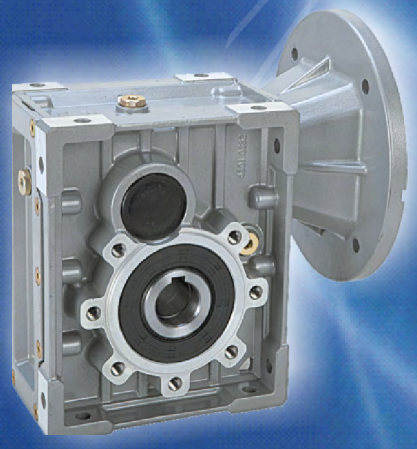
- SERIE DKM / DKB -

Riduttori ad assi ortogonali

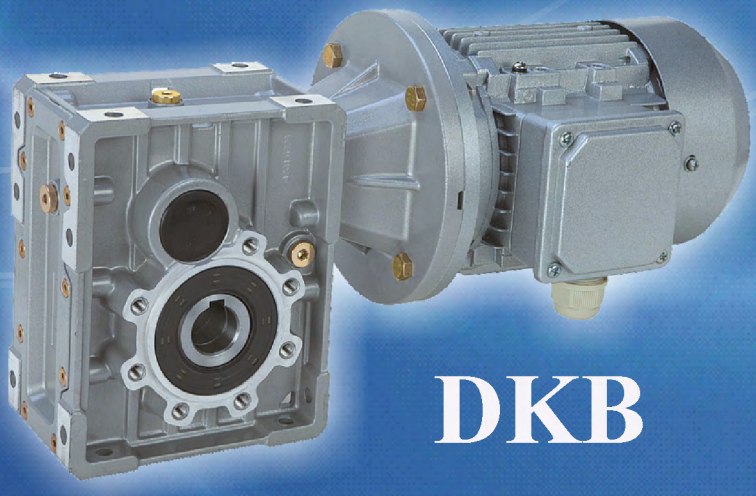
Helical - Hypoid Gear Units

ELLE.GI SRL

Organi di Trasmissione



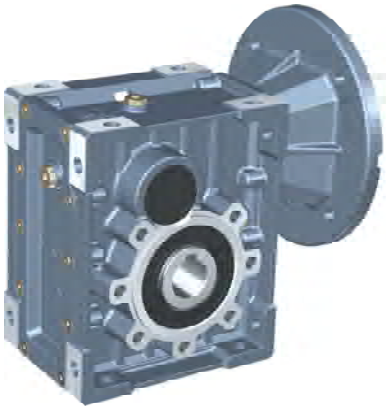
DKM



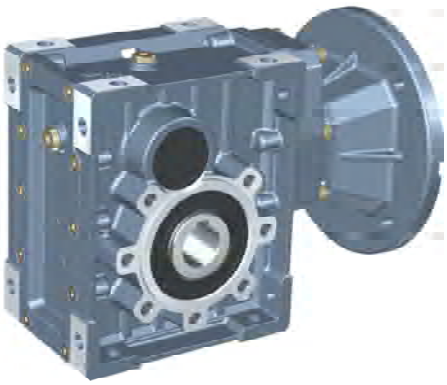
DKB

CONTENUTI - CONTENTS

1. IMMAGINI PRODOTTO / PRODUCT PICTURE

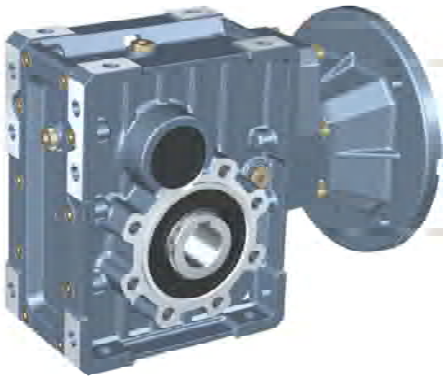


DKM28B ~ 58B



DKM28C ~ 58C

DKB38B ~ 58B



DKB38C ~ 58C

ANNOTATIONS - NOTES

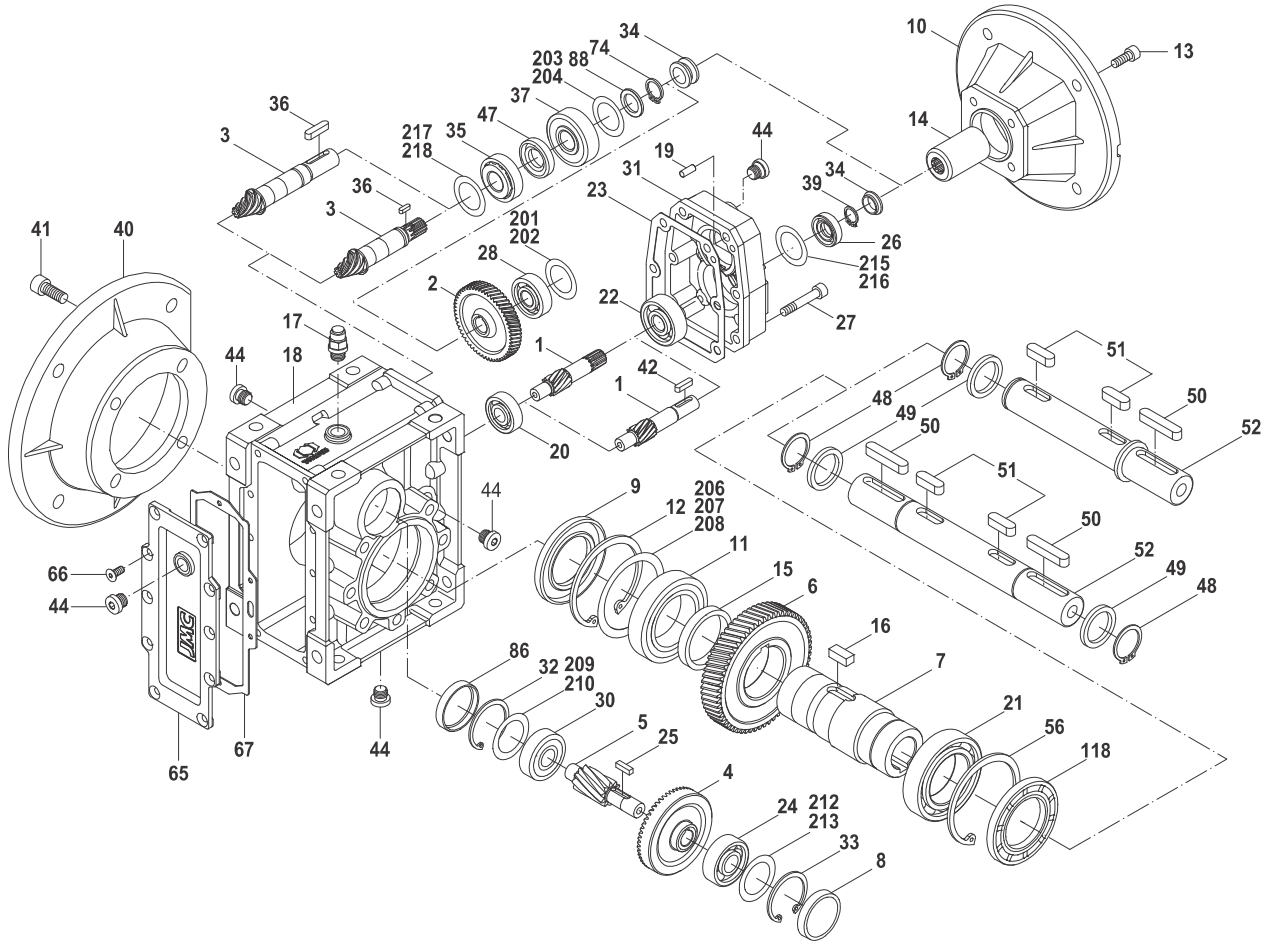
- FOR THE DKM SERIE SIZE 38 - 48 AND 58 THE DELIVERY IS ON REQUEST

- Per la serie DKM taglie 38 - 48 e 58 la consegna è a richiesta

- FOR DKM FOR SIZE 68 THE DELIVERY IS NOT STILL AVAILABLE

- Per la taglia 68 della serie DKM la consegna non è ancora disponibile

1.1 Immagine del prodotto / Basic structure



1 *Pignone* / Pinion	**25** *Chiavetta* / Key	**56** *Seeger* / Hole-circlip
2 *Ruota Dentata* / Gear	**26** *Anello di tenuta* / Oil seal	**65** *Coperchio carcassa* / Gearcase cover
3 *Albero Pignone* / Pinion shaft	**27** *Viti a brugola* / Inner hex screw	**66** *Vite* / Hexagon sunk screw
4 *Ruota Dentata* / Gear	**28** *Cuscinetto* / Bearing	**67** *Guarnizione plastica* / Rubber gasket
5 *Albero Pignone* / Pinion shaft	**30** *Cuscinetto* / Bearing	**74** *Seeger* / Shaft-circlip
6 *Ruota Dentata* / Gear	**31** *Carcassa 3° stadio* / 3 stage gearcase	**86** *Tappo Chiuso* / Closing cap
7 *Albero Cavo* / Hollow shaft	**32** *Seeger* / Hole-circlip	**88** *Rondella* / Washer
8 *Tappo Chiuso* / Closing cap	**33** *Seeger* / Hole-circlip	**118** *Anello di tenuta* / Oil seal
9 *Anello di tenuta* / Oil seal	**34** *Fondello in plastica* / Rubber boot	**201** *Anello di rasamento* / Shim ring
10 *Flangia in ingresso* / Intput flange	**35** *Cuscinetto* / Bearing	**202** *Anello di rasamento* / Shim ring
11 *Cuscinetto* / Bearing	**36** *Chiavetta* / Key	**203** *Anello di rasamento* / Shim ring
12 *Seeger* / Hole-circlip	**37** *Cuscinetto* / Bearing	**204** *Anello di rasamento* / Shim ring
13 *Viti a brugola* / Inner hex screw	**39** *Seeger* / Shaft-circlip	**206** *Anello di rasamento* / Shim ring
14 *Albero in ingresso* / Intput shaft	**40** *Flangia in uscita* / Output flage	**207** *Anello di rasamento* / Shim ring
15 *Distanziale* / Spacer	**41** *Viti a brugola* / Inner hex screw	**208** *Anello di rasamento* / Shim ring
16 *Chiavetta* / Key	**42** *Chiavetta* / Key	**209** *Anello di rasamento* / Shim ring
17 *Tappo di sfiato* / Breather valve	**44** *Tappo dell'olio* / Oil plug	**210** *Anello di rasamento* / Shim ring
18 *Carcassa* / Gearcase	**47** *Anello di tenuta* / Oil seal	**212** *Anello di rasamento* / Shim ring
19 *Spina* / Stifte	**48** *Seeger* / Shaft-circlip	**213** *Anello di rasamento* / Shim ring
20 *Cuscinetto* / Bearing	**49** *Guarnizione* / Gasket	**215** *Anello di rasamento* / Shim ring
21 *Cuscinetto* / Bearing	**50** *Chiavetta* / Key	**216** *Anello di rasamento* / Shim ring
22 *Cuscinetto* / Bearing	**51** *Chiavetta* / Key	**217** *Anello di rasamento* / Shim ring
23 *Guarnizione* / Housing gasket	**52** *Albero doppio in uscita* / Double output shaft	**218** *Anello di rasamento* / Shim ring
24 *Cuscinetto* / Bearing	**53** *Albero semplice in uscita* / Single output shaft	

2. SOMMARIO

2.1 Caratteristiche del prodotto

La serie DKM e DKB sono riduttori di nuova generazione a coppia conica ipoide da noi sviluppati con un compromesso di avanzata tecnologia.

Le caratteristiche principali sono le seguenti:

1. *Costruiti con coppie coniche ipoidi con alti rapporti di riduzione;*
2. *Alta coppia in uscita, alto rendimento e basso consumo energetico;*
3. *Costruiti in carcasse di alluminio pressofuso di alta qualità;*
4. *Elevata durata, basso rumore e adatti a lavorare in ambienti difficili;*
5. *Ottimo aspetto estetico e compatti;*
6. *Adatti ad ogni installazione e di facile impiego;*
7. *Il fissaggio del DKM 28 e' identico al nostro tipo a vite senza fine MRDV 50;*
8. *La loro modularità soddisfa la richiesta di varie applicazioni;*

2.2 Principali materiali

1. *Carcassa in alluminio pressofuso*
2. *Ingranaggi in materiale 20 Cr Mn Ti H1 al carbonio trattato con durezza dai 56 ai 62 HRC carbonitrurato con durezza profonda 0,3 3 0,5 mm*

2.3 Verniciatura

Carcassa di alluminio:

1. *Granigliatura e speciale trattamento antisettico alle superfici d'alluminio;*
2. *Fosfatizzazione e spruzzata di RAL 9022 in argento,*

2. SUMMARIZE

2.1 Products characteristics

DKM,DKB series helical-hypoid gear units is a new-generation of product developed by our company . with a compromise of advanced technology both at home and abroad, its main features are as follows:

1. Driven by hypois gear,has big ratios.
2. Large in output torque,high efficiency,energy saving and environmental protection.
3. Made of high-quqlity aluminum alloy, light in weight and nonrusting.
4. Smooth in running and low in noise, can work long time in dreadful conditions.
5. Good-looking in appearance, durable in service life and small in volume.
6. Suitable for all round installation,wide application and easy of use.
7. The mounting dimension of **DKM** series are compatible with **MRDV** series worm gear unit
8. Modulaw and multistructure can meet the demands of various conditions .

2.2 Main materials

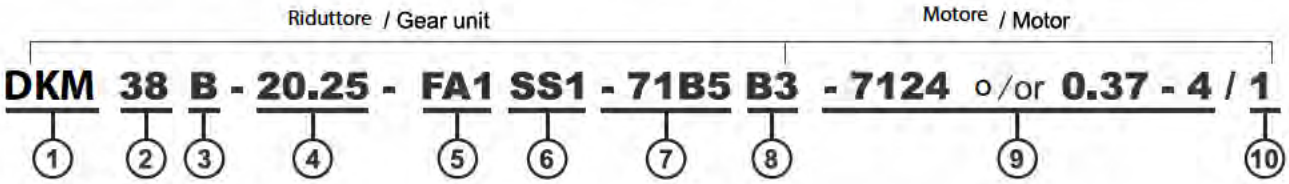
1. Housing: die-cast aluminum alloy (frame size: 28 to 58); .
2. gear wheel: 20CrMnTiH1, carbonize & quencher heat treatment make the hardness of gear's surface up to 56~62 HRC，retain carburization layer's thickness between 0.3 and 0.5mm after precise grinding.

2.3 Surface painting

Aluminum alloy housing：

1. Shot blasting and special antiseptic treatment on the aluminum alloy surface.
2. After phosphating,spray the paint RAL9022 in silver white.

3. SPIEGAZIONE DEI CODICI / *MODEL ILLUMINATE*



No		Comments
1	Codice indicante la serie **DKM/DKB**	Code for gear units series: **DKM/DKB**
2	Taglia riduttore 28、38、48、58、68	Specification code of gear units 28、38、48、58、68
3	1). **B**: 2 stadi di riduzione 2). **C**: 3 stadi di riduzione	1).**B**: Means 2 stages 2).**C**: Means 3 stages
4	Rapporto di riduzione: i	Speed ratio of reducer i
5	1). Non indicandolo : senza flangia 2). **FA,FB,FC,FD,FE(1/2)**: flange in uscita e posizioni	1). No mark means without output flange 2). **FA,FB,FC,FD,FE(1/2)**: output Flange and position
6	1). Non indicandolo: albero lento cavo in uscita 2). **SS(1/2)**: albero lento senplice in uscita e posizione 3). **DS**: doppio albero lento in uscita	1). No mark means hole output 2). **SS(1/2)**: Single output shaft and position 3). **DS**: Double output shaft
7	1). cod. flangia in ingresso (63B5、71B5、71B14……) 2). **HS**: Albero maschio in ingresso	1). Input flange code(63B5、71B5、71B14……) 2). **HS**: means shaft input
8	Posizione di montaggio	Installation position code
9	1). Non indicandolo: senza motore 2). Tipo di motore	1). No mark means without motor 2). Model motos (poles of power)
10	Diagramma per la posizione della morsettiera del motore	Position diagram for motor terminal box default position 1 not to write out is ok

In fase d'ordine è sempre meglio specificare se il riduttore è equipaggiato di motore
When ordering, you should show whether the reducers are equipped with motors, otherwise reducers aren't supplied with motors.

Esempio: Example: **DKB68B - 59.22 - FA1 - 90B5**

4. PARAMETRI IMPORTANTI

4.1 Potenza - P

$$P_1 = \frac{P_2}{\eta} \text{ [kW]}$$

$$P_{1n} \geqslant P_1 \cdot f_s \text{ [kW]}$$

P_1	*Potenza in ingresso*
P_2	*Potenza in uscita*
P_{1n}	*Potenza del motore consigliata*
f_s	*Fattore di servizio*
η	*Rendimento*

Il rendimento della serie DKM e DKB dipende dal numero degli stadi. Varia tra il 94 % (2 stadi) e il 92 % (3 stadi).

4.2 Velocità - n

n_1	*Velocità in ingresso*
n_2	*Velocità in uscita*

Sono consigliate velocità in ingresso di 1400 giri/min o inferiori in modo da prolungare la vita del riduttore. Lo stesso può funzionare anche con velocita in ingresso sino a 3000 giri ma va ridotta la coppia in uscita che può sopportare il riduttore.

4.3 Rapporto di trasmissione - i

$$i = \frac{n_1}{n_2}$$

Abitualmente il rapporto di riduzione viene indicato considerando 2 numeri decimali dopo la virgola.

4.4 Coppia - M

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ [Nm]}$$

$$M_{2n} \geqslant M_2 \cdot f_s \text{ [Nm]}$$

M_2	*Coppia in uscita*
M_{2n}	*Coppia in uscita nominale*
P_1	*Potenza in ingresso*
η	*Rendimento*
f_s	*Fattore di servizio*

4.5 Fattore di servizio - f_s

Il fattore di servizio quantifica la maggiore o minore gravosità delle condizioni di funzionamento reali ovvero del servizio reale rispetto a quello nominale, determinando così il sovra o sottodimensionamento necessario per il riduttore che si deve scegliere.

4. RELEVANT PARAMETER

4.1 Power P

$$P_1 = \frac{P_2}{\eta} \text{ [kW]}$$

$$P_{1n} \geqslant P_1 \cdot f_s \text{ [kW]}$$

P_1	Input power
P_2	Output power
P_{1n}	Rated power driving motor
f_s	Service factor
η	Transmission efficiency

The efficiency of **DKM, DKB** gear units varies with the number of gear stages, between 94 % (2-stage) , 92 % (3-stage).

4.2 Rotation speed n

n_1	Gear units input speed
n_2	Gear units output speed

If driven by the external gearing,1400r/min or lower rotation speed is suggested so as to optimize the working conditions and prolong the service life. Higher input rotation speed is permitted, but in this situation, the rated torque **M2** will be reduced.

4.3 Transmission ratio i

$$i = \frac{n_1}{n_2}$$

Usually transmission ratio is decimal fraction with 2 radix point tagged in selection tables.

4.4 Torque M

$$M_2 = \frac{9550 \cdot P_1 \cdot \eta}{n_2} \text{ [Nm]}$$

$$M_{2n} \geqslant M_2 \cdot f_s \text{ [Nm]}$$

M_2	Output torque
M_{2n}	Selected output torque
P_1	Input power
η	Transmission efficiency
f_s	Service factor

4.5 Service factor f_s

The effect of the driven machine on the gear unit is taken into account to a sufficient level of accuracy using the service factor f_s. The service factor is determined according to the daily operating time and the starting frequency **Z**.

Il grafico sotto riportato indica tre tipi di carico diversi che variano in funzione della massa da accelerare e dalla frequenza degli avviamenti. Dalla tabella dei parametri Si dovrà scegliere un riduttore che dia un fattore di servizio sempre superiore a 1.

Three load classifications are considered depending on the mass acceleration factor. You can read off the service factor applicable to your application in following Figure. The service factor selected using this diagram must be less than or equal to the service factor as given in the performance parameter table.

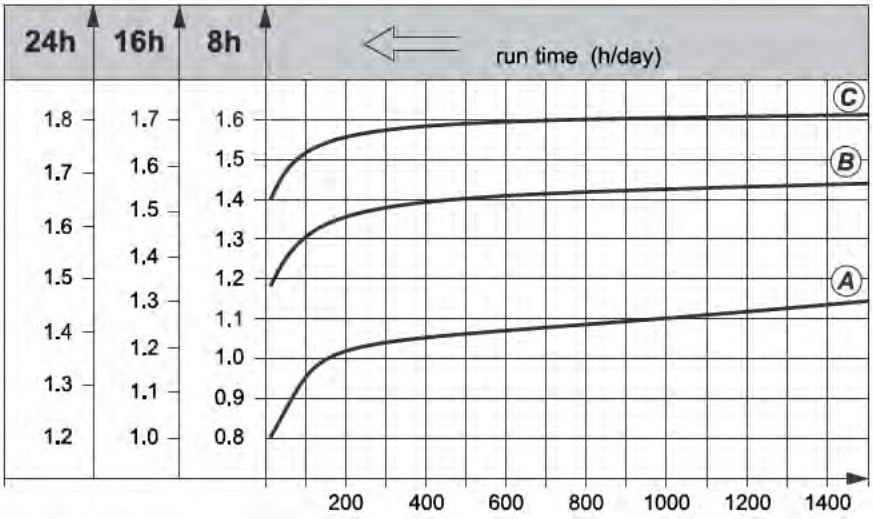


*Fig.: Fattore di servizio (**fs**)*
Fig: Service factor (**fs**)

*Frequenza d'avvio **Z** (1/h) #*
start up frequency **Z** (1/h) #

 # frequenza d'avvio Z: il ciclo include tutti gli avvii e le fermate in funzione del cambio della velocità.

starting frequency **Z**: The cycles include all starting and braking procedures as well as change overs from low to high speed.

4.5.1 Classifica dei carichi

- (A) *Uniforme, con fattore di accelerazione* **fa**≤0.2
- (B) *Carico di spunto moderato con fattore di accelerazione* **fa**≤3
- (C) *Elevato carico di spunto con fattore di accelerazione* **fa**≤10

Esempi di applicazioni:

- Nastri trasportatori;
- Ventilatori, linee di assemblaggio, trasportatori a nastro, piccoli mescolatori, macchine per pulizia, macchine a controllo;
- Avvolgitori ,Macchine lavorazione legno, ascensori, trasportatori per materiali pesanti, porte scorrevoli, macchine imballaggio, taglierine pompe piegatrici;
- Mescolatori per materiali pesanti, presse, cesoie mulini macinatori piegatrici buratti vibratori trituratori:

4.5.1 load classifications

- (A) Uniform, permitted mass acceleration factor **fa**≤0.2
- (B) Moderate shock load, permitted mass acceleration factor **fa**≤3
- (C) Heavy shock load, permitted mass acceleration factor **fa**≤10

oad classifications:

Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

Winding devices, woodworking machine feeders, goods lifts, balancers,threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

4.5.2 Fattore di accellerazione

Viene calcolato nel seguente modo:

$$f_a = \frac{J_c}{J_m}$$

f_a *fattore di accelerazione*
J_c *momento di inerzia del carico* (kgm^2)
J_m *momento di inerzia del motore* (kgm^2)

Nel caso il fattore di accelerazione risultasse $f_a > 10$, *interpellare il nostro ufficio tecnico*

Per ottenere una lunga durata del riduttore il fattore di servizio f_S *selezionato dal catalogo deve essere uguale o meglio più alto di quello necessario, ottenuto tramite il diagramma descritto nella pagina precedente.*

ESEMPIO:

Con fattore di accelerazione di 2,5 tipo Ⓑ *un servizio* f_S =1.48。*e 200 cicli /ora, risulta che serve un fattore di servizio* $f_S \geqslant 1.48$

4.5.2 Mass acceleration factor

The mass acceleration factor is calculated as follows:

$$f_a = \frac{J_c}{J_m}$$

f_a Mass acceleration factor
J_c All external mass moments of inertia (kgm^2)
J_m Mass moment of inertia on the motor end (kgm^2)

If mass acceleration factors $f_a > 10$, please call our Technical Service.

To keep the service-life of gear units, the use factor f_S selected from the catalogue must be equal or slightly higher than the calculated use factor f_S.

Example:

Mass acceleration factor 2.5 (load classification Ⓑ), 14 hours/day operating time (read off at 16 h/d) and 200 cycles/hour result in a service factor f_S =1.48.
choose the service factor f_S = 1.48 according to the parameter sheet .

4.6 Sovraccarico e carichi assiali

Gli alberi in entrata e in uscita dei riduttori possono essere soggetti a dei carichi radiali esterni, causati dal tipo di trasmissione in uso. Il reale valore dei carichi radiali esterni può essere calcolato utilizzando la formula:

4.6 Overhung loads and axial forces

When determining the resulting radial loads, the type of transmission elements, mounted on the shaft end must be considered. Various transmission elements are corresponding with following transmission element factors f_z:

Transmission element	Transmission element factor F_Z	Comments
Ingranaggi - Gears	1.15	< 17 teeth
Pignone catena - Chain sprockets	1.25	< 20 teeth
	1.40	< 13 teeth
V Puleggia -Narrow V-belt pulleys	1.75	Influence of the tensile force
Puleggia - Flat belt pulleys	2.50	Influence of the tensile force
Puleggia - Toothed belt pulleys	2.50	Influence of the tensile force

I sovraccarichi esercitati sul motore o sull'albero sono calcolati come segue:

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_0} \text{ [N]}$$

F_r *Carico Radiale* [N]
M *Forza sull' albero* [Nm]
d_0 *diametro degli elementi di trasmissione montati in* [mm]
f_z *Fattore elementi di trasmissione*

The overhung loads exerted on the motor or gear shaft is then calculated as follows:

$$F_r = \frac{M \cdot 2000 \cdot f_z}{d_0} \text{ [N]}$$

F_r Resulting radial load [N]
M Torque on the shaft [Nm]
d_0 Mean diameter of the mounted transmission element in [mm]
f_z Transmission element factor

Il carico radiale effettivo cosi' determinato non dovra' mai superare il carico radiale massimo ammissibile riportato nelle tabelle in modo da non pregiudicare la durata e la resistenza dei cuscinetti.

I carichi radiali ammissibili indicati nelle tabelle si intendono quelli applicati sulla mezzeria dell'albero.

Qualora il carico radiale esterno non sia applicato esattamente nella mezzeria dell'albero di entrata, ma in una sezione diversa, il carico radiale massimo ammissibile potra' essre ricavato applicando la seguente formula :

$$F_{xL} = F_{r(1,2)} \cdot \frac{a}{b + x} \text{ [N]}$$

F_{r1}, F_{r2} = *Carico radiale ammissibile in mezzeria* (x = L / 2) [N]

x = *Distanza del punto di applicazione del carico dallo spallamento dell'albero* [mm]

a, b, = *Costanti del riduttore generalmente ricavabili dalle tabelle riportate nelle relative sezioni di cataloghi dei riduttori* [mm]

The basis for determining the permitted radial loads is the computation of the rated service life L_{10h} of the bearings (according to **ISO281**). For special operating conditions, the permitted radial loads can be determined with regard to the modified service life L_{na}.

The permitted radial loads given in the selection tables must be calculated using the following formula in the event of force application not in the center of the shaft end. The smaller of the two values F_{xL} (according to bearing service life)

F_{xL} according to bearing service life:

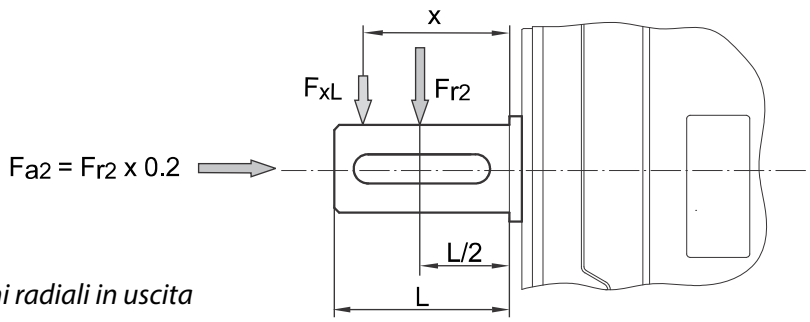
$$F_{xL} = F_{r(1,2)} \cdot \frac{a}{b + x} \text{ [N]}$$

F_{r1}, F_{r2} = Permitted overhung load (x = L/2) for foot-mounted gear units according to he selection tables in [N]

x = Distance from the shaft shoulder to the force application point in [mm]

a, b = Gear unit constant for overhung load conversion [mm]

Carichi radiali sull'albero in uscita / Output shafts radial loads



F_{a2} = *Carichi radiali in uscita*
Output axial loads

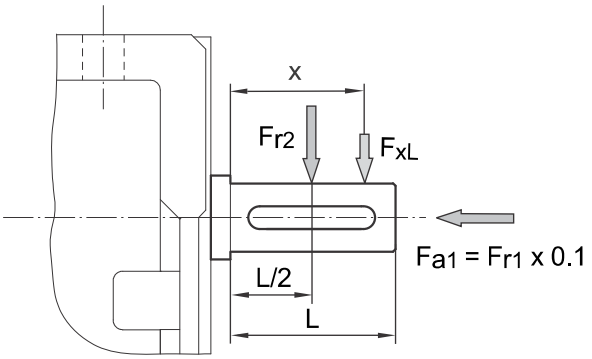
DKM *Costanti del riduttore* / Gear unit constantsfor overhung load conversion:

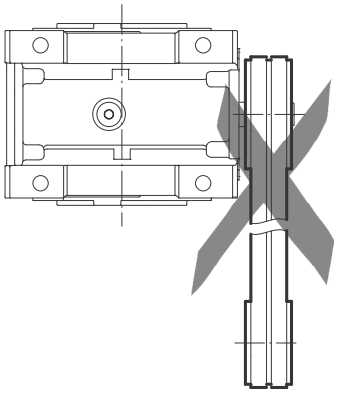
	DKM28B	DKM28C	DKM38B	DKM38C	DKM48B	DKM48C	DKM58B	DKM58C	DKM68B	DKM68C
a	104	104	118	118	131	131	159	159	174	174
b	78	78	93	93	101	101	119	119	134	134

DKB *Costanti del riduttore* / Gear unit constantsfor overhung load conversion:

			DKB38B	DKB38C	DKB48B	DKB48C	DKB58B	DKB58C	DKB68B	DKB68C
a			128	128	135	135	148.5	148.5	171	171
b			98	98	105	105	118.5	118.5	134	134

Carichi radiali sull'albero in entrata - **Input shafts radial loads**





F_{a1} = Carichi radiali in ingresso
Input axial loads

E' sconsigliato usare una trasmissione a cinghia sull'albero in entrata , vedi l'esempio della figura riportata a destra
It is forbidden to use the input on the right chart (including 3 stage input).

