TRANSTECNO®

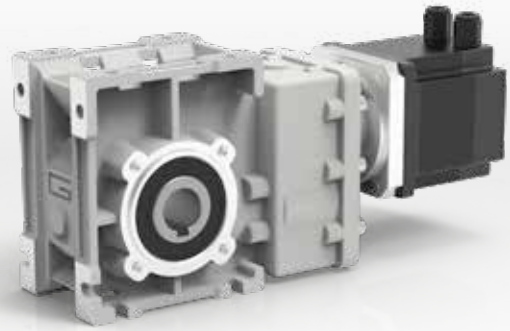
the modular gearmotor

Ott Antriebstechnik

Standardisierte Individualität

BLDC Alü





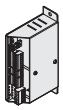






IP66

Indice — Index

		Indice	Index	Pag. Page
	I	Introduzione	Introduction	I1
IP20	A	Motoriduttori brushless CC IP20	IP20 brushless DC Gearmotors	A-A1
IP55	B	Motoriduttori brushless CC IP55	IP55 brushless DC Gearmotors	B-A1
IP66	C	Motoriduttori brushless CC IP66	IP66 brushless DC Gearmotors	C-A1
	II	Azionamenti per motori brushless CC	Brushles DC motor controls	II1
	III	Motoriduttori a vite senza fine CL	Wormgearmotors CL	III1

Questo catalogo annulla e sostituisce ogni precedente edizione o revisione. Ci riserviamo inoltre il diritto di apportare modifiche senza preavviso. **La versione più aggiornata è disponibile sul sito www.transtecno.com**

This catalogue supersedes any previous edition and revision. We reserve the right to implement modifications without notice. ***The most updated version is available on our website www.transtecno.com***

Indice	*Index*	Pag. *Page*
Generalità	*General information*	**I2**
Velocità entrata	*Input speed*	**I2**
Rapporto di riduzione	*Gear ratio*	**I2**
Velocità in uscita	*Output speed*	**I2**
Coppia richiesta	*Requested torque*	**I2**
Coppia nominale	*Nominal torque*	**I3**
Coppia trasmessa	*Output torque*	**I3**
Rendimento del riduttore a vite senza fine	*Worm gearbox efficiency*	**I3**
Reversibilità e irreversibilità	*Reversibility and irreversibility*	**I4**
Potenza in entrata	*Input power*	**I4**
Fattore di servizio	*Service factor*	**I5**
Carico radiale	*Radial load*	**I6**
Carico assiale	*Axial load*	**I6**
Scelta dei motoriduttori	*Selecting the gearmotors*	**I6**
Installazione e verifiche	*Installation and inspection*	**I8**
Applicazioni critiche	*Critical applications*	**I8**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Generalità / *General information*

Per avere una migliore comprensione degli argomenti e dei dati esposti in questo catalogo proponiamo la simbologia utilizzata corredandola delle informazioni di base per giungere ad una corretta selezione dei motoriduttori e variatori.

Information in this manual is provided with symbols in order to understand the subject matter and data. These symbols are intended to aid the user in selecting the right gearmotors and variators.

Velocità entrata / *Input speed*

n_1 [min^{-1}]

Rappresenta la velocità riferita al tipo di motorizzazione prescelta ed è applicata in entrata al riduttore.

Per selezioni a velocità diverse da quelle riportate consultare il ns. Servizio Tecnico.

This is the input speed at the gearbox related to the type of drive unit selected.

When different speeds are required, contact our Technical Service.

Rapporto di riduzione / *Gear ratio*

i

È una grandezza adimensionale ed è in funzione del numero dei denti degli ingranaggi interni al riduttore.
Nei riduttori a vite senza fine si ottiene dividendo il numero di denti della corona per il numero dei filetti (Z) della vite senza fine.
Dai dati di catalogo si può ottenere con la relazione:

This value is strictly related to the size and number of teeth gears inside the gearbox.
This value is obtained in wormgearboxes by dividing the number of wheel teeth by the number of starts (Z) of the worm.
From the data given in the catalogue, the value can be calculated using the following formula:

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

Velocità in uscita / *Output speed*

n_2 [min^{-1}]

È la velocità risultante sull' asse di uscita del riduttore e viene ricavata dalla relazione precedente:

This is the gearbox output speed calculated using the formula given above:

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

Coppia richiesta / *Requested torque*

Mr_2 [Nm]

È la coppia richiesta dall'applicazione ed è indispensabile per la selezione di una motorizzazione.
Essa può essere comunicata dall'utente oppure calcolata in base ai dati di applicazione (se forniti).

This is the torque needed for the application and must be known when selecting a drive system. It can either be provided by the user or calculated according to the application data (if provided).

Coppia nominale — Mn_2 [Nm] — *Nominal torque*

Rappresenta la coppia in uscita trasmissibile dal riduttore in base alla velocità in entrata n_1 e al rapporto di riduzione i.
Essa è calcolata in base ad un servizio con carico continuo uniforme corrispondente ad un fattore di servizio uguale a 1.
Questo valore non è riportato nel presente catalogo ma può essere ricavato approssimativamente con la seguente relazione fra M_2 (coppia trasmessa) e sf (fattore di servizio):

This is the output torque that can be transmitted by the gearbox according to input speed n_1 and gear ratio i. It is calculated based on service with a continuous steady load corresponding to a service factor equal to 1. This value is not given in the catalogue but can be calculated approximately with the following formula between M_2 (output torque) and sf (service factor):

$$Mn_2 = M_2 \cdot sf$$

Coppia trasmessa — M_2 [Nm] — *Output torque*

È la coppia trasmessa in uscita al riduttore.
Dipende dalla potenza P_1 del motore installato, dal numero di giri in uscita n_2 e dal rendimento dinamico Rd e può essere calcolata con la relazione:

This is the gearbox's output torque. It is strictly related to power P_1 of the motor installed, output rpm n_2 and dynamic efficiency Rd. It can be calculated with the following formula:

$$M_2 = \frac{9550 \cdot P_1 \cdot Rd}{n_2}$$

oppure: *or:*

$$M_2 = \frac{9550 \cdot P_2}{n_2}$$

dove: *where:*

$$P_2 = P_1 \cdot Rd$$

Rendimento del riduttore — Rd; Rs — *Gearbox efficiency*

I calcoli delle prestazioni sono stati effettuati in base al rendimento dinamico Rd dei riduttori (valore ottimale che si raggiunge nel funzionamento a regime dopo rodaggio).

È opportuno considerare che nei riduttori a vite senza fine si ha anche un valore di rendimento statico Rs, presente in fase di avviamento, che declassa sensibilmente la coppia risultante per cui influenza in modo determinante la scelta di motorizzazioni destinate ad applicazioni intermittenti (es. sollevamenti).

Nei riduttori ad ingranaggi CMB ed FT il rendimento medio è del 94%.

Efficiency is calculated based on dynamic efficiency Rd of the gearboxes (optimal value reached when running at normal speed after the break in period).

It is important to remember that wormgearboxes also have static efficiency value Rs present at start-up. This value notably reduces the resulting torque. As a result, it must be taken into consideration when selecting drive systems for intermittent operations (e.g. lifting) as it is a determinant factor.

On helical bevel gearboxes CMB and on helical parallel gearboxes FT the average efficency is 94%.

Reversibilità e irreversibilità

Reversibility and irreversibility

La diretta conseguenza del rendimento (statico e dinamico) è la reversibilità del riduttore a vite senza fine che consiste nella possibilità di fare ruotare l'albero entrata tramite l'applicazione di una torsione più o meno accentuata sull'albero uscita.
L'impossibilità o la difficoltà ad effettuare l'azione sopra descritta, determina il grado di reversibilità (o irreversibilità) di un riduttore.

Reversibility of the wormgearbox is the direct consequence of efficiency (static and dynamic). This determines whether or not the input shaft can be rotated by applying a certain torque on the output shaft.
Whether or not this can be done and how difficult it actually is to do determine the degree of reversibility (or irreversibility) of a gearbox.

Questa caratteristica, molto significativa nei riduttori a vite senza fine, è influenzata da molteplici fattori quali angolo d'elica (quindi rapporto di trasmissione), lubrificazione, temperatura, finitura superficiale della vite senza fine, presenza di vibrazioni, ecc.

This feature, quite significant in wormgearboxes, is affected by numerous factors including the helix angle (therefore drive ratio), lubrication, temperature, surface finish of the worm, vibrations, etc...

In applicazioni dove sono presenti delle traslazioni è necessario garantire una elevata reversibilità onde evitare che le inerzie delle masse in movimento possano determinare punte di carico inammissibili sugli organi di trasmissione.

In applications that include translations, high reversibility must be guaranteed to prevent inertia of the moving parts from creating unacceptable load peaks on the drive parts.

In applicazioni dove è richiesto un non ritorno del carico (es. sollevamenti o nastri trasportatori inclinati) in assenza di un freno motore è necessario scegliere un riduttore caratterizzato da un elevato grado di irreversibilità.
Desideriamo comunque evidenziare che la garanzia assoluta di non ritorno è data esclusivamente dall'installazione di un motore autofrenante o di un altro dispositivo frenante esterno.

In applications that require non-return of the load (e.g. lifting or inclined conveyor belts) a gearbox with high irreversibility must be chosen when a motor-brake unit is not present.
However, we would like to point out that non-return can be totally assured only by installing a self-braking motor or other external braking device.

La tabella sottostante riporta a titolo puramente indicativo i vari gradi di reversibilità/irreversibilità nei riduttori a vite senza fine in funzione del rendimento dinamico Rd e statico Rs.

The table below is provided for reference purposes only. It contains the various degrees of reversibility/irreversibility of wormgearboxes in relation to dynamic Rd and static Rs efficiency.

Rd	Reversibilità e irreversibilità dinamica	*Dynamic reversibility and irreversibility*
> 0.6	Reversibilità dinamica	Dynamic reversibility
0.5 - 0.6	Reversibilità dinamica incerta	Uncertain dynamic reversibility
0.4 - 0.5	Buona irreversibilità dinamica	Good dynamic irreversibility
<0.4	Irreversibilità dinamica	Dynamic irreversibility
Rs	**Reversibilità e irreversibilità statica**	***Static reversibility and irreversibility***
> 0.55	Reversibilità statica	Static reversibility
0.5 - 0.55	Reversibilità statica incerta	Uncertain static reversibility
<0.5	Irreversibilità statica	Static irreversibility

Potenza in entrata

P_1 [kW]

Input power

È la potenza motore applicata in entrata al riduttore e riferita alla velocità n_1.
Può essere calcolata come segue:

This is the power applied by the motor at the gearbox input in reference to speed n_1.
It can be calculated with the following formula:

$$P_1 = \frac{M_2 \cdot n_2}{9550 \cdot Rd}$$

Fattore di servizio — sf — *Service factor*

È una grandezza adimensionale che indica il sovradimensionamento da applicare ad una determinata motorizzazione per garantire la resistenza agli urti e la durata richiesta.
Le tabelle di catalogo offrono una vasta scelta di motorizzazioni con fattori di servizio differenziati che possono soddisfare la maggior parte delle applicazioni più o meno gravose.
Per una corretta interpretazione dei valori del fattore di servizio sf riportati a fianco di ogni selezione proposta, riportiamo nelle tabelle seguenti i valori indicativi attribuiti alle classi di carico A, B, C e alla durata di funzionamento giornaliero h/d e al numero di avviamenti/ora.
Definendo la classe di carico a cui riferire l'applicazione, si ricercherà nella tabella il corrispondente valore di sf da utilizzare nella scelta della motorizzazione più idonea.

This value indicates how a certain drive system is to be over-sized in order to assure the requested service and stand up to shocks. The tables given in the catalogue offer a wide range of drive systems with different service factors able to satisfy most types of applications. To correctly understand service factor values sf given for each item, approximate values for load classes A, B and C along with the number of hours of daily operation h/d and number of start-ups/hours need to be known.
Once the load class required for the application has been determined, locate corresponding value sf to be used when selecting the most suitable drive system.

Tipo di carico	**A** - Uniforme	fa ≤ 0.3
	B - Medio	fa ≤ 3
	C - Forte	fa ≤ 10

Type of load	***A** - Uniform*	*fa ≤ 0.3*
	***B** - Moderate shocks*	*fa ≤ 3*
	***C** - Heavy shocks*	*fa ≤ 10*

$$fa = \frac{Je}{Jm}$$

- Je (kgm^2) momento d'inerzia esterno ridotto all'albero motore.
- Jm (kgm^2) momento d'inerzia motore.
  Se fa > 10 interpellare il ns. Servizio Tecnico.

$$fa = \frac{Je}{Jm}$$

- *Je (kgm^2) moment of reduced external inertia at the drive-shaft.*
- *Jm (kgm^2) moment of inertia of motor.*
  If fa > 10 call our Technical Service.

A — Classe di carico / *Load class*
Carico uniforme / *Uniform load*

sf									
h/d	n. avviamenti/ora / n. start-up/hour								
	2	**4**	**8**	**16**	**32**	**63**	**125**	**250**	**500**
4	0.8	0.8	0.9	0.9	1.0	1.1	1.1	1.2	1.2
8	1.0	1.0	1.1	1.1	1.3	1.3	1.3	1.3	1.3
16	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5
24	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8

B — Classe di carico / *Load class*
Carico con urti moderati / *Moderate shock load*

sf									
h/d	n. avviamenti/ora / n. start-up/hour								
	2	**4**	**8**	**16**	**32**	**63**	**125**	**250**	**500**
4	1.0	1.0	1.0	1.0	1.3	1.3	1.3	1.3	1.3
8	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5
16	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8
24	1.8	1.8	1.8	1.8	2.2	2.2	2.2	2.2	2.2

C — Classe di carico / *Load class*
Carico con urti forti / *Heavy shock load*

sf									
h/d	n. avviamenti/ora / n. start-up/hour								
	2	**4**	**8**	**16**	**32**	**63**	**125**	**250**	**500**
4	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5
8	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8
16	1.8	1.8	1.8	1.8	2.2	2.2	2.2	2.2	2.2
24	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	2.5

Esempio applicazione:

Nastro trasportatore attribuibile alla classe di carico B **(carico con urti moderati)** e previsto per una durata di funzionamento giornaliero (h/d) di **16** ore e con **8** avviamenti/ora.
Dalla tabella rileviamo **sf = 1.5**

Application example:

*Conveyor belt assigned to load class B **(moderate shock load)**, to be run **16** hours a day (h/d) with **8** start-ups/hour.*
The following value is obtained from the table
sf = 1.5

Carico radiale — $R; R_2$ [N] — *Radial load*

L'applicazione sull'albero in uscita del riduttore di pignoni, pulegge, ecc. determina delle forze radiali che debbono necessariamente essere considerate per evitare sollecitazioni eccessive con il rischio di danneggiamenti del riduttore stesso.
Il calcolo del carico radiale esterno R agente sull'albero del riduttore può essere determinato come segue:

Pinions, pulleys, etc applied on the output shaft of the gearboxes create radial forces that must be taken into consideration to avoid excessive stress risking damage to the gearbox itself.

External radial load R that acts on the gearbox shaft can be calculated as follows:

$$R = \frac{2000 \cdot M_2 \cdot kr}{d} \leq R_2$$

dove:
d [mm] diametro primitivo del pignone o della puleggia
kr coefficiente riferito al tipo di trasmissione:
kr = 1.4 ruota per catena
kr = 1.1 ingranaggio
kr = 1.5 - 2.5 puleggia per cinghia a V

where:
***d** [mm] diameter of the pinion or pulley*
***kr** coefficient in relation to type of transmission:*
***kr = 1.4** sprocket wheel*
***kr = 1.1** gear*
***kr = 1.5 - 2.5** pulley for V belts*

È opportuno evidenziare che i valori di R_2 sono riferiti a carichi agenti sulla mezzeria dell'albero lento (considerando l'albero sporgente) per cui il confronto dovrà essere effettuato nelle medesime condizioni.

Keep in mind that values R_2 refer to loads that act on the centerline of the output shaft (considering the shaft protrudes). As a result, the value should be compared under the same conditions.

Carico assiale — $A; A_2$ [N] — *Axial load*

A volte, unitamente al carico radiale, può essere presente anche una forza A che agisce assialmente sull'albero uscita; in questo caso considerare che il carico assiale ammissibile A_2 sull'albero è da considerare:

At times, along with the radial load, force A may be present that acts axially on the output shaft. In this case, keep in mind allowable axial load A_2 that can be applied on the shaft is:

$$A_2 = R_2 \cdot 0.2$$

Nel caso in cui il valore del carico assiale A agente sull'albero risultasse superiore ad A_2 contattate il ns. Servizio Tecnico.

If axial load A that acts on the shaft is greater than A_2, contact the Technical Service.

Scelta dei motoriduttori — *Selecting the gearmotors*

Per la scelta di un motoriduttore è necessario seguire la seguente procedura.

To select the required gearmotor perform the procedure below:

1. Per l'applicazione desiderata ricavare il fattore di servizio sf dalle tabelle a pag. A5 in base alla classe di carico, alle ore di funzionamento giornaliere e al numero di avviamenti orari.

1. *Determine the service factor sf for the desired application by referring to the charts given on page A5. This is to be done by considering the class of load, the operational hours/day and the number of start-ups/ hour.*

2. Conoscere sia la velocità in uscita n_2 [rpm] che la coppia in uscita M_2 [Nm] necessarie all'applicazione. Se è nota la potenza motore P_1 [kW] è necessario calcolare la coppia M_2 con la formula:

2. *Knowing the output speed n_2 [rpm] and the output torque M_2 [Nm] needed for the application: if the motor power P_1 [kW] is known, it is necessary to calculate the output torque M_2 with the following formula:*

$$M_2 = \frac{P_1 \cdot 9559 \cdot Rd}{n_2}$$

dove Rd è il rendimento dinamico del riduttore.

where Rd stands for the dynamic efficiency of the gearmotor.

3. La velocità dei motori e motoriduttori Brushless è variabile grazie agli azionamenti presentati nella sezione G. Nelle tabelle prestazionali ricercare la motorizzazione in cui:
   - La velocità necessaria n_2 [rpm] sia compresa tra "n_{2MIN}" ed "n_{2MAX}"
   - La coppia necessaria M_2 [Nm] sia prossima e inferiore a quella in tabella
   - Il fattore di servizio sf necessario (trovato nella tabella a pag. A5) sia uguale o inferiore a sf (n_{2MAX}). Per casi specifici si prega di contattare il nostro servizio tecnico.

3. The output speed of Brushless motors and gearmotors is variable thanks to the drives show in the section G.
Search for the gearmotor into the performances tables, where:
- The output speed n_2 [rpm] is between "n_{2MIN}" and "n_{2MAX}"

- The output torque M_2 [Nm] is closer and lower than M2 shown in the tables
- The service factor sf (found into the table at page A5) is equal or lower than sf (n_{2MAX}). For specific cases please contact our technical service.

CM026 CL026	BLS022.240												
	24V							36V					
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
5	60	0.9	27	600	1.0	10		80	0.9	21	800	1.0	8.0	
7.5	40	1.3	19	400	1.5	7.9		53	1.3	16	533	1.5	6.0	
10	30	1.7	16	300	1.9	5.8		40	1.7	12	400	1.9	4.7	
15	20	2.2	12	200	2.7	4.1		27	2.3	9.1	267	2.8	3.2	
20	15	2.8	9.3	150	3.5	3.1	3000	20	2.9	6.9	200	3.6	2.5	4000
30	10	3.6	7.5	100	4.8	2.5		13	3.8	5.8	133	5.0	2.0	
40	7.5	4.4	4.8	75	6.0	1.8		10	4.6	4.1	100	6.2	1.5	
50	6	4.8	4.2	60	7.0	1.4		8.0	5.2	3.5	80	7.3	1.1	
60	5	5.4	3.3	50	7.8	1.1		6.7	5.8	2.9	67	8.2	0.9	

Esempio / *Example:*

Applicazione / *Application:*
Carrello automatico / *Automated trolley*

n_2 : 300 rpm
M_2 : 1.0 Nm
sf : 3.0

Motorizzazione scelta / *Power unit selected:*

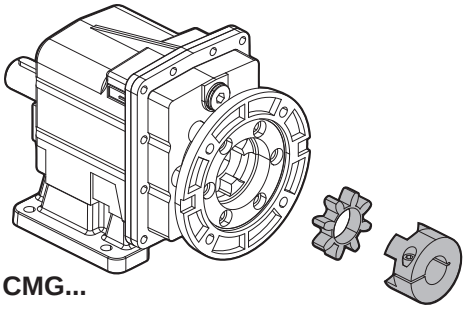
BLS022.240 + CM026, ir = 7.5; n_{2MAX} = 400 rpm; M_2 = 1.3 - 1.5 Nm; sf (n_{2MAX}) = 7.9

Giunto elastico — *Flexible coupling*

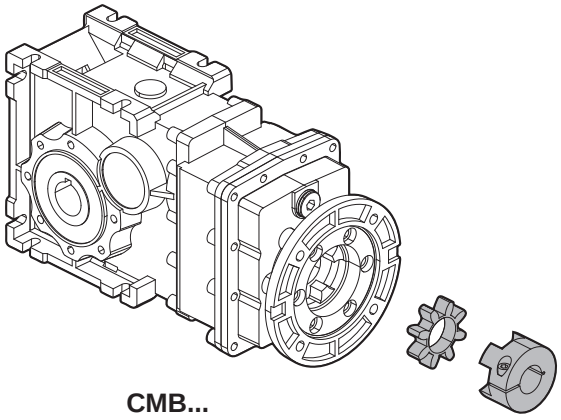
L'accoppiamento al motore tramite giunto elastico a morsetto ha i seguenti vantaggi:
- Maggiore rigidità torsionale;
- Smorzamento delle vibrazioni;
- Smorzamento dei picchi d'inerzia del motore;
- Eliminazione dell'ossidazione tra l'albero motore ed il manicotto per tribocorrosione;
- Temperatura di funzionamento inferiore;
- Facilità di smontaggio del motore anche dopo lunghi periodi di utilizzo;
- Evita il danneggiamento della linguetta del motore per servizio altamente intermittente.

Motor connection by clamp flexible coupling allows the following benefits:
- Increasing torsional rigidity;
- Reducing vibrations;
- Cushioning motor start up jerks;
- Eliminates fretting corrosion phenomenon between motor sleeve and electric motor shaft;
- Lowering operating temperature;
- Easy disassembly of the motor after long periods of use;

- Avoid the damage of the key of the motor for highly intermittent duty



CMG...



CMB...

Installazione e verifiche

In fase di installazione del motoriduttore è opportuno verificare che:

- i dati riportati in targhetta corrispondano al prodotto che è stato ordinato;
- le superfici di accoppiamento e gli alberi siano accuratamente puliti e privi di ammaccature;
- le superfici su cui verrà installato il riduttore siano perfettamente piane e sufficientemente rigide;
- l'albero macchina e quello del riduttore siano correttamente allineati;
- siano stati installati sistemi di limitazione della coppia se si prevedono urti o blocchi della macchina durante il funzionamento;
- siano state predisposte le necessarie protezioni antinfortunistiche agli organi rotanti;
- siano state create delle opportune coperture a protezione dagli agenti atmosferici se l'installazione è effettuata all'aperto ed è soggetta alle intemperie;
- l'ambiente di lavoro non sia corrosivo (a meno che tale specifica non sia stata dichiarata in fase di ordine al fine di predisporre il riduttore per questo utilizzo);
- gli eventuali pignoni o pulegge montati sull'albero uscita o entrata del riduttore, siano calettati correttamente in modo tale da non generare carichi radiali e/o assiali superiori a quelli ammissibili;
- su tutti gli accoppiamenti sia stato applicato un adeguato protettivo antiossidante per prevenire eventuali ossidazioni da contatto;
- tutte le viti di fissaggio siano state serrate correttamente.

Installation and inspection

While installing the gearmotor always make sure that:

- *the specifications stamped on the rating plate match those indicated for the unit actually ordered;*
- *the mating surfaces and the shafts are thoroughly clean and free of dents;*
- *the surfaces where the gearbox are to be mounted on are flat and strong enough;*
- *the machine drive shaft and the gearbox shaft are perfectly aligned;*
- *the required torque limiters have been installed if the machine is likely to produce shocks or blockages during operation;*
- *the rotary parts have been provided with the required safety guards;*
- *adequate weatherproof covering has been provided if the machine is to be installed outdoor;*
- *the working environment is not exposed to corrosive agents (unless this has been indicated while placing the order so that the gearbox assembly can be adequately set up);*
- *the pinions or pulleys on the gearbox input/output shafts are properly fitted in order not to produce radial and/or axial loads that exceed the maximum allowable limits;*
- *all the couplings have been treated with adequate rust preventative in order to avoid oxidation provoked by contact;*
- *all the mounting screws have been securely tightened.*

Applicazioni critiche

In tutti questi casi consultare il Servizio Tecnico

- utilizzo come argano di sollevamento;
- utilizzo in posizioni non previste a catalogo;
- utilizzo in ambiente con pressione diversa da quella atmosferica;
- utilizzo in ambiente con temperature <0°C o >+40°C
- utilizzo in ambienti esterni
- servizio continuo o altamente intermittente per motoriduttori in corrente continua o brushless
- utilizzo in applicazioni con forti inerzia

Critical applications

In these cases please contact the Technical Service

- *used as a hoist;*
- *used in mounting positions not shown in the catalogue;*
- *used in environment pressure other than atmospheric pressure;*
- *used in places with temperature <0°C or >+40°C*
- *when used outdoors*
- *continuous or highly intermittent duty for DC or brushless gearmotors*
- *used in applications with high inertia*

TRANSTECNO®
the modular gearmotor

BLDC Alu

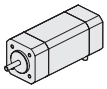
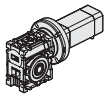
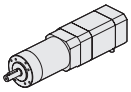
IP20

Motoriduttori brushless CC IP 20
IP20 Brushless DC gearmotors



IP20

Indice — Index

		Indice	Index	Pag. / Page
	 A-A	Motori brushless CC BL	Brushless DC motors BL	A-A1
ENERGY SAVING	 A-B	Micro motoriduttori brushless CC a vite senza fine CM	Micro brushless DC wormgearmotors CM	A-B1
ENERGY SAVING	 A-C	Micro motoriduttori brushless CC epicicloidali PM	Micro brushless DC planetary gearmotors PM	A-C1

Questo catalogo annulla e sostituisce ogni precedente edizione o revisione.
Ci riserviamo inoltre il diritto di apportare modifiche senza preavviso.
La versione più aggiornata è disponibile sul sito www.transtecno.com

This catalogue supersedes any previous edition and revision.
We reserve the right to implement modifications without notice.
The most updated version is available on our website www.transtecno.com

TRANSTECNO®
the modular gearmotor

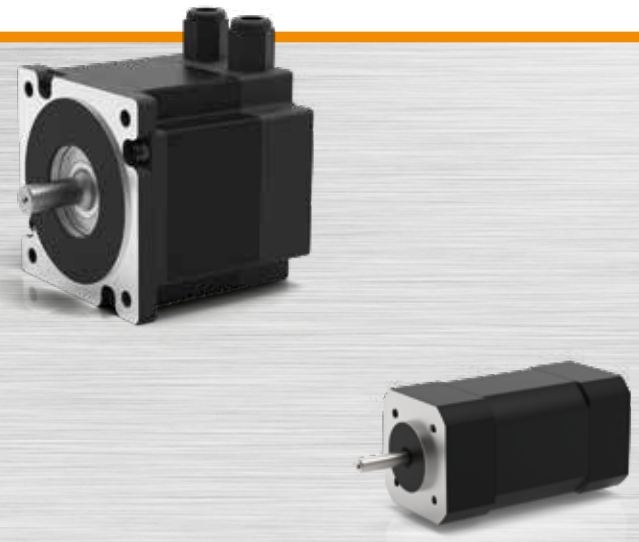
BL

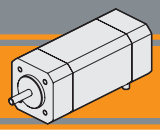
BL

BL Alu

IP20

Motori brushless CC
Brushless DC motors





ENERGY SAVING

	Indice	*Index*	Pag. *Page*
	Caratteristiche tecniche	*Technical features*	**AA2**
	Grado di protezione IP	*IP enclosures protection indexes*	**AA2**
	Classe di isolamento termico	*Insulation class*	**AA2**
	Tipi di servizio IEC	*IEC duty cycle ratings*	**AA2**
	Legenda / Glossario dei grafici	*Key / Diagram Glossary*	**AA3**
	Formule utili	*Useful formulas*	**AA3**
BL005.240	Specifiche costruttive	*General features*	**AA4**
	Prestazioni	*Performances*	**AA4**
	Dimensioni	*Dimensions*	**AA5**
	Diagramma dei collegamenti	*Connection diagram*	**AA5**
BL012.240	Specifiche costruttive	*General features*	**AA6**
	Prestazioni	*Performances*	**AA6**
	Dimensioni	*Dimensions*	**AA7**
	Diagramma dei collegamenti	*Connection diagram*	**AA7**
BL018.240	Specifiche costruttive	*General features*	**AA8**
	Prestazioni	*Performances*	**AA8**
	Dimensioni	*Dimensions*	**AA9**
	Diagramma dei collegamenti	*Connection diagram*	**AA9**
BL025.24E	Specifiche costruttive	*General features*	**AA10**
	Prestazioni	*Performances*	**AA10**
	Dimensioni	*Dimensions*	**AA11**
	Diagramma dei collegamenti	*Connection diagram*	**AA11**
BL032.240	Specifiche costruttive	*General features*	**AA12**
	Prestazioni	*Performances*	**AA12**
	Dimensioni	*Dimensions*	**AA13**
	Diagramma dei collegamenti	*Connection diagram*	**AA13**
BL043.240	Specifiche costruttive	*General features*	**AA14**
	Prestazioni	*Performances*	**AA14**
	Dimensioni	*Dimensions*	**AA15**
	Diagramma dei collegamenti	*Connection diagram*	**AA15**
BL070.48E	Specifiche costruttive	*General features*	**AA16**
	Prestazioni	*Performances*	**AA16**
	Dimensioni	*Dimensions*	**AA17**
	Diagramma dei collegamenti	*Connection diagram*	**AA17**
	Freno	*Brake*	**AA18**
	Encoder ME22	*Encoder ME22*	**AA19**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

I motori brushless cc della serie BL vengono realizzati in 7 taglie con coppie da 22 mNm a 0.7 Nm, e possono essere forniti con driver esterno. I vantaggi di utilizzare i motori brushless anziché i tradizionali motori cc a spazzole, sono i seguenti:

- Lunga durata nel tempo
- Elevata efficienza
- Commutazione elettronica e controllo del motore tramite sensori digitali (encoder, resolver ecc..)
- Ampio campo di regolazione della velocità
- Mancanza di manutenzione

I motori della serie BL sono estremamente compatti e grazie al basso momento di inerzia offrono una elevata prestazione dinamica, ed inoltre sono economici in quanto dotati di sensori di Hall (anziché encoder o resolver).
Le 3 fasi dell'avvolgimento del motore sono a bassa tensione 24V / 36V / 48V e quindi offrono maggiori garanzie in termini di sicurezza dell'impianto, soprattutto nelle applicazioni dove l'operatore può essere a contatto con il motore stesso.

Brushless DC motors from the BL range *are available in 7 sizes with torque from 22 mNm to 0.7Nm and they can be supplied with external driver.*
The advantages of using brushless motors instead of traditional DC brush motors are the following:

- *Longer life time*
- *Higher efficiency*
- *Electronic commutation and control of the motor via digital sensors (encoder, resolver etc.)*
- *Wide speed range*
- *Maintenance free*

BL motors have a compact design and thanks to low inertia they have high performances and are a low cost solution already including Hall sensors, as opposed to an encoder or resolver.
The 3 phase windings of the motor have a low voltage of 24/36/48 V and so these motors are safer to use when a machine operator has direct contact with them.

Grado di protezione IP — *IP enclosures protection indexes*

Indica il grado di isolamento meccanico del corpo motore.

1ª cifra protezione alla penetrazione di corpi solidi.

2ª cifra protezione contro la penetrazione d'acqua.

Indicates the degree of mechanical insulation of the motor body.

1st figure indicating level of protection against the penetration of solid bodies.

2nd figure: indicating degree to which the motor is waterproof.

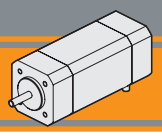
2	Protetto da corpi solidi superiori a Ø 12 mm. *Protected against solid matters (over Ø 12 mm)*	**0**	Non protetto / *No protection*
3	Protetto da corpi solidi superiori a Ø 2,5 mm. *Protected against solid matters (over Ø 2,5 mm)*		

Classe di isolamento termico — *Insulation class*

Classe / *Class*	Δ t °C Temp. ambiente: 40°C *Ambient temperature: 40°C*
B	90°C

Tipi di servizio IEC — *IEC duty cycle ratings*

S1	**Servizio continuo.** Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	***Continuous duty.*** *The motor works at a constant load for enough time to reach temperature equilibrium*
S2	**Servizio di durata limitata.** Funzionamento a carico costante per una durata inferiore a quella necessaria al raggiungimento dell' equilibrio termico, seguito da un periodo di riposo tale da riportare il motore alla temperatura ambiente.	***Short time duty****. The motor works at a constant load, but not long enough to reach temperature equilibrium, and the rest periods are long enough for the motor to reach ambient temperature.*
S3	**Servizio periodico intermittente.** Sequenze di cicli identici di marcia e di riposo a carico costante, senza raggiungimento dell' equilibrio termico. La corrente di spunto ha effetti trascurabili sul surriscaldamento del motore.	***Intermittent periodic duty.*** *Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.*

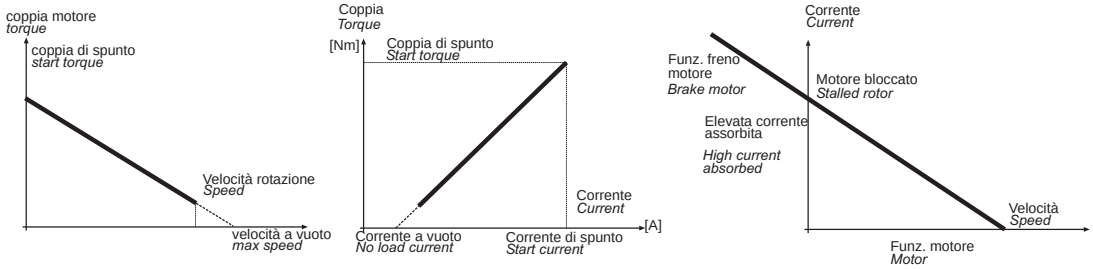


Legenda / Glossario dei grafici

Key / Diagram Glossary

Dato un motore brushless cc, la velocità di rotazione è funzione lineare della coppia; così pure la corrente assorbita è una funzione lineare della coppia. Velocità e corrente variano in maniera sensibile al variare del carico.

With a brushless motor, the rotational speed is a linear function of the torque. In the same way, the absorbed current is also a linear function of the torque. Speed and current change a lot against applied torque.

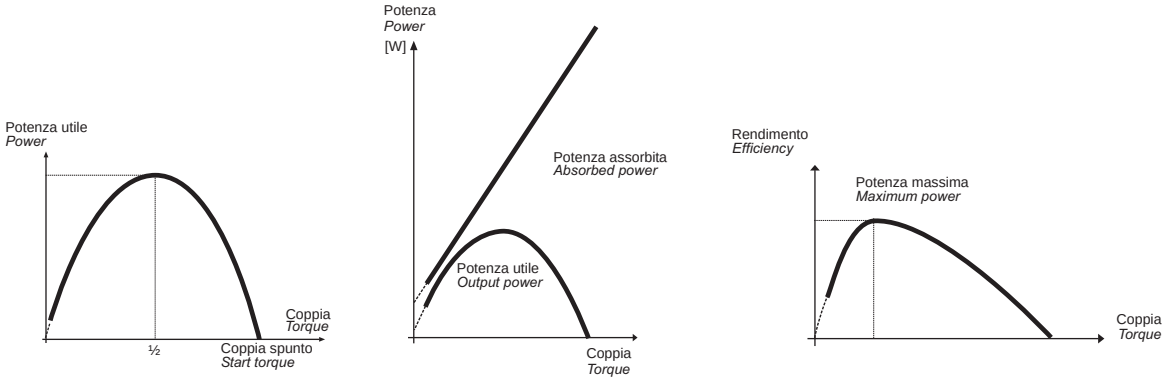


La potenza utile (potenza all' albero) si ricava dalla formula:

$$Pn\ [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$

The output power is calculated using the formula:

$$Pn\ [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$



Poiché la tensione di alimentazione è costante mentre la corrente è linearmente crescente al crescere della coppia, l'andamento della potenza assorbita è una retta crescente. Dal rapporto tra la potenza meccanica e la potenza assorbita si ottiene il grafico dell'efficienza.

Since the supply voltage is constant, whereas the current increases in a linear manner as the torque increases, the absorbed power trend is a straight line going up. Efficiency is shown from the ratio between the output power and the absorbed power.

Formule utili

Useful formulas

$$\eta = \frac{Pn}{Pa}$$

$$Pa = V \cdot I$$

$$Pn = V \cdot I \cdot \eta$$

$$Pn = Mn \cdot Sv$$

$$Sv = \frac{n_1}{9.55}$$

[HP] · 746 = [W].
Esempio 2 HP = circa 1500 W.

$$\eta = \frac{Pn}{Pa}$$

$$Pa = V \cdot I$$

$$Pn = V \cdot I \cdot \eta$$

$$Pn = Mn \cdot Sv$$

$$Sv = \frac{n_1}{9.55}$$

[HP] · 746 = [W].
Example 2 HP = approx. 1500 W.

S	—	Servizio	*Duty*
Pn	[W]	Potenza in uscita	*Rated power*
Pa	[W]	Potenza assorbita	*Absorbed power*
Mn	[Nm]	Coppia nominale	*Rated torque*
V	[V]	Tensione	*Voltage*
I	[A]	Corrente assorbita	*Absorbed current*
n1	[min-1]	Numero giri motore	*Motor speed*
Sv	[rad/s]	Velocità angolare	*Angular speed*
IC	—	Classe d'isolamento termico	*Thermal insulation class*
FF	—	Fattore di forma	*Form factor*
IP	—	Classe di protezione	*protection class*
η	—	Rendimento	*Efficiency*
Kg	—	Peso	*Weight*

BL005.240

Specifiche costruttive — *General features*

Tipologia di avvolgimento *Winding type*	Stella *Star*
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

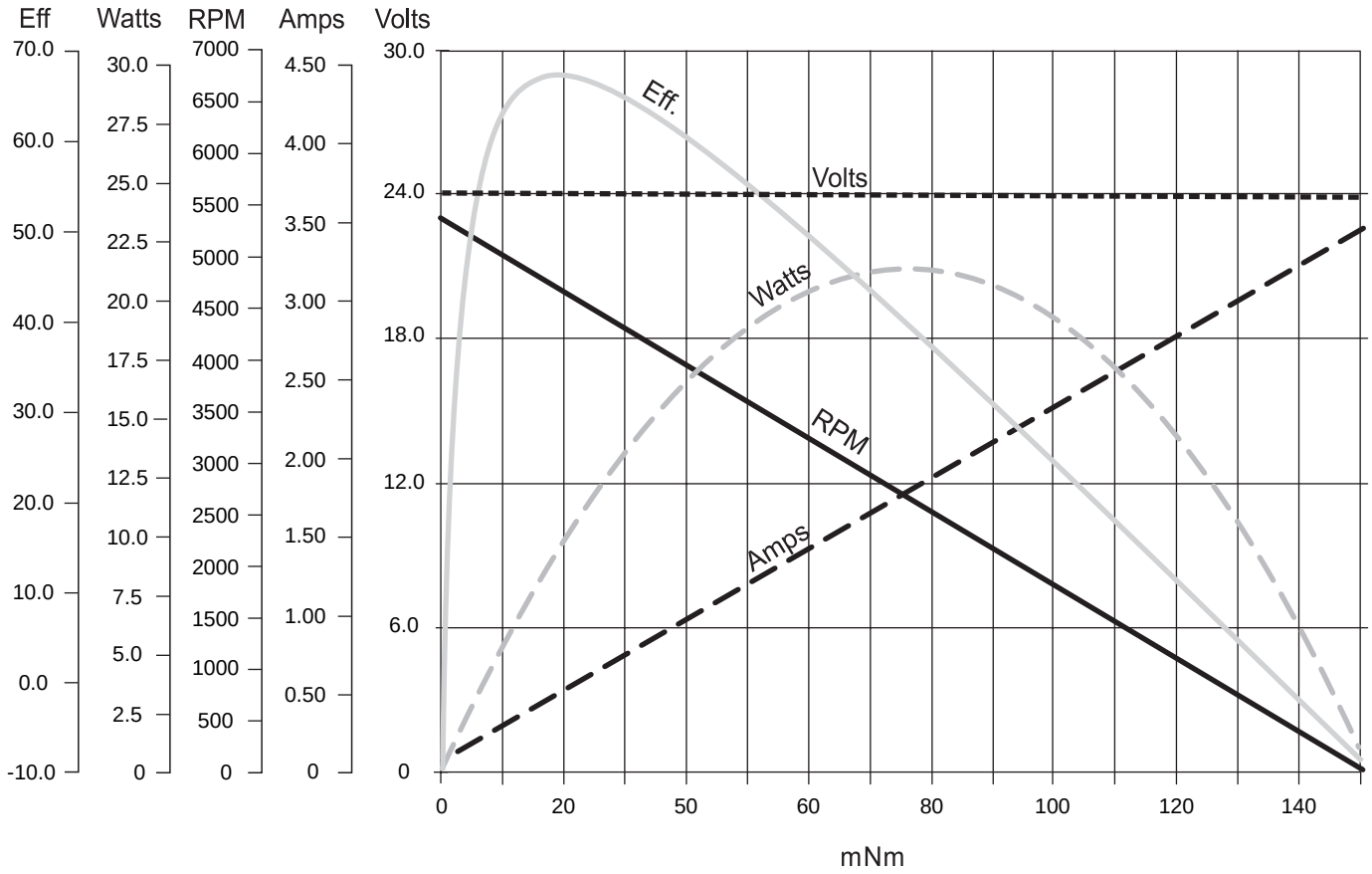
Max forza radiale *Max radial force*	15N @ 10 mm dalla flangia *15N @ 10 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

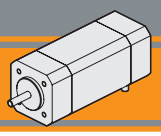
Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min-1]	[mNm]	[W]	[mNm]	[A]	[A]	[Ω]	[mH]	[mNm/A]	[V/kRPM]	[gcm2]	[kg]	
BL005.240	4	3	24	3700	50	16	150	1.0	3	4.2	2.2	50	5.23	5.98	0.208	30

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

BL005.240





BL005.240

Dimensioni — *Dimensions*

BL005.240

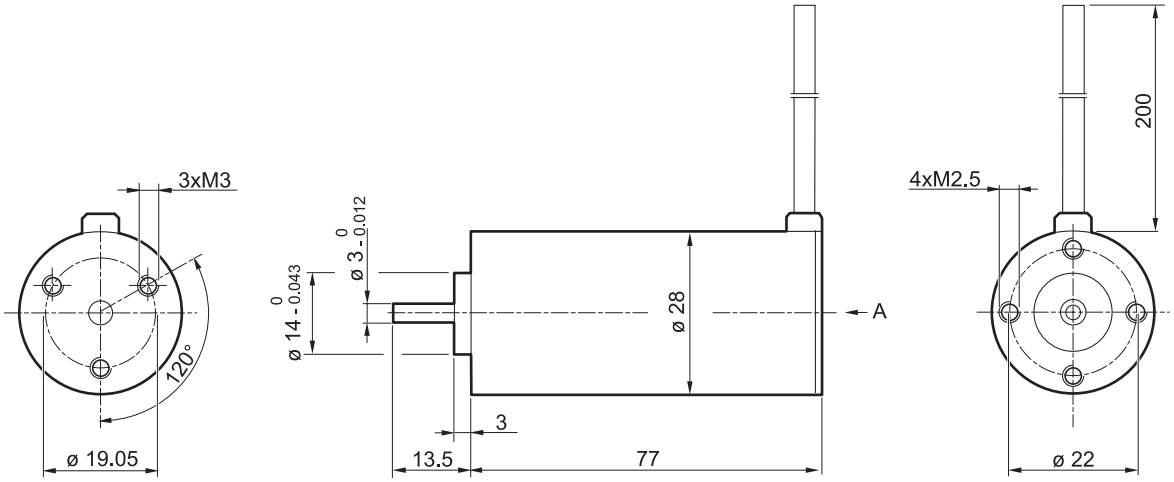


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Verde / *Green*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Arancione / *Orange*	HALL fase V *V phase HALL*
Marrone / *Brown*	HALL fase W *W phase HALL*
Giallo / *Yellow*	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Bianco / *White*	Comune per i segnali di HALL *Ground for HALL sensors*

BL012.240

Specifiche costruttive — *General features*

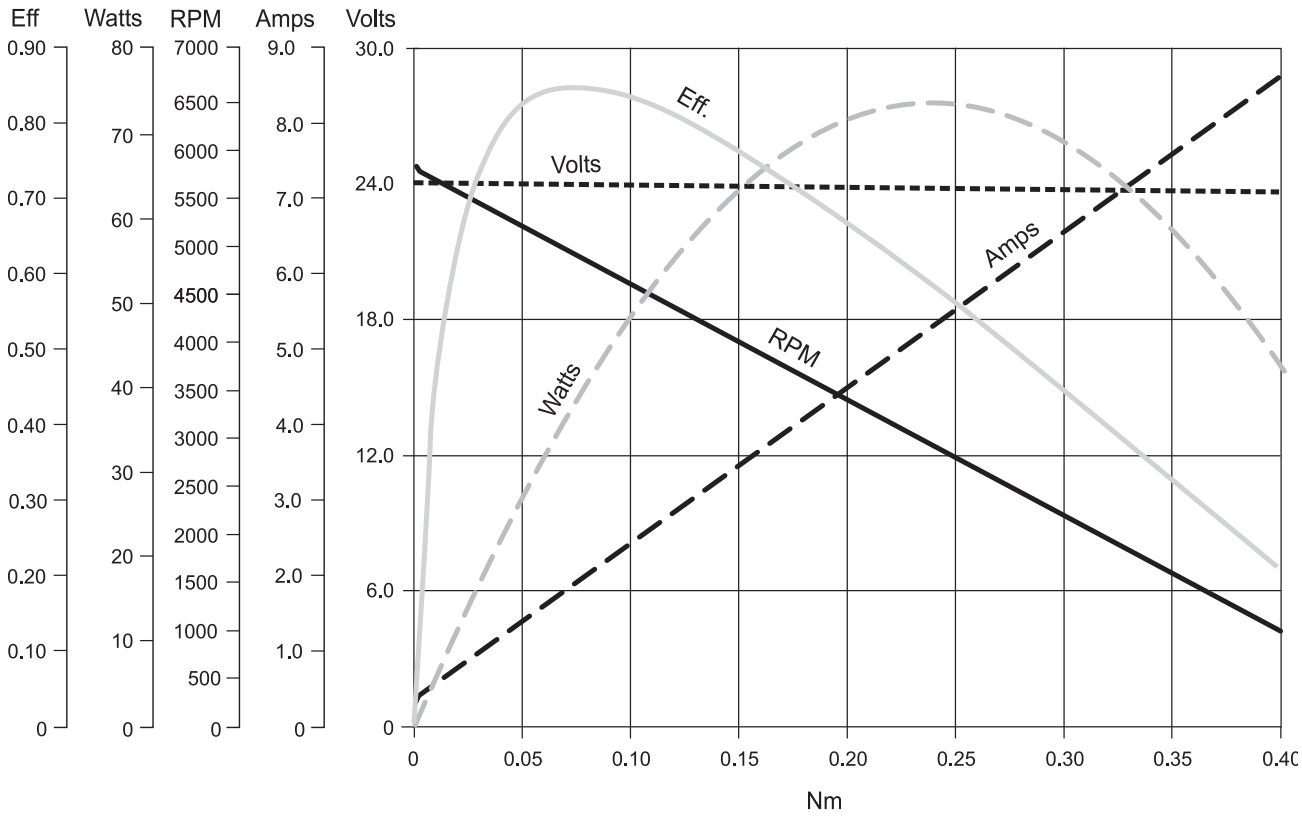
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

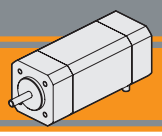
Max forza radiale *Max radial force*	28N @ 20 mm dalla flangia *28N @ 20 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL012.240	8	3	24	4000	0.125	52	0.38	3.5	10.6	0.80	1.2	0.0355	3.72	48	0.45	30

Azionamenti *Drives* → II 2

Prestazioni — *Performances*





BL012.240

Dimensioni — *Dimensions*

BL012.240

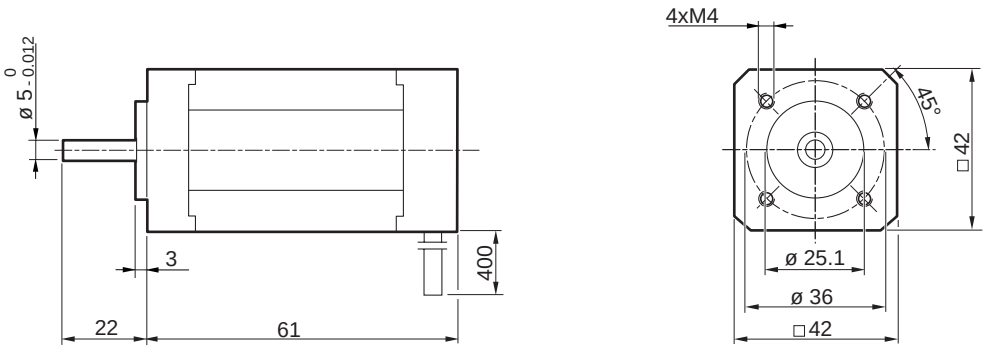


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale Signal leads	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL018.240

Specifiche costruttive — *General features*

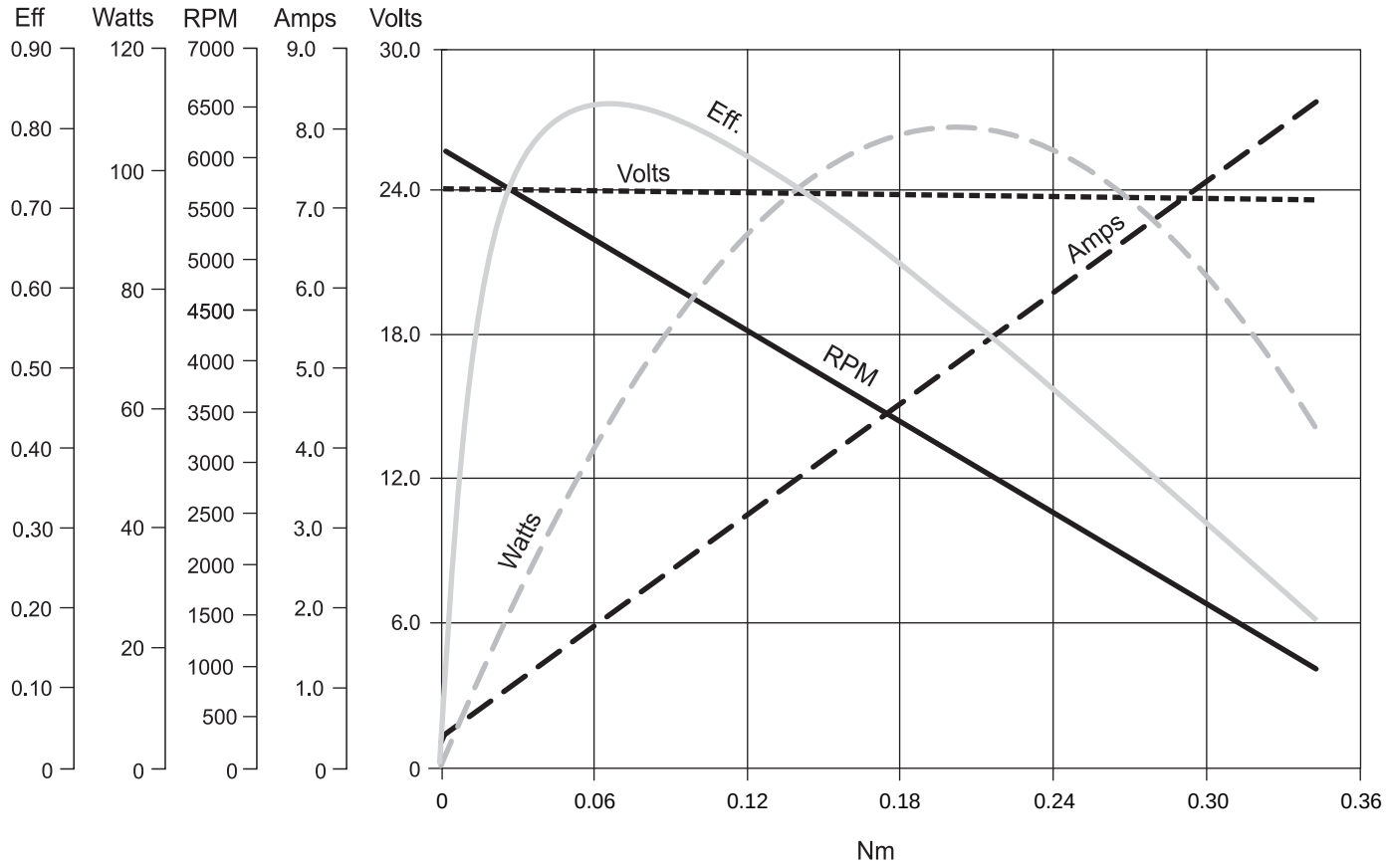
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

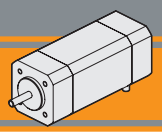
Max forza radiale *Max radial force*	28N @ 20 mm dalla flangia *28N @ 20 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL018.240	8	3	24	4000	0.185	78	0.56	5	15.5	0.55	0.8	0.036	3.76	72	0.65	30

Azionamenti *Drives* → II 2

Prestazioni — *Performances*





BL018.240

Dimensioni — *Dimensions*

BL018.240

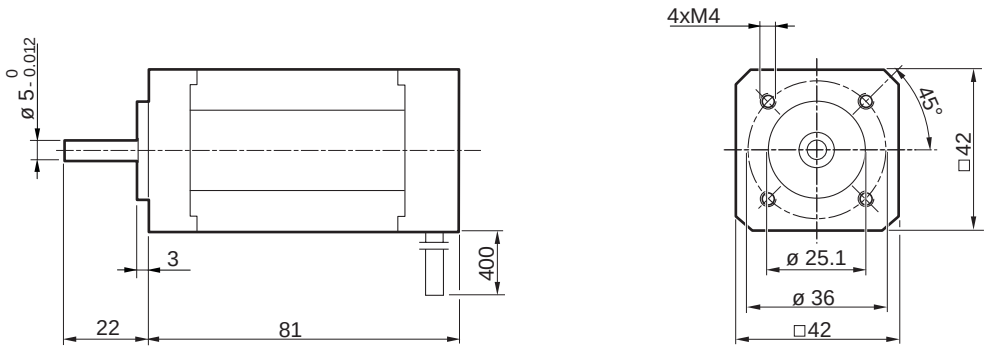


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / ***Yellow***	Fase U / *U motor Phase*
Rosso / ***Red***	*Fase V / V motor Phase*
Nero / ***Black***	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL025.24E

Specifiche costruttive — *General features*

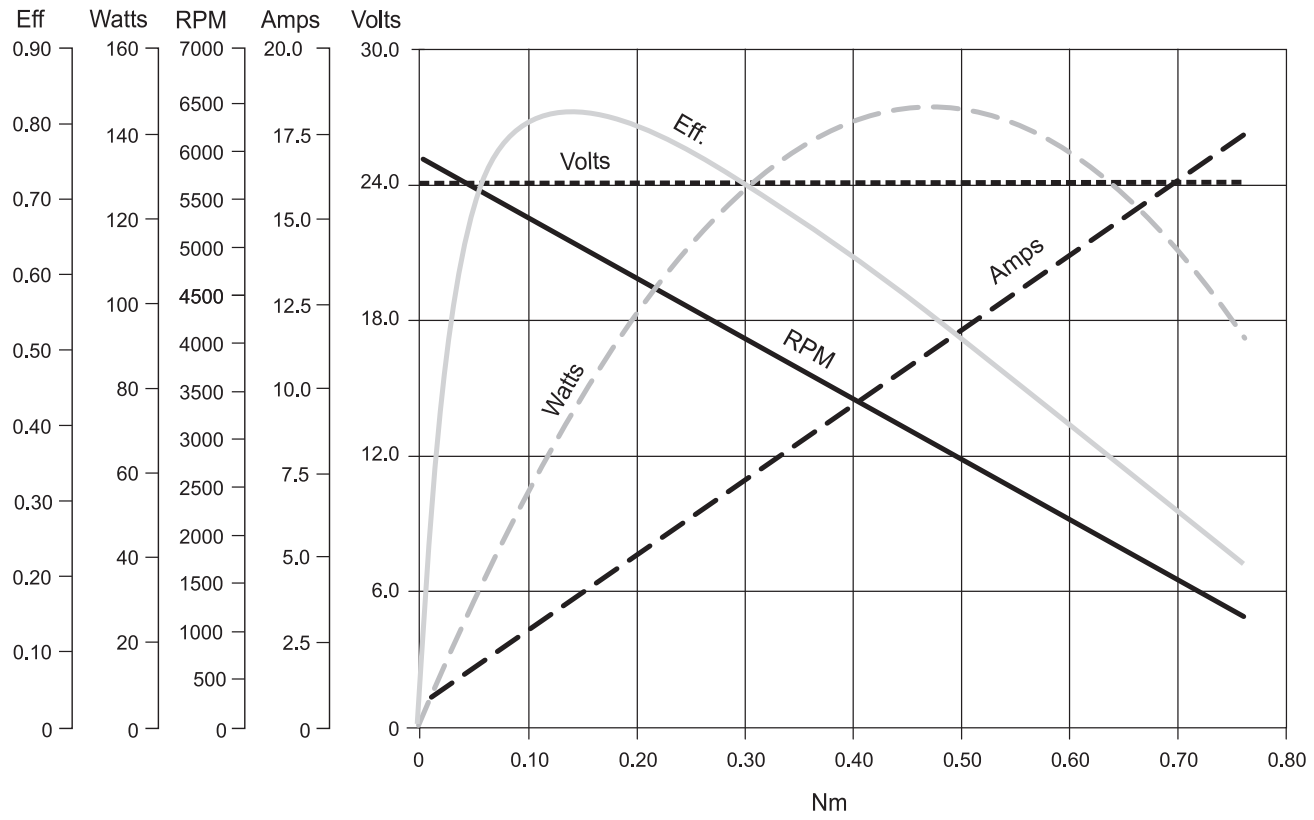
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

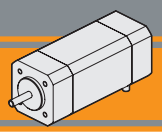
Max forza radiale *Max radial force*	28N @ 20 mm dalla flangia *28N @ 20 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL025.24E	8	3	24	4000	0.25	105	0.75	6.6	21	0.3	0.5	0.0376	3.9	96	0.8	30

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

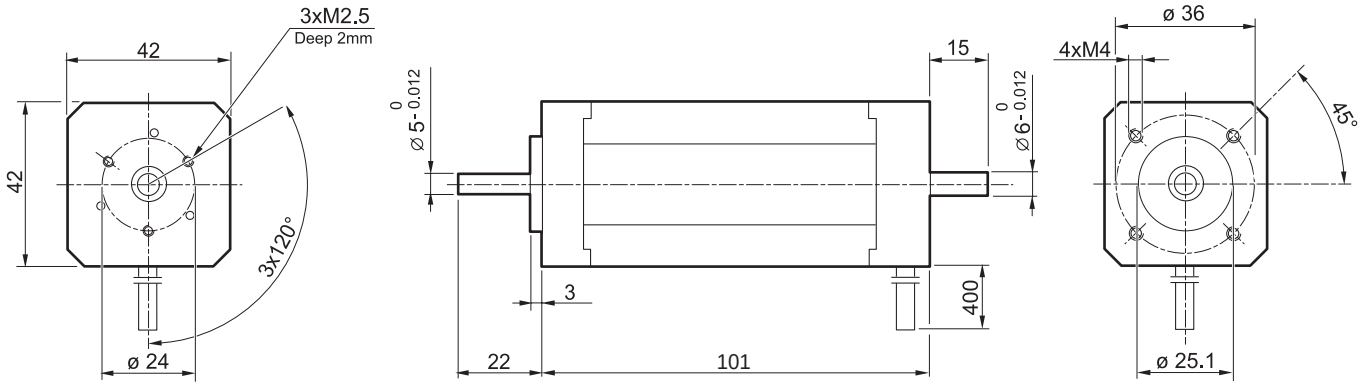




BL025.24E

Dimensioni — *Dimensions*

BL025.24E



Encoder → AA19

Per montaggio encoder serve flangia 4M.305
Encoder assembling needs flange 4M.305

Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL032.240

Specifiche costruttive — *General features*

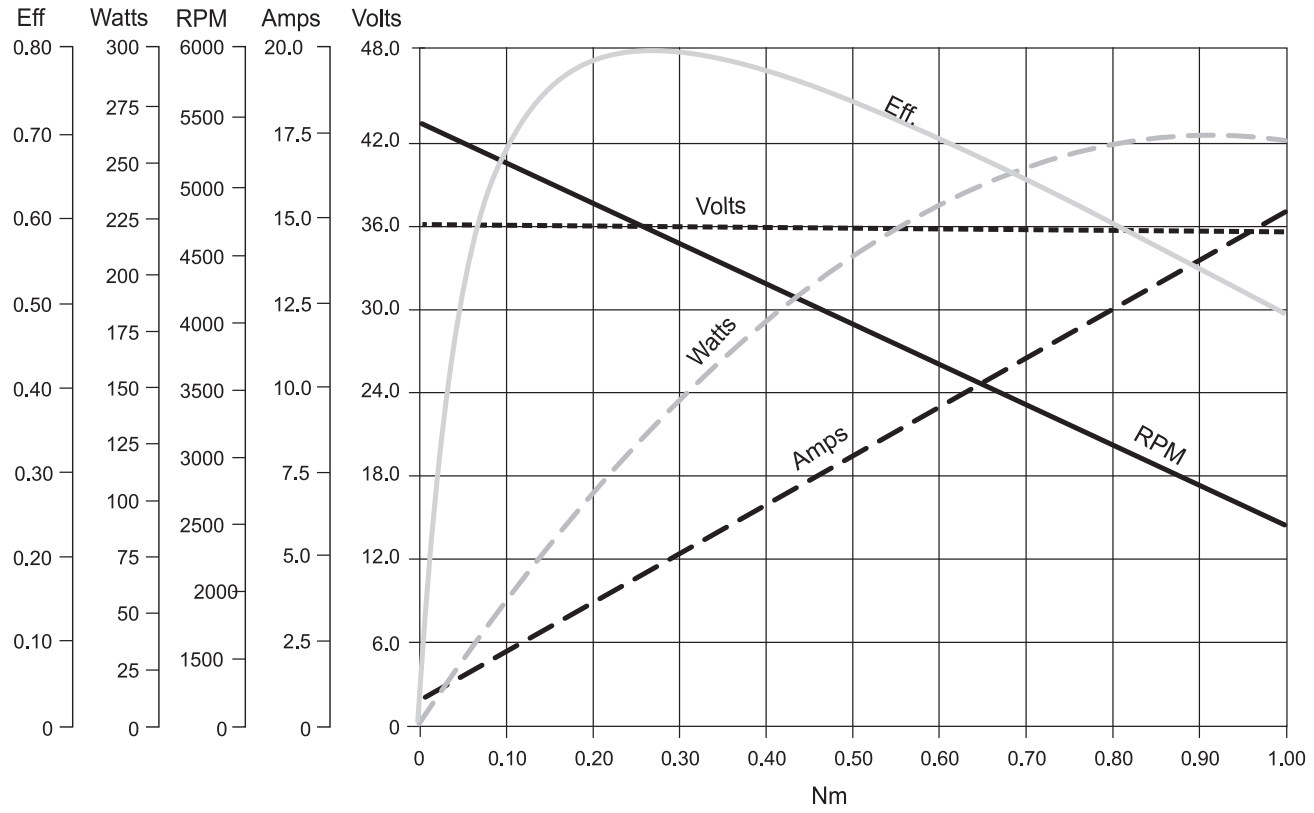
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.025 mm @ 460 g
Gioco assiale *End play*	0.025 mm @ 4000 g
Scentratura albero *Shaft run out*	0.025 mm

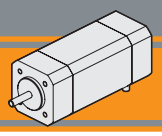
Max forza radiale *Max radial force*	75N @ 20 mm dalla flangia *75N @ 20 mm from flange*
Max forza assiale *Max axial force*	15N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [min-1]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm2]	Peso *Weight* [kg]	IP
BL032.240	4	3	36	4000	0.32	135	1.0	5	16.5	0.45	1.4	0.063	6.6	173	1.0	20
BL032.240	4	3	24	3000	0.32	100	1.0	5	16.5	0.45	1.4	0.063	6.6	173	1.0	20

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

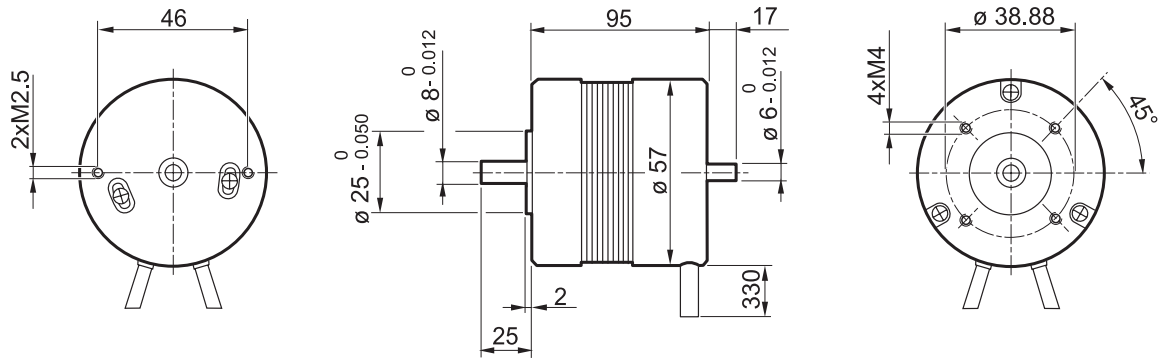




BL032.240

Dimensioni — *Dimensions*

BL032.240



Encoder → AA19

Freno / *Brake* → AA18

Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL043.240

Specifiche costruttive — *General features*

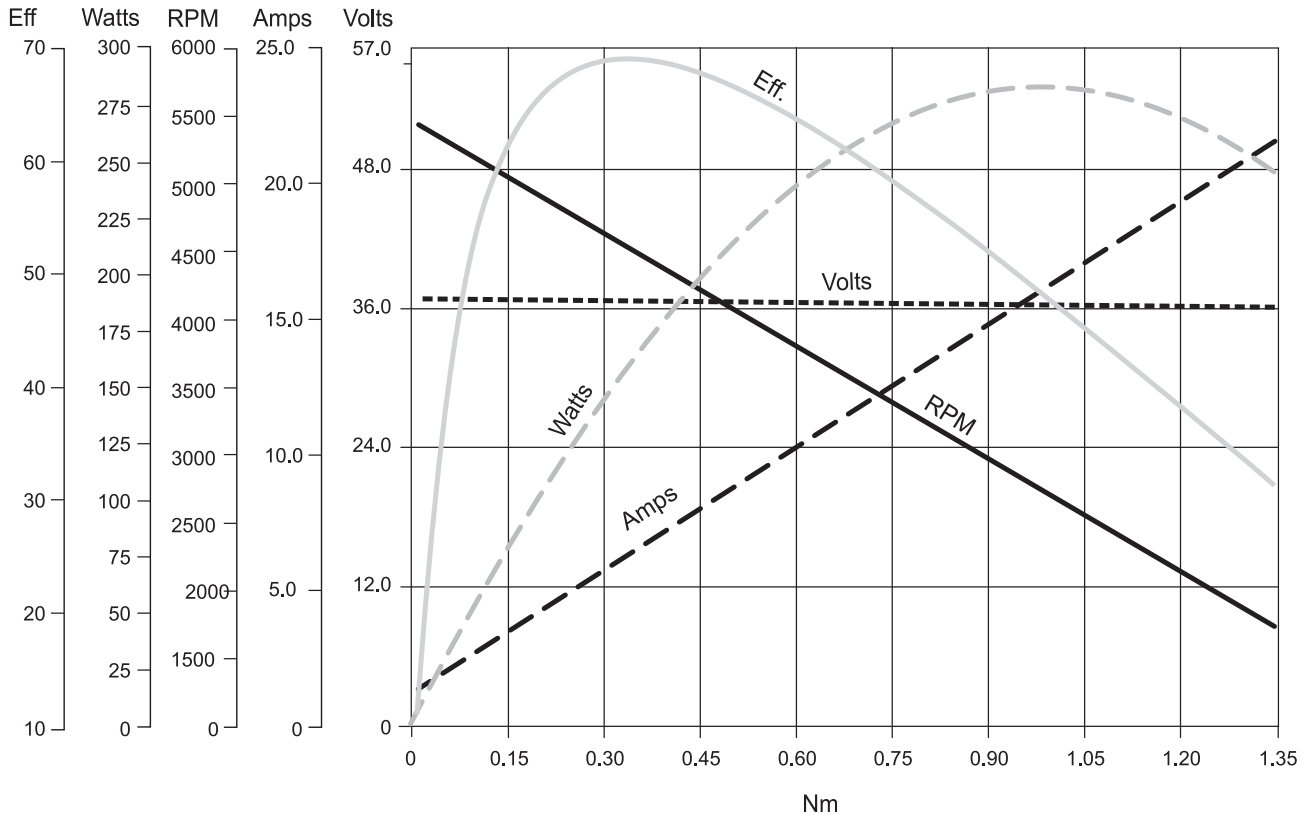
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.025 mm @ 460 g
Gioco assiale *End play*	0.025 mm @ 4000 g
Scentratura albero *Shaft run out*	0.025 mm

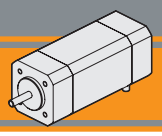
Max forza radiale *Max radial force*	75N @ 20 mm dalla flangia *75N @ 20 mm from flange*
Max forza assiale *Max axial force*	15N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [min-1]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm2]	Peso *Weight* [kg]	IP
BL043.240	4	3	36	4000	0.43	180	1.27	6.8	20.5	0.35	1.0	0.063	6.6	230	1.25	20
BL043.240	4	3	24	3000	0.43	130	1.27	6.8	20.5	0.35	1.0	0.063	6.6	230	1.25	20

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

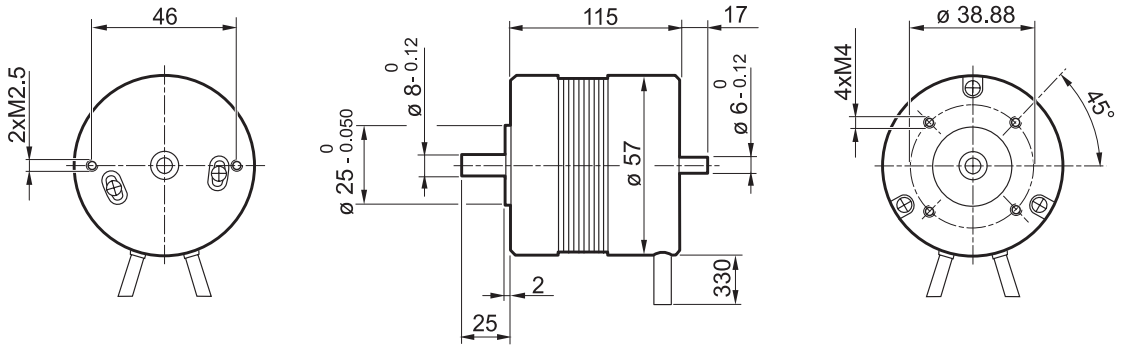




BL043.240

Dimensioni — *Dimensions*

BL043.240



Encoder → AA19

Freno / *Brake* → AA18

Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL070.48E

Specifiche costruttive — *General features*

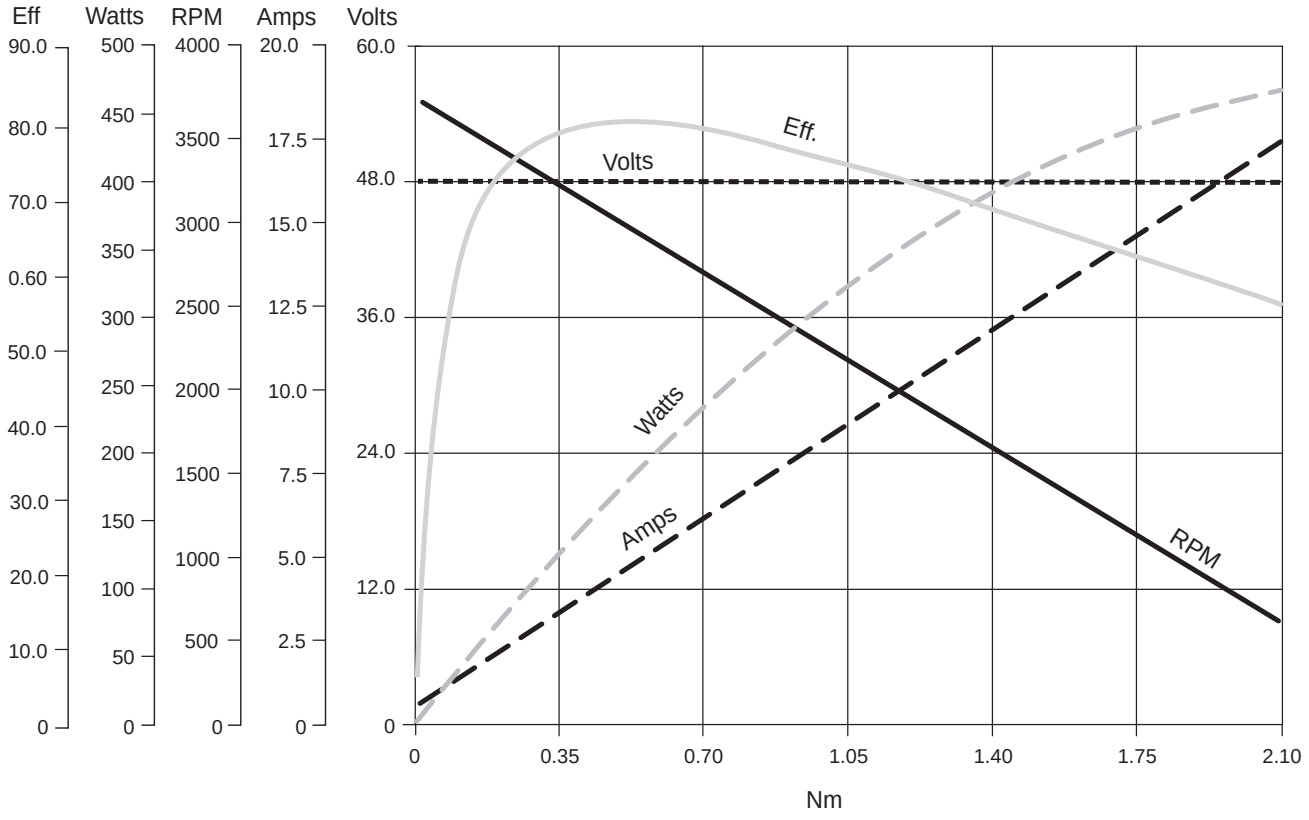
Tipologia di avvolgimento *Winding type*	Stella *Star*
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.05 mm

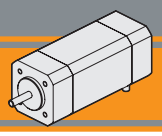
Max forza radiale *Max radial force*	220N @ 20 mm dalla flangia *220N @ 20 mm from flange*
Max forza assiale *Max axial force*	60N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL070.48E	8	3	48	3000	0.7	220	2.1	6.5	20	0.34	1.0	0.107	9	0.8	2.1	20

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

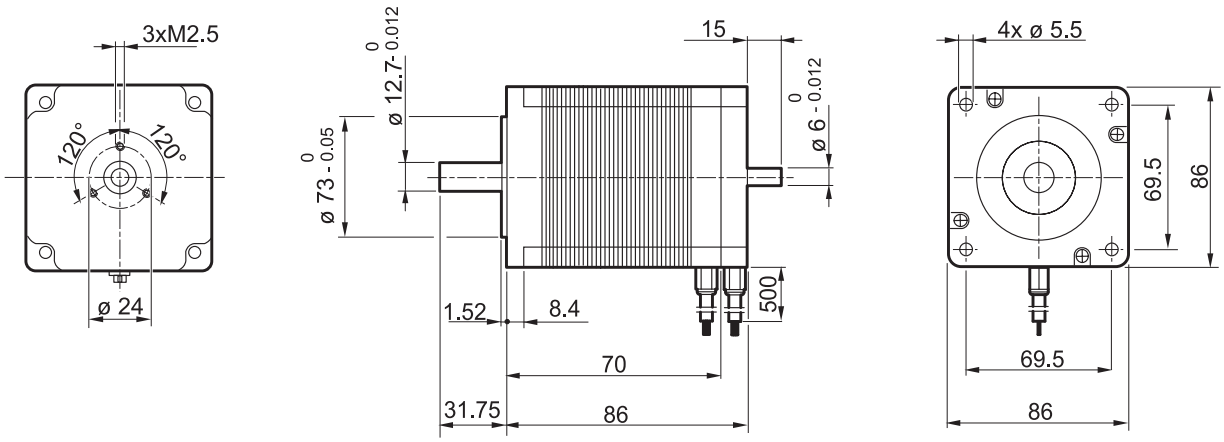




BL070.48E

Dimensioni — *Dimensions*

BL070.48E



Encoder → AA19

Freno / *Brake* → AA18

Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Blu / *Blue*	Fase U / *U motor Phase*
Marrone / *Brown*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

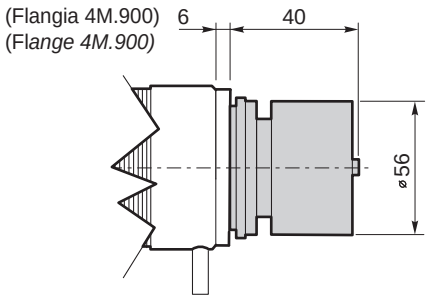
Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blu ***Blue***	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

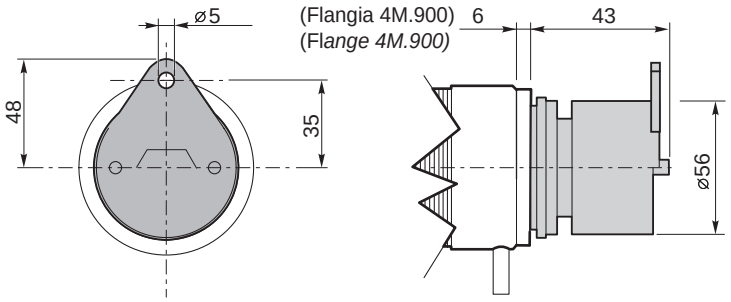
Freno / *Brake*

Freno con leva di sblocco/ *Brake with hand release*

BL032...BR
BL043...BR

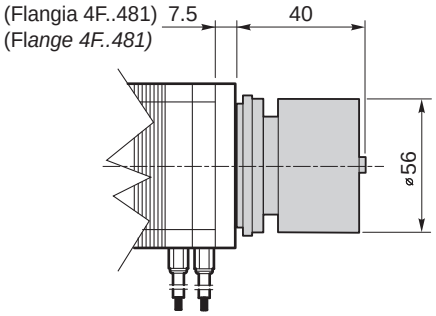


BL032...BRL
BL043...BRL

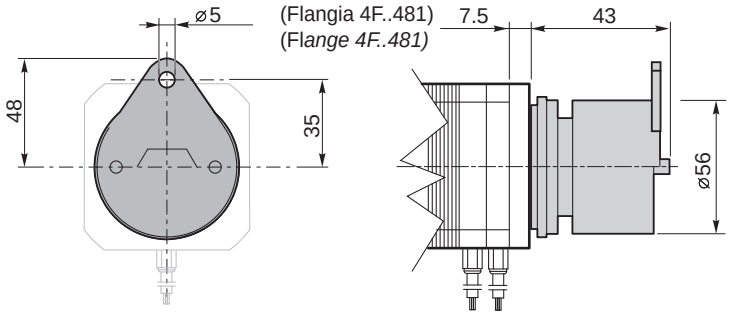


	Pn [W]	V [V]	Mn [Nm]	n_1 [min^{-1}]
Caratteristiche del freno / *Break features*	14	12	2	3000
		24		

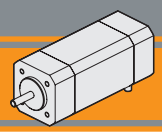
BL070...BR



BL070...BRL

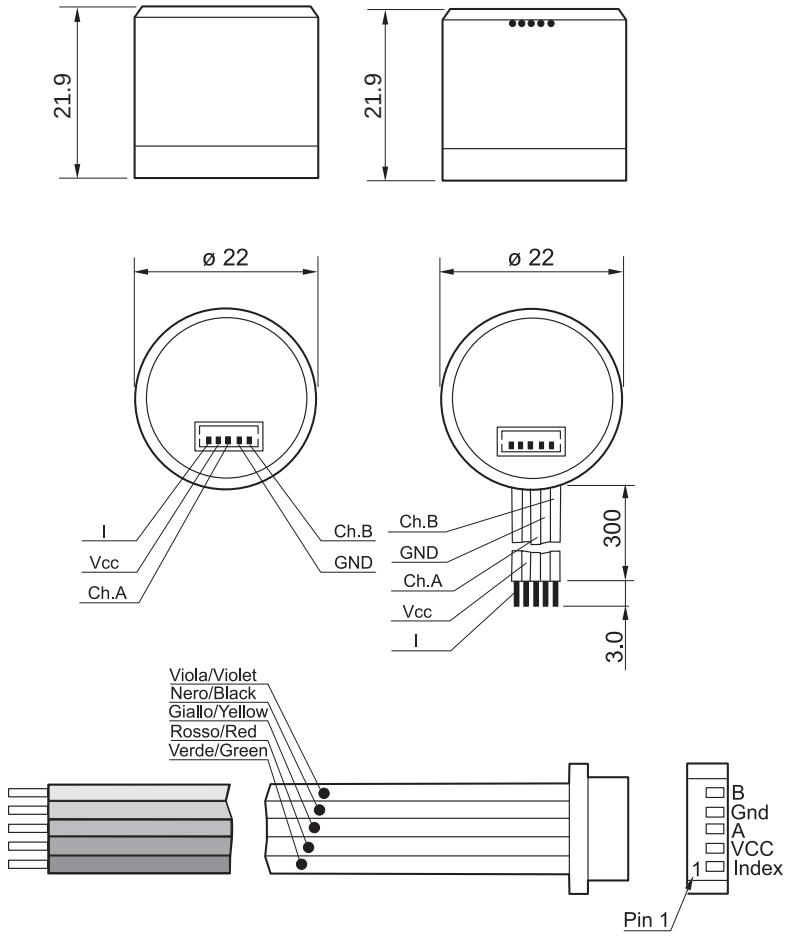


	Pn [W]	V [V]	Mn [Nm]	n_1 [min^{-1}]
Caratteristiche del freno / *Break features*	14	12	2	3000
		24		



Encoder ME22

Encoder ME22



Risoluzione Encoder (CPR) / *Encoder Resolution (CPR)*	Numero di canali / *Number of channels*	Tensione d'alimentazione / *Power supply*
001	2	5 VdC - TTL
100		
300		

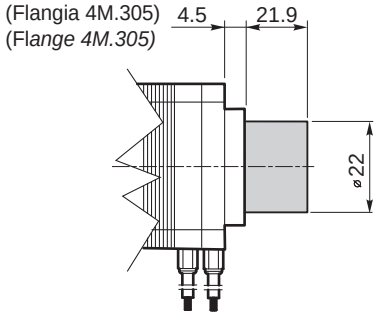
Per risoluzioni encoder non standard, si prega di contattare il nostro Servizio Tecnico.

For non-standard encoder resolution, please contact our Technical Department.

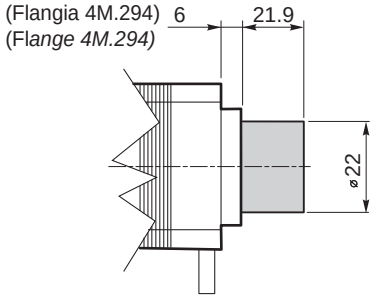
Nota: Fornito con cavo lungo 300 mm

Note: Supplie with cavle 300 mm long

BL025.24E ME22
BL070.48E ME22



BL032.240 ME22
BL043.240 ME22



Note/*Notes*

TRANSTECNO®
the modular gearmotor

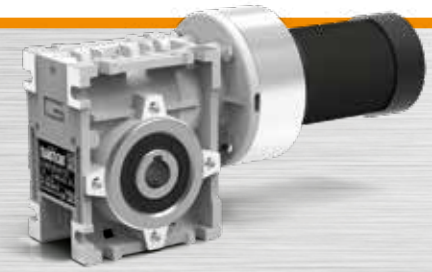
BLCM

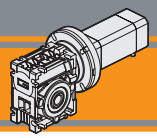
BLCM

BLCM Alu

IP20

Motoriduttori brushless CC a vite senza fine
Brushless DC wormgearmotors





ENERGY SAVING

IP 20

CM

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**AB2**
Designazione	*Classification*	**AB2**
Simbologia	*Symbols*	**AB2**
Lubrificazione	*Lubrication*	**AB2**
Carichi radiali	*Radial loads*	**AB3**
Dati di dentatura	*Toothing data*	**AB3**
Rendimento	*Efficiency*	**AB3**
CM026 con motore brushless	*CM026 with brushless motor*	**AB4**
CM030 con motore brushless	*CM030 with brushless motor*	**AB6**
Dimensioni	*Dimensions*	**AB8**
Opzioni	*Options*	**AB9**
Accessori	*Accessories*	**AB10**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

Le caratteristiche principali dei motoriduttori brushless CC a vite senza fine della serie CM sono:

- Alimentazione in bassa tensione 24/36 Vcc
- Possibilità di montaggio encoder
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico

The main features of brushles DC wormgearmotors range CM are:

- *Low voltage power supply 24/36 Vdc*
- *Suitable for encoder assembly*
- *Die-cast aluminium housings*
- *Permanent synthetic oil long life lubrication*

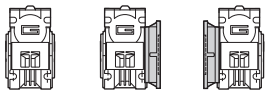
Designazione — *Classification*

RIDUTTORE / *GEARBOX*				MOTORE / *MOTOR*		
CM	**026**	**20**	**U**	**BL012.240**	**24V**	**Encoder**
Tipo *Type*	Grandezza *Size*	Rapporto in *Ratio in*	Versione *Version*	Tipo *Type*	Tensione *Voltage*	Opzioni *Options*
CM	**026** **030**	Vedere tabelle *See tables*	**U** **F**	**BL012.240** **BL018.240** **BL025.24E** **BL025.48E** **BL032.240** **BL043.240**	**24V** **36V** **48V**	**Encoder**

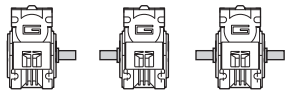


AA19

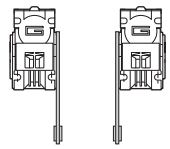
Versione Riduttore *Gearbox Version*



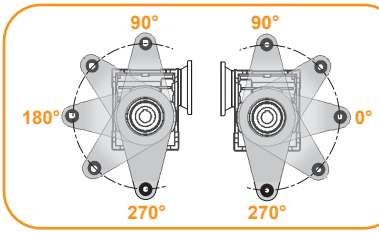
Albero di uscita *Output shaft*



Braccio di reazione *Torque arm*



Angolo *Angle*



(*) NOTA: il braccio di reazione viene fornito smontato.
NOTE: the torque arm will be supplied not assembled.

Simbologia — *Symbols*

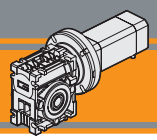
Ns		n° stadi / *No. stages*
in		rapporto nominale / *nominal ratio*
ir		rapporto reale / *real ratio*
M_n	[Nm]	coppia in uscita in funzionamento continuativo S1 *output torque for continuous operation S1*
Rd		rendimento dinamico / *efficiency*
R_2	[N]	massimo carico radiale al centro dell'albero uscita max. *radial load at output shaft centre*
A_2	[N]	massimo carico assiale / *max. axial load*
Pn	[W]	Potenza nominale / *Nominal power*
V	[V]	*Tensione / Voltage*
I	[A]	Assorbimento / *Current*
IC		Classe di isolamento termico / *Thermal insulation class*
FF		Fattore di forma / *Form factor*
n_1	[Rpm]	Giri / *Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*

Lubrificazione — *Lubrication*

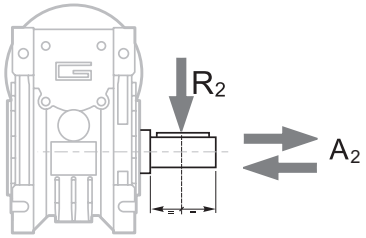
I riduttori a vite senza fine della serie CM026 e CM030 sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use CM026 and CM030 wormgearmotors range in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.



Carichi radiali — *Radial loads*

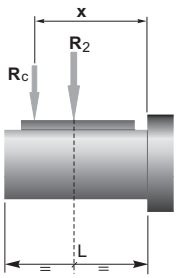


$A_2 = R_2 \times 0.2$

n_2 [min^{-1}]	R_2 [N]	
	CM026	CM030
600	271	457
400	310	523
300	342	576
200	391	659
150	479	726
120	514	782
100	547	831
75	609	914
60	610	985
50	610	1047
38	610	1147
30	610	1241

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:



$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

	CM	
	026	030
a	56	65
b	43	50
R_{2MAX}	610	1600

Dati di dentatura — *Toothing data*

	Dati della coppia vite-corona *Worm wheel data*	Rapporto / *Ratio*											
		5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	Z	6	4	3	2	2		1	1	1	1		
	β	34° 35'	24° 41'	19° 1'	12° 57 '	10° 30'		6° 33'	5° 17'	4° 26'	3°49'		
CM030	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	27° 4'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'

Rendimento — *Efficiency*

	n_1 [min^{-1}]	Rendimento *Efficiency*	Rapporto / *Ratio*										
			5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	2800	Rd	89	87	85	83	80		73	68	64	60		
	1400		87	84	83	78	74		66	61	57	53		
	900		84	83	80	75	71		61	57	52	48		
		Rs	72	71	68	61	56	46	41	36	34			
CM030	2800	Rd	89	88	86	84	81	78	74	70	65	62	57	52
	1400		86	85	84	79	75	72	67	62	58	55	48	43
	900		84	83	81	75	71	68	62	58	53	49	43	39
		Rs	72	67	63	55	50	43	39	35	31	27	23	21

Reversibilità e irreversibilità — *Reversibility and irreversibility*

La tabella sottostante riporta a titolo puramente indicativo i vari gradi di reversibilità/irreversibilità nei riduttori a vite senza fine in funzione del rendimento dinamico Rd e statico Rs.

The table below is provided for reference purposes only. It contains the various degrees of reversibility/irreversibility of wormgearboxes in relation to dynamic Rd and static Rs efficiency.

