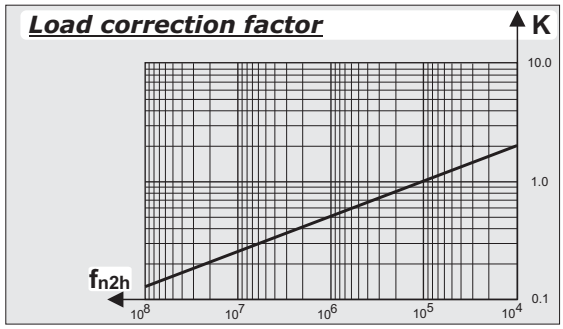




Output Shafts



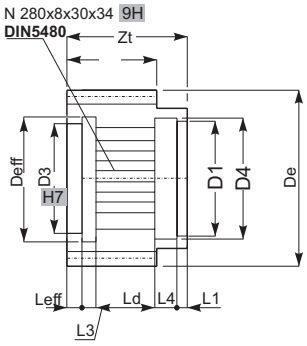




EXB

non disponibile
not available
nicht verfügbar

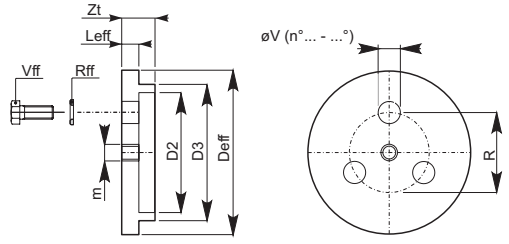
ID



	m	Z	X	De
ID—	-	-	-	-

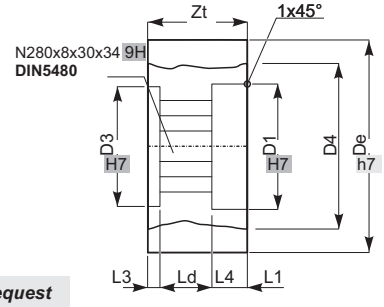
On request

FF

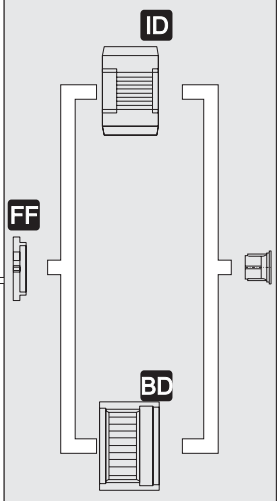


On request

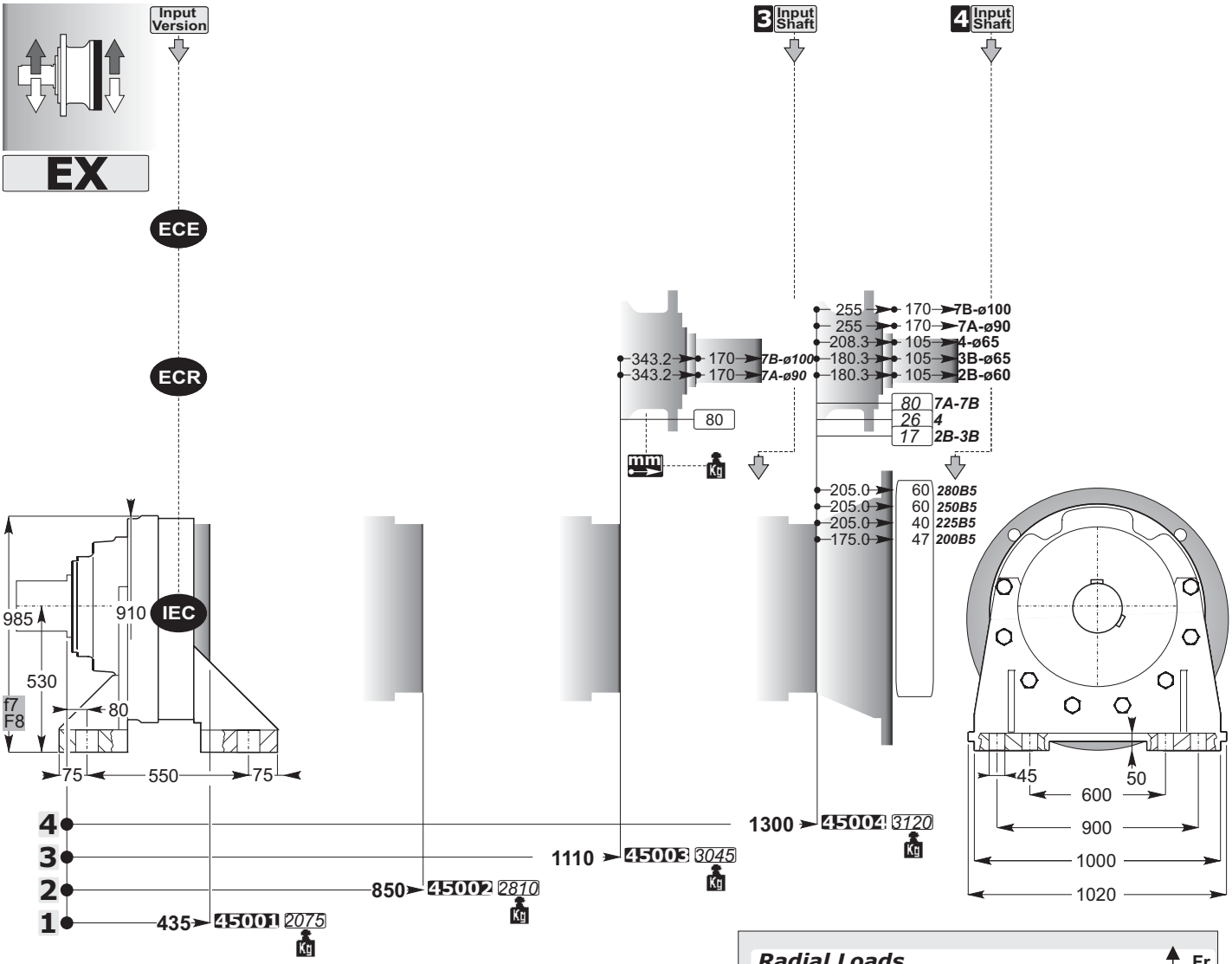
BD

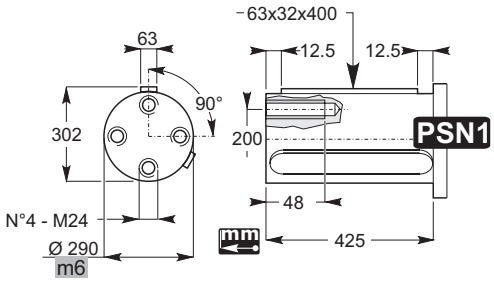


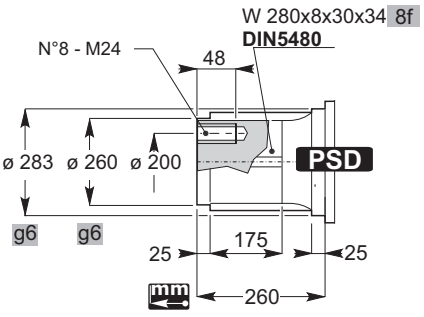
On request



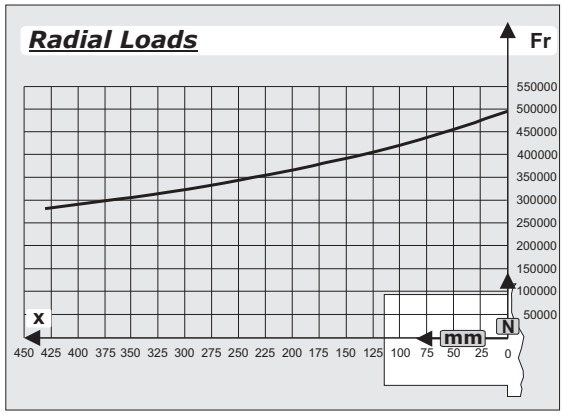
Accessories

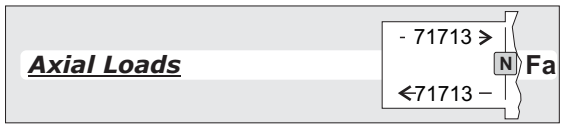


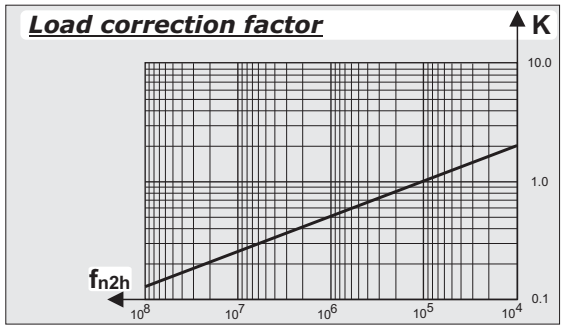




Output Shafts



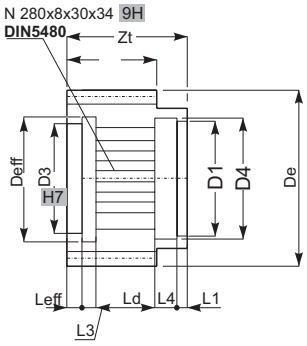




EXB

non disponibile
not available
nicht verfügbar

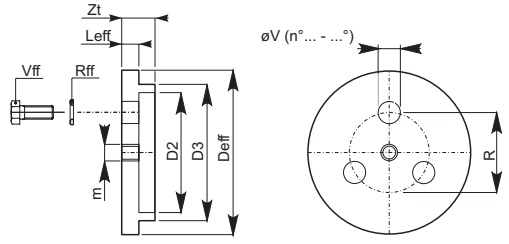
ID



	m	Z	X	De
ID—	-	-	-	-

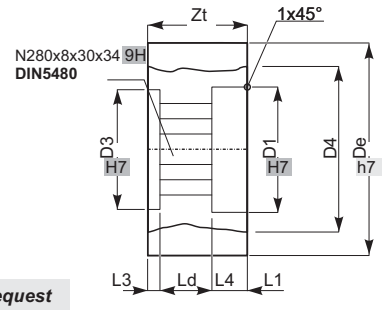
On request

FF

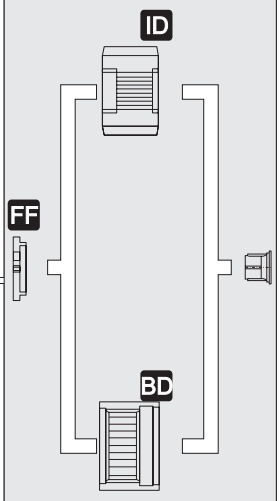


On request

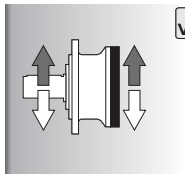
BD



On request



Accessories



EX

Input Version

ECE

ECR

IEC

3 Input Shaft

4 Input Shaft

343.2 → 170 → 7B-ø100
343.2 → 170 → 7A-ø90
80

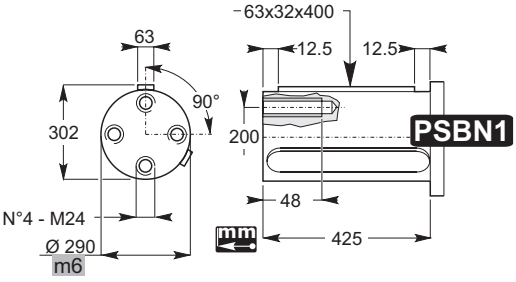
255 → 170 → 7B-ø100
255 → 170 → 7A-ø90
208.3 → 105 → 4-ø65
180.3 → 105 → 3B-ø65
180.3 → 105 → 2B-ø60
80 7A-7B
26 4
17 2B-3B

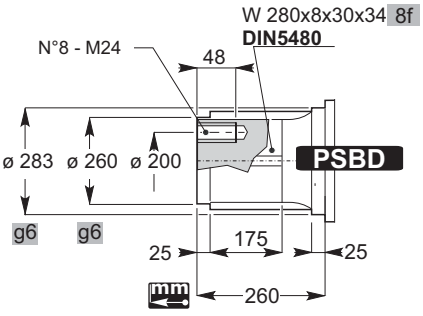
205.0 → 60 280B5
205.0 → 60 250B5
205.0 → 40 225B5
175.0 → 47 200B5

985 910 530 80 f7 F8
75 550 75

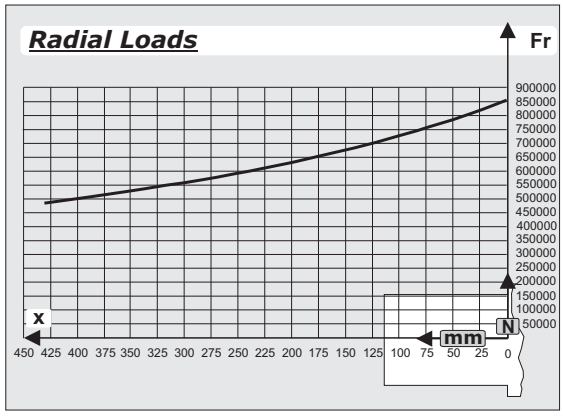
4 1300 → 45004 3120
3 1110 → 45003 3045
2 850 → 45002 2810
1 435 → 45001 2075

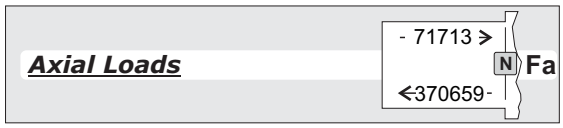
45 50 600 900 1000 1020

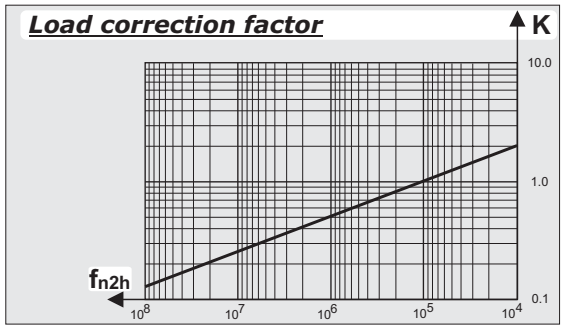




Output Shafts



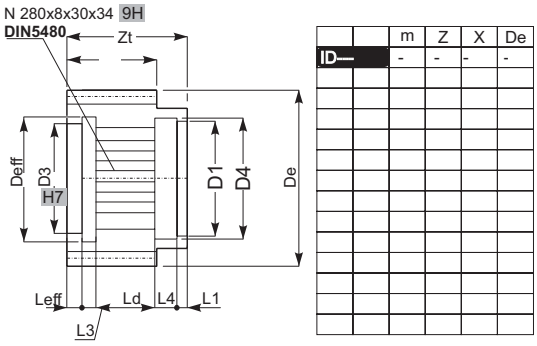




EXB

non disponibile
not available
nicht verfügbar

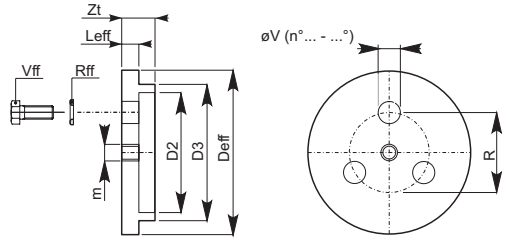
ID



		m	Z	X	De
ID—		-	-	-	-

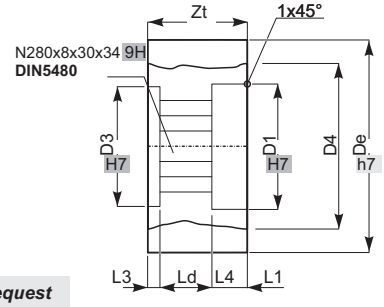
On request

FF

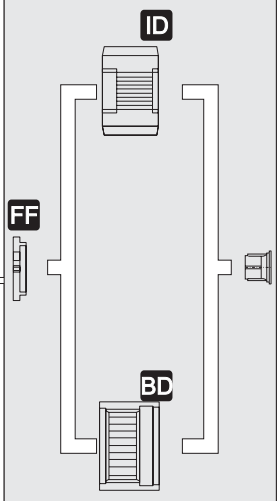


On request

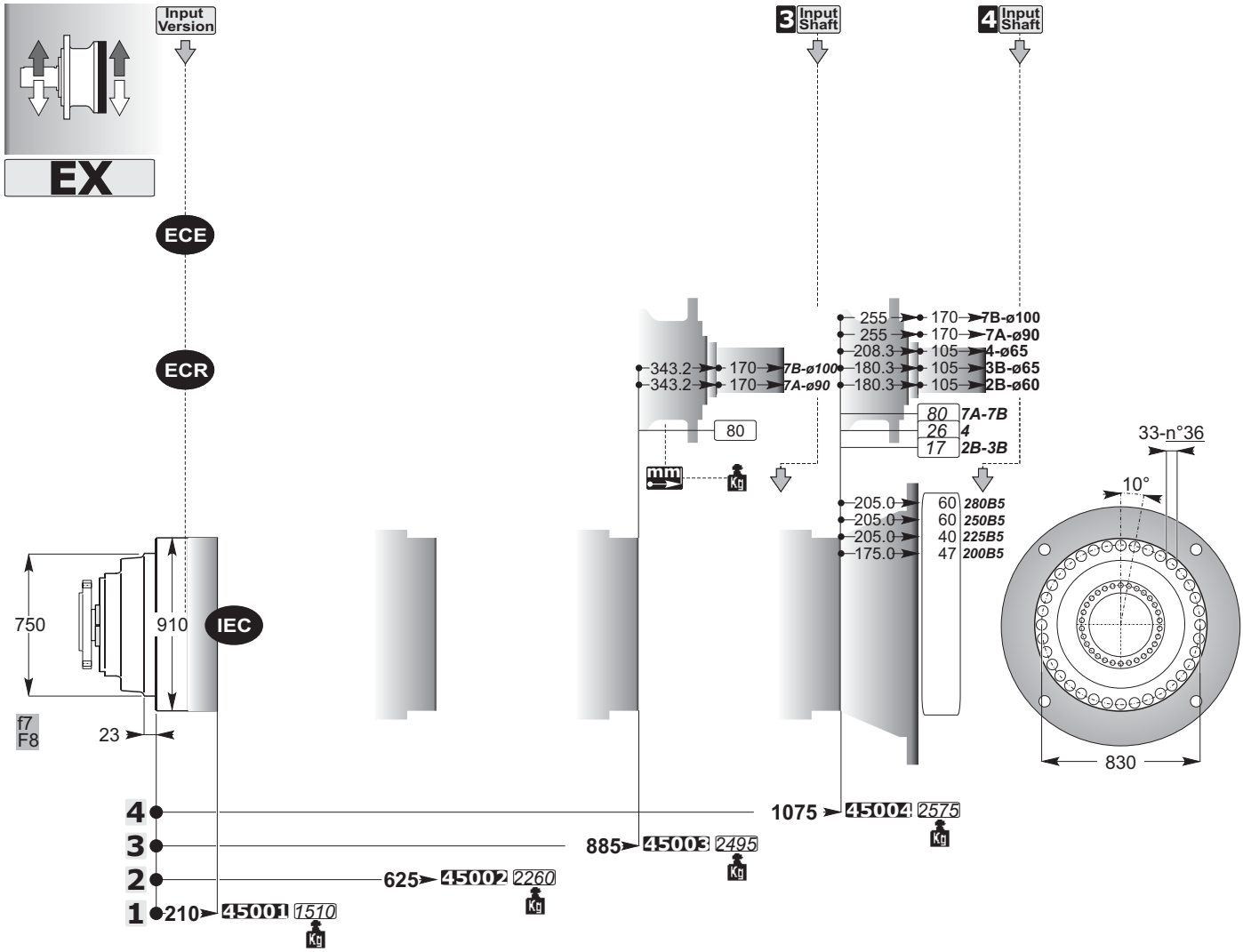
BD

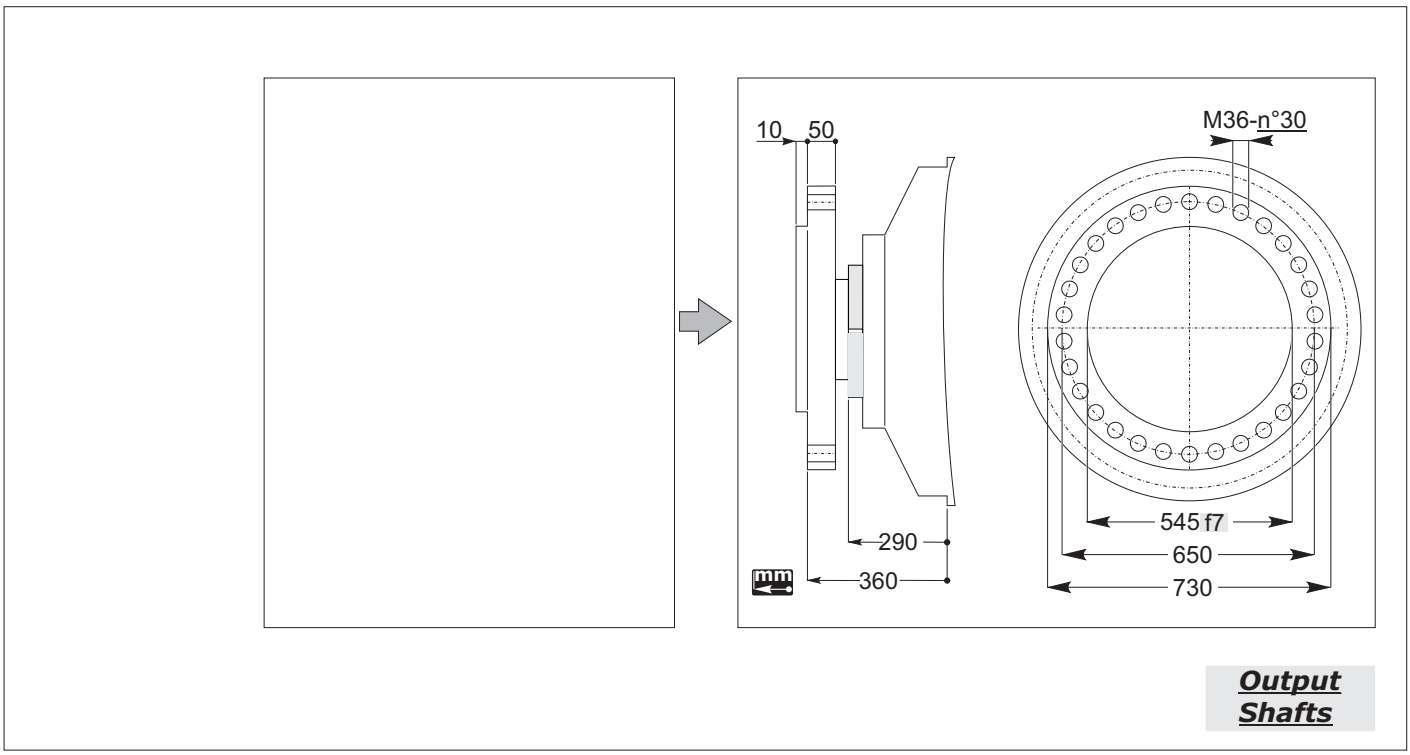


On request



Accessories

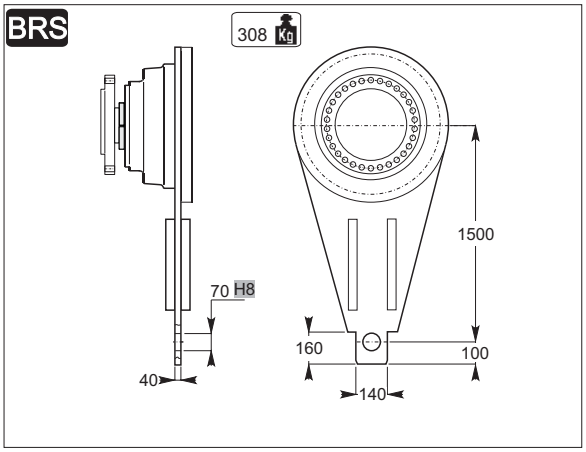

Input Version
EX
ECE
ECR
IEC
3 Input Shaft
4 Input Shaft
750
910
f7
F8
23
343.2 170 7B-ø100
343.2 170 7A-ø90
80
255 170 7B-ø100
255 170 7A-ø90
208.3 105 4-ø65
180.3 105 3B-ø65
180.3 105 2B-ø60
80 7A-7B
26 4
17 2B-3B
205.0 60 280B5
205.0 60 250B5
205.0 40 225B5
175.0 47 200B5
33-n°36
10°
830
4
3
2
1
1075 45004 2575
885 45003 2495
625 45002 2260
210 45001 1510


10
50
290
360
M36-n°30
545 f7
650
730
Output Shafts

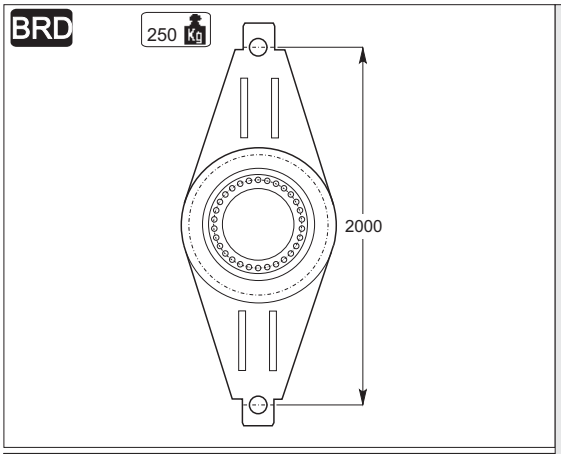
EXB

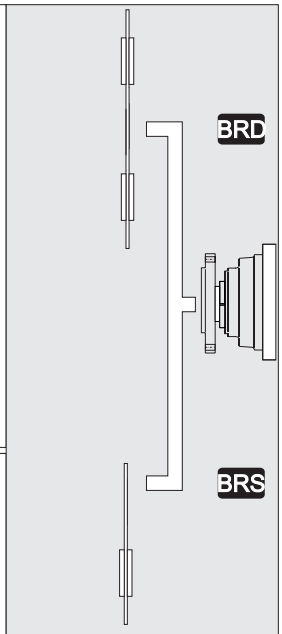
non disponibile
not available
nicht verfügbar

BRS

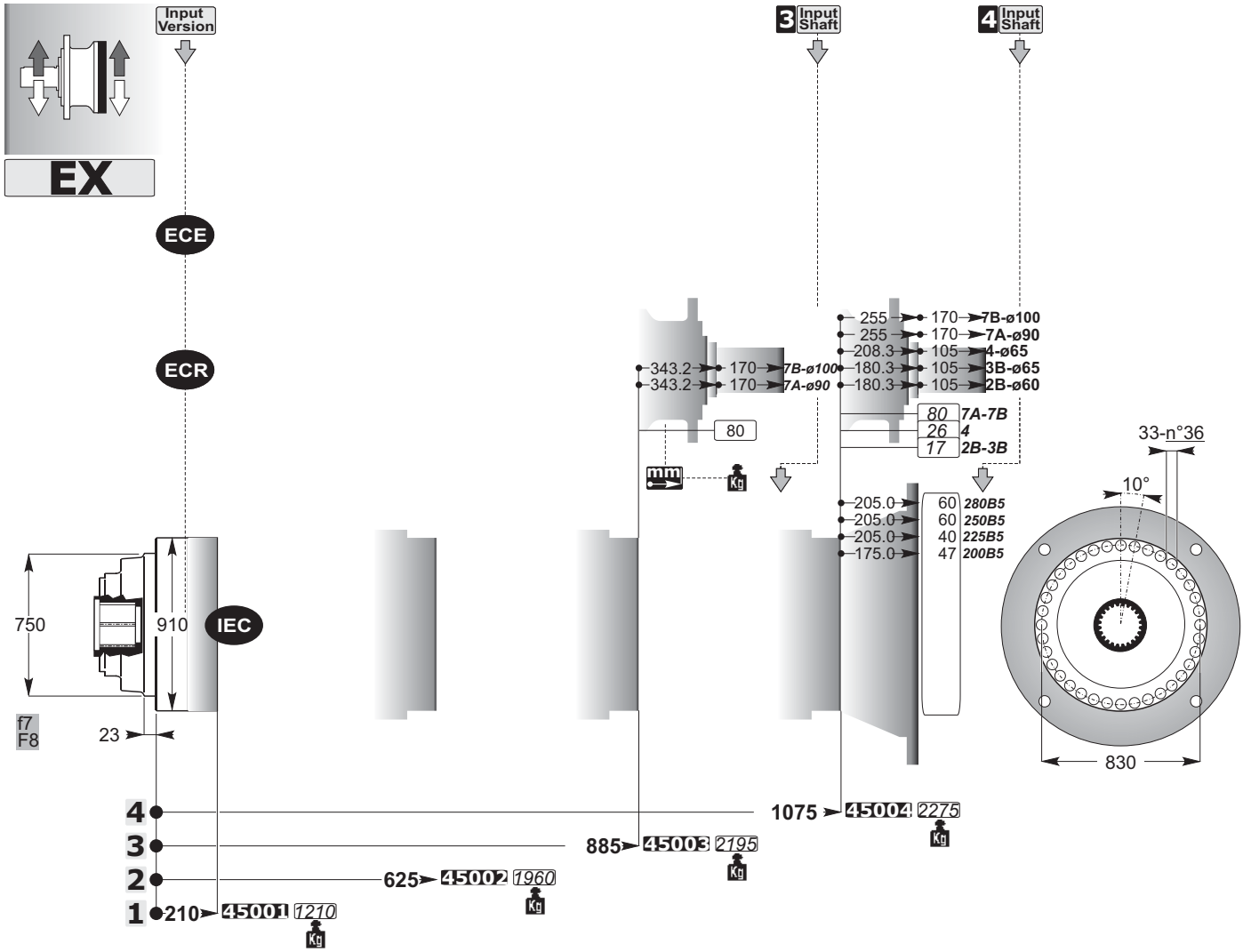


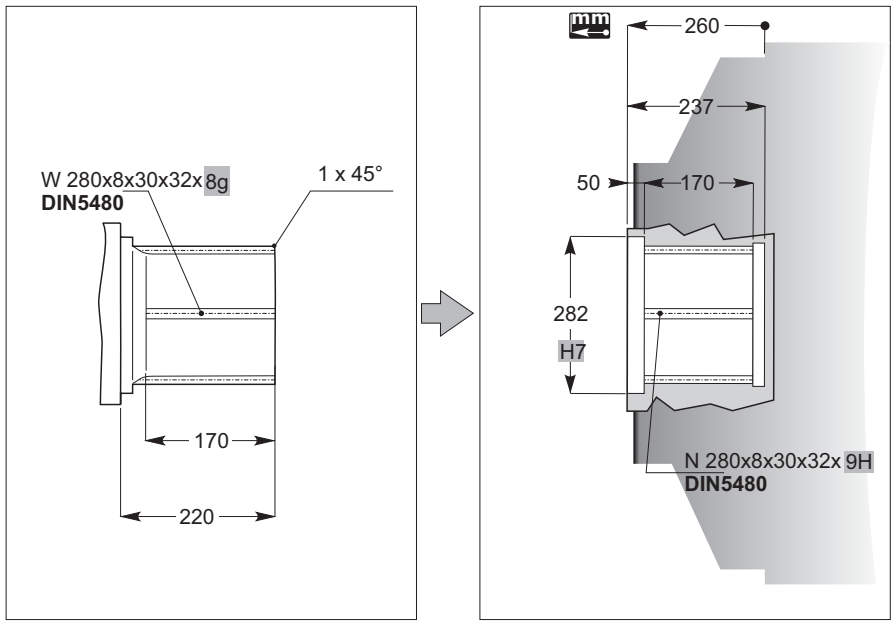
BRD





Accessories



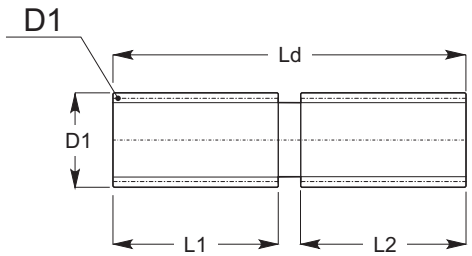


Output Shafts

EXB

non disponibile
not available
nicht verfügbar

SD

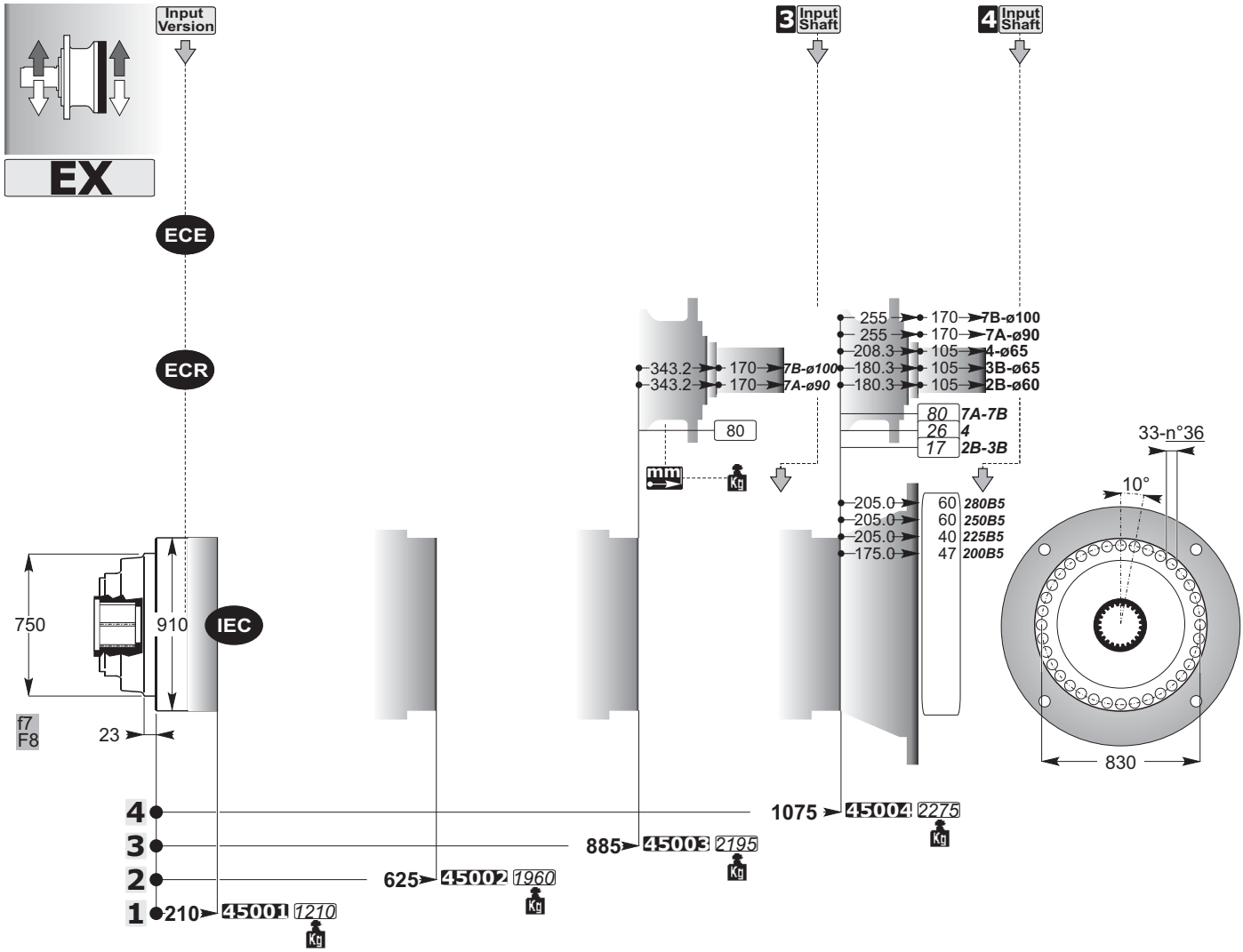


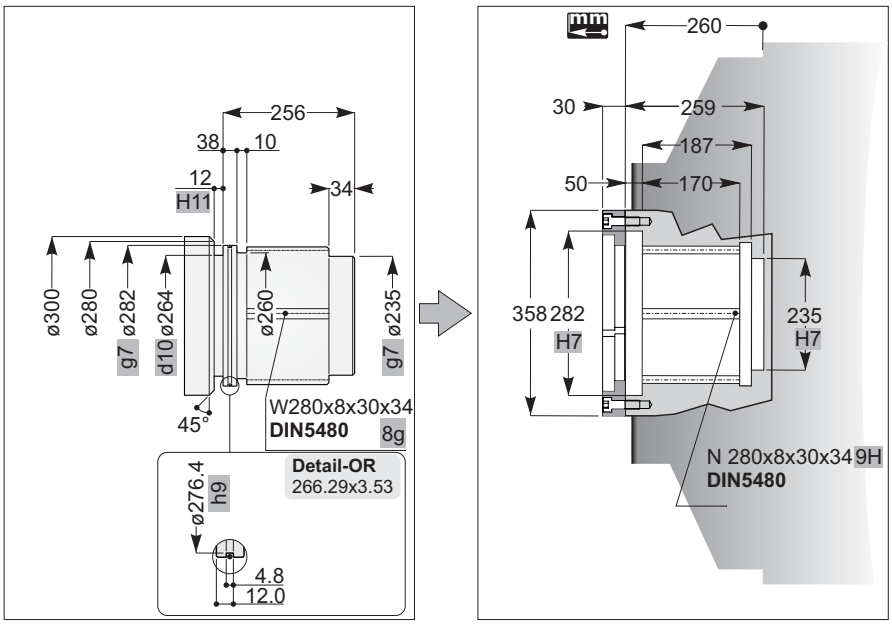
On request

SD



Accessories



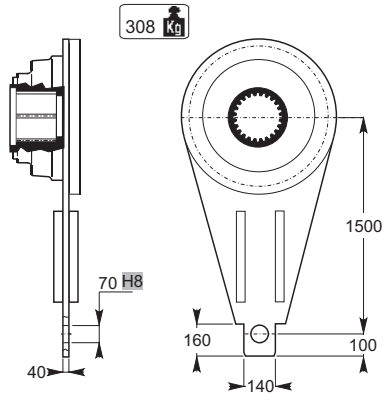


Output Shafts

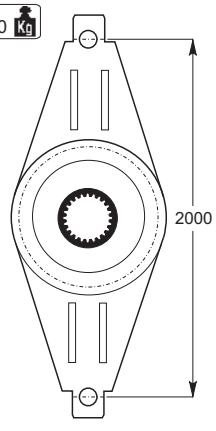
EXB

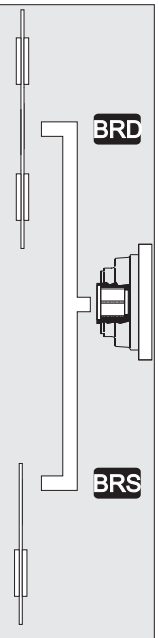
non disponibile
not available
nicht verfügbar

BRS

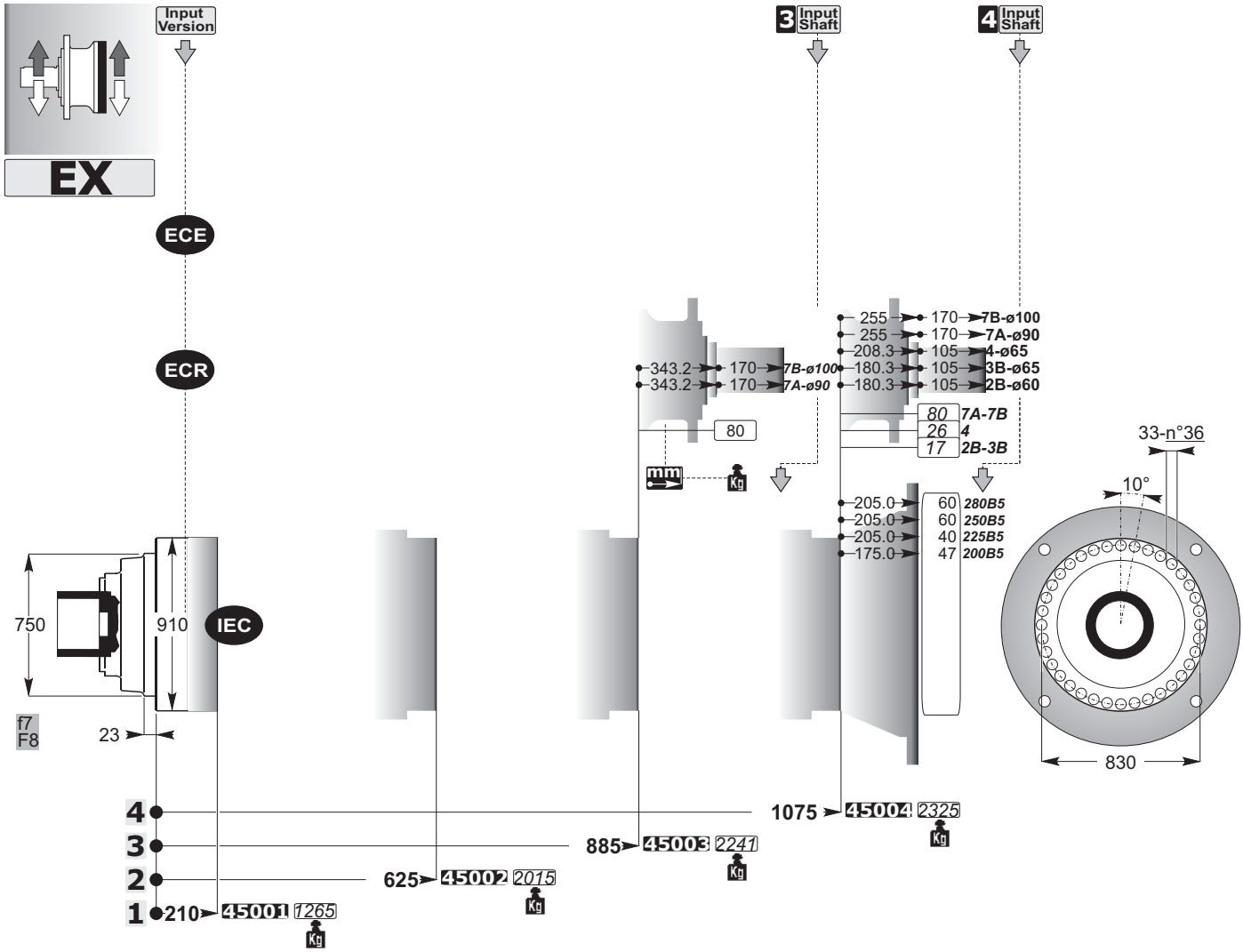


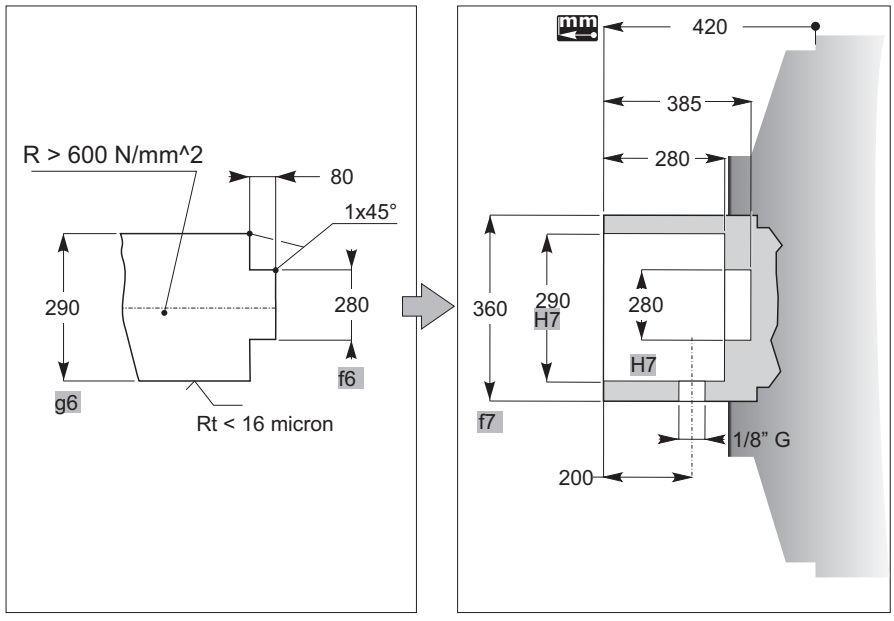
BRD





Accessories

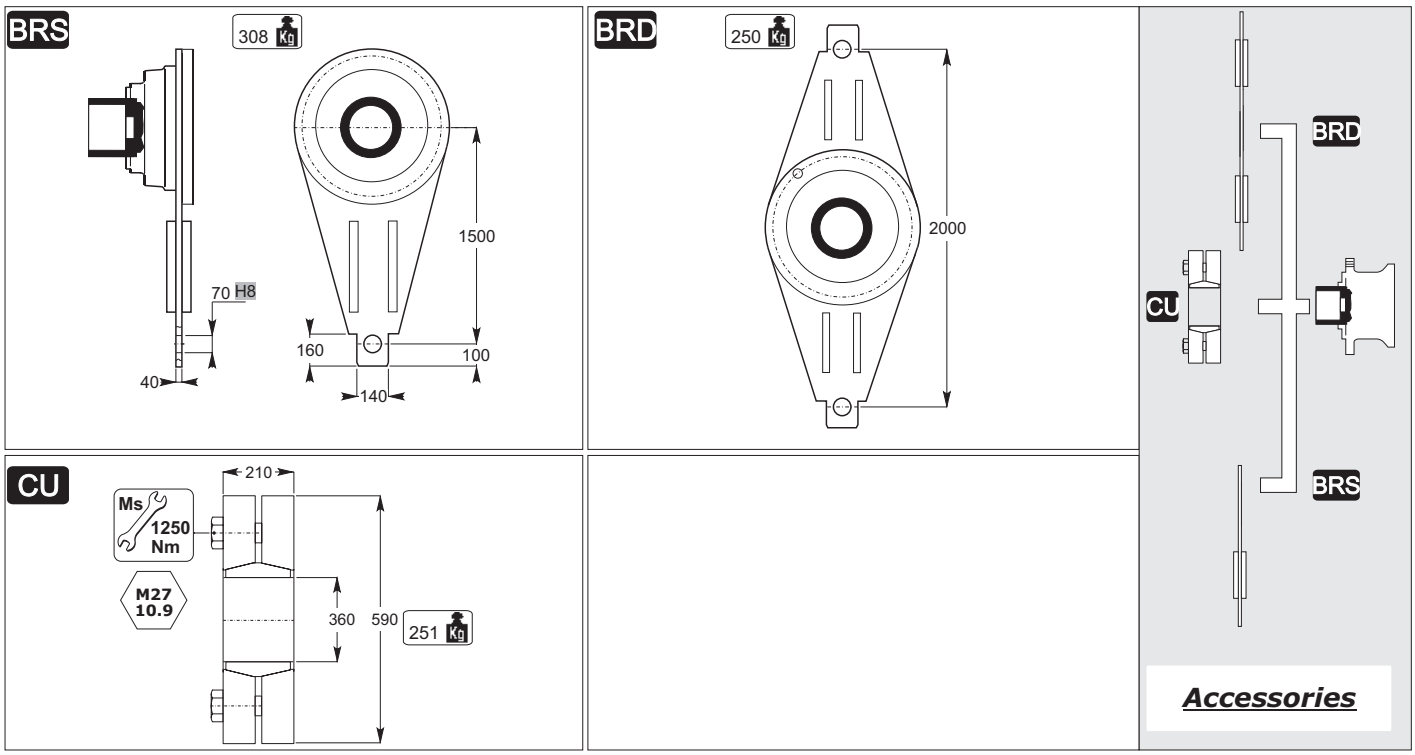


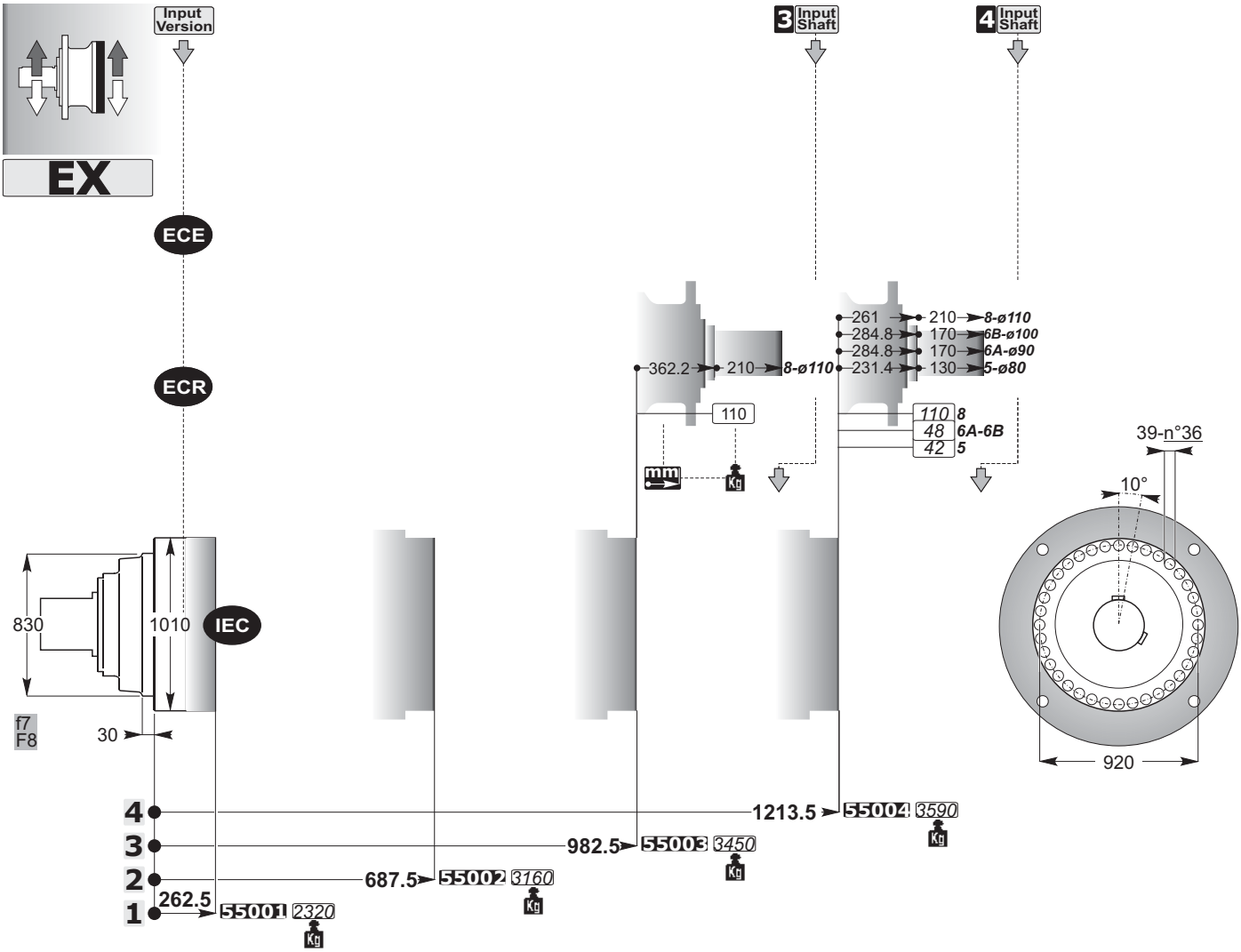


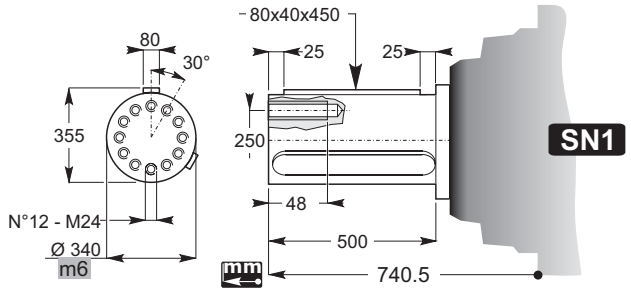
Output Shafts

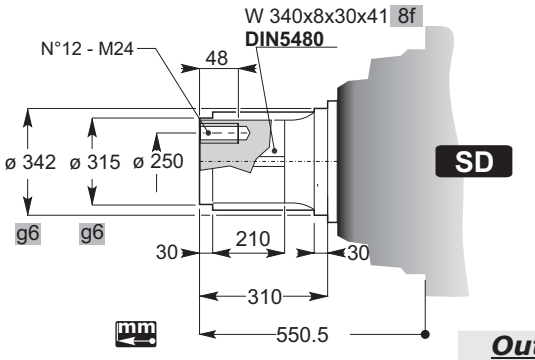
EXB

non disponibile
not available
nicht verfügbar

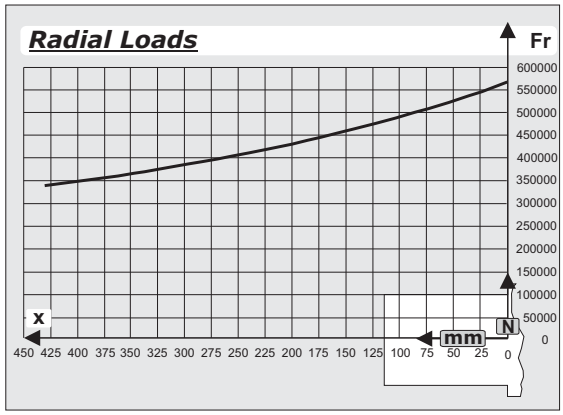


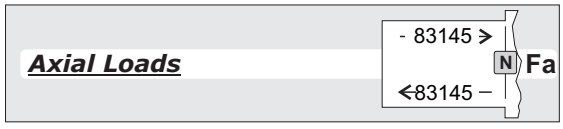


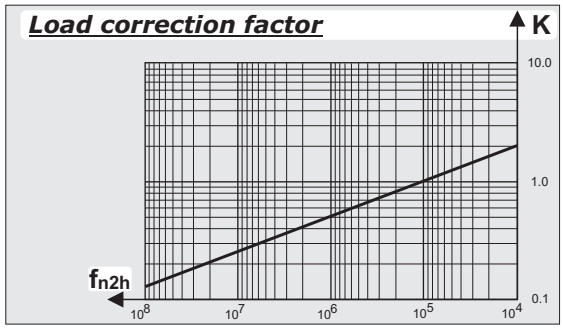




Output Shafts



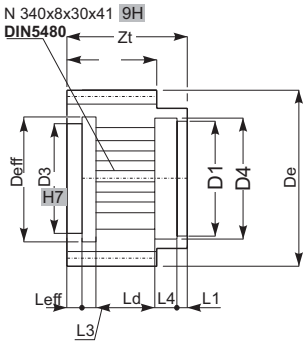




EXB

non disponibile
not available
nicht verfügbar

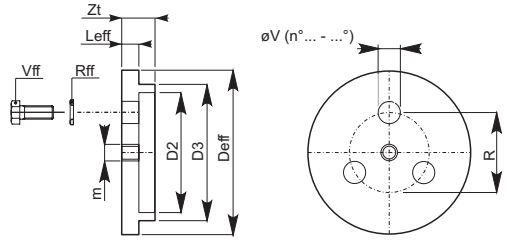
ID



	m	Z	X	De
ID—	-	-	-	-

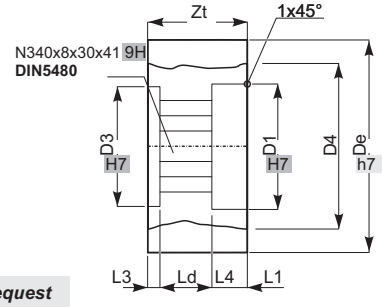
On request

FF

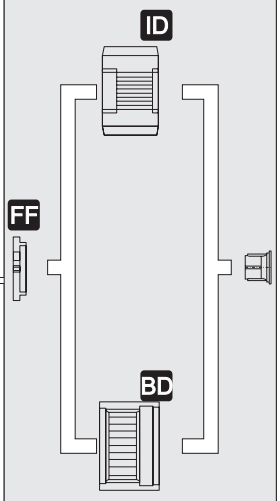


On request

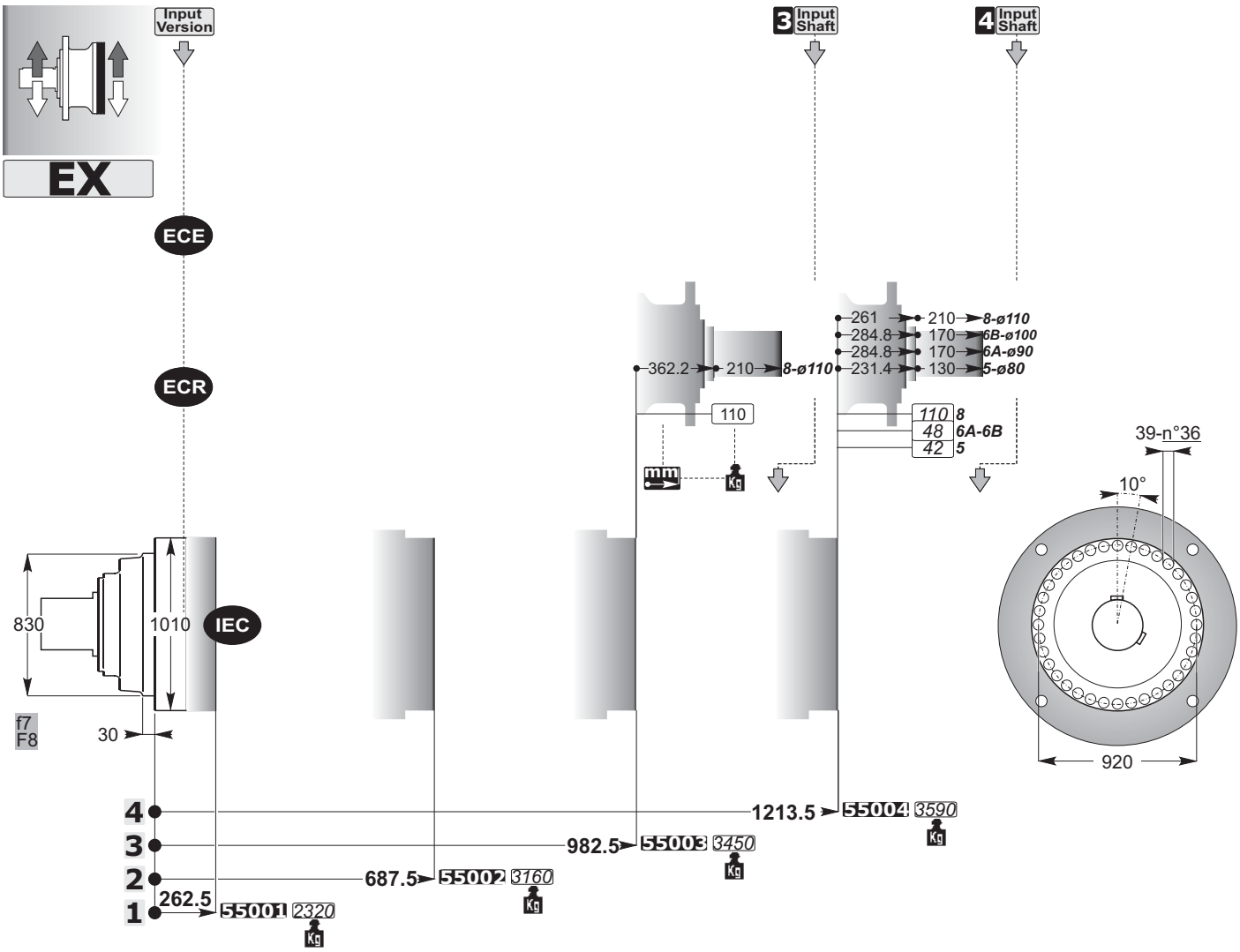
BD

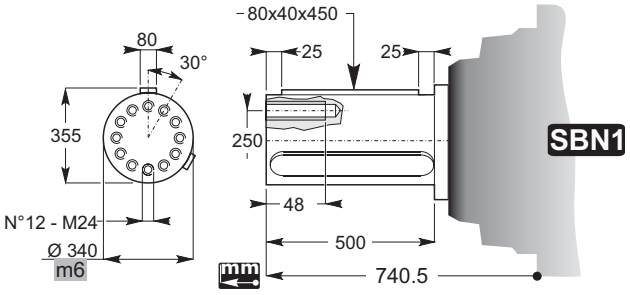


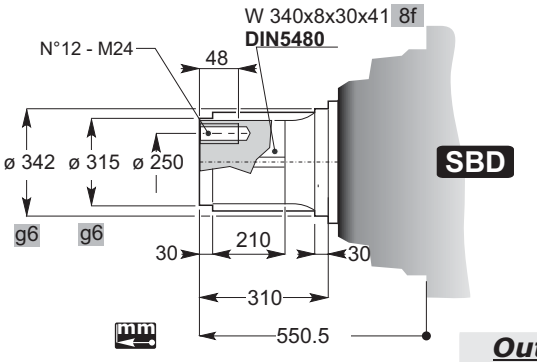
On request



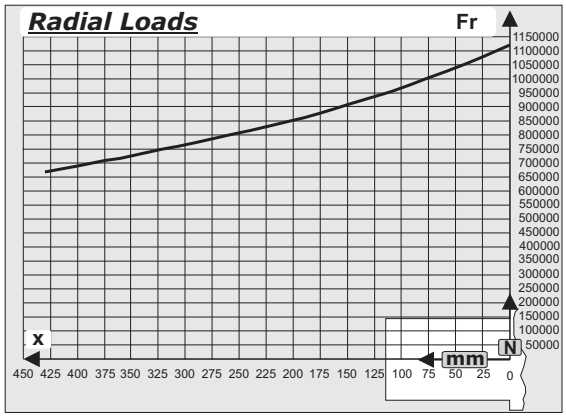
Accessories

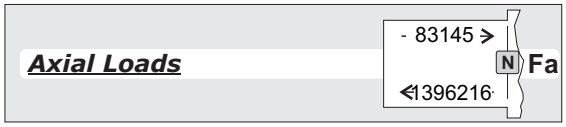


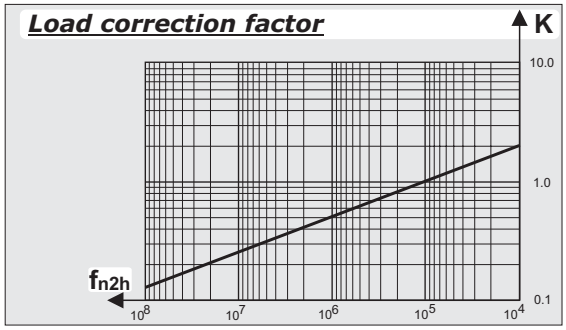




Output Shafts



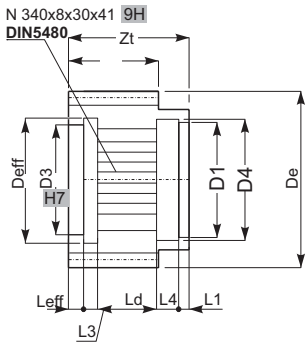




EXB

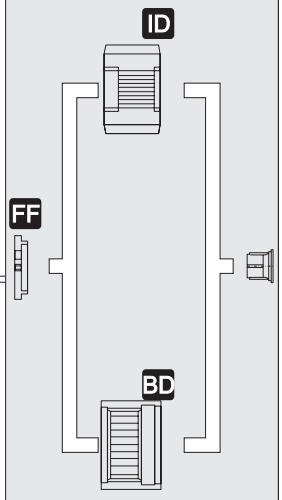
non disponibile
not available
nicht verfügbar

ID



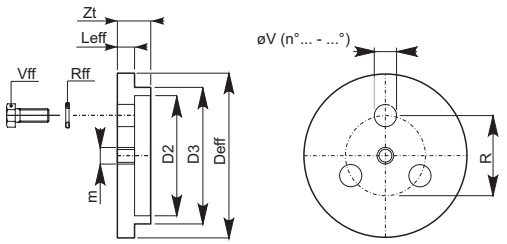
	m	Z	X	De
ID	-	-	-	-

On request



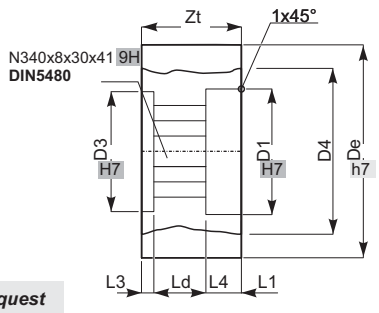
Accessories

FF

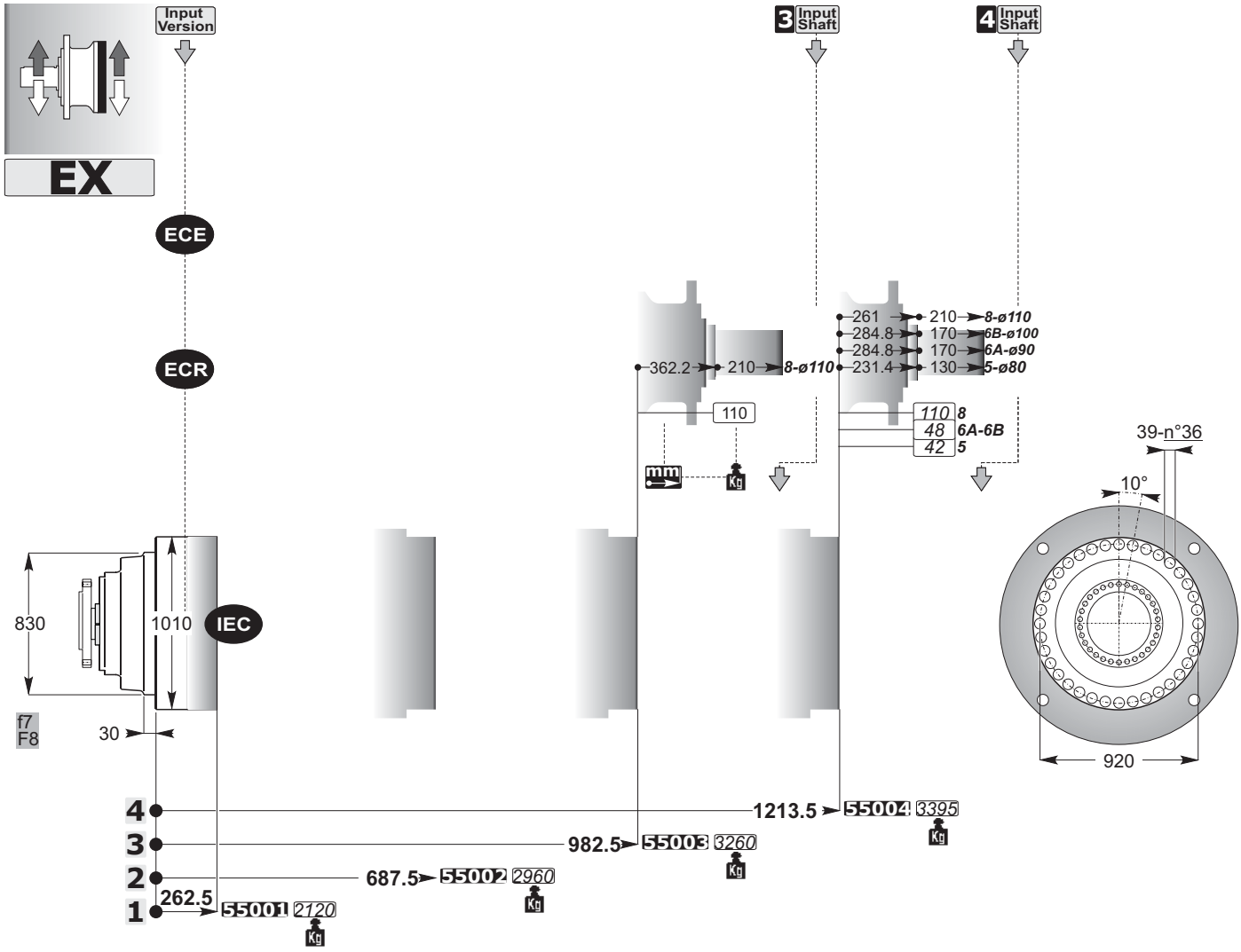


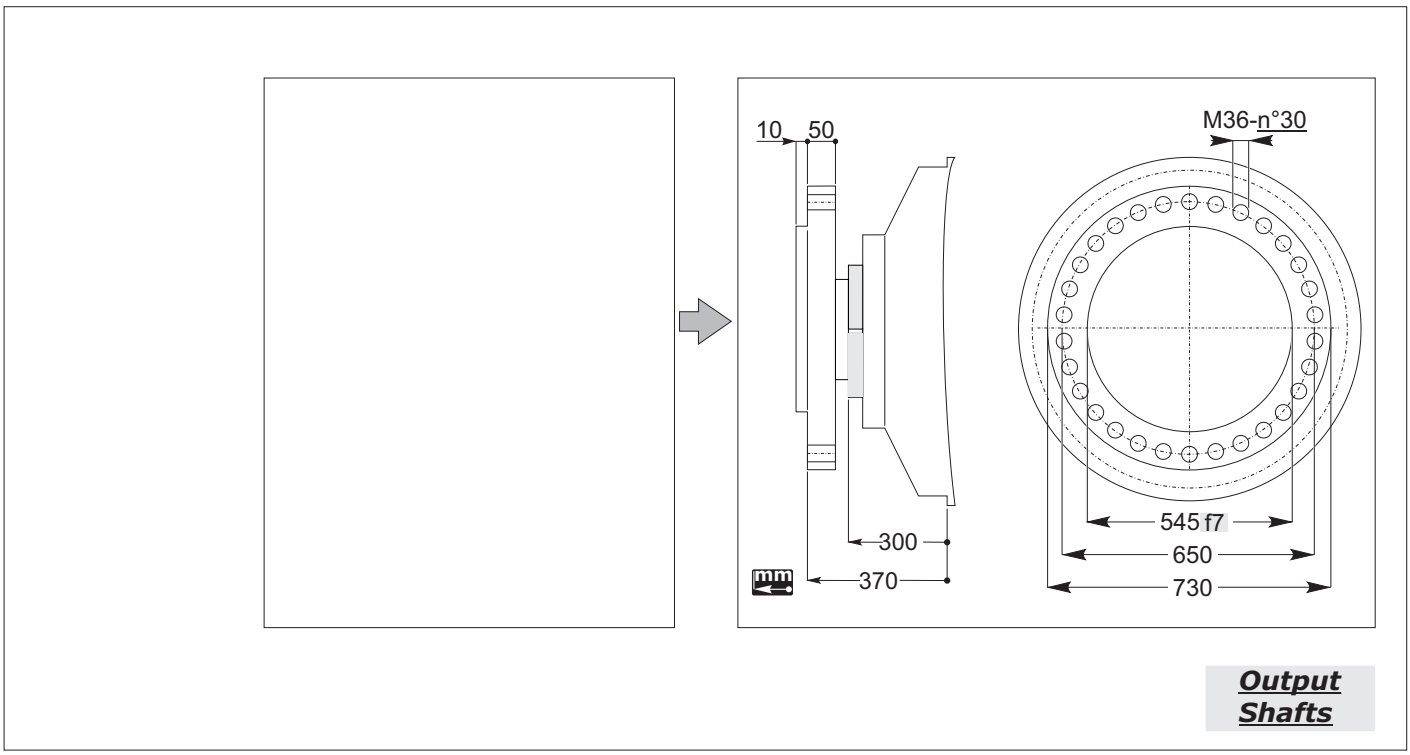
On request

BD



On request

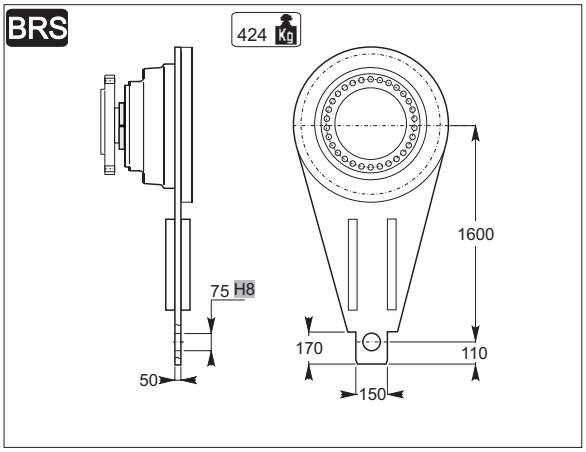

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
f7
F8
30
362.2
210
8-ø110
110
261
284.8
284.8
231.4
210
170
170
130
8-ø110
6B-ø100
6A-ø90
5-ø80
110
48
42
8
6A-6B
5
39-n°36
10°
920
4
3
2
1
1213.5
55004
3395
982.5
55003
3260
687.5
55002
2960
262.5
55001
2120