DKM/DKB *Costanti del riduttore* / Gear unit constantsfor overhung load conversion:

	DKM28B	DKM28C	DKM38B DKB38B	DKM38C DKB38C	DKM48B DKB48B	DKM48C DKB48C	DKM58B DKB58B	DKM58C DKB58C	DKM68B DKB68B	DKM68C DKB68C
a	51.5	56	58	56	73	70	81	70	101	87
b	40	44.5	43	44.5	53	55	61	55	76	67

4.7 TABELLE DI SELEZIONE

Possibili combinazioni con motore
Non e' possibile alcuna combinazione con il motore

* *rapporto di riduzione finito del riduttore*
P_{1n} *potenza in ingresso del motore* **[kW]**;
n_2 *velocita' in uscita* **[r/min]**;
M_{2n} *coppia in uscita* **[Nm]**;
$M_{2\,max}$ *massimo carico radiale in uscita* **[Nm]**;
F_{r2} *massimo carico radiale in uscita* **[N]**;
i *rapporto nominale*
i_a *rapporto di riduzione reale*
f_s *fattore di servizio*
tipo di riduttore
tipo di motore
page *Pagina dimensioni*

4.7 Selection tables comments

Combination with the motor in the header row **is possible**
Combination with the motor in the header row **is not possible**

* Finite gear unit reduction ratio;
P_{1n} Rated power driving motor **[kW]**;
n_2 Output speed **[r/min]**;
M_{2n} Output torque **[Nm]**;
$M_{2\,max}$ Max. permissible output torque **[Nm]**
F_{r2} Permissible overhung load output side **[N]**
i Gear unit nominal ratio;
i_a Gear unit actual ratio;
f_s Service factor;
Gear unit type;
Motor type;
Page Dimension sheet page no;

5 ESEMPIO DI SELEZIONE

5.1 Motoriduttore

Esempio: potenza richiesta necessaria alla macchina, 0,25 kw, con tempo di lavoro giornaliero di 8 ore, carico moderato, 100 avviamenti /ora, n2 =35/min, controllando in tabella il fattore di servizio risulta essere di 3, quindi:

$$i = \frac{n_1}{n_2} = \frac{1400}{35} = 40$$

$$P_{1n} \geqslant P_1 \cdot f_s = \frac{P_2}{\eta} \cdot f_s = \frac{0.25}{0.94} \times 1.3 = 0.345 \text{ [kW]}$$

La scelta sarà:

DKM28B - 40.09 - 71B5 - 7124 - B3

5.2 Riduttore

Esempio: coppia richiesta di 200 Nm , con lavoro di 8 ore al giorno, carico uniforme, 400 avviamenti ora, flangia FA1 montata, velocità in ingresso di 900 giri / min, n2 di 2,5, così l'unica soluzione e' un riduttore a 3 stadi e dopo aver controllato le tabelle si sceglie un fattore di servizio di 1,05:

$$i = \frac{n_1}{n_2} = \frac{900}{6} = 150$$

$$M_{2n} \geq M_2 \cdot f_s = 200 \times 1.05 = 210 \text{ [Nm]}$$

$$P_{1n} \geqslant P_1 \cdot f_s = \frac{M_2 \cdot n_1}{9550 \cdot \eta \cdot i} \cdot f_s = \frac{210 \times 900}{9550 \times 0.92 \times 150} \times 1.05 = 0.151 \text{ [kW]}$$

La scelta sarà:

DKM48C-151.20-FA1

5 SELECTION EXAMPLE

5.1 Gear motor

Example: Required power 0.25kW on driven machine, work for 8 h/day, moderate shock load, start up frequency 100(1/h), n_2=35r/min, **B3** mounted, So:

Check the service factor table at page 7 ,choose f_S=1.3

Choose type:

DKM28B - 40.09 - 71B5 - 7124 - B3

5.2 Gear units

Example: Recluired torque 200Nrn on driven machine, work 8 h/day, uniform load, start up frequency 400(1/h), **FA1** mounted, n_1=900 r/min, n_2=2.5 r/min, so the only selection is 3 stage after checked the table:

Check the service factor table at page 7 ,choose f_S=1.05

Choose type:

DKM48C-151.20-FA1

6. TABELLA SELEZIONE RIDUTTORI / *GEAR UNIT SELECTION TABLES*

6.1 Possibili combinazioni / *Possible geometrical combinations*

DKM28.. n_1=1400 r/min — 130Nm

Gear units		i Nominal	i Actual	n_2 [r/min]	M_2max [Nm]	F_{r2} [N]	63B5	71B5 71B14	80B5 80B14	90B5 90B14
3 Stadio / Stage										
DKM28C		300	291.79	4.8	130	4100				
DKM28C		250	244.29	5.7	130	4100				
DKM28C		200	200.44	7.0	130	4100				
DKM28C		150	146.67	9.5	130	4000				
DKM28C		125	120.34	11.6	100	3770				
DKM28C		100	101.04	13.9	80	3560				
DKM28C		75	74.62	18.8	130	3220				
DKM28C		60	62.36	22	100	3030				
DKM28C		50	52.36	27	110	2860				
2 Stadio / Stage										
DKM28B		60	58.36	24	130	2960				
DKM28B		50	48.86	29	130	2790				
DKM28B		40	40.09	35	130	2610				
DKM28B		30	29.33	48	130	2350				
DKM28B		25	24.07	58	130	2200				
DKM28B		20	20.21	69	100	2080				
DKM28B		15	14.92	94	80	1880				
DKM28B		12.5	12.47	112	130	1770				
DKM28B		10	10.47	134	100	1670				
DKM28B		7.5	7.73	181	80	1510				

DKM38..; DKM38.. n_1=1400 r/min — 200Nm

Gear units		i Nominal	i Actual	n_2 [r/min]	M_2max [Nm]	F_{r2} [N]	63B5	71B5 71B14	80B5 80B14	90B5 90B14
3 Stadio / Stage										
DKM38C	DKB38C	300	302.50	4.6	200	4800				
DKM38C	DKB38C	250	243.57	5.7	200	4800				
DKM38C	DKB38C	200	196.43	7.1	180	4800				
DKM38C	DKB38C	150	151.56	9.2	200	4650				
DKM38C	DKB38C	125	122.22	11.5	180	4330				
DKM38C	DKB38C	100	101.27	13.8	150	4070				
DKM38C	DKB38C	75	73.33	19.1	110	3650				
DKM38C	DKB38C	60	63.33	22	180	3480				
DKM38C	DKB38C	50	52.48	27	150	3270				
2 Stadio / Stage										
DKM38B	DKB38B	60	60.50	23	200	3430				
DKM38B	DKB38B	50	48.71	29	200	3190				
DKM38B	DKB38B	40	39.29	36	180	2970				
DKM38B	DKB38B	30	30.31	46	200	2720				
DKM38B	DKB38B	25	24.44	57	180	2530				
DKM38B	DKB38B	20	20.25	69	150	2380				
DKM38B	DKB38B	15	14.67	95	110	2130				
DKM38B	DKB38B	12.5	12.67	110	180	2030				
DKM38B	DKB38B	10	10.50	133	150	1910				
DKM38B	DKB38B	7.5	7.60	184	110	1710				

DKM48.., DKB48.. n_1=1400 r/min 350Nm

Gear units		i Nominal	i Actual	n_2 [r/min]	M_2max [Nm]	F_{r2} [N]	63B5	71B5	80B5 80B14	90B5 90B14	100B5 100B14	112B5 112B14
3 Stadio / Stage												
DKM48C	DKB48C	300	297.21	4.7	350	6500						
DKM48C	DKB48C	250	240.89	5.8	350	6500						
DKM48C	DKB48C	200	200.66	7.0	300	6500						
DKM48C	DKB48C	150	151.20	9.3	350	6500						
DKM48C	DKB48C	125	125.95	11.1	300	5980						
DKM48C	DKB48C	100	99.22	14.1	240	5520						
DKM48C	DKB48C	75	75.45	18.6	200	5040						
DKM48C	DKB48C	60	62.43	22	300	4730						
DKM48C	DKB48C	50	49.18	28	240	4370						
2 Stadio / Stage												
DKM48B	DKB48B	60	59.44	24	350	4660						
DKM48B	DKB48B	50	48.18	29	350	4340						
DKM48B	DKB48B	40	40.13	35	300	4080						
DKM48B	DKB48B	30	30.24	46	350	3720						
DKM48B	DKB48B	25	25.19	56	300	3500						
DKM48B	DKB48B	20	19.84	71	240	3230						
DKM48B	DKB48B	15	15.09	93	200	2950						
DKM48B	DKB48B	12.5	12.49	112	300	2770						
DKM48B	DKB48B	10	9.84	142	240	2550						
DKM48B	DKB48B	7.5	7.48	187	200	2330						

DKM58.., DKB58.. n_1=1400 r/min 500Nm

Gear units		i Nominal	i Actual	n_2 [r/min]	M_2max [Nm]	F_{r2} [N]	63B5	71B5	80B5 80B14	90B5 90B14	100B5 100B14	112B5 112B14
3 Stadio / Stage												
DKM58C	DKB58C	300	295.18	4.7	500	8300						
DKM58C	DKB58C	250	240.89	5.8	500	8300						
DKM58C	DKB58C	200	200.66	7.0	480	8300						
DKM58C	DKB58C	150	151.20	9.3	500	8050						
DKM58C	DKB58C	125	125.95	11.1	480	7580						
DKM58C	DKB58C	100	99.22	14.1	380	7000						
DKM58C	DKB58C	75	75.45	18.6	300	6390						
DKM58C	DKB58C	60	62.43	22	480	6000						
DKM58C	DKB58C	50	49.18	28	380	5540						
2 Stadio / Stage												
DKM58B	DKB58B	60	59.04	24	500	5890						
DKM58B	DKB58B	50	48.18	29	500	5500						
DKM58B	DKB58B	40	40.13	35	480	5170						
DKM58B	DKB58B	30	30.24	46	500	4710						
DKM58B	DKB58B	25	25.19	56	480	4430						
DKM58B	DKB58B	20	19.84	71	380	4090						
DKM58B	DKB58B	15	15.09	93	300	3730						
DKM58B	DKB58B	12.5	12.49	112	480	3510						
DKM58B	DKB58B	10	9.84	142	380	3240						
DKM58B	DKB58B	7.5	7.48	187	300	2950						

DKM68.., DKB68..

n_1=1400 r/min

750Nm

Gear units		i Nominal	i Actual	n_2 [r/min]	M_2max [Nm]	F_{r2} [N]	71B5	80B5	90B5	100B5 100B14	112B5 112B14	132B5
3 Stadio / Stage												
DKM68C	DKB68C	300	296.10	4.7	750	10000						
DKM68C	DKB68C	250	244.29	5.7	750	10000						
DKM68C	DKB68C	200	206.29	6.8	750	9920						
DKM68C	DKB68C	150	153.33	9.1	750	8980						
DKM68C	DKB68C	125	129.48	10.8	750	8490						
DKM68C	DKB68C	100	103.64	13.5	650	7880						
DKM68C	DKB68C	75	75.55	18.5	520	7090						
DKM68C	DKB68C	60	64.18	22	750	6720						
DKM68C	DKB68C	50	51.37	27	650	6240						
2 Stadio / Stage												
DKM68B	DKB68B	60	59.22	24	750	6540						
DKM68B	DKB68B	50	48.86	29	750	6130						
DKM68B	DKB68B	40	41.26	34	750	5800						
DKM68B	DKB68B	30	30.67	46	750	5250						
DKM68B	DKB68B	25	25.90	54	750	4960						
DKM68B	DKB68B	20	20.73	68	650	4610						
DKM68B	DKB68B	15	15.11	93	520	4150						
DKM68B	DKB68B	12.5	12.84	109	750	3930						
DKM68B	DKB68B	10	10.27	136	650	3650						
DKM68B	DKB68B	7.5	7.49	187	520	3280						

6.2 DKM.. / DKB..(IEC).. Prestazioni / *Performance parameter*

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.12	5.7	184	**250**	244.29	4100	0.7	**DKM28C**	**63B5**	**6314**	37
	7.0	151	**200**	200.44	4100	0.9				
	9.5	110	**150**	146.67	4000	1.2				
	11.6	91	**125**	120.34	3770	1.4				
	13.9	76	**100**	101.04	3560	1.3				
	18.8	56	**75**	74.62	3220	1.4				
	22.5	47	**60**	62.36	3030	2.8				
	26.7	39	**50**	52.36	2860	2.5				
	24.0	45	**60**	58.36	2960	2.9	**DKM28B**	**63B5**	**6314**	36
	28.7	38	**50**	48.86	2790	3.5				
	35	31	**40**	40.09	2610	4.2				
	48	23	**30**	29.33	2350	5.8				
	58	18.5	**25**	24.07	2200	7.0				
	69	15.6	**20**	20.21	2080	6.4				
	94	11.5	**15**	14.92	1880	7.0				
	112	9.6	**12.5**	12.47	1770	13.5				
	134	8.1	**10**	10.47	1670	12.4				
	181	5.9	**7.5**	7.73	1510	13.5				
	4.6	228	**300**	302.50	4800	0.9	**DKM38C**	**63B5**	**6314**	39
	5.7	183	**250**	243.57	4800	1.1	**DKB38C**	**63B5**	**6314**	47
	7.1	148	**200**	196.43	4800	1.2				
	9.2	114	**150**	151.56	4650	1.8				
	11.5	92	**125**	122.22	4330	2.0				
	13.8	76	**100**	101.27	4070	2.0				
	19.1	55	**75**	73.33	3650	2.0				
	22.1	48	**60**	63.33	3480	3.8				
	26.7	40	**50**	52.48	3270	3.8				
	23.1	47	**60**	60.50	3430	4.3	**DKM38B**	**63B5**	**6314**	38
	28.7	37	**50**	48.71	3190	5.3	**DKB38B**	**63B5**	**6314**	46
	36	30	**40**	39.29	2970	6.0				
	46	23	**30**	30.31	2720	8.6				
	4.7	224	**300**	297.21	6500	1.6	**DKM48C**	**63B5**	**6314**	41
	5.8	181	**250**	240.89	6500	1.9	**DKB48C**	**63B5**	**6314**	49
	7.0	151	**200**	200.66	6500	2.0				
	9.3	114	**150**	151.20	6500	3.1				
	11.1	95	**125**	125.95	5980	3.2				
	14.1	75	**100**	99.22	5520	3.2				
	18.6	57	**75**	75.45	5040	3.5				
	4.7	222	**300**	295.18	8300	2.2	**DKM58C**	**63B5**	**6314**	43
	5.8	181	**250**	240.89	8300	2.8	**DKB58C**	**63B5**	**6314**	51
	7.0	151	**200**	200.66	8300	3.2				
	9.3	114	**150**	151.20	8050	4.4				
0.18	9.6	165	**300**	291.79	4000	0.8	**DKM28C**	**63B5**	**6312**	37
	11.5	138	**250**	244.29	3790	0.9				
	14.0	113	**200**	200.44	3550	1.1				
	19.1	83	**150**	146.67	3200	1.6				
	23.3	68	**125**	120.34	2990	1.9				
	27.7	57	**100**	101.04	2820	1.8				
	38	42	**75**	74.62	2550	1.9				
	45	35	**60**	62.36	2400	3.7				
	53	30	**50**	52.36	2270	3.4				
	48	34	**60**	58.36	2350	3.9	**DKM28B**	**63B5**	**6312**	36
	57	28	**50**	48.86	2220	4.6				
	70	23	**40**	40.09	2070	5.6				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.18	95	16.9	**30**	29.33	1870	7.7	**DKM28B**	**63B5**	**6312**	36
	116	13.9	**25**	24.07	1750	9.4				
	11.6	136	**125**	120.34	3770	1.0	**DKM28C**	**63B5**	**6324**	37
	13.9	114	**100**	101.04	3560	0.9				
	18.8	84	**75**	74.62	3220	0.9				
	22.5	70	**60**	62.36	3030	1.8				
	26.7	59	**50**	52.36	2860	1.7				
	24.0	67	**60**	58.36	2960	1.9	**DKM28B**	**63B5**	**6324**	36
	28.7	56	**50**	48.86	2790	2.3				
	35	46	**40**	40.09	2610	2.8				
	48	34	**30**	29.33	2350	3.8				
	58	28	**25**	24.07	2200	4.7				
	69	23	**20**	20.21	2080	4.3				
	94	17.2	**15**	14.92	1880	4.6				
	112	14.4	**12.5**	12.47	1770	9.0				
	134	12.1	**10**	10.47	1670	8.3				
	181	8.9	**7.5**	7.73	1510	9.0				
	14.4	110	**60**	62.36	3510	1.2	**DKM28C**	**71B5/B14**	**7116**	37
	17.2	92	**50**	52.36	3310	1.1				
	15.4	105	**60**	58.36	3430	1.2	**DKM28B**	**71B5/B14**	**7116**	36
	18.4	88	**50**	48.86	3240	1.5				
	22.4	72	**40**	40.09	3030	1.8				
	31	53	**30**	29.33	2730	2.5				
	37	43	**25**	24.07	2550	3.0				
	45	36	**20**	20.21	2410	2.8				
	60	27	**15**	14.92	2180	3.0				
	72	22	**12.5**	12.47	2050	5.8				
	86	18.8	**10**	10.47	1930	5.3				
	116	13.9	**7.5**	7.73	1750	5.8				
	9.3	171	**300**	302.50	4650	1.2	**DKM38C**	**63B5**	**6312**	39
	11.5	138	**250**	243.57	4330	1.5	**DKB38C**	**63B5**	**6312**	47
	14.3	111	**200**	196.43	4030	1.6				
	18.5	86	**150**	151.56	3690	2.3				
	22.9	69	**125**	122.22	3440	2.6				
	27.6	57	**100**	101.27	3230	2.6				
	38	41	**75**	73.33	2900	2.7				
	44	36	**60**	63.33	2760	5.0				
	53	30	**50**	52.48	2590	5.1				
	7.1	222	**200**	196.43	4800	0.8	**DKM38C**	**63B5**	**6324**	39
	9.2	171	**150**	151.56	4650	1.2	**DKB38C**	**63B5**	**6324**	47
	11.5	138	**125**	122.22	4330	1.3				
	13.8	114	**100**	101.27	4070	1.3				
	19.1	83	**75**	73.33	3650	1.3				
	22.1	72	**60**	63.33	3480	2.5				
	26.7	59	**50**	52.48	3270	2.5				
	23.1	70	**60**	60.50	3430	2.9	**DKM38B**	**63B5**	**6324**	38
	28.7	56	**50**	48.71	3190	3.6	**DKB38B**	**63B5**	**6324**	46
	36	45	**40**	39.29	2970	4.0				
	12.3	129	**75**	73.33	4230	0.9	**DKM38C**	**71B5/B14**	**7116**	39
	14.2	111	**60**	63.33	4030	1.6	**DKB38C**	**71B5/B14**	**7116**	47
	17.1	92	**50**	52.48	3790	1.6				
	14.9	109	**60**	60.50	3970	1.8	**DKM38B**	**71B5/B14**	**7116**	38
	18.5	87	**50**	48.71	3690	2.3	**DKB38B**	**71B5/B14**	**7116**	46
	22.9	71	**40**	39.29	3440	2.6				
	29.7	54	**30**	30.31	3150	3.7				
	37	44	**25**	24.44	2930	4.1				
	44	36	**20**	20.25	2760	4.1				
	61	26	**15**	14.67	2470	4.2				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.18	9.4	168	**300**	297.21	6320	2.1	**DKM48C**	**63B5**	**6312**	41
	11.6	136	**250**	240.89	5890	2.6	**DKB48C**	**63B5**	**6312**	49
	14.0	113	**200**	200.66	5540	2.6				
	18.5	85	**150**	151.20	5040	4.1				
	4.7	336	**300**	297.21	6500	1.0	**DKM48C**	**63B5**	**6324**	41
	5.8	272	**250**	240.89	6500	1.3	**DKB48C**	**63B5**	**6324**	49
	7.0	227	**200**	200.66	6500	1.3				
	9.3	171	**150**	151.20	6500	2.0				
	11.1	142	**125**	125.95	5980	2.1				
	14.1	112	**100**	99.22	5520	2.1				
	18.6	85	**75**	75.45	5040	2.3				
	4.5	353	**200**	200.66	6500	0.9	**DKM48C**	**71B5**	**7116**	41
	6.0	266	**150**	151.20	6500	1.3	**DKB48C**	**71B5**	**7116**	49
	7.1	221	**125**	125.95	6500	1.4				
	9.1	174	**100**	99.22	6400	1.4				
	11.9	133	**75**	75.45	5840	1.5				
	14.4	110	**60**	62.43	5480	2.7				
	18.3	86	**50**	49.18	5060	2.8				
	15.1	107	**60**	59.44	5390	3.3	**DKM48B**	**71B5**	**7116**	40
	18.7	87	**50**	48.18	5030	4.0	**DKB48B**	**71B5**	**7116**	48
	9.5	167	**300**	295.18	7990	3.0	**DKM58C**	**63B5**	**6312**	43
	11.6	136	**250**	240.89	7470	3.7	**DKB58C**	**63B5**	**6312**	51
	4.7	333	**300**	295.18	8300	1.5	**DKM58C**	**63B5**	**6324**	43
	5.8	272	**250**	240.89	8300	1.8	**DKB58C**	**63B5**	**6324**	51
	7.0	227	**200**	200.66	8300	2.1				
	9.3	171	**150**	151.20	8050	2.9				
	11.1	142	**125**	125.95	7580	3.4				
	14.1	112	**100**	99.22	7000	3.4				
	18.6	85	**75**	75.45	6390	3.5				
	3.0	519	**300**	295.18	8300	1.0	**DKM58C**	**71B5**	**7116**	43
	3.7	423	**250**	240.89	8300	1.2	**DKB58C**	**71B5**	**7116**	51
	4.5	353	**200**	200.66	8300	1.4				
	6.0	266	**150**	151.20	8300	1.9				
	7.1	221	**125**	125.95	8300	2.2				
	9.1	174	**100**	99.22	8110	2.2				
	11.9	133	**75**	75.45	7400	2.3				
	14.4	110	**60**	62.43	6950	4.4				
	18.3	86	**50**	49.18	6420	4.4				
	3.0	520	**300**	296.10	10000	1.4	**DKM68C**	**71B5**	**7116**	45
	3.7	429	**250**	244.29	10000	1.7	**DKB68C**	**71B5**	**7116**	53
	4.4	362	**200**	206.29	10000	2.1				
	5.9	269	**150**	153.33	10000	2.8				
	7.0	228	**125**	129.48	9840	3.3				
	8.7	182	**100**	103.64	9130	3.6				
	11.9	133	**75**	75.55	8220	3.9				
0.25	19.1	115	**150**	146.67	3200	1.1	**DKM28C**	**63B5**	**6322**	37
	23.3	94	**125**	120.34	2990	1.4				
	27.7	79	**100**	101.04	2820	1.3				
	38	59	**75**	74.62	2550	1.4				
	45	49	**60**	62.36	2400	2.7				
	53	41	**50**	52.36	2270	2.4				
	48	47	**60**	58.36	2350	2.8	**DKM28B**	**63B5**	**6322**	36
	57	39	**50**	48.86	2220	3.3				
	70	32	**40**	40.09	2070	4.0				
	22.5	98	**60**	62.36	3030	1.3	**DKM28C**	**71B5/B14**	**7114**	37
	26.7	82	**50**	52.36	2860	1.2				
	24.0	94	**60**	58.36	2960	1.4	**DKM28B**	**71B5/B14**	**7114**	36
	28.7	78	**50**	48.86	2790	1.7				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.25	35	64	**40**	40.09	2610	2.0	**DKM28B**	**71B5/B14**	**7114**	36
	48	47	**30**	29.33	2350	2.8				
	58	39	**25**	24.07	2200	3.4				
	69	32	**20**	20.21	2080	3.1				
	94	24	**15**	14.92	1880	3.3				
	15.4	146	**60**	58.36	3430	0.9	**DKM28B**	**71B5/B14**	**7126**	36
	18.4	122	**50**	48.86	3240	1.1				
	22.4	100	**40**	40.09	3030	1.3				
	31	73	**30**	29.33	2730	1.8				
	37	60	**25**	24.07	2550	2.2				
	45	50	**20**	20.21	2410	2.0				
	60	37	**15**	14.92	2180	2.2				
	72	31	**12.5**	12.47	2050	4.2				
	86	26	**10**	10.47	1930	3.8				
	116	19.3	**7.5**	7.73	1750	4.2				
	11.5	191	**250**	243.57	4330	1.0	**DKM38C**	**63B5**	**6322**	39
	14.3	154	**200**	196.43	4030	1.2	**DKB38C**	**63B5**	**6322**	47
	18.5	119	**150**	151.56	3690	1.7				
	22.9	96	**125**	122.22	3440	1.9				
	27.6	79	**100**	101.27	3230	1.9				
	38	58	**75**	73.33	2900	1.9				
	44	50	**60**	63.33	2760	3.6				
	53	41	**50**	52.48	2590	3.6				
	11.5	192	**125**	122.22	4330	0.9	**DKM38C**	**71B5/B14**	**7114**	39
	13.8	159	**100**	101.27	4070	0.9	**DKB38C**	**71B5/B14**	**7114**	47
	19.1	115	**75**	73.33	3650	1.0				
	22.1	99	**60**	63.33	3480	1.8				
	26.7	82	**50**	52.48	3270	1.8				
	23.1	97	**60**	60.50	3430	2.1	**DKM38B**	**71B5/B14**	**7114**	38
	28.7	78	**50**	48.71	3190	2.6	**DKB38B**	**71B5/B14**	**7114**	46
	36	63	**40**	39.29	2970	2.9				
	46	49	**30**	30.31	2720	4.1				
	14.2	155	**60**	63.33	4030	1.2	**DKM38C**	**71B5/B14**	**7126**	39
	17.1	128	**50**	52.48	3790	1.2	**DKB38C**	**71B5/B14**	**7126**	47
	14.9	151	**60**	60.50	3970	1.3	**DKM38B**	**71B5/B14**	**7126**	38
	18.5	121	**50**	48.71	3690	1.6	**DKB38B**	**71B5/B14**	**7126**	46
	22.9	98	**40**	39.29	3440	1.8				
	29.7	76	**30**	30.31	3150	2.6				
	37	61	**25**	24.44	2930	3.0				
	44	50	**20**	20.25	2760	3.0				
	61	37	**15**	14.67	2470	3.0				
	9.4	233	**300**	297.21	6320	1.5	**DKM48C**	**63B5**	**6322**	41
	11.6	189	**250**	240.89	5890	1.9	**DKB48C**	**63B5**	**6322**	49
	14.0	157	**200**	200.66	5540	1.9				
	18.5	119	**150**	151.20	5040	3.0				
	22.2	99	**125**	125.95	4750	3.0				
	28.2	78	**100**	99.22	4380	3.1				
	37	59	**75**	75.45	4000	3.4				
	5.8	378	**250**	240.89	6500	0.9	**DKM48C**	**71B5**	**7114**	41
	7.0	315	**200**	200.66	6500	1.0	**DKB48C**	**71B5**	**7114**	49
	9.3	237	**150**	151.20	6500	1.5				
	11.1	198	**125**	125.95	5980	1.5				
	14.1	156	**100**	99.22	5520	1.5				
	18.6	118	**75**	75.45	5040	1.7				
	22.4	98	**60**	62.43	4730	3.1				
	28.5	77	**50**	49.18	4370	3.1				
	6.0	369	**150**	151.20	6500	0.9	**DKM48C**	**71B5**	**7126**	41
	7.1	307	**125**	125.95	6500	1.0	**DKB48C**	**71B5**	**7126**	49