Rd	Reversibilità e irreversibilità dinamica	*Dynamic reversibility and irreversibility*
> 0.60	Reversibilità dinamica	Dynamic reversibility
0.50 - 0.60	Reversibilità dinamica incerta	Uncertain dynamic reversibility
0.40 - 0.50	Buona irreversibilità dinamica	Good dynamic irreversibility
<0.40	Irreversibilità dinamica	Dynamic irreversibility
Rs	**Reversibilità e irreversibilità statica**	***Static reversibility and irreversibility***
> 0.55	Reversibilità statica	Static reversibility
0.50 - 0.55	Reversibilità statica incerta	Uncertain static reversibility
<0.50	Irreversibilità statica	Static irreversibility

CM026 con motore brushless CC

CM026 with DC brushless motor

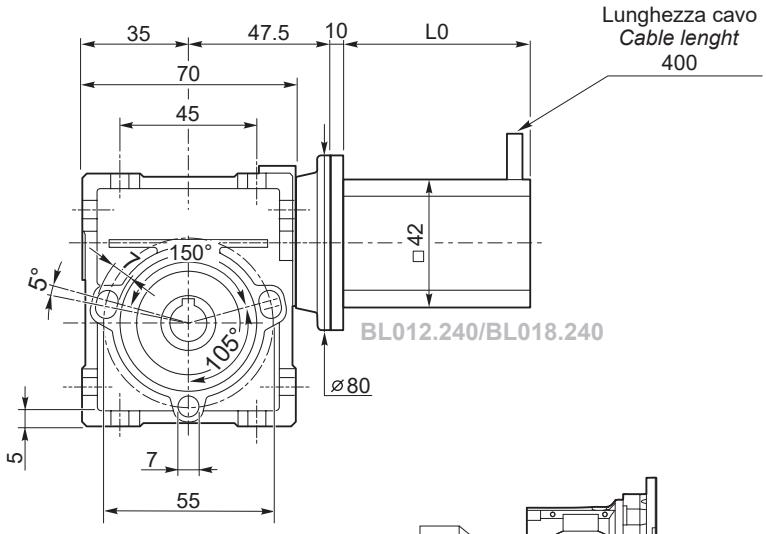
CM026	BL012.240							BL018.240						
	24V							24V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
5	80	0.5	45	800	0.6	16		80	0.7	31	800	0.8	11	
7.5	53	0.7	33	533	0.8	12		53	1.1	22	533	1.2	8.0	
10	40	0.9	26	400	1.1	9.1		40	1.4	17	400	1.6	6.1	
15	27	1.3	19	267	1.6	6.2		27	1.9	13	267	2.3	4.2	
20	20	1.6	14	200	2.0	4.8	4000	20	2.4	10	200	3.0	3.3	4000
30	13	2.1	12	133	2.7	3.8		13	3.1	8.2	133	4.1	2.6	
40	10	2.5	8.0	100	3.4	2.8		10	3.7	5.4	100	5.0	1.9	
50	8	2.8	6.8	80	4.0	2.2		8	4.2	4.6	80	5.9	1.5	
60	7	3.2	5.4	67	4.5	1.8		7	4.7	3.6	67	6.7	1.2	

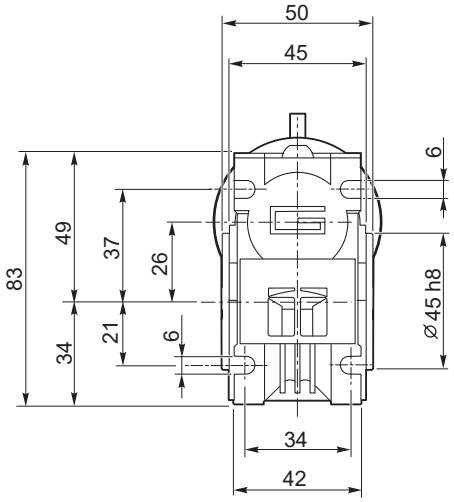
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

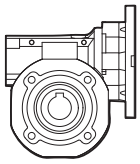
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL012.240	8	3	24	4000	0.125	52.5
BL018.240	8	3	24	4000	0.185	77.5
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL012.240	0.25	3.5	0.8	1.2	7.0	0.45
BL018.240	0.37	5.0	0.55	0.8	10.0	0.65

Azionamenti *Drives* → II 2





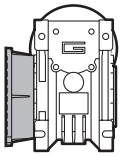
III 6



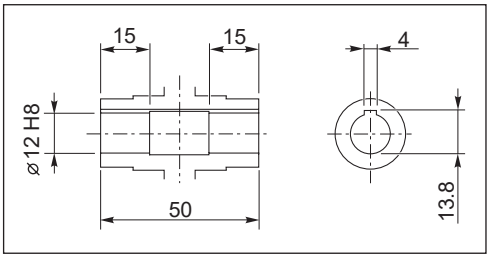
CL026

Tipo *Type*	L0	L1	L2
BL012.240	61	-	-
BL018.240	81	-	-

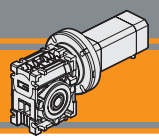
AB9



CM026.. F



Albero lento cavo / *Hollow output shaft*



CM026 con motore brushless CC

CM026 with DC brushless motor

CM026	BL025.24E 24V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
5	80	1.0	23	800	1.1	8	4000
7.5	53	1.5	16	533	1.6	5.9	
10	40	1.9	13	400	2.1	4.5	
15	27	2.6	9	267	3.1	3.1	
20	20	3.3	7	200	4.0	2.4	
30	13	4.1	6.1	133	5.5	1.9	
40	10	5.0	4.0	100	6.8	1.4	
50	8	5.6	3.4	80	8.0	1.1	
60	7	6.3	2.7	67	9.0	0.9	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

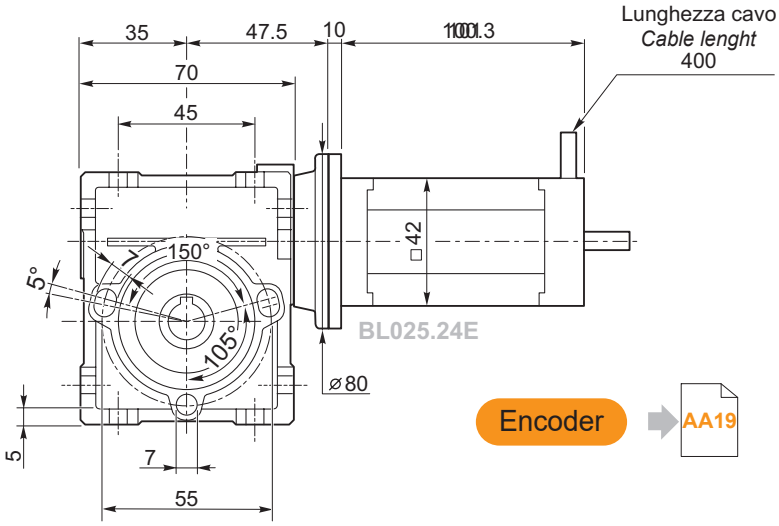
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

NOTA: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

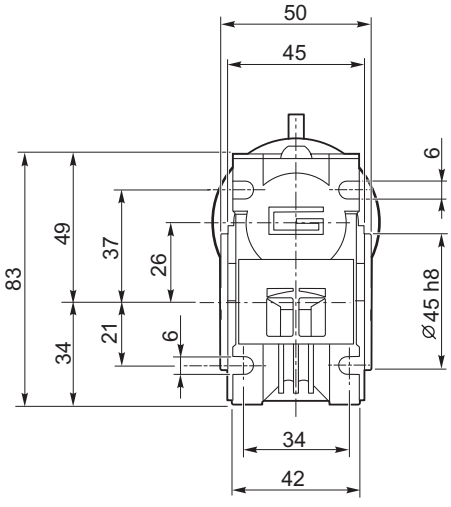
NOTE: *boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

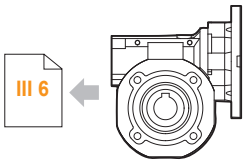
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL025.24E	8	3	24	4000	0.25	105
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL025.24E	0.5	7.0	0.3	0.5	21	0.8

Azionamenti *Drives* → II 2

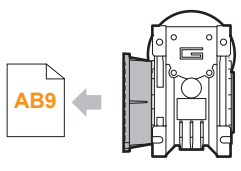


Encoder → AA19

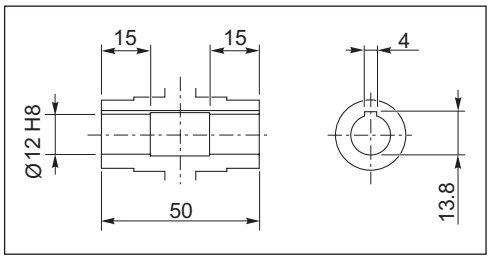




III 6 → CL026



AB9 → CM026.. F



Albero lento cavo / *Hollow output shaft*

CM030 con motore brushless CC

CM030 with DC brushless motor

CM030	BL032.240						
	24V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
5	60	1.3	24	600	1.4	9.1	3000
7.5	40	1.9	17	400	2.1	7.1	
10	30	2.4	14	300	2.8	5.8	
15	20	3.4	10	200	4.0	4.0	
20	15	4.2	7	150	5.2	2.7	
25	12	4.9	6	120	6.2	2.4	
30	10	5.3	7	100	7.1	2.5	
40	8	6.4	5.0	75	9.0	1.8	
50	6	7.4	3.9	60	10	1.4	
60	5	8.1	3.2	50	12	1.2	
80	4	9.3	2.4	38	15	0.8	
100	3	10	2.0	30	16	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

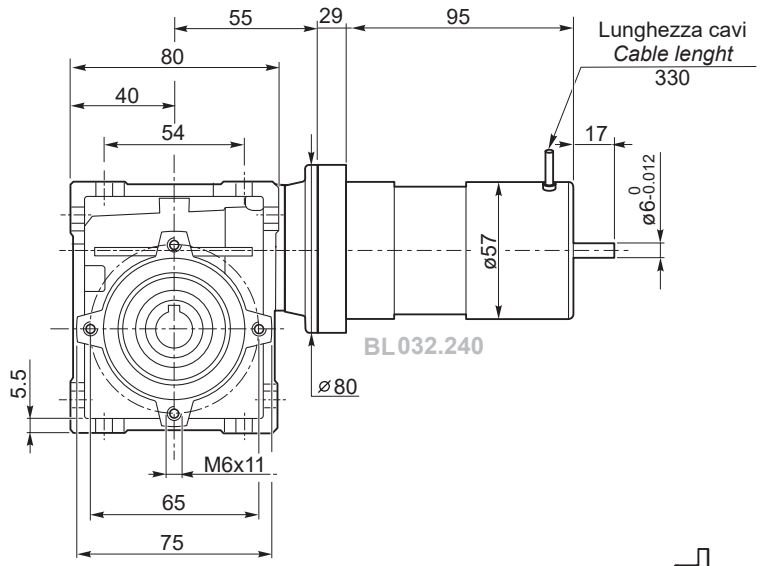
NOTA: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

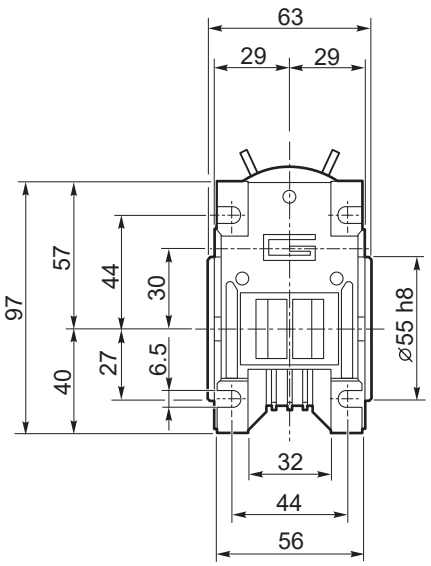
NOTE: *boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL032.240	4	3	24	3000	0.32	100
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL032.240	0.64	5.0	0.45	1.4	10.0	1.0

Nota: per alimentazione a 36Vdc si prega di contattare il servizio tecnico. *Note: for supply voltage 36Vdc please contact our technical service*

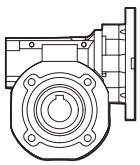
Azionamenti *Drives* → II 2





Encoder → AA19

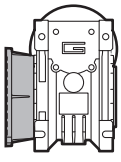
III 9 →



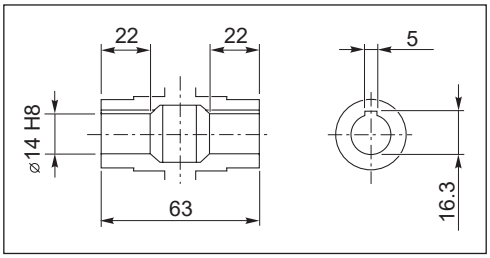
CL030

Freno / *Brake* → AA18

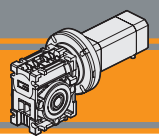
AB9 →



CM030.. F



Albero lento cavo / *Hollow output shaft*



CM030 con motore brushless CC

CM030 with DC brushless motor

CM030	BL043.240 24V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
5	60	1.8	18	600	1.9	6.8	3000
7.5	40	2.5	13	400	2.8	5.3	
10	30	3.3	11	300	3.7	4.3	
15	20	4.5	7.5	200	5.4	3.0	
20	15	5.6	5.3	150	7.0	2.0	
25	12	6.6	4.4	120	8.4	1.8	
30	10	7.2	5.2	100	9.5	1.9	
40	8	8.6	3.7	75	12	1.3	
50	6	9.9	2.9	60	14	1.1	
60	5	11	2.4	50	16	0.9	
80	4	13	1.8	38	17	0.7	
100	3	14	1.5	30	16	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

NOTA: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

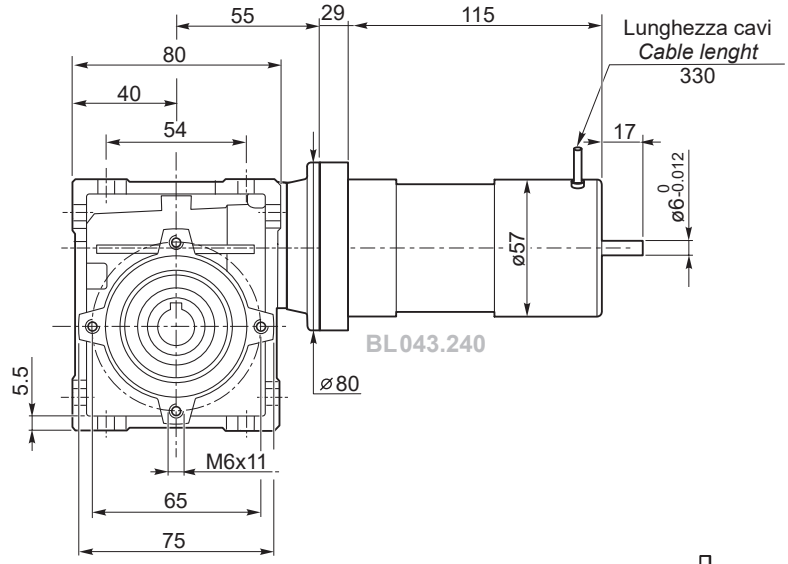
NOTE: *boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

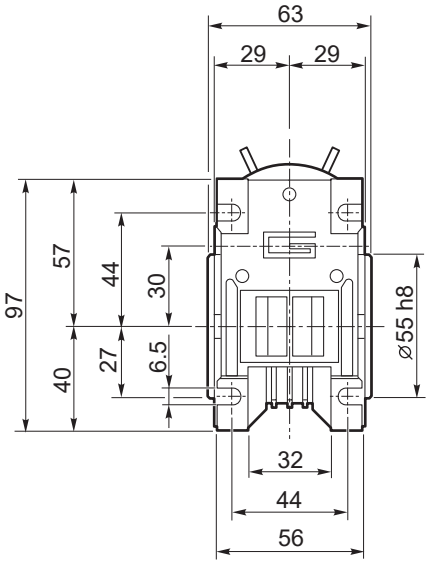
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL043.240	4	3	24	3000	0.43	130
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL043.240	0.86	6	0.35	1.0	12.0	1.25

Nota: per alimentazione a 36Vdc si prega di contattare il servizio tecnico.

Note: for supply voltage 36Vdc please contact our technical service

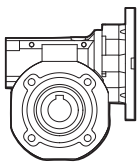
Azionamenti *Drives* → II 2





Encoder → AA19

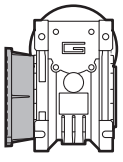
III 9 →



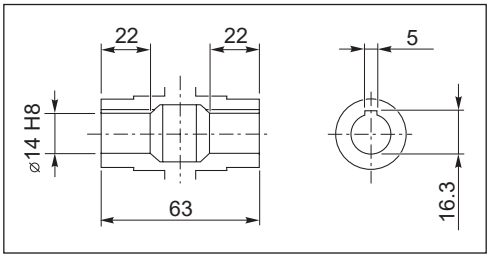
CL030

Freno / *Brake* → AA18

AB9 →



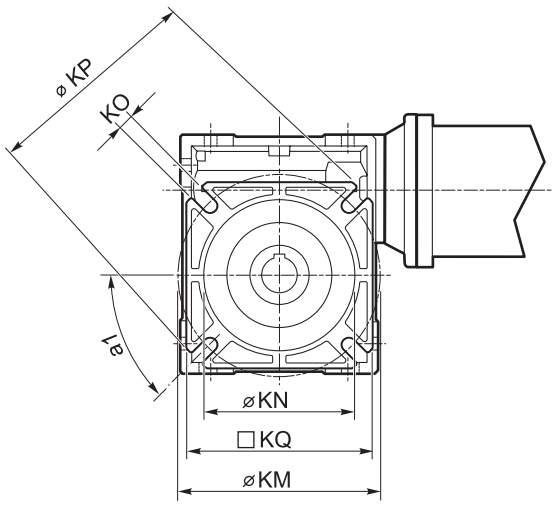
CM030.. F

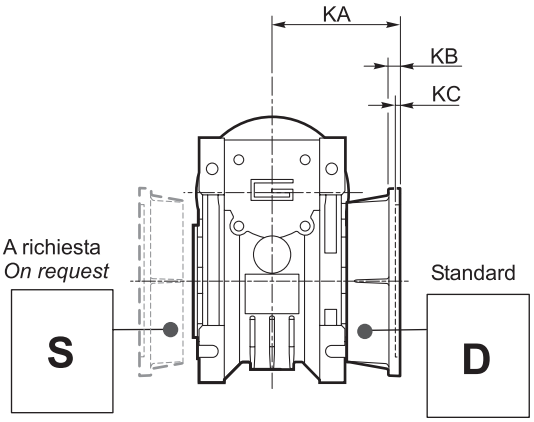


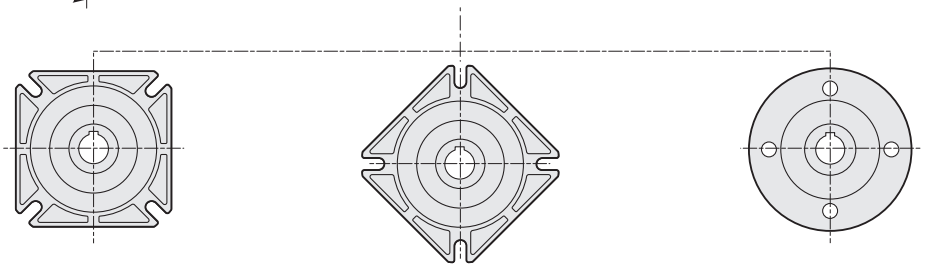
Albero lento cavo / *Hollow output shaft*

Dimensioni flange uscita — *Output flange dimensions*

CM.../... F... Flange uscita / *Output flanges*







..CM026 ../.. F
..CM026 ../.. F28
..CM026 ../.. F30
..CM026 ../.. F30S
..CM030 ../.. F..

..CM026 ../.. F30C
..CM026 ../.. F30SC

..CM026 ../.. F100

	CM..F									CM..F28								CM..F30								CM..F30S (1)							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
026 (D11) 026 026 (D14)	45°	45	6	4.5	55-69	40	6.5 (n.4)	75	70	44	6.5	5	56-64	40	6.5	70	60	48	6.5	5	68	50	6.5	80	70	50	8.5	7	68	50	6.5	80	70

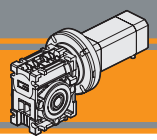
(1): F30S eseguita con F30 e distanziale di spessore 2 mm / *F30S made with F30 and spacer with 2mm thickness*

	CM..F30C									CM..F30SC (2)								CM..F100							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC *	KM	KN h7	KO	KP	KQ
026 (D11) 026 026 (D14)	-	48	6.5	7	68	50	6.5	80	70	50	8.5	7	68	50	6.5	80	70	51.5	8	2 *	86	45	6.5	100	-

(2): F30SC eseguita con F30C e distanziale di spessore 2 mm / *F30SC made with F30C and spacer with 2mm thickness*

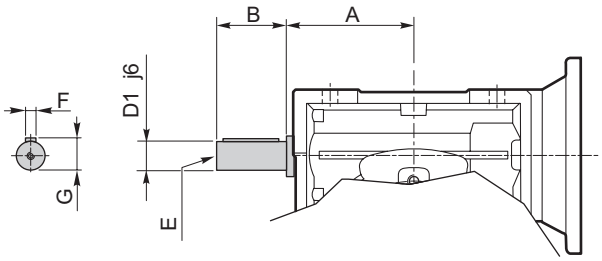
*: Centraggio maschio / *Male centering diameter*

CM	CM..F								CM..FB								CM..FL							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
030	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Opzioni / *Options*

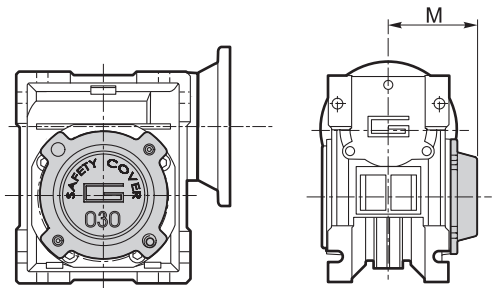
VS - Vite sporgente / *Extended input shaft*



	A	B	D_1 j6	E	F	G
CM 030	45	20	9	M4	3	10.2

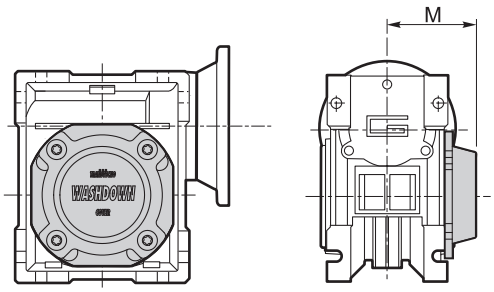
Costruito su richiesta
Built on request

SC - *Safety cover*



	M
CM 030	47

WD - *Washdown cover*



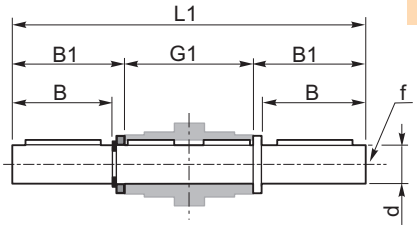
	M
CM 030	48

Accessori — *Accessories*

Albero lento — *Output shaft*

CM 030

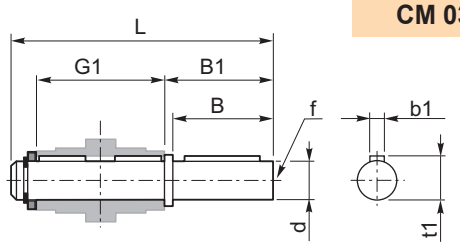
DZ



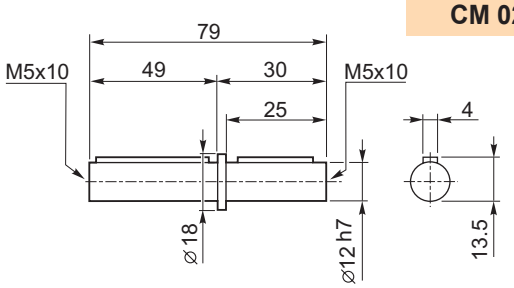
	d h7	B	B1	G1	L	L1	f	b1	t1
CM 030	14	30	32.5	63	102	128	M6	5	16

CM 030

SZ

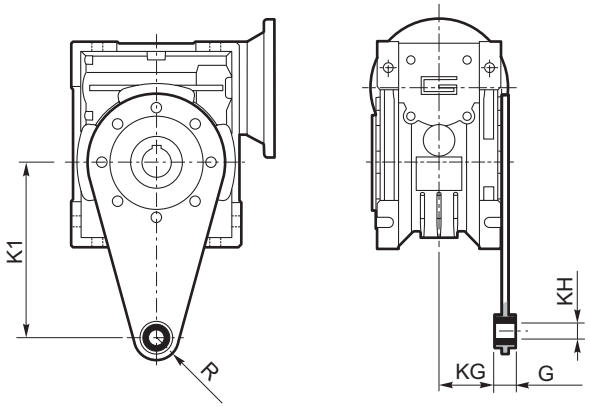


CM 026



Braccio di reazione — *Torque arm*

	K1	G	KG	KH	R
CM 030	85	14	23	8	15



TRANSTECNO®
the modular gearmotor

BLPM

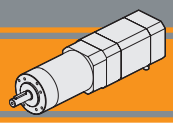
BLPM

BLPM Alü

IP20

Motoriduttori brushless CC epicicloidali
Brushless DC planetary gearmotors





Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**AC2**
Designazione	*Classification*	**AC2**
Simbologia	*Symbols*	**AC2**
Lubrificazione	*Lubrification*	**AC2**
Carichi radiali	*Radial loads*	**AC3**
Rapporti	*Ratios*	**AC3**
PK32BB con motore brushless BL005	*PK32BB with brushless motor BL005*	**AC4**
PM32 con motore brushless BL005	*PM32 with brushless motor BL005*	**AC4**
PM42 con motore brushless BL012.240	*PM42 with brushless motor BL012.240*	**AC6**
PM42 con motore brushless BL018.240	*PM42 with brushless motor BL018.240*	**AC6**
PM42 con motore brushless BL025.24E	*PM42 con motore brushless BL025.24E*	**AC8**
PM52 con motore brushless BL032.240	*PM52 con motore brushless BL032.240*	**AC10**
PM52 con motore brushless BL043.240	*PM52 con motore brushless BL043.240*	**AC10**
PM62 con motore brushless BL032.240	*PM62 with brushless motor BL032.240*	**AC12**
PM62 con motore brushless BL043.240	*PM62 with brushless motor BL043.240*	**AC12**
PM62 con motore brushless BL070.480	*PM62 with brushless motor BL070.480*	**AC14**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

Le caratteristiche principali dei motoriduttori epicicloidali brushless CC della serie PM sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Possibilità di montaggio encoder
- Lubrificazione permanente a grasso

Soluzione PM:

- Completamente in metallo
- Doppio cuscinetto su albero di uscita

Soluzione PK-BB:

- Mix plastica / metallo
- Doppio cuscinetto su albero di uscita

The main features of brushless DC planetary gearmotors range PM series are:

- *Low voltage power supply 24/36/48 Vdc*
- *Suitable for encoder assembly*
- *Permanent grease long life lubrication*

PM solution:

- *Completely made out of metal*
- *Double ball bearing on output shaft*

PK-BB solution:

- *Plastic / metal mix*
- *Double ball bearing on output shaft*

Designazione — *Classification*

RIDUTTORE / *GEARBOX*

PM	42	2	46	-
Tipo *Type*	Grandezza *Size*	Stadi riduttore *Gearbox stages*	Rapporto in *Ratio in*	Versione *Version*
PM	**32** **42** **52** **62**	**1** **2** **3**	Vedere tabelle *See tables*	**-**
PK	**32**	**1** **2** **3**	Vedere tabelle *See tables*	**BB**

MOTORE / *MOTOR*

BL012.240	24V	Encoder
Tipo *Type*	Tensione *Voltage*	Opzioni *Options*
BL005.240 **BL012.240** **BL018.240** **BL025.24E** **BL032.240** **BL043.240** **BL070.48E**	**24V** **36V** **48V**	**Encoder** AA19

Simbologia — *Symbols*

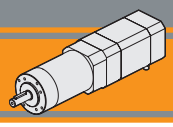
Ns		n° stadi / *No. stages*
in		rapporto nominale / *nominal ratio*
ir		rapporto reale / *real ratio*
M_n	[Nm]	coppia in uscita in funzionamento continuativo S1 *output torque for continuous operation S1*
Rd		rendimento dinamico / *efficiency*
R_2	[N]	massimo carico radiale al centro dell'albero uscita max. *radial load at output shaft centre*
A_2	[N]	massimo carico assiale / *max. axial load*

Pn	[W]	Potenza nominale / *Nominal power*
V	[V]	*Tensione / Voltage*
I	[A]	Assorbimento / *Current*
IC		Classe di isolamento termico / *Thermal insulation class*
FF		Fattore di forma / *Form factor*
Mn	[Nm]	Coppia / *Torque*
n_1	[Rpm]	Giri / *Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*

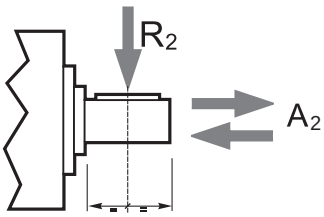
Lubrificazione — *Lubrication*

I riduttori epicicloidali sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Planetary gearboxes are life-time lubricated with grease, therefore they are maintenance free.
They can be installed in any location.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.



Carichi radiali — *Radial loads*



Ns	Carichi Radiali R_2 [N] / *Radial Load R_2 [N]*				
	PK32BB	PM32	PM42	PM52	PM62
1	40	40	160	200	240
2	70	70	230	320	360
3	100	100	300	450	520

Ns	Carichi Assiali A_2 [N] / *Axial Load A_2 [N]*				
	PK32BB	PM32	PM42	PM52	PM62
1	10	10	50	60	70
2	20	20	80	100	100
3	30	30	110	150	150

Rapporti — *Ratios*

PK32BB - PM32 - PM42 - PM52 - PM62		
Ns	in	ir
1	**4**	**3.7**
	4	4.28
	5	5.18
	7	**6.75**
2	**14**	**13.73**
	16	15.88
	18	18.36
	19	19.2
	22	22.2
	25	**25.01**
	27	26.85
	29	28.93
	35	34.97
	46	**45.56**
3	51	50.89
	59	58.85
	68	68.06
	71	71.16
	79	78.71
	93	**92.7**
	95	95.17
	100	99.5
	107	107.2
	115	115.07
	124	123.97
	130	129.62
	139	139.13
	150	149.9
	169	**168.84**
	181	181.24
	195	195.26
	236	236.09
	308	**307.54**

Rapporti preferenziali per PM42, PM52, PM62.
Preferred ratios for PM42, PM52, PM62.

Disponibile a 4 stadi con rapporti fino a 2076
Available 4 stages with ratio up to 2076

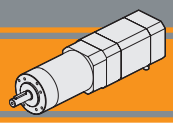
PK32BB - PM32 con motore brushless CC

PK32BB - PM32 with DC brushless motor

P..32			PK32BB + BL005							PM32 + BL005						
			24V							24V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.70**	4	100	0.1	4.3	1000	0.1	2.6		100	0.1	7.5	1000	0.1	4.5	
	4.28	4	86	0.2	3.7	864	0.2	2.2		86	0.2	6.5	864	0.2	3.9	
	5.18	5	71	0.2	3.0	714	0.2	1.8		71	0.2	5.3	714	0.2	3.2	
	6.75	7	55	0.3	2.3	548	0.3	1.4		55	0.3	4.1	548	0.3	2.5	
2	**13.73**	14	27	0.5	3.1	269	0.5	1.8		27	0.5	6.4	269	0.5	3.9	
	15.88	16	23	0.6	2.7	233	0.6	1.6		23	0.6	5.6	233	0.6	3.3	
	18.36	18	20	0.6	2.3	202	0.6	1.4		20	0.7	4.8	202	0.7	2.9	
	19.20	19	19	0.7	2.2	193	0.7	1.3		19	0.7	4.6	193	0.7	2.8	
	22.20	22	17	0.8	1.9	167	0.8	1.1		17	0.8	4.0	167	0.8	2.4	
	25.01	25	15	0.9	1.7	148	0.9	1.0		15	0.9	3.5	148	0.9	2.1	
	26.85	27	14	0.9	1.6	138	0.9	0.9		14	1.0	3.3	138	1.0	2.0	
	28.93	29	13	1.0	1.5	128	1.0	0.9		13	1.1	3.1	128	1.1	1.8	
	34.97	35	11	1.2	1.2	106	1.2	0.7		11	1.3	2.5	106	1.3	1.5	
	45.56	46	8.1	1.6	0.9	81	1.2	0.7		8.1	1.7	1.9	81	1.7	1.2	
3	**50.89**	51	7.3	1.7	1.8	73	1.7	1.1		7.3	1.8	3.7	73	1.8	2.2	
	58.85	59	6.3	1.9	1.5	63	1.9	0.9		6.3	2.1	3.2	63	2.1	1.9	
	68.06	68	5.4	2.2	1.3	54	2.2	0.8	3700	5.4	2.4	2.8	54	2.4	1.7	3700
	71.16	71	5.2	2.3	1.3	52	2.3	0.8		5.2	2.5	2.7	52	2.5	1.6	
	78.71	79	4.7	2.6	1.2	47	2.6	0.7		4.7	2.8	2.4	47	2.8	1.4	
	92.70	93	4.0	3.0	1.0	40	2.6	0.7		4.0	3.2	2.0	40	3.2	1.2	
	95.17	95	3.9	3.1	1.0	39	2.6	0.7		3.9	3.3	2.0	39	3.3	1.2	
	99.50	100	3.7	3.2	0.9	37	2.6	0.7		3.7	3.5	1.9	37	3.5	1.1	
	107.20	107	3.5	3.5	0.8	35	2.6	0.7		3.5	3.8	1.8	35	3.8	1.1	
	115.07	115	3.2	3.7	0.8	32	2.6	0.7		3.2	4.0	1.6	32	4.0	1.0	
	123.97	124	3.0	4.0	0.7	30	2.6	0.7		3.0	4.3	1.5	30	4.3	0.9	
	129.62	130	2.9	4.0	0.7	29	2.6	0.7		2.9	4.5	1.5	29	4.5	0.9	
	139.13	139	2.7	4.0	0.7	27	2.6	0.7		2.7	4.9	1.4	27	4.9	0.8	
	149.90	150	2.5	4.0	0.7	25	2.6	0.7		2.5	5.2	1.3	25	5.2	0.8	
	168.84	169	2.2	4.0	0.7	22	2.6	0.7		2.2	5.9	1.1	22	5.9	0.7	
	181.24	181	2.0	4.0	0.7	20	2.6	0.7		2.0	6.3	1.0	20	5.9	0.7	
	195.26	195	1.9	4.0	0.7	19	2.6	0.7		1.9	6.8	1.0	19	5.9	0.7	
	236.09	236	1.6	4.0	0.7	16	2.6	0.7		1.6	8.3	0.8	16	5.9	0.7	
	307.54	308	1.2	4.0	0.7	12	2.6	0.7		1.2	9.0	0.7	12	5.9	0.7	

Nota: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

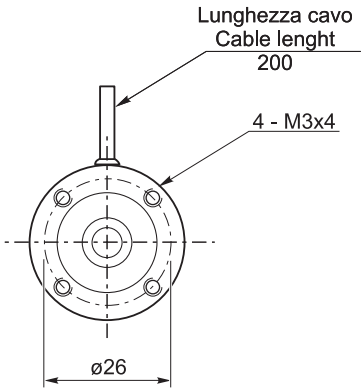
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

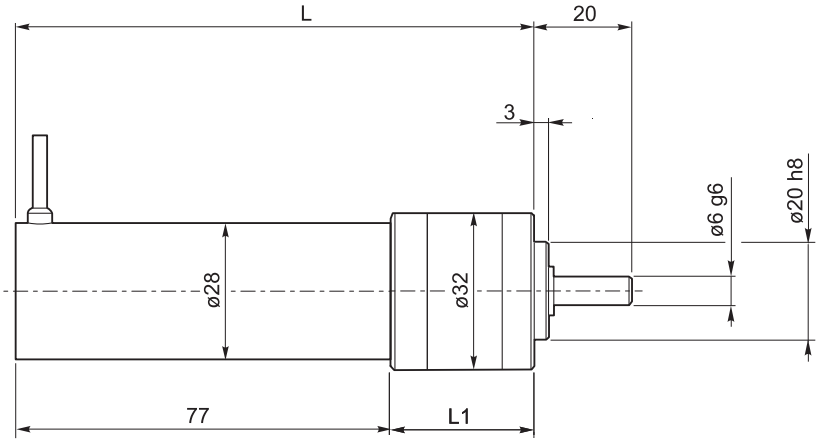


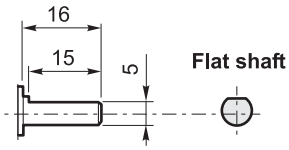
PK32BB - PM32 con motore brushless CC

PK32BB - PM32 with DC brushless motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [mNm]	Potenza nominale *Rated power* [W]
BL005	4	3	24	3700	50	16
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL005	0.1	1.0	4.67	3.5	2.0	0.208







			BL005
	Ns	**L1**	**L**
PK32BB PM32	1	36.7	113.7
	2	46.2	123.2
	3	55.7	132.7

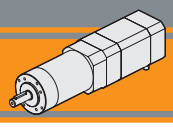
PM42 con motore brushless CC

PM42 with DC brushless motor

PM42			BL012.240							BL018.240						
			24V							24V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.70**	4	108	0.4	12.0	1081	0.4	7.2		108	0.5	8.1	1081	0.5	4.8	
	4.28	4	93	0.4	10.3	935	0.4	6.2		93	0.6	7.0	935	0.6	4.2	
	5.18	5	77	0.5	8.5	772	0.5	5.1		77	0.8	5.8	772	0.8	3.5	
	6.75	7	59	0.7	6.6	593	0.7	3.9		59	1.0	4.4	593	1.0	2.7	
2	**13.73**	14	29	1.3	8.6	291	1.3	5.2		29	1.9	5.8	291	1.9	3.5	
	15.88	16	25	1.5	7.4	252	1.5	4.5		25	2.2	5.0	252	2.2	3.0	
	18.36	18	22	1.7	6.4	218	1.7	3.9		22	2.5	4.3	218	2.5	2.6	
	19.20	19	21	1.8	6.1	208	1.8	3.7		21	2.7	4.2	208	2.7	2.5	
	22.20	22	18	2.1	5.3	180	2.1	3.2		18	3.1	3.6	180	3.1	2.2	
	25.01	25	16	2.3	4.7	160	2.3	2.8		16	3.5	3.2	160	3.5	1.9	
	26.85	27	15	2.5	4.4	149	2.5	2.6		15	3.7	3.0	149	3.7	1.8	
	28.93	29	14	2.7	4.1	138	2.7	2.4		14	4.0	2.8	138	4.0	1.7	
	34.97	35	11.4	3.3	3.4	114	3.3	2.0		11.4	4.9	2.3	114	4.9	1.4	
	45.56	46	8.8	4.3	2.6	88	4.3	1.6		8.8	6.3	1.7	88	6.3	1.0	
3	**50.89**	51	7.9	4.5	5.0	79	4.5	3.0		7.9	6.6	3.4	79	6.6	2.0	
	58.85	59	6.8	5.1	4.3	68	5.1	2.6		6.8	7.6	2.9	68	7.6	1.7	
	68.06	68	5.9	6.0	3.7	59	6.0	2.2	4000	5.9	8.8	2.5	59	8.8	1.5	4000
	71.16	71	5.6	6.2	3.6	56	6.2	2.1		5.6	9.2	2.4	56	9.2	1.4	
	78.71	79	5.1	6.9	3.2	51	6.9	1.9		5.1	10.2	2.2	51	10	1.3	
	92.70	93	4.3	8.1	2.7	43	8.1	1.6		4.3	12.0	1.8	43	12	1.1	
	95.17	95	4.2	8.3	2.7	42	8.3	1.6		4.2	12.3	1.8	42	12	1.1	
	99.50	100	4.0	8.7	2.5	40	8.7	1.5		4.0	12.9	1.7	40	13	1.0	
	107.20	107	3.7	9.4	2.4	37	9.4	1.4		3.7	13.9	1.6	37	14	1.0	
	115.07	115	3.5	10	2.2	35	10	1.3		3.5	15	1.5	35	15	0.9	
	123.97	124	3.2	11	2.0	32	11	1.2		3.2	16	1.4	32	16	0.8	
	129.62	130	3.1	11	1.9	31	11	1.2		3.1	17	1.3	31	17	0.8	
	139.13	139	2.9	12	1.8	29	12	1.1		2.9	18	1.2	29	18	0.7	
	149.90	150	2.7	13	1.7	27	13	1.0		2.7	19	1.1	27	18	0.7	
	168.84	169	2.4	15	1.5	24	15	0.9		2.4	22	1.0	24	18	0.7	
	181.24	181	2.2	16	1.4	22	16	0.8		2.2	23	0.9	22	18	0.7	
	195.26	195	2.0	17	1.3	20	17	0.8		2.0	25	0.9	20	18	0.7	
	236.09	236	1.7	21	1.1	17	18	0.7		1.7	31	0.7	17	18	0.7	
	307.54	308	1.3	27	0.8	13.0	18	0.7		1.3	31	0.7	13.0	18	0.7	

Nota: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

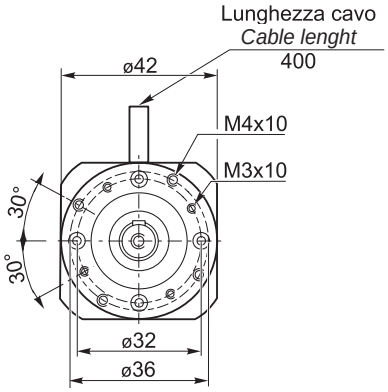
Rapporti preferenziali
Preferred ratios

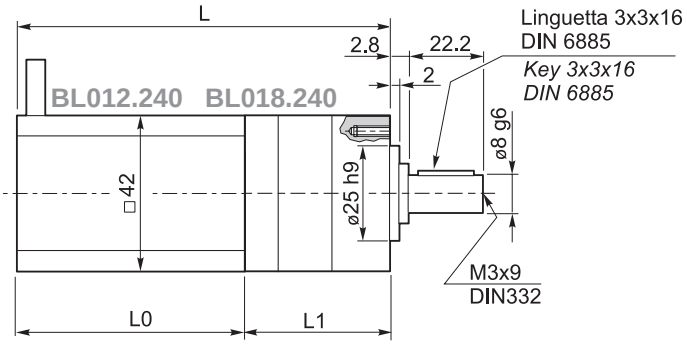


PM42 con motore brushless CC — *PM42 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL012.240	8	3	24	4000	0.125	52.5
BL018.240	8	3	24	4000	0.185	77.5
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL012.240	0.25	3.5	0.8	1.2	7.0	0.45
BL018.240	0.37	5.0	0.55	0.8	10.0	0.65

Azionamenti *Drives* → II 2





			BL012.240		BL018.240	
	Ns	**L1**	**L0**	**L**	**L0**	**L**
PM42	1	67	61	128	81	148
	2	80		141		161
	3	93		154		174

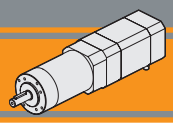
PM42 con motore brushless CC

PM42 with DC brushless motor

PM42			BL025.24E						
			24V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.70**	4	108	0.7	6.0	1081	0.7	3.6	4000
	4.28	4	93	0.9	5.2	935	0.9	3.1	
	5.18	5	77	1.0	4.3	772	1.0	2.6	
	6.75	7	59	1.4	3.3	593	1.4	2.0	
2	**13.73**	14	29	2.6	4.3	291	2.6	2.6	
	15.88	16	25	3.0	3.7	252	3.0	2.2	
	18.36	18	22	3.4	3.2	218	3.4	1.9	
	19.20	19	21	3.6	3.1	208	3.6	1.8	
	22.20	22	18	4.2	2.7	180	4.2	1.6	
	25.01	25	16	4.7	2.4	160	4.7	1.4	
	26.85	27	15	5.0	2.2	149	5.0	1.3	
	28.93	29	14	5.4	2.0	138	5.4	1.2	
	34.97	35	11	6.6	1.7	114	6.6	1.0	
	45.56	46	8.8	8.5	1.3	88	8.5	0.8	
3	**50.89**	51	7.9	8.9	2.5	79	8.9	1.5	
	58.85	59	6.8	10	2.1	68	10	1.3	
	68.06	68	5.9	12	1.9	59	12	1.1	
	71.16	71	5.6	12	1.8	56	12	1.1	
	78.71	79	5.1	14	1.6	51	14	1.0	
	92.70	93	4.3	16	1.4	43	16	0.8	
	95.17	95	4.2	17	1.3	42	17	0.8	
	99.50	100	4.0	17	1.3	40	17	0.8	
	107.20	107	3.7	19	1.2	37	19	0.7	
	115.07	115	3.5	20	1.1	35	20	0.7	
	123.97	124	3.2	22	1.0	32	20	0.7	
	129.62	130	3.1	23	1.0	31	20	0.7	
	139.13	139	2.9	24	0.9	29	20	0.7	
	149.90	150	2.7	26	0.8	27	20	0.7	
	168.84	169	2.4	30	0.7	24	20	0.7	
	181.24	181	2.2	30	0.7	22	20	0.7	
	195.26	195	2.0	30	0.7	20	20	0.7	
	236.09	236	1.7	30	0.7	17	20	0.7	
	307.54	308	1.3	30	0.7	13	20	0.7	

Nota: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

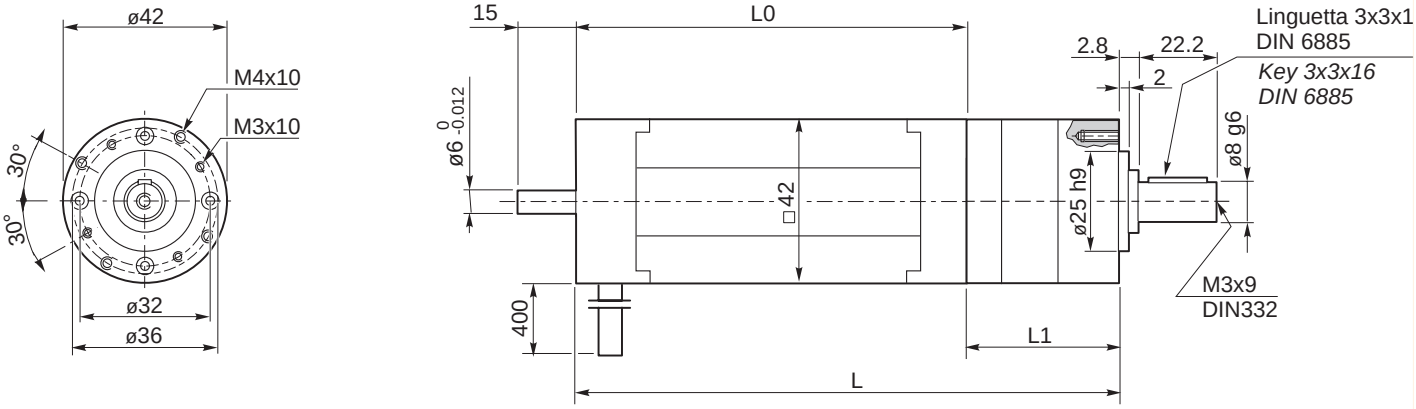
Rapporti preferenziali
Preferred ratios



PM42 con motore brushless CC — *PM42 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Coppia massima *Peak torque* [Nm]
BL025.24E	8	3	24	4000	0.25	0.50
	Potenza nominale *Rated power* [W]	Corrente nominale *Rated current* [A]	Resistenza *Resistance* [ohm]	Induttanza *Inductance* [mH]	Corrente massima *Peak current* [A]	Peso *Weight* [kg]
	105	7	0.3	0.5	14	0.8

Azionamenti *Drives* → II 2



Encoder → AA19

			BL025.24E	
	Ns	L1	L0	L
PM42	1	67	101	168
	2	80	101	181
	3	93	101	194

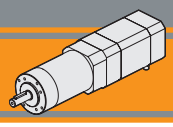
PM52 con motore brushless CC

PM52 with DC brushless motor

PM52			BL032.240							BL043.240						
			24V							24V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.70**	4	108	0.9	6.2	1081	0.9	4.2		108	1.3	4.6	1081	1.3	3.1	
	4.28	4	93	1.1	5.4	935	1.1	3.7		93	1.5	4.0	935	1.5	2.7	
	5.18	5	77	1.3	4.4	772	1.3	3.0		77	1.8	3.3	772	1.8	2.2	
	6.75	7	59	1.7	3.4	593	1.7	2.3		59	2.3	2.5	593	2.3	1.7	
2	**13.73**	14	29	3.3	5.4	291	3.3	3.6		29	4.4	4.0	291	4.4	2.7	
	15.88	16	25	3.8	4.6	252	3.8	3.1		25	5.1	3.5	252	5.1	2.3	
	18.36	18	22	4.4	4.0	218	4.4	2.7		22	5.9	3.0	218	5.9	2.0	
	19.20	19	21	4.6	3.8	208	4.6	2.6		21	6.2	2.9	208	6.2	1.9	
	22.20	22	18	5.3	3.3	180	5.3	2.3		18	7.2	2.5	180	7.2	1.7	
	25.01	25	16	6.0	2.9	160	6.0	2.0		16	8.1	2.2	160	8.1	1.5	
	26.85	27	15	6.4	2.7	149	6.4	1.9		15	8.7	2.0	149	8.7	1.4	
	28.93	29	14	6.9	2.5	138	6.9	1.7		14	9.3	1.9	138	9.3	1.3	
	34.97	35	11.4	8.4	2.1	114	8.4	1.4		11.4	11	1.6	114	11	1.1	
	45.56	46	8.8	11	1.6	88	11	1.1		8.8	15	1.2	88	15	0.8	
3	**50.89**	51	7.9	11	3.2	79	11	2.2		7.9	15	2.4	79	15	1.6	
	58.85	59	6.8	13	2.8	68	13	1.9		6.8	18	2.1	68	18	1.4	
	68.06	68	5.9	15	2.4	59	15	1.6	3000	5.9	21	1.8	59	21	1.2	3000
	71.16	71	5.6	16	2.3	56	16	1.6		5.6	21	1.7	56	21	1.2	
	78.71	79	5.1	18	2.1	51	18	1.4		5.1	24	1.6	51	24	1.1	
	92.70	93	4.3	21	1.8	43	21	1.2		4.3	28	1.3	43	28	0.9	
	95.17	95	4.2	21	1.7	42	21	1.2		4.2	29	1.3	42	29	0.9	
	99.50	100	4.0	22	1.7	40	22	1.1		4.0	30	1.2	40	30	0.8	
	107.20	107	3.7	24	1.5	37	24	1.0		3.7	32	1.1	37	32	0.8	
	115.07	115	3.5	26	1.4	35	26	1.0		3.5	35	1.1	35	35	0.7	
	123.97	124	3.2	28	1.3	32	28	0.9		3.2	37	1.0	32	35	0.7	
	129.62	130	3.1	29	1.3	31	29	0.9		3.1	39	0.9	31	35	0.7	
	139.13	139	2.9	31	1.2	29	31	0.8		2.9	42	0.9	29	35	0.7	
	149.90	150	2.7	34	1.1	27	34	0.7		2.7	45	0.8	27	35	0.7	
	168.84	169	2.4	38	1.0	24	34	0.7		2.4	51	0.7	24	35	0.7	
	181.24	181	2.2	41	0.9	22	34	0.7		2.2	55	0.7	22	35	0.7	
	195.26	195	2.0	44	0.8	20	34	0.7		2.0	55	0.7	20	35	0.7	
	236.09	236	1.7	53	0.7	17	34	0.7		1.7	55	0.7	17	35	0.7	
	307.54	308	1.3	53	0.7	13	34	0.7		1.3	55	0.7	13	35	0.7	

Nota: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

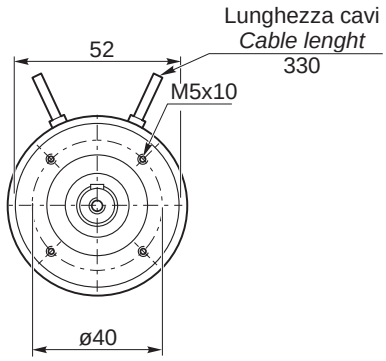
Rapporti preferenziali
Preferred ratios

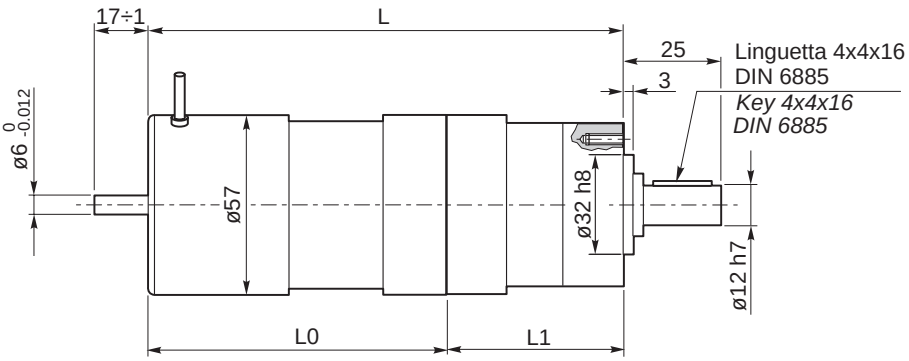


PM52 con motore brushless CC — *PM52 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL032.240	4	3	24	3000	0.32	100
BL043.240	4	3	24	3000	0.43	130
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [ohm]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL032.240	0.64	5.0	0.45	1.4	10.0	1.0
BL043.240	0.86	6	0.35	1	12.0	1.25

Azionamenti *Drives* → II 2

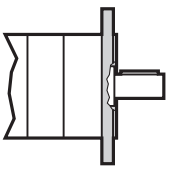




Encoder → AA19

Freno / *Brake* → AA18

PM52 C..



→ AC14

			BL032.240		BL043.240	
	Ns	**L1**	**L0**	**L**	**L0**	**L**
PM52	1	78	95	173	115	193
	2	92		187		207
	3	106		201		221

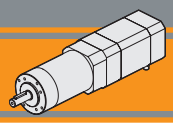
PM62 con motore brushless CC

PM62 with DC brushless motor

PM62			BL032.240							BL043.240						
			24V							24V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.70**	4	108	0.9	12.5	1081	0.9	8.4		108	1.3	9.3	1081	1.3	6.3	
	4.28	4	93	1.1	10.8	935	1.1	7.3		93	1.5	8.0	935	1.5	5.4	
	5.18	5	77	1.3	8.9	772	1.3	6.0		77	1.8	6.6	772	1.8	4.5	
	6.75	7	59	1.7	6.8	593	1.7	4.6		59	2.3	5.1	593	2.3	3.4	
2	**13.73**	14	29	3.3	11.2	291	3.3	7.6		29	4.4	8.3	291	4.4	5.6	
	15.88	16	25	3.8	9.7	252	3.8	6.6		25	5.1	7.2	252	5.1	4.9	
	18.36	18	22	4.4	8.4	218	4.4	5.7		22	5.9	6.2	218	5.9	4.2	
	19.20	19	21	4.6	8.0	208	4.6	5.4		21	6.2	6.0	208	6.2	4.0	
	22.20	22	18	5.3	6.9	180	5.3	4.7		18	7.2	5.1	180	7.2	3.5	
	25.01	25	16	6.0	6.1	160	6.0	4.2		16	8.1	4.6	160	8.1	3.1	
	26.85	27	15	6.4	5.7	149	6.4	3.9		15	8.7	4.3	149	8.7	2.9	
	28.93	29	14	6.9	5.3	138	6.9	3.6		14	9.3	4.0	138	9.3	2.7	
	34.97	35	11.4	8.4	4.4	114	8.4	3.0		11.4	11	3.3	114	11	2.2	
	45.56	46	8.8	11	3.4	88	11	2.3		8.8	15	2.5	88	15	1.7	
3	**50.89**	51	7.9	11	6.5	79	11	4.4		7.9	15	4.8	79	15	3.3	
	58.85	59	6.8	13	5.6	68	13	3.8		6.8	18	4.2	68	18	2.8	
	68.06	68	5.9	15	4.8	59	15	3.3	3000	5.9	21	3.6	59	21	2.4	3000
	71.16	71	5.6	16	4.6	56	16	3.1		5.6	21	3.4	56	21	2.3	
	78.71	79	5.1	18	4.2	51	18	2.8		5.1	24	3.1	51	24	2.1	
	92.70	93	4.3	21	3.6	43	21	2.4		4.3	28	2.6	43	28	1.8	
	95.17	95	4.2	21	3.5	42	21	2.3		4.2	29	2.6	42	29	1.7	
	99.50	100	4.0	22	3.3	40	22	2.2		4.0	30	2.5	40	30	1.7	
	107.20	107	3.7	24	3.1	37	24	2.1		3.7	32	2.3	37	32	1.5	
	115.07	115	3.5	26	2.9	35	26	1.9		3.5	35	2.1	35	35	1.4	
	123.97	124	3.2	28	2.7	32	28	1.8		3.2	37	2.0	32	37	1.3	
	129.62	130	3.1	29	2.5	31	29	1.7		3.1	39	1.9	31	39	1.3	
	139.13	139	2.9	31	2.4	29	31	1.6		2.9	42	1.8	29	42	1.2	
	149.90	150	2.7	34	2.2	27	34	1.5		2.7	45	1.6	27	45	1.1	
	168.84	169	2.4	38	1.9	24	38	1.3		2.4	51	1.5	24	51	1.0	
	181.24	181	2.2	41	1.8	22	41	1.2		2.2	55	1.4	22	55	0.9	
	195.26	195	2.0	44	1.7	20	44	1.1		2.0	59	1.3	20	59	0.9	
	236.09	236	1.7	53	1.4	17	53	0.9		1.7	71	1.0	17	71	0.7	
	307.54	308	1.3	69	1.1	13.0	69	0.7		1.3	93	0.8	13.0	71	0.7	

Nota: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

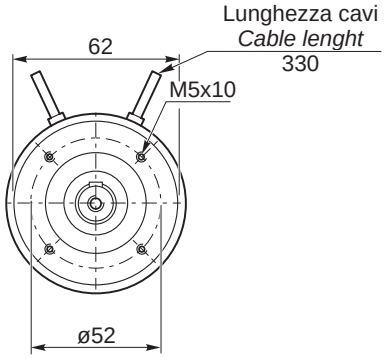
Rapporti preferenziali
Preferred ratios

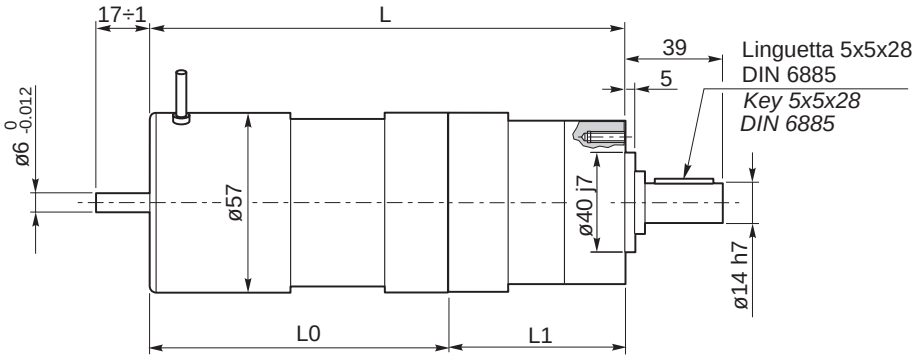


PM62 con motore brushless CC — *PM62 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL032.240	4	3	24	3000	0.32	100
BL043.240	4	3	24	3000	0.43	130
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [ohm]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL032.240	0.64	5.0	0.45	1.4	10.0	1.0
BL043.240	0.86	6	0.35	1	12.0	1.25

Azionamenti *Drives* → II 2

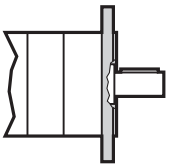




Encoder → AA19

Freno / *Brake* → AA18

PM62 C..



→ AC14

			BL032.240		BL043.240	
	Ns	**L1**	**L0**	**L**	**L0**	**L**
PM62	1	79	95	174	115	194
	2	95		190		210
	3	111		206		226

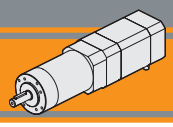
PM62 con motore brushless CC

PM62 with DC brushless motor

PM62			BL070.480						
			24V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.70**	4	108	2.1	5.7	1081	2.1	3.9	3000
	4.28	4	93	2.4	4.9	935	2.4	3.3	
	5.18	5	77	2.9	4.1	772	2.9	2.8	
	6.75	7	59	3.8	3.1	593	3.8	2.1	
2	**13.73**	14	29	7.2	5.1	291	7.2	3.5	
	15.88	16	25	8.3	4.4	252	8.3	3.0	
	18.36	18	22	9.6	3.8	218	9.6	2.6	
	19.20	19	21	10	3.7	208	10	2.5	
	22.20	22	18	12	3.2	180	12	2.1	
	25.01	25	16	13	2.8	160	13	1.9	
	26.85	27	15	14	2.6	149	14	1.8	
	28.93	29	14	15	2.4	138	15	1.6	
	34.97	35	11.4	18	2.0	114	18	1.4	
	45.56	46	8.8	24	1.5	88	24	1.0	
3	**50.89**	51	7.9	25	3.0	79	25	2.0	
	58.85	59	6.8	29	2.6	68	29	1.7	
	68.06	68	5.9	33	2.2	59	33	1.5	
	71.16	71	5.6	35	2.1	56	35	1.4	
	78.71	79	5.1	39	1.9	51	39	1.3	
	92.70	93	4.3	45	1.6	43	45	1.1	
	95.17	95	4.2	47	1.6	42	47	1.1	
	99.50	100	4.0	49	1.5	40	49	1.0	
	107.20	107	3.7	53	1.4	37	53	1.0	
	115.07	115	3.5	56	1.3	35	56	0.9	
	123.97	124	3.2	61	1.2	32	61	0.8	
	129.62	130	3.1	64	1.2	31	64	0.8	
	139.13	139	2.9	68	1.1	29	68	0.7	
	149.90	150	2.7	73	1.0	27	68	0.7	
	168.84	169	2.4	83	0.9	24	68	0.7	
	181.24	181	2.2	89	0.8	22	68	0.7	
	195.26	195	2.0	96	0.8	20	68	0.7	
	236.09	236	1.7	105	0.7	17	68	0.7	
	307.54	308	1.3	105	0.7	13.0	68	0.7	

Nota: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

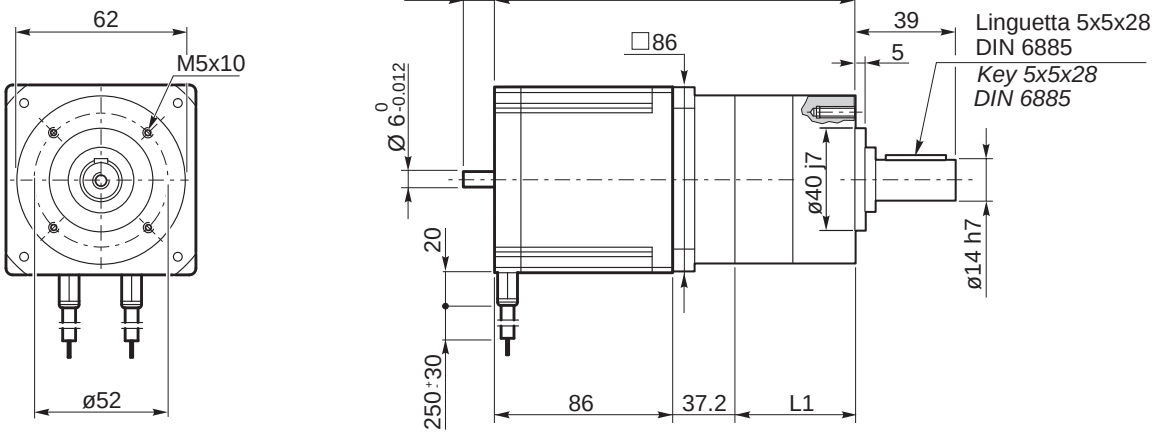
Rapporti preferenziali
Preferred ratios



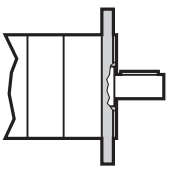
PM62 con motore brushless CC — *PM62 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.48E	8	3	48	3000	0.70	220
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.48E	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives* → II 2



PM62 C..

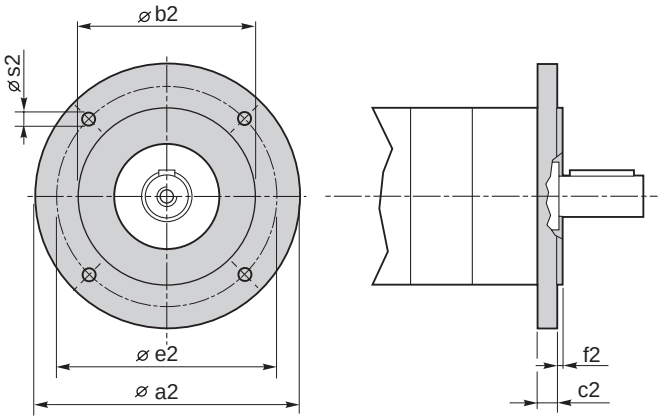


Encoder → AA19
Freno / *Brake* → AA18
→ AC14

			BL070.48E
	Ns	**L1**	**L**
PM62	1	45.3	168.5
	2	62.2	185.4
	3	79.2	202.4

Dimensioni ***Dimensions***

PM.. C..



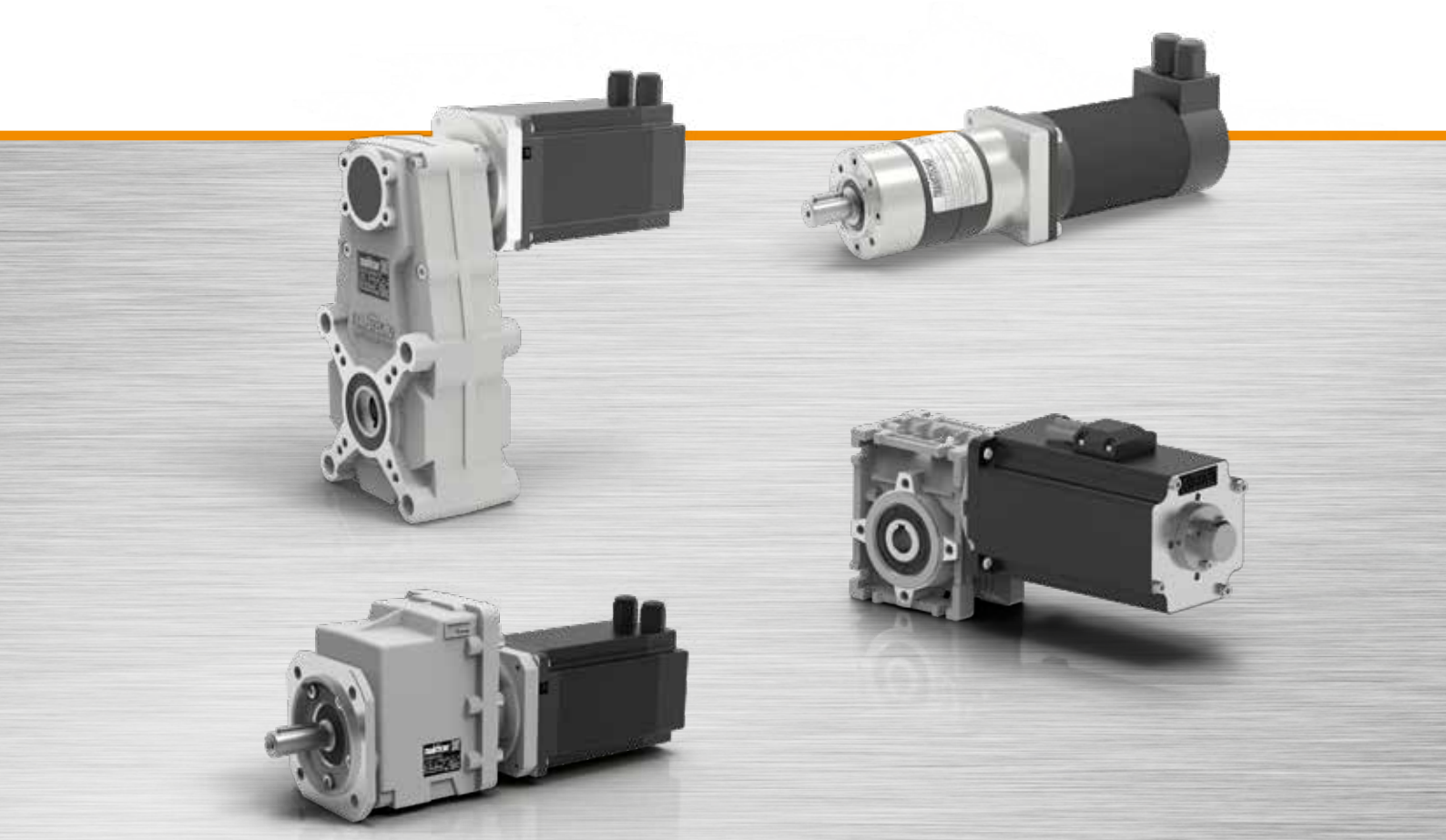
PM	Flange uscita / *Output flanges*						
	a2	b2	c2	e2	f2	s2	Flangia *Flange*
52	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	5.5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
62	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	5.5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**

TRANSTECNO®
the modular gearmotor

BLDC Alu

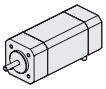
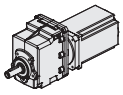
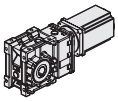
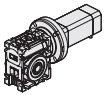
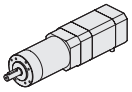
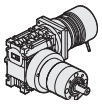
IP55

Motoriduttori brushless CC IP55
IP55 Brushless DC gearmotors



IP55

Indice — Index

		Indice	Index	Pag. / Page
	 B-A	Motori brushless CC BL	Brushless DC motors BL	B-A1
ENERGY SAVING	 B-B	Motoriduttori brushless CC ad ingranaggi cilindrici CMG	Brushless DC helical in-line gearmotors CMG	B-B1
ENERGY SAVING	 B-C	Motoriduttori brushless CC ad assi ortogonali CMB	Brushless DC helical bevel gearmotors CMB	B-C1
ENERGY SAVING	 B-D	Motoriduttori brushless CC pendolari FT	Brushless DC helical parallel gearmotors FT	B-D1
ENERGY SAVING	 B-E	Motoriduttori brushless CC a vite senza fine CM	Brushless DC Wormgearmotors CM	B-E1
ENERGY SAVING	 B-F	Motoriduttori brushless CC epicicloidali PM	Brushless DC planetary gearmotors PM	B-F1
ENERGY SAVING	 B-G	Motoriduttori brushless CC combinati WMP	Brushless DC double reduction gearmotors WMP	B-G1

Questo catalogo annulla e sostituisce ogni precedente edizione o revisione. Ci riserviamo inoltre il diritto di apportare modifiche senza preavviso.
La versione più aggiornata è disponibile sul sito www.transtecno.com

This catalogue supersedes any previous edition and revision. We reserve the right to implement modifications without notice.
The most updated version is available on our website www.transtecno.com

TRANSTECNO®
the modular gearmotor

BL

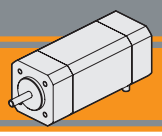
BL

BL Alu

IP55

Motori brushless CC
Brushless DC motors





ENERGY SAVING

	Indice	*Index*	Pag. *Page*
	Caratteristiche tecniche	*Technical features*	**BA2**
	Grado di protezione IP	*IP enclosures protection indexes*	**BA2**
	Classe di isolamento termico	*Insulation class*	**BA2**
	Tipi di servizio IEC	*IEC duty cycle ratings*	**BA2**
	Legenda / Glossario dei grafici	*Key / Diagram Glossary*	**BA3**
	Formule utili	*Useful formulas*	**BA3**
	MOTORI	***MOTORS***	
BLS022.240	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA4**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA4**
BLS043.240	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA6**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA7**
BL070.240 **BL070.24B**	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA8**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA8**
BL070.480 **BL070.48B**	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA10**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA10**
BL070.48.80	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA12**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA12**
BL140.480	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA14**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA14**
BL200.48.95	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA16**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA16**
BL210.480 **BL210.48E**	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA18**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA18**
BL400.48.120	Specifiche costruttive / Prestazioni	*General features / Performances*	**BA20**
	Dimensioni / Diagramma dei collegamenti	*Dimensions / Connection diagram*	**BA20**
	ENCODER	***ENCODER***	
MEHR22 **MEHR22 IP65**	Descrizione encoder	*Description encoder*	**BA22**
	Caratteristiche principali	*Main specifications*	**BA22**
	Interfaccia elettrica	*Electrical interface*	**BA23**
	Condizioni di funzionamento raccomandate	*Recommended operating conditions*	**BA24**
HREA 48	Descrizione encoder	*Description encoder*	**BA25**
	Caratteristiche principali	*Main specifications*	**BA25**
	Interfaccia elettrica	*Electrical interface*	**BA26**
	Condizioni di funzionamento raccomandate	*Recommended operating conditions*	**BA27**
Freno ***Brake***	Specifiche costruttive	*General features*	**BA28**
	Dimensioni	*Dimensions*	**BA28**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

I motori brushless CC della serie BL vengono realizzati in 8 taglie con coppie da 0.22 Nm a 4.2 Nm, e sono forniti con driver esterno.
I vantaggi di utilizzare i motori brushless anziché i tradizionali motori cc a spazzole, sono i seguenti:

- Lunga durata nel tempo
- Elevata efficienza
- Commutazione elettronica e controllo del motore tramite sensori digitali (encoder, resolver ecc..)
- Ampio campo di regolazione della velocità
- No manutenzione
- Disponibili con freno ed encoder
- Freno integrato per i motori BL070.48.80, BL200.48.95, BL400.48.120

I motori della serie BL sono estremamente compatti e grazie al basso momento di inerzia offrono una elevata prestazione dinamica, ed inoltre sono economici in quanto dotati di sensori di Hall (anziché encoder o resolver).
Le 3 fasi dell'avvolgimento del motore sono a bassa tensione 24V / 36V / 48V e quindi offrono maggiori garanzie in termini di sicurezza dell'impianto, soprattutto nelle applicazioni dove l'operatore può essere a contatto con il motore stesso.
Tutti i motori sono realizzati con grado di protezione IP55.

Brushless DC motors from the BL range *are available in 8 sizes with torque from 0.22 Nm to 4.2 Nm and they are supplied with external driver.*
The advantages of using brushless motors instead of traditional DC brushed motors are the following:

- *Longer life time*
- *Higher efficiency*
- *Electronic commutation and control of the motor via digital sensors (encoder, resolver etc.)*
- *Wide speed range*
- *Maintenance free*
- *Brake and encoder available*
- *Integrated brake for motors BL070.48.80, BL200.48.95, BL400.48.120*

BL motors have a compact design and thanks to low inertia they have high performances and are a low cost solution already including Hall sensors, as opposed to an encoder or resolver.
The 3 phase windings of the motor have a low voltage of 24/36/48 V and so these motors are safer to use when a machine operator has direct contact with them.
IP55 protection index for all the motors.

Grado di protezione IP — *IP enclosures protection indexes*

Indica il grado di isolamento meccanico del corpo motore.
1ª cifra protezione alla penetrazione di corpi solidi.
2ª cifra protezione contro la penetrazione d'acqua.

Indicates the degree of mechanical insulation of the motor body.
1st figure indicating level of protection against the penetration of solid bodies.
2nd figure: indicating degree to which the motor is waterproof.

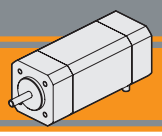
5	Protetto contro la polvere *Dust proof*	**5**	Protetto contro i getti *Water jet proof*

Classe di isolamento termico — *Insulation class*

Classe / *Class*	Δ t °C Temp. ambiente: 40°C *Ambient temperature: 40°C*	Motore / *Motor*
B	90°C	BLS022.240, BLS043.240, BL070.240, BL070.24B, BL140.480, BL210.480, BL210.48E
F	100°C	BL070.48.80, BL200.48.95, BL400.48.120

Tipi di servizio IEC — *IEC duty cycle ratings*

S1	**Servizio continuo.** Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	***Continuous duty.*** *The motor works at a constant load for enough time to reach temperature equilibrium*
S2	**Servizio di durata limitata.** Funzionamento a carico costante per una durata inferiore a quella necessaria al raggiungimento dell'equilibrio termico, seguito da un periodo di riposo tale da riportare il motore alla temperatura ambiente.	***Short time duty****. The motor works at a constant load, but not long enough to reach temperature equilibrium, and the rest periods are long enough for the motor to reach ambient temperature.*
S3	**Servizio periodico intermittente.** Sequenze di cicli identici di marcia e di riposo a carico costante, senza raggiungimento dell' equilibrio termico. La corrente di spunto ha effetti trascurabili sul surriscaldamento del motore.	***Intermittent periodic duty.*** *Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.*

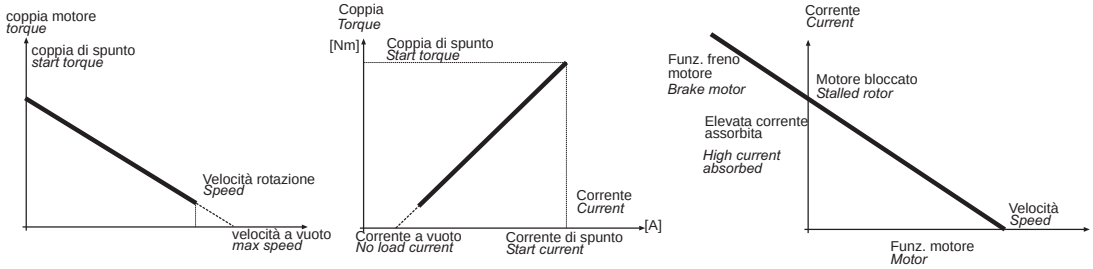


Legenda / Glossario dei grafici

Key / Diagram Glossary

Dato un motore brushless CC, la velocità di rotazione è funzione lineare della coppia; così pure la corrente assorbita è una funzione lineare della coppia. Velocità e corrente variano in maniera sensibile al variare del carico.

With a brushless DC motor, the rotational speed is a linear function of the torque. In the same way, the absorbed current is also a linear function of the torque. Speed and current change a lot against applied torque.

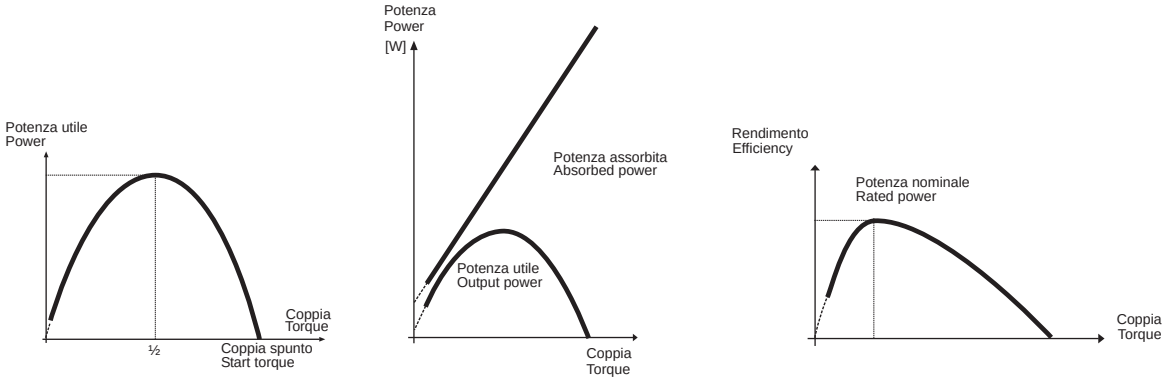


La potenza utile (potenza all' albero) si ricava dalla formula:

$$Pn\ [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$

The output power is calculated using the formula:

$$Pn\ [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$



Poiché la tensione di alimentazione è costante mentre la corrente è linearmente crescente al crescere della coppia, l'andamento della potenza assorbita è una retta crescente. Dal rapporto tra la potenza meccanica e la potenza assorbita si ottiene il grafico dell'efficienza.

Since the supply voltage is constant, whereas the current increases in a linear manner as the torque increases, the absorbed power trend is a straight line going up. Efficiency is shown from the ratio between the output power and the absorbed power.

Formule utili

Useful formulas

$$\eta = \frac{Pn}{Pa}$$

$$Pa = V \cdot I$$

$$Pn = V \cdot I \cdot \eta$$

$$Pn = Mn \cdot Sv$$

$$Sv = \frac{n_1}{9.55}$$

[HP] · 746 = [W].
Esempio 2 HP = circa 1500 W.

$$\eta = \frac{Pn}{Pa}$$

$$Pa = V \cdot I$$

$$Pn = V \cdot I \cdot \eta$$

$$Pn = Mn \cdot Sv$$

$$Sv = \frac{n_1}{9.55}$$

[HP] · 746 = [W].
Example 2 HP = approx. 1500 W.

S	—	Servizio	*Duty*
Pn	[W]	Potenza in uscita	*Rated power*
Pa	[W]	Potenza assorbita	*Absorbed power*
Mn	[Nm]	Coppia nominale	*Rated torque*
V	[V]	Tensione	*Voltage*
I	[A]	Corrente assorbita	*Absorbed current*
n1	[min-1]	Numero giri motore	*Motor speed*
Sv	[rad/s]	Velocità angolare	*Angular speed*
IC	—	Classe d'isolamento termico	*Thermal insulation class*
FF	—	Fattore di forma	*Form factor*
IP	—	Classe di protezione	*protection class*
η	—	Rendimento	*Efficiency*
Kg	—	Massa	*Mass*

BLS022.240

Specifiche costruttive — *General features*

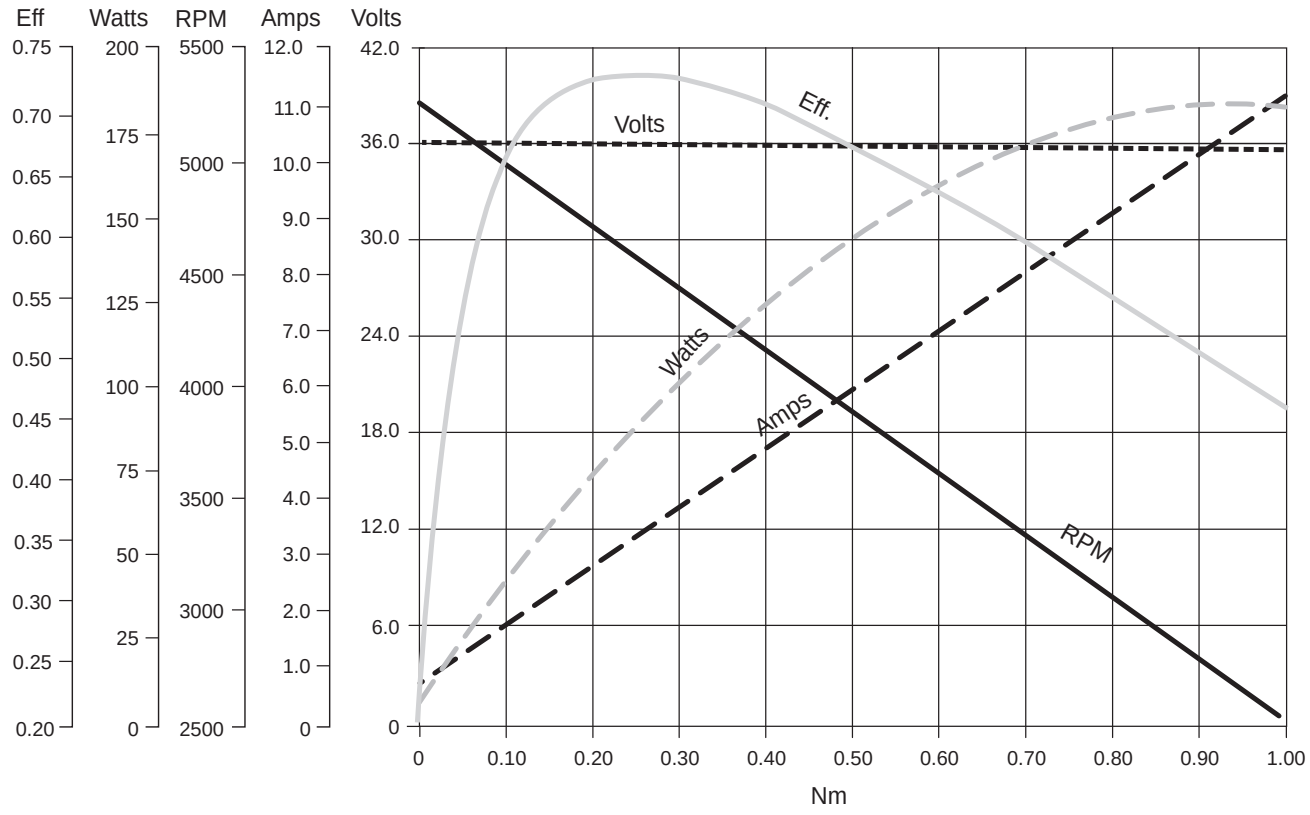
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.025 mm @ 460 g
Gioco assiale *End play*	0.025 mm @ 4000 g
Scentratura albero *Shaft run out*	0.025 mm

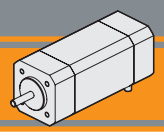
Max forza radiale *Max radial force*	75N @ 20 mm dalla flangia *75N @ 20 mm from flange*
Max forza assiale *Max axial force*	15N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BLS022.240	4	3	36	4000	0.22	92	0.66	3.7	11.2	0.64	2.1	0.06	6.28	119	0.72	55
BLS022.240	4	3	24	3000	0.22	70	0.66	3.7	11.2	0.64	2.1	0.06	6.28	119	0.72	55

Azionamenti *Drives* → II 2

Prestazioni — *Performances*





BLS022.240

Dimensioni — *Dimensions*

BLS022.240

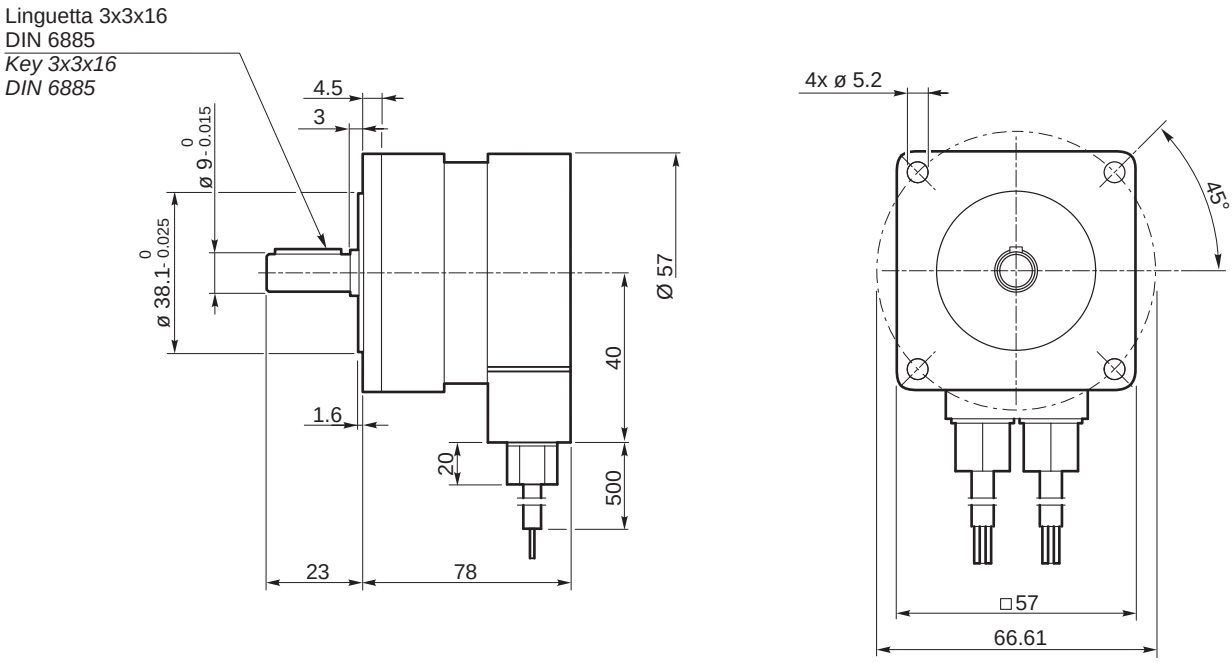


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc ÷ 24Vcc *Supply voltage for Hall sensors, + 5 Vdc ÷ 24Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BLS043.240

Specifiche costruttive — *General features*

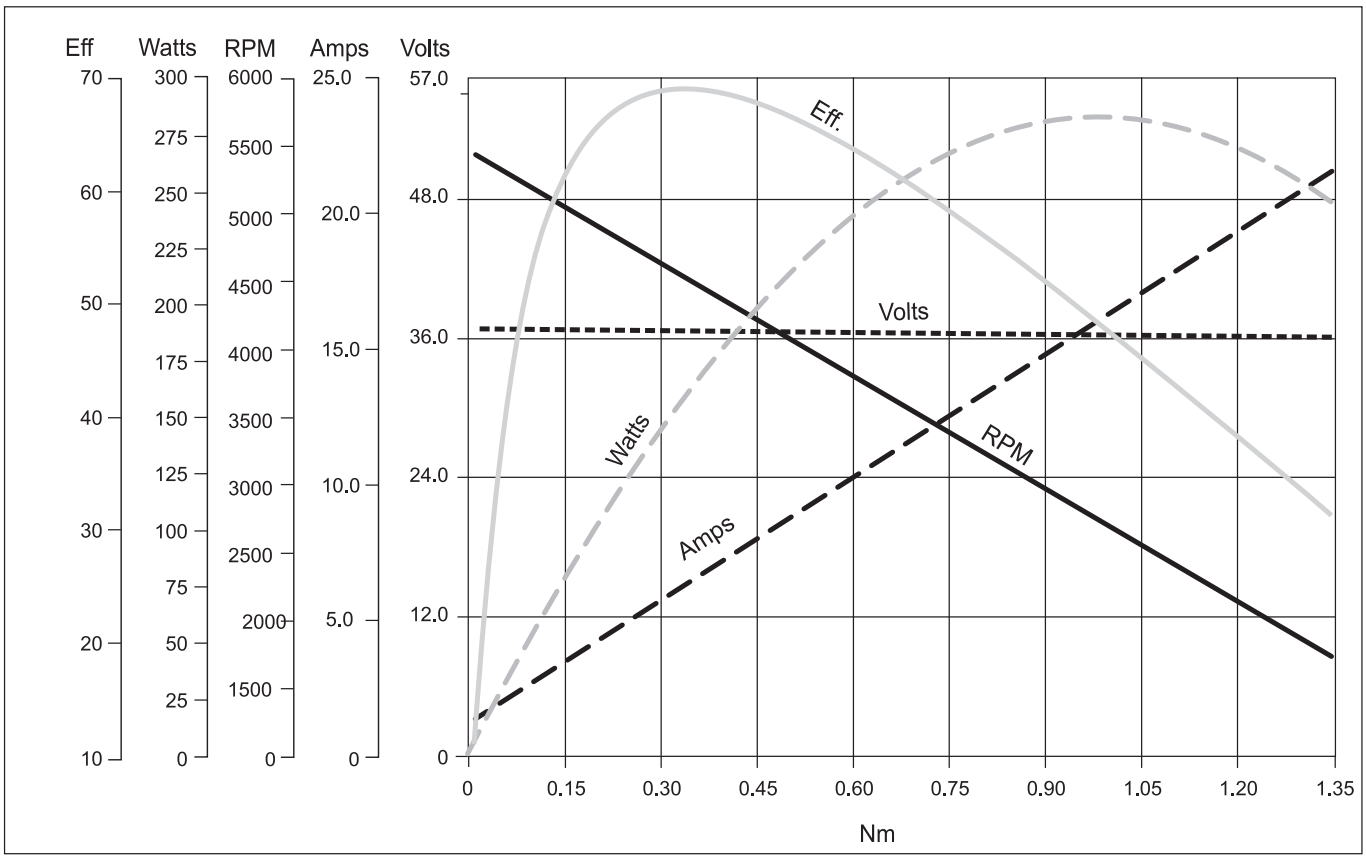
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.025 mm @ 460 g
Gioco assiale *End play*	0.025 mm @ 4000 g
Scentratura albero *Shaft run out*	0.025 mm

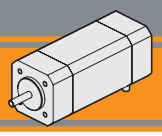
Max forza radiale *Max radial force*	75N @ 20 mm dalla flangia *75N @ 20 mm from flange*
Max forza assiale *Max axial force*	15N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min-1]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm2]	[kg]	
BLS043.240	4	3	36	4000	0.43	180	1.27	6.8	20.5	0.35	1.0	0.063	6.6	230	1.25	55
BLS043.240	4	3	24	3000	0.43	130	1.27	6.8	20.5	0.35	1.0	0.063	6.6	230	1.25	55

Azionamenti *Drives* → II 2

Prestazioni — *Performances*





BLS043.240

Dimensioni — *Dimensions*

BLS043.240

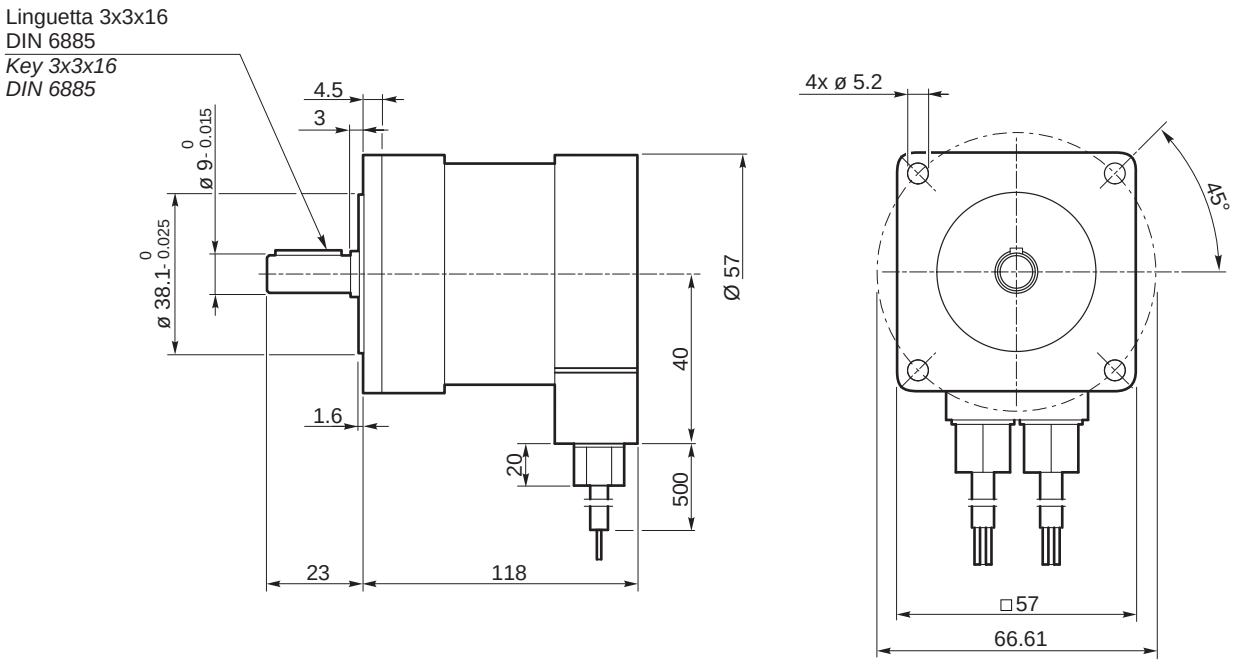


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc ÷ 24Vcc *Supply voltage for Hall sensors, + 5 Vdc ÷ 24Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL070.240 / BL070.24B

Specifiche costruttive — *General features*

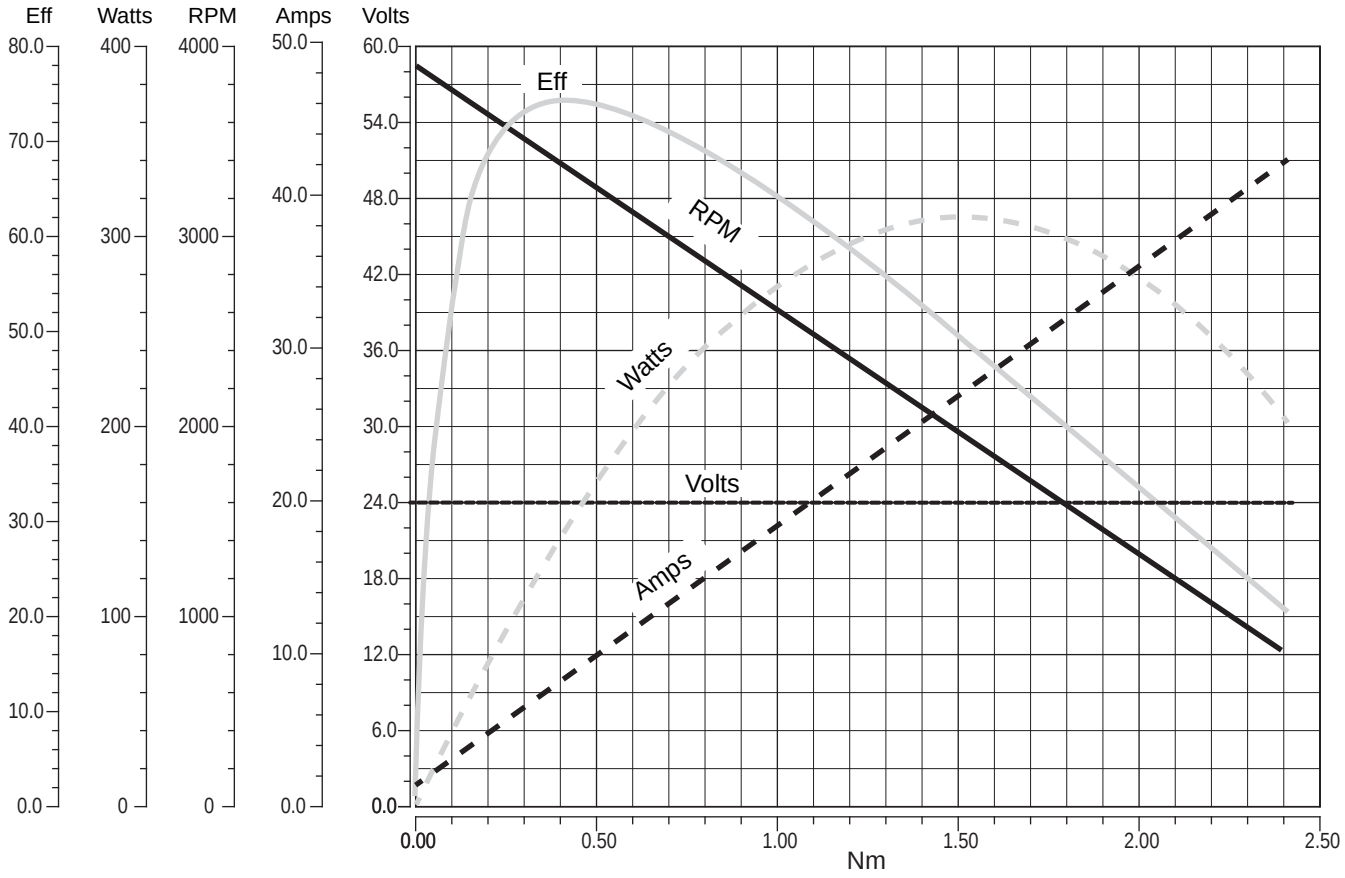
Tipologia di avvolgimento *Winding type*	Stella *Star*
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.05 mm

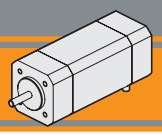
Max forza radiale *Max radial force*	220N @ 20 mm dalla flangia *220N @ 20 mm from flange*
Max forza assiale *Max axial force*	60N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min-1]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm2]	[kg]	
BL070.240 BL070.24B	8	3	24	3000	0.7	220	2.1	13	39	0.091	0.23	0.0589	4.24	800	2.1	55

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

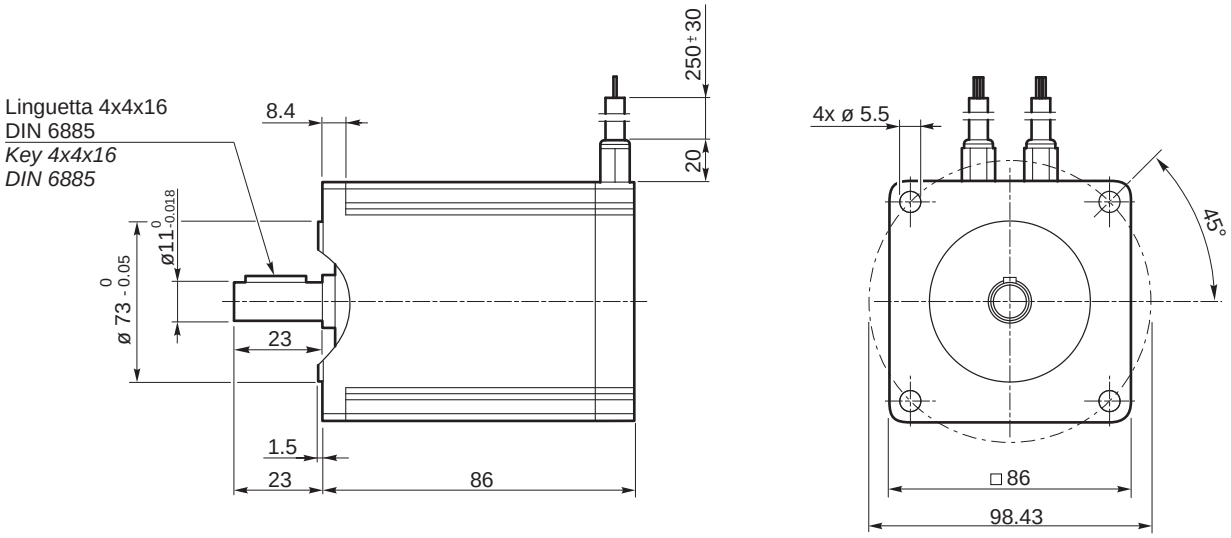




BL070.240 / BL070.24B

Dimensioni — *Dimensions*

BL070.240



BL070.24B

Freno / *Brake* → BA28

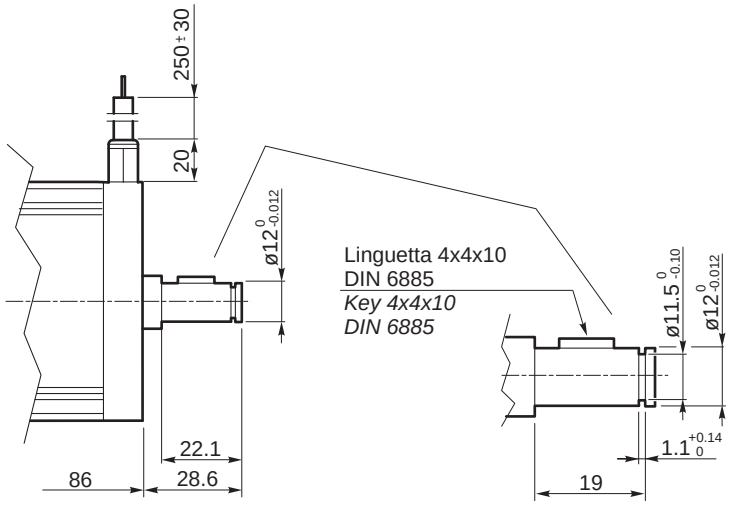


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Blu / *Blue*	Fase U / *U motor Phase*
Marrone / *Brown*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc ÷ 24Vcc *Supply voltage for Hall sensors, + 5 Vdc ÷ 24Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

BL070.480 / BL070.48B

Specifiche costruttive — *General features*

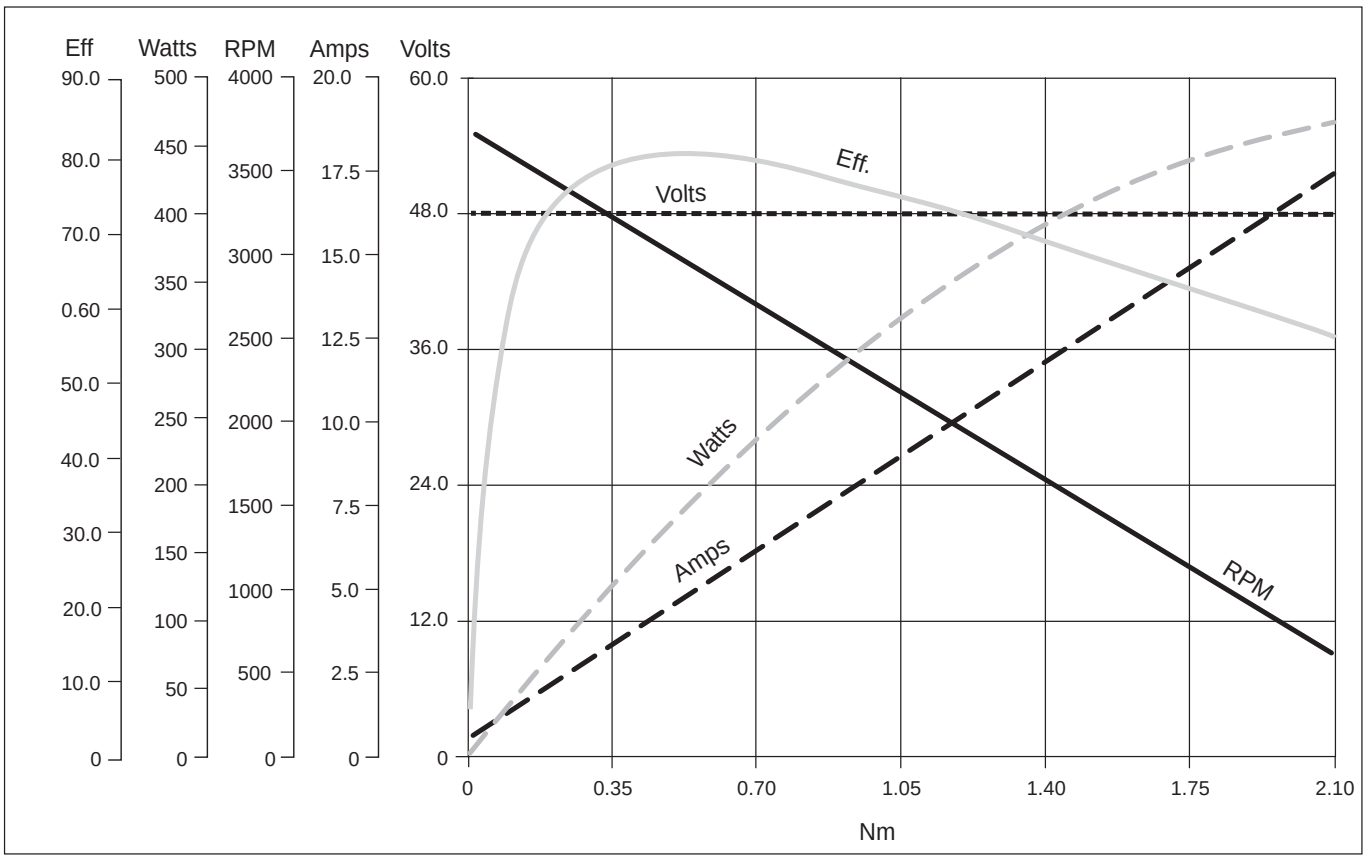
Tipologia di avvolgimento *Winding type*	Stella *Star*
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.05 mm