10
50
M36-n°30
300
370
545 f7
650
730
Output Shafts

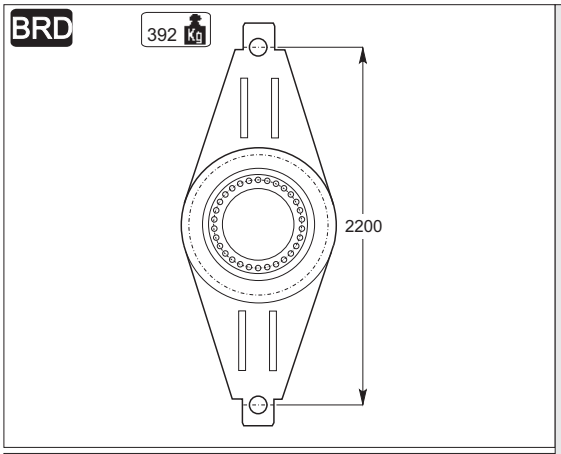
EXB

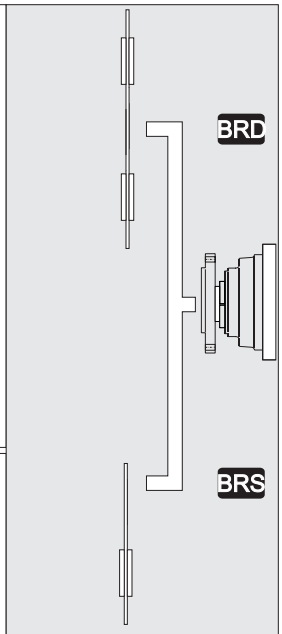
non disponibile
not available
nicht verfügbar

BRS



BRD

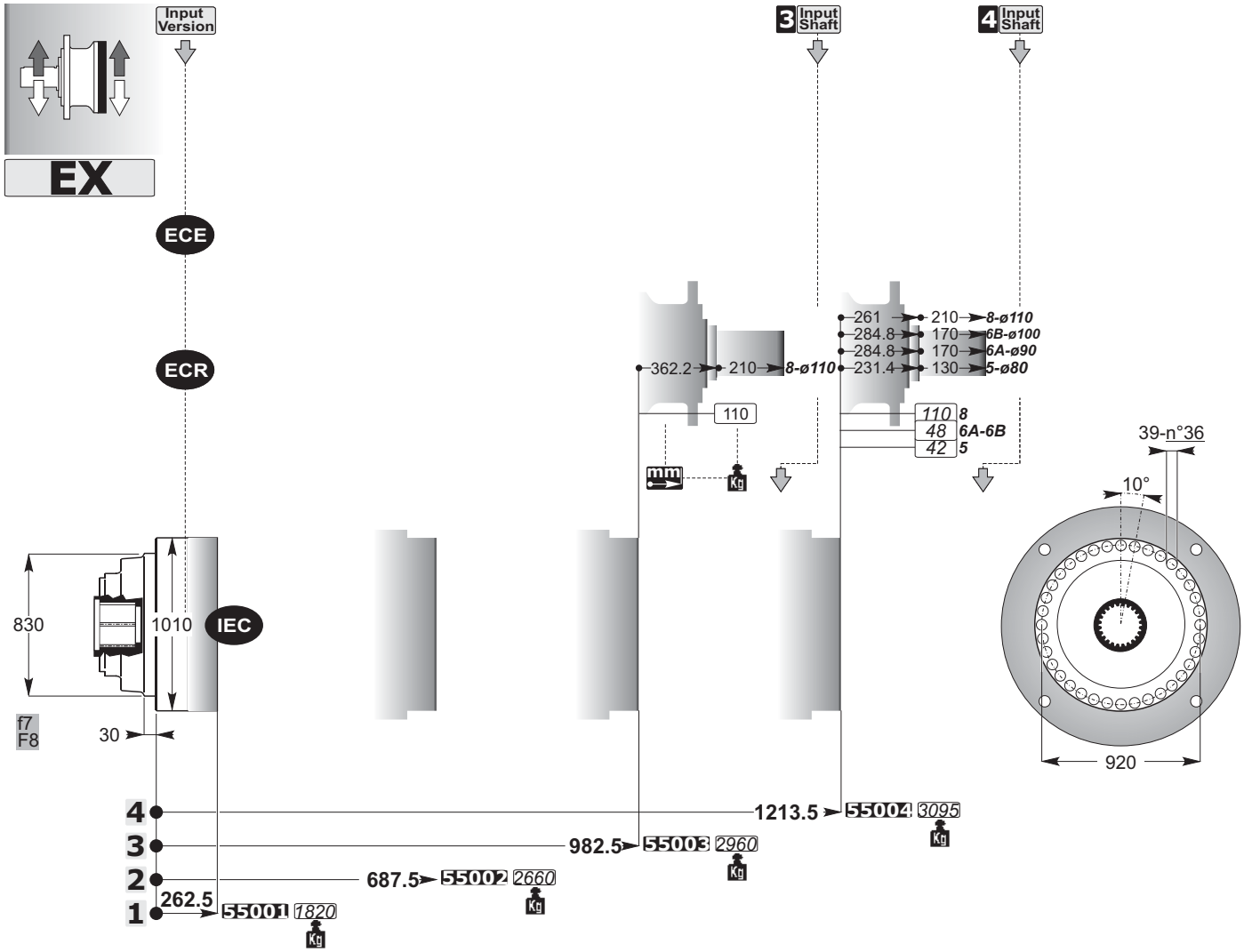


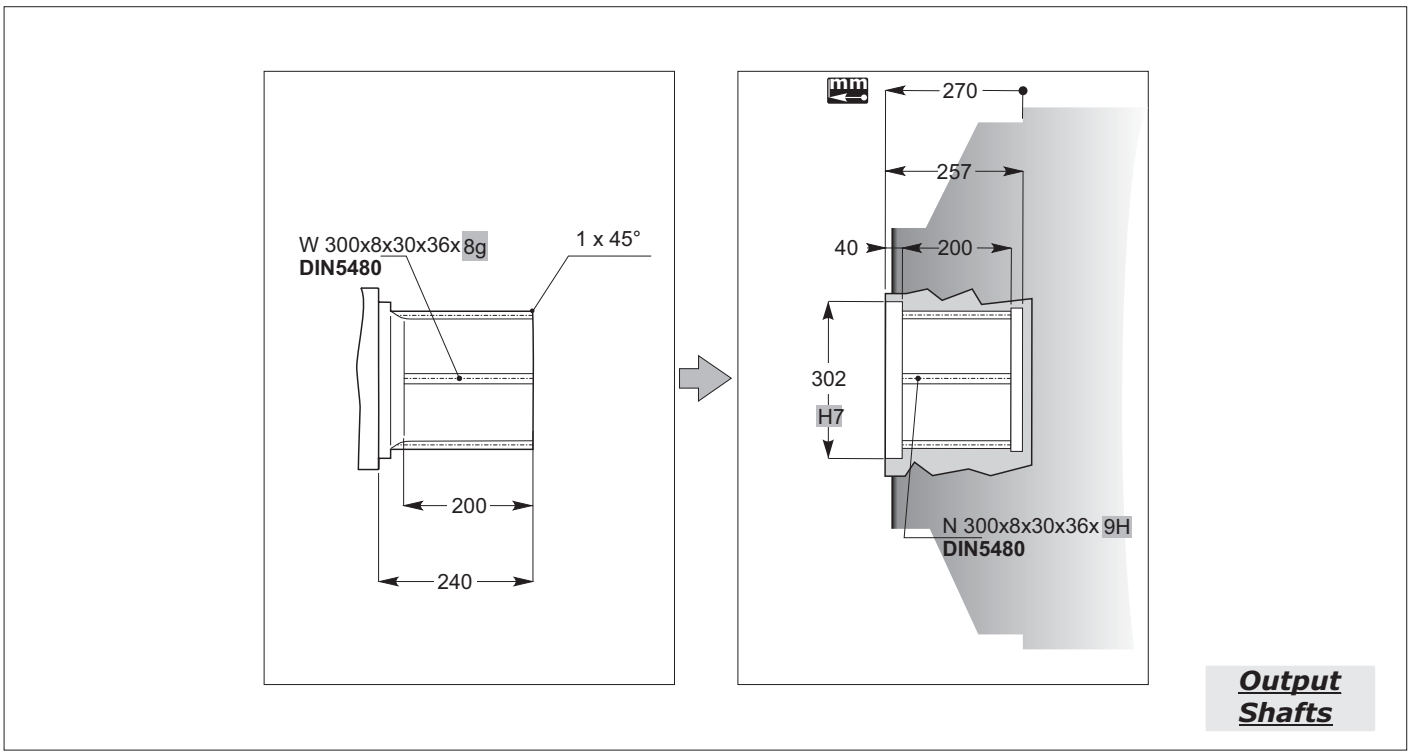


Accessories

mm

C

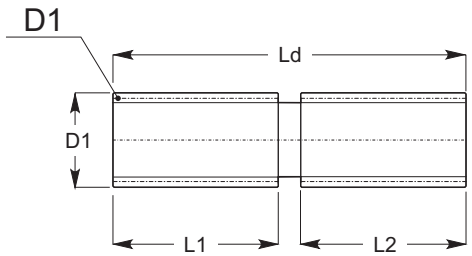

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
30
f7
F8
362.2
210
8-ø110
110
261
284.8
284.8
231.4
210
170
170
130
8-ø110
6B-ø100
6A-ø90
5-ø80
110
48
42
8
6A-6B
5
mm
Kg
39-n°36
10°
920
4
3
2
1
1213.5
55004
3095
982.5
55003
2960
687.5
55002
2660
262.5
55001
1820


W 300x8x30x36x 8g
DIN5480
1 x 45°
200
240
mm
270
257
40
200
302
H7
N 300x8x30x36x 9H
DIN5480
Output Shafts

EXB

non disponibile
not available
nicht verfügbar

SD

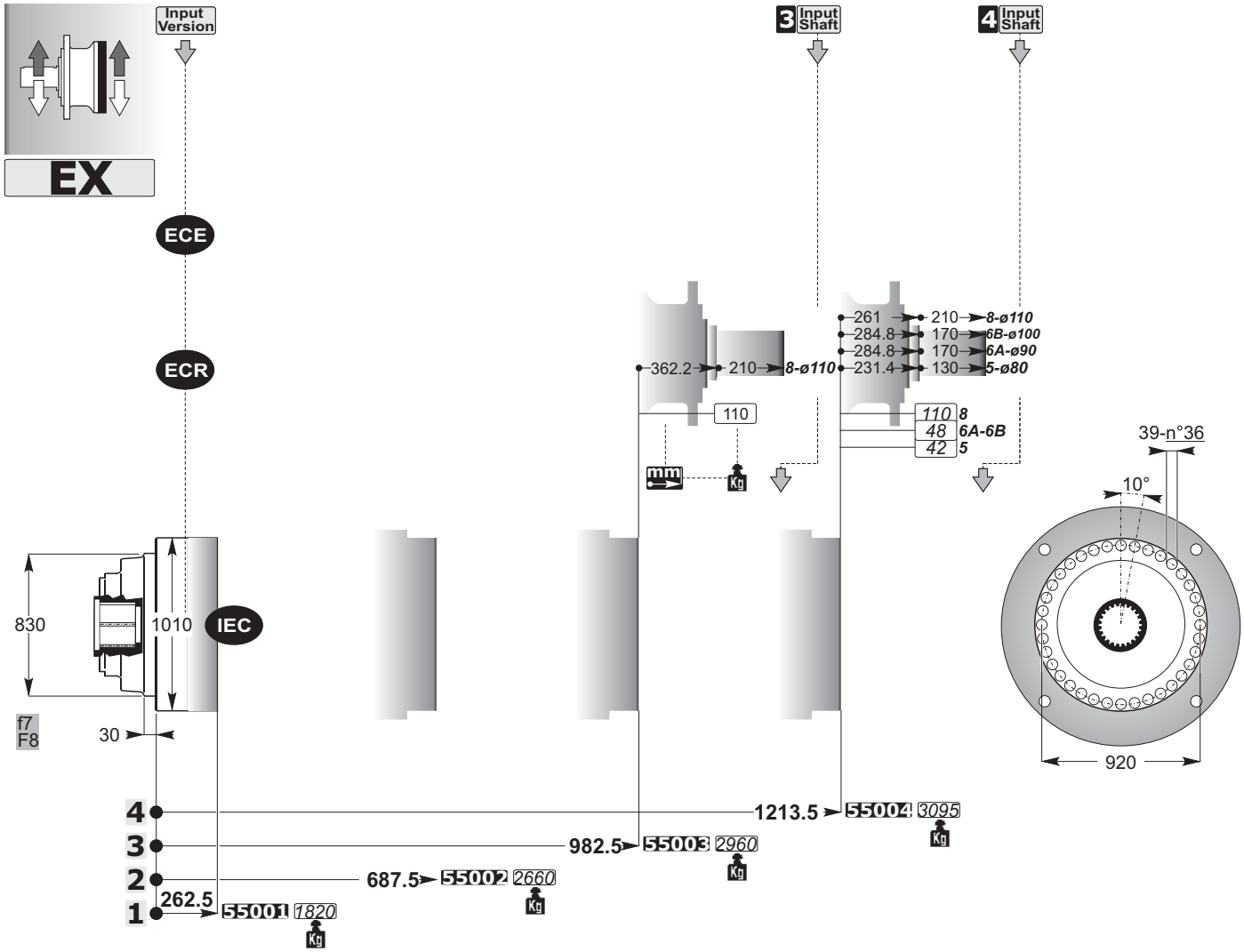


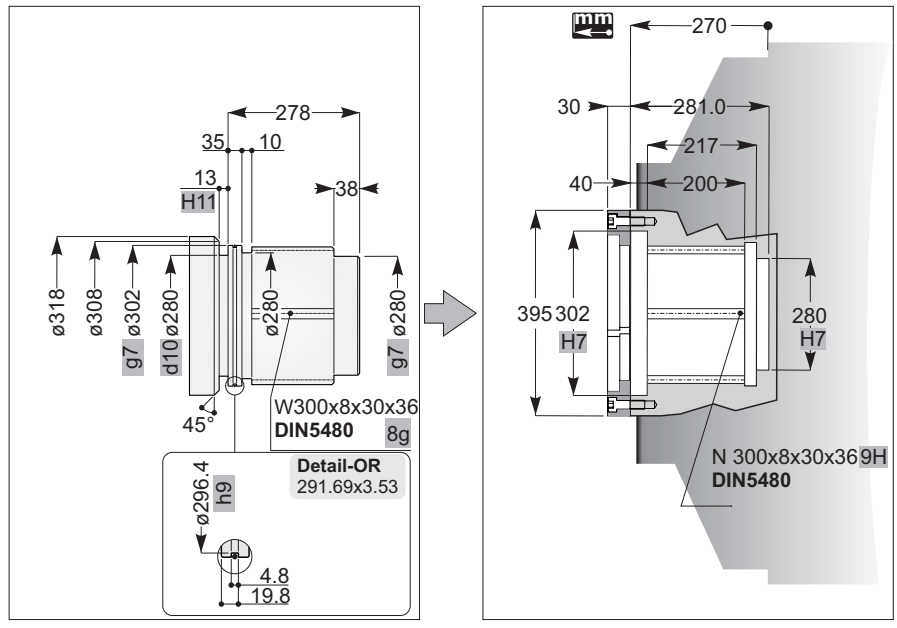
On request

SD



Accessories



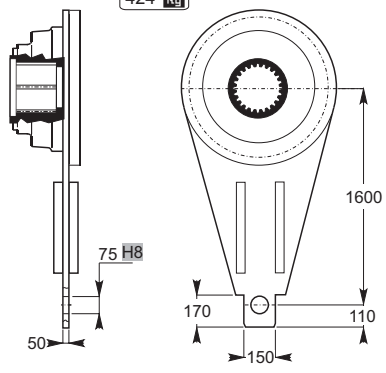


Output Shafts

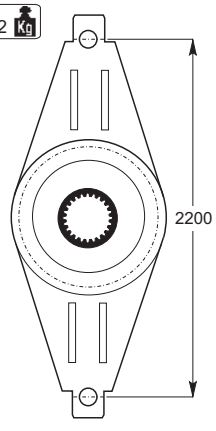
EXB

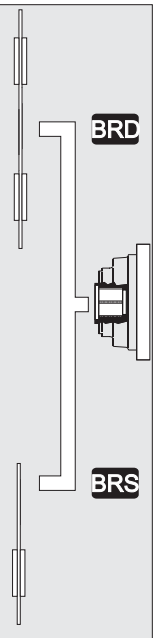
non disponibile
not available
nicht verfügbar

BRS

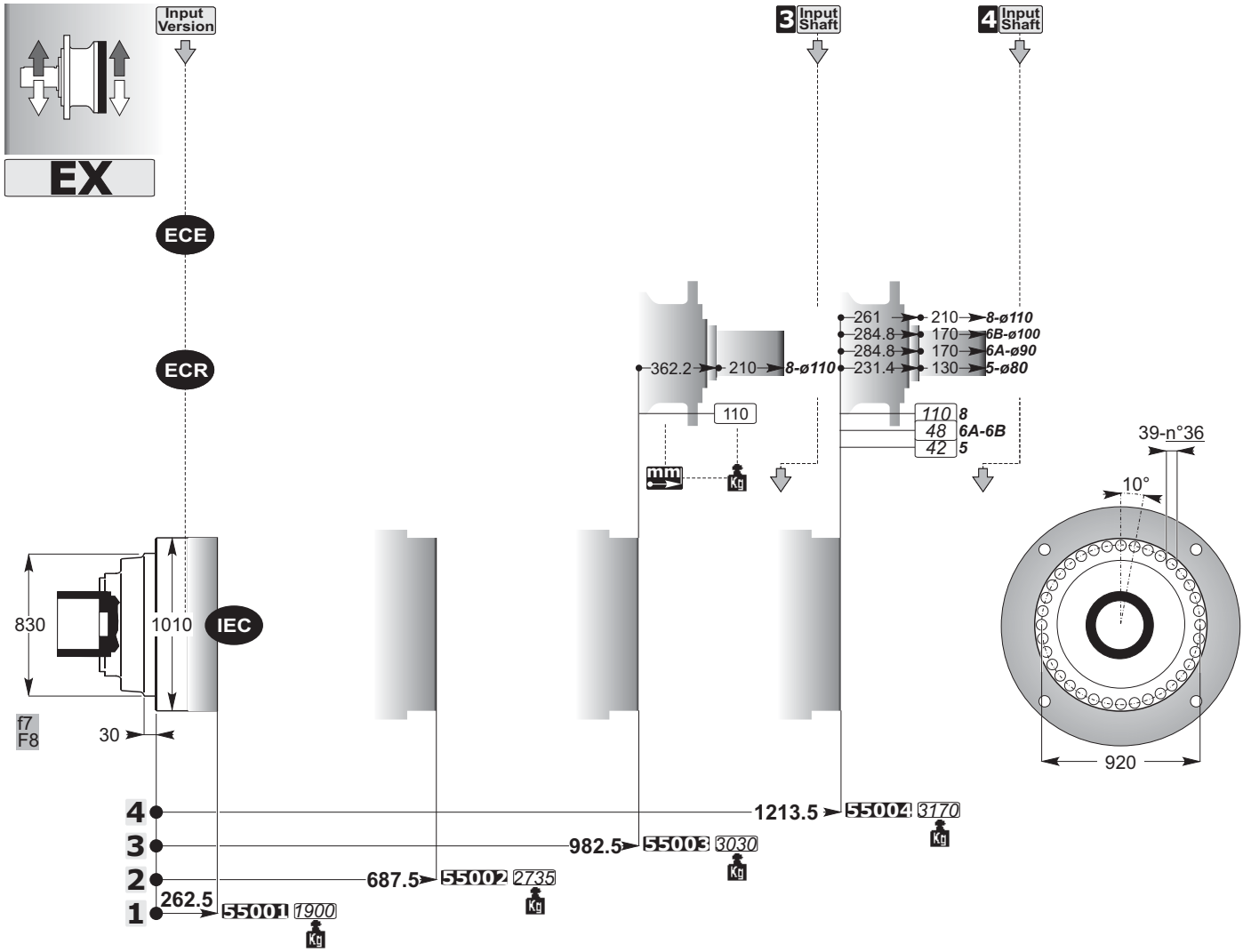


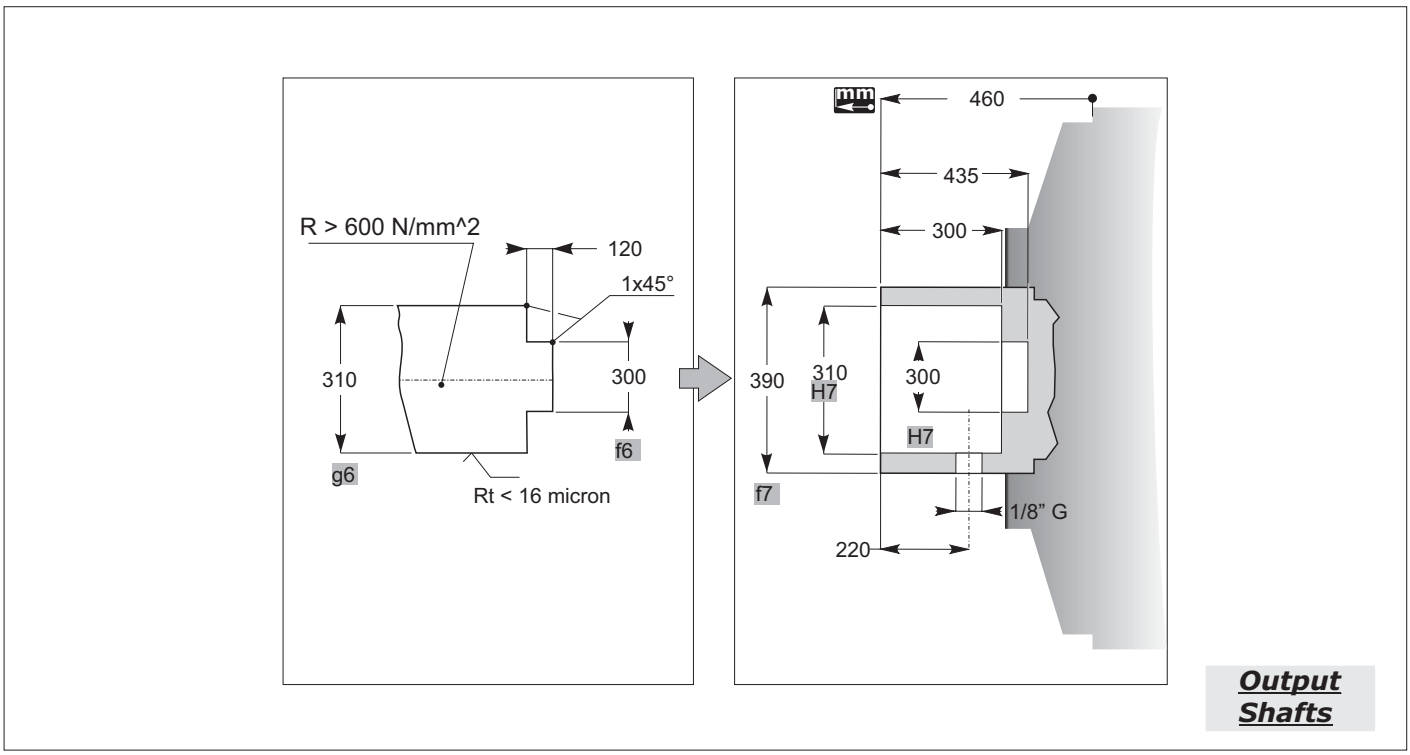
BRD





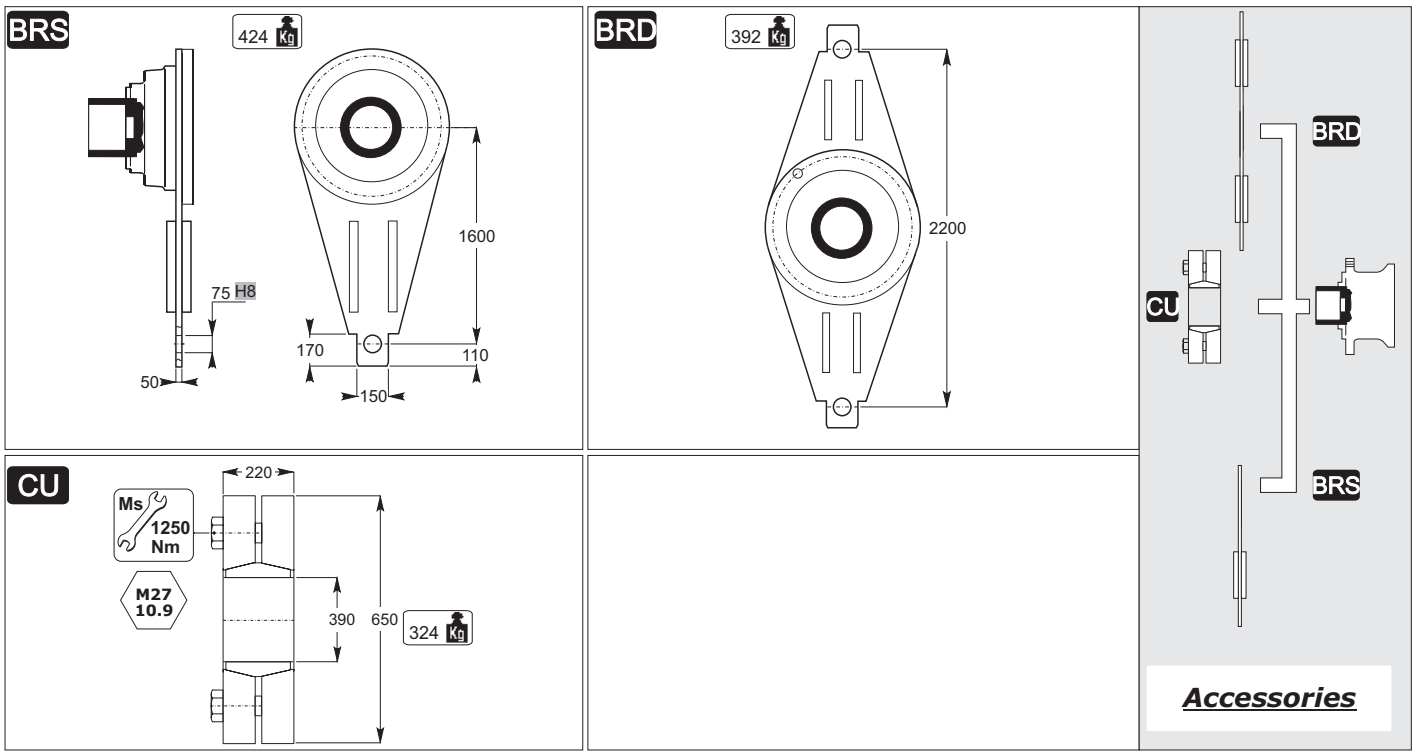
Accessories

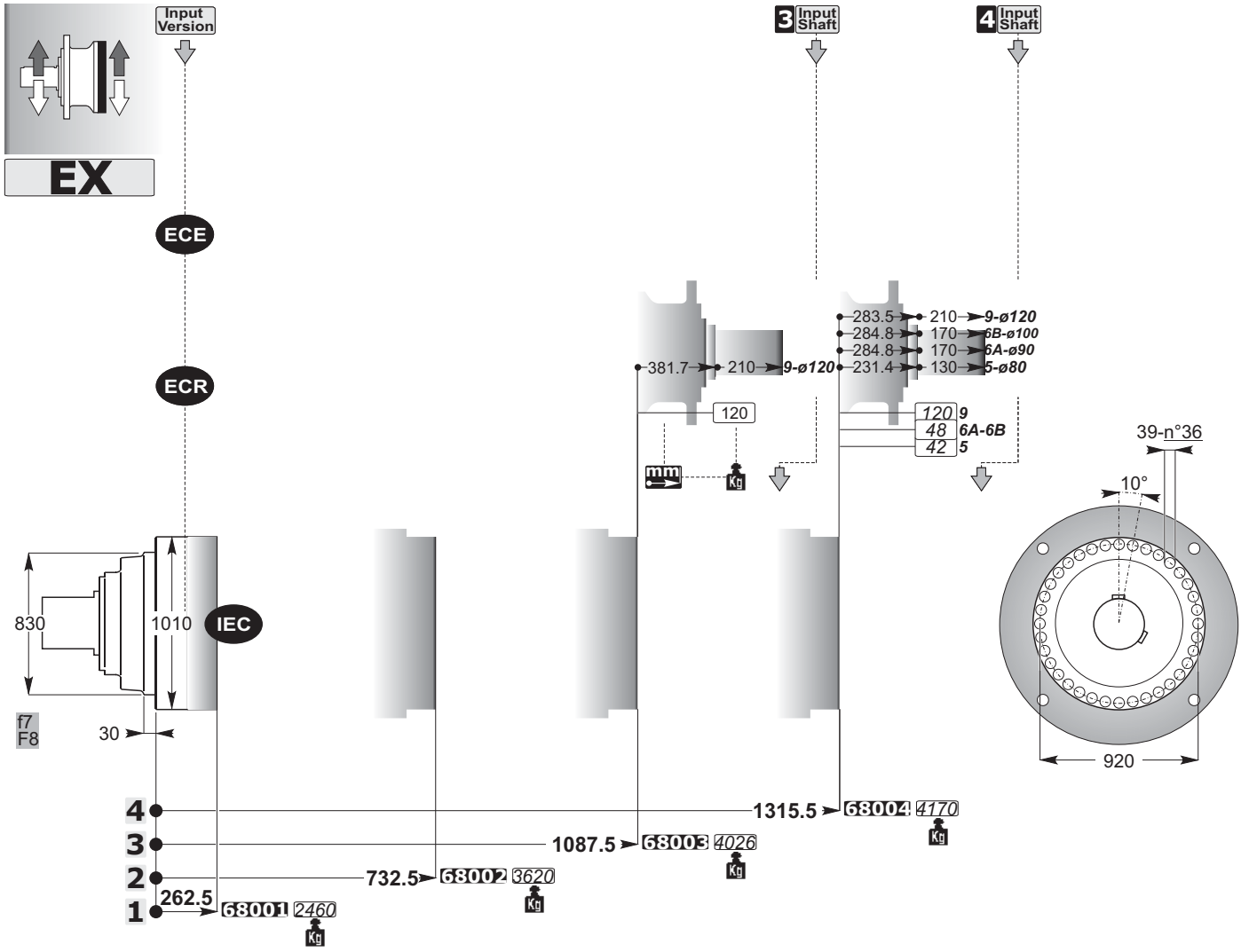

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
f7
F8
30
362.2
210
8-ø110
110
261
284.8
284.8
231.4
210
170
170
130
8-ø110
6B-ø100
6A-ø90
5-ø80
110
48
42
8
6A-6B
5
39-n°36
10°
920
4
3
2
1
1213.5
55004
3170
982.5
55003
3030
687.5
55002
2735
262.5
55001
1900

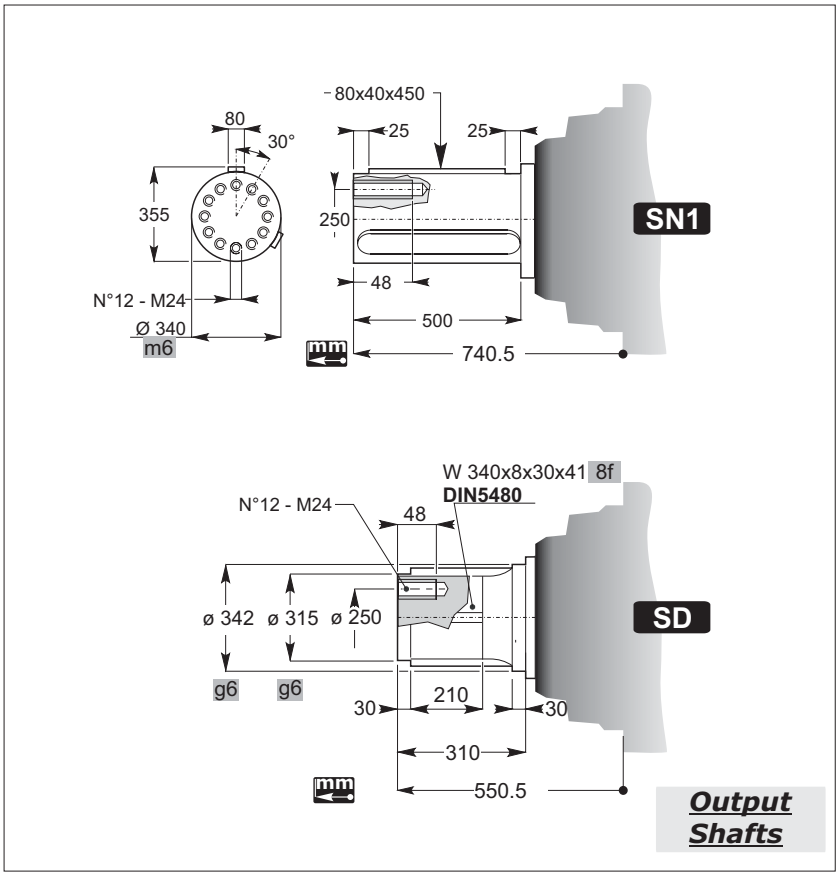

R > 600 N/mm^2
120
1x45°
310
300
f6
g6
Rt < 16 micron
460
435
300
390
310
H7
300
H7
f7
1/8" G
220
Output Shafts

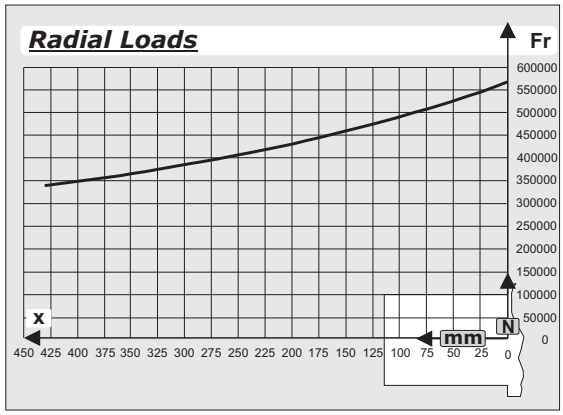
EXB

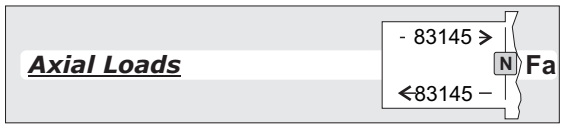
non disponibile
not available
nicht verfügbar

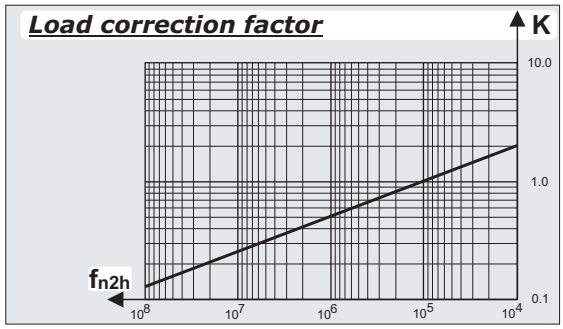



Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
f7
F8
30
381.7
210
9-ø120
120
283.5
284.8
284.8
231.4
210
170
170
130
9-ø120
6B-ø100
6A-ø90
5-ø80
120 9
48 6A-6B
42 5
39-n°36
10°
920
4
3
2
1
1315.5
68004
4170
1087.5
68003
4026
732.5
68002
3620
262.5
68001
2460


80
30°
355
N°12 - M24
Ø 340
m6
80x40x450
25
25
250
48
500
740.5
SN1
W 340x8x30x41 8f
DIN5480
N°12 - M24
48
ø 342
ø 315
ø 250
g6
g6
30
210
30
310
550.5
SD
Output Shafts


Radial Loads
Fr
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
x
450 425 400 375 350 325 300 275 250 225 200 175 150 125 100 75 50 25 0
mm
N

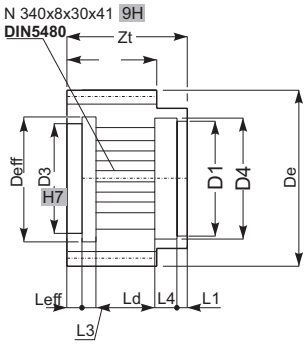

Axial Loads
- 83145 >
N
Fa
<83145 –


Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

EXB

non disponibile
not available
nicht verfügbar

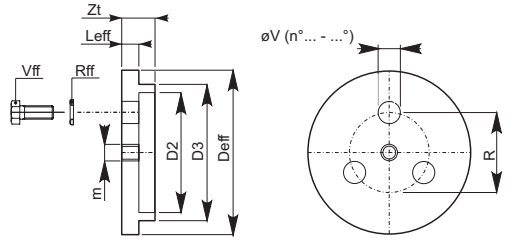
ID



	m	Z	X	De
ID—	-	-	-	-

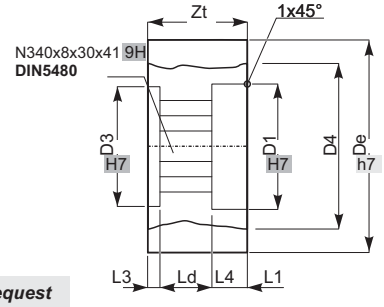
On request

FF

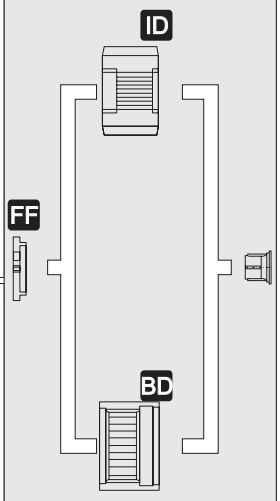


On request

BD

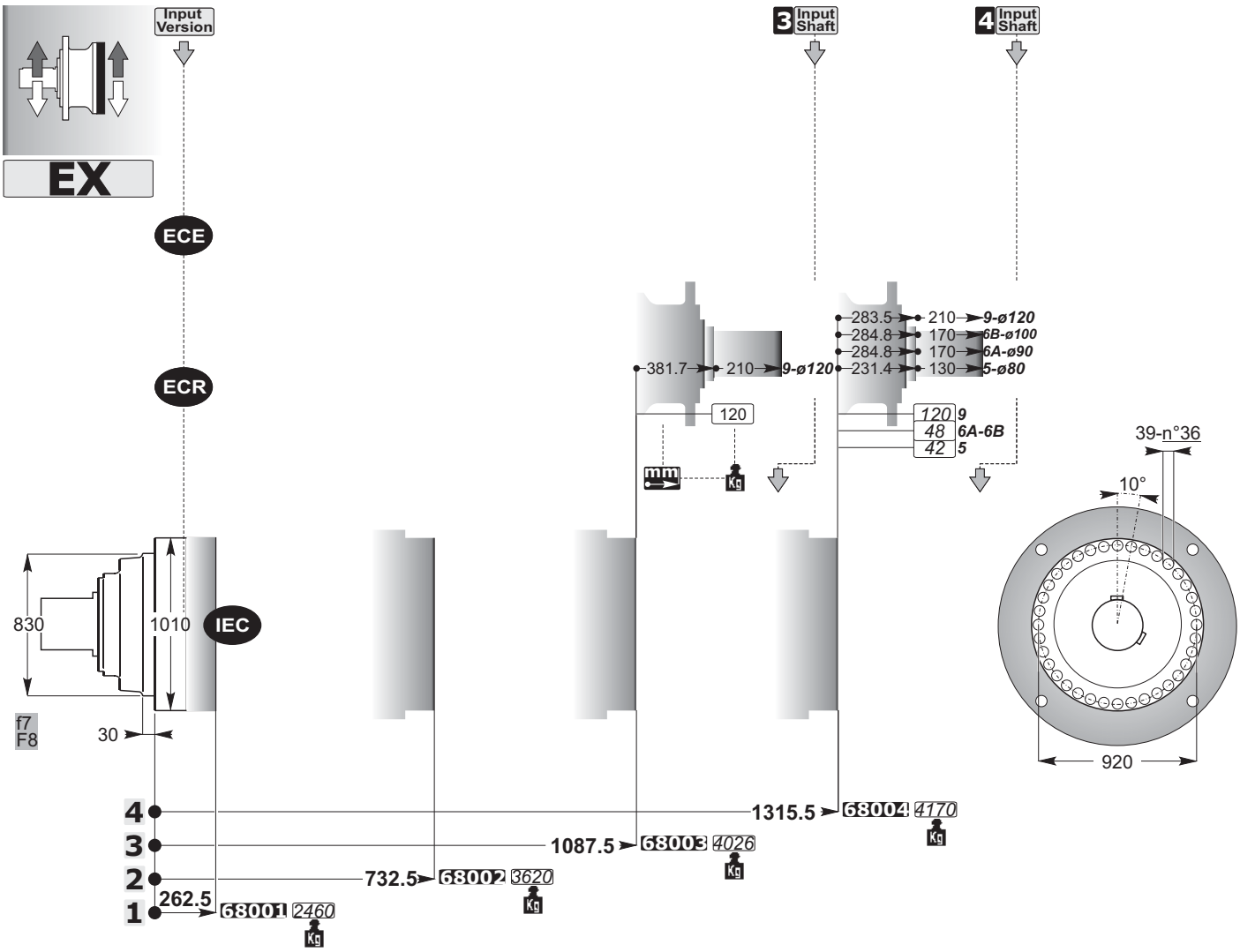


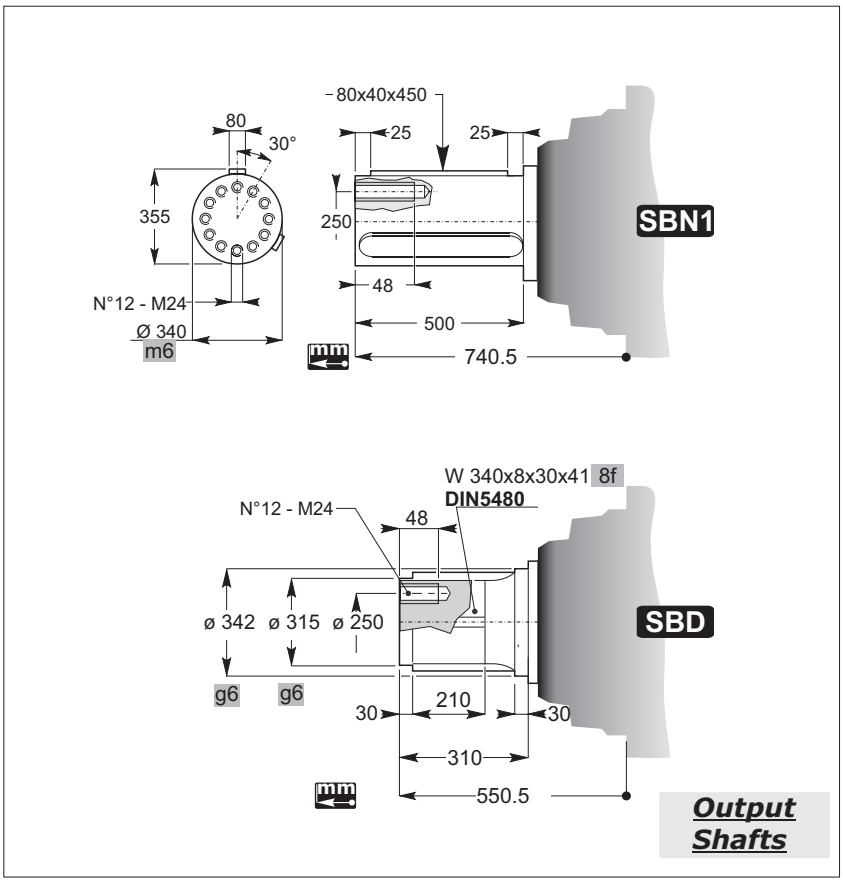
On request

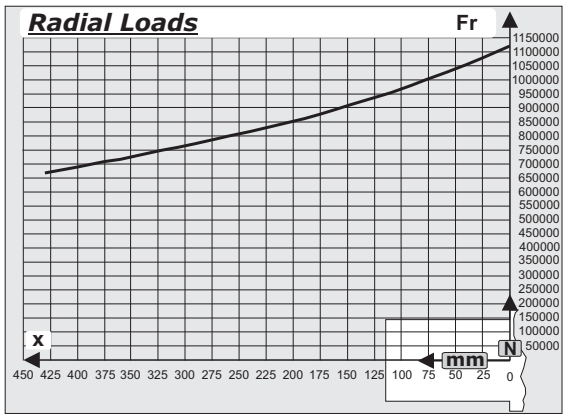


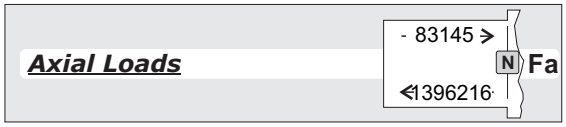
Accessories

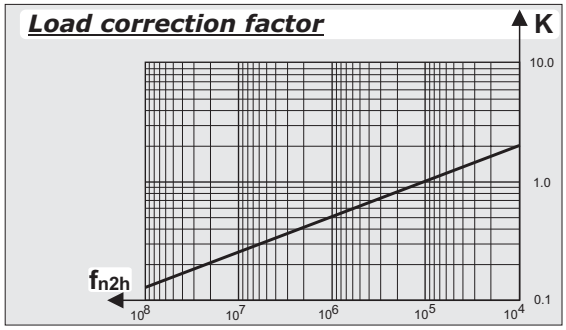
mm
C


Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
f7
F8
30
381.7
210
9-ø120
283.5
284.8
284.8
231.4
210
170
170
130
9-ø120
6B-ø100
6A-ø90
5-ø80
120
120 9
48 6A-6B
42 5
39-n°36
10°
920
4
3
2
1
1315.5
1087.5
732.5
262.5
68004 4170
68003 4026
68002 3620
68001 2460


80
30°
355
N°12 - M24
Ø 340
m6
80x40x450
25
25
250
48
500
740.5
SBN1
W 340x8x30x41 8f
DIN5480
N°12 - M24
48
ø 342
ø 315
ø 250
g6
g6
30
210
30
310
550.5
SBD
Output Shafts


Radial Loads
Fr
x
mm
N

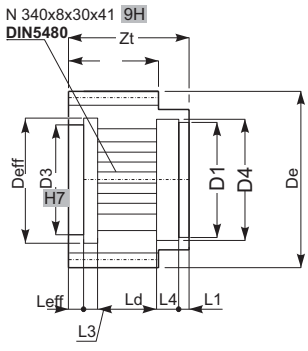

Axial Loads
- 83145
N
Fa
1396216


Load correction factor
K
10.0
1.0
0.1
fn2h

EXB

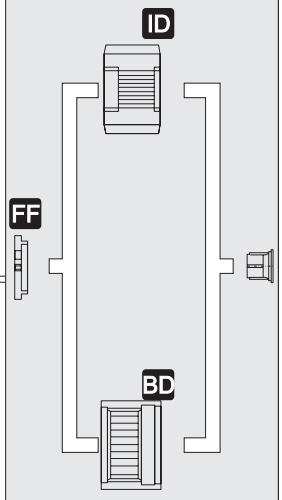
non disponibile
not available
nicht verfügbar

ID



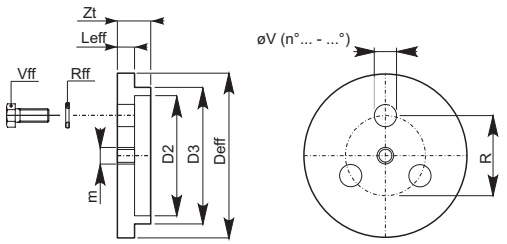
	m	Z	X	De
ID	-	-	-	-

On request



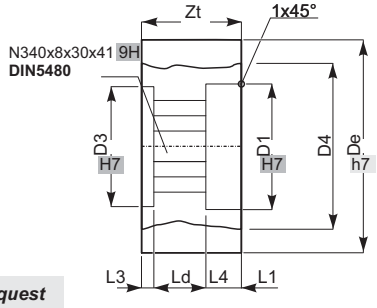
Accessories

FF

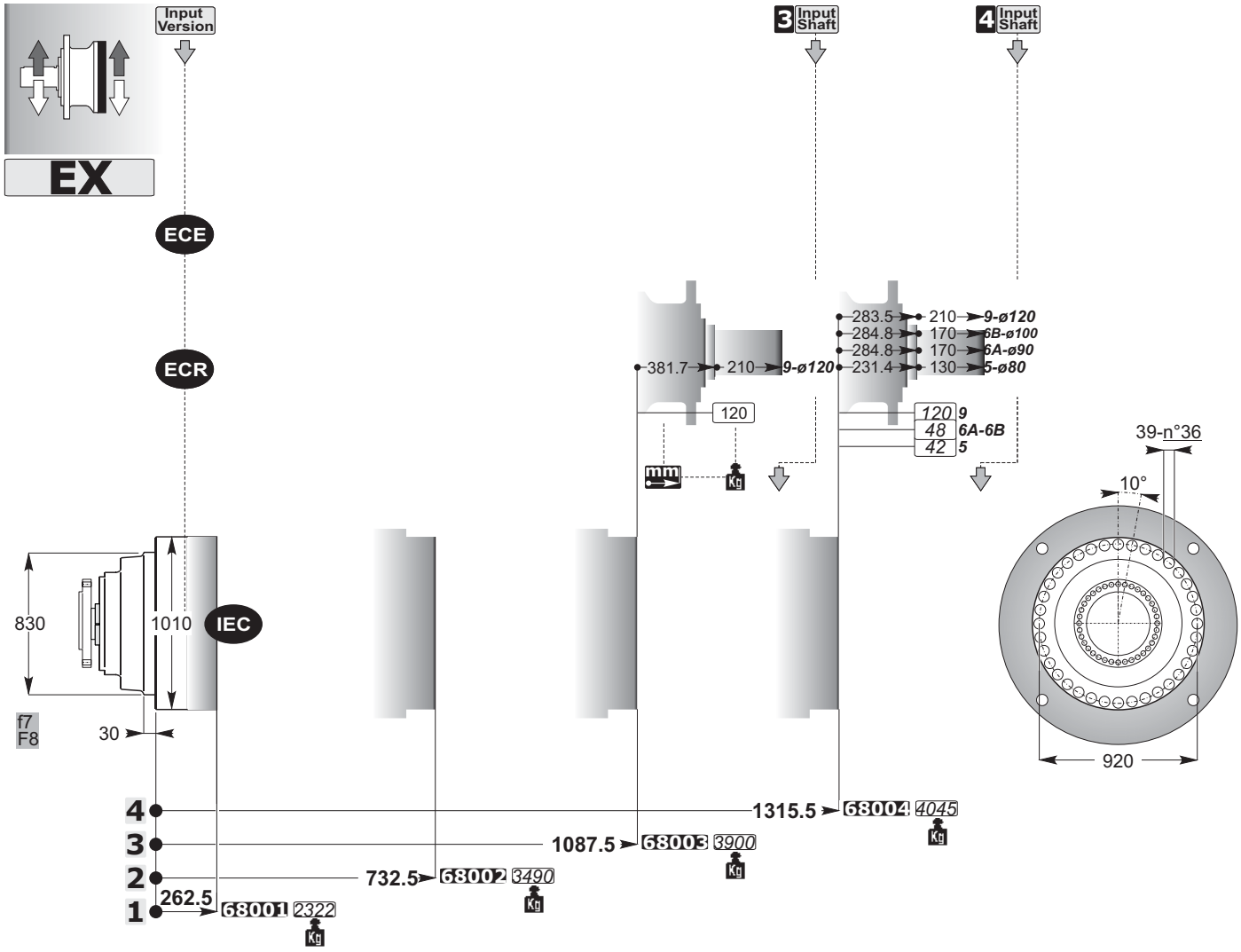


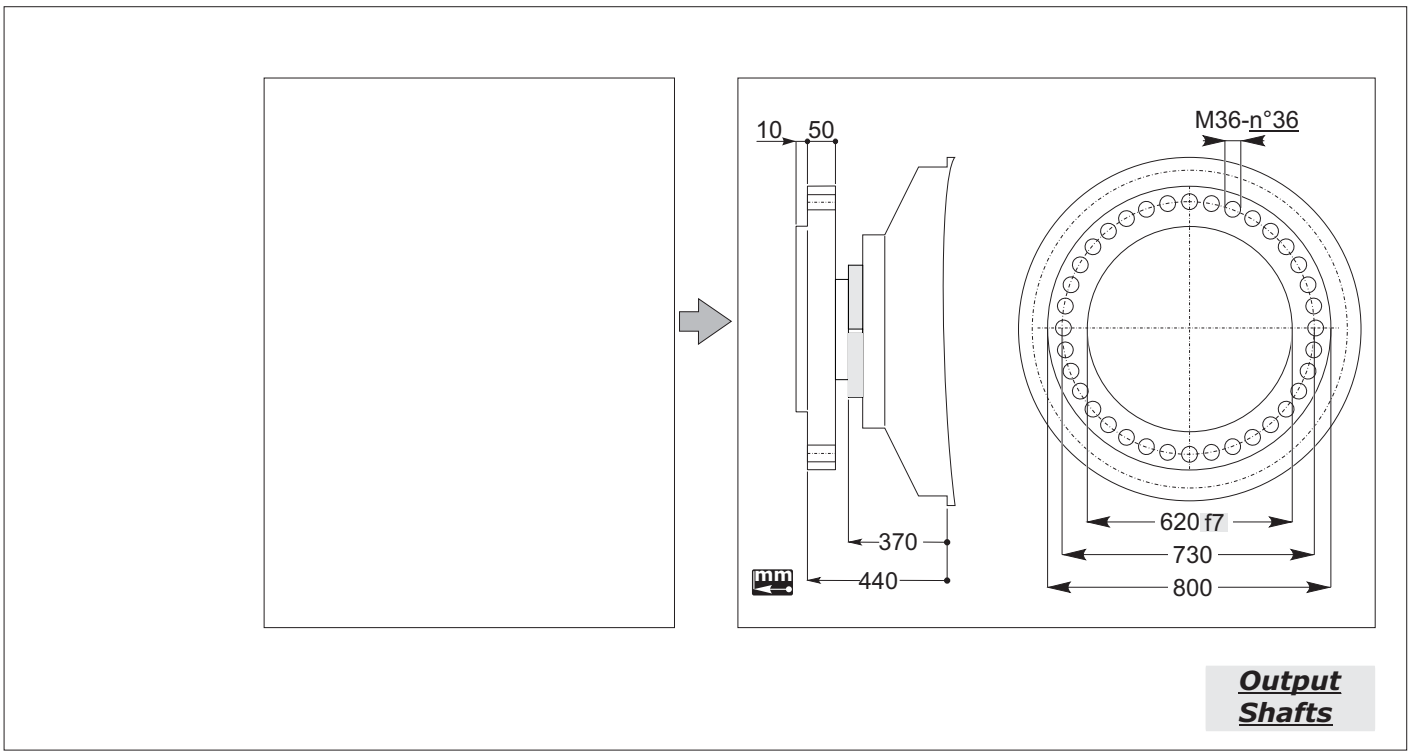
On request

BD



On request

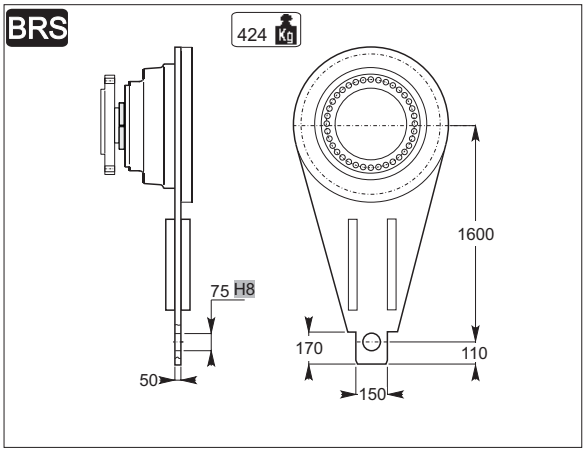

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
f7
F8
30
381.7
210
9-ø120
120
283.5
210
9-ø120
284.8
170
6B-ø100
284.8
170
6A-ø90
231.4
130
5-ø80
120 9
48 6A-6B
42 5
39-n°36
10°
920
4
3
2
1
1315.5
68004
4045
1087.5
68003
3900
732.5
68002
3490
262.5
68001
2322


10
50
M36-n°36
370
440
620 f7
730
800
Output Shafts

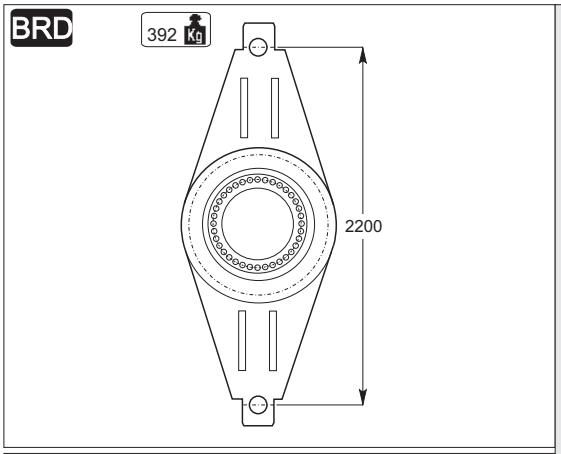
EXB

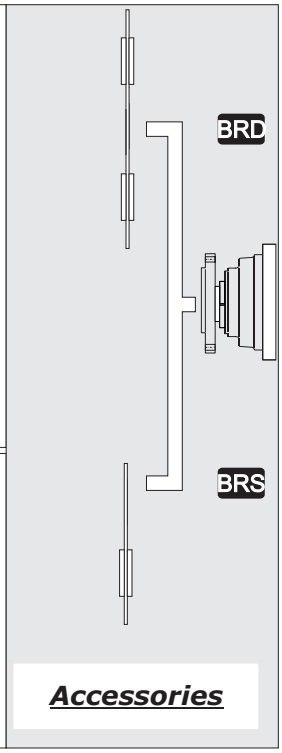
non disponibile
not available
nicht verfügbar

BRS

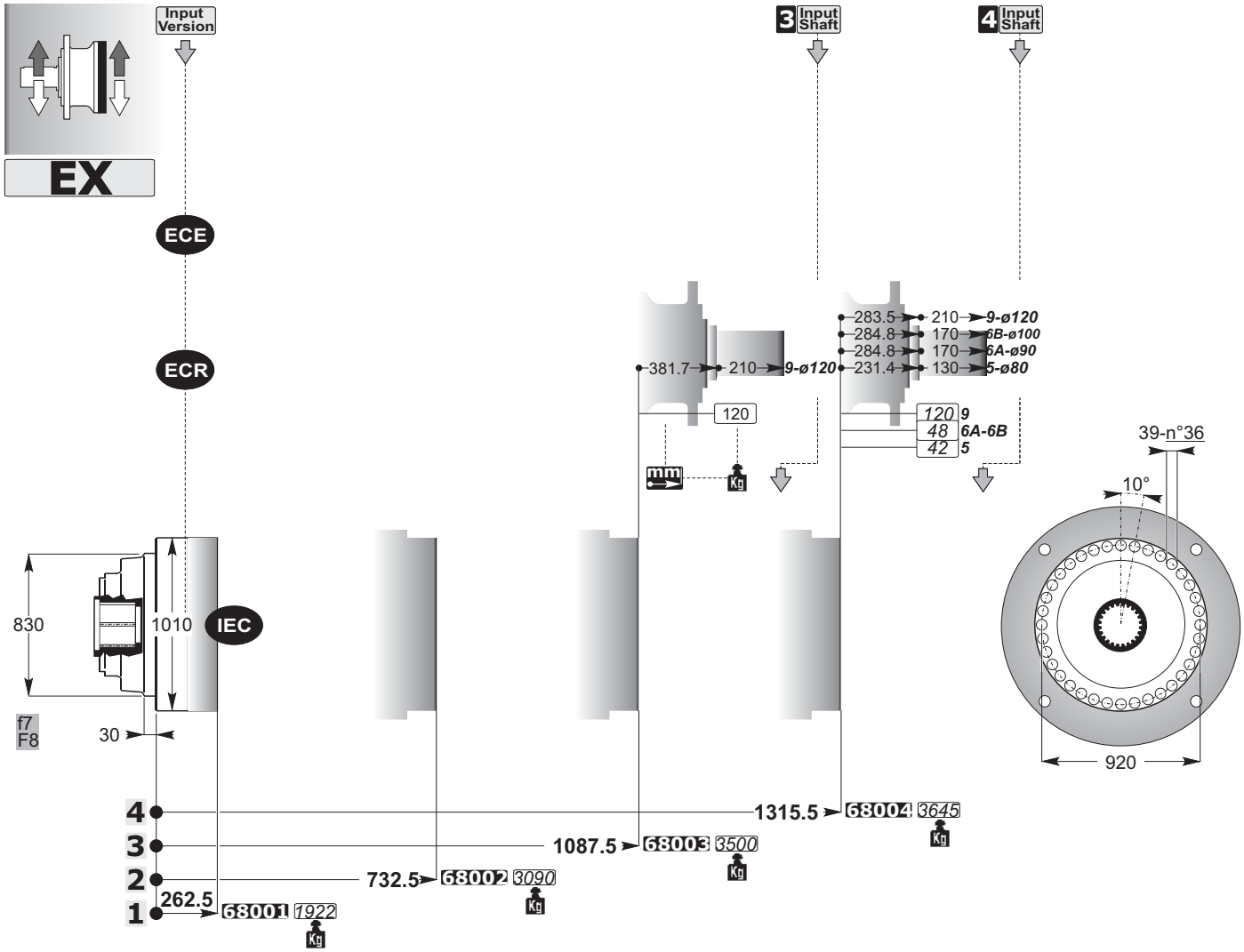


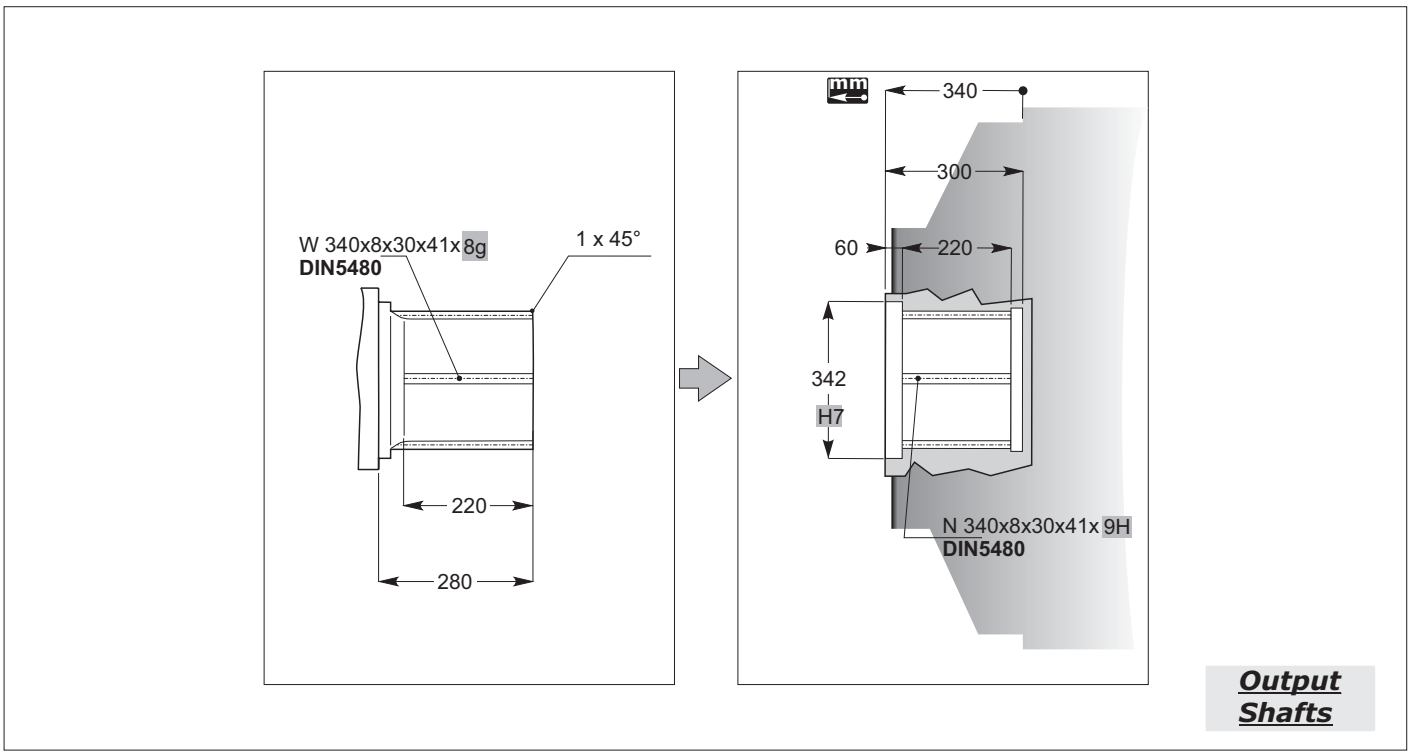
BRD





Accessories

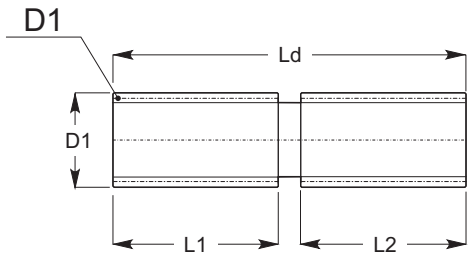

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
830
1010
f7
F8
30
381.7
210
9-ø120
120
283.5
284.8
284.8
231.4
210
170
170
130
9-ø120
6B-ø100
6A-ø90
5-ø80
120 9
48 6A-6B
42 5
39-n°36
10°
920
4
3
2
1
262.5
732.5
1087.5
1315.5
68001 1922
68002 3090
68003 3500
68004 3645
Kg
mm


W 340x8x30x41x 8g
DIN5480
1 x 45°
220
280
mm
340
300
60
220
342
H7
N 340x8x30x41x 9H
DIN5480
Output Shafts

EXB

non disponibile
not available
nicht verfügbar

SD

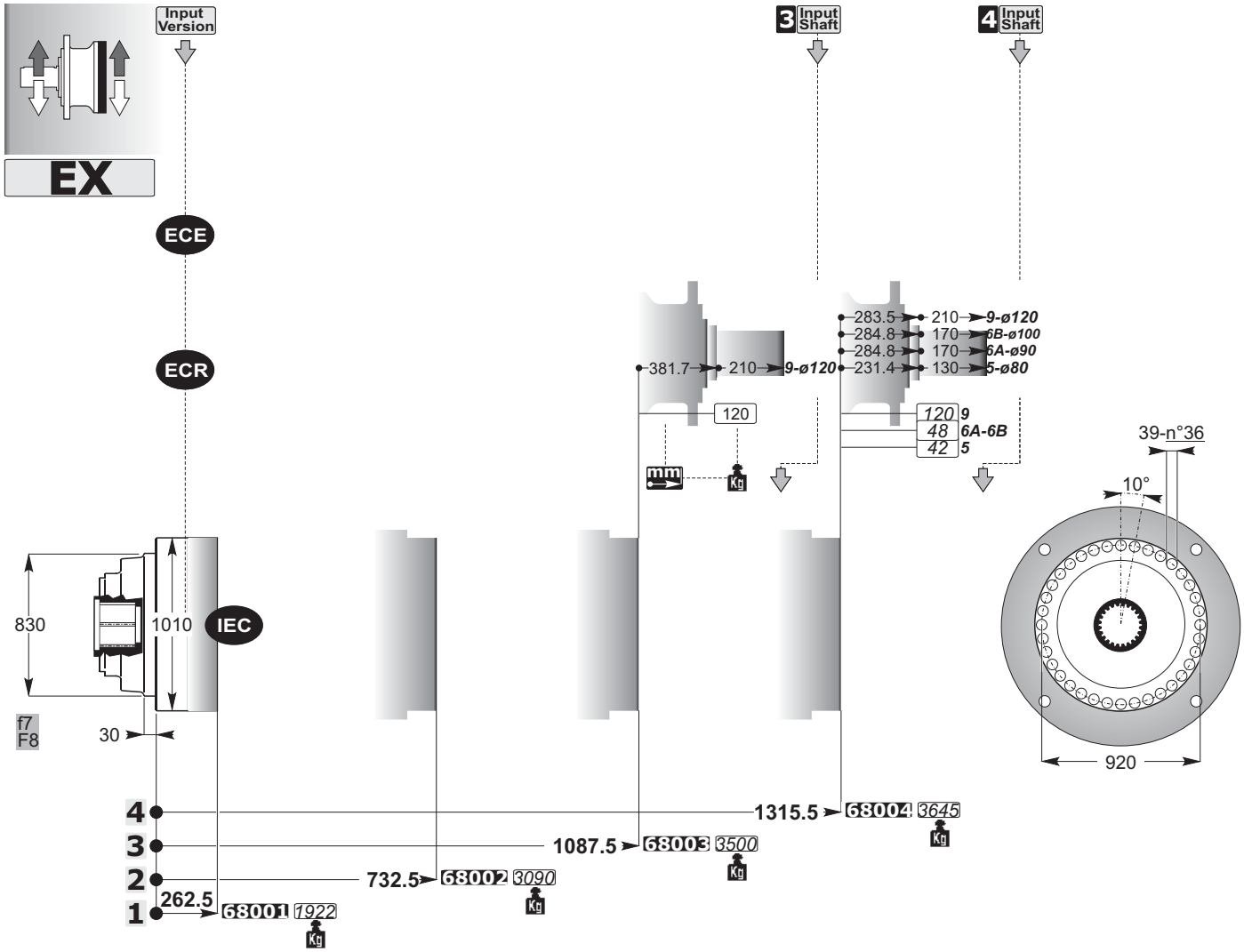


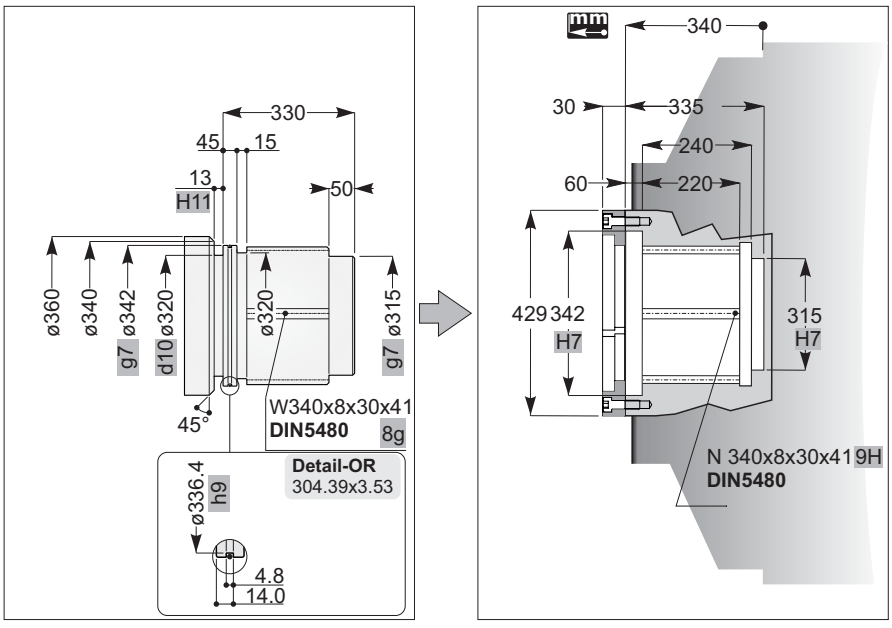
On request

SD



Accessories



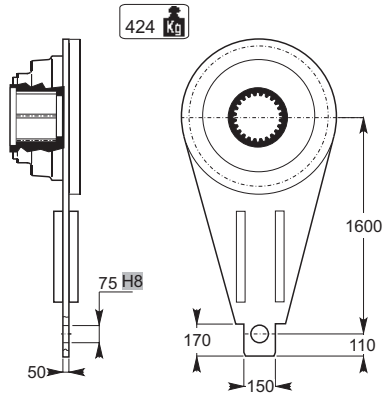


Output Shafts

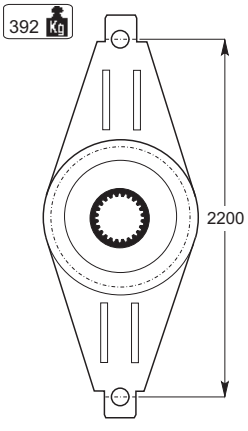
EXB

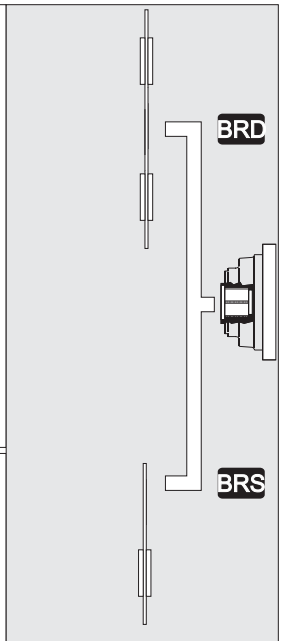
non disponibile
not available
nicht verfügbar