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.25	9.1	242	**100**	99.22	6400	1.0	**DKM48C**	**71B5**	**7126**	41
	11.9	184	**75**	75.45	5840	1.1	**DKB48C**	**71B5**	**7126**	49
	14.4	152	**60**	62.43	5480	2.0				
	18.3	120	**50**	49.18	5060	2.0				
	15.1	148	**60**	59.44	5390	2.4	**DKM48B**	**71B5**	**7126**	40
	18.7	120	**50**	48.18	5030	2.9	**DKB48B**	**71B5**	**7126**	48
	22.4	100	**40**	40.13	4730	3.0				
	9.5	232	**300**	295.18	7990	2.2	**DKM58C**	**63B5**	**6322**	43
	11.6	189	**250**	240.89	7470	2.6	**DKB58C**	**63B5**	**6322**	51
	14.0	157	**200**	200.66	7030	3.0				
	18.5	119	**150**	151.20	6390	4.2				
	4.7	463	**300**	295.18	8300	1.1	**DKM58C**	**71B5**	**7114**	43
	5.8	378	**250**	240.89	8300	1.3	**DKB58C**	**71B5**	**7114**	51
	7.0	315	**200**	200.66	8300	1.5				
	9.3	237	**150**	151.20	8050	2.1				
	11.1	198	**125**	125.95	7580	2.4				
	14.1	156	**100**	99.22	7000	2.4				
	18.6	118	**75**	75.45	6390	2.5				
	22.4	98	**60**	62.43	6000	4.9				
	28.5	77	**50**	49.18	5540	4.9				
	3.7	588	**250**	240.89	8300	0.9	**DKM58C**	**71B5**	**7126**	43
	4.5	490	**200**	200.66	8300	1.0	**DKB58C**	**71B5**	**7126**	51
	6.0	369	**150**	151.20	8300	1.4				
	7.1	307	**125**	125.95	8300	1.6				
	9.1	242	**100**	99.22	8110	1.6				
	11.9	184	**75**	75.45	7400	1.6				
	14.4	152	**60**	62.43	6950	3.2				
	18.3	120	**50**	49.18	6420	3.2				
	15.2	147	**60**	59.04	6820	3.4	**DKM58B**	**71B5**	**7126**	42
	18.7	120	**50**	48.18	6370	4.2	**DKB58B**	**71B5**	**7126**	50
	4.7	465	**300**	296.10	10000	1.6	**DKM68C**	**71B5**	**7114**	45
	5.7	383	**250**	244.29	10000	2.0	**DKB68C**	**71B5**	**7114**	53
	6.8	324	**200**	206.29	9920	2.3				
	9.1	241	**150**	153.33	8980	3.1				
	10.8	203	**125**	129.48	8490	3.7				
	13.5	163	**100**	103.64	7880	4.0				
	3.0	723	**300**	296.10	10000	1.0	**DKM68C**	**71B5**	**7126**	45
	3.7	596	**250**	244.29	10000	1.3	**DKB68C**	**71B5**	**7126**	53
	4.4	503	**200**	206.29	10000	1.5				
	5.9	374	**150**	153.33	10000	2.0				
	7.0	316	**125**	129.48	9840	2.4				
	8.7	253	**100**	103.64	9130	2.6				
	11.9	184	**75**	75.55	8220	2.8				
0.37	23.3	140	**125**	120.34	2990	0.9	**DKB28C**	**71B5/B14**	**7112**	37
	27.7	117	**100**	101.04	2820	0.9				
	38	87	**75**	74.62	2550	0.9				
	45	72	**60**	62.36	2400	1.8				
	53	61	**50**	52.36	2270	1.6				
	48	69	**60**	58.36	2350	1.9				
	57	58	**50**	48.86	2220	2.2				
	70	48	**40**	40.09	2070	2.7				
	95	35	**30**	29.33	1870	3.7				
	24.0	138	**60**	58.36	2960	0.9	**DKB28B**	**71B5/B14**	**7124**	36
	28.7	116	**50**	48.86	2790	1.1				
	35	95	**40**	40.09	2610	1.4				
	48	70	**30**	29.33	2350	1.9				
	58	57	**25**	24.07	2200	2.3				
	69	48	**20**	20.21	2080	2.1				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.37	94	35	**15**	14.92	1880	2.3	**DKM28C**	**71B5/B14**	**7124**	36
	112	30	**12.5**	12.47	1770	4.4				
	134	25	**10**	10.47	1670	4.0				
	181	18.3	**7.5**	7.73	1510	4.4				
	22.4	148	**40**	40.09	3030	0.9	**DKM28C**	**80B5/B14**	**8016**	36
	31	108	**30**	29.33	2730	1.2				
	37	89	**25**	24.07	2550	1.5				
	45	75	**20**	20.21	2410	1.3				
	60	55	**15**	14.92	2180	1.5				
	72	46	**12.5**	12.47	2050	2.8				
	86	39	**10**	10.47	1930	2.6				
	116	29	**7.5**	7.73	1750	2.8				
	18.5	176	**150**	151.56	3690	1.1	**DKM38C**	**71B5/B14**	**7112**	39
	22.9	142	**125**	122.22	3440	1.3	**DKB38C**	**71B5/B14**	**7112**	47
	27.6	118	**100**	101.27	3230	1.3				
	38	85	**75**	73.33	2900	1.3				
	44	74	**60**	63.33	2760	2.4				
	53	61	**50**	52.48	2590	2.5				
	46	72	**60**	60.50	2720	2.8	**DKM38B**	**71B5/B14**	**7112**	38
	57	58	**50**	48.71	2530	3.5	**DKB38B**	**71B5/B14**	**7112**	46
	71	47	**40**	39.29	2350	3.9				
	22.1	147	**60**	63.33	3480	1.2	**DKM38C**	**71B5/B14**	**7124**	39
	26.7	122	**50**	52.48	3270	1.2	**DKB38C**	**71B5/B14**	**7124**	47
	23.1	144	**60**	60.50	3430	1.4	**DKM38B**	**71B5/B14**	**7124**	38
	28.7	116	**50**	48.71	3190	1.7	**DKB38B**	**71B5/B14**	**7124**	46
	36	93	**40**	39.29	2970	1.9				
	46	72	**30**	30.31	2720	2.8				
	57	58	**25**	24.44	2530	3.1				
	69	48	**20**	20.25	2380	3.1				
	95	35	**15**	14.67	2130	3.2				
	14.9	223	**60**	60.50	3970	0.9	**DKM38B**	**80B5/B14**	**8016**	38
	18.5	180	**50**	48.71	3690	1.1	**DKB38B**	**80B5/B14**	**8016**	46
	22.9	145	**40**	39.29	3440	1.2				
	29.7	112	**30**	30.31	3150	1.8				
	37	90	**25**	24.44	2930	2.0				
	44	75	**20**	20.25	2760	2.0				
	61	54	**15**	14.67	2470	2.0				
	71	47	**12.5**	12.67	2360	3.8				
	86	39	**10**	10.50	2210	3.9				
	118	28	**7.5**	7.60	1990	3.9				
	9.4	345	**300**	297.21	6320	1.0	**DKM48C**	**71B5**	**7112**	41
	11.6	280	**250**	240.89	5890	1.3	**DKB48C**	**71B5**	**7112**	49
	14.0	233	**200**	200.66	5540	1.3				
	18.5	176	**150**	151.20	5040	2.0				
	22.2	146	**125**	125.95	4750	2.1				
	28.2	115	**100**	99.22	4380	2.1				
	37	88	**75**	75.45	4000	2.3				
	45	72	**60**	62.43	3750	4.1				
	57	57	**50**	49.18	3470	4.2				
	9.3	351	**150**	151.20	6500	1.0	**DKM48C**	**71B5**	**7124**	41
	11.1	292	**125**	125.95	5980	1.0	**DKB48C**	**71B5**	**7124**	49
	14.1	230	**100**	99.22	5520	1.0				
	18.6	175	**75**	75.45	5040	1.1				
	22.4	145	**60**	62.43	4730	2.1				
	28.5	114	**50**	49.18	4370	2.1				
	23.6	141	**60**	59.44	4660	2.5	**DKM48B**	**71B5**	**7124**	40
	29.1	114	**50**	48.18	4340	3.1	**DKB48B**	**71B5**	**7124**	48
	35	95	**40**	40.13	4080	3.2				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.37	14.4	225	**60**	62.43	5480	1.3	**DKM48C**	**80B5/B14**	**8016**	41
	18.3	178	**50**	49.18	5060	1.4	**DKB48C**	**80B5/B14**	**8016**	49
	15.1	219	**60**	59.44	5390	1.6	**DKM48B**	**80B5/B14**	**8016**	40
	18.7	178	**50**	48.18	5030	2.0	**DKB48B**	**80B5/B14**	**8016**	48
	22.4	148	**40**	40.13	4730	2.0				
	29.8	112	**30**	30.24	4310	3.1				
	36	93	**25**	25.19	4050	3.2				
	45	73	**20**	19.84	3740	3.3				
	60	56	**15**	15.09	3410	3.6				
	9.5	343	**300**	295.18	7990	1.5	**DKM58C**	**71B5**	**7112**	43
	11.6	280	**250**	240.89	7470	1.8	**DKB58C**	**71B5**	**7112**	51
	14.0	233	**200**	200.66	7030	2.1				
	18.5	176	**150**	151.20	6390	2.8				
	22.2	146	**125**	125.95	6010	3.3				
	28.2	115	**100**	99.22	5550	3.3				
	37	88	**75**	75.45	5070	3.4				
	5.8	559	**250**	240.89	8300	0.9	**DKM58C**	**71B5**	**7124**	43
	7.0	466	**200**	200.66	8300	1.0	**DKB58C**	**71B5**	**7124**	51
	9.3	351	**150**	151.20	8050	1.4				
	11.1	292	**125**	125.95	7580	1.6				
	14.1	230	**100**	99.22	7000	1.6				
	18.6	175	**75**	75.45	6390	1.7				
	22.4	145	**60**	62.43	6000	3.3				
	28.5	114	**50**	49.18	5540	3.3				
	23.7	140	**60**	59.04	5890	3.6	**DKM58B**	**71B5**	**7124**	42
	29.1	114	**50**	48.18	5500	4.4	**DKB58B**	**71B5**	**7124**	50
	6.0	546	**150**	151.20	8300	0.9	**DKM58C**	**80B5/B14**	**8016**	43
	7.1	455	**125**	125.95	8300	1.1	**DKB58C**	**80B5/B14**	**8016**	51
	9.1	358	**100**	99.22	8110	1.1				
	11.9	273	**75**	75.45	7400	1.1				
	14.4	225	**60**	62.43	6950	2.1				
	18.3	178	**50**	49.18	6420	2.1				
	15.2	218	**60**	59.04	6820	2.3	**DKM58B**	**80B5/B14**	**8016**	42
	18.7	178	**50**	48.18	6370	2.8	**DKB58B**	**80B5/B14**	**8016**	50
	22.4	148	**40**	40.13	6000	3.2				
	9.5	344	**300**	296.10	8880	2.2	**DKM68C**	**71B5**	**7112**	45
	11.5	284	**250**	244.29	8330	2.6	**DKB68C**	**71B5**	**7112**	53
	13.6	240	**200**	206.29	7870	3.1				
	18.3	178	**150**	153.33	7130	4.2				
	4.7	688	**300**	296.10	10000	1.1	**DKM68C**	**71B5**	**7124**	45
	5.7	567	**250**	244.29	10000	1.3	**DKB68C**	**71B5**	**7124**	53
	6.8	479	**200**	206.29	9920	1.6				
	9.1	356	**150**	153.33	8980	2.1				
	10.8	301	**125**	129.48	8490	2.5				
	13.5	241	**100**	103.64	7880	2.7				
	18.5	175	**75**	75.55	7090	3.0				
	4.4	745	**200**	206.29	10000	1.0	**DKM68C**	**80B5**	**8016**	45
	5.9	554	**150**	153.33	10000	1.4	**DKB68C**	**80B5**	**8016**	53
	7.0	468	**125**	129.48	9840	1.6				
	8.7	374	**100**	103.64	9130	1.7				
	11.9	273	**75**	75.55	8220	1.9				
	14.0	232	**60**	64.18	7780	3.2				
	17.5	186	**50**	51.37	7230	3.5				
	15.2	219	**60**	59.22	7580	3.4	**DKM68B**	**80B5**	**8016**	44
	18.4	180	**50**	48.86	7110	4.2	**DKB68B**	**80B5**	**8016**	52

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.55	45	108	**60**	62.36	2400	1.2	**DKM28C**	**71B5/B14**	**7122**	37
	53	90	**50**	52.36	2270	1.1				
	48	103	**60**	58.36	2350	1.3	**DKM28B**	**71B5/B14**	**7122**	36
	57	86	**50**	48.86	2220	1.5				
	70	71	**40**	40.09	2070	1.8				
	95	52	**30**	29.33	1870	2.5				
	116	42	**25**	24.07	1750	3.1				
	139	36	**20**	20.21	1650	2.8				
	188	26	**15**	14.92	1490	3.0				
	35	141	**40**	40.09	2610	0.9	**DKM28B**	**80B5/B14**	**8014**	36
	48	103	**30**	29.33	2350	1.3				
	58	85	**25**	24.07	2200	1.5				
	69	71	**20**	20.21	2080	1.4				
	94	53	**15**	14.92	1880	1.5				
	112	44	**12.5**	12.47	1770	3.0				
	134	37	**10**	10.47	1670	2.7				
	181	27	**7.5**	7.73	1510	2.9				
	37	132	**25**	24.07	2550	1.0	**DKM28B**	**80B5/B14**	**8026**	36
	45	111	**20**	20.21	2410	0.9				
	60	82	**15**	14.92	2180	1.0				
	72	68	**12.5**	12.47	2050	1.9				
	86	57	**10**	10.47	1930	1.7				
	116	42	**7.5**	7.73	1750	1.9				
	22.9	211	**125**	122.22	3440	0.9	**DKM38C**	**71B5/B14**	**7122**	39
	27.6	175	**100**	101.27	3230	0.9	**DKB38C**	**71B5/B14**	**7122**	47
	38	127	**75**	73.33	2900	0.9				
	44	109	**60**	63.33	2760	1.6				
	53	91	**50**	52.48	2590	1.7				
	46	107	**60**	60.50	2720	1.9	**DKM38B**	**71B5/B14**	**7122**	38
	57	86	**50**	48.71	2530	2.3	**DKB38B**	**71B5/B14**	**7122**	46
	71	69	**40**	39.29	2350	2.6				
	92	53	**30**	30.31	2160	3.7				
	23.1	213	**60**	60.50	3430	0.9	**DKM38B**	**80B5/B14**	**8014**	38
	28.7	172	**50**	48.71	3190	1.2	**DKB38B**	**80B5/B14**	**8014**	46
	36	139	**40**	39.29	2970	1.3				
	46	107	**30**	30.31	2720	1.9				
	57	86	**25**	24.44	2530	2.1				
	69	71	**20**	20.25	2380	2.1				
	95	52	**15**	14.67	2130	2.1				
	110	45	**12.5**	12.67	2030	4.0				
	133	37	**10**	10.50	1910	4.1				
	184	27	**7.5**	7.60	1710	4.1				
	22.9	216	**40**	39.29	3440	0.8	**DKM38B**	**80B5/B14**	**8026**	38
	29.7	166	**30**	30.31	3150	1.2	**DKB38B**	**80B5/B14**	**8026**	46
	37	134	**25**	24.44	2930	1.3				
	44	111	**20**	20.25	2760	1.4				
	61	80	**15**	14.67	2470	1.4				
	71	70	**12.5**	12.67	2360	2.6				
	86	58	**10**	10.50	2210	2.6				
	118	42	**7.5**	7.60	1990	2.6				
	14.0	346	**200**	200.66	5540	0.9	**DKM48C**	**71B5**	**7122**	41
	18.5	261	**150**	151.20	5040	1.3	**DKB48C**	**71B5**	**7122**	49
	22.2	217	**125**	125.95	4750	1.4				
	28.2	171	**100**	99.22	4380	1.4				
	37	130	**75**	75.45	4000	1.5				
	45	108	**60**	62.43	3750	2.8				
	57	85	**50**	49.18	3470	2.8				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.55	47	105	**60**	59.44	3690	3.3	**DKM48B**	**71B5**	**7122**	40
	58	85	**50**	48.18	3440	4.1	**DKB48B**	**71B5**	**7122**	48
	70	71	**40**	40.13	3240	4.2				
	18.6	260	**75**	75.45	5040	0.8	**DKM48C**	**80B5/B14**	**8014**	41
	22.4	215	**60**	62.43	4730	1.4	**DKB48C**	**80B5/B14**	**8014**	49
	28.5	170	**50**	49.18	4370	1.4				
	23.6	210	**60**	59.44	4660	1.7	**DKM48B**	**80B5/B14**	**8014**	40
	29.1	170	**50**	48.18	4340	2.1	**DKB48B**	**80B5/B14**	**8014**	48
	35	142	**40**	40.13	4080	2.1				
	46	107	**30**	30.24	3720	3.3				
	56	89	**25**	25.19	3500	3.4				
	71	70	**20**	19.84	3230	3.4				
	93	53	**15**	15.09	2950	3.8				
	14.4	335	**60**	62.43	5480	0.9	**DKM48C**	**80B5/B14**	**8026**	41
	18.3	264	**50**	49.18	5060	0.9	**DKB48C**	**80B5/B14**	**8026**	49
	15.1	326	**60**	59.44	5390	1.1	**DKM48B**	**80B5/B14**	**8026**	40
	18.7	264	**50**	48.18	5030	1.3	**DKB48B**	**80B5/B14**	**8026**	48
	22.4	220	**40**	40.13	4730	1.4				
	29.8	166	**30**	30.24	4310	2.1				
	36	138	**25**	25.19	4050	2.2				
	45	109	**20**	19.84	3740	2.2				
	60	83	**15**	15.09	3410	2.4				
	9.5	509	**300**	295.18	7990	1.0	**DKM58C**	**71B5**	**7122**	43
	11.6	416	**250**	240.89	7470	1.2	**DKB58C**	**71B5**	**7122**	51
	14.0	346	**200**	200.66	7030	1.4				
	18.5	261	**150**	151.20	6390	1.9				
	22.2	217	**125**	125.95	6010	2.2				
	28.2	171	**100**	99.22	5550	2.2				
	37	130	**75**	75.45	5070	2.3				
	45	108	**60**	62.43	4760	4.5				
	57	85	**50**	49.18	4390	4.5				
	9.3	522	**150**	151.20	8050	1.0	**DKM58C**	**80B5/B14**	**8014**	43
	11.1	435	**125**	125.95	7580	1.1	**DKB58C**	**80B5/B14**	**8014**	51
	14.1	342	**100**	99.22	7000	1.1				
	18.6	260	**75**	75.45	6390	1.2				
	22.4	215	**60**	62.43	6000	2.2				
	28.5	170	**50**	49.18	5540	2.2				
	23.7	208	**60**	59.04	5890	2.4	**DKM58B**	**80B5/B14**	**8014**	42
	29.1	170	**50**	48.18	5500	2.9	**DKB58B**	**80B5/B14**	**8014**	50
	35	142	**40**	40.13	5170	3.4				
	14.4	335	**60**	62.43	6950	1.4	**DKM58C**	**80B5/B14**	**8026**	43
	18.3	264	**50**	49.18	6420	1.4	**DKB58C**	**80B5/B14**	**8026**	51
	15.2	324	**60**	59.04	6820	1.5	**DKM58B**	**80B5/B14**	**8026**	42
	18.7	264	**50**	48.18	6370	1.9	**DKB58B**	**80B5/B14**	**8026**	50
	22.4	220	**40**	40.13	6000	2.2				
	29.8	166	**30**	30.24	5460	3.0				
	36	138	**25**	25.19	5130	3.5				
	45	109	**20**	19.84	4740	3.5				
	60	83	**15**	15.09	4330	3.6				
	9.5	511	**300**	296.10	8880	1.5	**DKM68C**	**71B5**	**7122**	45
	11.5	422	**250**	244.29	8330	1.8	**DKB68C**	**71B5**	**7122**	53
	13.6	356	**200**	206.29	7870	2.1				
	18.3	265	**150**	153.33	7130	2.8				
	21.6	223	**125**	129.48	6740	3.4				
	27.0	179	**100**	103.64	6260	3.6				
	37	130	**75**	75.55	5630	4.0				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.55	5.7	843	**250**	244.29	10000	0.9	**DKM68C**	**80B5**	**8014**	45
	6.8	712	**200**	206.29	9920	1.1	**DKB68C**	**80B5**	**8014**	53
	9.1	529	**150**	153.33	8980	1.4				
	10.8	447	**125**	129.48	8490	1.7				
	13.5	358	**100**	103.64	7880	1.8				
	18.5	261	**75**	75.55	7090	2.0				
	21.8	222	**60**	64.18	6720	3.4				
	27.3	177	**50**	51.37	6240	3.7				
	23.6	209	**60**	59.22	6540	3.6	**DKM68B**	**80B5**	**8014**	44
	28.7	172	**50**	48.86	6130	4.4	**DKB68B**	**80B5**	**8014**	52
	5.9	823	**150**	153.33	10000	0.9	**DKM68C**	**80B5**	**8026**	45
	7.0	695	**125**	129.48	9840	1.1	**DKB68C**	**80B5**	**8026**	53
	8.7	556	**100**	103.64	9130	1.2				
	11.9	406	**75**	75.55	8220	1.3				
	14.0	345	**60**	64.18	7780	2.2				
	17.5	276	**50**	51.37	7230	2.4				
	15.2	325	**60**	59.22	7580	2.3	**DKM68B**	**80B5**	**8026**	44
	18.4	268	**50**	48.86	7110	2.8	**DKB68B**	**80B5**	**8026**	52
	21.8	226	**40**	41.26	6720	3.3				
0.75	48	140	**60**	58.36	2350	0.9	**DKM28B**	**80B5/B14**	**8012**	36
	57	117	**50**	48.86	2220	1.1	**DKB28B**	**80B5/B14**	**8012**	36
	70	96	**40**	40.09	2070	1.3				
	95	71	**30**	29.33	1870	1.8				
	116	58	**25**	24.07	1750	2.2				
	139	49	**20**	20.21	1650	2.1				
	188	36	**15**	14.92	1490	2.2				
	225	30	**12.5**	12.47	1400	4.3				
	267	25	**10**	10.47	1320	4.0				
	362	18.6	**7.5**	7.73	1200	4.3				
	48	141	**30**	29.33	2350	0.9	**DKM28B**	**80B5/B14**	**8024**	36
	58	116	**25**	24.07	2200	1.1	**DKB28B**	**80B5/B14**	**8024**	36
	69	97	**20**	20.21	2080	1.0				
	94	72	**15**	14.92	1880	1.1				
	112	60	**12.5**	12.47	1770	2.2				
	134	50	**10**	10.47	1670	2.0				
	181	37	**7.5**	7.73	1510	2.2				
	72	93	**12.5**	12.47	2050	1.4	**DKM28B**	**90B5/B14**	**90S6**	36
	86	78	**10**	10.47	1930	1.3				
	116	58	**7.5**	7.73	1750	1.4				
	44	149	**60**	63.33	2760	1.2	**DKM38C**	**80B5/B14**	**8012**	39
	53	124	**50**	52.48	2590	1.2	**DKB38C**	**80B5/B14**	**8012**	47
	46	145	**60**	60.50	2720	1.4	**DKM38B**	**80B5/B14**	**8012**	38
	57	117	**50**	48.71	2530	1.7	**DKB38B**	**80B5/B14**	**8012**	46
	71	94	**40**	39.29	2350	1.9				
	92	73	**30**	30.31	2160	2.7				
	115	59	**25**	24.44	2010	3.1				
	138	49	**20**	20.25	1890	3.1				
	191	35	**15**	14.67	1690	3.1				
	28.7	234	**50**	48.71	3190	0.9	**DKM38B**	**80B5/B14**	**8024**	38
	36	189	**40**	39.29	2970	1.0	**DKB38B**	**80B5/B14**	**8024**	46
	46	146	**30**	30.31	2720	1.4				
	57	118	**25**	24.44	2530	1.5				
	69	97	**20**	20.25	2380	1.5				
	95	71	**15**	14.67	2130	1.6				
	110	61	**12.5**	12.67	2030	3.0				
	133	50	**10**	10.50	1910	3.0				
	184	37	**7.5**	7.60	1710	3.0				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.75	29.7	227	**30**	30.31	3150	0.9	**DKM38B**	**90B5/B14**	**90S6**	38
	37	183	**25**	24.44	2930	1.0	**DKB38B**	**90B5/B14**	**90S6**	46
	44	151	**20**	20.25	2760	1.0				
	61	110	**15**	14.67	2470	1.0				
	71	95	**12.5**	12.67	2360	1.9				
	86	79	**10**	10.50	2210	1.9				
	118	57	**7.5**	7.60	1990	1.9				
	18.5	356	**150**	151.20	5040	1.0	**DKM48C**	**80B5/B14**	**8012**	41
	22.2	296	**125**	125.95	4750	1.0	**DKB48C**	**80B5/B14**	**8012**	49
	28.2	234	**100**	99.22	4380	1.0				
	37	178	**75**	75.45	4000	1.1				
	45	147	**60**	62.43	3750	2.0				
	57	116	**50**	49.18	3470	2.1				
	47	143	**60**	59.44	3690	2.4	**DKM48B**	**80B5/B14**	**8012**	40
	58	116	**50**	48.18	3440	3.0	**DKB48B**	**80B5/B14**	**8012**	48
	70	96	**40**	40.13	3240	3.1				
	22.4	294	**60**	62.43	4730	1.0	**DKM48C**	**80B5/B14**	**8024**	41
	28.5	231	**50**	49.18	4370	1.0	**DKB48C**	**80B5/B14**	**8024**	49
	23.6	286	**60**	59.44	4660	1.2	**DKM48B**	**80B5/B14**	**8024**	40
	29.1	232	**50**	48.18	4340	1.5	**DKB48B**	**80B5/B14**	**8024**	48
	35	193	**40**	40.13	4080	1.6				
	46	145	**30**	30.24	3720	2.4				
	56	121	**25**	25.19	3500	2.5				
	71	95	**20**	19.84	3230	2.5				
	93	73	**15**	15.09	2950	2.8				
	18.7	360	**50**	48.18	5030	1.0	**DKM48B**	**90B5/B14**	**90S6**	40
	22.4	300	**40**	40.13	4730	1.0	**DKB48B**	**90B5/B14**	**90S6**	48
	29.8	226	**30**	30.24	4310	1.5				
	36	188	**25**	25.19	4050	1.6				
	45	148	**20**	19.84	3740	1.6				
	60	113	**15**	15.09	3410	1.8				
	72	93	**12.5**	12.49	3210	3.2				
	91	74	**10**	9.84	2960	3.3				
	120	56	**7.5**	7.48	2700	3.6				
	11.6	567	**250**	240.89	7470	0.9	**DKM58C**	**80B5/B14**	**8012**	43
	14.0	472	**200**	200.66	7030	1.0	**DKB58C**	**80B5/B14**	**8012**	51
	18.5	356	**150**	151.20	6390	1.4				
	22.2	296	**125**	125.95	6010	1.6				
	28.2	234	**100**	99.22	5550	1.6				
	37	178	**75**	75.45	5070	1.7				
	45	147	**60**	62.43	4760	3.3				
	57	116	**50**	49.18	4390	3.3				
	47	142	**60**	59.04	4670	3.5	**DKM58B**	**80B5/B14**	**8012**	42
	58	116	**50**	48.18	4360	4.3	**DKB58B**	**80B5/B14**	**8012**	50
	22.4	294	**60**	62.43	6000	1.6	**DKM58C**	**80B5/B14**	**8024**	43
	28.5	231	**50**	49.18	5540	1.6	**DKB58C**	**80B5/B14**	**8024**	51
	23.7	284	**60**	59.04	5890	1.8	**DKM58B**	**80B5/B14**	**8024**	42
	29.1	232	**50**	48.18	5500	2.2	**DKB58B**	**80B5/B14**	**8024**	50
	35	193	**40**	40.13	5170	2.5				
	46	145	**30**	30.24	4710	3.4				
	56	121	**25**	25.19	4430	4.0				
	71	95	**20**	19.84	4090	4.0				
	93	73	**15**	15.09	3730	4.1				
	14.4	457	**60**	62.43	6950	1.1	**DKM58C**	**90B5/B14**	**90S6**	43
	18.3	360	**50**	49.18	6420	1.1	**DKB58C**	**90B5/B14**	**90S6**	51