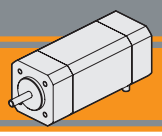
Max forza radiale *Max radial force*	220N @ 20 mm dalla flangia *220N @ 20 mm from flange*
Max forza assiale *Max axial force*	60N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL070.480 BL070.48B	8	3	48	3000	0.7	220	2.1	6.5	19.5	0.34	1.0	0.107	9	800	2.1	55

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

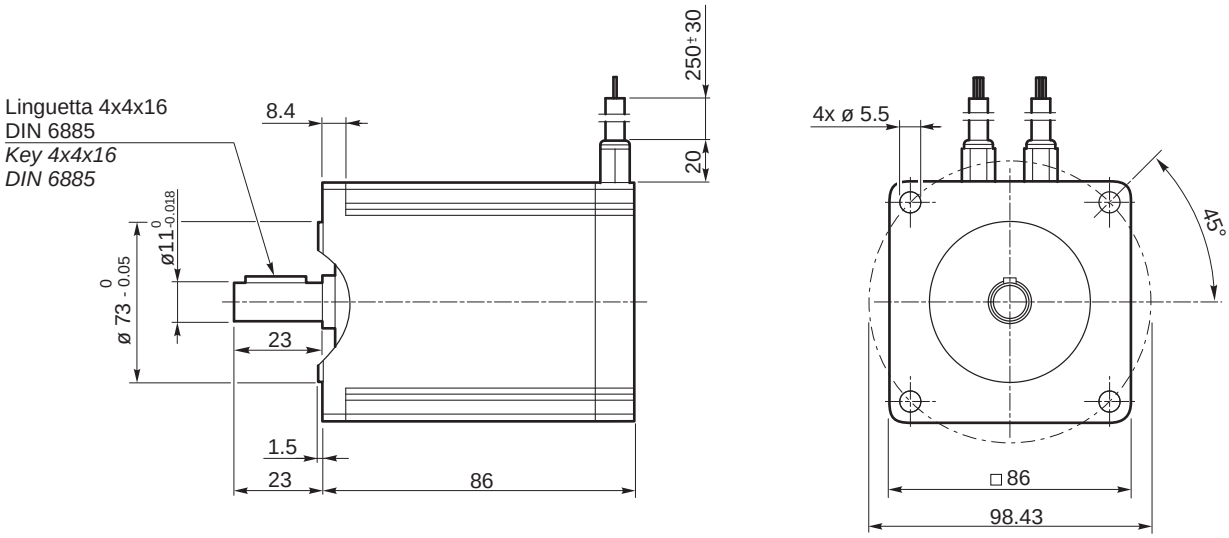




BL070.480 / BL070.48B

Dimensioni — *Dimensions*

BL070.480



BL070.48B

Freno / *Brake* → BA28

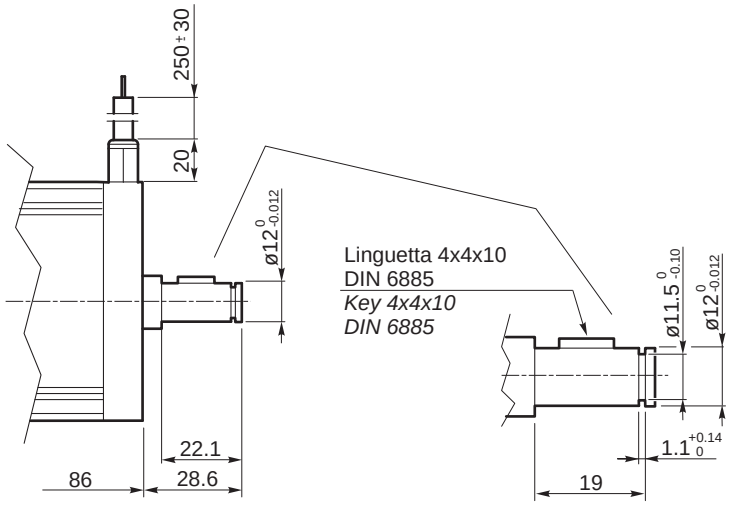


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Blu / *Blue*	Fase U / *U motor Phase*
Marrone / *Brown*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc ÷ 24Vcc *Supply voltage for Hall sensors, + 5 Vdc ÷ 24Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL070.48.80

Specifiche costruttive / *General features*

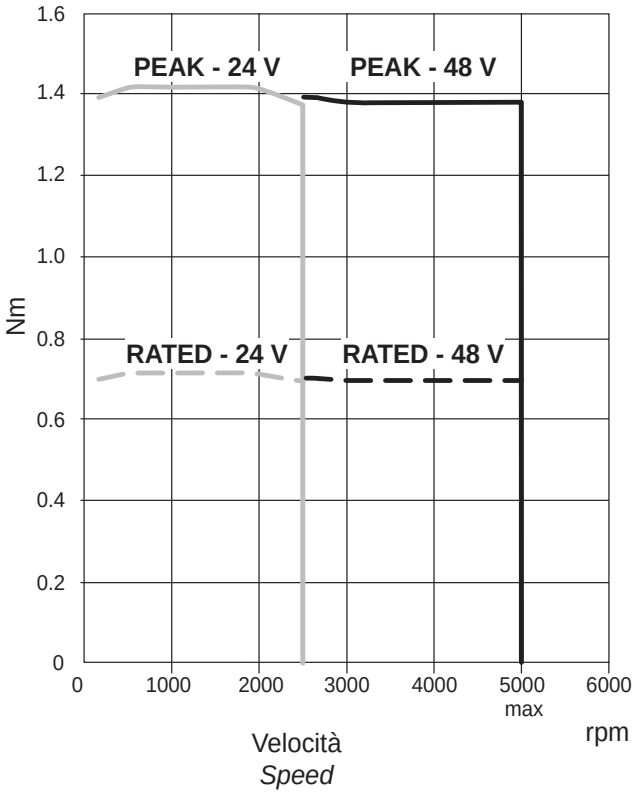
Tipologia di avvolgimento *Winding type*	delta
Gioco radiale *Radial play*	0.02 mm @ 4 N
Gioco assiale *End play*	0.08 mm @ 4 N
Scentratura albero *Shaft run out*	0.05 mm
Grado di protezione *Degree of protection*	IP 65

Max forza radiale *Max radial force*	115 N @ 10 mm
Max forza assiale *Max axial force*	45 N
Classe di isolamento termico *Insulation class*	Classe F *Class F*
Isolamento dielettrico *Dielectric strength*	500Vac x 1 minuto *500 Vac 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vac *100MΩ min, 500 Vac*

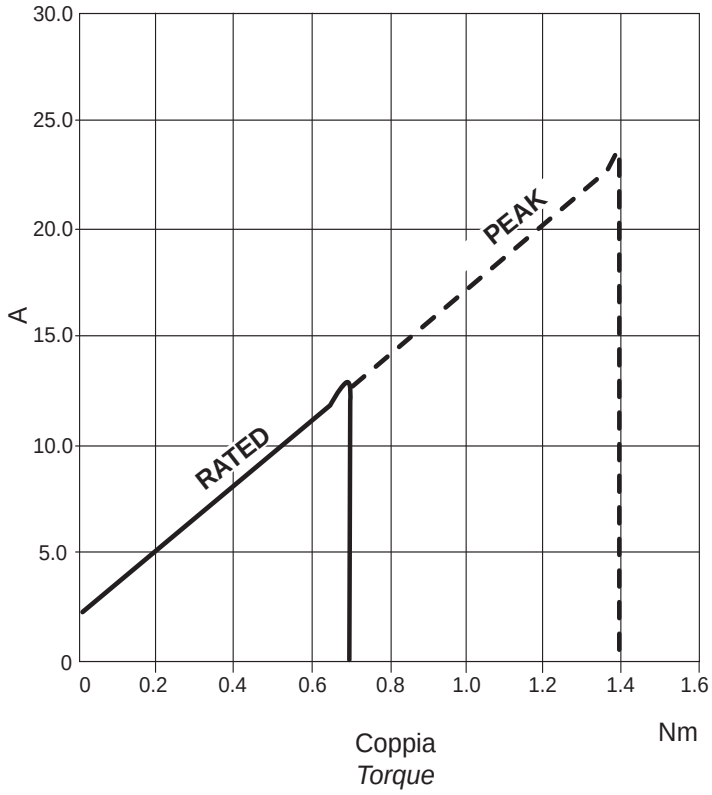
Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]
BL070.48.80	8	3	48	4350	0.7	320	2.1	12	36	0.072	0.304	0.1	6.15	1000	1.8
			24	2500		185									

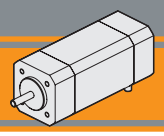
Prestazioni / *Performances*

Coppia
Torque



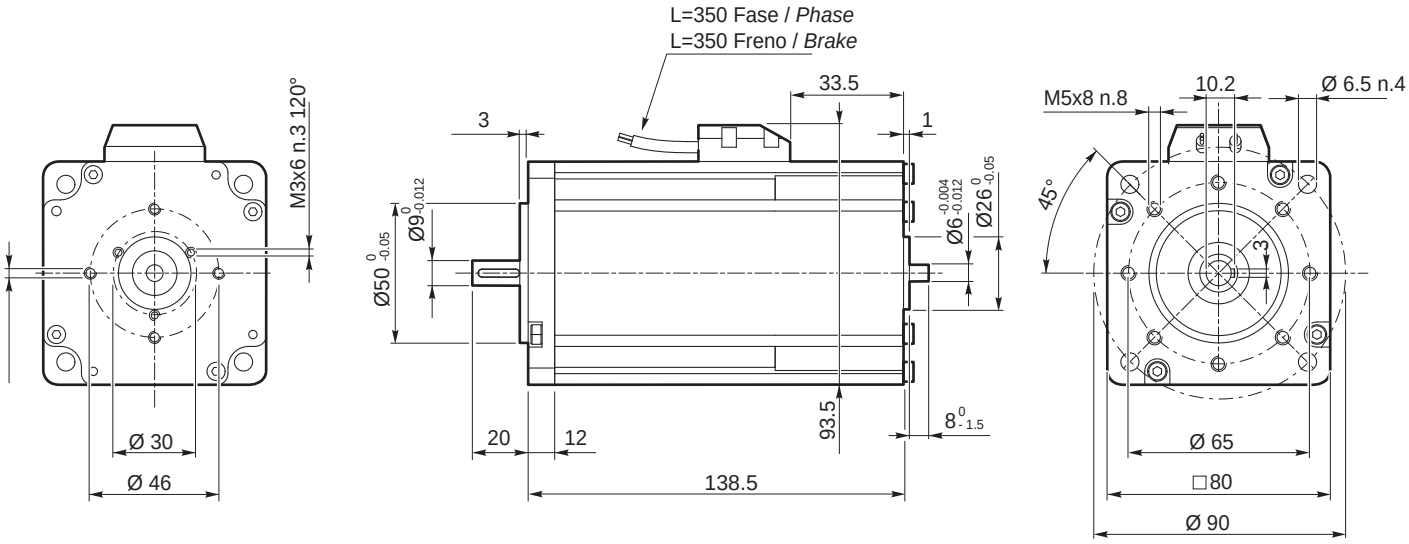
Corrente motore
Motor current





BL070.48.80

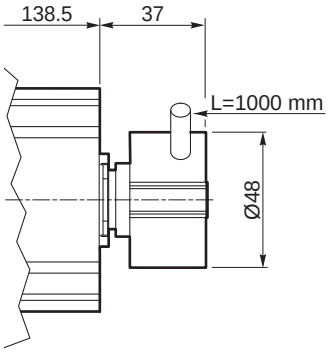
Dimensioni — *Dimensions*



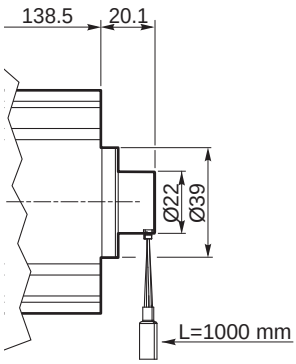
IP 55

BL

BL070.48.80 + ENCODER HREA 48



BL070.48.80 + ENCODER MEHR 22



BL070.48.80 + ENCODER MEHR 22 IP65

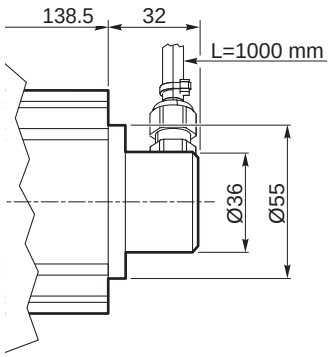


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Rosso ***Red***	Fase U *U motor Phase*
Giallo ***Yellow***	*Fase V* *V motor Phase*
Nero ***Black***	Fase W *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Dati tecnici del freno *Brake features*	Descrizione *Description*
Tensione ***Voltage***	24 V / 48 V
Coppia ***Torque***	2 Nm
Potenza ***Power***	9.6 W
Nero ***Black***	Freno *Brake*
Nero ***Black***	Freno *Brake*

Caratteristiche Encoder *Encodeer specifications*	
Potenza alimentazione e tipo di uscita ***Power supply and output type***	5 V
Circuito di uscita ***Output circuit***	Line - driver / TTL / RS-422
Risoluzione ***Resolution***	2000 CPR
Numero di canali ***Number channels***	ABI - (/A/B/I) - UVW - (/U/V/W) *

***:** I segnali (/U/V/W) sono presenti solo per HREA 48
The signals (/U/V/W) is present only for HREA 48

Encoder → BA22

BL140.480

Specifiche costruttive — *General features*

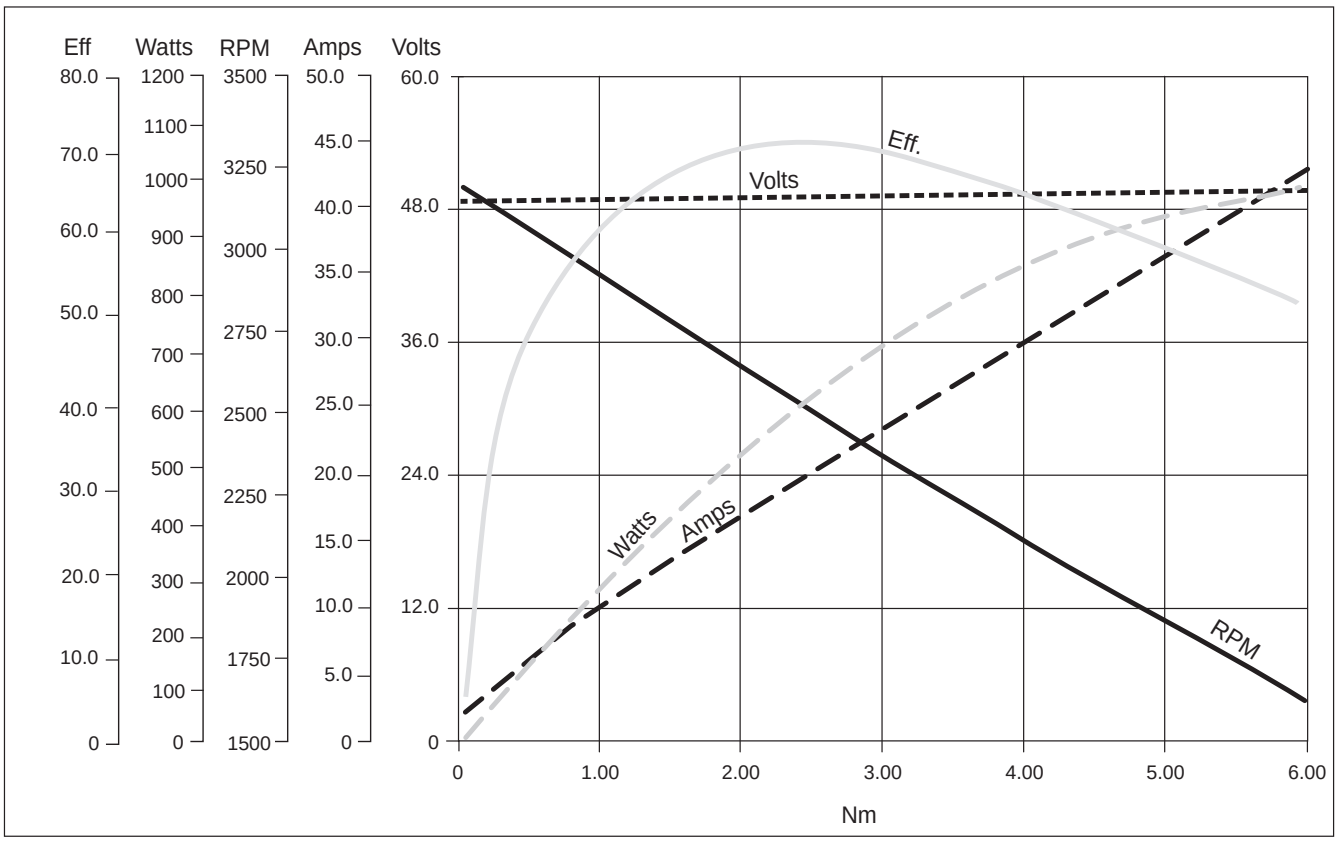
Tipologia di avvolgimento *Winding type*	Stella *Star*
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.05 mm

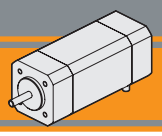
Max forza radiale *Max radial force*	220N @ 20 mm dalla flangia *220N @ 20 mm from flange*
Max forza assiale *Max axial force*	60N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL140.480	8	3	48	3000	1.4	440	4.2	13	39	0.16	0.5	0.113	9.4	1600	3.15	55

Azionamenti *Drives* → II 2

Prestazioni — *Performances*





BL140.480

Dimensioni — *Dimensions*

BL140.480

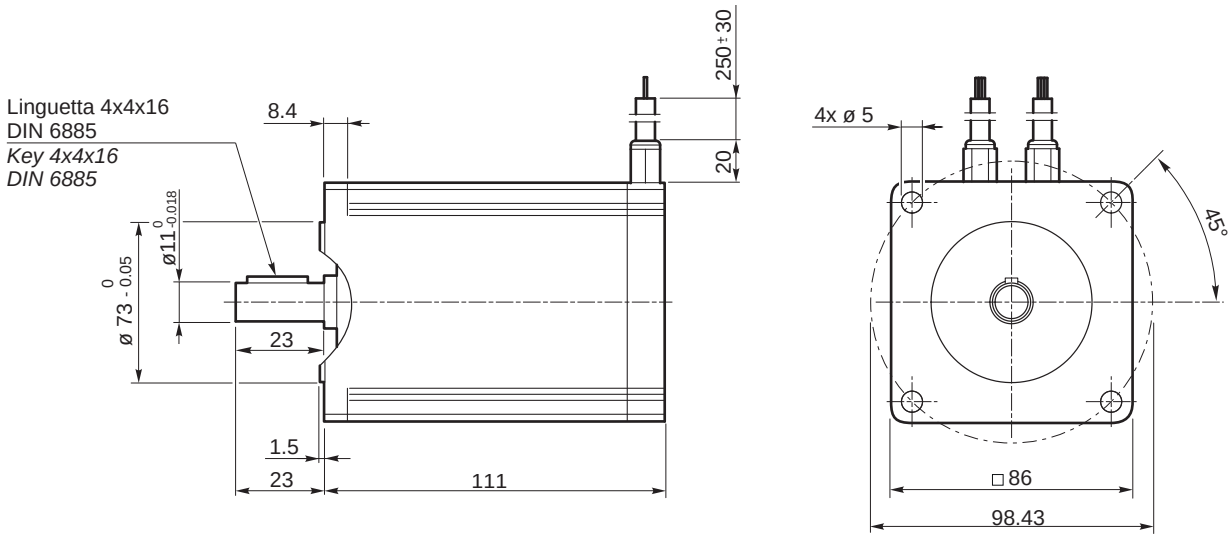


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Blu / *Blue*	Fase U / *U motor Phase*
Marrone / *Brown*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc ÷ 24Vcc *Supply voltage for Hall sensors, + 5 Vdc ÷ 24Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL200.48.95

Specifiche costruttive / *General features*

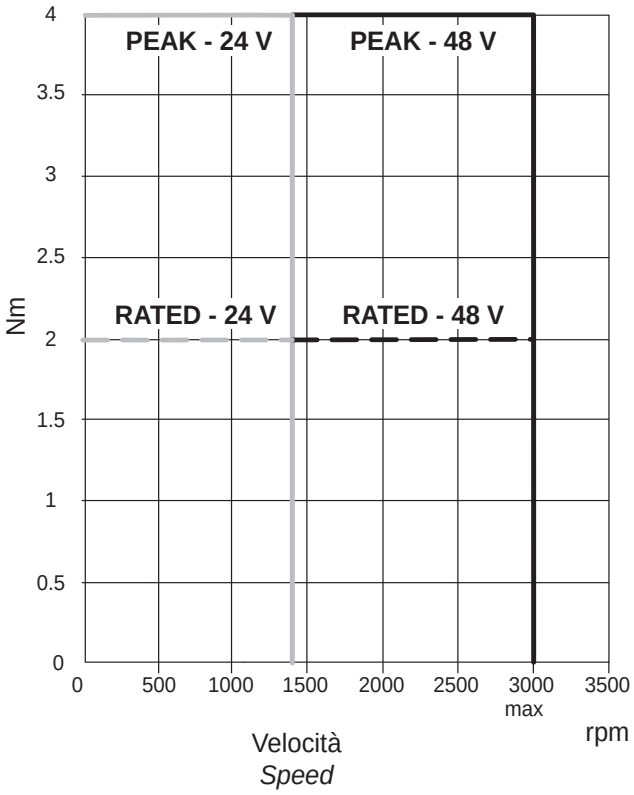
Tipologia di avvolgimento *Winding type*	delta
Gioco radiale *Radial play*	≤0.05 mm @ 45 N
Gioco assiale *End play*	≤0.013 mm @ 113 N
Scentratura albero *Shaft run out*	≤0.025 mm
Grado di protezione *Degree of protection*	IP 65

Max forza radiale *Max radial force*	≤392 N @ 10 mm
Max forza assiale *Max axial force*	≤147 N
Classe di isolamento termico *Insulation class*	Classe F *Class F*
Isolamento dielettrico *Dielectric strength*	600 Vdc 1S 2mA
Resistenza isolamento *Insulation resistance*	600 V ≥ 50 MΩ

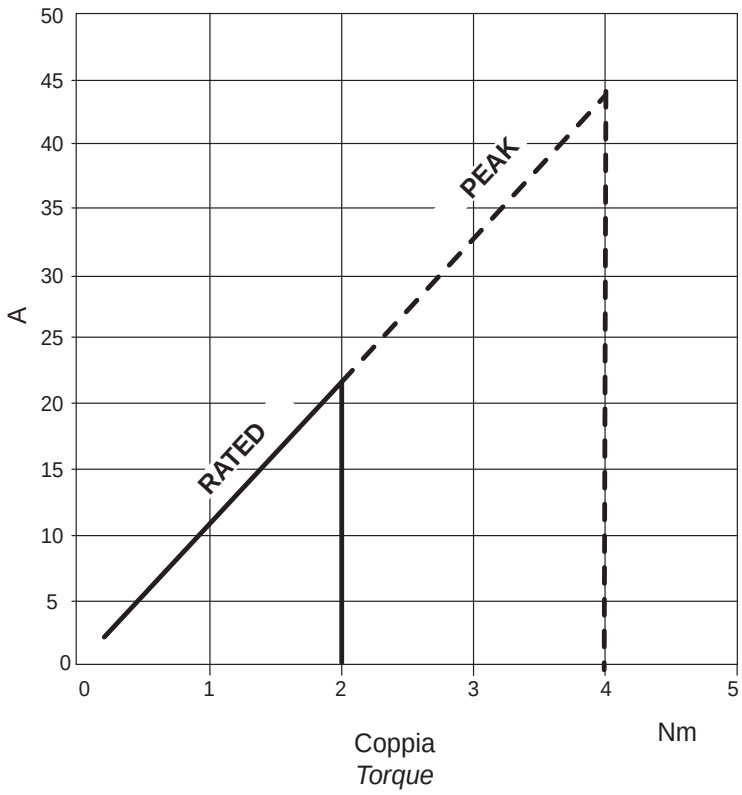
Modello *Model*	Poli *Poles*	Fasi *Phases*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [min-1]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm2]	Peso *Weight* [kg]
BL200.48.95	8	3	S1	48	3000	2.0	650	6	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6
				24	1500		300									

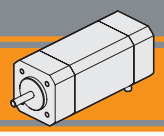
Prestazioni / *Performances*

Coppia
Torque



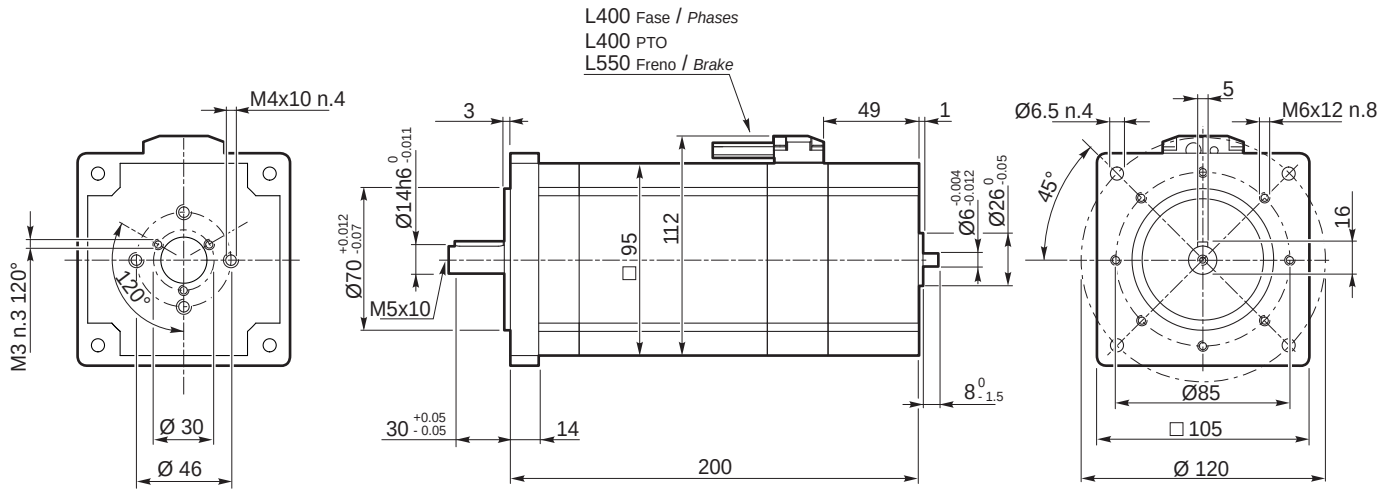
Corrente motore
Motor current



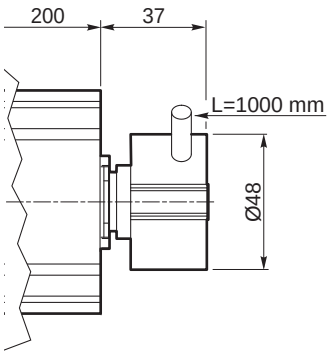


BL200.48.95

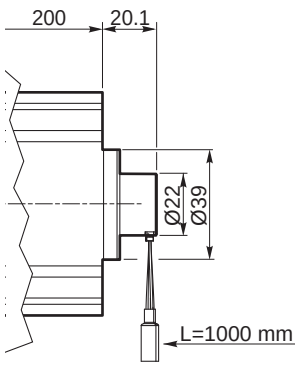
Dimensioni — *Dimensions*



BL200.48.95 + ENCODER HREA 48



BL200.48.95 + ENCODER MEHR 22



BL200.48.95 + ENCODER MEHR 22 IP65

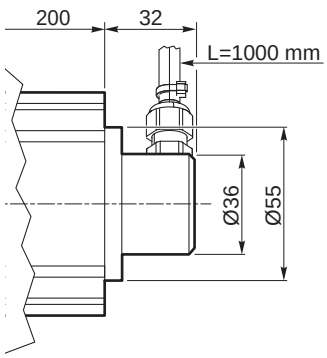


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Rosso ***Red***	Fase U *U motor Phase*
Bianco ***White***	*Fase V* *V motor Phase*
Nero ***Black***	Fase W *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Dati tecnici del freno *Brake features*	Descrizione *Description*
Tensione ***Voltage***	48 V / 24 V
Coppia ***Torque***	6 Nm
Potenza ***Power***	13.8 W
Nero ***Black***	Freno *Brake*
Nero ***Black***	Freno *Brake*

Caratteristiche Encoder *Encodeer specifications*	
Potenza alimentazione e tipo di uscita ***Power supply and output type***	5 V
Circuito di uscita ***Output circuit***	Line - driver / TTL / RS-422
Risoluzione ***Resolution***	2000 CPR
Numero di canali ***Number channels***	ABI - (/A/B/I) - UVW - (/U/V/W) *

***:** I segnali (/U/V/W) sono presenti solo per HREA 48
The signals (/U/V/W) is present only for HREA 48

Dati tecnici protezione termica *Thermal protection features*	Descrizione *Description*
Tensione ***Voltage***	48 V / 24 V 500 mA
Temperatura di apertura ***Opening temperature***	130° C ± 5° C
Composizione ***Composition***	bimetallo di 70 Ω / cmf *bimetal of 70 Ω / cmf*
Rosso ***Red***	PTO
Nero ***Black***	PTO

Encoder BA22

BL210.480 / BL210.48E

Specifiche costruttive — *General features*

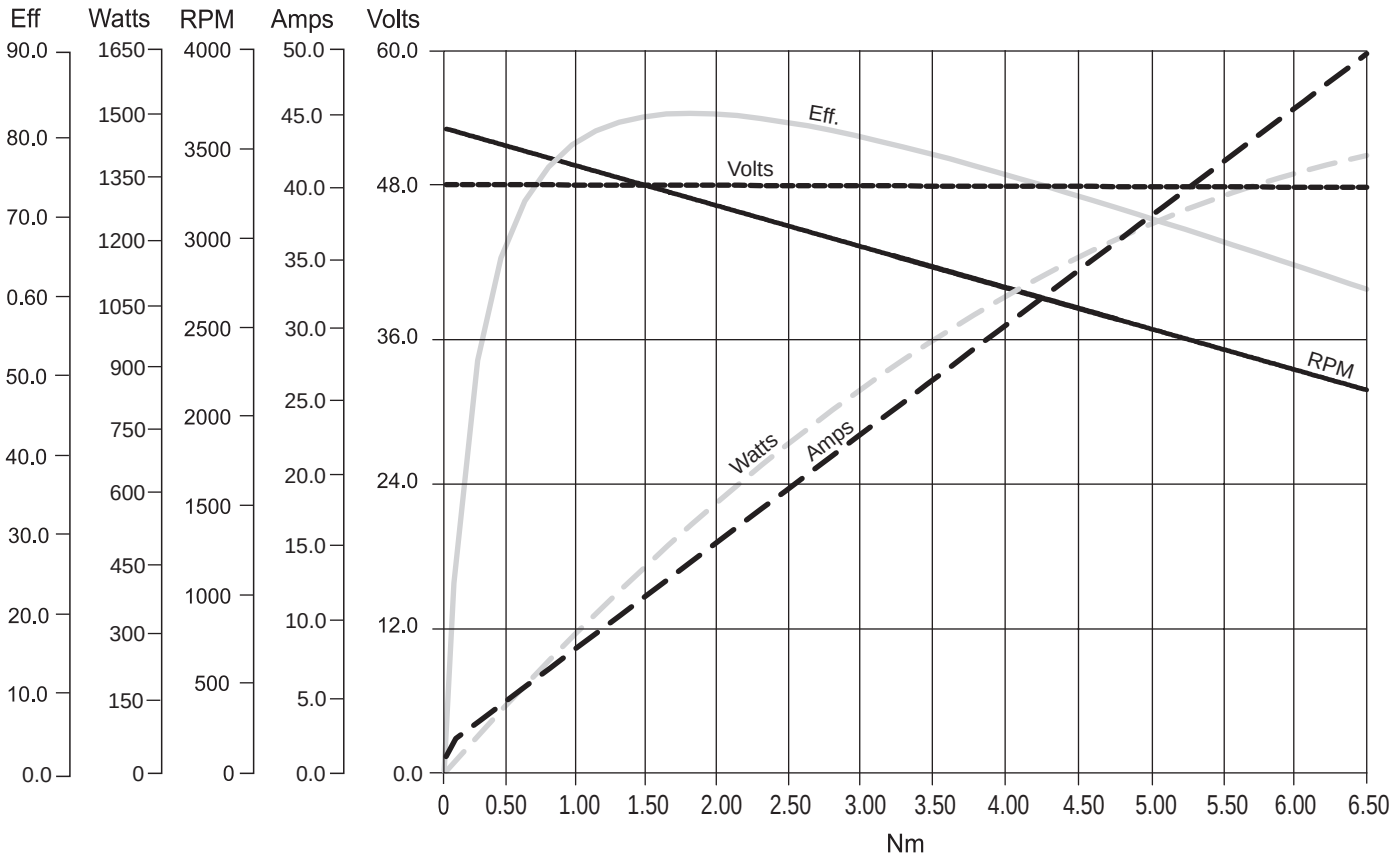
Tipologia di avvolgimento *Winding type*	Stella *Star*
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.05 mm

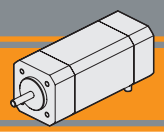
Max forza radiale *Max radial force*	220N @ 20 mm dalla flangia *220N @ 20 mm from flange*
Max forza assiale *Max axial force*	60N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BL210.480 BL210.48E	8	3	48	3000	2.1	660	6.3	18.7	56	0.115	0.31	0.112	9.5	2400	4.2	55

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

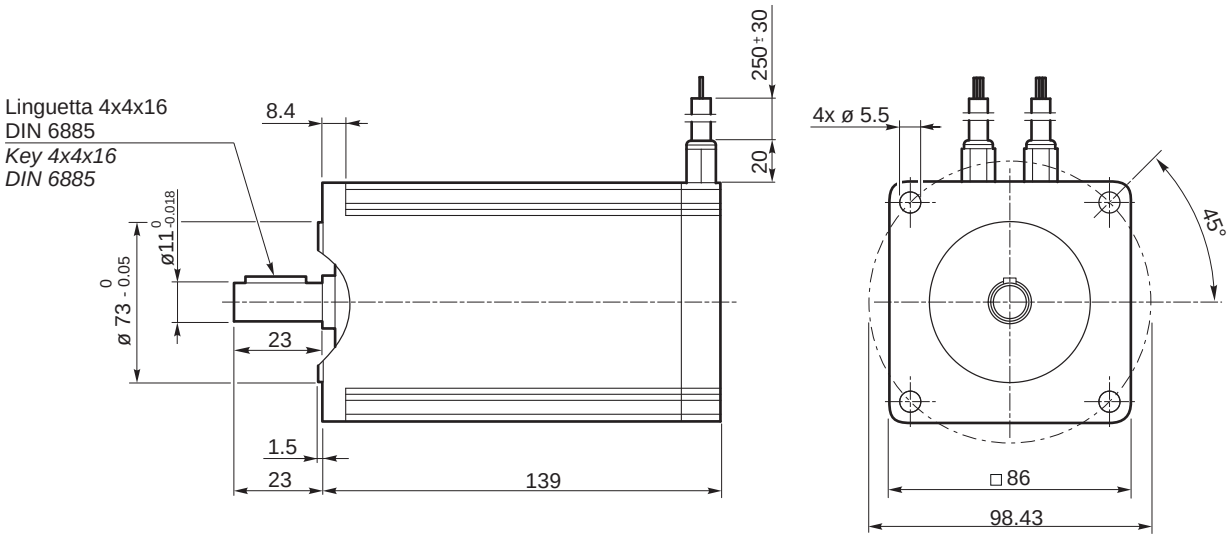




BL210.480 / BL210.48E

Dimensioni — *Dimensions*

BL210.480



BL210.48E

Freno / *Brake* → BA28

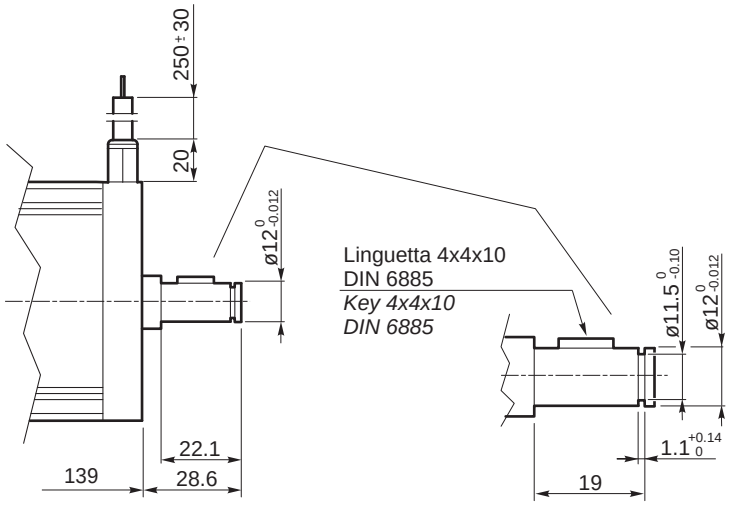


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Blu / *Blue*	Fase U / *U motor Phase*
Marrone / *Brown*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc ÷ 24Vcc *Supply voltage for Hall sensors, + 5 Vdc ÷ 24Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BL400.48.120

Specifiche costruttive / *General features*

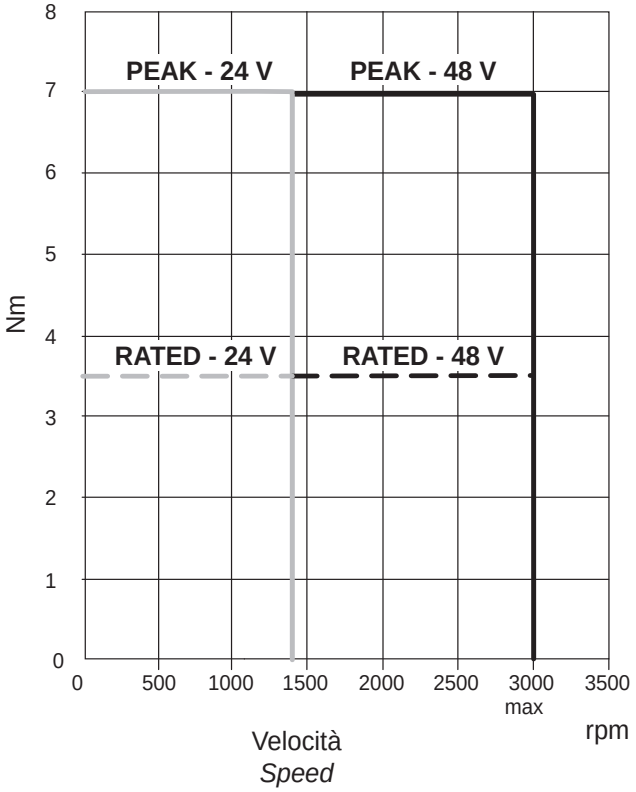
Tipologia di avvolgimento *Winding type*	delta
Gioco radiale *Radial play*	0.05 mm @ 68N
Gioco assiale *End play*	0.13 mm @ 113N
Scentratura albero *Shaft run out*	0.004 mm
Grado di protezione *Degree of protection*	IP 65

Max forza radiale *Max radial force*	490 N at 20 mm
Max forza assiale *Max axial force*	196 N
Classe di isolamento termico *Insulation class*	Classe F *Class F*
Isolamento dielettrico *Dielectric strength*	600 Vdc 1S 2mA
Resistenza isolamento *Insulation resistance*	500 V ≥ 50 MΩ

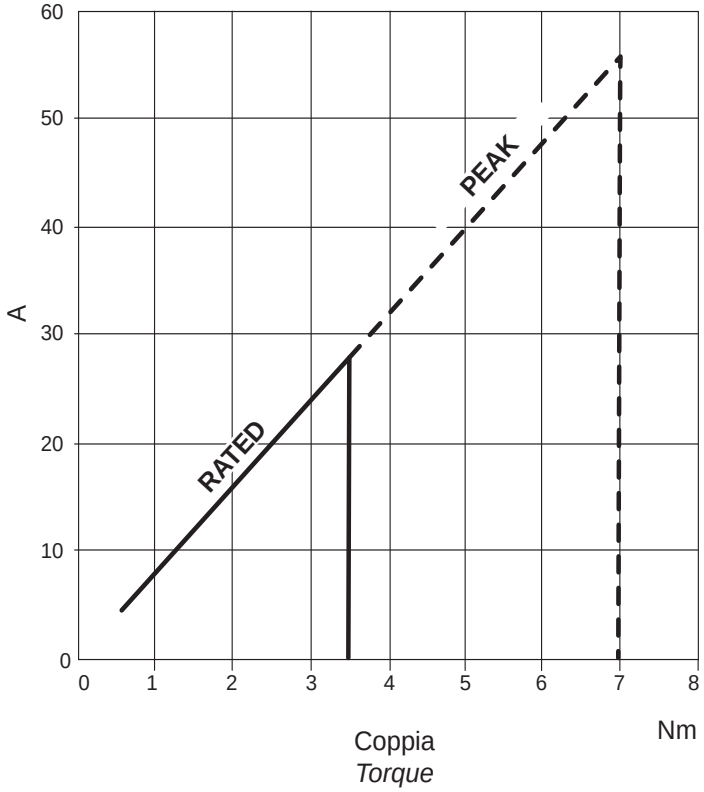
Modello *Model*	Poli *Poles*	Fasi *Phases*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [min-1]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	8	3	S3	48	3000	4.2	1320	12.6	33	99	0.064	0.31	0.120	12.6	21380	11
			S1			3.5	1100	10.5	28	84						
			S3	24	1400	4.2	615	12.6	33	99						
			S1			3.5	515	10.5	28	84						

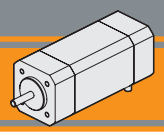
Prestazioni / *Performances*

Coppia
Torque



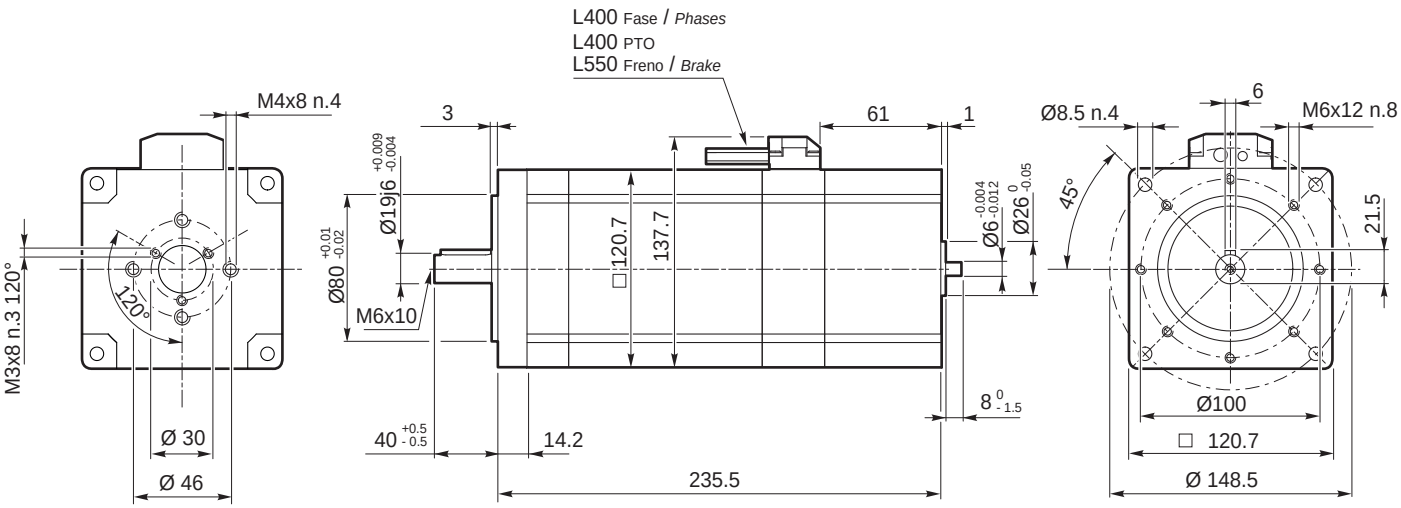
Corrente motore
Motor current



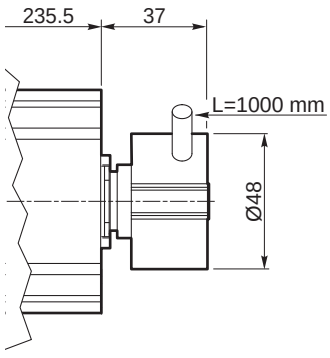


BL400.48.120

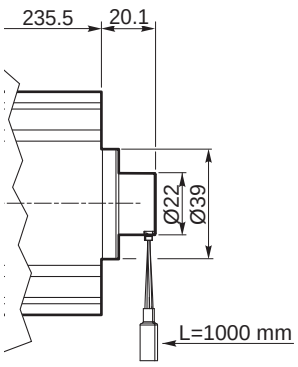
Dimensioni — *Dimensions*



BL400.48.120 + ENCODER HREA 48



BL400.48.120 + ENCODER MEHR 22



BL400.48.120 + ENCODER MEHR 22 IP65

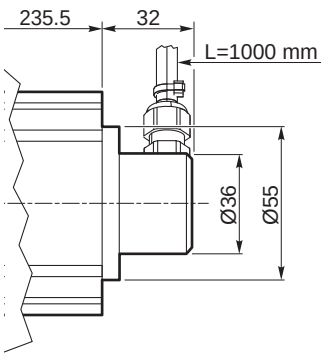


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Rosso / *Red*	Fase U / *U motor Phase*
Bianco / *White*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Caratteristiche Encoder *Encodeer specifications*	
Potenza alimentazione e tipo di uscita ***Power supply and output type***	5 V
Circuito di uscita ***Output circuit***	Line - driver / TTL / RS-422
Risoluzione ***Resolution***	2000 CPR
Numero di canali ***Number channels***	ABI - (/A/B/I) - UVW - (/U/V/W) *

***:** I segnali (/U/V/W) sono presenti solo per HREA 48
The signals (/U/V/W) is present only for HREA 48

Dati tecnici del freno *Brake features*	Descrizione *Description*
Tensione ***Voltage***	48 V / 24 V
Coppia ***Torque***	8 Nm
Potenza ***Power***	22 W
Nero / *Black*	Freno / *Brake*
Blu / *Blue*	Freno / *Brake*

Dati tecnici protezione termica *Thermal protection features*	Descrizione *Description*
Tensione ***Voltage***	48 V / 24 V 500 mA
Temperatura di apertura ***Opening temperature***	130° C ± 5° C
Composizione ***Composition***	bimetallo di 70 Ω/ cmf *bimetal of 70 Ω/ cmf*
Rosso / *Red*	PTO
Nero / *Black*	PTO

Encoder → BA22

Solo motori BL070.48.80, BL200.48.95, BL400.48.120 ***BL070.48.80, BL200.48.95, BL400.48.120 motors only***

Descrizione encoder

MEHR 22 è un encoder ottico e magnetico incrementale; è dotato di un albero cavo e può essere fissato in differenti taglie di motori elettrici.
Questo encoder è stato specificatamente sviluppato per lavorare con motori Brushless, in applicazioni retroazionate e per il controllo della velocità di rotazione.
L'encoder MEHR 22 ha un sistema di controllo in tempo reale per le applicazioni in velocità e posizione.
Questo encoder fornisce in uscita due onde quadre in quadratura (A-B sfasate di 90°) per le informazioni di conteggio e di direzione ed un terzo canale con un impulso giro (tacca di zero).
In aggiunta c'è un encoder magnetico integrato che fornisce un segnale UVW di commutazione. La risoluzione dell'encoder è determinata dal numero di cicli per rotazione (CPR).
L'alimentazione e il segnale sono forniti da un connettore JAE a 11 pin.

Description Encoder

The MEHR 22 is a optical magnetic incremental encoder; he is a reliable hollow shaft encoder and can be fixed in a different sizes of electric motor.
This encoder is developed for brushless motor, motor feedback and the rotazional speed control. The encoder MEHR 22 is a real time system for speed and position application.
This encoder provide two square wave outputs in quadrature (A-B 90° degrees) for the direction and counting information and a third channel with lap pulse (zero mark). Additional there is a magnetic encoder integrated which provide UVW signal as commutation. The resolution of encoder is determined by the number of cycles for revolution (CPR).
Power supply and signals are provided by a 11 pin JAE connector.

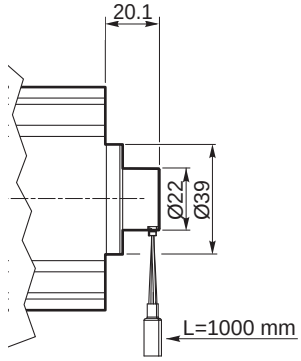
Caratteristiche principali

- Canali di uscita encoder: A-B-I e /A-/B-/I
- Canali di uscita sensore Hall: U-V-W
- Tipo di uscita: Line Driver/TTL/RS-422
- Risoluzione encoder: 2000 CPR (Cycles Per Revolution)
- Risoluzione sensore Hall: 8 poli
- Frequenza: 400kHz cavo corto (<1m), tipica 180kHz @2.000cpr -> 5.400 min-1
- Alimentazione: 5 VDC
- Temperatura di funzionamento: da -40°C a +100°C
- Conforme alla direttiva 2011/65/65/EU e 2015/863/EU

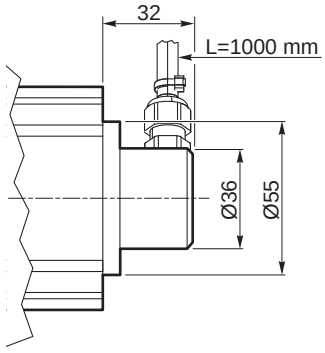
Main specifications

- *Output channels encoder: A-B-I and /A-/B-/I*
- *Optional channels hall sensor: U-V-W*
- *Output type: Line Driver/TTL/RS-422*
- *Resolution encoder: 2000 CPR (Cycles Per Revolution)*
- *Resolution hall sensor: 8 pole*
- *Frequency: 400kHz short cable (<1m), typical 180kHz @2.000cpr -> 5.400 min-1*
- *Power supply: 5 VDC*
- *Operating temperature: -40°C to +100°C*
- *Compliant EU-directive 2011/65/65/EU and 2015/863/EU*

ENCODER MEHR 22



ENCODER MEHR 22 IP65



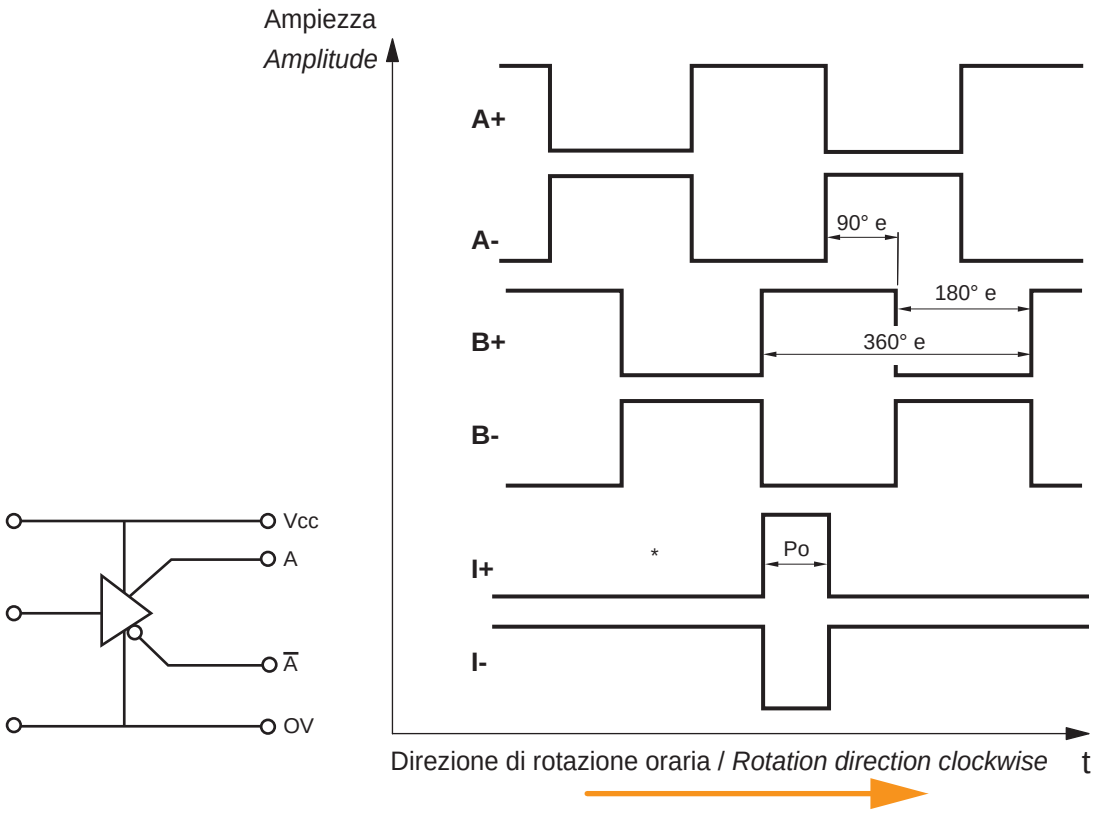
PIN	Connettore / *Output pin*	Colore filo - *Color*
1	UB	rosso - *red*
2	A+	bianco - *white*
3	A-	marrone - *brown*
4	B+	verde - *green*
5	B-	giallo - *yellow*
6	I+	grigio - *grey*
7	I-	rosa - *pink*
8	U/H1	viola - *purple*
9	V/H2	grigio / rosa - *grey / pink*
10	W/H3	nero - *black*
11	GND	blu - *blue*

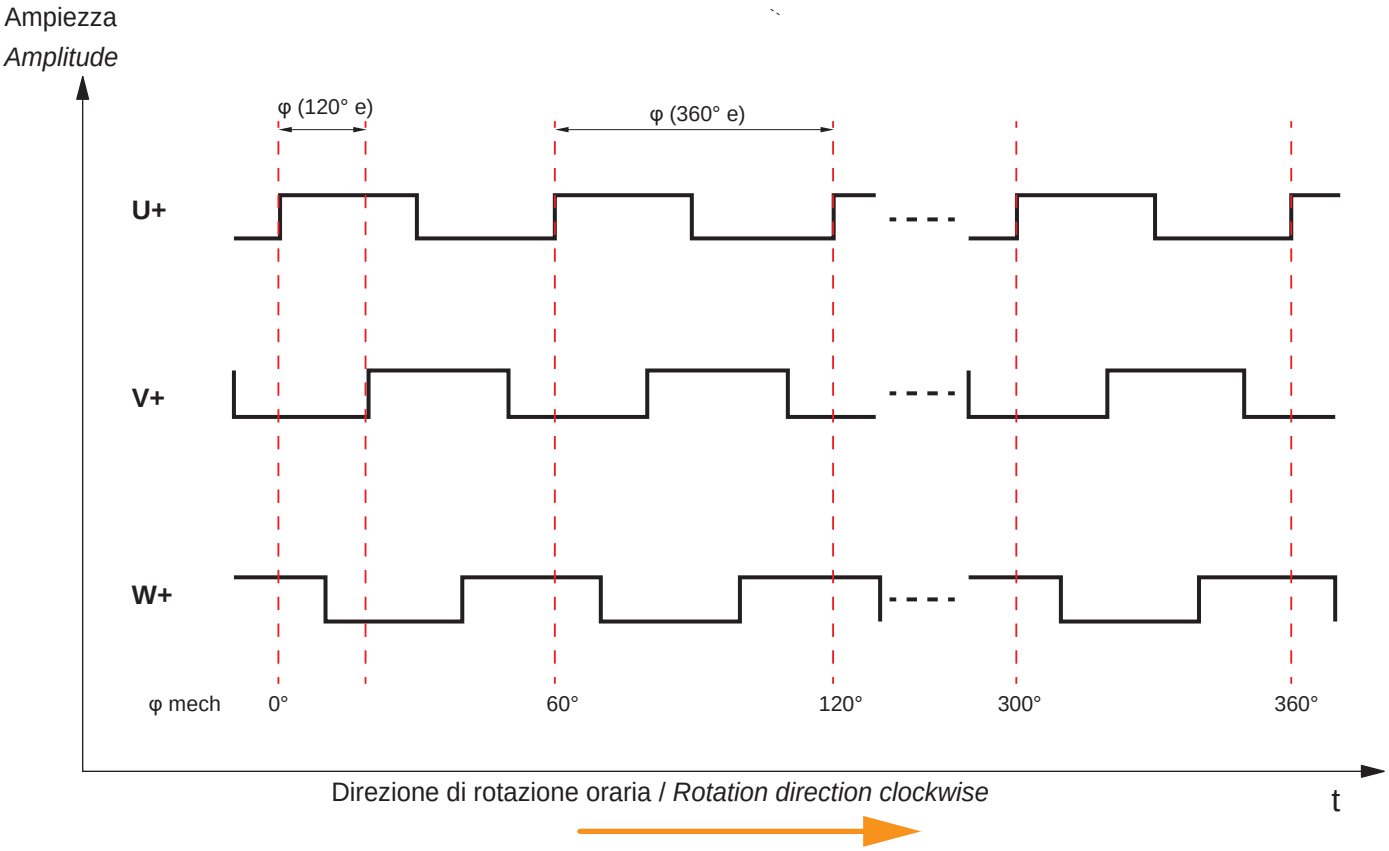
Nota: L'encoder MEHR 22 IP 65 Differisce dal MEHR 22 soltanto per le dimensioni indicate nel disegno e per il grado di protezione IP65.

Note: *The encoder MEHR 22 IP 65 it differs from MEHR 22 only for dimensions indicated in the drawing and for the degree of protection IP 65.*

Solo motori BL070.48.80, BL200.48.95, BL400.48.120 ***BL070.48.80, BL200.48.95, BL400.48.120 motors only***

Interfaccia elettrica / *Electrical interface*





Solo motori BL070.48.80, BL200.48.95, BL400.48.120 — *BL070.48.80, BL200.48.95, BL400.48.120 motors only*

Condizioni di funzionamento raccomandate — *Recommended operating conditions*

Le specifiche elettriche sono valide solo quando l'encoder opera nell'intervallo di temperatura di funzionamento.
Le misure sono riferite alla temperatura di 25 °C, con alimentazione Vcc = 5 V ± 5%.

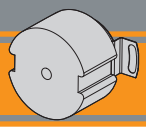
Electrical characteristics are only effective for the range of the operating temperatures.
Standard values at 25 °C and V_{DC} = 5 V.

Parametri *Parameter*	**Simbolo** *Symbol*	**Min.**	**Standard**	**Max.**	**Unità** *Unit*	**Note** *Notes*
Tensione di alimentazione *Supply voltage*	U_B	4.5	5.0	5.5	V_{CC}	versione 5 V *version 5 V*
Corrente di alimentazione *Supply current*	I_{UB}	40	45	50	mA	senza carico *no load*
Corrente di uscita per canale *Output current per channel*	I_{out}			20	mA	
Tensione di uscita livello alto *High level output voltage*	V_{OH}	2.5			V_{CC}	
Tensione di uscita livello basso *Low level output voltage*	V_{OL}			0.5	V_{CC}	
Tempo di salita *Rise time*	T_r		500		ns	
Tempo di discesa *Fall time*	T_f		500		ns	
Ampiezza di impulso *Pulsewith*			180°		° e	
Errore di fase *Phaseshift*			90°		° e	
Ciclo di lavoro *Duty Cycle*			1 : 1			
Precisione angolare *Relative angular accuracy*				<50	%	0,32 $e^{(0,4 * n)}$ [n = bit]
Frequenza di conteggio *Count frequency*	f			400	kHz	rpm* N/ 60 x 10^{-3}
Tempo di avvio *Start up time*	T_T			<2	ms	
Tensione ESD *ESD voltage*	U_{ESD}			>1KV	kV	
Coppie di poli *Pole-pair*	p	1		4		per commutazione *for commutation*

Ambiente *Environment*	**Simbolo** *Symbol*	**Min.**	**Standard**	**Max.**	**Unità** *Unit*	**Note** *Notes*
Temperatura di funzionamento *Operating temperature*	T_A	- 20	+25	+ 85	°C	
Temperatura di stoccaggio *Storage temperature*	T_S	-40		+ 85	°C	
Umidità *Humidity exposure*				90	% RH	senza condensa *not codensing*
Vibrazione *Vibration*				2000	Hz	120 g
Scostamento asse magnete *Magnetaxis displacement*				0.2	mm	vs. centro del sensore *vs. center ofsensor*

Avvertenza ESD (scariche elettrostatiche):
maneggiare con cura per evitare di danneggiare il sensore con scariche elettrostatiche.

ATTENTION ESD Warning:
Normal handling precautions should be taken to avoid static discharge damage to the sensor.



Solo motori BL070.48.80, BL200.48.95, BL400.48.120 ***BL070.48.80, BL200.48.95, BL400.48.120 motors only***

Descrizione encoder

HREA 48 è un encoder + sensori di hall ottico ad albero cavo. Questo encoder è stato specificatamente sviluppato per avere un basso costo e lavorare in applicazioni nelle quali precisione e velocità sono fondamentali. L'encoder fornisce due uscite ad onda quadra A e B ed il loro negato /A-/B, Il segnale I ed il suo negato /I rappresenta la tacca di"ZERO", l'utilizzo dei sensori di hall ad 8 poli U-V-W ed i suoi negati /U-/V-/W permette un elevata precisione e controllo. L'alimentazione dei segnali sono forniti da un cavo intrecciato 14Pin 100cm.

Description Encoder

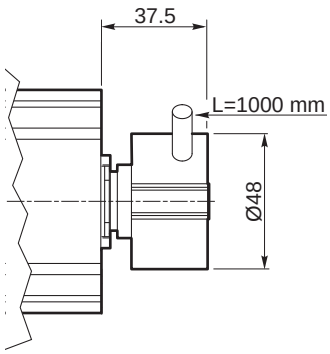
HREA 48 is an encoder optical hall sensor with hollow shaft. This encoder is specially developed to have a low cost and to work for applications, where precision and speed are essential. The encoder provide two square wave outputs A and B and their negative outputs /A-/B, The signal I and his negative /I represent the "ZERO" notch, the use of the hall sensors with 8 pole U-V-W and it's negative /U-/V-/W allows a high precision and control. Power supply and signals are provided by the braided cable 14Pin 100cm.

Caratteristiche principali encoder

- Canali di uscita encoder: A-B-Ie /A-/B-/I
- Canali di uscita sensore Hall: U-V-W e /U-/V-/W
- Tipo di uscita: Line Driver/TTL/RS-422
- Risoluzione encoder: 2000 CPR (Cycles Per Revolution)
- Risoluzione sensore Hall: 8 poli
- Frequenza 300 Khz
- Alimentazione: 5 VDC
- Dimensioni compatte: 48,0 mm (diametro) x 37,0mm (lunghezza)
- Temperatura di funzionamento: da -40 °C a +85 °C.
- Conforme alla direttiva 2011/65/65/EU and 2015/863/EU

Main specifications

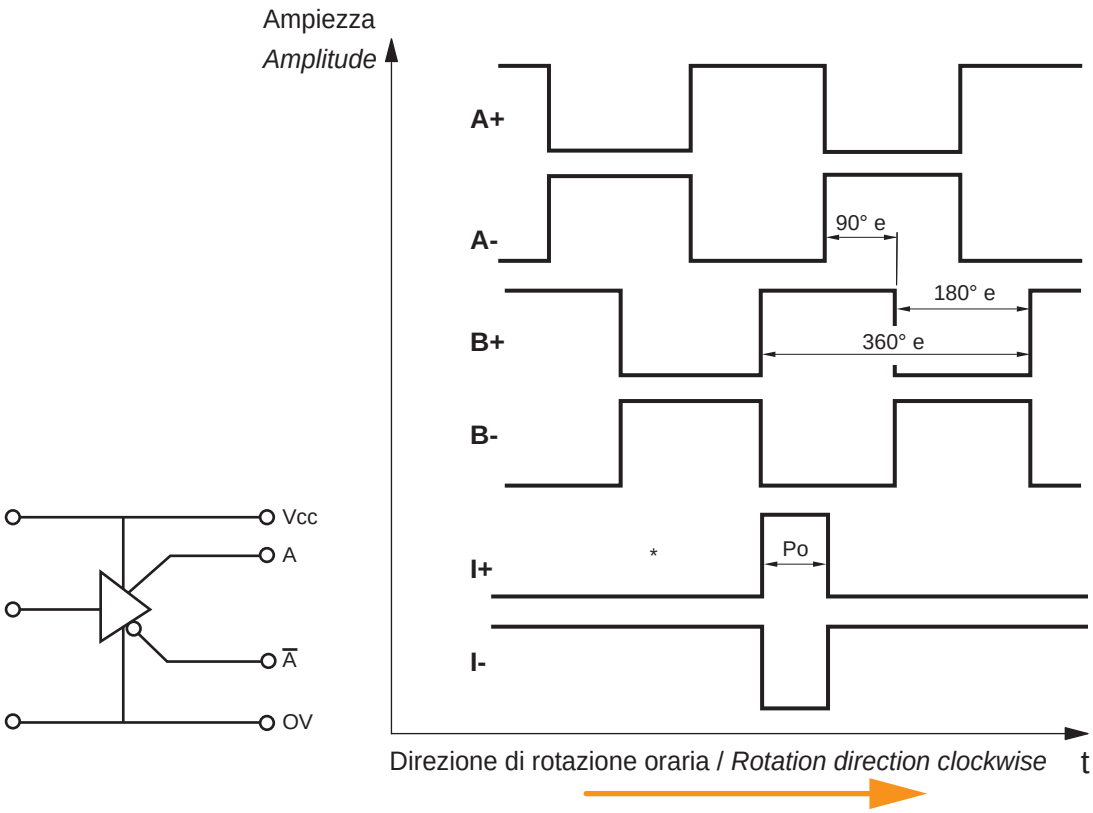
- *Output channels encoder: A-B-I and /A-/B-/I*
- *Optional channels hall sensor: U-V-W and /U-/V-/W*
- *Output type: Line Driver/TTL/RS-422*
- *Resolution encoder: 2000 CPR (Cycles Per Revolution)*
- *Resolution hall sensor: 8 pole*
- *Frequency: 300 Khz*
- *Power supply: 5 VDC*
- *Small size: 48,0 mm (diameter) x 37,0mm (lenght)*
- *Operating temperature: -40 °C to +85 °C.*
- *Compliant EU-directive 2011/65/65/EU and 2015/863/EU*

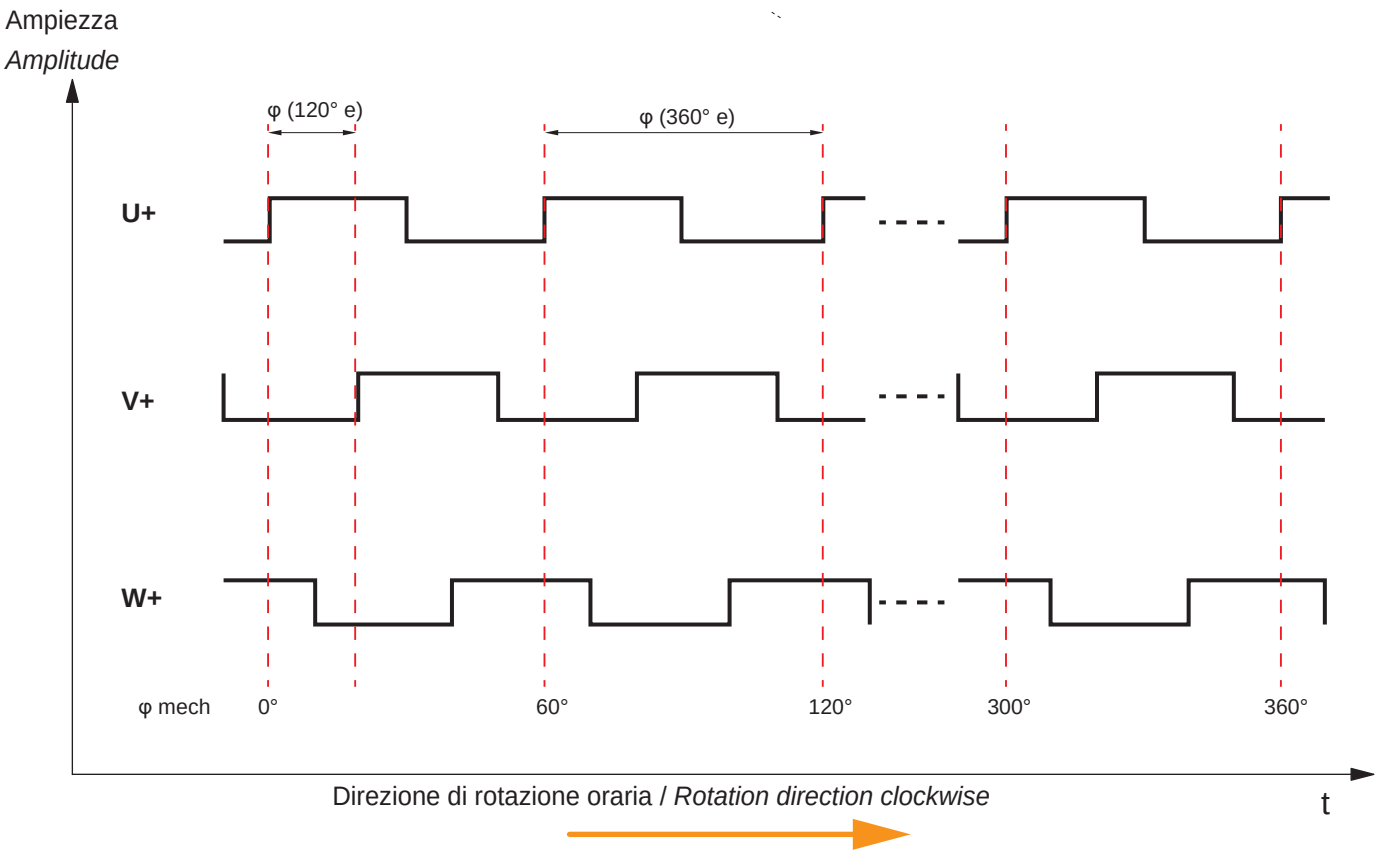


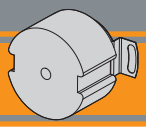
Segnali	Colore filo - *Color*
A	Verde - *Green*
B	Bianco - *White*
I	Giallo - *Yellow*
A/	Verde/Nero - *Green/Black*
B/	Bianco/Nero - *White/Black*
I/	Giallo/Nero - *Yellow/Black*
H2	Marrone - *Brown*
H3	Grigio - *Gray*
H1	Arancione - *Orange*
U/	Marrone/Nero - *Brown/Black*
V/	Grigio/Nero - *Gray/Black*
W/	Arancione/Nero - *Orange/Black*
Vcc	Rosso - *Red*
GND	Nero - *Black*

Solo motori BL070.48.80, BL200.48.95, BL400.48.120 ***BL070.48.80, BL200.48.95, BL400.48.120 motors only***

Interfaccia elettrica ***Description Encoder***







Solo motori BL070.48.80, BL200.48.95, BL400.48.120 ***BL070.48.80, BL200.48.95, BL400.48.120 motors only***

Condizioni di funzionamento raccomandate — *Recommended operating conditions*

Le specifiche elettriche sono valide solo quando l'encoder opera nell'intervallo di temperatura di funzionamento.
Le misure sono riferite alla temperatura di 25 °C, con alimentazione Vcc = 5 V ± 5%.

Electrical characteristics are only effective for the range of the operating temperatures.
Standard values at 25 °C and V_{DC} = 5 V.

Parametri ***Parameter***	**Simbolo** ***Symbol***	**Min.**	**Standard**	**Max.**	**Unità** ***Unit***	**Note** ***Notes***
Tensione di alimentazione *Supply voltage*	U_B	4.5	5.0	5.5	V_{CC}	versione 5 V *version 5 V*
Corrente di alimentazione *Supply current*	I_{UB}		60		mA	senza carico *no load*
Tensione di uscita livello alto *High level output voltage*	V_{OH}	3.4			V_{CC}	
Tensione di uscita livello basso *Low level output voltage*	V_{OL}			0.4	V_{CC}	
Tempo di salita *Rise time*	T_r		200		ns	
Tempo di discesa *Fall time*	T_f		200		ns	
Ampiezza di impulso *Pulsewith*			180°		° e	
Errore di fase *Phaseshift*			90°		° e	
Ciclo di lavoro *Duty Cycle*			1 : 1			
Frequenza di conteggio *Count frequency*	f			500	kHz	rpm* N/ 60 x 10^{-3}
Tempo di avvio *Start up time*	T_T			2	ms	
Tensione ESD *ESD voltage*	U_{ESD}			2	kV	scaricata su 1.5 kΩ
Coppie di poli *Pole-pair*	p	1		4		per commutazione *for commutation*

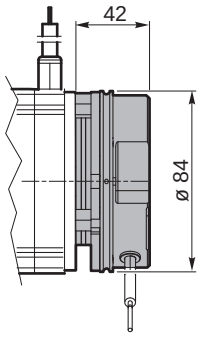
Ambiente ***Environment***	**Simbolo** ***Symbol***	**Min.**	**Standard**	**Max.**	**Unità** ***Unit***	**Note** ***Notes***
Temperatura di funzionamento *Operating temperature*	T_A	- 20	+25	+ 85	°C	
Temperatura di stoccaggio *Storage temperature*	T_S	-40		+ 85	°C	
Umidità *Humidity exposure*				90	% RH	senza condensa *not codensing*
Vibrazione *Vibration*				2000	Hz	120 g
Scostamento asse magnete *Magnetaxis displacement*				0.2	mm	vs. centro del sensore *vs. center ofsensor*

Avvertenza ESD (scariche elettrostatiche):
maneggiare con cura per evitare di danneggiare il sensore con scariche elettrostatiche.

ATTENTION ESD Warning:
Normal handling precautions should be taken to avoid static discharge damage to the sensor.

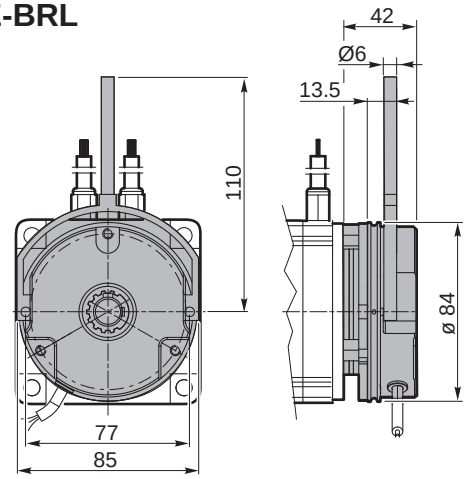
Freno / *Brake*

BL070.24B-BR
BL070.48B-BR
BL210.48E-BR



Freno con leva di sblocco/ *Brake with hand release*

BL070.24B-BRL
BL070.48B-BRL
BL210.48E-BRL



	Pn [W]	V [V]	Mn [Nm]	n_1 [min^{-1}]	Kg	IP
Caratteristiche del freno / *Break features*	23	48	4.5	3000	0.90	20

TRANSTECNO®
the modular gearmotor

BLCMG

BLCMG

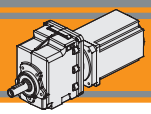
BLCMG Alu

IP55

Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**BB2**
Designazione	*Classification*	**BB2**
Simbologia	*Symbols*	**BB2**
Lubrificazione e temperatura	*Lubrification and temperature*	**BB3**
Carichi radiali	*Radial loads*	**BB3**
CMG002 con motore brushless BLS 043.240	*CMG002 with brushless motor BLS 043.240*	**BB4**
CMG002 con motore brushless BL 070.240	*CMG002 with brushless motor BL 070.240*	**BB5**
CMG002 con motore brushless BL 070.480	*CMG002 with brushless motor BL 070.480*	**BB5**
CMG002 con motore brushless BL 070.48.80	*CMG002 with brushless motor BL 070.48.80*	**BB6**
CMG002 con motore brushless BL 140.480	*CMG002 with brushless motor BL 140.480*	**BB7**
CMG002 con motore brushless BL 200.48.95	*CMG002 with brushless motor BL 200.48.95*	**BB8**
CMG002 con motore brushless BL 210.480	*CMG002 with brushless motor BL 210.480*	**BB9**
CMG012 con motore brushless BL 140.480	*CMG012 with brushless motor BL 140.480*	**BB10**
CMG012 con motore brushless BL 200.48.95	*CMG012 with brushless motor BL 200.48.95*	**BB11**
CMG012 con motore brushless BL210.480	*CMG012 with brushless motor BL 210.480*	**BB12**
CMG012 con motore brushless BL 400.48.120	*CMG012 with brushless motor BL 400.48.120*	**BB13**
CMG022 con motore brushless BL 200.48	*CMG022 with brushless motor BL 200.48*	**BB14**
CMG022 con motore brushless BL 210.480	*CMG022 with brushless motor BL 210.480*	**BB15**
CMG022 con motore brushless BL 400.48.120	*CMG022 with brushless motor BL 400.48.120*	**BB16**
CMG032 con motore brushless BL 400.48.120	*CMG032 with brushless motor BL 400.48.120*	**BB17**
CMG042 con motore brushless BL 400.48.120	*CMG042 with brushless motor BL 400.48.120*	**BB18**
Dati tecnici	*Technical data*	**BC22**
Dimensioni CMG con flange motore AS	*CMG dimensions with motor flanges AS*	**BC22**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche

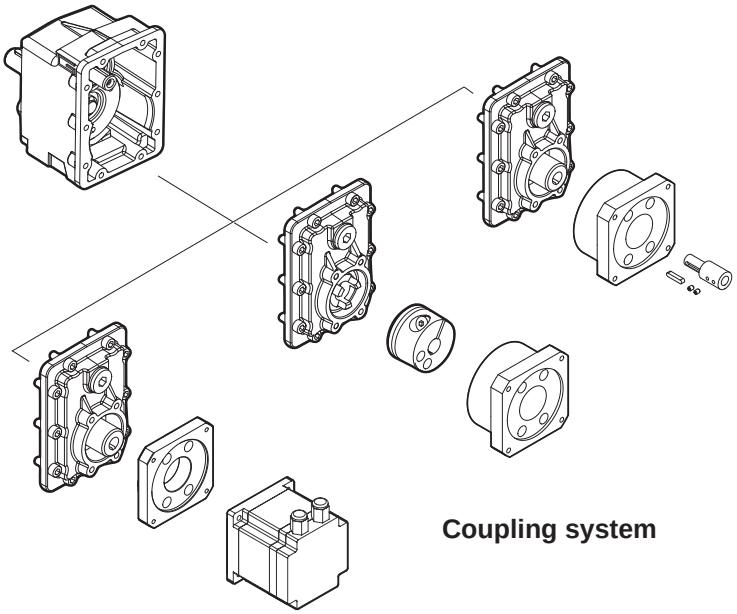
Technical features

Le caratteristiche principali dei motoriduttori brushless CC ad ingranaggi cilindrici della serie CMG sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore protezione IP55
- Coppie motori disponibili da 0.43 Nm a 4.2 Nm
- Lubrificazione permanente con olio sintetico
- Carcasse dei riduttori in pressofusione di alluminio
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili per accoppiamento ingresso motore con giunto elastico

The main features of brushless DC helical gearmotors range CMG series are:

- *Low voltage power supply 24/36/48 Vdc*
- *Motor protection IP55*
- *Motor torque ratings available from 0.43 Nm up to 4.2 Nm*
- *Permanent synthetic oil long life lubrication*
- *Die cast aluminum housing*
- *Ground-hardened helical gears*
- *Available for motor input coupling with elastic coupling*



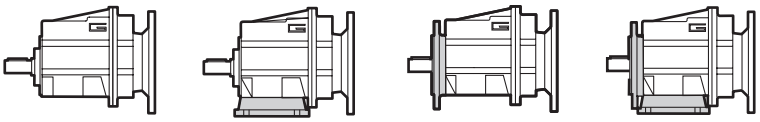
Coupling system

ENERGY SAVING

Designazione

Classification

U **H** **F** **H/F**



MOTORIDUTTORE / *GEARBOX*

CMG	002	U	8.99	D20	FX
Tipo *Type*	Grandezza *Size*	Versione *Version*	Rapporto *Ratio*	Albero uscita *Output shaft*	Giunto elastico *Flexible coupling*
CMG	**002** **012** **022** **032** **042**	**U...** **H...** **F...** **H.../F...**	vedi tabelle *see tables*	vedi tabelle *see tables*	**FX**

MOTORE / *MOTOR*

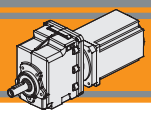
BL070.480	48V	BR
Tipo *Type*	Tensione *Voltage*	Freno *Brake*
BLS043.240	**24V-36V**	**24V**
BL070.240	**24V**	**48V**
BL070.24B	**24V**	
BL070.48B	**48V**	
BL070.480	**48V**	
BL070.48.80	**24V-48V**	BA28
BL140.480	**48V**	
BL200.48.95	**24V-48V**	
BL210.480	**24V-48V**	
BL210.48E	**48V**	
BL400.48.120	**48V**	

Simbologia

Symbols

i		Rapporto di riduzione / *ratio*
M_2	[Nm]	Coppia in uscita in funzionamento continuativo S1 *Output torque for continuous operation S1*
Rd		Rendimento dinamico / *efficiency*
R_2	[N]	Massimo carico radiale al centro dell'albero uscita Max. *radial load at output shaft centre*
A_2	[N]	Massimo carico assiale / *max. axial load*
sf		Fattore di servizio / *Service factor*

V	[V]	Tensione / *Voltage*
I	[A]	Assorbimento / *Current*
M_2	[Nm]	Coppia / *Torque*
n_{1MAX}	[Rpm]	Giri max entrata / *Max Input Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*
n_2	[Rpm]	Giri in uscita / *Output Speed*



Lubrificazione e temperatura

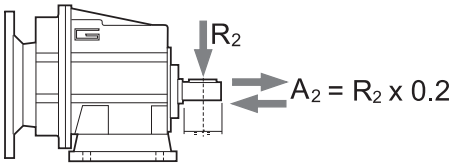
Lubrication and temperature

Tutti i riduttori CMG sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use CMG in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

Carichi radiali

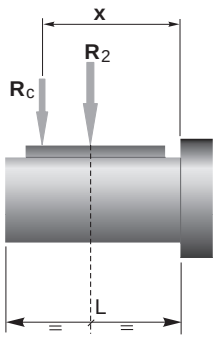
Radial loads



n_2 [min^{-1}]	R_2 [N]				
	CMG 002	CMG 012	CMG 022	CMG 032	CMG 042
700	416	764	1529	1987	2379
600	437	805	1609	2092	2504
500	465	855	1710	2223	2661
400	501	921	1842	2395	2866
250	586	1077	2154	2801	3353
180	653	1323	2554	3321	3897
150	748	1406	2714	3529	4244
120	806	1631	3467	3801	4572
100	958	1842	3684	4507	5234
80	1032	1984	3969	5042	5991
60	1136	2184	4368	5549	6594
40	1300	2500	5000	6500	8000
10	1300	2500	5000	6500	8000

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:



	CMG 002	CMG 012	CMG 022	CMG 032	CMG 042
a	73	104	117	132	150
b	53	84	92	102	115
R_{2MAX}	1300	2500	5000	6500	8000

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BLS043.240													
	24V							36V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
5.0	60	2.1	22.2	596	2.1	15.0	3000	80	2.1	22.2	795	2.1	13.3	4000
6.1	49	2.5	18.3	492	2.5	12.4		66	2.5	18.3	656	2.5	11.0	
7.5	40	3.1	14.9	401	3.1	10.1		53	3.1	14.9	534	3.1	8.9	
9.0	33	3.7	15.5	334	3.7	10.5		44	3.7	15.5	445	3.7	9.3	
10.2	30	4.2	13.7	295	4.2	9.3		39	4.2	13.7	394	4.2	8.2	
12.1	25	5.0	11.5	249	5.0	7.8		33	5.0	11.5	331	5.0	6.9	
13.4	22	5.5	14.6	224	5.5	9.9		30	5.5	14.6	299	5.5	8.7	
15.1	20	6.2	12.9	198	6.2	8.7		26	6.2	12.9	264	6.2	7.7	
18.2	17	7.5	10.7	165	7.5	7.3		22	7.5	10.7	220	7.5	6.4	
21.6	14	8.9	9.0	139	8.9	6.1		19	8.9	9.0	185	8.9	5.4	
23.5	13	9.7	8.3	128	10	5.6		17	9.7	8.3	170	9.7	5.0	
25.1	12	10	7.8	120	10	5.3		16	10	7.8	159	10	4.7	
27.1	11	11	7.2	111	11	4.9		15	11	7.2	148	11	4.3	
32.5	9.2	13	6.0	92	13	4.1		12	13	6.0	123	13	3.6	
42.0	7.1	17	4.6	71	17	3.1		9.5	17	4.6	95	17	2.8	
44.9	6.7	19	4.3	67	19	2.9		8.9	19	4.3	89	19	2.6	
48.9	6.1	20	4.0	61	20	2.7		8.2	20	4.0	82	20	2.4	
55.1	5.4	23	3.5	54	23	2.4		7.3	23	3.5	73	23	2.1	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

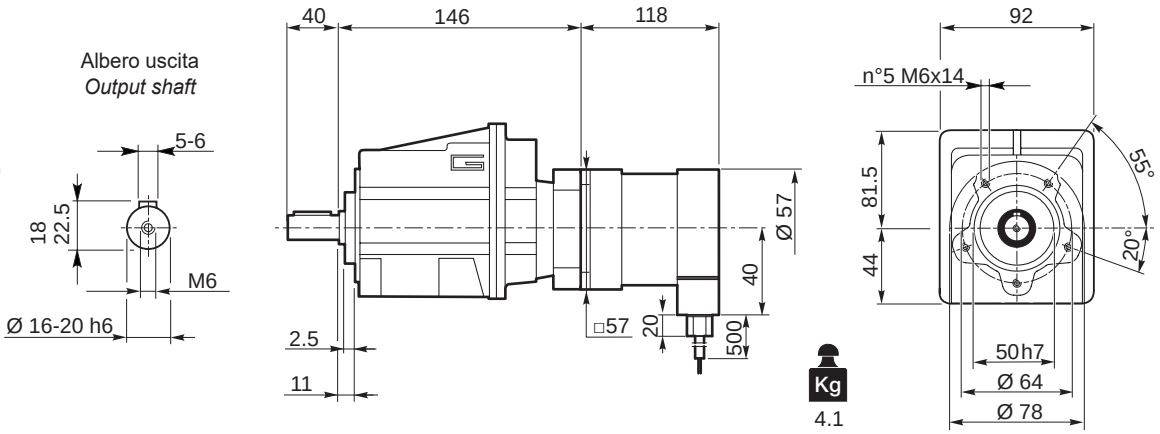
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130

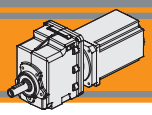
Tipo *Type*	Coppia massima *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Resistenza *Resistance* [Ω]	Induttanza *Inductance* [mH]	Corrente massima *Peak current* [A]	Peso *Weight* [kg]
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

Azionamenti *Drives* → II 2

CMG002U..
+
BLS043.240



CMG002..H → BB19 CMG002..F → BB20 CMG002..H/F → BB21



CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL070.240 / BL070.24B BL070.480 / BL070.48B 24V / 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
5.0	60	3.4	13.6	596	3.4	9.2	3000
6.1	49	4.1	11.2	492	4.1	7.6	
7.5	40	5.0	9.1	401	5.0	6.2	
9.0	33	6.0	9.5	334	6.0	6.5	
10.2	30	6.8	8.4	295	6.8	5.7	
12.1	25	8.1	7.1	249	8.1	4.8	
13.4	22	9.0	8.9	224	9.0	6.1	
15.1	20	10	7.9	198	10	5.4	
18.2	17	12	6.6	165	12	4.5	
21.6	14	15	5.6	139	15	3.8	
23.5	13	16	5.1	128	16	3.5	
25.1	12	17	4.8	120	17	3.2	
27.1	11	18	4.4	111	18	3.0	
32.5	9.2	22	3.7	92	22	2.5	
42.0	7.1	28	2.8	71	28	1.9	
44.9	6.7	30	2.7	67	30	1.8	
48.9	6.1	33	2.5	61	33	1.7	
55.1	5.4	37	2.2	54	37	1.5	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

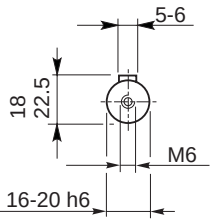
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

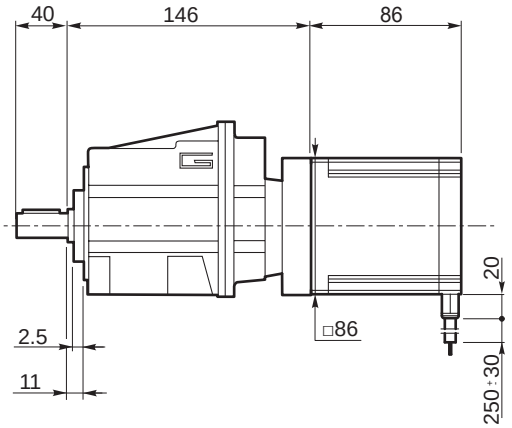
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

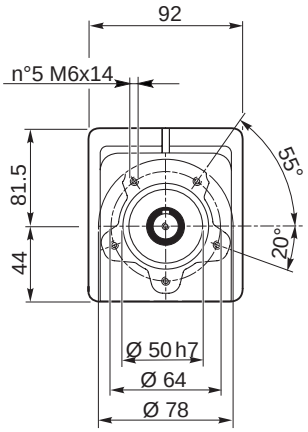
Azionamenti *Drives* → II 2

CMG002U..
+
BL070.240
BL070.480

Albero uscita
Output shaft

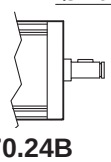






Kg
4.1

BA28 ← Freno *Brake*



BL070.24B
BL070.48B

CMG002..H → BB19 **CMG002..F** → BB20 **CMG002..H/F** → BB21

CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL070.48.80													
	24V							48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
5.0	50	3.4	13.6	497	3.4	9.2		80	3.4	13.6	796	3.4	8.2	
6.1	41	4.1	11.2	410	4.1	7.6		66	4.1	11.2	656	4.1	6.7	
7.5	33	5.0	9.1	334	5.0	6.2		53	5.0	9.1	534	5.0	5.5	
9.0	28	6.0	9.5	278	6.0	6.5		45	6.0	9.5	445	6.0	5.7	
10.2	25	6.8	8.4	246	6.8	5.7		39	6.8	8.4	394	6.8	5.1	
12.1	21	8.1	7.1	207	8.1	4.8		33	8.1	7.1	331	8.1	4.3	
13.4	19	9.0	8.9	187	9.0	6.1		30	9.0	8.9	299	9.0	5.4	
15.1	17	10	7.9	165	10	5.4		26	10	7.9	264	10	4.7	
18.2	14	12	6.6	138	12	4.5	2500	22	12	6.6	220	12	4.0	4000
21.6	12	15	5.6	116	15	3.8		19	15	5.6	185	15	3.3	
23.5	11	16	5.1	106	16	3.5		17	16	5.1	170	16	3.1	
25.1	10	17	4.8	100	17	3.2		16	17	4.8	159	17	2.9	
27.1	9.2	18	4.4	92	18	3.0		15	18	4.4	148	18	2.7	
32.5	7.7	22	3.7	77	22	2.5		12	22	3.7	123	22	2.2	
42.0	5.9	28	2.8	59	28	1.9		9.5	28	2.8	95	28	1.7	
44.9	5.6	30	2.7	56	30	1.8		8.9	30	2.7	89	30	1.6	
48.9	5.1	33	2.5	51	33	1.7		8.2	33	2.5	82	33	1.5	
55.1	4.5	37	2.2	45	37	1.5		7.3	37	2.2	73	37	1.3	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

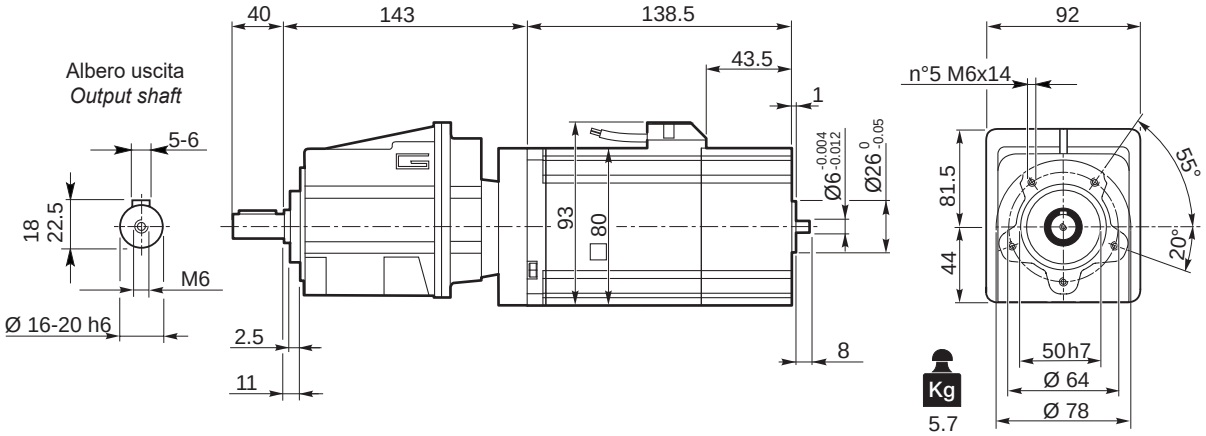
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

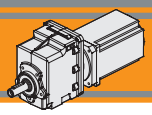
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

CMG002U..
+
BL070.48.80



Encoder → BA13 **CMG002..H** → BB19 **CMG002..F** → BB20 **CMG002..H/F** → BB21



CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL140.480 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
5.0	60	6.8	6.8	596	6.8	4.6	3000
6.1	49	8.2	5.6	492	8.2	3.8	
7.5	40	10	4.6	401	10	3.1	
9.0	33	12	4.8	334	12	3.2	
10.2	30	14	4.2	295	14	2.9	
12.1	25	16	3.5	249	16	2.4	
13.4	22	18	4.5	224	18	3.0	
15.1	20	20	4.0	198	20	2.7	
18.2	17	24	3.3	165	24	2.2	
21.6	14	29	2.8	139	29	1.9	
23.5	13	32	2.5	128	32	1.7	
25.1	12	34	2.4	120	34	1.6	
27.1	11	36	2.2	111	36	1.5	
32.5	9.2	44	1.8	92	44	1.3	
42.0	7.1	57	1.4	71	57	1.0	
44.9	6.7	60	1.3	67	60	0.9	
48.9	6.1	66	1.2	61	66	0.8	
55.1	5.4	74	1.1	54	74	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

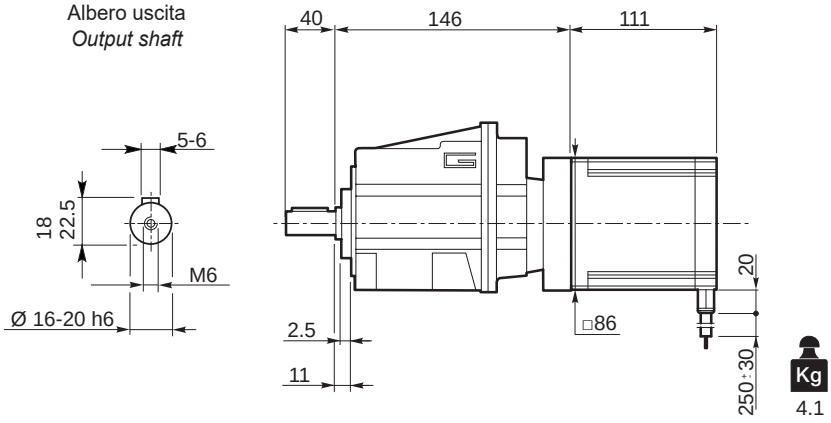
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

CMG002U..
+
BL140.480

Albero uscita
Output shaft



CMG002..H → BB19 **CMG002..F** → BB20 **CMG002..H/F** → BB21

CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL200.48.95													
	24V							48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
5.0	30	9.7	4.8	298	9.7	4.1	1500	60	9.7	4.8	597	9.7	3.2	3000
6.1	25	12	3.9	246	12	3.4		49	12	3.9	492	12	2.7	
7.5	20	14	3.2	200	14	2.8		40	14	3.2	401	14	2.2	
9.0	17	17	3.3	167	17	2.9		33	17	3.3	334	17	2.3	
10.2	15	20	2.9	148	20	2.6		30	20	2.9	295	20	2.0	
12.1	12	23	2.5	124	23	2.2		25	23	2.5	249	23	1.7	
13.4	11	26	3.1	112	26	2.7		22	26	3.1	224	26	2.1	
15.1	9.9	29	2.8	99	29	2.4		20	29	2.8	198	29	1.9	
18.2	8.3	35	2.3	83	35	2.0		17	35	2.3	165	35	1.6	
21.6	7.0	41	1.9	70	41	1.7		14	41	1.9	139	41	1.3	
23.5	6.4	45	1.8	64	45	1.6		13	45	1.8	128	45	1.2	
25.1	6.0	48	1.7	60	48	1.5		12	48	1.7	120	48	1.1	
27.1	5.5	52	1.5	55	52	1.3		11	52	1.5	111	52	1.1	
32.5	4.6	62	1.3	46	62	1.1		9.2	62	1.3	92	62	0.9	
42.0	3.6	81	1.0	36	81	0.9		7.1	81	1.0	71	78	0.7	
44.9	3.3	86	0.9	33	86	0.8		6.7	86	0.9	67	78	0.7	
48.9	3.1	94	0.9	31	94	0.7		6.1	94	0.9	61	78	0.7	
55.1	2.7	106	0.8	27	106	0.7		5.4	106	0.8	54	78	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