BRS

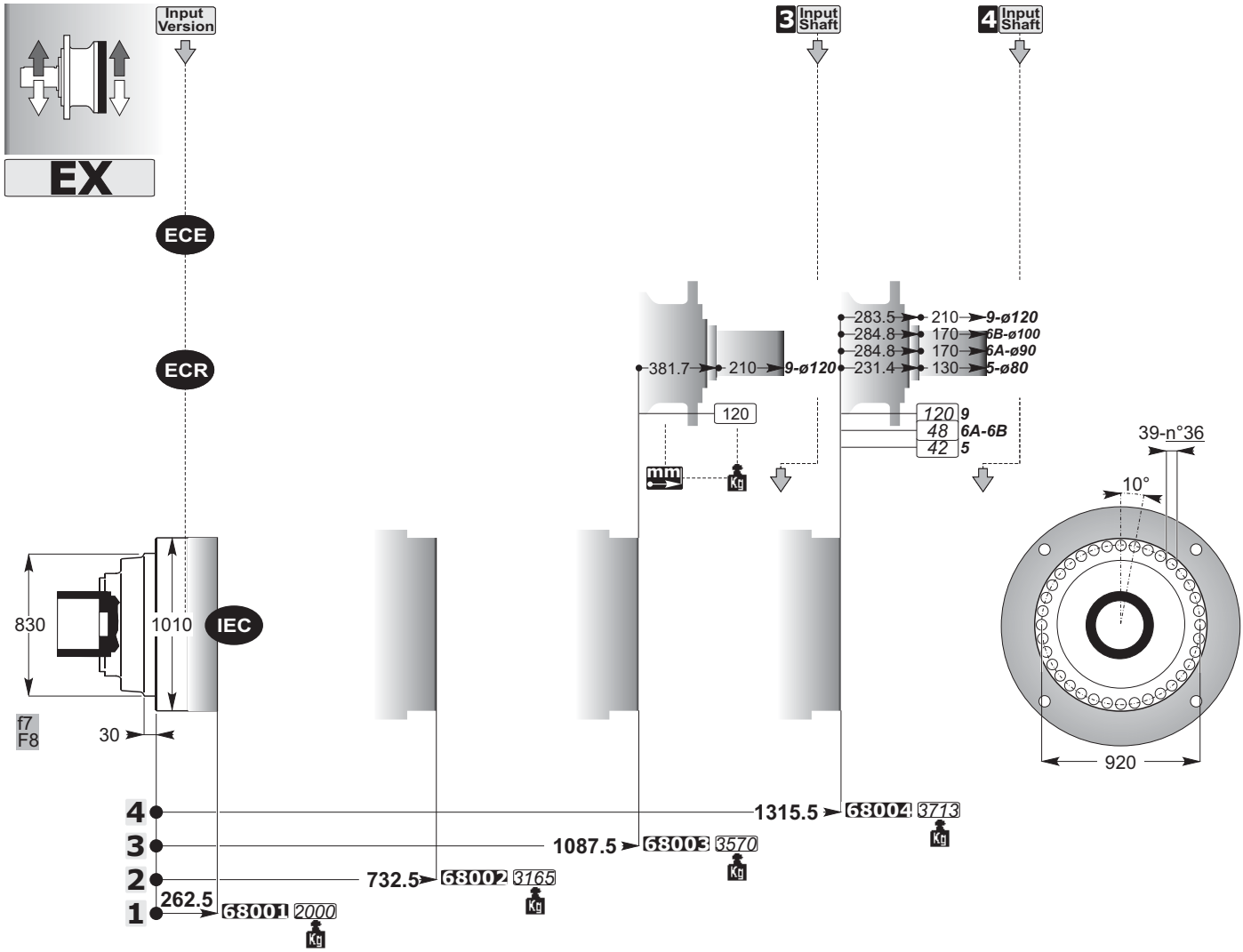


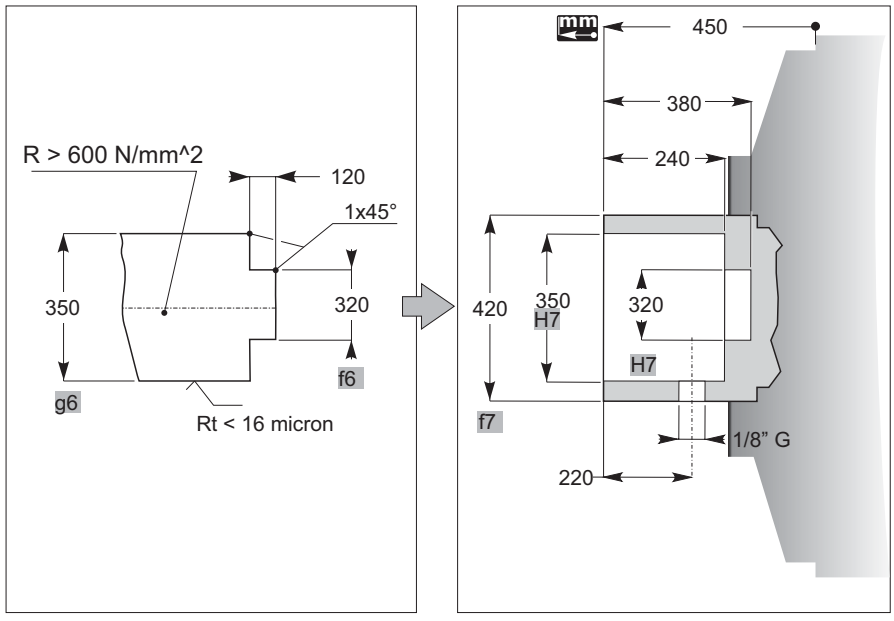
BRD





Accessories

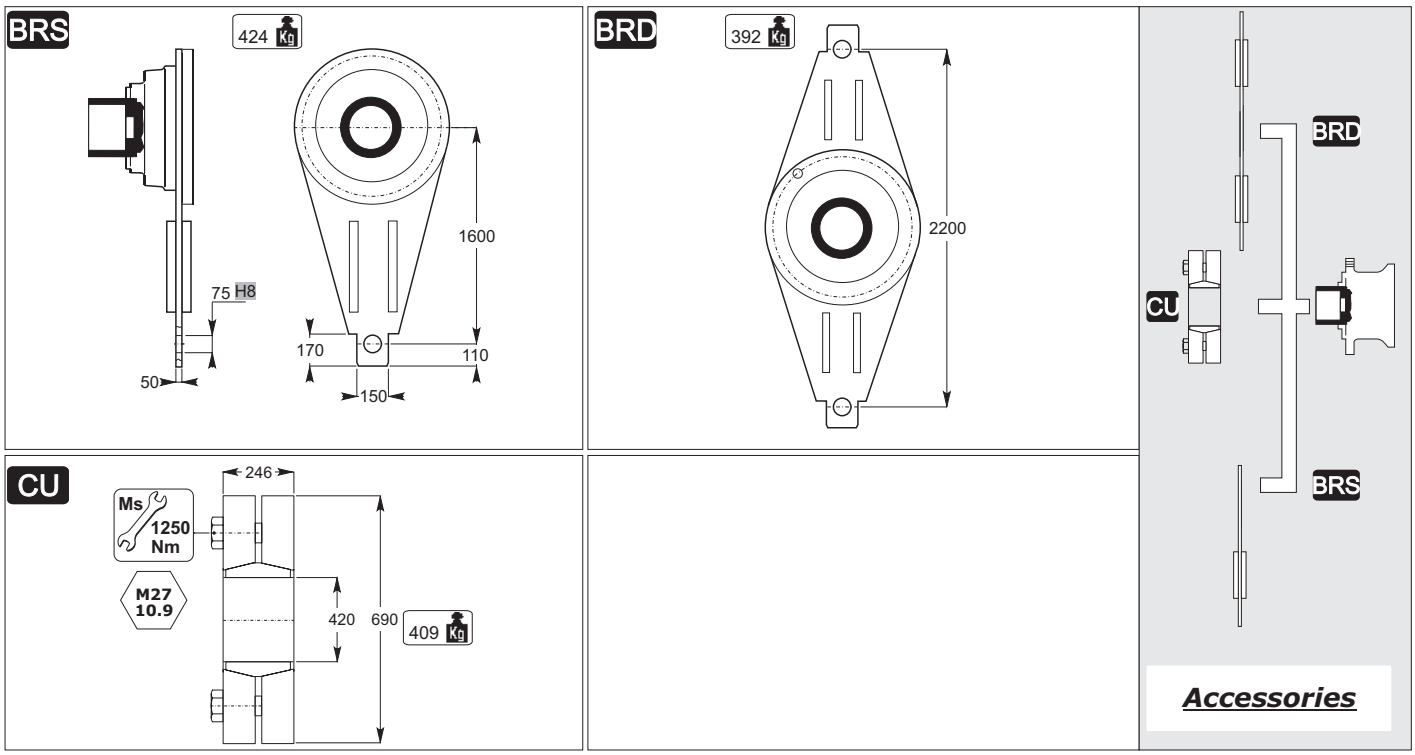


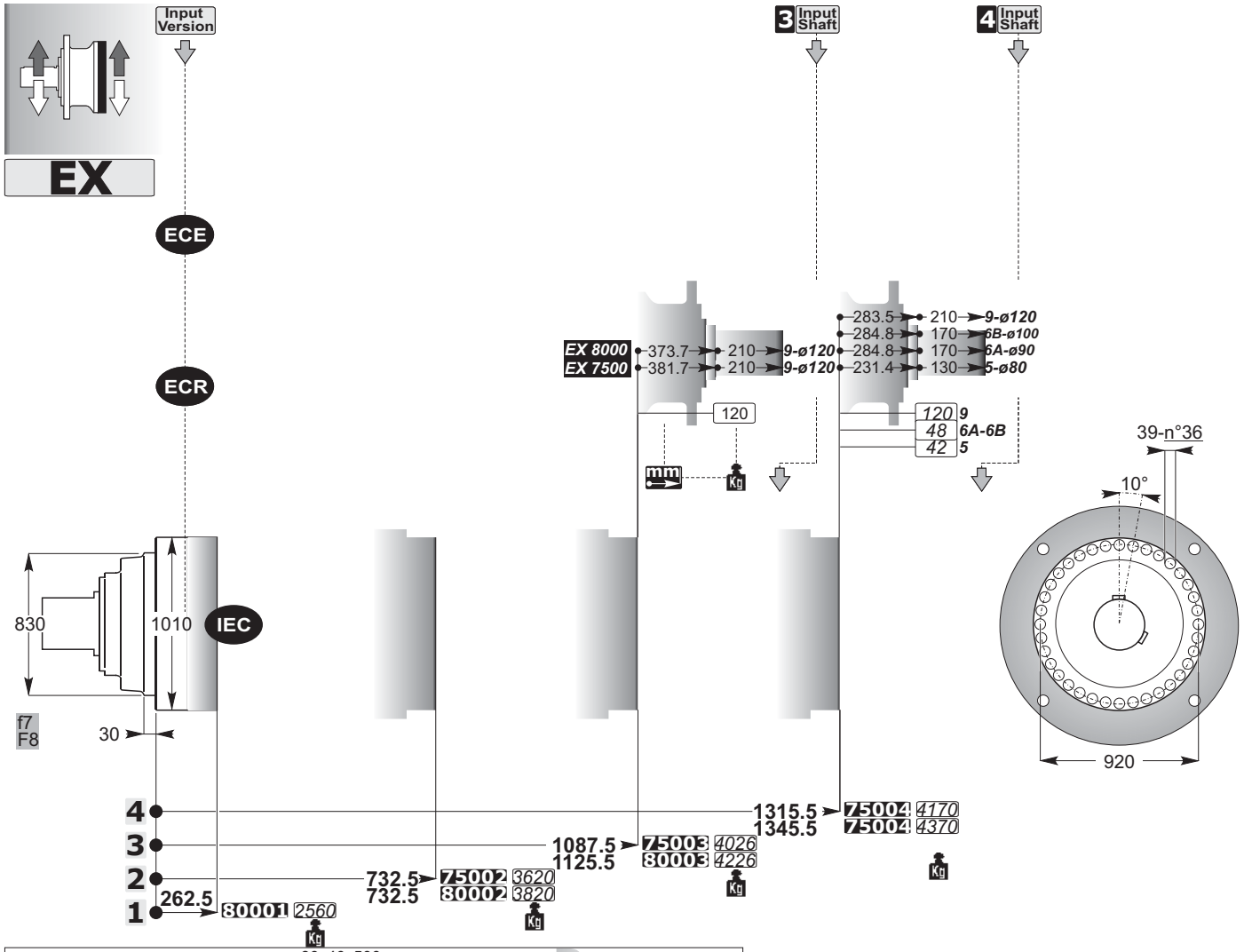


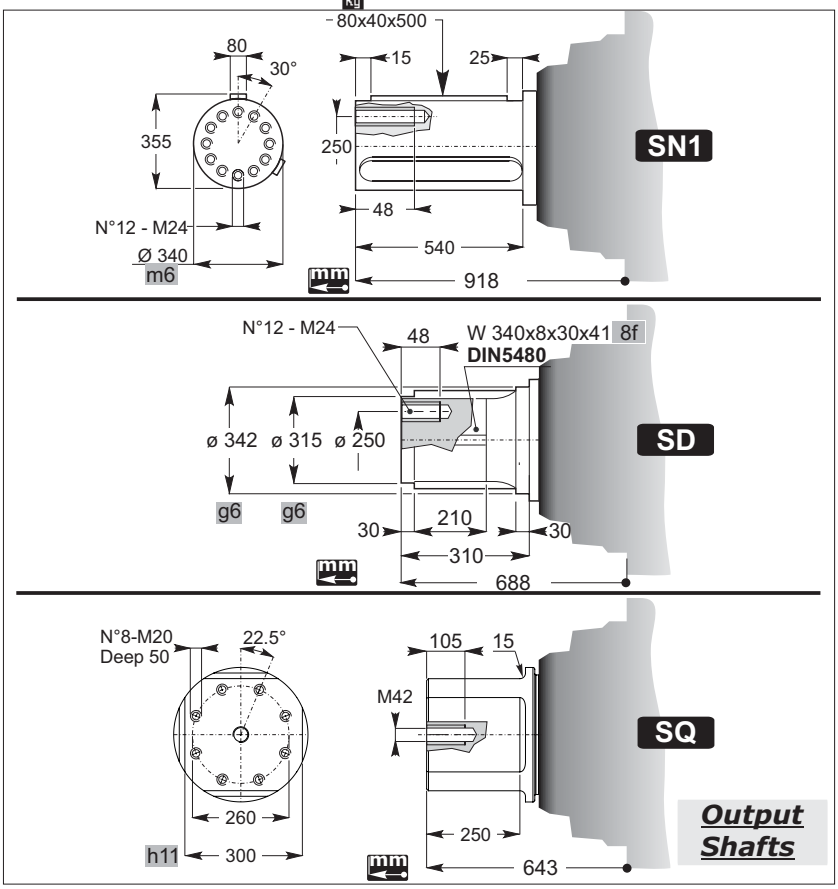
Output Shafts

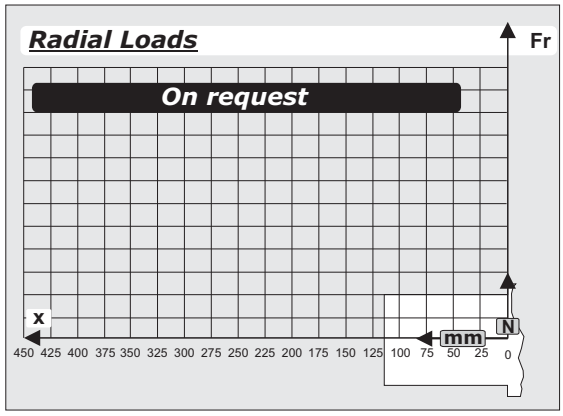
EXB

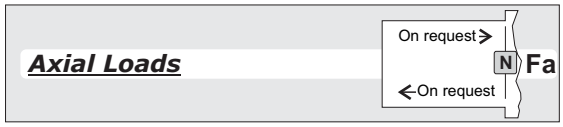
non disponibile
not available
nicht verfügbar

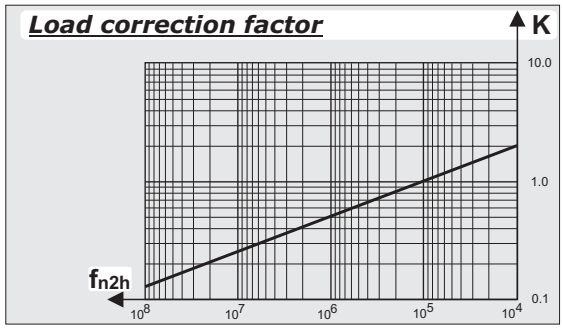



Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
EX 8000
EX 7500
373.7 → 210 → 9-ø120
381.7 → 210 → 9-ø120
283.5 → 210 → 9-ø120
284.8 → 170 → 6B-ø100
284.8 → 170 → 6A-ø90
231.4 → 130 → 5-ø80
120
120 9
48 6A-6B
42 5
39-n°36
10°
920
830
1010
f7
F8
30
4
3
2
1
1315.5 → 75004 4170
1345.5 75004 4370
1087.5 → 75003 4026
1125.5 30003 4226
732.5 → 75002 3620
732.5 30002 3820
262.5 → 30001 2560
Kg
mm


80x40x500
80
30°
15
25
355
250
N°12 - M24
Ø 340
m6
48
540
918
SN1
N°12 - M24
48
W 340x8x30x41 8f
DIN5480
ø 342
ø 315
ø 250
g6
g6
30
210
30
310
688
SD
N°8-M20
Deep 50
22.5°
105
15
M42
260
h11
300
250
643
SQ
Output Shafts
mm

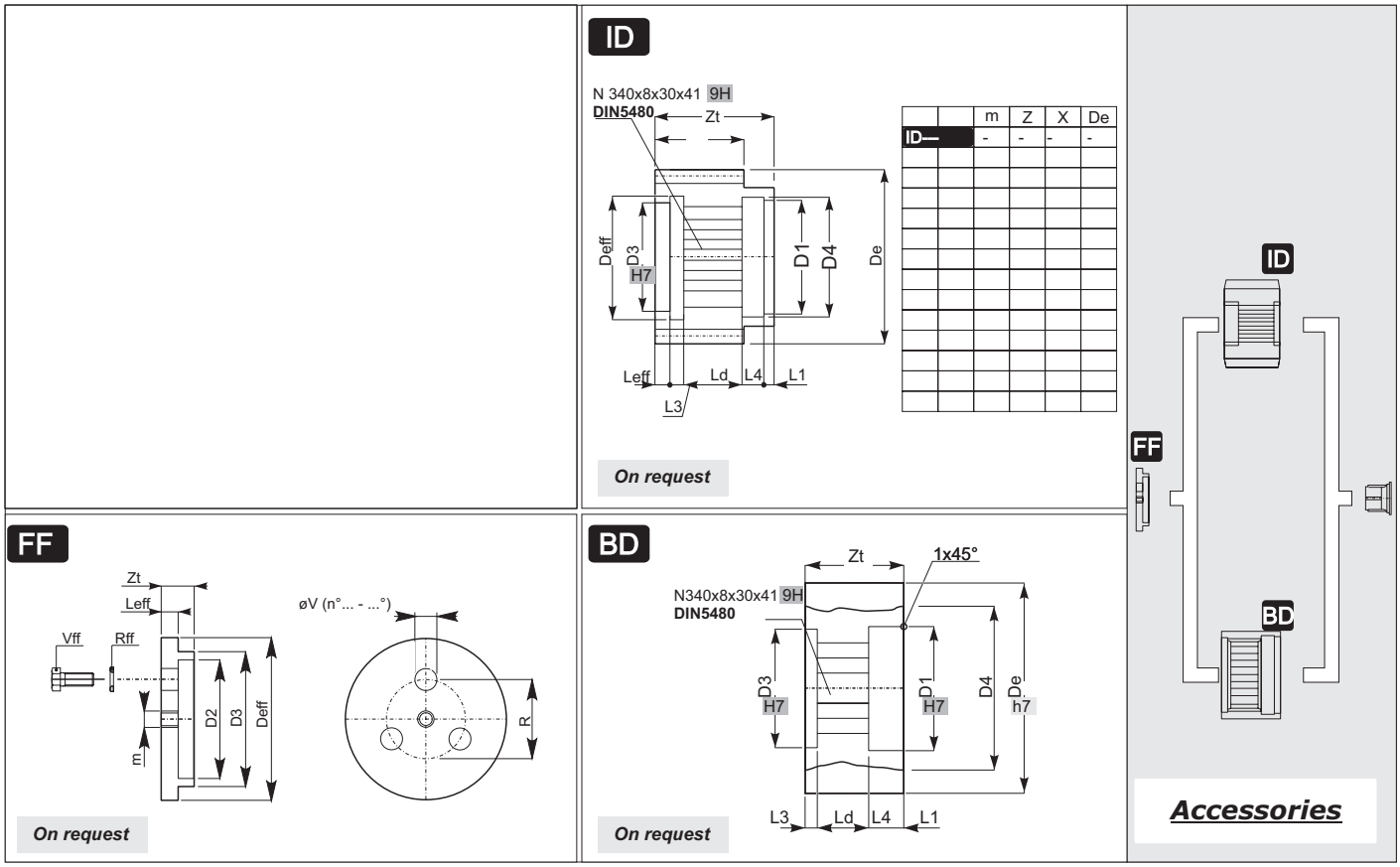

Radial Loads
Fr
On request
x
mm
N
450 425 400 375 350 325 300 275 250 225 200 175 150 125 100 75 50 25 0

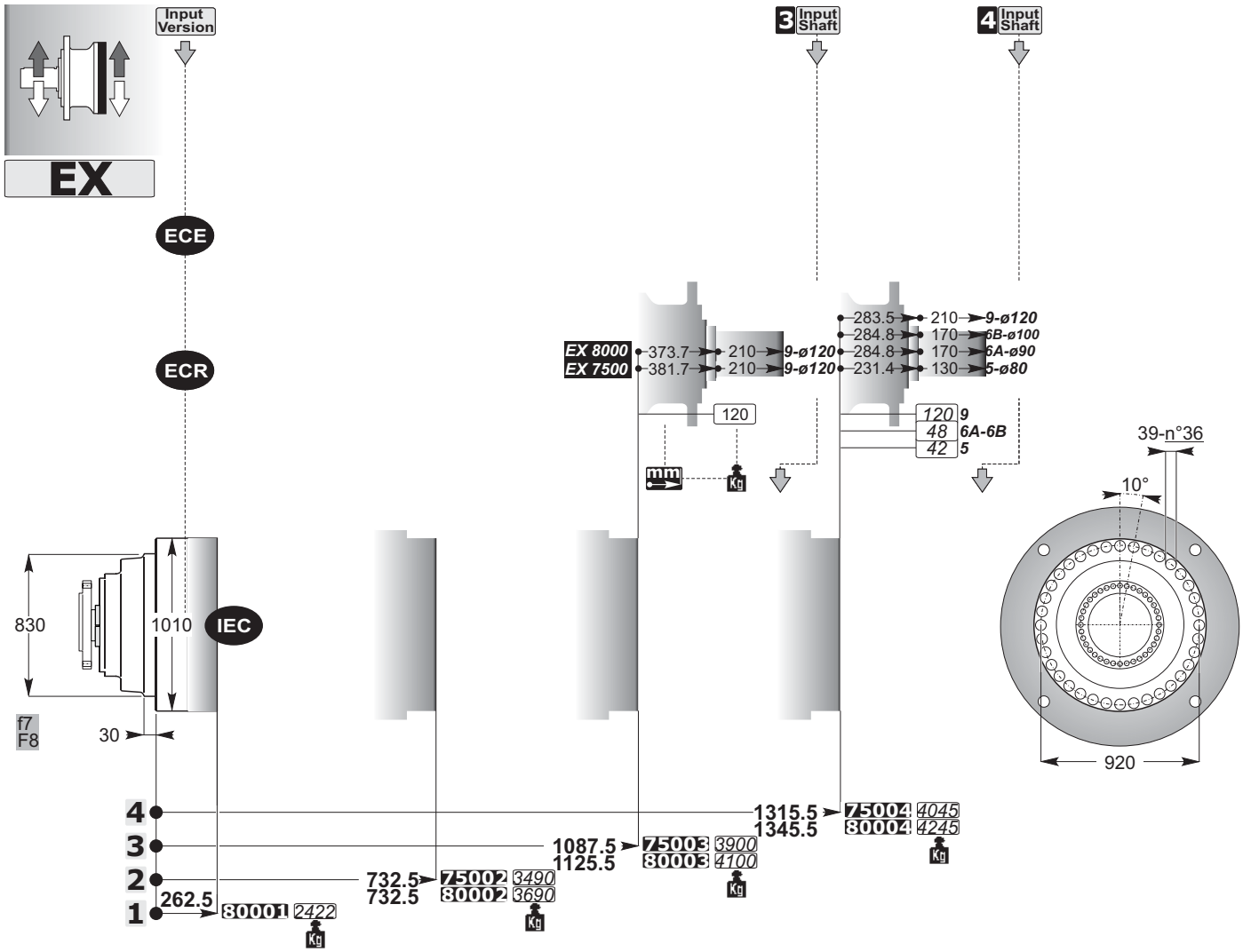

Axial Loads
On request
N
Fa
On request

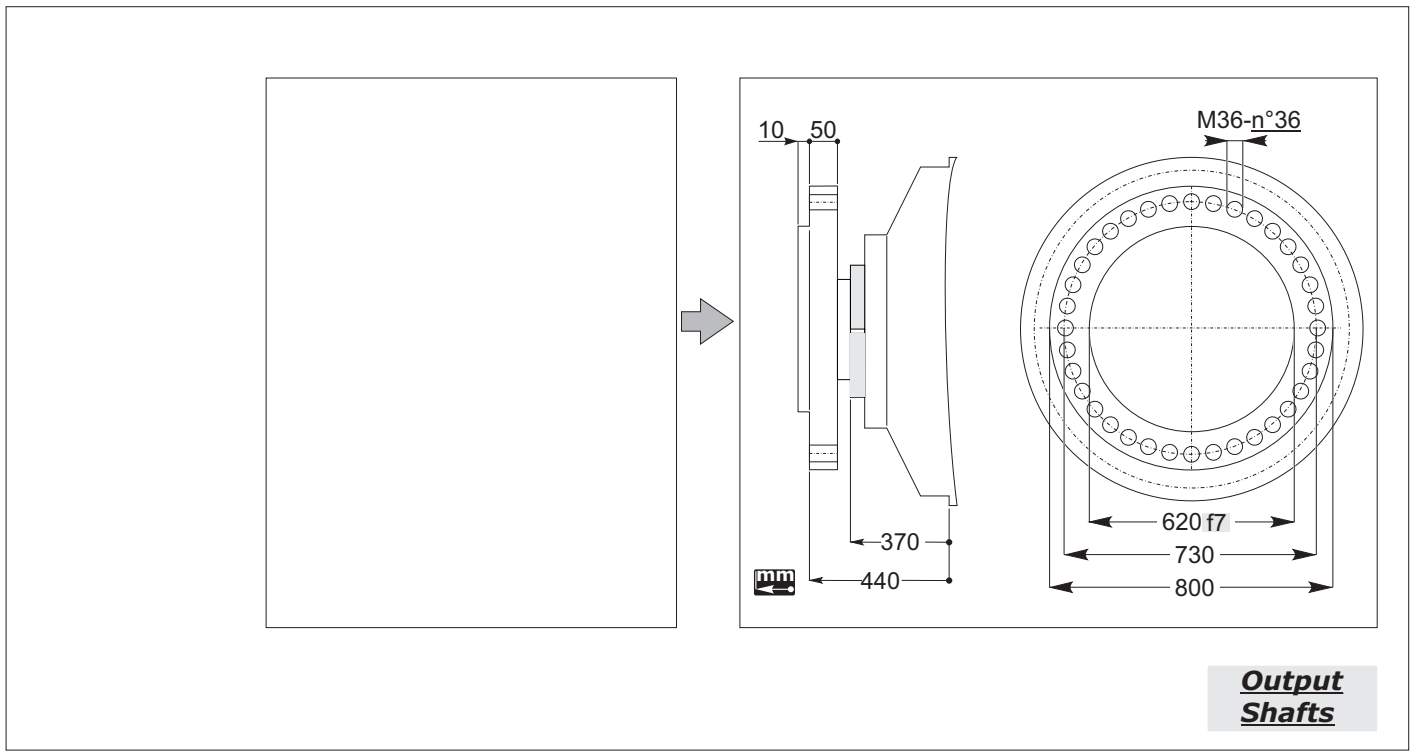

Load correction factor
K
10.0
1.0
0.1
fn2h
10^8
10^7
10^6
10^5
10^4

EXB

non disponibile
not available
nicht verfügbar



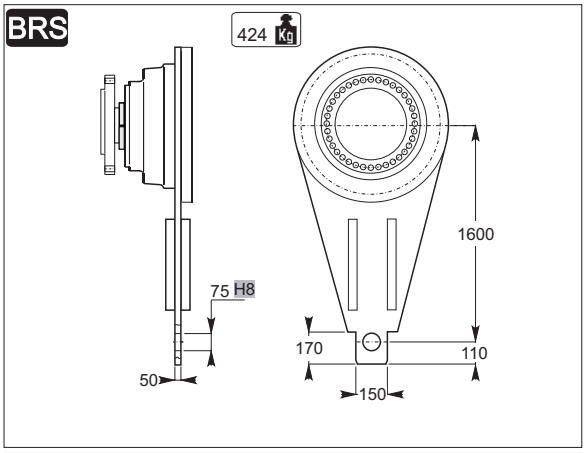

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
EX 8000
EX 7500
373.7
381.7
210
9-ø120
283.5
284.8
231.4
170
130
6B-ø100
6A-ø90
5-ø80
120
9
48
6A-6B
42
5
39-n°36
10°
920
830
1010
f7
F8
30
4
3
2
1
1315.5
1345.5
75004 4045
80004 4245
1087.5
1125.5
75003 3900
80003 4100
732.5
732.5
75002 3490
80002 3690
262.5
80001 2422
Kg
mm


10
50
M36-n°36
370
440
620 f7
730
800
mm
Output Shafts

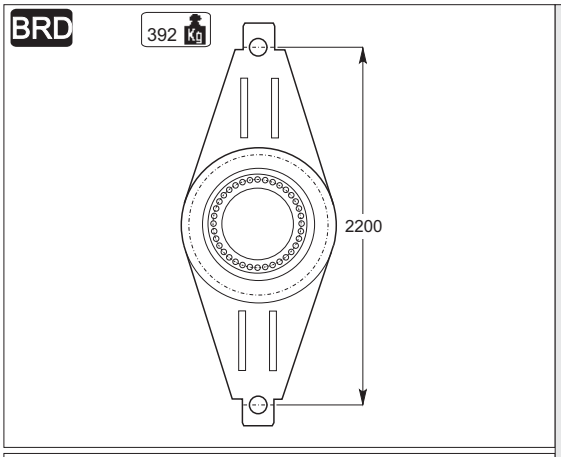
EXB

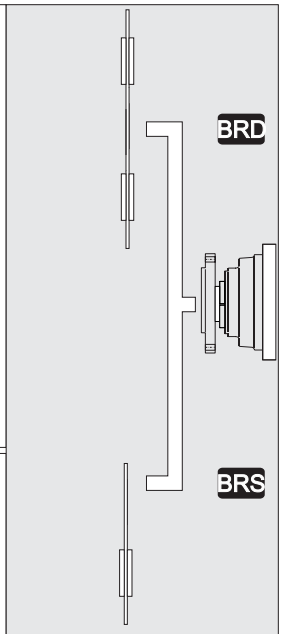
non disponibile
not available
nicht verfügbar

BRS

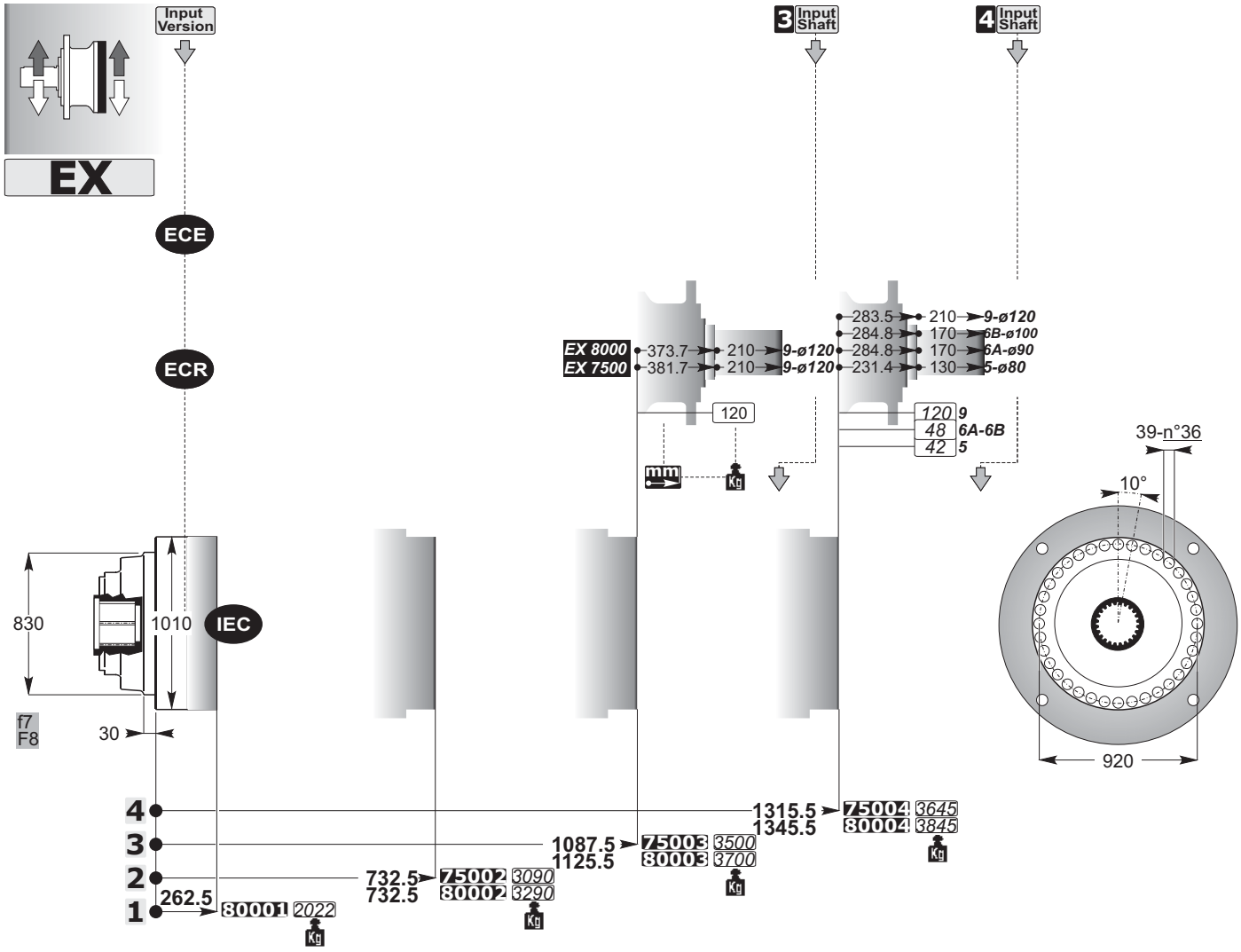


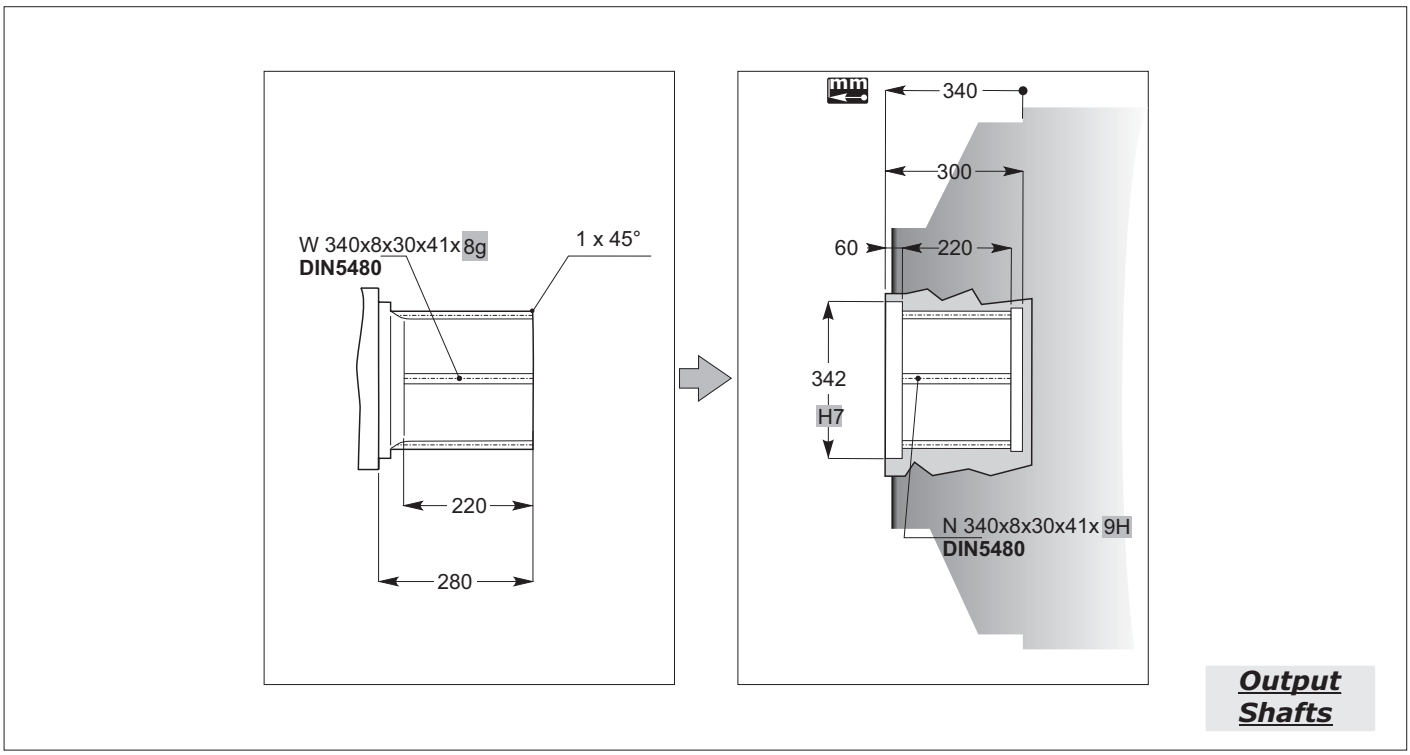
BRD





Accessories

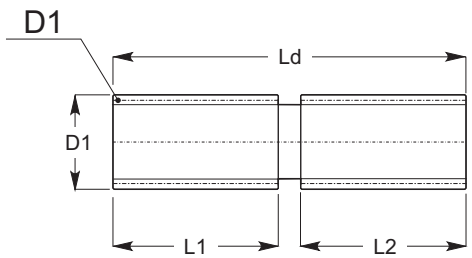

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
EX 8000
EX 7500
373.7 → 210 → 9-ø120
381.7 → 210 → 9-ø120
283.5 → 210 → 9-ø120
284.8 → 170 → 6B-ø100
284.8 → 170 → 6A-ø90
231.4 → 130 → 5-ø80
120
120 9
48 6A-6B
42 5
39-n°36
10°
830
1010
IEC
f7
F8
30
920
4
3
2
1
1315.5
1345.5
75004 3645
80004 3845
1087.5
1125.5
75003 3500
80003 3700
732.5
732.5
75002 3090
80002 3290
262.5
80001 2022
Kg
mm


W 340x8x30x41x 8g
DIN5480
1 x 45°
220
280
340
300
60
220
342
H7
N 340x8x30x41x 9H
DIN5480
mm
Output Shafts

EXB

non disponibile
not available
nicht verfügbar

SD

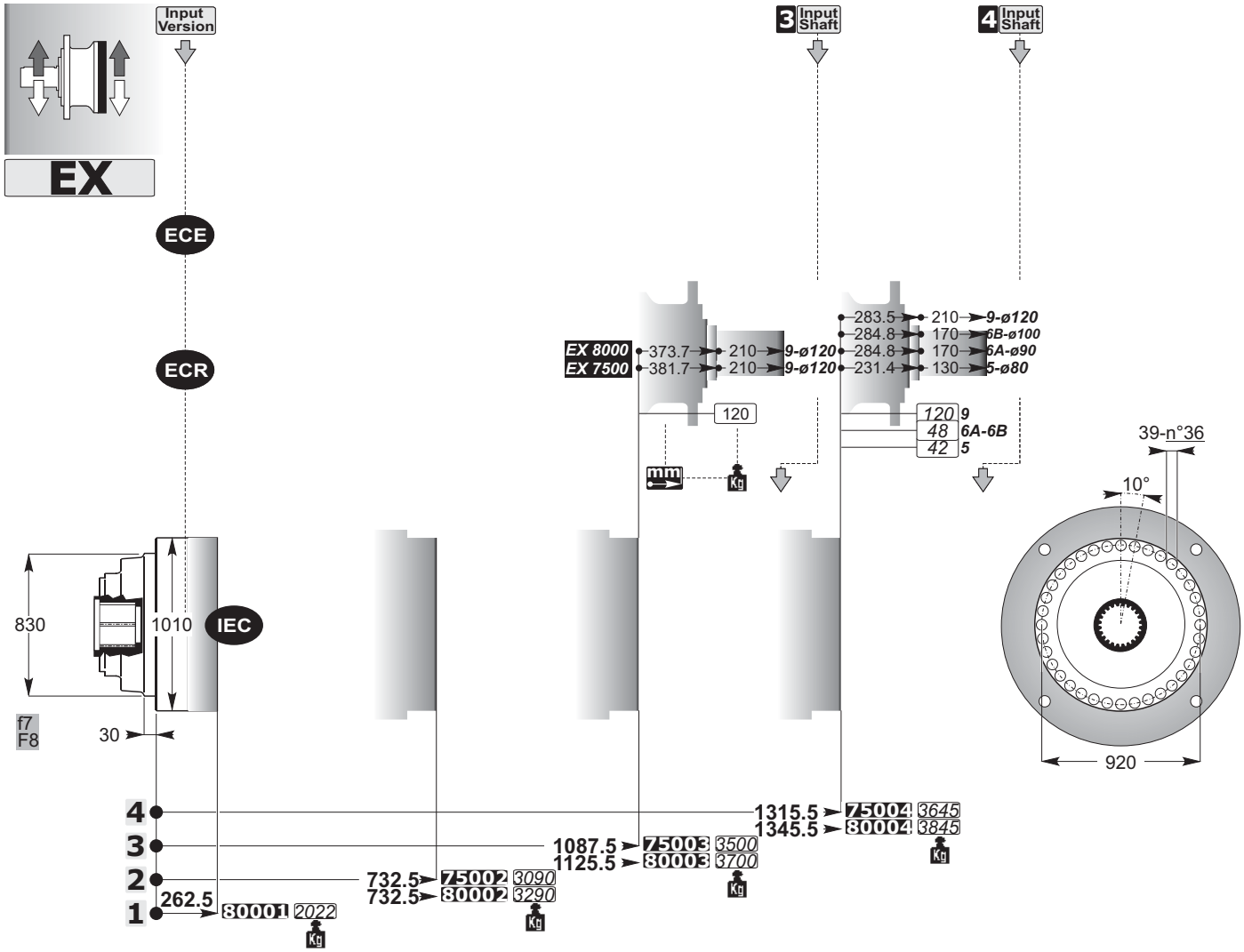


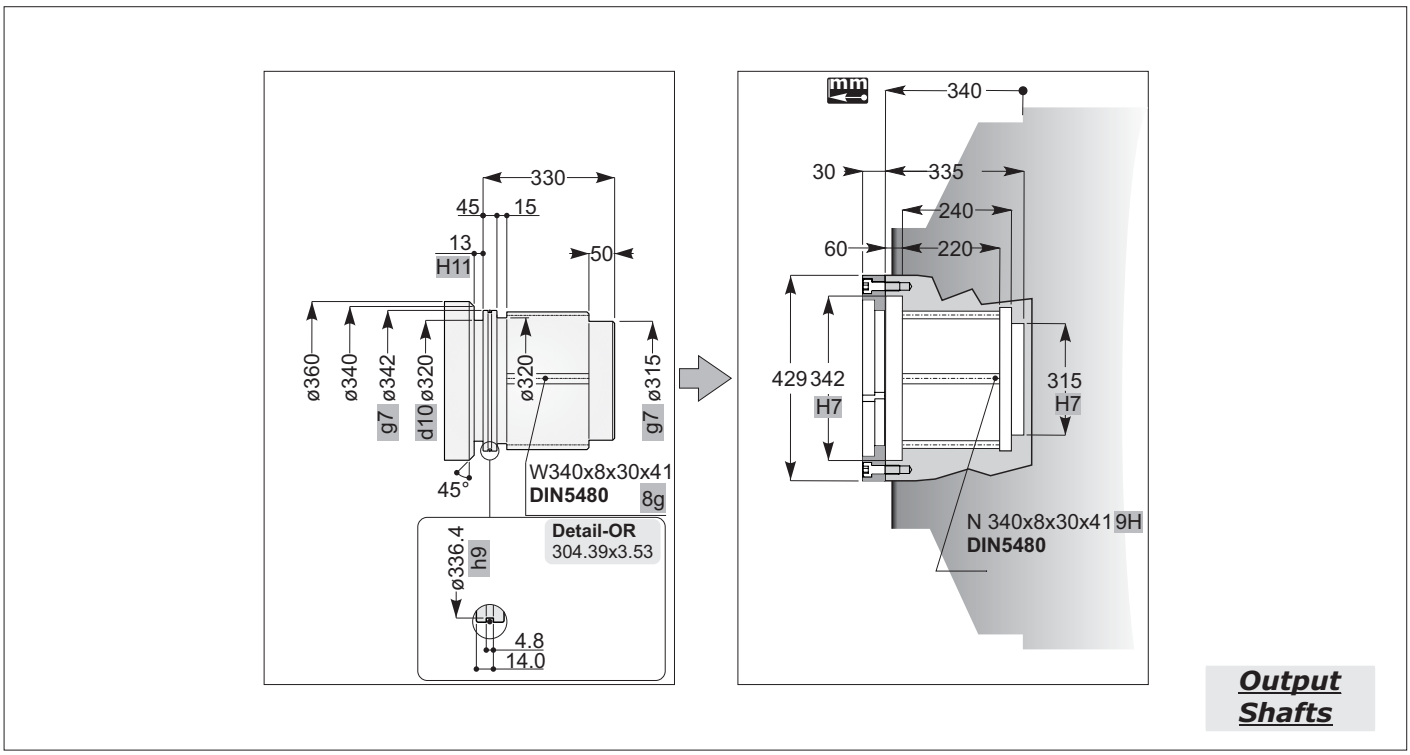
On request

SD



Accessories

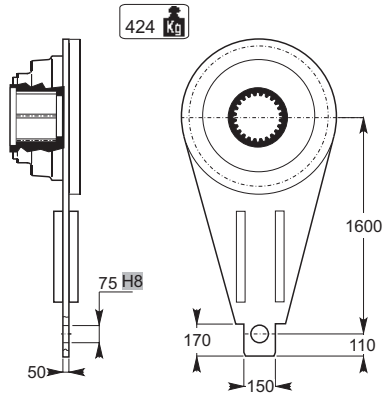

Input Version
3 Input Shaft
4 Input Shaft
EX
ECE
ECR
IEC
EX 8000
EX 7500
373.7
381.7
210
9-ø120
283.5
284.8
231.4
170
130
6B-ø100
6A-ø90
5-ø80
120
48
42
6A-6B
5
39-n°36
10°
920
830
1010
f7
F8
30
262.5
80001 2022
732.5
75002 3090
80002 3290
1087.5
1125.5
75003 3500
80003 3700
1315.5
1345.5
75004 3645
80004 3845
Kg
mm


330
45
15
13
H11
50
ø360
ø340
g7 ø342
d10 ø320
ø320
g7 ø315
45°
W340x8x30x41
DIN5480
8g
Detail-OR
304.39x3.53
ø336.4
h9
4.8
14.0
mm
340
30
335
240
60
220
429
342
H7
315
H7
N 340x8x30x41 9H
DIN5480
Output Shafts

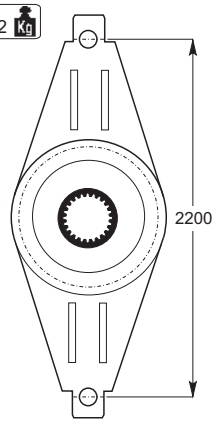
EXB

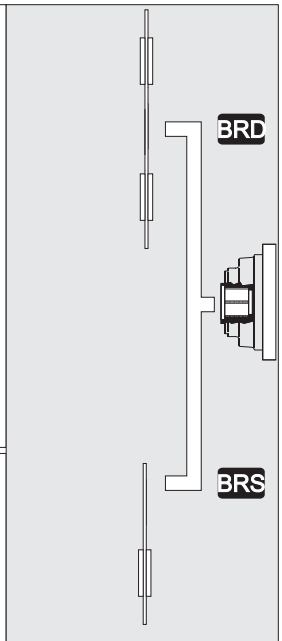
non disponibile
not available
nicht verfügbar

BRS

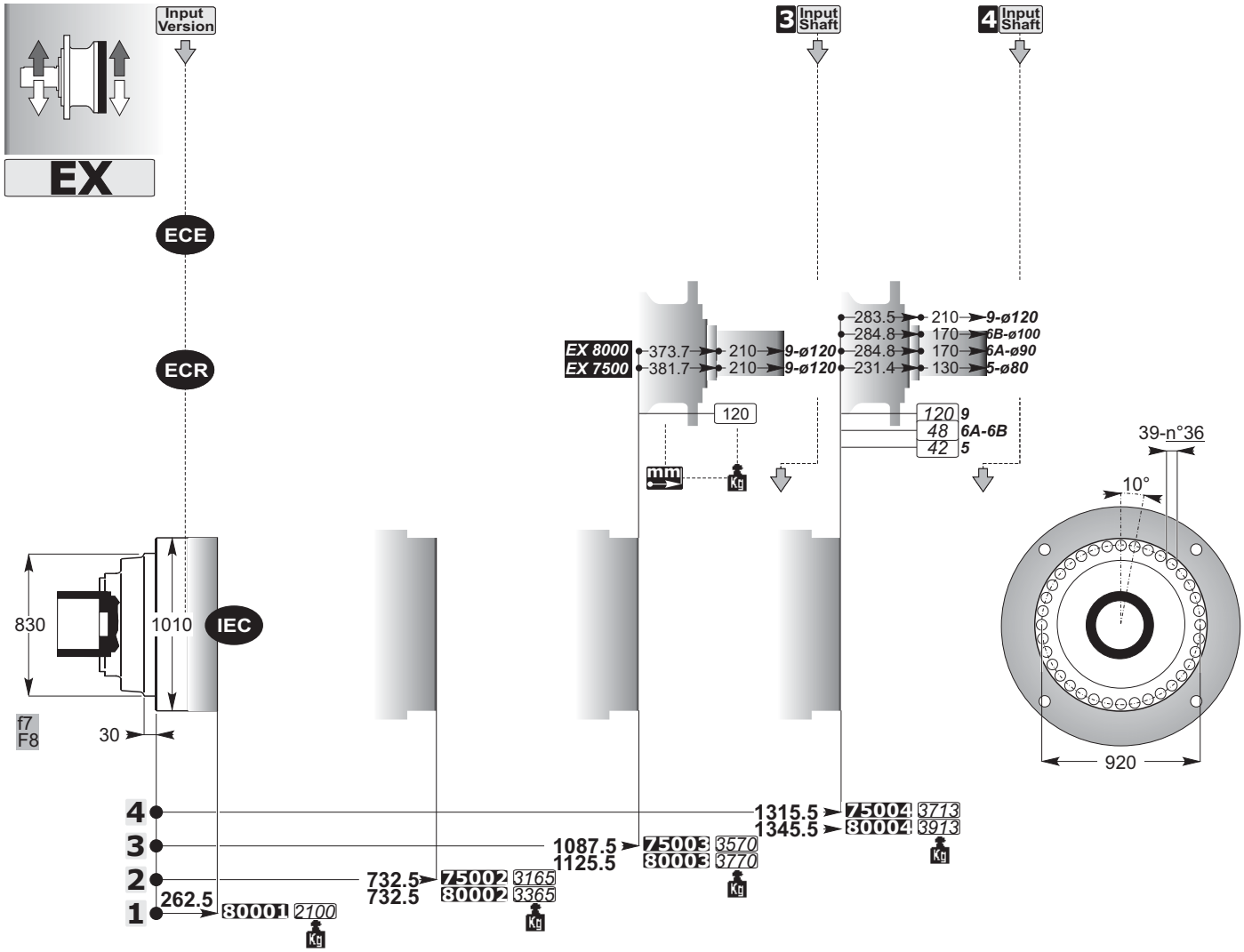


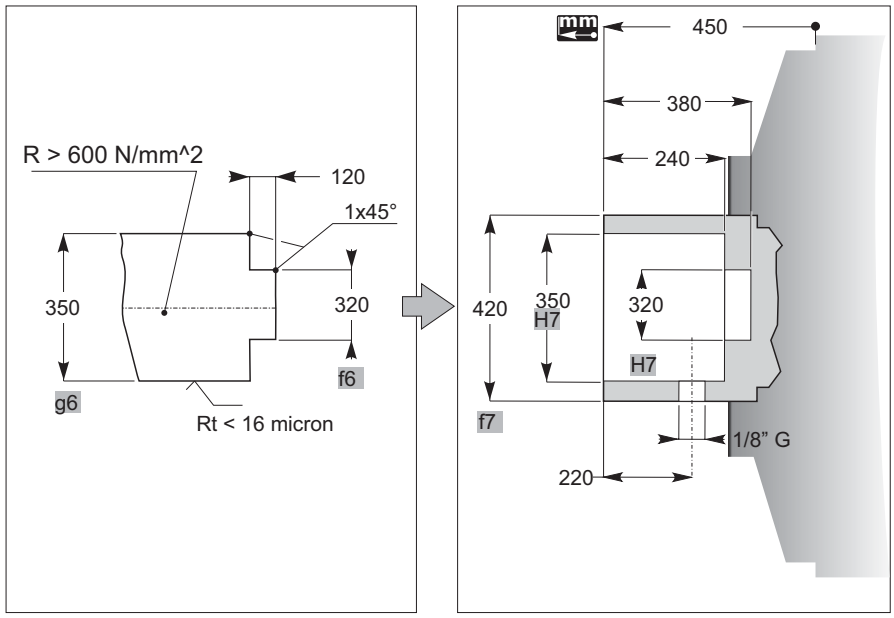
BRD





Accessories

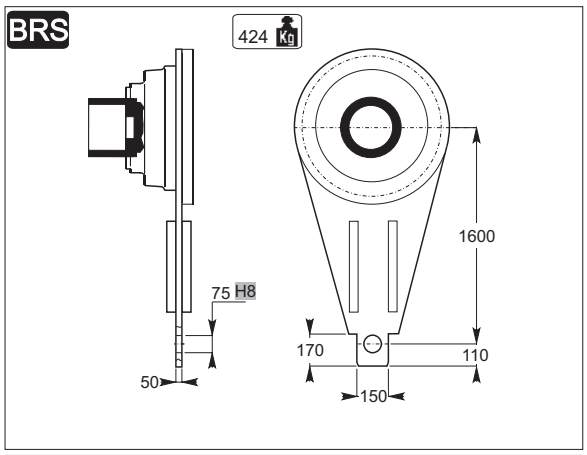


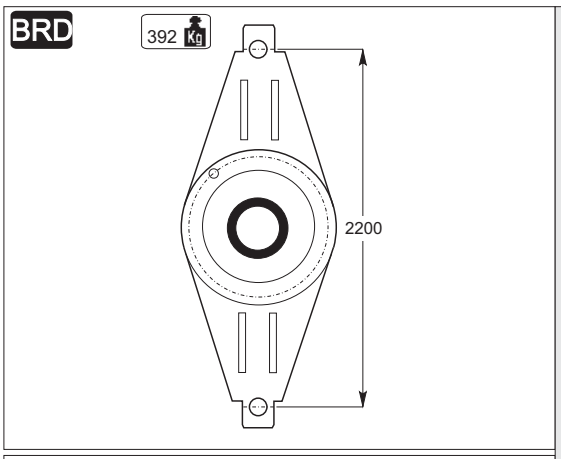


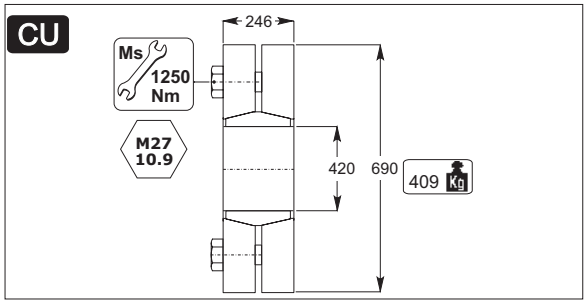
Output Shafts

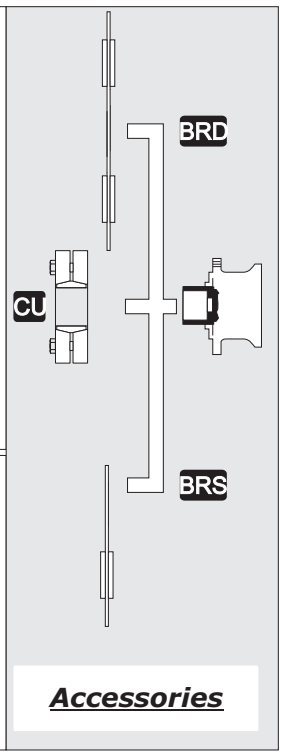
EXB

non disponibile
not available
nicht verfügbar









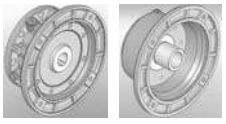
mm
C

PREDISPOSIZIONI ATTACCO MOTORE
INPUT MOTOR ADJUSTMENTS
ELEKTROMORANBAU VORBEREITUNG

D



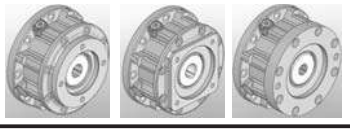
EU — D2



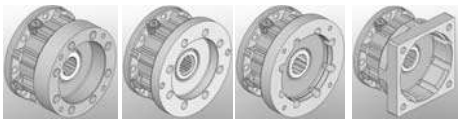
IEC — D3



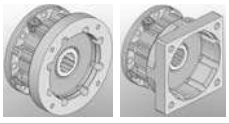
Z. Z0. Z1. Z2. — D6



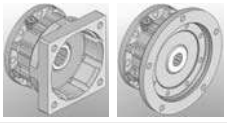
I CB DB BA CA DA EA — D8



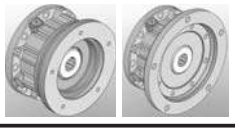
I GD FB GC HB FA GAB HA — D12



I LB JA KB LA — D16



I MA NA — D20



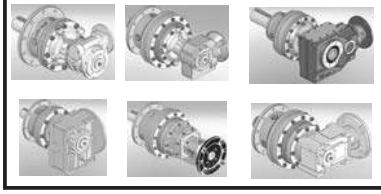
I OA PA QA — D22



ECE — D28



ECR — D30

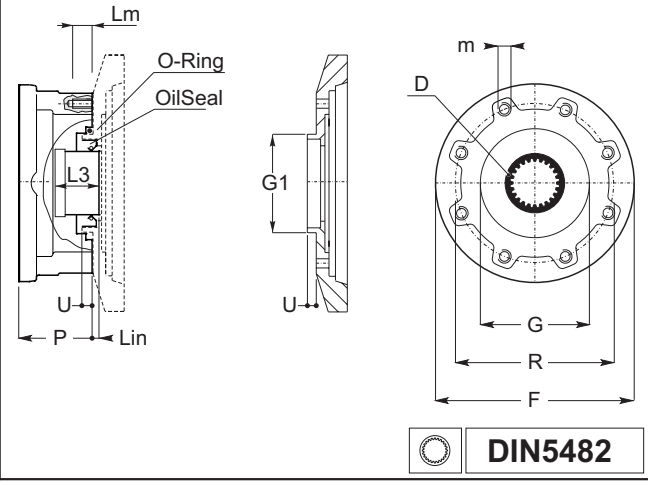


EX. — D42

Input Shaft - PAM

EU - universal

EU



DIN5482

	EU
Kg	5.8

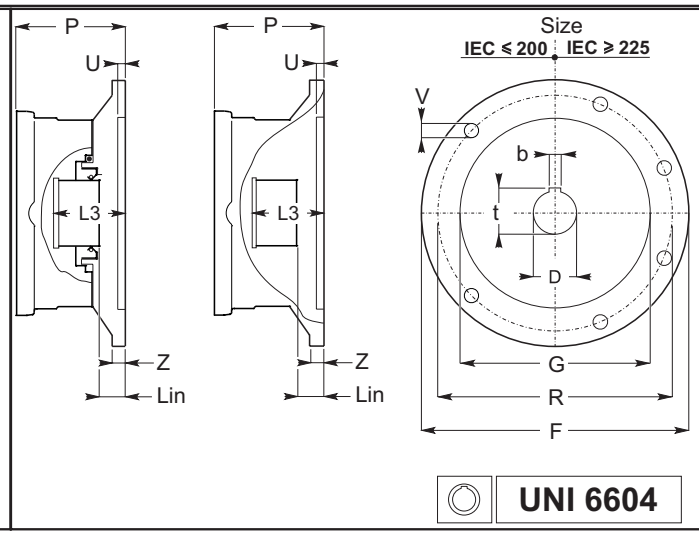
	D	F	R	G	U_{max}	L_{IN}	L3	m	L_m	O_{Ring}	Oil_{Seal}
	DIN 5482	186-244	+/- 0,1	H7 - g6							
	50 x 45	295-350	150	95	6	4	38	M10	20	94.92 x 2.62	60x80x7.5

	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒1001				EX 102⇒6002 / EXB 102⇒ 3002				EX 103⇒16003 / EX 103⇒ 10003				EX 104⇒ 45004 / EXB 104⇒ 31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
300							3002			3003			3004			
350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
3200															32004	
3700															37004	
4500																45004
EU	67	75	83	90.5	67	75	83	90.5	67	75	83	90.5	67	75	83	90.5

Input Shaft - PAM

IEC - electric motor

IEC



Kg	
71-80-90	8
100-112	10
132	12
160-180	19
200	25
225	30
250-280	51

UNI 6604

	D	F	R	G	U	V	Z	L_{IN}	L3	b	t
	F7		+/-0,1	F8 G6						H7	+0,1 +0,2
63	11	140	115	95	10	M8	16	5,5	25	4	12,8
71	14	160	130	110	10	M8	16	5,5	32	5	16,3
80	19	200	165	130	5	M10	14	5,5	52	6	21,8
90	24	200	165	130	5	M10	14	5,5	52	8	27,3
100	28	250	215	180	5	M12	14	10,5	61	8	31,3
112	28	250	215	180	5	M12	14	10,5	61	8	31,3
132	38	300	265	230	5	M12	14	10,5	82	10	41,3
160	42	350	300	250	6	M16	18	8,5 - 24.5	111	12	45,3
180	48	350	300	250	6	M16	18	8,5 - 24.5	111	14	51,8
160	42	350	300	250	6	M16	18	24,5	111	12	45,3
180	48	350	300	250	6	M16	18	24,5	111	14	51,8
200	55	400	350	300	6	M16	22	8,5	111	16	59,3
225	60	450	400	350	6	M16	20	8,5	143	18	64,4
250	65	550	500	450	6	M16	21	8,5	145	18	69,4
280	75	550	500	450	6	M16	21	8,5	145	20	79,9

	EX1				EX2				EX3				EX4			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
300							3002			3003			3004			
350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
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6800																
7500																
8000																

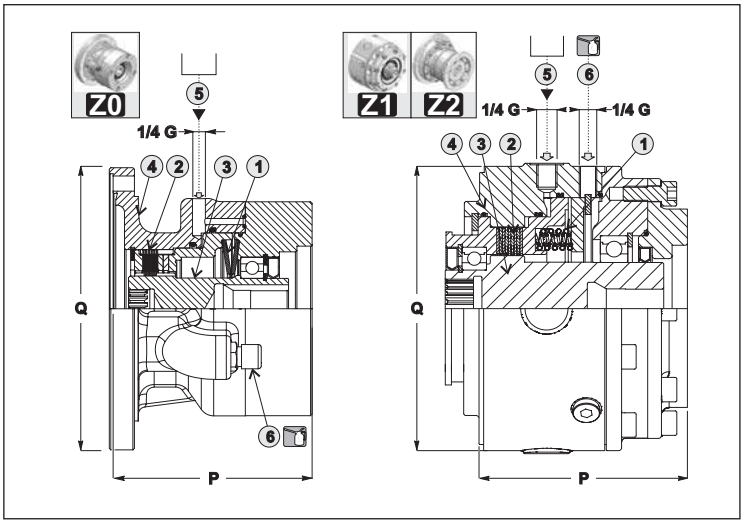
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80	83	91	99		83	91	99		83	91	99		83	91	99	
90	83	91	99		83	91	99		83	91	99		83	91	99	
100	91	99	107		91	99	107		91	99	107		91	99	107	
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160	146	170	167		146	170	167		146	170	167		146	170	167	
180	146	170	167		146	170	167		146	170	167		146	170	167	
200		154	165	175		154	165	175		154	165	175		154	165	175
225		189	188.5	205		189	188.5	205		189	188.5	205		189	188.5	205
250			188.5	205			188.5	205			188.5	205			188.5	205
280			188.5	205			188.5	205			188.5	205			188.5	205

P - [mm]

					EXB2				EXB3				EXB4			
10	102					103					104					
20	202					203					204					
25	252					253					254					
30	302					303					304					
35	352					353					354					
40						403					404					
50		502				503					504					
70		702				703					704					
80			802			803					804					
90						903					904					
95						953					954					
100			1002				1003				1004					
150				1502			1503				1504					
180				-			1803				1804					
200				2002			2003				2004					
250					2502			2503			2504					
280								2803				2804				
300					3002			3003				3004				
350								3503				3504				
360									3603			3604				
420									4203			4204				
600									6003			6004				
650										6503			6504			
800										8003			8004			
850										8503			8504			
1000										10003			10004			
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3000															30004	
3100															31004	
3200															32004	
3700																
4500																
5500																
6800																
7500																
8000																

63					99					99					99	
71	52				99	52				99	52				99	
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100	60	60	55		107	60	60	55		107	60	60	55		107	
112	60	60	55		107	60	60	55		107	60	60	55		107	
132	112	81	76	120	128	112	81	76	120	128	112	81	76	120	128	
160	146	146	170	170	167	146	146	170	170	167	146	146	170	170	167	
180	146	146	170	170	167	146	146	170	170	167	146	146	170	170	167	
200			154	154	165			154	154	165			154	154	165	
225			189	189	188.5			189	189	188.5			189	189	188.5	
250					188.5					188.5					188.5	
280					188.5					188.5					188.5	

P - [mm]



		A	B	C	D	E	F	G	H	Q	Kg
Z0	T_{RF}	60	100	160	200	280	330	430	520	186	12
	P_{Af}	10	16	16	20	20	24	24	29		
Z1.	T_{RF}	90	140	240	300	430	550	—	—	186	26
	P_{Af}	8.5	13	11	15	20	25	—	—		
Z2.	T_{RF}	400	650	800	1000	1250	1500	1700	—	244	30
	P_{Af}	25	41	25	32	30	36	41	—		
P_{max} = 310											

P_{INf} [bar] = Pressione ingresso-impianto idraulico/Input pression – hydraulic plant/Eingangsdruck Hydraulische Anlage
P_{Af} [bar] = Pressione apertura freno/Brake release pressure/Bremsöffnungsdruck
P_c [bar] = Contropressione nell'impianto idraulico/Backpressure *in hydraulic plant* / Gegendruck in der hydraulischen Anlage
P_{max} [bar] = Pressione max./max. pressure/Höchstdruck
T_{RF} [Nm] = Coppia media Statica/ Medium static torque/ Mittleres Stützmoment

1 - Molle / Springs / Federn
2 - Dischi a Lamelle / Mutidisc / Lamellen
3 - Albero ingresso / Input Shaft - Antrienwelle
4 - Carcassa Freno -Casing Brake Bremsegehäuse
5 - Attacco Comando Freno / Brake releasing Plug / Anschluss zum Loesen der Bremse
6 - Tappo Carico e Sfiato Olio / Breather and filling plug / Oelablass-und Entlueftungsschraube nungsdruck

1.0 - Campo applicazione
Il freno è da impiegare solo come freno di stazionamento e non per effettuare frenature dinamiche.

2.0 - Principio funzionamento freno
Il funzionamento del freno è di tipo negativo con le seguenti modalità operative:
2.1 - Condizione 1 - Pressione $P_{INf} = 0$
Le molle (particolare 1) esercitano una spinta sulle coppie di dischi a lamelle (componente 2). Alcuni dischi sono solidali con elemento mobile (componente 3) e dischi solidali con elemento fisso (componente 4).
In questa condizione operativa si genera sul manicotto riduttore (componente 3) una coppia T_{RF} con livello di accuratezza del valore di ±10% (Z1-Z2) e ±18% Z0.
2.2 - Condizione 2 - Pressione $P_{INf} = P_{Af}$
Qualora attraverso l'attacco comando freno (componente 5), si immetta una pressione P_{INf} uguale alla pressione di apertura P_{Af} il valore della coppia resistente T_{RF} è uguale a zero consentendo la libera rotazione del manicotto del riduttore.
2.3 - Condizione 3 - Contropressione presente nell'impianto idraulico $P_c \neq 0$.
Tali prestazioni (T_{RF}) sono sempre calcolate con contropressione uguale a zero.In caso contrario la coppia frenante è percentualmente ridotta nel rapporto contropressione/Pressione apertura freno.

Ricordiamo che alte velocità di rotazione, oppure prolungati funzionamenti con asse verticale, possono generare elevati aumenti di temperatura: in questi casi consultare la Sezione A.

1.0 - Application field
The brake can be used only as stationary brake.It is not possible to utilize the brake for damic use.

2.0 - How it works
The brake works as a negative brake, with the following modalities:
2.1 - option – $P_{INf} = 0$
The coil springs (see item 1) are pressing together on rotating discs.
some disks are running together with mobile elements (see item 3) and some other disks are fixed (see item 4)
In this working condition there is a resistant torque in the sleeve coupling of the gearbox (see item 3); the value of torque is T_{RF} ±10%.

2.2 - option - Pressure $P_{INf} = P_{Af}$
When from the motor brake connection (item 5) you introduce a pressure PINf equal or same opening pressure PAf, the resistant torque value TRF is equal to Zero, in letting free the input pressure, from the Hydraulic plan.

2.3 - option - Backpressure *in hydraulic plant* $P_c \neq 0$
These performances (T_{RF}) are always calculated without back pressure.Othrwise the braking torque is reduced as a pecentage of the ratio back pressure/Brake release pressure.

We remind you that high rotation speed, or extendent running with vertical axis, can generate considerable temperature increases: in such cases please look at Section A.

1.0 - Anwendungsgebiet
Die Bremsen können nur als Feststellbremsen benutzten und dienen nicht zum dynamischen Abbremsen.