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
0.75	15.2	442	**60**	59.04	6820	1.1	**DKM58B**	**90B5/B14**	**90S6**	42
	18.7	360	**50**	48.18	6370	1.4	**DKB58B**	**90B5/B14**	**90S6**	50
	22.4	300	**40**	40.13	6000	1.6				
	29.8	226	**30**	30.24	5460	2.2				
	36	188	**25**	25.19	5130	2.5				
	45	148	**20**	19.84	4740	2.6				
	60	113	**15**	15.09	4330	2.7				
	9.5	697	**300**	296.10	8880	1.1	**DKM68C**	**80B5**	**8012**	45
	11.5	575	**250**	244.29	8330	1.3	**DKB68C**	**80B5**	**8012**	53
	13.6	485	**200**	206.29	7870	1.5				
	18.3	361	**150**	153.33	7130	2.1				
	21.6	305	**125**	129.48	6740	2.5				
	27.0	244	**100**	103.64	6260	2.7				
	37	178	**75**	75.55	5630	2.9				
	9.1	722	**150**	153.33	8980	1.0	**DKM68C**	**80B5**	**8024**	45
	10.8	609	**125**	129.48	8490	1.2	**DKB68C**	**80B5**	**8024**	53
	13.5	488	**100**	103.64	7880	1.3				
	18.5	356	**75**	75.55	7090	1.5				
	21.8	302	**60**	64.18	6720	2.5				
	27.3	242	**50**	51.37	6240	2.7				
	23.6	285	**60**	59.22	6540	2.6	**DKM68B**	**80B5**	**8024**	44
	28.7	235	**50**	48.86	6130	3.2	**DKB68B**	**80B5**	**8024**	52
	34	198	**40**	41.26	5800	3.8				
	8.7	759	**100**	103.64	9130	0.9	**DKM68C**	**90B5**	**90S6**	45
	11.9	553	**75**	75.55	8220	0.9	**DKB68C**	**90B5**	**90S6**	53
	14.0	470	**60**	64.18	7780	1.6				
	17.5	376	**50**	51.37	7230	1.7				
	15.2	443	**60**	59.22	7580	1.7	**DKM68B**	**90B5**	**90S6**	44
	18.4	366	**50**	48.86	7110	2.1	**DKB68B**	**90B5**	**90S6**	52
	21.8	309	**40**	41.26	6720	2.4				
	29.3	229	**30**	30.67	6090	3.3				
	35	194	**25**	25.90	5750	3.9				
	43	155	**20**	20.73	5340	4.2				
1.1	70	141	**40**	40.09	2070	0.9	**DKM28B**	**80B5/B14**	**8022**	36
	95	103	**30**	29.33	1870	1.3				
	116	85	**25**	24.07	1750	1.5				
	139	71	**20**	20.21	1650	1.4				
	188	53	**15**	14.92	1490	1.5				
	225	44	**12.5**	12.47	1400	3.0				
	267	37	**10**	10.47	1320	2.7				
	362	27	**7.5**	7.73	1200	2.9				
	112	88	**12.5**	12.47	1770	1.5	**DKM28B**	**90B5/B14**	**90S4**	36
	134	74	**10**	10.47	1670	1.4				
	181	55	**7.5**	7.73	1510	1.5				
	72	137	**12.5**	12.47	2050	1.0	**DKM28B**	**90B5/B14**	**90L6**	36
	86	115	**10**	10.47	1930	0.9				
	116	85	**7.5**	7.73	1750	0.9				
	46	213	**60**	60.50	2720	0.9	**DKM38B**	**80B5/B14**	**8022**	38
	57	172	**50**	48.71	2530	1.2	**DKB38B**	**80B5/B14**	**8022**	46
	71	139	**40**	39.29	2350	1.3				
	92	107	**30**	30.31	2160	1.9				
	115	86	**25**	24.44	2010	2.1				
	138	71	**20**	20.25	1890	2.1				
	191	52	**15**	14.67	1690	2.1				
	221	45	**12.5**	12.67	1610	4.0				
	267	37	**10**	10.50	1510	4.1				
	368	27	**7.5**	7.60	1360	4.1				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
1.1	46	214	**30**	30.31	2720	0.9	**DKM38B**	**90B5/B14**	**90S4**	38
	57	172	**25**	24.44	2530	1.0	**DKB38B**	**90B5/B14**	**90S4**	46
	69	143	**20**	20.25	2380	1.1				
	95	103	**15**	14.67	2130	1.1				
	110	89	**12.5**	12.67	2030	2.0				
	133	74	**10**	10.50	1910	2.0				
	184	54	**7.5**	7.60	1710	2.1				
	71	139	**12.5**	12.67	2360	1.3	**DKM38B**	**90B5/B14**	**90L6**	38
	86	115	**10**	10.50	2210	1.3	**DKB38B**	**90B5/B14**	**90L6**	46
	118	83	**7.5**	7.60	1990	1.3				
	45	215	**60**	62.43	3750	1.4	**DKM48C**	**80B5/B14**	**8022**	41
	57	170	**50**	49.18	3470	1.4	**DKB48C**	**80B5/B14**	**8022**	49
	47	210	**60**	59.44	3690	1.7	**DKM48B**	**80B5/B14**	**8022**	40
	58	170	**50**	48.18	3440	2.1	**DKB48B**	**80B5/B14**	**8022**	48
	70	142	**40**	40.13	3240	2.1				
	93	107	**30**	30.24	2950	3.3				
	111	89	**25**	25.19	2770	3.4				
	141	70	**20**	19.84	2560	3.4				
	186	53	**15**	15.09	2340	3.8				
	29.1	340	**50**	48.18	4340	1.0	**DKM48B**	**90B5/B14**	**90S4**	40
	35	283	**40**	40.13	4080	1.1	**DKB48B**	**90B5/B14**	**90S4**	48
	46	213	**30**	30.24	3720	1.6				
	56	178	**25**	25.19	3500	1.7				
	71	140	**20**	19.84	3230	1.7				
	93	106	**15**	15.09	2950	1.9				
	112	88	**12.5**	12.49	2770	3.4				
	142	69	**10**	9.84	2550	3.5				
	187	53	**7.5**	7.48	2330	3.8				
	29.8	332	**30**	30.24	4310	1.1	**DKM48B**	**90B5/B14**	**90L6**	40
	36	276	**25**	25.19	4050	1.1	**DKB48B**	**90B5/B14**	**90L6**	48
	45	218	**20**	19.84	3740	1.1				
	60	166	**15**	15.09	3410	1.2				
	72	137	**12.5**	12.49	3210	2.2				
	91	108	**10**	9.84	2960	2.2				
	120	82	**7.5**	7.48	2700	2.4				
	18.5	522	**150**	151.20	6390	1.0	**DKM58C**	**80B5/B14**	**8022**	43
	22.2	435	**125**	125.95	6010	1.1	**DKM48C**	**80B5/B14**	**8022**	51
	28.2	342	**100**	99.22	5550	1.1				
	37	260	**75**	75.45	5070	1.2				
	45	215	**60**	62.43	4760	2.2				
	57	170	**50**	49.18	4390	2.2				
	47	208	**60**	59.04	4670	2.4	**DKM58B**	**80B5/B14**	**8022**	42
	58	170	**50**	48.18	4360	2.9	**DKM48B**	**80B5/B14**	**8022**	50
	70	142	**40**	40.13	4110	3.4				
	22.4	431	**60**	62.43	6000	1.1	**DKM58C**	**90B5/B14**	**90S4**	43
	28.5	340	**50**	49.18	5540	1.1	**DKM48C**	**90B5/B14**	**90S4**	51
	23.7	416	**60**	59.04	5890	1.2	**DKM58B**	**90B5/B14**	**90S4**	42
	29.1	340	**50**	48.18	5500	1.5	**DKM48B**	**90B5/B14**	**90S4**	50
	35	283	**40**	40.13	5170	1.7				
	46	213	**30**	30.24	4710	2.3				
	56	178	**25**	25.19	4430	2.7				
	71	140	**20**	19.84	4090	2.7				
	93	106	**15**	15.09	3730	2.8				
	18.7	529	**50**	48.18	6370	0.9	**DKM58B**	**90B5/B14**	**90L6**	42
	22.4	440	**40**	40.13	6000	1.1	**DKM48B**	**90B5/B14**	**90L6**	50
	29.8	332	**30**	30.24	5460	1.5				
	36	276	**25**	25.19	5130	1.7				
	45	218	**20**	19.84	4740	1.7				
	60	166	**15**	15.09	4330	1.8				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
1.1	72	137	**12.5**	12.49	4060	3.5	**DKM58B**	**90B5/B14**	**90L6**	42
	91	108	**10**	9.84	3750	3.5	**DKM48B**	**90B5/B14**	**90L6**	50
	120	82	**7.5**	7.48	3420	3.7				
	11.5	843	**250**	244.29	8330	0.9	**DKM68C**	**80B5**	**8022**	45
	13.6	712	**200**	206.29	7870	1.1	**DKM68C**	**80B5**	**8022**	53
	18.3	529	**150**	153.33	7130	1.4				
	21.6	447	**125**	129.48	6740	1.7				
	27.0	358	**100**	103.64	6260	1.8				
	37	261	**75**	75.55	5630	2.0				
	44	222	**60**	64.18	5330	3.4				
	55	177	**50**	51.37	4950	3.7				
	47.3	209	**60**	59.22	5190	3.6	**DKM68B**	**80B5**	**8022**	44
	57	172	**50**	48.86	4870	4.4	**DKM68B**	**80B5**	**8022**	52
	13.5	715	**100**	103.64	7880	0.9	**DKM68C**	**90B5**	**90S4**	45
	18.5	522	**75**	75.55	7090	1.0	**DKM68C**	**90B5**	**90S4**	53
	21.8	443	**60**	64.18	6720	1.7				
	27.3	355	**50**	51.37	6240	1.8				
	23.6	418	**60**	59.22	6540	1.8	**DKM68B**	**90B5**	**90S4**	44
	28.7	345	**50**	48.86	6130	2.2	**DKM68B**	**90B5**	**90S4**	52
	34	291	**40**	41.26	5800	2.6				
	46	216	**30**	30.67	5250	3.5				
	54	183	**25**	25.90	4960	4.1				
	14.0	689	**60**	64.18	7780	1.1	**DKM68C**	**90B5**	**90L6**	45
	17.5	552	**50**	51.37	7230	1.2	**DKM68C**	**90B5**	**90L6**	53
	15.2	650	**60**	59.22	7580	1.2	**DKM68B**	**90B5**	**90L6**	44
	18.4	536	**50**	48.86	7110	1.4	**DKM68B**	**90B5**	**90L6**	52
	21.8	453	**40**	41.26	6720	1.7				
	29.3	337	**30**	30.67	6090	2.2				
	35	284	**25**	25.90	5750	2.6				
	43	227	**20**	20.73	5340	2.9				
	60	166	**15**	15.11	4810	3.1				
1.5	95	141	**30**	29.33	1870	0.9	**DKM28B**	**90B5/B14**	**90S2**	36
	116	116	**25**	24.07	1750	1.1				
	139	97	**20**	20.21	1650	1.0				
	188	72	**15**	14.92	1490	1.1				
	225	60	**12.5**	12.47	1400	2.2				
	267	50	**10**	10.47	1320	2.0				
	362	37	**7.5**	7.73	1200	2.2				
	112	120	**12.5**	12.47	1770	1.1	**DKM28B**	**90B5/B14**	**90L4**	36
	134	101	**10**	10.47	1670	1.0				
	181	74	**7.5**	7.73	1510	1.1				
	57	234	**50**	48.71	2530	0.9	**DKM38B**	**90B5/B14**	**90S2**	38
	71	189	**40**	39.29	2350	1.0	**DKM38B**	**90B5/B14**	**90S2**	46
	92	146	**30**	30.31	2160	1.4				
	115	118	**25**	24.44	2010	1.5				
	138	97	**20**	20.25	1890	1.5				
	191	71	**15**	14.67	1690	1.6				
	221	61	**12.5**	12.67	1610	3.0				
	267	50	**10**	10.50	1510	3.0				
	368	37	**7.5**	7.60	1360	3.0				
	57	235	**25**	24.44	2530	0.8	**DKM38B**	**90B5/B14**	**90L4**	38
	69	195	**20**	20.25	2380	0.8	**DKM38B**	**90B5/B14**	**90L4**	46
	95	141	**15**	14.67	2130	0.8				
	110	122	**12.5**	12.67	2030	1.5				
	133	101	**10**	10.50	1910	1.5				
	184	73	**7.5**	7.60	1710	1.5				
	45	294	**60**	62.43	3750	1.0	**DKM48C**	**90B5/B14**	**90S2**	41
	57	231	**50**	49.18	3470	1.0	**DKM48C**	**90B5/B14**	**90S2**	49

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
1.5	47	286	**60**	59.44	3690	1.2	**DKM48B**	**90B5/B14**	**90S2**	40
	58	232	**50**	48.18	3440	1.5	**DKM48B**	**90B5/B14**	**90S2**	48
	70	193	**40**	40.13	3240	1.6				
	93	145	**30**	30.24	2950	2.4				
	111	121	**25**	25.19	2770	2.5				
	141	95	**20**	19.84	2560	2.5				
	186	73	**15**	15.09	2340	2.8				
	35	386	**40**	40.13	4080	0.8	**DKM48B**	**90B5/B14**	**90L4**	40
	46	291	**30**	30.24	3720	1.2	**DKM48B**	**90B5/B14**	**90L4**	48
	56	242	**25**	25.19	3500	1.2				
	71	191	**20**	19.84	3230	1.3				
	93	145	**15**	15.09	2950	1.4				
	112	120	**12.5**	12.49	2770	2.5				
	142	95	**10**	9.84	2550	2.5				
	187	72	**7.5**	7.48	2330	2.8				
	45	297	**20**	19.84	3740	0.8	**DKM48B**	**100B5/B14**	**100L6**	40
	60	226	**15**	15.09	3410	0.9	**DKM48B**	**100B5/B14**	**100L6**	48
	72	187	**12.5**	12.49	3210	1.6				
	91	147	**10**	9.84	2960	1.6				
	120	112	**7.5**	7.48	2700	1.8				
	45	294	**60**	62.43	4760	1.6	**DKM58C**	**90B5/B14**	**90S2**	43
	57	231	**50**	49.18	4390	1.6	**DKM58C**	**90B5/B14**	**90S2**	51
	47	284	**60**	59.04	4670	1.8	**DKM58B**	**90B5/B14**	**90S2**	42
	58	232	**50**	48.18	4360	2.2	**DKM58B**	**90B5/B14**	**90S2**	50
	70	193	**40**	40.13	4110	2.5				
	93	145	**30**	30.24	3740	3.4				
	111	121	**25**	25.19	3520	4.0				
	141	95	**20**	19.84	3250	4.0				
	186	73	**15**	15.09	2960	4.1				
	23.7	568	**60**	59.04	5890	0.9	**DKM58B**	**90B5/B14**	**90L4**	42
	29.1	463	**50**	48.18	5500	1.1	**DKM58B**	**90B5/B14**	**90L4**	50
	35	386	**40**	40.13	5170	1.2				
	46	291	**30**	30.24	4710	1.7				
	56	242	**25**	25.19	4430	2.0				
	71	191	**20**	19.84	4090	2.0				
	93	145	**15**	15.09	3730	2.1				
	112	120	**12.5**	12.49	3510	4.0				
	142	95	**10**	9.84	3240	4.0				
	187	72	**7.5**	7.48	2950	4.2				
	29.8	452	**30**	30.24	5460	1.1	**DKM58B**	**100B5/B14**	**100L6**	42
	36	377	**25**	25.19	5130	1.3	**DKM58B**	**100B5/B14**	**100L6**	50
	45	297	**20**	19.84	4740	1.3				
	60	226	**15**	15.09	4330	1.3				
	72	187	**12.5**	12.49	4060	2.6				
	91	147	**10**	9.84	3750	2.6				
	120	112	**7.5**	7.48	3420	2.7				
	18.3	722	**150**	153.33	7130	1.0	**DKM68C**	**90B5**	**90S2**	45
	21.6	609	**125**	129.48	6740	1.2	**DKM68C**	**90B5**	**90S2**	53
	27.0	488	**100**	103.64	6260	1.3				
	37	356	**75**	75.55	5630	1.5				
	44	302	**60**	64.18	5330	2.5				
	55	242	**50**	51.37	4950	2.7				
	47	285	**60**	59.22	5190	2.6	**DKM68B**	**90B5**	**90S2**	44
	57	235	**50**	48.86	4870	3.2	**DKM68B**	**90B5**	**90S2**	52
	68	198	**40**	41.26	4600	3.8				
	21.8	604	**60**	64.18	6720	1.2	**DKM68C**	**90B5**	**90L4**	45
	27.3	484	**50**	51.37	6240	1.3	**DKM68C**	**90B5**	**90L4**	53

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
1.5	23.6	570	**60**	59.22	6540	1.3	**DKM68B**	**90B5**	**90L4**	44
	28.7	470	**50**	48.86	6130	1.6	**DKM68B**	**90B5**	**90L4**	52
	34	397	**40**	41.26	5800	1.9				
	46	295	**30**	30.67	5250	2.5				
	54	249	**25**	25.90	4960	3.0				
	68	199	**20**	20.73	4610	3.3				
	93	145	**15**	15.11	4150	3.6				
	15.2	886	**60**	59.22	7580	0.8	**DKM68B**	**100B5/B14**	**100L6**	44
	18.4	731	**50**	48.86	7110	1.0	**DKM68B**	**100B5/B14**	**100L6**	52
	21.8	617	**40**	41.26	6720	1.2				
	29.3	459	**30**	30.67	6090	1.6				
	35	388	**25**	25.90	5750	1.9				
	43	310	**20**	20.73	5340	2.1				
	60	226	**15**	15.11	4810	2.3				
	70	192	**12.5**	12.84	4550	3.9				
	88	154	**10**	10.27	4220	4.2				
	120	112	**7.5**	7.49	3800	4.6				
2.2	225	88	**12.5**	12.47	1400	1.5	**DKM28B**	**90B5/B14**	**90L2**	36
	267	74	**10**	10.47	1320	1.4				
	362	55	**7.5**	7.73	1200	1.5				
	92	214	**30**	30.31	2160	0.9	**DKM38B**	**90B5/B14**	**90L2**	38
	115	172	**25**	24.44	2010	1.0	**DKM38B**	**90B5/B14**	**90L2**	46
	138	143	**20**	20.25	1890	1.1				
	191	103	**15**	14.67	1690	1.1				
	221	89	**12.5**	12.67	1610	2.0				
	267	74	**10**	10.50	1510	2.0				
	368	54	**7.5**	7.60	1360	2.1				
	58	340	**50**	48.18	3440	1.0	**DKM48B**	**90B5/B14**	**90L2**	40
	70	283	**40**	40.13	3240	1.1	**DKM48B**	**90B5/B14**	**90L2**	48
	93	213	**30**	30.24	2950	1.6				
	111	178	**25**	25.19	2770	1.7				
	141	140	**20**	19.84	2560	1.7				
	186	106	**15**	15.09	2340	1.9				
	224	88	**12.5**	12.49	2190	3.4				
	285	69	**10**	9.84	2030	3.5				
	374	53	**7.5**	7.48	1850	3.8				
	56	355	**25**	25.19	3500	0.8	**DKM48B**	**100B5/B14**	**100LA4**	40
	71	280	**20**	19.84	3230	0.9	**DKM48B**	**100B5/B14**	**100LA4**	48
	93	213	**15**	15.09	2950	0.9				
	112	176	**12.5**	12.49	2770	1.7				
	142	139	**10**	9.84	2550	1.7				
	187	106	**7.5**	7.48	2330	1.9				
	72	274	**12.5**	12.49	3210	1.1	**DKM48B**	**112B5/B14**	**112M6**	40
	91	216	**10**	9.84	2960	1.1	**DKM48B**	**112B5/B14**	**112M6**	48
	120	164	**7.5**	7.48	2700	1.2				
	45	431	**60**	62.43	4760	1.1	**DKM58C**	**90B5/B14**	**90L2**	43
	57	340	**50**	49.18	4390	1.1	**DKM58C**	**90B5/B14**	**90L2**	51
	47	416	**60**	59.04	4670	1.2	**DKM58B**	**90B5/B14**	**90L2**	42
	58	340	**50**	48.18	4360	1.5	**DKM58B**	**90B5/B14**	**90L2**	50
	70	283	**40**	40.13	4110	1.7				
	93	213	**30**	30.24	3740	2.3				
	111	178	**25**	25.19	3520	2.7				
	141	140	**20**	19.84	3250	2.7				
	186	106	**15**	15.09	2960	2.8				
	35	566	**40**	40.13	5170	0.8	**DKM58B**	**100B5/B14**	**100LA4**	42
	46	427	**30**	30.24	4710	1.2	**DKM58B**	**100B5/B14**	**100LA4**	50
	56	355	**25**	25.19	4430	1.4				
	71	280	**20**	19.84	4090	1.4				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
2.2	93	213	**15**	15.09	3730	1.4	**DKM58B**	**100B5/B14**	**100LA4**	42
	112	176	**12.5**	12.49	3510	2.7	**DKM58B**	**100B5/B14**	**100LA4**	50
	142	139	**10**	9.84	3240	2.7				
	187	106	**7.5**	7.48	2950	2.8				
	36	553	**25**	25.19	5130	0.9	**DKM58B**	**112B5/B14**	**112M6**	42
	45	435	**20**	19.84	4740	0.9	**DKM58B**	**112B5/B14**	**112M6**	50
	60	331	**15**	15.09	4330	0.9				
	72	274	**12.5**	12.49	4060	1.8				
	91	216	**10**	9.84	3750	1.8				
	120	164	**7.5**	7.48	3420	1.8				
	27.0	715	**100**	103.64	6260	0.9	**DKM68C**	**90B5**	**90L2**	45
	37	522	**75**	75.55	5630	1.0	**DKM68C**	**90B5**	**90L2**	53
	44	443	**60**	64.18	5330	1.7				
	55	355	**50**	51.37	4950	1.8				
	47	418	**60**	59.22	5190	1.8	**DKM68B**	**90B5**	**90L2**	44
	57	345	**50**	48.86	4870	2.2	**DKM68B**	**90B5**	**90L2**	52
	68	291	**40**	41.26	4600	2.6				
	91	216	**30**	30.67	4170	3.5				
	108	183	**25**	25.90	3940	4.1				
	23.6	835	**60**	59.22	6540	0.9	**DKM68B**	**100B5/B14**	**100LA4**	44
	28.7	689	**50**	48.86	6130	1.1	**DKM68B**	**100B5/B14**	**100LA4**	52
	34	582	**40**	41.26	5800	1.3				
	46	433	**30**	30.67	5250	1.7				
	54	365	**25**	25.90	4960	2.1				
	68	292	**20**	20.73	4610	2.2				
	93	213	**15**	15.11	4150	2.4				
	109	181	**12.5**	12.84	3930	4.1				
	29.3	673	**30**	30.67	6090	1.1	**DKM68B**	**112B5/B14**	**112M6**	44
	35	568	**25**	25.90	5750	1.3	**DKM68B**	**112B5/B14**	**112M6**	52
	43	455	**20**	20.73	5340	1.4				
	60	332	**15**	15.11	4810	1.6				
	70	282	**12.5**	12.84	4550	2.7				
	88	225	**10**	10.27	4220	2.9				
	120	164	**7.5**	7.49	3800	3.2				
3.0	70	386	**40**	40.13	3240	0.8	**DKM48B**	**100B5/B14**	**100L2**	40
	93	291	**30**	30.24	2950	1.2	**DKM48B**	**100B5/B14**	**100L2**	48
	111	242	**25**	25.19	2770	1.2				
	141	191	**20**	19.84	2560	1.3				
	186	145	**15**	15.09	2340	1.4				
	224	120	**12.5**	12.49	2190	2.5				
	285	95	**10**	9.84	2030	2.5				
	374	72	**7.5**	7.48	1850	2.8				
	112	240	**12.5**	12.49	2770	1.2	**DKM48B**	**100B5/B14**	**100LB4**	40
	142	189	**10**	9.84	2550	1.3	**DKM48B**	**100B5/B14**	**100LB4**	48
	187	144	**7.5**	7.48	2330	1.4				
	47	568	**60**	59.04	4670	0.9	**DKM58B**	**100B5/B14**	**100L2**	42
	58	463	**50**	48.18	4360	1.1	**DKM58B**	**100B5/B14**	**100L2**	50
	70	386	**40**	40.13	4110	1.2				
	93	291	**30**	30.24	3740	1.7				
	111	242	**25**	25.19	3520	2.0				
	141	191	**20**	19.84	3250	2.0				
	186	145	**15**	15.09	2960	2.1				
	224	120	**12.5**	12.49	2780	4.0				
	285	95	**10**	9.84	2570	4.0				
	374	72	**7.5**	7.48	2340	4.2				
	46	582	**30**	30.24	4710	0.9	**DKM58B**	**100B5/B14**	**100LB4**	42
	56	485	**25**	25.19	4430	1.0	**DKM58B**	**100B5/B14**	**100LB4**	50
	71	382	**20**	19.84	4090	1.0				
	93	290	**15**	15.09	3730	1.0				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
3.0	112	240	**12.5**	12.49	3510	2.0	**DKM58B**	**100B5/B14**	**100LB4**	42
	142	189	**10**	9.84	3240	2.0	**DKM58B**	**100B5/B14**	**100LB4**	50
	187	144	**7.5**	7.48	2950	2.1				
	44	604	**60**	64.18	5330	1.2	**DKM68C**	**100B5/B14**	**100L2**	45
	55	484	**50**	51.37	4950	1.3	**DKM68C**	**100B5/B14**	**100L2**	53
	47	570	**60**	59.22	5190	1.3	**DKM68B**	**100B5/B14**	**100L2**	44
	57	470	**50**	48.86	4870	1.6	**DKM68B**	**100B5/B14**	**100L2**	52
	68	397	**40**	41.26	4600	1.9				
	91	295	**30**	30.67	4170	2.5				
	108	249	**25**	25.90	3940	3.0				
	135	199	**20**	20.73	3660	3.3				
	185	145	**15**	15.11	3290	3.6				
	34	794	**40**	41.26	5800	0.9	**DKM68B**	**100B5/B14**	**100LB4**	44
	46	590	**30**	30.67	5250	1.3	**DKM68B**	**100B5/B14**	**100LB4**	52
	54	498	**25**	25.90	4960	1.5				
	68	399	**20**	20.73	4610	1.6				
	93	291	**15**	15.11	4150	1.8				
	109	247	**12.5**	12.84	3930	3.0				
	136	198	**10**	10.27	3650	3.3				
	187	144	**7.5**	7.49	3280	3.6				
	35	775	**25**	25.90	5750	1.0	**DKM68B**	**132B5**	**132S6**	44
	43	620	**20**	20.73	5340	1.0	**DKM68B**	**132B5**	**132S6**	52
	60	452	**15**	15.11	4810	1.2				
	70	384	**12.5**	12.84	4550	2.0				
	88	307	**10**	10.27	4220	2.1				
	120	224	**7.5**	7.49	3800	2.3				
4.0	93	388	**30**	30.24	2950	0.9	**DKM48B**	**112B5/B14**	**112M2**	40
	111	323	**25**	25.19	2770	0.9	**DKM48B**	**112B5/B14**	**112M2**	48
	141	254	**20**	19.84	2560	0.9				
	186	194	**15**	15.09	2340	1.0				
	224	160	**12.5**	12.49	2190	1.9				
	285	126	**10**	9.84	2030	1.9				
	374	96	**7.5**	7.48	1850	2.1				
	112	320	**12.5**	12.49	2770	0.9	**DKM48B**	**112B5/B14**	**112M4**	40
	142	252	**10**	9.84	2550	1.0	**DKM48B**	**112B5/B14**	**112M4**	48
	187	192	**7.5**	7.48	2330	1.0				
	70	515	**40**	40.13	4110	0.9	**DKM58B**	**112B5/B14**	**112M2**	42
	93	388	**30**	30.24	3740	1.3	**DKM58B**	**112B5/B14**	**112M2**	50
	111	323	**25**	25.19	3520	1.5				
	141	254	**20**	19.84	3250	1.5				
	186	194	**15**	15.09	2960	1.6				
	224	160	**12.5**	12.49	2780	3.0				
	285	126	**10**	9.84	2570	3.0				
	374	96	**7.5**	7.48	2340	3.1				
	112	320	**12.5**	12.49	3510	1.5	**DKM58B**	**112B5/B14**	**112M4**	42
	142	252	**10**	9.84	3240	1.5	**DKM58B**	**112B5/B14**	**112M4**	50
	187	192	**7.5**	7.48	2950	1.6				
	44	806	**60**	64.18	5330	0.9	**DKM68C**	**112B5/B14**	**112M2**	45
	55	645	**50**	51.37	4950	1.0	**DKM68C**	**112B5/B14**	**112M2**	53
	47	759	**60**	59.22	5190	1.0	**DKM68B**	**112B5/B14**	**112M2**	44
	57	627	**50**	48.86	4870	1.2	**DKM68B**	**112B5/B14**	**112M2**	52
	68	529	**40**	41.26	4600	1.4				
	91	393	**30**	30.67	4170	1.9				
	108	332	**25**	25.90	3940	2.3				
	135	266	**20**	20.73	3660	2.4				
	185	194	**15**	15.11	3290	2.7				
	46	787	**30**	30.67	5250	1.0	**DKM68B**	**112B5/B14**	**112M4**	44
	54	664	**25**	25.90	4960	1.1	**DKM68B**	**112B5/B14**	**112M4**	52
	68	532	**20**	20.73	4610	1.2				
	93	388	**15**	15.11	4150	1.3				
	109	329	**12.5**	12.84	3930	2.3				
	136	263	**10**	10.27	3650	2.5				
	187	192	**7.5**	7.49	3280	2.7				

P_{1n} [kW]	n_2 [r/min]	M_{2n} [Nm]	i Nominal	i Actual	F_{r2} [N]	fs				Page
5.5	57	862	**50**	48.86	4870	0.9	**DKM68B**	**132B5**	**132S12**	44
	68	728	**40**	41.26	4600	1.0	**DKM68B**	**132B5**	**132S12**	52
	91	541	**30**	30.67	4170	1.4				
	108	457	**25**	25.90	3940	1.6				
	135	366	**20**	20.73	3660	1.8				
	185	266	**15**	15.11	3290	2.0				
	218	226	**12.5**	12.84	3120	3.3				
	273	181	**10**	10.27	2890	3.6				
	374	132	**7.5**	7.49	2600	3.9				
	68	731	**20**	20.73	4610	0.9	**DKM68B**	**132B5**	**132S4**	44
	93	533	**15**	15.11	4150	1.0	**DKM68B**	**132B5**	**132S4**	52
	109	453	**12.5**	12.84	3930	1.7				
	136	362	**10**	10.27	3650	1.8				
	187	264	**7.5**	7.49	3280	2.0				
7.5	91	737	**30**	30.67	4170	1.0	**DKM68B**	**132B5**	**132S22**	44
	108	623	**25**	25.90	3940	1.2	**DKM68B**	**132B5**	**132S22**	52
	135	498	**20**	20.73	3660	1.3				
	185	363	**15**	15.11	3290	1.4				
	218	309	**12.5**	12.84	3120	2.4				
	273	247	**10**	10.27	2890	2.6				
	374	180	**7.5**	7.49	2600	2.9				
	109	617	**12.5**	12.84	3930	1.2	**DKM68B**	**132B5**	**132M4**	44
	136	494	**10**	10.27	3650	1.3	**DKM68B**	**132B5**	**132M4**	52
	187	360	**7.5**	7.49	3280	1.4				

6.3 DKM/DKB.. HS *Prestazioni / Performance parameter*

n_1=1400r/min

$M_{2\,max}$ [Nm]	n_2 [r/min]	i Nominal	i Actual	P_{1n} [kW]	Fr_2 [N]	Fr_1 [N]		Page
130	4.8	300	291.79	0.07	4100	400	**DKM28C...HS**	54
130	5.7	250	244.29	0.08	4100	400		
130	7.0	200	200.44	0.10	4100	400		
130	9.5	150	146.67	0.14	4000	400		
130	11.6	125	120.34	0.17	3770	400		
100	13.9	100	101.04	0.16	3560	400		
80	18.8	75	74.62	0.17	3220	400		
130	22.5	60	62.36	0.33	3030	400		
100	27	50	52.36	0.30	2860	400		
130	24	60	58.36	0.35	2960	400	**DKM28B...HS**	54
130	29	50	48.86	0.41	2790	400		
130	35	40	40.09	0.51	2610	400		
130	48	30	29.33	0.69	2350	400		
130	58	25	24.07	0.84	2200	400		
100	69	20	20.21	0.77	2080	400		
80	94	15	14.92	0.84	1880	400		
130	112	12.5	12.47	1.6	1770	400		
100	134	10	10.47	1.5	1670	400		
80	181	7.5	7.73	1.6	1510	400		
200	4.6	300	302.50	0.11	4800	400	**DKM38C...HS**	54
200	5.7	250	243.57	0.13	4800	400	**DKB38C...HS**	54
180	7.1	200	196.43	0.15	4800	400		
200	9.2	150	151.56	0.21	4650	400		
180	11.5	125	122.22	0.23	4330	400		
150	13.8	100	101.27	0.24	4070	400		
110	19.1	75	73.33	0.24	3650	400		
180	22	60	63.33	0.45	3480	400		
150	27	50	52.48	0.46	3270	400		
200	23	60	60.50	0.52	3430	530	**DKM38B...HS**	54
200	29	50	48.71	0.64	3190	530	**DKB38B...HS**	54
180	36	40	39.29	0.71	2970	530		
200	46	30	30.31	1.0	2720	530		
180	57	25	24.44	1.1	2530	530		
150	69	20	20.25	1.2	2380	530		
110	95	15	14.67	1.2	2130	530		
180	110	12.5	12.67	2.2	2030	530		
150	133	10	10.50	2.2	1910	530		
110	184	7.5	7.60	2.3	1710	530		
350	4.7	300	297.21	0.19	6500	560	**DKM48C...HS**	54
350	5.8	250	240.89	0.23	6500	560	**DKB48C...HS**	54
300	7.0	200	200.66	0.24	6500	560		
350	9.3	150	151.20	0.37	6500	560		
300	11.1	125	125.95	0.38	5980	560		
240	14.1	100	99.22	0.39	5520	560		
200	18.6	75	75.45	0.42	5040	560		
300	22	60	62.43	0.77	4730	560		
240	28	50	49.18	0.78	4370	560		
350	24	60	59.44	0.92	4660	860	**DKM48B...HS**	54
350	29	50	48.18	1.1	4340	860	**DKB48B...HS**	54
300	35	40	40.13	1.2	4080	860		
350	46	30	30.24	1.8	3720	860		
300	56	25	25.19	1.9	3500	860		