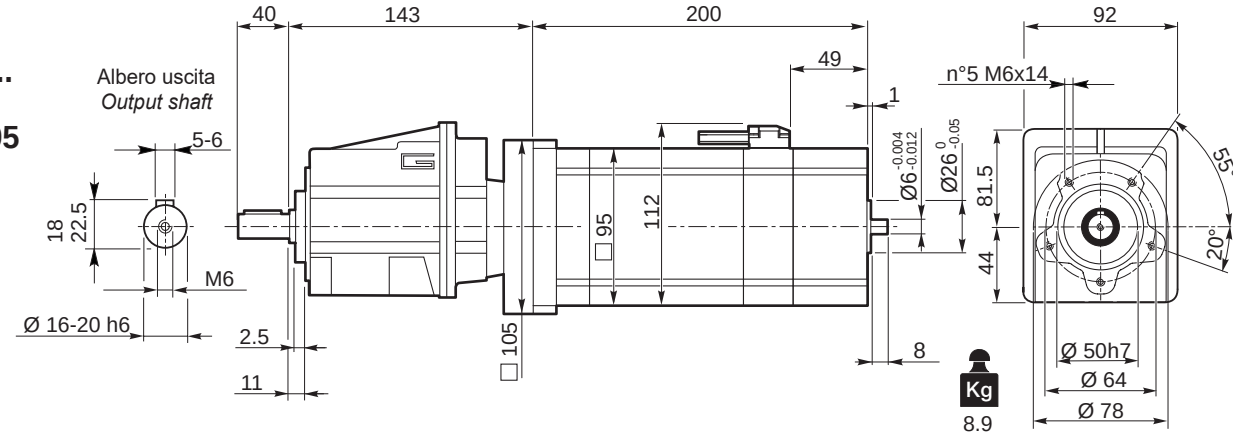
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

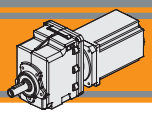
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

CMG002U..
+
BL200.48.95



Encoder → BA17 CMG002..H → BB19 CMG002..F → BB20 CMG002..H/F → BB21



CMG002 con motore brushless CC — *CMG002 with brushless DC motor*

CMG 002	BL210.480 / BL210.48E 48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
5.0	60	10	4.5	596	10	3.1	3000
6.1	49	12	3.7	492	12	2.5	
7.5	40	15	3.0	401	15	2.1	
9.0	33	18	3.2	334	18	2.2	
10.2	30	20	2.8	295	20	1.9	
12.1	25	24	2.4	249	24	1.6	
13.4	22	27	3.0	224	27	2.0	
15.1	20	30	2.6	198	30	1.8	
18.2	17	36	2.2	165	36	1.5	
21.6	14	43	1.9	139	43	1.3	
23.5	13	47	1.7	128	47	1.2	
25.1	12	51	1.6	120	51	1.1	
27.1	11	55	1.5	111	55	1.0	
32.5	9.2	65	1.2	92	65	0.8	
42.0	7.1	85	0.9	71	78	0.7	
44.9	6.7	90	0.9	67	78	0.7	
48.9	6.1	99	0.8	61	78	0.7	
55.1	5.4	110	0.7	54	78	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

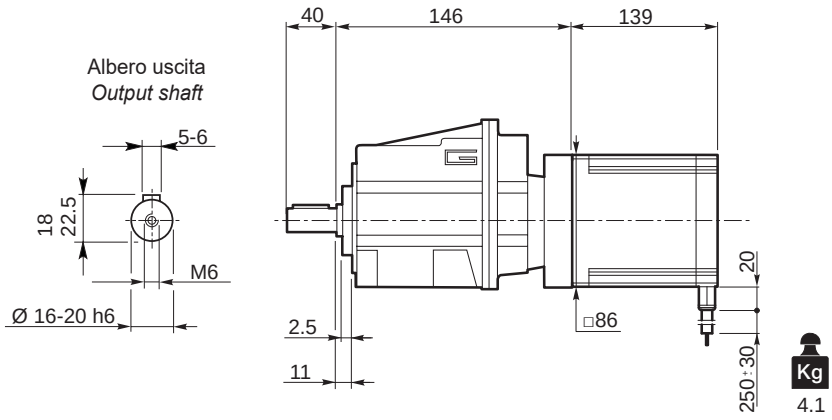
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

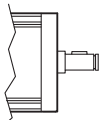
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

CMG002U..
+
BL210.480



BA28 ← Freno *Brake*



BL210.480E

CMG002..H → BB19 CMG002..F → BB20 CMG002..H/F → BB21

CMG012 con motore brushless CC

CMG012 with brushless DC motor

CMG 012	BL140.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
3.82	79	5.1	13.4	786	5.1	9.1	3000
4.63	65	6.2	11.1	648	6.2	7.5	
5.69	53	7.6	9.0	527	7.6	6.1	
7.72	39	10.4	8.9	389	10.4	6.0	
9.17	33	12.3	7.5	327	12.3	5.1	
9.81	31	13.2	7.0	306	13.2	4.7	
11.50	26	15.5	7.4	261	15.5	5.0	
11.90	25	16	7.2	252	16	4.9	
13.80	22	19	7.4	217	19	5.0	
14.62	21	20	7.0	205	20	4.8	
17.86	17	24	5.8	168	24	3.9	
19.07	16	26	5.4	157	26	3.7	
19.83	15	27	5.2	151	27	3.5	
23.56	13	32	4.4	127	32	3.0	
29.56	10	40	3.5	102	40	2.4	
35.47	8.5	48	2.9	85	48	2.0	
45.89	6.5	62	2.2	65	62	1.5	
49.00	6.1	66	2.1	61	66	1.4	
53.33	5.6	72	1.9	56	72	1.3	
60.15	5.0	81	1.7	50	81	1.2	

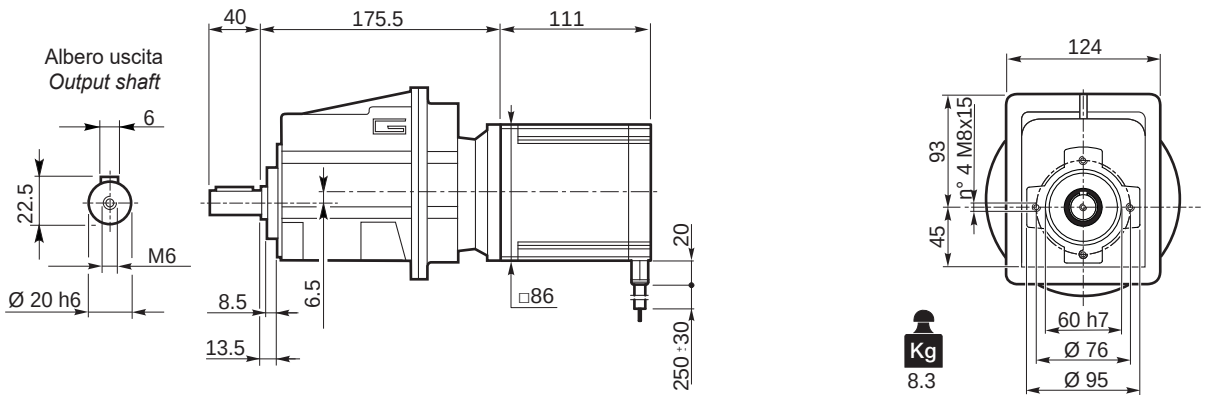
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

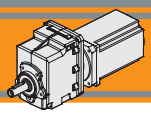
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

CMG012U.. + BL140.480



CMG012..H → BB19 **CMG012..F** → BB20 **CMG012..H/F** → BB21



CMG012 con motore brushless CC — *CMG012 with brushless DC motor*

CMG 012	BL200.48.95												
	24V							48V					
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
3.82	39	7.3	9.4	393	7.3	8.2		79	7.3	9.4	786	7.3	6.4	
4.63	32	8.9	7.8	324	8.9	6.7		65	8.9	7.8	648	8.9	5.3	
5.69	26	11	6.3	264	11	5.5		53	11	6.3	527	11	4.3	
7.72	19	15	6.2	194	15	5.4		39	15	6.2	389	15	4.2	
9.17	16	18	5.2	164	18	4.5		33	18	5.2	327	18	3.5	
9.81	15	19	4.9	153	19	4.2		31	19	4.9	306	19	3.3	
11.50	13	22	5.2	130	22	4.5		26	22	5.2	261	22	3.5	
11.90	13	23	5.0	126	23	4.4		25	23	5.0	252	23	3.4	
13.80	11	26	5.2	109	26	4.5		22	26	5.2	217	26	3.5	
14.62	10	28	4.9	103	28	4.3	1500	21	28	4.9	205	28	3.3	3000
17.86	8	34	4.0	84	34	3.5		17	34	4.0	168	34	2.7	
19.07	8	37	3.8	79	37	3.3		16	37	3.8	157	37	2.6	
19.83	7.6	38	3.6	76	38	3.2		15.1	38	3.6	151	38	2.5	
23.56	6.4	45	3.1	64	45	2.7		12.7	45	3.1	127	45	2.1	
29.56	5.1	57	2.4	51	57	2.1		10.2	57	2.4	102	57	1.6	
35.47	4.2	68	2.0	42	68	1.8		8.5	68	2.0	85	68	1.4	
45.89	3.3	88	1.6	33	88	1.4		6.5	88	1.6	65	88	1.1	
49.00	3.1	94	1.5	31	94	1.3		6.1	94	1.5	61	94	1.0	
53.33	2.8	102	1.3	28	102	1.2		5.6	102	1.3	56	102	0.9	
60.15	2.5	115	1.2	25	115	1.0		5.0	115	1.2	50	115	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

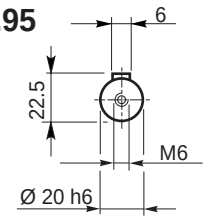
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

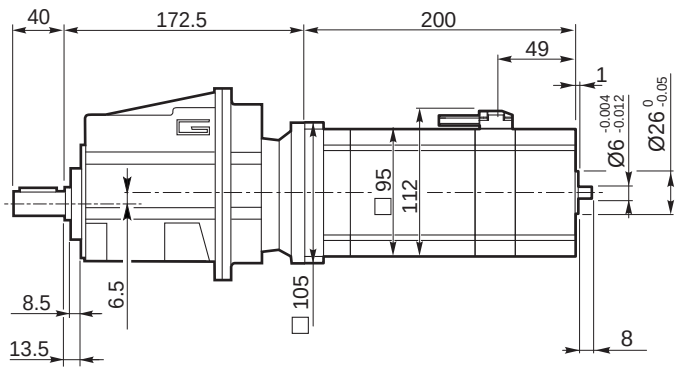
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

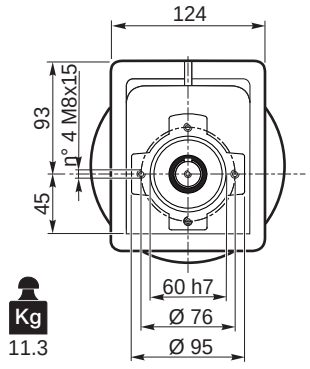
Azionamenti *Drives* → II 2

CMG012U..
+
BL200.48.95

Albero uscita *Output shaft*







Kg
11.3

Encoder → BA21 | **CMG012..H** → BB19 | **CMG012..F** → BB20 | **CMG012..H/F** → BB21

IP 55
CMG

CMG012 con motore brushless CC — *CMG012 with brushless DC motor*

CMG 012	BL210.480 / BL210.48E						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
3.82	79	7.7	9.0	786	7.7	6.1	3000
4.63	65	9.3	7.4	648	9.3	5.0	
5.69	53	11.5	6.0	527	11	4.1	
7.72	39	15.6	5.9	389	16	4.0	
9.17	33	18.5	5.0	327	18	3.4	
9.81	31	19.8	4.7	306	20	3.2	
11.50	26	23.2	5.0	261	23	3.4	
11.90	25	24	4.8	252	24	3.3	
13.80	22	28	5.0	217	28	3.4	
14.62	21	29	4.7	205	29	3.2	
17.86	17	36	3.8	168	36	2.6	
19.07	16	38	3.6	157	38	2.4	
19.83	15	40	3.5	151	40	2.3	
23.56	13	47	2.9	127	47	2.0	
29.56	10	60	2.3	102	60	1.6	
35.47	8.5	72	1.9	85	72	1.3	
45.89	6.5	93	1.5	65	93	1.0	
49.00	6.1	99	1.4	61	99	0.9	
53.33	5.6	108	1.3	56	108	0.9	
60.15	5.0	121	1.1	50	121	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

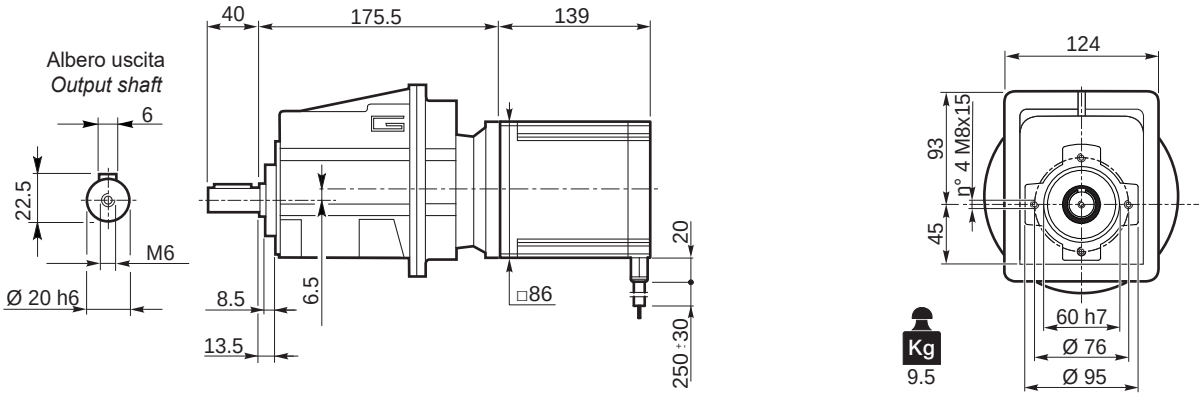
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

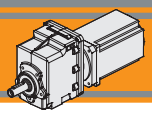
CMG012U.. + BL210.480



BA28 ← Freno *Brake*

CMG012..H → BB19 | CMG012..F → BB20 | CMG012..H/F → BB21

BL210.480E



CMG012 con motore brushless CC — *CMG012 with brushless DC motor*

CMG 012	BL400.48.120												
	24V							48V					
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
3.82	37	13	5.4	367	13	4.7		79	13	5.4	786	13	3.6	
4.63	30	16	4.4	302	16	3.9		65	16	4.4	648	16	3.0	
5.69	25	19	3.6	246	19	3.1		53	19	3.6	527	19	2.4	
7.72	18	26	3.5	181	26	3.1		39	26	3.5	389	26	2.4	
9.17	15	31	3.0	153	31	2.6		33	31	3.0	327	31	2.0	
9.81	14	33	2.8	143	33	2.4		31	33	2.8	306	33	1.9	
11.50	12	39	3.0	122	39	2.6		26	39	3.0	261	39	2.0	
11.90	12	40	2.9	118	40	2.5		25	40	2.9	252	40	2.0	
13.80	10	46	3.0	101	46	2.6		22	46	3.0	217	46	2.0	
14.62	9.6	49	2.8	96	49	2.4	1400	21	49	2.8	205	49	1.9	3000
17.86	7.8	60	2.3	78	60	2.0		17	60	2.3	168	60	1.6	
19.07	7.3	64	2.2	73	64	1.9		16	64	2.2	157	64	1.5	
19.83	7.1	67	2.1	71	67	1.8		15	67	2.1	151	67	1.4	
23.56	5.9	79	1.7	59	79	1.5		13	79	1.7	127	79	1.2	
29.56	4.7	99	1.4	47	99	1.2		10	99	1.4	102	99	0.9	
35.47	3.9	119	1.2	39	119	1.0		8.5	119	1.2	85	119	0.8	
45.89	3.1	154	0.9	31	154	0.8		6.5	154	0.9	65	134	0.7	
49.00	2.9	165	0.8	29	165	0.7		6.1	165	0.8	61	134	0.7	
53.33	2.6	179	0.8	26	165	0.7		5.6	179	0.8	56	134	0.7	
60.15	2.3	197	0.7	23	165	0.7		5.0	197	0.7	50	134	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG013: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 443,59

CMG013: *3 stage version available up to reduction ratio 443.59*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

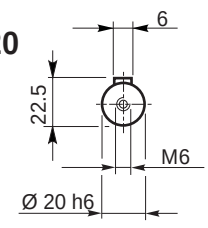
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

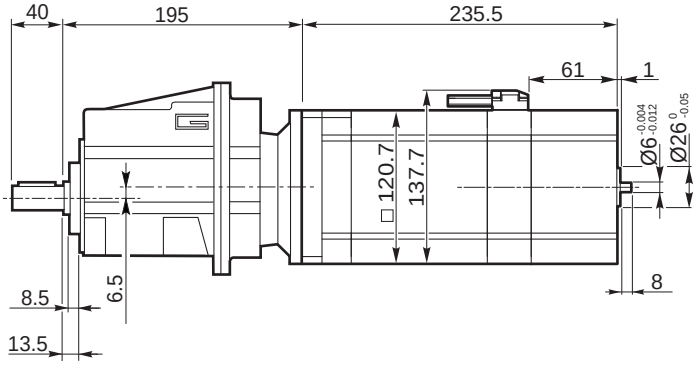
Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

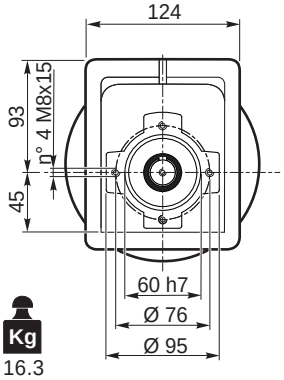
Azionamenti *Drives* → II 2

CMG012U..
+
BL400.48.120

Albero uscita
Output shaft







Kg 16.3

Encoder → BA21 | CMG012..H → BB19 | CMG012..F → BB20 | CMG012..H/F → BB21

IP 55
CMG

CMG022 con motore brushless CC — *CMG022 with brushless DC motor*

CMG 022	BL200.48.95													
	24V							48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
3.66	41	7.0	16.4	410	7.0	14.2		82	7.0	16.4	821	7.0	11.1	
4.43	34	8.5	13.5	338	8.5	11.7		68	8.5	13.5	676	8.5	9.2	
5.45	28	10.5	11.0	275	10.5	9.6		55	10.5	11.0	551	10.5	7.5	
7.39	20	14.2	9.7	203	14.2	8.5		41	14.2	9.7	406	14.2	6.6	
8.78	17	16.8	8.2	171	16.8	7.1		34	16.8	8.2	342	16.8	5.6	
9.93	15	19.1	7.2	151	19.1	6.3		30	19.1	7.2	302	19.1	4.9	
11.01	14	21.1	10.9	136	21.1	9.5		27	21.1	10.9	272	21.1	7.4	
12.05	12	23	9.9	124	23	8.6		25	23	9.9	249	23	6.7	
13.21	11	25	7.3	114	25	6.3		23	25	7.3	227	25	4.9	
14.81	10	28	8.1	101	28	7.0	1500	20	28	8.1	203	28	5.5	3000
17.10	9	33	4.6	88	33	4.0		18	33	4.6	175	33	3.1	
20.08	7	39	6.0	75	39	5.2		15	39	6.0	149	39	4.0	
23.85	6.3	46	5.0	63	46	4.4		12.6	46	5.0	126	46	3.4	
29.93	5.0	57	4.0	50	57	3.5		10.0	57	4.0	100	57	2.7	
35.91	4.2	69	3.3	42	69	2.9		8.4	69	3.3	84	69	2.3	
46.46	3.2	89	2.6	32	89	2.2		6.5	89	2.6	65	89	1.7	
49.61	3.0	95	2.4	30	95	2.1		6.0	95	2.4	60	95	1.6	
54.00	2.8	104	2.2	28	104	1.9		5.6	104	2.2	56	104	1.5	
60.90	2.5	117	2.0	25	117	1.7		4.9	117	2.0	49	117	1.3	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

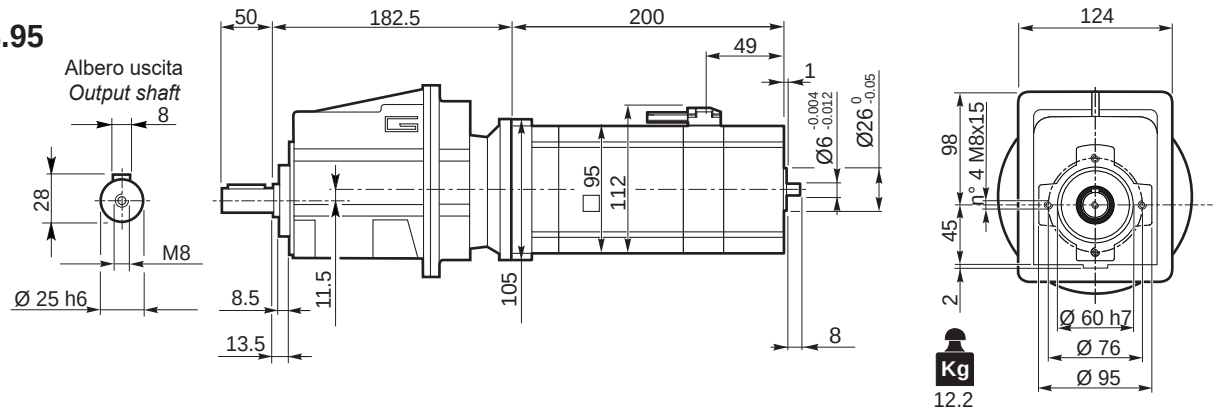
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

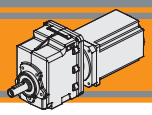
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

CMG022U..
+
BL200.48.95



CMG022..H → BB19 CMG022..F → BB20 CMG022..H/F → BB21



CMG022 con motore brushless CC — *CMG022 with brushless DC motor*

CMG 022	BL210.480 / BL210.48E 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
3.66	82	7.4	15.6	821	7.4	10.6	3000
4.43	68	8.9	12.9	676	8.9	8.7	
5.45	55	11.0	10.5	551	11.0	7.1	
7.39	41	14.9	9.3	406	14.9	6.3	
8.78	34	17.7	7.8	342	17.7	5.3	
9.93	30	20.0	6.9	302	20.0	4.7	
11.01	27	22.2	10.4	272	22.2	7.0	
12.05	25	24	9.5	249	24	6.4	
13.21	23	27	6.9	227	27	4.7	
14.81	20	30	7.7	203	30	5.2	
17.10	18	34	4.3	175	34	2.9	
20.08	15	40	5.7	149	40	3.9	
23.85	12.6	48	4.8	126	48	3.2	
29.93	10.0	60	3.8	100	60	2.6	
35.91	8.4	72	3.2	84	72	2.2	
46.46	6.5	94	2.5	65	94	1.7	
49.61	6.0	100	2.3	60	100	1.6	
54.00	5.6	109	2.1	56	109	1.4	
60.90	4.9	123	1.9	49	123	1.3	

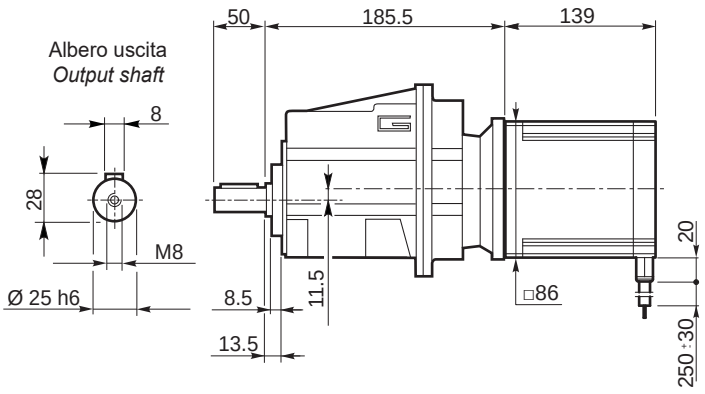
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

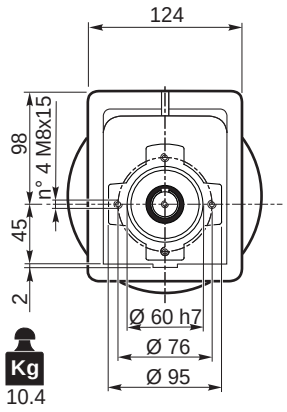
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

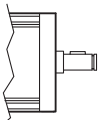
Azionamenti *Drives* → II 2

CMG022U..
+
BL210.480





BA28 ← Freno *Brake*



BL210.480E

CMG022..H → BB19 | CMG022..F → BB20 | CMG022..H/F → BB21

CMG022 con motore brushless CC — *CMG022 with brushless DC motor*

CMG 022	BL400.48.120													
	24V							48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
3.66	38	12	9.4	383	12	8.1		82	12	9.4	821	12	6.4	
4.43	32	15	7.7	316	15	6.7		68	15	7.7	676	15	5.2	
5.45	26	18	6.3	257	18	5.5		55	18	6.3	551	18	4.3	
7.39	19	25	5.6	189	25	4.8		41	25	5.6	406	25	3.8	
8.78	16	29	4.7	160	29	4.1		34	29	4.7	342	29	3.2	
9.93	14	33	4.1	141	33	3.6		30	33	4.1	302	33	2.8	
11.01	13	37	6.2	127	37	5.4		27	37	6.2	272	37	4.2	
12.05	12	40	5.7	116	40	4.9		25	40	5.7	249	40	3.9	
13.21	11	44	4.1	106	44	3.6		23	44	4.1	227	44	2.8	
14.81	9.5	50	4.6	95	50	4.0	1400	20	50	4.6	203	50	3.1	3000
17.10	8.2	57	2.6	82	57	2.3		18	57	2.6	175	57	1.8	
20.08	7.0	67	3.4	70	67	3.0		15	67	3.4	149	67	2.3	
23.85	5.9	80	2.9	59	80	2.5		13	80	2.9	126	80	1.9	
29.93	4.7	101	2.3	47	101	2.0		10	101	2.3	100	101	1.6	
35.91	3.9	121	1.9	39	121	1.7		8.4	121	1.9	84	121	1.3	
46.46	3.0	156	1.5	30	156	1.3		6.5	156	1.5	65	156	1.0	
49.61	2.8	167	1.4	28	167	1.2		6.0	167	1.4	60	167	0.9	
54.00	2.6	181	1.3	26	181	1.1		5.6	181	1.3	56	181	0.9	
60.90	2.3	205	1.1	23	205	1.0		4.9	205	1.1	49	205	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

CMG023: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 449.14

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG023: *3 stage version available up to reduction ratio 449.14*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

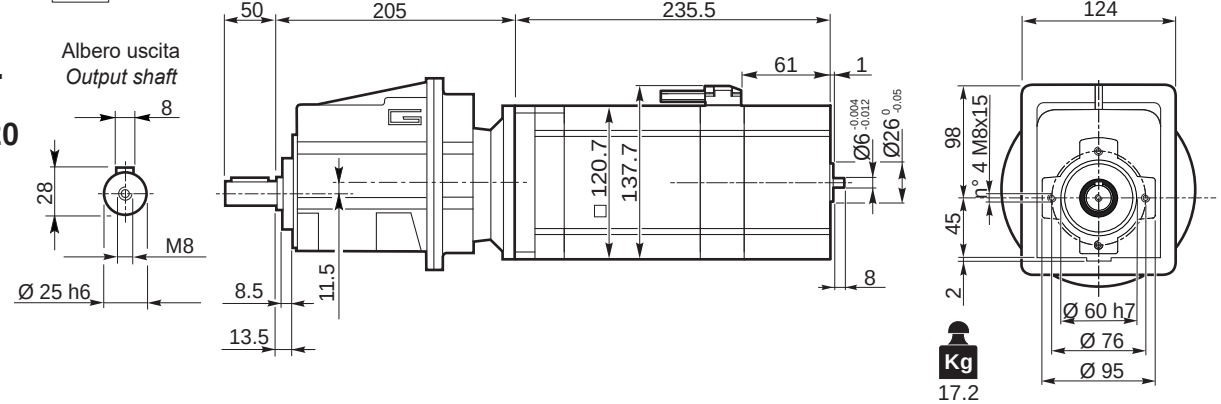
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

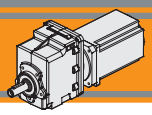
Azionamenti *Drives* → II 2

CMG022U..
+
BL400.48.120

Albero uscita
Output shaft



Encoder → BA21 | CMG022..H → BB19 | CMG022..F → BB20 | CMG022..H/F → BB21



CMG032 con motore brushless CC — *CMG032 with brushless DC motor*

CMG 032	BL400.48.120												
	24V							48V					
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
3.74	37	13	13.7	374	13	11.9		80	13	13.7	802	13	9.3	
4.50	31	15	11.4	311	15	9.9		67	15	11.4	666	15	7.7	
5.48	26	18	9.4	255	18	8.1		55	18	9.4	547	18	6.4	
6.31	22	21	9.8	222	21	8.5		48	21	9.8	476	21	6.6	
7.93	18	27	7.8	177	27	6.8		38	27	7.8	378	27	5.3	
9.08	15	31	6.8	154	31	5.9		33	31	6.8	330	31	4.6	
10.93	13	37	5.6	128	37	4.9		27	37	5.6	275	37	3.8	
12.60	11.1	42	6.8	111	42	5.9		24	42	6.8	238	42	4.6	
13.30	10.5	45	6.4	105	45	5.6		23	45	6.4	226	45	4.4	
15.30	9.2	51	6.3	92	51	5.4		20	51	6.3	196	51	4.2	
18.21	7.7	61	4.5	77	61	3.9	1400	16.5	61	4.5	165	61	3.1	3000
19.24	7.3	65	5.0	73	65	4.3		15.6	65	5.0	156	65	3.4	
21.15	6.6	71	3.9	66	71	3.4		14	71	3.9	142	71	2.6	
24.99	5.6	84	4.1	56	84	3.6		12	84	4.1	120	84	2.8	
30.57	4.6	103	3.4	46	103	2.9		9.8	103	3.4	98	103	2.3	
34.20	4.1	115	3.0	41	115	2.6		8.8	115	3.0	88	115	2.0	
38.63	3.6	130	2.7	36	130	2.3		7.8	130	2.7	78	130	1.8	
44.18	3.2	148	2.3	32	148	2.0		6.8	148	2.3	68	148	1.6	
51.30	2.7	172	2.0	27	172	1.7		5.8	172	2.0	58	172	1.4	
60.80	2.3	204	1.7	23	204	1.5		4.9	204	1.7	49	204	1.1	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG033: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 427.03

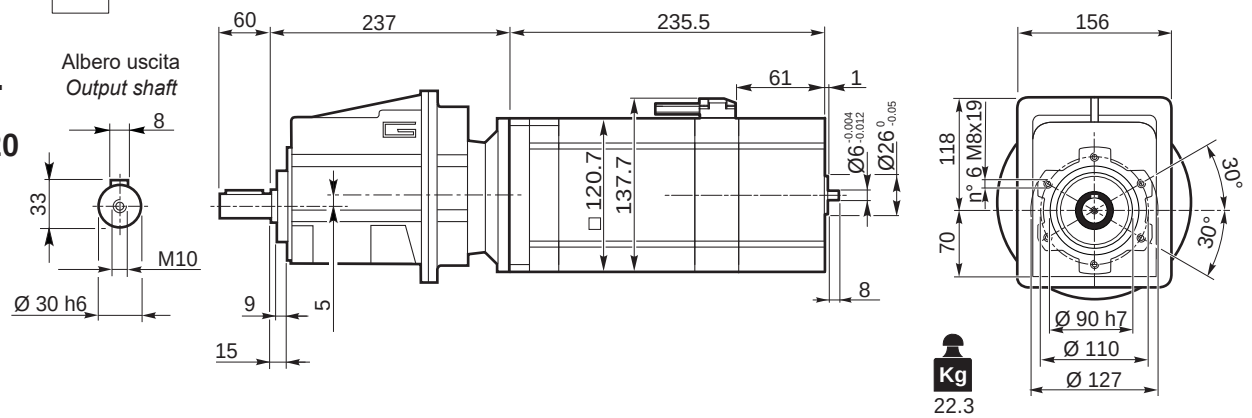
CMG033: *3 stage version available up to reduction ratio 427.03*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti *Drives* → II 2

CMG032U..
+
BL400.48.120



Encoder → BA21 | CMG032..H → BB19 | CMG032..F → BB20 | CMG032..H/F → BB21

IP 55

CMG

CMG042 con motore brushless CC

CMG042 with brushless DC motor

CMG 042	BL400.48.120													
	24V							48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
3.74	37	13	21.0	374	13	18.3		80	13	21.0	802	13	14.3	
4.50	31	15	17.5	311	15	15.2		67	15	17.5	666	15	11.9	
5.48	26	18	14.4	255	18	12.5		55	18	14.4	547	18	9.7	
6.31	22	21	14.1	222	21	12.3		48	21	14.1	476	21	9.6	
7.93	18	27	11.2	177	27	9.8		38	27	11.2	378	27	7.6	
9.08	15	31	10.6	154	31	9.2		33	31	10.6	330	31	7.2	
10.93	13	37	8.8	128	37	7.6		27	37	8.8	275	37	5.9	
12.60	11.1	42	9.5	111	42	8.3		24	42	9.5	238	42	6.4	
13.30	10.5	45	9.0	105	45	7.8	1400	23	45	9.0	226	45	6.1	3000
15.30	9.2	51	9.4	92	51	8.2		20	51	9.4	196	51	6.4	
19.24	7.3	65	7.5	73	65	6.5		15.6	65	7.5	156	65	5.1	
24.99	5.6	84	6.8	56	84	6.0		12.0	84	6.8	120	84	4.6	
30.57	4.6	103	5.6	46	103	4.9		10	103	5.6	98	103	3.8	
34.20	4.1	115	5.0	41	115	4.4		9	115	5.0	88	115	3.4	
38.63	3.6	130	4.4	36	130	3.9		7.8	130	4.4	78	130	3.0	
44.18	3.2	148	3.9	32	148	3.4		6.8	148	3.9	68	148	2.6	
51.30	2.7	172	3.3	27	172	2.9		5.8	172	3.3	58	172	2.3	
60.80	2.3	204	2.7	23	204	2.3		4.9	204	2.7	49	204	1.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

CMG043: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 427.03

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG043: *3 stage version available up to reduction ratio 427.03*

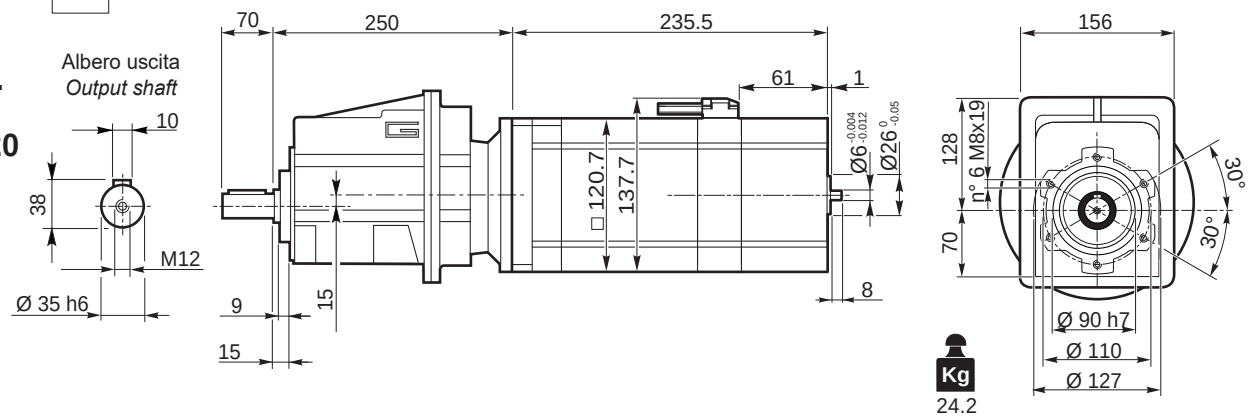
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

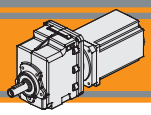
Azionamenti *Drives* → II 2

CMG042U..
+
BL400.48.120

Albero uscita
Output shaft



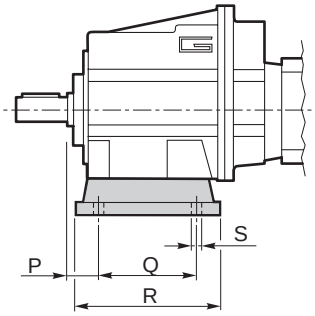
Encoder → BA21 | CMG032..H → BB19 | CMG032..F → BB20 | CMG032..H/F → BB21

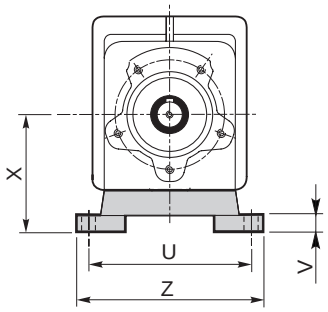


CMG..2 con motore brushless CC

CMG..2 with brushless DC motor

CMG002..H
CMG012..H
CMG022..H
CMG032..H
CMG042..H





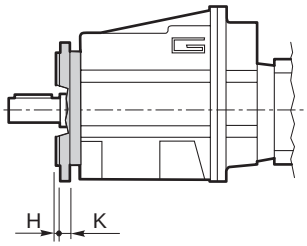
Versione **H** / ***H** Version*

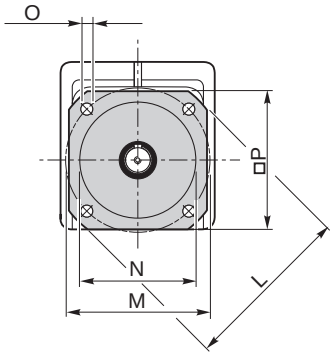
CMG	P	Q	R	S	U	V	X	Z	Piede / *Foot*	
									Tipo / *Type*	Peso / *Weight* [kg]
002	**18**	**60**	**80**	**9**	**100**	**10**	**60**	**120**	**H60**	**0.2**
	18	80	104	9	110 - 120	10	75	145	H75	0.3
	18	50 - 87	110	9	110	10	85	135	H85	0.4
012	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**
	18	80	118	9	110	12	75	140	**H75**	1.0
	25	85	120	9	120	12	80	140	**H80**	1.1
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2
	25	130	154	9	110	12	90	135	**H90**	1.5
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7
022	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**
	18	80	118	9	110	12	75	140	**H75**	1.0
	25	85	120	9	120	12	80	140	**H80**	1.1
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2
	25	130	154	9	110	12	90	135	**H90**	1.5
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7
032	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**
	30	100	150	11	150	14	110	185	**H110**	1.9
	18	70			160					
	30	165	195	14	135	14	115	170	**H115**	2.2
	35	110	160	14	170	14	120	210	**H120**	2.6
042	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**
	30	100	150	11	150	14	110	185	**H110**	1.9
	18	70			160					
	30	165	195	14	135	14	115	170	**H115**	2.2
	35	110	160	14	170	14	120	210	**H120**	2.6

Preferenziale / *Preferred*

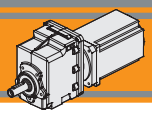
CMG..2 con motore brushless CC | ***CMG..2 with brushless DC motor***

CMG002..F
CMG012..F
CMG022..F
CMG032..F
CMG042..F





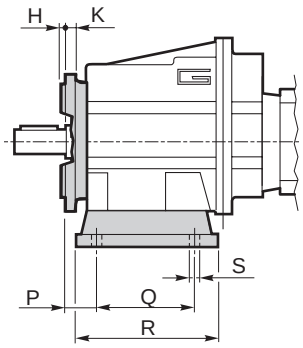
Versione **F** / ***F** Version*									
CMG	**H**	**K**	**L**	**M**	**N** f7	**O**	**P**	**Flangia / *Flange***	
								Tipo / *Type*	Peso / *Weight* [kg]
002	3.5	7	105	85	70	6.5	90	**F105**	0.1
	3.5	8	120	100	80	7	100	**F120**	0.2
	3.5	8	140	115	95	9	115	**F140**	0.2
012	3	9	120	100	80	9	106	**F120**	0.5
	3.5	9	140	115	95	9	115	**F140**	0.8
	3.5	9	160	130	110	9	126	**F160**	1.1
	3.5	11	200	165	130	11	165	**F200**	1.8
022	3	9	120	100	80	9	106	**F120**	0.5
	3.5	9	140	115	95	9	115	**F140**	0.8
	3.5	9	160	130	110	9	126	**F160**	1.1
	3.5	11	200	165	130	11	165	**F200**	1.8
032	3.5	11	160	130	110	9	140	**F160**	1.0
	3.5	11	200	165	130	11	165	**F200**	1.8
	4	13	250	215	180	14	215	**F250**	2.9
042	3.5	11	160	130	110	9	140	**F160**	1.0
	3.5	11	200	165	130	11	165	**F200**	1.8
	4	13	250	215	180	14	215	**F250**	2.9

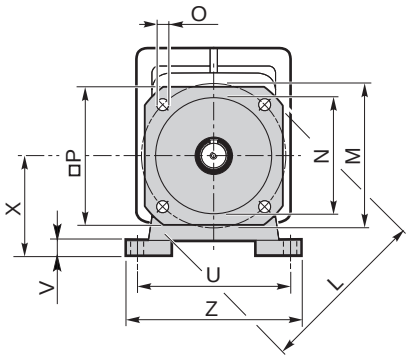


CMG..2 con motore brushless CC

CMG..2 with brushless DC motor

CMG002..H/F
CMG012..H/F
CMG022..H/F
CMG032..H/F
CMG042..H/F





Versione **H** / ***H*** Version											Combinazioni possibili H/F *Possible combinations H/F*						
CMG	**P**	**Q**	**R**	**S**	**U**	**V**	**X**	**Z**	**Piede / *Foot***								
									Tipo *Type*	Peso / *Weight* [kg]	**F105**	**F120**	**F140**	**F160**	**F200**	**F250**	**F300**
002	**18**	**60**	**80**	**9**	**100**	**10**	**60**	**120**	**H60**	**0.2**	•	•	•				
	18	80	104	9	110 - 120	10	75	145	**H75**	0.3	•	•	•				
	18	50 - 87	110	9	110	10	85	135	**H85**	0.4	•	•	•				
012	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**		•	•				
	18	80	118	9	110	12	75	140	**H75**	1.0		•	•	•			
	25	85	120	9	120	12	80	140	**H80**	1.1		•	•	•			
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2		•	•	•			
	25	130	154	9	110	12	90	135	**H90**	1.5		•	•	•	•		
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7		•	•	•	•		
022	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**		•	•				
	18	80	118	9	110	12	75	140	**H75**	1.0		•	•	•			
	25	85	120	9	120	12	80	140	**H80**	1.1		•	•	•			
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2		•	•	•			
	25	130	154	9	110	12	90	135	**H90**	1.5		•	•	•	•		
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7		•	•	•	•		
032	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**				•	•		
	30	100	150	11	150	14	110	185	**H110**	1.9				•	•		
	18	70			160												
	30	165	195	14	135	14	115	170	**H115**	2.2				•	•	•	
	35	110	160	14	170	14	120	210	**H120**	2.6				•	•	•	
042	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**				•	•		
	30	100	150	11	150	14	110	185	**H110**	1.9				•	•		
	18	70			160												
	30	165	195	14	135	14	115	170	**H115**	2.2				•	•	•	
	35	110	160	14	170	14	120	210	**H120**	2.6				•	•	•	

Preferenziale / *Preferred*

• Combinazioni possibili H/F / *Possible combinations H/F*

Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 002				
n1 = 1400 rpm	**279**	40	1.2	5.03
	230	40	1.0	6.10
	187	40	0.82	7.49
	156	50	0.85	8.99
	138	50	0.75	10.16
	116	50	0.63	12.07
	105	70	0.80	13.40
	92	70	0.71	15.14
	77	70	0.59	18.17
	65	70	0.50	21.58
	60	70	0.45	23.51
	56	70	0.43	25.10
	52	70	0.39	27.08
	43	70	0.33	32.49
	33	70	0.25	42.04
	31	70	0.24	44.89
	29	70	0.22	48.86
	25	70	0.19	55.10

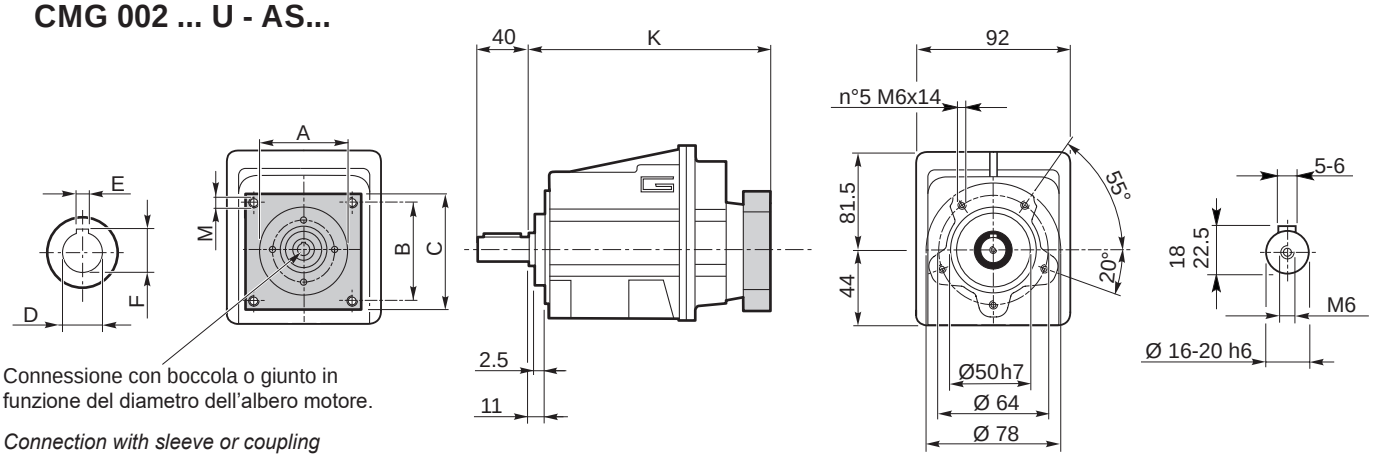
	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 002				
n1 = 3000 rpm	**597**	31	2.0	5.03
	492	31	1.7	6.10
	401	31	1.4	7.49
	334	39	1.4	8.99
	295	39	1.3	10.16
	249	39	1.1	12.07
	224	55	1.3	13.40
	198	55	1.2	15.14
	165	55	0.98	18.17
	139	55	0.83	21.58
	128	55	0.76	23.51
	120	55	0.71	25.10
	111	55	0.66	27.08
	92	55	0.55	32.49
	71	55	0.43	42.04
	67	55	0.40	44.89
	61	55	0.37	48.86
	54	55	0.32	55.10

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Dimensioni CMG con flange motore AS — *CMG dimensions with motor flanges AS*

CMG 002 ... U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

CMG002..H → BB19

CMG002..F → BB20

CMG002..H/F → BB21

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS392FX	38.1	47.1	64	M5	146	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	146	9	3	10.5
						11	4	12.8
						14	5	16.3
...	...	...	...	...	...	...	...	...

Dati tecnici

Technical data

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 012				
n1 = 1400 rpm	**367**	60	2.4	3.82
	302	60	2.0	4.63
	246	60	1.6	5.69
	181	80	1.6	7.72
	153	80	1.3	9.17
	143	80	1.2	9.81
	122	100	1.3	11.50
	118	100	1.3	11.90
	101	120	1.3	13.80
	96	120	1.3	14.62
	78	120	1.0	17.86
	73	120	1.0	19.07
	71	120	0.92	19.83
	59	120	0.78	23.56
	47	120	0.62	29.56
	39	120	0.52	35.47
	31	120	0.40	45.89
	29	120	0.37	49.00
	26	120	0.34	53.33
	23	120	0.30	60.15

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 012				
n1 = 3000 rpm	**786**	47	4.01	3.82
	648	47	3.31	4.63
	527	47	2.69	5.69
	389	62	2.65	7.72
	327	62	2.23	9.17
	306	62	2.08	9.81
	261	78	2.22	11.50
	252	78	2.14	11.90
	217	94	2.22	13.80
	205	94	2.09	14.62
	168	94	1.72	17.86
	157	94	1.61	19.07
	151	94	1.54	19.83
	127	94	1.30	23.56
	102	94	1.04	29.56
	85	94	0.86	35.47
	65	94	0.67	45.89
	61	94	0.63	49.00
	56	94	0.57	53.33
	50	94	0.51	60.15

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

CMG013: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 443,59

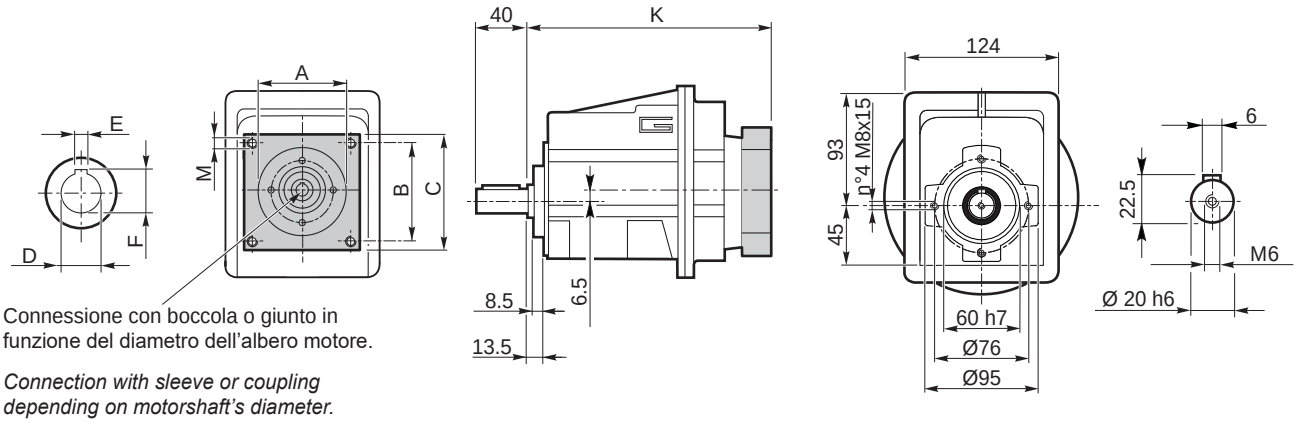
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG013: *3 stage version available up to reduction ratio 443.59*

Dimensioni CMG con flange motore AS

CMG dimensions with motor flanges AS

CMG 012 ... U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

CMG012..H → BB19

CMG012..F → BB20

CMG012..H/F → BB21

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS392FX	38.1	47.1	64	M5	175.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	175.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS302	73	69.6	86	M5	195	19	6	21.8
						24	8	27.3
...	...	...	...	...	...	...	...	...

Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 022				
n1 = 1400 rpm	**383**	100	4.2	3.66
	316	100	3.4	4.43
	257	100	2.8	5.45
	189	120	2.5	7.39
	160	120	2.1	8.78
	141	120	1.8	9.93
	127	200	2.8	11.01
	116	200	2.5	12.05
	106	160	1.8	13.21
	95	200	2.1	14.81
	82	130	1.2	17.10
	70	200	1.5	20.08
	59	200	1.28	23.85
	47	200	1.02	29.93
	39	200	0.85	35.91
	30	200	0.66	46.46
	28	200	0.62	49.61
	26	200	0.57	54.00
	23	200	0.50	60.90
	23	120	0.30	60.15

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 022				
n1 = 3000 rpm	**821**	78	6.98	3.66
	676	78	5.76	4.43
	551	78	4.69	5.45
	406	94	4.15	7.39
	342	94	3.49	8.78
	302	94	3.08	9.93
	272	156	4.64	11.01
	249	156	4.24	12.05
	227	125	3.09	13.21
	203	156	3.45	14.81
	175	101	1.94	17.10
	149	156	2.54	20.08
	126	156	2.14	23.85
	100	156	1.71	29.93
	84	156	1.42	35.91
	65	156	1.10	46.46
	60	156	1.03	49.61
	56	156	0.95	54.00
	49	156	0.84	60.90
	50	94	0.51	60.15

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

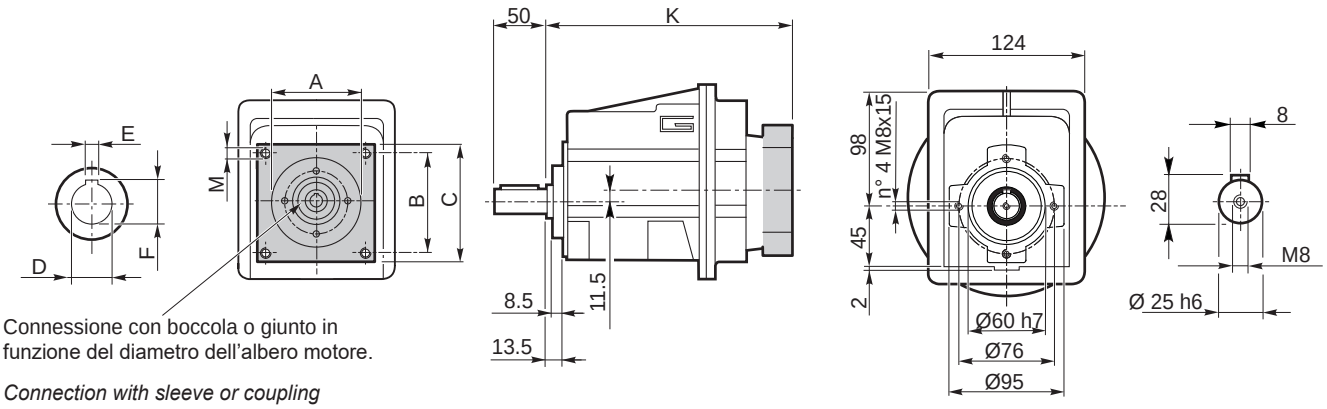
CMG023: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 449.14

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG023: *3 stage version available up to reduction ratio 449.14*

Dimensioni CMG con flange motore AS — *CMG dimensions with motor flanges AS*

CMG 022 ... U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

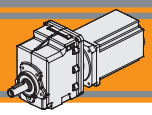
CMG022..H → BB19

CMG022..F → BB20

CMG022..H/F → BB21

Dimensioni / Dimensions

AS	A	B	C	M	K	D	E	F
AS392FX	38.1	47.1	64	M5	185.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	185.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS302	73	69.6	86	M5	205	19	6	21.8
						24	8	27.3
...	...	...	...	...	...	...	...	...



Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 032				
n1 = 1400 rpm	**374**	150	6.1	3.74
	311	150	5.1	4.50
	255	150	4.2	5.48
	222	180	4.4	6.31
	177	180	3.5	7.93
	154	180	3.0	9.08
	128	180	2.5	10.93
	111	250	3.0	12.60
	105	250	2.9	13.30
	92	280	2.8	15.30
	77	240	2.0	18.21
	73	280	2.2	19.24
	66	240	1.70	21.15
	56	300	1.80	24.99
	46	300	1.50	30.57
	41	300	1.30	34.20
	36	300	1.20	38.63
	32	300	1.04	44.18
	27	300	0.89	51.30
	23	300	0.80	60.80

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 032				
n1 = 3000 rpm	**802**	117	10.23	3.74
	666	117	8.50	4.50
	547	117	6.98	5.48
	476	140	7.28	6.31
	378	140	5.79	7.93
	330	140	5.06	9.08
	275	140	4.21	10.93
	238	195	5.06	12.60
	226	195	4.80	13.30
	196	218	4.67	15.30
	165	187	3.36	18.21
	156	218	3.71	19.24
	142	187	2.90	21.15
	120	234	3.06	24.99
	98	234	2.50	30.57
	88	234	2.24	34.20
	78	234	1.98	38.63
	68	234	1.73	44.18
	58	234	1.49	51.30
	49	234	1.26	60.80

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

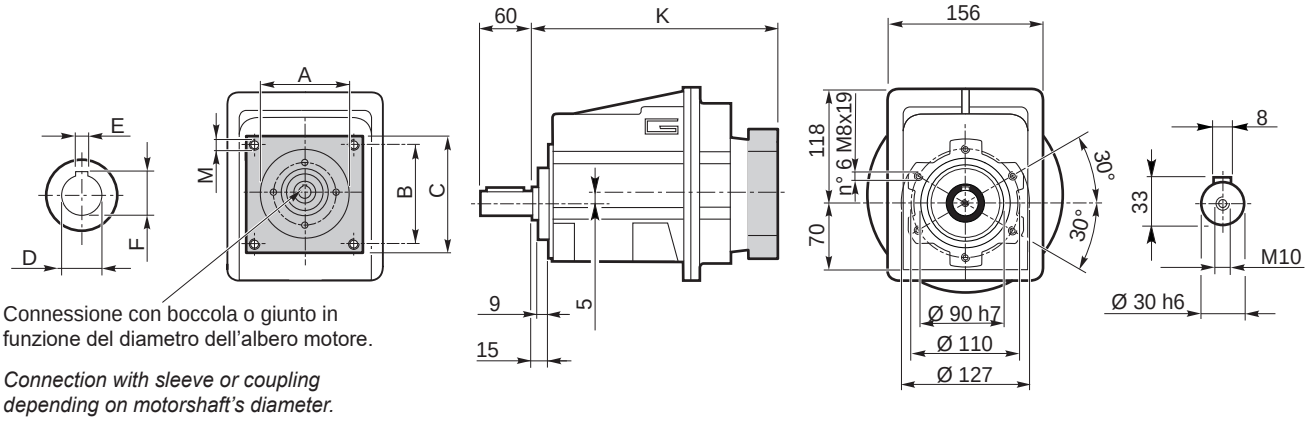
CMG033: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 427.03

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG033: *3 stage version available up to reduction ratio 427.03*

Dimensioni CMG con flange motore AS — *CMG dimensions with motor flanges AS*

CMG 032 ... U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

CMG032..H → BB19

CMG032..F → BB20

CMG032..H/F → BB21

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
...	...	...	...	...	...	...	...	...

IP 55

CMG

Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 042				
n1 = 1400 rpm	**374**	230	9.4	3.74
	311	230	7.8	4.50
	255	230	6.4	5.48
	222	260	6.3	6.31
	177	260	5.0	7.93
	154	280	4.7	9.08
	128	280	3.9	10.93
	111	350	4.2	12.60
	105	350	4.0	13.30
	92	420	4.2	15.30
	73	420	3.3	19.24
	56	500	3.1	24.99
	46	500	2.50	30.57
	41	500	2.20	34.20
	36	500	2.00	38.63
	32	500	1.73	44.18
	27	500	1.49	51.30
	23	480	1.20	60.80
	27	300	0.89	51.30
	23	300	0.80	60.80

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

CMG043: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 427.03

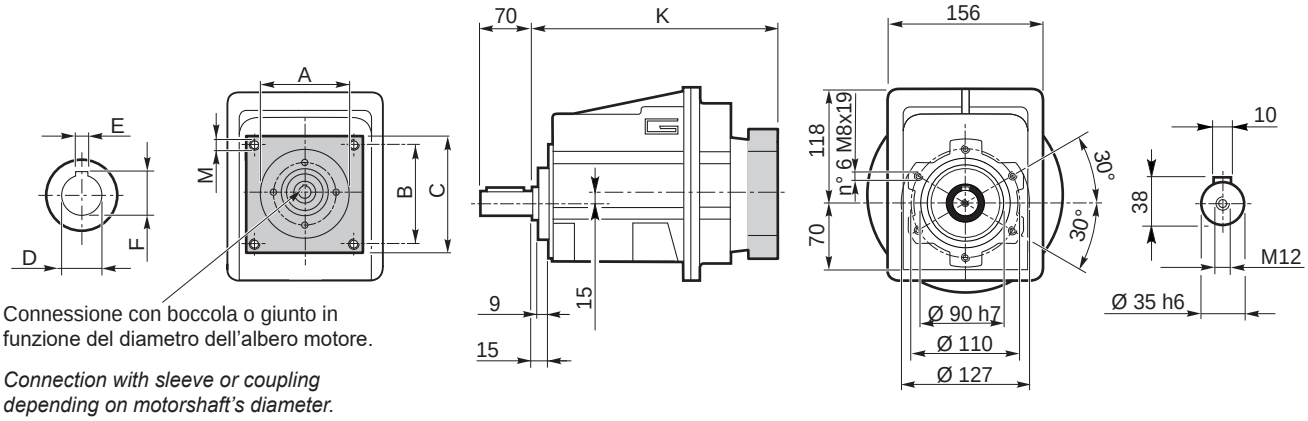
	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMG 042				
n1 = 3000 rpm	**802**	179	15.69	3.74
	666	179	13.03	4.50
	547	179	10.71	5.48
	476	203	10.52	6.31
	378	203	8.37	7.93
	330	218	7.87	9.08
	275	218	6.54	10.93
	238	273	7.09	12.60
	226	273	6.72	13.30
	196	328	7.01	15.30
	156	328	5.57	19.24
	120	390	5.11	24.99
	98	390	4.17	30.57
	88	390	3.73	34.20
	78	390	3.30	38.63
	68	390	2.89	44.18
	58	390	2.49	51.30
	49	374	2.02	60.80
	58	234	1.49	51.30
	49	234	1.26	60.80

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

CMG043: *3 stage version available up to reduction ratio 427.03*

Dimensioni CMG con flange motore AS — *CMG dimensions with motor flanges AS*

CMG 042 ... U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

CMG042..H → BB19

CMG042..F → BB20

CMG042..H/F → BB21

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
...	...	...	...	...	...	...	...	...

TRANSTECNO®
the modular gearmotor

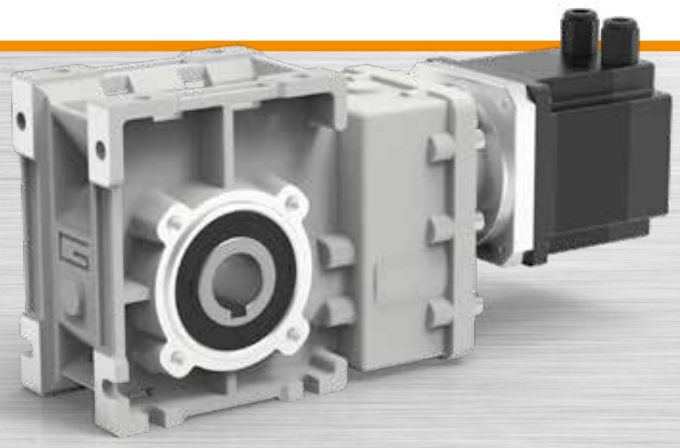
BLCMB

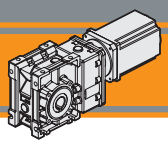
BLCMB

BLCMB Alu

IP55

Motoriduttori brushless CC ad assi ortogonali
Brushless DC helical bevel gearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**BC2**
Designazione	*Classification*	**BC2**
Simbologia	*Symbols*	**BC3**
Lubrificazione e temperatura	*Lubrification and temperature*	**BC3**
Carichi radiali	*Radial loads*	**BC3**
CMB402 con motore brushless BLS043.240	CMB402 *with BLS043.240 brushless motor*	**BC4**
CMB402 con motore brushless BL070.240	CMB402 *with BL070.240 brushless motor*	**BC5**
CMB402 con motore brushless BL070.480	CMB402 *with BL070.480 brushless motor*	**BC5**
CMB402 con motore brushless BL070.48.80	CMB402 *with BL070.48.80 brushless motor*	**BC6**
CMB402 con motore brushless BL140.480	CMB402 *with BL140.480 brushless motor*	**BC7**
CMB502 con motore brushless BL070.240	CMB502 *with BL070.240 brushless motor*	**BC8**
CMB502 con motore brushless BL070.480	CMB502 *with BL070.480 brushless motor*	**BC8**
CMB502 con motore brushless BL070.48.80	CMB502 *with BL070.48.80 brushless motor*	**BC9**
CMB502 con motore brushless BL140.480	*CMB502 with BL140.480 brushless motor*	**BC10**
CMB502 con motore brushless BL200.48.95	*CMB502 with BL200.48.95 brushless motor*	**BC11**
CMB502 con motore brushless BL210.480	*CMB502 with BL210.480 brushless motor*	**BC12**
CMB633 con motore brushless BL140.480	*CMB633 with BL140.480 brushless motor*	**BC13**
CMB633 con motore brushless BL200.48.95	*CMB633 with BL200.48.95 brushless motor*	**BC14**
CMB633 con motore brushless BL210.480	*CMB633 with BL210.480 brushless motor*	**BC15**
CMB633 con motore brushless BL400.48.120	*CMB633 with BL400.48.120 brushless motor*	**BC16**
CMB903 con motore brushless BL400.48.120	*CMB903 with BL400.48.120 brushless motor*	**BC17**
Dati tecnici	*Technical data*	**BC18**
Dimensioni CMB con flange motore AS	*CMB dimensions with motor flanges AS*	**BC18**
Flange uscita	*Output flange*	**BC22**
Accessori	*Accessories*	**BC23**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche

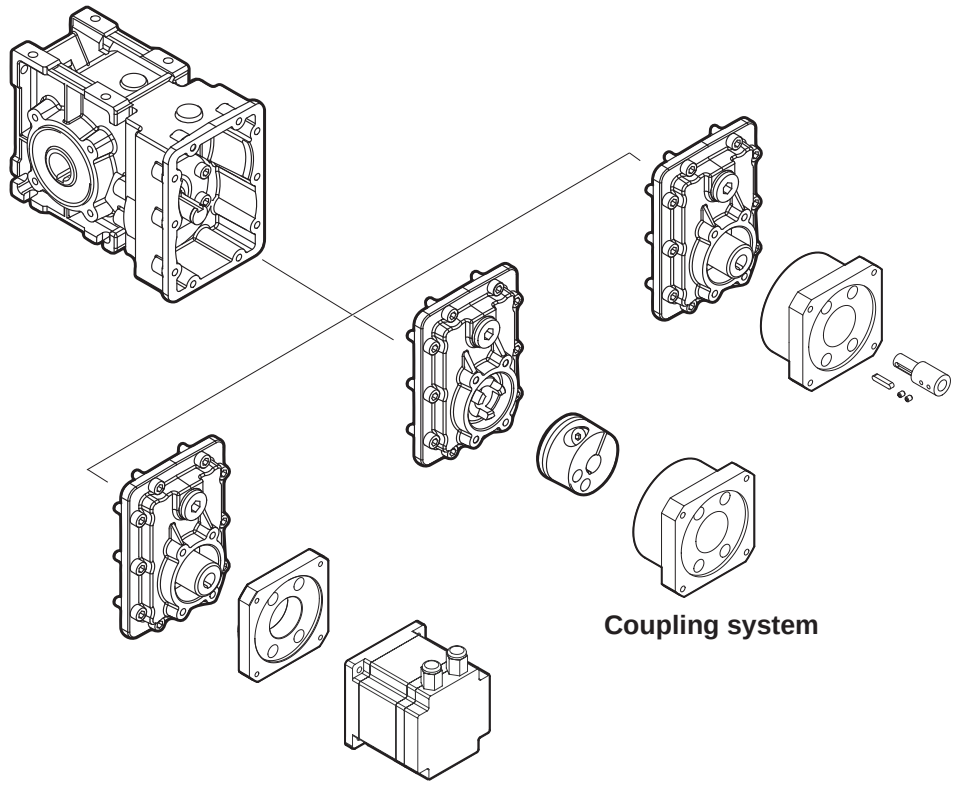
Technical features

Le caratteristiche principali dei motoriduttori brushless CC ad assi ortogonali della serie CMB sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore protezione IP55
- Coppie motori disponibili da 0.43 Nm a 4.2 Nm
- Lubrificazione permanente con olio sintetico
- Carcassa in pressofusione di alluminio
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili per accoppiamento ingresso motore con giunto elastico

The main features of CMB brushless DC helical bevel gearmotors range are:

- *Low voltage power supply 24/36/48 Vdc*
- *Motor protection IP55*
- *Motor torque ratings available from 0.43 Nm up to 4.2 Nm*
- *Permanent sinthetic oil long life lubrication*
- *Die-cast aluminium housing*
- *Ground-hardened helical gears.*
- *Available for motor input coupling with elastic coupling*



Coupling system

ENERGY SAVING

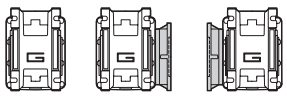
Designazione

Classification

RIDUTTORE / *GEARBOX*					
CMB	**402**	**U**	**9.2**	**020**	**FX**
Tipo *Type*	Grandezza *Size*	Versione riduttore *Gearbox version*	Rapporto *Ratio*	Albero di uscita *Output shaft*	Giunto elastico *Flexible coupling*
CMB	**402** **502** **633** **903**	**U** **FD** **FS** **FLD** **FLS** **FBD** **FBS**	Vedere tabelle *See tables*	Vedere disegni *See draws*	**FX**

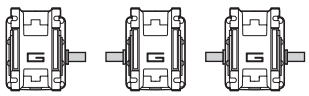
MOTORE / *MOTOR*		
BL070.480	**48V**	**BR**
Tipo *Type*	Tensione *Voltage*	Freno *Brake*
BLS043.240	**24V-36V**	**24V**
BL070.240	**24V**	**48V**
BL070.24B	**24V**	
BL070.48B	**48V**	
BL070.480	**48V**	
BL070.48.80	**24V-48V**	
BL140.480	**48V**	BA16
BL200.48.95	**24V-48V**	
BL210.480	**24V-48V**	
BL210.48E	**48V**	
BL400.48.120	**48V**	

Versione Riduttore *Gearbox Version*



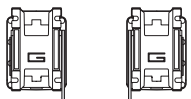
U **FD** **FLD** **FBD** **FS** **FLS** **FBS**

Albero di uscita *Output shaft*



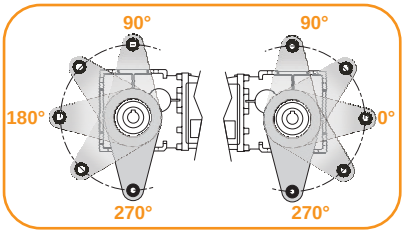
SZDX **SZSX** **DZ**

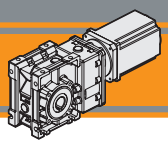
Braccio di reazione *Torque arm*



BRDX **BRSX**

Angolo *Angle*





Simbologia — *Symbols*

Ns		n° stadi / *No. stages*
ir		rapporto reale / *real ratio*
M_2	[Nm]	coppia in uscita *output torque*
A_2	[N]	Carico assiale ammissibile in uscita Permitted output *axial load*
R_2	[N]	Carico radiale ammissibile in uscita *Permitted output radial load*
Pn_1	[kW]	Potenza nominale in entrata *Nominal input power*
Mn_2	[Nm]	Coppia nominale in uscita in funzione di Pn1 *Nominal output torque referred to Pn1*
n_{1MAX}	[Rpm]	Velocità max entrata / *Max input speed*
V	[V]	*Tensione / Voltage*
n_2	[Rpm]	Velocità in uscita / *Output Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*
sf		Fattore di servizio / *Service Factor*

Lubrificazione e temperaura — *Lubrication and temperature*

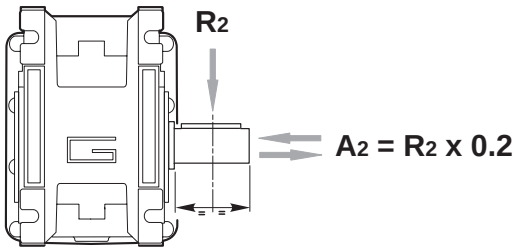
I motoriduttori CMB sono forniti completi di lubrificante sintetico (viscosità 320) e non necessitano di manutenzione.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long life lubrification (viscosity grade 320) on CMB gearmotors.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

IP 55

CMB

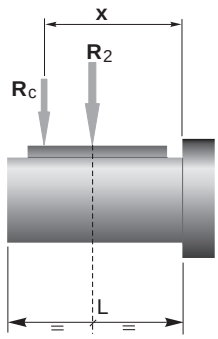
Carichi radiali — *Radial loads*



n_2 [min^{-1}]	R_2 [N]			
	CMB 402	CMB 502	CMB 633	CMB 903
400	905	1116	1835	2682
300	996	1228	2020	2952
200	1141	1406	2312	3379
170	1204	1484	2441	3567
140	1414	1743	2604	3806
100	1582	1949	2913	4686
90	1638	2019	3321	4853
60	2047	2490	3801	5556
40	2524	3029	4492	6614
30	2778	3334	5159	7540
20	3180	3816	5906	8631
15	3500	4200	6500	9500
10	3500	4200	6500	9500

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:



	CMB 402	CMB 502	CMB 633	CMB 903
a	86	104	118	157
b	66	79	93	117
R_{2MAX}	3500	4200	6500	9500

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

CMB402 con motore brushless CC

CMB402 with brushless DC motor

CMB402	BLS043.240												
	24V							36V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	49	2.5	18.4	486	2.5	12.5		65	2.5	18.4	648	2.5	11.1	
7.49	40	3.0	15.2	400	3.0	10.3		53	3.0	15.2	534	3.0	9.1	
9.20	33	3.7	12.4	326	3.7	8.4		43	3.7	12.4	435	3.7	7.4	
11.83	25	4.8	10.8	254	4.8	7.3		34	4.8	10.8	338	4.8	6.5	
12.48	24	5.0	10.3	240	5.0	7.0		32	5.0	10.3	320	5.0	6.2	
14.83	20	6.0	8.6	202	6.0	5.9		27	6.0	8.6	270	6.0	5.2	
17.63	17	7.1	7.3	170	7.1	4.9		23	7.1	7.3	227	7.1	4.4	
18.60	16	7.5	8.4	161	7.5	5.7		22	7.5	8.4	215	7.5	5.0	
22.33	13	9.0	7.0	134	9.0	4.8		18	9.0	7.0	179	9.0	4.2	
23.91	13	9.7	6.5	125	9.7	4.4	3000	17	9.7	6.5	167	9.7	3.9	4000
28.89	10	12	6.4	104	12	4.3		14	12	6.4	138	12	3.8	
30.84	9.7	12	6.0	97	12	4.1		13	12	6.0	130	12	3.6	
33.57	8.9	14	5.5	89	14	3.7		12	14	5.5	119	14	3.3	
35.63	8.4	14	5.2	84	14	3.5		11	14	5.2	112	14	3.1	
42.75	7.0	17	4.3	70	17	2.9		9.4	17	4.3	94	17	2.6	
55.31	5.4	22	3.3	54	22	2.3		7.2	22	3.3	72	22	2.0	
59.06	5.1	24	3.1	51	24	2.1		6.8	24	3.1	68	24	1.9	
64.29	4.7	26	2.9	47	26	2.0		6.2	26	2.9	62	26	1.7	
72.50	4.1	29	2.6	41	29	1.7		5.5	29	2.6	55	29	1.5	

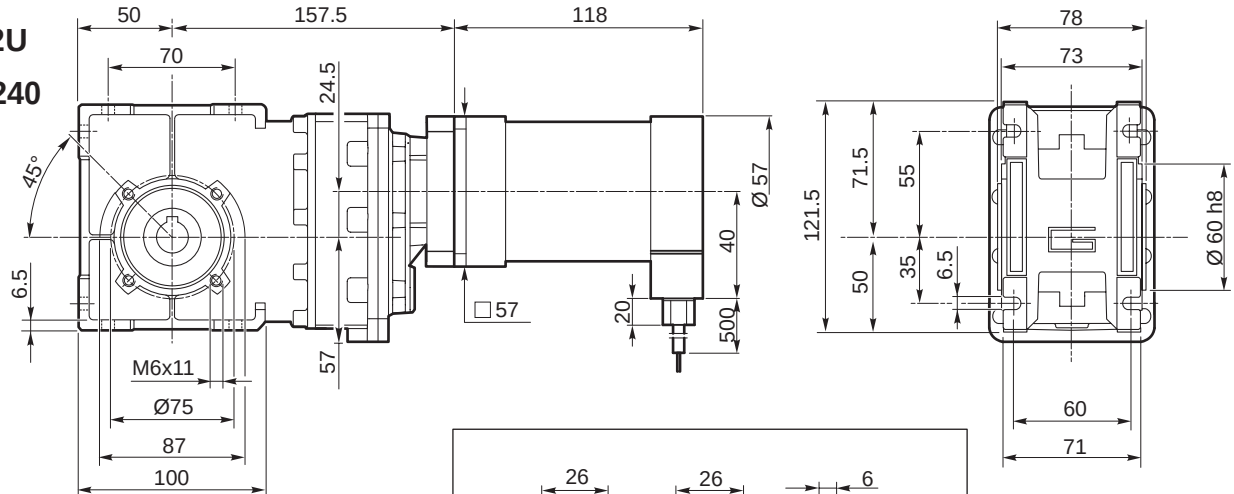
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

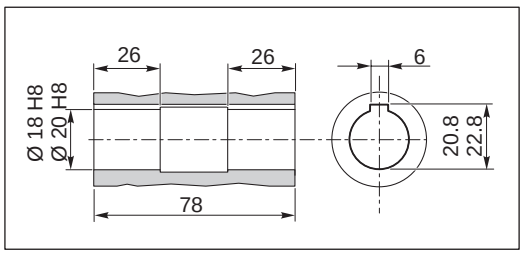
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

Azionamenti *Drives* → II 2

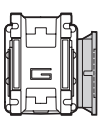
CMB402U + BLS043.240





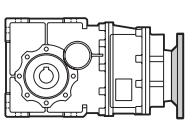
Albero lento cavo / *Hollow output shaft*

BC22



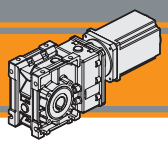
CMB402..F
CMB402..FL
CMB402..FB

BC18



CMB402..AS...

Kg 4.7



CMB402 con motore brushless CC

CMB402 with brushless DC motor

CMB402	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	49	4.1	11.3	486	4.1	7.7	3000
7.49	40	4.9	9.3	400	4.9	6.3	
9.20	33	6.1	7.6	326	6.1	5.2	
11.83	25	7.8	6.6	254	7.8	4.5	
12.48	24	8.2	6.3	240	8.2	4.3	
14.83	20	9.8	5.3	202	9.8	3.6	
17.63	17	12	4.5	170	12	3.0	
18.60	16	12	5.2	161	12	3.5	
22.33	13	15	4.3	134	15	2.9	
23.91	13	16	4.0	125	16	2.7	
28.89	10	19	3.9	104	19	2.7	
30.84	9.7	20	3.7	97	20	2.5	
33.57	8.9	22	3.4	89	22	2.3	
35.63	8.4	23	3.2	84	23	2.2	
42.75	7.0	28	2.7	70	28	1.8	
55.31	5.4	36	2.1	54	36	1.4	
59.06	5.1	39	1.9	51	39	1.3	
64.29	4.7	42	1.8	47	42	1.2	
72.50	4.1	48	1.6	41	48	1.1	

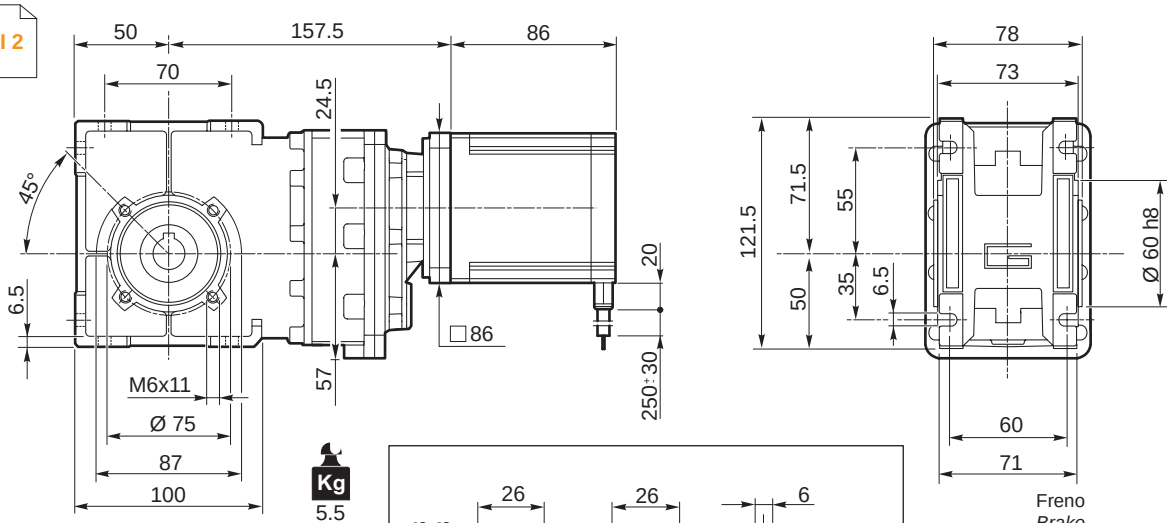
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

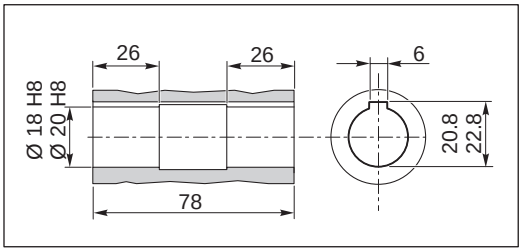
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

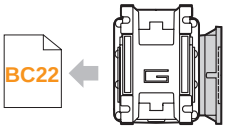
Azionamenti *Drives* → II 2

CMB402U + BL070.240 BL070.480

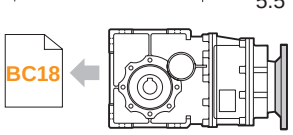




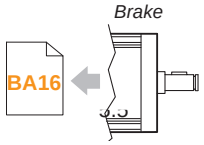
Albero lento cavo / *Hollow output shaft*



CMB402..F
CMB402..FL
CMB402..FB



CMB402..AS...



BL070.24B
BL070.48B

CMB402 con motore brushless CC — *CMB402 with brushless DC motor*

CMB402	BL070.48.80												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	40	4.1	11.3	405	4.1	7.7		65	4.1	11.3	648	4.1	6.8	
7.49	33	4.9	9.3	334	4.9	6.3		53	4.9	9.3	534	4.9	5.6	
9.20	27	6.1	7.6	272	6.1	5.2		43	6.1	7.6	435	6.1	4.6	
11.83	21	7.8	6.6	211	7.8	4.5		34	7.8	6.6	338	7.8	4.0	
12.48	20	8.2	6.3	200	8.2	4.3		32	8.2	6.3	320	8.2	3.8	
14.83	17	10	5.3	169	10	3.6		27	10	5.3	270	10	3.2	
17.63	14	12	4.5	142	12	3.0		23	12	4.5	227	12	2.7	
18.60	13	12	5.2	134	12	3.5		22	12	5.2	215	12	3.1	
22.33	11	15	4.3	112	15	2.9		18	15	4.3	179	15	2.6	
23.91	10	16	4.0	105	16	2.7	2500	17	16	4.0	167	16	2.4	4000
28.89	8.7	19	3.9	87	19	2.7		14	19	3.9	138	19	2.4	
30.84	8.1	20	3.7	81	20	2.5		13	20	3.7	130	20	2.2	
33.57	7.4	22	3.4	74	22	2.3		12	22	3.4	119	22	2.0	
35.63	7.0	23	3.2	70	23	2.2		11	23	3.2	112	23	1.9	
42.75	5.8	28	2.7	58	28	1.8		9.4	28	2.7	94	28	1.6	
55.31	4.5	36	2.1	45	36	1.4		7.2	36	2.1	72	36	1.2	
59.06	4.2	39	1.9	42	39	1.3		6.8	39	1.9	68	39	1.2	
64.29	3.9	42	1.8	39	42	1.2		6.2	42	1.8	62	42	1.1	
72.50	3.4	48	1.6	34	48	1.1		5.5	48	1.6	55	48	0.9	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

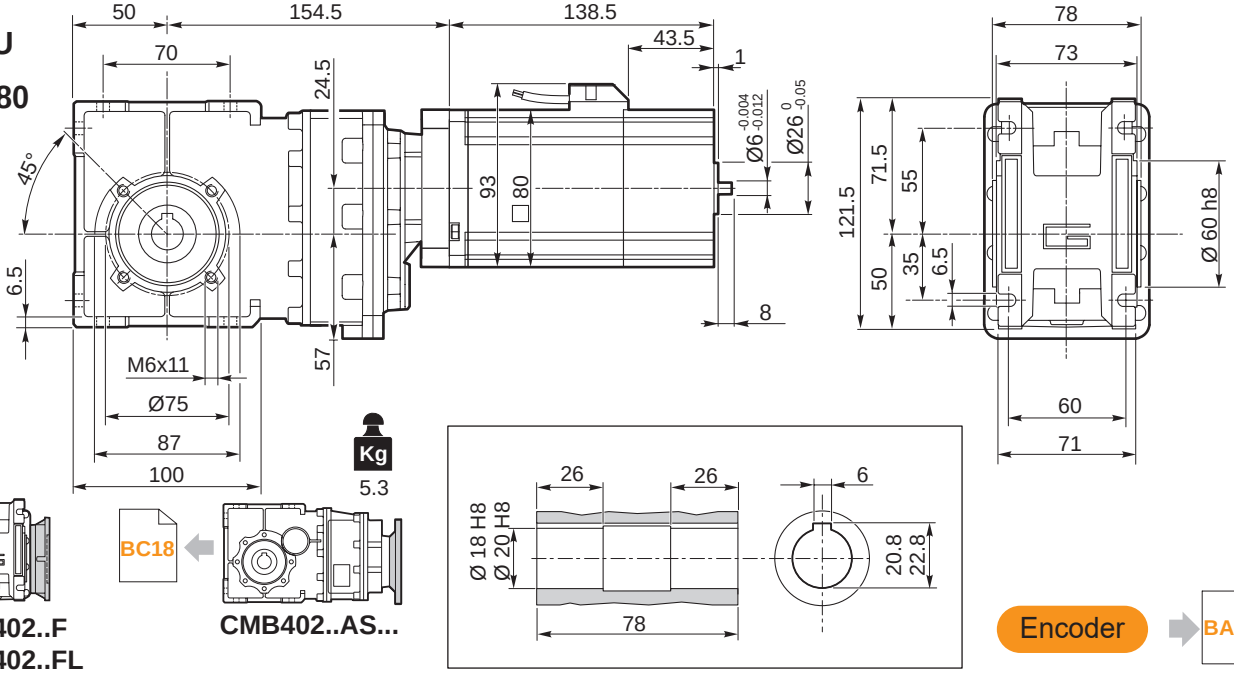
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

CMB402U + BL070.48.80

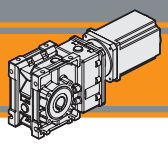


Albero lento cavo / *Hollow output shaft*

BC22 → **CMB402..F**
CMB402..FL
CMB402..FB

BC18 → **CMB402..AS...**

Encoder → BA13



CMB402 con motore brushless CC — *CMB402 with brushless DC motor*

CMB402	BL140.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	49	8.1	5.7	486	8.1	3.8	3000
7.49	40	9.9	4.7	400	9.9	3.2	
9.20	33	12	3.8	326	12	2.6	
11.83	25	15	3.3	254	15	2.3	
12.48	24	16	3.1	240	16	2.1	
14.83	20	19	2.7	202	19	1.8	
17.63	17	23	2.2	170	23	1.5	
18.60	16	24	2.6	161	24	1.8	
22.33	13	29	2.2	134	29	1.5	
23.91	13	31	2.0	125	31	1.4	
28.89	10	38	2.0	104	38	1.3	
30.84	9.7	41	1.8	97	41	1.2	
33.57	8.9	44	1.7	89	44	1.1	
35.63	8.4	47	1.6	84	47	1.1	
42.75	7.0	56	1.3	70	56	0.9	
55.31	5.4	73	1.0	54	72	0.7	
59.06	5.1	78	1.0	51	72	0.7	
64.29	4.7	85	0.9	47	72	0.7	
72.50	4.1	95	0.8	41	72	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

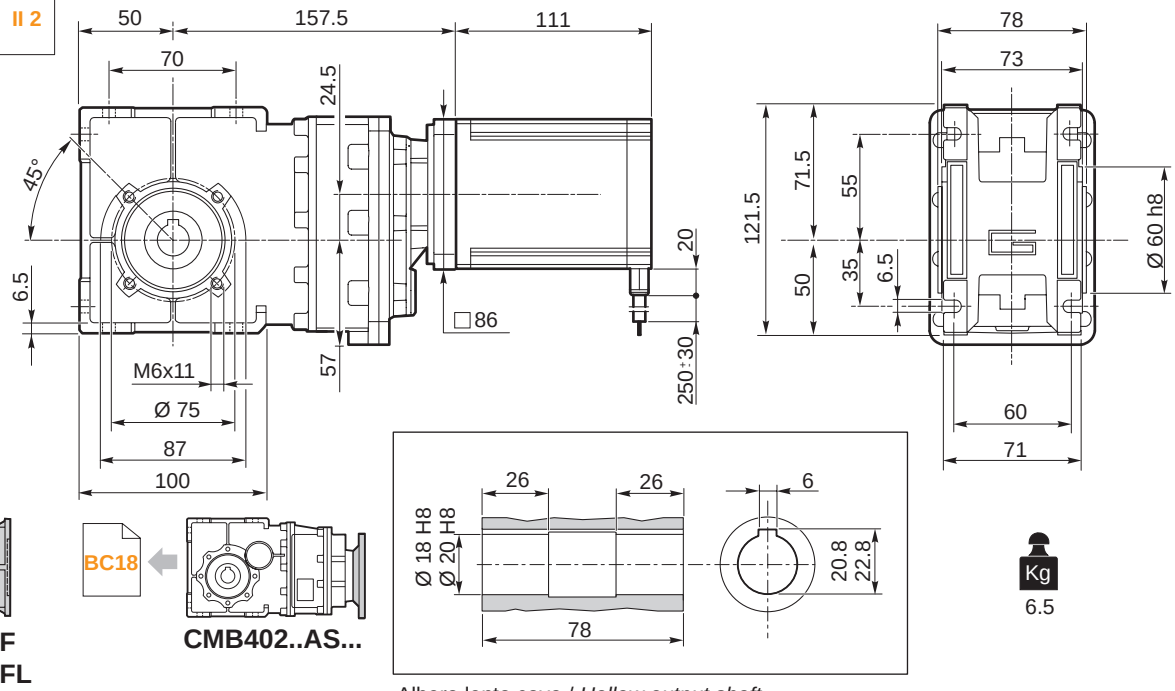
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

CMB402U + BL140.480



BC22 → **CMB402..F**
CMB402..FL
CMB402..FB

BC18 → **CMB402..AS...**

Albero lento cavo / *Hollow output shaft*

Kg 6.5

IP 55

CMB

CMB502 con motore brushless CC

CMB502 with brushless DC motor

CMB502	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	49	4.1	19.8	486	4.1	13.4	3000
7.49	40	4.9	16.3	400	4.9	11.1	
9.20	33	6.1	13.3	326	6.1	9.0	
11.83	25	7.8	13.3	254	7.8	9.0	
12.48	24	8.2	12.6	240	8.2	8.5	
14.83	20	9.8	10.6	202	9.8	7.2	
17.63	17	12	8.9	170	12	6.1	
18.60	16	12	10.3	161	12	7.0	
22.33	13	15	8.6	134	15	5.8	
23.91	13	16	8.0	125	16	5.5	
28.89	10	19	7.6	104	19	5.1	
30.84	9.7	20	7.1	97	20	4.8	
33.57	8.9	22	6.5	89	22	4.4	
35.63	8.4	23	6.1	84	23	4.2	
42.75	7.0	28	5.1	70	28	3.5	
55.31	5.4	36	3.9	54	36	2.7	
59.06	5.1	39	3.7	51	39	2.5	
64.29	4.7	42	3.4	47	42	2.3	
72.50	4.1	48	3.0	41	48	2.0	

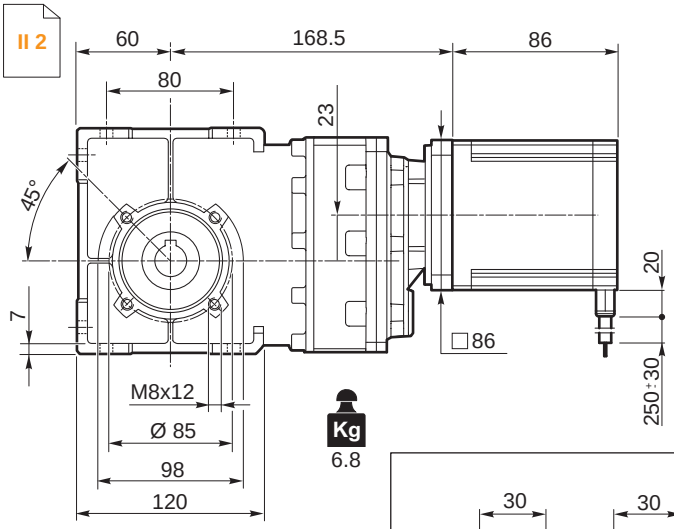
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

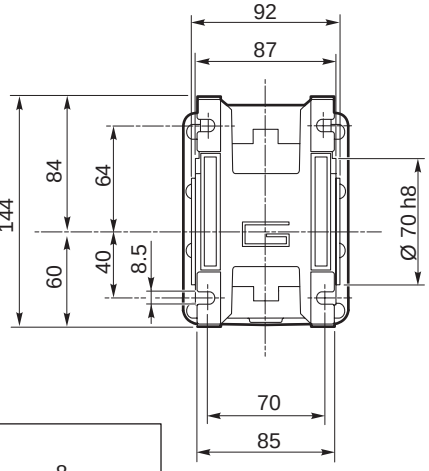
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

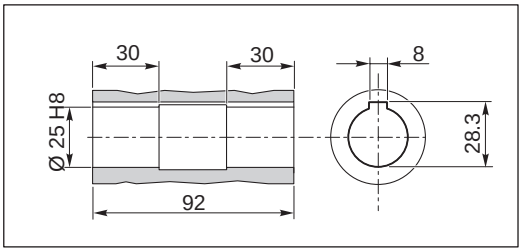
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives* → II 2

CMB502U + BL070.240 BL070.480





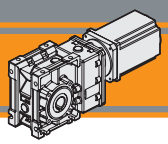


Albero lento cavo / *Hollow output shaft*

BC22 → CMB502..F
CMB502..FL
CMB502..FB

BC19 → CMB502..AS...