2.0 - Funktionsbeschreibung der Bremse
Die Bremsen haben eine „negative" Funktion bei den folgenden Betriebsarten:

2.1 - Punkt 2.1 - Druck $P_{INf} = 0$
Die Bremsen wirken unter dem Druck einer Reihe von Federn (Element 1) auf abwechselnd fixe (Element 4) und bewegliche (Element 3) Scheibenpaare (Element 2).
Der Betrieb in diesem Zustand erzeugt einen Drehmomentwiderstand an der Getriebemuffe (Element 3) mit einem Drehmoment T_{RF} bei einer Genauigkeitsmarge von ± 10 %.
2.2 - Punkt - $P_{INf} = P_{Af}$
Für den Fall, dass man eine Bremsbetätigung (Bestandteil 5) mit einem Druck P_{INf} eingibt die genau dem Öffnungsdruck P_{Af} entspricht,
ist der Wert des Wiederstandsmomentes T_{RF} gleich null und ermöglicht dadurch die freie Rotation der Getriebebuchse.
2.3 - Punkt - Gegendruck in der hydraulischen Anlage $P_c \neq 0$.
Diese Leistungen (T_{RF}) werden mit einem Gegendruck von 0 berechnet.Anderenfalls wird da Bremsmoment prozentual im Verhältnis Gegendruck/Bremsöffnungsdruck reduziert.

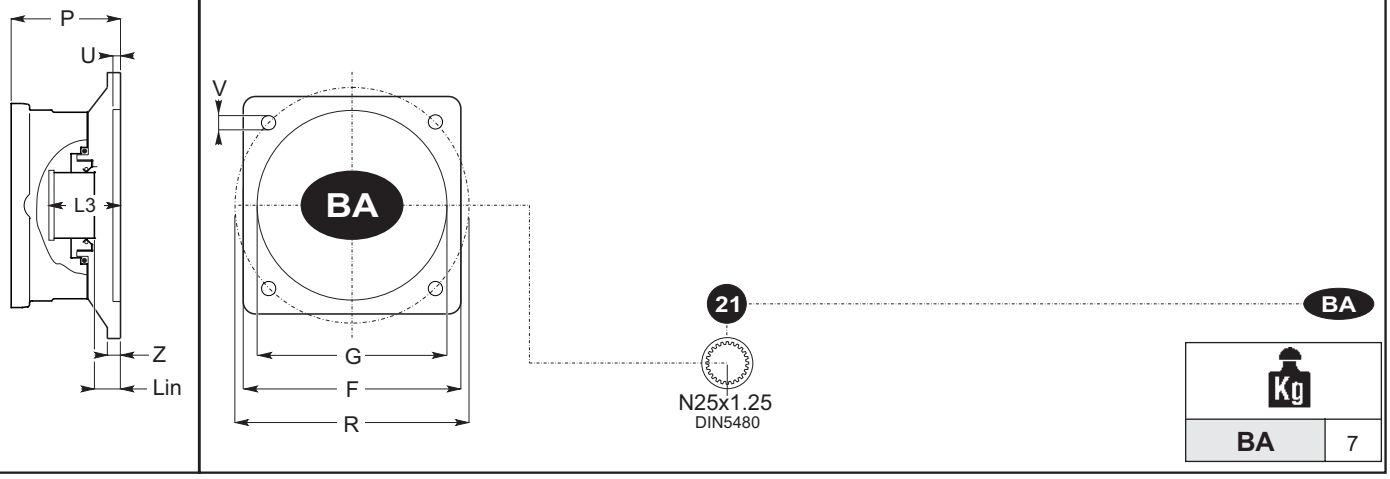
Hohe Drehzahlen oder lange Betriebszeiten mit vertikaler Achse können zu starken Temperaturerhöhungen führen: In diesem Fall wenden Sie sich bitte an Sektion A.

	F	R	G	U	V	Z	L_{TN}	L3	b	t
Z0 Z1 Z2	LOOK AT D8-D10-D12-D14-D16-D18-D19-D20-D21-D22-D23-D24-D25-D28-D29									

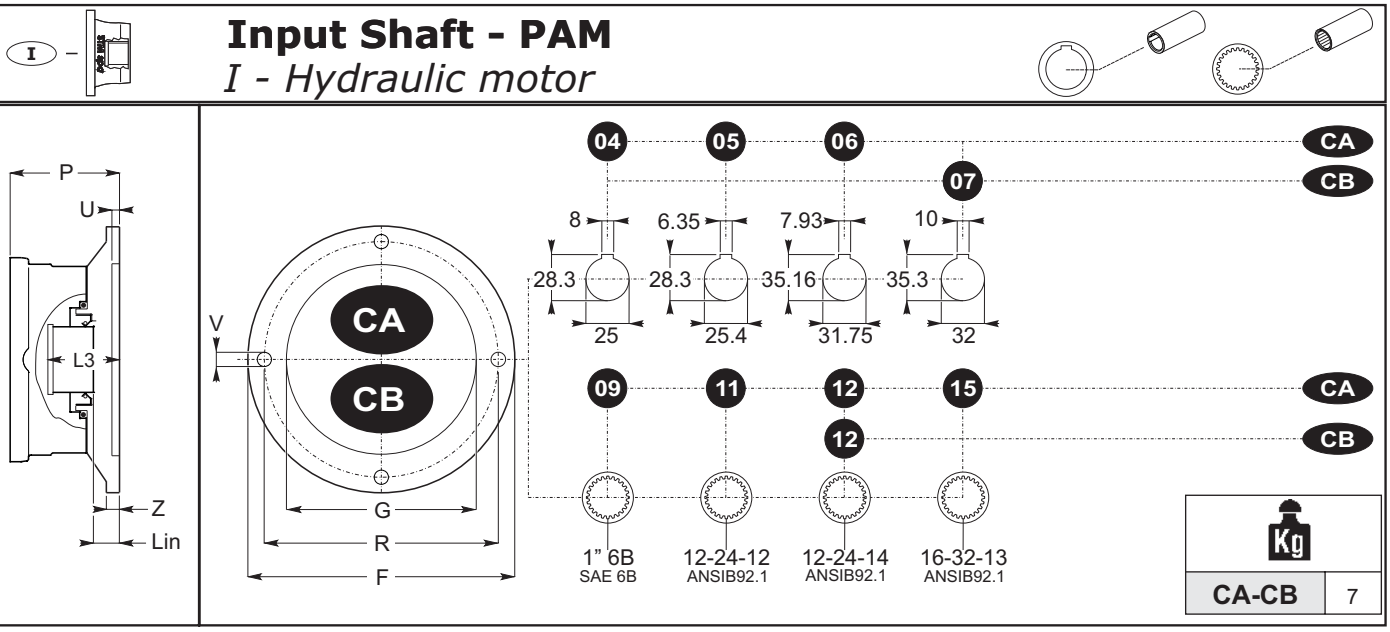
Z.	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒ 4202				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB 103⇒ 10003				EXB 104⇒ 31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
300							3002			3003			3004			
350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
3200															32004	
3700															37004	
4500																45004
Z0	**Z0.1**				**Z0.1**				**Z0.1**				**Z0.1**			
CA 04	131				131				131				131			
CA 05	131				131				131				131			
CA 09	131				131				131				131			
Z1	**Z1.1**	**Z1.2**			**Z1.1**	**Z1.2**			**Z1.1**	**Z1.2**			**Z1.1**	**Z1.2**		
CA 04	166	174.5			166	174.5			166	174.5			166	174.5		
CA 09	166	174.5			166	174.5			166	174.5			166	174.5		
CB 07	178	186.5			178	186.5			178	186.5			178	186.5		
DA 11	160	168.5			160	168.5			160	168.5			160	168.5		
DB 22	180	188.5			180	188.5			180	188.5			180	188.5		
FA 13	186	194.5			186	194.5			186	194.5			186	194.5		
FA 22	186	194.5			186	194.5			186	194.5			186	194.5		
FA 23	186	194.5			186	194.5			186	194.5			186	194.5		
FA 24	186	194.5			186	194.5			186	194.5			186	194.5		
FA 28	186	194.5			186	194.5			186	194.5			186	194.5		
FB 08	226	234.5			226	234.5			226	234.5			226	234.5		
PA 29	168	176.5			168	176.5			168	176.5			168	176.5		
ECE 6	165	173.5			165	173.5			165	176.5			165	176.5		
Z2		**Z2.2**	**Z2.3**	**Z2.4**		**Z2.2**	**Z2.3**	**Z2.4**		**Z2.2**	**Z2.3**	**Z2.4**		**Z2.2**	**Z2.3**	**Z2.4**
FA13		248	237	245		248	237	245		248	237	245		248	237	245
FA24		248	237	245		248	237	245		248	237	245		248	237	245
HB24		257	246	254		257	246	254		257	246	254		257	246	254
KB24		265	254	262		265	254	262		265	254	262		265	254	262
LA25		264	253	261		264	253	261		264	253	261		264	253	261
OA31		244	233	241		244	233	241		244	233	241		244	233	241
ECE 7		*	*	*		*	*	*		*	*	*		*	*	*

P - [mm] * Contattare nostro ufficio tecnico commerciale /Please, contact our technical sales dept. / Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung

Input Shaft - PAM
I - Hydraulic motor



Input Shaft - PAM
I - Hydraulic motor



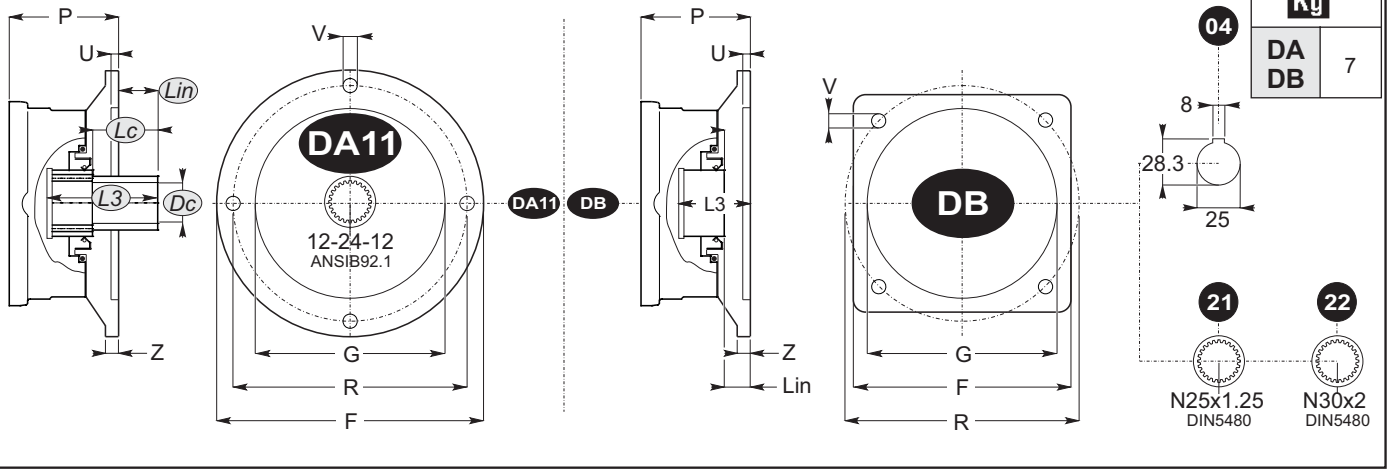
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		+/- 0,1	F8				+/- 0,5					
BA 21	95	100	80	8	M8	16	-	-	22.5	58		
CA 04	130	106,4	82,6	10	M12	17			15.5	58		
CA 05	130	106,4	82,6	10	M12	17			15.5	58		
CA 06	130	106,4	82,6	10	M12	17			13	58		
CA 09	130	106,4	82,6	10	M12	17			20.5	58		
CA 11	130	106,4	82,6	10	M12	17			13	56		
CA 12	130	106,4	82,6	10	M12	17			13	56		
CA 15	130	106,4	82,6	10	M12	17			13	58		
CB 07	130	106,4	82,6	22	M12	29			17.5	74		
CB 12	130	106,4	82,6	22	M12	29			25	71.5		

	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
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360								3602		3603			3604			
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600								6002		6003			6004			
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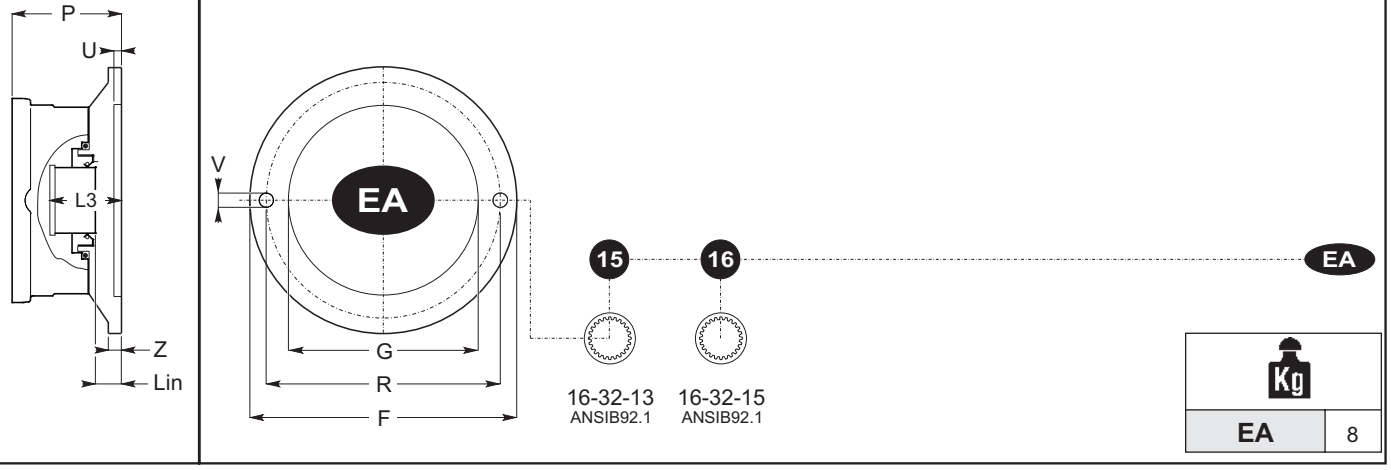
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CA 04	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CA 05	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CA 06	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CA 09	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CA 11	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CA 12	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CA 15	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5	93	101	109	116,5
CB 07	105	113	121	128,5	105	113	121	128,5	105	113	121	128,5	105	113	121	128,5
CB 12	105	113	121	128,5	105	113	121	128,5	105	113	121	128,5	105	113	121	128,5

P - [mm]

Input Shaft - PAM
I - Hydraulic motor



Input Shaft - PAM
I - Hydraulic motor



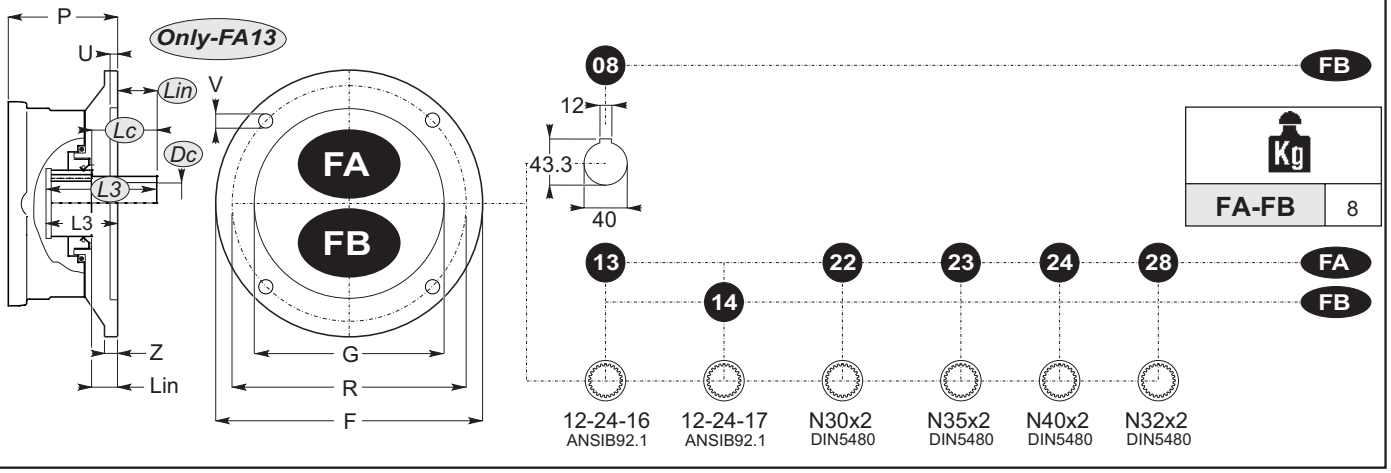
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		+/- 0.1	F8				+/- 0.5					
DA 11	145	125	100	8	M10	11	29	32	25	52		
DB 04	118	125	100	10	M10	30	-		29	73		
DB 21	118	125	100	10	M10	30	-		36	73		
DB 22	118	125	100	10	M10	30	-		27	68		
EA 15	170	146	101,6	10	M14	23	-		10	56		
EA 16	170	146	101,6	10	M14	23	-		14	56.5		

	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
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20	201				202				203				204			
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95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
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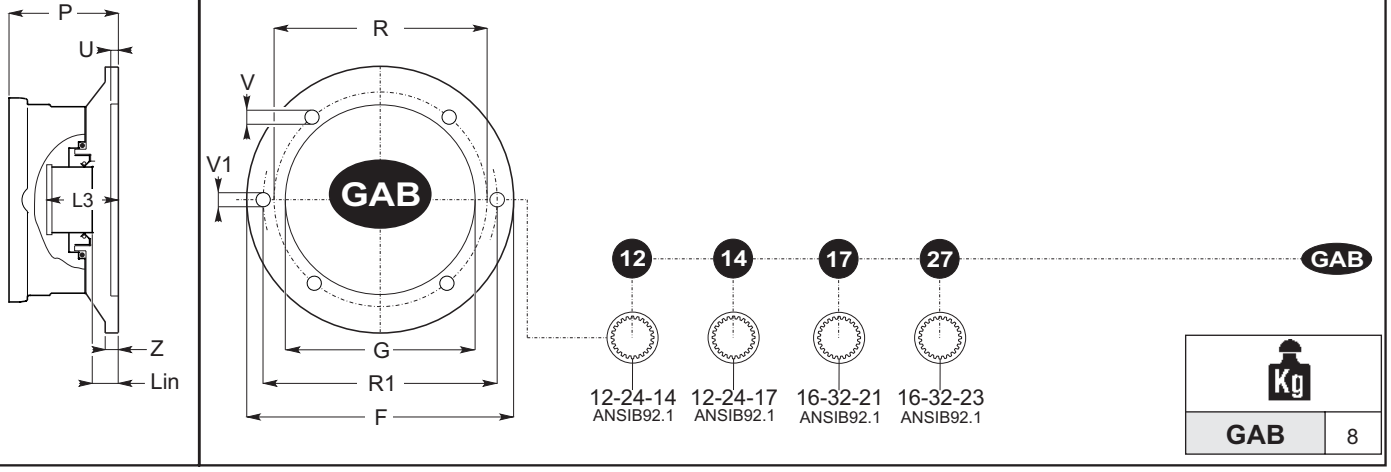
DA 11	87	95	103	110,5	87	95	103	110,5	87	95	103	110,5	87	95	103	110,5
DB 04	107	115	123	130,5	107	115	123	130,5	117	115	123	130,5	107	115	123	130,5
DB 21	107	115	123	130,5	107	115	123	130,5	117	115	123	130,5	107	115	123	130,5
DB 22	107	115	123	130,5	107	115	123	130,5	117	115	123	130,5	107	115	123	130,5
EA 15	90	98	106	113,5	90	98	106	113,5	90	98	106	113,5	90	98	106	113,5
EA 16	90	98	106	113,5	90	98	106	113,5	90	98	106	113,5	90	98	106	113,5

P - [mm]

Input Shaft - PAM
I - Hydraulic motor



Input Shaft - PAM
I - Hydraulic motor



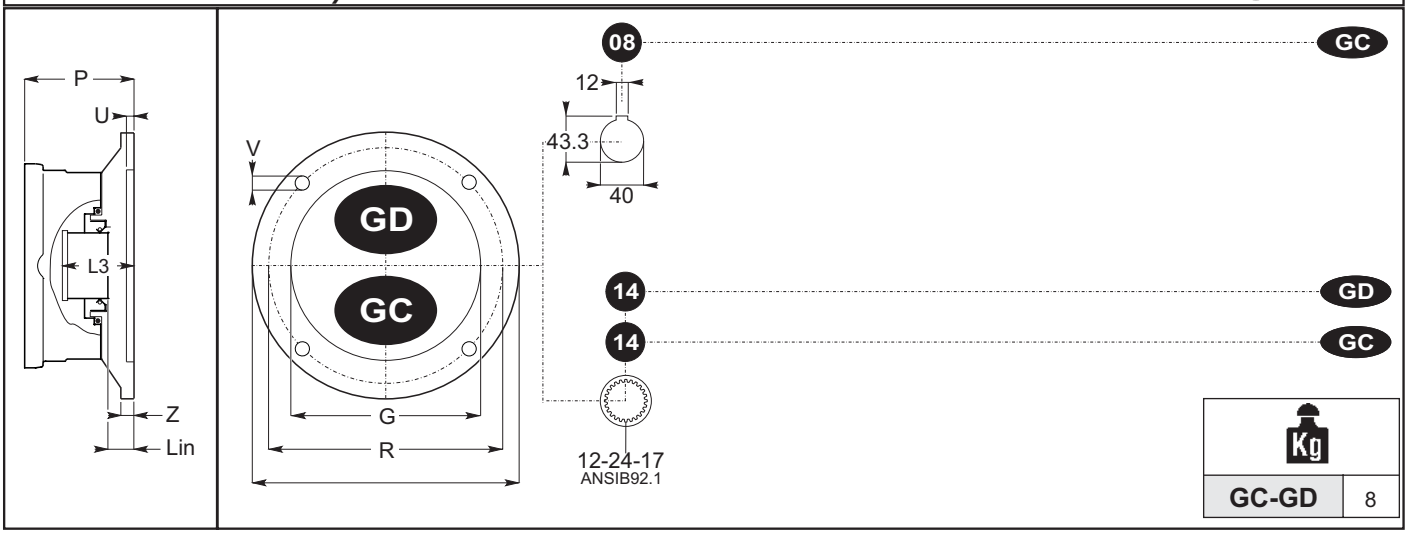
	F	R	R1	G	U	V	V1	Z	D_C	L_C	L_{IN}	L3		
		+/- 0,1		F8										
FA 13	182	160	-	125	35	M12	-	46	39	44	25	69		
FA 22	182	160	-	125	35	M12	-	46			34	79		
FA 23	182	160	-	125	35	M12	-	46			33	74		
FA 24	182	160	-	125	35	M12	-	46			33	74		
FA 28	182	160	-	125	35	M12	-	46			33	74		
FB 08	182	160	-	125	10	M12	-	86			35	118		
FB 14	182	160	-	125	10	M12	-	86			60	118		
GAB 12	200	162	181	127	20	M14	M16	30			21	67.5		
GAB 14	200	162	181	127	20	M14	M16	30			8.5	66.5		
GAB 17	200	162	181	127	20	M14	M16	30			21	62		
GAB 27	200	162	181	127	20	M14	M16	30			21	64		

	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
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80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
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1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
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5500																
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8000																

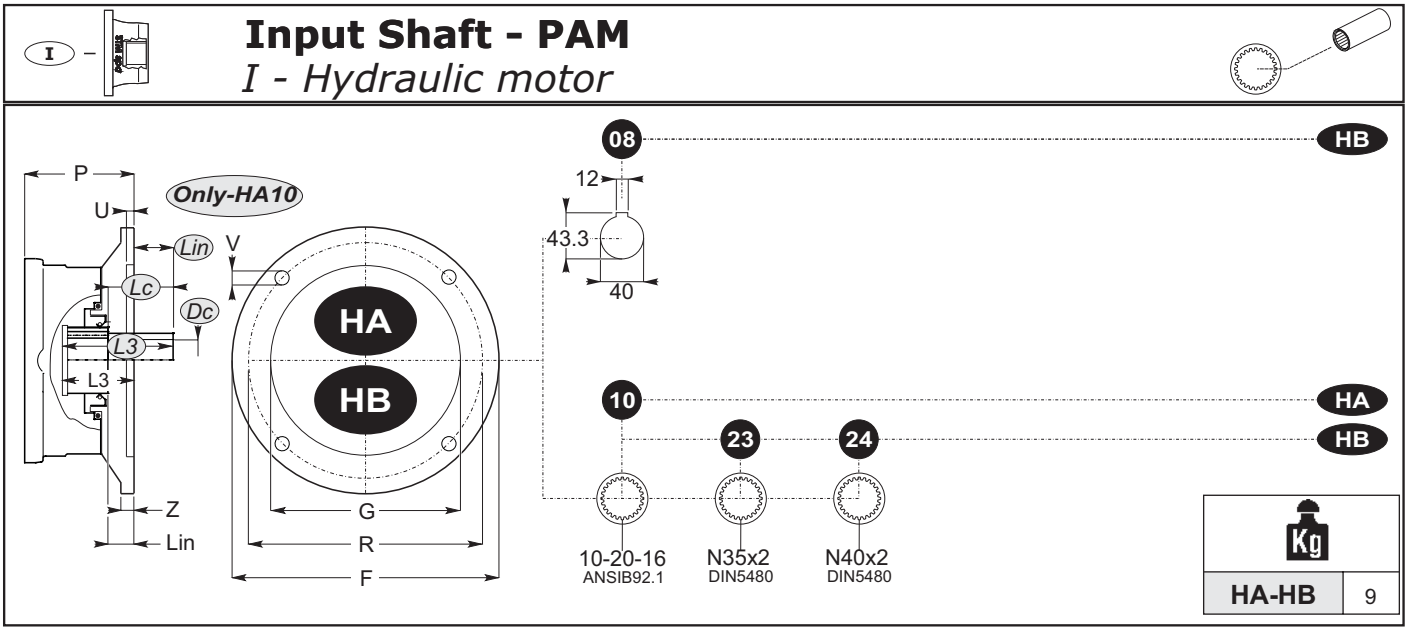
FA 13	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5
FA 22	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5
FA 23	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5
FA 24	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5
FA 28	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5
FB 08	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5
FB 14	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5
GAB 12	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5
GAB 14	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5
GAB 17	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5
GAB 27	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5

P - [mm]

Input Shaft - PAM
I - Hydraulic motor



Input Shaft - PAM
I - Hydraulic motor



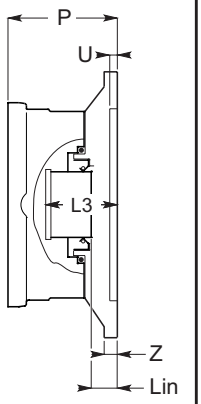
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		+/- 0.1		F8										
GC 08	200	162	-	127	73	M12	-	86			35	118		
GC 14	200	162	-	127	73	M12	-	86			60.5	118.5		
GD 14	200	162	-	127	18	M12	-	57			31.5	89.5		
HA 10	207	180	-	140	10	M12	-	29	46	44	23	76		
HB 08	207	180	-	140	12	M12	-	50	-		4.5	87.5		
HB 23	207	180	-	140	12	M12	-	50	-		42	82		
HB 24	207	180	-	140	12	M12	-	50			42	82		

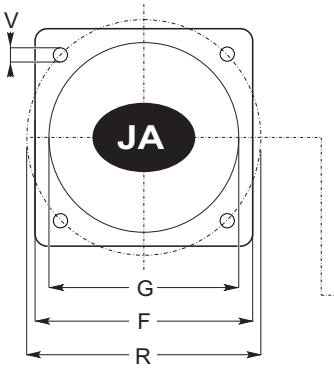
	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
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3100															31004	
3200															32004	
3700															37004	
4500																45004
5500																
6800																
7500																
8000																

GC 08	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5
GC 14	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5	153	161	169	176,5
GD 14	124	132	140	147,5	124	132	140	147,5	124	132	140	147,5	124	132	140	147,5
HA 10	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5	101	109	117	124,5
HB 08	122	130	138	145,5	122	130	138	145,5	122	130	138	145,5	122	130	138	145,5
HB 23	122	130	138	145,5	122	130	138	145,5	122	130	138	145,5	122	130	138	145,5
HB 24	122	130	138	145,5	122	130	138	145,5	122	130	138	145,5	122	130	138	145,5
P - [mm]																

Input Shaft - PAM

I - Hydraulic motor



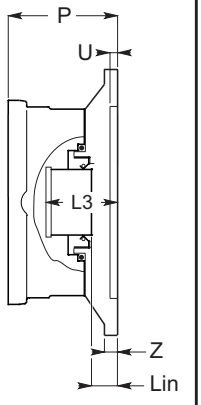


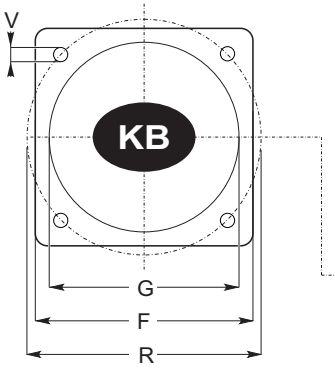


Kg	
JA	10

Input Shaft - PAM

I - Hydraulic motor







Kg	
KB	9

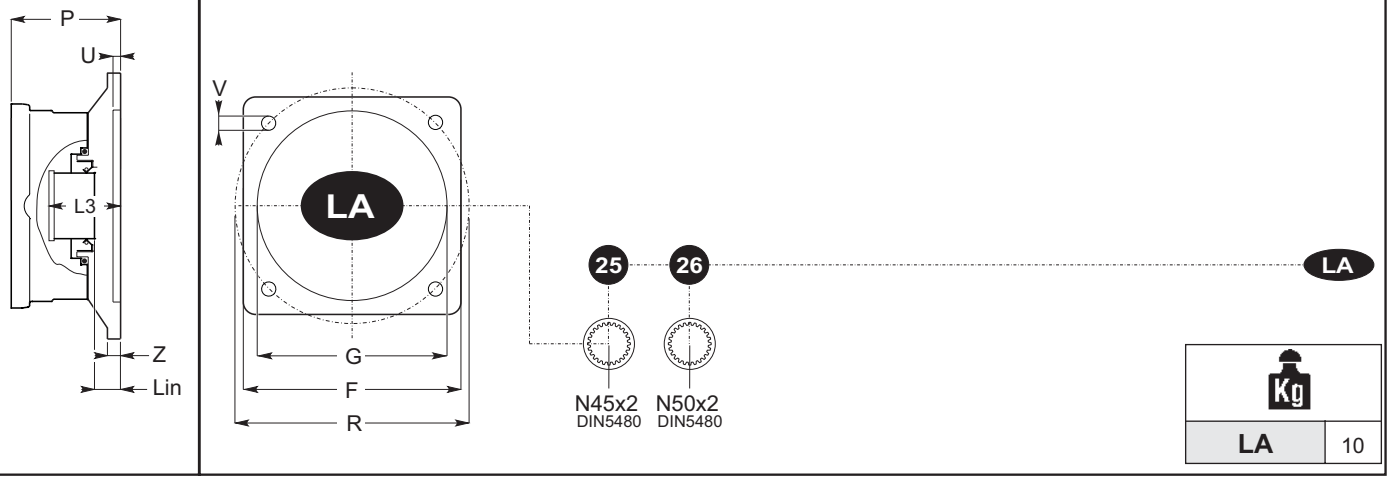
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		+/-0,1	F8							
JA 20	197	228.6	152.4	15	ø 21	30	30.5	80		
KB 22	180	200	160	10	M16	30	50	93		
KB 24	180	200	160	10	M16	30	50	93		
KB 25	180	200	160	10	M16	30	46	98		

	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
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70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
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350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
3200															32004	
3700															37004	
4500																45004
5500																
6800																
7500																
8000																

JA 20	117	125	133	140,5	117	125	133	140,5	117	125	133	140,5	117	125	133	140,5
KB 22	130	138	146	153,5	130	138	146	153,5	130	138	146	153,5	130	138	146	153,5
KB 24	130	138	146	153,5	130	138	146	153,5	130	138	146	153,5	130	138	146	153,5
KB 25	130	138	146	153,5	130	138	146	153,5	130	138	146	153,5	130	138	146	153,5
P - [mm]																

Input Shaft - PAM

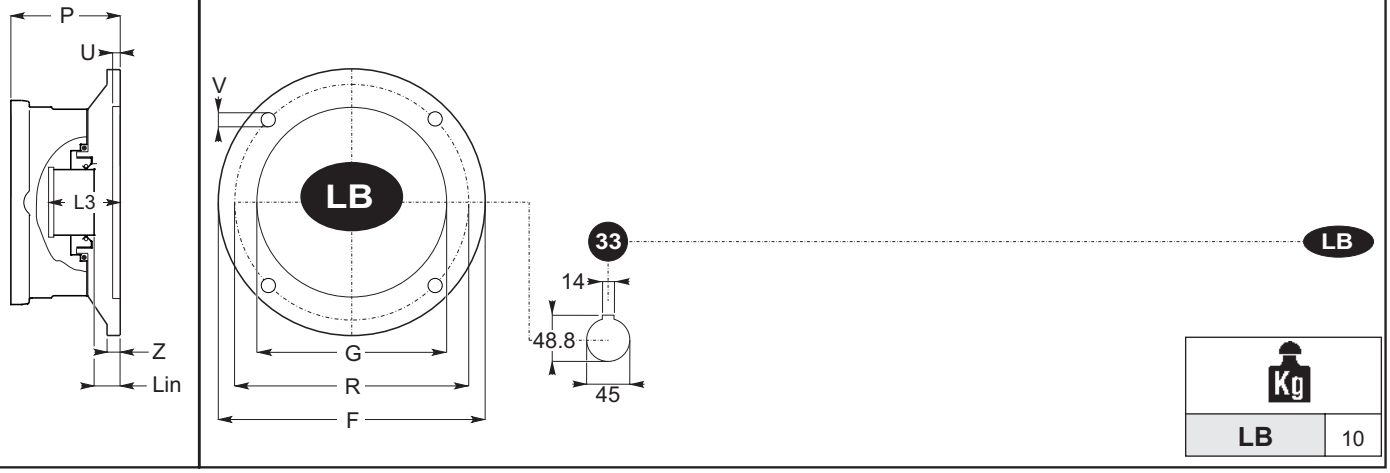
I - Hydraulic motor



Kg	
LA	10

Input Shaft - PAM

I - Hydraulic motor



Kg	
LB	10

	F	R	G	U	V	Z	L_{IN}	L3		
		+/-0,1	F8							
LA 25	210	224	180	12	M16	18	45	97		
LA 26	210	224	180	12	M16	18	46.5	96.5		
LB 33	265	224	180	20	M16	10	43.5	135.5		

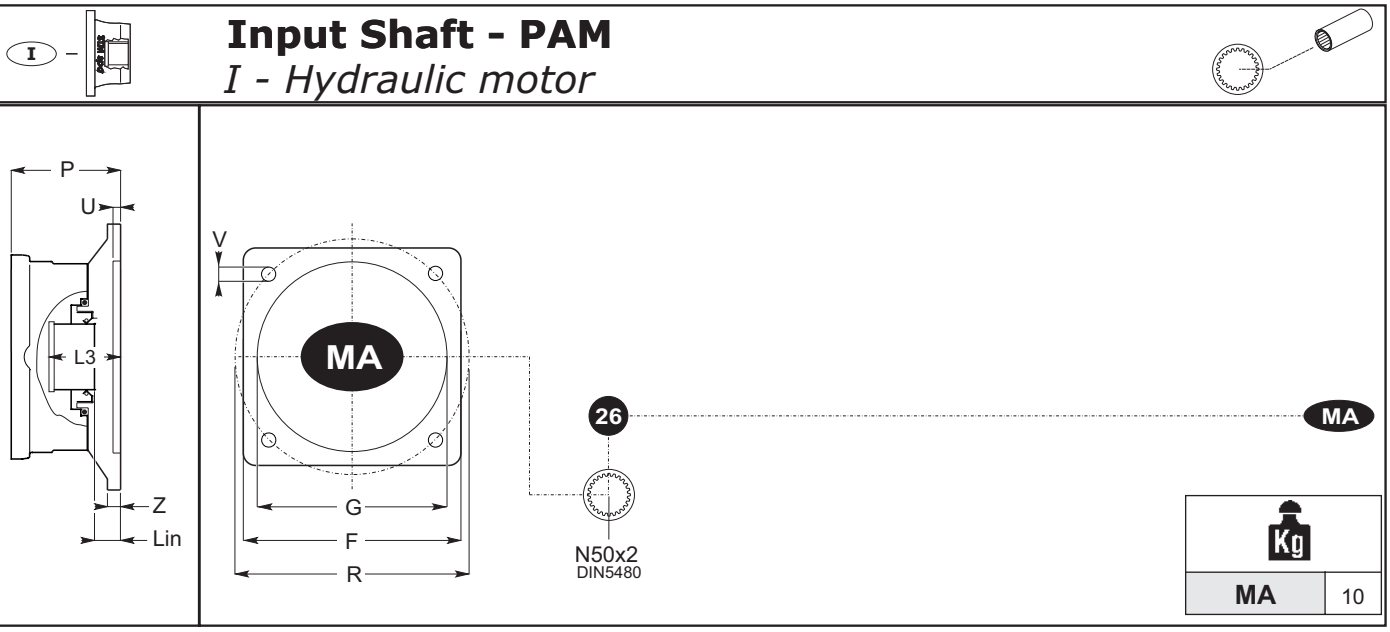
	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
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150				1501		1502			1503				1504			
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650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
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3100															31004	
3200															32004	
3700															37004	
4500																45004
5500																
6800																
7500																
8000																

LA 25	129	137	145	152,5	129	137	145	152,5	129	137	145	152,5	129	137	145	152,5
LA 26	129	137	145	152,5	129	137	145	152,5	129	137	145	152,5	129	137	145	152,5
LB 33	172.5	180.5	188.5	196,0	172.5	180.5	188.5	196,0	172.5	180.5	188.5	196,0	172.5	180.5	188.5	196,0

P - [mm]

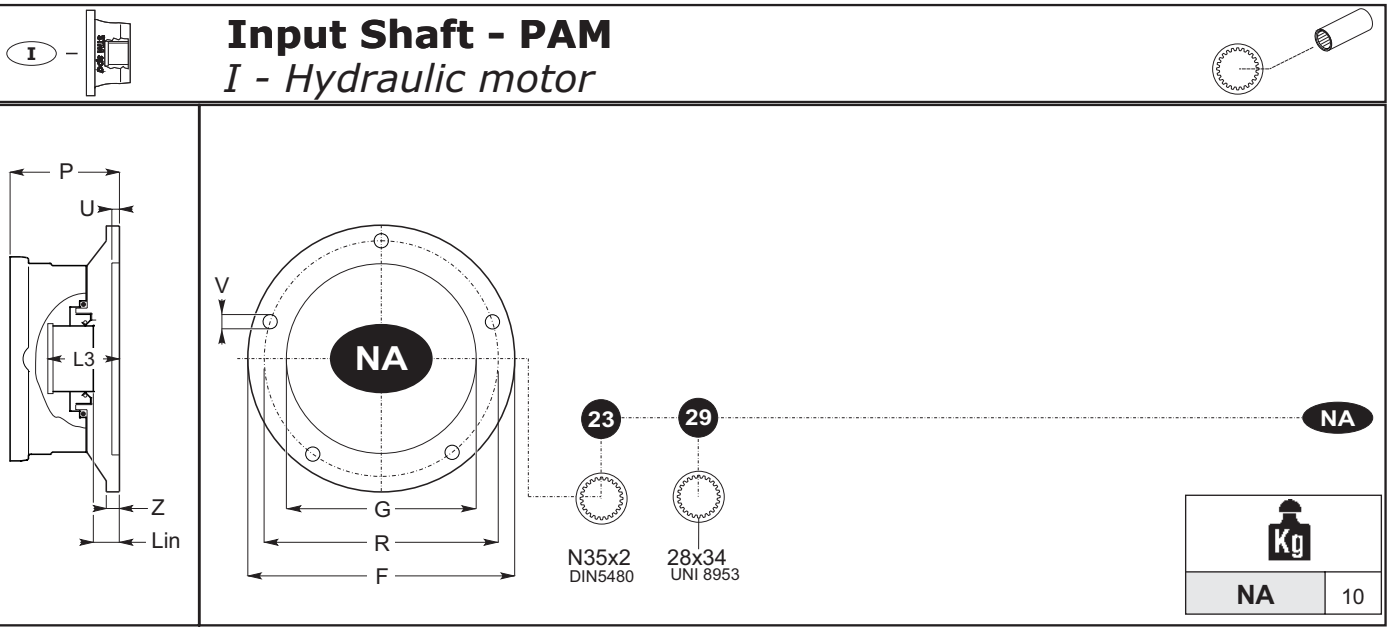
Input Shaft - PAM

I - Hydraulic motor



Input Shaft - PAM

I - Hydraulic motor



	F	R	G	U	V	Z	L_{IN}	L3		
		+/-0,1	F8							
MA 26	236	250	200	11	M20	20	50.5	100.5		
NA 23	195	160	125	12	M10	43	33	74.5		
NA 29	195	160	125	12	M10	43	37	76		

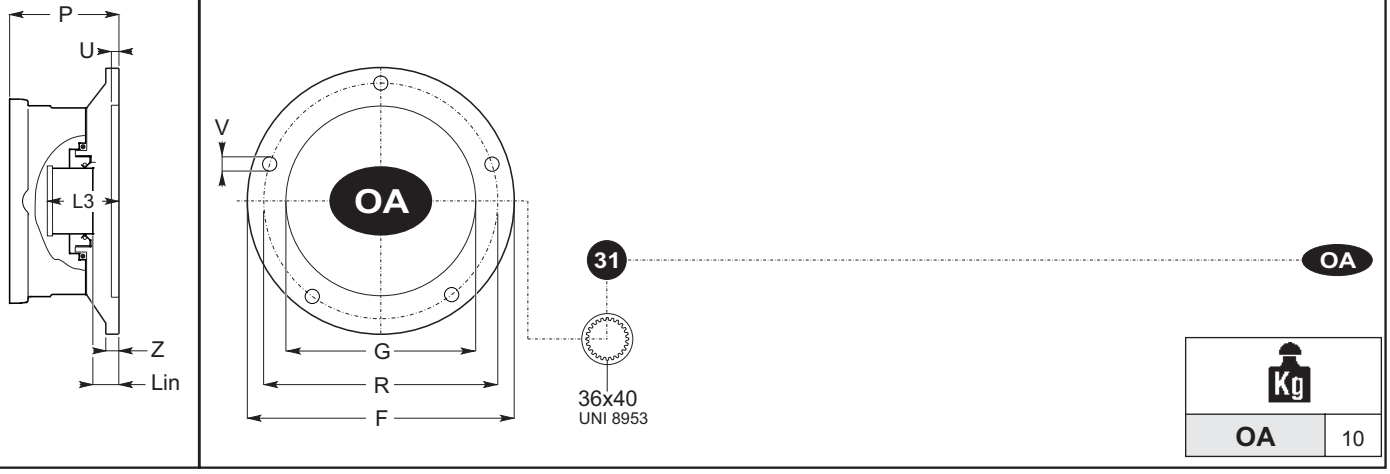
	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
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95						952			953				954			
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150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
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350							3502			3503			3504			
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420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
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3100															31004	
3200															32004	
3700															37004	
4500																45004
5500																
6800																
7500																
8000																

MA 26	133	141	149	156,5	133	141	149	156,5	133	141	149	156,5	133	141	149	156,5
NA 23	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5
NA 29	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5	113	121	129	136,5

P - [mm]

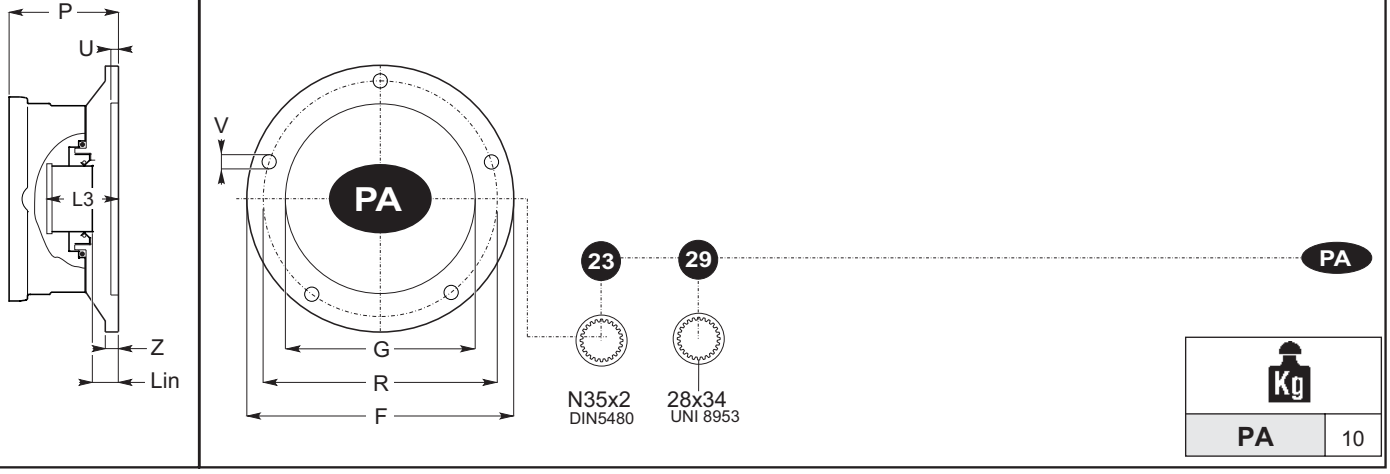
Input Shaft - PAM

I - Hydraulic motor



Input Shaft - PAM

I - Hydraulic motor



	F	R	G	U	V	Z	L_{IN}	L3		
		+/-0,1	F8							
OA 31	288	250	150	7	ø 14	15	27	77		
PA 23	233	210	175	6	ø 14	16	15	56.5		
PA 29	233	210	175	6	ø 14	16	22	62		

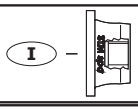
	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
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40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
300							3002			3003			3004			
350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
3200															32004	
3700															37004	
4500																45004
5500																
6800																
7500																
8000																

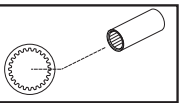
OA 31	109	117	125	132,5	109	117	125	132,5	109	117	125	132,5	109	117	125	132,5
PA 23	95	103	111	118,5	95	103	111	118,5	95	103	111	118,5	95	103	111	118,5
PA 29	95	103	111	118,5	95	103	111	118,5	95	103	111	118,5	95	103	111	118,5

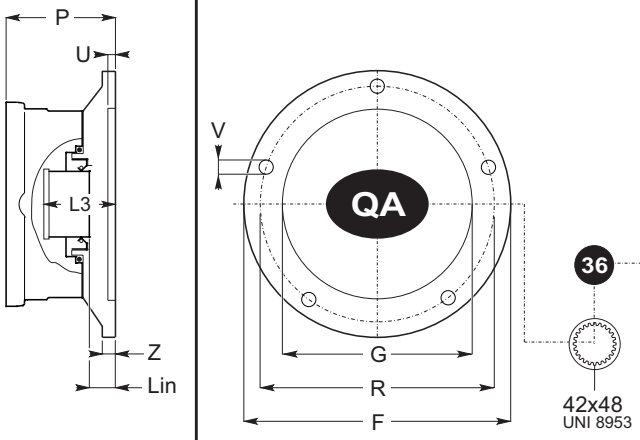
P - [mm]

Input Shaft - PAM

I - Hydraulic motor







Kg	
QA	10

	F	R	G	U	V	Z	L_{IN}	L3		
		+/-0.1	F8							
QA 36	256	232	175	18	M10	15	37	86		

	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒ 2001				EX 102⇒6002				EX 103⇒ 16003				EX 104⇒ 45004			
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
300							3002			3003			3004			
350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15004		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
3200															32004	
3700															37004	
4500																45004
5500																
6800																
7500																
8000																

QA 36	119	127	135	142.5	119	127	135	142.5	119	127	135	142.5	119	127	135	142.5
P - [mm]																

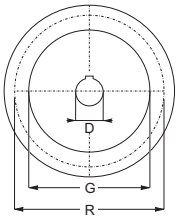
D

4.0 Motor Type / Code STM

4.0 Motor Type / Code STM

4.0 Motor Type / Code STM

Hydraulic Motor		Input Gearbox			
Company	**Motor Type**	**D**	**G**	**R**	**Code STM**
AXIAL PUMP	M2 24-50	16/32-15	101,6	146	EA16
AXIAL PUMP	M3 40-65	16/32-15	101,6	146	EA16
AXIAL PUMP	M2 24-50	16/32-13	101,6	146	EA15
AXIAL PUMP	M3 40-65	16/32-13	101,6	146	EA15
CALZONI	TYPE MR 250	8x42x48	175	232	QA36
DANFOSS	OMH 200-500	12/24-14	82,55	106,4	CB12
DANFOSS	OMS 80-400	12/24-14	82,55	106,4	CB12
DANFOSS	OMP 25-400	25	82,55	106,4	CA4
DANFOSS	OMR 50-375	25	82,55	106,4	CA4
DANFOSS	OMP 25-400	25,4	82,55	106,4	CA5
DANFOSS	OMR 50-375	25,4	82,55	106,4	CA5
DANFOSS	OMP 25-400	32	82,55	106,4	CB7
DANFOSS	OMR 50-375	32	82,55	106,4	CB7
DANFOSS	OMH 200-500	32	82,55	106,4	CB7
DANFOSS	OMS 80-400	32	82,55	106,4	CB7
DANFOSS	OMT 160-500	40	125	160	FB8
DANFOSS	OMP 25-400	1"6B	82,55	106,4	CA9
DANFOSS	OMR 50-375	1"6B	82,55	106,4	CA9
DANFOSS	OMSS 80-400	12/24-12	100	125	DA11
DANFOSS	OMTS 160-500	12/24-16	125	160	FA13
DANFOSS	OMT 160-500	12/24-17	125	160	FB14
DANFOSS	OMVS 315-800	10/20-16	140	180	HA10
DINAMIC OIL	MGL 50-400	25	82,55	106,4	CA4
DINAMIC OIL	MGLR 50-375	25	82,55	106,4	CA4
DINAMIC OIL	MGT 50-400	25	82,55	106,4	CA4
DINAMIC OIL	MGL 50-401	25,4	82,55	106,4	CA5
DINAMIC OIL	MGLR 50-375	25,4	82,55	106,4	CA5
DINAMIC OIL	MGT 50-400	25,4	82,55	106,4	CA5
DINAMIC OIL	MGL 50-402	1"6B	82,55	106,4	CA9
DINAMIC OIL	MGLR 50-375	1"6B	82,55	106,4	CA9
DINAMIC OIL	MGT 50-400	1"6B	82,55	106,4	CA9
EATON(CHAR-LYNN)	SERIE 4000	12/24-17	127	162	GA14
EATON(CHAR-LYNN)	SERIE 2000	25	82,55	106,4	CA4
EATON(CHAR-LYNN)	SERIE 2000	25,4	82,55	106,4	CA5
EATON(CHAR-LYNN)	SERIE 2000	31,75	82,55	106,4	CA6
EATON(CHAR-LYNN)	SERIE 2000	32	82,55	106,4	CB7
EATON(CHAR-LYNN)	SERIE 2000	1"6B	82,55	106,4	CA9
GEOLINK	GLS 80-315	12/24-14	82,55	106,4	CB12
GEOLINK	GHL 50-400	25	82,55	106,4	CA4
GEOLINK	GFS 50-400	25	82,55	106,4	CA4
GEOLINK	GKS 50-400	25	82,55	106,4	CA4
GEOLINK	GLS 80-315	32	82,55	106,4	CB7
GEOLINK	GHL 50-400	1"6B	82,55	106,4	CA9
GEOLINK	GFS 50-400	1"6B	82,55	106,4	CA9
GEOLINK	GKS 50-400	1"6B	82,55	106,4	CA9
HP HYDRAULIC	M4MF 21-28	25,4	82,55	106,4	CA5
HP HYDRAULIC	M4MF 21-28	16/32-13	82,55	106,4	CA15
HP HYDRAULIC	M4PV 21-28	16/32-15	101,6	146	EA16
HP HYDRAULIC	M4PV 34-65	16/32-15	101,6	146	EA16
HP HYDRAULIC	M4PV 21-28	16/32-13	101,6	146	EA15
HP HYDRAULIC	M4PV 34-65	16/32-13	101,6	146	EA15
HP HYDRAULIC	M4MF 34-65	16/32-13	101,6	146	EA15
HP HYDRAULIC	M4MV 34-65	16/32-13	101,6	146	EA15
HP HYDRAULIC	M4MF 34-65	16/32-15	101,6	146	EA16
HP HYDRAULIC	M4MV 34-65	16/32-15	101,6	146	EA16
LINDE	HMV 35	16/32-15	101,6	146	EA16
LINDE	HMF 105	16/32-23	127	181	GB27
LINDE	HMF 50-75	16/32-21	127	181	GB17
M + S	EPM 40-630	12/24-14	82,55	106,4	CB12
M + S	EPRM 50-400	12/24-14	82,55	106,4	CB12
M + S	EPM 40-630	25	82,55	106,4	CA4
M + S	EPRM 50-400	25	82,55	106,4	CA4
M + S	EPM 40-630	25,4	82,55	106,4	CA5
M + S	EPRM 50-400	25,4	82,55	106,4	CA5
M + S	EPM 40-630	32	82,55	106,4	CB7
M + S	EPRM 50-400	32	82,55	106,4	CB7
M + S	EPRM 80-400	32	82,55	106,4	CB7
M + S	EPM 40-630	1"6B	82,55	106,4	CA9
M + S	EPRM 50-400	1"6B	82,55	106,4	CA9
M + S	EPMT 160-500	12/24-17	125	160	FB14
REXROTH	A2FM 23-32	25	100	125	DB4
REXROTH	A4FM 22-28	16/32-13	101,6	146	EA15
REXROTH	A10FM 23-28	16/32-13	101,6	146	EA15
REXROTH	A4FM 22-28	16/32-15	101,6	146	EA16
REXROTH	A2FM 10-16	N25x1,25	80	100	BA21
REXROTH	A2FM 23-32	N25x1,25	100	125	DB21
REXROTH	A6VM 28	N25x1,25	100	125	DB21
REXROTH	A2FM 23-32	N30x2	100	125	DB22
REXROTH	A6VM 28	N30x2	100	125	DB22
REXROTH	A2FM 45-63	N30x2	125	160	FA22
REXROTH	A6VM 55	N30x2	125	160	FA22
REXROTH	A2FM 45-63	N35x2	125	160	FA23
REXROTH	A6VM 55	N35x2	125	160	FA23
REXROTH	A2FM 80-90	N35x2	140	180	HB23
REXROTH	A6VM 80	N35x2	140	180	HB23
REXROTH	A2FM 80-90	N40x2	140	180	HB24

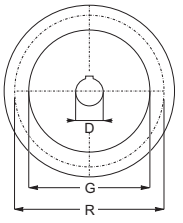


4.0 Motor Type / Code STM

4.0 Motor Type / Code STM

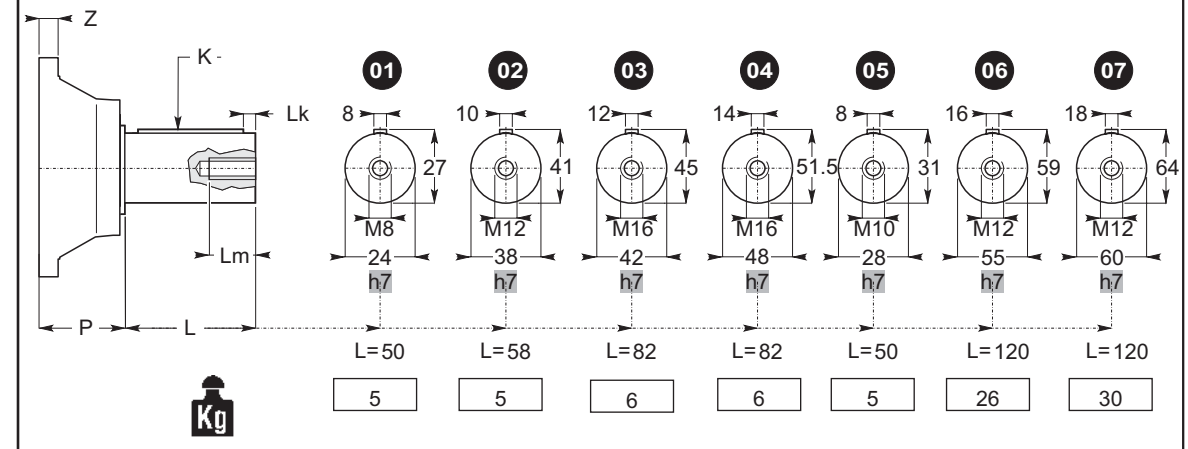
4.0 Motor Type / Code STM

Hydraulic Motor		Input Gearbox			
Company	**Motor Type**	**D**	**G**	**R**	**Code STM**
REXROTH	A6VM 80	N40x2	140	180	HB24
REXROTH	A6VM 160	N45x2	180	224	LA25
REXROTH	A10FM 37-45	16/32-15	101,6	146	EA16
REXROTH	A2FM 160	N50x2	180	224	LA26
REXROTH	A6VM 160	N50x2	180	224	LA26
REXROTH	A2FM 200	N50x2	200	250	MA26
REXROTH	A6VM 107	N45x2	160	200	KB25
REXROTH	A6VM 250	N50x2	200	250	MA26
SAE STANDARD	SAE A	25	82,55	106,4	CA4
SAE STANDARD	SAE A	25,4	82,55	106,4	CA5
SAE STANDARD	SAE A	31,75	82,55	106,4	CA6
SAE STANDARD	SAE A	1"6B	82,55	106,4	CA9
SAE STANDARD	SAE C	12/24-14	127	162	GA12
SAE STANDARD	SAE C	12/24-17	127	162	GA14
SAI	GM05-40-200	28x34	125	160	NA29
SAI	GM05-40-200	N35x2	125	160	NA23
SAI	GM2-200-630	36x40	150	250	OA31
SAI	GM1-100-320	28x34	175	210	PA29
SAI	GM1-100-320	N35x2	175	210	PA23
SAMHYDRAULIK	BG 40-400	25	82,55	106,4	CA4
SAMHYDRAULIK	AGC 50-400	25	82,55	106,4	CA4
SAMHYDRAULIK	AGF 50-400	25	82,55	106,4	CA4
SAMHYDRAULIK	AR 50-400	25	82,55	106,4	CA4
SAMHYDRAULIK	ARC 50-400	25	82,55	106,4	CA4
SAMHYDRAULIK	ARF 50-400	25	82,55	106,4	CA4
SAMHYDRAULIK	BR 50-400	25	82,55	106,4	CA4
SAMHYDRAULIK	BG 40-401	25,4	82,55	106,4	CA5
SAMHYDRAULIK	AGC 50-401	25,4	82,55	106,4	CA5
SAMHYDRAULIK	AR 50-401	25,4	82,55	106,4	CA5
SAMHYDRAULIK	ARC 50-401	25,4	82,55	106,4	CA5
SAMHYDRAULIK	BR 50-401	25,4	82,55	106,4	CA5
SAMHYDRAULIK	BR 50-402	31,75	82,55	106,4	CA6
SAMHYDRAULIK	AGC 50-402	32	82,55	106,4	CB7
SAMHYDRAULIK	AGS 50-402	32	82,55	106,4	CB7
SAMHYDRAULIK	ARC 50-402	32	82,55	106,4	CB7
SAMHYDRAULIK	BR 50-403	32	82,55	106,4	CB7
SAMHYDRAULIK	HPR 80-401	32	82,55	106,4	CB7
SAMHYDRAULIK	AGS 50-404	12/24-14	82,55	106,4	CB12
SAMHYDRAULIK	HPR 80-402	12/24-14	82,55	106,4	CB12
SAMHYDRAULIK	H1C 55	12/24-17	127	162	GA14
SAMHYDRAULIK	H1C 226 M	N50x2	200	250	MA26
SAMHYDRAULIK	BG 40-402	1"6B	82,55	106,4	CA9
SAMHYDRAULIK	AR 50-402	1"6B	82,55	106,4	CA9
SAMHYDRAULIK	BR 50-404	1"6B	82,55	106,4	CA9
SAMHYDRAULIK	H1C 75	N35x2	140	180	HB23
SAMHYDRAULIK	H1C 90	N40x2	160	200	KB24
SAMHYDRAULIK	H1C 160 M	N45x2	180	224	LA25
SAMHYDRAULIK	H2V 160 M	N45x2	180	224	LA25
SAMHYDRAULIK	H1C 160 M	45	180	224	LB33
SAUER	51V 080	12/24-14	127	162	GA12
SAUER	90M 031	16/32-15	101,6	146	EA16
SAUER	90M 043	16/32-15	101,6	146	EA16
SAUER	SMF2 033-070	16/32-21	127	162	GA17
SAUER	90M 055	16/32-21	127	162	GA17
SAUER	90M 075	16/32-21	127	162	GA17
SAUER	SMF2 089	16/32-23	127	162	GA27
SAUER	51V 081	16/32-23	127	162	GA27
SAUER	90M 100	16/32-23	127	162	GA27
SAUER	M25MF	16/32-13	101,6	146	EA15
SAUER	M35MF	16/32-13	101,6	146	EA15
SAUER	M44MF	16/32-13	101,6	146	EA15
SAUER	M46MF	16/32-13	101,6	146	EA15
SAUER	90M 030	16/32-13	101,6	146	EA15
SAUER	90M 042	16/32-13	101,6	146	EA15
SAUER	51V 160/A	8/16-13	152,4	228,5	JA20
SAUER	OMT 160-500	40	127	162	GC8
VOAC	0	12/24-14	127	162	GA12
VOAC	0	12/24-14	127	162	GA12
VOAC	V12-60 SAE	12/24-14	127	162	GA12
VOAC	V12-80 SAE	12/24-14	127	162	GA12
VOAC	F12-80 SAE	12/24-17	127	162	GA14
VOAC	0	16/32-13	101,6	146	EA15
VOAC	F12-30 ISO	N30x2	100	125	DB22
VOAC	F12-60 ISO	N35x2	125	160	FA23
VOAC	F12-80 ISO	N40x2	140	180	HB24
VOAC	V14-160	N45x2	180	224	LA25
VOAC	F 12/40 ISO	N32x2	125	160	FA28
VOAC	F12/110 ISO	N45x2	160	200	KB25
WHITE	RS-03-24	25	82,55	106,4	CA4
WHITE	HB-03-24	25	82,55	106,4	CA4
WHITE	RS-03-24	25,4	82,55	106,4	CA5
WHITE	HB-03-24	25,4	82,55	106,4	CA5
WHITE	HB-03-24	31,75	82,55	106,4	CA6
WHITE	HB-03-24	32	82,55	106,4	CB7
WHITE	RS-03-24	1"6B	82,55	106,4	CA9
WHITE	HB-03-24	1"6B	82,55	106,4	CA9
WHITE	HB-03-24	16/32-13	82,55	106,4	CA15

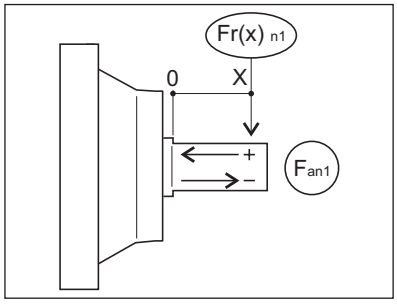


Input Shaft - ECE

ECE - with solid input shaft

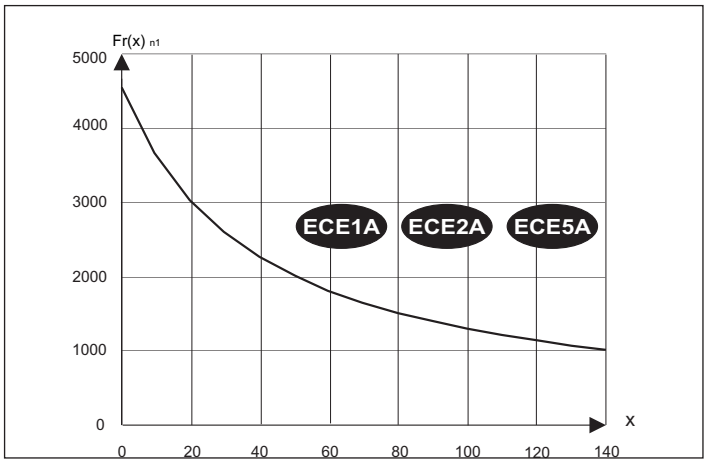


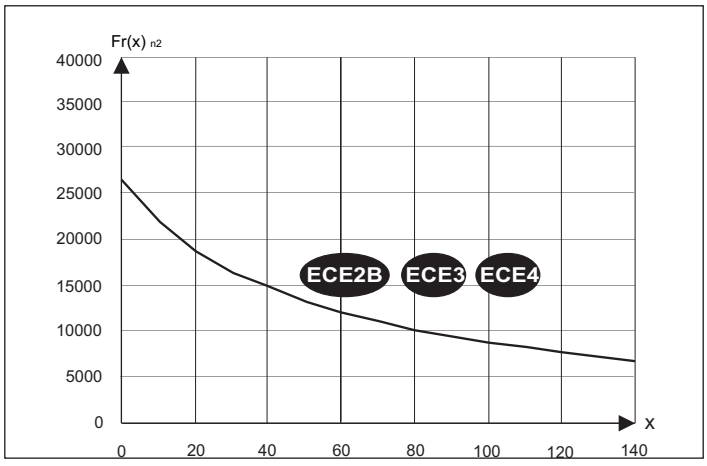
ECE

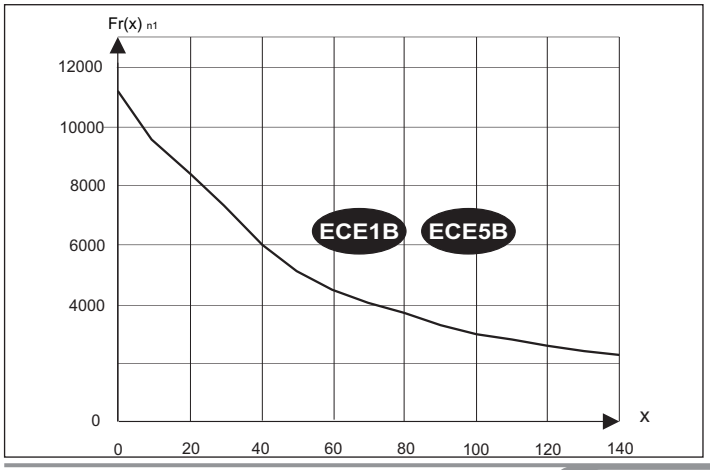


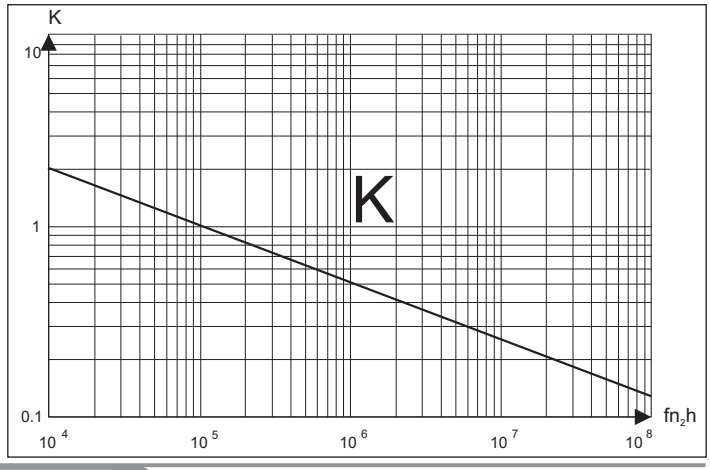
	L	Z	Lm	LK	K	Fa n1 - Direction	
					UNI6604	(+)	(-)
ECE 1A	50	23	20	5	8x7x40	*	*
ECE 1B	50	23	20	5	8x7x40	*	*
ECE 2A	58	23	24	4	10x8x50	*	*
ECE 2B	58	23	24	4	10x8x50	*	*
ECE 3	82	23	32	6	12x8x70	*	*
ECE 4	82	23	32	6	14x9x70	*	*
ECE 5A	50	23	22	5	8x7x40	*	*
ECE 5B	50	23	22	5	8x7x40	*	*
ECE 6	120	-	30	10	16x10x100	*	*
ECE 7	120	-	30	10	18x11x100	*	*

* Contattare nostro ufficio tecnico commerciale / * Please, contact our technical sales dept. / * Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung





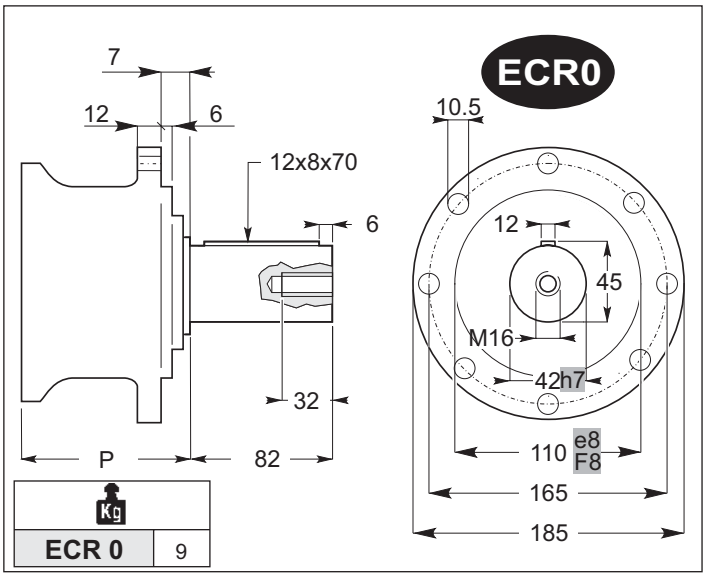


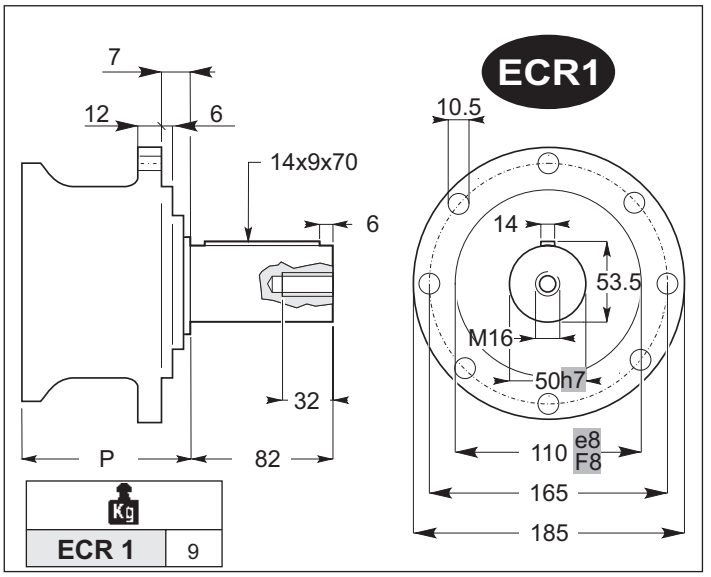


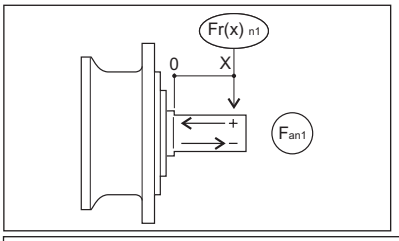
	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4		
	EX 101⇒ 1001				EX 102⇒3502				EX 103⇒ 15003				EX 104⇒ 37004		
					EXB 102⇒ 3002				EXB103⇒ 10003				EXB 104⇒31004		
10	101				102				103				104		
20	201				202				203				204		
25	251				252				253				254		
30		301			302				303				304		
35		351			352				353				354		
40					402				403				404		
50		501			502				503				504		
70		701			702				703				704		
80			801			802			803				804		
90						902			903				904		
95						952			953				954		
100			1001			1002			1003				1004		
150						1502			1503				1504		
180						1802			1803				1804		
200						2002			2003				2004		
250							2502			2503			2504		
280							2802			2803			2804		
300							3002			3003			3004		
350							3502			3503			3504		
360										3603			3604		
420										4203			4204		
600										6003			6004		
650											6503			6504	
800											8003			8004	
850											8503			8504	
1000											10003			10004	
1200											12003			12004	
1500											15003			15004	
1600														16004	
2000															20004
2500															25004
2600															26004
3000															30004
3100															31004
3200															32004
3700															37004
4500															
5500															
6800															
7500															
8000															