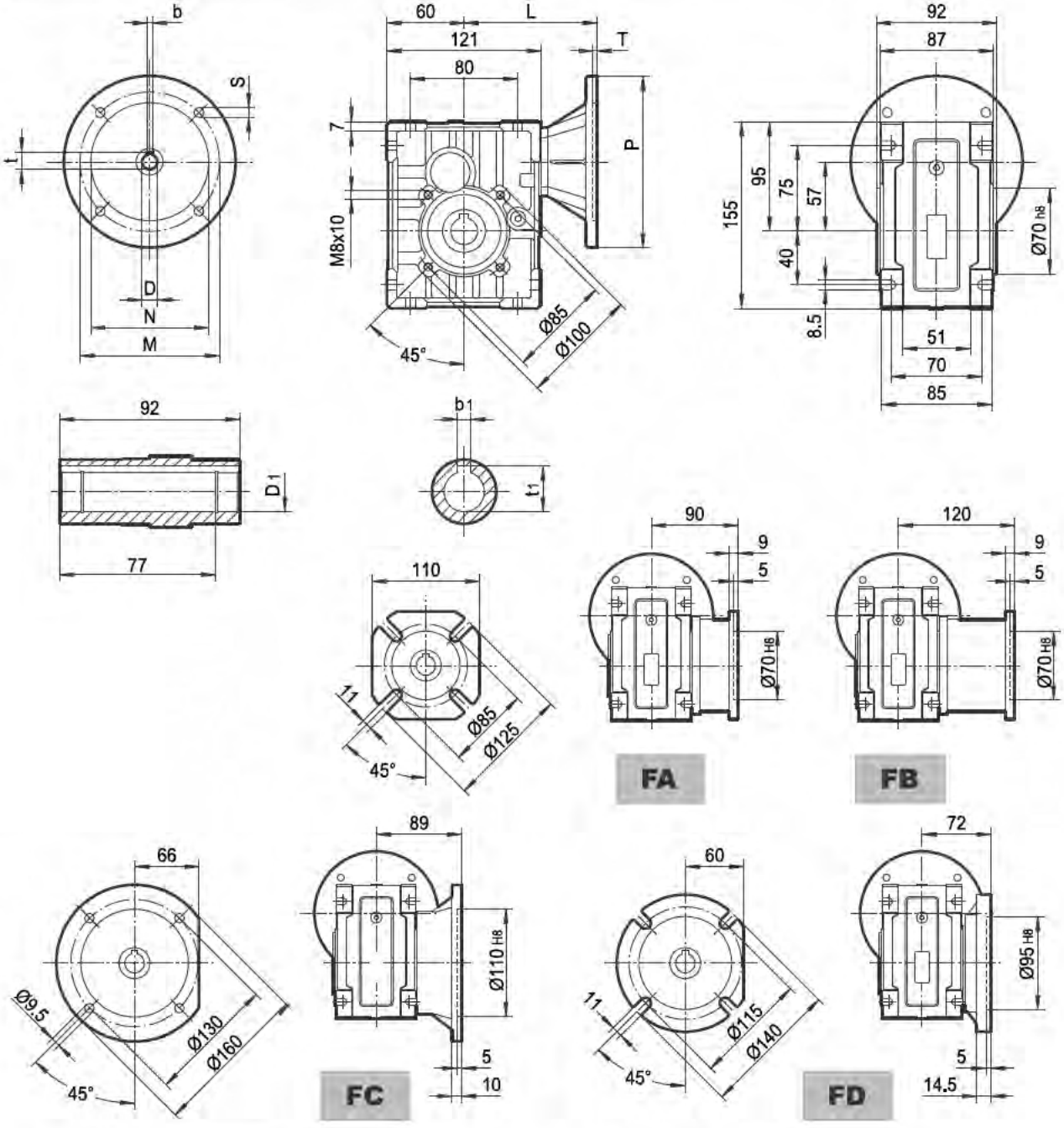
n_1=1400r/min

$M_{2\,max}$ [Nm]	n_2 [r/min]	i Nominal	i Actual	P_{1n} [kW]	Fr_2 [N]	Fr_1 [N]		Page
240	71	20	19.84	1.9	3230	860	**DKM48B...HS**	54
200	93	15	15.09	2.1	2950	860	**DKB48B...HS**	54
300	112	12.5	12.49	3.7	2770	860		
240	142	10	9.84	3.8	2550	860		
200	187	7.5	7.48	4.2	2330	860		
500	4.7	300	295.18	0.27	8300	560	**DKM58C...HS**	54
500	5.8	250	240.89	0.33	8300	560	**DKB58C...HS**	54
480	7.0	200	200.66	0.38	8300	560		
500	9.3	150	151.20	0.53	8050	560		
480	11.1	125	125.95	0.61	7580	560		
380	14.1	100	99.22	0.61	7000	560		
300	18.6	75	75.45	0.63	6390	560		
480	22	60	62.43	1.2	6000	560		
380	28	50	49.18	1.2	5540	560		
500	24	60	59.04	1.3	5890	1260	**DKM58B...HS**	54
500	29	50	48.18	1.6	5500	1260	**DKB58B...HS**	54
480	35	40	40.13	1.9	5170	1260		
500	46	30	30.24	2.6	4710	1260		
480	56	25	25.19	3.0	4430	1260		
380	71	20	19.84	3.0	4090	1260		
300	93	15	15.09	3.1	3730	1260		
480	112	12.5	12.49	6.0	3510	1260		
380	142	10	9.84	6.0	3240	1260		
300	187	7.5	7.48	6.3	2950	1260		
750	4.7	300	296.10	0.40	10000	740	**DKM68C...HS**	54
750	5.7	250	244.29	0.49	10000	740	**DKB68C...HS**	54
750	6.8	200	206.29	0.58	9920	740		
750	9.1	150	153.33	0.78	8980	740		
750	10.8	125	129.48	0.92	8490	740		
650	13.5	100	103.64	1.0	7880	740		
520	18.5	75	75.55	1.1	7090	740		
750	22	60	64.18	1.9	6720	740		
650	27	50	51.37	2.0	6240	740		
750	24	60	59.22	2.0	6540	1490	**DKM68B...HS**	54
750	29	50	48.86	2.4	6130	1490	**DKB68B...HS**	54
750	34	40	41.26	2.8	5800	1490		
750	46	30	30.67	3.8	5250	1490		
750	54	25	25.90	4.5	4960	1490		
650	68	20	20.73	4.9	4610	1490		
520	93	15	15.11	5.4	4150	1490		
750	109	12.5	12.84	9.1	3930	1490		
650	136	10	10.27	9.9	3650	1490		
520	187	7.5	7.49	10.8	3280	1490		

7. DIMENSIONI / OUTLINE DIMENSION SHEET

7.1 DKM... Dimensioni / Outline Dimension

DKM28B..

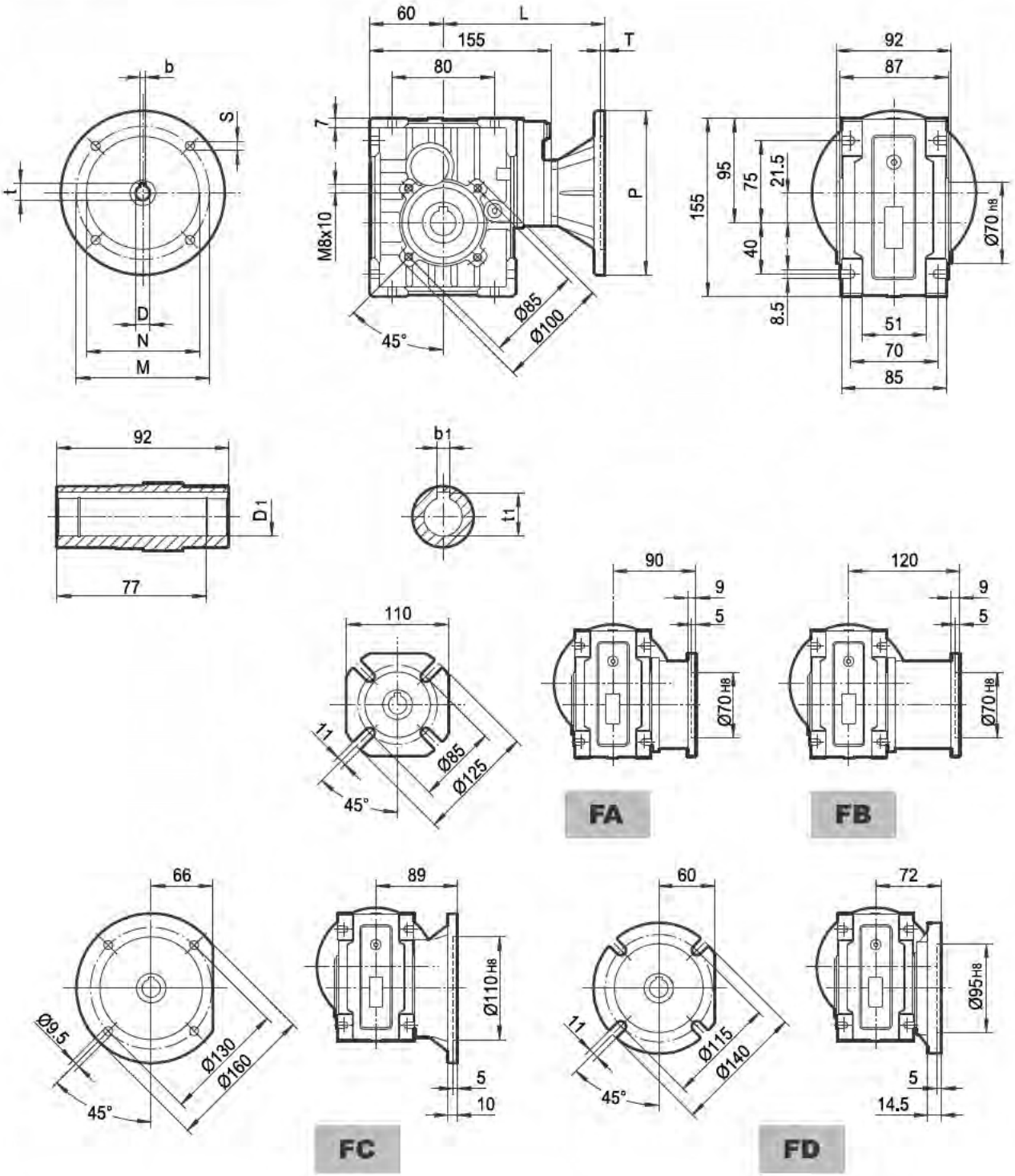


IEC	DE8	b	t	P	M	N	S	T	L	D1 H8	b1	t1
63B5	11	4	12.8	140	115	95	9	4	106	20 *	6 *	22.8 *
71B5	14	5	16.3	160	130	110	9	4	113	24 *	8 *	27.3 *
71B14	14	5	16.3	105	85	70	7	4	113	25	8	28.3
80B5	19	6	21.8	200	165	130	11	4	133			
80B14	19	6	21.8	120	100	80	7	4	133			
90B5	24	8	27.3	200	165	130	11	4	133			
90B14	24	8	27.3	140	115	95	9	4	133			

* *Solo Su richiesta*
* Only on request

Peso senza motore
≈ 4.2kg
Weight without motor
≈ 4.2 kg

DKM28C..



IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	140	20*	6*	22.8*
71B5	14	5	16.3	160	130	110	9	4	147	24*	8*	27.3*
71B14	14	5	16.3	105	85	70	7	4	147	25	8	28.3
										* *Solo su richiesta*		
										* Only on request		

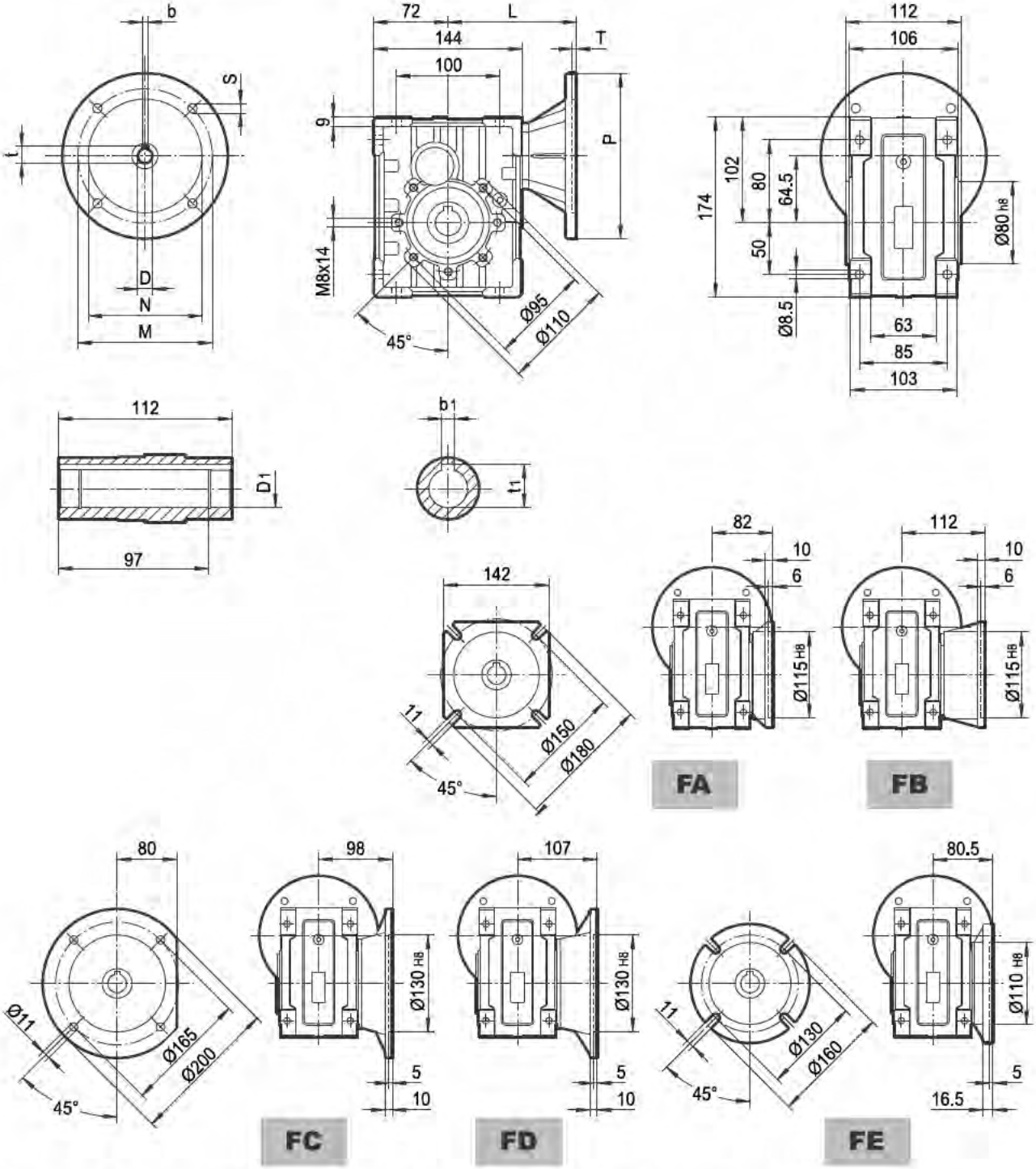
Peso senza motore

≈ 5 kg

Weight without motor

≈ 5 kg

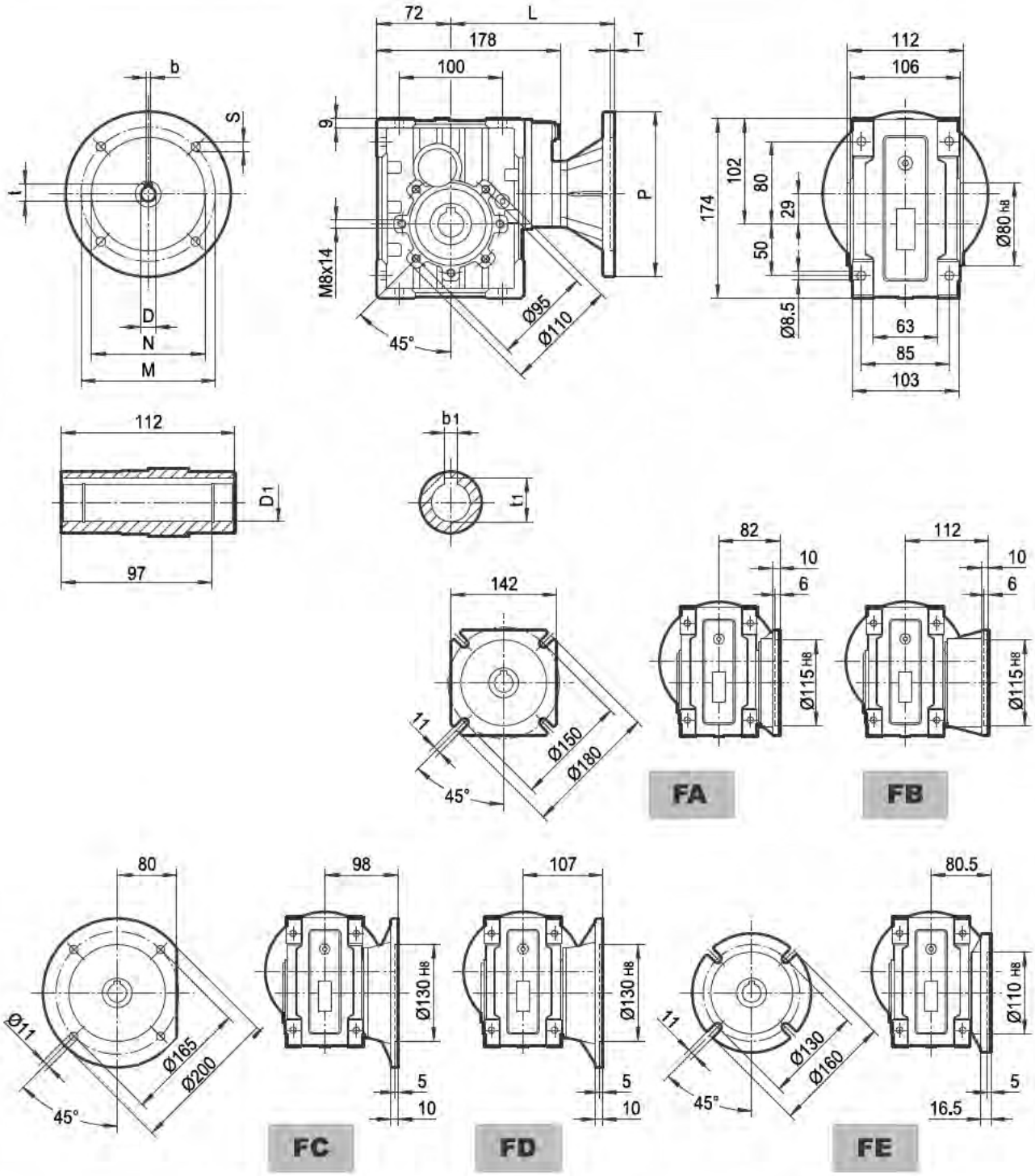
DKM38B..



IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	117	25	8	28.3
71B5	14	5	16.3	160	130	110	9	4	124	28*	8	31.3
71B14	14	5	16.3	105	85	70	7	4	124	30*	8	33.3
80B5	19	6	21.8	200	165	130	11	4	144			
80B14	19	6	21.8	120	100	80	7	4	144			
90B5	24	8	27.3	200	165	130	11	4	144			
90B14	24	8	27.3	140	115	95	9	4	144			

* *Solo su richiesta*
* Only on request

Peso senza motore
≈ 6.0 kg
Weight without motor
≈ 6.0 kg



IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	151	25	8	28.3
71B5	14	5	16.3	160	130	110	9	4	158	28*	8	31.3
71B14	14	5	16.3	105	85	70	7	4	158	30*	8	33.3
80B5	19	6	21.8	200	165	130	11	4	178	* *Solo su richiesta*		
80B14	19	6	21.8	120	100	80	7	4	178	* Only on request		

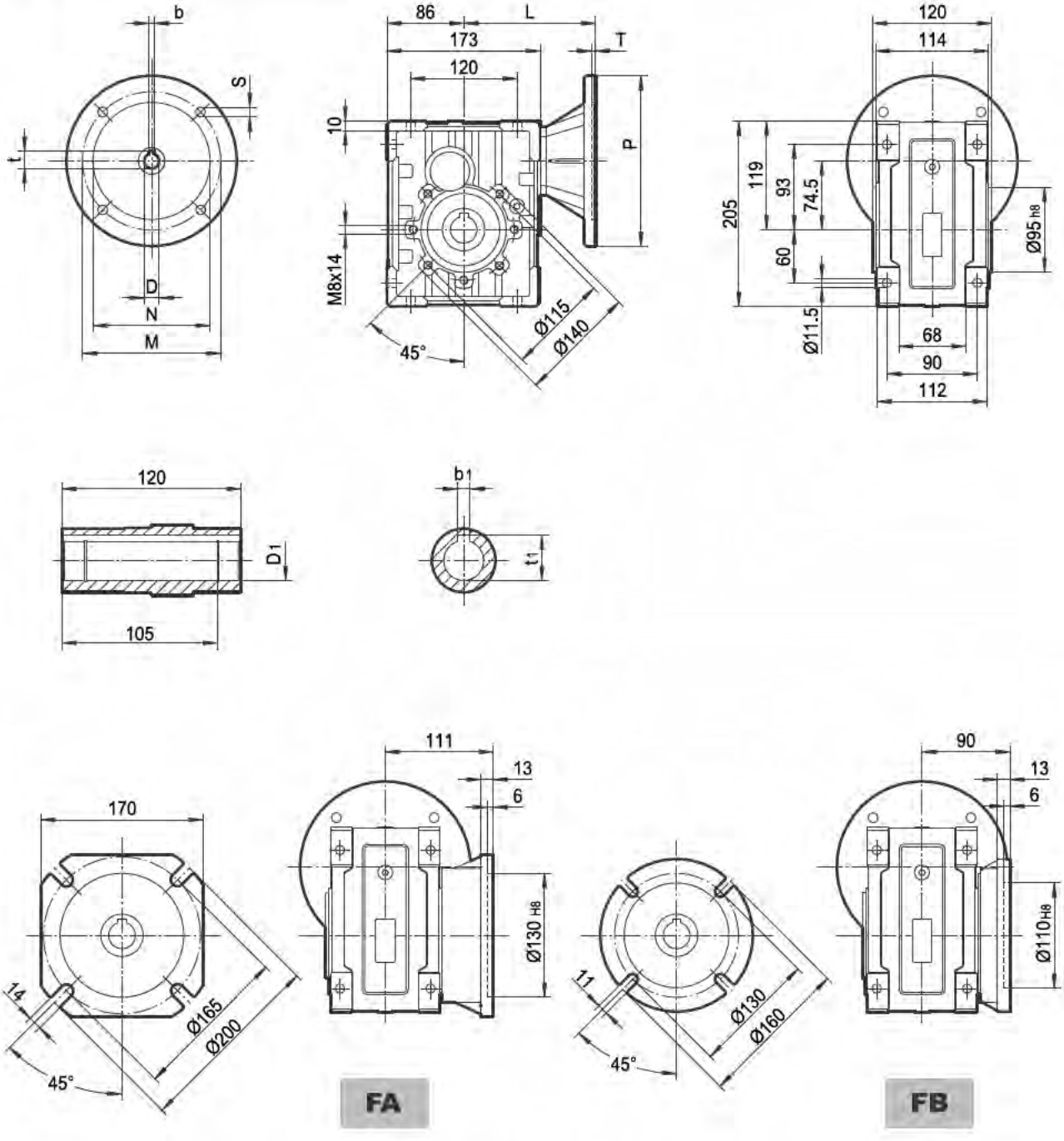
Peso senza motore

≈ 6.8 kg

Weight without motor

≈ 6.8 kg

DKM48B..

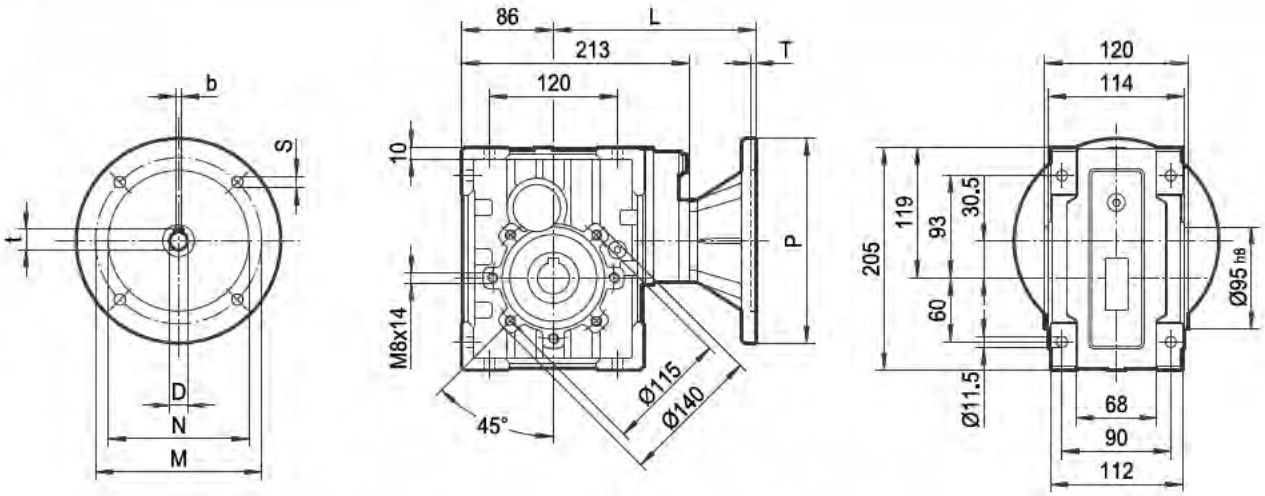


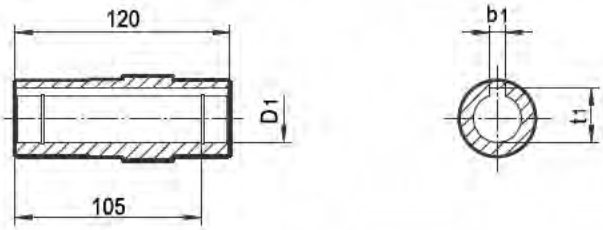
IEC	D E8	b	t	P	M	N	S	T	L	D1 H8	b1	t1
71B5	14	5	16.3	160	130	110	9	4	146	28	8	31.3
80B5	19	6	21.8	200	165	130	11	4	166	30*	8*	33.3*
80B14	19	6	21.8	120	100	80	7	4	166	35*	10*	38.3*
90B5	24	8	27.3	200	165	130	11	4	166			
90B14	24	8	27.3	140	115	95	9	4	166			
100/112B5	28	8	31.3	250	215	180	13.5	4.5	176			
100/112B14	28	8	31.3	160	130	110	9	4.5	176			

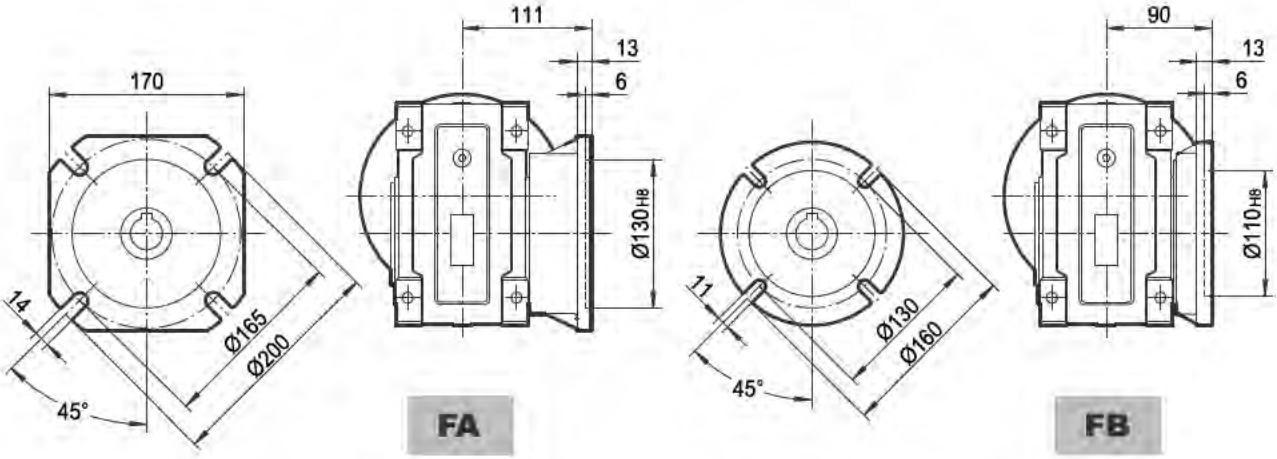
* *Solo Su richiesta*
* Only on request

Peso senza motore
≈ 9.2 kg
Weight without motor
≈ 9.2 kg

DKM48C..