Freno *Brake*
BA16 → BL070.24B
BL070.48B



CMB502 con motore brushless CC

CMB502 with brushless DC motor

CMB502	BL070.48.80													
	24V							48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	40	4.1	19.8	405	4.1	13.4		65	4.1	19.8	648	4.1	11.9	
7.49	33	4.9	16.3	334	4.9	11.1		53	4.9	16.3	534	4.9	9.8	
9.20	27	6.1	13.3	272	6.1	9.0		43	6.1	13.3	435	6.1	8.0	
11.83	21	7.8	13.3	211	7.8	9.0		34	7.8	13.3	338	7.8	8.0	
12.48	20	8.2	12.6	200	8.2	8.5		32	8.2	12.6	320	8.2	7.6	
14.83	17	10	10.6	169	10	7.2		27	10	10.6	270	10	6.4	
17.63	14.2	12	8.9	142	12	6.1		23	12	8.9	227	12	5.4	
18.60	13.4	12	10.3	134	12	7.0		22	12	10.3	215	12	6.2	
22.33	11.2	15	8.6	112	15	5.8		18	15	8.6	179	15	5.2	
23.91	10.5	16	8.0	105	16	5.5	2500	17	16	8.0	167	16	4.8	4000
28.89	8.7	19	7.6	87	19	5.1		14	19	7.6	138	19	4.5	
30.84	8.1	20	7.1	81	20	4.8		13.0	20	7.1	130	20	4.2	
33.57	7.4	22	6.5	74	22	4.4		11.9	22	6.5	119	22	3.9	
35.63	7.0	23	6.1	70	23	4.2		11.2	23	6.1	112	23	3.7	
42.75	5.8	28	5.1	58	28	3.5		9.4	28	5.1	94	28	3.1	
55.31	4.5	36	3.9	45	36	2.7		7.2	36	3.9	72	36	2.4	
59.06	4.2	39	3.7	42	39	2.5		6.8	39	3.7	68	39	2.2	
64.29	3.9	42	3.4	39	42	2.3		6.2	42	3.4	62	42	2.0	
72.50	3.4	48	3.0	34	48	2.0		5.5	48	3.0	55	48	1.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

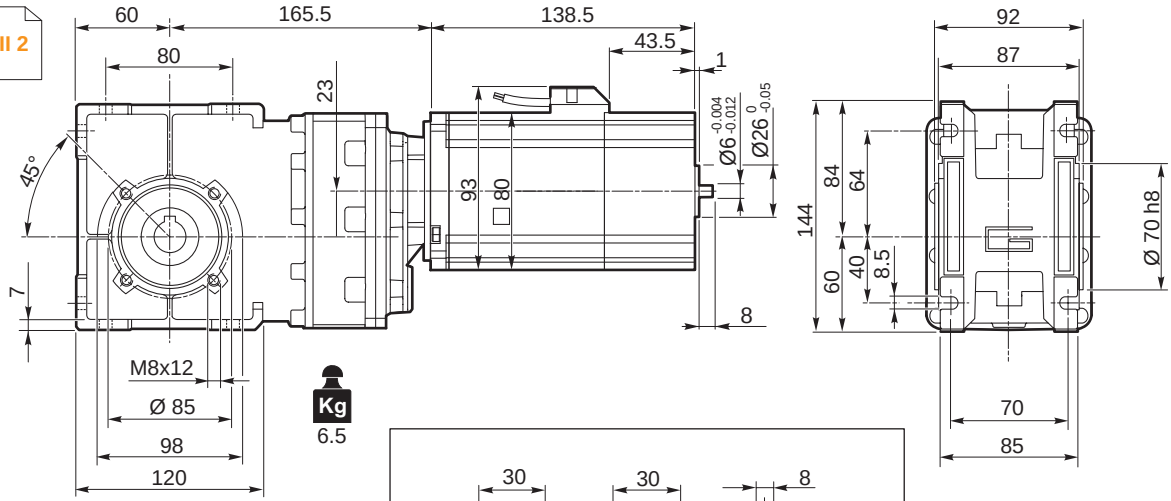
***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

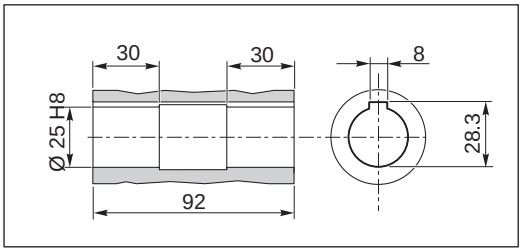
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

CMB502U + BL070.48.80





Albero lento cavo / *Hollow output shaft*

BC22 → **CMB502..F**
CMB502..FL
CMB502..FB

BC19 → **CMB502..AS...**

Encoder → BA13

IP 55

CMB

CMB502 con motore brushless CC — *CMB502 with brushless DC motor*

CMB502	BL140.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	49	8.1	9.9	486	8.1	6.7	3000
7.49	40	9.9	8.2	400	9.9	5.5	
9.20	33	12	6.6	326	12	4.5	
11.83	25	15	6.6	254	15	4.5	
12.48	24	16	6.3	240	16	4.3	
14.83	20	19	5.3	202	19	3.6	
17.63	17	23	4.5	170	23	3.0	
18.60	16	24	5.2	161	24	3.5	
22.33	13	29	4.3	134	29	2.9	
23.91	13	31	4.0	125	31	2.7	
28.89	10	38	3.8	104	38	2.6	
30.84	9.7	41	3.5	97	41	2.4	
33.57	8.9	44	3.3	89	44	2.2	
35.63	8.4	47	3.1	84	47	2.1	
42.75	7.0	56	2.6	70	56	1.7	
55.31	5.4	73	2.0	54	73	1.3	
59.06	5.1	78	1.8	51	78	1.3	
64.29	4.7	85	1.7	47	85	1.2	
72.50	4.1	95	1.5	41	95	1.0	

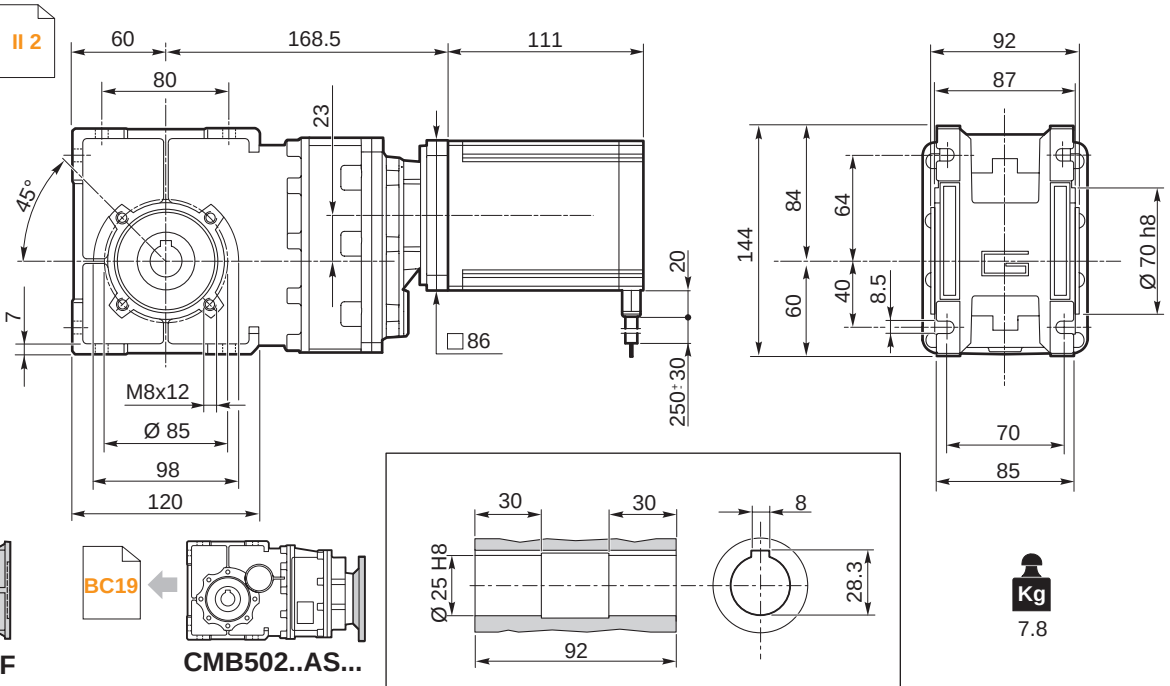
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

CMB502U + BL140.480

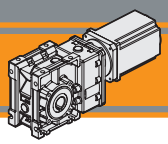


BC22 → **CMB502..F**
CMB502..FL
CMB502..FB

BC19 → **CMB502..AS...**

Albero lento cavo / *Hollow output shaft*

Kg 7.8



CMB502 con motore brushless CC — *CMB502 with brushless DC motor*

CMB502	BL200.48.95													
	24V							48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	24	12	6.9	243	12	6.0		49	12	6.9	486	12	4.7	
7.49	20	14	5.7	200	14	5.0		40	14	5.7	400	14	3.9	
9.20	16	17	4.7	163	17	4.0		33	17	4.7	326	17	3.2	
11.83	13	22	4.7	127	22	4.0		25	22	4.7	254	22	3.2	
12.48	12	23	4.4	120	23	3.8		24	23	4.4	240	23	3.0	
14.83	10	28	3.7	101	28	3.2		20	28	3.7	202	28	2.5	
17.63	8.5	33	3.1	85	33	2.7		17	33	3.1	170	33	2.1	
18.60	8.1	35	3.6	81	35	3.1		16	35	3.6	161	35	2.5	
22.33	6.7	42	3.0	67	42	2.6		13	42	3.0	134	42	2.0	
23.91	6.3	45	2.8	63	45	2.4	1500	13	45	2.8	125	45	1.9	3000
28.89	5.2	54	2.6	52	54	2.3		10	54	2.6	104	54	1.8	
30.84	4.9	58	2.5	49	58	2.2		9.7	58	2.5	97	58	1.7	
33.57	4.5	63	2.3	45	63	2.0		8.9	63	2.3	89	63	1.5	
35.63	4.2	67	2.1	42	67	1.9		8.4	67	2.1	84	67	1.5	
42.75	3.5	80	1.8	35	80	1.6		7.0	80	1.8	70	80	1.2	
55.31	2.7	104	1.4	27	104	1.2		5.4	104	1.4	54	104	0.9	
59.06	2.5	111	1.3	25	111	1.1		5.1	111	1.3	51	111	0.9	
64.29	2.3	121	1.2	23	121	1.0		4.7	121	1.2	47	121	0.8	
72.50	2.1	136	1.1	21	136	0.9		4.1	136	1.1	41	136	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

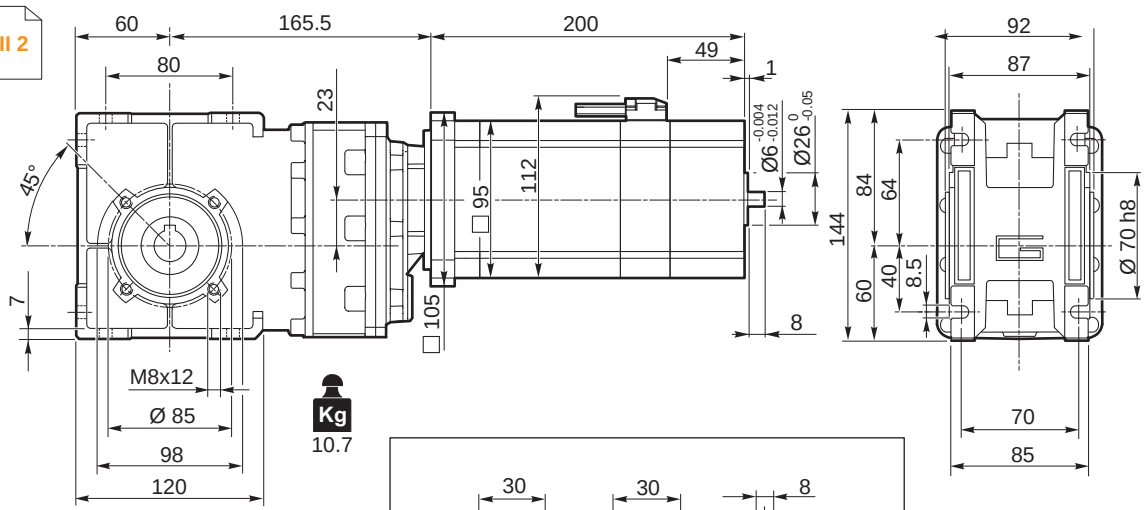
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

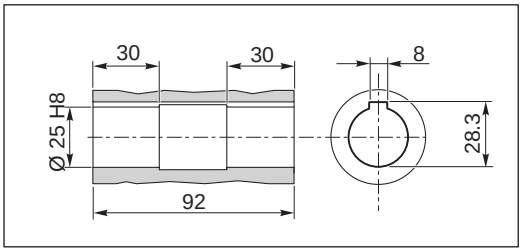
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

CMB502U + BL200.48.95





Albero lento cavo / *Hollow output shaft*

BC22 → **CMB502..F**
CMB502..FL
CMB502..FB

BC19 → **CMB502..AS...**

Encoder → BA17

IP 55

CMB

CMB502 con motore brushless CC — *CMB502 with brushless DC motor*

CMB502	BL210.480 / BL210.48E						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.18	49	12	6.6	486	12	4.5	3000
7.49	40	15	5.4	400	15	3.7	
9.20	33	18	4.4	326	18	3.0	
11.83	25	23	4.4	254	23	3.0	
12.48	24	25	4.2	240	25	2.8	
14.83	20	29	3.5	202	29	2.4	
17.63	17	35	3.0	170	35	2.0	
18.60	16	37	3.4	161	37	2.3	
22.33	13	44	2.9	134	44	1.9	
23.91	13	47	2.7	125	47	1.8	
28.89	10	57	2.5	104	57	1.7	
30.84	9.7	61	2.4	97	61	1.6	
33.57	8.9	66	2.2	89	66	1.5	
35.63	8.4	70	2.0	84	70	1.4	
42.75	7.0	84	1.7	70	84	1.2	
55.31	5.4	109	1.3	54	109	0.9	
59.06	5.1	117	1.2	51	117	0.8	
64.29	4.7	127	1.1	47	127	0.8	
72.50	4.1	143	1.0	41	139	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

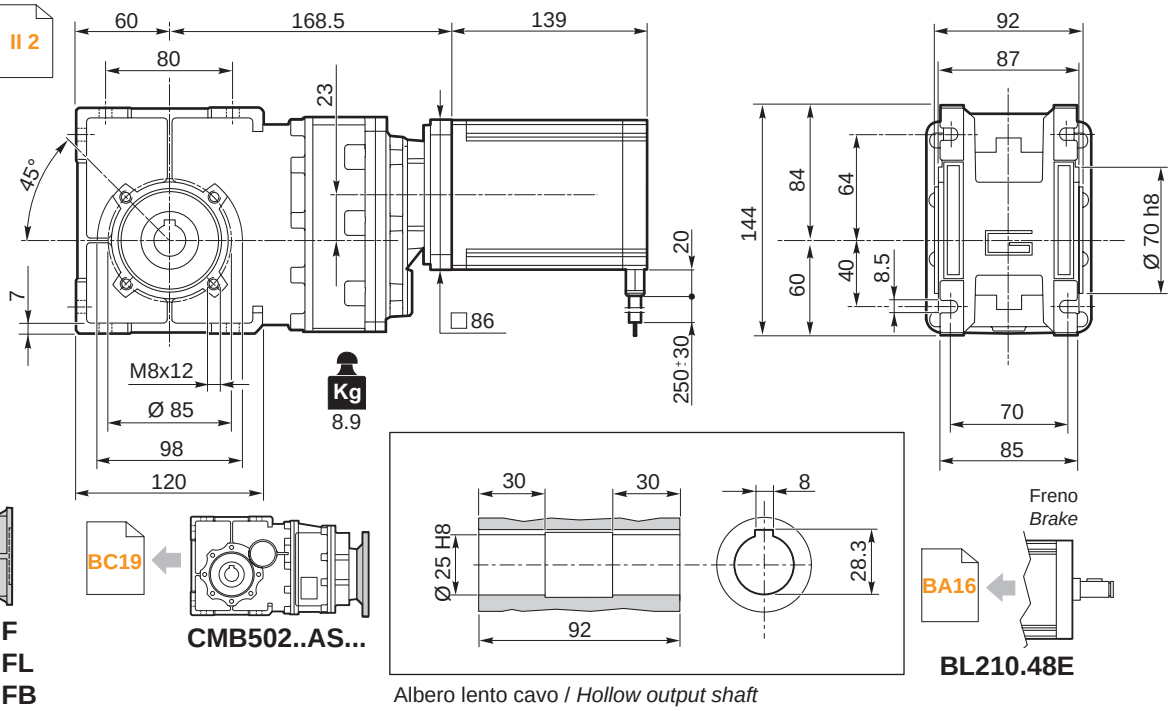
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

CMB502U + BL210.480



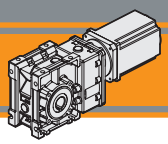
BC22 → **CMB502..F**
CMB502..FL
CMB502..FB

BC19 → **CMB502..AS...**

Albero lento cavo / *Hollow output shaft*

Freno *Brake*

BA16 → **BL210.48E**



CMB633 con motore brushless CC

CMB633 with brushless DC motor

CMB633	BL140.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.58	46	8.5	20.3	456	8.5	13.8	3000
7.99	38	10.3	16.8	376	10.3	11.4	
9.81	31	12.6	13.6	306	12.6	9.3	
10.44	29	13.4	12.8	287	13.4	8.7	
12.53	24	16.1	10.7	239	16.1	7.3	
13.31	23	17.1	10.1	225	17.1	6.8	
15.81	19	20.4	9.6	190	20.4	6.5	
17.77	17	23	11.1	169	23	7.5	
21.56	14	28	9.1	139	28	6.2	
26.48	11	34	7.4	113	34	5.0	
28.17	11	36	7.0	106	36	4.7	
33.81	9	44	5.8	89	44	3.9	
35.92	8.4	46	5.5	84	46	3.7	
38.88	7.7	50	5.7	77	50	3.9	
47.16	6.4	61	4.7	64	61	3.2	
57.93	5.2	75	3.9	52	75	2.6	
61.63	4.9	79	3.6	49	79	2.5	
73.96	4.1	95	3.0	41	95	2.0	
78.58	3.8	101	2.8	38	101	1.9	
93.33	3.2	120	2.4	32	120	1.6	
140.52	2.1	181	1.6	21	181	1.1	
181.81	1.7	234	1.2	17	234	0.8	
211.31	1.4	272	1.1	14	272	0.7	
238.31	1.3	307	0.9	13	272	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

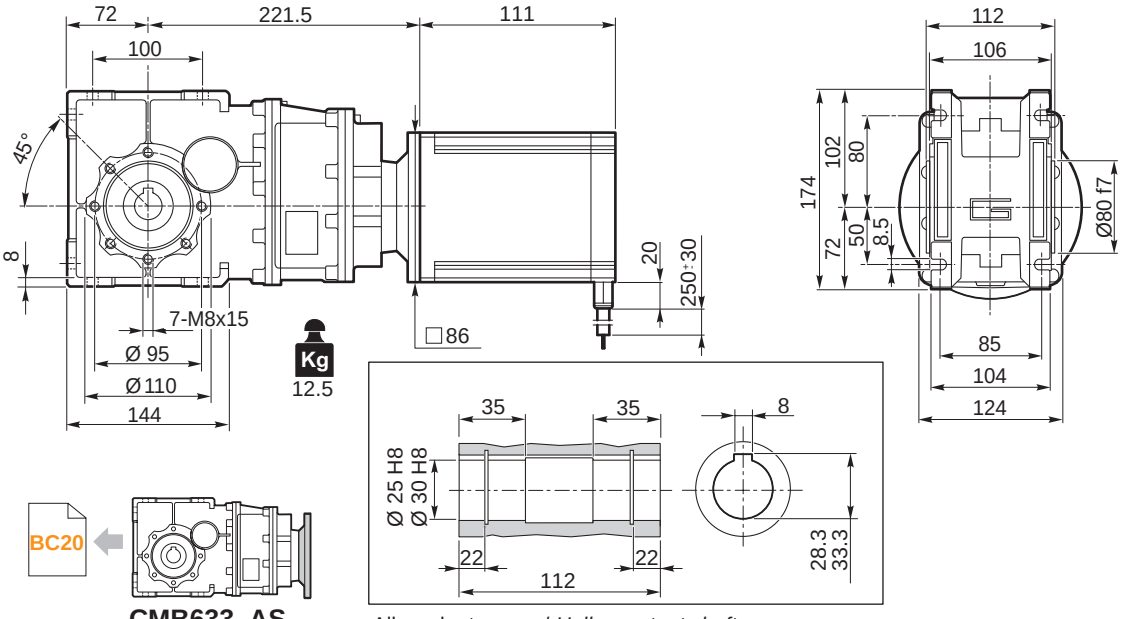
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

CMB633U + BL140.480



BC22 → **CMB633..F**
CMB633..FL
CMB633..FB

BC20 → **CMB633..AS...**

Albero lento cavo / *Hollow output shaft*

IP 55

CMB

CMB633 con motore brushless CC

CMB633 with brushless DC motor

CMB633	BL200.48.95												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.58	23	12.1	14.2	228	12.1	12.4	1500	46	12.1	14.2	456	12.1	9.7	3000
7.99	19	14.7	11.7	188	14.7	10.2		38	14.7	11.7	376	14.7	8.0	
9.81	15	18.1	9.6	153	18.1	8.3		31	18.1	9.6	306	18.1	6.5	
10.44	14	19.2	9.0	144	19.2	7.8		29	19.2	9.0	287	19.2	6.1	
12.53	12	23.1	7.5	120	23.1	6.5		24	23.1	7.5	239	23.1	5.1	
13.31	11	24.5	7.0	113	24.5	6.1		23	24.5	7.0	225	24.5	4.8	
15.81	9	29.1	6.7	95	29.1	5.8		19	29.1	6.7	190	29.1	4.6	
17.77	8	33	7.7	84	33	6.7		17	33	7.7	169	33	5.2	
21.56	7	40	6.4	70	40	5.5		14	40	6.4	139	40	4.3	
26.48	6	49	5.2	57	49	4.5		11	49	5.2	113	49	3.5	
28.17	5	52	4.9	53	52	4.2		11	52	4.9	106	52	3.3	
33.81	4	62	4.1	44	62	3.5		9	62	4.1	89	62	2.8	
35.92	4.2	66	3.8	42	66	3.3		8.4	66	3.8	84	66	2.6	
38.88	3.9	72	4.0	39	72	3.5		7.7	72	4.0	77	72	2.7	
47.16	3.2	87	3.3	32	87	2.9		6.4	87	3.3	64	87	2.2	
57.93	2.6	107	2.7	26	107	2.3		5.2	107	2.7	52	107	1.8	
61.63	2.4	113	2.5	24	113	2.2		4.9	113	2.5	49	113	1.7	
73.96	2.0	136	2.1	20	136	1.8		4.1	136	2.1	41	136	1.4	
78.58	1.9	145	2.0	19	145	1.7		3.8	145	2.0	38	145	1.3	
93.33	1.6	172	1.7	16	172	1.5		3.2	172	1.7	32	172	1.1	
140.52	1.1	259	1.1	11	259	1.0		2.1	259	1.1	21	259	0.8	
181.81	0.8	335	0.9	8	335	0.7		1.7	335	0.9	17	275	0.7	
211.31	0.7	389	0.7	7	335	0.7		1.4	389	0.7	14	275	0.7	
238.31	0.6	389	0.7	6	335	0.7		1.3	389	0.7	13	275	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

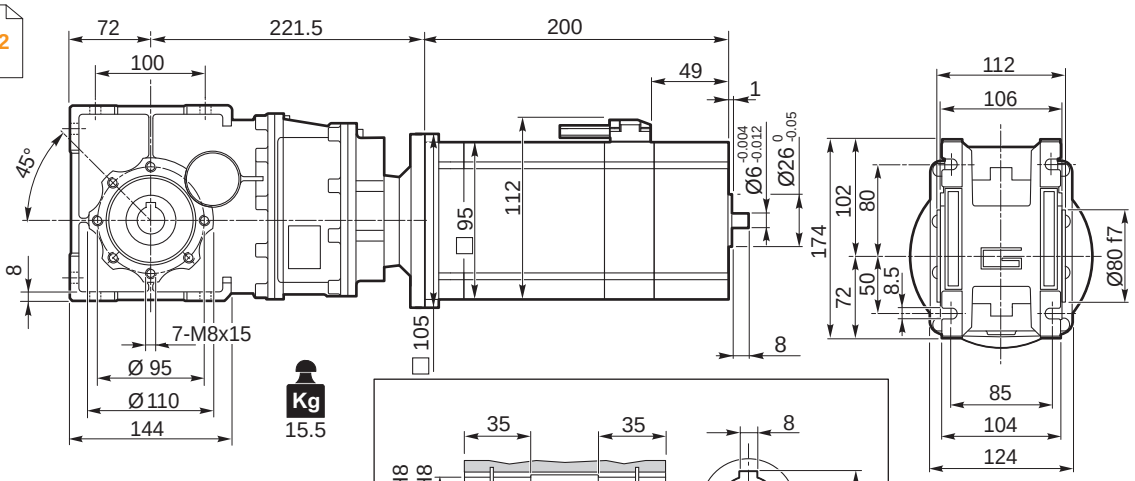
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

CMB633U + BL200.48.95



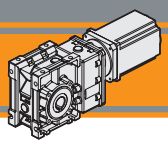
Kg 15.5

BC22 → **CMB633..F**
CMB633..FL
CMB633..FB

BC20 → **CMB633..AS...**

Albero lento cavo / *Hollow output shaft*

Encoder → BA17



CMB633 con motore brushless CC — *CMB633 with brushless DC motor*

CMB633	BL210.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.58	46	12.7	13.6	456	12.7	9.2	3000
7.99	38	15.4	11.2	376	15.4	7.6	
9.81	31	19.0	9.1	306	19.0	6.2	
10.44	29	20.2	8.6	287	20.2	5.8	
12.53	24	24.2	7.1	239	24.2	4.8	
13.31	23	25.7	6.7	225	25.7	4.5	
15.81	19	30.5	6.4	190	30.5	4.3	
17.77	17	34	7.4	169	34	5.0	
21.56	14	42	6.1	139	42	4.1	
26.48	11	51	4.9	113	51	3.4	
28.17	11	54	4.6	106	54	3.2	
33.81	9	65	3.9	89	65	2.6	
35.92	8.4	69	3.6	84	69	2.5	
38.88	7.7	75	3.8	77	75	2.6	
47.16	6.4	91	3.2	64	91	2.1	
57.93	5.2	112	2.6	52	112	1.7	
61.63	4.9	119	2.4	49	119	1.6	
73.96	4.1	143	2.0	41	143	1.4	
78.58	3.8	152	1.9	38	152	1.3	
93.33	3.2	180	1.6	32	180	1.1	
140.52	2.1	271	1.1	21	271	0.7	
181.81	1.7	351	0.8	17	275	0.7	
211.31	1.4	389	0.7	14	275	0.7	
238.31	1.3	389	0.7	13	275	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

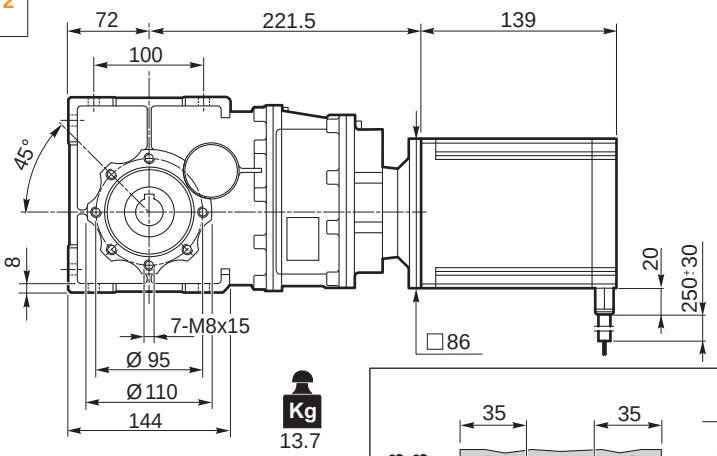
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

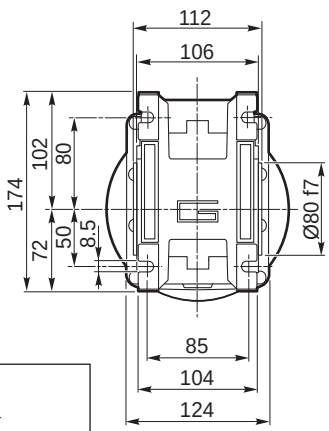
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

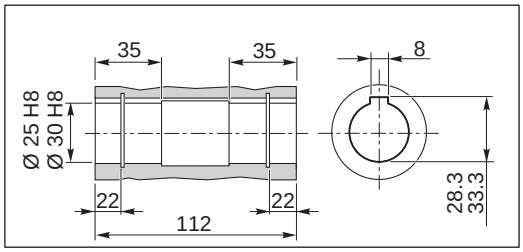
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

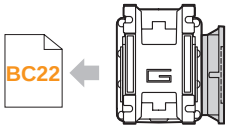
CMB633U + BL210.480





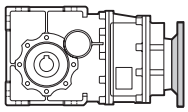


Albero lento cavo / *Hollow output shaft*



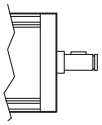
BC22

CMB633..F
CMB633..FL
CMB633..FB



BC20

CMB633..AS...



BA16

Freno *Brake*

BL210.48E

CMB633 con motore brushless CC

CMB633 with brushless DC motor

CMB633	BL400.48.120													
	24V							48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.58	21	21	8.1	213	21	7.1		46	21	8.1	456	21	5.5	
7.99	18	26	6.7	175	26	5.8		38	26	6.7	376	26	4.5	
9.81	14	32	5.5	143	32	4.7		31	32	5.5	306	32	3.7	
10.44	13	34	5.1	134	34	4.5		29	34	5.1	287	34	3.5	
12.53	11	40	4.3	112	40	3.7		24	40	4.3	239	40	2.9	
13.31	10.5	43	4.0	105	43	3.5		23	43	4.0	225	43	2.7	
15.81	8.9	51	3.8	89	51	3.3		19	51	3.8	190	51	2.6	
17.77	7.9	57	4.4	79	57	3.8		17	57	4.4	169	57	3.0	
21.56	6.5	69	3.6	65	69	3.2		14	69	3.6	139	69	2.5	
26.48	5.3	85	3.0	53	85	2.6		11	85	3.0	113	85	2.0	
28.17	5.0	91	2.8	50	91	2.4		10.6	91	2.8	106	91	1.9	
33.81	4.1	109	2.3	41	109	2.0		8.9	109	2.3	89	109	1.6	
35.92	3.9	116	2.2	39	116	1.9	1400	8.4	116	2.2	84	116	1.5	3000
38.88	3.6	125	2.3	36	125	2.0		7.7	125	2.3	77	125	1.6	
47.16	3.0	152	1.9	30	152	1.6		6.4	152	1.9	64	152	1.3	
57.93	2.4	187	1.5	24	187	1.3		5.2	187	1.5	52	187	1.0	
61.63	2.3	198	1.4	23	198	1.3		4.9	198	1.4	49	198	1.0	
73.96	1.9	238	1.2	19	238	1.0		4.1	238	1.2	41	238	0.8	
78.58	1.8	253	1.1	18	253	1.0		3.8	253	1.1	38	253	0.8	
93.33	1.5	301	1.0	15	301	0.8		3.2	301	1.0	32	275	0.7	
140.52	1.0	400	0.7	10	350	0.7		2.1	400	0.7	21	275	0.7	
181.81	0.8	400	0.7	7.7	350	0.7		1.7	400	0.7	17	275	0.7	
211.31	0.7	400	0.7	6.6	350	0.7		1.4	400	0.7	14	275	0.7	
238.31	0.6	400	0.7	5.9	350	0.7		1.3	400	0.7	13	275	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

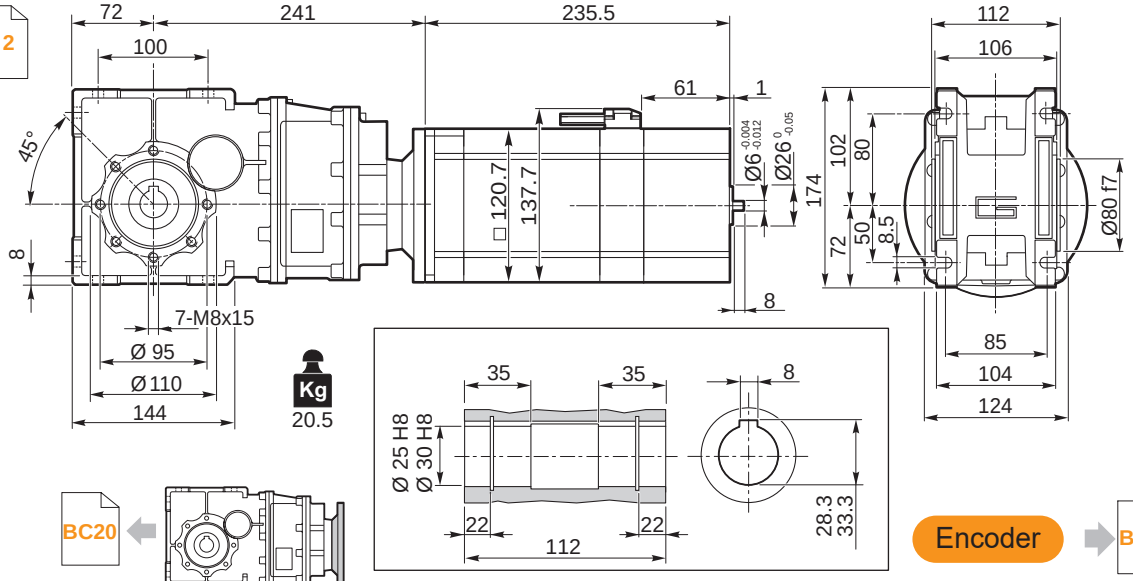
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti *Drives* → II 2

CMB633U + BL400.48.120



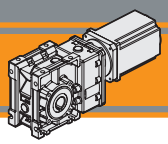
Kg 20.5

BC22 → **CMB633..F**
CMB633..FL
CMB633..FB

BC20 → **CMB633..AS...**

Albero lento cavo / *Hollow output shaft*

Encoder → BA21



CMB903 con motore brushless CC — *CMB903 with brushless DC motor*

CMB903	BL400.48.120												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.65	21	21	15.0	211	21	13.1		45	21	15.0	451	21	10.2	
8.00	17	26	12.5	175	26	10.9		37	26	12.5	375	26	8.5	
9.74	14	31	10.3	144	31	8.9		31	31	10.3	308	31	7.0	
11.21	12	36	8.9	125	36	7.8		27	36	8.9	268	36	6.1	
14.09	10	45	7.6	99	45	6.6		21	45	7.6	213	45	5.2	
17.95	7.8	58	9.0	78	58	7.8		17	58	9.0	167	58	6.1	
21.60	6.5	70	7.4	65	70	6.5		14	70	7.4	139	70	5.0	
26.30	5.3	85	6.1	53	85	5.3		11	85	6.1	114	85	4.1	
30.25	4.6	97	5.3	46	97	4.6		10	97	5.3	99	97	3.6	
39.26	3.6	126	4.5	36	126	4.0		8	126	4.5	76	126	3.1	
47.25	3.0	152	3.8	30	152	3.3	1400	6.3	152	3.8	63	152	2.6	3000
57.52	2.4	185	3.1	24	185	2.7		5.2	185	3.1	52	185	2.1	
66.17	2.1	213	2.7	21	213	2.3		4.5	213	2.7	45	213	1.8	
83.20	1.7	268	2.1	17	268	1.9		3.6	268	2.1	36	268	1.5	
108.09	1.3	348	1.7	13	348	1.4		2.8	348	1.7	28	348	1.1	
132.23	1.1	426	1.4	11	426	1.2		2.3	426	1.4	23	426	0.9	
147.92	0.9	476	1.2	9.5	476	1.0		2.0	476	1.2	20	476	0.8	
167.09	0.8	538	1.1	8.4	538	0.9		1.8	538	1.1	18	538	0.7	
191.06	0.7	615	0.9	7.3	615	0.8		1.6	615	0.9	16	550	0.7	
221.88	0.6	714	0.8	6.3	714	0.7		1.4	714	0.8	14	550	0.7	
262.96	0.5	820	0.7	5.3	714	0.7		1.1	820	0.7	11	550	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

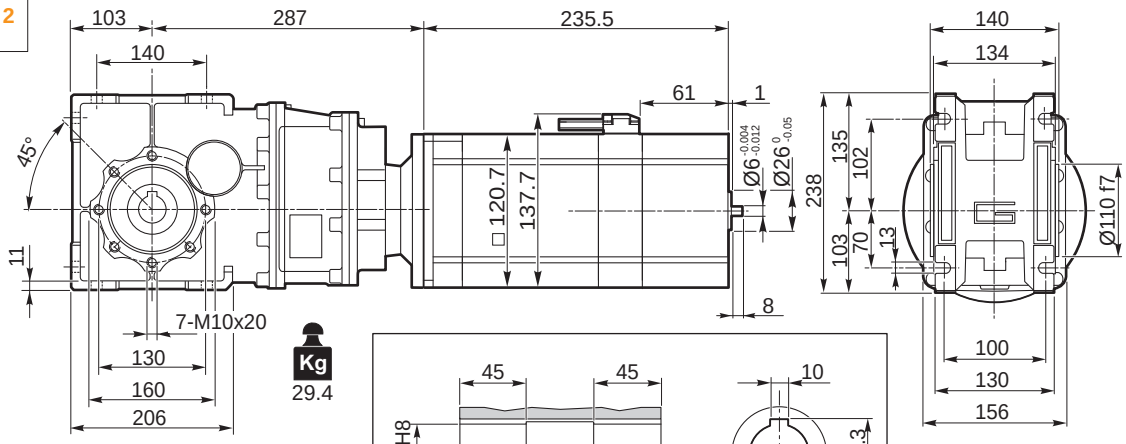
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

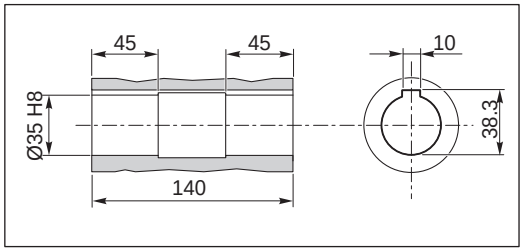
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

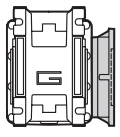
Azionamenti *Drives* → II 2

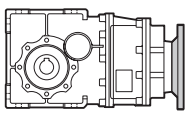
CMB903U + BL400.48.120





Albero lento cavo / *Hollow output shaft*

BC22 → 
CMB903..F

BC18 → 
CMB903..AS...

Encoder → BA21

IP 55

CMB

Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 402				
n1 = 1400 rpm	**227**	40	1.0	6.18
	187	40	0.83	7.49
	152	40	0.68	9.2
	118	45	0.59	11.83
	112	45	0.56	12.48
	94.4	45	0.47	14.83
	79.4	45	0.40	17.63
	75.3	55	0.46	18.6
	62.7	55	0.38	22.33
	58.6	55	0.36	23.91
	48.5	65	0.35	28.89
	45.4	65	0.33	30.84
	41.7	65	0.30	33.57
	39.3	65	0.28	35.63
	32.7	65	0.24	42.75
	25.3	65	0.18	55.31
	23.7	65	0.17	59.06
	21.8	65	0.16	64.29
	19.3	65	0.14	72.50

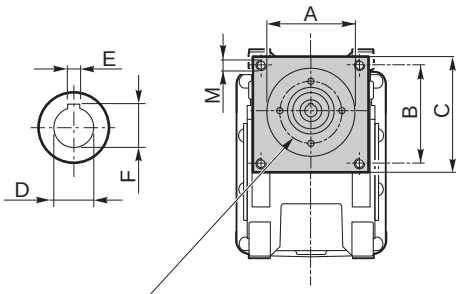
	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 402				
n1 = 3000 rpm	**486**	31.2	1.65	6.18
	400	31.2	1.36	7.49
	326	31.2	1.11	9.20
	254	35.1	0.97	11.83
	240	35.1	0.92	12.48
	202	35.1	0.77	14.83
	170	35.1	0.65	17.63
	161	42.9	0.75	18.60
	134	42.9	0.63	22.33
	126	42.9	0.59	23.91
	104	50.7	0.57	28.89
	97.3	50.7	0.54	30.84
	89.4	50.7	0.49	33.57
	84.2	50.7	0.47	35.63
	70.2	50.7	0.39	42.75
	54.2	50.7	0.30	55.31
	50.8	50.7	0.28	59.06
	46.7	50.7	0.26	64.29
	41.4	50.7	0.23	72.50

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

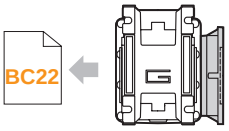
Dimensioni CMB con flange motore AS — *CMB dimensions with motor flanges AS*

CMB402 - U - AS...

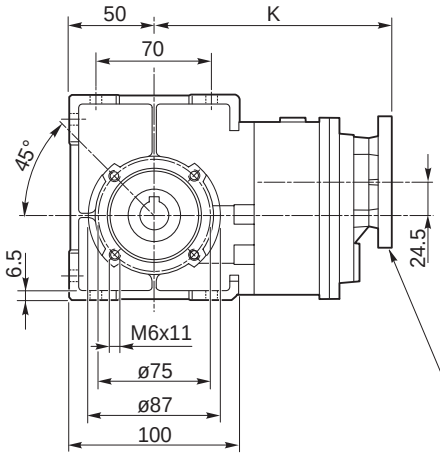


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

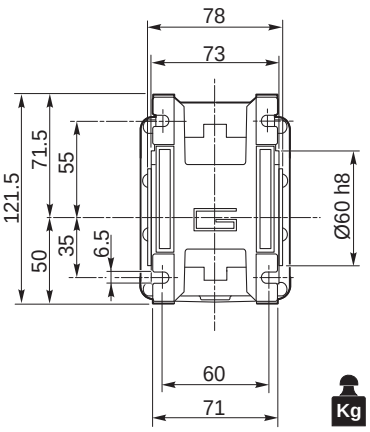


CMB402..F
CMB402..FL
CMB402..FB



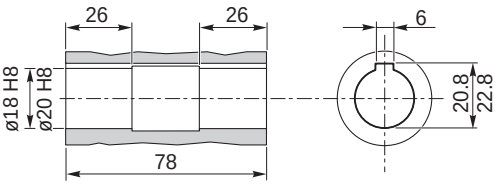
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

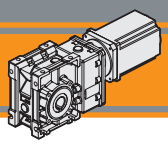
Flange's thickness may vary depending on motorshaft's lenght.



Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS392FX	38.1	47.1	64	M5	157.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	157.5	9	3	10.5
						11	4	12.8
						14	5	16.3
...	...	...	...	...	...	...	...	...

Albero uscita cavo
Hollow output shaft





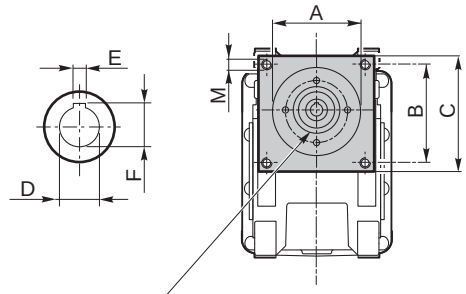
Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 502				
n1 = 1400 rpm	**227**	70	1.8	6.18
	187	70	1.5	7.49
	152	70	1.2	9.20
	118	90	1.2	11.83
	112	90	1.1	12.48
	94.4	90	0.95	14.83
	79.4	90	0.80	17.63
	75.3	110	0.92	18.60
	62.7	110	0.77	22.33
	58.6	110	0.72	23.91
	48.5	125	0.67	28.89
	45.4	125	0.63	30.84
	41.7	125	0.58	33.57
	39.3	125	0.55	35.63
	32.7	125	0.46	42.75
	25.3	125	0.35	55.31
	23.7	125	0.33	59.06
	21.8	125	0.30	64.29
	19.3	125	0.27	72.50

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 502				
n1 = 3000 rpm	**486**	54.6	2.89	6.18
	400	54.6	2.38	7.49
	326	54.6	1.94	9.20
	254	70.2	1.94	11.83
	240	70.2	1.84	12.48
	202	70.2	1.55	14.83
	170	70.2	1.30	17.63
	161	85.8	1.51	18.60
	134	85.8	1.26	22.33
	126	85.8	1.17	23.91
	104	97.5	1.10	28.89
	97.3	97.5	1.03	30.84
	89.4	97.5	0.95	33.57
	84.2	97.5	0.90	35.63
	70.2	97.5	0.75	42.75
	54.2	97.5	0.58	55.31
	50.8	97.5	0.54	59.06
	46.7	97.5	0.50	64.29
	41.4	97.5	0.44	72.50

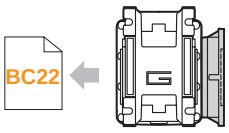
Dimensioni CMB con flange motore AS — *CMB dimensions with motor flanges AS*

CMB502 - U - AS...

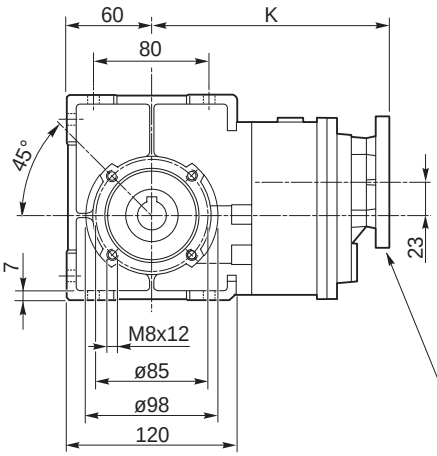


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.

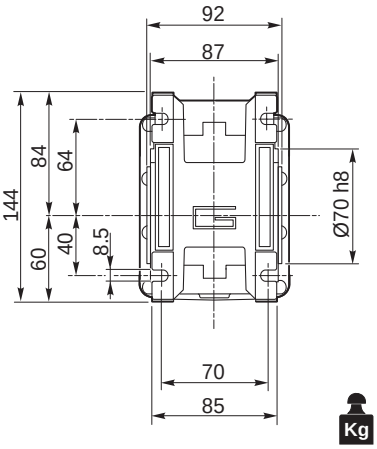


CMB502..F
CMB502..FL
CMB502..FB



Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

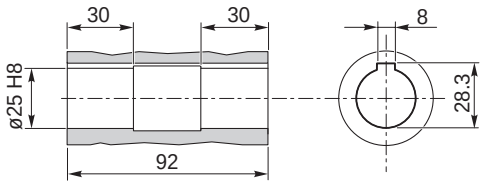
Flange's thickness may vary depending on motorshaft's lenght.



Kg 4.8

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS384FX	73	69.6	86	M5	168.5	9	3	10.5
						11	4	12.8
						14	5	16.3
...	...	...	...	...	...	...	...	...

Albero uscita cavo
Hollow output shaft



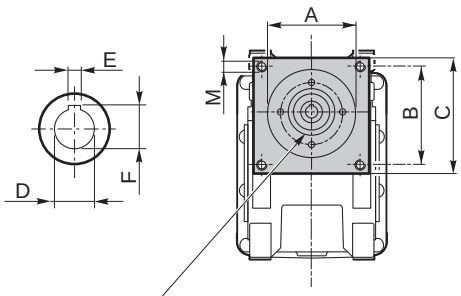
Dati tecnici / *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 633				
n1 = 1400 rpm	**213**	150	3.6	6.58
	175	150	2.9	7.99
	143	150	2.4	9.81
	134	150	2.2	10.44
	112	150	1.9	12.53
	105	150	1.8	13.31
	89	170	1.7	15.81
	79	220	1.9	17.77
	65	220	1.6	21.56
	53	220	1.3	26.48
	50	220	1.2	28.17
	41	220	1.0	33.81
	39	220	0.96	35.92
	36	250	1.00	38.88
	30	250	0.83	47.16
	24	250	0.67	57.93
	23	250	0.63	61.63
	19	250	0.53	73.96
	18	250	0.50	78.58
	15	250	0.42	93.33
	10	250	0.28	140.52
	7.7	250	0.21	181.81
	6.6	250	0.18	211.31
	5.9	250	0.16	238.31

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 633				
n1 = 3000 rpm	**456**	117	5.6	6.58
	376	117	4.6	7.99
	306	117	3.7	9.81
	287	117	3.5	10.44
	239	117	2.9	12.53
	225	117	2.8	13.31
	190	133	2.6	15.81
	169	172	3.0	17.77
	139	172	2.5	21.56
	113	172	2.0	26.48
	106	172	1.9	28.17
	89	172	1.6	33.81
	84	172	1.5	35.92
	77	195	1.6	38.88
	64	195	1.3	47.16
	52	195	1.1	57.93
	49	195	0.99	61.63
	41	195	0.83	73.96
	38	195	0.78	78.58
	32	195	0.66	93.33
	21	195	0.44	140.52
	17	195	0.34	181.81
	14	195	0.29	211.31
	13	195	0.26	238.31

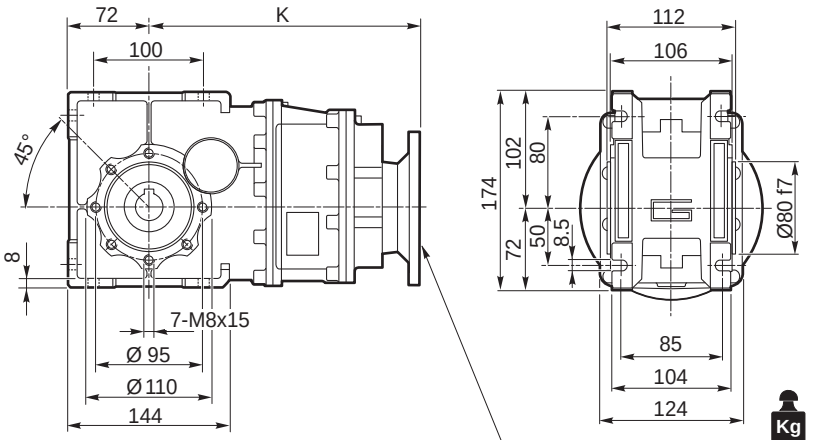
Dimensioni CMB con flange motore AS / *CMB dimensions with motor flanges AS*

CMB633 - U - AS...



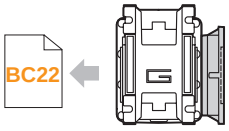
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

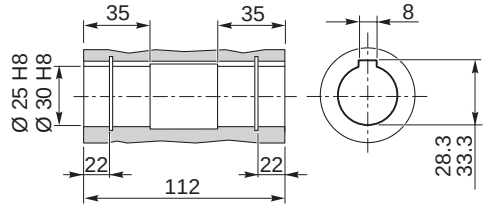
Flange's thickness may vary depending on motorshaft's lenght.

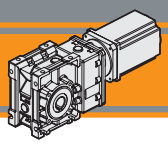


CMB633..F
CMB633..FL
CMB633..FB

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS392FX	38.1	47.1	64	M5	221.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	221.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS302	73	69.6	86	M5	241	19	6	21.8
						24	8	27.3
...	...	...	...	...	...	...	...	...

Albero uscita cavo
Hollow output shaft





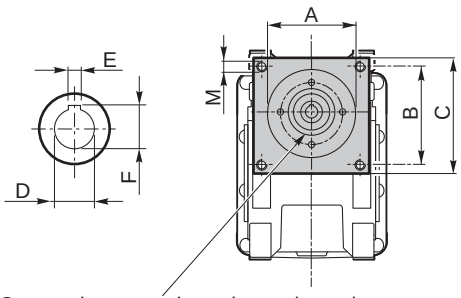
Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 903				
n1 = 1400 rpm	**211**	280	6.6	6.65
	175	280	5.5	8.00
	144	280	4.5	9.74
	125	280	3.9	11.21
	99	300	3.3	14.09
	78	450	3.9	17.95
	65	450	3.2	21.60
	53	450	2.7	26.30
	46	450	2.3	30.25
	36	500	2.0	39.26
	30	500	1.7	47.25
	24	500	1.4	57.52
	21	500	1.2	66.17
	17	500	0.94	83.20
	13	500	0.72	108.09
	11	500	0.59	132.23
	9.5	500	0.53	147.92
	8.4	500	0.47	167.09
	7.3	500	0.41	191.06
	6.3	500	0.35	221.88
	5.3	500	0.30	262.96

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 903				
n1 = 3000 rpm	**451**	218	10.3	6.65
	375	218	8.6	8.00
	308	218	7.0	9.74
	268	218	6.1	11.21
	213	234	5.2	14.09
	167	351	6.1	17.95
	139	351	5.1	21.60
	114	351	4.2	26.30
	99	351	3.6	30.25
	76	390	3.1	39.26
	63	390	2.6	47.25
	52	390	2.1	57.52
	45	390	1.9	66.17
	36	390	1.5	83.20
	28	390	1.1	108.09
	23	390	0.93	132.23
	20	390	0.83	147.92
	18	390	0.73	167.09
	16	390	0.64	191.06
	14	390	0.55	221.88
	11	390	0.47	262.96

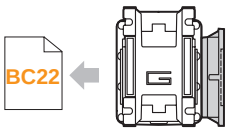
Dimensioni CMB con flange motore AS — *CMB dimensions with motor flanges AS*

CMB903 - U - AS...

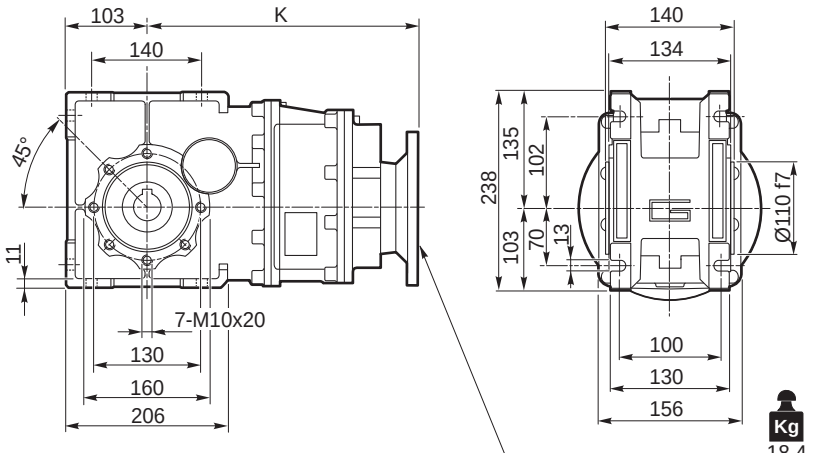


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



CMB903..F

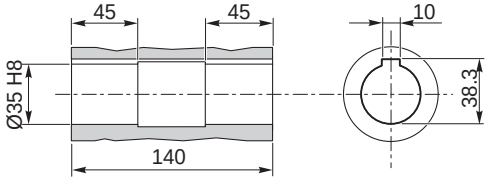


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
...	...	...	...	...	...	...	...	...

Albero uscita cavo
Hollow output shaft

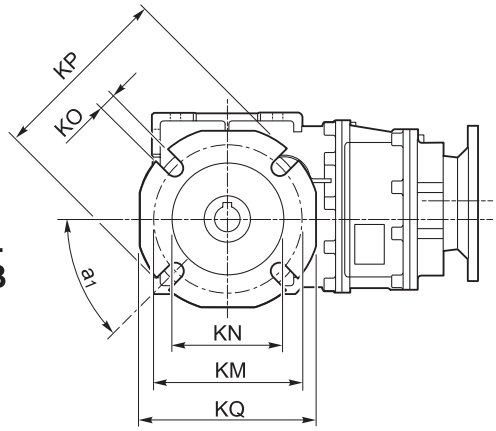


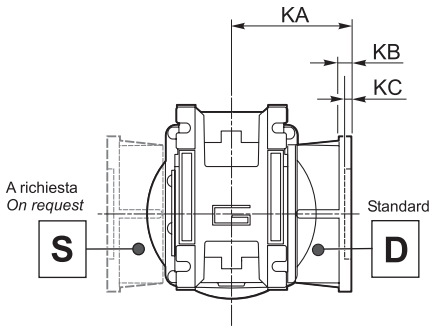
Flange uscita

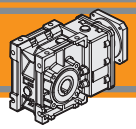
Output flange

	Flange uscita / *Output flanges*																									
	F									FL									FB							
CMB	a_1	KA	KB	KC	KM	KN H8	KO	KP	KQ	a_1	KA	KB	KC	KM	KN H8	KO	KP	KQ	a_1	KA	KB	KC	KM	KN H8	KO	KP	KQ
402	45°	67	7.5	4.5	80-95	60	9	110	95	45°	97	7.5	4.5	80-95	60	9	110	95	45°	80	8.5	5	115-125	95	9.5	140	112
502	45°	90	9	5	90-110	70	11	125	110	45°	120	9	5	90-110	70	11	125	110	45°	89	9	5	130-145	110	9.5	160	132
633	45°	82	10	6	150 - 160	115	11	180	142	45°	112	10	8	150 - 160	115	11	180	142	45°	98	11	5	165	130	11	200	160
933	45°	111	13	6	175-188	152	14	210	200	-									-								

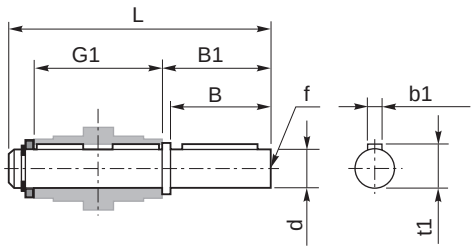
CMB..F
CMB..FL
CMB..FB



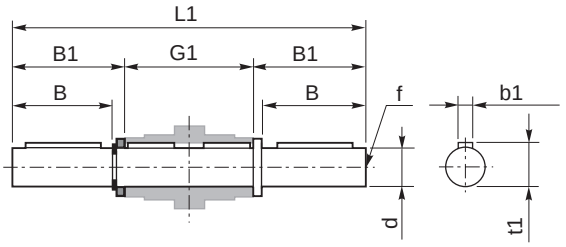


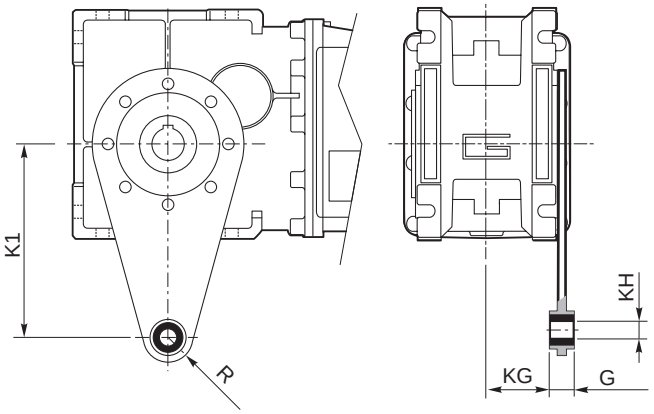


SZ



DZ





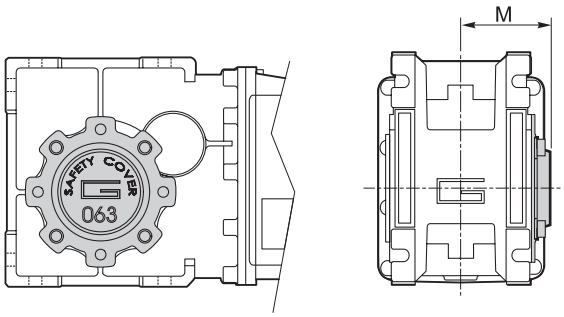
Albero lento / *Output shaft*

CMB CMBIS	d h7	B	B1	G1	L	L1	f	b1	t1
402	18	40	43	78	128	164	M6	6	20.5
502	25	50	53.5	92	153	199	M10	8	28
633	25	50	53.5	112	173	219	M10	8	28
903	35	80	84.5	140	234	309	M12	10	38

Braccio di reazione / *Torque arm*

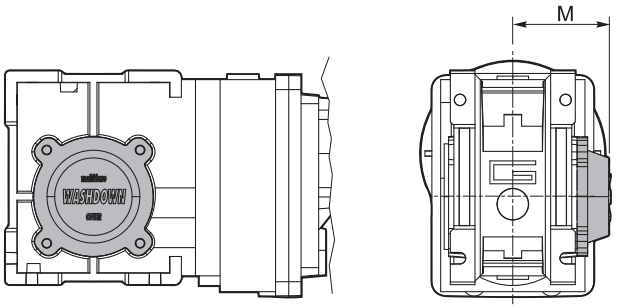
CMB CMBIS	K1	G	KG	KH	R
402	100	14	31	10	18
502	100	14	38	10	18
633	150	14	47.5	10	18
903	200	25	56.5	20	30

SC - *Safety cover*



CMB CMBIS	M
402	54.5
502	62.5
633	73
903	94

WD - *Washdown cover*



CMB CMBIS	M
402	55.5
502	63.5
633	71.5
903	95

TRANSTECNO®
the modular gearmotor

BLFT

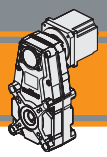
BLFT

BLFT Alu

IP55

Motoriduttori brushless CC pendolari
Brushless DC helical parallel gearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**BD2**
Designazione	*Classification*	**BD3**
Simbologia	*Symbols*	**BD3**
Lubrificazione e temperatura	*Lubrification and temperature*	**BD3**
Carichi radiali	*Radial loads*	**BD4**
FT105 con motore brushless BLS022.240	*FT105 with BLS022.240 brushless motor*	**BD5**
FT105 con motore brushless BLS043.240	*FT105 with BLS043.240 brushless motor*	**BD6**
FT146 con motore brushless BLS043.240	*FT146 with BLS043.240 brushless motor*	**BD7**
FT146 con motore brushless BL070.240	*FT146 with BL070.240 brushless motor*	**BD8**
FT146 con motore brushless BL070.480	*FT146 with BL070.480 brushless motor*	**BD8**
FT146 con motore brushless BL070.48.80	*FT146 with BL070.48.80 brushless motor*	**BD9**
FT146 con motore brushless BL140.480	*FT146 with BL140.480 brushless motor*	**BD10**
FT176 con motore brushless BL070.480	*FT146 with BL070.480 brushless motor*	**BD11**
FT176 con motore brushless BL070.48.80	*FT146 with BL070.48.80 brushless motor*	**BD12**
FT176 con motore brushless BL140.480	*FT176 with BL140.480 brushless motor*	**BD13**
FT176 con motore brushless BL200.48.95	*FT176 with BL200.48.95 brushless motor*	**BD14**
FT176 con motore brushless BL210.480	*FT176 with BL210.480 brushless motor*	**BD15**
FT176 con motore brushless BL400.48.120	*FT176 with BL400.48.120 brushless motor*	**BD16**
FT196 con motore brushless BL210.480	*FT196 with BL210.480 brushless motor*	**BD17**
FT196 con motore brushless BL200.48.95	*FT196 with BL200.48.95 brushless motor*	**BD18**
FT196 con motore brushless BL400.48.120	*FT196 with BL400.48.120 brushless motor*	**BD19**
Dati tecnici	*Technical data*	**BD20**
Dimensioni FT con flange motore AS	*FT dimensions with motor flanges AS*	**BD22**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche

Technical features

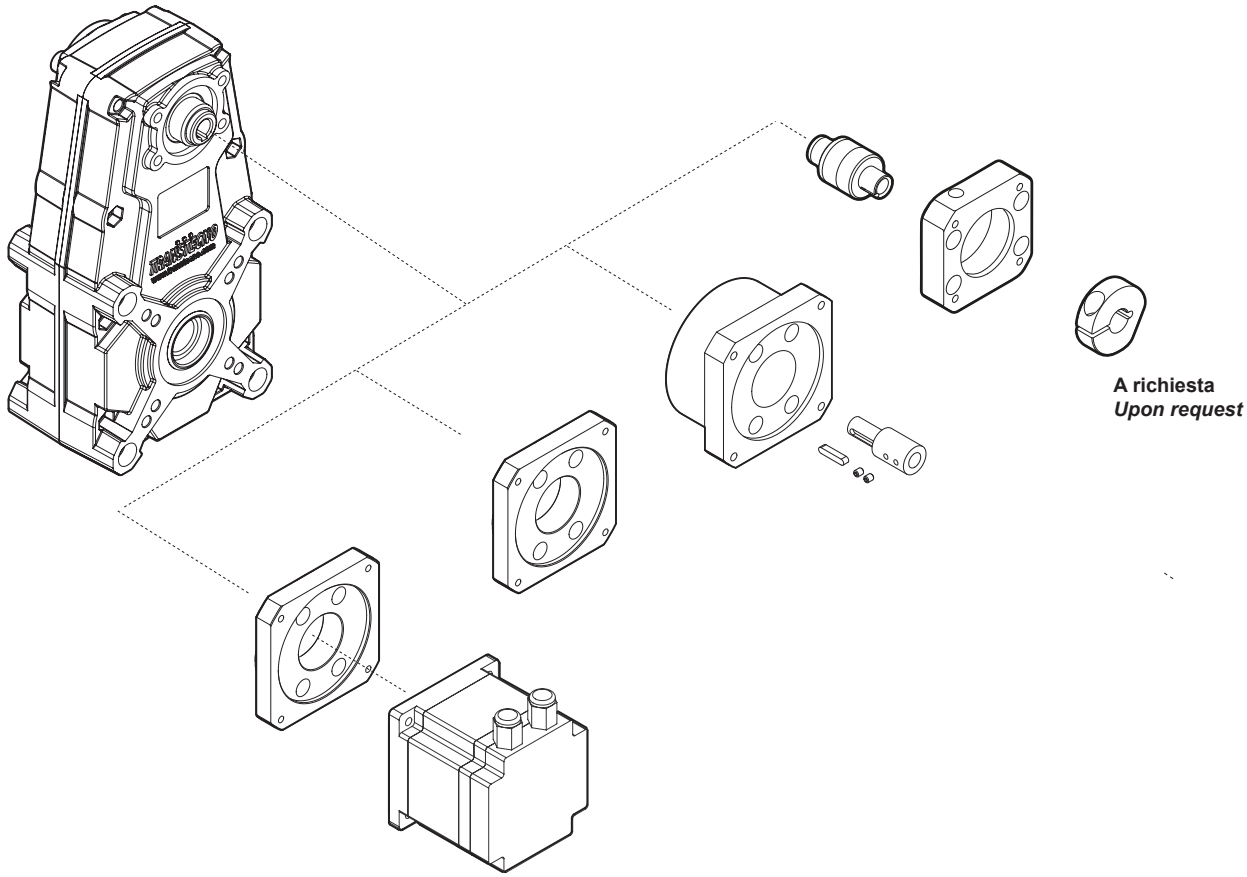
Le caratteristiche principali dei motoriduttori brushless CC pendolari della serie FT sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore protezione IP55
- Coppie motori disponibili da 0.22 Nm a 4.2 Nm
- Lubrificazione permanente con olio sintetico
- Carcassa in pressofusione di alluminio
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili anche nella versione con solo riduttore, sia con flangia di entrata standard che con flangia e manicotto dedicati

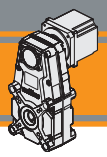
The main features of FT brushless DC helical parallel gearmotors range are:

- *Low voltage power supply 24/36/48 Vdc*
- *Motor protection IP55*
- *Motor torque ratings available from 0.22 Nm up to 4.2 Nm*
- *Permanent sinthetic oil long life lubrication*
- *Die-cast aluminium housing*
- *Ground-hardened helical gears*
- *Gearbox only version also available, with either standard input flange or customized flange and coupling*

ENERGY SAVING



A richiesta
Upon request



Designazione — *Classification*

RIDUTTORE / *GEARBOX*					MOTORE / *MOTOR*		
FT	**146**	**U**	**46**	**020**	**BL070.480**	**48V**	**BR**
Tipo *Type*	Grandezza *Size*	Versione riduttore *Gearbox version*	Rapporto *Ratio*	Albero di uscita *Output shaft*	Tipo *Type*	Tensione *Voltage*	Freno *Brake*
FT	**105** **146** **176** **196**	**U**	Vedere tabelle *See tables*	Vedere tabelle *See tables*	**BLS022.240** **BLS043.240** **BL070.240** **BL070.24B** **BL070.48B** **BL070.480** **BL070.48.80** **BL140.480** **BL200.48.95** **BL210.480** **BL210.48E** **BL400.48.120**	**24V-36V** **24V-36V** **24V** **24V** **48V** **48V** **24V-48V** **48V** **24V-48V** **24V-48V** **48V** **48V**	**24V** **48V** BA16

Simbologia — *Symbols*

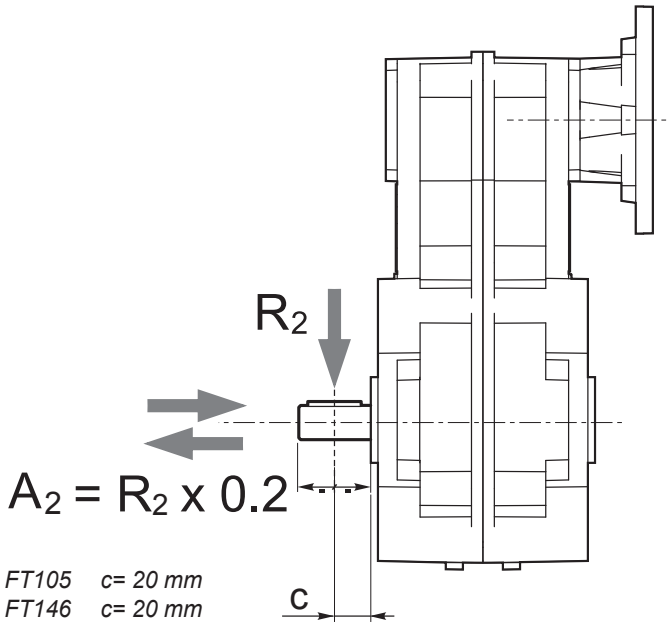
Ns		n° stadi / *No. stages*
ir		rapporto reale / *real ratio*
M_2	[Nm]	coppia in uscita *output torque*
A_2	[N]	Carico assiale ammissibile in uscita Permitted output *axial load*
R_2	[N]	Carico radiale ammissibile in uscita *Permitted output radial load*
Pn_1	[kW]	Potenza nominale in entrata *Nominal input power*
Mn_2	[Nm]	Coppia nominale in uscita in funzione di Pn1 *Nominal output torque referred to Pn1*
n_{1MAX}	[Rpm]	Velocità max entrata / *Max input speed*
V	[V]	*Tensione / Voltage*
n_2	[Rpm]	Velocità in uscita / *Output Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*
sf		Fattore di servizio / *Service Factor*

Lubrificazione e temperatura — *Lubrication and temperature*

I motoriduttori FT sono forniti completi di lubrificante sintetico (viscosità 320) e non necessitano di manutenzione.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long life lubrification (viscosity grade 320) on FT gearmotors.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

Carichi radiali — *Radial loads*

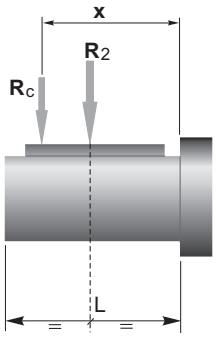


FT105 c= 20 mm
FT146 c= 20 mm
FT176 c= 25 mm
FT196 c= 30 mm

n_2 [min^{-1}]	R_2 [N]			
	FT105	FT146	FT176	FT196
200	800	1400	2000	2200
170	900	1600	2200	2400
140	1000	1800	2400	2600
120	1100	2000	2600	2800
100	1300	2200	2800	3100
70	1500	2500	3000	3500
50	1600	2600	3250	3750
40	1700	2700	3500	4000
30	1850	2850	4000	4600
20	2000	3000	4500	5500
10	2000	3000	5000	7000
5	2000	3000	5000	7000

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:

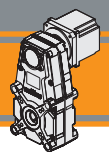


	FT105	FT146	FT176	FT196
a	82	82,5	115	132
b	62	62,5	90	102
R_{2MAX}	2000	3000	5000	7000

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table



FT105 con motore brushless CC

FT105 with brushless DC motor

FT105		BLS022.240												
		24V							36V					
ir	Ns	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
			M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
20.57	3	14.6	4.3	10.8	146	4.3	7.3	3000	19.4	4.3	10.8	194	4.3	6.5	4000
33.32		9.0	6.9	8.3	90	6.9	5.7		12.0	6.9	8.3	120	6.9	5.0	
44.36		6.8	9.2	8.1	68	9.2	5.5		9.0	9.2	8.1	90	9.2	4.9	
54.87		5.5	11	6.6	55	11	4.5		7.3	11	6.6	73	11	4.0	
71.84		4.2	15	5.0	42	15	3.4		5.6	15	5.0	56	15	3.0	
77.07		3.9	16	4.7	39	16	3.2		5.2	16	4.7	52	16	2.8	
88.87		3.4	18	4.1	34	18	2.8		4.5	18	4.1	45	18	2.4	
124.81		2.4	26	2.9	24	26	2.0		3.2	26	2.9	32	26	1.7	
181.35		1.7	38	2.0	17	38	1.4		2.2	38	2.0	22	38	1.2	
224.32		1.3	46	1.6	13	46	1.1		1.8	46	1.6	18	46	1.0	
315.05		1.0	65	1.1	10	65	0.8		1.3	65	1.1	13	64	0.7	
368.19	4	0.8	75	1.0	8.1	72	0.7		1.1	75	1.0	11	64	0.7	
534.98		0.6	105	0.7	5.6	72	0.7		0.7	105	0.7	7.5	64	0.7	
661.76		0.5	105	0.7	4.5	72	0.7		0.6	105	0.7	6.0	64	0.7	
929.40		0.3	105	0.7	3.2	72	0.7		0.4	105	0.7	4.3	64	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

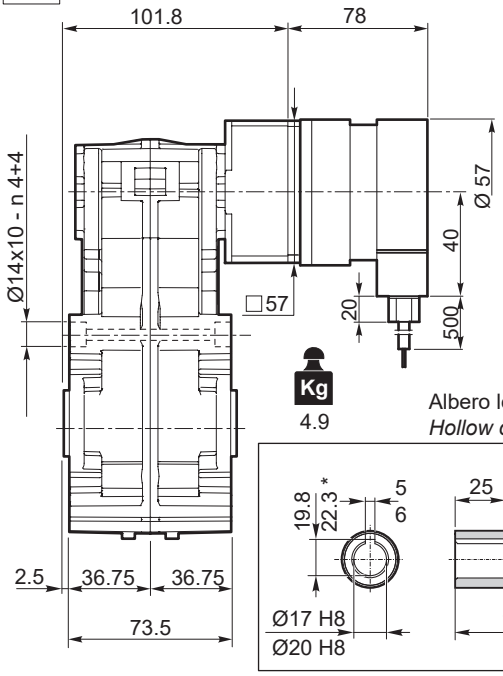
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

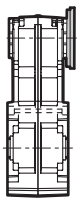
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

Azionamenti *Drives* → II 2

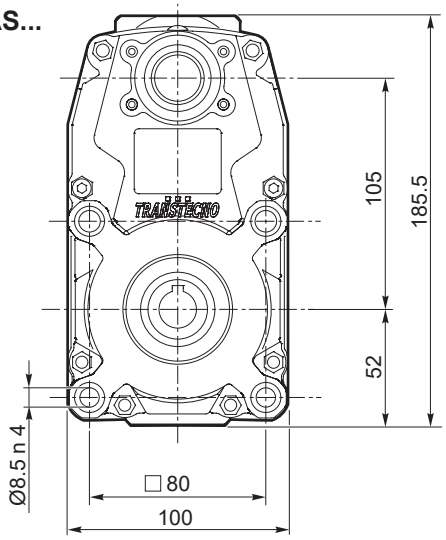
FT105U + BLS022.240



BD24 →



FT105.. AS...



FT105 con motore brushless CC

FT105 with brushless DC motor

FT105		BLS043.240												
		24V							36V					
ir	Ns	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
			M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
20.57	3	14.6	8.3	5.5	146	8.3	3.8	3000	19.4	8.3	5.5	194	8.3	3.3	4000
33.32		9.0	13	4.3	90	13	2.9		12.0	13	4.3	120	13	2.6	
44.36		6.8	18	4.2	68	18	2.8		9.0	18	4.2	90	18	2.5	
54.87		5.5	22	3.4	55	22	2.3		7.3	22	3.4	73	22	2.0	
71.84		4.2	29	2.6	42	29	1.7		5.6	29	2.6	56	29	1.5	
77.07		3.9	31	2.4	39	31	1.6		5.2	31	2.4	52	31	1.4	
88.87		3.4	36	2.1	34	36	1.4		4.5	36	2.1	45	36	1.2	
124.81		2.4	50	1.5	24	50	1.0		3.2	50	1.5	32	50	0.9	
181.35		1.7	73	1.0	17	72	0.7		2.2	73	1.0	22	64	0.7	
224.32		1.3	91	0.8	13	72	0.7		1.8	91	0.8	18	64	0.7	
315.05		1.0	105	0.7	10	72	0.7		1.3	105	0.7	13	64	0.7	
368.19	4	0.8	105	0.7	8.1	72	0.7		1.1	105	0.7	11	64	0.7	
534.98		0.6	105	0.7	5.6	72	0.7		0.7	105	0.7	7.5	64	0.7	
661.76		0.5	105	0.7	4.5	72	0.7		0.6	105	0.7	6.0	64	0.7	
929.40		0.3	105	0.7	3.2	72	0.7		0.4	105	0.7	4.3	64	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

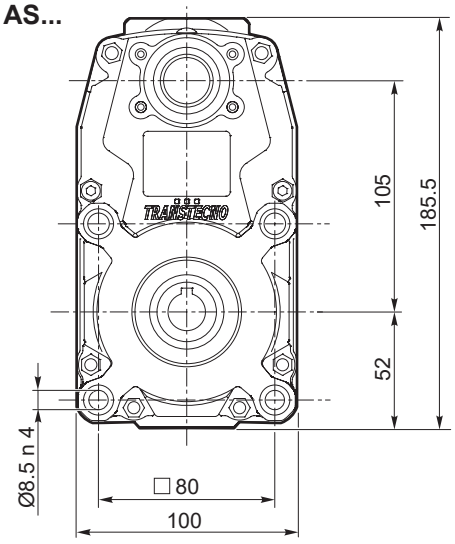
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

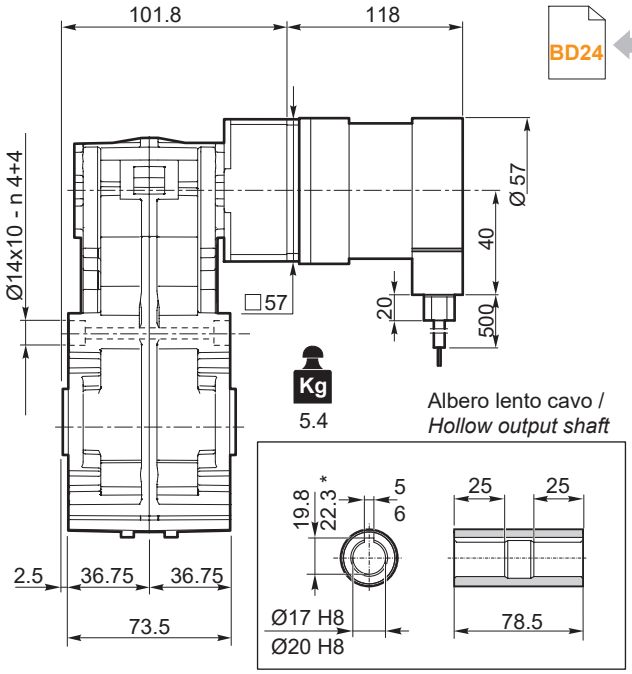
Azionamenti *Drives* → II 2

BD24

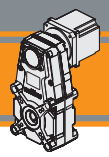
FT105.. AS...



FT105U + BLS043.240



*Sede linguetta ribassata /
**Special keyway*



FT146 con motore brushless CC | ***FT146 with brushless DC motor***

FT146	BLS043.240												
	24V							36V					
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
18.75	16.0	7.6	12.1	160	7.6	8.2		21.3	7.6	12.1	213	7.6	7.3	
22.89	13.1	9.3	9.9	131	9.3	6.7		17.5	9.3	9.9	175	9.3	5.9	
26.17	11.5	11	8.7	115	11	5.9		15.3	11	8.7	153	11	5.2	
28.26	10.6	11	8.1	106	11	5.5		14.2	11	8.1	142	11	4.8	
35.07	8.6	14	8.1	86	14	5.5		11.4	14	8.1	114	14	4.9	
39.44	7.6	16	7.1	76	16	4.8		10.1	16	7.1	101	16	4.2	
46.44	6.5	19	6.1	65	19	4.2		8.6	19	6.1	86	19	3.7	
52.86	5.7	21	5.4	57	21	3.7		7.6	21	5.4	76	21	3.2	
60.63	4.9	25	5.2	49	25	3.5		6.6	25	5.2	66	25	3.1	
70.00	4.3	28	4.5	43	28	3.0		5.7	28	4.5	57	28	2.7	
74.02	4.1	30	4.2	41	29.9	2.9		5.4	30	4.2	54	30	2.5	
84.63	3.5	34	3.7	35	34	2.5	3000	4.7	34	3.7	47	34	2.2	4000
95.61	3.1	39	3.3	31	39	2.2		4.2	39	3.3	42	39	2.0	
113.40	2.6	46	2.8	26	46	1.9		3.5	46	2.8	35	46	1.7	
133.45	2.2	54	2.3	22	54	1.6		3.0	54	2.3	30	54	1.4	
150.18	2.0	61	2.1	20	61	1.4		2.7	61	2.1	27	61	1.3	
160.43	1.9	65	2.1	19	65	1.4		2.5	65	2.1	25	65	1.3	
178.83	1.7	72	1.9	17	72	1.3		2.2	72	1.9	22	72	1.1	
195.85	1.5	79	1.7	15	79	1.2		2.0	79	1.7	20	79	1.0	
223.92	1.3	91	1.5	13	91	1.0		1.8	91	1.5	18	91	0.9	
236.83	1.3	96	1.4	13	96	1.0		1.7	96	1.4	17	96	0.9	
300.07	1.0	121	1.1	10.0	121	0.8		1.3	121	1.1	13	118	0.7	
397.38	0.8	161	0.9	7.5	134	0.7		1.0	161	0.9	10	118	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

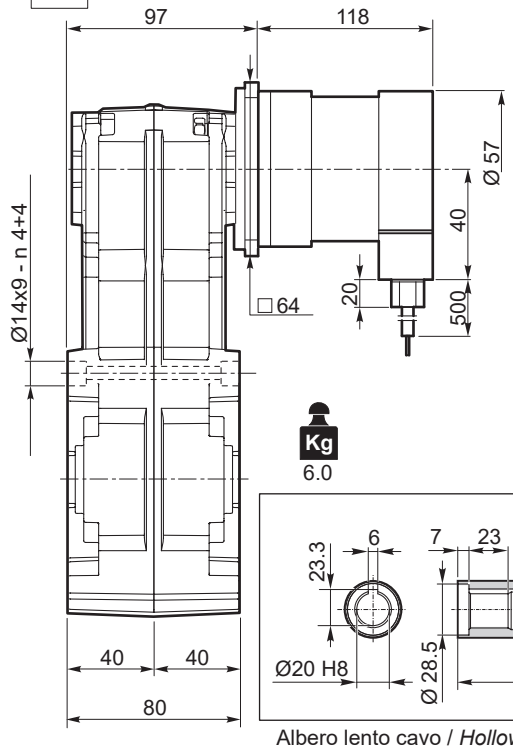
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

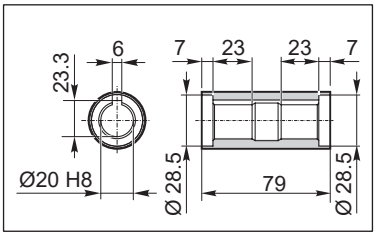
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

Azionamenti *Drives*

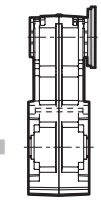


FT146U + BLS043.240

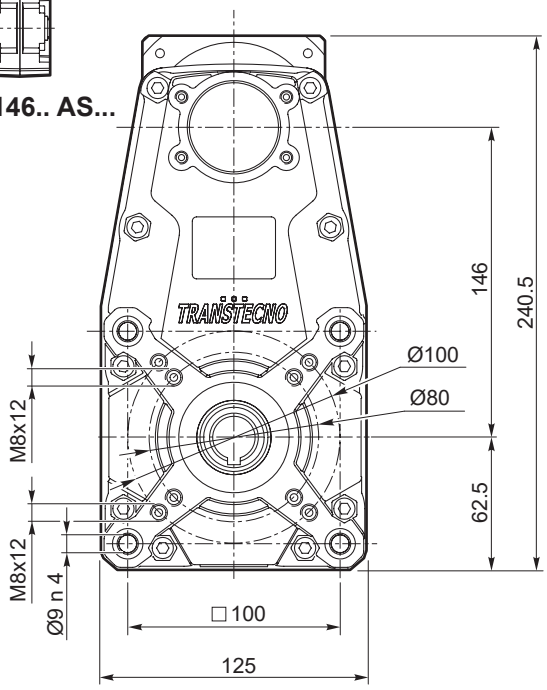




Albero lento cavo / *Hollow output shaft*



FT146.. AS...



FT146 con motore brushless CC

FT146 with brushless DC motor

FT146	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
18.75	16.0	12	7.5	160	12	5.1	3000
22.89	13.1	15	6.1	131	15	4.1	
26.17	11.5	17	5.3	115	17	3.6	
28.26	10.6	19	4.9	106	19	3.4	
35.07	8.6	23	5.0	86	23	3.4	
39.44	7.6	26	4.3	76	26	2.9	
46.44	6.5	31	3.8	65	31	2.6	
52.86	5.7	35	3.3	57	35	2.2	
60.63	4.9	40	3.2	49	40	2.2	
70.00	4.3	46	2.7	43	46	1.9	
74.02	4.1	49	2.6	41	49	1.8	
84.63	3.5	56	2.3	35	56	1.5	
95.61	3.1	63	2.0	31	63	1.4	
113.40	2.6	75	1.7	26	75	1.1	
133.45	2.2	88	1.4	22	88	1.0	
150.18	2.0	99	1.3	20	99	0.9	
160.43	1.9	106	1.3	19	106	0.9	
178.83	1.7	118	1.2	17	118	0.8	
195.85	1.5	129	1.1	15	129	0.7	
223.92	1.3	147	0.9	13	134	0.7	
236.83	1.3	156	0.9	13	134	0.7	
300.07	1.0	170	0.8	10	134	0.7	
397.38	0.8	170	0.8	7.5	134	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

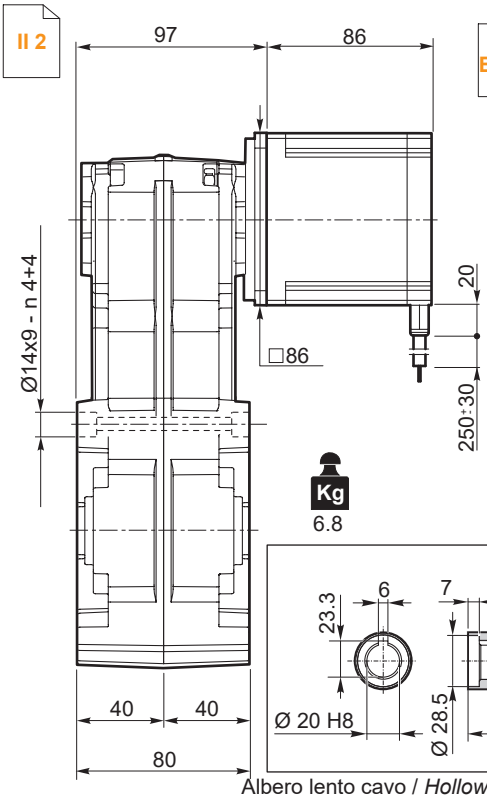
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives*

II 2

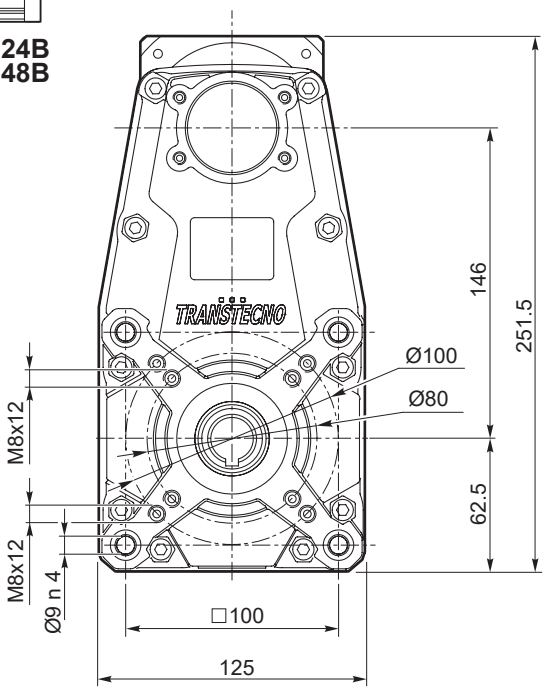
FT146U + BL070.240 BL070.480



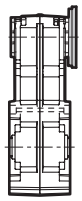
Albero lento cavo / *Hollow output shaft*

BA16 Freno *Brake*

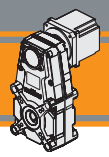
BL070.24B BL070.48B



BD24



FT146.. AS...



FT146 con motore brushless CC

FT146 with brushless DC motor

FT146	BL070.48.80												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
18.75	13	12	7.5	133	12	5.1		21	12	7.5	213	12	4.5	
22.89	11	15	6.1	109	15	4.1		17	15	6.1	175	15	3.7	
26.17	9.6	17	5.3	96	17	3.6		15	17	5.3	153	17	3.2	
28.26	8.8	19	4.9	88	19	3.4		14	19	4.9	142	19	3.0	
35.07	7.1	23	5.0	71	23	3.4		11	23	5.0	114	23	3.0	
39.44	6.3	26	4.4	63	26	3.0		10	26	4.4	101	26	2.7	
46.44	5.4	31	3.8	54	31	2.6		8.6	31	3.8	86	31	2.3	
52.86	4.7	35	3.3	47	35	2.2		7.6	35	3.3	76	35	2.0	
60.63	4.1	40	3.2	41	40	2.2		6.6	40	3.2	66	40	1.9	
70.00	3.6	46	2.7	36	46	1.9		5.7	46	2.7	57	46	1.6	
74.02	3.4	49	2.6	34	49	1.8		5.4	49	2.6	54	49	1.6	
84.63	3.0	56	2.3	30	56	1.5	2500	4.7	56	2.3	47	56	1.4	4000
95.61	2.6	63	2.0	26	63	1.4		4.2	63	2.0	42	63	1.2	
113.40	2.2	75	1.7	22	75	1.1		3.5	75	1.7	35	75	1.0	
133.45	1.9	88	1.4	19	88	1.0		3.0	88	1.4	30	88	0.9	
150.18	1.7	99	1.3	17	99	0.9		2.7	99	1.3	27	99	0.8	
160.43	1.6	106	1.3	16	106	0.9		2.5	106	1.3	25	106	0.8	
178.83	1.4	118	1.2	14	118	0.8		2.2	118	1.2	22	118	0.7	
195.85	1.3	129	1.1	13	129	0.7		2.0	129	1.1	20	118	0.7	
223.92	1.1	147	0.9	11	129	0.7		1.8	147	0.9	18	118	0.7	
236.83	1.06	156	0.9	10.6	129	0.7		1.7	156	0.9	17	118	0.7	
300.07	0.83	197	0.7	8.3	129	0.7		1.3	197	0.7	13	118	0.7	
397.38	0.63	197	0.7	6.3	129	0.7		1.0	197	0.7	10	118	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

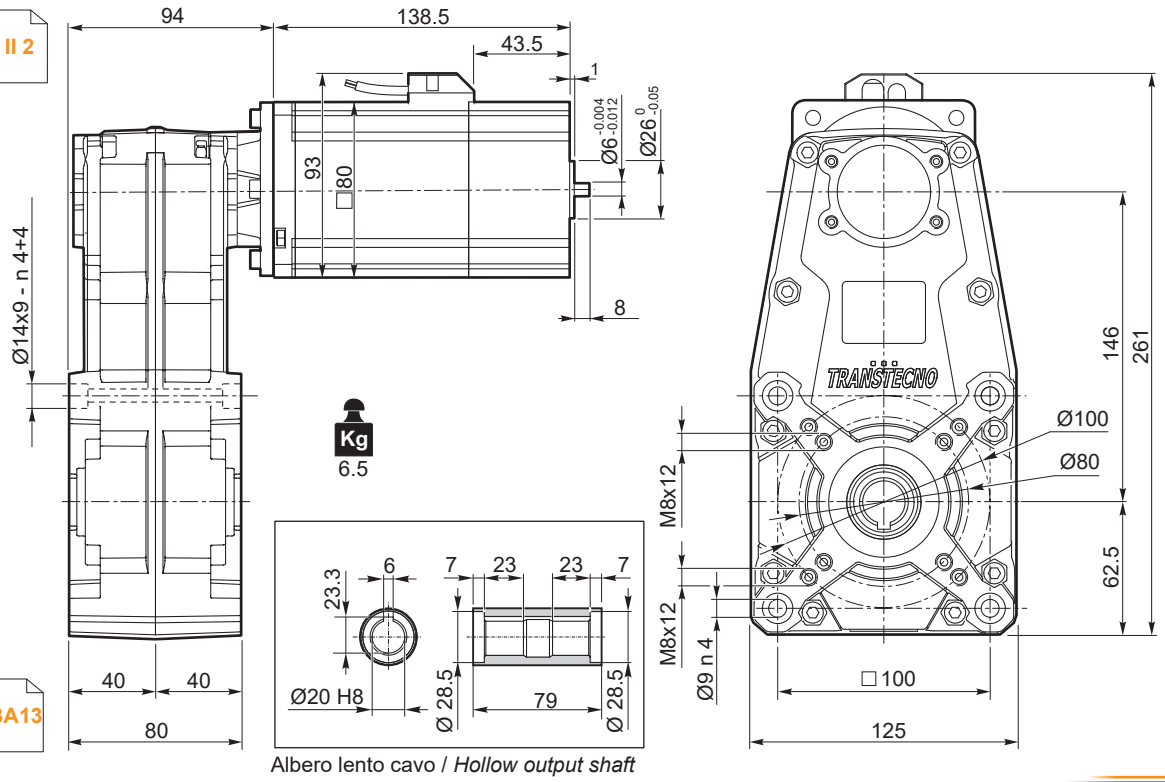
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

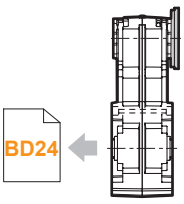
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

FT146U + BL070.48.80



Albero lento cavo / *Hollow output shaft*



BD24

FT146.. AS...

Encoder → BA13

IP 55

FT

FT146 con motore brushless CC

FT146 with brushless DC motor

FT146	BL140.480 48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
18.75	16.0	25	3.7	160	25	2.5	
22.89	13.1	30	3.1	131	30	2.1	
26.17	11.5	34	2.7	115	34	1.8	
28.26	10.6	37	2.5	106	37	1.7	
35.07	8.6	46	2.5	86	46	1.7	
39.44	7.6	53	2.2	76	53	1.5	
46.44	6.5	61	1.9	65	61	1.3	
52.86	5.7	70	1.7	57	70	1.1	
60.63	4.9	80	1.6	49	80	1.1	
70.00	4.3	92	1.4	43	92	0.9	
74.02	4.1	97	1.3	41	97	0.9	
84.63	3.5	111	1.1	35	111	0.8	3000
95.61	3.1	126	1.0	31	122	0.7	
113.40	2.6	149	0.8	26	122	0.7	
133.45	2.2	158	0.8	22	122	0.7	
150.18	2.0	158	0.8	20	122	0.7	
160.43	1.9	170	0.8	19	134	0.7	
178.83	1.7	170	0.8	17	134	0.7	
195.85	1.5	170	0.8	15	134	0.7	
223.92	1.3	170	0.8	13	134	0.7	
236.83	1.3	170	0.8	13	134	0.7	
300.07	1.0	170	0.8	10	134	0.7	
397.38	0.8	170	0.8	7.5	134	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

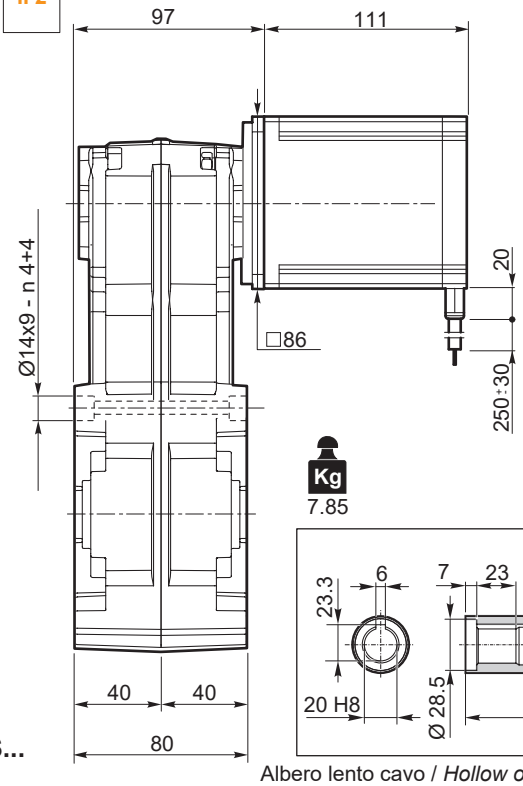
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

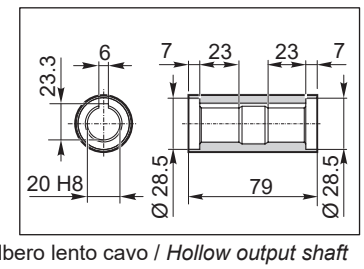
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

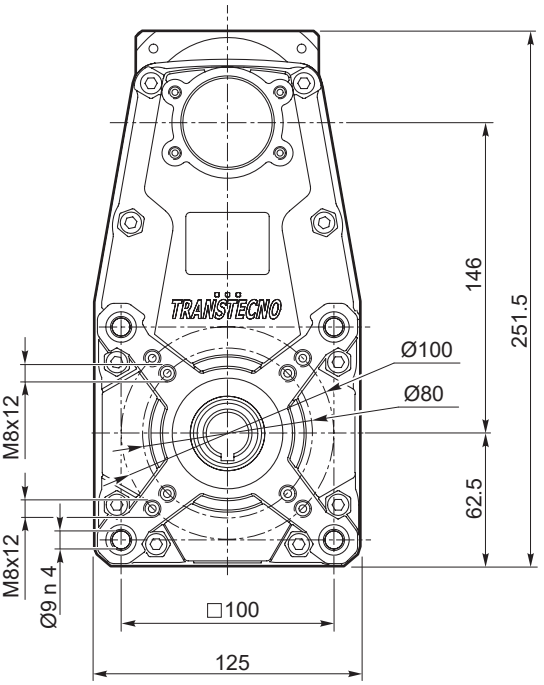
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

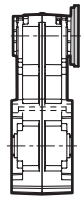
FT146U + BL140.480





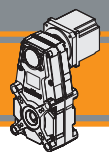


BD24



FT146.. AS...

Albero lento cavo / *Hollow output shaft*



FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL070.480 / BL070.48B 48V						
ir	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
14.49	21	9.5	16.9	207	9.5	11.5	3000
17.31	17	11	15.1	173	11	10.3	
20.97	14	14	13.3	143	14	9.0	
24.56	12	16	12.8	122	16	8.7	
29.33	10	19	10.7	102	19	7.3	
34.62	8.7	23	9.6	87	23	6.5	
37.50	8.0	25	8.9	80	25	6.0	
41.35	7.3	27	8.5	73	27	5.7	
44.79	6.7	29	8.2	67	29	5.6	
50.10	6.0	33	7.7	60	33	5.2	
54.26	5.5	36	7.4	55	36	5.0	
63.55	4.7	42	6.3	47	42	4.3	
75.90	4.0	50	5.8	40	50	3.9	
85.40	3.5	56	5.1	35	56	3.5	
89.60	3.3	59	5.5	33	59	3.7	
107.02	2.8	70	4.7	28	70	3.2	
126.92	2.4	84	4.1	24	84	2.8	
144.74	2.1	95	3.6	21	95	2.5	
163.25	1.8	107	3.2	18	107	2.2	
204.08	1.5	134	2.6	15	134	1.7	
215.11	1.4	142	2.4	14	142	1.7	
276.68	1.1	182	1.9	11	182	1.3	
303.29	1.0	200	1.7	10	200	1.2	
390.11	0.8	257	1.3	8	257	0.9	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

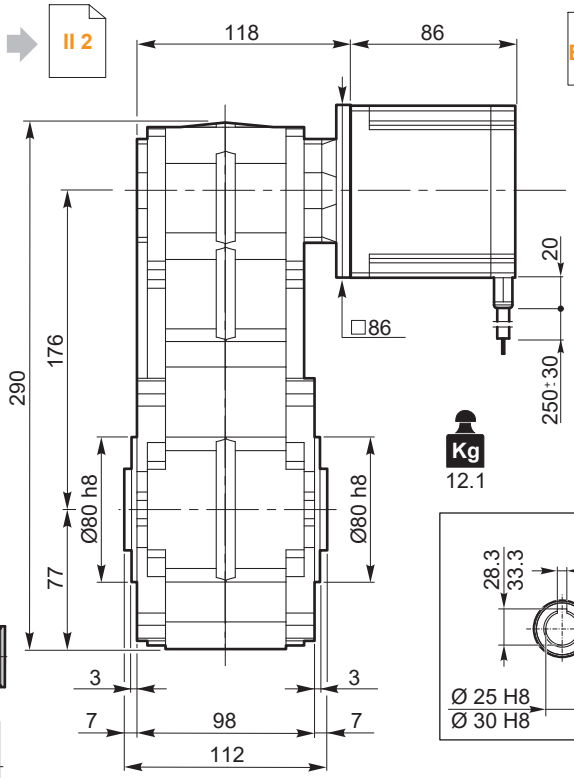
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

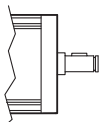
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives* → II 2

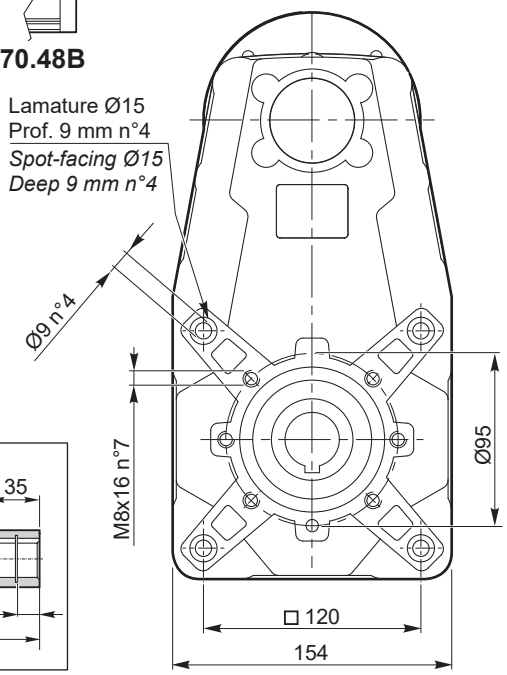
FT176U + BL070.480

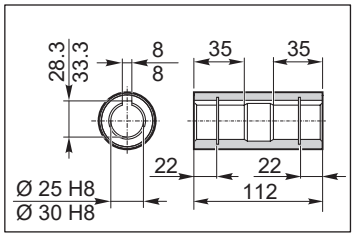


BA16 ← Freno *Brake*

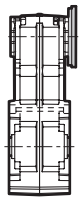


BL070.48B





BD23 ←



FT176.. AS...

FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL070.48.80												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
14.49	17	9.5	16.9	173	9.5	14.7		28	9.5	16.9	276	9.5	10.1	
17.31	14	11.4	15.1	144	11.4	13.2		23	11.4	15.1	231	11.4	9.1	
20.97	12	13.8	13.3	119	13.8	11.6		19	13.8	13.3	191	13.8	8.0	
24.56	10	16.2	12.8	102	16.2	11.1		16	16.2	12.8	163	16.2	7.7	
29.33	8.5	19.3	10.7	85	19.3	9.3		14	19.3	10.7	136	19.3	6.4	
34.62	7.2	22.8	9.6	72	22.8	8.3		12	22.8	9.6	116	22.8	5.8	
37.50	6.7	24.7	8.9	67	24.7	7.7		11	24.7	8.9	107	24.7	5.3	
41.35	6.0	27	8.5	60	27	7.4		10	27	8.5	97	27	5.1	
44.79	5.6	29	8.2	56	29	7.1		8.9	29	8.2	89	29	4.9	
50.10	5.0	33	7.7	50	33	6.7		8.0	33	7.7	80	33	4.6	
54.26	4.6	36	7.4	46	36	6.4		7.4	36	7.4	74	36	4.4	
63.55	3.9	42	6.3	39	42	5.5		6.3	42	6.3	63	42	3.8	
75.90	3.3	50	5.8	33	50	5.0	2500	5.3	50	5.8	53	50	3.5	3000
85.40	2.9	56	5.1	29	56	4.4		4.7	56	5.1	47	56	3.1	
89.60	2.8	59	5.5	28	59	4.7		4.5	59	5.5	45	59	3.3	
107.02	2.3	70	4.7	23	70	4.1		3.7	70	4.7	37	70	2.8	
126.92	2.0	84	4.1	20	84	3.6		3.2	84	4.1	32	84	2.5	
144.74	1.7	95	3.6	17	95	3.1		2.8	95	3.6	28	95	2.2	
163.25	1.5	107	3.2	15	107	2.8		2.5	107	3.2	25	107	1.9	
204.08	1.2	134	2.6	12	134	2.2		2.0	134	2.6	20	134	1.5	
215.11	1.2	142	2.4	12	142	2.1		1.9	142	2.4	19	142	1.5	
276.68	0.9	182	1.9	9	182	1.6		1.4	182	1.9	14	182	1.1	
303.29	0.8	200	1.7	8	200	1.5		1.3	200	1.7	13	200	1.0	
390.11	0.6	257	1.3	6	257	1.2		1.0	257	1.3	10	257	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

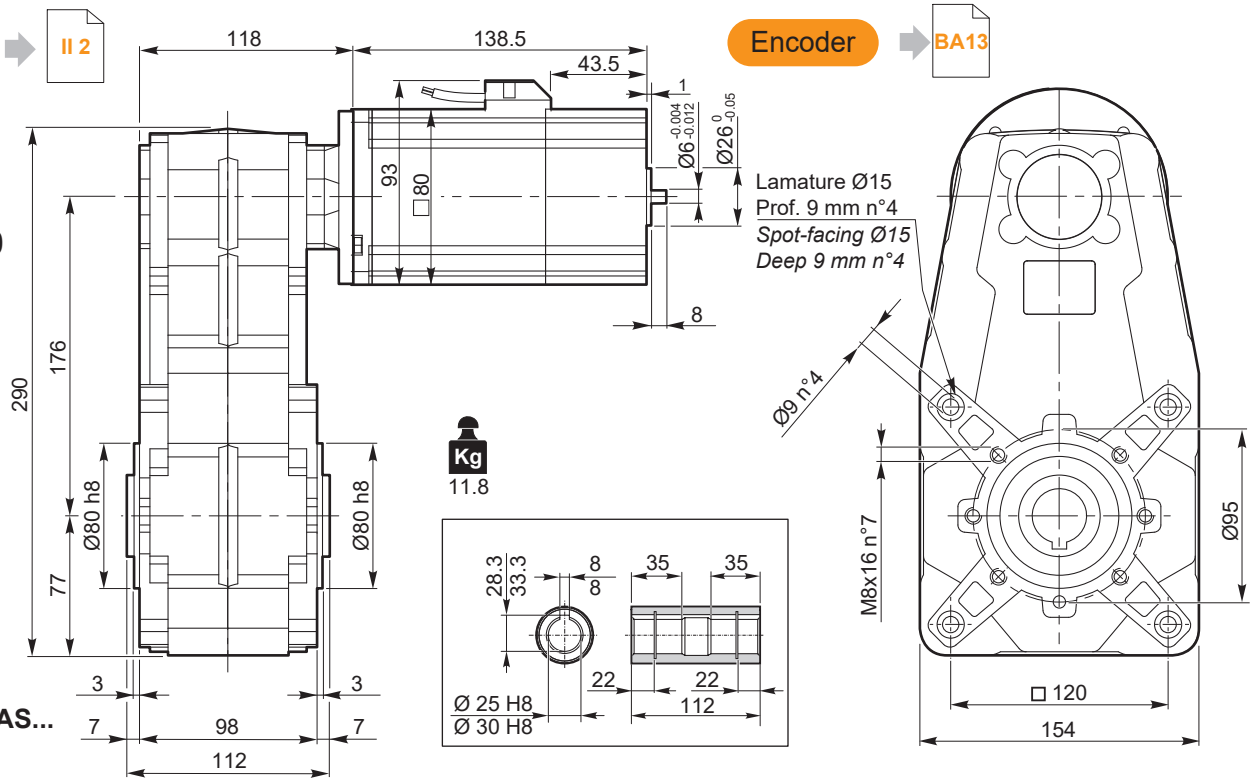
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

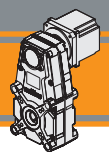
Azionamenti *Drives* → II 2

Encoder → BA13

FT176U + BL070.48.80



BD23 → **FT176.. AS...**



FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL140.480 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
14.49	21	19	8.4	207	19	5.7	3000
17.31	17	23	7.6	173	23	5.1	
20.97	14	28	6.7	143	28	4.5	
24.56	12	32	6.4	122	32	4.3	
29.33	10	39	5.4	102	39	3.6	
34.62	8.7	46	4.8	87	46	3.3	
37.50	8.0	49	4.4	80	49	3.0	
41.35	7.3	54	4.2	73	54	2.9	
44.79	6.7	59	4.1	67	59	2.8	
50.10	6.0	66	3.8	60	66	2.6	
54.26	5.5	71	3.7	55	71	2.5	
63.55	4.7	84	3.2	47	84	2.1	
75.90	4.0	100	2.9	40	100	2.0	
85.40	3.5	112	2.6	35	112	1.7	
89.60	3.3	118	2.7	33	118	1.9	
107.02	2.8	141	2.4	28	141	1.6	
126.92	2.4	167	2.1	24	167	1.4	
144.74	2.1	190	1.8	21	190	1.2	
163.25	1.8	215	1.6	18	215	1.1	
204.08	1.5	269	1.3	15	269	0.9	
215.11	1.4	283	1.2	14	283	0.8	
276.68	1.1	364	0.9	11	293	0.8	
303.29	1.0	399	0.9	10	293	0.8	
390.11	0.8	431	0.8	7.7	293	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

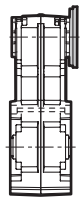
***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

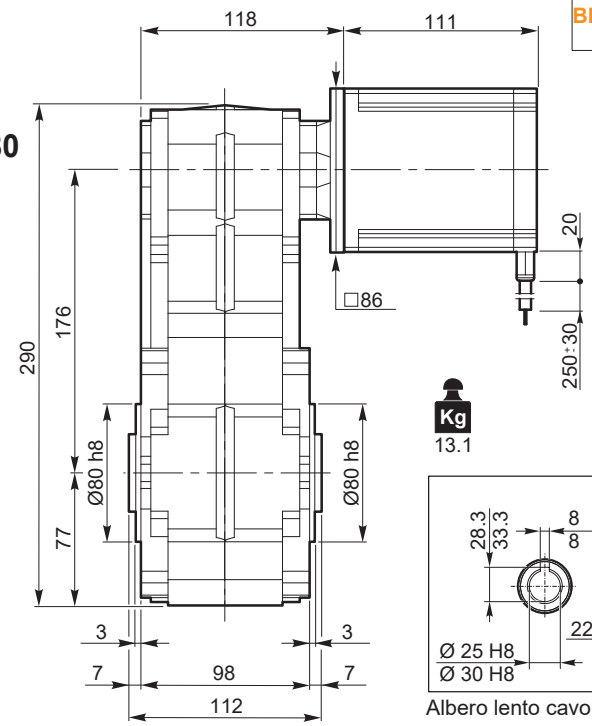
Azionamenti *Drives* → II 2

BD23

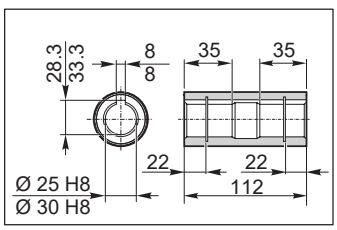


FT176.. AS...

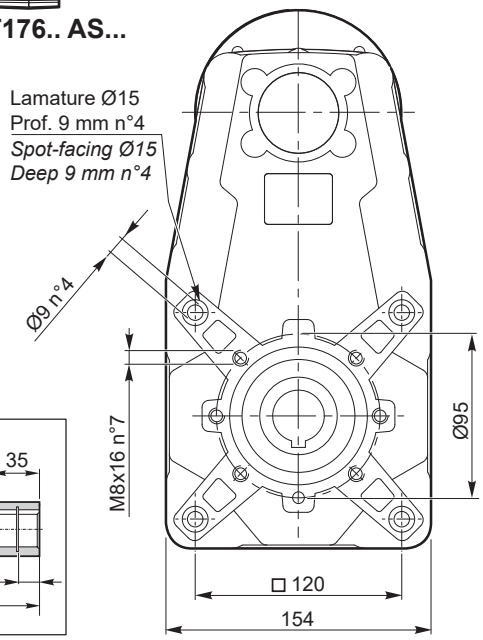
FT176U + BL140.480



Kg 13.1



Albero lento cavo / *Hollow output shaft*



IP 55

FT

FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL200.48.95												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
14.49	10	27	5.9	104	27	5.1		21	27	5.9	207	27	4.0	
17.31	8.7	33	5.3	87	33	4.6		17	33	5.3	173	33	3.6	
20.97	7.2	39	4.7	72	39	4.1		14	39	4.7	143	39	3.2	
24.56	6.1	46	4.5	61	46	3.9		12	46	4.5	122	46	3.0	
29.33	5.1	55	3.8	51	55	3.3		10	55	3.8	102	55	2.5	
34.62	4.3	65	3.4	43	65	2.9		8.7	65	3.4	87	65	2.3	
37.50	4.0	71	3.1	40	71	2.7		8.0	71	3.1	80	71	2.1	
41.35	3.6	78	3.0	36	78	2.6		7.3	78	3.0	73	78	2.0	
44.79	3.3	84	2.9	33	84	2.5		6.7	84	2.9	67	84	1.9	
50.10	3.0	94	2.7	30	94	2.3		6.0	94	2.7	60	94	1.8	
54.26	2.8	102	2.6	28	102	2.3		5.5	102	2.6	55	102	1.8	
63.55	2.4	119	2.2	24	119	1.9		4.7	119	2.2	47	119	1.5	
75.90	2.0	143	2.0	20	143	1.8	1500	4.0	143	2.0	40	143	1.4	3000
85.40	1.8	161	1.8	18	161	1.6		3.5	161	1.8	35	161	1.2	
89.60	1.7	168	1.9	17	168	1.7		3.3	168	1.9	33	168	1.3	
107.02	1.4	201	1.7	14	201	1.4		2.8	201	1.7	28	201	1.1	
126.92	1.2	239	1.4	12	239	1.3		2.4	239	1.4	24	239	1.0	
144.74	1.0	272	1.3	10	272	1.1		2.1	272	1.3	21	272	0.9	
163.25	0.9	307	1.1	9.2	307	1.0		1.8	307	1.1	18	307	0.8	
204.08	0.7	384	0.9	7.4	384	0.8		1.5	384	0.9	15	330	0.7	
215.11	0.70	404	0.9	7.0	404	0.7		1.4	404	0.9	14	330	0.7	
276.68	0.54	490	0.7	5.4	420	0.7		1.1	490	0.7	11	330	0.7	
303.29	0.49	490	0.7	4.9	420	0.7		1.0	490	0.7	10	330	0.7	
390.11	0.38	490	0.7	3.8	420	0.7		0.77	490	0.7	7.7	330	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

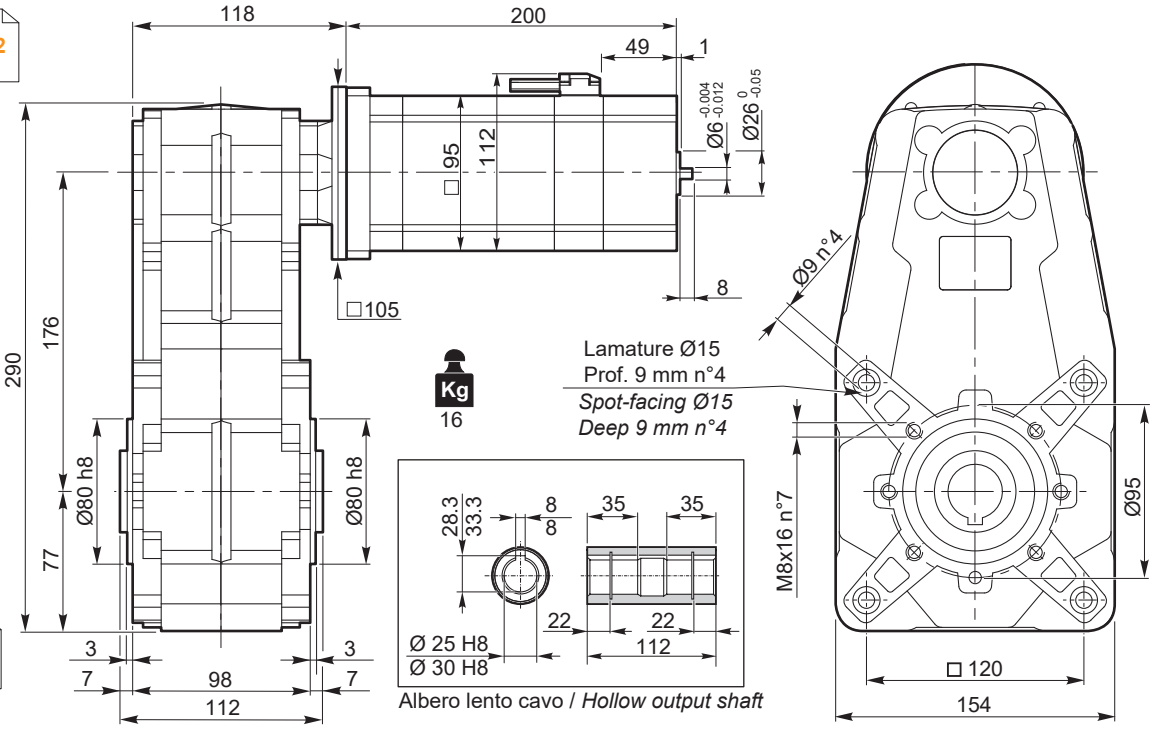
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

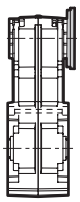
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

FT176U + BL200.48.95

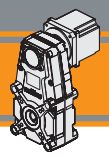


Albero lento cavo / *Hollow output shaft*

BD23 ← 

FT176.. AS...

Encoder → BA17



FT176 con motore brushless CC | ***FT176 with brushless DC motor***

FT176	BL210.480 / BL210.48E 48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
14.49	21	29	5.6	207	29	3.8	3000
17.31	17	34	5.0	173	34	3.4	
20.97	14	41	4.4	143	41	3.0	
24.56	12	48	4.3	122	48	2.9	
29.33	10	58	3.6	102	58	2.4	
34.62	8.7	68	3.2	87	68	2.2	
37.50	8.0	74	3.0	80	74	2.0	
41.35	7.3	82	2.8	73	82	1.9	
44.79	6.7	88	2.7	67	88	1.9	
50.10	6.0	99	2.6	60	99	1.7	
54.26	5.5	107	2.5	55	107	1.7	
63.55	4.7	125	2.1	47	125	1.4	
75.90	4.0	150	1.9	40	150	1.3	
85.40	3.5	169	1.7	35	169	1.2	
89.60	3.3	177	1.8	33	177	1.2	
107.02	2.8	211	1.6	28	211	1.1	
126.92	2.4	251	1.4	24	251	0.9	
144.74	2.1	286	1.2	21	286	0.8	
163.25	1.8	322	1.1	18	293	0.8	
204.08	1.5	403	0.9	15	293	0.8	
215.11	1.4	425	0.8	14	293	0.8	
276.68	1.1	431	0.8	11	293	0.8	
303.29	1.0	431	0.8	10	293	0.8	
390.11	0.8	431	0.8	7.7	293	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

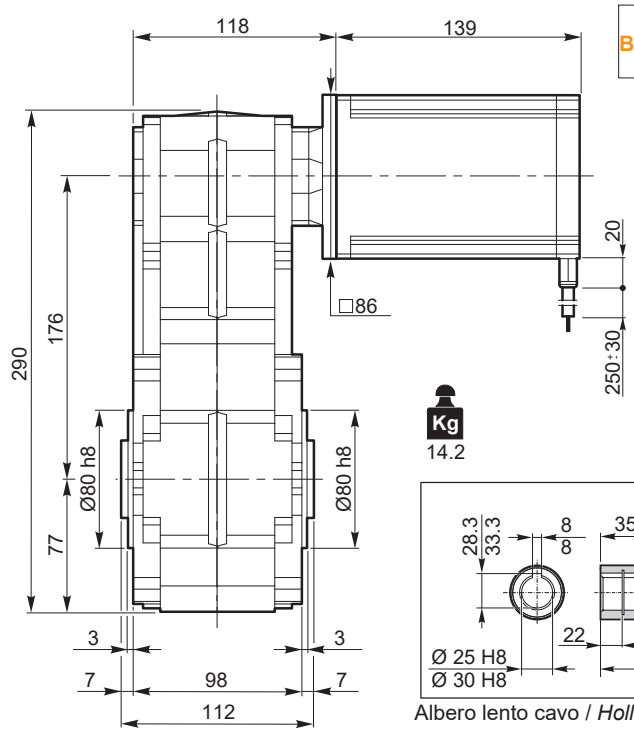
Azionamenti *Drives* → II 2

BD23

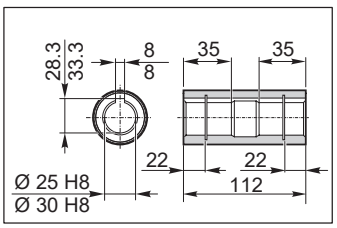
BA16 ← Freno *Brake*

BL210.48E

FT176U + BL210.480



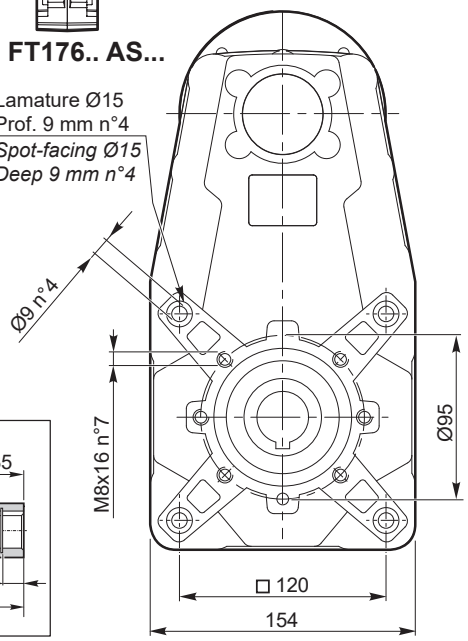
Kg 14.2



Albero lento cavo / *Hollow output shaft*

FT176.. AS...

Lamature Ø15
Prof. 9 mm n°4
Spot-facing Ø15
Deep 9 mm n°4



IP 55

FT

FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL400.48.120												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
14.49	10	48	3.4	97	48	2.9		21	48	3.4	207	48	2.3	
17.31	8.1	57	3.0	81	57	2.6		17	57	3.0	173	57	2.1	
20.97	6.7	69	2.7	67	69	2.3		14	69	2.7	143	69	1.8	
24.56	5.7	81	2.6	57	81	2.2		12	81	2.6	122	81	1.7	
29.33	4.8	96	2.1	48	96	1.9		10	96	2.1	102	96	1.5	
34.62	4.0	114	1.9	40	114	1.7		8.7	114	1.9	87	114	1.3	
37.50	3.7	123	1.8	37	123	1.5		8.0	123	1.8	80	123	1.2	
41.35	3.4	136	1.7	34	136	1.5		7.3	136	1.7	73	136	1.1	
44.79	3.1	147	1.6	31	147	1.4		6.7	147	1.6	67	147	1.1	
50.10	2.8	165	1.5	28	165	1.3		6.0	165	1.5	60	165	1.0	
54.26	2.6	179	1.5	26	179	1.3		5.5	179	1.5	55	179	1.0	
63.55	2.2	209	1.3	22	209	1.1		4.7	209	1.3	47	209	0.9	
75.90	1.8	250	1.2	18	250	1.0	1400	4.0	250	1.2	40	250	0.8	3000
85.40	1.6	281	1.0	16	281	0.9		3.5	281	1.0	35	281	0.7	
89.60	1.6	295	1.1	16	295	0.9		3.3	295	1.1	33	295	0.7	
107.02	1.3	352	0.9	13	352	0.8		2.8	352	0.9	28	330	0.7	
126.92	1.1	418	0.8	11	418	0.7		2.4	418	0.8	24	330	0.7	
144.74	1.0	476	0.7	10	420	0.7		2.1	476	0.7	21	330	0.7	
163.25	0.9	490	0.7	8.6	420	0.7		1.8	490	0.7	18	330	0.7	
204.08	0.7	490	0.7	6.9	420	0.7		1.5	490	0.7	15	330	0.7	
215.11	0.65	490	0.7	6.5	420	0.7		1.4	490	0.7	14	330	0.7	
276.68	0.51	490	0.7	5.1	420	0.7		1.1	490	0.7	11	330	0.7	
303.29	0.46	490	0.7	4.6	420	0.7		1.0	490	0.7	10	330	0.7	
390.11	0.36	490	0.7	3.6	420	0.7		0.77	490	0.7	7.7	330	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

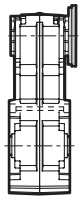
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

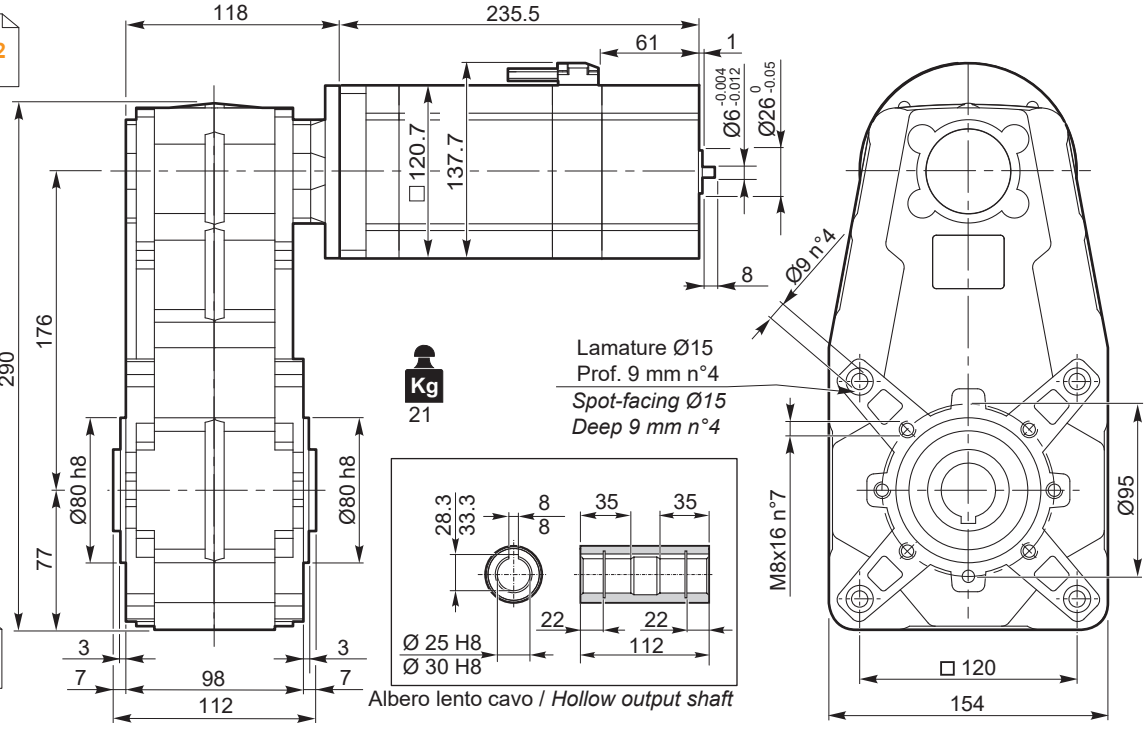
Azionamenti *Drives* → II 2

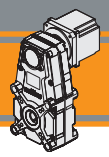
FT176U + BL400.48.120



BD23 → **FT176.. AS...**

Encoder → BA21





FT196 con motore brushless CC | ***FT196 with brushless DC motor***

FT196	BL210.480 / BL210.48E						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
20.41	14.7	40	10.0	147	40	6.8	3000
34.81	8.6	69	6.7	86	69	4.5	
42.61	7.0	84	6.2	70	84	4.2	
59.36	5.1	117	4.9	51	117	3.3	
72.68	4.1	143	4.4	41	143	3.0	
92.82	3.2	183	3.5	32	183	2.3	
123.95	2.4	244	2.6	24	244	1.8	
158.02	1.9	312	2.0	19	312	1.4	
201.80	1.5	398	1.6	15	398	1.1	
269.47	1.1	532	1.2	11	532	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

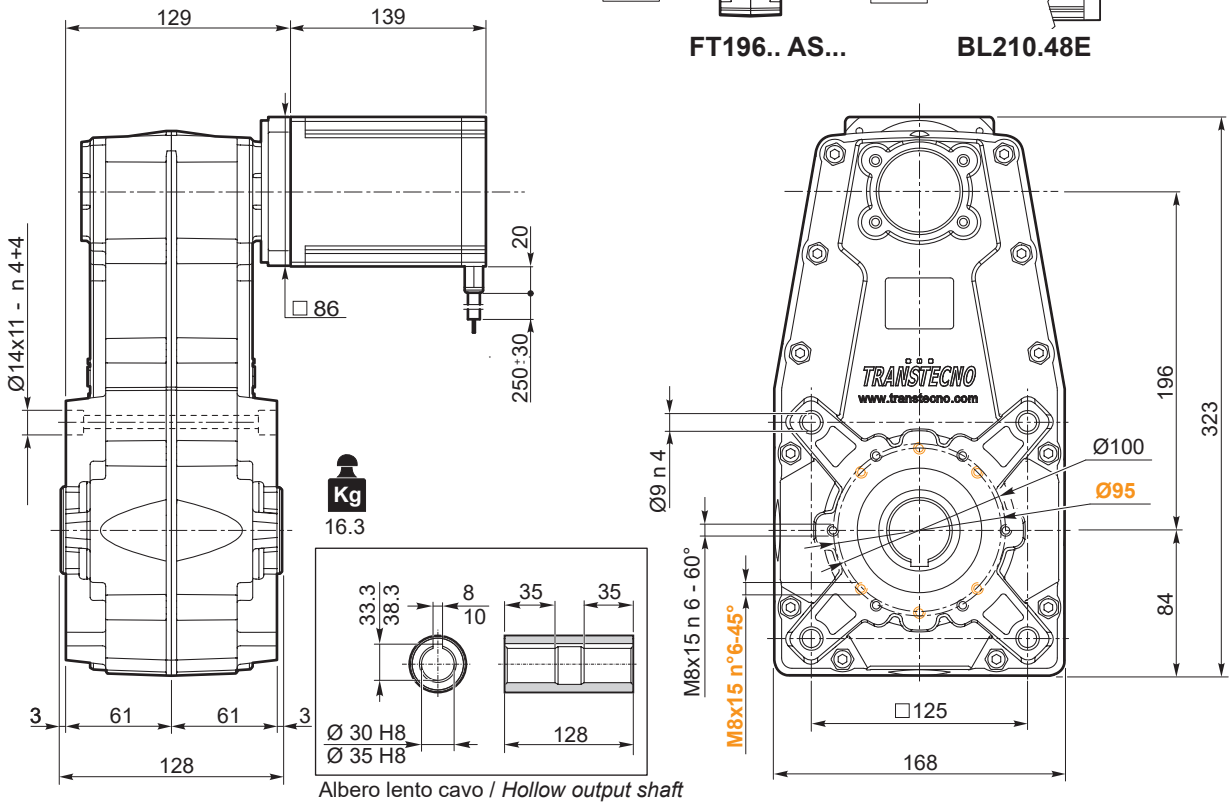
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

BD24 → FT196.. AS...

BA16 ← Freno *Brake* — BL210.48E

FT196U + BL210.480



FT196 con motore brushless CC

FT196 with brushless DC motor

FT196	BL200.48.95												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
20.41	7.4	38	10.5	74	38	9.1	1500	15	38	10.5	147	38	7.1	3000
34.81	4.3	65	7.0	43	65	6.1		8.6	65	7.0	86	65	4.8	
42.61	3.5	80	6.5	35	80	5.6		7.0	80	6.5	70	80	4.4	
59.36	2.5	112	5.2	25	112	4.5		5.1	112	5.2	51	112	3.5	
72.68	2.1	137	4.6	21	137	4.0		4.1	137	4.6	41	137	3.1	
92.82	1.6	175	3.6	16	175	3.2		3.2	175	3.6	32	175	2.5	
123.95	1.2	233	2.7	12	233	2.4		2.4	233	2.7	24	233	1.8	
158.02	0.95	297	2.1	9.5	297	1.9		1.9	297	2.1	19	297	1.4	
201.80	0.74	379	1.7	7.4	379	1.4		1.5	379	1.7	15	379	1.1	
269.47	0.56	507	1.2	5.6	507	1.1		1.1	507	1.2	11	507	0.8	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

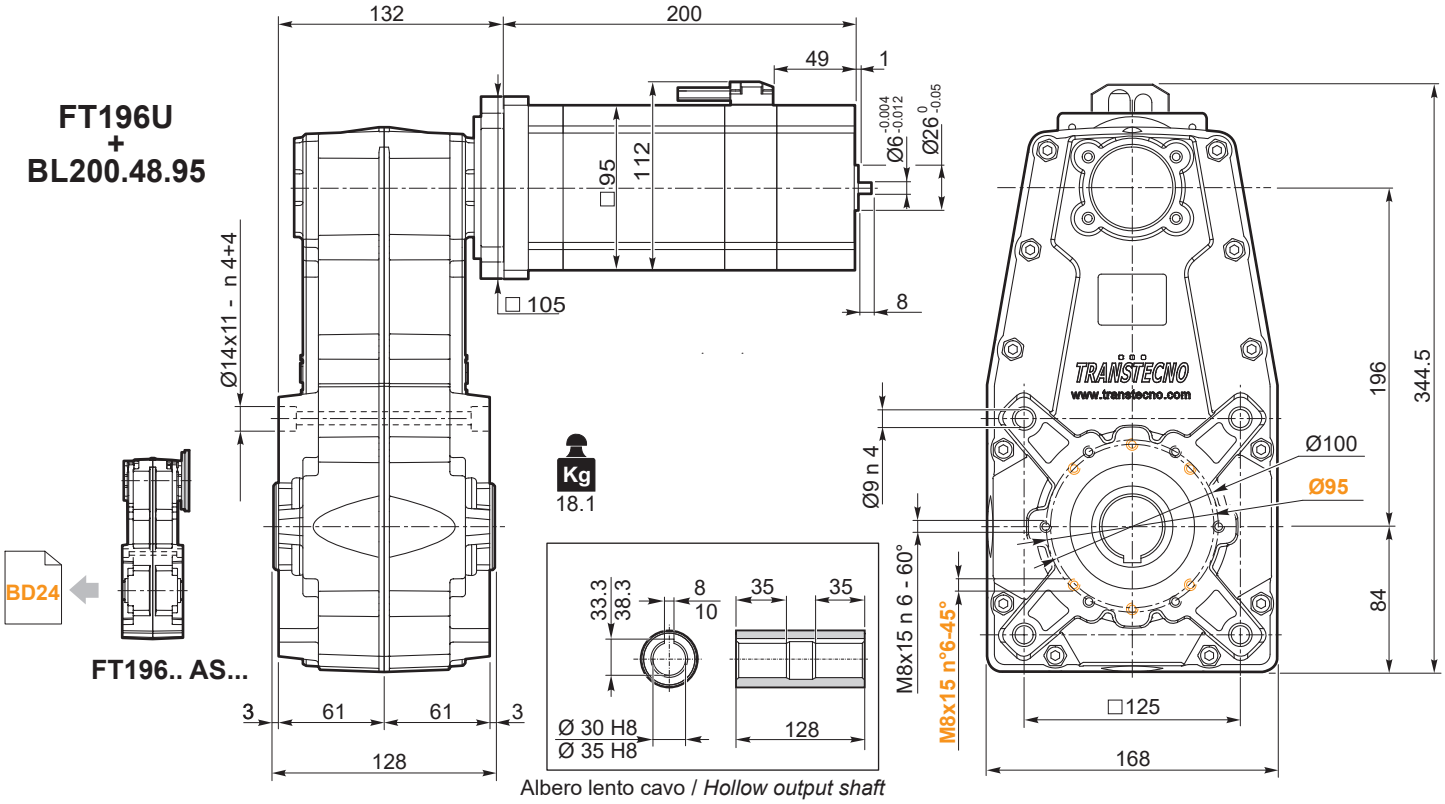
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

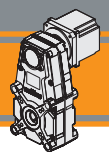
FT196U + BL200.48.95



BD24 ← FT196.. AS...

Albero lento cavo / *Hollow output shaft*

Encoder → BA17



FT196 con motore brushless CC | ***FT196 with brushless DC motor***

FT196	BL400.48.120												
	24V							48V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
20.41	6.9	67	6.0	69	67	5.2		15	67	6.0	147	67	4.1	
34.81	4.0	115	4.0	40	115	3.5		8.6	115	4.0	86	115	2.7	
42.61	3.3	140	3.7	33	140	3.2		7.0	140	3.7	70	140	2.5	
59.36	2.4	195	2.9	24	195	2.6		5.1	195	2.9	51	195	2.0	
72.68	1.9	239	2.6	19	239	2.3		4.1	239	2.6	41	239	1.8	
92.82	1.5	305	2.1	15	305	1.8	1400	3.2	305	2.1	32	305	1.4	3000
123.95	1.1	408	1.6	11	408	1.3		2.4	408	1.6	24	408	1.1	
158.02	0.89	520	1.2	8.9	520	1.1		1.9	520	1.2	19	520	0.8	
201.80	0.69	664	1.0	6.9	664	0.8		1.5	664	1.0	15	600	0.7	
269.47	0.52	880	0.7	5.2	780	0.7		1.1	880	0.7	11	600	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

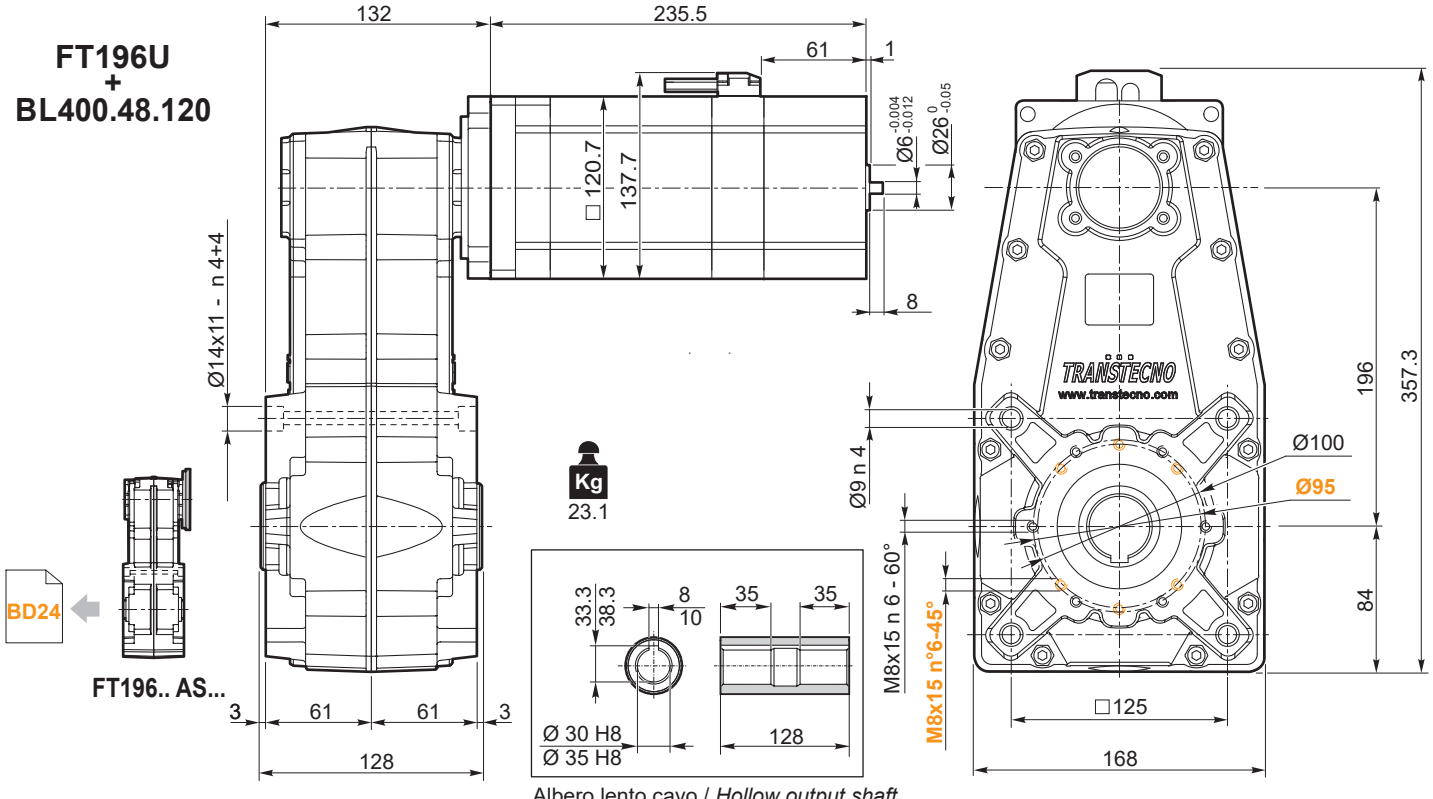
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti *Drives* → II 2

FT196U + BL400.48.120



Albero lento cavo / *Hollow output shaft*

Encoder → BA21

IP 55

FT

Dati tecnici

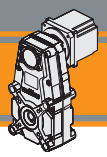
Technical data

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
FT105				
n1 = 1400 rpm	**68**	40	0.30	20.57
	42	50	0.23	33.32
FT105/3	**32**	65	0.23	44.36
	26		0.18	54.87
	20		0.14	71.84
	18		0.13	77.07
	16		0.11	88.87
	11		0.081	124.81
	7.7		0.056	181.35
	6.2		0.045	224.32
	4.4		0.032	315.05
FT105/4	**3.8**	65	0.028	368.19
	2.6		0.019	534.98
	2.1		0.015	661.76
	1.5		0.011	929.40
FT146				
n1 = 1400 rpm	**75**	80	0.65	18.75
	53		0.47	26.17
	50		0.43	28.26
	40	100	0.44	35.07
	35		0.39	39.44
	30		0.33	46.44
	26		0.29	52.86
	23	110	0.28	60.63
	20		0.24	70.00
	17		0.20	84.63
	15		0.18	95.61
	12		0.15	113.40
	10		0.13	133.45
	9.3		0.11	150.18
	8.7	120	0.11	160.43
	7.8		0.10	178.83
	6.3		0.082	223.92
	5.9		0.077	236.83
	4.7		0.061	300.07
	3.5		0.046	397.38

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
FT105				
n1 = 3000 rpm	**146**	31	0.51	20.57
	90	39	0.39	33.32
FT105/3	**68**	51	0.38	44.36
	55		0.31	54.87
	42		0.24	71.84
	39		0.22	77.07
	34		0.19	88.87
	24		0.14	124.81
	17		0.09	181.35
	13		0.08	224.32
	10		0.05	315.05
FT105/4	**8.1**	51	0.05	368.19
	5.6		0.03	534.98
	4.5		0.03	661.76
	3.2		0.02	929.40
FT146				
n1 = 3000 rpm	**160**	62	1.11	18.75
	115		0.79	26.17
	106		0.73	28.26
	86	78	0.74	35.07
	76		0.66	39.40
	65		0.56	46.44
	57		0.49	52.86
	49	86	0.47	60.63
	43		0.41	70.00
	35		0.34	84.63
	31		0.30	95.61
	26		0.25	113.40
	22		0.21	133.45
	20		0.19	150.18
	19	94	0.19	160.43
	17		0.17	178.83
	13		0.14	223.92
	13		0.13	236.83
	10		0.10	300.07
	7.5		0.08	397.38

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*



Dati tecnici — *Technical data*

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
FT176				
n1 = 1400 rpm	**97**	140	1.51	14.49
	81	150	1.35	17.31
	67	160	1.19	20.97
	57	180	1.14	24.56
	48	180	0.96	29.33
	40	190	0.85	34.62
	37	190	0.79	37.50
	34	200	0.75	41.35
	31	210	0.73	44.79
	28	220	0.68	50.10
	26	230	0.66	54.26
	22	230	0.56	63.55
	18	250	0.51	75.90
	16.4	250	0.46	85.40
	15.6	280	0.49	89.60
	13	290	0.42	107.02
	11	300	0.37	126.92
	9.7		0.32	144.74
	8.6		0.29	163.25
	6.9		0.23	204.08
	6.5		0.22	215.11
	5.1		0.17	276.68
	4.6		0.15	303.29
	3.6		0.12	390.11
FT196				
n1 = 1400 rpm	**69**	350	2.6	20.41
	40	400	1.8	34.81
	33	450	1.6	42.61
	24	500	1.3	59.36
	19	550	1.1	72.68
	15		0.92	92.82
	11		0.69	123.95
	8.9		0.51	158.02
	6.9		0.42	201.80
	5.2		0.32	269.47

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
FT176				
n1 = 3000 rpm	**207**	109	2.52	14.49
	173	117	2.26	17.31
	143	125	1.99	20.97
	122	140	1.91	24.56
	102	140	1.60	29.33
	87	148	1.43	34.62
	80	148	1.32	37.50
	73	156	1.26	41.35
	67	164	1.22	44.79
	60	172	1.14	50.10
	55	179	1.10	54.26
	47	179	0.94	63.55
	40	195	0.86	75.90
	35	195	0.76	85.40
	33	218	0.81	89.60
	28	226	0.71	107.02
	24	234	0.62	126.92
	21		0.54	144.74
	18		0.48	163.25
	15		0.38	204.08
	14		0.36	215.11
	11		0.28	276.68
	10		0.26	303.29
	8		0.20	390.11
FT196				
n1 = 3000 rpm	**147**	273	4.47	20.41
	86	312	3.37	34.81
	70	351	3.06	42.61
	51	390	2.42	59.36
	41	429	1.97	72.68
	32		1.54	92.82
	24		1.16	123.65
	19		0.91	158.02
	15		0.71	201.80
	11		0.53	269.47

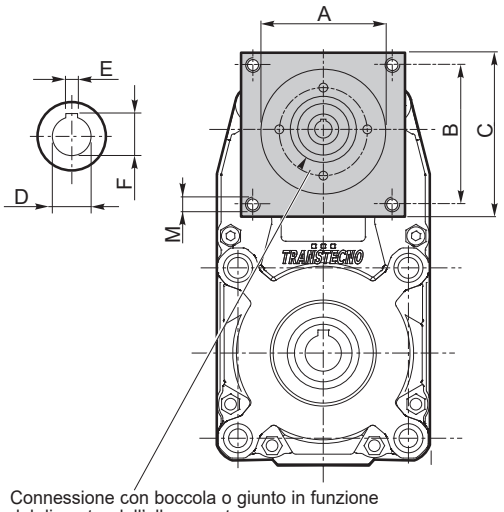
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Dimensioni FT con flange motore AS

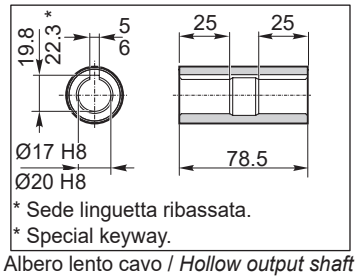
FT dimensions with motor flanges AS

FT105 - U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

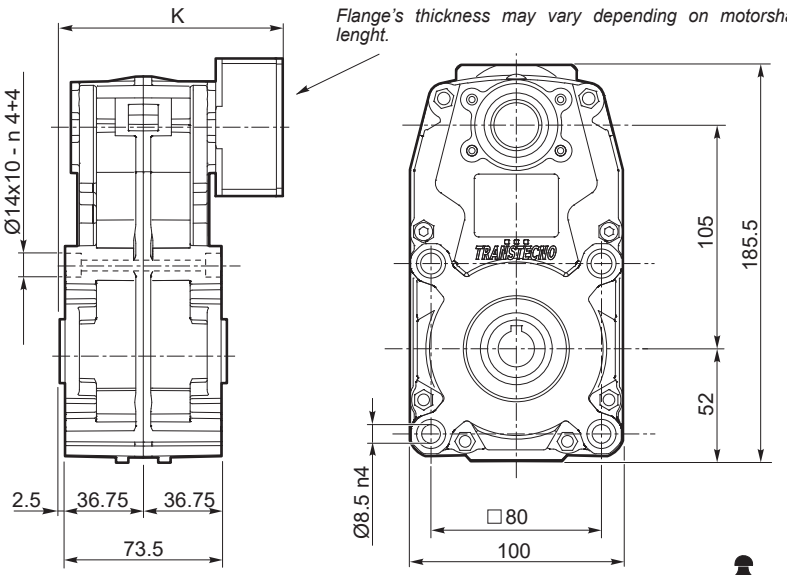
Connection with sleeve or coupling depending on motorshaft's diameter.



Albero lento cavo / *Hollow output shaft*

Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

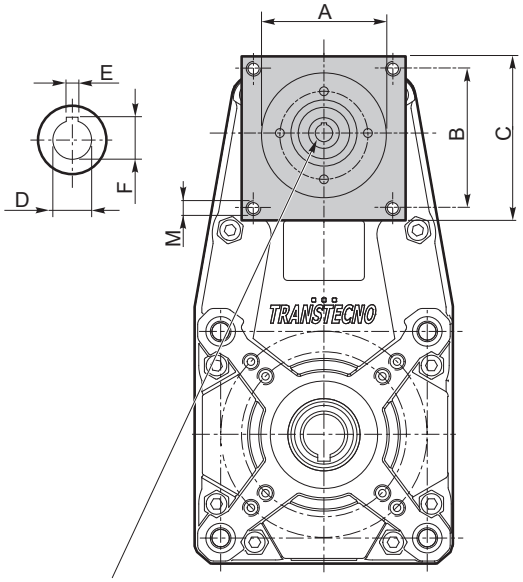
Flange's thickness may vary depending on motorshaft's lenght.



Kg 4.2

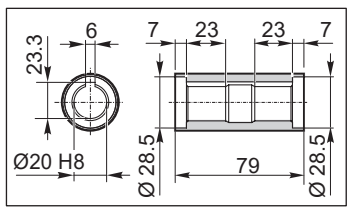
Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS416	38.1	47.1	56.6	M5	101.8	9	3	10.4
...	...	...	...	...	...	...	...	...

FT146 - U - AS...



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

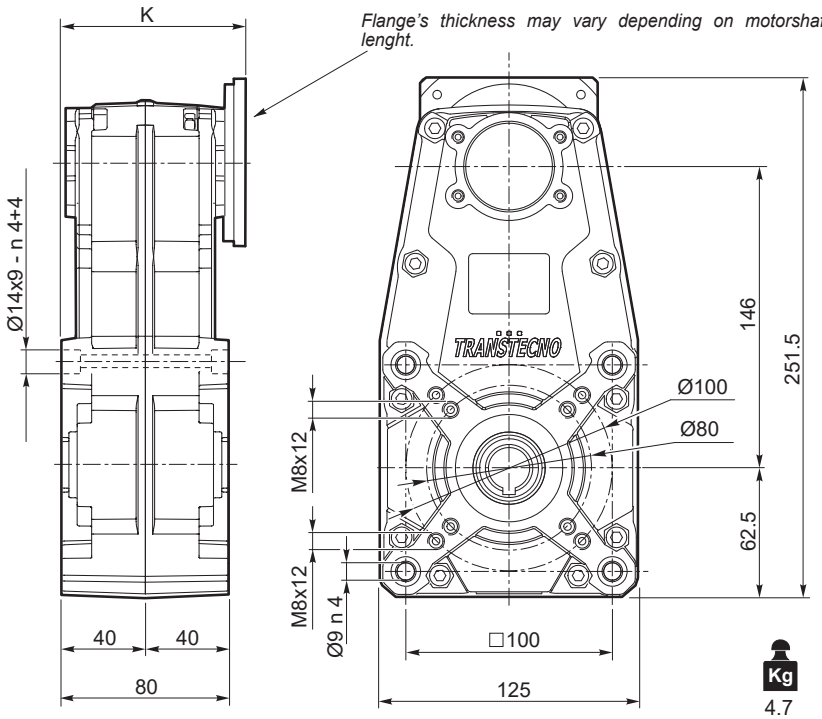
Connection with sleeve or coupling depending on motorshaft's diameter.



Albero lento cavo / *Hollow output shaft*

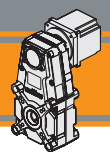
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.



Kg 4.7

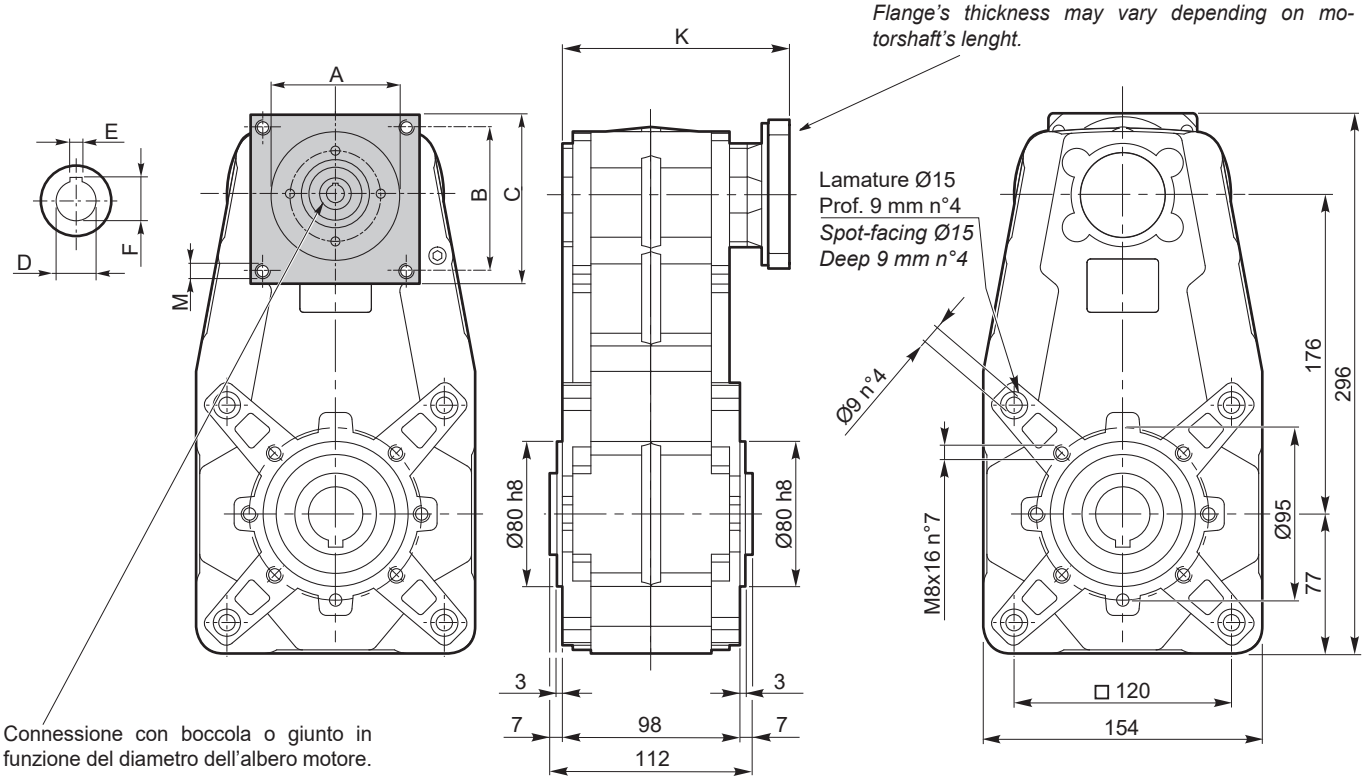
Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS392FX	38.1	47.1	64	M5	97	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	97	9	3	10.5
						11	4	12.8
						14	5	16.3
...	...	...	...	...	...	...	...	...



FT176 - U - AS...

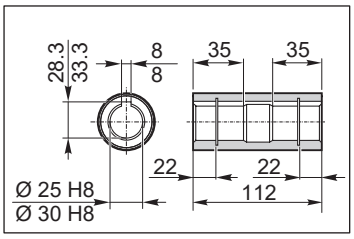
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



Kg
10.0

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS363	73	69.4	86	M5	129	14	5	16.3
						19	6	21.8
						24	8	27.3
...	...	...	...	...	...	...	...	...

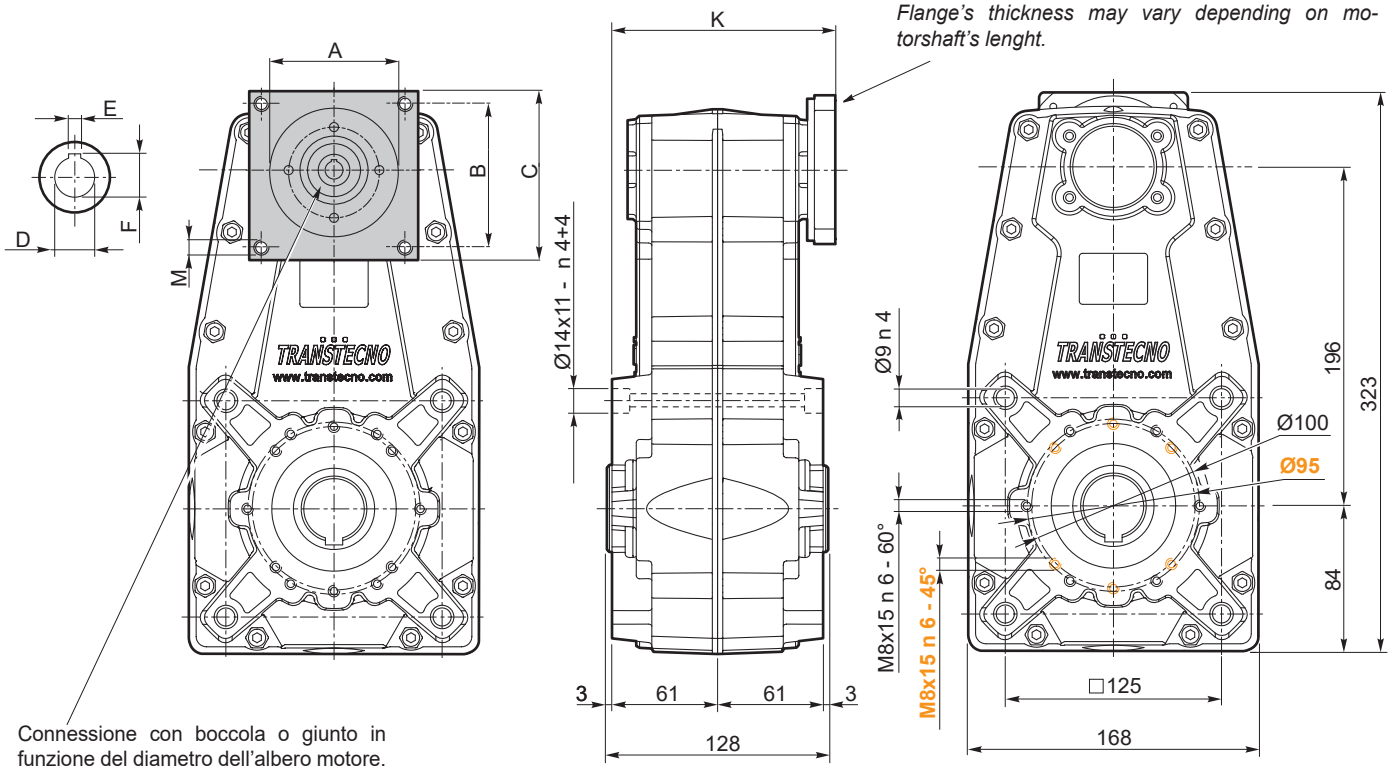
Dimensioni FT con flange motore AS

FT dimensions with motor flanges AS

FT196 - U - AS...

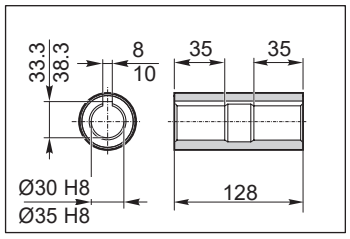
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



Albero lento cavo / *Hollow output shaft*

Kg
12.1

Dimensioni / Dimensions								
AS	**A**	**B**	**C**	**M**	**K**	**D**	**E**	**F**
AS363	73	69.4	86	M5	129	14	5	16.3
						19	6	21.8
						24	8	27.3
...	...	...	...	...	...	...	...	...

TRANSTECNO®
the modular gearmotor

BLCM

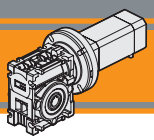
BLCM

BLCM Alu

IP55

Motoriduttori brushless CC a vite senza fine
Brushless DC Wormgearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**BE2**
Designazione	*Classification*	**BE2**
Simbologia	*Symbols*	**BE3**
Lubrificazione e temperatura	*Lubrication and temperature*	**BE3**
Carichi radiali	*Radial loads*	**BE3**
Dati di dentatura	*Toothing data*	**BE4**
Rendimento	*Efficiency*	**BE4**
CM026 con motore brushless BLS 022.240	*CM026 with brushless motor BLS 022.240*	**BE5**
CM030 con motore brushless BLS 043.240	*CM030 with brushless motor BLS 043.240*	**BE6**
CM030 con motore brushless BL 070.240	*CM030 with brushless motor BLS 070.240*	**BE7**
CM030 con motore brushless BL 070.480	*CM030 with brushless motor BL 070.480*	**BE7**
CM030 con motore brushless BL 070.48.80	*CM030 with brushless motor BL 070.48.80*	**BE8**
CM040 con motore brushless BLS 043.240	*CM040 with brushless motor BLS 043.240*	**BE9**
CM040 con motore brushless BL 070.240	*CM040 with brushless motor BL 070.240*	**BE10**
CM040 con motore brushless BL 070.480	*CM040 with brushless motor BL 070.480*	**BE10**
CM040 con motore brushless BL 070.48.80	*CM040 with brushless motor BL 070.48.80*	**BE11**
CM040 con motore brushless BL 140.480	*CM040 with brushless motor BL 140.480*	**BE12**
CM040 con motore brushless BL 210.480	*CM040 with brushless motor BL 210.480*	**BE13**
CM050 con motore brushless BL 070.240	*CM050 with brushless motor BL 070.240*	**BE14**
CM050 con motore brushless BL 070.480	*CM050 with brushless motor BL 070.480*	**BE14**
CM050 con motore brushless BL 140.480	*CM050 with brushless motor BL 140.480*	**BE15**
CM050 con motore brushless BL 200.48.95	*CM050 with brushless motor BL 200.48.95*	**BE16**
CM050 con motore brushless BL 210.480	*CM050 with brushless motor BL 210.480*	**BE17**
CM063 con motore brushless BL 070.240	*CM063 with brushless motor BL 070.240*	**BE18**
CM063 con motore brushless BL 070.480	*CM063 with brushless motor BL 070.480*	**BE18**
CM063 con motore brushless BL 140.480	*CM063 with brushless motor BL 140.480*	**BE19**
CM063 con motore brushless BL 200.48.95	*CM063 with brushless motor BL 200.48.95*	**BE20**
CM063 con motore brushless BL 210.480	*CM063 with brushless motor BL 210.480*	**BE21**
CM063 con motore brushless BL 400.48.120	*CM063 with brushless motor BL 400.48.120*	**BE22**
CM070 con motore brushless BL 400.48.120	*CM070 with brushless motor BL 400.48.120*	**BE23**
Dati tecnici	*Technical data*	**BE24**
Dimensioni CM con flange motore AS	*CM dimensions with motor flanges AS*	**BE25**
Dimensioni flange uscita	*Output flange dimensions*	**BE28**
Opzioni	*Options*	**BE28**
Accessori	*Accessories*	**BE30**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

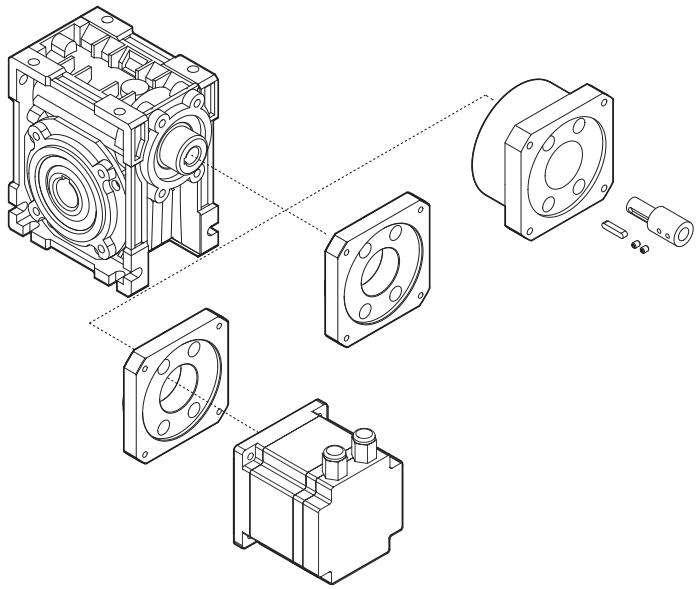
Caratteristiche tecniche — *Technical features*

Le caratteristiche principali dei motoriduttori brushless CC a vite senza fine della serie CM sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore protezione IP55
- Coppie motore disponibili da 0.22 a 4.2 Nm
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Disponibili anche nella versione con solo riduttore, sia con flangia di entrata standard che con flangia e manicotto dedicati

The main features of CM brushless DC wormgearmotors range are:

- *Low voltage power supply 24/36/48 Vdc*
- *Motor protection IP55*
- *Motor torque ratings available from 0.22 up to 4.2 Nm*
- *Die-cast aluminium housings*
- *Permanent synthetic oil long life lubrication*
- *Gearbox only version also available, with either standard input flange or customized flange and coupling*



Designazione — *Classification*

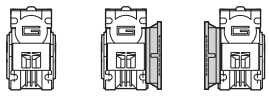
RIDUTTORE / *GEARBOX*

CM	030	20	U
Tipo *Type*	Grandezza *Size*	Rapporto in *Ratio in*	Versione *Version*
CM	**026** **030** **040** **050** **063** **070**	Vedere tabelle *See tables*	**U** **FD** **FS** **FLD** **FLS** **FBD** **FBS**

MOTORE / *MOTOR*

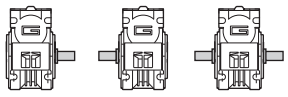
BL070.480	48V	BR
Tipo *Type*	Tensione *Voltage*	Freno *Brake*
BLS022.240	**24V-36V**	**24V**
BLS043.240	**24V-36V**	**48V**
BL070.240	**24V**	
BL070.24B	**24V**	
BL070.48B	**48V**	
BL070.480	**48V**	BA16
BL070.48.80	**24V-48V**	
BL140.480	**48V**	
BL200.48.95	**24V-48V**	
BL210.480	**24V-48V**	
BL210.48E	**48V**	
BL400.48.120	**48V**	

Versione Riduttore *Gearbox Version*



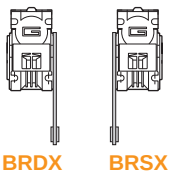
U — FD FLD FBD — FS FLS FBS

Albero di uscita *Output shaft*



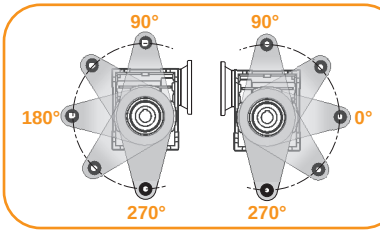
SZDX — SZSX — DZ

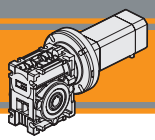
Braccio di reazione *Torque arm*



BRDX — BRSX

Angolo *Angle*





Simbologia — *Symbols*

Ns		n° stadi / *No. stages*
ir		rapporto reale / *real ratio*
M_2	[Nm]	coppia in uscita / *output torque*
A_2	[N]	Carico assiale ammissibile in uscita / Permitted output *axial load*
R_2	[N]	Carico radiale ammissibile in uscita / *Permitted output radial load*
Pn_1	[kW]	Potenza nominale in entrata / *Nominal input power*
Mn_2	[Nm]	Coppia nominale in uscita in funzione di Pn1 / *Nominal output torque referred to Pn1*
n_{1MAX}	[Rpm]	Velocità max entrata / *Max input speed*
V	[V]	*Tensione / Voltage*
n_2	[Rpm]	Velocità in uscita / *Output Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*
sf		Fattore di servizio / *Service Factor*
Rd	%	Rendimento dinamico / *Dynamic efficiency*
Rs	%	Rendimento statico / *Static efficiency*
Z		Numero di principi della vite / *Worm starts*
β		Angolo d'elica / *Helix angle*

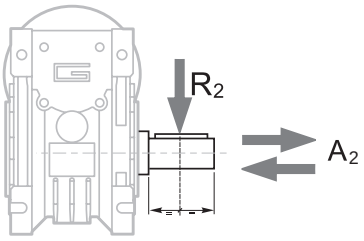
Lubrificazione e temperatura — *Lubrication and temperature*

Tutti i motoriduttori CM sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use the CM worm gearmotors in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

Carichi radiali — *Radial loads*

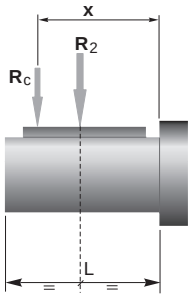


$A_2 = R_2 \times 0.2$

n_2 [min^{-1}]	R_2 [N]					
	CM026	CM030	CM040	CM050	CM063	CM070
600	271	457	857	1200	1657	-
400	310	523	981	1374	1897	2028
300	342	576	1080	1512	2088	2232
200	391	659	1236	1731	2390	2555
150	479	726	1361	1905	2631	2812
120	514	782	1466	2052	2834	3030
100	547	831	1558	2181	3012	3219
75	609	914	1715	2400	3315	3543
60	610	985	1847	2586	3571	3817
50	610	1047	1963	2748	3794	4056
38	610	1147	2151	3011	4158	4445
30	610	1241	2327	3258	4499	4809

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:



	CM					
	026	030	040	050	063	070
a	56	65	84	101	120	122
b	43	50	64	76	95	92
R_{2MAX}	610	1600	3000	4200	5800	6200

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a. b = valori riportati nella tabella
a. b = values given in the table

Dati di dentatura — *Toothing data*

	Dati della coppia vite-corona Worm wheel data	Rapporto / *Ratio*											
		5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	Z	6	4	3	2	2		1	1	1	1		
	β	34° 35'	24° 41'	19° 1'	12° 57 '	10° 30'		6° 33'	5° 17'	4° 26'	3°49'		
CM030	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	27° 4'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'
CM040	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3°46'	2° 57'	2° 25'
CM050	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	33° 37'	23° 54'	18° 23'	12° 29'	10° 6'	8° 28'	6° 19'	5° 5'	4° 15'	3° 39'	2°51'	2° 20'
CM063	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	34° 23'	24° 31'	18° 53'	12° 50'	10° 24'	8° 44'	6° 30'	5° 14'	4° 23'	3° 47'	2° 57'	2° 25'
CM070	Z		4	3	2	2	2	1	1	1	1	1	1
	β		26°12'	20°15'	13°49'	11°15'	9°29'	7°0'	5°41'	4°46'	4°7'	3°13'	2°39'

Rendimento — *Efficiency*

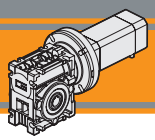
	n_1 [min^{-1}]	Rendimento Efficiency	Rapporto / *Ratio*											
			5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	2800	Rd	89	87	85	83	80		73	68	64	60		
		Rs	72	71	68	61	56	46	41	36	34			
CM030	2800	Rd	89	88	86	84	81	78	74	70	65	62	57	52
		Rs	72	67	63	55	50	43	39	35	31	27	23	21
CM040	2800	Rd	90	89	87	84	83	80	77	73	69	66	60	56
		Rs	74	71	67	60	55	51	45	40	36	32	28	24
CM050	2800	Rd	91	90	88	86	84	82	78	74	71	68	62	58
		Rs	73	70	66	59	55	51	44	39	35	32	27	23
CM063	2800	Rd	91	90	88	86	84	83	79	76	73	70	65	60
		Rs	73	71	67	60	55	51	45	40	36	33	28	24
CM070	2800	Rd		90	89	87	85	84	80	77	74	72	67	62
		Rs		72	69	62	60	55	48	43	38	36	31	26

Reversibilità e irreversibilità — *Reversibility and irreversibility*

La tabella sottostante riporta a titolo puramente indicativo i vari gradi di reversibilità/irreversibilità nei riduttori a vite senza fine in funzione del rendimento dinamico Rd e statico Rs.

The table below is provided for reference purposes only. It contains the various degrees of reversibility/irreversibility of wormgearboxes in relation to dynamic Rd and static Rs efficiency.

Rd	Reversibilità e irreversibilità dinamica	*Dynamic reversibility and irreversibility*
> 0.60	Reversibilità dinamica	Dynamic reversibility
0.50 - 0.60	Reversibilità dinamica incerta	Uncertain dynamic reversibility
0.40 - 0.50	Buona irreversibilità dinamica	Good dynamic irreversibility
<0.40	Irreversibilità dinamica	Dynamic irreversibility
Rs	**Reversibilità e irreversibilità statica**	***Static reversibility and irreversibility***
> 0.55	Reversibilità statica	Static reversibility
0.50 - 0.55	Reversibilità statica incerta	Uncertain static reversibility
<0.50	Irreversibilità statica	Static irreversibility



CM026 con motore brushless CC

CM026 with brushless DC motor

CM026	BLS022.240													
	24V							36V						
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
5	60	0.9	27	600	1.0	10		80	0.9	21	800	1.0	8.0	
7.5	40	1.3	19	400	1.5	7.9		53	1.3	16	533	1.5	6.0	
10	30	1.7	16	300	1.9	5.8		40	1.7	12	400	1.9	4.7	
15	20	2.2	12	200	2.7	4.1		27	2.3	9.1	267	2.8	3.2	
20	15	2.8	9.3	150	3.5	3.1	3000	20	2.9	6.9	200	3.6	2.5	4000
30	10	3.6	7.5	100	4.8	2.5		13	3.8	5.8	133	5.0	2.0	
40	7.5	4.4	4.8	75	6.0	1.8		10	4.6	4.1	100	6.2	1.5	
50	6	4.8	4.2	60	7.0	1.4		8.0	5.2	3.5	80	7.3	1.1	
60	5	5.4	3.3	50	7.8	1.1		6.7	5.8	2.9	67	8.2	0.9	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

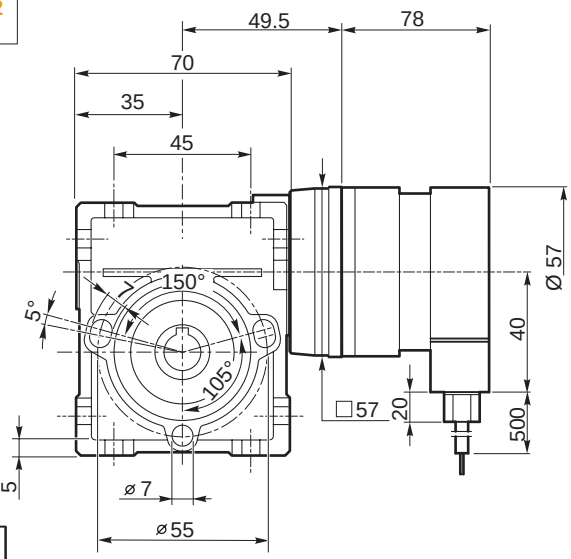
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

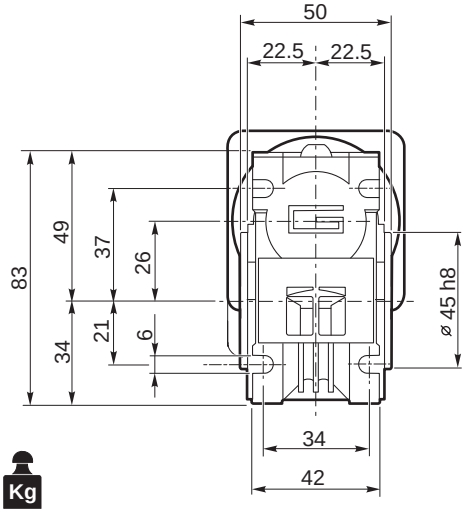
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

Azionamenti *Drives* → II 2

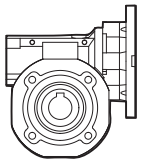
CM026..U + BLS022.240





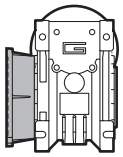
Kg 2.5

III 6 →



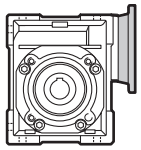
CL026

BE28 →

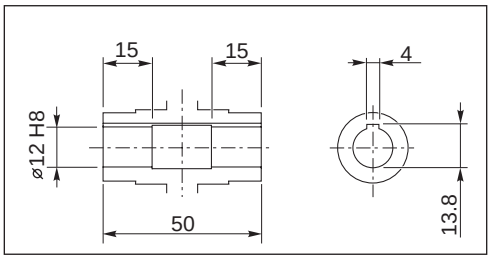


CM026.. F

BE25 →



CM026.. AS...



Albero lento cavo / *Hollow output shaft*

CM030 con motore brushless CC

CM030 with brushless DC motor

CM030	BLS043.240												
	24V							36V					
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf			M_2	sf		M_2	sf	
5	60	1.7	20	600	1.9	6.8		80	1.7	20	800	1.9	5.8	
7.5	40	2.5	14	400	2.8	5.3		53	2.5	14	533	2.8	4.6	
10	30	3.2	12	300	3.7	4.3		40	3.2	12	400	3.7	3.8	
15	20	4.4	8.6	200	5.4	3.0		26	4.4	8.6	267	5.4	2.6	
20	15	5.5	5.8	150	7.0	2.0		20	5.5	5.8	200	7.0	1.7	
25	12	6.5	4.8	120	8.4	1.8		16	6.5	4.8	160	8.4	1.5	
30	10	7.1	5.5	100	9.5	1.9	3000	13	7.1	5.5	133	9.5	1.7	4000
40	7.5	8.4	3.9	75	12	1.3		10	8.4	3.9	100	12	1.2	
50	6.0	9.7	3.0	60	14	1.1		8	9.7	3.0	80	14	0.9	
60	5.0	11	2.5	50	16	0.9		6.6	11	2.5	67	16	0.8	
80	3.7	12	1.8	38	17	0.7		5	12	1.8	50	15	0.7	
100	3.0	14	1.4	30	16	0.7		4	14	1.4	40	13	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

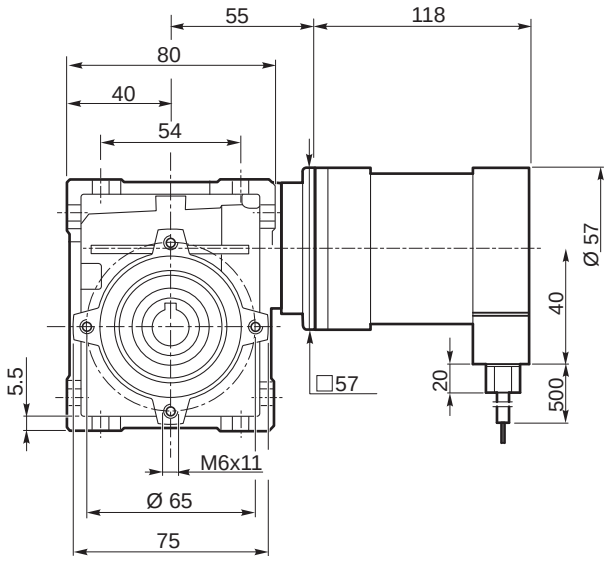
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

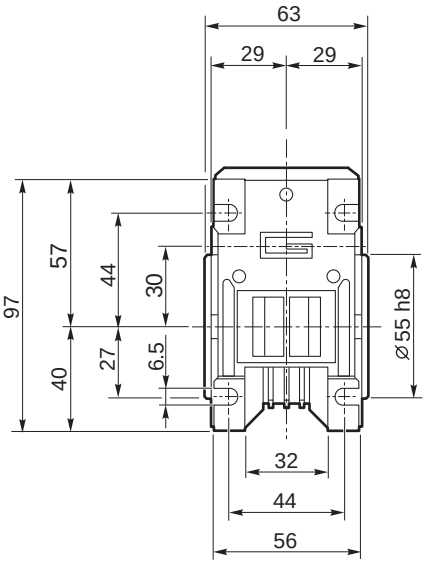
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

Azionamenti *Drives* → II 2

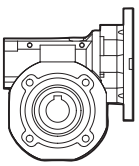
CM030..U + BLS043.240





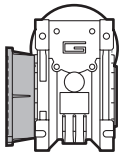
Kg 3.4

III 7



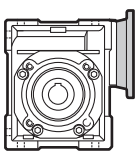
CL030

BE28

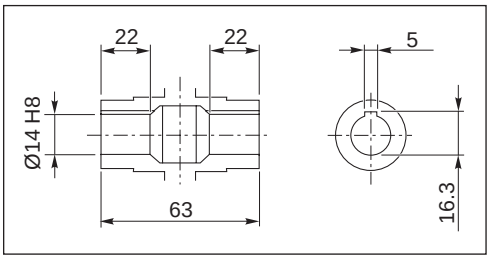


CM030.. F

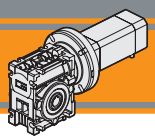
BE25



CM030.. AS...



Albero lento cavo / *Hollow output shaft*



CM030 con motore brushless CC — *CM030 with brushless DC motor*

CM030	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	2.8	11	600	3.1	4.2	3000
7.5	40	4.1	8.0	400	4.6	3.2	
10	30	5.3	6.4	300	6.0	2.7	
15	20	7.2	4.9	200	8.8	1.8	
20	15	9.1	3.2	150	11	1.2	
25	12	11	2.5	120	14	1.1	
30	10	12	2.9	100	16	1.2	
40	7.5	14	2.1	75	20	0.8	
50	6.0	16	1.6	60	23	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

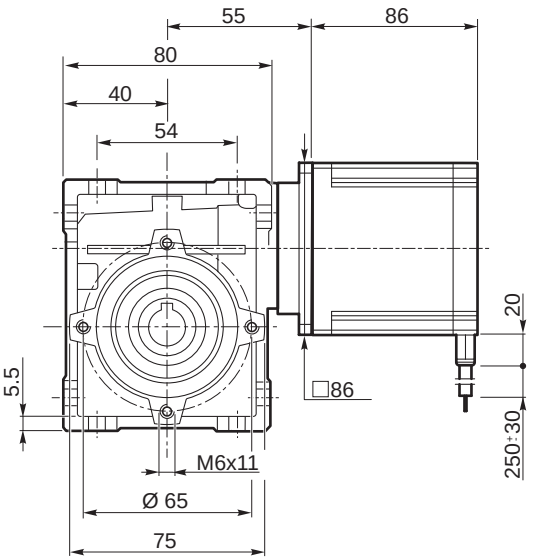
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

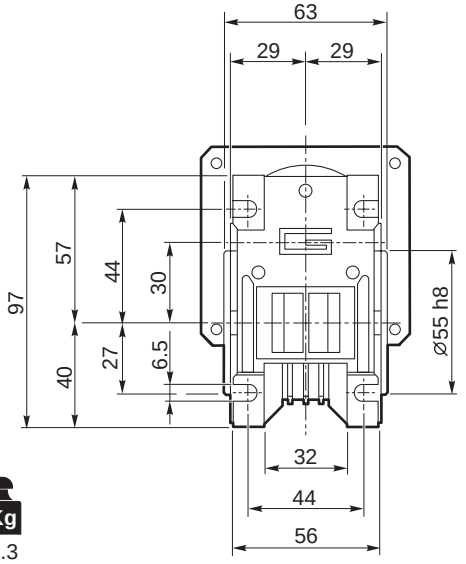
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

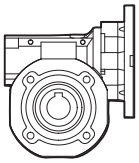
Azionamenti *Drives* → II 2

CM030..U + BL070.240 BL070.480

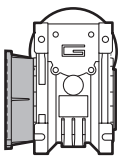




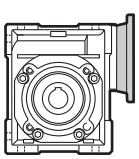
Kg 3.3

III 7 → 

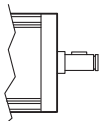
CL030

BE28 → 

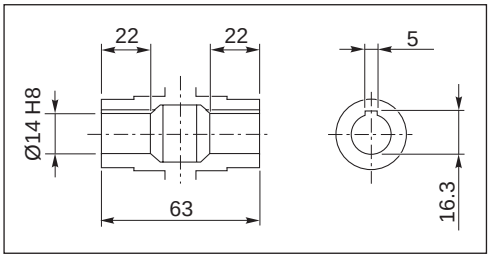
CM030.. F

BE25 → 

CM030.. AS...

BA16 → Freno *Brake* → 

BL070.24B BL070.48B



Albero lento cavo / *Hollow output shaft*

CM040 con motore brushless CC

CM040 with brushless DC motor

CM030	BL070.48.80												
	24V							36V					
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf			M_2	sf		M_2	sf	
5	50	2.9	10.9	500	3.1	4.2		80	2.9	9.3	800	3.1	3.5	
7.5	33	4.1	8.0	333	4.6	3.2		53	4.3	7.1	533	4.6	2.8	
10	25	5.3	6.6	250	6.0	2.7		40	5.5	5.5	400	6.0	2.3	
15	17	7.4	4.6	167	8.8	1.8		27	7.6	4.0	267	8.8	1.6	
20	13	9.1	3.3	125	11	1.2		20	9.4	2.8	200	11	1.1	
25	10	11	2.7	100	14	1.1	2500	16	11	2.4	160	14	1.0	4000
30	8.3	12	3.2	83	16	1.2		13	12	2.7	133	16	1.0	
40	6.3	14	2.3	63	20	0.8		10	15	2.0	100	20	0.7	
50	5.0	16	1.8	50	21	0.7		8.0	17	1.6	80	18	0.7	
60	4.2	18	1.5	42	20	0.7		6.7	19	1.3	67	17	0.7	
80	3.1	20	1.1	31	17	0.7		5.0	21	1.0	50	14	0.7	
100	2.5	22	0.9	25	15	0.7		4.0	25	0.8	40	12	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

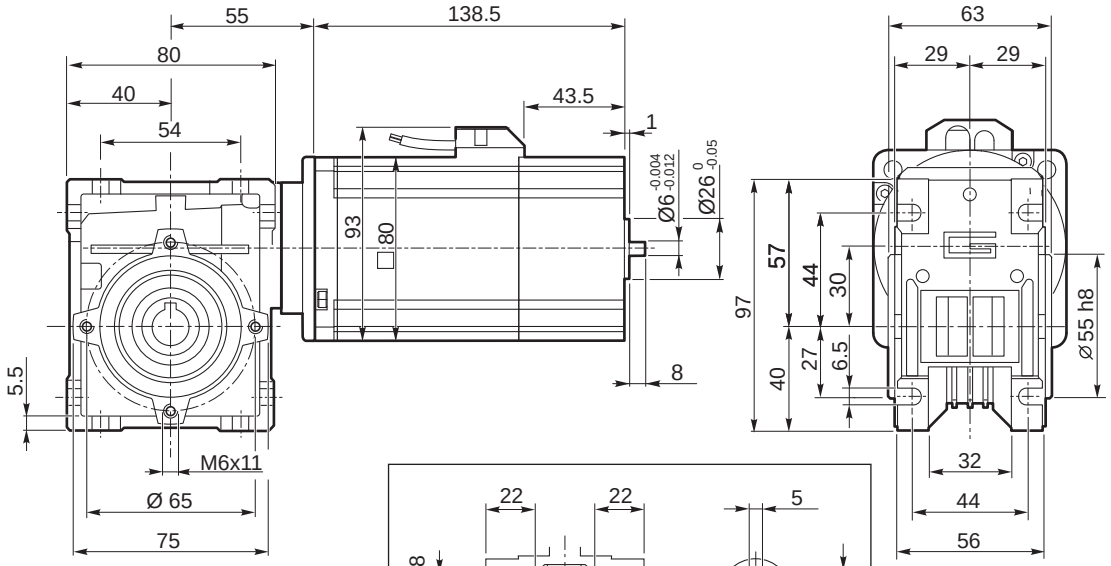
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

CM030..U + BL070.48.80

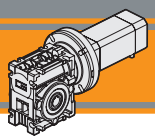


III 7 → **CL030**

BE28 → BE25 → **CM030.. AS...**

Albero lento cavo / *Hollow output shaft*

Encoder → BA13



CM040 con motore brushless CC

CM040 with brushless DC motor

CM040	BLS043.240												
	24V							36V					
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf			M_2	sf		M_2	sf	
5	60	1.8	35	600	2.0	14		80	1.8	35	800	2.0	12.5	
7.5	40	2.6	26	400	2.9	11		53	2.6	26	533	2.9	9.3	
10	30	3.4	20	300	3.7	8.9		40	3.4	20	400	3.7	7.8	
15	20	4.6	15	200	5.4	6.5		26	4.6	15	267	5.4	5.7	
20	15	5.8	10	150	7.2	4.3		20	5.8	10	200	7.2	3.8	
25	12	6.9	7.8	120	8.6	3.2		16	6.9	7.8	160	8.6	2.8	
30	10	7.9	9.4	100	10	3.8	3000	13	7.9	9.4	133	10	3.4	4000
40	7.5	9.6	6.8	75	13	2.6		10	9.6	6.8	100	13	2.3	
50	6.0	12	5.5	60	15	2.1		8	12	5.5	80	15	1.9	
60	5.0	12	4.7	50	17	1.7		6.6	12	4.7	67	17	1.5	
80	3.7	14	3.6	38	21	1.3		5	14	3.6	50	21	1.1	
100	3.0	16	2.8	30	24	1.0		4	16	2.8	40	24	0.9	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

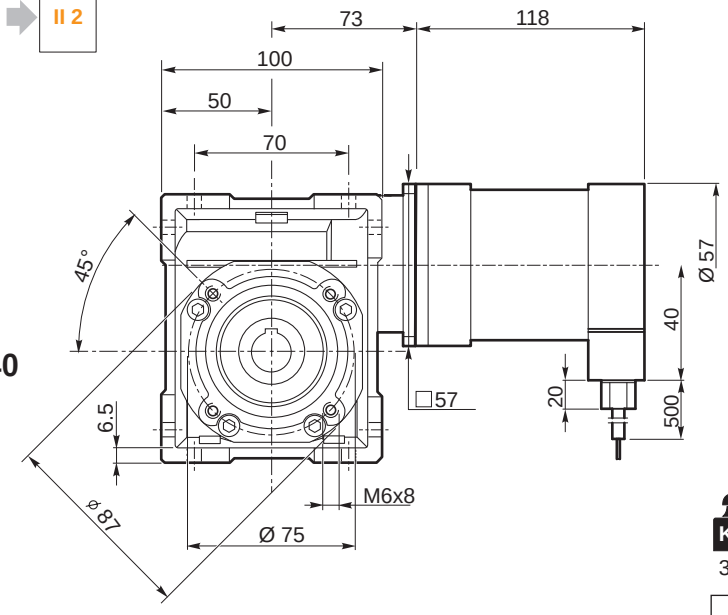
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

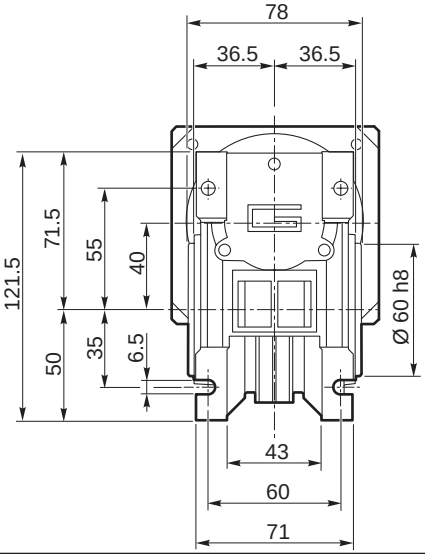
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

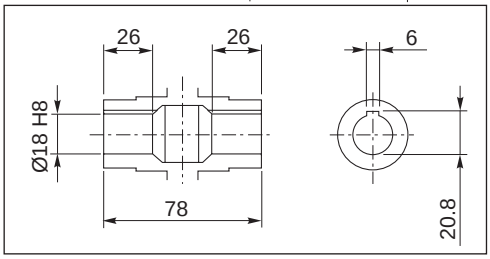
Azionamenti *Drives* → II 2

CM040..U + BLS043.240



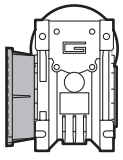


Kg 3.5



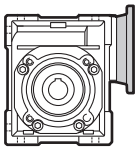
Albero lento cavo / *Hollow output shaft*

BE28 ←



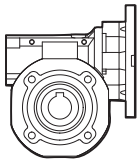
CM040.. F
CM040.. FL
CM040.. FB

BE26 ←



CM040.. AS...

III 8 ←



CL040

CM040 con motore brushless CC

CM040 with brushless DC motor

CM040	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	2.9	25	600	3.2	9.2	3000
7.5	40	4.2	18	400	4.7	6.6	
10	30	5.3	14	300	6.1	5.4	
15	20	7.4	11	200	8.8	3.9	
20	15	9.5	7.1	150	12	2.6	
25	12	11	5.4	120	14	2.0	
30	10	12	6.7	100	16	2.3	
40	7.5	15	4.5	75	20	1.6	
50	6.0	17	3.7	60	24	1.3	
60	5.0	19	3.0	50	28	1.0	
80	3.7	22	2.2	38	34	0.8	
100	3.0	24	1.8	30	33	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

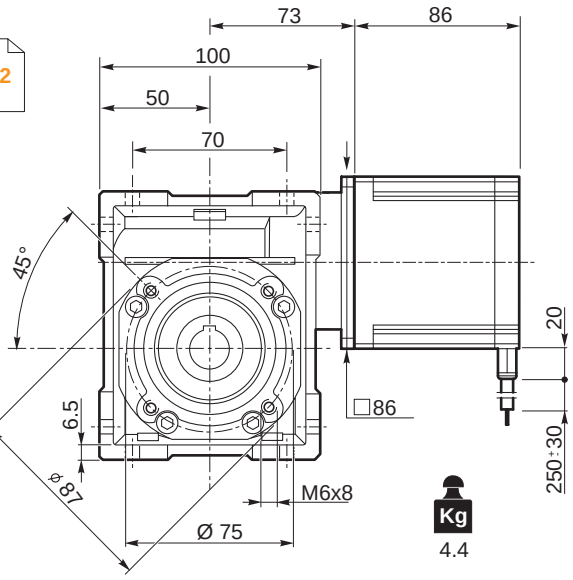
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

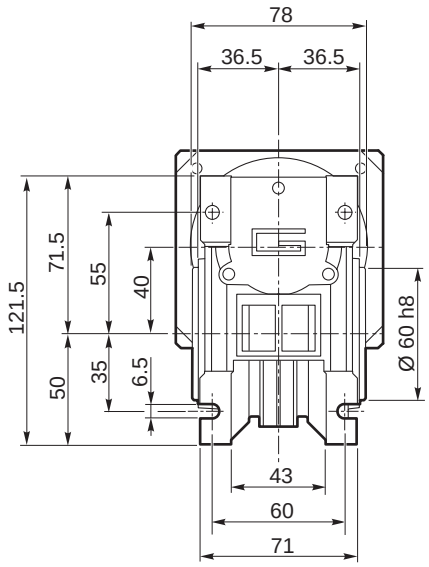
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives* → II 2

CM040..U + BL070.240 BL070.480



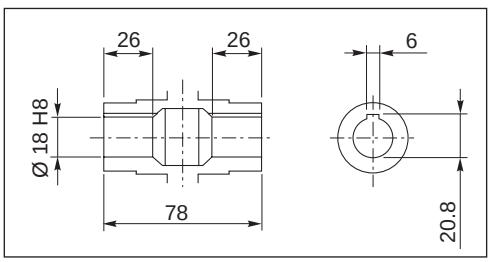


III 8 → **CL040**

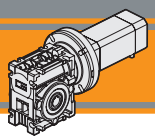
BE28 → **CM040.. F**
CM040.. FL
CM040.. FB

BE26 → **CM040.. AS...**

BA16 ← Freno *Brake* → **BL070.24B**
BL070.48B



Albero lento cavo / *Hollow output shaft*



CM040 con motore brushless CC

CM040 with brushless DC motor

CM040	BL070.48.80												
	24V							36V					
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
5	50	2.9	25.6	500	3.2	9.2	2500	80	2.9	20.7	800	3.2	7.9	4000
7.5	33	4.2	17.9	333	4.7	6.6		53	4.3	15.3	533	4.7	5.8	
10	25	5.4	14.1	250	6.1	5.4		40	5.5	11.9	400	6.1	4.8	
15	17	7.5	10.2	167	8.8	4.0		27	7.7	8.6	267	8.8	3.5	
20	13	9.4	7.1	125	12	2.7		20	9.8	5.9	200	12	2.3	
25	10	11	5.6	100	14	2.0		16	12	4.4	160	14	1.7	
30	8.3	12	6.9	83	16	2.4		13	13	5.4	133	16	2.1	
40	6.3	15	4.8	63	20	1.7		10	16	3.8	100	20	1.5	
50	5.0	16	3.9	50	24	1.3		8.0	19	3.1	80	24	1.2	
60	4.2	19	3.1	42	28	1.0		6.7	21	2.6	67	28	0.9	
80	3.1	22	2.3	31	34	0.8		5.0	24	2.0	50	34	0.7	
100	2.5	24	1.9	25	34	0.7		4.0	27	1.6	40	30	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

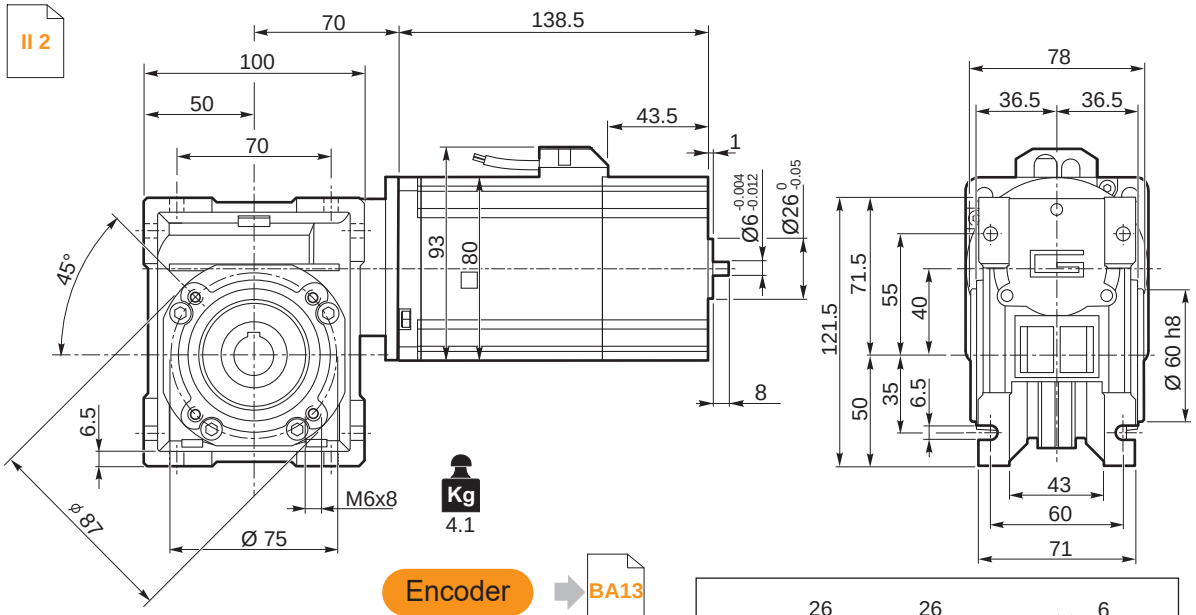
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

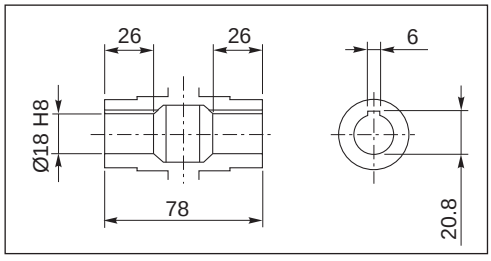
Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

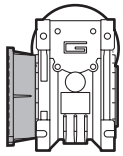
CM040..U + BL070.48.80



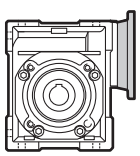
Encoder → BA13



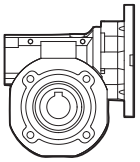
Albero lento cavo / *Hollow output shaft*

BE28 ← 

CM040.. F
CM040.. FL
CM040.. FB

BE26 ← 

CM040.. AS...