ECE 1A	91				91				91				91		
ECE 1B		117				117				117				117	
ECE 2A	91				91				91				91		
ECE 2B		117				117				117				117	
ECE 3		117	161,9			117	161,9			117	161,9			117	161,9
ECE 4		117	161,9			117	161,9			117	161,9			117	161,9
ECE 5A	91				91				91				91		
ECE 5B		117				117				117				117	
ECE 6	LOOK AT D7														
ECE 7															

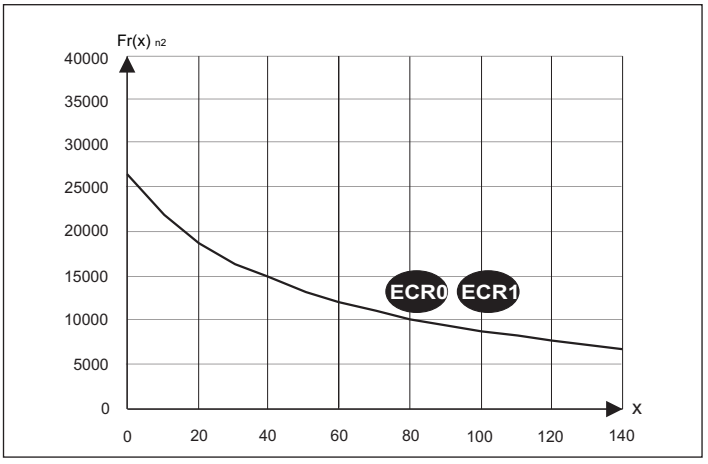
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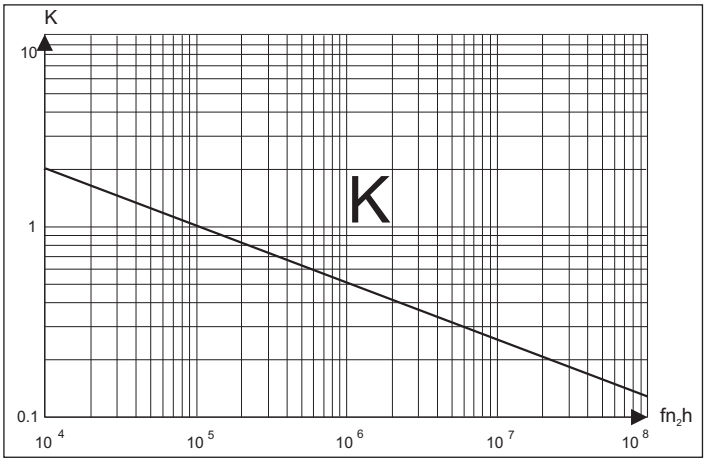






	Direzione/Direction/Drehrichtung	ECR 0	ECR 1
Fa n1	(+)	22491	22491
	(-)	19278	19278

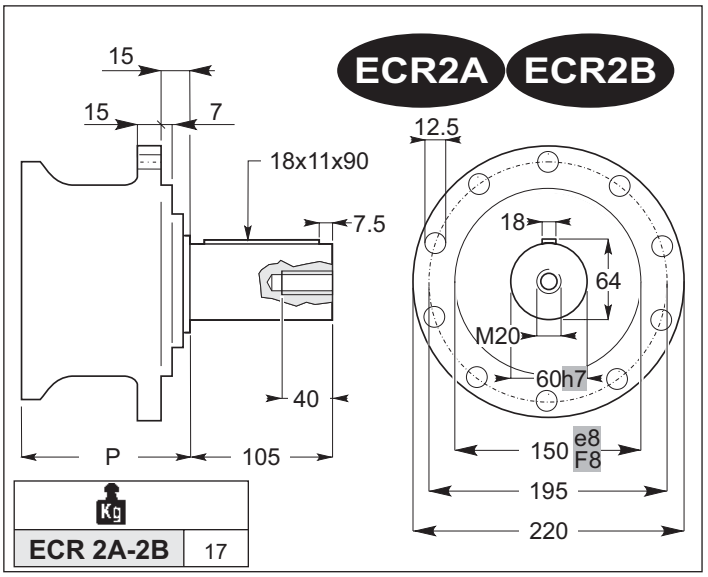


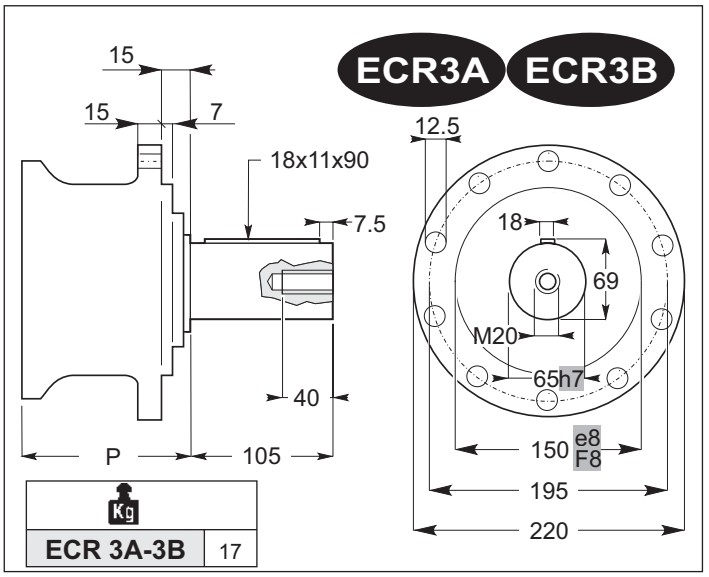


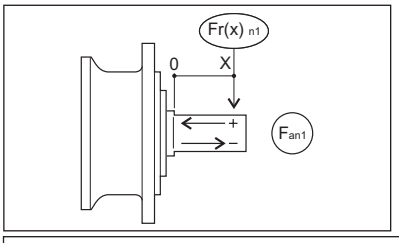
	EX1				EX2	EXB2			EX3	EXB3			EX4	EXB4		
					EX 102⇒2002				EX 103⇒6003				EX-EXB 104⇒16004			
	EX 101⇒701				EXB 102⇒2002				EXB 103⇒6003							
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80						802			803				804			
90						902			903				904			
95						952			953				954			
100						1002			1003				1004			
150						1502			1503				1504			
180						1802			1803				1804			
200						2002			2003				2004			
250										2503			2504			
280										2803			2804			
300										3003			3004			
350										3503			3504			
360										3603			3604			
420										4203			4204			
600										6003			6004			
650														6504		
800														8004		
850														8504		
1000														10004		
1200														12004		
1500														15004		
1600														16004		
2000																
2500																
2600																
3000																
3100																
3200																
3700																
4500																
5500																
6800																
7500																
8000																

ECR0	115,3	123,8			115,3	123,8			115,3	123,8			115,3	123,8		
ECR1	115,3	123,8			115,3	123,8			115,3	123,8			115,3	123,8		

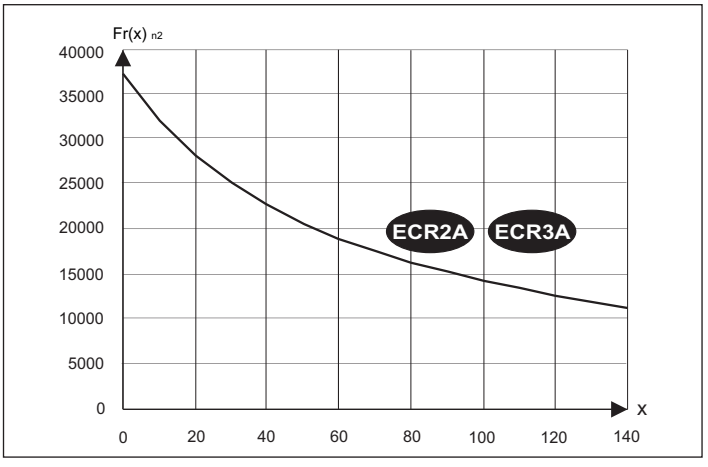
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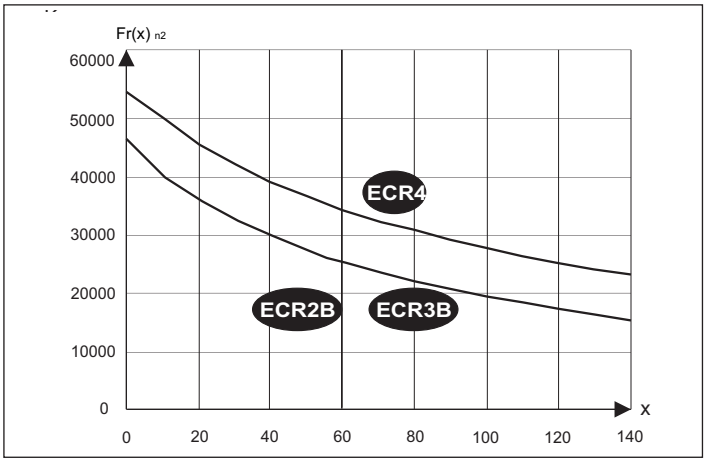


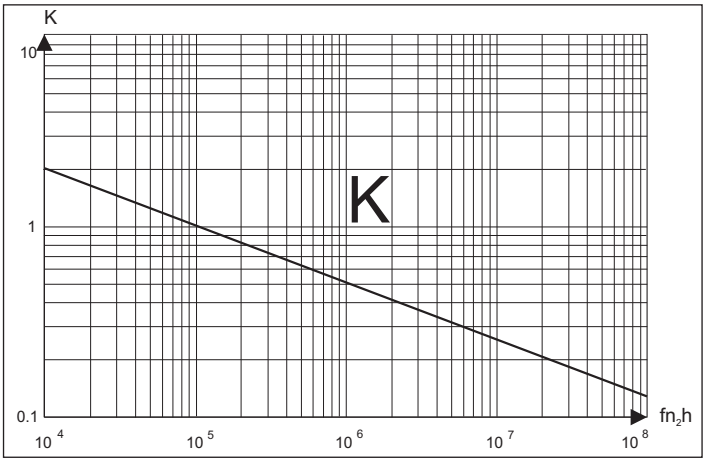


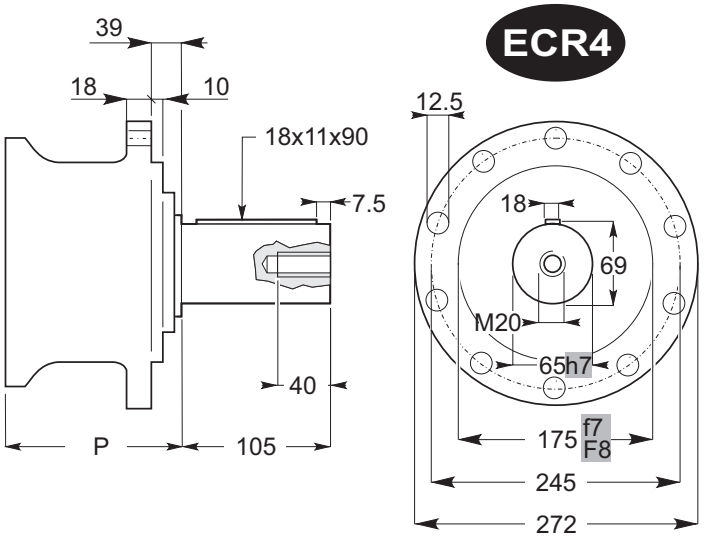


Fa n1	Direzione/Direction/Drehrichtung	ECR 2A	ECR 3A	ECR 2B	ECR 3B	ECR 4
	(+)	34426		38557		44398
	(-)	22491		34426		38557







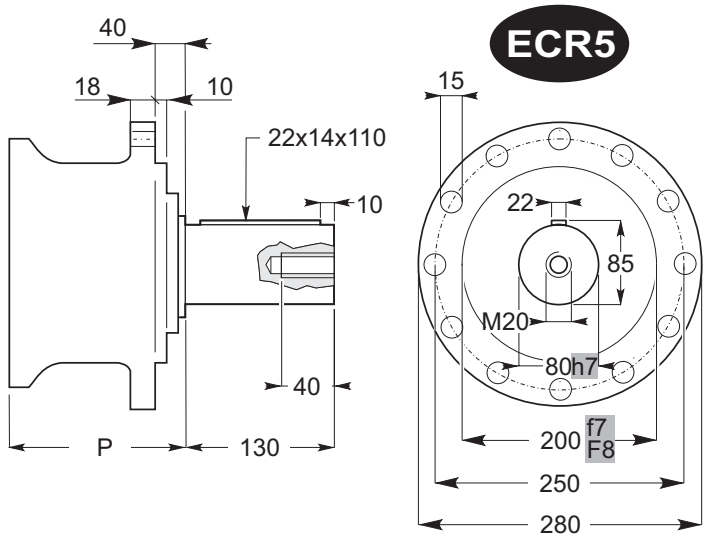


Kg	
ECR 4	26

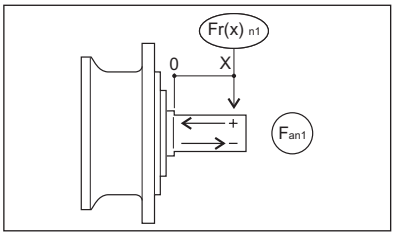
	EX1				EX2 EXB2				EX3 EXB3				EX4 EXB4			
	EX 101⇒2001				EX 102⇒ 6002 EXB 102⇒3002				EX 103⇒ 16003 EXB 103⇒ 10003				EX 104⇒ 45004 EXB 104⇒ 31004			
10	101				102				103				104			
20	201				202				203				204			
25	251				252				253				254			
30		301			302				303				304			
35		351			352				353				354			
40					402				403				404			
50		501			502				503				504			
70		701			702				703				704			
80			801			802			803				804			
90						902			903				904			
95						952			953				954			
100			1001			1002			1003				1004			
150				1501		1502			1503				1504			
180						1802			1803				1804			
200				2001		2002			2003				2004			
250							2502			2503			2504			
280							2802			2803			2804			
300							3002			3003			3004			
350							3502			3503			3504			
360								3602		3603			3604			
420								4202		4203			4204			
600								6002		6003			6004			
650											6503			6504		
800											8003			8004		
850											8503			8504		
1000											10003			10004		
1200											12003			12004		
1500											15003			15003		
1600												16003		16004		
2000															20004	
2500															25004	
2600															26004	
3000															30004	
3100															31004	
3200															32004	
3700															37004	
4500																45004

ECR2A	129,8				129,8				129,8				129,8			
ECR2B		156,5	172,5	180,25		156,5	172,5	180,25		156,5	172,5	180,25		156,5	172,5	180,25
ECR3A	129,8				129,8				129,8				129,8			
ECR3B		156,5	172,5	180,25		156,5	172,5	180,25		156,5	172,5	180,25		156,5	172,5	180,25
ECR4		184,5	200,5	208,25		184,5	200,5	208,25		184,5	200,5	208,25		184,5	200,5	208,25

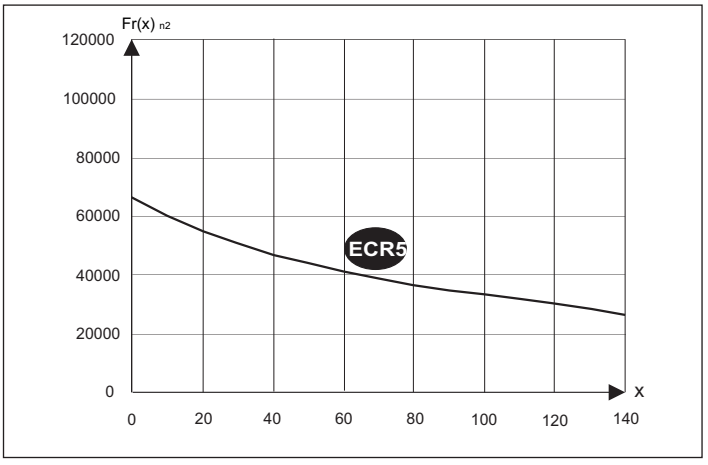
P - [mm]

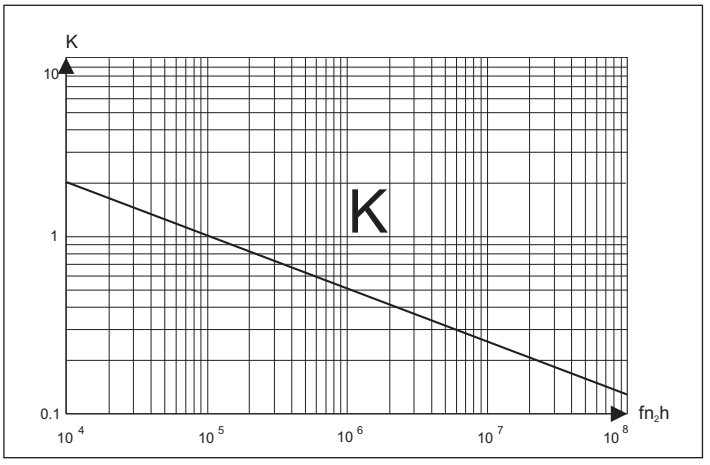


Kg	
ECR 5	42



	Direzione/Direction/Drehrichtung	ECR 5
Fa n1	(+)	58419
	(-)	58419

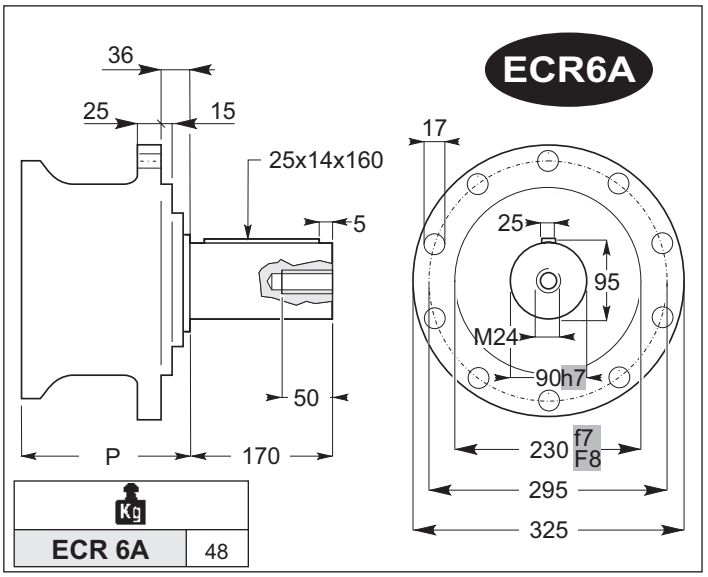


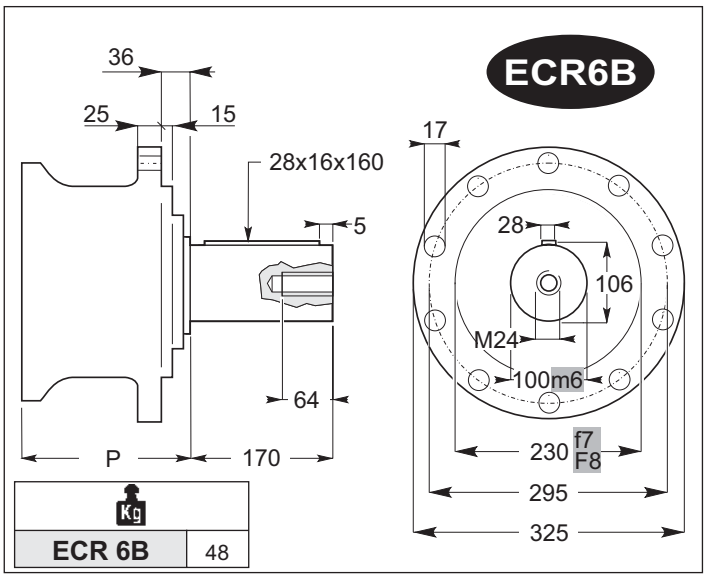


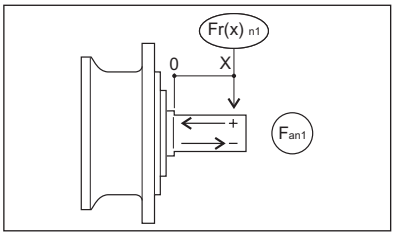
	EX1					EX2 EXB2					EX3 EXB3					EX4 EXB4			
	EX 101⇒3501					EX 102⇒ 15002					EX 103⇒ 37003					EX 104⇒ 80004			
						EXB102 ⇒3002					EXB103 ⇒ 10003					EXB104 ⇒ 31004			
80	801																		
90																			
95																			
100	1001																		
150																			
180																			
200																			
250			2501			2502													
280						2802													
300				3001		3002													
350					3501	3502													
360																			
420																			
600																			
650								6502			6503								
800								8002			8003								
850									8502		8503								
1000									10002		10003								
1200										12002	12003								
1500										15002	15003								
1600																			
2000													20003			20004			
2500													25003			25004			
2600														26003		26004			
3000													30003			30004			
3100														31003		31004			
3200															32003	32004			
3700															37003	37004			
4500																			
5500																		55004	
6800																			68004
7500																			75004
8000																			80004

ECR5	194,0		231,4	231,4	291,4	194,0		231,4	231,4	291,4	194,0		231,4	231,4	291,4	194,0		231,4	231,4
P - [mm]																			

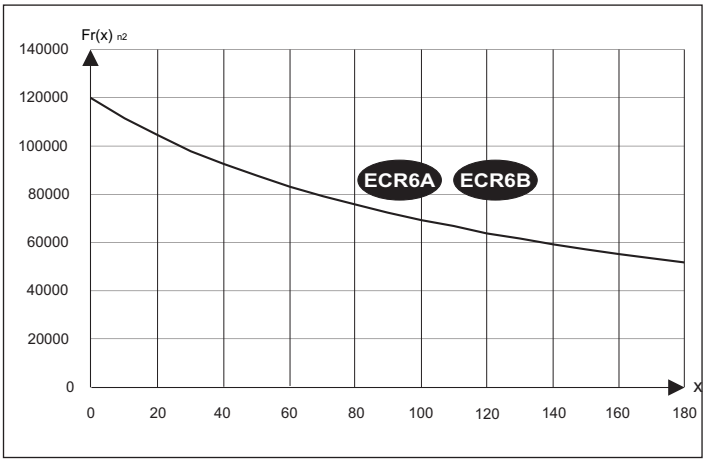
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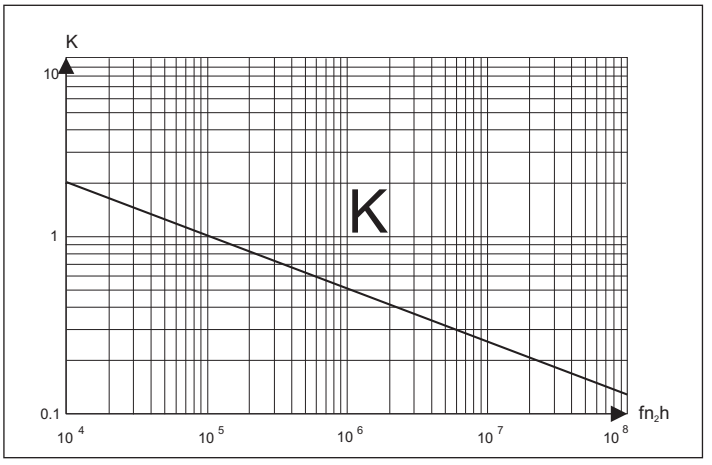






	Direzione/Direction/Drehrichtung	ECR 6A - ECR 6B
Fa n1	(+)	104737
	(-)	73441



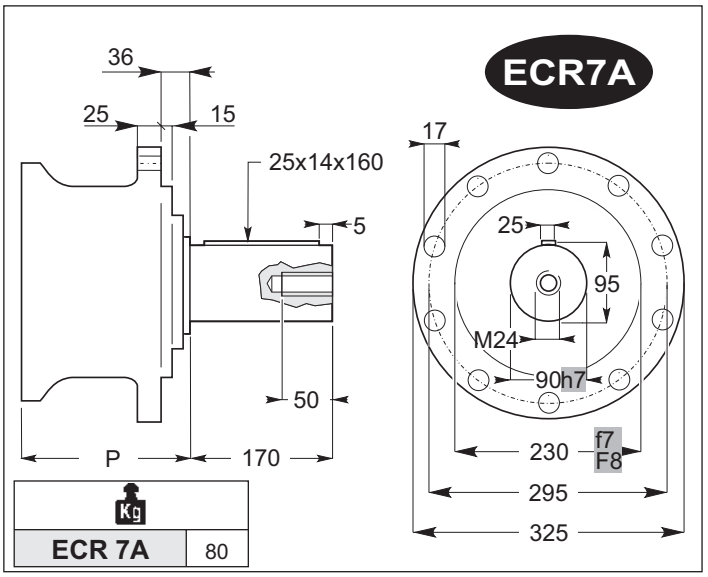


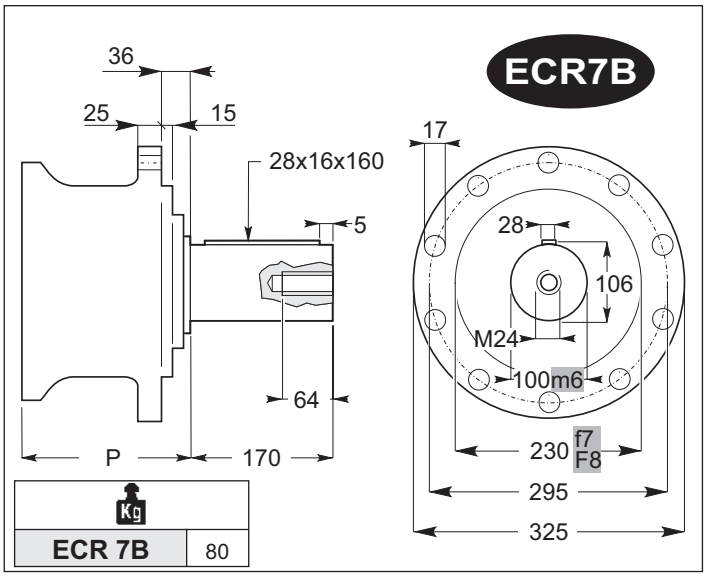
	EX1					EX2 EXB2					EX3 EXB3					EX4 EXB4			
	EX 101⇒3501					EX 102⇒ 15002					EX 103⇒ 37003					EX 104⇒ 80004			
						EXB102 ⇒3002					EXB103 ⇒ 10003					EXB104 ⇒ 31004			
80	801																		
90																			
95																			
100	1001																		
150																			
180																			
200																			
250			2501			2502													
280						2802													
300				3001		3002													
350					3501	3502													
360																			
420																			
600																			
650								6502			6503								
800								8002			8003								
850									8502		8503								
1000									10002		10003								
1200										12002	12003								
1500										15002	15003								
1600																			
2000													20003			20004			
2500													25003			25004			
2600														26003		26004			
3000													30003			30004			
3100														31003		31004			
3200															32003	32004			
3700															37003	37004			
4500																			
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6800																			68004
7500																			75004
8000																			80004

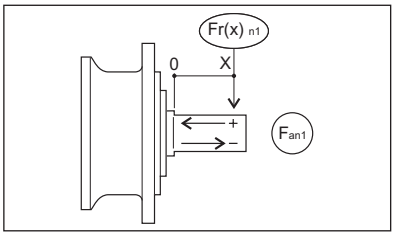
ECR6A	243,0		284,8	284,8	344,8	243,0		284,8	284,8	344,8	243,0		284,8	284,8	344,8	243,0		284,8	284,8
ECR6B	243,0		284,8	284,8	344,8	243,0		284,8	284,8	344,8	243,0		284,8	284,8	344,8	243,0		284,8	284,8

P - [mm]

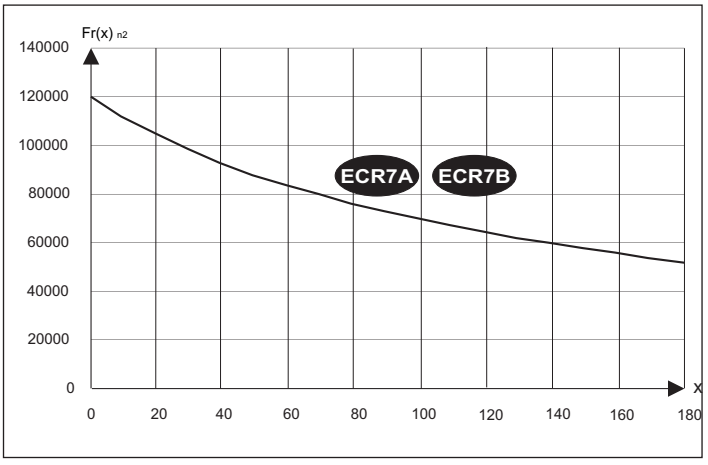
D

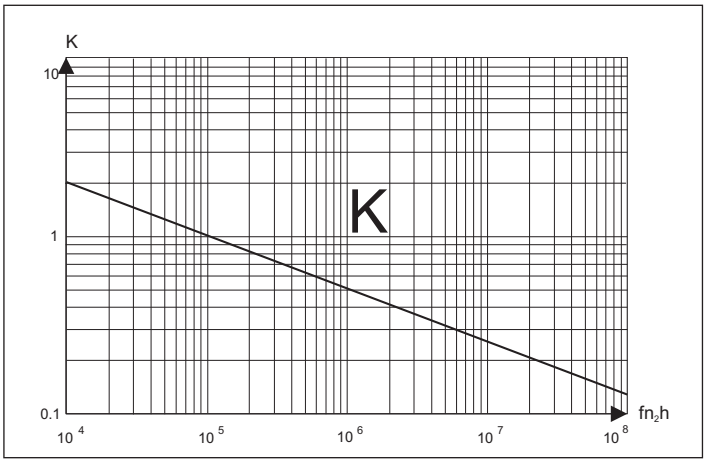






	Direzione/Direction/Drehrichtung	ECR 7A - ECR 7B
Fa n1	(+)	104737
	(-)	73441



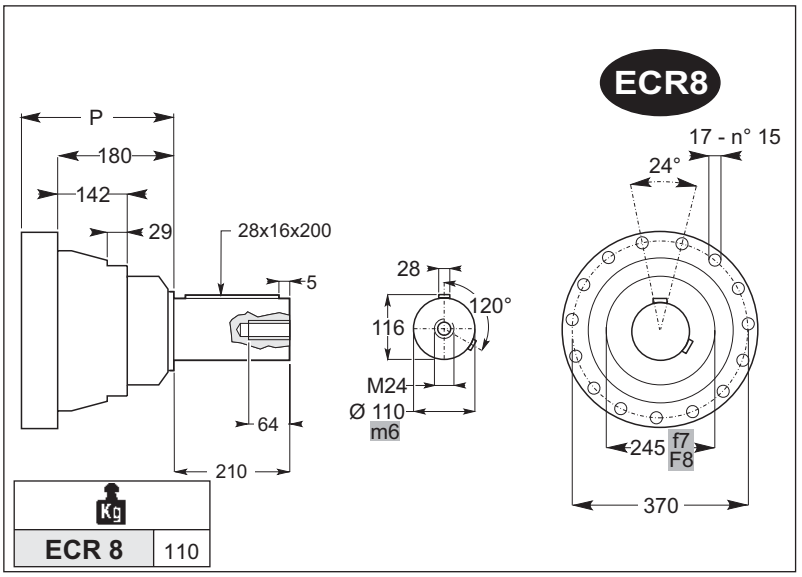


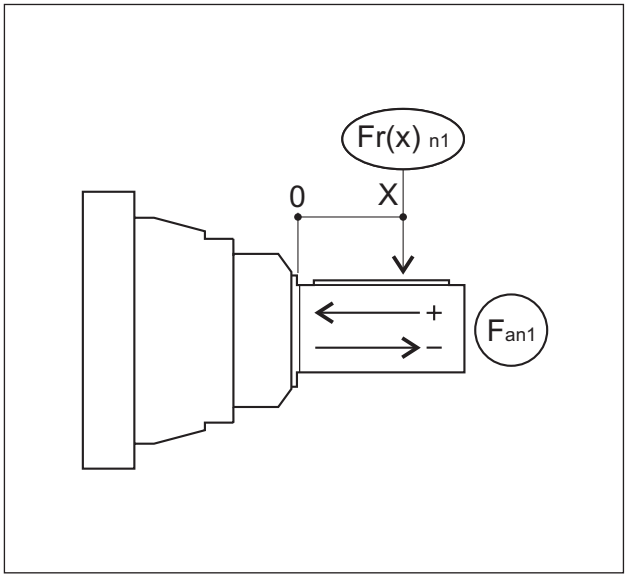
	EX1				EX2				EX3				EX4		
150			1501												
180															
200			2001												
250															
280															
300															
350															
360							3602								
420				4201			4202								
600							6002								
650															
800															
850															
1000															
1200											16003				
1500															
1600								16002							
2000															
2500															
2600															
3000															
3100															
3200															
3700															
4500												45003			45004

ECR7A			255	343,2			255	343,2			255	343,2			255
ECR7B			255	343,2			255	343,2			255	343,2			255

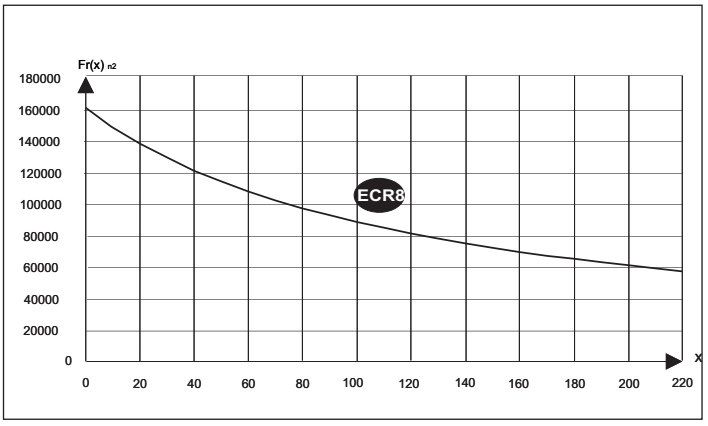
P - [mm]

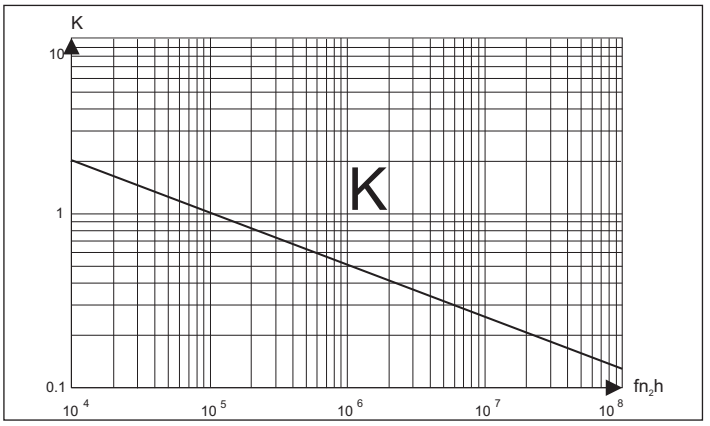
D





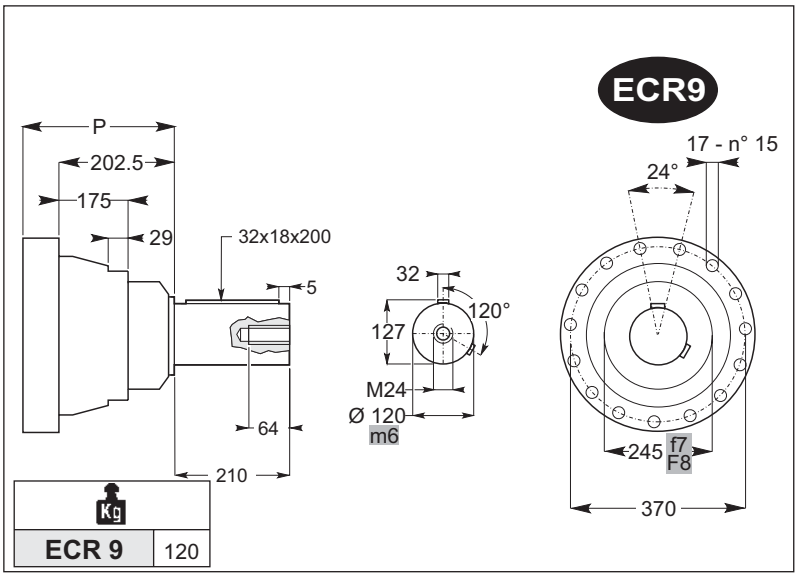
	Direzione/Direction/Drehrichtung	ECR 8
Fa n1	(+)	149386
	(-)	112665

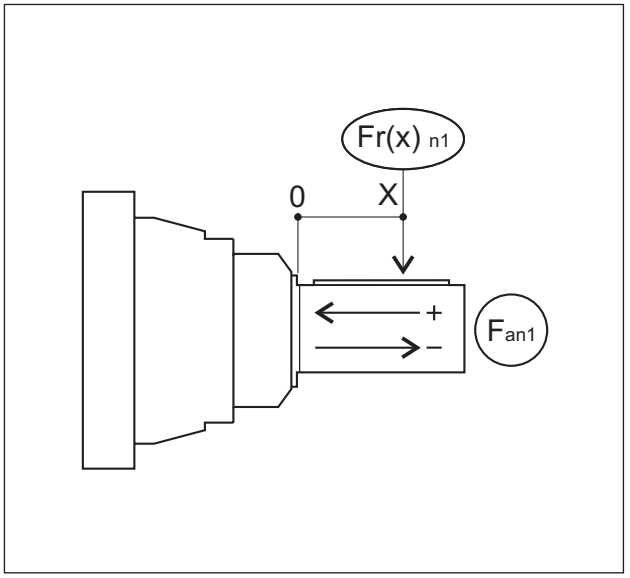




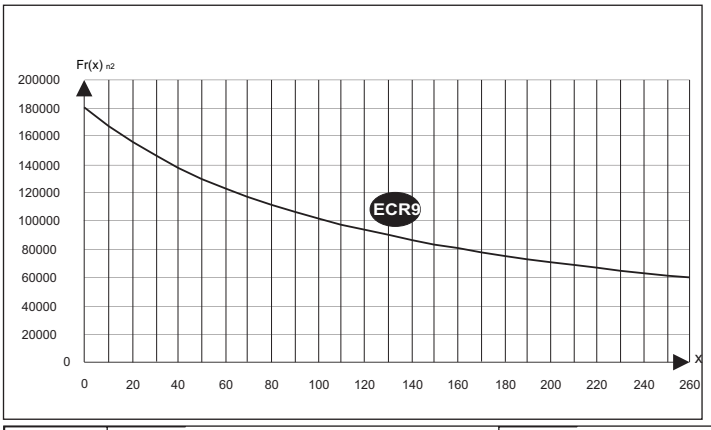
	EX1				EX2				EX3				EX4		
250		2501													
280															
300															
350															
360															
420															
600															
650			6501			6502									
800						8002									
850															
1000															
1200															
1500															
1600															
2000							20002			20003					
2500										25003					
2600															
3000										30003					
3100															
3200															
3700															
4500															
5500											55003			55004	

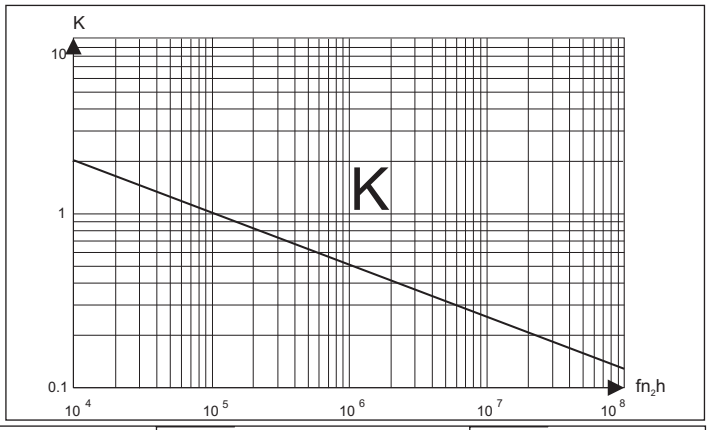
ECR8		261	362,2			261	362,2			261	362,2			261	
P - [mm]															





	Direzione/Direction/Drehrichtung	ECR 9
Fa n1	(+)	167746
	(-)	128521

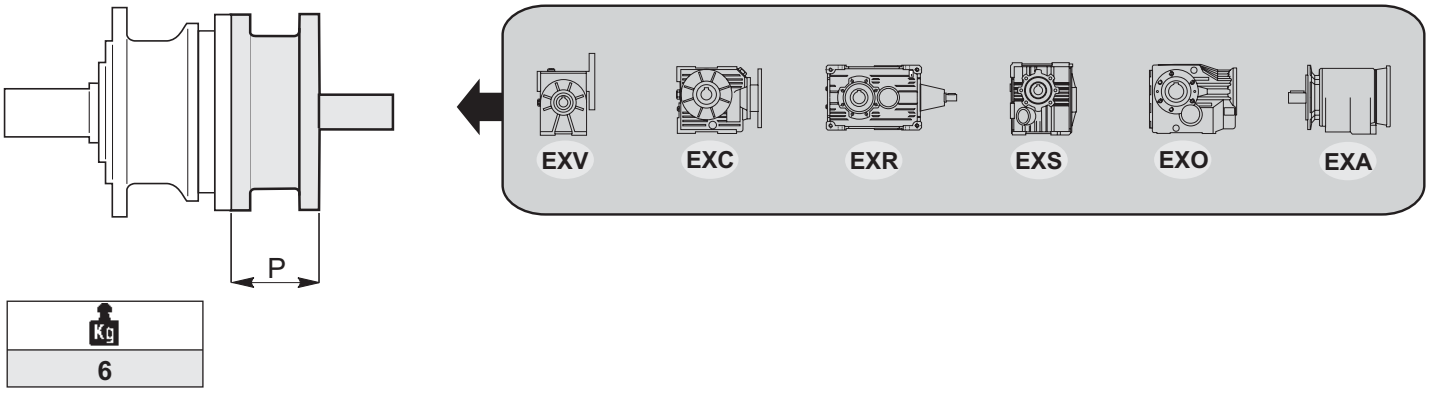




	EX1					EX2					EX3				EX4		
300	3001																
350																	
360																	
420																	
600																	
650																	
800																	
850		8501				8502											
1000			10001			10002											
1200				12001													
1500																	
1600																	
2000																	
2500																	
2600							26002					26003					
3000																	
3100								31002				31003					
3200									32002								
3700									37002								
4500																	
5500																	
6800													68003				68004
7500													75003				75004
8000														80003			80004
ECR9	283,5	381,7	373,7	373,7		283,5	381,7	373,7	373,7			283,5	381,7	373,7			283,5
P - [mm]																	

6.0 EXV-EXC-EXS-EXR-EXO-EXA *6.0 EXV-EXC-EXS-EXR-EXO-EXA* **6.0 EXV-EXC-EXS-EXR-EXO-EXA**

EX.



Kg
6

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6.0 EXV-EXC-EXS-EXR-EXO-EXA *6.0 EXV-EXC-EXS-EXR-EXO-EXA* 6.0 EXV-EXC-EXS-EXR-EXO-EXA

	1										2									3						4			
10	101										102									103						104			
20		201									202									203						204			
25		251									252									253						254			
30			301								302									303						304			
40											402									403						404			
50				501								502								503						504			
70					701							702								703						704			
80						801							802							803						804			
90													902							903						904			
100							1001							1002							1003					1004			
150								1501						1502							1503					1504			
180														1802							1803					1804			
200									2001						2002						2003					2004			
250										2501						2502						2503				2504			
280																	2802						2803				2804		
300										3001							3002						3003				3004		
350																	3502						3503				3504		
420																		4202					4203				4204		
650																			6502					6503				6504	
850																			8502						8503				8504
1200																									12003				12004

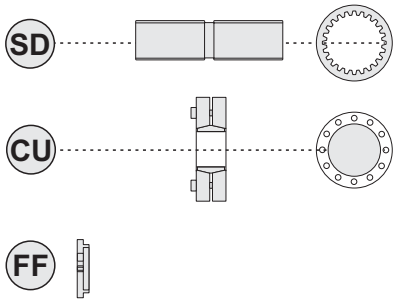
	P																												
EXV 50	*										*									*						*			
EXV 63	*										*									*						*			
EXV 70	*	*									*	*								*	*					*	*		
EXV 85		*	*	*	*							*	*	*	*						*	*	*				*	*	*
EXV 110			*	*	*	*	*						*	*	*	*	*					*	*	*	*			*	*
EXV 130				*		*								*		*							*	*					*
EXV 150						*	*									*	*							*	*				
EXV 180								*										*											
EXC 50	*										*									*						*			
EXC 70	*	*									*	*								*	*					*	*		
EXC 85		*	*	*	*							*	*	*	*						*	*	*				*	*	*
EXC 110			*	*	*	*	*						*	*	*	*	*					*	*	*	*			*	*
EXS 35	*										*									*						*			
EXS 45	*	*									*	*								*	*					*	*		
EXR 704	*	*									*	*								*	*					*	*		
EXR 708		*	*	*	*							*	*	*	*						*	*	*				*	*	*
EXR 712			*	*	*	*	*						*	*	*	*	*					*	*	*	*			*	*
EXR 716						*	*	*								*	*	*						*	*				
EXR 720								*		*								*	*										
EXO 132								*		*								*	*										
EXO 150								*		*								*	*										
EXO 170										*								*	*										
EXO 190																													
EXA 35	*	*									*	*								*	*					*	*		
EXA 41	*	*									*	*								*	*					*	*		
EXA 45	*	*									*	*								*	*					*	*		
EXA 50	*	*									*	*								*	*					*	*		

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ACCESSORI E OPZIONI
ACCESSORIES AND OPTIONS
ZUBEHOER UND OPTIONEN

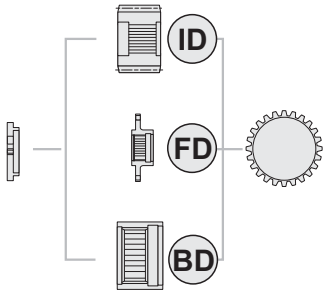
E

ACC1



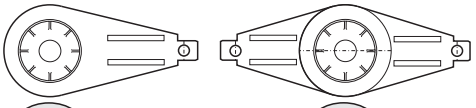
SECTION
C

ACC2



SECTION
C

ACC3



SECTION
C

ACC4

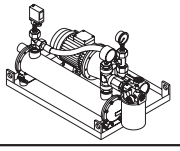
OT



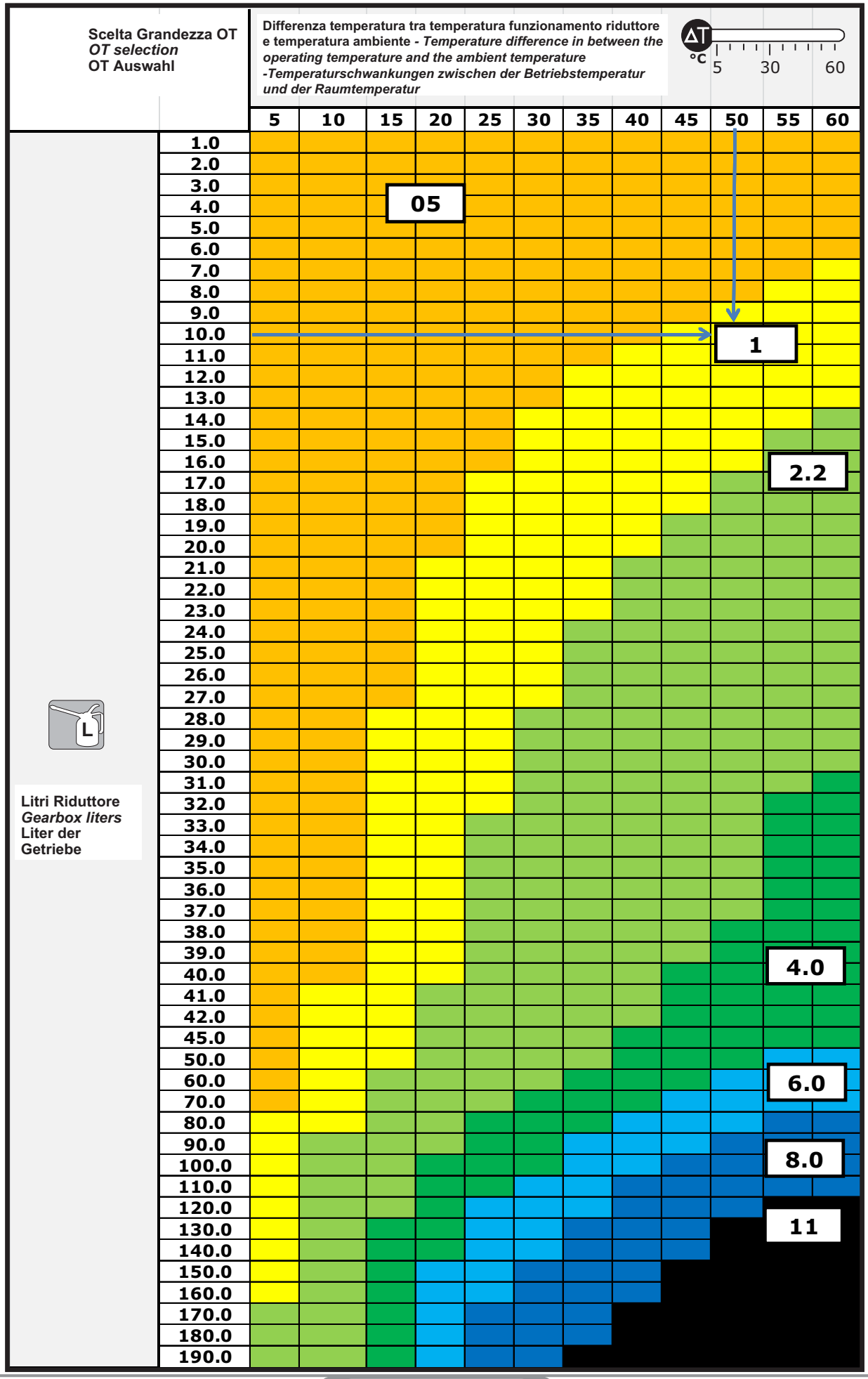
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E2

ACC5

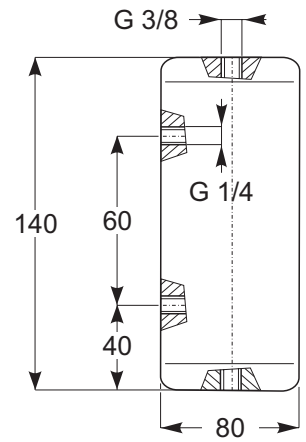
RFA RFW



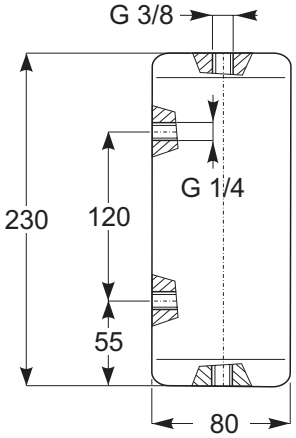
PAGE
E4


Scelta Grandezza OT
OT selection
OT Auswahl
Differenza temperatura tra temperatura funzionamento riduttore e temperatura ambiente - Temperature difference in between the operating temperature and the ambient temperature -Temperaturschwankungen zwischen der Betriebstemperatur und der Raumtemperatur
ΔT °C
5
30
60
5
10
15
20
25
30
35
40
45
50
55
60
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
14.0
15.0
16.0
17.0
18.0
19.0
20.0
21.0
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24.0
25.0
26.0
27.0
28.0
29.0
30.0
31.0
32.0
33.0
34.0
35.0
36.0
37.0
38.0
39.0
40.0
41.0
42.0
45.0
50.0
60.0
70.0
80.0
90.0
100.0
110.0
120.0
130.0
140.0
150.0
160.0
170.0
180.0
190.0
05
1
2.2
4.0
6.0
8.0
11
L
Litri Riduttore
Gearbox liters
Liter der Getriebe

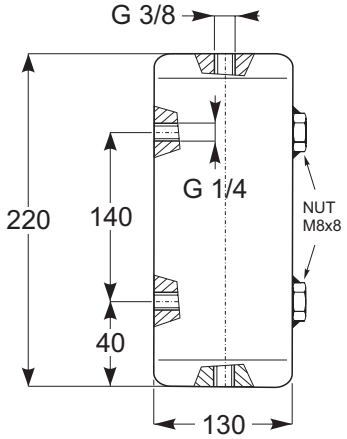
OT 05



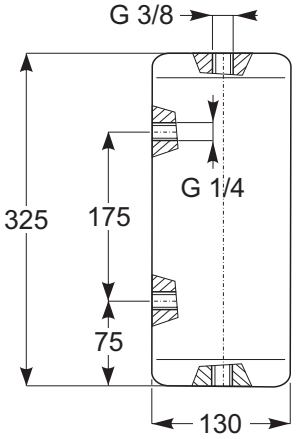
OT 1



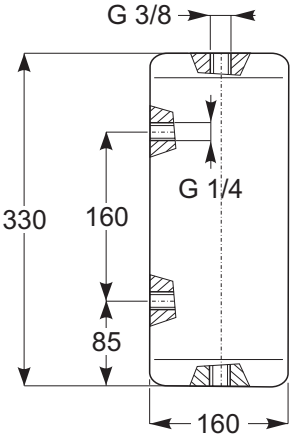
OT 2.2



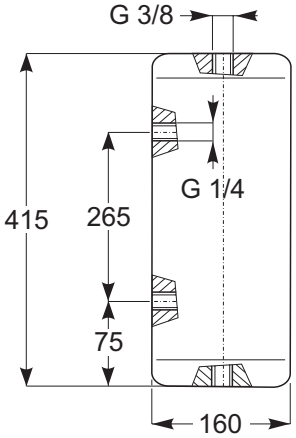
OT 4.0



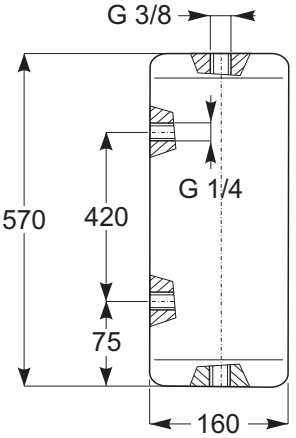
OT 6.0



OT 8.0



OT 11



1.0 - Gruppo di raffreddamento

Il raffreddamento con scambiatore di calore può essere suddiviso in due tipologie principali: con scambiatore acqua-olio e con scambiatore aria olio, ogni categoria è divisa in più grandezze, con potenze di scambio diversificate.
Ogni gruppo di raffreddamento è fornito separatamente al riduttore; i tubi di collegamento tra riduttore ed impianto non sono a carico GSM.

1.0 - Cooling Unit

Water/oil and air/oil heat exchangers are available in a range of different sizes and heat exchange capacities.
Each cooling unit is supplied separate from the gear unit; pipes or hoses for connection to plant must be provided by GSM.

1.0 - Kühlanlage

Die Kühlung mittels Wärmeaustauschers lässt sich in zwei Haupttypologien unterteilen: mit Wasser-/Ölaustauscher und Luft-/Ölaustauscher. Jede Kategorie ist in mehrere Größen unterteilt, die unterschiedliche Austauschleistungen aufweisen.
Jedes Kühlaggregat wird in vom Getriebe getrennter Form geliefert; die Verbindungsleitungen zwischen Getriebe und Anlage gehen nicht zu Lasten der GSM.

RFW

1.1 - RFW - sistema con scambiatore acqua-olio

1.1.1 Generalità

Sempre più spesso è indispensabile raffreddare l'olio con acqua se si ha sufficiente disponibilità d'acqua pulita.
In alcuni casi, poi, non è possibile collegare lo scambiatore olio-acqua direttamente allo scarico a causa della presenza nel circuito di colpi d'ariete, e si è costretti a realizzare un circuito separato con una pompa autonoma di circolazione, tubazioni, pressostato ed impianto elettrico.
Per questi casi, ora sempre più frequenti, GSM S.p.A. ha provveduto inserendo nella propria produzione i gruppi autonomi di raffreddamento serie RFW, che risolvono nel migliore dei modi il compito di raffreddare l'olio, indipendentemente dall'impianto idraulico primario.
L'unità è stata studiata per raffreddare l'olio e consiste in un scambiatore a fascio tubiero che, ponendo a contatto l'olio messo in circolazione dalla motopompa con la serpetina dell'acqua, asporta il calore ceduto.
Tutte le parti metalliche sono protette da verniciatura a polvere per garantire una lunga durata agli agenti atmosferici.
Nell'esecuzione standard l'unità è fornita con tutti i particolari assemblati su un telaio.

1.1.2 Stato fornitura e caratteristiche tecniche

Le unità di raffreddamento serie RFW standard sono composte da:
1 - Uno scambiatore di calore acqua-olio;
2 - Una motopompa composta da un motore a 4 poli in forma B3/B5, alimentazione standard trifase 230-400V 50 hz e da una pompa ad ingranaggi o a vite;
3 - Manometro 0-16 bar montato fra pompa e scambiatore di calore;
4 - Termometro analogico 0-120 °C, montato in uscita dallo scambiatore;
5 - Pressostato di minima con contatti in scambio, montato fra pompa e scambiatore di calore;
6 - Filtro, in mandata al serbatoio, per la pulizia dell'olio scaricato;
7 - Indicatore elettrico di intasamento

A – Aspirazione della pompa;
M – Mandata della pompa.

1.1 - RFW - water/oil exchanger

1.1.1 General features

If sufficient clean water is available, it is often required to cool down oil with water. Moreover, in some cases it is not possible to connect oil-water exchanger directly to the drainage due to water hammers in the circuit, and user is thus forced to set up a separated circuit with independent circulation pump, tubing, pressure switch and electric system. These cases are very frequent nowadays, this is why GSM S.p.A. has added to its product range the independent cooling units of the RFW series, that best carry out the task of cooling down oil in an independent way with respect to the main hydraulic system. This unit is designed for cooling down oil and consists in a tube bundle heat exchanger that sinks heat released from oil (circulated by motor pump) thanks to contact with water coil.
All metal parts are powder-coated to ensure long lasting protection against weather conditions.
In the standard version, the unit features all parts assembled to a frame.

1.1.2 Supply scope and specifications

Standard cooling units of the RFW series consist of:
1 - A water-oil heat exchanger;
2 - A motor pump made of a 4-pole motor rated B3/B5, standard three-phase 230-400V 50 Hz power and a gear or screw pump;
3 - 0-16 bar Pressure gauge mounted between pump and heat exchanger;
4 - 0-120 °C Analogue thermometer mounted at exchanger outlet;
5 - Minimum pressure switch with switch contacts, mounted between pump and heat exchanger;
6 - Filter, at tank inlet, for cleaning drained oil;
7 - Electrical clogging indicator

A – Pump inlet;
M – Pump outlet.

1.1 - RFW - System mit Wasser-/Ölaustauscher

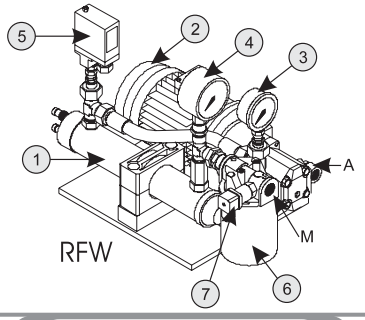
1.1.1 Allgemeine Informationen

Immer häufiger ist es unerlässlich das Öl mit Wasser zu kühlen, wenn ausreichend Wasser verfügbar ist. In einigen Fällen ist ein direkter Anschluss des Öl-Wasser-Wärmeaustauschers an den Anschluss aufgrund von Widderstößen im System nicht möglich und man ist dazu gezwungen einen separaten Kreislauf mit einer eigenständigen Umlaufpumpe, Leitungen, Druckwächter und elektrischer Anlage zu realisieren.Für diese immer häufiger auftretenden Fälle hat die GSM S.p.A. autonome Kühlaggregate der Serie RFW in ihr Programm aufgenommen, die die Aufgabe der Ölkühlung, von der hydraulischen Hauptanlage unabhängig, in der besten Art und Weise erfüllen.Diese Einheit wurde für das Kühlen des Öls entwickelt und stellt sich in einem Wärmeaustauscher mit Rohrbündel dar, der die abgestrahlte Wärme ableitet, indem er das von der Motorpumpe in den Umlauf gebrachte Öl mit der Wasserrohrschlage in Kontakt bringt.
Alle Metallteile sind durch eine Pulverlacklackierung geschützt, die einen lang anhalteden Schutz gegen Umweltbelastungen gewährt.
In der Standardversion wird die Einheit bereits mit allen am Rahmen montierten Teilen geliefert.

1.1.2 Lieferzustand und technische Eigenschaften

Die Kühleinheiten der Serie RFW Standard setzten sich aus folgenden Komponenten zusammen:
1 - einen Wasser-Öl-Wärmeaustauscher;
2 - einer Motorpumpe bestehend aus einem 4-poligem Motor in Bauform B3/B5, Standard-Drehstromversorgung 230-400V 50 Hz und einer Zahnrad- oder Schneckenpumpe;
3 - Manometer 0-16 bar, zwischen Pumpe und Wärmeaustauscher montiert;
4 - analoges Thermometer 0-120 °C, am Ausgang des Wärmeaustauschers montiert;
5 - Mindestdruckwächter mit Wechselkontakten, zwischen Pumpe Wärmeaustauscher montiert;
6 - Filter, im Zulauf zum Behälter, für die Reinigung des abgelassenen Öls
7 - elektrische Verstopfungsanzeige.

A – Ansaugung der Pumpe;
M – Zulauf der Pumpe.



1.0 - Gruppo di raffreddamento

1.1.3 Dimensionamento e Caratteristiche Funzionali
Per la scelta del gruppo di raffreddamento si rimanda alla Sezione A-B-C-D-E-F-G.

CARATTERISTICHE TECNICHE
Nella Tabella sottostante riportiamo le caratteristiche tecniche

1.0 - Cooling Unit

1.1.3 Sizes and Functional Features
Please refer to Section A-B-C-D-E-F-G for indications on how to choose the suitable cooling unit.

SPECIFICATIONS
The specifications are given in the table below

1.0 - Kühlanlage

1.1.3 Bemaßung und Funktionseigenschaften
Für die Wahl des richtigen Kühlaggregats verweisen wir auf die Sektion A-B-C-D-E-F-G.

TECHNISCHE EIGENSCHAFTEN
In der nachstehenden Tabelle werden die technischen Eigenschaften angegeben.

Grandezza *Size* Baugröße Size	Peso *Weight* Gewicht[[Kg]	Volume Olio *Oil volume* Ölvolumen [dm^3]	Motopompa *Motor Pump* Motorpumpe				Scambiatore *Exchanger* Wärmeaustauscher			
			[*1]	[*2]	[*3]	[*4]	Connessione Olio *Oil connection* Ölanschluss [*5]	[*6]	[*7]	[*8]
1	13	0,4	Ingranaggi *Gear-type* Zahnräder	0.37	6	230/400 50	G 1/2"	G 3/4"	G 1/2"	8-30
2	15	0,6		0.37	6					10-30
3	18	1,2		0.55	16					16-30
4	44	3,0	Vite *Screw-type* Schnecke	1.5	30		G 3/4"	G 1" 1/4	G 1"	40-110
5	70	4,5		2.2	80		G 1" 1/4	G 1" 1/2	G 1"	80-110
6	On request			7.50	135.0		G 2"	On request	G 1"	90-110
7	On request			7.50	200.0		G 2"	On request	G 1"	180-220
8	On request			7.50	200.0		G 2"	On request	G 1"	270-330

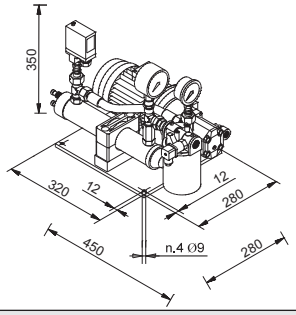
Legenda/*Legend*/Legende
[*1] Tipo Pompa/*Pump type*/Pumpentyp
[*2] Potenza /*Power*/Leistung [kW]
[*3] Portata /*Flow rate*/.Durchsatz [dm^3 / min]
[*4] Alimentazione /*Power supply*/Versorgung [V / Hz]
[*5] Aspirazione /*Inlet*/Ansaugung
[*6] Mandata /*Outlet*/Zulauf
[*7] Connessione Acqua /*Water connection*/Wasseranschluss
[*8] Portata Acqua /*Water flow rate*/Wasserdurchsatz [l / min]

1.1.4 Dimensioni

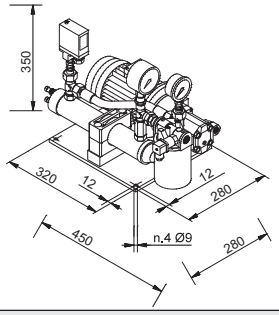
1.1.4 Dimensions

1.1.4 Maße

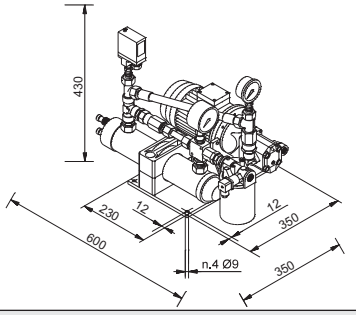
RFW 1



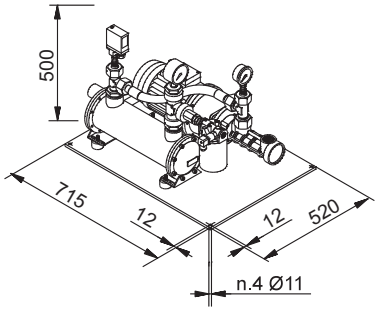
RFW 2



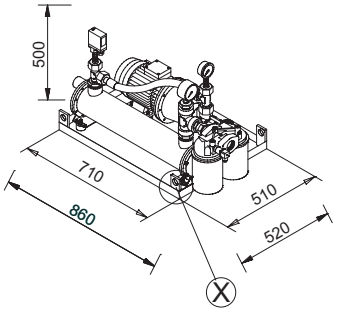
RFW 3

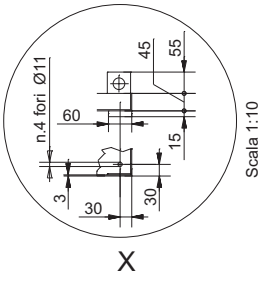


RFW 4



RFW 5





RFW 6

On request

RFW 7

On request

RFW 8

On request

1.0 - Gruppo di raffreddamento

1.0 - Cooling Unit

1.0 - Kühlanlage

RFA

1.2 - RFA - sistema con scambiatore aria-olio

1.2 - RFA - air/oil exchanger

1.1 - RFA - System mit Luft-/Ölaustauscher

1.2.1 Generalità

Sempre più spesso è indispensabile raffreddare l'olio con l'aria, poiché non si ha sufficiente disponibilità d'acqua.
In alcuni casi poi, non è possibile collegare lo scambiatore aria-olio direttamente allo scarico a causa della presenza nel circuito di colpi d'ariete, e si è costretti a realizzare un circuito separato con una pompa autonoma di circolazione, tubazioni, termostato ed impianto elettrico.
La GSM S.p.A. ha provveduto inserendo nella propria produzione i gruppi autonomi di raffreddamento serie RFA, che risolvono nel migliore dei modi il compito di raffreddare l'olio, indipendentemente dall'impianto idraulico primario.
Un problema che oggi si fa sempre più pressante è il risparmio nei consumi d'energia.
Utilizzando per il raffreddamento acqua a perdere si spreca calore che l'olio ha ceduto all'acqua.
Utilizzando invece l'aria emessa dai gruppi RFA è possibile recuperare il calore ceduto dall'olio, scaldando l'ambiente in cui essi sono installati.
Oggi, il consumo dell'acqua per usi industriali ha costi sempre molto elevati ed in molti casi le aziende devono munirsi d'impianti refrigeranti in circuito chiuso dell'acqua di raffreddamento e nella maggior parte dei casi esse sono macchine frigorifere.
Il consumo d'energia di questi impianti è ingente ed è pari a circa il 30% della potenza da disperdere.
Con i gruppi autonomi serie RFA questo consumo scende al 6%, con un considerevole risparmio d'energia elettrica e quindi di costo d'esercizio, senza contare il costo iniziale notevolmente inferiore.
L'unità è stata studiata per raffreddare l'olio e consiste in un radiatore che è attraversato dal flusso d'aria generato da un ventilatore, il quale lambendo le alettature in alluminio della massa radiante asporta il calore ceduto dall'olio, che circola nel radiatore dal basso verso l'alto grazie alla pompa a vite di ricircolo.
Il controllo del corretto funzionamento della macchina è regolato dai termostati che ne ottimizzano il funzionamento nel caso d'eventuali sbalzi di temperatura.
Tutte le parti metalliche sono protette da verniciatura a polvere per garantire una lunga durata agli agenti atmosferici.
Nell'esecuzione standard l'unità è fornita con tutti i particolari assemblati su un telaio palettizzabile

1.2.1 General features

When no sufficient water is available, it is more and more often indispensable to cool down oil with air. Moreover, in some cases it is not possible to connect air-oil exchanger directly to the drainage due to water hammers in the circuit, and user is thus forced to set up a separated circuit with independent circulation pump, tubing, thermostat and electric system.
To meet the needs of these instances, GSM S.p.A. has added to its product range the independent cooling units of the RFA series, that best carry out the task of cooling down oil in an independent way with respect to the main hydraulic system.
Nowadays, energy-saving is a major issue and using water for cooling without recycling it means wasting the heat released by oil to water. While, using air issued by the RFA units, it is possible to recover the heat released by oil and use it to heat the room where they are installed. Water for industrial use is quite expensive and in many cases businesses need to set up closed-loop water cooling systems and most of the time they are refrigerating machines. Power consumption of these systems is huge, equal to about 30% of power to be wasted. With RFA series independent units this consumption is reduced to 6%, with a considerable saving in power and thus in running costs and with a remarkably lower starting cost. The unit is designed to cool down oil and consists in a radiator that is in the air flow generated by a fan; while oil is circulated in the radiator from bottom up by the recirculation screw pump, oil heat is dissipated by the air flow lapping on the aluminium fins of the radiator core. Machine correct operation is controlled by thermostats optimising its operation in case of any sudden change of temperature.

All metal parts are powder-coated to ensure long lasting protection against weather conditions.
In the standard version, the unit features all parts assembled to a frame which can be placed on a pallet.

1.2.1 Allgemeine

InformationenImmer häufiger ist es unerlässlich das Öl mit Luft zu kühlen, da man nicht ausreichend Wasser verfügbar hat. In einigen Fällen ist ein direkter Anschluss des Luft-Wasser- Wärmeaustauschers an den Anschluss aufgrund von Widderstößen im System nicht
möglich und man ist dazu gezwungen einen separaten Kreislauf mit einer eigenständigen Um- laufpumpe, Leitungen, Thermostat und elektrischer Anlage zu realisieren. Die GSM S.p.A. hat autonome Kühlaggregate der Serie RFA in ihr Programm aufgenommen, die die Aufgabe der Ölkühlung, von der hydraulischen Hauptanlage unabhängig, in der besten Art und Weise erfüllen. Die Energieeinsparung ist heute ein Problem, dem immer mehr Bedeutung zukommt. Wird für die Kühlung nicht wiederverwendbares Wasser verwendet, geht die Wärme verloren, die das Öl ans Wasser abgegeben hat. Wird dagegen von den RFA-Aggregaten zugeführte Luft verwendet, kann die an der Öl abgegebene Wärme zurückgewonnen und für die Heizung des Raums verwendet werden, in dem sie installiert sind. Der Wasserkonsum für den industriellen Einsatz ist heute mit immer stärker steigenden Kosten verbunden und in vielen Fällen müssen sich die Firmen mit Kühlsystemen im geschlossenen Kühlwasserkreislauf ausrüsten, dabei handelt es sich in den meisten Fällen um Kühlmaschinen. Der Energieverbrauch dieser Anlagen ist beachtlich und entspricht ungefähr 30% der verbrauchbaren Leistung. Mit den autonomen Aggregaten der Serie RFA sinkt dieser Konsum auf 6% ab, eine erhebliche Einsparung bei Strom also bei Betriebskosten, ohne dabei die erheblich geringeren Anschaffungskosten zu berücksichtigen. Die Einheit wurde für die Kühlung von Öl ent- wickelt und besteht aus einem Kühler, der von einem durch einen Ventilator erzeugten Luftstrom durchquert wird, der die Aluminiumrippen der Kühlmasse "umspült" und die vom Öl abgegebene Wärme abnimmt. Das Öl zirkuliert dank der Schneckenumlaufpumpe im Kühler von unten nach oben. Die Steuerung des korrekten Maschinenbetriebs wird von den Thermostaten geregelt, die den Betrieb im Fall von eventuellen Temperaturschwankungen optimiert. Alle Metallteile sind durch eine Pulver- lacklackierung geschützt, die einen lang anhaltenden Schutz gegen Umweltbelastungen gewährleistet. In der Standardversion wird die Einheit bereits mit allen an einem palettierbaren Rahmen montierten Teilen geliefert.