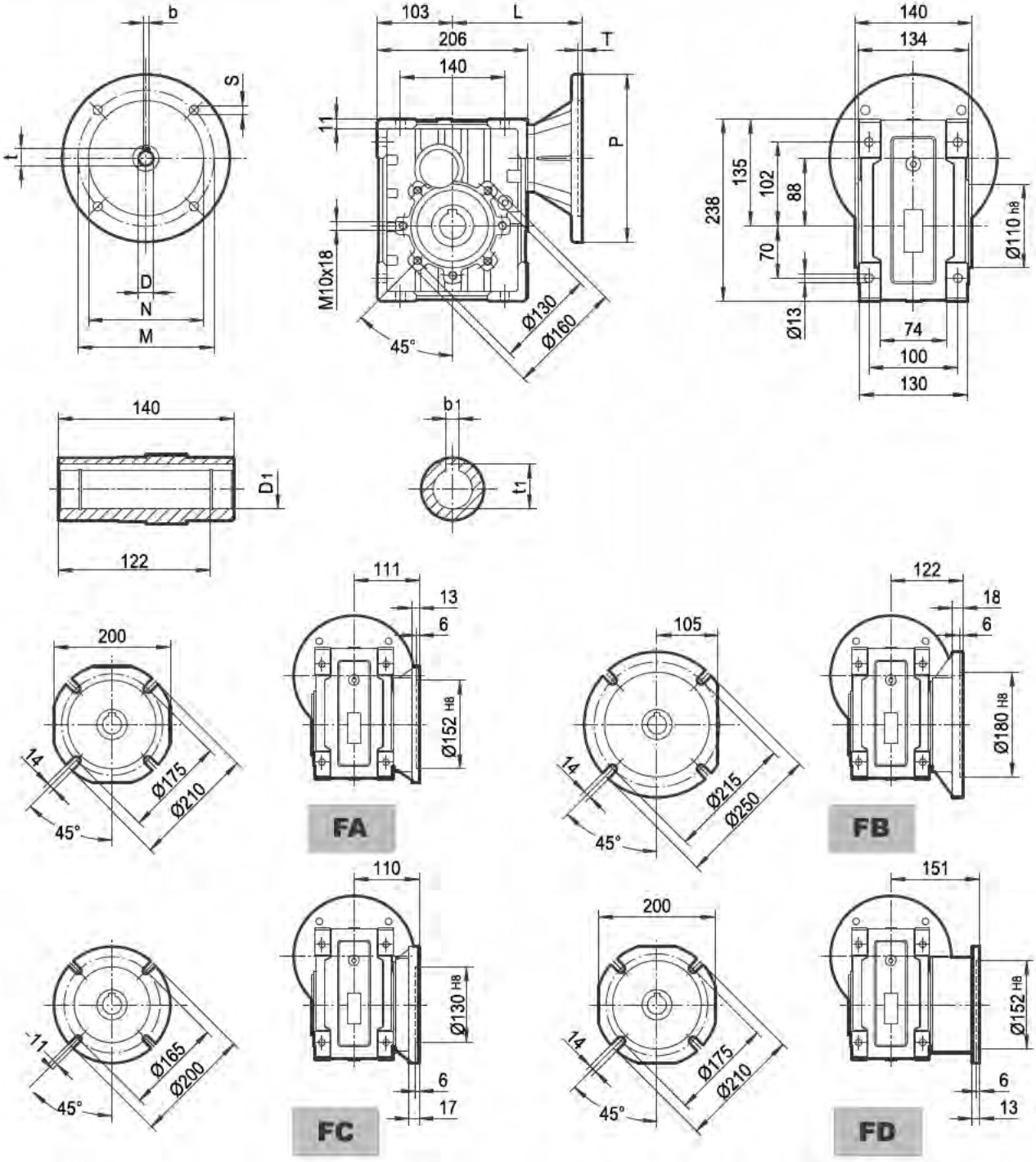




IEC	D E8	b	t	P	M	N	S	T	L	D1 H8	b1	t1
63B5	11	4	12.8	140	115	95	9	4	179	28	8	31.3
71B5	14	5	16.3	160	130	110	9	4	186	30*	8*	33.3*
80B5	19	6	21.8	200	165	130	11	4	206	35*	10*	38.3*
80B14	19	6	21.8	120	100	80	7	4	206	* *Solo su richiesta*		
90B5	24	8	27.3	200	165	130	11	4	206	* Only on request		
90B14	24	8	27.3	140	115	95	9	4	206			

Peso senza motore
≈ 10.8 kg
Weight without motor
≈ 10.8 kg

DKM58B..

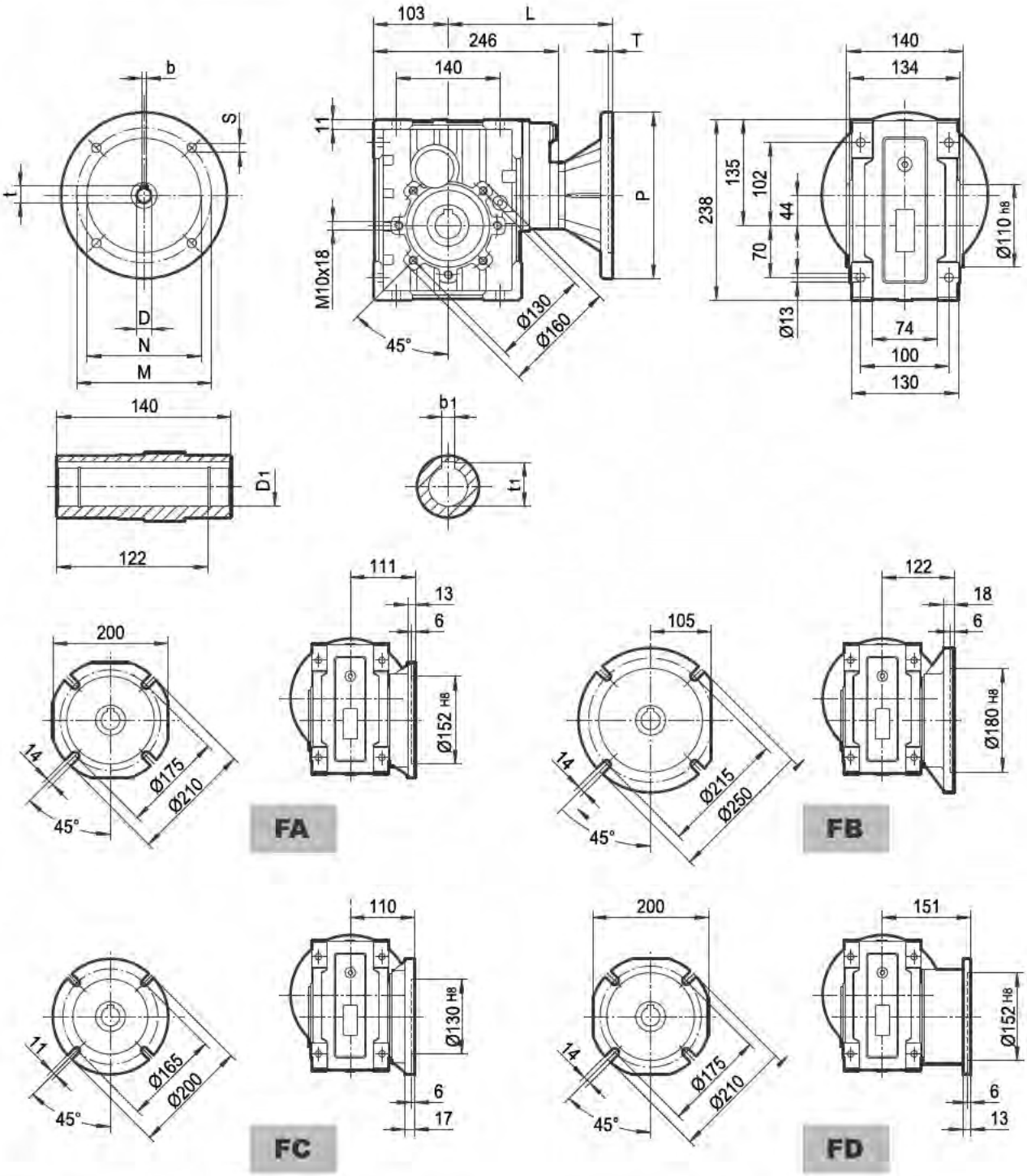


IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
71B5	14	5	16.3	160	130	110	9	4	162	35	10	38.3
80B5	19	6	21.8	200	165	130	11	4	182	38*	10*	41.3*
80B14	19	6	21.8	120	100	80	7	4	182	40*	10*	43.3*
90B5	24	8	27.3	200	165	130	11	4	182			
90B14	24	8	27.3	140	115	95	9	4	182			
100/112B5	28	8	31.3	250	215	180	13.5	4.5	192			
100/112B14	28	8	31.3	160	130	110	9	4.5	192			

* Solo su richiesta
* Only on request

Peso senza motore
≈ 13.3 kg
Weight without motor
≈ 13.3 kg

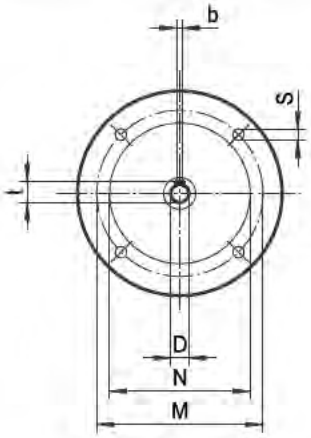
DKM58C..

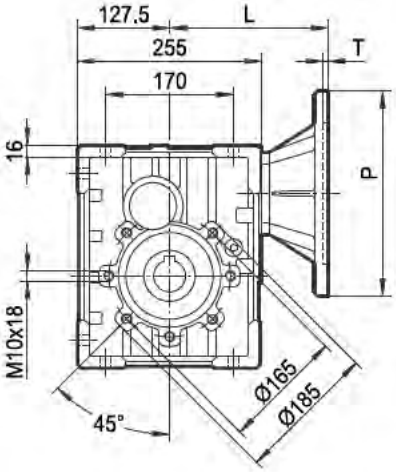


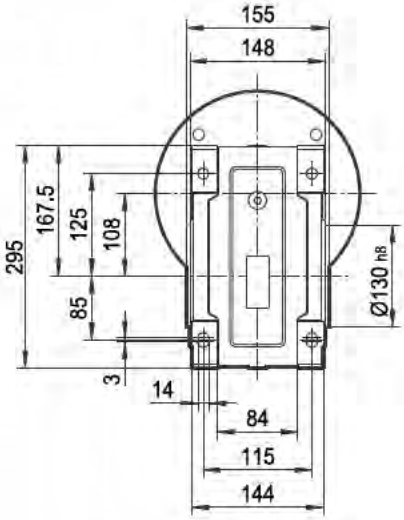
IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	195	35	10	38.3
71B5	14	5	16.3	160	130	110	9	4	202	38*	10*	41.3*
80B5	19	6	21.8	200	165	130	11	4	222	40*	10*	43.3*
80B14	19	6	21.8	120	100	80	7	4	222	* *Solo su richiesta*		
90B5	24	8	27.3	200	165	130	11	4	222	* Only on request		
90B14	24	8	27.3	140	115	95	9	4	222			

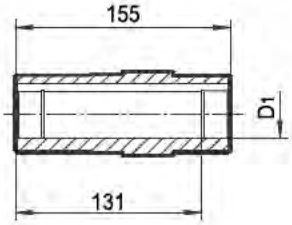
Peso senza motore
≈ 14.8 kg
Weight without motor
≈ 14.8 kg

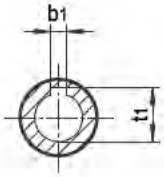
DKM68B..

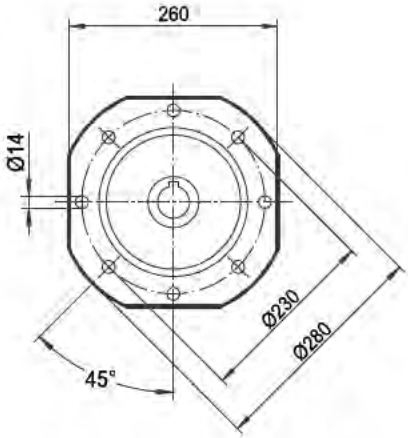


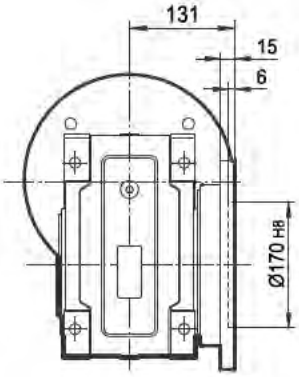




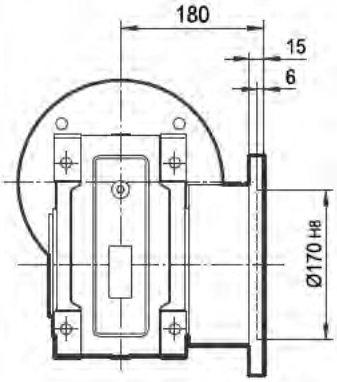








FA

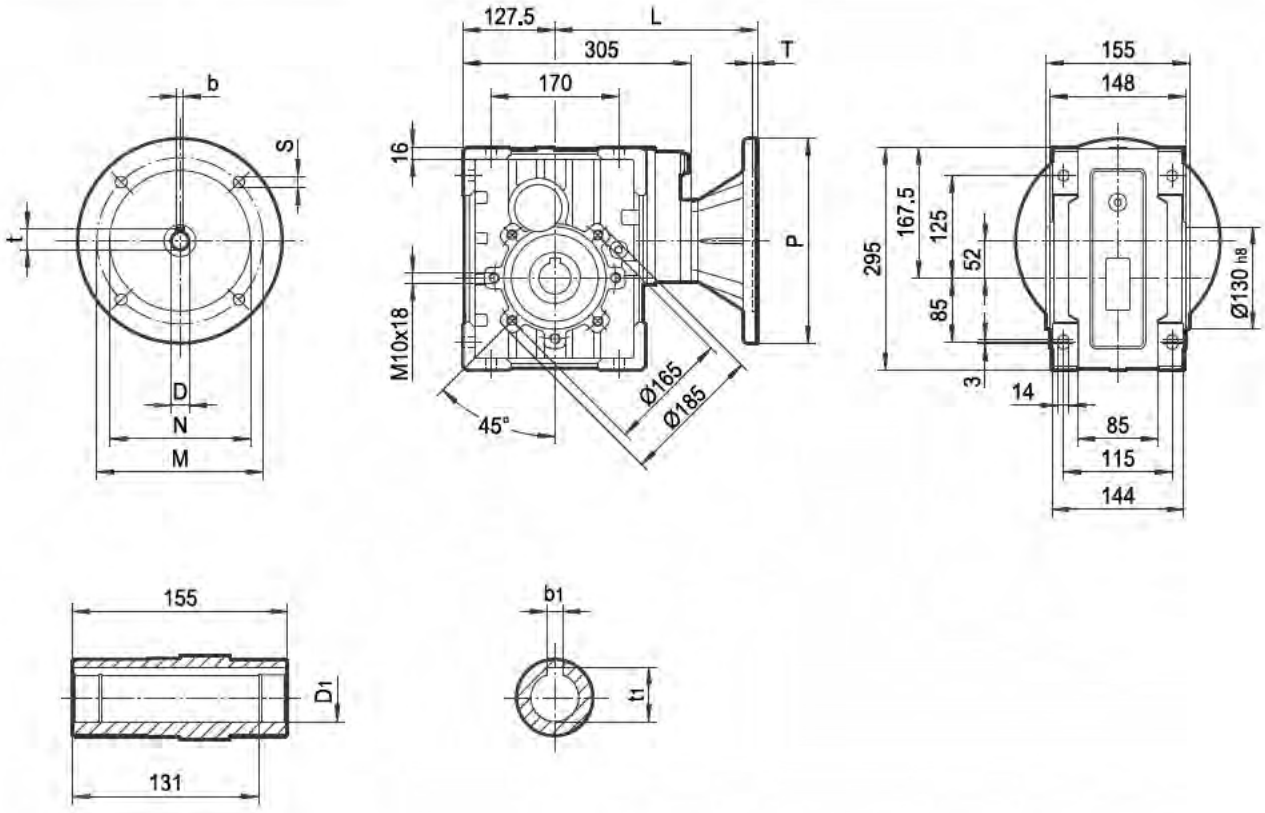


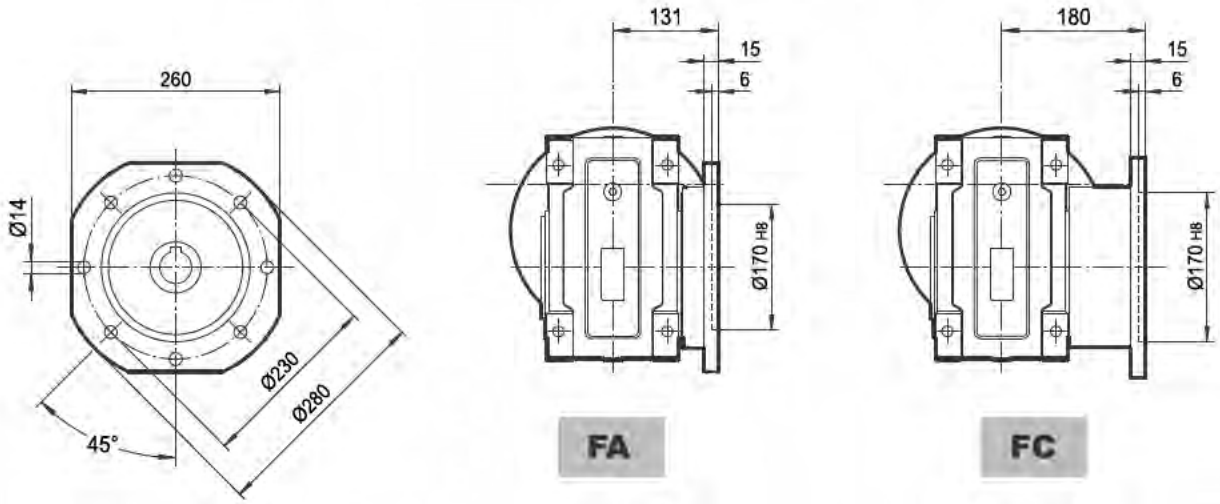
FC

IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
71B5	14	5	16.3	160	130	110	9	4	191.5	40*	12	43.3
80B5	19	6	21.8	200	165	130	11	4	211.5	42	12	45.3
90B5	24	8	27.3	200	165	130	11	4	211.5	45*	14	48.8
100/112B5	28	8	31.3	250	215	180	13.5	4.5	221.5	* Solo su richiesta * Only on request		
100/112B14	28	8	31.3	160	130	110	9	4.5	221.5			
132B5	38	10	41.3	300	265	230	14	4.5	241.5			

Peso senza motore
≈ 21.5 kg
Weight without motor
≈ 21.5 kg

DKM68C..



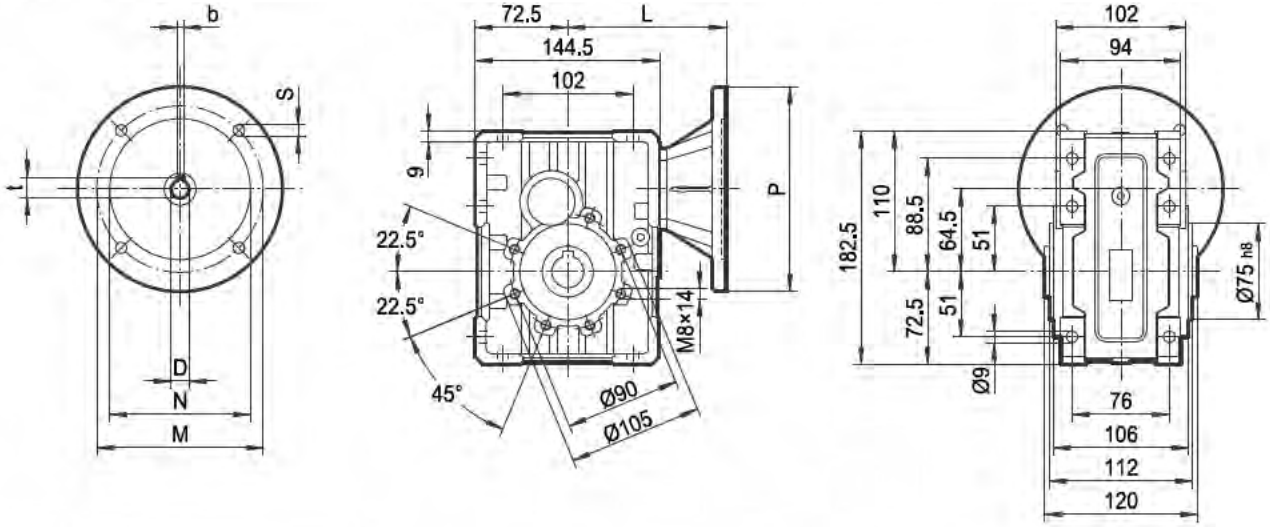


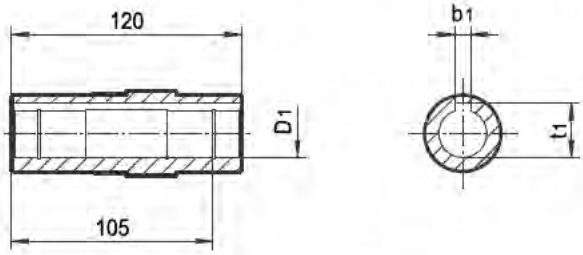
IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
71B5	14	5	16.3	160	130	110	9	4	241.5	40*	12	43.3
80B5	19	6	21.8	200	165	130	11	4	261.5	42	12	45.3
90B5	24	8	27.3	200	165	130	11	4	261.5	45*	14	48.8
100/112B5	28	8	31.3	250	215	180	13.5	4.5	271.5	* *Solo su richiesta*		
100/112B14	28	8	31.3	160	130	110	9	4.5	271.5	* Only on request		

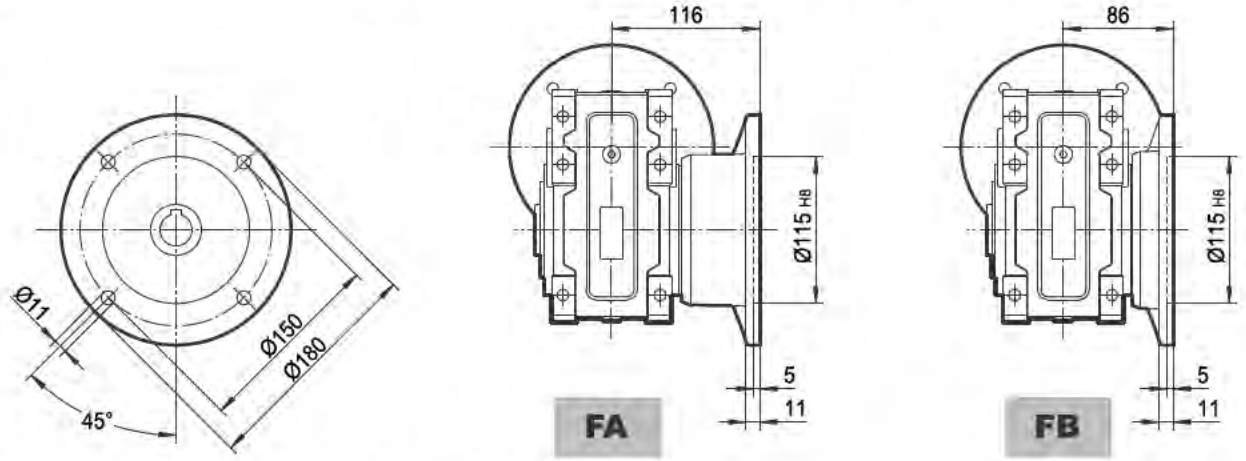
Peso senza motore
≈ 23.5 kg
Weight without motor
≈ 23.5 kg

7.2 DKB... Dimensioni / *Outline Dimension*

DKB38B..





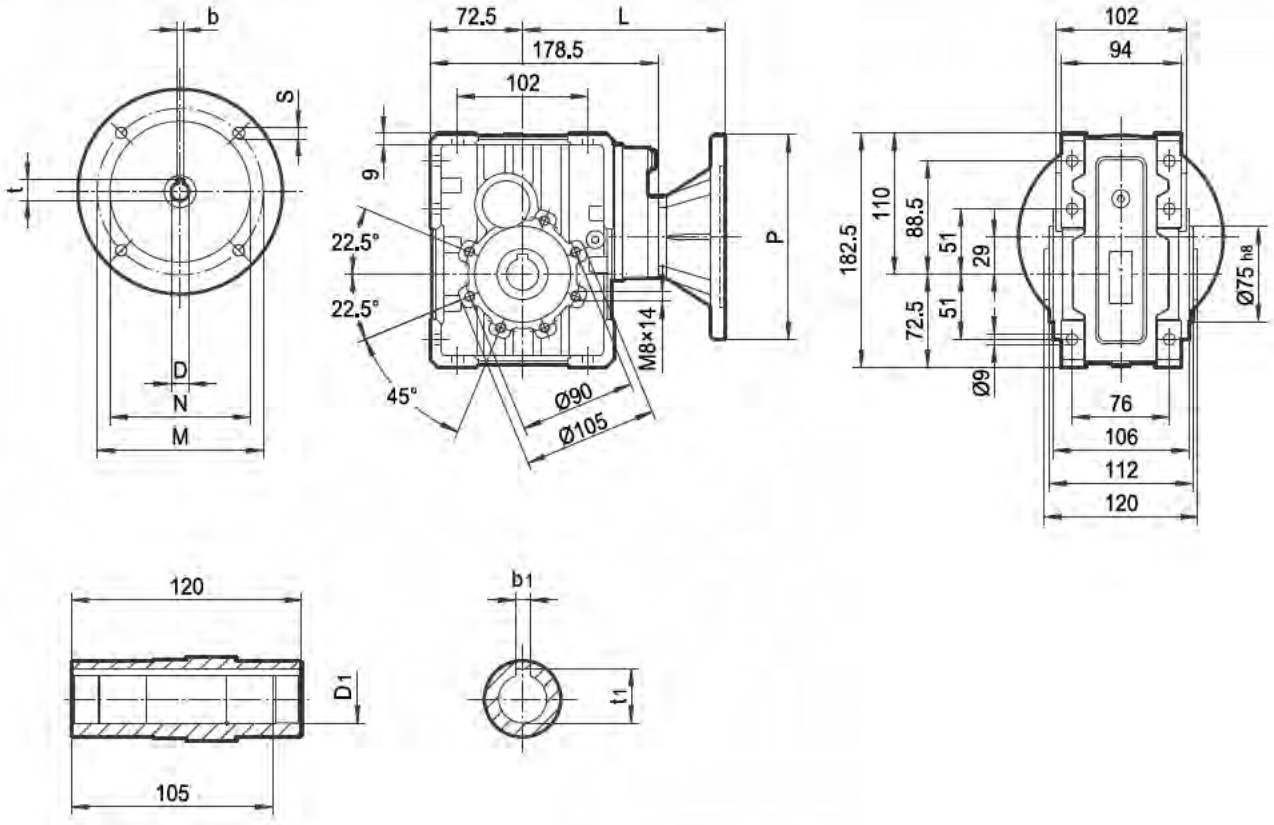


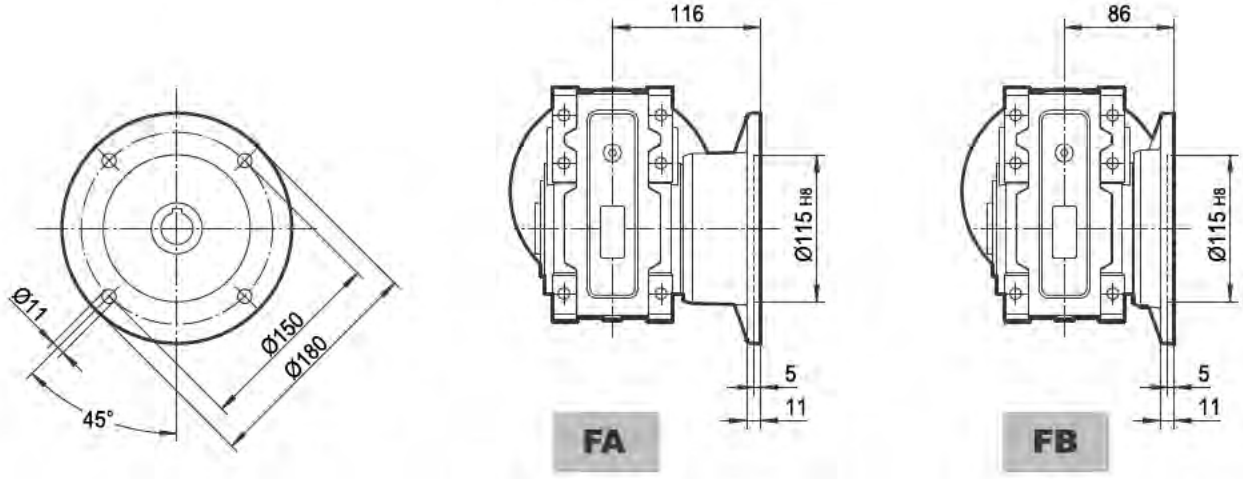
IEC	D_{E8}	b	t	P	M	N	S	T	L	$D_{1\ H8}$	b_1	t_1
63B5	11	4	12.8	140	115	95	9	4	117	25	8	28.3
71B5	14	5	16.3	160	130	110	9	4	124	28*	8	31.3
71B14	14	5	16.3	105	85	70	7	4	124	30*	8	33.3
80B5	19	6	21.8	200	165	130	11	4	144			
80B14	19	6	21.8	120	100	80	7	4	144			
90B5	24	8	27.3	200	165	130	11	4	144			
90B14	24	8	27.3	140	115	95	9	4	144			

* Solo su richiesta
* Only on request

Peso senza motore
≈ 6.0 kg
Weight without motor
≈ 6.0 kg

DKB38C..