III 8 ← 

CL040

CM040 con motore brushless CC

CM040 with brushless DC motor

CM040	BL140.480						
	48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	5.8	13	600	6.3	4.6	3000
7.5	40	8.4	9.0	400	9.3	3.3	
10	30	11	7.1	300	12	2.7	
15	20	15	5.1	200	18	2.0	
20	15	19	3.6	150	23	1.3	
25	12	22	2.8	120	28	1.0	
30	10	24	3.4	100	32	1.2	
40	8	29	2.4	75	41	0.8	
50	6	33	1.9	60	41	0.7	
60	5	37	1.5	50	36	0.7	
80	4	43	1.2	38	39	0.7	
100	3	47	1.0	30	33	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

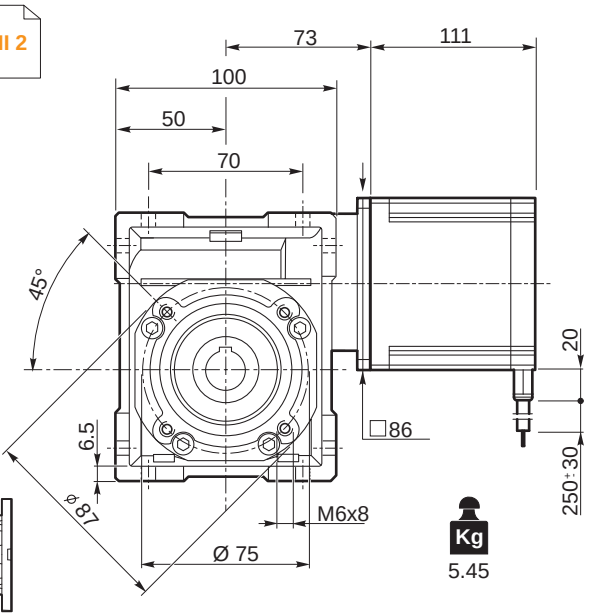
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

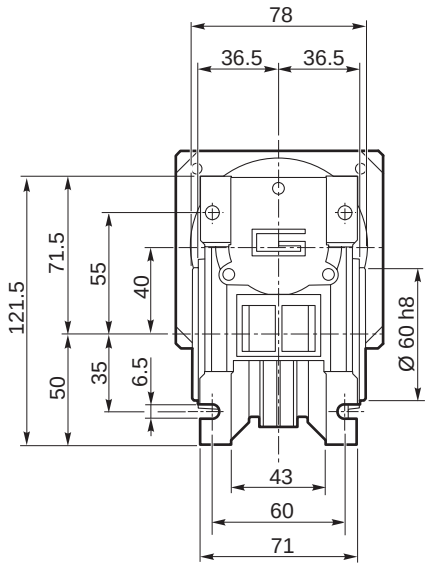
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

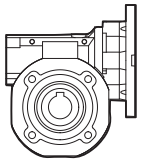
Azionamenti *Drives* → II 2

CM040..U + BL140.480

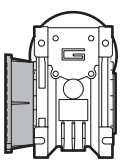




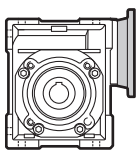
III 8 → **CL040**

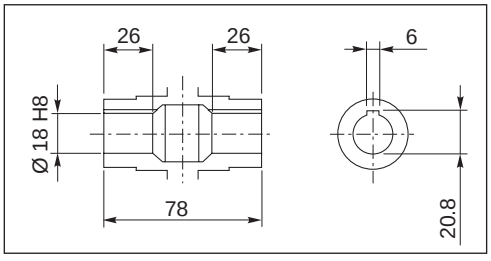


BE28 → **CM040.. F**
CM040.. FL
CM040.. FB

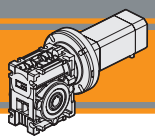


BE26 → **CM040.. AS...**





Albero lento cavo / *Hollow output shaft*



CM040 con motore brushless CC

CM040 with brushless DC motor

CM040	BL210.480 / BL210.48E						
	48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	8.6	8.5	600	9.4	3.1	3000
7.5	40	12	6.1	400	14	2.2	
10	30	16	4.7	300	18	1.8	
15	20	22	3.6	200	27	1.3	
20	15	29	2.3	150	35	0.9	
25	12	34	1.8	120	42	0.7	
30	10	37	2.2	100	49	0.8	
40	7.5	45	1.5	75	52	0.7	
50	6.0	50	1.2	60	41	0.7	
60	5.0	57	1.0	50	36	0.7	
80	3.7	66	0.7	38	39	0.7	
100	3.0	63	0.7	30	33	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

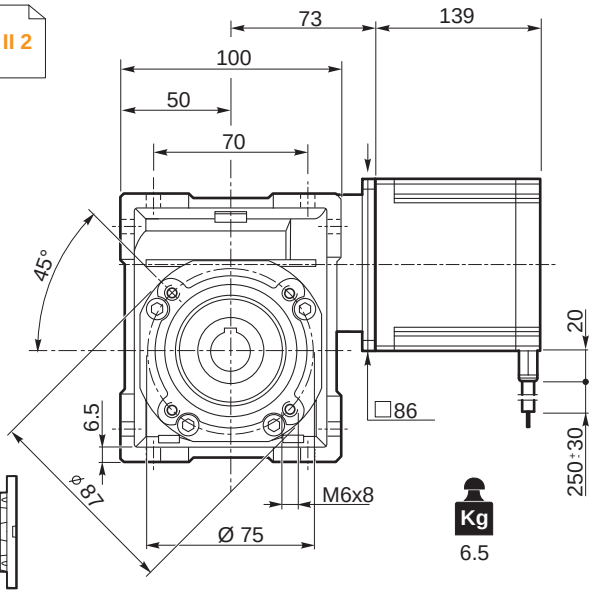
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

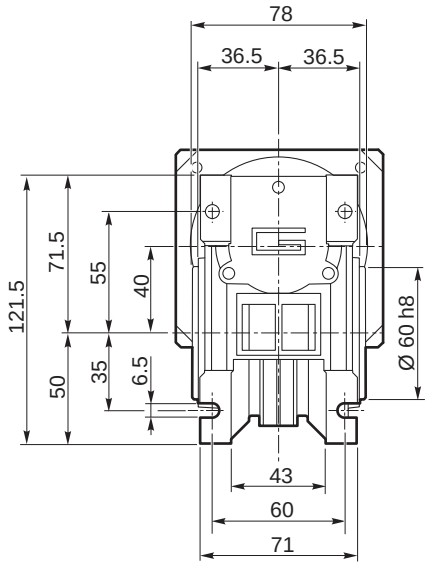
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

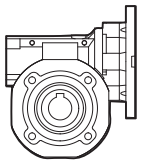
Azionamenti *Drives* → II 2

CM040..U + BL210.480



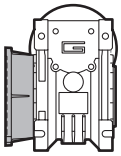


III 8 →



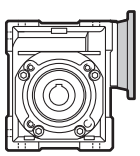
CL040

BE28 →



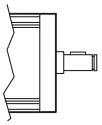
CM040.. F
CM040.. FL
CM040.. FB

BE26 →

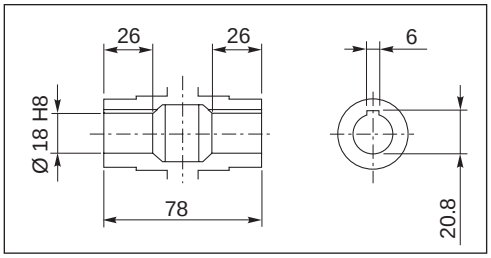


CM040.. AS...

BA16 → Freno *Brake*



BL210.48E



Albero lento cavo / *Hollow output shaft*

CM050 con motore brushless CC

CM050 with brushless DC motor

CM050	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	3.0	46.4	600	3.3	16.0	3000
7.5	40	4.2	33.1	400	4.7	12.1	
10	30	5.4	26.2	300	6.2	9.7	
15	20	7.6	18.4	200	9.0	6.9	
20	15	9.4	13.3	150	11.8	4.7	
25	12	11	10.3	120	14.4	3.6	
30	10	12	12.4	100	16.4	4.1	
40	7.5	15	8.5	75	20.7	2.8	
50	6.0	17	7.1	60	24.9	2.3	
60	5.0	18	5.7	50	28.6	1.8	
80	3.7	21	4.3	38	34.7	1.3	
100	3.0	23	3.6	30	40.6	1.1	

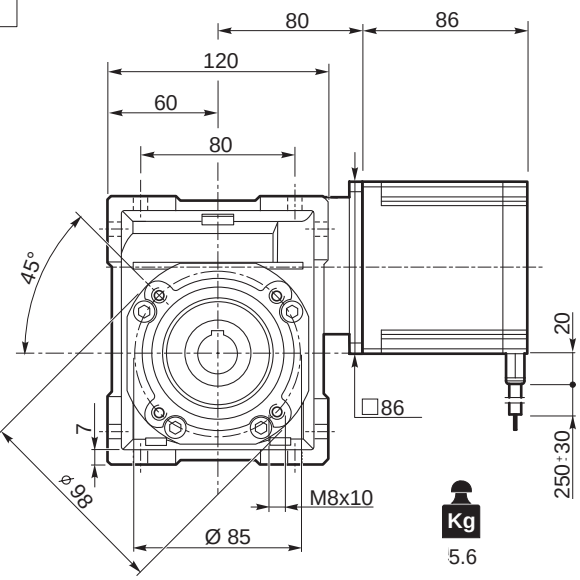
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

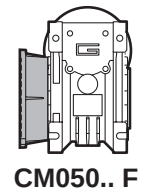
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives* → II 2

CM050..U + BL070.240 BL070.480

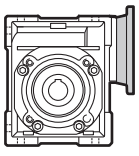


III 9 → **CL050**

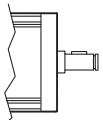


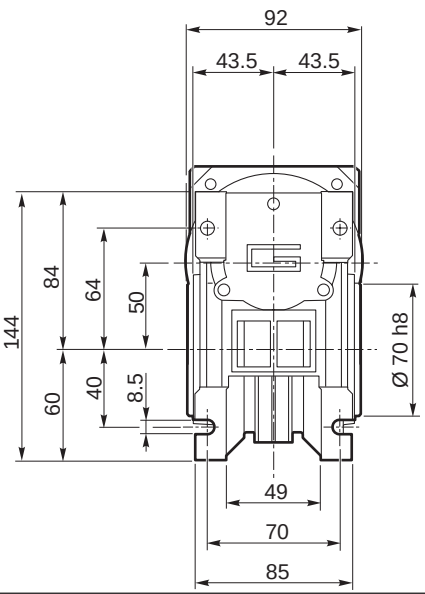
BE28 → **CM050.. F**
CM050.. FL
CM050.. FB

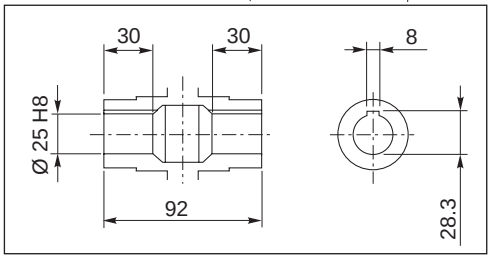
BE26 → **CM050.. AS...**



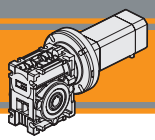
BA16 → Freno *Brake* → **BL070.24B**
BL070.48B







Albero lento cavo / *Hollow output shaft*



CM050 con motore brushless CC

CM050 with brushless DC motor

CM050	BL140.480						
	48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	5.8	24	600	6.4	8.5	3000
7.5	40	8.5	17	400	9.5	6.0	
10	30	11	13	300	12	4.9	
15	20	15	9.2	200	18	3.4	
20	15	19	6.6	150	24	2.3	
25	12	22	5.1	120	29	1.8	
30	10	24	6.2	100	33	2.0	
40	8	30	4.3	75	41	1.4	
50	6	34	3.6	60	50	1.1	
60	5	37	2.9	50	57	0.9	
80	4	43	2.1	38	66	0.7	
100	3	47	1.8	30	61	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

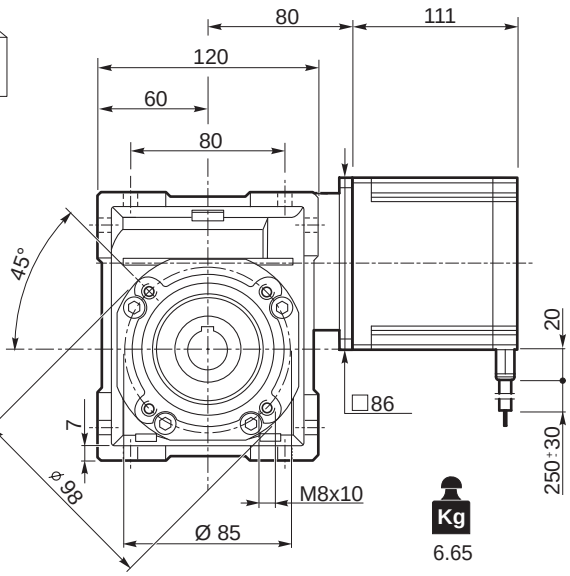
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

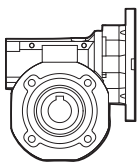
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

CM050..U + BL140.480

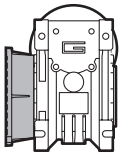


III 9



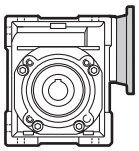
CL050

BE28

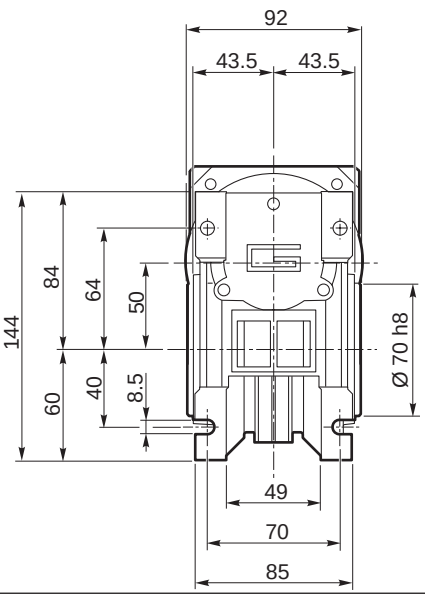


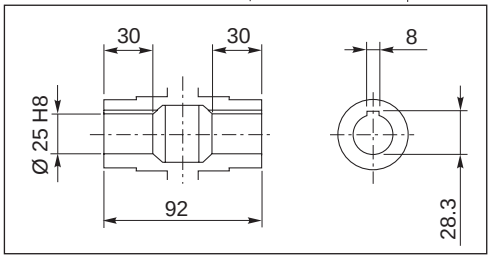
CM050.. F
CM050.. FL
CM050.. FB

BE26



CM050.. AS...





Albero lento cavo / *Hollow output shaft*

CM050 con motore brushless CC

CM050 with brushless DC motor

CM050	BL200.48.95												
	24V							48V					
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf			M_2	sf		M_2	sf	
5	30	8.2	18.3	300	8.9	8.4		60	8	16.3	600	9.1	5.9	
7.5	20	12	13.2	200	13	6.1		40	12	11.6	400	14	4.2	
10	15	15	10.2	150	17	4.8		30	15	9.2	300	18	3.4	
15	10	22	7.5	100	25	3.3		20	22	6.4	200	26	2.4	
20	7.5	27	5.0	75	32	2.3		15	27	4.7	150	34	1.6	
25	6.0	32	3.8	60	38	1.8	1500	12	32	3.6	120	41	1.2	3000
30	5.0	35	4.7	50	43	2.0		10	35	4.3	100	47	1.4	
40	3.8	42	3.2	38	54	1.4		7.5	42	3.0	75	59	1.0	
50	3.0	48	2.6	30	63	1.1		6.0	48	2.5	60	71	0.8	
60	2.5	53	2.1	25	72	1.0		5.0	53	2.0	50	74	0.7	
80	1.9	61	1.6	19	85	0.7		3.8	61	1.5	38	65	0.7	

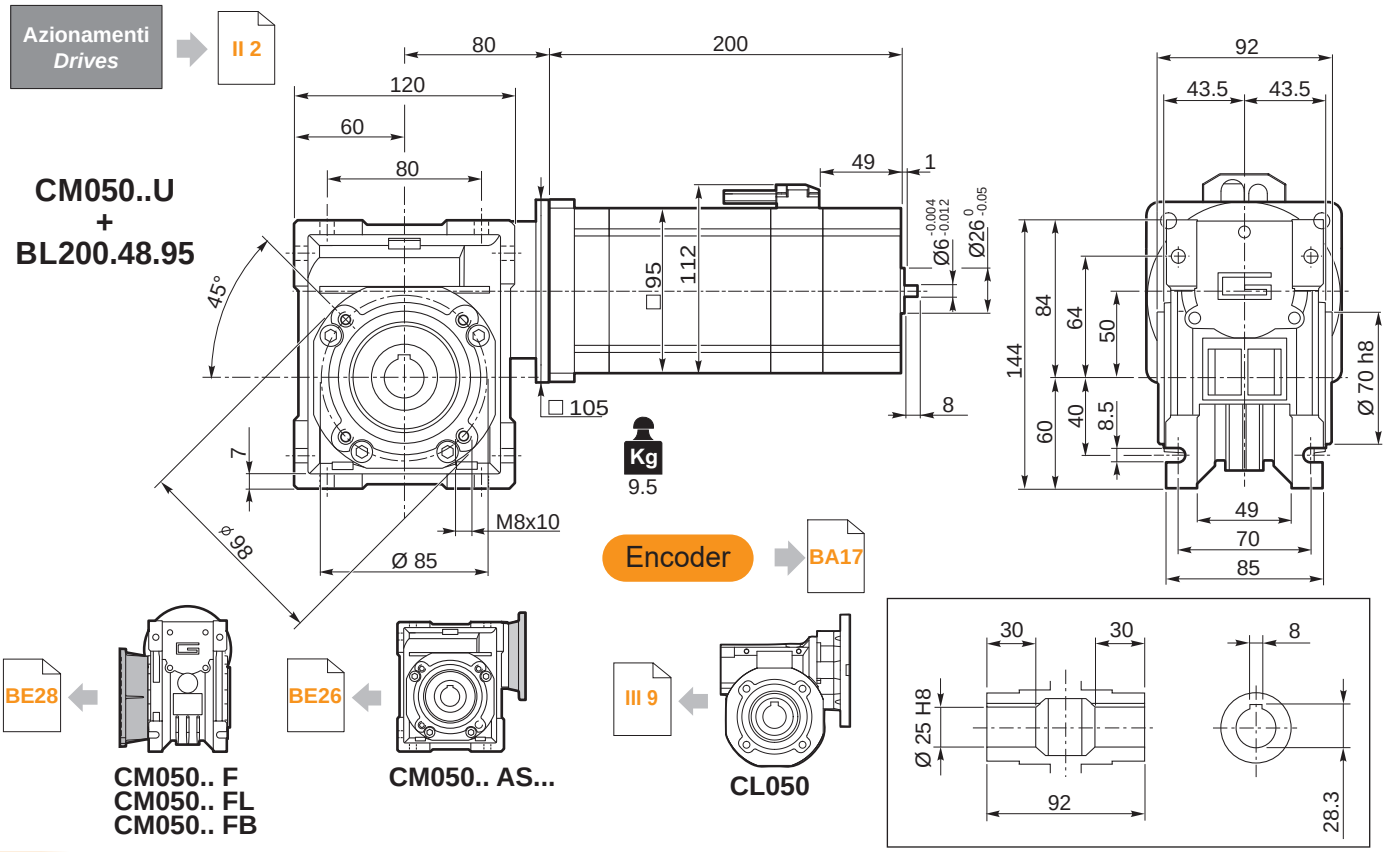
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

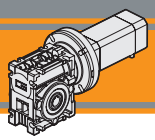
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6



Albero lento cavo / *Hollow output shaft*



CM050 con motore brushless CC

CM050 with brushless DC motor

CM050	BL210.480 / BL210.48E						
	48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	60	8.7	16	600	9.6	5.6	3000
7.5	40	12	11	400	14	4.0	
10	30	16	8.9	300	19	3.2	
15	20	23	6.5	200	28	2.2	
20	15	29	4.5	150	35	1.6	
25	12	34	3.4	120	43	1.2	
30	10	37	4.2	100	52	1.3	
40	7.5	45	2.9	75	62	1.0	
50	6.0	50	2.4	60	75	0.8	
60	5.0	55	2.0	50	74	0.7	
80	3.7	60	1.4	38	66	0.7	
100	3.0	71	1.2	30	61	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

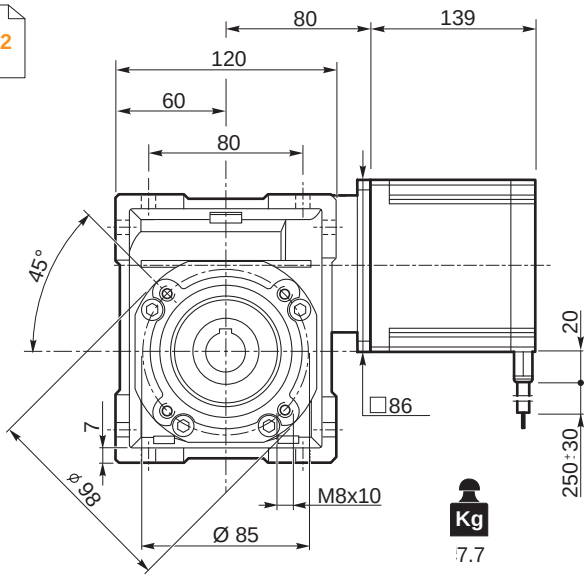
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

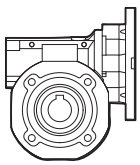
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

CM050..U + BL210.480

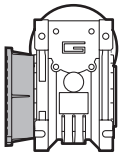


III 9



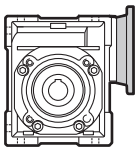
CL050

BE28



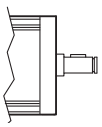
CM050.. F
CM050.. FL
CM050.. FB

BE26

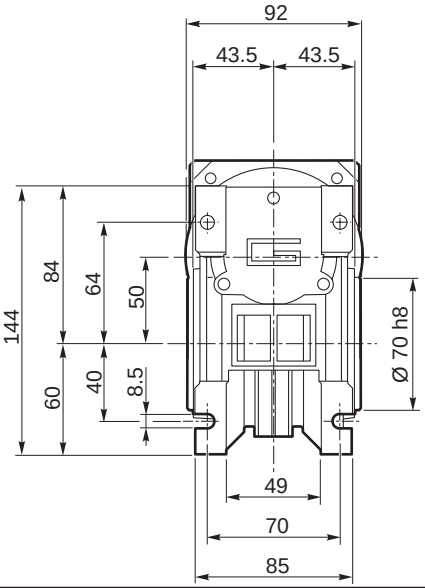


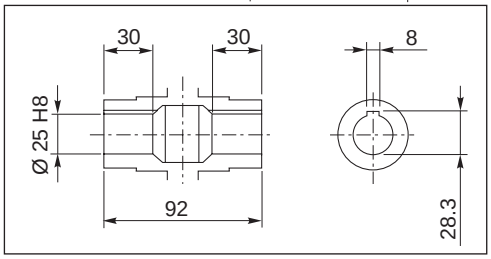
CM050.. AS...

BA16 ← Freno *Brake*



BL210.48E





Albero lento cavo / *Hollow output shaft*

CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
40	7.5	15	15.7	75	21	5.3	3000
50	6.0	18	12.2	60	26	4.0	
60	5.0	20	10.1	50	30	3.3	
80	3.7	23	7.7	38	36	2.4	
100	3.0	25	6.3	30	42	1.9	

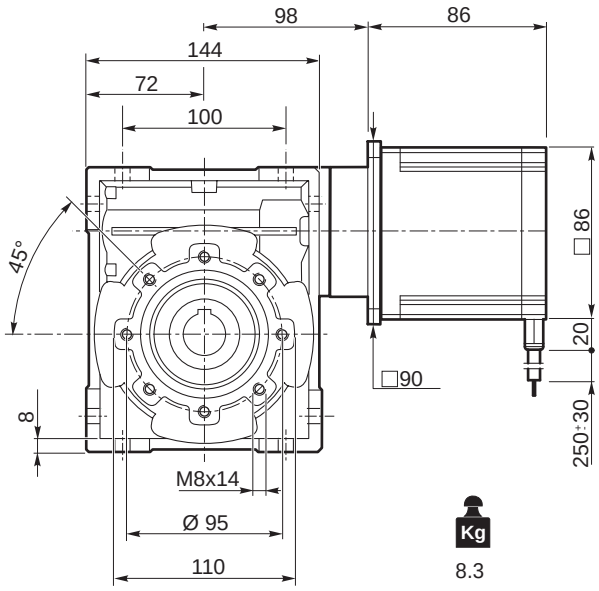
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

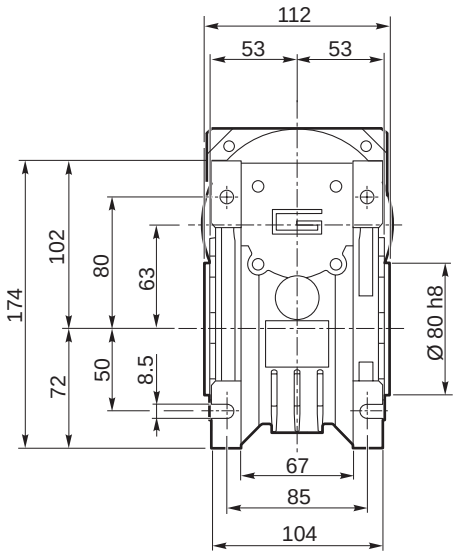
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

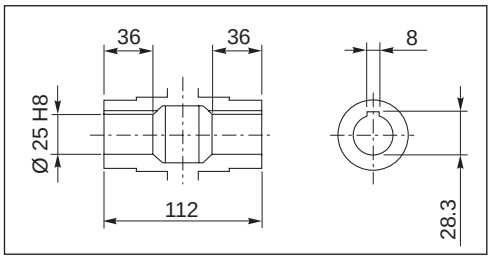
Azionamenti *Drives* → II 2

CM063..U + BL070.240 BL070.480



Kg 8.3



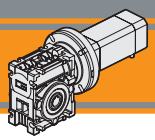


Albero lento cavo / *Hollow output shaft*

BE28 → **CM063.. F**
CM063.. FL
CM063.. FB

BE27 → **CM063.. AS...**

BA16 ← Freno *Brake* → **BL070.24B**
BL070.48B



CM063 con motore brushless CC — *CM063 with brushless DC motor*

CM063	BL140.480						
	48V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
40	8	31	7.9	75	43	2.6	3000
50	6	36	6.1	60	51	2.0	
60	5	40	5.1	50	59	1.6	
80	4	45	3.8	38	73	1.2	
100	3	50	3.1	30	84	1.0	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

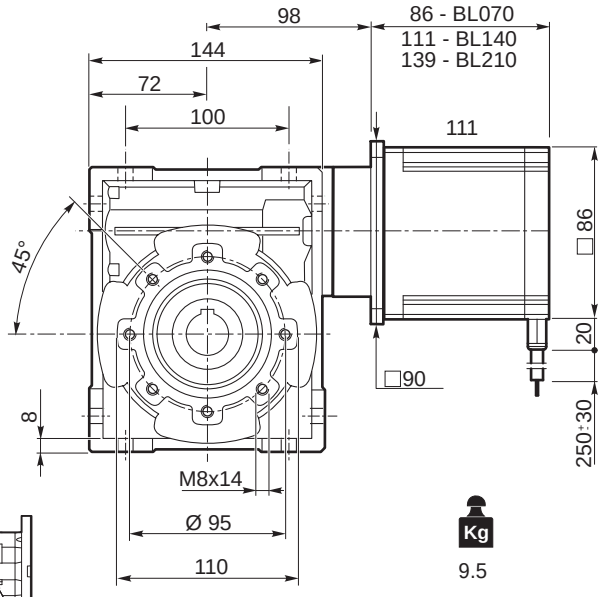
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL140.480	2.8	13	0.16	0.5	26	3.15

IP 55

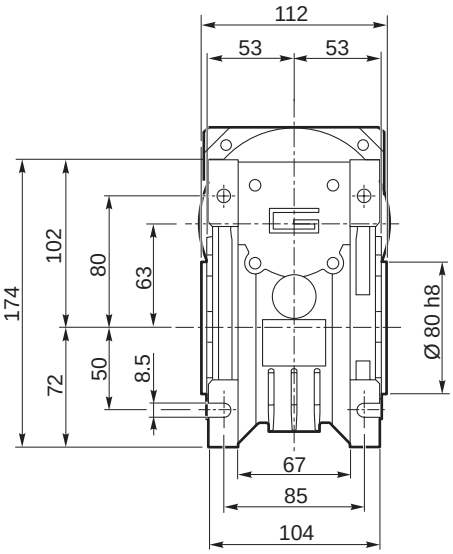
CM

Azionamenti *Drives* → II 2

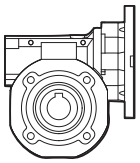
CM063..U + BL140.480



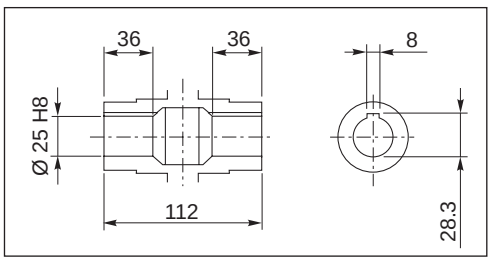
Kg 9.5



III 10 →

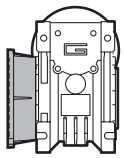


CL063



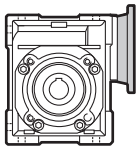
Albero lento cavo / *Hollow output shaft*

BE28 →



CM063.. F
CM063.. FL
CM063.. FB

BE27 →



CM063.. AS...

CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL200.48.95												
	24V							48V					
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf			M_2	sf		M_2	sf	
5	30	8.2	33.8	300	9.0	14.9		60	8.4	28.2	600	9.1	10.7	
7.5	20	12	24.3	200	13	10.9		40	12	20.9	400	14	7.6	
10	15	15	18.6	150	17	8.6		30	16	16.6	300	18	6.3	
15	10	21	14.2	100	25	6.1		20	22	12.0	200	26	4.5	
20	7.5	27	9.7	75	32	4.2		15	28	8.3	150	34	3.0	
25	6.0	32	7.3	60	39	3.5	1500	12	33	6.5	120	42	2.3	3000
30	5.0	36	8.6	50	45	3.7		10	36	7.8	100	47	2.7	
40	3.8	43	6.0	38	56	2.5		7.5	44	5.5	75	61	1.8	
50	3.0	50	4.6	30	66	2.1		6.0	51	4.3	60	73	1.4	
60	2.5	55	3.9	25	76	1.7		5.0	56	3.5	50	84	1.2	
80	1.9	64	2.9	19	91	1.3		3.8	65	2.7	38	104	0.8	
100	1.5	70	2.3	15	104	1.1		3.0	71	2.2	30	114	0.7	

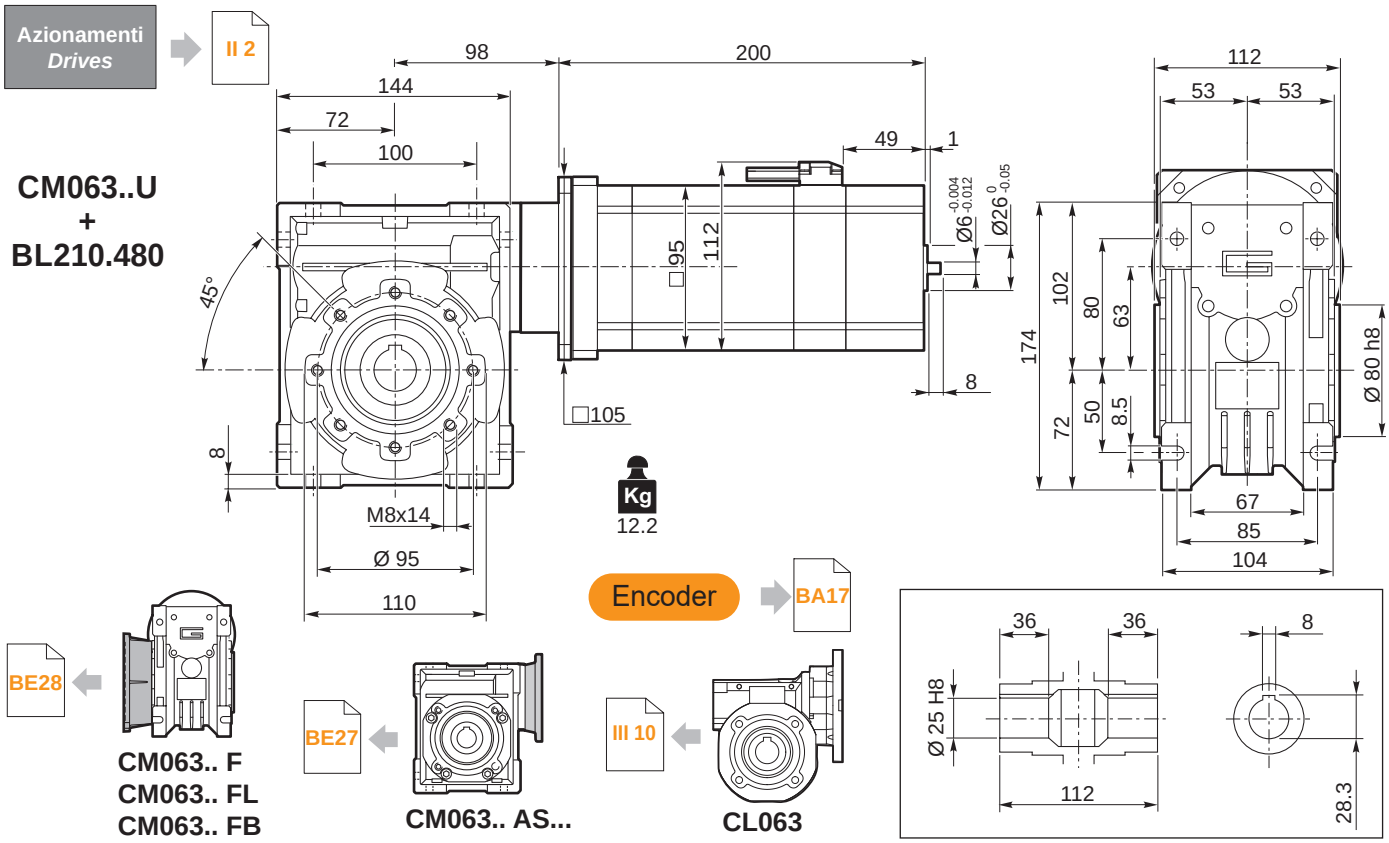
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

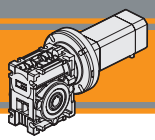
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6



Albero lento cavo / *Hollow output shaft*



CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL210.480 / BL210.48E						
	48V						
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
40	7.5	46	5.2	75	64	1.8	3000
50	6.0	53	4.1	60	77	1.3	
60	5.0	59	3.4	50	88	1.1	
80	3.7	68	2.6	38	109	0.8	
100	3.0	75	2.1	30	114	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

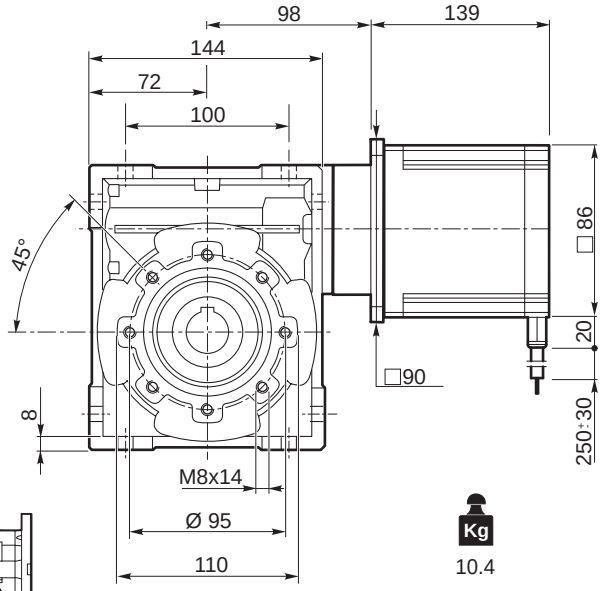
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

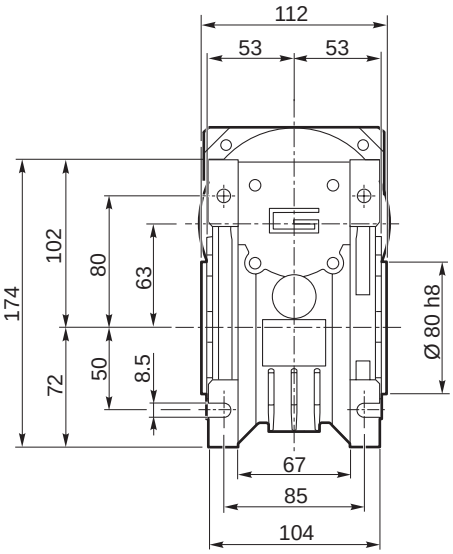
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

Azionamenti *Drives* → II 2

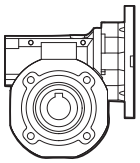
CM063..U + BL210.480



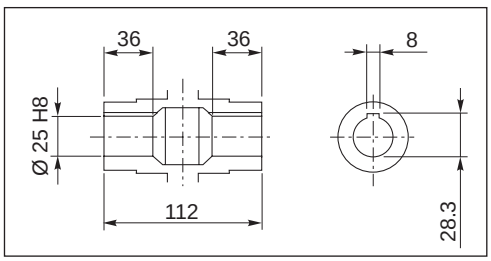


Kg 10.4

III 10 →

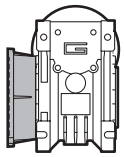


CL063



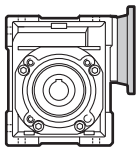
Albero lento cavo / *Hollow output shaft*

BE28 →



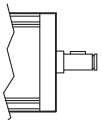
CM063.. F
CM063.. FL
CM063.. FB

BE27 →



CM063.. AS...

BA16 → Freno *Brake*



BL210.48E

CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL400.48.120													
	24V							48V						
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
5	28	14	19.3	280	16	8.5	1400	60	15	16.1	600	16	6.1	3000
7.5	19	21	13.9	187	23	6.2		40	21	12.0	400	24	4.4	
10	14	27	10.6	140	30	4.9		30	28	9.5	300	31	3.6	
15	9	37	8.1	93	44	3.5		20	38	6.9	200	45	2.5	
20	7.0	47	5.5	70	57	2.4		15	48	4.8	150	59	1.7	
25	5.6	55	4.2	56	68	2.0		12	57	3.7	120	73	1.3	
30	4.7	63	4.9	47	79	2.1		10	64	4.4	100	83	1.5	
40	3.5	76	3.4	35	98	1.4		7.5	77	3.1	75	106	1.1	
50	2.8	88	2.7	28	116	1.2		6.0	89	2.4	60	128	0.8	
60	2.3	97	2.2	23	132	1.0		5.0	99	2.0	50	138	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

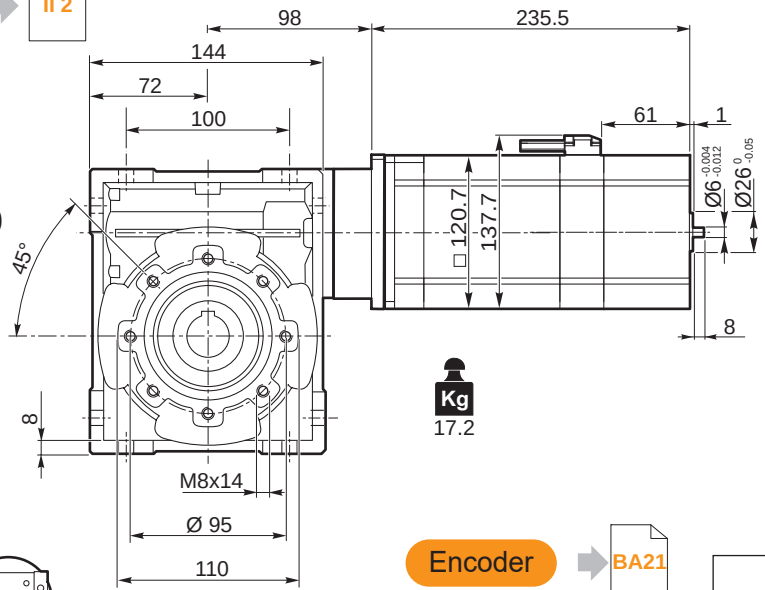
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

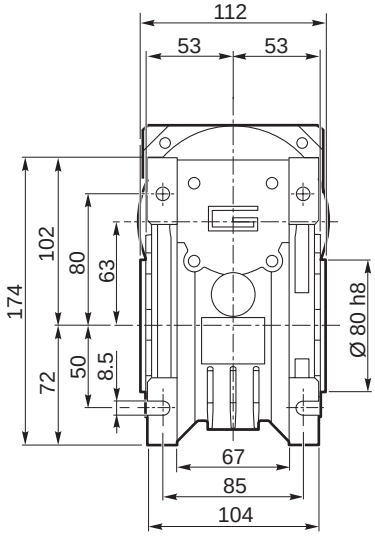
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

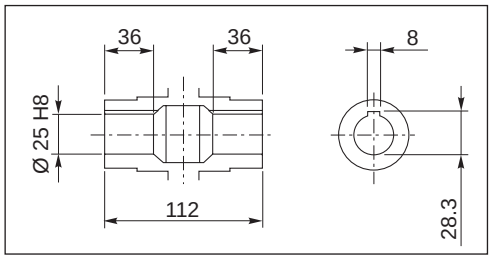
Azionamenti *Drives* → II 2

CM063..U + BL400.48.120





Encoder → BA21

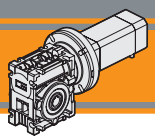


Albero lento cavo / *Hollow output shaft*

BE28 → CM063.. F
CM063.. FL
CM063.. FB

BE27 → CM063.. AS...

III 10 → CL063



CM070 con motore brushless CC

CM063 with brushless DC motor

CM070	BL400.48.120												
	24V							48V					
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf			M_2	sf		M_2	sf	
7.5	19	21	18.9	187	23	8.5		40	22	16.2	400	24	6.0	
10	14	27	15.4	140	31	7.1		30	28	13.4	300	31	5.0	
15	9	38	11.6	93	44	5.0		20	39	9.6	200	46	3.6	
20	7.0	48	8.2	70	57	3.5		15	50	6.9	150	60	2.6	
25	5.6	57	6.0	56	70	2.6		12	59	5.3	120	73	1.9	
30	4.7	62	7.2	47	80	3.0	1400	10	66	6.3	100	84	2.2	3000
40	3.5	75	5.0	35	101	2.1		7.5	79	4.5	75	108	1.5	
50	2.8	87	3.8	28	119	1.6		6.0	92	3.4	60	129	1.2	
60	2.3	97	3.3	23	137	1.3		5.0	103	2.9	50	151	0.9	
80	1.8	113	2.4	18	167	1.0		3.8	121	2.1	38	180	0.7	
100	1.4	124	1.9	14	186	0.8		3.0	134	1.7	30	165	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

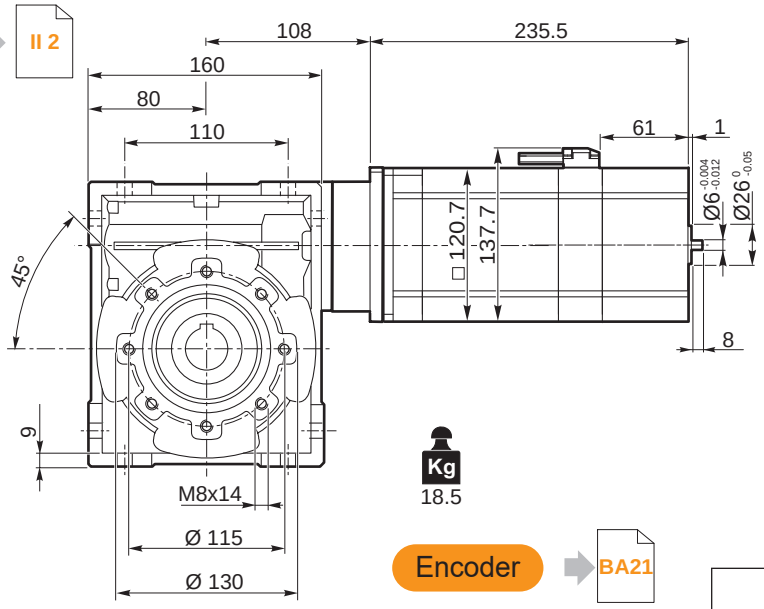
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

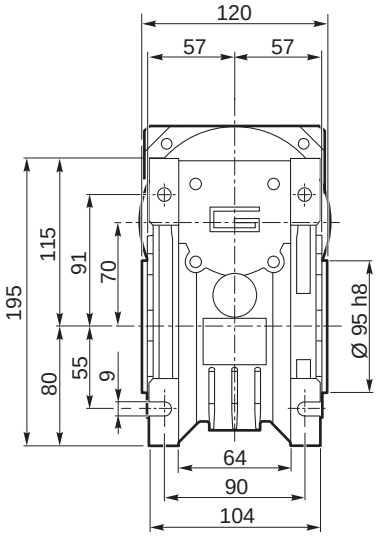
Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti *Drives* → II 2

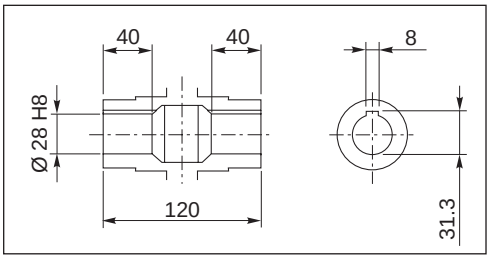
CM070..U + BL400.48.120



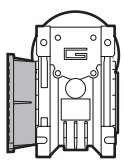
Kg 18.5

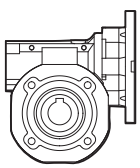


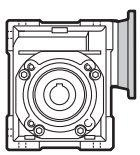
Encoder → BA21

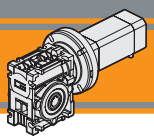


Albero lento cavo / *Hollow output shaft*

BE28 ←  **CM070.. F**

III 11 ←  **CL070**

BE27 ←  **CM070.. AS...**



Dati tecnici

Technical data

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CM026				
n_1 = 1400 rpm	**280**	13	0.44	5
	187	14	0.33	7,5
	140	14	0.25	10
	93	14	0.18	15
	70	14	0.14	20
	47	15	0.11	30
	35	14	0.08	40
	28	13	0.07	50
	23	12	0.06	60
CM030				
n_1 = 1400 rpm	**280**	18	0.61	5
	187	20	0.46	7.5
	140	21	0.37	10
	93	21	0.26	15
	70	19	0.19	20
	56	20	0.16	25
	47	22	0.16	30
	35	20	0.12	40
	28	19	0.10	50
	23	17	0.08	60
	18	15	0.06	80
	14	14	0.05	100
CM040				
n_1 = 1400 rpm	**280**	41	1.37	5
	187	44	1.00	7.5
	140	45	0.79	10
	93	45	0.54	15
	70	40	0.38	20
	56	38	0.30	25
	47	48	0.34	30
	35	42	0.24	40
	28	39	0.19	50
	23	36	0.15	60
	18	33	0.12	80
	14	31	0.10	100
CM050				
n_1 = 1400 rpm	**280**	75	2.5	5
	187	79	1.8	7.5
	140	82	1.4	10
	93	82	0.98	15
	70	72	0.67	20
	56	70	0.54	25
	47	88	0.60	30
	35	76	0.42	40
	28	72	0.34	50
	23	69	0.28	60
	18	60	0.20	80
	14	56	0.17	100
CM063				
n_1 = 1400 rpm	**280**	134	4.4	5
	187	144	3.2	7.5
	140	148	2.5	10
	93	154	1.8	15
	70	136	1.23	20
	56	135	1.0	25
	47	166	1.1	30
	35	142	0.74	40
	28	136	0.60	50
	23	126	0.49	60
	18	118	0.38	80
	14	116	0.33	100
CM070				
n_1 = 1400 rpm	**187**	200	4.4	7.5
	140	218	3.7	10
	93	221	2.6	15
	70	202	1.8	20
	56	180	1.3	25
	47	241	1.6	30
	35	210	1.1	40
	28	190	0.82	50
	23	181	0.68	60
	18	159	0.49	80
	14	154	0.43	100

	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CM026				
n_1 = 3000 rpm	**600**	10	0.71	5
	400	11	0.53	7.5
	300	11	0.41	10
	200	11	0.28	15
	150	11	0.22	20
	100	12	0.17	30
	75	11	0.13	40
	60	10	0.10	50
	50	9	0.08	60
CM030				
n_1 = 3000 rpm	**600**	13	0.92	5
	400	15	0.71	7.5
	300	16	0.58	10
	200	16	0.40	15
	150	14	0.27	20
	120	15	0.24	25
	100	18	0.25	30
	75	16	0.18	40
	60	15	0.14	50
	50	14	0.12	60
	37.5	12	0.08	80
	30	11	0.07	100
CM040				
n_1 = 3000 rpm	**600**	29	2.02	5
	400	31	1.46	7.5
	300	33	1.19	10
	200	35	0.87	15
	150	31	0.59	20
	120	28	0.44	25
	100	38	0.52	30
	75	34	0.37	40
	60	32	0.29	50
	50	29	0.23	60
	37.5	27	0.18	80
	30	24	0.13	100
CM050				
n_1 = 3000 rpm	**600**	54	3.73	5
	400	57	2.65	7.5
	300	60	2.14	10
	200	62	1.51	15
	150	55	1.03	20
	120	51	0.78	25
	100	67	0.90	30
	75	59	0.63	40
	60	57	0.50	50
	50	52	0.40	60
	37.5	46	0.29	80
	30	43	0.23	100
CM063				
n_1 = 3000 rpm	**600**	97	6.70	5
	400	103	4.79	7.5
	300	110	3.93	10
	200	115	2.80	15
	150	102	1.91	20
	120	94	1.42	25
	100	127	1.68	30
	75	112	1.16	40
	60	103	0.89	50
	50	97	0.73	60
	37.5	87	0.53	80
	30	80	0.42	100
CM070				
n_1 = 1400 rpm	**400**	142	6.6	7.5
	300	157	5.5	10
	200	166	4.0	15
	150	153	2.8	20
	120	137	2.0	25
	100	186	2.4	30
	75	166	1.7	40
	60	150	1.3	50
	50	142	1.0	60
	38	126	0.74	80
	30	116	0.59	100

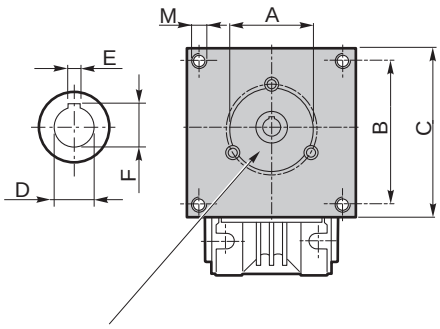
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Dimensioni CM con flange motore AS

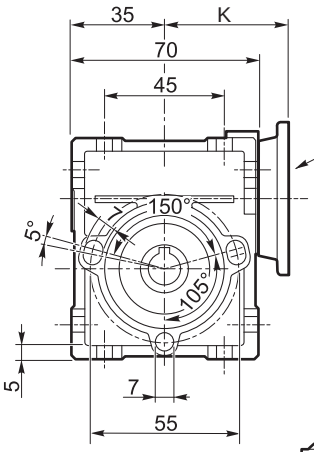
CM dimensions with motor flanges AS

CM026 - U - AS...



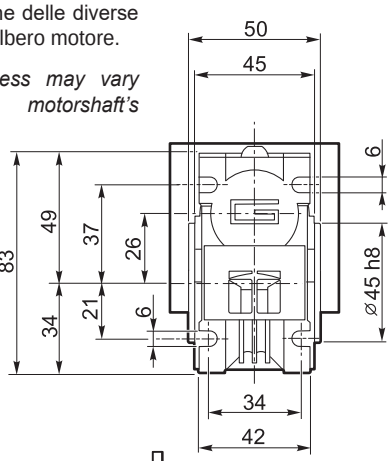
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

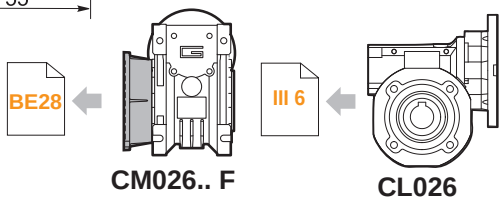
Connection with sleeve or coupling depending on motorshaft's diameter.



Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

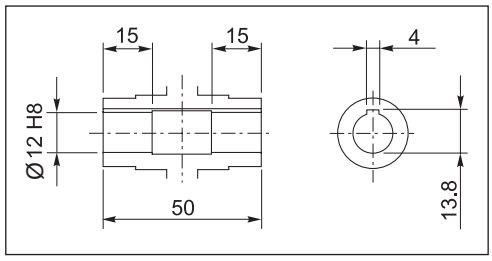
Flange's thickness may vary depending on motorshaft's lenght.





CM026.. F **CL026**

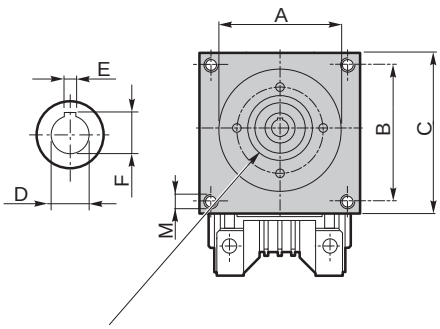
Kg 0.8



Albero lento cavo / *Hollow output shaft*

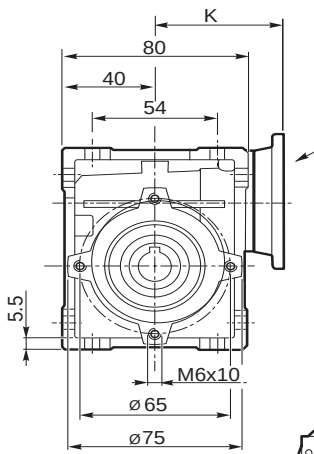
Dimensioni / Dimensions								
AS	A	B	C	M	K	Rapporti / *Ratio* 5...100		
						D	E	F
AS417	38.1	47.1	56	M4	49.5	9	3	10.4
...	...	...	...	...	...	...	...	...

CM030 - U - AS...



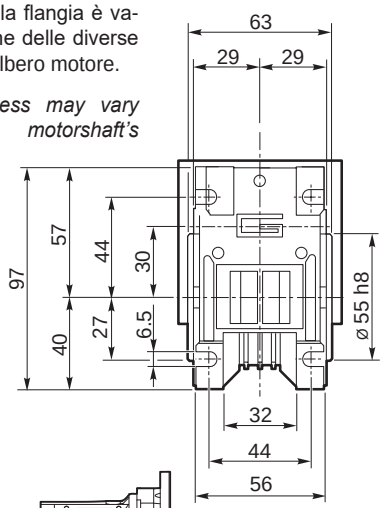
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

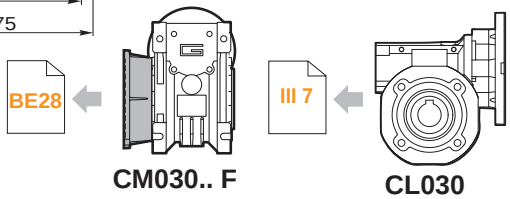
Connection with sleeve or coupling depending on motorshaft's diameter.



Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

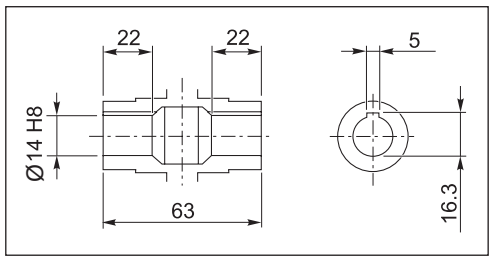
Flange's thickness may vary depending on motorshaft's lenght.





CM030.. F **CL030**

Kg 1.2



Albero lento cavo / *Hollow output shaft*

Dimensioni / Dimensions												
AS	A	B	C	M	K	Rapporti / *Ratio* 5...50			60...100			
						D	E	F	D	E	F	
AS393	38.1	47.1	57	M5	55	11	4	12.8	9	3	10.4	
AS391	73	69.6	86	M5	55	11	4	12.8	9	3	10.4	
...	...	...	...	...	...	...	...	...	...	...	...	

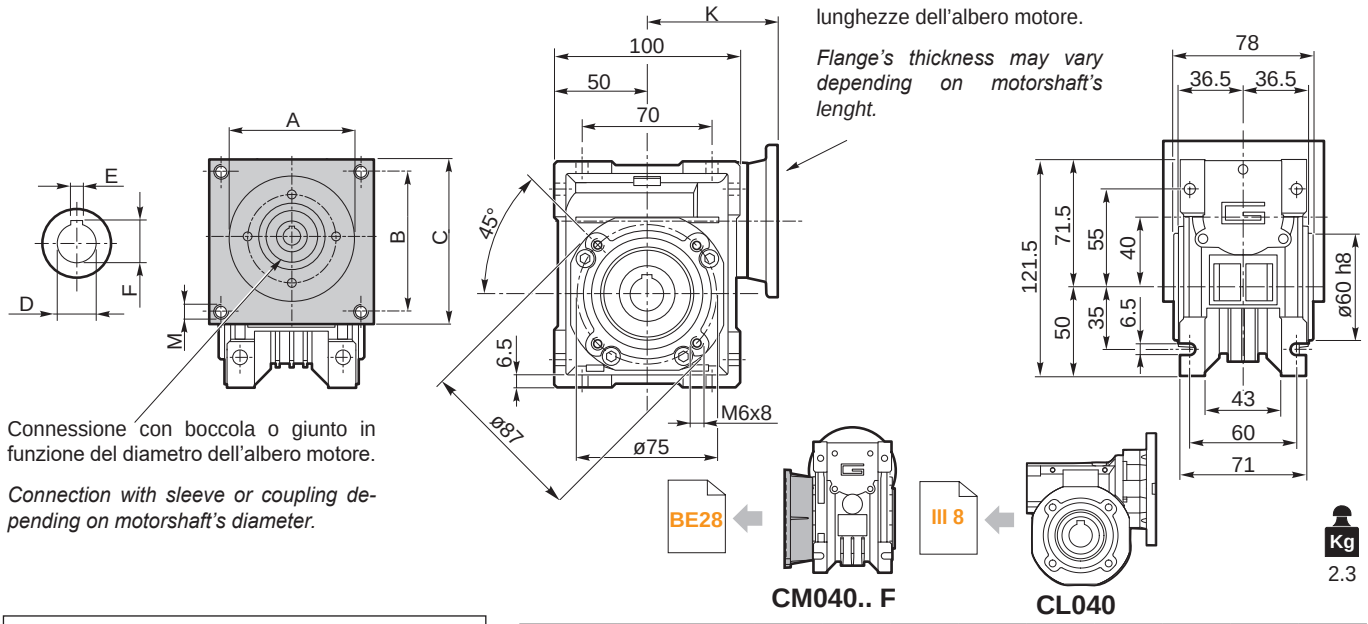
Dimensioni CM con flange motore AS

CM dimensions with motor flanges AS

CM040 - U - AS...

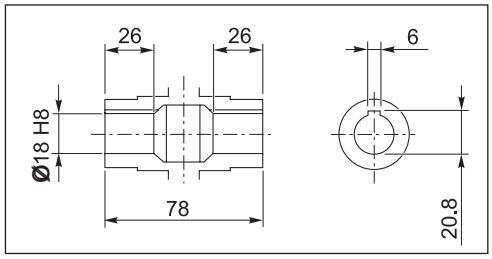
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



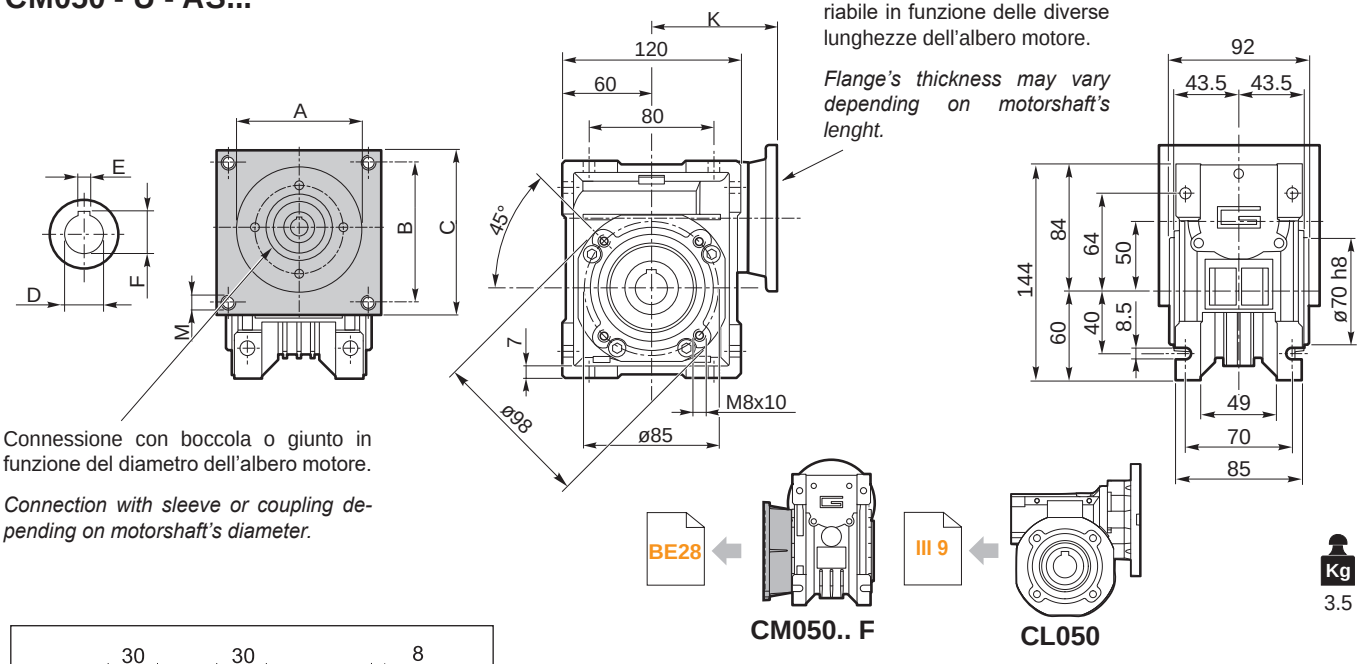
Albero lento cavo / *Hollow output shaft*

Dimensioni / Dimensions												
AS	A	B	C	M	K	Rapporti / *Ratio* 5...40 D	E	F	50...100 D	E	F
AS392FX	38.1	47.1	64	M5	73	14	5	16.3	11	4	12.8
AS384FX	73	69.6	86	M5	73	14	5	16.3	11	4	12.8
...	...	...	...	...	...	...	...	...	...	...	...

CM050 - U - AS...

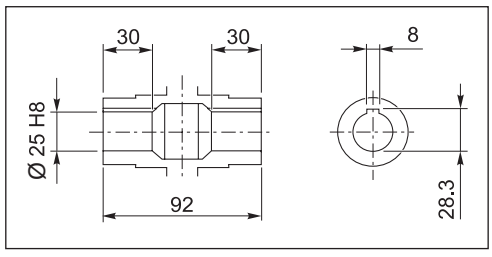
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.



Connessione con boccola o giunto in funzione del diametro dell'albero motore.

Connection with sleeve or coupling depending on motorshaft's diameter.



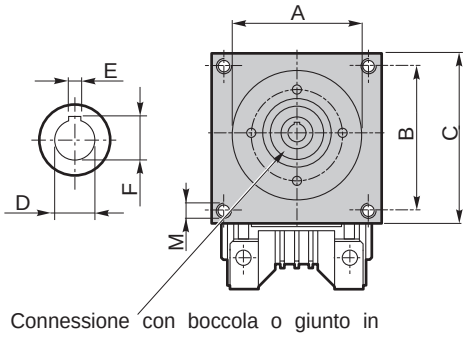
Albero lento cavo / *Hollow output shaft*

Dimensioni / Dimensions														
AS	A	B	C	M	K	Rapporti / *Ratio* 5...30 D	E	F	40...80 D	E	F	100 D	E	F
AS363	73	69.5	86	M5	80	19	6	21.8	14	5	16.3	11	4	12.8
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Dimensioni CM con flange motore AS

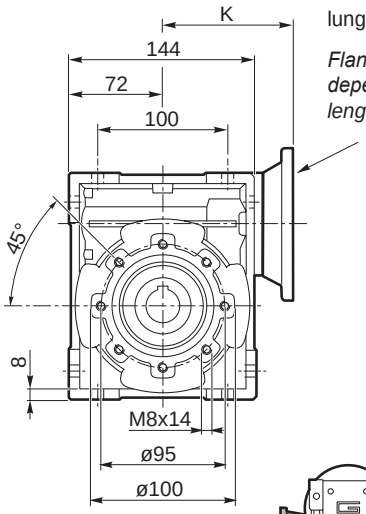
CM dimensions with motor flanges AS

CM063 - U - AS...



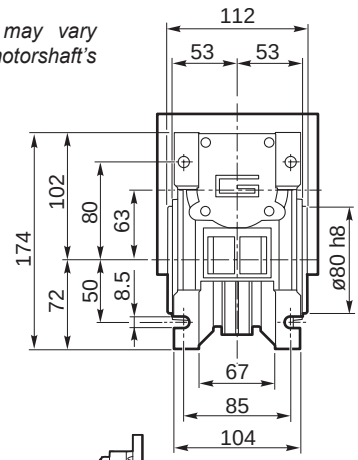
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

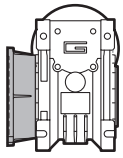
Connection with sleeve or coupling depending on motorshaft's diameter.



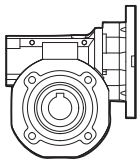
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.





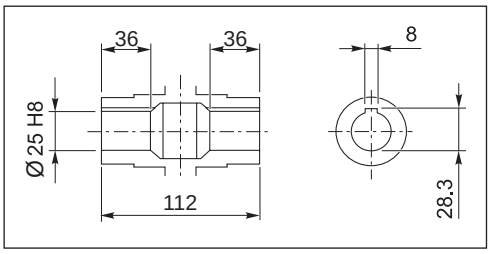
CM063.. F



CL063

BE28 — III 10

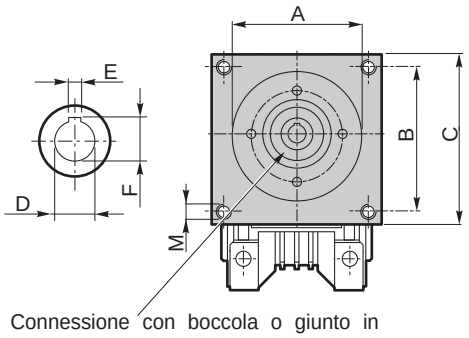
Kg 6.2



Albero lento cavo / *Hollow output shaft*

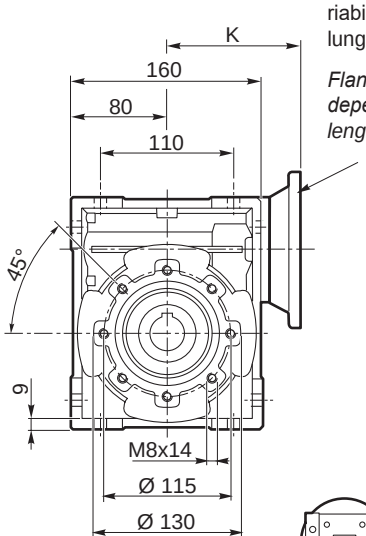
Dimensioni / Dimensions														
AS	A	B	C	M	K	Rapporti / *Ratio* 5...30			40...60			80...100		
						D	E	F	D	E	F	D	E	F
AS302	73	69.6	86	M5	98	24	8	27.3	19	6	21.8	14	5	16.3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

CM070 - U - AS...



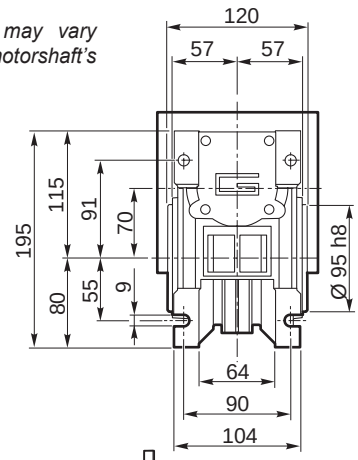
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

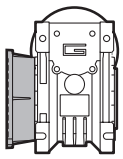
Connection with sleeve or coupling depending on motorshaft's diameter.



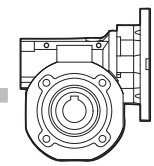
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.





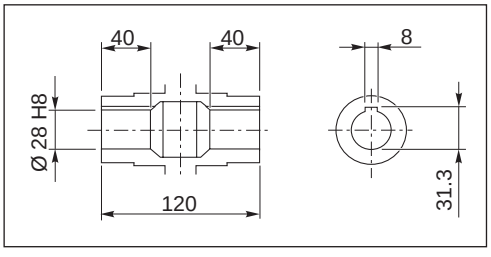
CM070.. F



CL070

BE28 — III 11

Kg 7.5



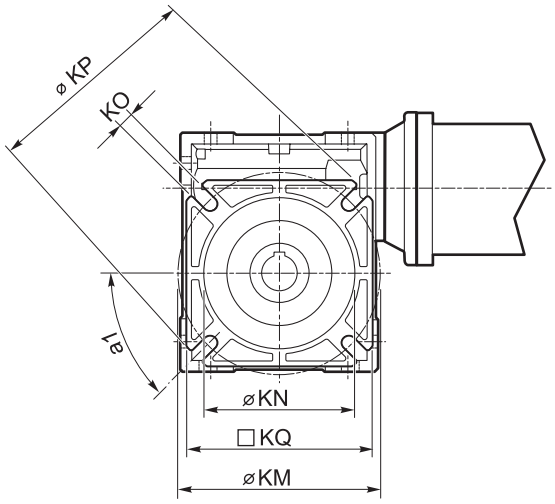
Albero lento cavo / *Hollow output shaft*

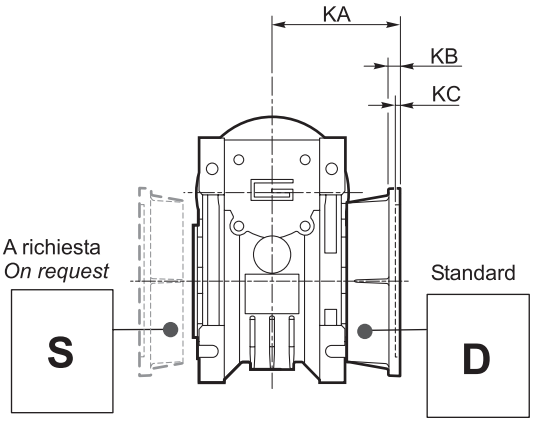
Dimensioni / Dimensions														
AS	A	B	C	M	K	Rapporti / *Ratio* 5...20			25...40			50...100		
						D	E	F	D	E	F	D	E	F
...	...	...	...	...	...	28	8	31.3	24	8	27.3	19	6	21.8

IP 55
CM

Dimensioni flange uscita — *Output flange dimensions*

CM.../... F... Flange uscita / *Output flanges*



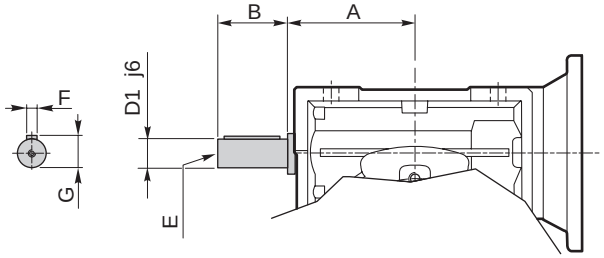


		CM..F								CM..F28								CM..F30							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
026	45°	45	6	4.5	55-69	40	6.5(n.4)	75	70	44	6.5	5	56-64	40	6.5	70	60	48	6.5	5	68	50	6.5	80	70

CM		CM..F								CM..FB								CM..FL							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
030	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
040	45°	67	7.5	4	80-95	60	9(n.4)	110	95	80	8.5	5	115-125	95	9.5(n.4)	140	112	97	7.5	4.5	80-95	60	9(n.4)	110	95
050	45°	90	9	5	90-110	70	11(n.4)	125	110	89	9	5	130-145	110	9.5(n.4)	160	132	120	9	5	90-110	70	11(n.4)	125	110
063	45°	82	10	6	150-160	115	11(n.4)	180	142	98	10	5	165-180	130	11(n.4)	200	160	112	10	6	150-160	115	11(n.4)	180	142
070	45°	107	13	6	165-180	130	14(n.4)	200	170	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

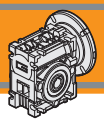
Opzioni — *Options*

VS - Vite sporgente / *Extended input shaft*



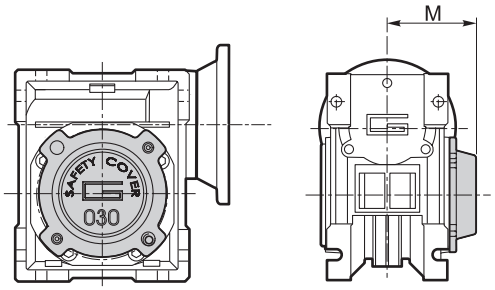
CM	A	B	D_1 j6	E	F	G
030	45	20	9	M4	3	10.2
040	53	23	11	M5	4	12.5
050	64	30	14	M6	5	16
063	75	40	19	M6	6	21.5
070	84	40	19	M6	6	21.5

Costruito su richiesta
Built on request



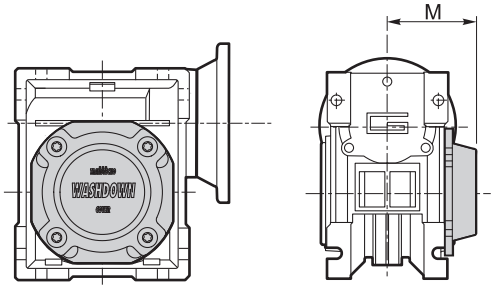
Opzioni — *Options*

SC - *Safety cover*



CM	M
030	47
040	54.5
050	62.5
063	73
070	75

WD - *Washdown cover*



CM	M
026 (*)	37.5
030	48
040	55.5
050	63.5
063	71.5
070	76

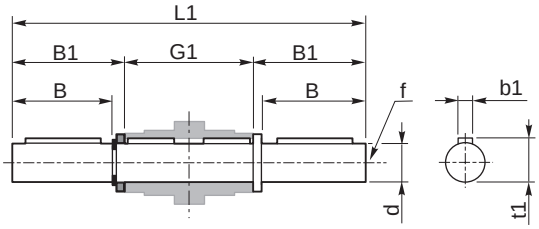
(*)
Nota: Viti escluse dalla fornitura
Note: *Screws not included in the supply*

IP 55
CM

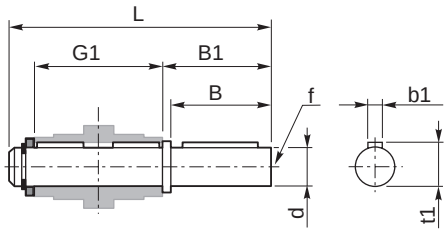
Accessori — *Accessories*

Albero lento — *Output shaft*

DZ

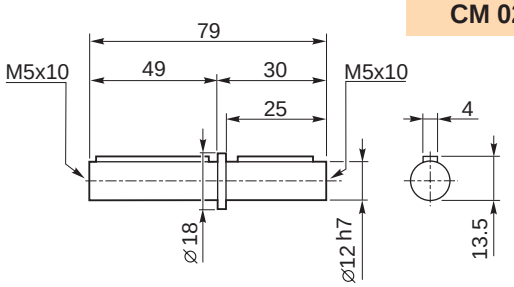


SZ



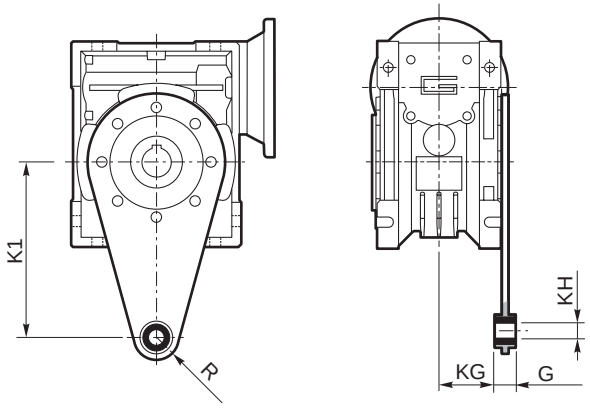
	d h7	B	B1	G1	L	L1	f	b1	t1
CM 030	14	30	32.5	63	102	128	M6	5	16
CM 040	18	40	43	78	128	164	M6	6	20.5
CM 050	25	50	53.5	92	153	199	M10	8	28
CM 063	25	50	53.5	112	173	219	M10	8	28
CM 070	28	60	63.5	120	192	247	M10	8	31

CM 026



Braccio di reazione — *Torque arm*

	K1	G	KG	KH	R
CM 030	85	14	23	8	15
CM 040	100	14	31	10	18
CM 050	100	14	38	10	18
CM 063	150	14	47.5	10	18
CM 070	200	25	46.5	20	30



TRANSTECNO®
the modular gearmotor

BLPM

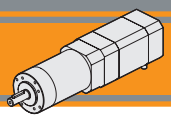
BLPM

BLPM Alu

IP55

Motoriduttori brushless CC epicicloidali
Brushless DC planetary gearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**BF2**
Designazione	*Classification*	**BF2**
Simbologia	*Symbols*	**BF2**
Lubrificazione e temperatura	*Lubrification and temperature*	**BF3**
Carichi radiali	*Radial loads*	**BF3**
Rapporti	*Ratios*	**BF3**
PM52 con motore brushless BLS 022.240	*PM52 with brushless motor BLS 022.240*	**BF4**
PM52 con motore brushless BLS 043.240	*PM52 with brushless motor BLS 043.240*	**BF6**
PM62 con motore brushless BL 070.240	*PM62 with brushless motor BL 070.240*	**BF8**
PM62 con motore brushless BL 070.480	*PM62 with brushless motor BL 070.480*	**BF8**
PM62 con motore brushless BL 070.48.80	*PM62 with brushless motor BL 070.48.80*	**BF10**
PM62 con motore brushless BL 140.480	*PM62 with brushless motor BL 140.480*	**BF12**
PM72 con motore brushless BL 070.240	*PM72 with brushless motor BL 070.240*	**BF14**
PM72 con motore brushless BL 070.480	*PM72 with brushless motor BL 070.480*	**BF14**
PM72 con motore brushless BL 070.48.80	*PM72 with brushless motor BL 070.48.80*	**BF16**
PM72 con motore brushless BL 140.480	*PM72 with brushless motor BL 140.480*	**BF18**
PM81 con motore brushless BL 140.480	*PM81 with brushless motor BL 140.480*	**BF20**
PM81 con motore brushless BL 200.48.95	*PM81 with brushless motor BL 200.48.95*	**BF22**
PM81 con motore brushless BL 210.480	*PM81 with brushless motor BL 210.480*	**BF24**
PM105 con motore brushless BL 200.48.95	*PM105 with brushless motor BL 200.48.95*	**BF26**
PM105 con motore brushless BL 210.480	*PM105 with brushless motor BL 210.480*	**BF28**
PM105 con motore brushless BL 400.48.120	*PM105 with brushless motor BL 400.48.120*	**BF30**
PM120 con motore brushless BL 400.48.120	*PM120 with brushless motor BL 400.48.120*	**BF32**
Dati tecnici	*Technical data*	**BF34**
Dimensioni PM con flange motore AS	*PM dimensions with motor flanges AS*	**BF35**
Flange uscita	*Output flange*	**BF41**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

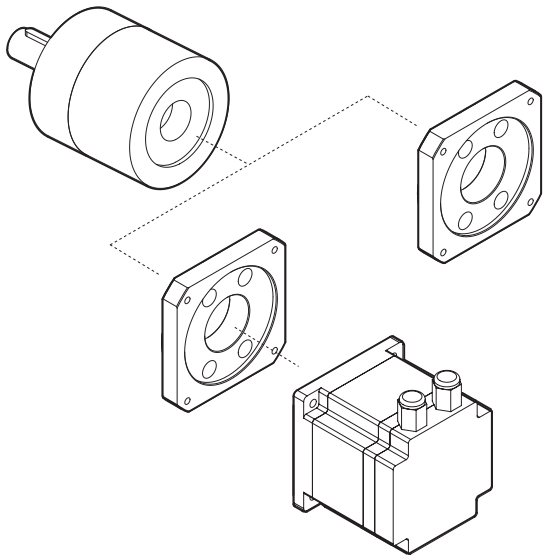
Le caratteristiche principali dei motoriduttori brushless CC epicicloidali della serie PM sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore protezione IP55
- Coppie motori disponibili da 0.22 Nm a 4.2 Nm
- Lubrificazione permanente a grasso
- Completamente in metallo
- Doppio cuscinetto su albero di uscita
- Disponibili anche nella versione con solo riduttore, sia con flangia di entrata standard che con flangia e manicotto dedicati

The main features of brushless DC planetary gearmotors PM range are:

- *Low voltage power supply 24/36/48 Vdc*
- *Motor protection IP55*
- *Motor torque ratings available from 0.22 Nm up to 4.2 Nm*
- *Permanent grease long life lubrication*
- *Completely made out of metal*
- *Double ball bearing on output shaft*
- *Gearbox only version also available, with either standard input flange or customized flange and coupling*

ENERGY SAVING



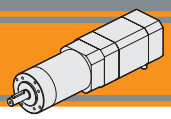
Designazione — *Classification*

RIDUTTORE / *GEARBOX*			
PM	**52**	**2**	**46**
Tipo *Type*	Grandezza *Size*	Stadi riduttore *Gearbox stages*	Rapporto in *Ratio in*
PM	**52** **62** **72** **81** **105** **120**	**1** **2** **3**	Vedere tabelle *See tables*

MOTORE / *MOTOR*		
BL070.480	**48V**	**BR**
Tipo *Type*	Tensione *Voltage*	Freno *Brake*
BLS022.240	**24V-36V**	**24V**
BLS043.240	**24V-36V**	**48V**
BL070.240	**24V**	
BL070.24B	**24V**	
BL070.48B	**48V**	
BL070.480	**48V**	BA16
BL070.48.80	**24V-48V**	
BL140.480	**48V**	
BL200.48.95	**24V-48V**	
BL210.480	**24V-48V**	
BL210.48E	**48V**	
BL400.48.120	**48V**	

Simbologia — *Symbols*

Ns		n° stadi / *No. stages*
ir		rapporto reale / *real ratio*
M_2	[Nm]	coppia in uscita *output torque*
Rd		rendimento dinamico / *efficiency*
A_2	[N]	Carico assiale ammissibile in uscita Permitted output *axial load*
R_2	[N]	Carico radiale ammissibile in uscita *Permitted output radial load*
Pn_1	[kW]	Potenza nominale in entrata *Nominal input power*
Mn_2	[Nm]	Coppia nominale in uscita in funzione di Pn1 *Nominal output torque referred to Pn1*
V	[V]	*Tensione / Voltage*
n_{1MAX}	[Rpm]	Velocità max entrata / *Max input speed*
n_2	[Rpm]	Velocità in uscita / *Output Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*
sf		Fattore di servizio / *Service Factor*

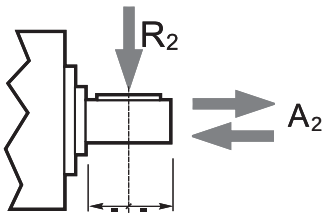


Lubrificazione e temperatura / *Lubrication and temperature*

I motoriduttori epicicloidali PM sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Planetary PM gearmotors are life-time lubricated with grease, therefore they are maintenance free.
They can be installed in any location.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

Carichi radiali / *Radial loads*



Numero di stadi *N° of stages*	Carichi Radiali R_2 [N] / *Radial Load R_2 [N]*					
	PM52	PM62	PM72	PM81	PM105	PM120
1	200	240	320	400	600	600
2	320	360	480	600	900	900
3	450	520	760	1000	1500	1500

Numero di stadi *N° of stages*	Carichi Assiali A_2 [N] / *Axial Load A_2 [N]*					
	PM52	PM62	PM72	PM81	PM105	PM120
1	60	70	70	80	120	120
2	100	100	100	120	180	180
3	150	150	160	200	300	300

Rapporti / *Ratios*

Numero di stadi *Stages number*	Per tutte le grandezze di riduttori della serie PM *For all gearbox sizes of PM range*
	Rapporti / *Ratios*
1	3.70
	4.28*
	5.18*
	6.75
2	13.73
	15.88*
	18.36*
	19.20*
	22.20*
	25.01
	26.85*
	28.93*
	34.97*
	45.56
3	50.89
	58.85*
	68.06*
	71.16*
	78.71*
	92.70
	95.17*
	99.50*
	107.20*
	115.07*
	123.97*
	129.62*
	139.13*
	149.90*
	168.84
	181.24*
	195.26*
	236.09*
	307.54

Rapporti preferenziali per le taglie PM52, PM62 e PM81
Preferred ratios for PM52, PM62 e PM81.

Disponibile a 4 stadi con rapporti fino a 2076
Available 4 stages with ratio up to 2076

*: Rapporto non disponibile per PM120
Ratio not available for PM120

PM52 con motore brushless

PM52 with brushless motor

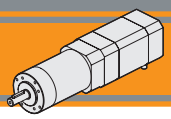
PM52			BLS022.240													
			24V							36V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	81	0.7	9.0	811	0.7	6.1		108	0.7	9.0	1081	0.7	5.4	
	4.28	4	70	0.8	7.8	701	0.8	5.3		93	0.8	7.8	935	0.8	4.7	
	5.18	5	58	0.9	6.4	579	0.9	4.4		77	0.9	6.4	772	0.9	3.9	
	6.75	**7**	44	1.2	4.9	444	1.2	3.3		59	1.2	4.9	593	1.2	3.0	
2	**13.73**	**14**	22	2.3	7.6	218	2.3	5.2		29	2.3	7.6	291	2.3	4.6	
	15.88	16	19	2.6	6.6	189	2.6	4.5		25	2.6	6.6	252	2.6	4.0	
	18.36	18	16	3.0	5.7	163	3.0	3.9		22	3.0	5.7	218	3.0	3.4	
	19.2	19	16	3.2	5.4	156	3.2	3.7		21	3.2	5.4	208	3.2	3.3	
	22.2	22	14	3.7	4.7	135	3.7	3.2		18	3.7	4.7	180	3.7	2.8	
	25.01	**25**	12	4.1	4.2	120	4.1	2.8		16	4.1	4.2	160	4.1	2.5	
	26.9	27	11	4.4	3.9	112	4.4	2.6		15	4.4	3.9	149	4.4	2.3	
	28.9	29	10	4.8	3.6	104	4.8	2.5		14	4.8	3.6	138	4.8	2.2	
	35.0	35	8.6	5.8	3.0	86	5.8	2.0		11	5.8	3.0	114	5.8	1.8	
	45.6	**46**	6.6	7.5	2.3	66	7.5	1.6		8.8	7.5	2.3	88	7.5	1.4	
3	50.9	51	5.9	8	4.7	59	7.8	3.2		7.9	8	4.7	79	7.8	2.8	
	58.9	59	5.1	9	4.1	51	9.1	2.8		6.8	9	4.1	68	9.1	2.4	
	68.06	68	4.4	10	3.5	44	10	2.4	3000	5.9	10	3.5	59	10	2.1	4000
	71.2	71	4.2	11	3.4	42	11	2.3		5.6	11	3.4	56	11	2.0	
	78.7	79	3.8	12	3.0	38	12	2.1		5.1	12	3.0	51	12	1.8	
	92.7	**93**	3.2	14	2.6	32	14	1.7		4.3	14	2.6	43	14	1.5	
	95.2	95	3.2	15	2.5	32	15	1.7		4.2	15	2.5	42	15	1.5	
	99.5	100	3.0	15	2.4	30	15	1.6		4.0	15	2.4	40	15	1.4	
	107.2	107	2.8	17	2.2	28	17	1.5		3.7	17	2.2	37	17	1.3	
	115.07	115	2.6	18	2.1	26	18	1.4		3.5	18	2.1	35	18	1.2	
	123.97	124	2.4	19	1.9	24	19	1.3		3.2	19	1.9	32	19	1.2	
	129.62	130	2.3	20	1.8	23	20	1.3		3.1	20	1.8	31	20	1.1	
	139.13	139	2.2	21	1.7	22	21	1.2		2.9	21	1.7	29	21	1.0	
	149.9	150	2.0	23	1.6	20	23	1.1		2.7	23	1.6	27	23	1.0	
	168.84	**169**	1.8	26	1.4	18	26	1.0		2.4	26	1.4	24	26	0.8	
	181.24	181	1.7	28	1.3	17	28	0.9		2.2	28	1.3	22	28	0.8	
	195.26	195	1.5	30	1.2	15	30	0.8		2.0	30	1.2	20	30	0.7	
	236.09	236	1.3	36	1.0	13	36	0.7		1.7	36	1.0	17	31	0.7	
	307.54	**308**	1.0	47	0.8	9.8	36	0.7		1.3	47	0.8	13	31	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



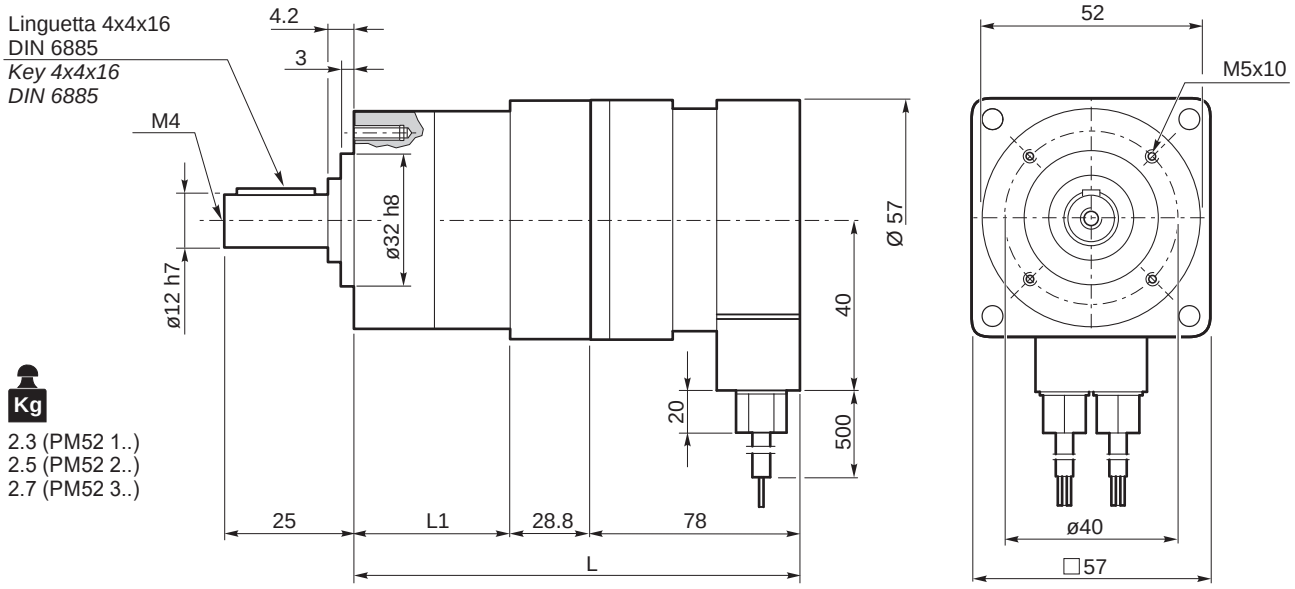
PM52 con motore brushless CC — *PM52 with brushless DC motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70

Tipo *Type*	Coppia massima *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Resistenza *Resistance* [ohm]	Induttanza *Inductance* [mH]	Corrente massima *Peak current* [A]	Peso *Weight* [kg]
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

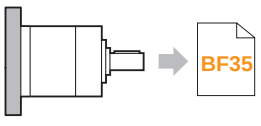
Azionamenti *Drives* → II 2

PM52..
+
BLS022.240

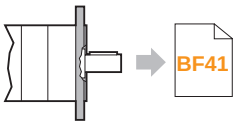


Kg
2.3 (PM52 1..)
2.5 (PM52 2..)
2.7 (PM52 3..)

			BLS022.240
	Ns	L1	L
PM52	1	47.2	154.0
	2	61.3	168.1
	3	75.6	182.4



PM52.. AS...



PM52.. C...

PM52 con motore brushless CC

PM52 with brushless DC motor

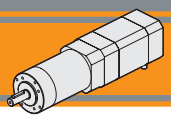
PM52			BLS043.240													
			24V							36V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	81	1.3	4.6	811	1.3	3.1		108	1.3	4.6	1081	1.3	2.8	
	4.28	4	70	1.5	4.0	701	1.5	2.7		93	1.5	4.0	935	1.5	2.4	
	5.18	5	58	1.8	3.3	579	1.8	2.2		77	1.8	3.3	772	1.8	2.0	
	6.75	**7**	44	2.3	2.5	444	2.3	1.7		59	2.3	2.5	593	2.3	1.5	
2	**13.73**	**14**	22	4.4	3.9	218	4.4	2.6		29	4.4	3.9	291	4.4	2.3	
	15.88	16	19	5.1	3.4	189	5.1	2.3		25	5.1	3.4	252	5.1	2.0	
	18.36	18	16	5.9	2.9	163	5.9	2.0		22	5.9	2.9	218	5.9	1.7	
	19.2	19	16	6.2	2.8	156	6.2	1.9		21	6.2	2.8	208	6.2	1.7	
	22.2	22	14	7.2	2.4	135	7.2	1.6		18	7.2	2.4	180	7.2	1.4	
	25.01	**25**	12	8.1	2.1	120	8.1	1.5		16	8.1	2.1	160	8.1	1.3	
	26.9	27	11	8.7	2.0	112	8.7	1.4		15	8.7	2.0	149	8.7	1.2	
	28.9	29	10	9.3	1.8	104	9.3	1.3		14	9.3	1.8	138	9.3	1.1	
	35.0	35	8.6	11	1.5	86	11.3	1.0		11	11	1.5	114	11	0.9	
	45.6	**46**	6.6	15	1.2	66	14.7	0.8		8.8	15	1.2	88	15	0.7	
3	50.9	51	5.9	15	2.4	59	15.3	1.6		7.9	15	2.4	79	15	1.4	
	58.9	59	5.1	18	2.1	51	17.7	1.4		6.8	18	2.1	68	18	1.2	
	68.06	68	4.4	20	1.8	44	20	1.2	3000	5.9	20	1.8	59	20	1.1	4000
	71.2	71	4.2	21	1.7	42	21	1.2		5.6	21	1.7	56	21	1.0	
	78.7	79	3.8	24	1.6	38	24	1.1		5.1	24	1.6	51	24	0.9	
	92.7	**93**	3.2	28	1.3	32	28	0.9		4.3	28	1.3	43	28	0.8	
	95.2	95	3.2	29	1.3	32	29	0.9		4.2	29	1.3	42	29	0.8	
	99.5	100	3.0	30	1.2	30	30	0.8		4.0	30	1.2	40	30	0.7	
	107.2	107	2.8	32	1.1	28	32	0.8		3.7	32	1.1	37	31	0.7	
	115.07	115	2.6	35	1.1	26	35	0.7		3.5	35	1.1	35	31	0.7	
	123.97	124	2.4	37	1.0	24	36	0.7		3.2	37	1.0	32	31	0.7	
	129.62	130	2.3	39	0.9	23	36	0.7		3.1	39	0.9	31	31	0.7	
	139.13	139	2.2	42	0.9	22	36	0.7		2.9	42	0.9	29	31	0.7	
	149.9	150	2.0	45	0.8	20	36	0.7		2.7	45	0.8	27	31	0.7	
	168.84	**169**	1.8	51	0.7	18	36	0.7		2.4	51	0.7	24	31	0.7	
	181.24	181	1.7	53	0.7	17	36	0.7		2.2	53	0.7	22	31	0.7	
	195.26	195	1.5	53	0.7	15	36	0.7		2.0	53	0.7	20	31	0.7	
	236.09	236	1.3	53	0.7	13	36	0.7		1.7	53	0.7	17	31	0.7	
	307.54	**308**	1.0	53	0.7	9.8	36	0.7		1.3	53	0.7	13	31	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



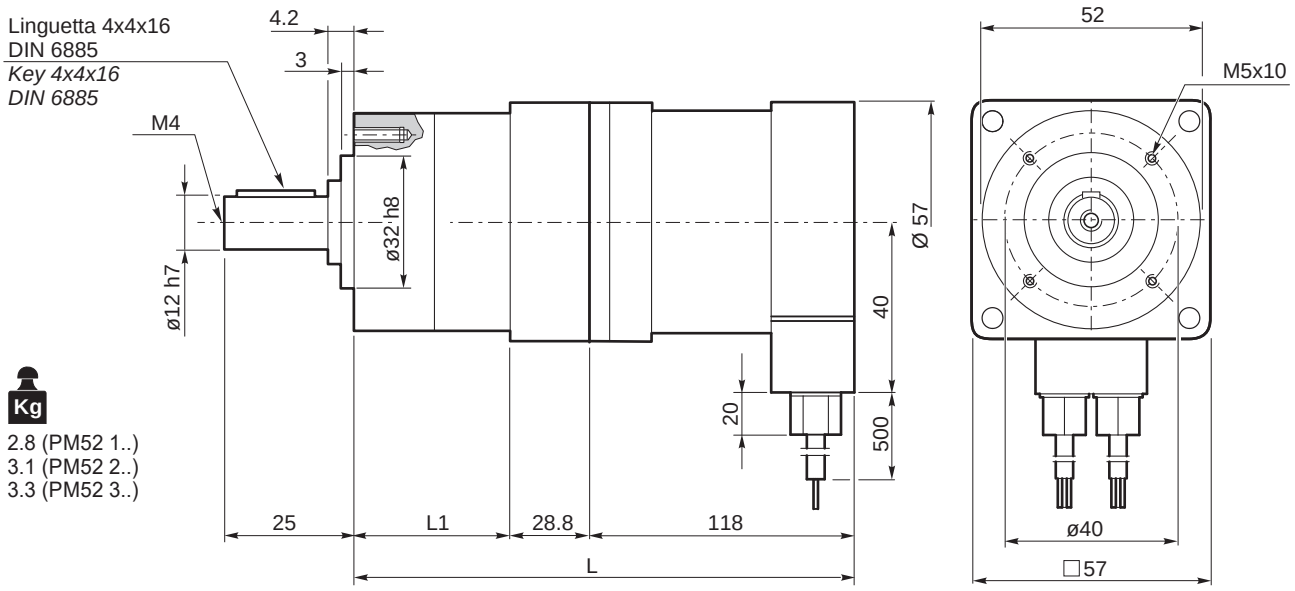
PM52 con motore brushless CC — *PM52 with brushless DC motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130

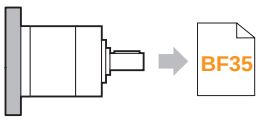
Tipo *Type*	Coppia massima *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Resistenza *Resistance* [ohm]	Induttanza *Inductance* [mH]	Corrente massima *Peak current* [A]	Peso *Weight* [kg]
BLS043.240	0.86	6.8	0.35	1	13.6	1.25

Azionamenti *Drives* → II 2

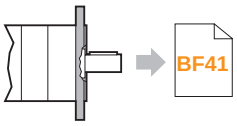
PM52..
+
BLS043.240



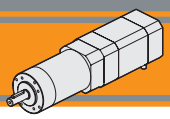
	Ns	L1	BLS043.240 L
PM52	1	47.2	194.0
	2	61.3	208.1
	3	75.6	222.4



PM52.. AS...