1.2.2 Stato fornitura e caratteristiche tecniche

Le unità di raffreddamento serie RFA standard sono composte da:
1. Uno scambiatore di calore aria-olio;
2. Una motopompa composta da un motore a 4 poli per le grandezze RFA1, RFA2, RFA3 e 2 poli per le grandezze RFA4, RFA5 in forma B3/B5, alimentazione standard trifase 230-400V 50 hz.
Per i gruppi facenti parte dello schema A (RFA1 – RFA2 – RFA3) il motore della motopompa è il medesimo del motoventilatore.
3. SCHEMA A: Manometro 0-12 bar con funzione aggiuntiva di indicatore visivo di intasamento;
SCHEMA B: Manometro 0-16 bar montato fra pompa e scambiatore di calore ;
4. Termometro analogico 0-120 °C, montato in uscita dallo scambiatore.
5. Pressostato di minima con contatti in scambio, montato fra pompa e scambiatore di calore.
6. Filtro, in mandata al serbatoio, per la pulizia dell'olio scaricato.

1.2.2 Supply scope and specifications

Standard cooling units of the RFA series consist of:
1. An air-oil heat exchanger;
2. A motor pump made of a 4-pole motor for sizes RFA1, RFA2, RFA3 and 2-pole motor for sizes RFA4, RFA5 rated B3/B5, standard three-phase 230-400V 50 Hz power. For units belonging to diagram A (RFA1 – RFA2 – RFA3) motor pump motor is the same as motor fan one.

3. DIAGRAM A: 0-12 bar Pressure gauge mounted between pump and heat exchanger; with added function of oil flow blocking display
DIAGRAM B: 0-16 bar Pressure gauge mounted between pump and heat exchanger;
4. 0-120 °C Analogue thermometer mounted at exchanger outlet.
5. Minimum pressure switch with switch contacts, mounted between pump and heat exchanger.
6. Filter, at tank inlet, for cleaning drained oil.

1.2.2 Lieferzustand und technische Eigenschaften

Die Kühleinheiten der Serie RFA Standard setzen sich wie folgt zusammen:
1 Ein Luft-Öl-Wärmeaustauscher;
2. Eine Motorpumpe bestehend aus einem 4-poligem Motor für die Baugrößen RFA1, RFA2, RFA3 oder 2-poligem Motor für die Baugrößen RFA4, RFA5 in Bauform B3/B5, Standard-Drehstromversorgung 230-400V 50 Hz. Bei den Aggregaten, die zum Schema A (RFA1 – RFA2 – RFA3) gehören werden Motorpumpe und Ventilator vom selben Motor betrieben.

3 - SCHEMA A: Manometer 0-12 bar, zwischen Pumpe und Wärmeaustauscher montiert;
mit Zusatzanzeige für blockierten Ölfluss
SCHEMA B: Manometer 0-16 bar, zwischen Pumpe und Wärmeaustauscher montiert;
4. Analoges Thermometer 0-120 °C, am Ausgang des Wärmeaustauschers montiert;
5. Mindestdruckwächter mit Umschaltkontakten, zwischen Pumpe und Wärmeaustauscher montiert;
6. - Filter, im Zulauf zum Behälter, für die Reinigung des abgelassenen Öls;

1.0 - Gruppo di raffreddamento

7. Indicatore elettrico di intasamento del filtro olio.
8. Scatola Morsettiera;
9. Termostato di regolazione:

A – Aspirazione della pompa;
M – Mandata della pompa.

NOTE SPECIFICHE - SCHEMA A :
Il gruppo RFA3 è fonito con sonda di temperatura e termostato.

ATTENZIONE:
Il gruppo RFA3 è fornito secondo lo schema A quando l'applicazione necessita di solo raffreddamento altrimenti è fornito RFA3 secondo lo schema B.

1.0 - Cooling Unit

7. Electrical clogging indicator of oil filter.

8. Terminal board box;
9. Adjustment thermostat:

A – Pump inlet;
M – Pump outlet.

SPECIFIC NOTES - DIAGRAM A:
RFA3 unit is supplied together with temperature probe and thermostat.

NOTICE:
RFA3 unit is supplied as per diagram A when the application only needs cooling, while in other cases RFA3 is supplied as per diagram B.

1.0 - Kühlanlage

7. Elektrische Verstopfungsanzeige des Ölfilters
8. Klemmenkasten;
9. Regelthermostat:

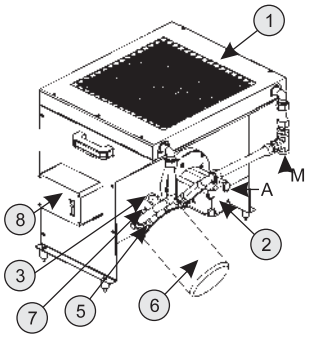
A – Ansaugung der Pumpe;
M – Zulauf der Pumpe.

SPEZIFISCHE HINWEISE - SCHEMA A :
Das Aggregat RFA3 wird mit einer Temperatursonde und einem Thermostat geliefert.

ACHTUNG:
Das Aggregat RFA3 wird dem Schema A gemäß geliefert, wenn die Applikation nur einer Kühlung bedarf, andernfalls wird das RFA3 dem Schema B entsprechend geliefert.

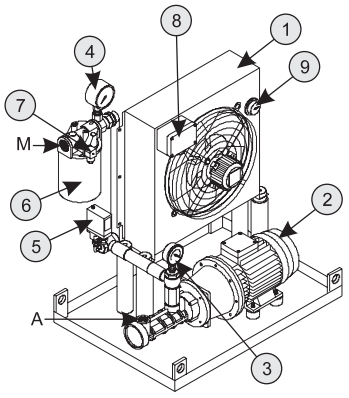
RFA

SCHEMA A
DIAGRAM A
SCHEMA A



RFA1 - RFA2 - RFA3

SCHEMA B
DIAGRAM B
SCHEMA B



RFA3 - RFA4 - RFA5

1.2.3 Dimensionamento e Caratteristiche Funzionali
Per la scelta del gruppo di raffreddamento si rimanda alla Sezione A-B-C-D-E-F-G.

CARATTERISTICHE TECNICHE
Nella Tabella sottostante riportiamo le caratteristiche tecniche

1.2.3 Sizes and Functional Features
Please refer to Section A-B-C-D-E-F-G for indications on how to choose the suitable cooling unit.

SPECIFICATIONS
The specifications are given in the table below

1.2.3 Bemaßung und Funktionseigenschaften
Für die Wahl des richtigen Kühlaggregats verweisen wir auf die Sektion A-B-C-D-E-F-G.

TECHNISCHE EIGENSCHAFTEN
In der nachstehenden Tabelle werden die technischen Eigenschaften angegeben.

Schema *Diagram* Schema	Grandezza *Size* BaugrößeSize	Peso *Weight* Gewicht[[Kg]	Volume Olio *Oil volume* Ölvolumen [dm^3]	Motopompa *Motor Pump* Motorpumpe				Scambiatore *Exchanger* Wärmeaustauscher						Campo Applicazione *Application* Einsatzbereich	
				[*1]	[*2]	[*3]	[*4]	Connessione Olio *Oil connection* Ölanschluss [*5]	Connessione Olio *Oil connection* Ölanschluss [*6]	[*7]	[*8]	[*9]	Raffreddamento *Cooling* Kühlung	Lubrificazione Forzata *Forced lubrication* Zwangsschmier.
A	1	20	3.0	Ingranaggi *Gear-type* Zahnräder	0.55	6	400 / 50 Trifase *Three-phase* dreiphasig	G 1/2"	G 1/2"	0.55	600	64	SI *YES* JA	SI *YES* JA
A	2	27	3,6		0.55	13				0.75	850	68		
A	3-A	61	5,5		1.1	34		G 3/4"		1.1	2000	75		NO *NO* NEIN
B	3-B	75	5,5	Vite *Screw-type* Schnecke	1.5	30		G 1"	G 1" 1/4	0.23	2700	72		SI *YES* JA
B	4	96	15		3.0	112		G 1" 1/4	G 1" 1/2	0.23	3500	72		
B	5	118	15		3.0	112				0.56	6300	75		
B	6	127	16		3.0	160					7450	79		
B	7	140	20		3.0	160				0.9	9500	79		

Legenda/*Legend*/Legende.
[*1] Tipo Pompa/*Pump type*/Pumpentyp.
[*2] Potenza /*Power*/Leistung [kW]
[*3] Portata /*Flow rate*/Durchsatz [dm^3 / min]
[*4] Alimentazione /*Power supply*/Versorgung [V / Hz]
[*5] Aspirazione /*Inlet*/Ansaugung
[*6] Mandata /*Outlet*/Zulauf .
[*7] Potenza /*Power*/Leistung [kW]
[*8] Portata Aria /*Air flow rate*/Luftdurchsatz.[m^3 / h]
[*9] Rumorosità /*Noise*/Geräuschpegel.[dB]

1.0 - Gruppo di raffreddamento

1.2.4 Dimensioni
Nelle tabelle sottostanti sono riportati gli ingombri dei gruppi:
- SCHEMA A: RFA 1, RFA 2, RFA3;
- SCHEMA B: RFA 3, RFA 4, RFA5, RFA6, RFA7;

1.0 - Cooling Unit

1.2.4 Dimensions
The tables below show units overall dimensions:

- DIAGRAM A: RFA 1, RFA 2, RFA3;
- DIAGRAM B: RFA 3, RFA 4, RFA5, RFA6, RFA7;

1.0 - Kühlanlage

1.2.4 Maße
In den nachstehenden Tabelle werden die Maße der Aggregate angegeben:
- SCHEMA A: RFA 1, RFA 2, RFA3;
- SCHEMA B: RFA 3, RFA 4, RFA5, RFA6, RFA7;

SCHEMA A

RFA 1

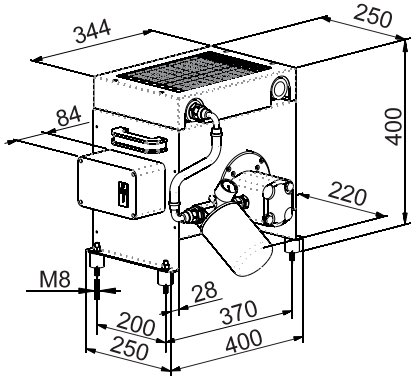
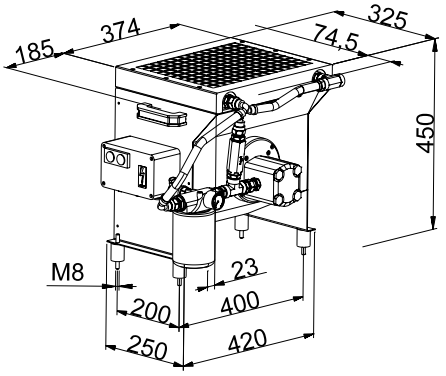


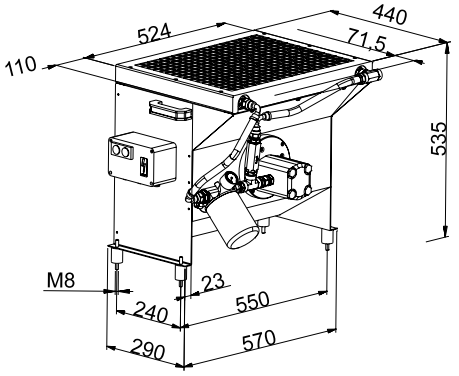
DIAGRAM A

RFA 2



SCHEMA A

RFA 3-A



SCHEMA B

RFA 3-B

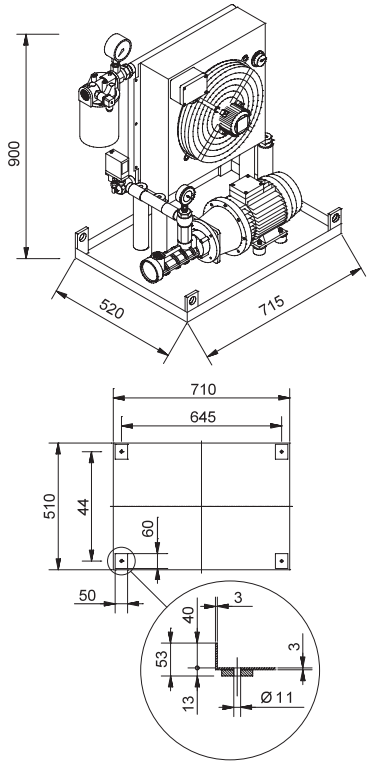
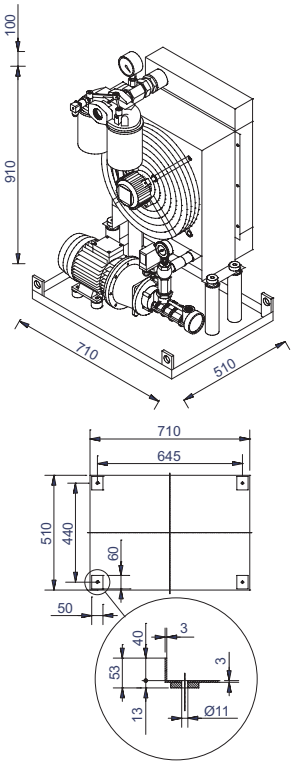


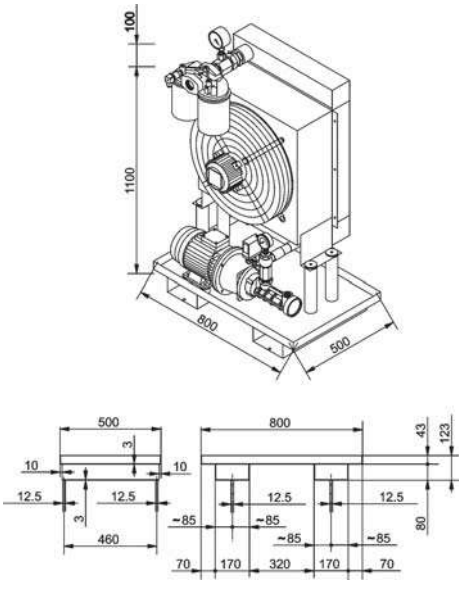
DIAGRAM B

RFA 4



SCHEMA B

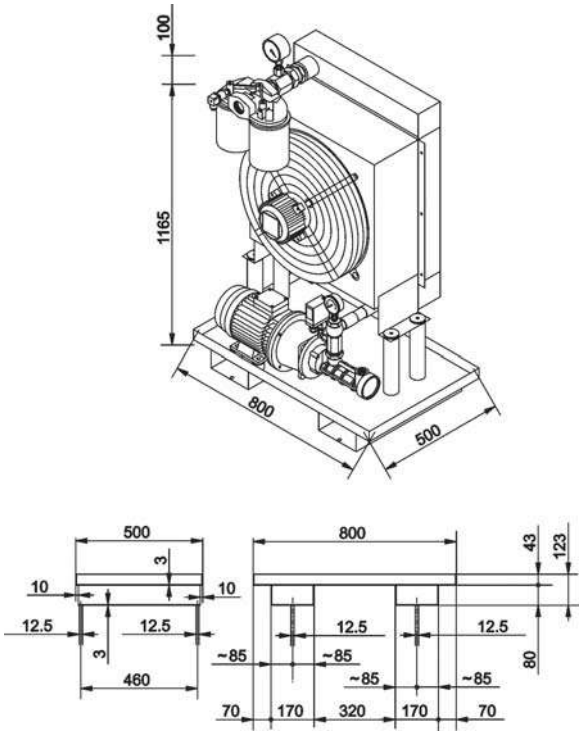
RFA 5



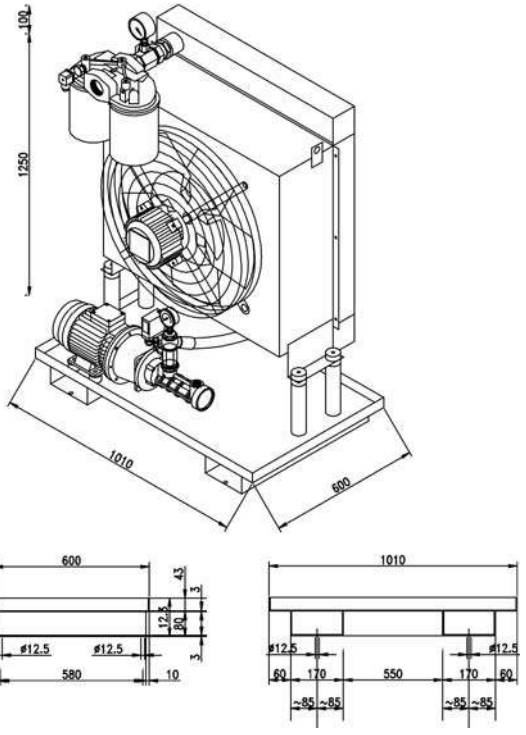
1.0 - Gruppo di raffreddamento | ***1.0 - Cooling Unit*** | **1.0 - Kühlanlage**

SCHEMA B | ***DIAGRAM B*** | **SCHEMA B**

RFA 6



RFA 7



Posizioni di montaggio - Lubrificazione
Mounting positions - Lubrication
Einbaulagen - Schmierung

V

i			V2
EX		A-B C-D	V6
EXB		A-B C-D	V21
		A-B C-D	
EXV		A-B C-D	V29
		L-M N-O	
		A-B C-D	
		L-M N-O	
EXA	 		V36
EXO		A-B C-D	V38
		L-M N-O	
		A-B C-D	
		L-M N-O	

1.5 Lubrificazione

Riduttori

I riduttori vengono invece forniti a secco ed è quindi compito dell'utilizzatore riempirli con olio adeguato (vedere tab. 8.1), prima della messa in opera, servendosi dei tappi di carico, scarico, livello e sfiato, della quantità corrispondente alla specifica posizione di montaggio.

Se richiesti completi di lubrificante, verranno forniti con olio sintetico SHELL OMALA S4 WE 320.

Tutti i riduttori con limitatore di coppia devono essere lubrificati ad olio: **la lubrificazione a grasso non è ammessa.**

Freni - Z0. - Z1. - Z2.

Z0 - L'olio utilizzato per la lubrificazione del freno è lo stesso di quello del riduttore epicicloidale.

Z1-Z2 - Il freno ha la lubrificazione separata da quella del riduttore epicicloidale e vengono invece forniti a secco.

Pertanto si dovrà provvedere al riempimento del freno con olio idraulico di viscosità ISO VG32, utilizzando lo specifico tappo di riempimento.

Se richiesti completi di lubrificante, verranno forniti con olio Shell Hydraulic S1 M ISO VG 32.

1.5 Lubrification

Gearboxes

The units are instead supplied dry and it will be the customer care to fill them with appropriate lubricant (tab. 8.1) prior to putting them into operation, using filler, drain, level and breather plugs and with quantity according to the particular mounting position.

If customer requests supply of gearbox with lubricant, we shall supply them with syntheic oil SHELL OMALA S4 WE 320.
All gearboxes incorporating torque limiters will have to be lubricated with oil: ***grease lubrication is not admitted.***

Brakes - Z0. - Z1. - Z2.

Z0 - Brake oil is the same of Gearboxesoil,

Z1-Z2 - The brake has separated lubrication from the planetary gearbox and the units are instead supplied dry.

For this reason we have to fill the brake with Hydraulic oil viscosity ISO VG32.
For such operation it must be used the specific filling plug.

If customer requests supply of gearbox with lubricant, we shall supply them with Shell Hydraulic S1 M ISO VG 32.

1.5 Schmierung

Getrieben

Die Getriebe dagegen “trocken” geliefert. Der Benutzer muss sie daher vor der Inbetriebsetzung mit dem angemessenen Öl füllen (siehe Tab. 8.1). Das Befüllen kann über die Füll-, Ablass-, Entlüftungs- und Füllstandsschrauben in den der Einbaulage entsprechenden Einbaulagen erfolgen.
Falls diese Getriebe mit Schmiermittelfüllung angefordert werden, werden sie mit dem Synthetiköl SHELL OMALA S4 WE geliefert.
Alle Getriebe mit Rutschkupplung müssen mit Öl geschmiert werden: **Eine Fettschmierung ist hier nicht zulässig**.

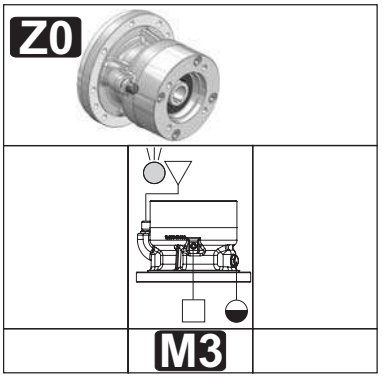
Bremsen - Z0. - Z1. - Z2.

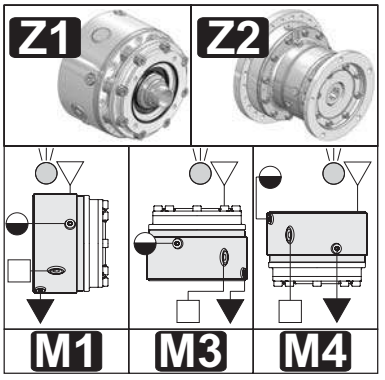
Z0 - Das Öl der Bremse ist gleich von Planetengetriebe.

Z1-Z2 - Die Bremse hat eine separate Schmierung, die von dem Planetengetriebe getrennt ist und “trocken” geliefert.

Deshalb ist beim Befüllen darauf zu achten, dass nur Hydrauliköle gemäß ISO VG32 unter Verwendung des hierfür bestimmten Einfüllstutzens eingefüllt werden.

Falls diese Getriebe mit Schmiermittelfüllung angefordert werden, werden sie mit dem öl Shell Hydraulic S1 M ISO VG 32 geliefert.





	M1	M2	M3
Z0	Look gearbox EX-EXB		
Z1.1 - Z1.2	0.15	0.3	0.3
Z2.2 - Z2.3	0.3	0.6	0.6

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◎ Sfiato / *Vent plug* / Entlüftungsstopfen
□ Attacco Comando Freno/Brake releasing /PlugAnschluss zum Loesen der Bremse

⚠



Z0.1 - Per le posizioni di montaggio M3 è necessario installare il vaso di espansione OT.

Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.

◒ Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello.

Z0.1 - For M3 mounting positions is necessary to install the OT oil tank.

Attention
OT selection: please see ***section E;***
OT installing:please see point 8.3 of use & maintenance manual.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level.

Z0.1 - Bei den Montagepositionen M3 ist es notwendig einen OT Öltank zu installieren.
Achtung **OT** Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches

Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den gekennzeichneten Füllstand genommen werden.

1.5 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:
1) Oli minerali
2) Oli sintetici Poli-Alfa-Olefine
3) Oli sintetici Poli-Glicole

La scelta più appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo. senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.
Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute. Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

1.5 Lubrication

Available oils are typically grouped into three major classes:
1) Mineral oils
2) Poly-Alpha-Olefin synthetic oils
3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.
In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontamined oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry. Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

1.5 Schmierung

Die verfügbaren Öle gehören im Allgemeinen drei großen Familien an:
1) Mineralöle
2) Polyalphaolefine-Synthetiköle
3) Polyglykol-Synthetiköle

Die angemessene Wahl ist im Allgemeinen an die Einsatzbedingungen gebunden. Getriebe, die keinen besonders schweren Belastungen ausgesetzt sind und einem unregelmäßigen Einsatzzyklus unterliegen, ohne starke thermische Ausschläge, können problemlos mit Mineralöl geschmiert werden.
Bei einem Einsatz unter harten Bedingungen, d.h. wenn die Getriebe stark und andauernd belastet werden, woraus sich ein sicherer Temperaturanstieg ergibt, sollten Synthetiköle, Typ Polyalphaolefine (PAO), verwendet werden.
Die Öle, Typ Polyglykole (PG), sind ausschließlich für einen Einsatz ausgelegt, bei denen es zu starken Reibungen zwischen den in Kontakt stehenden Elementen kommt, z.B. bei Schnecken. Bei ihrem Einsatz in besondere Aufmerksamkeit erforderlich, da sie nicht mit anderen Ölen kompatibel sind, sich jedoch vollständig mit Wasser vermischen lassen. Diese Tatsache erweist sich daher als besonders gefährlich, da sie sich nicht feststellen lässt, jedoch die Schmiereigenschaften des Öls bereits nach kurzer Zeit unterdrückt.
Über die bereits genannten Öle hinaus, gibt es auch Öle, die speziell für die Lebensmittelindustrie ausgelegt sind. Diese finden demzufolge dort ihren Einsatz, da es sich dabei um spezielle Produkte handelt, die für die Gesundheit unschädlich sind. Die den jeweiligen Familien angehörigen Ölsorten werden von verschiedenen Herstellern angeboten; sie weisen jeweils sehr ähnliche Eigenschaften auf. Auf der folgenden Seite finden Sie eine entsprechende Vergleichstabelle.

Input speed n_1 (min $^{-1}$)	Absorbed power (kW)	Lubrication system	Viscosity ISO VG at 40° (cSt)	
			i ≤ 10	**i > 10**
2000 < n_1 ≤ 5000	P < 7.5	Forced or Oil splash	68	68
	7.5 ≤ P ≤ 22		68	150
	P > 22		150	220
1000 < n_1 ≤ 2000	P < 7.5	Forced or Oil splash	68	150
	7.5 ≤ P ≤ 37		150	220
	P > 37		220	320
300 < n_1 ≤ 1000	P < 15	Forced Oil splash	68	150
			150	220
	15 ≤ P ≤ 55	Forced Oil splash	150	220
			220	320
	P > 55	Forced Oil splash	220	320
			320	460
50 < n_1 ≤ 300	P < 22	Forced Oil splash	150	220
			220	320
	22 ≤ P ≤ 75	Forced Oil splash	220	320
			320	460
	P > 75	Forced Oil splash	320	460
			460	680

1.5 Lubrificazione

Nel caso di lubrificazione forzata con pompa, qualora siano richieste ISO VG > 220 e/o temperature < 10°C, consultarci.

La tabella è valida per velocità periferiche normali; in caso di velocità > 13m/s, consultarci.

Se la temperatura ambiente T < 0°C ridurre di una gradazione la viscosità prevista in tabella, viceversa aumentarla di una se T > 40°C.

Le temperature ammissibili per gli oli minerali sono:
(-10 = T = 90)°C (fino a 100°C per periodi limitati).

Le temperature ammissibili per gli oli sintetici sono:
(-20 = T= 110)°C (fino a 120°C per periodi limitati).
Per temperature dell'olio esterne a quelle ammissibili per il minerale e per aumentare l'intervallo di sostituzione del lubrificante adottare olio sintetico a base di polialfaolefine.

1.5 Lubrification

In case of forced lubrication by pump, when ISO VG > 220 and/or temperatures < 10°C, are requested, it is advisable to contact us.

The table is valid for normal peripheral speeds; in case of speed > 13 m/s, contact us.

If the environment temperature T < 0°C, decrease viscosity class by one, vice versa increase by one if T > 40°C.

Permissible temperatures for mineral oil are:

(-10 =T = 90)°C, up to 100°C for a short time.

Permissible temperatures for synthetic oil are:
(-20 = T = 110)°C, up to 120°C for a short time.

If the oil temperature is not permissible for mineral oil and for decreasing frequency of oil change, use synthetic oil with polyalphaolefins (PAOs).

1.5 Schmierung

Im Fall einer Zwangsschmierung über eine Pumpe, falls die ISO VG > 220 und/oder Temperaturen < 10°C gefordert werden, setzen Sie sich bitte mit uns in Verbindung.

Die Tabelle ist für normale Umfangsgeschwindigkeiten gültig. Bei Geschwindigkeiten > 13m/s, setzen Sie sich bitte mit uns in Verbindung.

Bei einer Umgebungstemperatur T < 0°C den von der Tabelle vorgesehenen Viskositätsgrad um eine Gradation mindern und, im entgegengesetzten Fall, bei einer Temperatur T > 40°C, um eine anheben.
Für Mineralöle zulässige Temperaturen:

(-10 = T = 90) °C (bis 100°C über begrenzte Zeiträume).
Für Synthetiköle zulässige Temperaturen:
(-20 = T = 110) °C (bis 120°C über begrenzte Zeiträume).

Bei Temperaturen, die diese für Mineralöle zulässigen Werte überschreiten und um die Auswechselzeiten verlängern zu können, sollte Synthetiköl auf Basis von Polyalphaolefinen verwendet werden.

Produttore *Manufacturer* Hersteller	Oli Minerali *Mineral oils* Mineralöle			Oli Sintetici Polialfaolefine (PAO) *Poly-Alpha-Olefin synthetic oils (PAO)* Polyalphaolefine- Synthetiköle (PAO)			Oli Sintetici Poliglicoli (PG) *Polyglycol synthetic oils(PG)* Polyglykol-Synthetiköle (PG)		
	ISO VG	**ISO VG**	**ISO VG**	**ISO VG**	**ISO VG**	**ISO VG**	**ISO VG**	**ISO VG**	**ISO VG**
	150	**220**	**320**	**150**	**220**	**320**	**150**	**220**	**320**
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Enersyn EPX 150	Enersyn EPX 220	Enersyn EPX 320	Enersyn SG 150	Enersyn SG-XP 220	Enersyn SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	AlphaSP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÜBER	Klüberoil GEM 1-150	Klüberoil GEM 1-220	Klüberoil GEM 1-320	Klübersynth EG 4-150	Klübersynth EG 4-220	Klübersynth EG 4-320	Klübersynth GH 6-150	Klübersynth GH 6-220	Klübersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	OMALA S2 G 150	OMALA S2 G 220	OMALA S2 G 320	Omala S4 GX 150	Omala S4 GX 220	Omala S4 GX 320	OMALA S4 WE 150	OMALA S4 WE 220	**OMALA S4 WE 320**
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800\150	800\220	800\320

Lubrificanti sintetici per uso alimentare / *Food-grade synthetic lubricants* / Schmiermittel Synthetik für Lebensmittelbereich

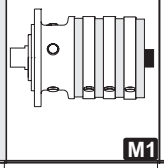
AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLÜBER				Klüberoil 4 UH1 N 150	Klüberoil 4 UH1 N 220	Klüberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

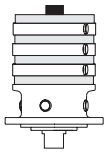
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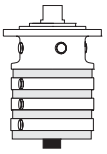
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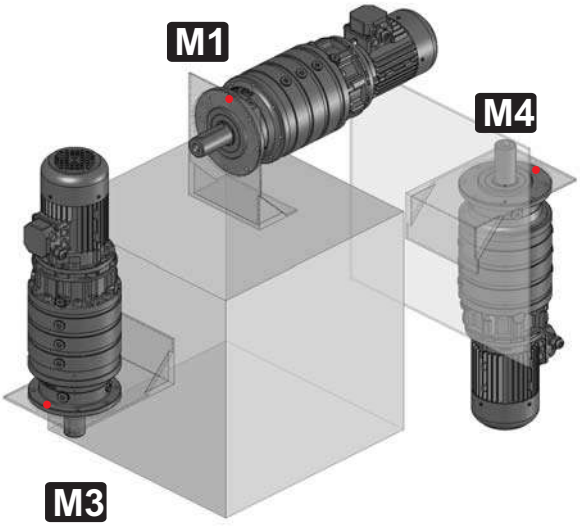
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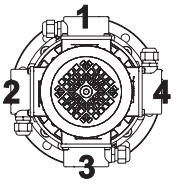






	M1				M3				M4			
10	0,6	0,8	1,0	1,2	1,0	1,3	1,7	2,1	0,9	1,3	1,6	2,0
20	0,7	0,9	1,1	1,3	1,1	1,5	1,9	2,3	1,1	1,4	1,8	2,2
25	0,6	0,8	1,0	1,3	1,0	1,4	1,8	2,2	1,0	1,4	1,7	2,1
30-35	0,9	1,3	1,5	1,8	1,6	2,3	2,7	3,0	1,5	2,2	2,5	2,9
40		1,4	1,7	1,9		2,5	2,9	3,2		2,3	2,7	3,1
50	1,0	1,5	1,8	2,0	1,8	2,7	3,0	3,4	1,7	2,5	2,9	3,2
70	1,0	1,4	1,7	1,9	1,7	2,5	2,9	3,2	1,6	2,3	2,7	3,1
80	1,6	2,6	2,9	3,1	2,8	4,6	4,9	5,3	2,6	4,3	4,7	5,0
90-95		2,9	3,1	3,4		5,0	5,4	5,8		4,8	5,1	5,5
100	1,9	3,0	3,5	3,7	3,2	5,2	6,1	6,5	3,1	5,0	5,8	6,1
150	2,1	3,0	3,5	3,7	3,7	5,2	6,1	6,5	3,5	5,0	5,8	6,1
180		3,0	3,5	3,7		5,2	6,1	6,5		5,0	5,8	6,1
200	2,1	3,0	3,4	3,6	3,7	5,1	5,9	6,3	3,5	4,9	5,6	5,9
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**

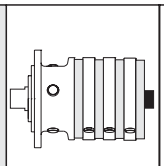


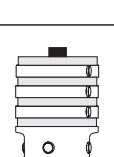


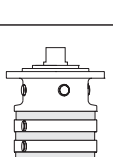
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

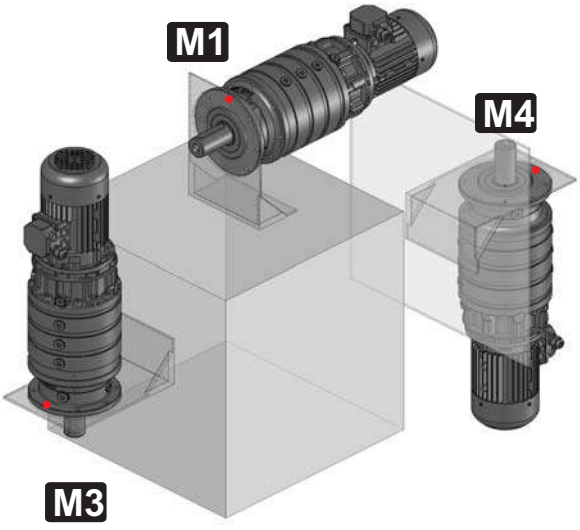
M

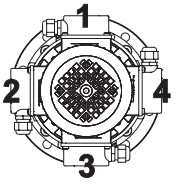






	M1				M3				M4			
10	0,7	0,9	1,1	1,3	1,1	1,5	1,9	2,3	1,1	1,4	1,8	2,2
20	0,8	1,0	1,2	1,4	1,3	1,7	2,1	2,5	1,3	1,6	2,0	2,3
25	0,7	0,9	1,2	1,4	1,2	1,6	2,0	2,4	1,2	1,5	1,9	2,3
30-35	1,0	1,4	1,7	1,9	1,8	2,5	2,9	3,2	1,7	2,3	2,7	3,1
40		1,5	1,8	2,0		2,7	3,0	3,4		2,5	2,9	3,2
50	1,2	1,7	1,9	2,1	2,0	2,9	3,2	3,6	1,9	2,7	3,1	3,4
70	1,1	1,5	1,8	2,0	1,9	2,7	3,0	3,4	1,8	2,5	2,9	3,2
80	1,7	2,7	2,9	3,1	2,9	4,7	5,0	5,4	2,7	4,4	4,8	5,1
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**





1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

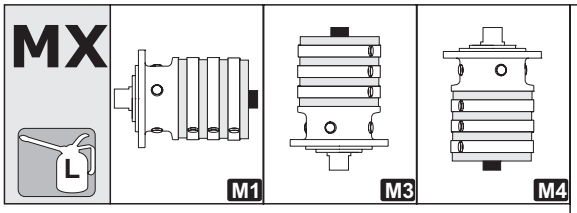


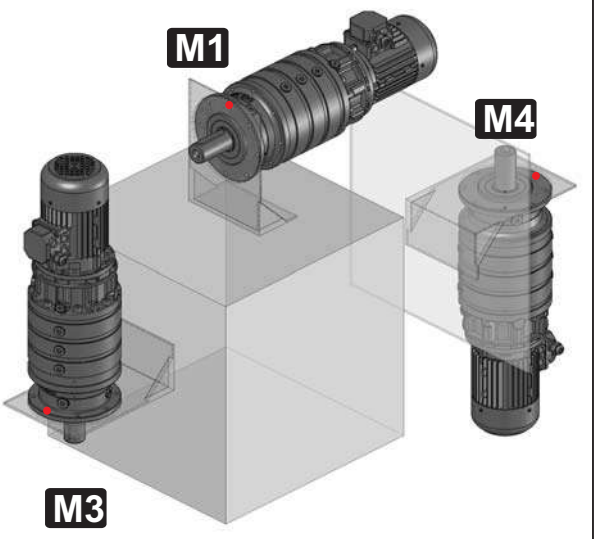
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

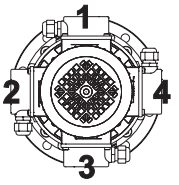
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

MX





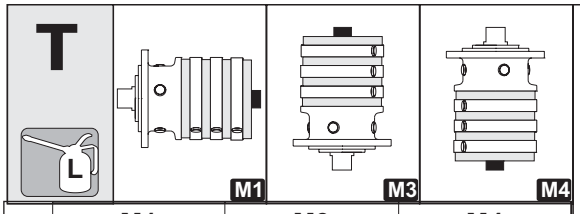


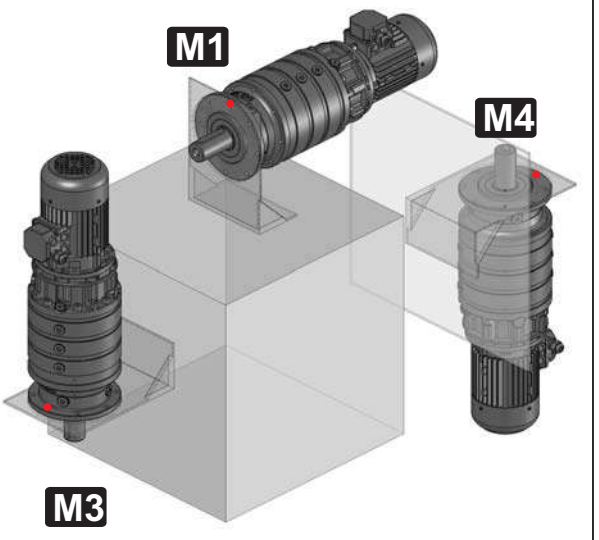
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

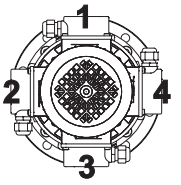
	M1				M3				M4			
30-35	1,0	1,4	1,7	1,9	1,8	2,5	2,9	3,2	1,7	2,3	2,7	3,1
40		1,5	1,8	2,0		2,7	3,0	3,4		2,5	2,9	3,2
50	1,2	1,7	1,9	2,1	2,0	2,9	3,2	3,6	1,9	2,7	3,1	3,4
70	1,1	1,5	1,8	2,0	1,9	2,7	3,0	3,4	1,8	2,5	2,9	3,2
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

T







1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

	M1				M3				M4			
30 35	1,5	1,9	2,1	2,4	2,7	3,3	3,7	4,1	2,5	3,2	3,5	3,9
40		2,0	2,3	2,5		3,5	3,9	4,3		3,3	3,7	4,1
50	1,7	2,1	2,4	2,6	2,9	3,7	4,1	4,5	2,7	3,5	3,9	4,2
70	1,6	2,0	2,3	2,5	2,8	3,5	3,9	4,3	2,6	3,3	3,7	4,1
80	2,5	3,5	3,7	4,0	4,3	6,1	6,5	6,8	4,1	5,8	6,1	6,5
90 95		3,7	3,9	4,1		6,4	6,7	7,1		6,0	6,4	6,8
100	2,6	3,8	4,3	4,5	4,6	6,6	7,4	7,8	4,3	6,2	7,0	7,4
150	3,1	4,0	4,5	4,7	5,4	6,9	7,8	8,2	5,1	6,6	7,4	7,7
180		4,0	4,5	4,7		6,9	7,8	8,2		6,6	7,4	7,7
200	3,1	4,0	4,4	4,6	5,4	6,8	7,6	8,0	5,1	6,5	7,2	7,6
250	4,2	5,7	6,7	6,9	7,3	9,8	11,6	12,0	6,9	9,3	11,0	11,3
280		5,8	7,0	7,2		10,1	12,1	12,4		9,5	11,4	11,8
300	5,0	6,5	7,7	7,9	8,6	11,3	13,3	13,7	8,1	10,7	12,6	13,0
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

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A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.

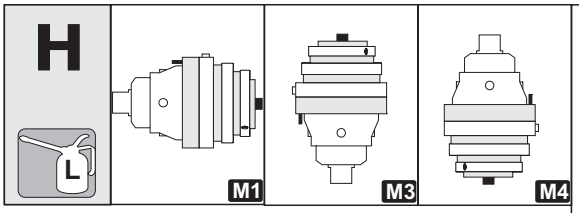
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.

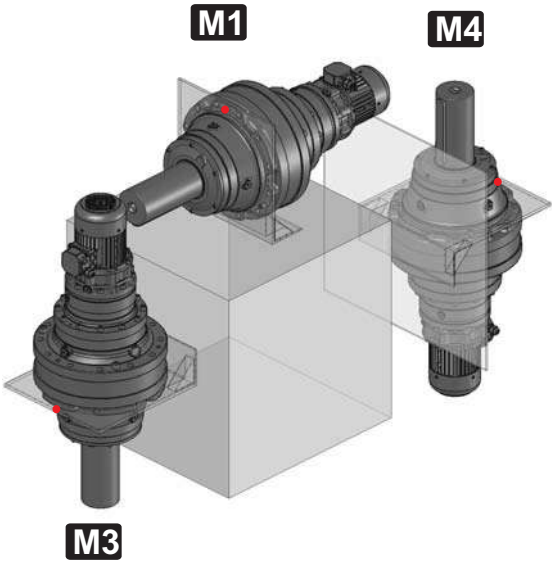
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

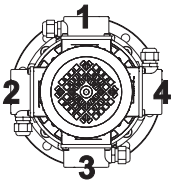
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

H





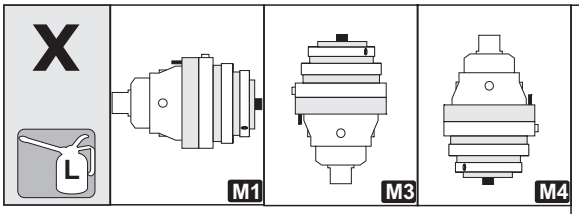


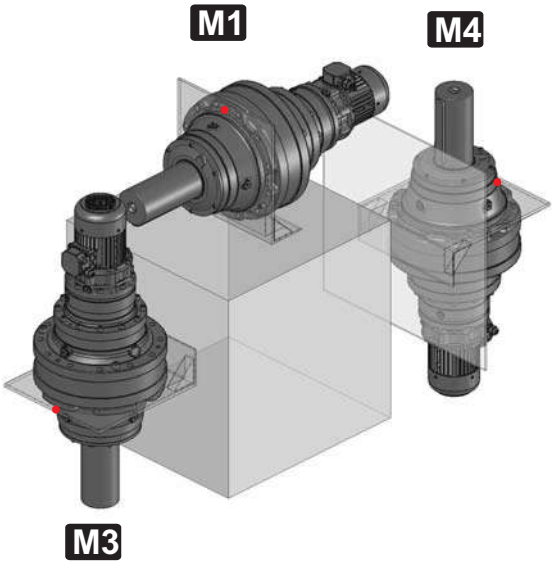
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

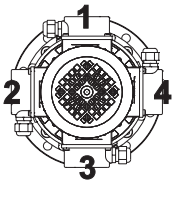
	M1				M3				M4			
150	2,4	3,2	3,7	4,0	4,1	5,6	6,5	6,8	3,9	5,3	6,1	6,5
180		3,2	3,7	4,0		5,6	6,5	6,8		5,3	6,1	6,5
200	2,4	3,2	3,6	3,9	4,1	5,5	6,3	6,7	3,9	5,2	5,9	6,3
250	3,4	4,8	5,9	6,1	5,9	8,4	10,2	10,5	5,6	7,9	9,6	10,0
280		5,0	6,2	6,4		8,6	10,6	11,0		8,2	10,1	10,4
300	3,6	5,2	6,3	6,5	6,2	8,9	10,9	11,3	5,9	8,5	10,4	10,7
EX	1	2	3	4	1	2	3	4	1	2	3	4

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

X







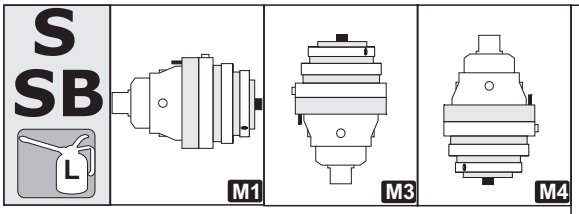
	M1				M3				M4			
150	3,1	4,0	4,5	4,7	5,4	6,9	7,8	8,2	5,1	6,6	7,4	7,7
180		4,0	4,5	4,7		6,9	7,8	8,2		6,6	7,4	7,7
200	3,1	4,0	4,4	4,6	5,4	6,8	7,6	8,0	5,1	6,5	7,2	7,6
EX	1	2	3	4	1	2	3	4	1	2	3	4

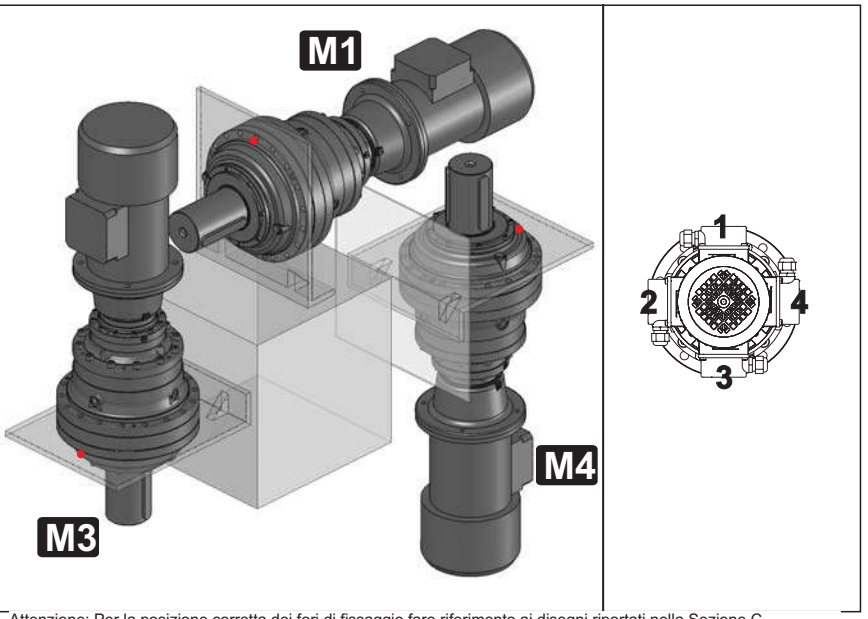
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.





	M1				M3				M4			
350 360	2,5	4,5	5,6	5,8	4,4	7,7	9,7	10,1	4,1	7,3	9,2	9,5
420	2,5	4,6	5,5	6,0	4,4	8,0	9,5	10,4	4,1	7,6	9,0	9,8
600 650	4,3	8,1	9,5	10,6	7,4	14,0	16,4	18,2	7,0	13,2	15,6	17,3
800 850	4,3	8,0	9,6	10,8	7,5	13,9	16,6	18,6	7,1	13,1	15,8	17,6
>850	*											
EX	1	2	3	4	1	2	3	4	1	2	3	4

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

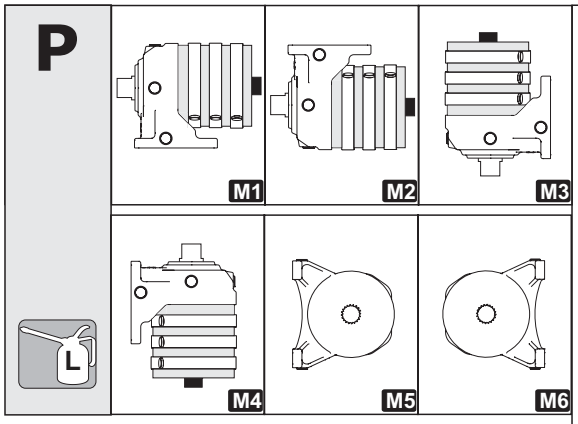
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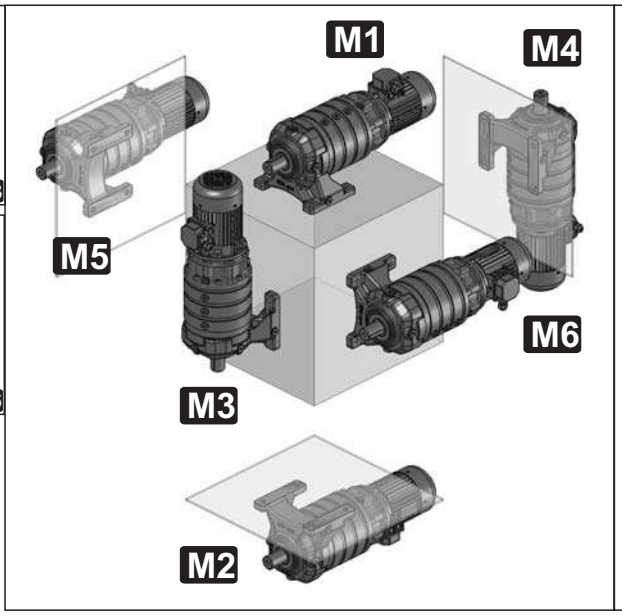


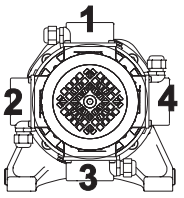
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.







	M1				M2				M3				M4				M5				M6			
10	0,8	1,0	1,2	1,4	0,8	1,0	1,2	1,4	1,3	1,7	2,1	2,5	1,3	1,6	2,0	2,3	0,8	1,0	1,2	1,4	0,8	1,0	1,2	1,4
20	0,9	1,1	1,3	1,5	0,9	1,1	1,3	1,5	1,5	1,9	2,3	2,7	1,4	1,8	2,2	2,5	0,9	1,1	1,3	1,5	0,9	1,1	1,3	1,5
25	0,8	1,0	1,3	1,5	0,8	1,0	1,3	1,5	1,4	1,8	2,2	2,6	1,4	1,7	2,1	2,4	0,8	1,0	1,3	1,5	0,8	1,0	1,3	1,5
30-35	1,6	2,0	2,2	2,4	1,6	2,0	2,2	2,4	2,8	3,4	3,8	4,2	2,6	3,2	3,6	4,0	1,6	2,0	2,2	2,4	1,6	2,0	2,2	2,4
40		2,1	2,3	2,5		2,1	2,3	2,5		3,6	4,0	4,4		3,4	3,8	4,1		2,1	2,3	2,5		2,1	2,3	2,5
50	1,7	2,2	2,4	2,6	1,7	2,2	2,4	2,6	2,9	3,8	4,2	4,6	2,8	3,6	4,0	4,3	1,7	2,2	2,4	2,6	1,7	2,2	2,4	2,6
70	1,7	2,1	2,3	2,5	1,7	2,1	2,3	2,5	2,9	3,6	4,0	4,4	2,7	3,4	3,8	4,1	1,7	2,1	2,3	2,5	1,7	2,1	2,3	2,5
80	2,3	3,3	3,5	3,7	2,3	3,3	3,5	3,7	3,9	5,7	6,1	6,5	3,7	5,4	5,8	6,1	2,3	3,3	3,5	3,7	2,3	3,3	3,5	3,7
90-95		3,6	3,8	4,0		3,6	3,8	4,0		6,2	6,6	6,9		5,9	6,2	6,6		3,6	3,8	4,0		3,6	3,8	4,0
100	2,5	3,7	4,2	4,4	2,5	3,7	4,2	4,4	4,4	6,4	7,2	7,6	4,1	6,0	6,8	7,2	2,5	3,7	4,2	4,4	2,5	3,7	4,2	4,4
150	3,2	4,1	4,6	4,8	3,2	4,1	4,6	4,8	5,6	7,1	8,0	8,4	5,3	6,8	7,6	7,9	3,2	4,1	4,6	4,8	3,2	4,1	4,6	4,8
180		4,1	4,6	4,8		4,1	4,6	4,8		7,1	8,0	8,4		6,8	7,6	7,9		4,1	4,6	4,8		4,1	4,6	4,8
200	3,2	4,1	4,5	4,7	3,2	4,1	4,5	4,7	5,6	7,0	7,8	8,2	5,3	6,7	7,4	7,7	3,2	4,1	4,5	4,7	3,2	4,1	4,5	4,7
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**



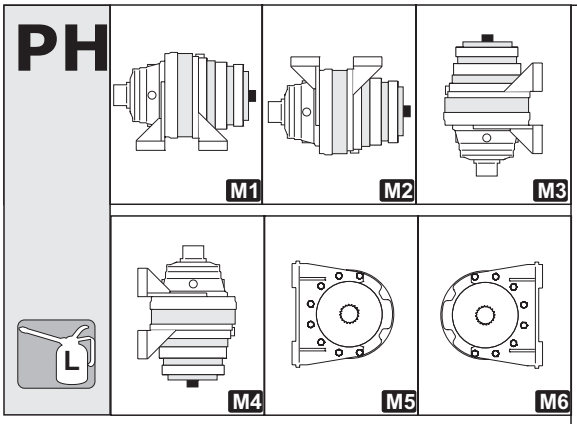
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.

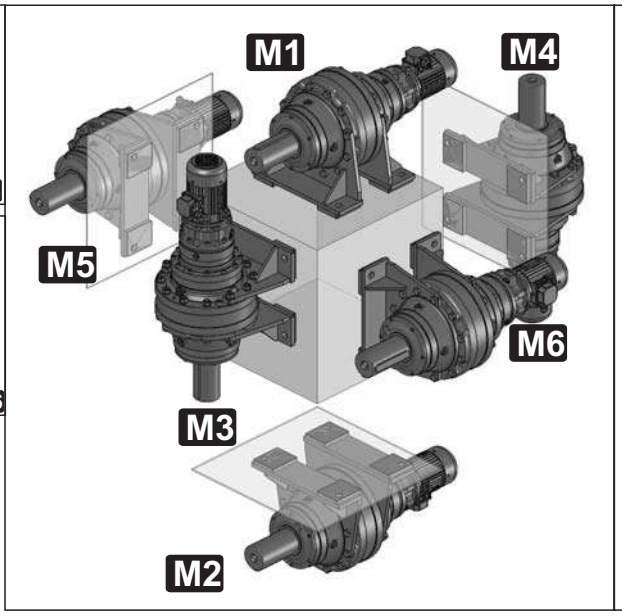
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.

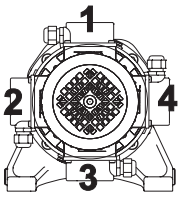
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.







	M1				M2				M3				M4				M5				M6			
150	2,4	3,2	3,7	4,0	2,4	3,2	3,7	4,0	4,1	5,6	6,5	6,8	3,9	5,3	6,1	6,5	2,4	3,2	3,7	4,0	2,4	3,2	3,7	4,0
180		3,2	3,7	4,0		3,2	3,7	4,0		5,6	6,5	6,8		5,3	6,1	6,5		3,2	3,7	4,0		3,2	3,7	4,0
200	2,4	3,2	3,6	3,9	2,4	3,2	3,6	3,9	4,1	5,5	6,3	6,7	3,9	5,2	5,9	6,3	2,4	3,2	3,6	3,9	2,4	3,2	3,6	3,9
250	3,4	4,8	5,9	6,1	3,4	4,8	5,9	6,1	5,9	8,4	10,2	10,5	5,6	7,9	9,6	10,0	3,4	4,8	5,9	6,1	3,4	4,8	5,9	6,1
280		5,0	6,2	6,4		5,0	6,2	6,4		8,6	10,6	11,0		8,2	10,1	10,4		5,0	6,2	6,4		5,0	6,2	6,4
300	3,6	5,2	6,3	6,5	3,6	5,2	6,3	6,5	6,2	8,9	10,9	11,3	5,9	8,5	10,4	10,7	3,6	5,2	6,3	6,5	3,6	5,2	6,3	6,5
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4



A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.

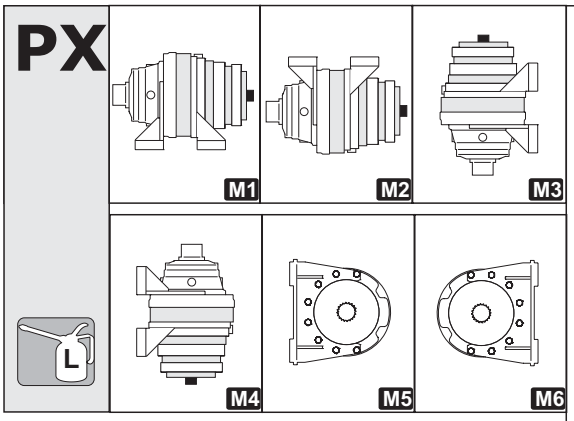
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.

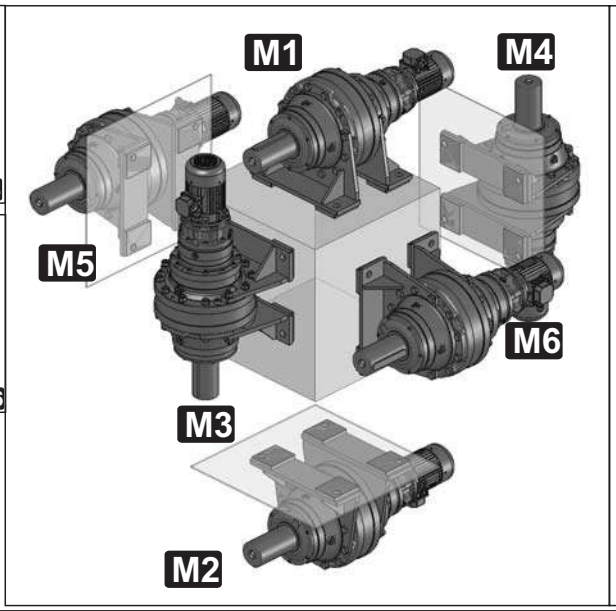
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

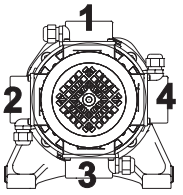
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

PX

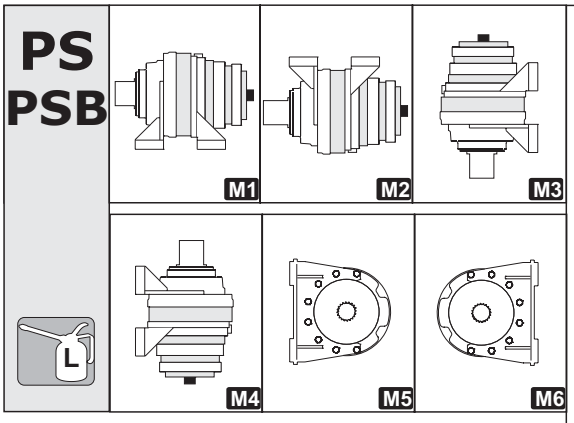


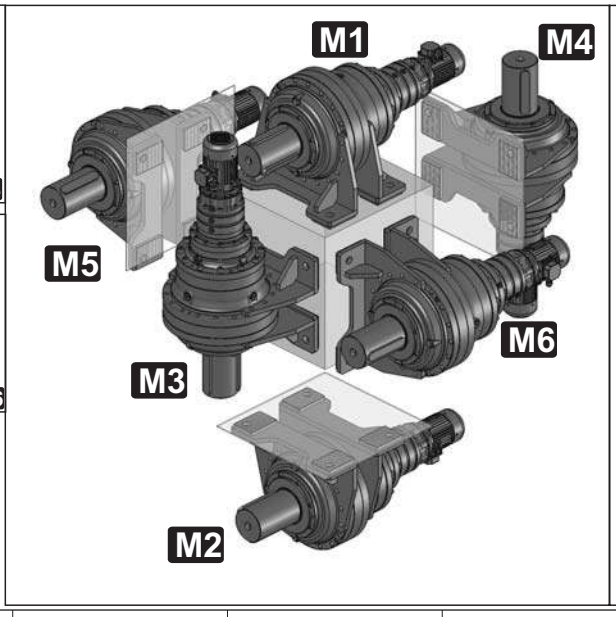


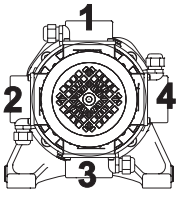


	M1				M2				M3				M4				M5				M6			
150	3,1	4,0	4,5	4,7	3,1	4,0	4,5	4,7	5,4	6,9	7,8	8,2	5,1	6,6	7,4	7,7	3,1	4,0	4,5	4,7	3,1	4,0	4,5	4,7
180		4,0	4,5	4,7		4,0	4,5	4,7		6,9	7,8	8,2		6,6	7,4	7,7		4,0	4,5	4,7		4,0	4,5	4,7
200	3,1	4,0	4,4	4,6	3,1	4,0	4,4	4,6	5,4	6,8	7,6	8,0	5,1	6,5	7,2	7,6	3,1	4,0	4,4	4,6	3,1	4,0	4,4	4,6
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

PS
PSB







	M1				M2				M3				M4				M5				M6			
350-360	2,5	4,5	5,6	5,8	2,5	4,5	5,6	5,8	4,4	7,7	9,7	10,1	4,1	7,3	9,2	9,5	2,5	4,5	5,6	5,8	2,5	4,5	5,6	5,8
420	2,5	4,6	5,5	6,0	2,5	4,6	5,5	6,0	4,4	8,0	9,5	10,4	4,1	7,6	9,0	9,8	2,5	4,6	5,5	6,0	2,5	4,6	5,5	6,0
600-650	4,3	8,1	9,5	10,6	4,3	8,1	9,5	10,6	7,4	14,0	16,4	18,2	7,0	13,2	15,6	17,3	4,3	8,1	9,5	10,6	4,3	8,1	9,5	10,6
800-850	4,3	8,0	9,6	10,8	4,3	8,0	9,6	10,8	7,5	13,9	16,6	18,6	7,1	13,1	15,8	17,6	4,3	8,0	9,6	10,8	4,3	8,0	9,6	10,8
>850	* Contattare nostro ufficio tecnico commerciale / * Please, contact our technical sales dept. / * Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung																							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);

B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);

C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.

Attenzione

Scelta grandezza OT: **Sezione E**;

Installazione OT : **Punto 8.3** manuale uso e manutenzione.

D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);

B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);

C. For M3 and M4 mounting positions is necessary to install the OT oil tank.

Attention

*OT selection: please see **section E;***

OT installing:please see point 8.3 of use & maintenance manual.

D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C

B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C

C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.

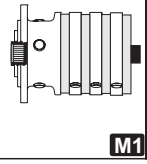
Achtung OT Auswahl: Siehe Sektion E;

OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches

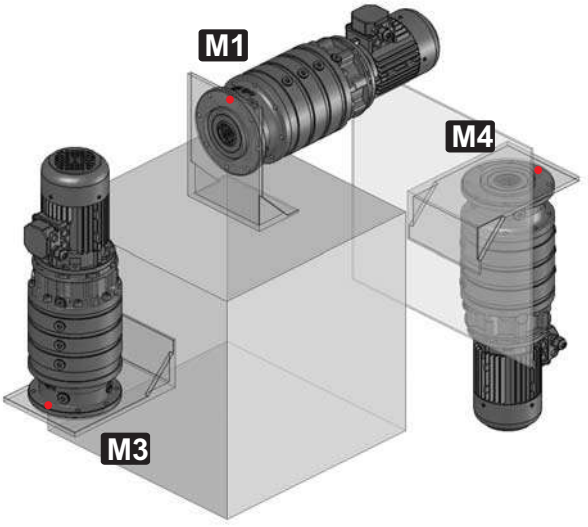
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

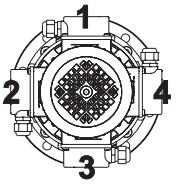
F





	M1				M3				M4			
10	0,6	0,8	1,0	1,2	1,0	1,3	1,7	2,1	0,9	1,3	1,6	2,0
20	0,7	0,9	1,1	1,3	1,1	1,5	1,9	2,3	1,1	1,4	1,8	2,2
25	0,6	0,8	1,0	1,3	1,0	1,4	1,8	2,2	1,0	1,4	1,7	2,1
30-35	0,9	1,3	1,5	1,8	1,6	2,3	2,7	3,0	1,5	2,2	2,5	2,9
40		1,4	1,7	1,9		2,5	2,9	3,2		2,3	2,7	3,1
50	1,0	1,5	1,8	2,0	1,8	2,7	3,0	3,4	1,7	2,5	2,9	3,2
70	1,0	1,4	1,7	1,9	1,7	2,5	2,9	3,2	1,6	2,3	2,7	3,1
80	1,6	2,6	2,9	3,1	2,8	4,6	4,9	5,3	2,6	4,3	4,7	5,0
90-95		2,9	3,1	3,4		5,0	5,4	5,8		4,8	5,1	5,5
100	1,9	3,0	3,5	3,7	3,2	5,2	6,1	6,5	3,1	5,0	5,8	6,1
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**



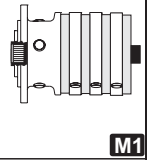


1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

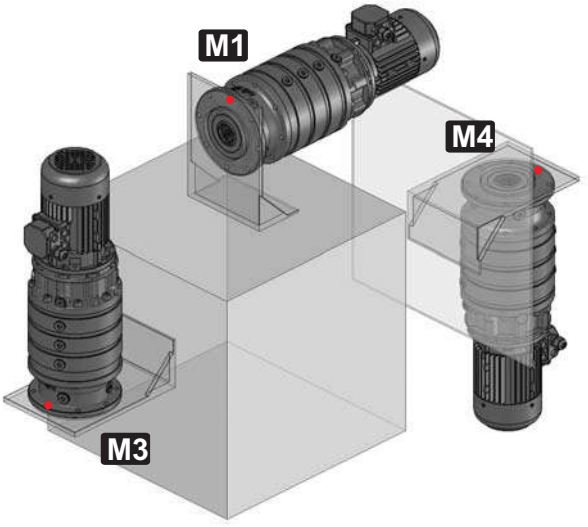
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

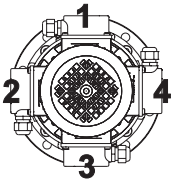
FB





	M1				M3				M4			
80	1,6	2,6	2,9	3,1	2,8	4,6	4,9	5,3	2,6	4,3	4,7	5,0
90		2,9	3,1	3,4		5,0	5,4	5,8		4,8	5,1	5,5
100	1,9	3,0	3,5	3,7	3,2	5,2	6,1	6,5	3,1	5,0	5,8	6,1
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**





1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend



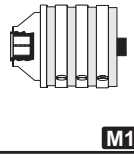
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

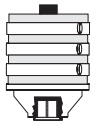
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

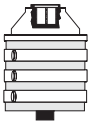
A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

FS

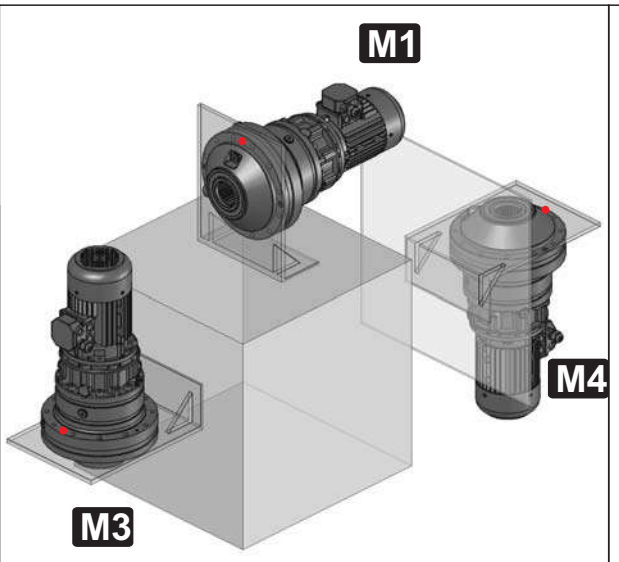


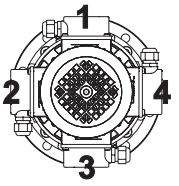






	M1				M3				M4			
10	0,4	0,6	0,8	1,0	0,7	1,0	1,4	1,8	0,6	1,0	1,4	1,7
20	0,5	0,7	0,9	1,2	0,9	1,2	1,6	2,0	0,8	1,2	1,5	1,9
25	0,4	0,7	0,9	1,1	0,8	1,1	1,5	1,9	0,7	1,1	1,4	1,8
30-35	0,7	1,1	1,3	1,5	1,2	1,9	2,3	2,7	1,2	1,8	2,2	2,5
40		1,2	1,4	1,7		2,1	2,5	2,9		2,0	2,3	2,7
50	0,8	1,3	1,5	1,8	1,4	2,3	2,7	3,0	1,4	2,2	2,5	2,9
70	0,8	1,2	1,4	1,7	1,3	2,1	2,5	2,9	1,3	2,0	2,3	2,7
80	1,0	2,1	2,3	2,5	1,8	3,6	4,0	4,4	1,7	3,4	3,8	4,1
90-95		2,3	2,5	2,7		3,9	4,3	4,7		3,7	4,1	4,4
100	1,2	2,4	2,9	3,1	2,1	4,1	4,9	5,3	2,0	3,9	4,7	5,0
150	1,5	2,4	2,9	3,1	2,6	4,1	4,9	5,3	2,4	3,9	4,7	5,0
180		2,4	2,9	3,1		4,1	4,9	5,3		3,9	4,7	5,0
200	1,5	2,3	2,8	3,0	2,6	4,0	4,8	5,1	2,4	3,8	4,5	4,9
EX	1	2	3	4	1	2	3	4	1	2	3	4



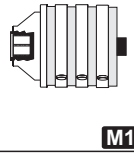


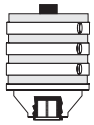
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

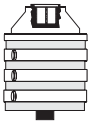
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

FS

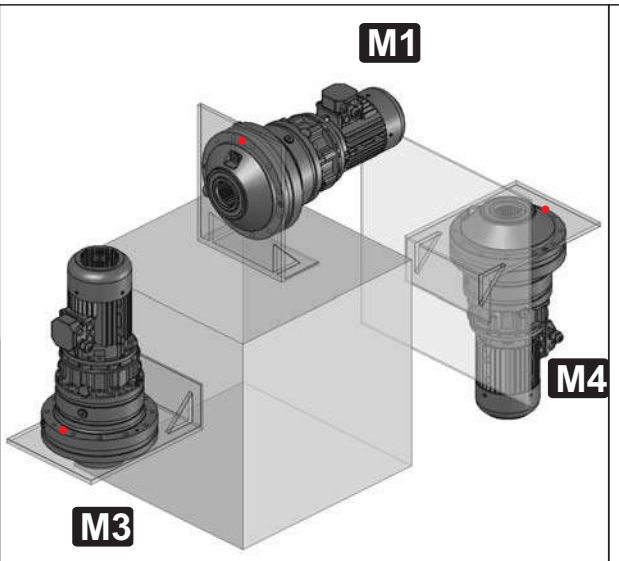


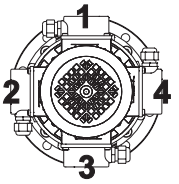






	M1				M3				M4			
250	2,6	4,0	5,1	5,3	4,5	6,9	8,7	9,1	4,2	6,6	8,3	8,6
280	2,6	4,2	5,3	5,6	4,5	7,2	9,2	9,6	4,2	6,8	8,7	9,1
300	2,5	4,1	5,3	5,5	4,4	7,1	9,1	9,5	4,1	6,8	8,6	9,0
350 360	2,5	4,5	5,6	5,8	4,4	7,7	9,7	10,1	4,1	7,3	9,2	9,5
420	2,5	4,6	5,5	6,0	4,4	8,0	9,5	10,4	4,1	7,6	9,0	9,8
600 650	4,3	8,1	9,5	10,6	7,4	14,0	16,4	18,2	7,0	13,2	15,6	17,3
800 850	4,3	8,0	9,6	10,8	7,5	13,9	16,6	18,6	7,1	13,1	15,8	17,6
>850	*											
EX	1	2	3	4	1	2	3	4	1	2	3	4





1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

* Contattare nostro ufficio tecnico commerciale / * Please, contact our technical sales dept. / * Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung



A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.