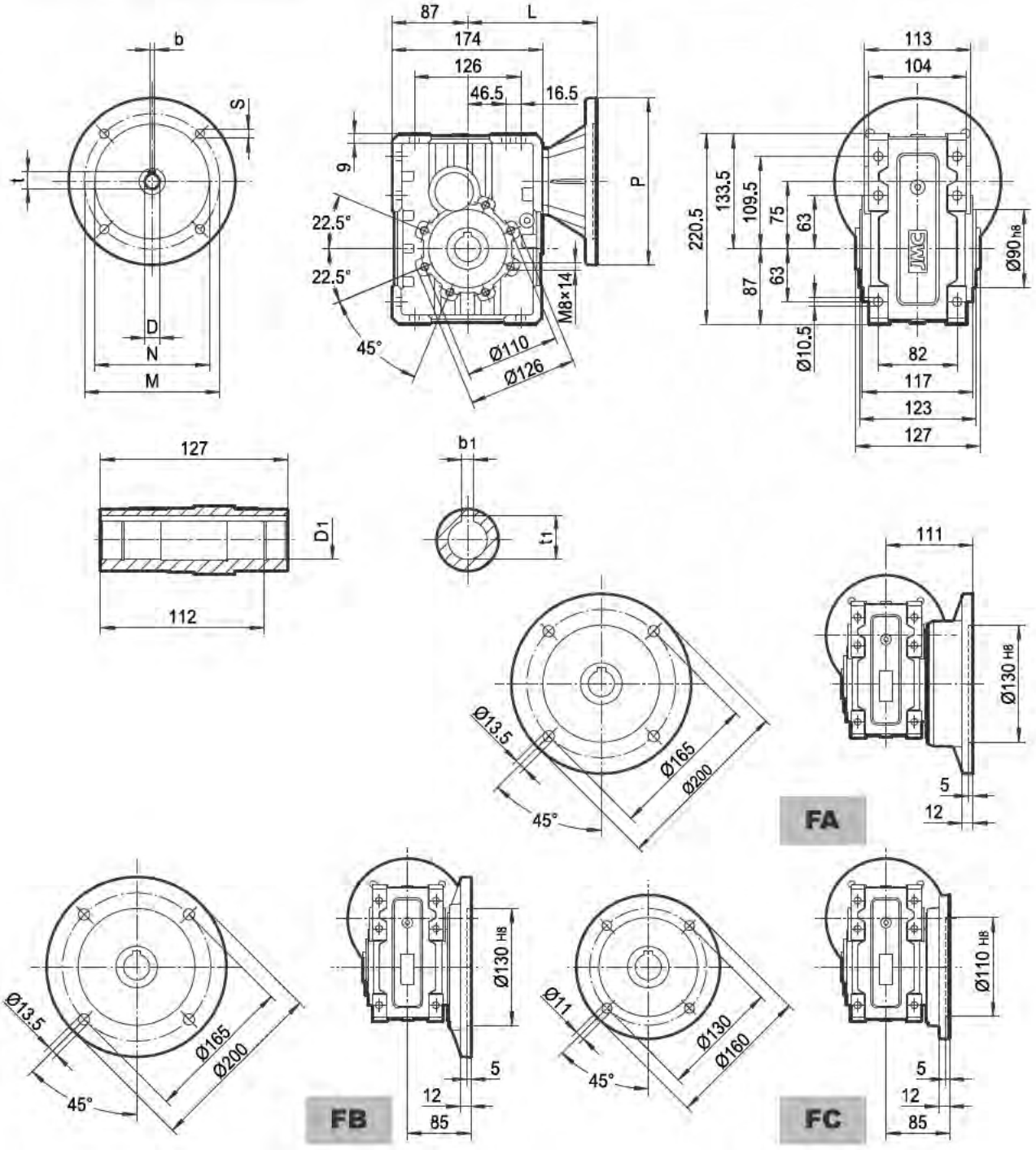




IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	151	25	8	28.3
71B5	14	5	16.3	160	130	110	9	4	158	28*	8	31.3
71B14	14	5	16.3	105	85	70	7	4	158	30*	8	33.3
80B5	19	6	21.8	200	165	130	11	4	178	* Solo su richiesta		
80B14	19	6	21.8	120	100	80	7	4	178	* Only on request		

Peso senza motore
≈ 6.8 kg
Weight without motor
≈ 6.8 kg

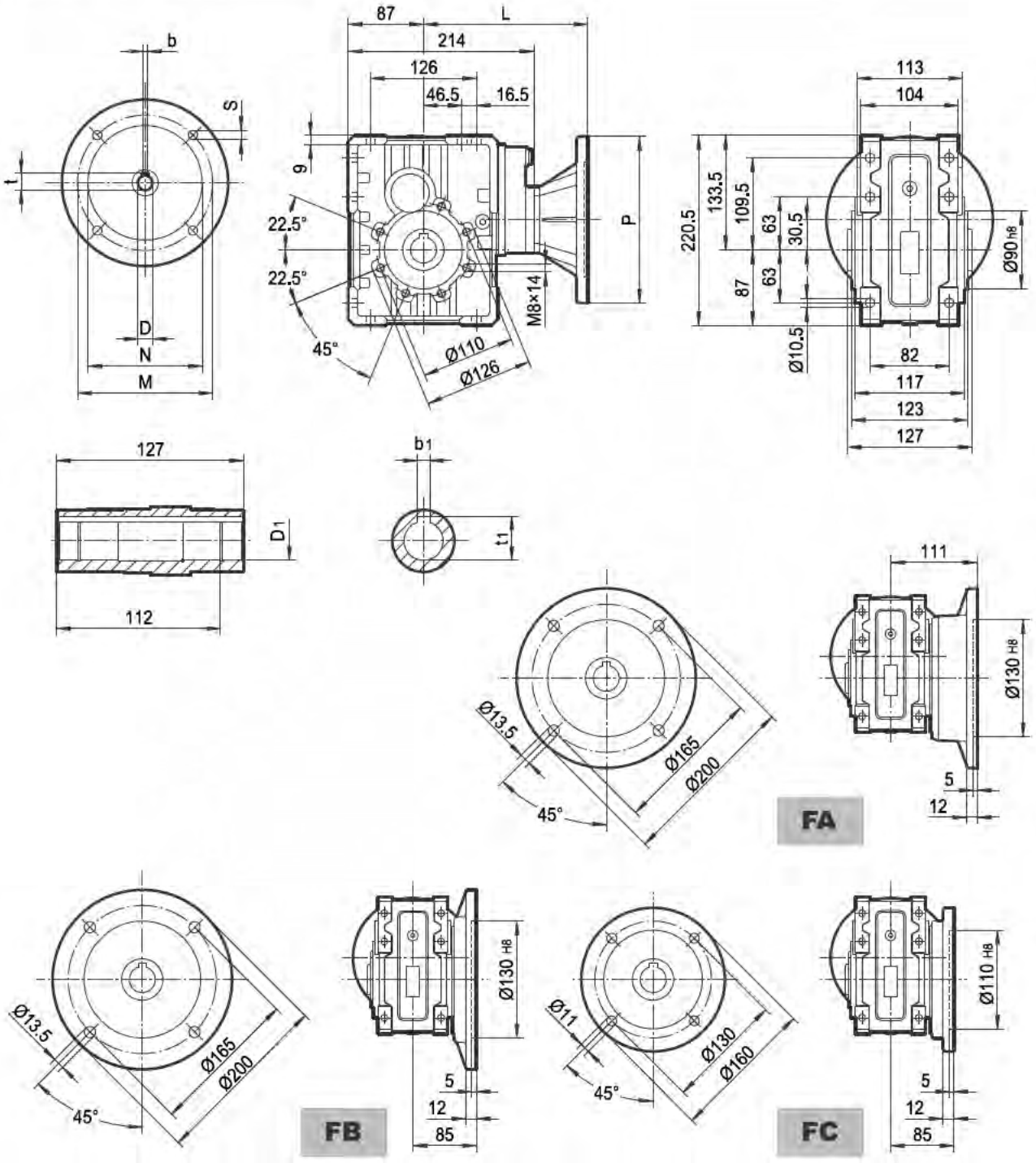
DKB48B..



IEC	D_{E8}	b	t	P	M	N	S	T	L	$D_{1\ H8}$	b_1	t_1
71B5	14	5	16.3	160	130	110	9	4	146	28*	8*	31.3*
80B5	19	6	21.8	200	165	130	11	4	166	30	8	33.3
80B14	19	6	21.8	120	100	80	7	4	166	35*	10*	38.3*
90B5	24	8	27.3	200	165	130	11	4	166	* Solo su richiesta		
90B14	24	8	27.3	140	115	95	9	4	166	* Only on request		
100/112B5	28	8	31.3	250	215	180	13.5	4.5	176			
100/112B14	28	8	31.3	160	130	110	9	4.5	176			

Peso senza motore
≈ 9.5 kg
Weight without motor
≈ 9.5 kg

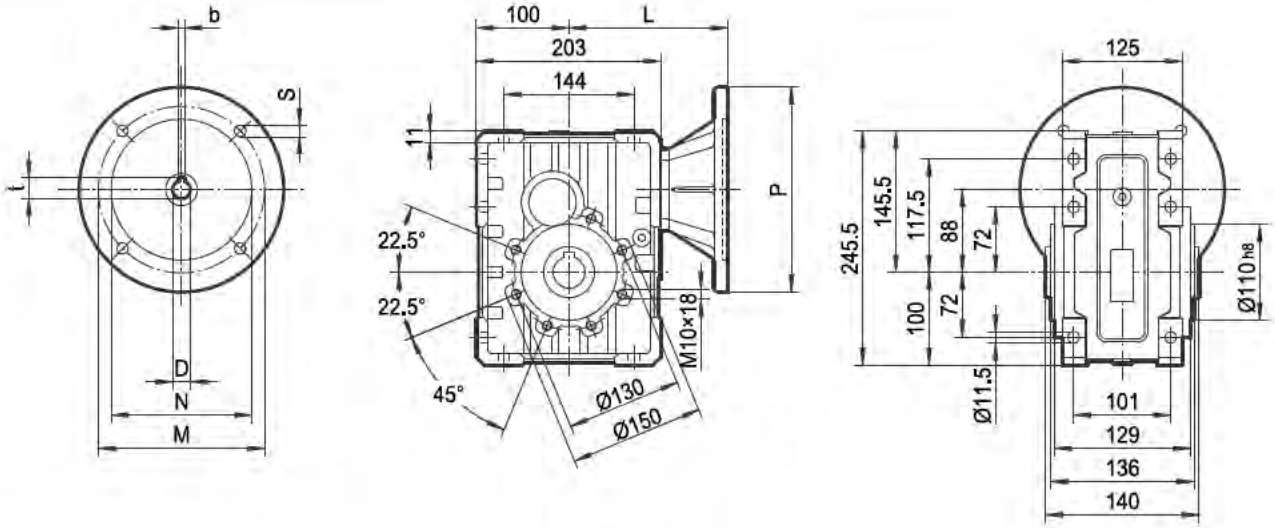
DKB48C..

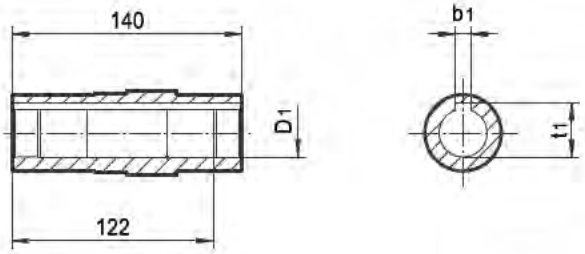


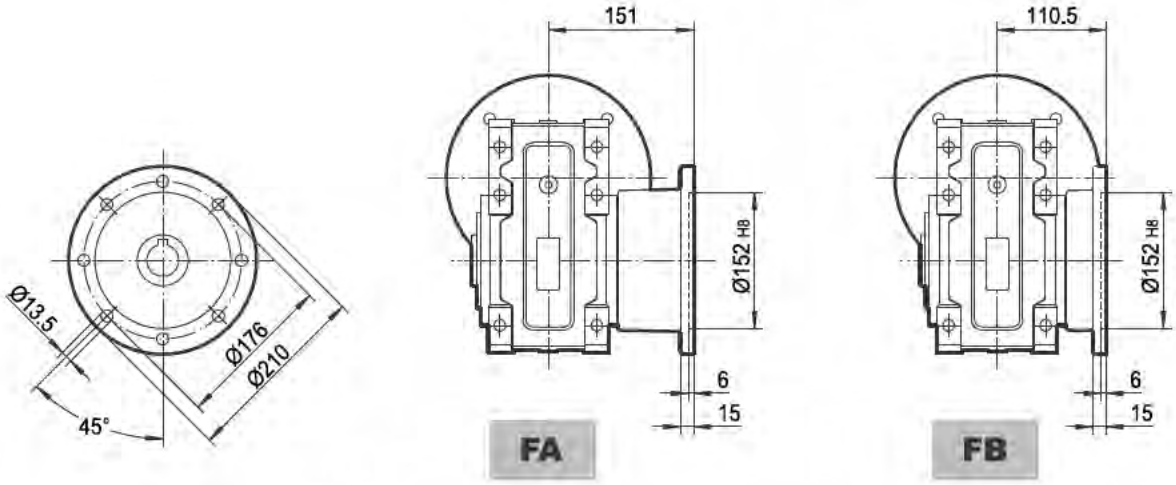
IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	179	28*	8*	31.3*
71B5	14	5	16.3	160	130	110	9	4	186	30	8	33.3
80B5	19	6	21.8	200	165	130	11	4	206	35*	10*	38.3*
80B14	19	6	21.8	120	100	80	7	4	206	* Solo su richiesta		
90B5	24	8	27.3	200	165	130	11	4	206	* Only on request		
90B14	24	8	27.3	140	115	95	9	4	206			

Peso senza motore
≈ 10.8 kg
Weight without motor
≈ 10.8 kg

DKB58C..



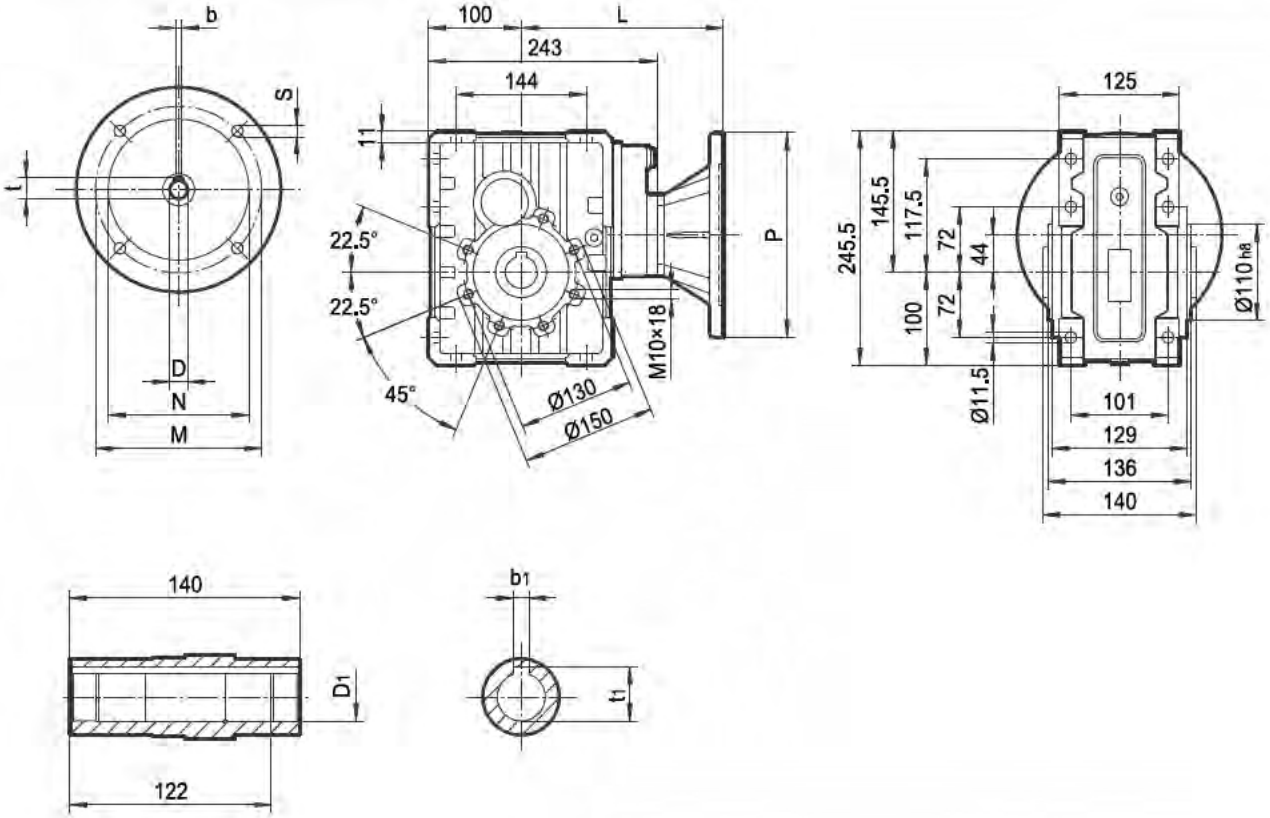


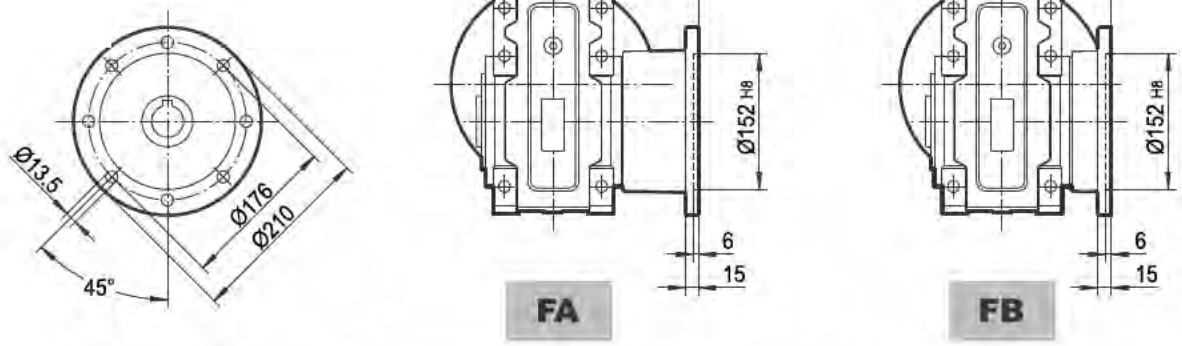


IEC	D_{E8}	b	t	P	M	N	S	T	L	$D_{1\ H8}$	b_1	t_1
71B5	14	5	16.3	160	130	110	9	4	162	35	10	38.3
80B5	19	6	21.8	200	165	130	11	4	182	38*	10*	41.3*
80B14	19	6	21.8	120	100	80	7	4	182	40*	10*	43.3*
90B5	24	8	27.3	200	165	130	11	4	182	* Solo su richiesta		
90B14	24	8	27.3	140	115	95	9	4	182	* Only on request		
100/112B5	28	8	31.3	250	215	180	13.5	4.5	192			
100/112B14	28	8	31.3	160	130	110	9	4.5	192			

Peso senza motore
≈ 13.5 kg
Weight without motor
≈ 13.5 kg

DKB58C..

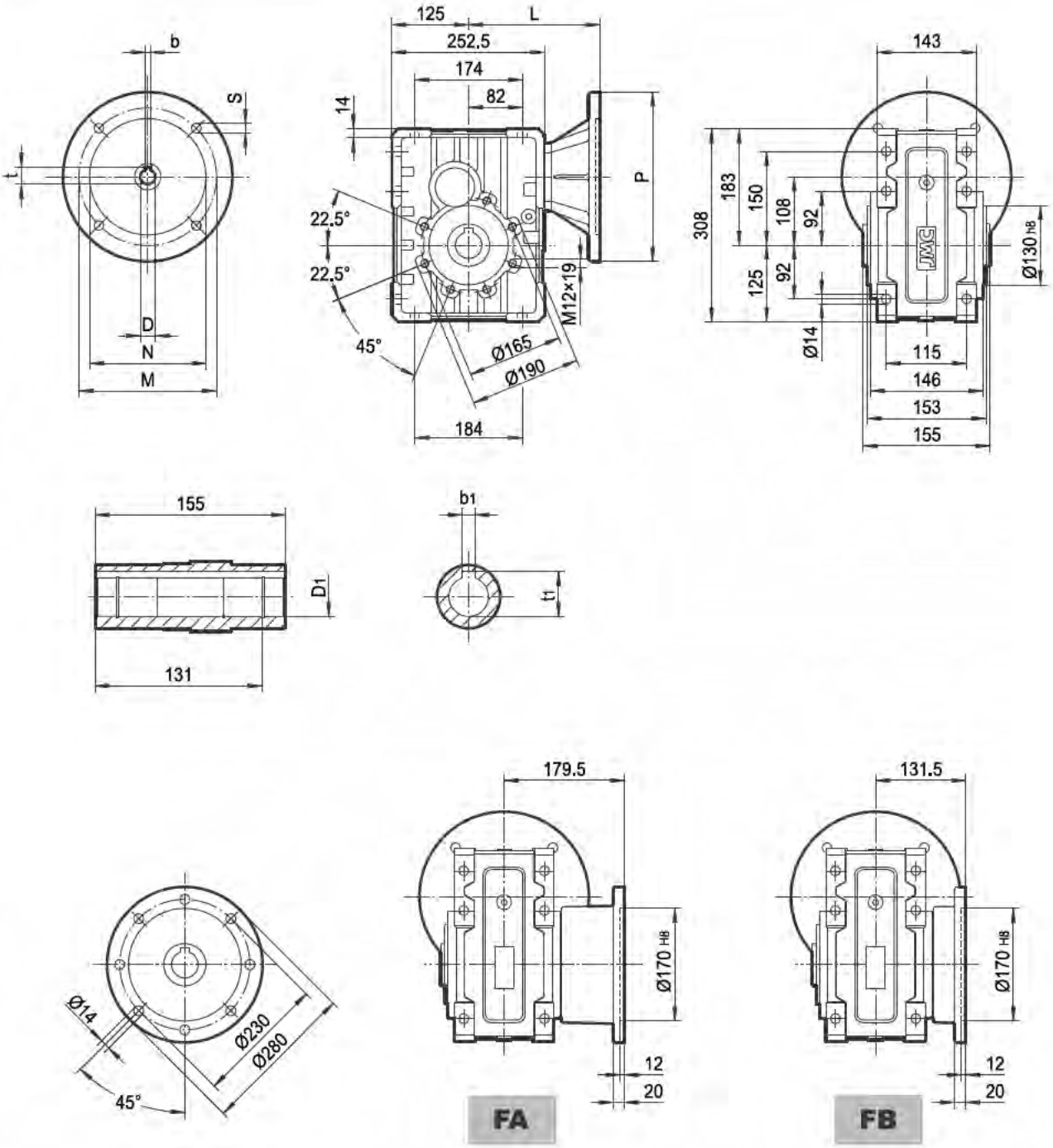




IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
63B5	11	4	12.8	140	115	95	9	4	195	35	10	38.3
71B5	14	5	16.3	160	130	110	9	4	202	38*	10*	41.3*
80B5	19	6	21.8	200	165	130	11	4	222	40*	10*	43.3*
80B14	19	6	21.8	120	100	80	7	4	222	* Solo su richiesta * Only on request		
90B5	24	8	27.3	200	165	130	11	4	222			
90B14	24	8	27.3	140	115	95	9	4	222			

Peso senza motore
≈ 14.8 kg
Weight without motor
≈ 14.8 kg

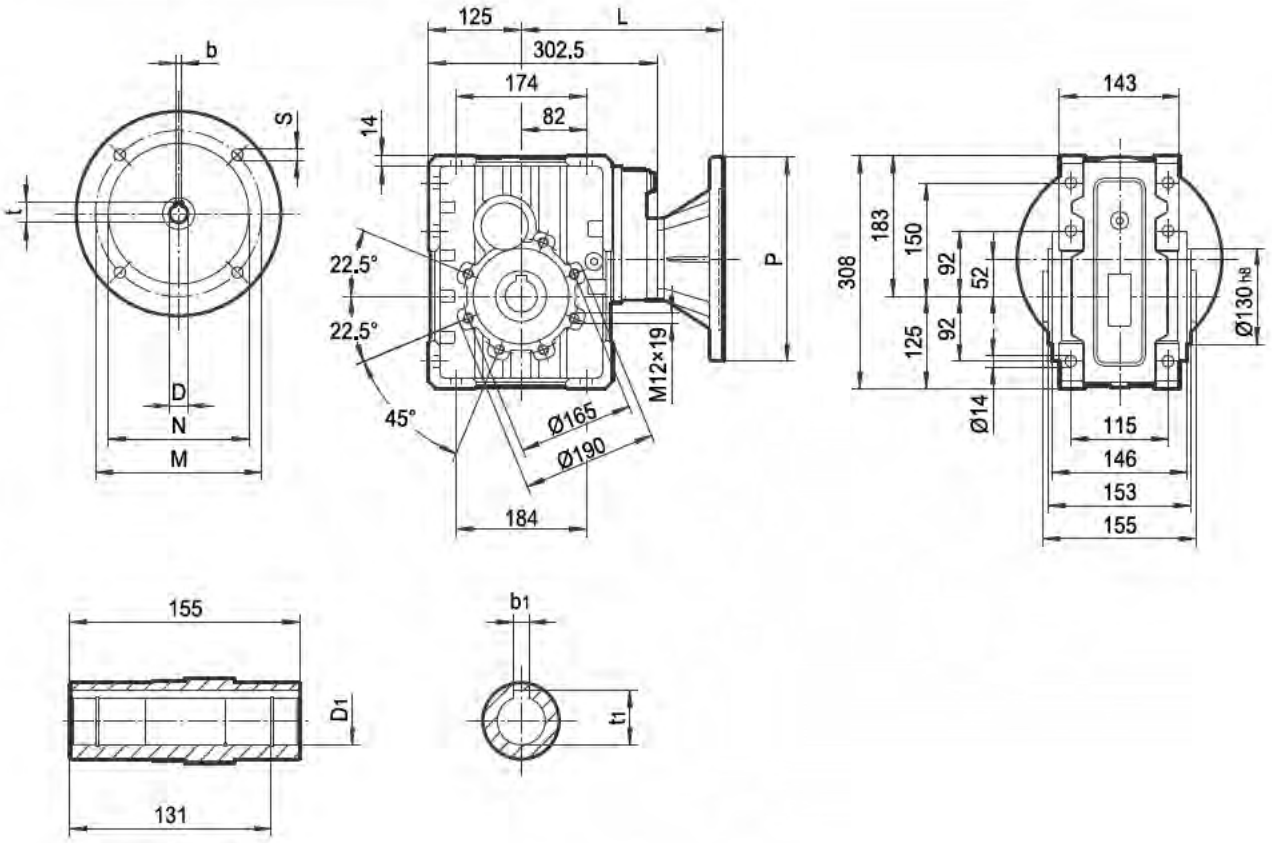
DKB68B..

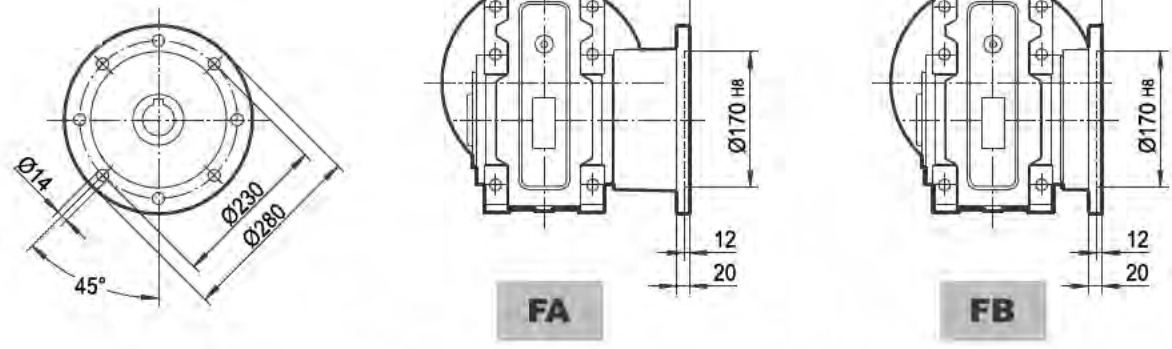


IEC	D E8	b	t	P	M	N	S	T	L	D1 H8	b1	t1
80B5	19	6	21.8	200	165	130	11	4	211.5	40*	12	43.3
90B5	24	8	27.3	200	165	130	11	4	211.5	42	12	45.3
100/112B5	28	8	31.3	250	215	180	13.5	4.5	221.5	45*	14	48.8
100/112B14	28	8	31.3	160	130	110	9	4.5	221.5	* Solo su richiesta * Only on request		
132B5	38	10	41.3	300	265	230	14	4.5	241.5			

Peso senza motore
≈ 21.5 kg
Weight without motor
≈ 21.5 kg

DKB68C..