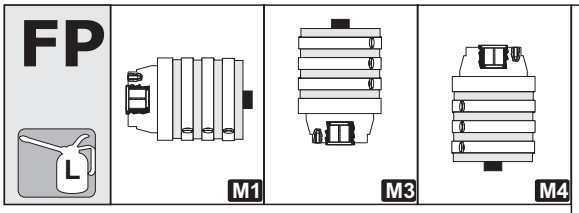
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.

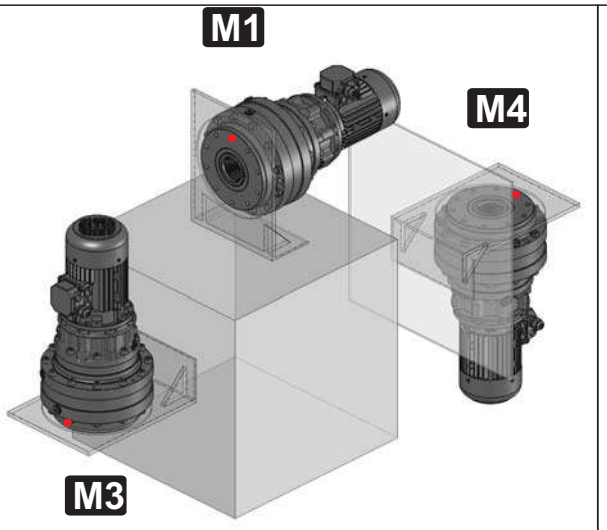
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

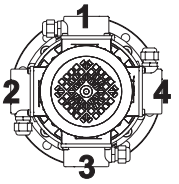
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

FP





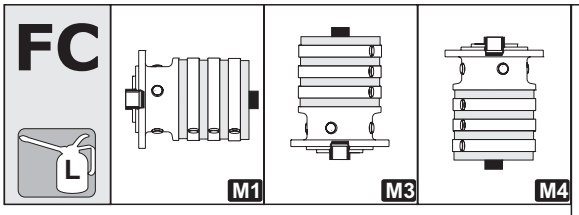


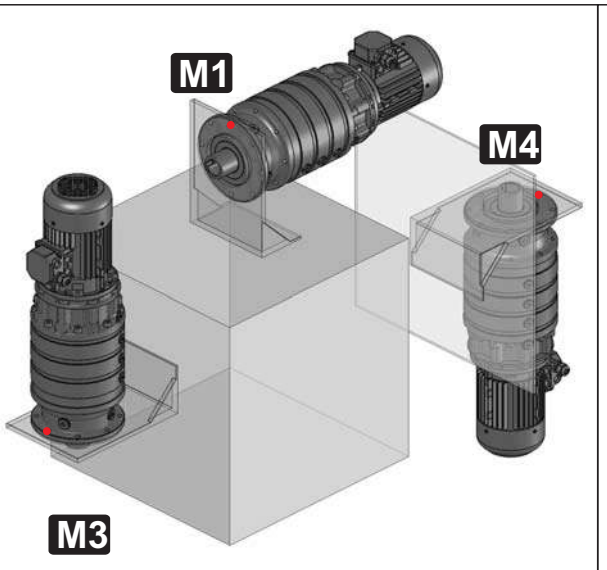
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

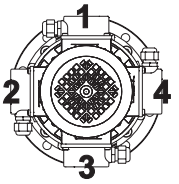
	M1				M3				M4			
30-35	0,7	1,1	1,3	1,5	1,2	1,9	2,3	2,7	1,2	1,8	2,2	2,5
40		1,2	1,4	1,7		2,1	2,5	2,9		2,0	2,3	2,7
50	0,8	1,3	1,5	1,8	1,4	2,3	2,7	3,0	1,4	2,2	2,5	2,9
70	0,8	1,2	1,4	1,7	1,3	2,1	2,5	2,9	1,3	2,0	2,3	2,7
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

FC







1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

	M1				M3				M4			
10	0,6	0,8	1,0	1,2	1,0	1,3	1,7	2,1	0,9	1,3	1,6	2,0
20	0,7	0,9	1,1	1,3	1,1	1,5	1,9	2,3	1,1	1,4	1,8	2,2
25	0,6	0,8	1,0	1,3	1,0	1,4	1,8	2,2	1,0	1,4	1,7	2,1
30-35	0,9	1,3	1,5	1,8	1,6	2,3	2,7	3,0	1,5	2,2	2,5	2,9
40		1,4	1,7	1,9		2,5	2,9	3,2		2,3	2,7	3,1
50	1,0	1,5	1,8	2,0	1,8	2,7	3,0	3,4	1,7	2,5	2,9	3,2
70	1,0	1,4	1,7	1,9	1,7	2,5	2,9	3,2	1,6	2,3	2,7	3,1
80	1,6	2,6	2,9	3,1	2,8	4,6	4,9	5,3	2,6	4,3	4,7	5,0
90-95		2,9	3,1	3,4		5,0	5,4	5,8		4,8	5,1	5,5
100	1,9	3,0	3,5	3,7	3,2	5,2	6,1	6,5	3,1	5,0	5,8	6,1
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

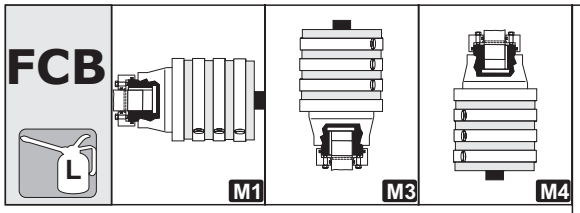


A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

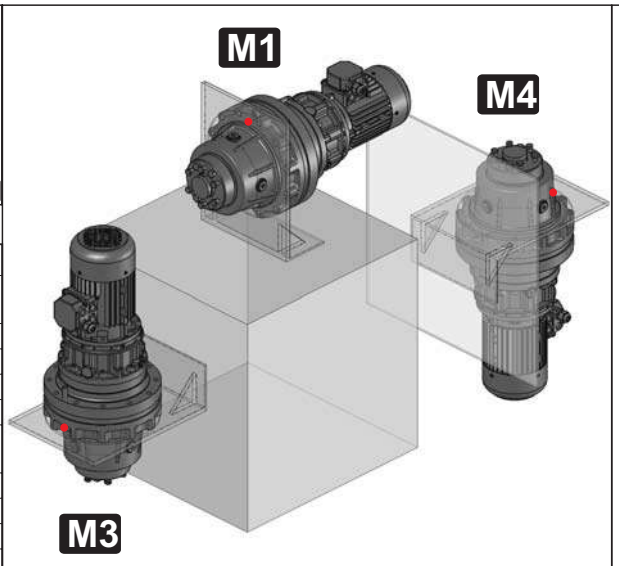
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

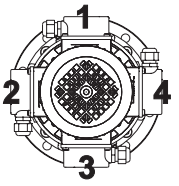
A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

FCB



	M1				M3				M4			
30 35	0,9	1,3	1,5	1,8	1,6	2,3	2,7	3,0	1,5	2,2	2,5	2,9
40		1,4	1,7	1,9		2,5	2,9	3,2		2,3	2,7	3,1
50	1,0	1,5	1,8	2,0	1,8	2,7	3,0	3,4	1,7	2,5	2,9	3,2
70	1,0	1,4	1,7	1,9	1,7	2,5	2,9	3,2	1,6	2,3	2,7	3,1
80	1,6	2,6	2,9	3,1	2,8	4,6	4,9	5,3	2,6	4,3	4,7	5,0
90 95		2,9	3,1	3,4		5,0	5,4	5,8		4,8	5,1	5,5
100	1,9	3,0	3,5	3,7	3,2	5,2	6,1	6,5	3,1	5,0	5,8	6,1
150	2,4	3,2	3,7	4,0	4,1	5,6	6,5	6,8	3,9	5,3	6,1	6,5
180		3,2	3,7	4,0		5,6	6,5	6,8		5,3	6,1	6,5
200	2,4	3,2	3,6	3,9	4,1	5,5	6,3	6,7	3,9	5,2	5,9	6,3
250	3,4	4,8	5,9	6,1	5,9	8,4	10,2	10,5	5,6	7,9	9,6	10,0
280		5,0	6,2	6,4		8,6	10,6	11,0		8,2	10,1	10,4
EX	1	2	3	4	1	2	3	4	1	2	3	4

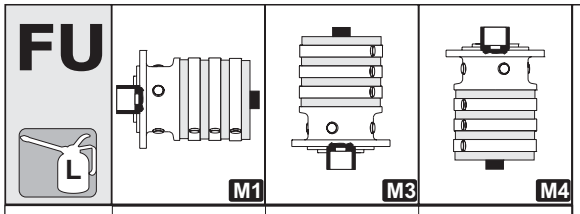




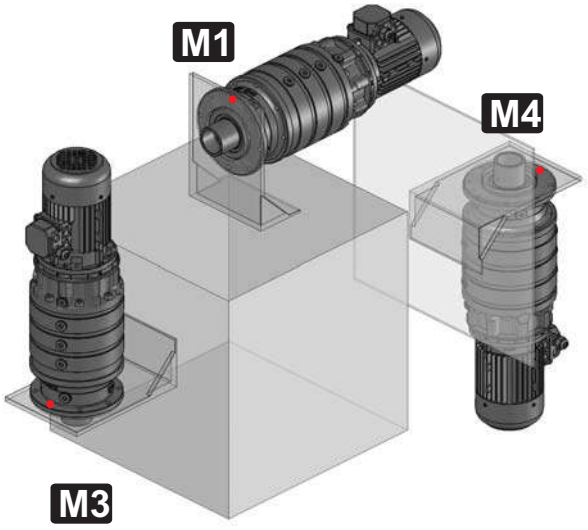
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

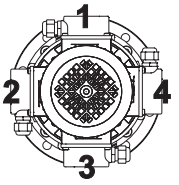
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

FU



	M1				M3				M4			
10	0,6	0,8	1,0	1,2	1,0	1,3	1,7	2,1	0,9	1,3	1,6	2,0
20	0,7	0,9	1,1	1,3	1,1	1,5	1,9	2,3	1,1	1,4	1,8	2,2
25	0,6	0,8	1,0	1,3	1,0	1,4	1,8	2,2	1,0	1,4	1,7	2,1
30-35	0,9	1,3	1,5	1,8	1,6	2,3	2,7	3,0	1,5	2,2	2,5	2,9
40		1,4	1,7	1,9		2,5	2,9	3,2		2,3	2,7	3,1
50	1,0	1,5	1,8	2,0	1,8	2,7	3,0	3,4	1,7	2,5	2,9	3,2
70	1,0	1,4	1,7	1,9	1,7	2,5	2,9	3,2	1,6	2,3	2,7	3,1
80	1,6	2,6	2,9	3,1	2,8	4,6	4,9	5,3	2,6	4,3	4,7	5,0
90-95		2,9	3,1	3,4		5,0	5,4	5,8		4,8	5,1	5,5
100	1,9	3,0	3,5	3,7	3,2	5,2	6,1	6,5	3,1	5,0	5,8	6,1
150	2,1	3,0	3,5	3,7	3,7	5,2	6,1	6,5	3,5	5,0	5,8	6,1
180		3,0	3,5	3,7		5,2	6,1	6,5		5,0	5,8	6,1
200	2,1	3,0	3,4	3,6	3,7	5,1	5,9	6,3	3,5	4,9	5,6	5,9
EX	1	2	3	4	1	2	3	4	1	2	3	4





1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend



A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.

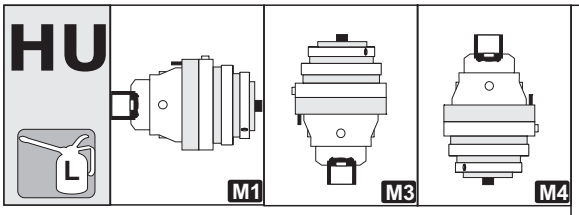
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.

D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

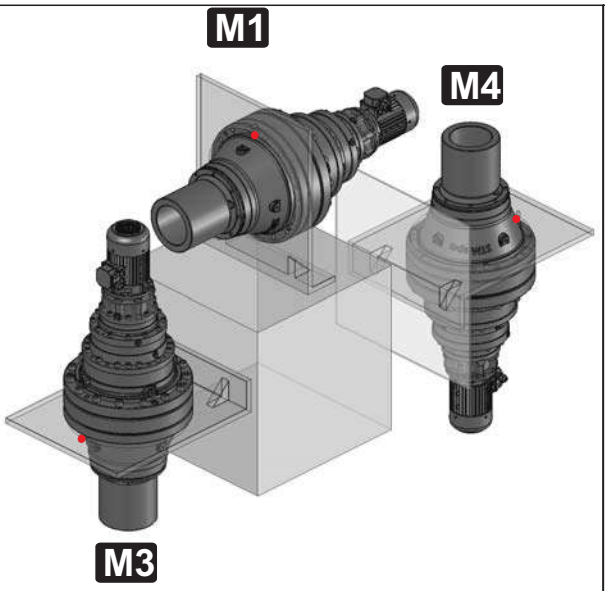
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

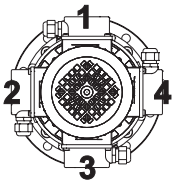
A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

HU



	M1				M3				M4			
150	2,4	3,2	3,7	4,0	4,1	5,6	6,5	6,8	3,9	5,3	6,1	6,5
180		3,2	3,7	4,0		5,6	6,5	6,8		5,3	6,1	6,5
200	2,4	3,2	3,6	3,9	4,1	5,5	6,3	6,7	3,9	5,2	5,9	6,3
250	3,4	4,8	5,9	6,1	5,9	8,4	10,2	10,5	5,6	7,9	9,6	10,0
280		5,0	6,2	6,4		8,6	10,6	11,0		8,2	10,1	10,4
300	3,6	5,2	6,3	6,5	6,2	8,9	10,9	11,3	5,9	8,5	10,4	10,7
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**

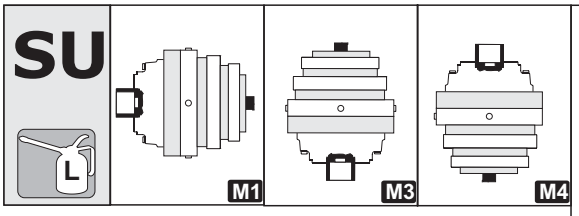




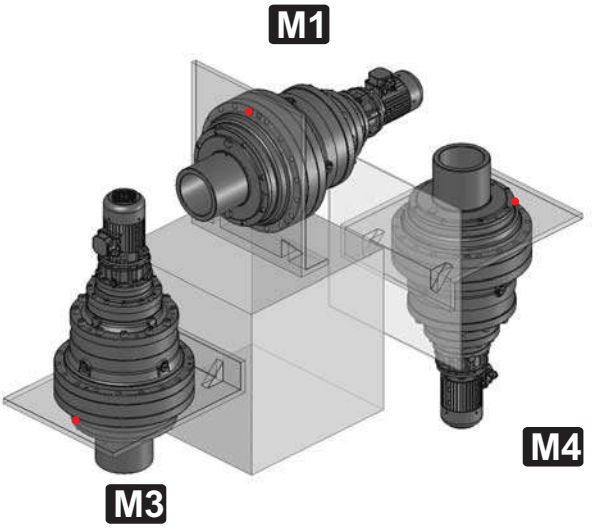
1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

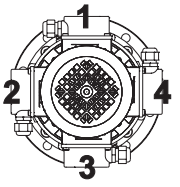
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

SU



	M1				M3				M4			
350 360	2,5	4,5	5,6	5,8	4,4	7,7	9,7	10,1	4,1	7,3	9,2	9,5
420	2,5	4,6	5,5	6,0	4,4	8,0	9,5	10,4	4,1	7,6	9,0	9,8
600 650	4,3	8,1	9,5	10,6	7,4	14,0	16,4	18,2	7,0	13,2	15,6	17,3
800 850	4,3	8,0	9,6	10,8	7,5	13,9	16,6	18,6	7,1	13,1	15,8	17,6
>850	*											
EX	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**	**1**	**2**	**3**	**4**





1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

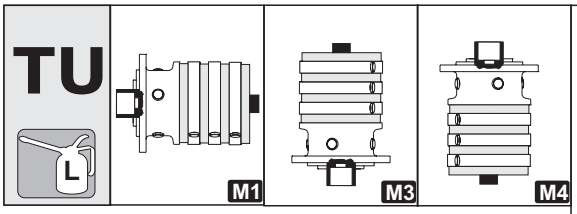
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

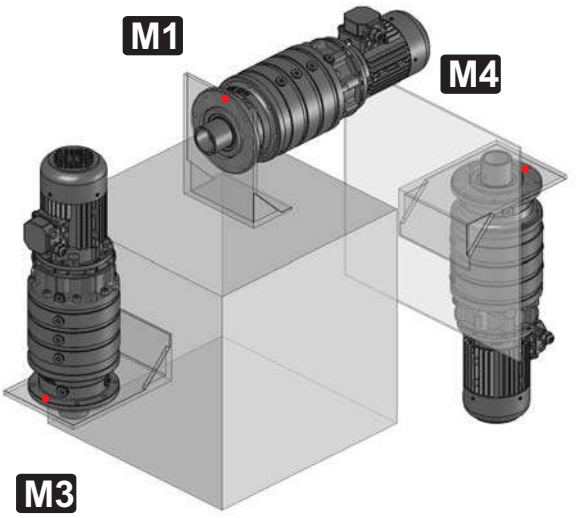


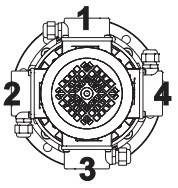
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.







1 - Standard
Posizione morsettiera
Terminal board position
Lage des Klemmenkastens

	M1				M3				M4			
150	3,1	4,0	4,5	4,7	5,4	6,9	7,8	8,2	5,1	6,6	7,4	7,7
180		4,0	4,5	4,7		6,9	7,8	8,2		6,6	7,4	7,7
200	3,1	4,0	4,4	4,6	5,4	6,8	7,6	8,0	5,1	6,5	7,2	7,6
250	4,2	5,7	6,7	6,9	7,3	9,8	11,6	12,0	6,9	9,3	11,0	11,3
280		5,8	7,0	7,2		10,1	12,1	12,4		9,5	11,4	11,8
300	5,0	6,5	7,7	7,9	8,6	11,3	13,3	13,7	8,1	10,7	12,6	13,0
EX	1	2	3	4	1	2	3	4	1	2	3	4

Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Befestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

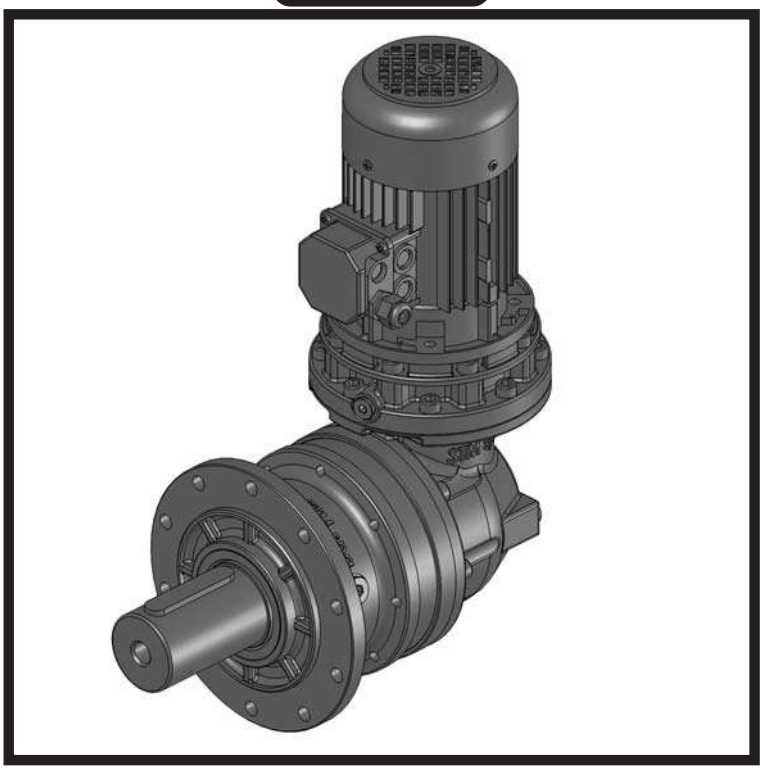
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M4 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M3 (vedere punto C);
C. Per le posizioni di montaggio M3 e M4 è necessario installare il vaso di espansione OT.
Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

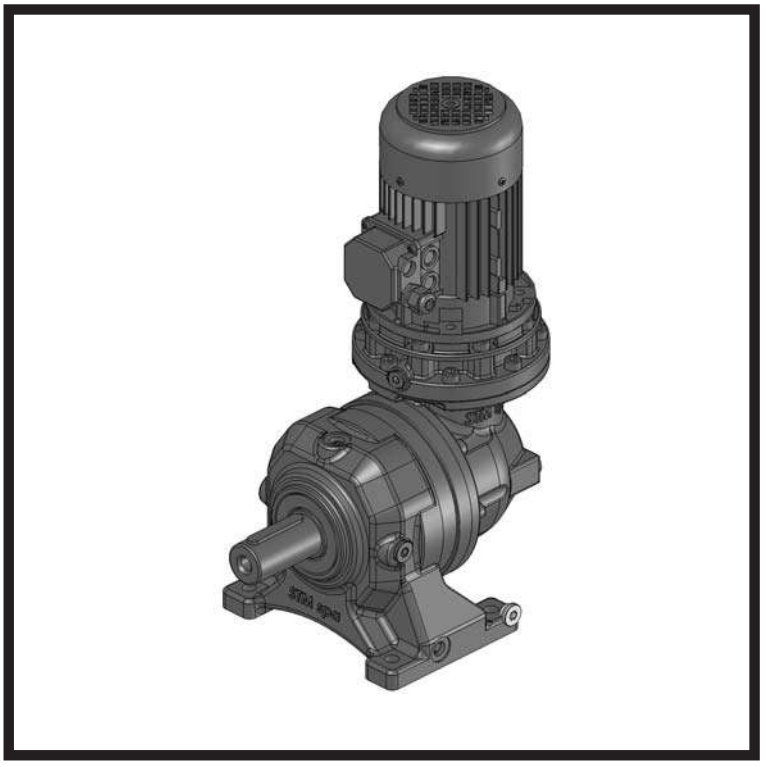
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M4 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M3.(see item C);
C. For M3 and M4 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M4 beziehen.siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M3 beziehen.siehe Punkt C
C. Bei den Montagepositionen M3 und M4 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

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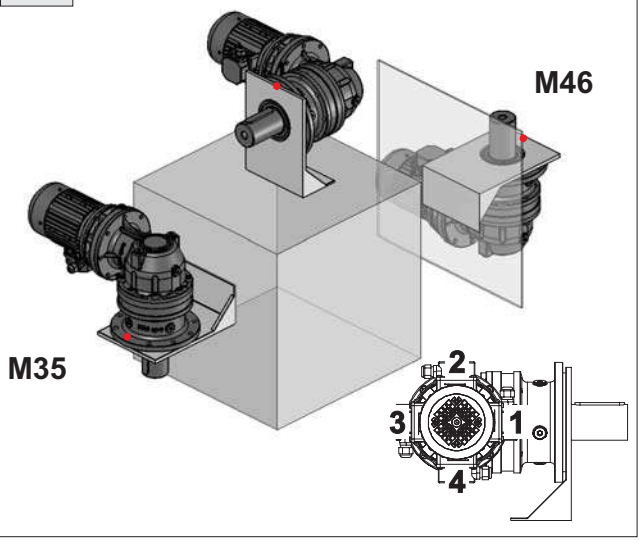
EXB



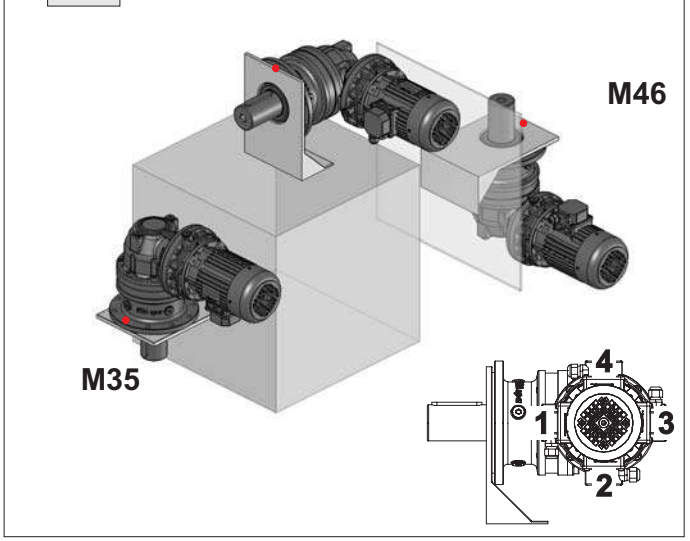


R-M.-T-H.-X-S.-F.

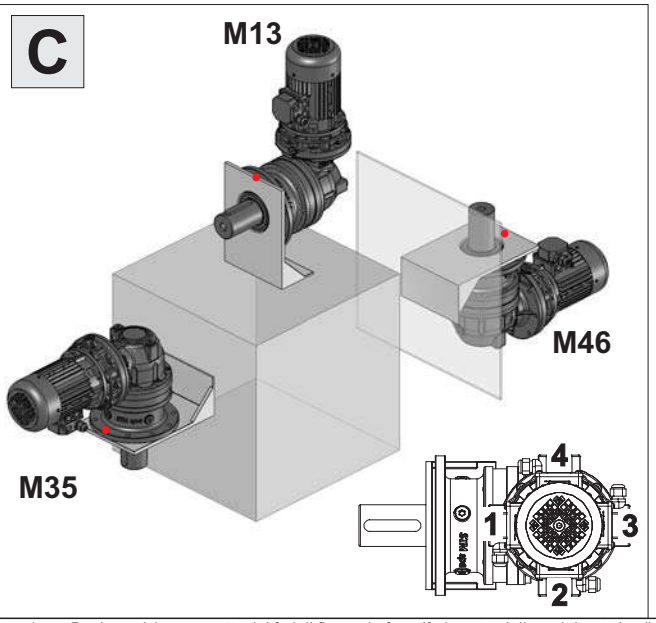
A



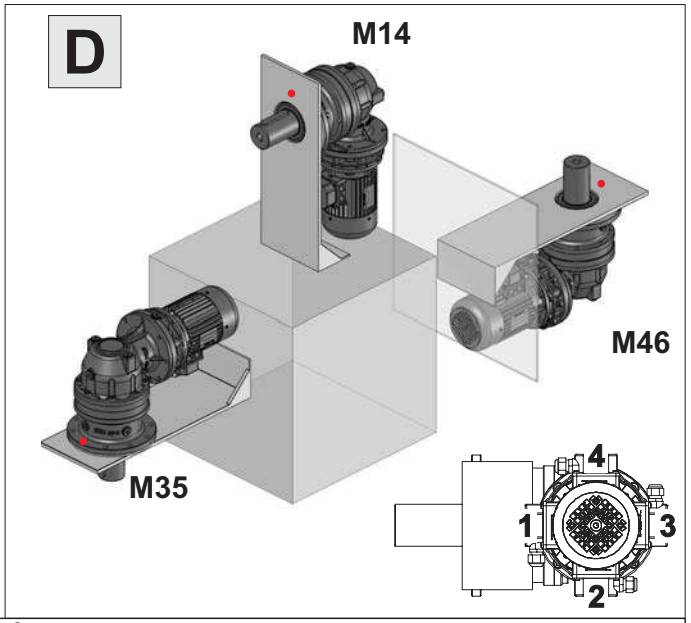
B



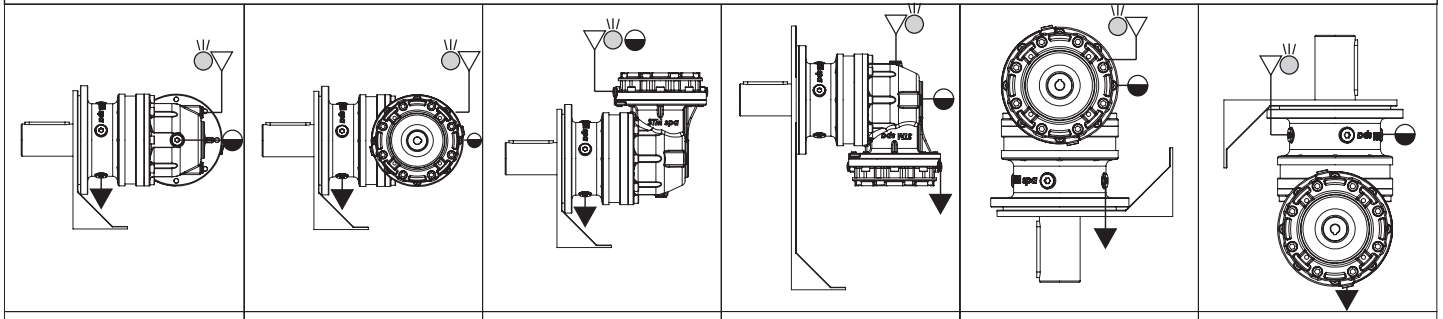
C



D



- Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
  Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
  Achtung: Um die korrekte Position der Befestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend



M11	M12	M13	M14	M35	M46

N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◍ Sfiato / *Vent plug* / Entlüftungsstopfen

R-F-FU-FC-FB

	M11			M12			M13			M14			M35			M46		
10	1,0	1,3	1,5	1,0	1,3	1,5	1,9	2,3	2,7	1,1	1,3	1,5	1,5	1,9	2,2	1,9	2,2	2,6
20	1,1	1,4	1,6	1,1	1,4	1,6	2,1	2,5	2,9	1,2	1,4	1,6	1,7	2,1	2,4	2,1	2,4	2,8
25	1,1	1,3	1,5	1,1	1,3	1,5	2,0	2,4	2,8	1,1	1,4	1,6	1,6	2,0	2,3	2,0	2,3	2,7
30-35	1,4	1,8	2,0	1,4	1,8	2,0	2,6	3,3	3,6	1,5	1,9	2,1	2,1	2,8	3,2	2,5	3,1	3,5
40		1,9	2,1		1,9	2,1		3,4	3,8		2,0	2,2		3,0	3,4		3,3	3,7
50	2,6	2,0	2,2	2,6	2,0	2,2	4,9	3,6	4,0	2,8	2,1	2,3	3,6	3,2	3,6	4,8	3,5	3,9
70	2,6	1,9	2,1	2,6	1,9	2,1	4,8	3,4	3,8	2,8	2,0	2,2	3,5	3,0	3,4	4,7	3,3	3,7
80	3,3	3,1	3,3	3,3	3,1	3,3	6,3	5,5	5,9	3,5	3,2	3,4	4,7	5,1	5,5	6,1	5,3	5,7
90-95		3,4	3,6		3,4	3,6		6,0	6,4		3,5	3,7		5,6	5,9		5,7	6,1
100	3,6	4,6	4,0	3,6	4,6	4,0	6,7	8,3	7,1	3,8	4,8	4,1	5,2	7,0	6,6	6,6	8,1	6,7
150		4,6	4,0	0,0	4,6	4,0		8,3	7,1		4,8	4,1		7,0	6,6		8,1	6,7
180		4,6	4,0	0,0	4,6	4,0		8,3	7,1		4,8	4,1		7,0	6,6		8,1	6,7
200		4,6	3,9	0,0	4,6	3,9		8,2	6,9		4,8	4,0		6,9	6,4		8,0	6,6
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

M-MX

	M11			M12			M13			M14			M35			M46		
10	1,1	1,4	1,6	1,1	1,4	1,6	2,1	2,5	2,9	1,2	1,4	1,6	1,7	2,1	2,4	2,1	2,4	2,8
20	1,3	1,5	1,7	1,3	1,5	1,7	2,3	2,7	3,1	1,3	1,5	1,8	1,9	2,2	2,6	2,2	2,6	3,0
25	1,2	1,4	1,6	1,2	1,4	1,6	2,2	2,6	3,0	1,3	1,5	1,7	1,8	2,1	2,5	2,1	2,5	2,9
30-35	1,5	1,9	2,1	1,5	1,9	2,1	2,8	3,4	3,8	1,6	2,0	2,2	2,3	3,0	3,4	2,7	3,3	3,7
40		2,0	2,2		2,0	2,2		3,6	4,0		2,1	2,3		3,2	3,6		3,5	3,9
50	2,8	2,1	2,4	2,8	2,1	2,4	5,1	3,8	4,2	3,0	2,2	2,4	3,7	3,4	3,8	5,0	3,7	4,0
70	2,7	2,0	2,2	2,7	2,0	2,2	5,0	3,6	4,0	2,9	2,1	2,3	3,7	3,2	3,6	4,9	3,5	3,9
80	3,4	3,2	3,4	3,4	3,2	3,4	6,4	5,6	6,0	3,6	3,2	3,5	4,8	5,2	5,6	6,2	5,4	5,7
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

S-SU-SB - FS-FSB - FP

	M11			M12			M13			M14			M35			M46		
10	0,9	1,1	1,3	0,9	1,1	1,3	1,6	2,0	2,4	0,9	1,1	1,4	1,2	1,6	2,0	1,6	2,0	2,3
20	1,0	1,2	1,4	1,0	1,2	1,4	1,8	2,2	2,6	1,0	1,3	1,5	1,4	1,8	2,1	1,8	2,1	2,5
25	0,9	1,1	1,4	0,9	1,1	1,4	1,7	2,1	2,5	1,0	1,2	1,4	1,3	1,7	2,1	1,7	2,1	2,4
30-35	1,2	1,6	1,8	1,2	1,6	1,8	2,2	2,9	3,3	1,3	1,6	1,9	1,8	2,4	2,8	2,1	2,8	3,1
40		1,7	1,9		1,7	1,9		3,1	3,4		1,8	2,0		2,6	3,0		3,0	3,3
50	2,4	1,8	2,0	2,4	1,8	2,0	4,5	3,3	3,6	2,6	1,9	2,1	3,2	2,8	3,2	4,5	3,1	3,5
70	2,4	1,7	1,9	2,4	1,7	1,9	4,4	3,1	3,4	2,6	1,8	2,0	3,1	2,6	3,0	4,4	3,0	3,3
80	2,8	2,6	2,8	2,8	2,6	2,8	5,3	4,6	5,0	2,9	2,6	2,9	3,7	4,1	4,5	5,2	4,4	4,8
90-95		2,7	3,0		2,7	3,0		4,9	5,2		2,8	3,0		4,4	4,8		4,7	5,0
100	3,0	4,0	3,3	3,0	4,0	3,3	5,6	7,2	5,9	3,1	4,2	3,4	4,0	5,8	5,5	5,5	7,0	5,7
150		4,0	3,3		4,0	3,3		7,2	5,9		4,2	3,4		5,8	5,5		7,0	5,7
180		4,0	3,3		4,0	3,3		7,2	5,9		4,2	3,4		5,8	5,5		7,0	5,7
200		3,9	3,2		3,9	3,2		7,1	5,7		4,1	3,3		5,7	5,3		6,9	5,5
250		5,8	5,5		5,8	5,5		10,4	9,7		5,9	5,6		8,9	9,3		10,1	9,3
280		5,9	6,9		5,9	6,9		10,7	12,3		6,1	7,1		9,2	11,0		10,3	11,8
300		5,9	6,9		5,9	6,9		10,6	12,2		6,0	7,1		9,1	10,9		10,3	11,7
350-360		6,2	7,2		6,2	7,2		11,2	12,8		6,4	7,4		9,6	11,4		10,8	12,3
420			7,1			7,1			12,6			7,3			11,3			12,1
600-650			11,3			11,3			19,9			11,4			18,4			19,1
800-850			11,4			11,4			20,1			11,5			18,6			19,3
>850	*																	
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

* Contattare nostro ufficio tecnico commerciale / * Please, contact our technical sales dept. / * Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung



A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M46 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M13 (vedere punto C);
C. Per le posizioni di montaggio M13 e M46 è necessario installare il vaso di espansione OT. Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M46 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M13.(see item C);
C. For M13 and M46 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M46 beziehen siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M13 beziehen.siehe Punkt C
C. Bei den Montagepositionen M13 und M46 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

H

	M11			M12			M13			M14			M35			M46		
150		4,8	4,2		4,8	4,2		8,7	7,4		5,0	4,3		7,4	7,0		8,4	7,1
180		4,8	4,2		4,8	4,2		8,7	7,4		5,0	4,3		7,4	7,0		8,4	7,1
200		4,8	4,1		4,8	4,1		8,6	7,2		5,0	4,2		7,3	6,8		8,3	6,9
250		6,6	6,4		6,6	6,4		11,9	11,1		6,7	6,4		10,3	10,7		11,4	10,6
280		6,8	7,8		6,8	7,8		12,1	13,7		6,9	8,0		10,6	12,4		11,7	13,2
300		6,9	7,9		6,9	7,9		12,4	14,0		7,1	8,1		10,9	12,7		12,0	13,5
	2	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**

X-T

	M11			M12			M13			M14			M35			M46		
30-35		2,4	2,6		2,4	2,6		4,3	4,7		2,5	2,7		3,9	4,2		4,1	4,5
40		2,5	2,7		2,5	2,7		4,5	4,9		2,6	2,8		4,0	4,4		4,3	4,7
50		2,6	2,8		2,6	2,8		4,7	5,1		2,7	2,9		4,2	4,6		4,5	4,8
70		2,5	2,7		2,5	2,7		4,5	4,9		2,6	2,8		4,0	4,4		4,3	4,7
80		4,0	4,2		4,0	4,2		7,1	7,4		4,1	4,3		6,6	7,0		6,7	7,1
90-95		4,2	4,4		4,2	4,4		7,3	7,7		4,2	4,4		6,9	7,3		7,0	7,4
100		5,4	4,8		5,4	4,8		9,7	8,4		5,6	4,8		8,3	7,9		9,3	8,0
150		5,6	5,0		5,6	5,0		10,0	8,8		5,8	5,1		8,7	8,3		9,7	8,4
180		5,6	5,0		5,6	5,0		10,0	8,8		5,8	5,1		8,7	8,3		9,7	8,4
200		5,6	4,9		5,6	4,9		9,9	8,6		5,8	4,9		8,6	8,1		9,6	8,2
250		7,4	7,2		7,4	7,2		13,3	12,6		7,6	7,3		11,7	12,1		12,8	12,0
280		7,6	8,6		7,6	8,6		13,6	15,2		7,7	8,8		12,0	13,8		13,0	14,5
300		8,3	9,3		8,3	9,3		14,8	16,4		8,4	9,5		13,2	15,1		14,2	15,7
	2	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**

FCB

	M11			M12			M13			M14			M35			M46		
10	1,0	1,3	1,5	1,0	1,3	1,5	1,9	2,3	2,7	1,1	1,3	1,5	1,5	1,9	2,2	1,9	2,2	2,6
20	1,1	1,4	1,6	1,1	1,4	1,6	2,1	2,5	2,9	1,2	1,4	1,6	1,7	2,1	2,4	2,1	2,4	2,8
25	1,1	1,3	1,5	1,1	1,3	1,5	2,0	2,4	2,8	1,1	1,4	1,6	1,6	2,0	2,3	2,0	2,3	2,7
30-35	1,4	1,8	2,0	1,4	1,8	2,0	2,6	3,3	3,6	1,5	1,9	2,1	2,1	2,8	3,2	2,5	3,1	3,5
40		1,9	2,1		1,9	2,1		3,4	3,8		2,0	2,2		3,0	3,4		3,3	3,7
50	2,6	2,0	2,2	2,6	2,0	2,2	4,9	3,6	4,0	2,8	2,1	2,3	3,6	3,2	3,6	4,8	3,5	3,9
70	2,6	1,9	2,1	2,6	1,9	2,1	4,8	3,4	3,8	2,8	2,0	2,2	3,5	3,0	3,4	4,7	3,3	3,7
80	3,3	3,1	3,3	3,3	3,1	3,3	6,3	5,5	5,9	3,5	3,2	3,4	4,7	5,1	5,5	6,1	5,3	5,7
90-95		3,4	3,6		3,4	3,6		6,0	6,4		3,5	3,7		5,6	5,9		5,7	6,1
100	3,6	4,6	4,0	3,6	4,6	4,0	6,7	8,3	7,1	3,8	4,8	4,1	5,2	7,0	6,6	6,6	8,1	6,7
150		4,8	4,2		4,8	4,2		8,7	7,4		5,0	4,3		7,4	7,0		8,4	7,1
180		4,8	4,2		4,8	4,2		8,7	7,4		5,0	4,3		7,4	7,0		8,4	7,1
200		4,8	4,1		4,8	4,1		8,6	7,2		5,0	4,2		7,3	6,8		8,3	6,9
250		6,6	6,4		6,6	6,4		11,9	11,1		6,7	6,4		10,3	10,7		11,4	10,6
280		6,8	7,8		6,8	7,8		12,1	13,7		6,9	8,0		10,6	12,4		11,7	13,2
	2	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**	**2**	**3**	**4**

A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M46 (vedere punto C);



B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M13 (vedere punto C);

C. Per le posizioni di montaggio M13 e M46 è necessario installare il vaso di espansione OT. Attenzione

Scelta grandezza OT: **Sezione E**;

Installazione OT : **Punto 8.3** manuale uso e manutenzione.

D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M46 . (see item C);

B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M13.(see item C);

C. For M13 and M46 mounting positions is necessary to install the OT oil tank.

Attention

*OT selection: please see **section E;***

OT installing:please see point 8.3 of use & maintenance manual.

D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M46 beziehen siehe Punkt C

B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M13 beziehen.siehe Punkt C

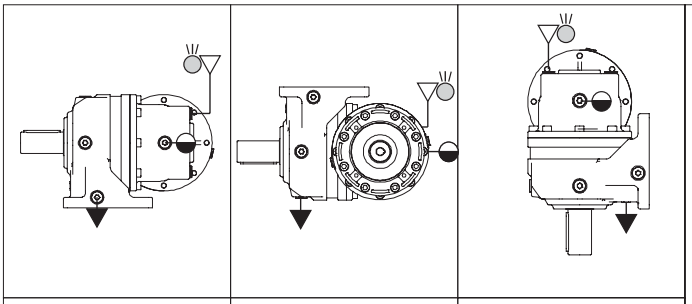
C. Bei den Montagepositionen M13 und M46 ist es notwendig einen OT Öltank zu installieren.

Achtung OT Auswahl: Siehe Sektion E;

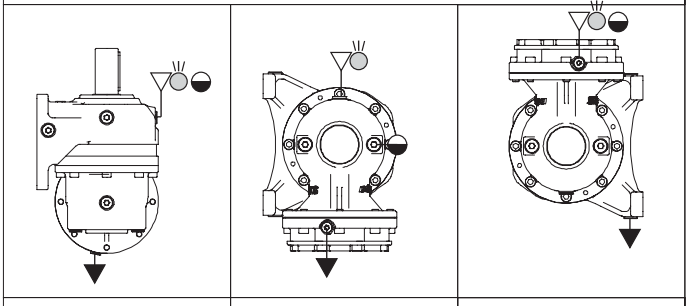
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches

D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

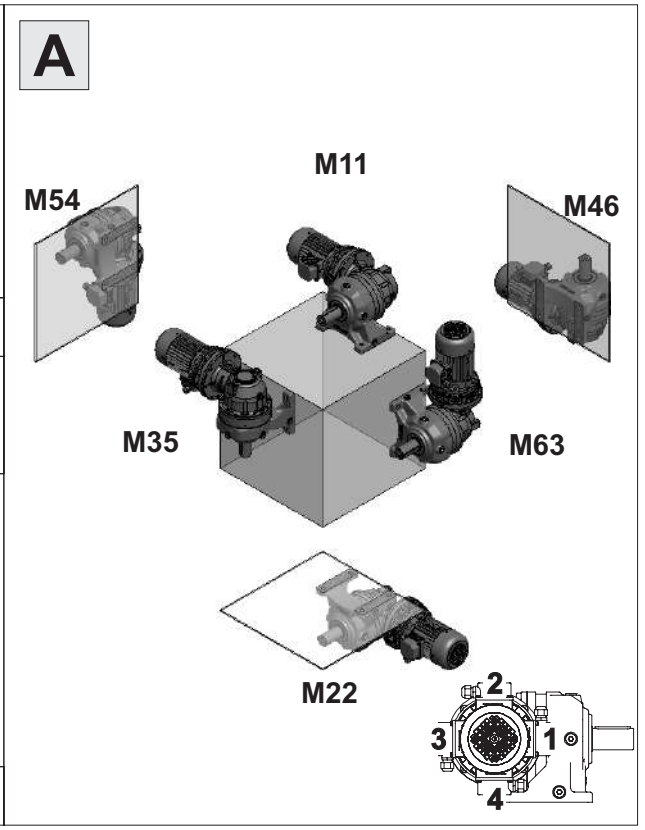
P-PH-PX-PS-PSB

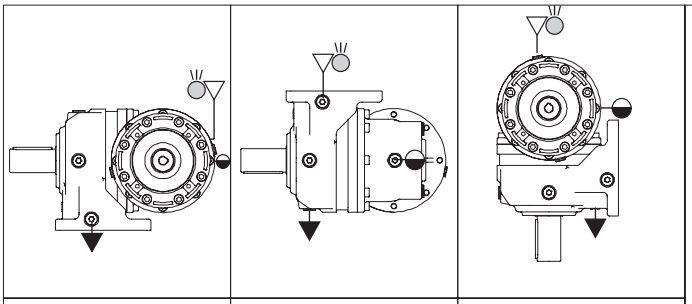


M11 | M22 | M35

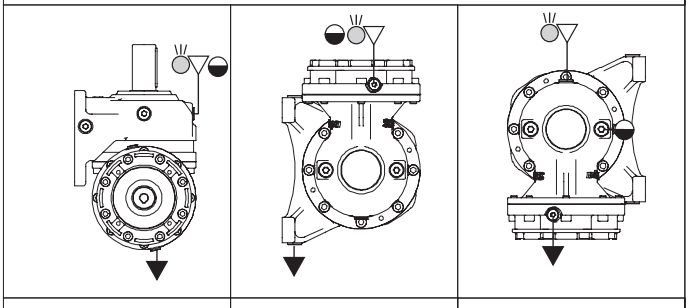


M46 | M54 | M63

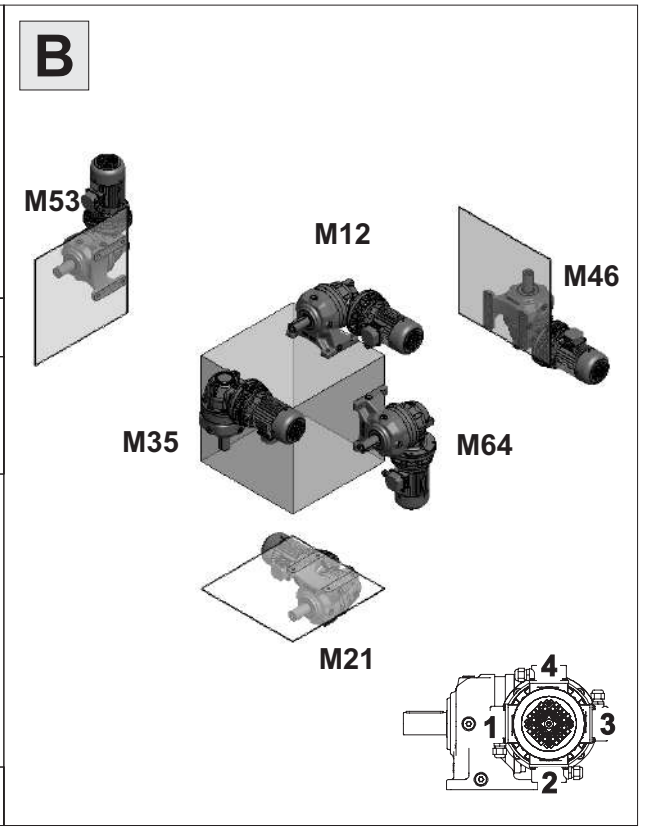




M12 | M21 | M35



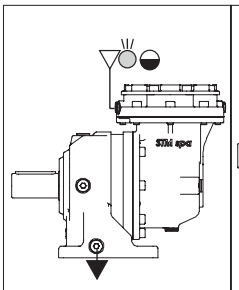
M46 | M53 | M64

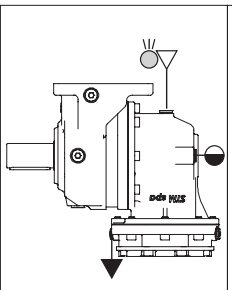


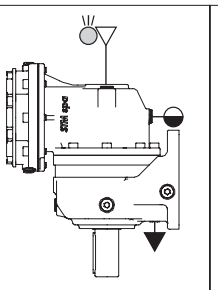
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

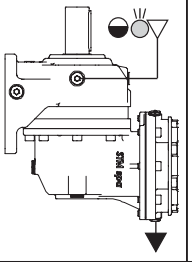
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◍ Sfiato / *Vent plug* / Entlüftungsstopfen

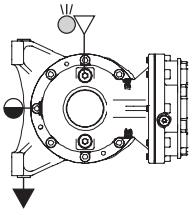
P-PH-PX-PS-PSB

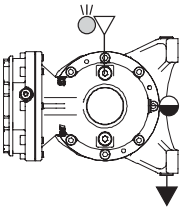

M13


M24

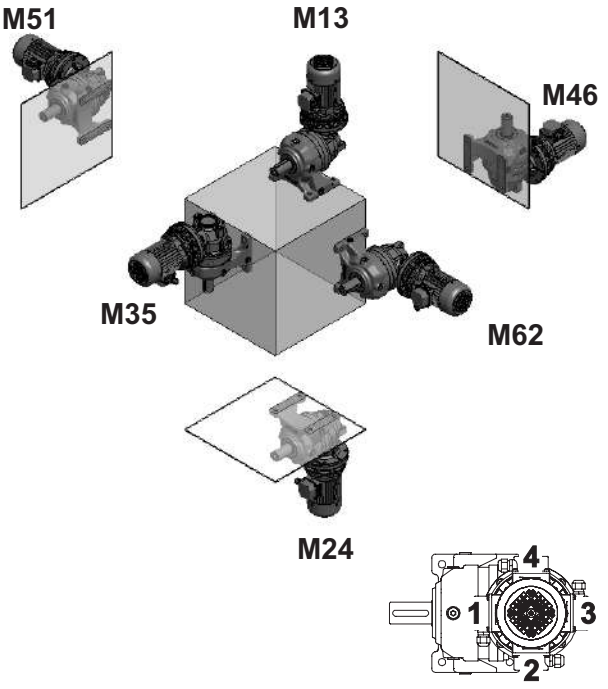

M35

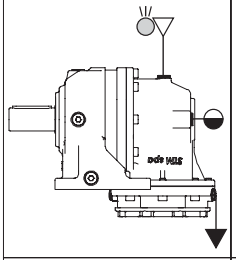

M46

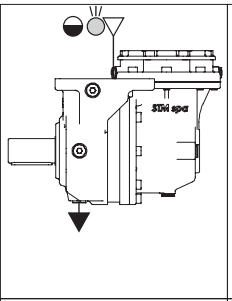

M51

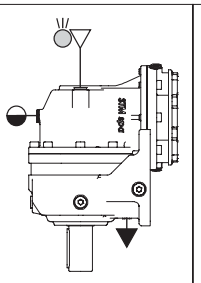

M62

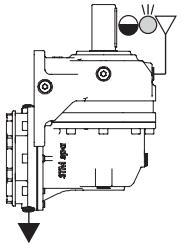
C

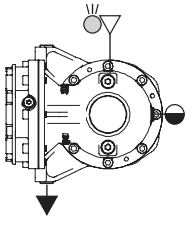


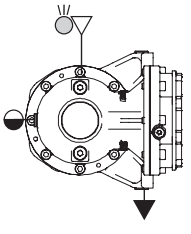

M14


M23

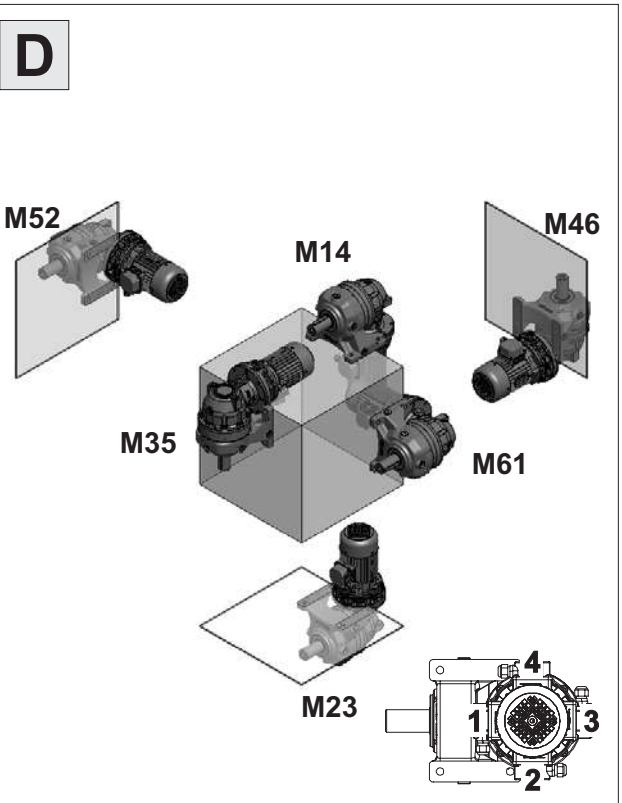

M35


M46


M52


M61

D



N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

P

	M11-M21 M51-M61			M12-M22 M52-M62			M13-M23 M53-M63			M14-M24 M54-M64			M35			M46		
10	1,3	1,5	1,7	1,3	1,5	1,7	2,3	2,7	3,1	1,3	1,5	1,8	1,9	2,2	2,6	2,2	2,6	3,0
20	1,4	1,6	1,8	1,4	1,6	1,8	2,5	2,9	3,3	1,4	1,6	1,9	2,1	2,4	2,8	2,4	2,8	3,1
25	1,3	1,5	1,7	1,3	1,5	1,7	2,4	2,8	3,2	1,4	1,6	1,8	2,0	2,3	2,7	2,3	2,7	3,0
30-35	2,1	2,5	2,7	2,1	2,5	2,7	3,7	4,4	4,8	2,1	2,5	2,7	3,3	4,0	4,3	3,6	4,2	4,6
40		2,6	2,8	D	2,6	2,8	D	4,6	5,0		2,6	2,9		4,1	4,5		4,4	4,8
50	3,3	2,7	2,9	3,3	2,7	2,9	6,0	4,8	5,2	3,5	2,7	3,0	4,7	4,3	4,7	5,9	4,6	4,9
70	3,3	2,6	2,8	3,3	2,6	2,8	6,0	4,6	5,0	3,5	2,6	2,9	4,6	4,1	4,5	5,8	4,4	4,8
80	4,0	3,8	4,0	4,0	3,8	4,0	7,4	6,7	7,1	4,2	3,8	4,1	5,8	6,2	6,6	7,2	6,4	6,7
90-95		4,1	4,3		4,1	4,3		7,1	7,5		4,1	4,3		6,7	7,1		6,8	7,2
100	4,3	5,3	4,7	4,3	5,3	4,7	7,9	9,5	8,2	4,4	5,5	4,7	6,3	8,1	7,8	7,6	9,1	7,8
150		5,7	5,1		5,7	5,1		10,2	9,0		5,9	5,2		8,9	8,5		9,9	8,5
180		5,7	5,1		5,7	5,1		10,2	9,0		5,9	5,2		8,9	8,5		9,9	8,5
200		5,7	5,0		5,7	5,0		10,1	8,8		5,9	5,1		8,8	8,3		9,8	8,4
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

PH

	M11-M21 M51-M61			M12-M22 M52-M62			M13-M23 M53-M63			M14-M24 M54-M64			M35			M46		
150		4,8	4,2		4,8	4,2		8,7	7,4		5,0	4,3		7,4	7,0		8,4	7,1
180		4,8	4,2		4,8	4,2		8,7	7,4		5,0	4,3		7,4	7,0		8,4	7,1
200		4,8	4,1		4,8	4,1		8,6	7,2		5,0	4,2		7,3	6,8		8,3	6,9
250		6,6	6,4		6,6	6,4		11,9	11,1		6,7	6,4		10,3	10,7		11,4	10,6
280		6,8	7,8		6,8	7,8		12,1	13,7		6,9	8,0		10,6	12,4		11,7	13,2
300		6,9	7,9		6,9	7,9		12,4	14,0		7,1	8,1		10,9	12,7		12,0	13,5
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

PX

	M11-M21 M51-M61			M12-M22 M52-M62			M13-M23 M53-M63			M14-M24 M54-M64			M35			M46		
150		5,6	5,0		5,6	5,0		10,0	8,8		5,8	5,1		8,7	8,3		9,7	8,4
180		5,6	5,0		5,6	5,0		10,0	8,8		5,8	5,1		8,7	8,3		9,7	8,4
200		5,6	4,9		5,6	4,9		9,9	8,6		5,8	4,9		8,6	8,1		9,6	8,2
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

PS-PSB

	M11-M21 M51-M61			M12-M22 M52-M62			M13-M23 M53-M63			M14-M24 M54-M64			M35			M46		
350-360		6,2	7,2		6,2	7,2		11,2	12,8		6,4	7,4		9,6	11,4		10,8	12,3
420			7,1			7,1			12,6			7,3			11,3			12,1
600-650			11,3			11,3			19,9			11,4			18,4			19,1
800-850			11,4			11,4			20,1			11,5			18,6			19,3
>850	*																	
	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4	2	3	4

* Contattare nostro ufficio tecnico commerciale / * Please, contact our technical sales dept. / * Bitte setzen Sie sich mit unserer technischen Abteilung in Verbindung



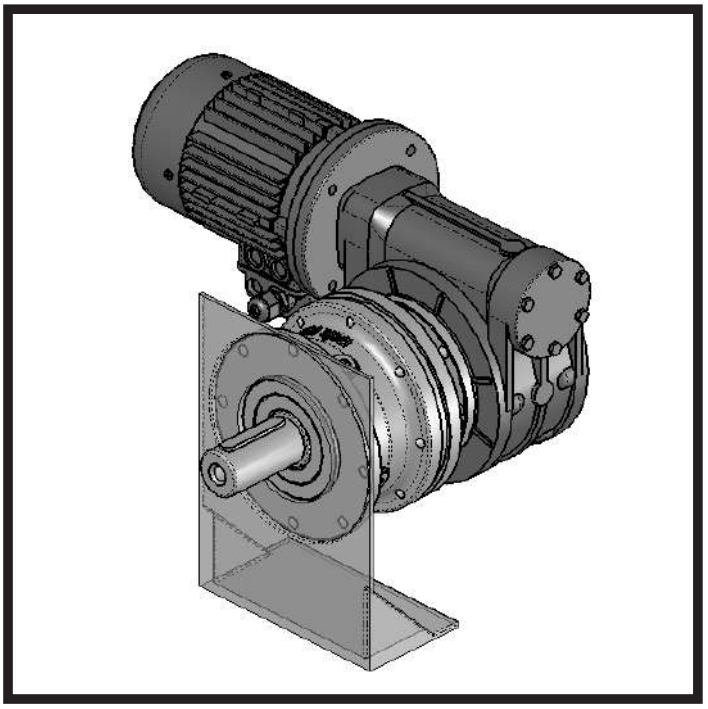
A. n2 < 5 rpm - Qualora la velocità uscita del riduttore sia inferiore a 5 rpm, per il riempimento fare riferimento ai quantitativi della posizione M46 (vedere punto C);
B. n2 < 1 rpm - Qualora la velocità uscita del riduttore sia inferiore a 1 rpm per il riempimento fare riferimento ai quantitativi della posizione M13 (vedere punto C);
C. Per le posizioni di montaggio M13 e M46 è necessario installare il vaso di espansione OT. Attenzione
Scelta grandezza OT: **Sezione E**;
Installazione OT : **Punto 8.3** manuale uso e manutenzione.
D. Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

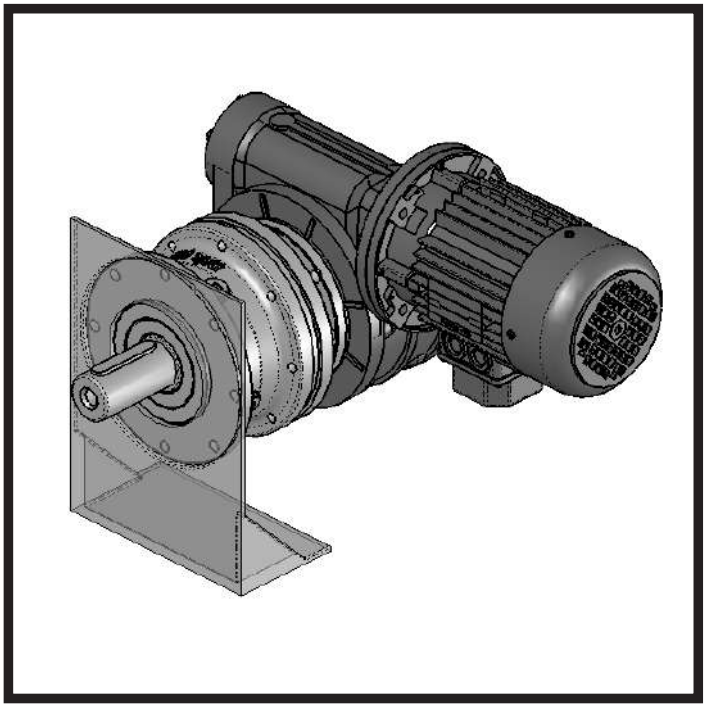
A. n2 < 5 rpm - in case the gearbox output speed is lower than 5 rpm, please refill the oil following the quantity of mounting position M46 . (see item C);
B. n2 < 1 rpm - once the output speed of the unit is lower than 1 rpm, please refill the oil following the quantity of mounting position M13.(see item C);
C. For M13 and M46 mounting positions is necessary to install the OT oil tank.
Attention
*OT selection: please see **section E;***
OT installing:please see point 8.3 of use & maintenance manual.
D. Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

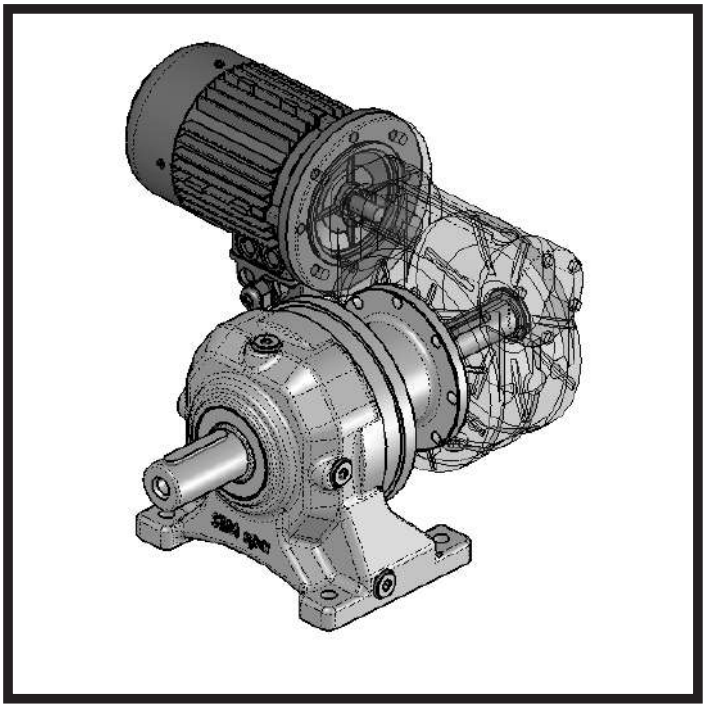
A. n2 < 5 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 5 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M46 beziehen siehe Punkt C
B. n2 < 1 rpm – Ist die Abtriebsdrehzahl des Getriebes niedriger als 1 rpm, fuer die Oelfuellung bitte auf die Vorgehensweise wie bei Position M13 beziehen.siehe Punkt C
C. Bei den Montagepositionen M13 und M46 ist es notwendig einen OT Öltank zu installieren.
Achtung OT Auswahl: Siehe Sektion E;
OT Installation: Siehe Punkt 8.3 des Benutzungs&Wartungshandbuches
D. Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

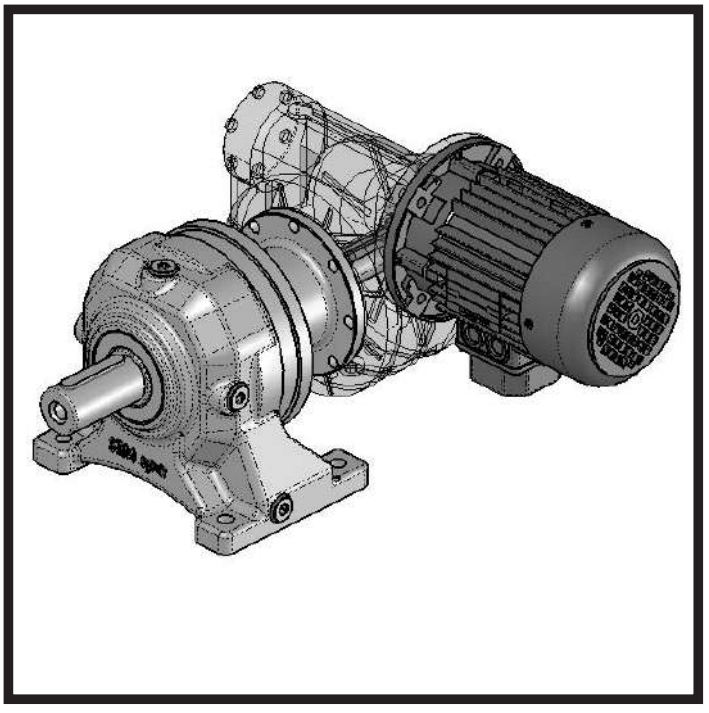
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EXV





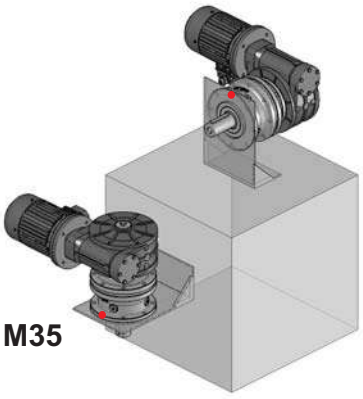


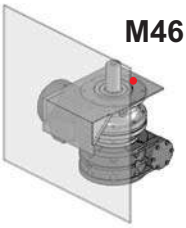


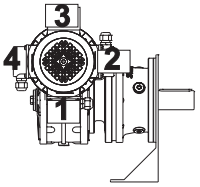
R-M-T-H-X-S-F

A

M11

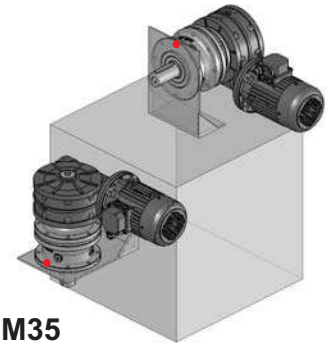


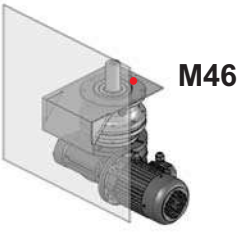


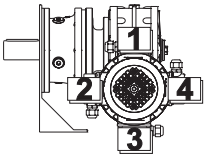


B

M12

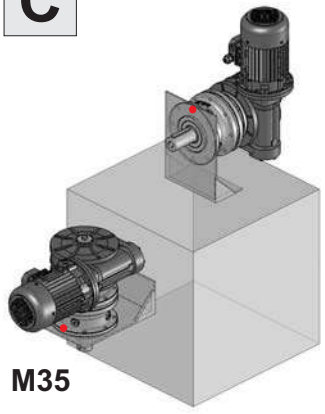




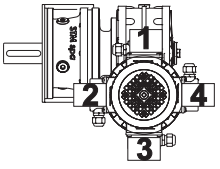


C

M13

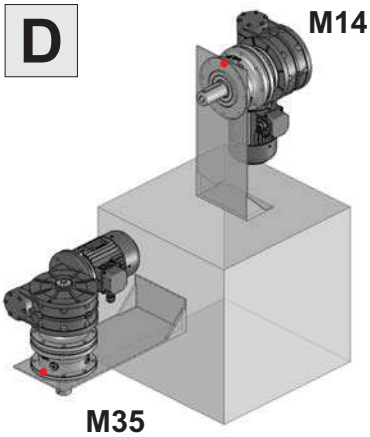


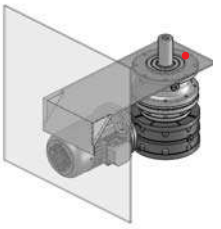


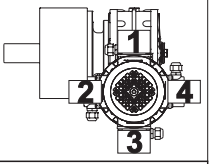


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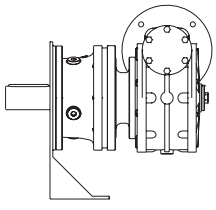
M14



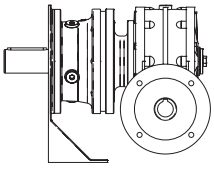




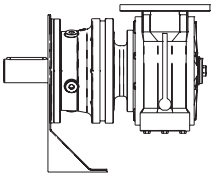
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Befestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend



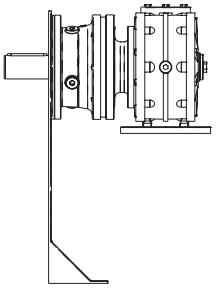
M11



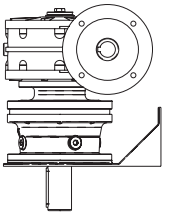
M12



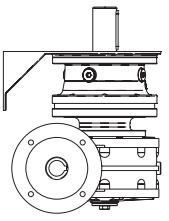
M13



M14



M35



M46

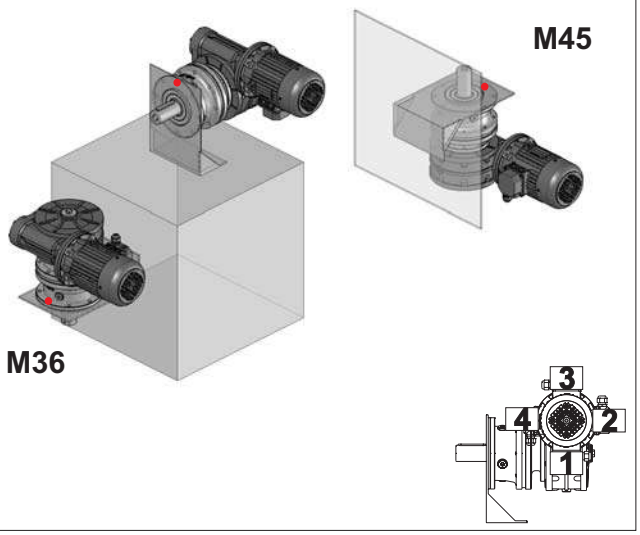
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
Sfiato / *Vent plug* / Entlüftungsstopfen

R-M-T-H-X-S-F

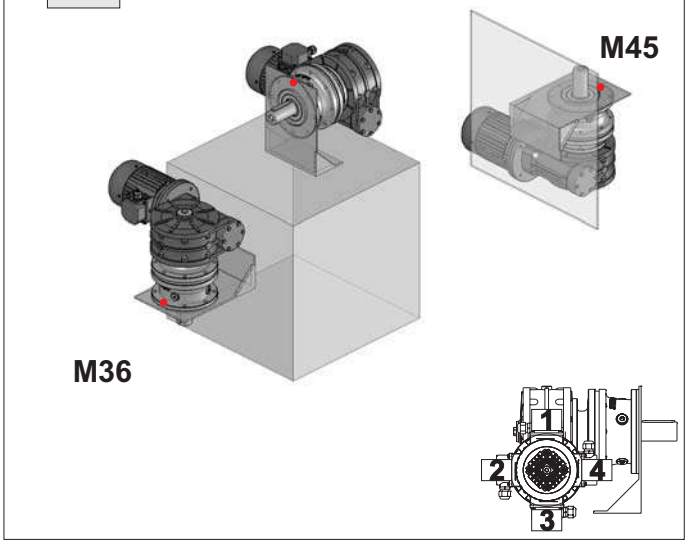
L

M11



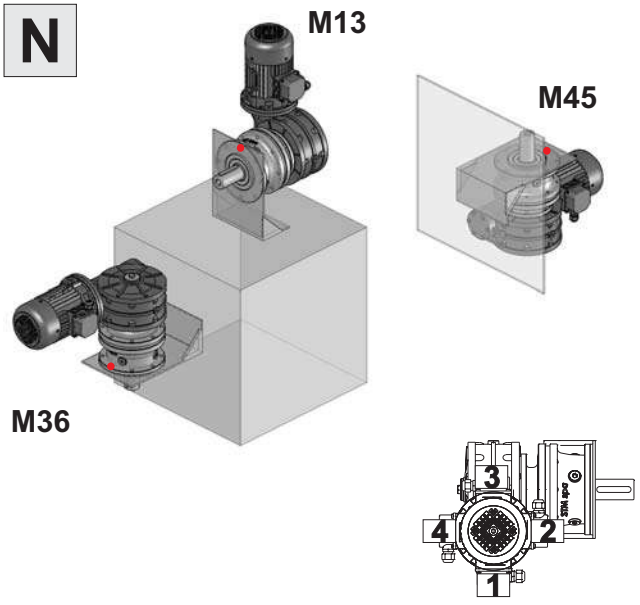
M

M12



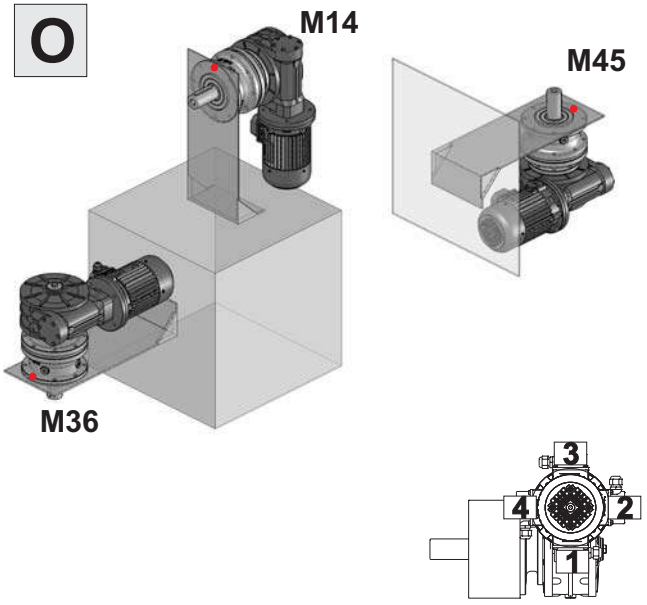
N

M13

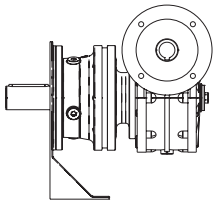
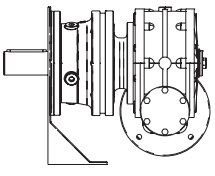
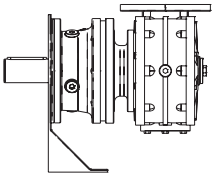
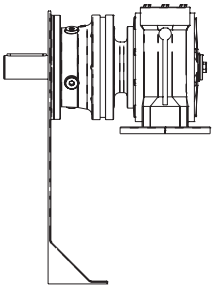
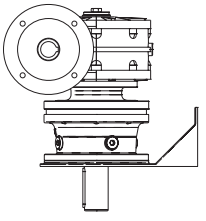
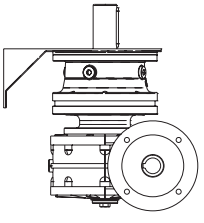


O

M14



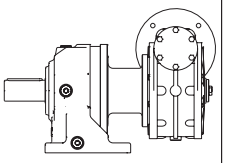
• Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
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Achtung: Um die korrekte Position der Befestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

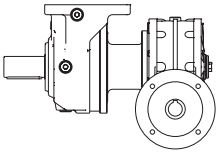
M11	M12	M13	M14	M36	M45
					

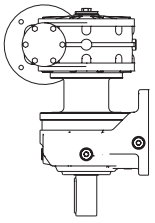
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

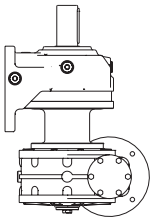
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◎ Sfiato / *Vent plug* / Entlüftungsstopfen

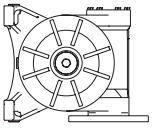
P-PH-PX-PS-PSB

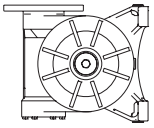

M11


M22

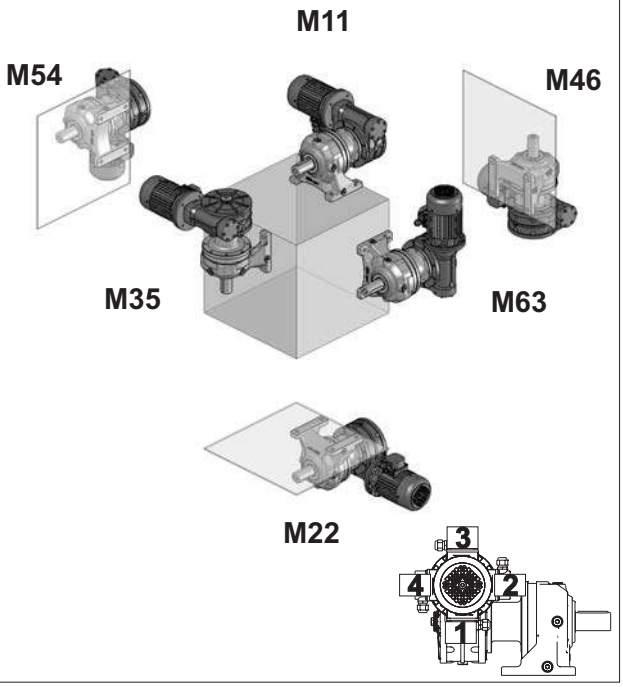

M35

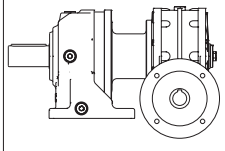

M46

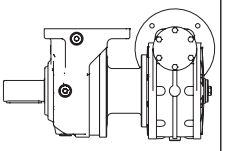

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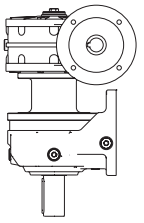

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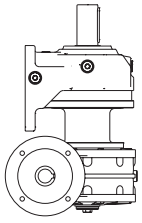
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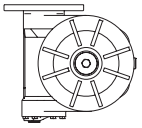


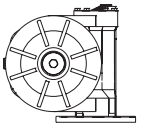

M12


M21

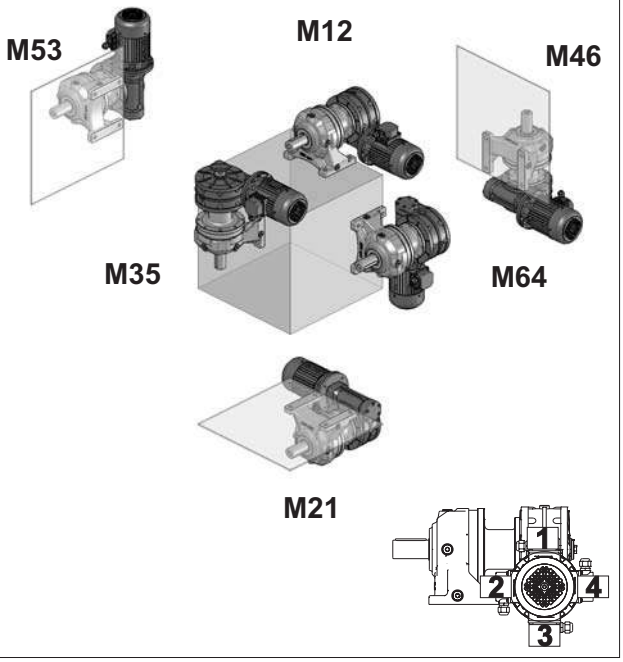

M35


M46


M53


M64

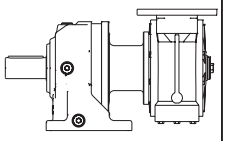
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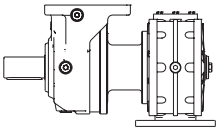
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▽ Carico / *Filling plug* / Einfüllschraube
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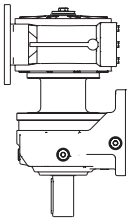
P-PH-PX-PS-PSB



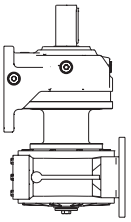
M13



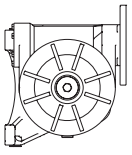
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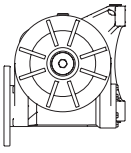
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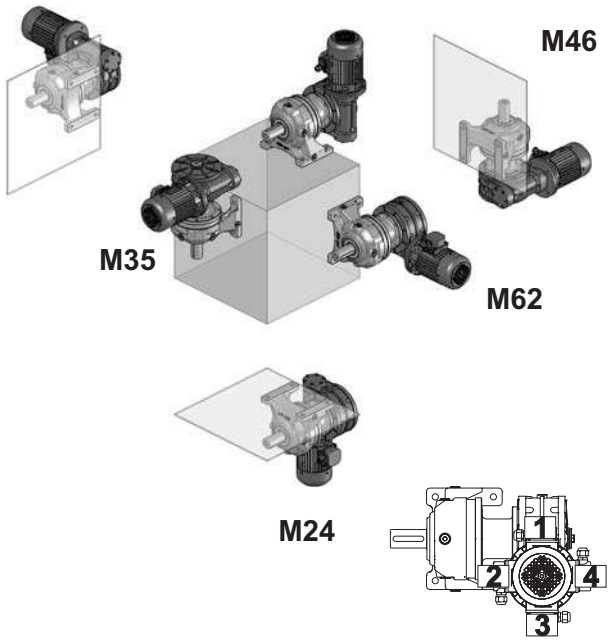


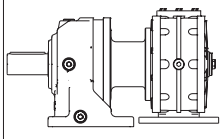
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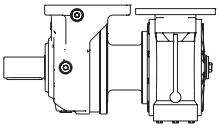
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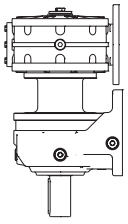




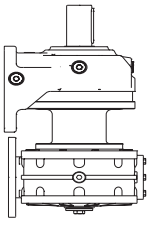
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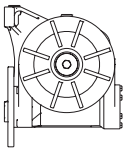
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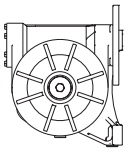
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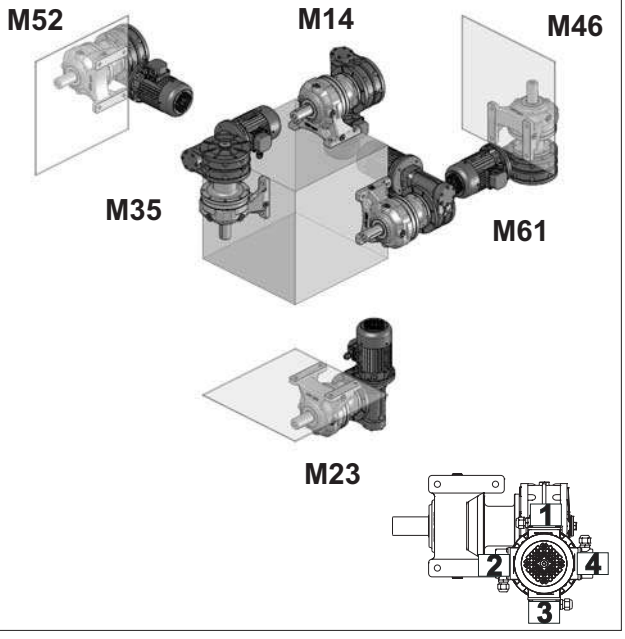


M52



M61

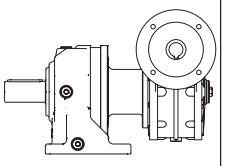
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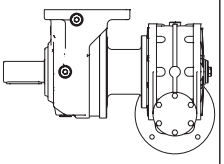


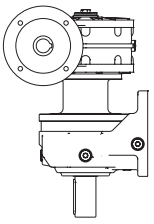
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

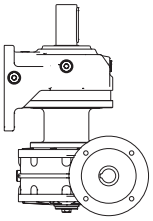
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

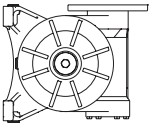
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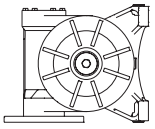

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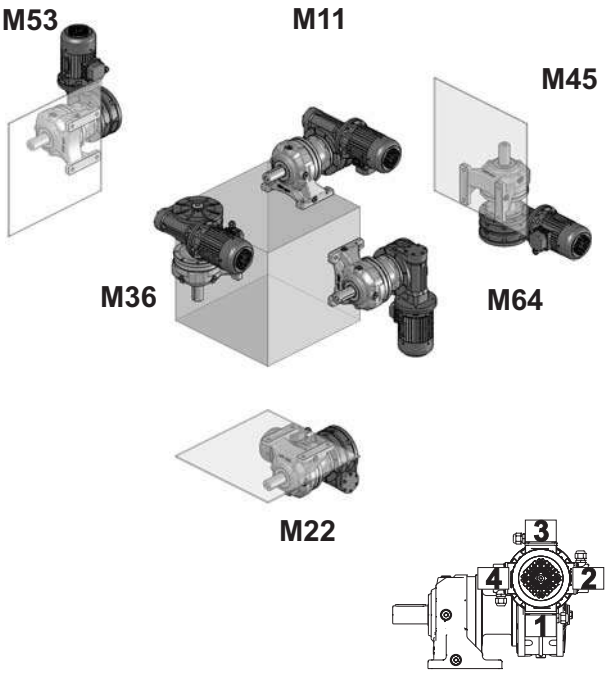

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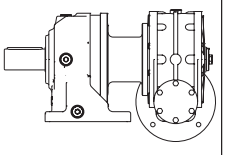

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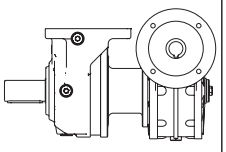

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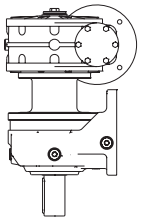

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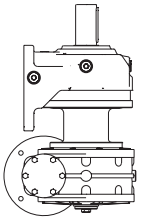
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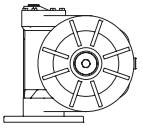


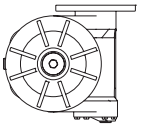

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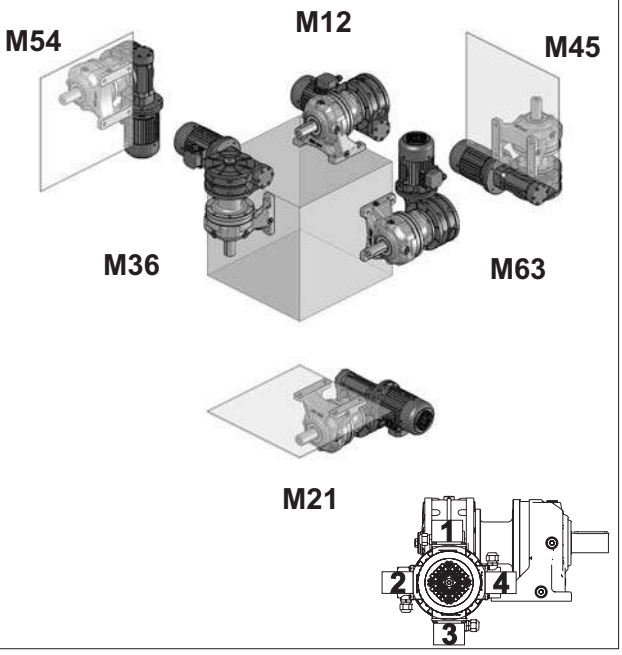

M36


M45


M54


M63

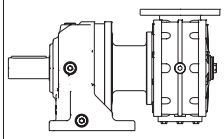
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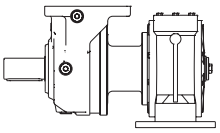


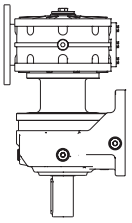
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

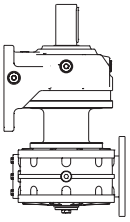
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

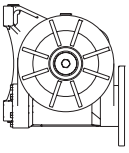
P-PH-PX-PS-PSB

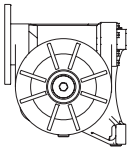

M13


M24

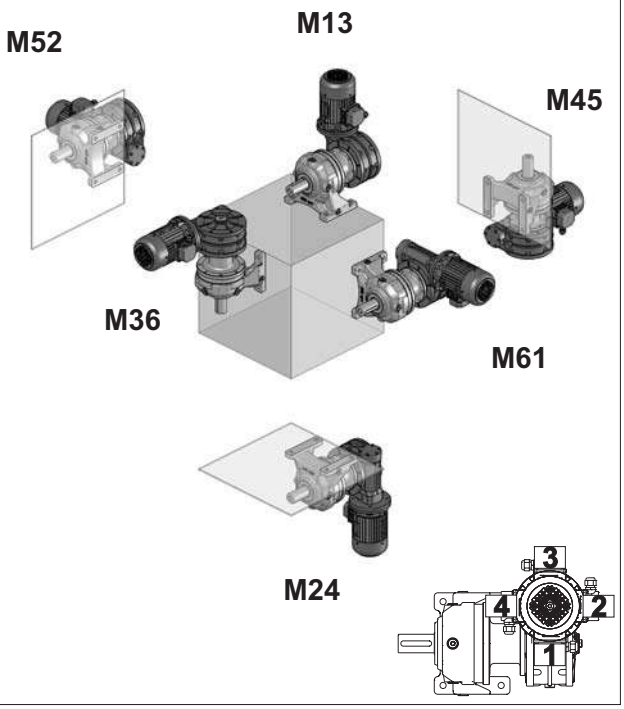

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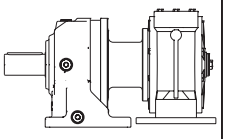

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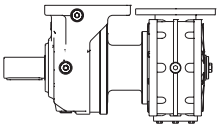

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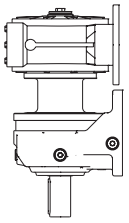

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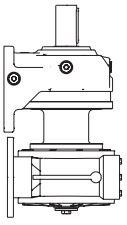
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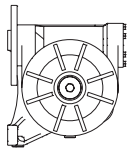


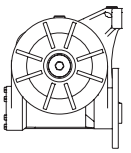

M14


M23

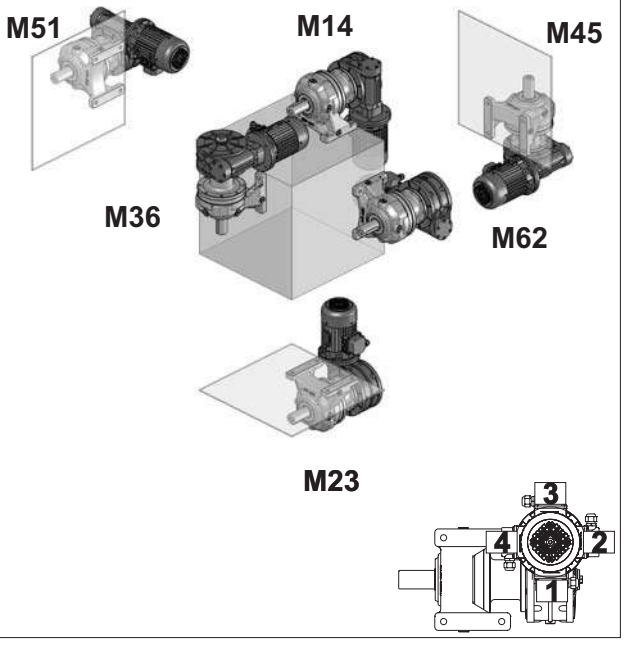

M36


M45


M51


M62

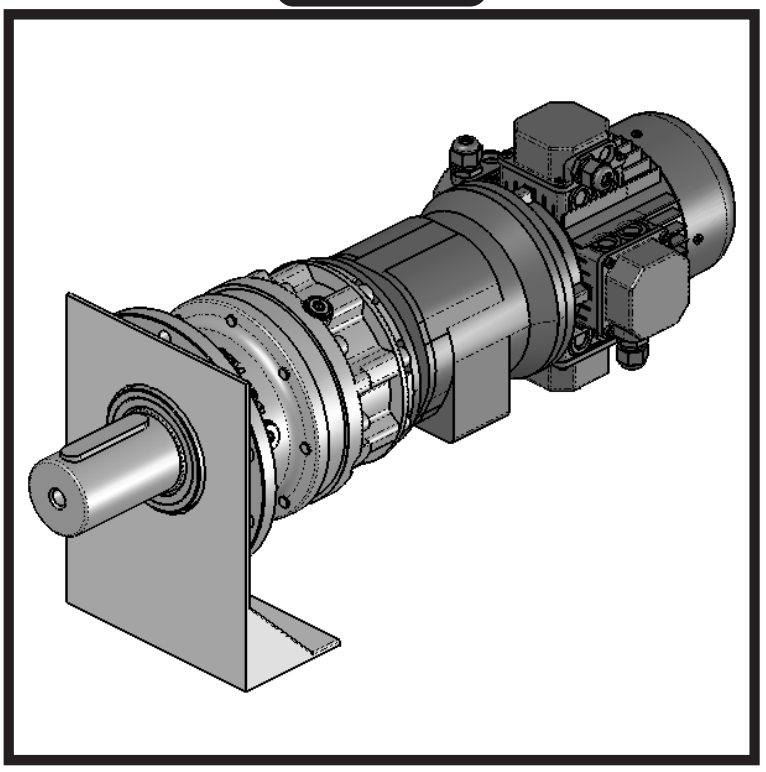
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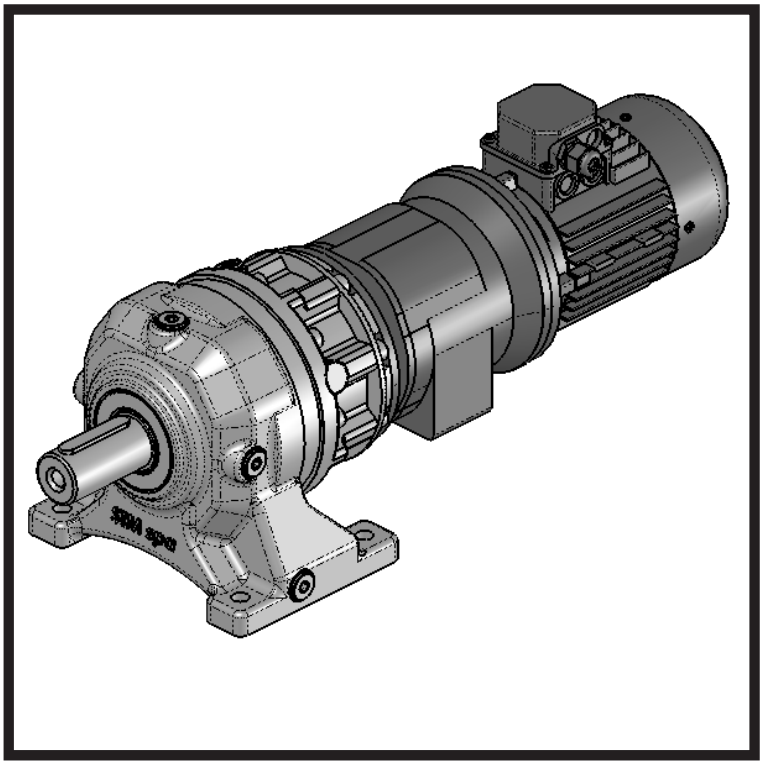


N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

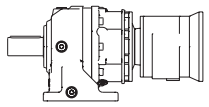
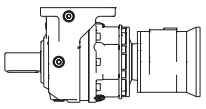
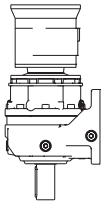
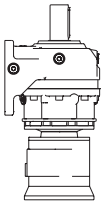
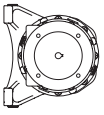
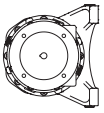
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

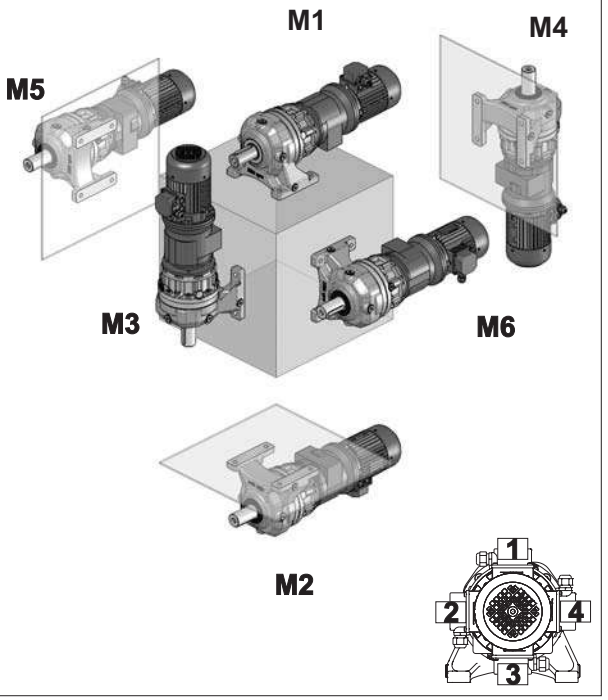
EXA

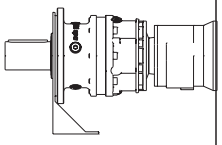
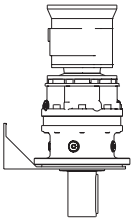
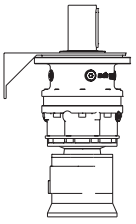


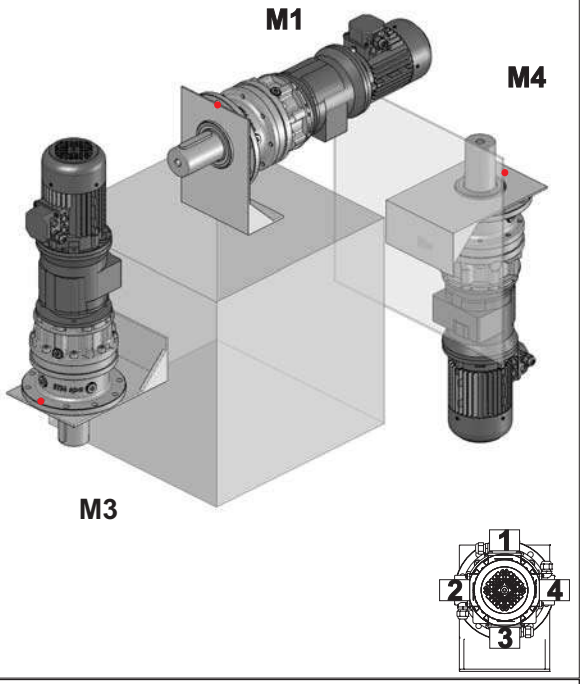


R-M-T-H-X-S-F - P-PH-PX-PS-PSB

		
M1	**M2**	**M3**
		
M4	**M5**	**M6**



		
M1		**M3**
		
M4		

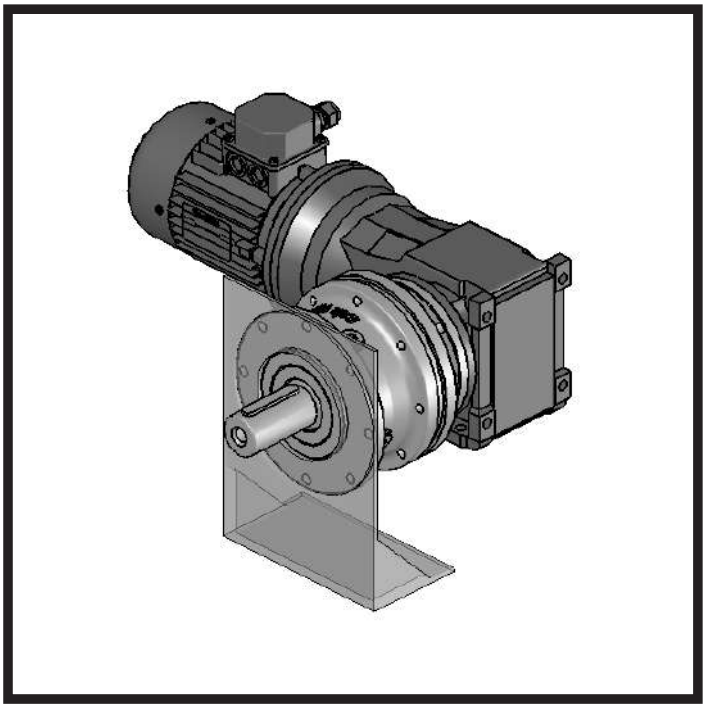


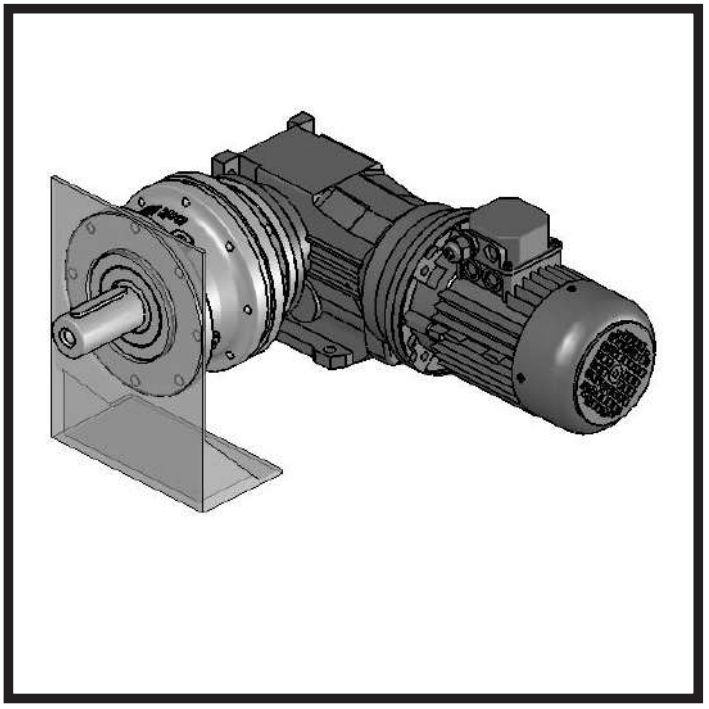
- Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
  Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
  Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

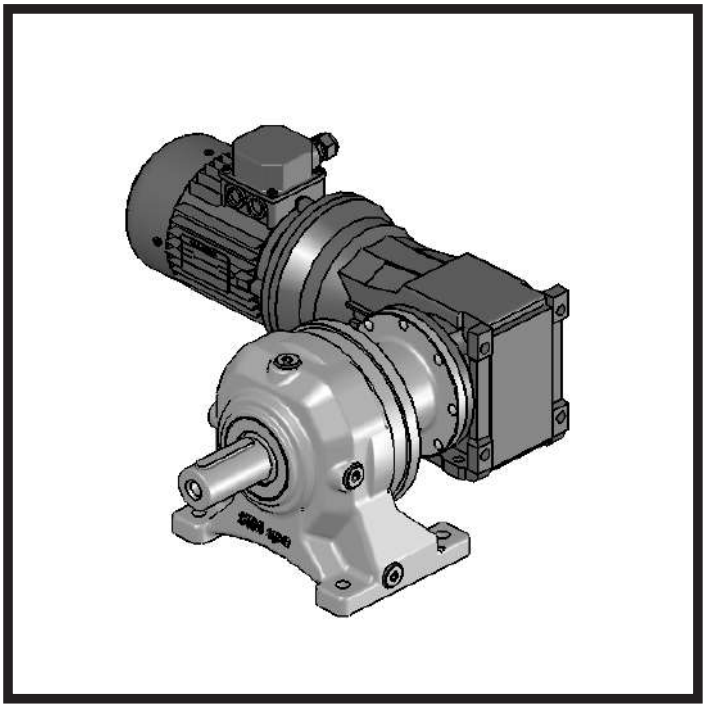
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

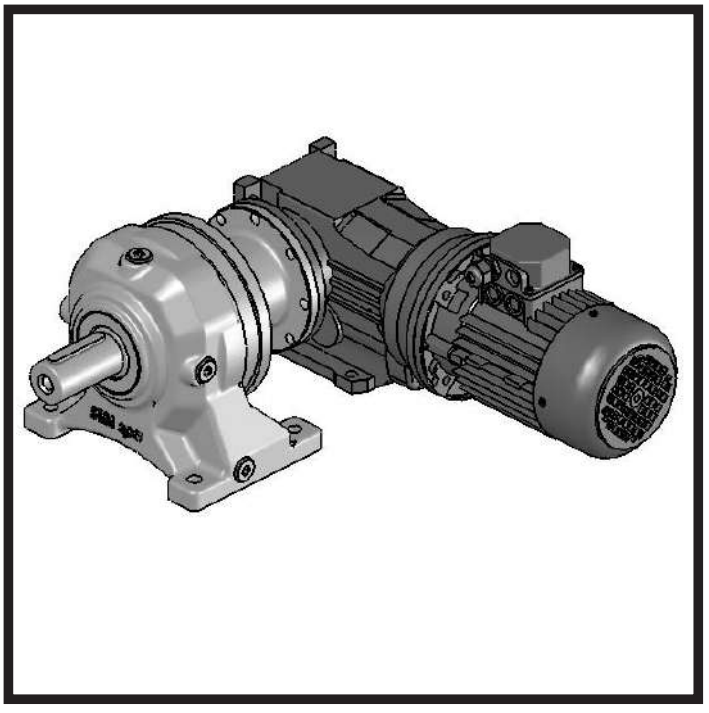
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◍ Sfiato / *Vent plug* / Entlüftungsstopfen

EXO





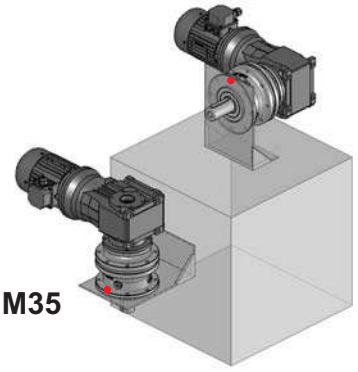




R-M.-T-H.-X-S.-F.

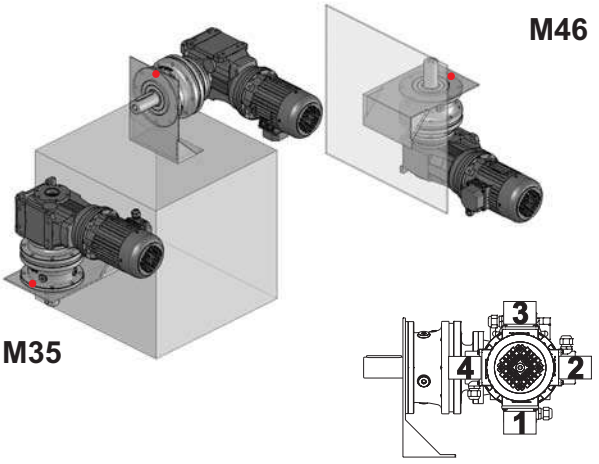
A

M11



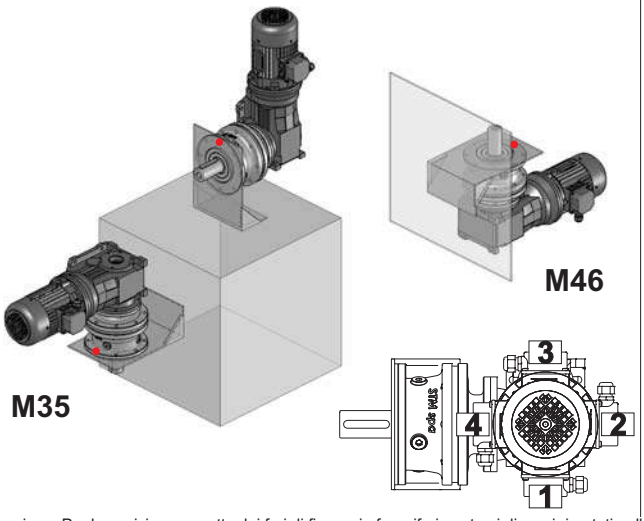
B

M12



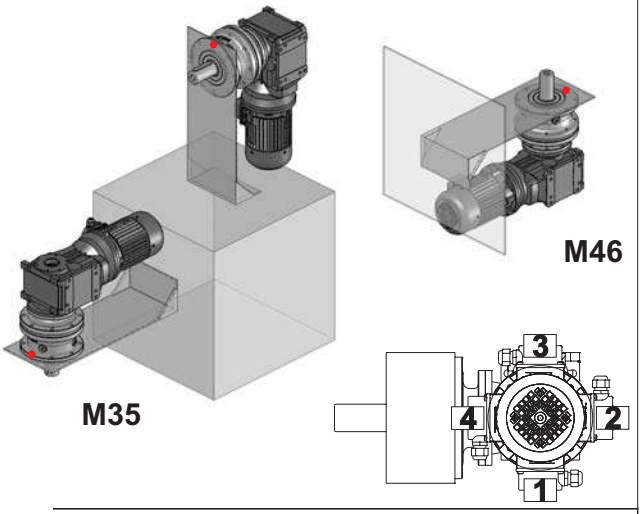
C

M13

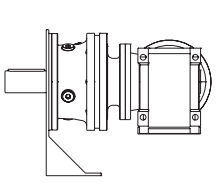


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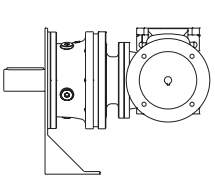
M14



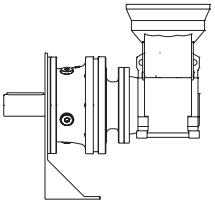
Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend



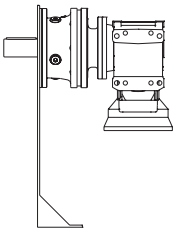
M11



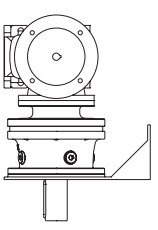
M12



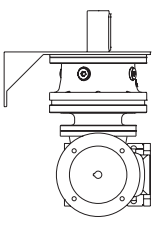
M13



M14



M35



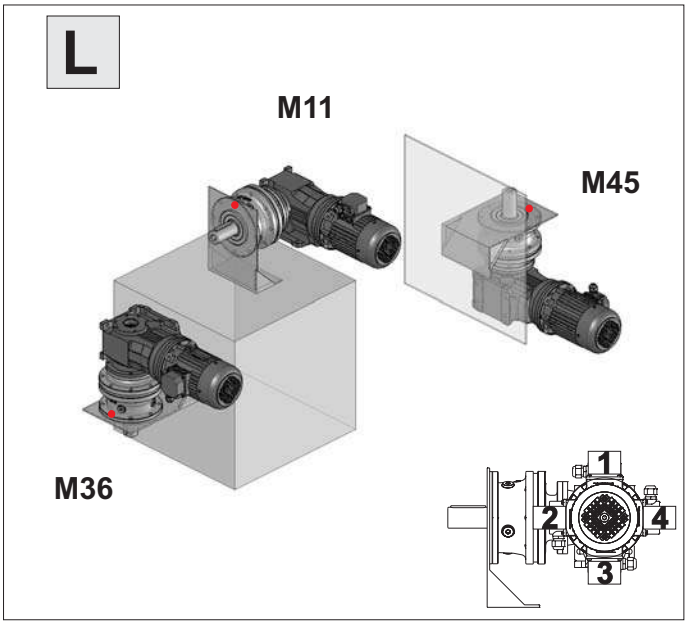
M46

N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

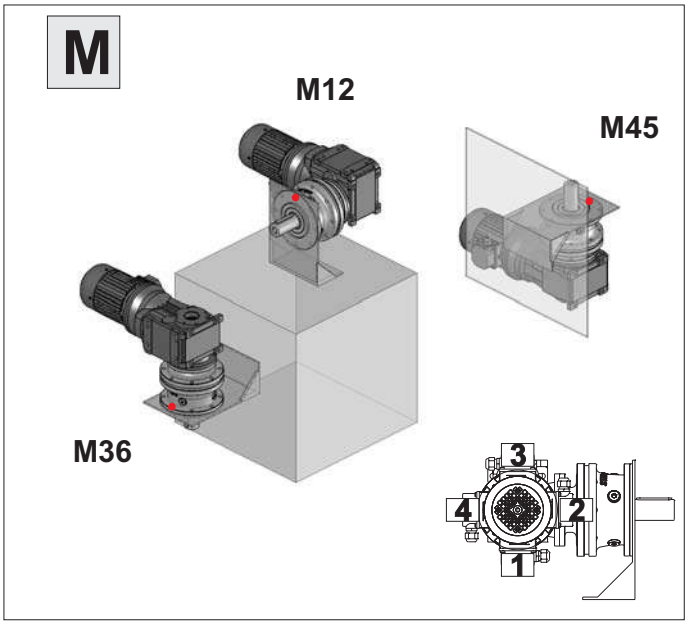
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

R-M.-T-H.-X-S.-F.

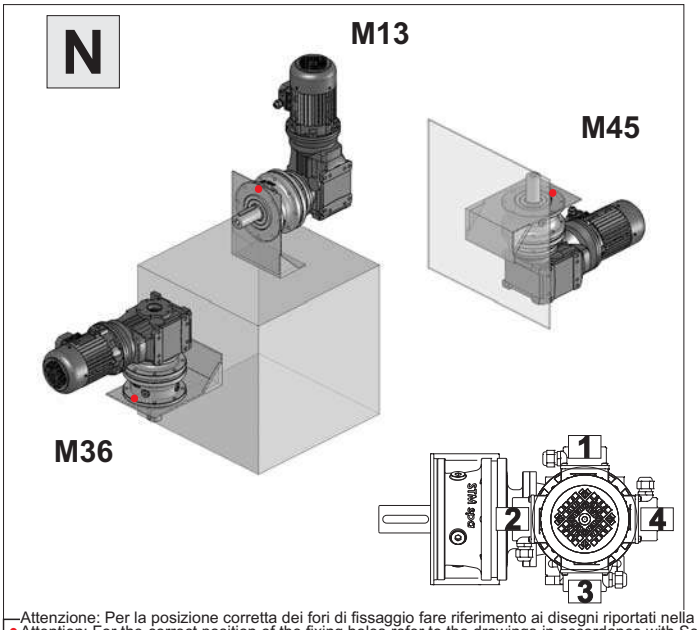
L



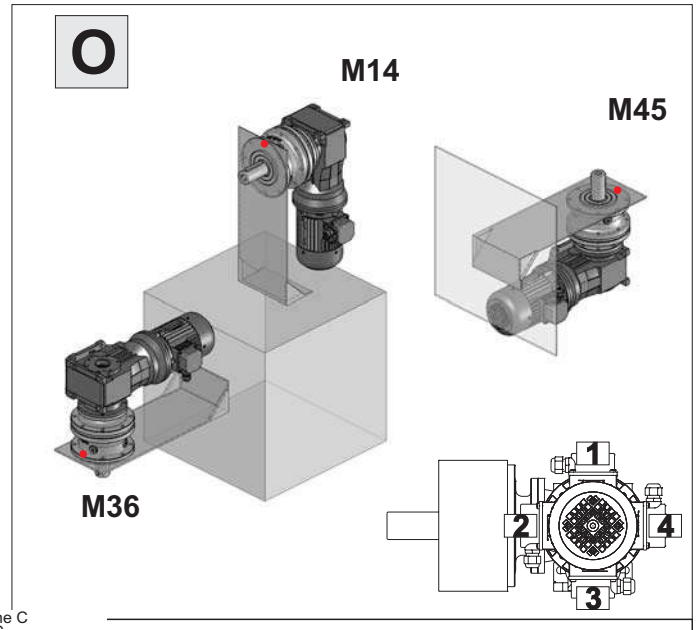
M



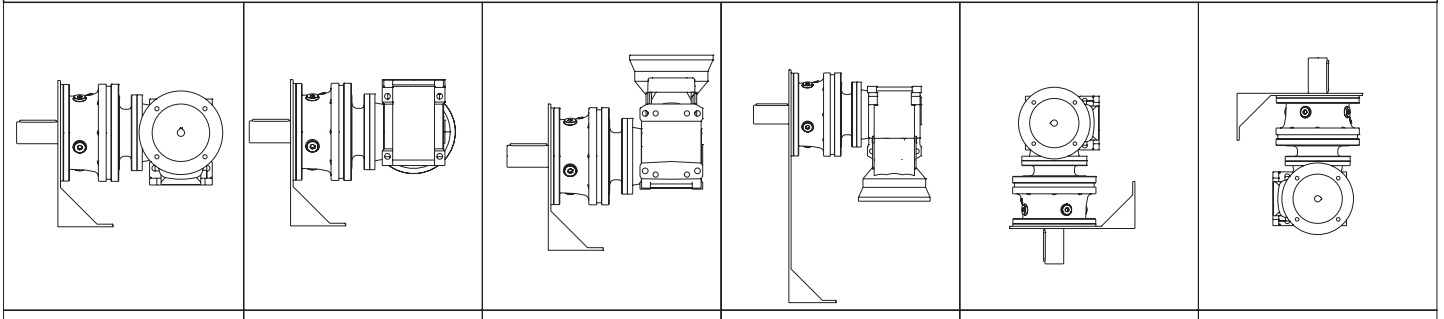
N



O



Attenzione: Per la posizione corretta dei fori di fissaggio fare riferimento ai disegni riportati nella Sezione C
Attention: For the correct position of the fixing holes refer to the drawings in accordance with Section C.
Achtung: Um die korrekte Position der Besfestigungsbohrungen zu finden, bitte in die Zeichnungen entsprechend

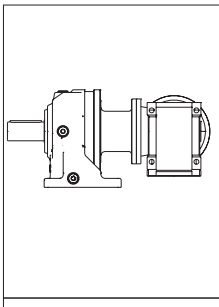


M11	M12	M13	M14	M36	M45

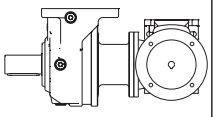
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

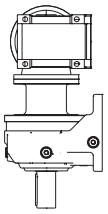
P-PH-PX-PS-PSB



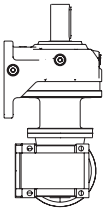
M11



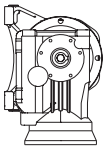
M22



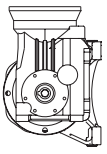
M35



M46

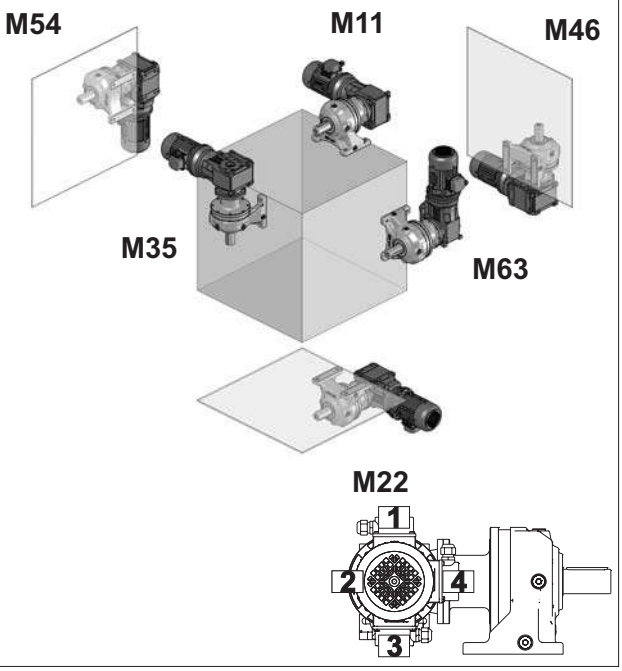


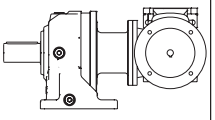
M54



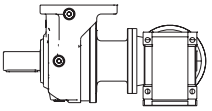
M63

A

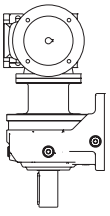




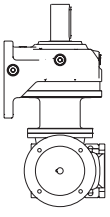
M12



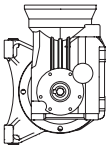
M21



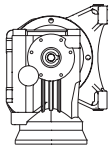
M35



M46

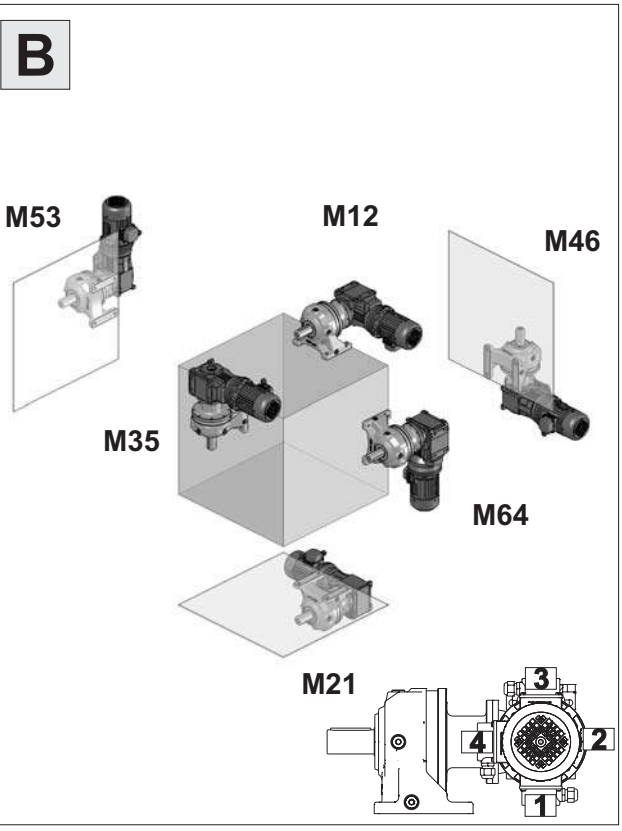


M53



M64

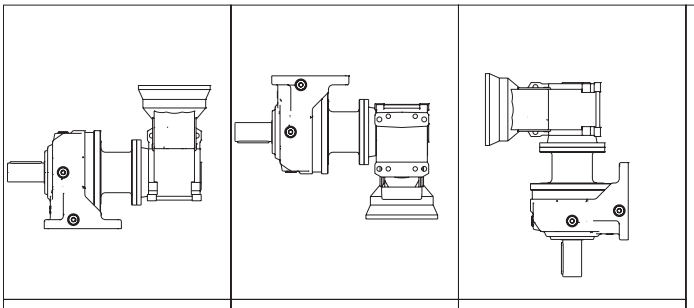
B



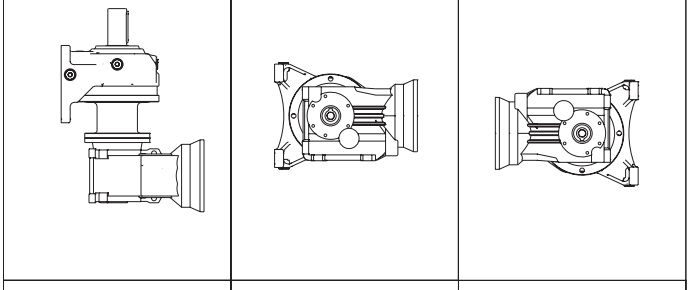
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

P-PH-PX-PS-PSB

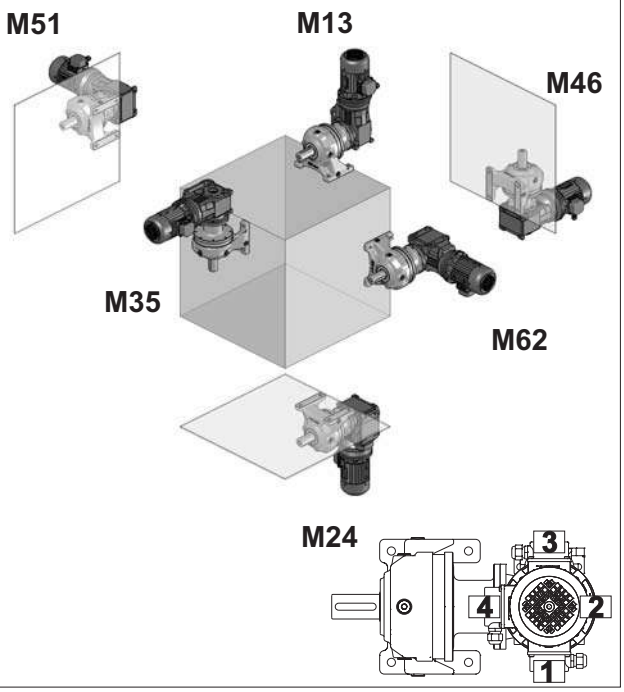


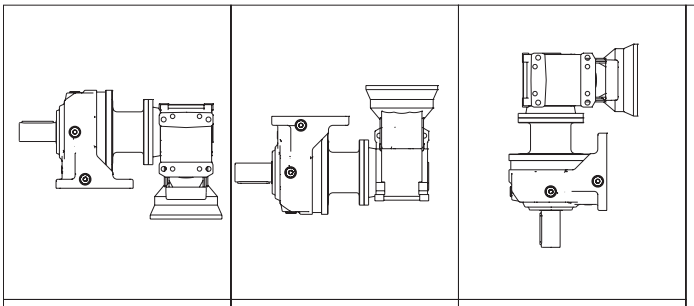
M13 | M24 | M35



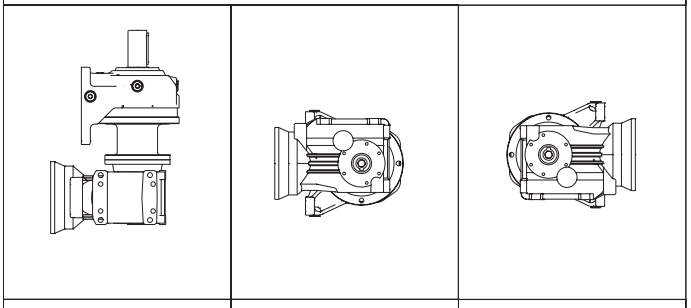
M46 | M51 | M62

C



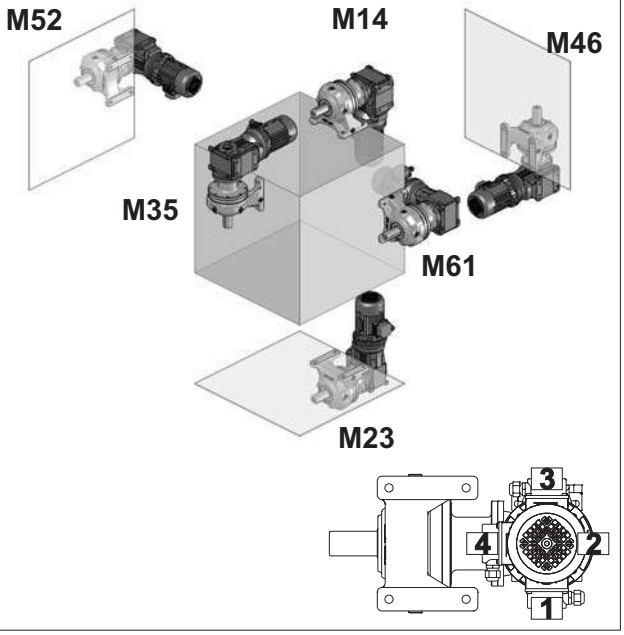


M14 | M23 | M35



M46 | M52 | M61

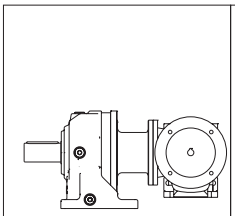
D

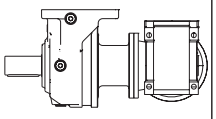


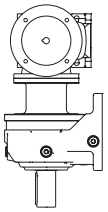
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

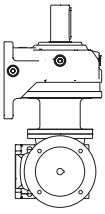
▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

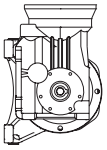
P-PH-PX-PS-PSB

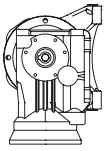

M11


M22

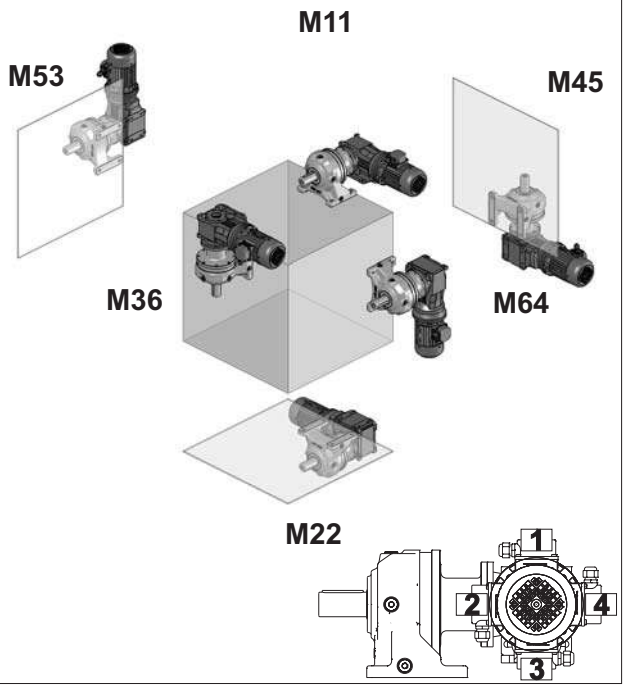

M36

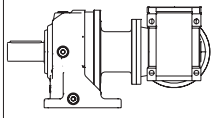

M45

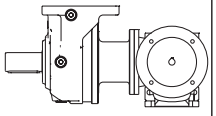

M53

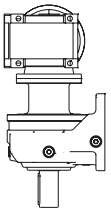

M64

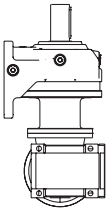
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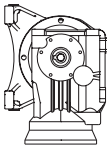


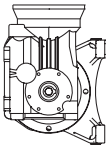

M12


M21

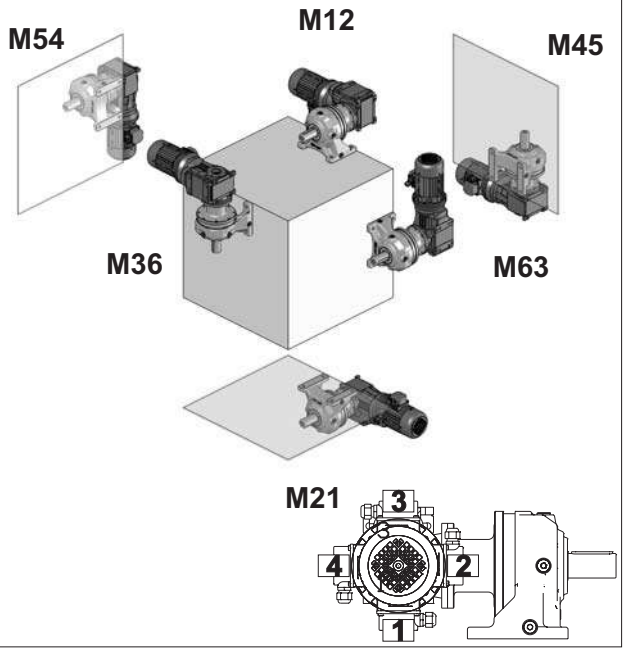

M36


M45


M54


M63

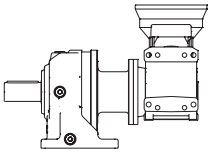
M



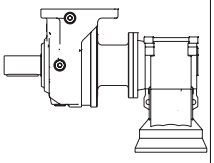
N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

▽ Carico / *Filling plug* / Einfüllschraube
▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

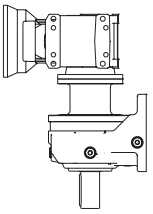
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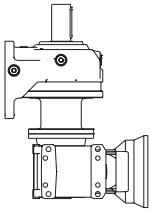
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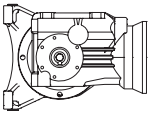
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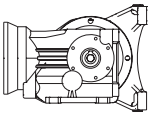
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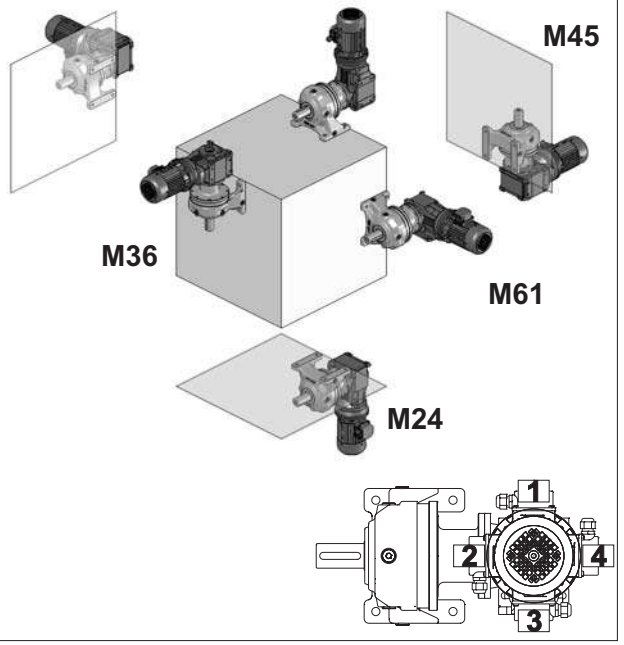


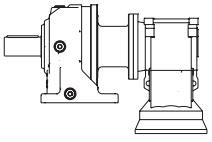
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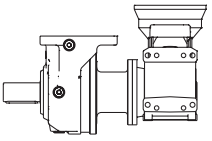
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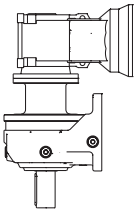




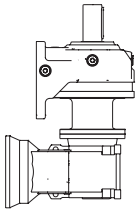
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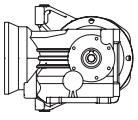
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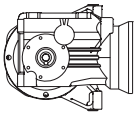
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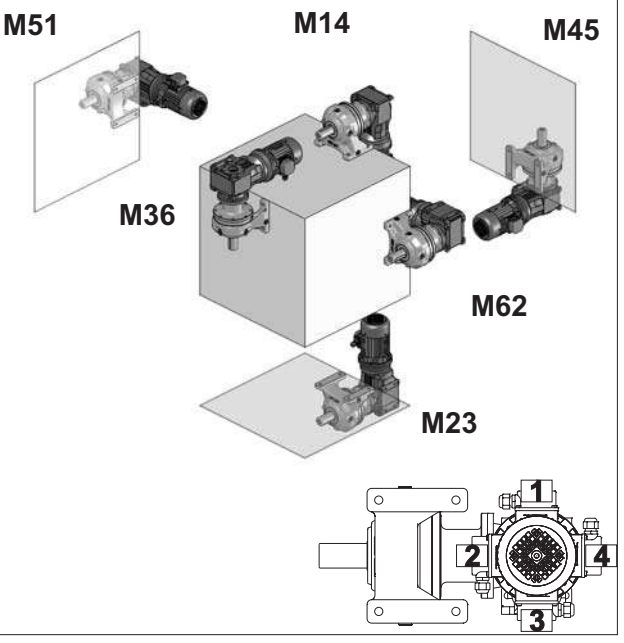


M51



M62

O



N.B. schema rappresentativo anche per 2 , 3 e 4 stadi

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▼ Scarico / *Drain plug* / Ablaßschraube
◒ Livello / *Level plug* / Schauglas
◌ Sfiato / *Vent plug* / Entlüftungsstopfen

Z

Gestione Revisione Cataloghi
Management catalogue review
Management Katalorevisionen

Gestione Revisioni Cataloghi GSM | ***Managing GSM Catalog Revisions*** | **Management Wiederholt Kataloge GSM**

Codice Catalogo | ***Catalog Code*** | Katalogrevisionen

	CT26	I	GB	D	2.1	
	N° Identificativo *Identification Number* Kennummer	Identificativo Lingua - *Language* - Sprache **I** - Italiano – *Italian* - Italienisch **GB** – Inglese – *English* - Englisch **D** – Tedesco – *German* - Deutsch			Indice di Revisione *Review* Bericht	

1) Ogni catalogo GSM in distribuzione e' provvisto di un codice che lo identifica che è riportato nell'ultima pagina dei cataloghi e a piè pagina di tutte le pagine del catalogo stesso.Per verificare la revisione attualmente in vostro possesso è necessario guardare l'ultima cifra che compone il codice del catalogo:

1) Each GSM catalogue is identified by a code printed on the last page and reported in the page footer.The last digit in the catalogue code identifies catalogue revision:

1) Jeder, sich im Umlauf befindliche GSM-Katalog ist mit einer Identifikationsnummer versehen, der auf der letzten Seite und in den Fußnoten jeder einzelnen Seite aufgeführt ist. Um zu überprüfen, über welche Revision Sie im Augenblick verfügen, müssen Sie Bezug auf die letzte Ziffer der Katalogkennnummer nehmen.

2) Il catalogo che contiene gli ultimi aggiornamenti è reperibile sul sito internet STM. Le modifiche riportate sono visibili consultando la tabella degli aggiornamenti che è allegata a questo documento. Sulle pagine che sono oggetto della modifica è riportato l'indice di revisione cambiato.

2) Latest updated catalogues are available on STM's web site. Changes are listed in the updates table attached to this document. Any pages including a change are identified by a higher revision number.

2) Der Katalog, der die letzten Aktualisierungen enthält, kann von der Internetseite der STM herunter geladen werden.Die eingefügten Neuerungen können der Tabelle der Aktualisierungen entnommen werden, die diesem Dokument anhängt. Die Seiten, die Änderungen unterlagen, sind mit der geänderten Revisionsnummer versehen.

3) Guardare con attenzione il simbolo inserito nella colonna "Classificazione Modifica".
In questa colonna sarà inserito un simbolo che determina una classificazione delle modifiche apportate.
Questo consente di identificare con estrema rapidità l'importanza della modifica apportata;

3) Pay attention to the symbol in the "Change Classification" column.
This symbol signifies the category and significance of any changes

3) Besonders auf das in die Spalte „Änderungsklasse" eingefügte Symbol achten.
In dieser Spalte wird das Symbol eingefügt, das für die Klasse der applizierten Änderungen steht.

Classificazione ***Classification*** **Klasse**	**Definizione Specificante gli elementi di modifica** ***Definition Change identifier*** **Erklärende Definition der Änderungselemente**	**Simbolo Identificativo** ***Symbol*** **Identifikationssymbol**
Chiave *Key* Schlüssel	Uscita e immissione di un prodotto *Product issuance and marketing* Ausgabe und Einführung eines Produkts	◄— —►
Importante *Major* Wichtig	Modifica che influenza gli ingombri/stato fornitura/installazione del prodotto *Change affecting overall dimensions/delivery condition/product installation* Änderung, die sich auf die Abmessungen/Lieferzustand/Produktinstallation auswirkt	▼
Secondaria *Minor* Sekundär	Modifica che riguarda traduzioni/impaginazioni/inserimento descrizioni *Change to translations/layout/captions* Änderung, die Übersetzungen/den Umbruch/eingefügte Beschreibungen betrifft	—

4) Qualora risultasse una diversità di quote tra disegno **2D – 3D** scaricato dal sito internet e tabella del catalogo è necessario consultare il nostro servizio tecnico.

4) In the event the dimensions in the 2D – 3D drawing downloaded from our site differ from those indicated in the catalogue table, contact our Engineering.

4) Diese ermöglicht ein schnelles Erfassen der Wichtigkeit der angesetzten Änderung.

Attenzione
Verificare la revisione in vostro possesso e la tabella degli aggiornamenti apportati nella nuova revisione.

Warning
Check your catalogue revision status against the latest updates table.

Achtung
Überprüfen Sie die Revision, die sich in Ihren Händen befindet, und die Tabelle der in der neuen Revision eingefügten Aktualisierung.

Potenza richiesta / *Required power* / Benötigte Leistung

$$P = \frac{m \cdot g \cdot v}{6 \cdot 10^4}$$ Sollevamento / *Lifting* / Heben

$$P = \frac{M \cdot n}{9550}$$ Rotazione / *Rotation* / Drehung

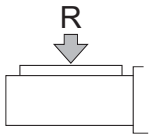
$$P = \frac{F \cdot v}{6 \cdot 10^4}$$ Traslazione / *Linear mouvement* / Linearbewegung

$$M = \frac{9550 \cdot P}{n}$$ Coppia / *Torque* / Drehmoment

$$F = 1000 \cdot \frac{M}{r}$$ Forza / *Force* / Kraft

$$v = \frac{2r \cdot \pi \cdot n}{1000}$$ Velocità lineare / *Linear speed* / Lineargeschwindigkeit

Carichi radiali / *Radial load* / Radialkrafte

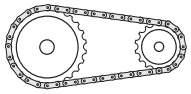


$$R = \frac{2000 \cdot T \cdot Kr}{d}$$

R (N)
Carico radiale
Radial load
Radialkraft

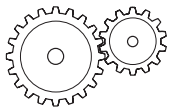
T (Nm)
Coppia sull'albero
Torque
Drehmoment

d (mm)
Diametro della ruota
Diameter
Durchmesser



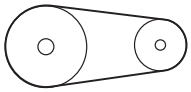
Kr = 1

Ruota per catena
Chain-wheel
Kettenrad



Kr = 1.06

Ingranaggio
Gear
Zahnrad



Kr = 1.5-2.5-3.5

1.5 - Cinghie dentate/Toothed belts/Zahnriemen

2.5 - Cinghie trapezoidali/V belt drives/Keilriemen

3.5 - Ruote di frizione (gomma su metallo)
Friction wheel drive (rubber on metal)
Kupplungsräder (Gummi auf Metall)

Momento d'inerzia ***Moment of inertia*** **Trägheitsmoment**

$J = 98.p.l.D^4$ Cilindro pieno / *Solid cylinder* / Vollzylinder
$J = 98.p.l.(D^4-d^4)$ Cilindro cavo / *Hollow cylinder* / Hohlzylinder

Conversione di una massa in movimento lineare in un momento d' inerzia riferito all'albero del motore

Conversion of a mass having a linear movement into a moment of inertia related to the motor shaft.

$$J = 91.2 \cdot m \cdot \frac{v^2}{n^2}$$

Umwandlung einer Masse mit Linearbewegung in ein Trägheitsmoment, das auf die Motorwelle bezogen ist.

Conversione di diversi momenti d'inerzia di massa a velocità diverse in un momento d'inerzia riferito all'albero motore.

Conversion of various mass moments of inertia having different speeds into a moment of inertia related to the motor shaft.

$$J_a = \frac{J_2 \cdot n_2^{\,2} + J_3 \cdot n_3^{\,2} \ldots}{n_1^{\,2}}$$

Umwandlung von verschiedenen Trägheits-momenten mit unterschiedlichen Geschwindigkeiten in ein Trägheitsmoment, das auf die Motorwelle bezogen ist.

P	= Potenza motore	*Rated power*	Motorleistung	[kW]
m	= Massa	*Mass*	Masse	[kg]
v	= Velocità lineare	*Linear speed*	Lineargeschwindigeit	[m/min]
F	= Forza	*Force*	Kraft	[N]
n	= Velocità di rotaz.	*Rotation speed*	Drehzahl	[min-1]
g	= 9.81	*9.81*	9.81	[m/sec]
M	= Coppia del motore	*Motor torque*	Motor-Drehmoment	[Nm]
r	= Raggio	*Radius*	Radius	[mm]
J	= Inerzia	*Moment of inertia*	Trägheitsmoment	[kgm2]
l	= Lunghezza	*Length*	Länge	[mm]
d	= Diametro interno	*Inner diameter*	Innendurchmesser	[mm]
D	= Diametro esterno	*Outer diameter*	Außendurchmesser	[mm]
p	= Peso specifico	*Specific weight*	Spezifisches Gewicht	[kg/dm3]



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HOT MINDS 3/2016

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