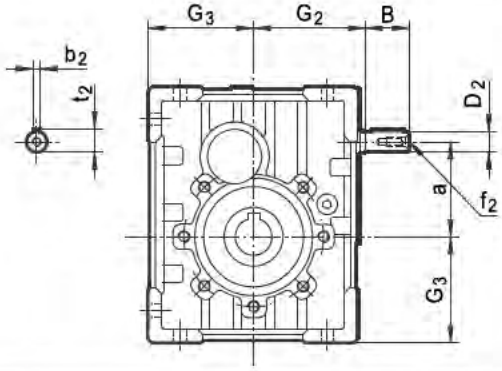


IEC	D_{E8}	b	t	P	M	N	S	T	L	$D1_{H8}$	b1	t1
71B5	14	5	16.3	160	130	110	9	4	241.5	40*	12	43.3
80B5	19	6	21.8	200	165	130	11	4	261.5	42	12	45.3
90B5	24	8	27.3	200	165	130	11	4	261.5	45*	14	48.8
100/112B5	28	8	31.3	250	215	180	13.5	4.5	271.5	* Solo su richiesta * Only on request		
100/112B14	28	8	31.3	160	130	110	9	4.5	271.5			

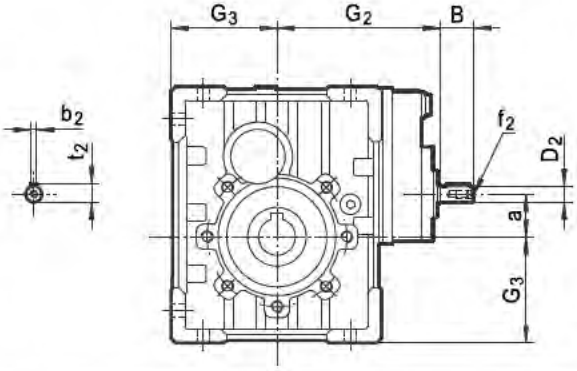
Peso senza motore
≈ 23.5 kg
Weight without motor
≈ 23.5 kg

7.3 DKM..HS Dimensioni / *Outline Dimension*

DKM..B..HS



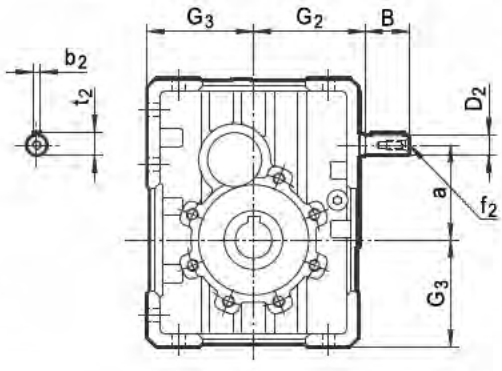
DKM..C..HS



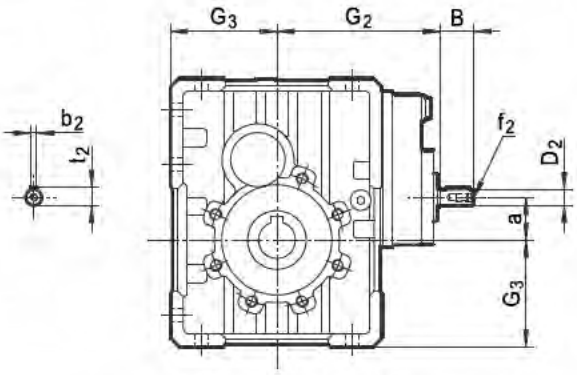
	B	$D_{2\,j6}$	G_2	G_3	a	b_2	f_2	t_2
DKM28B	23	11	65	60	57	4	-	12.5
DKM28C	23	11	100	60	21.5	4	-	12.5
DKM38B	30	14	76	72	64.5	5	M6	16
DKM38C	23	11	111	72	29	4	-	12.5
DKM48B	40	16	91	86	74.5	5	M6	18
DKM48C	30	14	132	86	30.5	5	M6	16
DKM58B	40	19	107	103	88	6	M6	21.5
DKM58C	30	14	148	103	44	5	M6	16
DKM68B	50	24	132	127.5	108	8	M8	27
DKM68C	40	19	181	127.5	52	6	M6	21.5

7.4 DKB..HS Dimensioni / *Outline Dimension*

DKB..B..HS



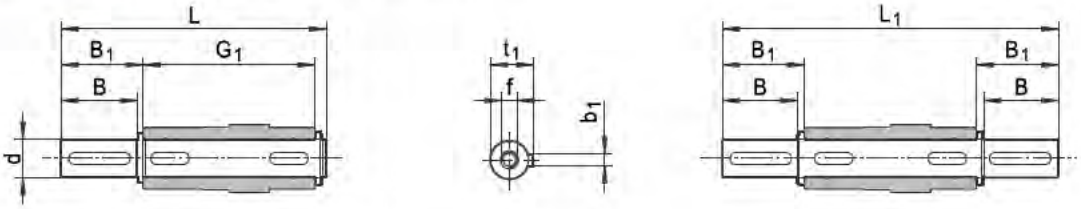
DKB..C..HS



	B	$D_{2\,j6}$	G_2	G_3	a	b_2	f_2	t_2
DKB38B	30	14	76	72.5	64.5	5	M6	16
DKB38C	23	11	111	72.5	29	4	-	12.5
DKB48B	40	16	91	87	74.5	5	M6	18
DKB48C	30	14	132	87	30.5	5	M6	16
DKB58B	40	19	107	100	88	6	M6	21.5
DKB58C	30	14	148	100	44	5	M6	16
DKB68B	50	24	132	125	108	8	M8	27
DKB68C	40	19	181	125	52	6	M6	21.5

8. DIMENSIONI ACCESSORI / *ACCESSORIES OUTLINE DIMENSION SHEET*

8.1 Albero in uscita / *Output Shafts*



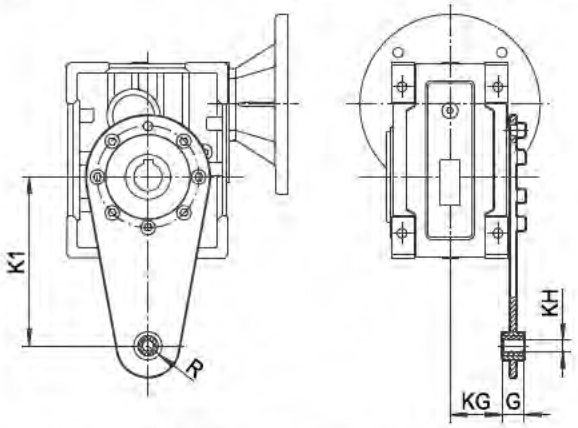
SS **DS**

	d h6	B	B1	G1	L	L1	f	b1	t1
DKM28	25	50	53.5	92	153	199	M10x22	**8**	**28**
DKM38	25	50	53.5	112	173	219	M10x22	8	28
DKM48	28	60	63.5	120	192	247	M10x22	8	31
DKM58	35	80	84.5	140	234	309	M12x28	10	38
DKM68	42	80	84.5	155	249	324	M16x36	12	45
DKB38	25	60	65	120	192	246.4	M8x19	8	28
DKB48_d 28	28	60	65	127	199	255	M8x20	8	31
DKB48_d 30	30	60	65	127	199	255	M10x22	8	33
DKB58	35	60	65	140	214	268	M12x22	10	38
DKB68	42	75	80	155	244	313.5	M12x28	12	45

* Solo su richiesta
* Only on request

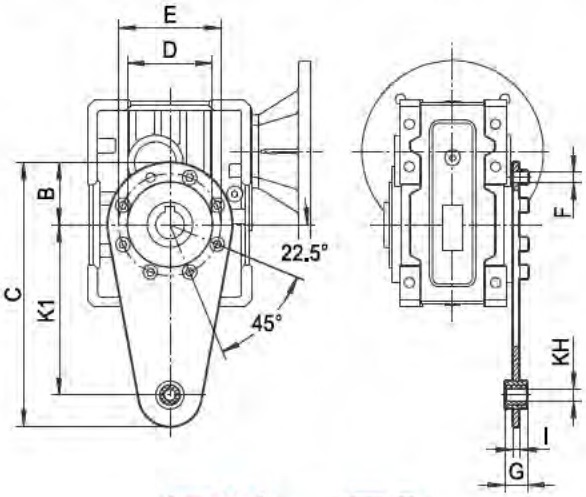
8.2 Braccio di reazione / *Torque Arm*

8.2.1 DKM.. Braccio di reazione / *Torque Arm*



	K1	G	KG	KH	R
DKM28	100	14	38.5	10	18
DKM38	150	14	49	10	18
DKM48	200	25	47.5	20	30
DKM58	200	25	57.5	20	30
DKM68	250	30	62	25	35

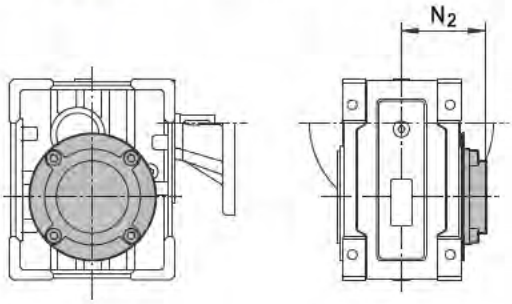
8.2.2 DKB.. Braccio di reazione / *Torque Arm*



	K1	B	C	D	E	F	G	kH	I
DKB38	150	55	233	75	90	9	20	10	6
DKB48	200	60	300	90	110	9	25	20	6
DKB58	200	80	318	110	130	11	25	20	6
DKB68	250	100	388	130	165	13	25	20	6

8.3 Coprimozzo / *Cover*

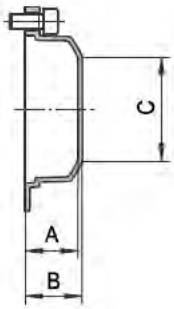
8.3.1 DKM.. Coprimozzo / *Cover*



	N2
DKM28	63
DKM38	73
DKM48	79
DKM58	94
DKM68	102

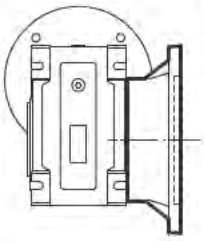
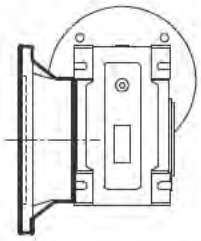
8.3.2 DKB.. Coprimozzo / *Cover*

	A	B	C
DKB38	26.5	29	Φ35
DKB48	24.5	27	Φ54
DKB58	26.5	29	Φ71
DKB68	27.5	30	Φ89



9. POSIZIONI DI MONTAGGIO / *INSTALLATION POSITIONS DIAGRAM*

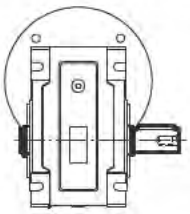
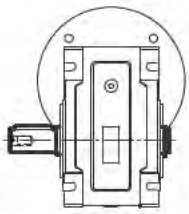
9.1 Posizioni di montaggio flangia uscita / *Position diagram for output flange*

FA1,FB1,FC1,FD1,FE1	FA2,FB2,FC2,FD2,FE2
	

Senza indicazione specifica, il riduttore verrò fornito con la flangia in uscita posizione F1 riferimento posizione B3.

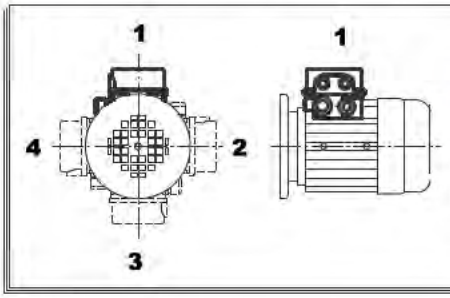
Unless specified otherwise, the gear units is supplied with the flange in pos. F..1 referred to position B3.

9.2 Posizioni albero in uscita / *Position diagram for single output shaft*

SS1	SS2
	

9.3 **DKM..** */ OR* **DKB..** Posizioni di montaggio / ***Mounting Positions***

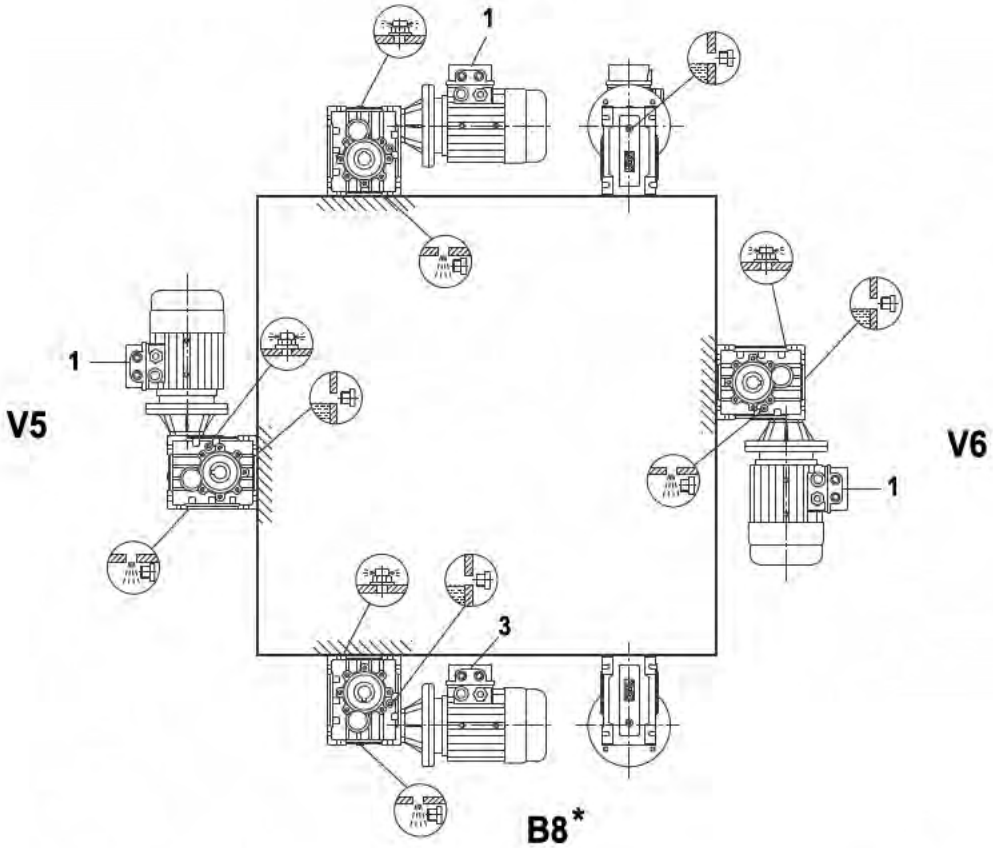
Symbol	Meaning
	Breather valve
	Oil level plug
	Oil drain plug



Nel caso di richieste specifiche, in fase d'ordine, si prega specificare la posizione del coprimorsettiera come indicato in foto.

In the case of specific requirements, when ordering, specify the position of the terminal box as shown in the diagram.

B3



B8*

B6* **B7***

*: Signifuiica che il lubrificante non può essere aggiunto come indicato dal livello dell'olio, ma può essere inserito olio come indicato in tabella.

*: It means the lubricant can't be added according to the oil level line plug,but also higher the plug the fill quantity sa shown in the table

9.4 Direzione di rotazione / ***Direction of rotation***

DKM..B / DKB..B

DKM..C / DKB..C

Il motore può girare in ambo i sensi di rotazione. Si consiglia di far ruotare l'albero in senso orario.

The motor can be run either **CW** or **CCW** while using with gearbox,the left chart is recommended

10. INSTALLAZIONE / ***INSTALLATION***

10.1 Note e raccomandazioni

Prima di installare il riduttore è necessario seguire le seguenti raccomandazioni:

1. *Controllare il corretto senso di rotazione dell'albero di uscita del riduttore prima di fissare l'unità nella macchina*
2. *Prima del montaggio controllare che le dimensioni dell'albero lento e la sua chiavetta siano in tolleranza con l'albero maschio che deve essere alloggiato in modo che non vengano influenzate le performance del riduttore*
3. *Il montaggio della macchina deve essere stabile ed esente da vibrazioni*
4. *Dove possibile proteggere il riduttore contro le radiazioni solari ed il cattivo tempo*
5. *Nel caso di immagazzinamento per lungo tempo (4/6 mesi) se l'anello di tenuta del riduttore non risulta essere a bagno d'olio si consiglia di sostituirlo prima del suo impiego*
6. *Non devono essere verniciate le parti in plastica ed il canotto dell'albero lento*
7. *Prima del montaggio dell'albero nell'albero lento cavo del riduttore , usare grasso per evitarne l'ossidazione*

10.1 ***Note recommendations***

To install the gear units it is necessary to note the following recommendations:

1. Check the correct direction of rotation of the gear units output shaft before fitting the unit to the machine.
2. Before mount with the prime mover and device, please check the reducer's every axial diameter, aperture,key and key slot, to be sure their dimensions are not deviation, and avoid assembling too tight or too loose, unless it will influence the reducer's performance.
3. The mounting on the machine must be stable to avoid any vibration.
4. Whenever possible, protect the gear units against solar radiation and bad weather.
5. In the case of particularly lengthy periods of storage (4-6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
6. Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
7. When connect with hollow or solid shaft,please grease the joint to avoid lock or oxidation.

10.1 Note e raccomandazioni

8. *Controllare il corretto livello di lubrificante se installato*
9. *Alla partenza si deve applicare il massimo carico gradatamente*
10. *Occorre usare un supporto che sostenga il riduttore quando e combinato con altro organo di elevato peso*
11. *Assicurare che ilmotore collegato al riduttore sia attraversato da un buon flusso di aria*
12. *In caso di temperatura ambiente minori di 5° e maggiori di 40° contattare il nostro ufficio tecnico*

10.2 Applicazioni Critiche

Le prestazioni indicate in catalogo corrispondono alla posizione di montaggio in b3, qiuando il primo stadio non e' immerso completamente nell'olio.

Per altre posizioni di montaggio o particolari velocita in ingresso riferirsi alle tabelle per differenti situazioni critriche per ogni taglia di riduttore.

Contattatre ilns ufficio tecnico per le seguenti applicazioni:

1. *Alta velocita' in ingresso*
2. *Alta inerzia*
3. *Utilizzo in condizioni che potrebbero essere pericolose per il personale che gestisce il riduttore;*
4. *Alti carichi dinamici;*
5. *Ambienti sotto i 5 gradi e sopra i 40;*
6. *Utilizzo in presenza di agenti chimnici e aggressivi;*
7. *Utilizzo in ambienti salini;*
8. *Utilizzo in ambienti radioattivi;*
9. *Utilizzo in ambienti ad alta pressione*
10. *Montaggio in posizioni diverse da catalogo*

Il massimo carico che il riduttore puo sopportare non deve eccedere 2 volte la coppia nominale dichiarata dalle prestazioni in catalogo.

Si intende per sovraccarico momentaneo quello dato alla 'partenza a pieno carico e alla frenata

10.1 Note recommendations

8. Check the correct level of the lubricant through the indicator, if there is one.
9. Starting must take place gradually, without immediately applying the maximum load.
10. Supporting unit is required when using various of reducer matched with motor directiy and the weight of motor is a little bigger than common.
11. Ensure the motor cools correctly by assuring good passage of air from the fan side.
12. In the case of ambient temperatures < -5°C or > +40°C call the Technical Service.

10.2 Critical applications

The performance given in the catalogue correspond to mounting position B3 or similar, when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the tables that highlight different critical situations for each size of gear units. It is also necessary to take due consideration of and carefully assess the following applications by calling our Technical Service:1. As a speed increasing.

2. Applications with especially high inertia.
3. Use in services that could be hazardous for people if the gear units fails.
4. Applications with high dynamic strain on the case of the gear units.
5. In places with T° under -5°C or over 40°C.
6. Use in chemically aggressive environments.
7. Use in a salty environment.
8. Use in radioactive environments.
9. Use in environments pressures other than atmospheric pressure.
10. Mounting positions not envisaged in the catalogue.

Avoid applications where even partial immersion of the gear units is required.

The maximum torque that the gear units can support must not exceed two times the nominal torque (fs =1) stated in the performance tables. Intended for momentary overloads due to starting at full load, braking, shocks or other causes, particularly those that are dynamic.

11. LUBRIFICAZIONE / LUBRICATION

11.1 Tipi di lubrificanti / Types of lubrication

	°C -50 0 +50 +100	ISO	SHELL	MOBIL	BP	tipi di lubrificante / lubrication type
DKM.. DKB..	标准 Standard −10 +40	VG 220	Shell Omala 220	Mobilgear 630	BP Energol GR-XP 220	Olio Minerale / Mineral oil
	−20 +25	VG 150 VG 100	Shell Omala 100	Mobilgear 627	BP Energol GR-XP 100	
	−30 +10	VG 68-46 VG 32	Shell Tellus T 32	Mobil D.T.E. 13M		
	−40 −20	VG 22 VG 15	Shell Tellus T 15	Mobil D.T.E. 11M	BP Energol HLP-HM 15	
	−40 +80	VG 220	Shell Omala HD 220	Mobil SHC 630		Olio sintetico / Synthetic oil
	−40 +40	VG 150		Mobil SHC 629		
	−40 +10	VG 32		Mobil SHC 624		

11.2 Quantità di lubrificante

La quantità di lubrificante specificata è raccomandata. La quantità precisa varia a seconda degli stadi e del rapporto di riduzione. Quando procedete alla lubrificazione, è necessario che raggiungiate il livello di olio indicato dalla valvola.

La seguente tabella mostra la quantità di lubrificante in relazione alle posizioni di montaggio (B3, B6, B7 .....)

11.2 Lubricant fill quantity

The specified fill quantities are recommended values. The precise values vary depending on the number of stages and gear ratio. When filling, it is essential to check the oil level plug since it indicates the precise oil capacity. The following tables show guide values for lubricant fill quantities in relation to the mounting position （B3、B6、B7·····）

DKM.. Quantità di lubrificante / Lubricant fill quantity

Gear units	Quantità di lubrificante in litri - Fill quantity in liters (L)					
	B3	B6	B7	B8	V5	V6
DKM28B	0.22	0.20*	0.13*	0.15	0.25	0.14
DKM28C*	0.07	0.04	0.04	0.05	0.08	0.09
DKM38B	0.42	0.35*	0.24*	0.22	0.46	0.25
DKM38C*	0.07	0.04	0.04	0.05	0.08	0.09
DKM48B	0.70	0.58*	0.42*	0.42	0.75	0.45
DKM48C*	0.13	0.09	0.09	0.09	0.15	0.17
DKM58B	1.21	0.95*	0.72*	0.67	1.30	0.74
DKM58C*	0.13	0.09	0.09	0.09	0.15	0.17
DKM68B	2.15	1.70*	1.10*	1.25	2.20	1.20
DKM68C*	0.25	0.17	0.17	0.20	0.32	0.36

DKM.. *Quantità di lubrificante* / ***Lubricant fill quantity***

Gear units	Fill quantity in liters (L)					
	B3	**B6**	**B7**	**B8**	**V5**	**V6**
DKB38B	0.38	0.35*	0.25*	0.26*	0.44	0.25
DKB38C*	0.07	0.04	0.04	0.05	0.08	0.09
DKB48B	0.66	0.60*	0.45*	0.48	0.78	0.48
DKB48C*	0.13	0.09	0.09	0.09	0.15	0.17
DKB58B	1.15	0.95*	0.70*	0.75*	1.25	0.75
DKB58C*	0.13	0.09	0.09	0.09	0.15	0.17
DKB68B	2.00	1.70*	1.10*	1.40*	2.20	1.20
DKB68C*	0.25	0.17	0.17	0.20	0.32	0.36

#: *Il terzo stadio (precoppia) del riduttore ha una fusione separeata dal riduttore , quindi deve essere soggetta ad un proprio riempimento di lubrificante*

#: **Means the oil quantity in the 3rd stage housing, as this one is separated from the 2nd housing, please fill them separately while in 3 stages.**

*: *il riduttore deve essere riempito della quantità di lubrificante come indicato in tabella di cui sopra*

*: It means the lubricant can't be added according to the oil level line plug,but also higher the plug the fill quantity sa shown in the table

12. MANUTENZIONE

1), *Il primo cambio dell'olio deve essere fatto dopo circa 3000 ore di funzionamento. Mai mischiare olio sintetico con olio minerale.*

2). *Ogni 3000 ore di funzionamento si deve controllare il livello dell'olio ed i suo stato. Eseguire anche un controllo visivo dello stato di conservazione degli anelli di tenuta*

3). *Indipendentemente dalle ore di lavoro effettuate , ogni 3 anni occorre sostituire l'olio e ingrassare tutti i cuscinetti*

4). *Sostituire periodicamente gli anelli di tenuta dell' albero lento del riduttore*

5). *In caso di malfunzionamento fermare il sistema e contattare il nostro ufficio tecnico (fornire informazioni sulle specifiche del riduttore ed il suo numero di serie)*

12. MAINTENANCE

1). For gear units, first oil change should be after about 300 hours (run-in period). The right lotion is required to clean the gear units with care. Never mix the synthetic oil and mineral oil together.

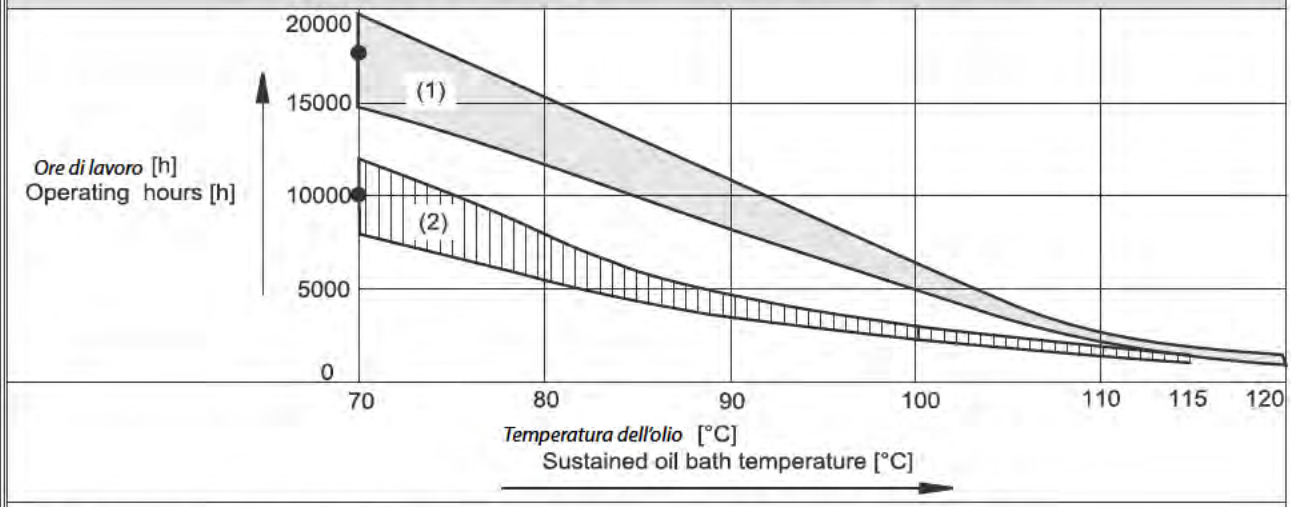
2). Every 3000 working time, at least every 6 months, you have to check the oil and oil level, the seals visually for leakage. For IEC input gear units, the elastomer should be tested or replaced if necessary.

3). Depending on the operating conditions (see chart below), every 3 years at the latest for inspection is needed. Then change the mineral oil and replace the bearing grease.

4). Depending on the operating conditions, change the oil seals on output shaft.

5). Once the malfunctions appear, stop disassembling the parts, and firstly please contact the customer service (the information about specification, delivery date, series number, time used, name of machine, machine manufacturer, malfunction problems is required) , then take the reasonable measures.

Intervalli di tempo per la sostituzione dell'olio nei riduttori con normali condizioni di funzionamento
Oil change intervals for standard gear units under normal environmental conditions



- *Valori medi per tipo di olio* 70 °C
- Average value per oil type at 70 °C

(1) *Olio sintetico* - Synthetic oil
(2) *Olio minerale* - Mineral oil

13. CONSERVAZIONE

1). *Proteggere i riduttori dalla pioggia, dalla neve e dagli urti;*

2). *Interporre un appoggio tra il riduttore ed il suolo;*

3). *Se il riduttore non dovesse essere impiegato in tempi brevi, deve essere ricoperto di olio protettivo;*

4). *Ogni 2 anni effettuare un controllo visivo e lo stato della protezione alla corrosione*

13. STORAGE

1). Under roof, protected against rain and snow, no shock loads.

2). Underlay the block and other material between the ground and equipment.

3). The opened but not used gear units should be added with the anti-corrosive oil on its surface, and then return to the packing containers timely.

4). Two years or more given regular inspections. Check for cleanliness and mechanical damage as part of the inspection,Check corrosion protection.

14. INFORMAZIONI PER L'ORDINE

Si prega di fornire le seguenti informazioni per effettuare l' ordine dei riduttori:

1). *Indicare il modello di riduttore, rapporto e posizione di montaggio;*

2). *Generalmente la verniciatura del riduttore è colore alluminio;*

3). *Quantità;*

4). *Eventuali richieste speciali;*

5). *Ragione sociale dell'azienda che effettua l'ordine.*

14. NOTICE FOR ORDER

Please offer the following information when place the orders:

1). the model mark of the gear units(type, ratio, power and mounting position).

2). generally the gear units paint in silver.

3). quantity ordered.

4). other special requirements.

5). company, contact and telephone.

15. PROBLEMI DI FUNZIONAMENTO / *GEAR UNIT MALFUNCTIONS*

PROBLEMI	POSSIBILI CAUSE	SOLUZIONI
Rotazione irregolare - Rumore	A. cuscinetti danneggiati B. ingranaggi danneggiati	A. controllare l'olio e sostituire i cuscinetti B. contattare il ns. servizione tecnico
Rotazione irregolare - Rumore	Presenza di impurità nell' olio	• controllare l' olio; • fermare il riduttore e contattare il ns. servizio tecnico
Perdite d' olio 1) • dal coperchio di protezione • dalla flangia del motore • dalla tenuta lato attacco motore • dalla flangia del riduttore • dalla tenuta in uscita	A. perdita della tenuta del coperchio B. tenuta difettosa C. riduttore da riparare	A. stringere i bulloni del coperchio; B. contattare il ns. servizio clienti C. controllare la posizione di montaggio.
Perdite dal tappo di sfiato	A. troppo olio B. posizione di montaggio non corretta C. frequenti partenze e arresti	A. correggere il livello dell'olio B. montare il tappo di sfiato nella corretta posizione
L'albero lento non ruota	connessione interrotta tra motore e riduttore	mandare il riduttore presso la ns. sede per il suo controllo

Problem	Possible cause	Remedy
Unusual, regular running noise	A. Meshing/grinding noise: Bearing damage. B. Knocking noise: Irregularity in the gearing	A. Check the oil, change bearings B. Contact customer service
Unusual, irregular running noise	Foreign bodies in the oil	• Check the oil • Stop the drive, contact customer service
Oil leaking1) • From the gear cover plate • From the motor flange • From the motor oil seal • From the gear unit flange • From the output end oil sea	A. Rubber seal on the gear cover plate leaking B. Seal defective C. Gear unit not vented	A. Tighten the bolts on the gear cover plate and observe the gear unit. Oil still leaking:Contact customer service B. Contact customer service C. Vent the gear unit (see "Mounting Positions")
Oil leaking from breaking valve	A. Too much oil B. Drive operated in incorrect mounting position C. Frequent cold starts(oil foams) and/or high oillevel	A. Correct the oil level (see Sec. "Inspection and Maintenance") B. Mount the breather valve correctly (see Sec."Mounting Positions")and correct the oil level(see"Lubricants")
Output shaft does not turn although the motor is running or the input shaft is rotated	Connection between shaft and hub in gear unit interrupted	Send in the gear unit/gearmotor for repair