PM52.. C...



PM62 con motore brushless CC

PM62 with brushless DC motor

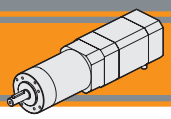
PM62			BL070.240 / BL070.24B / BL070.480 / BL070.48B						
			24V / 48V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf	
1	**3.7**	**4**	81	2.1	5.6	811	2.1	3.8	
	4.28	4	70	2.4	4.8	701	2.4	3.3	
	5.18	5	58	2.9	4.0	579	2.9	2.7	
	6.75	**7**	44	3.8	3.0	444	3.8	2.1	
2	**13.73**	**14**	22	7.2	5.1	218	7.2	3.5	
	15.88	16	19	8.3	4.4	189	8.3	3.0	
	18.36	18	16	9.6	3.8	163	9.6	2.6	
	19.2	19	16	10	3.7	156	10	2.5	
	22.2	22	14	12	3.2	135	12	2.1	
	25.01	**25**	12	13	2.8	120	13	1.9	
	26.9	27	11	14	2.6	112	14	1.8	
	28.9	29	10	15	2.4	104	15	1.6	
	35.0	35	8.6	18	2.0	86	18	1.4	
	45.6	**46**	6.6	24	1.5	66	24	1.0	
3	50.9	51	5.9	25	3.0	59	25	2.0	
	58.9	59	5.1	29	2.6	51	29	1.7	
	68.06	68	4.4	33	2.2	44	33	1.5	3000
	71.2	71	4.2	35	2.1	42	35	1.4	
	78.7	79	3.8	39	1.9	38	39	1.3	
	92.7	**93**	3.2	45	1.6	32	45	1.1	
	95.2	95	3.2	47	1.6	32	47	1.1	
	99.5	100	3.0	49	1.5	30	49	1.0	
	107.2	107	2.8	53	1.4	28	53	1.0	
	115.07	115	2.6	56	1.3	26	56	0.9	
	123.97	124	2.4	61	1.2	24	61	0.8	
	129.62	130	2.3	64	1.2	23	64	0.8	
	139.13	139	2.2	68	1.1	22	68	0.7	
	149.9	150	2.0	73	1.0	20	71	0.7	
	168.84	**169**	1.8	83	0.9	18	71	0.7	
	181.24	181	1.7	89	0.8	17	71	0.7	
	195.26	195	1.5	96	0.8	15	71	0.7	
	236.09	236	1.3	105	0.7	13	71	0.7	
	307.54	**308**	1.0	105	0.7	9.8	71	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



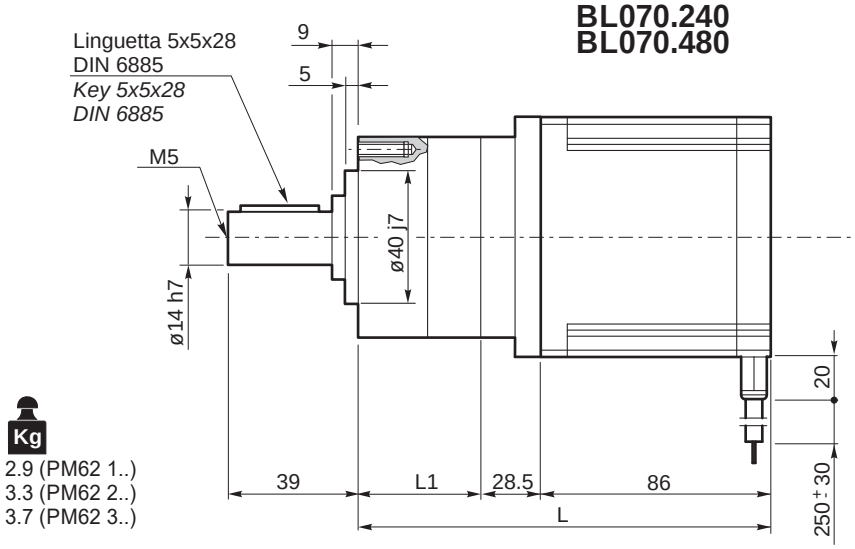
PM62 con motore brushless CC

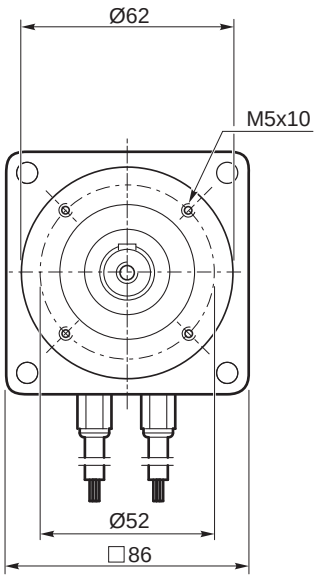
PM62 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

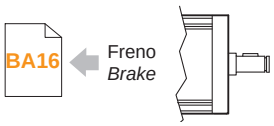
Azionamenti *Drives* → II 2

PM62..
+
BL070.240
BL070.480



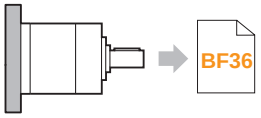


Kg
2.9 (PM62 1..)
3.3 (PM62 2..)
3.7 (PM62 3..)

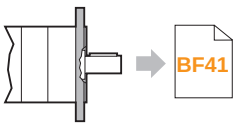


BL070.24B
BL070.48B

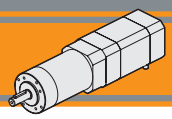
	Ns	L1	BL 070.240 BL 070.480 L
PM62	1	45.3	159.8
	2	62.2	176.7
	3	79.2	193.7



PM62.. AS...



PM62.. C...



PM62 con motore brushless CC

PM62 with brushless DC motor

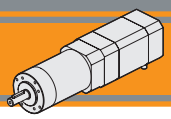
PM62			BL070.48.80													
			24V							48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	68	2.1	5.7	676	2.1	3.9		108	2.1	5.7	1081	2.1	3.4	
	4.28	4	58	2.4	4.9	584	2.4	3.3		93	2.4	4.9	935	2.4	3.0	
	5.18	5	48	2.9	4.1	483	2.9	2.8		77	2.9	4.1	772	2.9	2.4	
	6.75	**7**	37	3.8	3.1	370	3.8	2.1		59	3.8	3.1	593	3.8	1.9	
2	**13.73**	**14**	18	7.2	5.1	182	7.2	3.5		29	7.2	5.1	291	7.2	3.1	
	15.88	16	16	8.3	4.4	157	8.3	3.0		25	8.3	4.4	252	8.3	2.7	
	18.36	18	14	9.6	3.8	136	9.6	2.6		22	9.6	3.8	218	9.6	2.3	
	19.2	19	13	10	3.7	130	10	2.5		21	10	3.7	208	10	2.2	
	22.2	22	11	12	3.2	113	12	2.1		18	12	3.2	180	12	1.9	
	25.01	**25**	10	13	2.8	100	13	1.9		16	13	2.8	160	13	1.7	
	26.9	27	9.3	14	2.6	93	14	1.8		15	14	2.6	149	14	1.6	
	28.9	29	8.6	15	2.4	86	15	1.6		14	15	2.4	138	15	1.5	
	35.0	35	7.1	18	2.0	71	18	1.4		11	18	2.0	114	18	1.2	
	45.6	**46**	5.5	24	1.5	55	24	1.0		8.8	24	1.5	88	24	0.9	
3	50.9	51	4.9	25	3.0	49	25	2.0		7.9	25	3.0	79	25	1.8	
	58.9	59	4.2	29	2.6	42	29	1.7		6.8	29	2.6	68	29	1.5	
	68.06	68	3.7	33	2.2	37	33	1.5	2500	5.9	33	2.2	59	33	1.3	4000
	71.2	71	3.5	35	2.1	35	35	1.4		5.6	35	2.1	56	35	1.3	
	78.7	79	3.2	39	1.9	32	39	1.3		5.1	39	1.9	51	39	1.1	
	92.7	**93**	2.7	45	1.6	27	45	1.1		4.3	45	1.6	43	45	1.0	
	95.2	95	2.6	47	1.6	26	47	1.1		4.2	47	1.6	42	47	0.9	
	99.5	100	2.5	49	1.5	25	49	1.0		4.0	49	1.5	40	49	0.9	
	107.2	107	2.3	53	1.4	23	53	1.0		3.7	53	1.4	37	53	0.8	
	115.07	115	2.2	56	1.3	22	56	0.9		3.5	56	1.3	35	56	0.8	
	123.97	124	2.0	61	1.2	20	61	0.8		3.2	61	1.2	32	61	0.7	
	129.62	130	1.9	64	1.2	19	64	0.8		3.1	64	1.2	31	61	0.7	
	139.13	139	1.8	68	1.1	18	68	0.7		2.9	68	1.1	29	61	0.7	
	149.9	150	1.7	73	1.0	17	68	0.7		2.7	73	1.0	27	61	0.7	
	168.84	**169**	1.5	83	0.9	15	68	0.7		2.4	83	0.9	24	61	0.7	
	181.24	181	1.4	89	0.8	14	68	0.7		2.2	89	0.8	22	61	0.7	
	195.26	195	1.3	96	0.8	13	68	0.7		2.0	96	0.8	20	61	0.7	
	236.09	236	1.1	105	0.7	11	68	0.7		1.7	105	0.7	17	61	0.7	
	307.54	**308**	0.8	105	0.7	8.1	68	0.7		1.3	105	0.7	13	61	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM62 con motore brushless CC

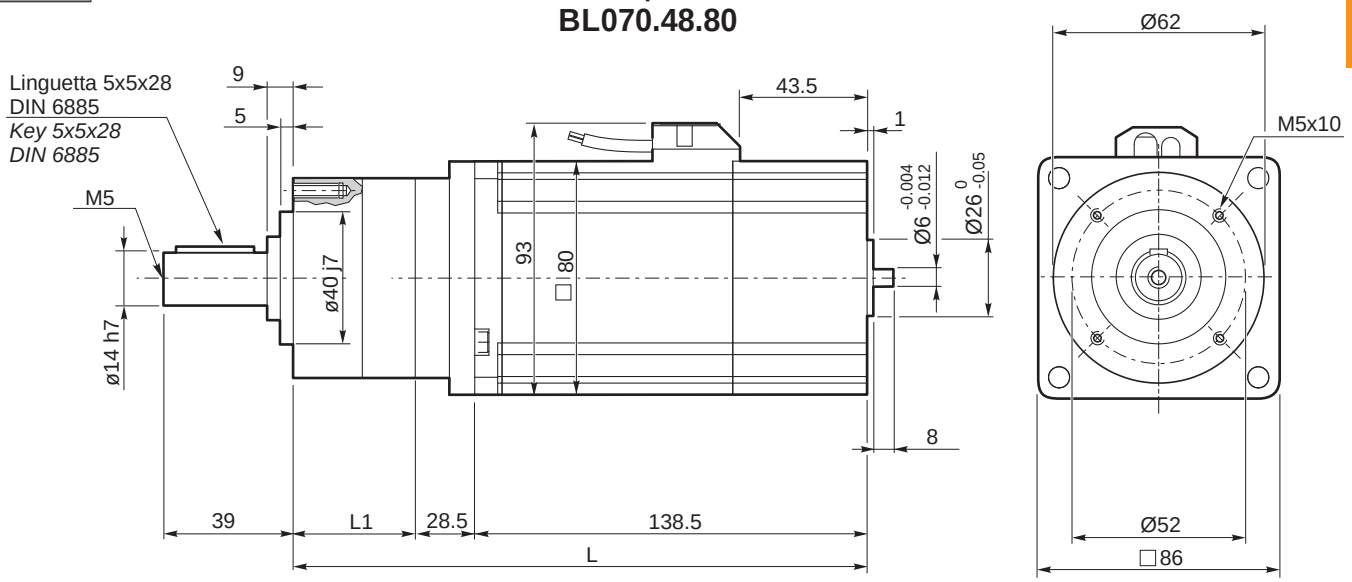
PM62 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm^2]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti *Drives* → II 2

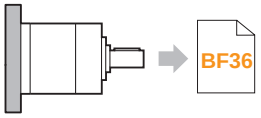
PM62..
+
BL070.48.80



Kg

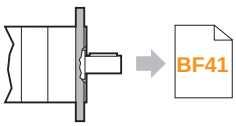
2.9 (PM62 1..)
3.3 (PM62 2..)
3.7 (PM62 3..)

		BL 070.48.80	
	Ns	L1	L
PM62	1	45.3	209.7
	2	62.2	226.6
	3	79.2	243.6



BF36

PM62.. AS...



BF41

PM62.. C...

Encoder → BA13

PM62 con motore brushless CC

PM62 with brushless DC motor

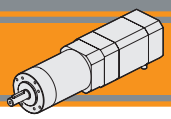
PM62			BL140.480						
			48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	81	4.1	2.8	811	4.1	1.9	
	4.28	4	70	4.8	2.4	701	4.8	1.6	
	5.18	5	58	5.8	2.0	579	5.8	1.3	
	6.75	**7**	44	7.6	1.5	444	7.6	1.0	
2	**13.73**	**14**	22	14	2.6	218	14	1.7	
	15.88	16	19	16	2.2	189	16	1.5	
	18.36	18	16	19	1.9	163	19	1.3	
	19.2	19	16	20	1.8	156	20	1.2	
	22.2	22	14	23	1.6	135	23	1.1	
	25.01	**25**	12	26	1.4	120	26	1.0	
	26.9	27	11	28	1.3	112	28	0.9	
	28.9	29	10	30	1.2	104	30	0.8	
	35.0	35	8.6	37	1.0	86	36	0.7	
	45.6	**46**	6.6	48	0.8	66	36	0.7	
3	50.9	51	5.9	50	1.5	59	50	1.0	
	58.9	59	5.1	58	1.3	51	58	0.9	
	68.06	68	4.4	67	1.1	44	67	0.7	3000
	71.2	71	4.2	70	1.1	42	70	0.7	
	78.7	79	3.8	77	1.0	38	71	0.7	
	92.7	**93**	3.2	91	0.8	32	71	0.7	
	95.2	95	3.2	93	0.8	32	71	0.7	
	99.5	100	3.0	98	0.8	30	71	0.7	
	107.2	107	2.8	105	0.7	28	71	0.7	
	115.07	115	2.6	105	0.7	26	71	0.7	
	123.97	124	2.4	105	0.7	24	71	0.7	
	129.62	130	2.3	105	0.7	23	71	0.7	
	139.13	139	2.2	105	0.7	22	71	0.7	
	149.9	150	2.0	105	0.7	20	71	0.7	
	168.84	**169**	1.8	105	0.7	18	71	0.7	
	181.24	181	1.7	105	0.7	17	71	0.7	
	195.26	195	1.5	105	0.7	15	71	0.7	
	236.09	236	1.3	105	0.7	13	71	0.7	
	307.54	**308**	1.0	105	0.7	9.8	71	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

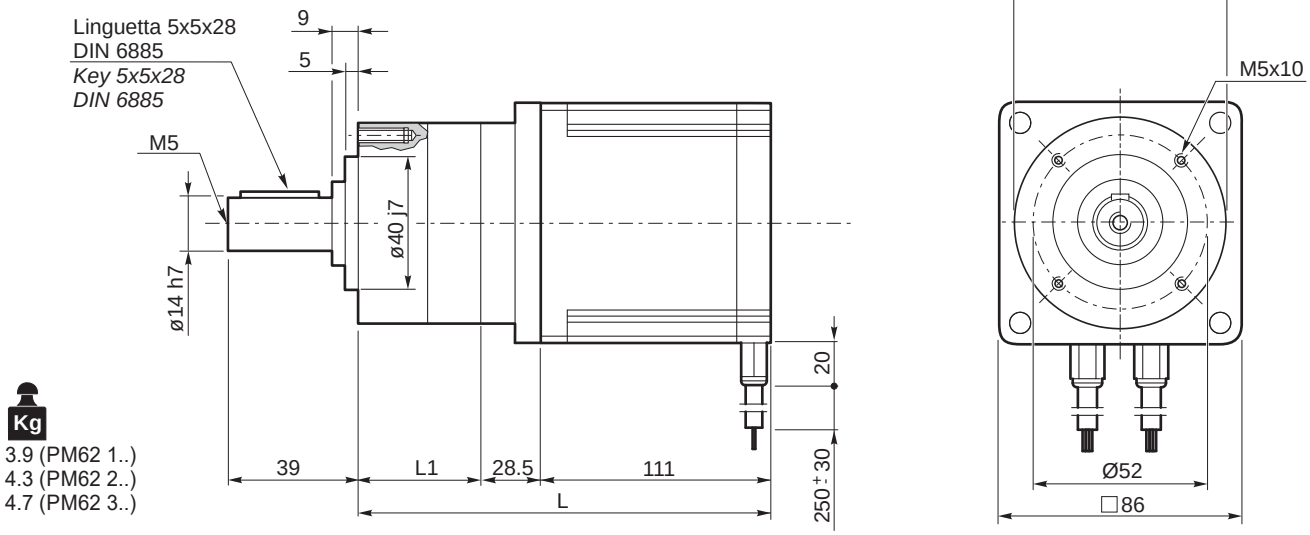


PM62 con motore brushless CC — *PM62 with brushless DC motor*

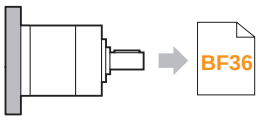
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL140.480	2.8	13	0.16	0.5	26	3.15

Azionamenti *Drives* → II 2

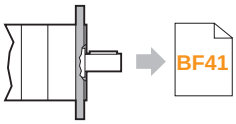
PM62..
+
BL140.480



			BL 140.480
	Ns	**L1**	**L**
PM62	1	45.3	184.8
	2	62.2	201.7
	3	79.2	218.7



PM62.. AS...



PM62.. C...

PM72 con motore brushless CC

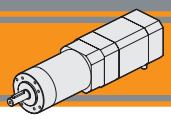
PM72 with brushless DC motor

PM72			BL070.240 / BL070.24B / BL070.480 / BL070.48B						
			24V / 48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	3.7	4	81	2.1	10.0	811	2.1	6.8	
	4.28	4	70	2.4	8.6	701	2.4	5.8	
	5.18	5	58	2.9	7.1	579	2.9	4.8	
	6.75	7	44	3.8	5.5	444	3.8	3.7	
2	13.73	14	22	7.2	8.6	218	7.2	5.8	
	15.88	16	19	8.3	7.4	189	8.3	5.0	
	18.36	18	16	9.6	6.4	163	9.6	4.4	
	19.2	19	16	10	6.1	156	10	4.2	
	22.2	22	14	12	5.3	135	12	3.6	
	25.01	25	12	13	4.7	120	13	3.2	
	26.9	27	11	14	4.4	112	14	3.0	
	28.9	29	10	15	4.1	104	15	2.8	
	35.0	35	8.6	18	3.4	86	18	2.3	
	45.6	46	6.6	24	2.6	66	24	1.8	
3	50.9	51	5.9	25	5.0	59	25	3.4	
	58.9	59	5.1	29	4.3	51	29	2.9	
	68.06	68	4.4	33	3.7	44	33	2.5	3000
	71.2	71	4.2	35	3.6	42	35	2.4	
	78.7	79	3.8	39	3.2	38	39	2.2	
	92.7	93	3.2	45	2.7	32	45	1.8	
	95.2	95	3.2	47	2.7	32	47	1.8	
	99.5	100	3.0	49	2.5	30	49	1.7	
	107.2	107	2.8	53	2.4	28	53	1.6	
	115.07	115	2.6	56	2.2	26	56	1.5	
	123.97	124	2.4	61	2.0	24	61	1.4	
	129.62	130	2.3	64	1.9	23	64	1.3	
	139.13	139	2.2	68	1.8	22	68	1.2	
	149.9	150	2.0	73	1.7	20	73	1.1	
	168.84	169	1.8	83	1.5	18	83	1.0	
	181.24	181	1.7	89	1.4	17	89	0.9	
	195.26	195	1.5	96	1.3	15	96	0.9	
	236.09	236	1.3	116	1.1	13	116	0.7	
	307.54	308	1.0	151	0.8	10	116	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM72 con motore brushless CC — *PM72 with brushless DC motor*

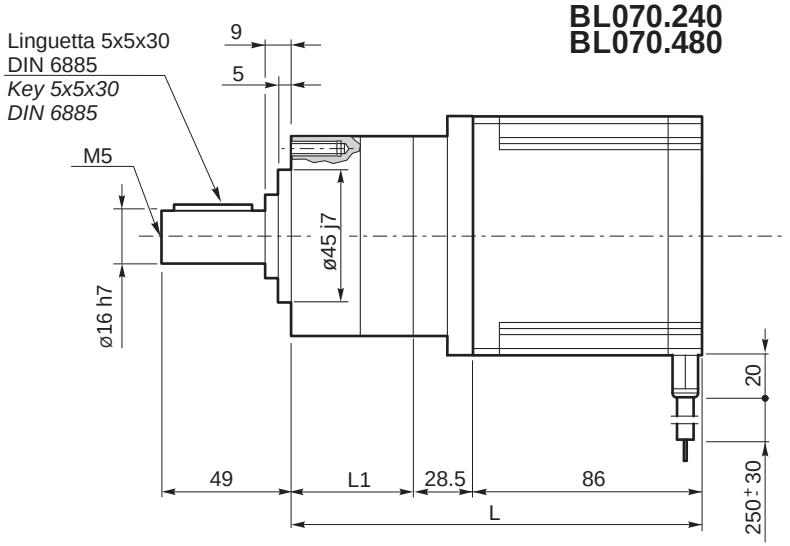
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

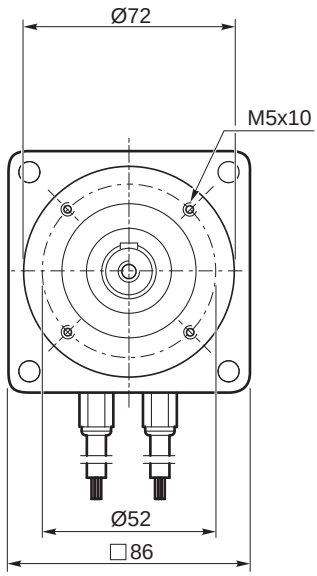
IP 55

PM

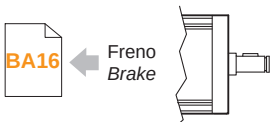
Azionamenti *Drives* → II 2

PM72..
+
BL070.240
BL070.480



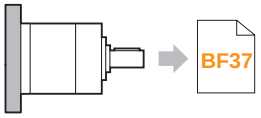


Kg
6.0 (PM72 1..)
6.5 (PM72 2..)
7.0 (PM72 3..)

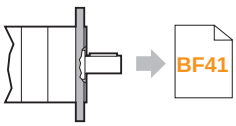


BL070.24B
BL070.48B

			BL 070.240 BL 070.480
	Ns	**L1**	**L**
PM72	1	55.7	170.6
	2	75.8	190.2
	3	95.3	209.8



PM72.. AS...



PM72.. C...

PM72 con motore brushless CC

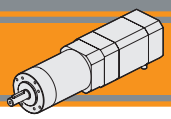
PM72 with brushless DC motor

PM72			BL070.48.80													
			24V							48V						
Ns	ir	in	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
				M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
1	3.7	4	68	2.1	10.0	676	2.1	6.8		108	2.1	10.0	1081	2.1	6.0	
	4.28	4	58	2.4	8.6	584	2.4	5.8		93	2.4	8.6	935	2.4	5.2	
	5.18	5	48	2.9	7.1	483	2.9	4.8		77	2.9	7.1	772	2.9	4.3	
	6.75	7	37	3.8	5.5	370	3.8	3.7		59	3.8	5.5	593	3.8	3.3	
2	13.73	14	18	7.2	8.6	182	7.2	5.8		29	7.2	8.6	291	7.2	5.2	
	15.88	16	16	8.3	7.4	157	8.3	5.0		25	8.3	7.4	252	8.3	4.5	
	18.36	18	14	9.6	6.4	136	9.6	4.4		22	9.6	6.4	218	9.6	3.9	
	19.2	19	13	10	6.1	130	10	4.2		21	10	6.1	208	10	3.7	
	22.2	22	11	12	5.3	113	12	3.6		18	12	5.3	180	12	3.2	
	25.01	25	10	13	4.7	100	13	3.2		16	13	4.7	160	13	2.8	
	26.9	27	9.3	14	4.4	93	14	3.0		15	14	4.4	149	14	2.6	
	28.9	29	8.6	15	4.1	86	15	2.8		14	15	4.1	138	15	2.4	
	35.0	35	7.1	18	3.4	71	18	2.3		11	18	3.4	114	18	2.0	
	45.6	46	5.5	24	2.6	55	24	1.8		8.8	24	2.6	88	24	1.6	
3	50.9	51	4.9	25	5.0	49	25	3.4		7.9	25	5.0	79	25	3.0	
	58.9	59	4.2	29	4.3	42	29	2.9		6.8	29	4.3	68	29	2.6	
	68.06	68	3.7	33	3.7	37	33	2.5	2500	5.9	33	3.7	59	33	2.2	4000
	71.2	71	3.5	35	3.6	35	35	2.4		5.6	35	3.6	56	35	2.1	
	78.7	79	3.2	39	3.2	32	39	2.2		5.1	39	3.2	51	39	1.9	
	92.7	93	2.7	45	2.7	27	45	1.8		4.3	45	2.7	43	45	1.6	
	95.2	95	2.6	47	2.7	26	47	1.8		4.2	47	2.7	42	47	1.6	
	99.5	100	2.5	49	2.5	25	49	1.7		4.0	49	2.5	40	49	1.5	
	107.2	107	2.3	53	2.4	23	53	1.6		3.7	53	2.4	37	53	1.4	
	115.07	115	2.2	56	2.2	22	56	1.5		3.5	56	2.2	35	56	1.3	
	123.97	124	2.0	61	2.0	20	61	1.4		3.2	61	2.0	32	61	1.2	
	129.62	130	1.9	64	1.9	19	64	1.3		3.1	64	1.9	31	64	1.2	
	139.13	139	1.8	68	1.8	18	68	1.2		2.9	68	1.8	29	68	1.1	
	149.9	150	1.7	73	1.7	17	73	1.1		2.7	73	1.7	27	73	1.0	
	168.84	169	1.5	83	1.5	15	83	1.0		2.4	83	1.5	24	83	0.9	
	181.24	181	1.4	89	1.4	14	89	0.9		2.2	89	1.4	22	89	0.8	
	195.26	195	1.3	96	1.3	13	96	0.9		2.0	96	1.3	20	96	0.8	
	236.09	236	1.1	116	1.1	11	116	0.7		1.7	116	1.1	17	106	0.7	
	307.54	308	0.8	151	0.8	8.1	116	0.7		1.3	151	0.8	13	106	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



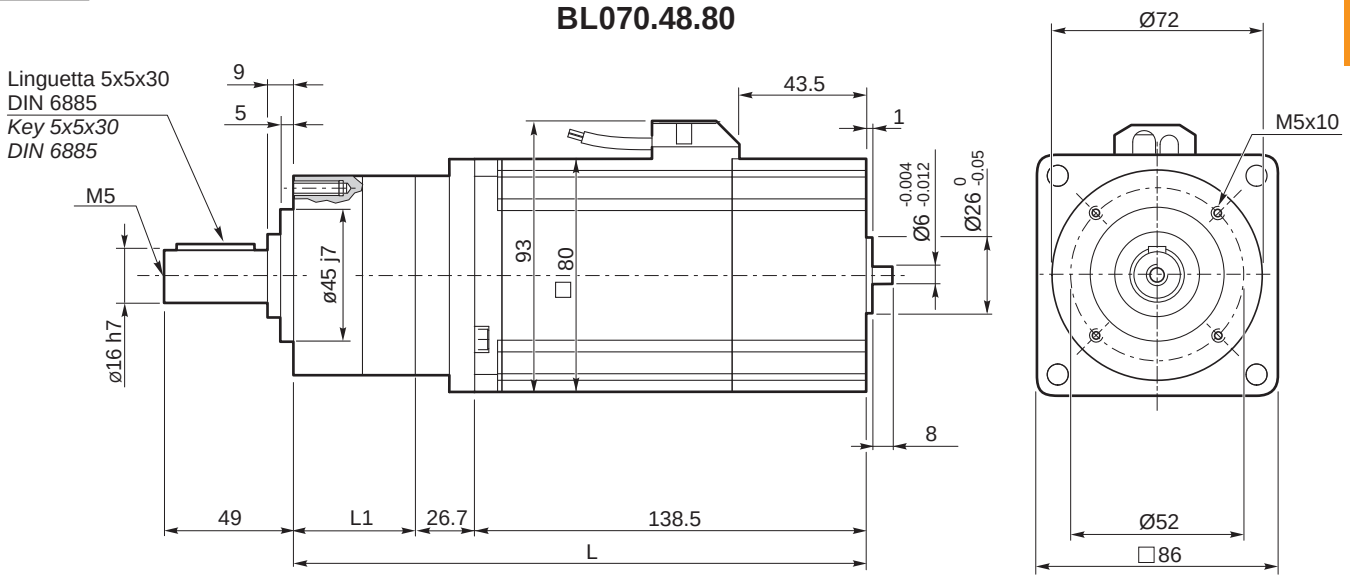
PM72 con motore brushless CC — *PM72 with brushless DC motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

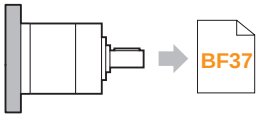
Azionamenti *Drives* → II 2

PM72..
+
BL070.48.80

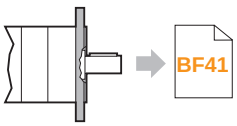


Kg
3.5 (PM72 1..)
4.0 (PM72 2..)
4.5 (PM72 3..)

		BL 070.48.80	
	Ns	L1	L
PM72	1	55.7	220.9
	2	75.8	241
	3	95.3	260.5



PM72.. AS...



PM72.. C...

Encoder → BA13

PM72 con motore brushless CC

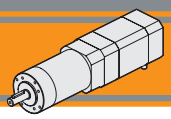
PM72 with brushless DC motor

PM72			BL140.480						
			48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	3.7	4	81	4.1	5.0	811	4.1	3.4	
	4.28	4	70	4.8	4.3	701	4.8	2.9	
	5.18	5	58	5.8	3.6	579	5.8	2.4	
	6.75	7	44	7.6	2.7	444	7.6	1.9	
2	13.73	14	22	14	4.3	218	14	2.9	
	15.88	16	19	17	3.7	189	17	2.5	
	18.36	18	16	19	3.2	163	19	2.2	
	19.2	19	16	20	3.1	156	20	2.1	
	22.2	22	14	23	2.7	135	23	1.8	
	25.01	25	12	26	2.4	120	26	1.6	
	26.9	27	11	28	2.2	112	28	1.5	
	28.9	29	10	30	2.0	104	30	1.4	
	35.0	35	8.6	37	1.7	86	37	1.1	
	45.6	46	6.6	48	1.3	66	48	0.9	
3	50.9	51	5.9	50	2.5	59	50	1.7	
	58.9	59	5.1	58	2.1	51	58	1.5	
	68.06	68	4.4	67	1.9	44	67	1.3	3000
	71.2	71	4.2	70	1.8	42	70	1.2	
	78.7	79	3.8	77	1.6	38	77	1.1	
	92.7	93	3.2	91	1.4	32	91	0.9	
	95.2	95	3.2	93	1.3	32	93	0.9	
	99.5	100	3.0	98	1.3	30	98	0.9	
	107.2	107	2.8	105	1.2	28	105	0.8	
	115.07	115	2.6	113	1.1	26	113	0.7	
	123.97	124	2.4	121	1.0	24	120	0.7	
	129.62	130	2.3	127	1.0	23	120	0.7	
	139.13	139	2.2	136	0.9	22	120	0.7	
	149.9	150	2.0	147	0.8	20	120	0.7	
	168.84	169	1.8	165	0.7	18	120	0.7	
	181.24	181	1.7	175	0.7	17	120	0.7	
	195.26	195	1.5	175	0.7	15	120	0.7	
	236.09	236	1.3	175	0.7	13	120	0.7	
	307.54	308	1.0	175	0.7	10	120	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

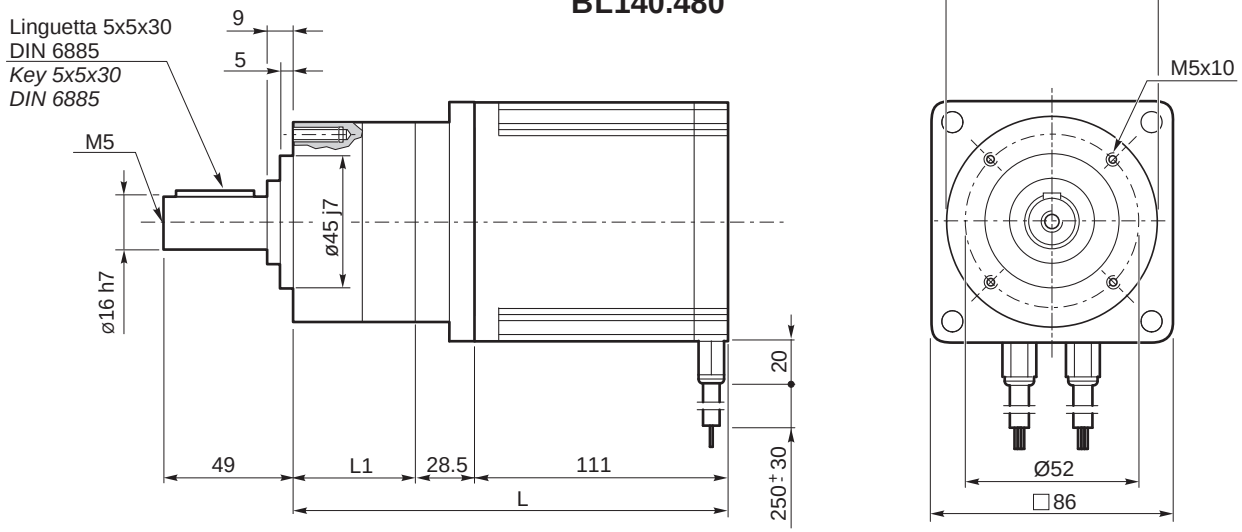


PM72 con motore brushless CC — *PM72 with brushless DC motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

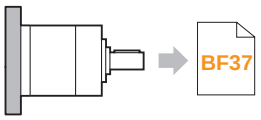
Azionamenti *Drives* → II 2

PM72..
+
BL140.480

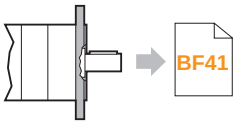


Kg
7.0 (PM72 1..)
7.5 (PM72 2..)
8.0 (PM72 3..)

			BL 140.480
	Ns	**L1**	**L**
PM72	1	55.7	195.6
	2	75.8	215.2
	3	95.3	234.8



PM72.. AS...



PM72.. C...

PM81 con motore brushless CC

PM81with brushless DC motor

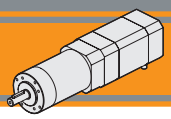
PM81			BL140.480						
			48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.70**	**4**	81	4.1	6.9	811	4.1	4.7	3000
	4.28	4	70	4.8	6.0	701	4.8	4.1	
	5.18	5	58	5.8	5.0	579	5.8	3.4	
	6.75	**7**	44	7.6	3.8	444	7.6	2.6	
2	**13.73**	**14**	22	14	6.1	218	14	4.2	
	15.88	16	19	17	5.3	189	16	3.6	
	18.36	18	16	19	4.6	163	19	3.1	
	19.20	19	16	20	4.4	156	20	3.0	
	22.20	22	14	23	3.8	135	23	2.6	
	25.01	**25**	12	26	3.4	120	26	2.3	
	26.85	27	11	28	3.1	112	28	2.1	
	28.93	29	10	30	2.9	104	30	2.0	
	34.97	35	8.6	37	2.4	86	37	1.6	
	45.56	**46**	6.6	48	1.9	66	48	1.3	
3	50.89	51	5.9	50	3.6	59	50	2.4	
	58.85	59	5.1	58	3.1	51	58	2.1	
	68.06	68	4.4	67	2.7	44	67	1.8	
	71.16	71	4.2	70	2.5	42	70	1.7	
	78.71	79	3.8	77	2.3	38	77	1.6	
	92.70	**93**	3.2	91	1.9	32	91	1.3	
	95.17	95	3.2	93	1.9	32	93	1.3	
	99.50	100	3.0	98	1.8	30	98	1.2	
	107.20	107	2.8	105	1.7	28	105	1.1	
	115.07	115	2.6	113	1.6	26	113	1.1	
	123.97	124	2.4	121	1.5	24	121	1.0	
	129.62	130	2.3	127	1.4	23	127	0.9	
	139.13	139	2.2	136	1.3	22	136	0.9	
	149.90	150	2.0	147	1.2	20	147	0.8	
	168.84	**169**	1.8	165	1.1	18	165	0.7	
	181.24	181	1.7	178	1.0	17	171	0.7	
	195.26	195	1.5	191	0.9	15	171	0.7	
	236.09	236	1.3	231	0.8	13	171	0.7	
	307.54	**308**	1.0	250	0.7	9.8	171	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



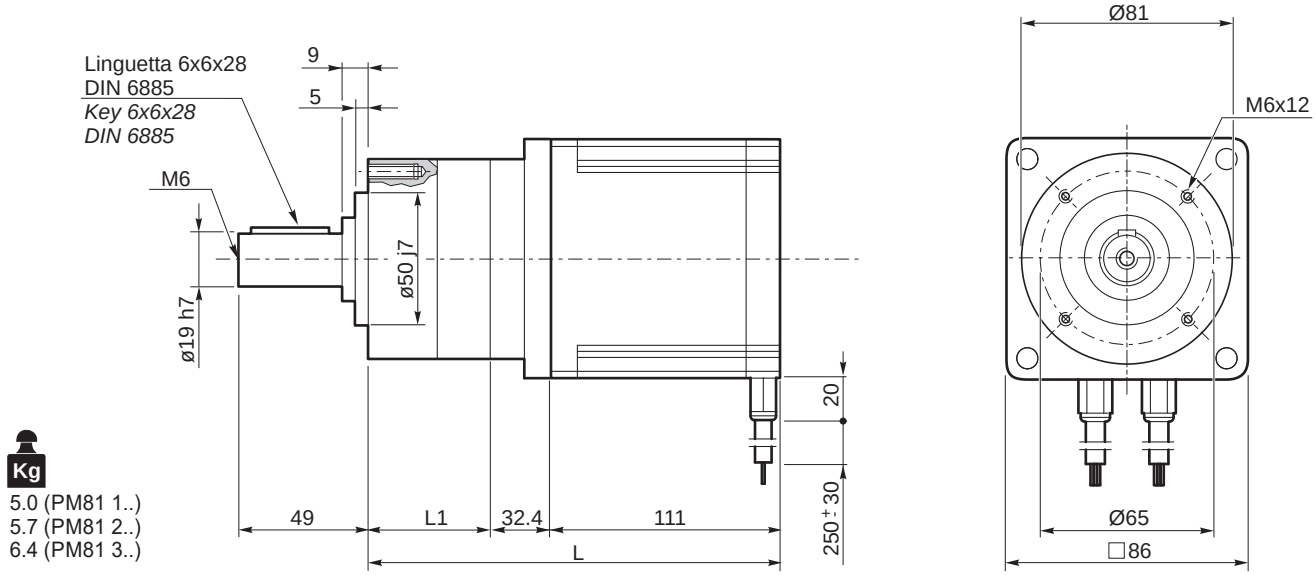
PM81 con motore brushless CC

PM81 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL140.480	8	3	48	3000	1.4	440
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL140.480	2.8	13	0.16	0.5	26	3.15

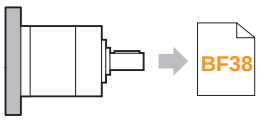
Azionamenti *Drives* → II 2

PM81..
+
BL140.480

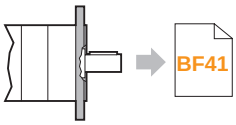


Kg
5.0 (PM81 1..)
5.7 (PM81 2..)
6.4 (PM81 3..)

	Ns	L1	BL 140.480 L
PM81	1	62.2	205.6
	2	83.8	227.2
	3	105.5	248.9



PM81.. AS...



PM81.. C...

PM81 con motore brushless CC

PM81 with brushless DC motor

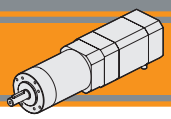
PM81			BL200.48.95													
			24V							48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	41	5.9	5.0	405	5.9	4.3		81	5.9	5.0	811	5.9	3.4	
	4.28	4	35	6.8	4.3	350	6.8	3.7		70	6.8	4.3	701	6.8	2.9	
	5.18	5	29	8.3	3.6	290	8.3	3.1		58	8.3	3.6	579	8.3	2.4	
	6.75	**7**	22	11	2.7	222	11	2.4		44	11	2.7	444	11	1.9	
2	**13.73**	**14**	11	21	4.3	109	21	3.7		22	21	4.3	218	21	2.9	
	15.88	16	9.4	24	3.7	94	24	3.2		19	24	3.7	189	24	2.5	
	18.36	18	8.2	28	3.2	82	28	2.8		16	28	3.2	163	28	2.2	
	19.2	19	7.8	29	3.1	78	29	2.7		16	29	3.1	156	29	2.1	
	22.2	22	6.8	33	2.7	68	33	2.3		14	33	2.7	135	33	1.8	
	25.01	**25**	6.0	38	2.4	60	38	2.1		12	38	2.4	120	38	1.6	
	26.9	27	5.6	40	2.2	56	40	1.9		11	40	2.2	112	40	1.5	
	28.9	29	5.2	43	2.0	52	43	1.8		10	43	2.0	104	43	1.4	
	35.0	35	4.3	52	1.7	43	52	1.5		8.6	52	1.7	86	52	1.1	
	45.6	**46**	3.3	68	1.3	33	68	1.1		6.6	68	1.3	66	68	0.9	
3	50.9	51	2.9	71	2.5	29	71	2.2		5.9	71	2.5	59	71	1.7	
	58.9	59	2.5	82	2.1	25	82	1.9		5.1	82	2.1	51	82	1.5	
	68.06	68	2.2	95	1.9	22	95	1.6	1500	4.4	95	1.9	44	95	1.3	3000
	71.2	71	2.1	100	1.8	21	100	1.5		4.2	100	1.8	42	100	1.2	
	78.7	79	1.9	110	1.6	19	110	1.4		3.8	110	1.6	38	110	1.1	
	92.7	**93**	1.6	130	1.4	16	130	1.2		3.2	130	1.4	32	130	0.9	
	95.2	95	1.6	133	1.3	16	133	1.2		3.2	133	1.3	32	133	0.9	
	99.5	100	1.5	139	1.3	15	139	1.1		3.0	139	1.3	30	139	0.9	
	107.2	107	1.4	150	1.2	14	150	1.0		2.8	150	1.2	28	150	0.8	
	115.07	115	1.3	161	1.1	13	161	1.0		2.6	161	1.1	26	161	0.7	
	123.97	124	1.2	174	1.0	12	174	0.9		2.4	174	1.0	24	165	0.7	
	129.62	130	1.2	181	1.0	12	181	0.8		2.3	181	1.0	23	165	0.7	
	139.13	139	1.1	195	0.9	11	195	0.8		2.2	195	0.9	22	165	0.7	
	149.9	150	1.0	210	0.8	10	210	0.7		2.0	210	0.8	20	165	0.7	
	168.84	**169**	0.9	236	0.7	8.9	210	0.7		1.8	236	0.7	18	165	0.7	
	181.24	181	0.8	250	0.7	8.3	210	0.7		1.7	250	0.7	17	165	0.7	
	195.26	195	0.8	250	0.7	7.7	210	0.7		1.5	250	0.7	15	165	0.7	
	236.09	236	0.6	250	0.7	6.4	210	0.7		1.3	250	0.7	13	165	0.7	
	307.54	**308**	0.5	250	0.7	4.9	210	0.7		1.0	250	0.7	10	165	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM81 con motore brushless CC

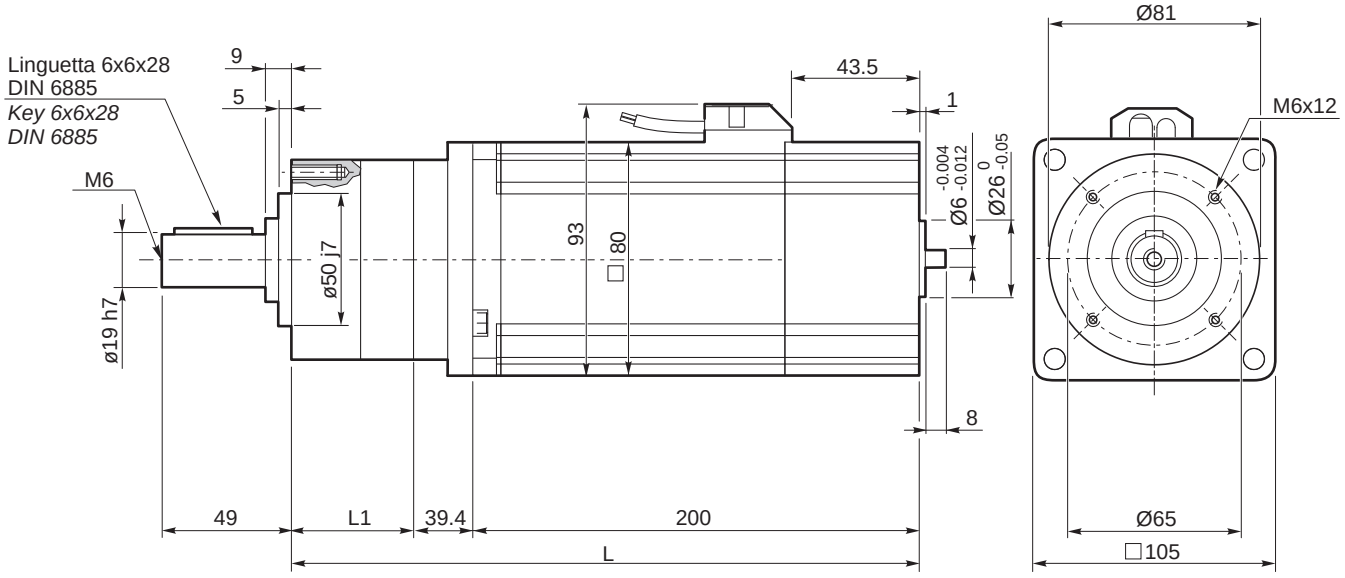
PM81 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

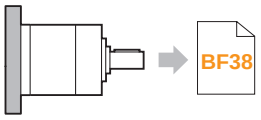
PM81..
+
BL200.48.95



Kg

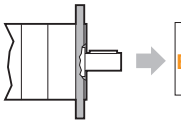
8.6 (PM81 1..)
9.3 (PM81 2..)
10.0 (PM81 3..)

	BL 200.48.95		
	Ns	L1	L
PM81	1	62.2	301.6
	2	83.8	323.2
	3	105.5	344.9



→ BF38

PM81.. AS...



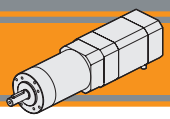
→ BF41

PM81.. C...

Encoder → BA17

IP 55

PM



PM81 con motore brushless CC

PM81 with brushless DC motor

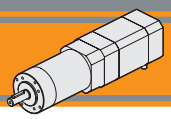
PM81			BL210.480 / BL210.48E						
			48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.70**	**4**	81	6.2	4.6	811	6.2	3.1	
	4.28	4	70	7.2	4.0	701	7.2	2.7	
	5.18	5	58	8.7	3.3	579	8.7	2.2	
	6.75	**7**	44	11	2.5	444	11	1.7	
2	**13.73**	**14**	22	21	4.1	218	21	2.8	
	15.88	16	19	25	3.5	189	25	2.4	
	18.36	18	16	28	3.1	163	28	2.1	
	19.20	19	16	30	2.9	156	30	2.0	
	22.20	22	14	35	2.5	135	35	1.7	
	25.01	**25**	12	39	2.2	120	39	1.5	
	26.85	27	11	42	2.1	112	42	1.4	
	28.93	29	10	46	1.9	104	46	1.3	
	34.97	35	8.6	55	1.6	86	55	1.1	
	45.56	**46**	6.6	72	1.2	66	72	0.8	
3	50.89	51	5.9	75	2.4	59	75	1.6	
	58.85	59	5.1	87	2.0	51	87	1.4	
	68.06	68	4.4	100	1.8	44	100	1.2	3000
	71.16	71	4.2	105	1.7	42	105	1.1	
	78.71	79	3.8	116	1.5	38	116	1.0	
	92.70	**93**	3.2	136	1.3	32	136	0.9	
	95.17	95	3.2	140	1.3	32	140	0.9	
	99.50	100	3.0	146	1.2	30	146	0.8	
	107.20	107	2.8	158	1.1	28	158	0.8	
	115.07	115	2.6	169	1.0	26	169	0.7	
	123.97	124	2.4	182	1.0	24	171	0.7	
	129.62	130	2.3	191	0.9	23	171	0.7	
	139.13	139	2.2	205	0.9	22	171	0.7	
	149.90	150	2.0	220	0.8	20	171	0.7	
	168.84	**169**	1.8	248	0.7	18	171	0.7	
	181.24	181	1.7	250	0.7	17	171	0.7	
	195.26	195	1.5	250	0.7	15	171	0.7	
	236.09	236	1.3	250	0.7	13	171	0.7	
	307.54	**308**	1.0	250	0.7	9.8	171	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



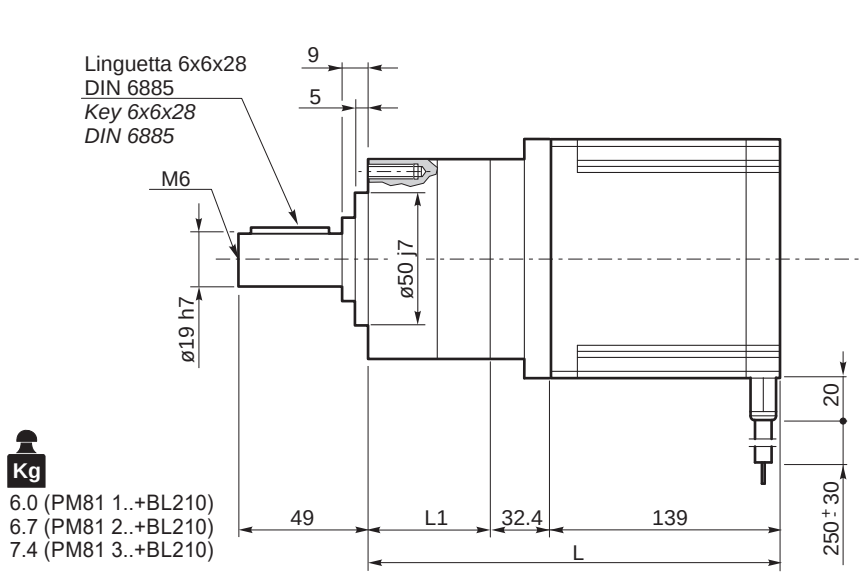
PM81 con motore brushless CC

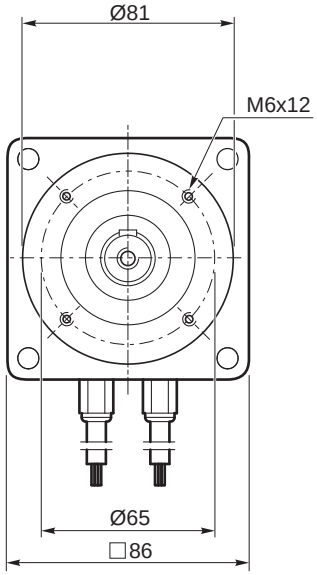
PM81 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

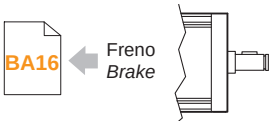
Azionamenti *Drives* → II 2

PM81..
+
BL210.480



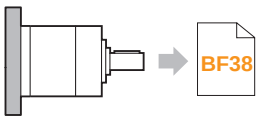


Kg
6.0 (PM81 1..+BL210)
6.7 (PM81 2..+BL210)
7.4 (PM81 3..+BL210)

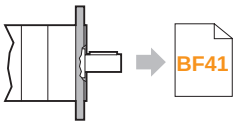


BL210.480E

		BL 210.480	
	Ns	**L1**	**L**
PM81	1	62.2	233.6
	2	83.8	255.2
	3	105.5	276.9



PM81.. AS...



PM81.. C...

PM105 con motore brushless CC

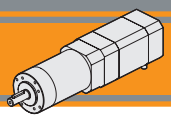
PM105 with brushless DC motor

PM105			BL200.48.95													
			24V							48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	3.70	4	41	5.9	8.7	405	5.9	7.6		81	5.9	8.7	811	5.9	5.9	
	4.28	4	35	6.8	7.5	350	6.8	6.6		70	6.8	7.5	701	6.8	5.1	
	5.18	5	29	8.3	6.2	290	8.3	5.4		58	8.3	6.2	579	8.3	4.2	
	6.75	7	22	11	4.8	222	11	4.2		44	11	4.8	444	11	3.2	
2	13.73	14	11	21	7.5	109	21	6.5		22	21	7.5	218	21	5.1	
	15.88	16	9.4	24	6.5	94	24	5.7		19	24	6.5	189	24	4.4	
	18.36	18	8.2	28	5.6	82	28	4.9		16	28	5.6	163	28	3.8	
	19.2	19	7.8	29	5.4	78	29	4.7		16	29	5.4	156	29	3.6	
	22.2	22	6.8	33	4.6	68	33	4.0		14	33	4.6	135	33	3.2	
	25.01	25	6.0	38	4.1	60	38	3.6		12	38	4.1	120	38	2.8	
	26.9	27	5.6	40	3.8	56	40	3.3		11	40	3.8	112	40	2.6	
	28.9	29	5.2	43	3.6	52	43	3.1		10	43	3.6	104	43	2.4	
	35.0	35	4.3	52	3.0	43	52	2.6		8.6	52	3.0	86	52	2.0	
	45.6	46	3.3	68	2.3	33	68	2.0		6.6	68	2.3	66	68	1.5	
3	50.9	51	2.9	71	4.0	29	71	3.5		5.9	71	4.0	59	71	2.7	
	58.9	59	2.5	82	3.5	25	82	3.0		5.1	82	3.5	51	82	2.4	
	68.06	68	2.2	95	3.0	22	95	2.6	1500	4.4	95	3.0	44	95	2.0	3000
	71.2	71	2.1	100	2.9	21	100	2.5		4.2	100	2.9	42	100	2.0	
	78.7	79	1.9	110	2.6	19	110	2.3		3.8	110	2.6	38	110	1.8	
	92.7	93	1.6	130	2.2	16	130	1.9		3.2	130	2.2	32	130	1.5	
	95.2	95	1.6	133	2.2	16	133	1.9		3.2	133	2.2	32	133	1.5	
	99.5	100	1.5	139	2.1	15	139	1.8		3.0	139	2.1	30	139	1.4	
	107.2	107	1.4	150	1.9	14	150	1.7		2.8	150	1.9	28	150	1.3	
	115.07	115	1.3	161	1.8	13	161	1.6		2.6	161	1.8	26	161	1.2	
	123.97	124	1.2	174	1.7	12	174	1.4		2.4	174	1.7	24	174	1.1	
	129.62	130	1.2	181	1.6	12	181	1.4		2.3	181	1.6	23	181	1.1	
	139.13	139	1.1	195	1.5	11	195	1.3		2.2	195	1.5	22	195	1.0	
	149.9	150	1.0	210	1.4	10	210	1.2		2.0	210	1.4	20	210	0.9	
	168.84	169	0.9	236	1.2	8.9	236	1.1		1.8	236	1.2	18	236	0.8	
	181.24	181	0.8	254	1.1	8.3	254	1.0		1.7	254	1.1	17	254	0.8	
	195.26	195	0.8	273	1.1	7.7	273	0.9		1.5	273	1.1	15	270	0.7	
	236.09	236	0.6	331	0.9	6.4	331	0.8		1.3	331	0.9	13	270	0.7	
	307.54	308	0.5	400	0.7	4.9	350	0.7		1.0	400	0.7	10	270	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM105 con motore brushless CC

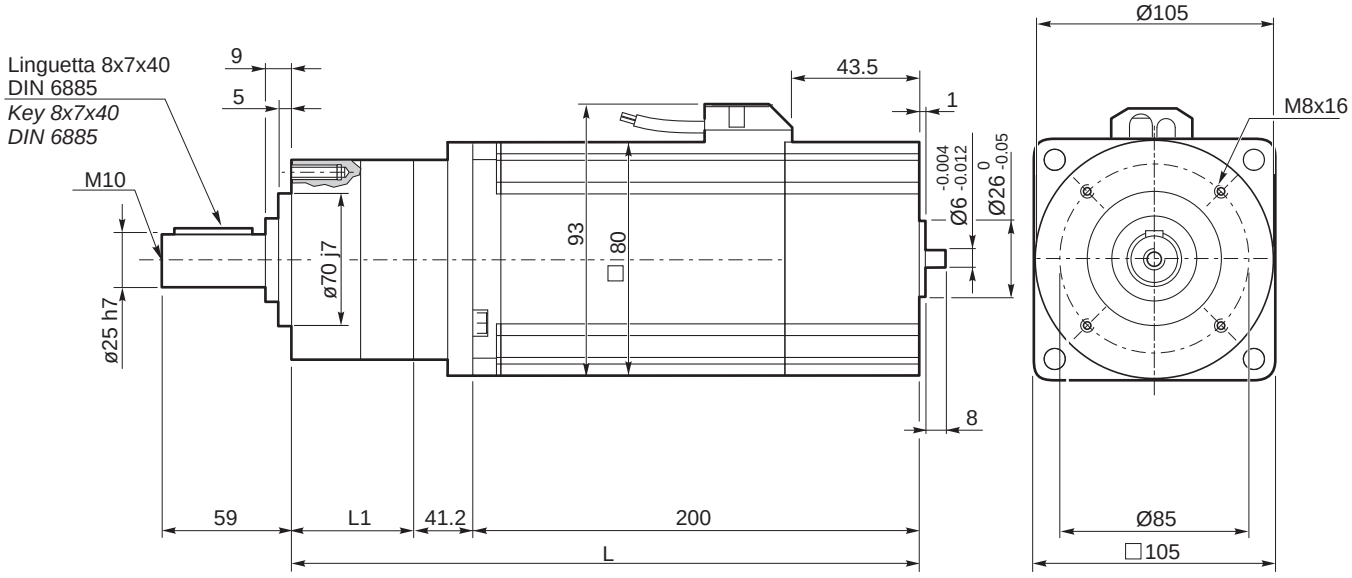
PM105 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				24	1500		300	

Tipo *Type*	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti *Drives* → II 2

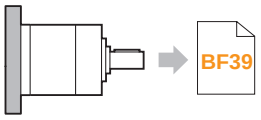
PM105..
+
BL200.48.95



Kg

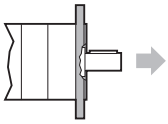
11.1 (PM105 1..)
12.7 (PM105 2..)
14.3 (PM105 3..)

			BL 200.48.95
	Ns	L1	L
PM105	1	75.7	316.9
	2	106.9	348.1
	3	137.9	379.1



BF39

PM105.. AS...



BF41

PM105.. C...

Encoder → BA17

IP 55

PM

PM105 con motore brushless CC

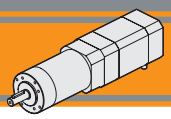
PM105 with brushless DC motor

PM105			BL210.480 / BL210.48E						
			48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	3.70	4	81	6.2	8.3	811	6.2	5.6	
	4.28	4	70	7.2	7.2	701	7.2	4.9	
	5.18	5	58	8.7	5.9	579	8.7	4.0	
	6.75	7	44	11	4.6	444	11	3.1	
2	13.73	14	22	22	7.2	218	22	4.9	
	15.88	16	19	25	6.2	189	25	4.2	
	18.36	18	16	29	5.4	163	29	3.6	
	19.2	19	16	30	5.1	156	30	3.5	
	22.2	22	14	35	4.4	135	35	3.0	
	25.01	25	12	39	3.9	120	39	2.7	
	26.9	27	11	42	3.7	112	42	2.5	
	28.9	29	10	46	3.4	104	46	2.3	
	35.0	35	8.6	55	2.8	86	55	1.9	
	45.6	46	6.6	72	2.2	66	72	1.5	
3	50.9	51	5.9	75	3.8	59	75	2.6	
	58.9	59	5.1	87	3.3	51	87	2.3	
	68.06	68	4.4	100	2.9	44	100	1.9	3000
	71.2	71	4.2	105	2.7	42	105	1.9	
	78.7	79	3.8	116	2.5	38	116	1.7	
	92.7	93	3.2	136	2.1	32	136	1.4	
	95.2	95	3.2	140	2.1	32	140	1.4	
	99.5	100	3.0	146	2.0	30	146	1.3	
	107.2	107	2.8	158	1.8	28	158	1.2	
	115.07	115	2.6	169	1.7	26	169	1.2	
	123.97	124	2.4	182	1.6	24	182	1.1	
	129.62	130	2.3	191	1.5	23	191	1.0	
	139.13	139	2.2	205	1.4	22	205	1.0	
	149.9	150	2.0	220	1.3	20	220	0.9	
	168.84	169	1.8	248	1.2	18	248	0.8	
	181.24	181	1.7	266	1.1	17	266	0.7	
	195.26	195	1.5	287	1.0	15	270	0.7	
	236.09	236	1.3	347	0.8	13	270	0.7	
	307.54	308	1.0	400	0.7	10	270	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



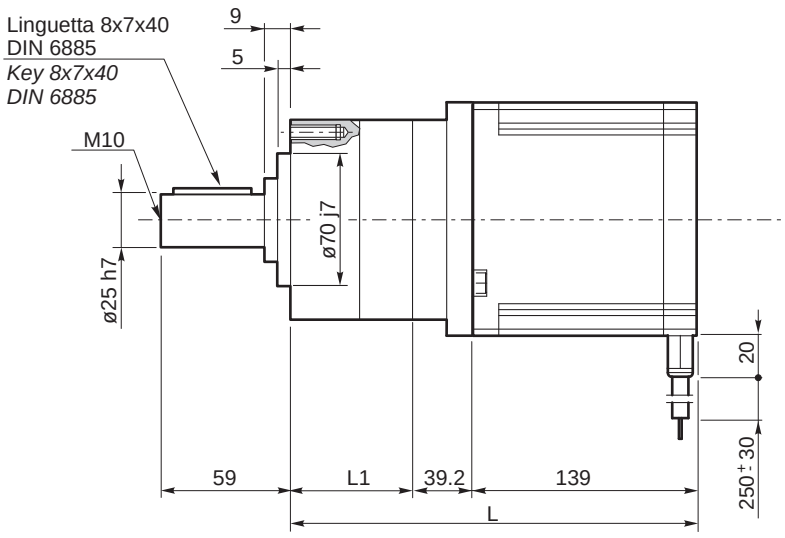
PM105 con motore brushless CC

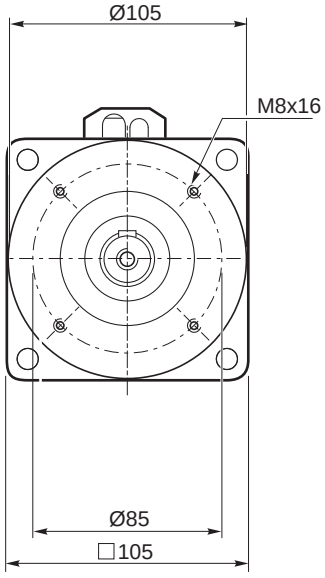
PM105 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo *Type*	**Coppia massima** *Peak torque* [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [Ω]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BL210.480 BL210.48E	4.2	18.7	0.115	0.31	37	4.2

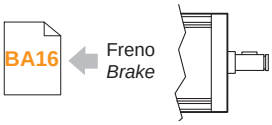
Azionamenti *Drives* → II 2

PM105
+
BL210.480



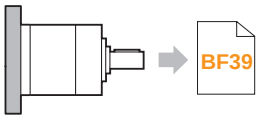


Kg
9.5 (PM105 1..)
11.1 (PM105 2..)
12.7 (PM105 3..)

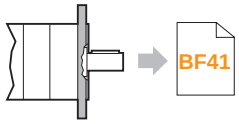


BL210.48E

		BL 210.480	
	Ns	**L1**	**L**
PM105	1	75.7	253.9
	2	106.9	285.1
	3	137.9	316.1



PM105.. AS...



PM105.. C...

PM105 con motore brushless CC

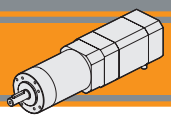
PM105 with brushless DC motor

PM105			BL400.48.120													
			24V							48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	3.70	4	38	10	5.0	378	10	4.3		81	10	5.0	811	10	3.4	
	4.28	4	33	12	4.3	327	12	3.7		70	12	4.3	701	12	2.9	
	5.18	5	27	15	3.6	270	15	3.1		58	15	3.6	579	15	2.4	
	6.75	7	21	19	2.7	207	19	2.4		44	19	2.7	444	19	1.9	
2	13.73	14	10	36	4.3	102	36	3.7		22	36	4.3	218	36	2.9	
	15.88	16	8.8	42	3.7	88	42	3.2		19	42	3.7	189	42	2.5	
	18.36	18	7.6	48	3.2	76	48	2.8		16	48	3.2	163	48	2.2	
	19.2	19	7.3	50	3.1	73	50	2.7		16	50	3.1	156	50	2.1	
	22.2	22	6.3	58	2.7	63	58	2.3		14	58	2.7	135	58	1.8	
	25.01	25	5.6	66	2.4	56	66	2.1		12	66	2.4	120	66	1.6	
	26.9	27	5.2	70	2.2	52	70	1.9		11	70	2.2	112	70	1.5	
	28.9	29	4.8	76	2.0	48	76	1.8		10	76	2.0	104	76	1.4	
	35.0	35	4.0	92	1.7	40	92	1.5		8.6	92	1.7	86	92	1.1	
	45.6	46	3.1	120	1.3	31	120	1.1		6.6	120	1.3	66	120	0.9	
3	50.9	51	2.8	125	2.3	28	125	2.0		5.9	125	2.3	59	125	1.6	
	58.9	59	2.4	144	2.0	24	144	1.7		5.1	144	2.0	51	144	1.4	
	68.06	68	2.1	167	1.7	21	167	1.5	1400	4.4	167	1.7	44	167	1.2	3000
	71.2	71	2.0	174	1.6	20	174	1.4		4.2	174	1.6	42	174	1.1	
	78.7	79	1.8	193	1.5	18	193	1.3		3.8	193	1.5	38	193	1.0	
	92.7	93	1.5	227	1.3	15	227	1.1		3.2	227	1.3	32	227	0.9	
	95.2	95	1.5	233	1.2	15	233	1.1		3.2	233	1.2	32	233	0.8	
	99.5	100	1.4	244	1.2	14	244	1.0		3.0	244	1.2	30	244	0.8	
	107.2	107	1.3	263	1.1	13	263	1.0		2.8	263	1.1	28	263	0.7	
	115.07	115	1.2	282	1.0	12	282	0.9		2.6	282	1.0	26	270	0.7	
	123.97	124	1.1	304	0.9	11	304	0.8		2.4	304	0.9	24	270	0.7	
	129.62	130	1.1	318	0.9	11	318	0.8		2.3	318	0.9	23	270	0.7	
	139.13	139	1.0	341	0.8	10	341	0.7		2.2	341	0.8	22	270	0.7	
	149.9	150	0.9	367	0.8	9.3	350	0.7		2.0	367	0.8	20	270	0.7	
	168.84	169	0.8	400	0.7	8.3	350	0.7		1.8	400	0.7	18	270	0.7	
	181.24	181	0.8	400	0.7	7.7	350	0.7		1.7	400	0.7	17	270	0.7	
	195.26	195	0.7	400	0.7	7.2	350	0.7		1.5	400	0.7	15	270	0.7	
	236.09	236	0.6	400	0.7	5.9	350	0.7		1.3	400	0.7	13	270	0.7	
	307.54	308	0.5	400	0.7	4.6	350	0.7		1.0	400	0.7	10	270	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM105 con motore brushless CC

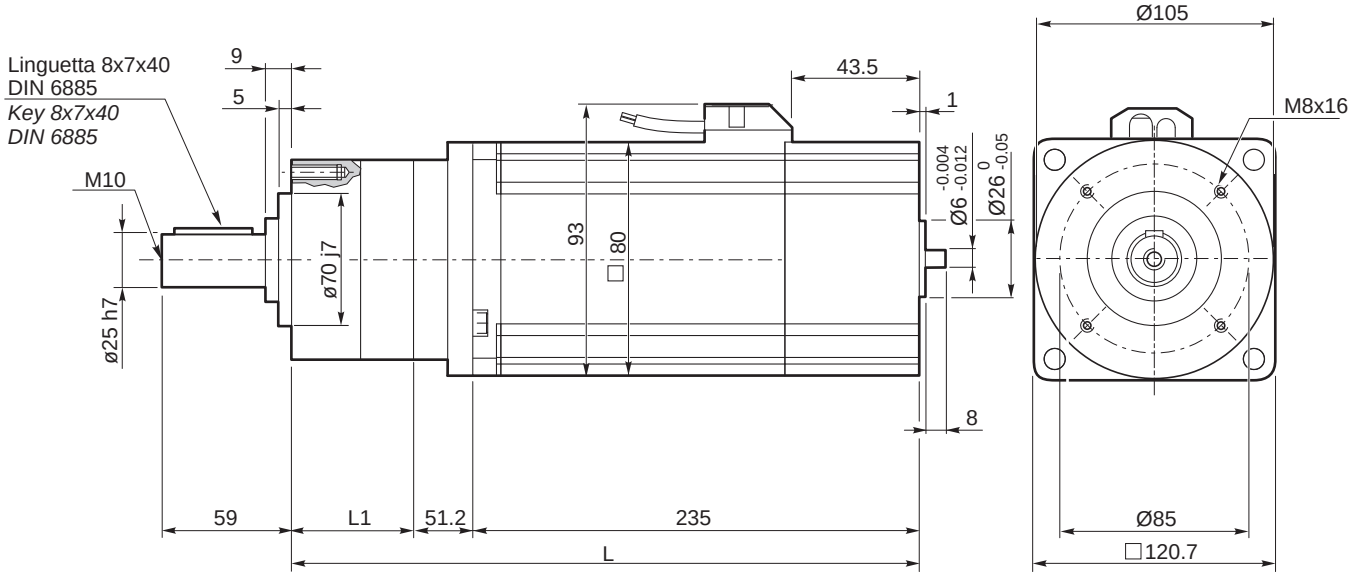
PM105 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti *Drives* → II 2

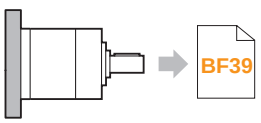
PM105.. + BL400.48.120



Kg

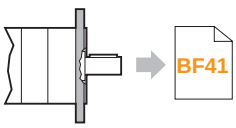
16.6 (PM105 1..)
18.2 (PM105 2..)
20.8 (PM105 3..)

			BL 400.48.120
	Ns	L1	L
PM105	1	75.7	361.9
	2	106.9	393.1
	3	137.9	424.1



BF39

PM105.. AS...



BF41

PM105.. C...

Encoder → BA21

IP 55

PM

PM120 con motore brushless CC

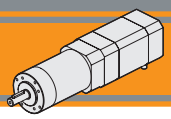
PM120 with brushless DC motor

PM120			BL400.48.120													
			24V							48V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	3.7	4	38	10	7.1	378	10	6.2		81	10	7.1	811	10	4.8	
	6.75	7	21	19	3.9	207	19	3.4		44	19	3.9	444	19	2.6	
2	13.73	14	10	36	6.1	102	36	5.3		22	36	6.1	218	36	4.2	
	25.01	25	5.6	66	3.4	56	66	2.9		12	66	3.4	120	66	2.3	
	45.6	46	3.1	120	1.8	31	120	1.6	1400	6.6	120	1.8	66	120	1.3	3000
3	50.9	51	2.8	125	3.5	28	125	3.1		5.9	125	3.5	59	125	2.4	
	92.7	93	1.5	227	1.9	15	227	1.7		3.2	227	1.9	32	227	1.3	
	168.84	169	0.8	414	1.1	8.3	414	0.9		1.8	414	1.1	18	400	0.7	
	307.54	308	0.5	600	0.7	4.6	540	0.7		1.0	600	0.7	10	400	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM120 con motore brushless CC

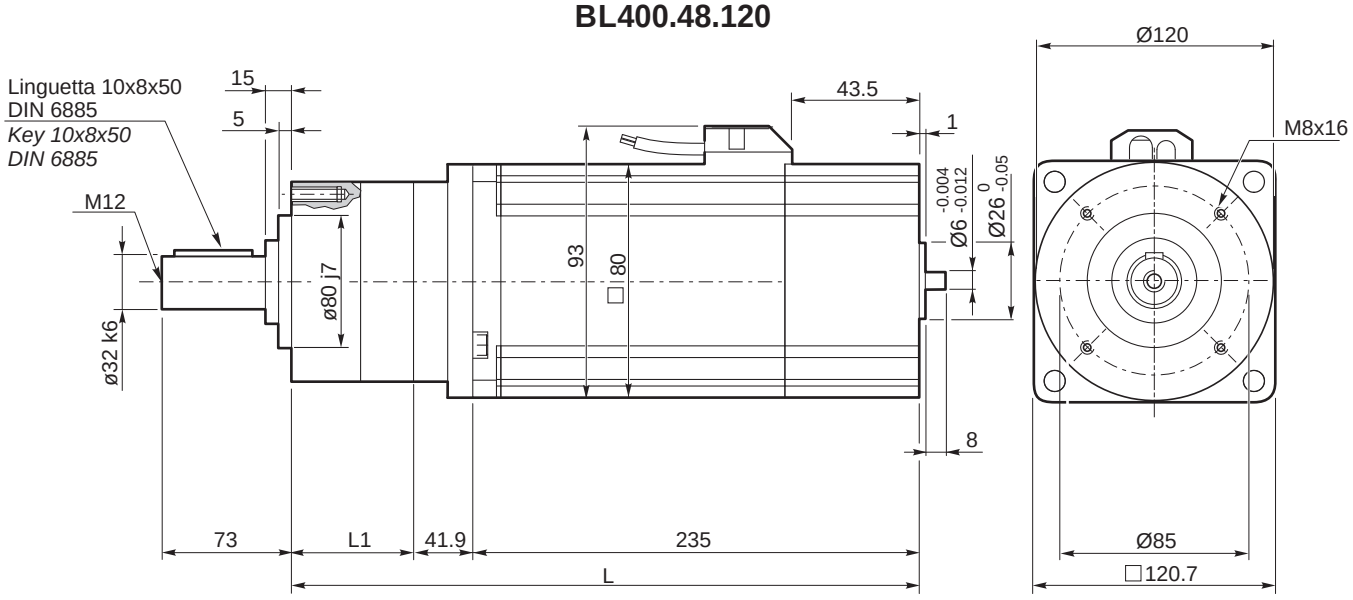
PM120 with brushless DC motor

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Servizio *Service*	Tensione nominale *Rated voltage* [V]	Velocità nominale *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]	Coppia di picco *Peak torque* [Nm]	Corrente nominale *Rated current* [A]	Corrente di picco *Peak current* [A]
BL400.48.120	8	3	S3	48	3000	4.2	1320	8.4	33	99
			S1			3.5	1100	7.0	28	84
			S3	24	1400	4.2	615	8.4	33	99
			S1			3.5	515	7.0	28	84

Tipo *Type*	Resistenza fase-fase *Line to line* resistance [Ω]	Induttanza fase-fase *Line to line* inductance [mH]	Costante di coppia *Torque constant* [Nm/A]	Costante FCEM *Back EMF* [V/kRPM]	Inerzia rotore *Rotor inertia* [gcm²]	Peso *Weight* [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti *Drives* → II 2

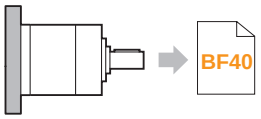
PM120 + BL400.48.120



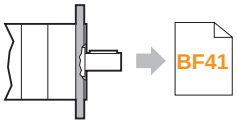
Kg

18.0 (PM120 1..)
20.4 (PM120 2..)
22.8 (PM120 3..)

			BL 400.48.120
	Ns	L1	L
PM120	1	89.2	378.6
	2	123.3	412.3
	3	157.5	446.5



PM120.. AS...



PM120.. C...

IP 55

PM

Dati tecnici / *Technical data*

Ns	i	Mn_2 [Nm]													
		PM42		PM52		PM62		PM72		PM81		PM105		PM120	
		3000 rpm	1400 rpm	3000 rpm	1400 rpm	3000 rpm	1400 rpm	3000 rpm	1400 rpm	3000 rpm	1400 rpm	3000 rpm	1400 rpm	3000 rpm	1400 rpm
1	3.70	3	3.9	4	5.1	8	10	14	18	20	25	35	45	50	64
	4.28*													—	—
	5.18*													—	—
	6.75													50	64
2	13.73	7.5	9.6	12	15	25	32	42	54	60	77	105	134	150	192
	15.88*													—	—
	18.36*													—	—
	19.20*													—	—
	22.20*													—	—
	25.01													150	192
	26.85*													—	—
	28.93*													—	—
	34.97*													—	—
	45.56													150	192
3	50.89	15	19	25	32	50	64	84	107	120	154	195	250	300	384
	58.85*													—	—
	68.06*													—	—
	71.16*													—	—
	78.71*													—	—
	92.70													300	384
	95.17*													—	—
	99.50*													—	—
	107.20*													—	—
	115.07*													—	—
	123.97*													—	—
	129.62*													—	—
	139.13*													—	—
	149.90*													—	—
	168.84													300	384
	181.24*													—	—
	195.26*													—	—
	236.09*													—	—
	307.54													300	384

Rapporti preferenziali per PM42, PM52, PM62 e PM81
Preferred ratios for PM42, PM52, PM62 and PM81

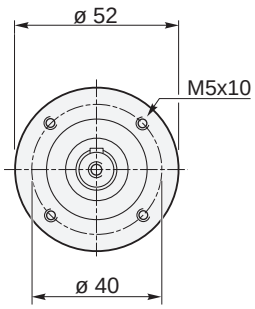
Disponibili 4 stadi con rapporti fino a 2076 / *Available 4 stages with ratio up to 2076*

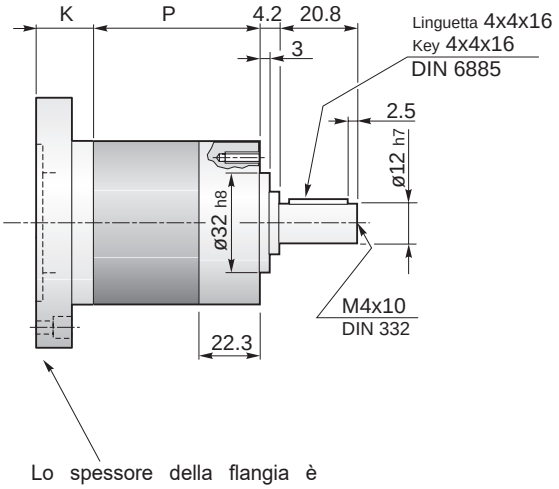
*: Rapporto non disponibile per PM120 / *Ratio not available for PM120*

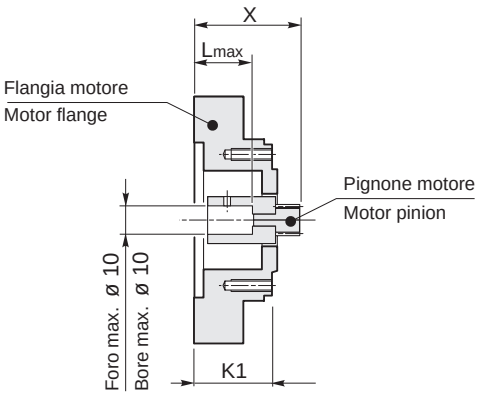
Dimensioni PM con flange motore AS

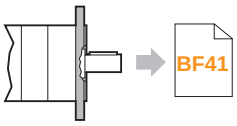
PM dimensions with motor flanges AS

PM52 U









PM52.. C...

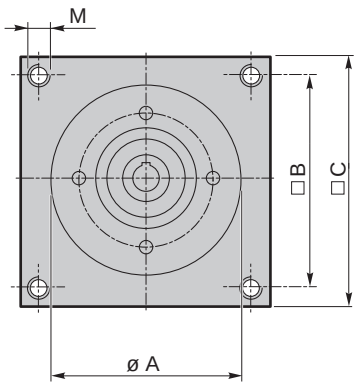
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

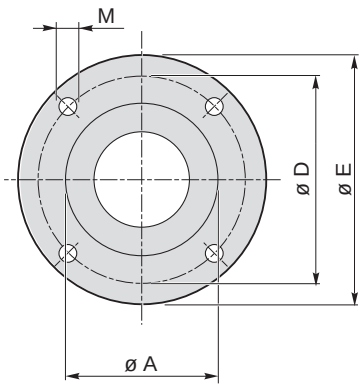
Flange's thickness may vary depending on motorshaft's lenght.

		Lunghezza riduttore Gearbox length P	Kg
PM52...	1	47.2	0.7
	2	61.3	0.9
	3	75.6	1.1

Flange motore

Motor flanges



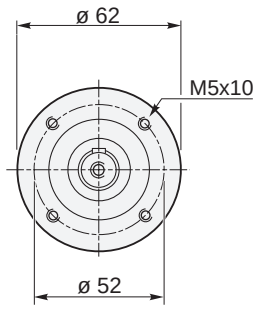


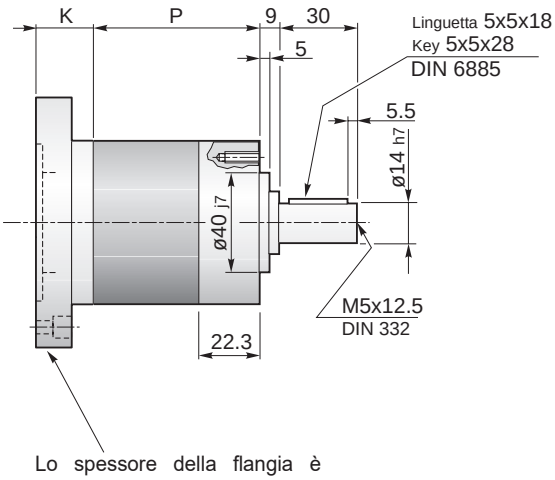
Dimensioni / Dimensions											
Flangia Flange	**Tipo motore Motor type**	**øA**	**□B**	**□C**	**øD**	**øE**	**M**	**K**	**K1**	**L_{max}**	**X**
4A.0578APM	**IEC 56B14**	50	-	-	65	80	n°4 - ø 5.5	25.9	28.2	20	38.5
AS115PM	**EC050…**	25	-	-	40	52	n°4 - ø 5.5	25.9	28.2	20	38.5
AS189PM	**BL032…BL043…**	25	-	-	38.88	57	n°4 - ø 4.5	30.9	33.2	25	43.5
AS394PM	**BLS022…BLS043…**	38.1	47.1	57	-	-	n°4 - M5	28.9	31.2	23	41.5
...		...	...	...	...	...	...	...	...	...	...

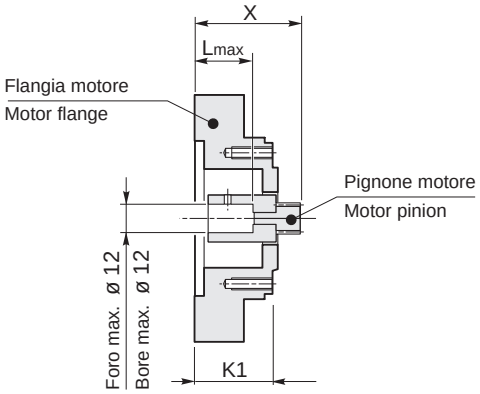
Preferenziali / *Preferred*

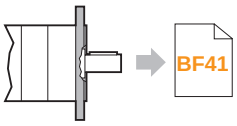
Dimensioni PM con flange motore AS — *PM dimensions with motor flanges AS*

PM62 U









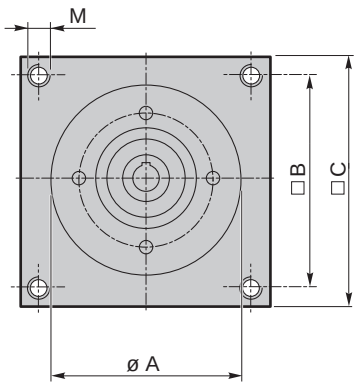
PM62.. C...

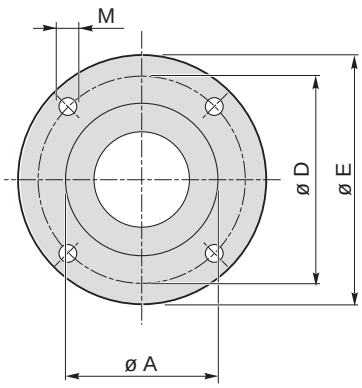
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.

		Lunghezza riduttore Gearbox length P	Kg
PM62...	1	45.3	0.8
	2	62.2	1.2
	3	79.2	1.6

Flange motore — *Motor flanges*





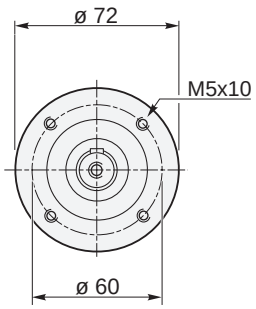
Dimensioni / Dimensions											
Flangia Flange	**Tipo motore Motor type**	**øA**	**□B**	**□C**	**øD**	**øE**	**M**	**K**	**K1**	**L_{max}**	**X**
AS244PM	**IEC 56B14**	50	-	-	65	79	4 - 5.5	26	28.3	20	41
AS61PM	**IEC 63B14**	60	-	-	75	89	4 - 5.5	28.5	30.8	23	43.5
AS344PM	**BL032...BL043...**	25	-	-	38.88	62	4 - 4.5	30.5	32.8	25	45.5
AS389PM	**BL070...BL140...BL210...**	73	69.6	86	-	-	4 - M5	28.5	30.8	23	44.3
...		...	...	...	...	...	...	...	...	...	...

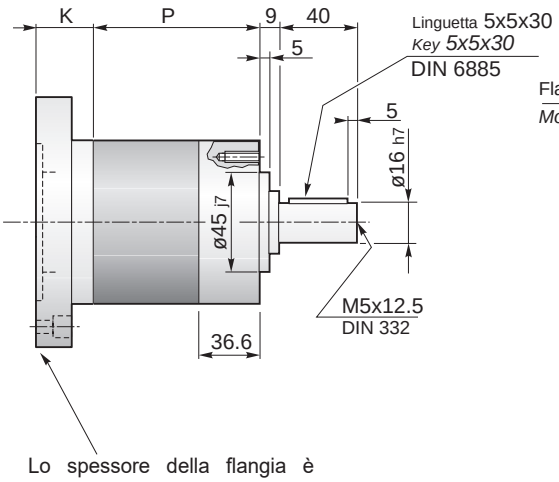
Preferenziali / *Preferred*

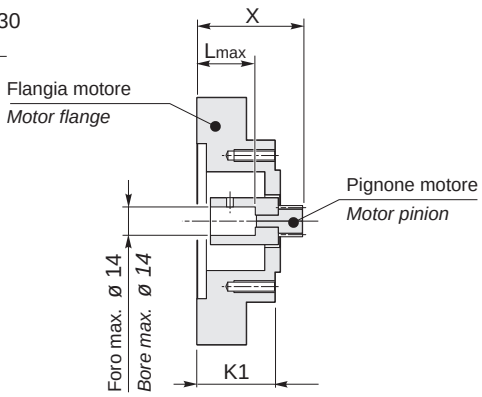
Dimensioni PM con flange motore AS

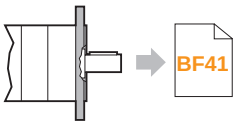
PM dimensions with motor flanges AS

PM72 U









PM72.. C...

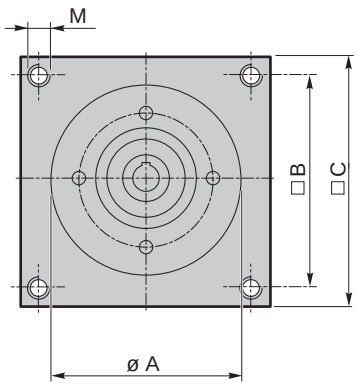
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

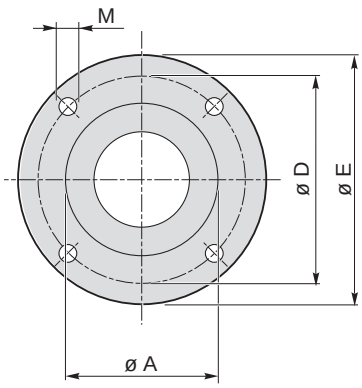
Flange's thickness may vary depending on motorshaft's lenght.

		Lunghezza riduttore Gearbox length P	Kg
PM72...	1	56.2	1.4
	2	75.8	1.9
	3	95.3	2.4

Flange motore

Motor flanges

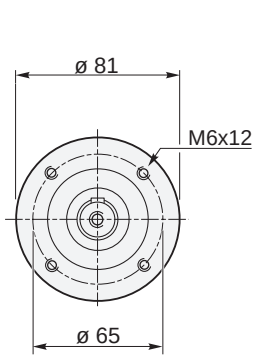


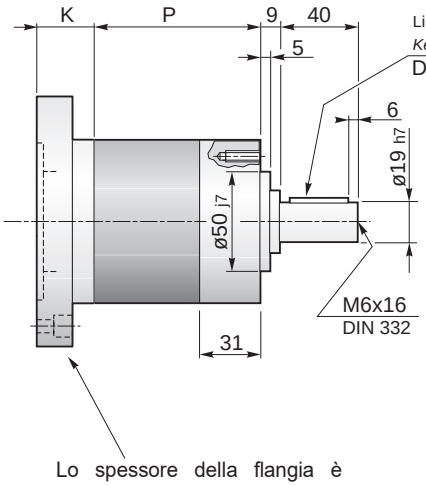


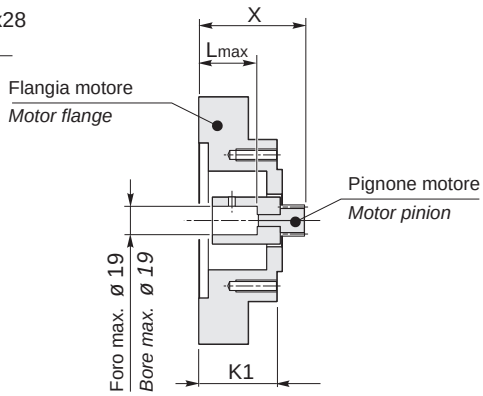
Dimensioni / Dimensions											
Flangia Flange	**Tipo motore Motor type**	**øA**	**□B**	**□C**	**øD**	**øE**	**M**	**K**	**K1**	**L_{max}**	**X**
AS245	**IEC 56B14**	50	-	-	65	80	4 - 5.5	26.7	29.5	20	44.1
AS246	**IEC 63B14**	60	-	-	75	90	4 - 5.5	28.7	31.5	23	46.1
AS247	**IEC 71B14**	70	-	-	85	105	4 - 6.5	35.7	38.5	30	53.1
AS464	**BL070.. BL140.. BL210..**	73	69.6	86	-	-	4 - M5	28.5	31.3	23	45.9
...		...	...	...	...	...	...	...	...	...	...

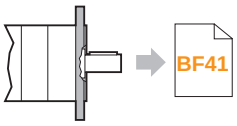
Dimensioni PM con flange motore AS — *PM dimensions with motor flanges AS*

PM81 U









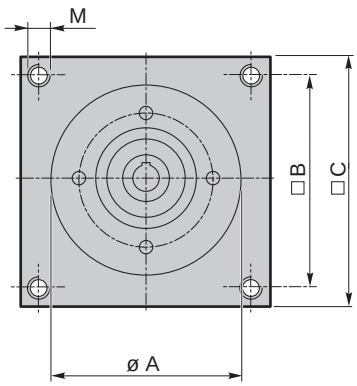
PM81.. C...

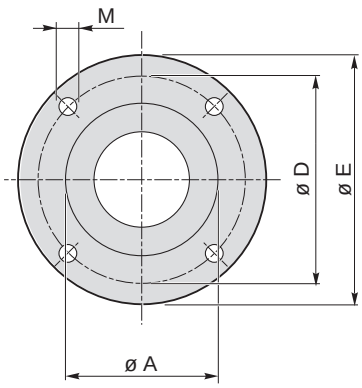
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motorshaft's lenght.

		Lunghezza riduttore Gearbox length P	Kg
PM62...	1	62.5	1.8
	2	83.8	2.5
	3	105.5	3.2

Flange motore — *Motor flanges*





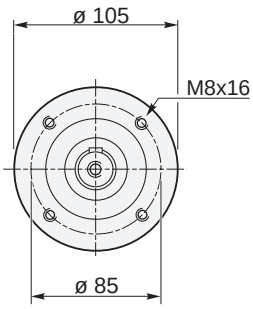
Dimensioni / Dimensions											
Flangia Flange	**Tipo motore Motor type**	**øA**	**□B**	**□C**	**øD**	**øE**	**M**	**K**	**K1**	**L_{max}**	**X**
AS248PM	**IEC 56B14**	50	-	-	65	81	4 - 5.5	32.9	35.7	23	51.5
AS249PM	**IEC 63B14**	60	-	-	75	90	4 - 5.5	32.4	35.2	23	51
AS254PM	**IEC 71B14**	70	-	-	85	105	4 - 6.5	39.4	42.2	30	58
AS280PM	**IEC 80B14**	80	-	-	100	120	4 - 6.5	49.4	52.5	40	68
AS390PM	**BL070…BL140…BL210…**	73	69.6	86	-	-	4 - M5	32.4	35.2	23	51
...		...	...	...	...	...	...	...	...	...	...

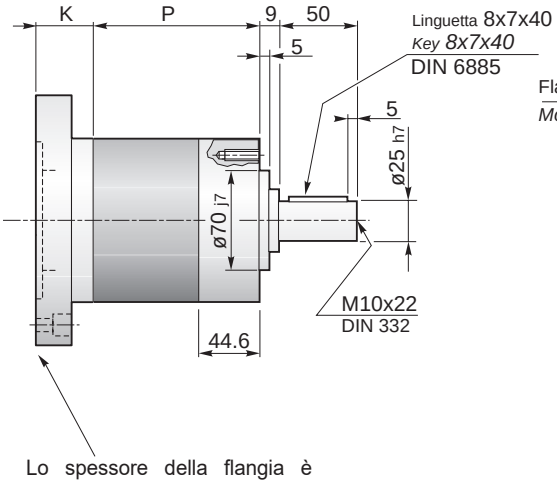
Preferenziali / *Preferred*

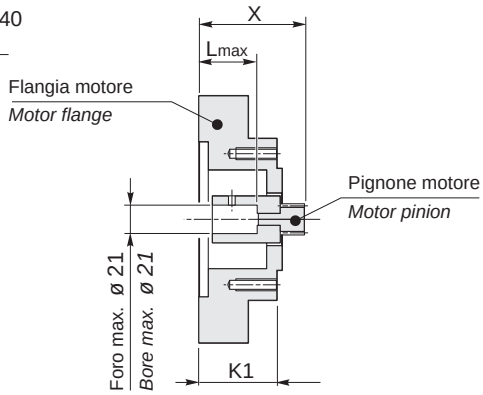
Dimensioni PM con flange motore AS

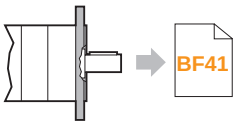
PM dimensions with motor flanges AS

PM105 U









PM105.. C...

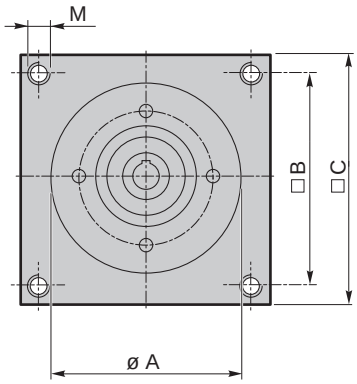
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

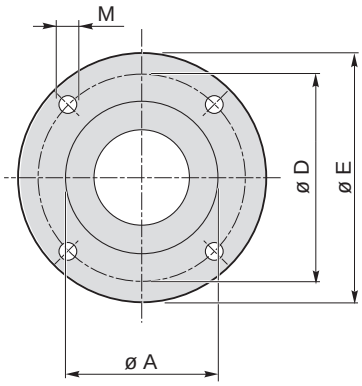
Flange's thickness may vary depending on motorshaft's lenght.

		Lunghezza riduttore Gearbox length P	Kg
PM105...	1	75.7	4.4
	2	106.9	6.0
	3	137.9	7.6

Flange motore

Motor flanges

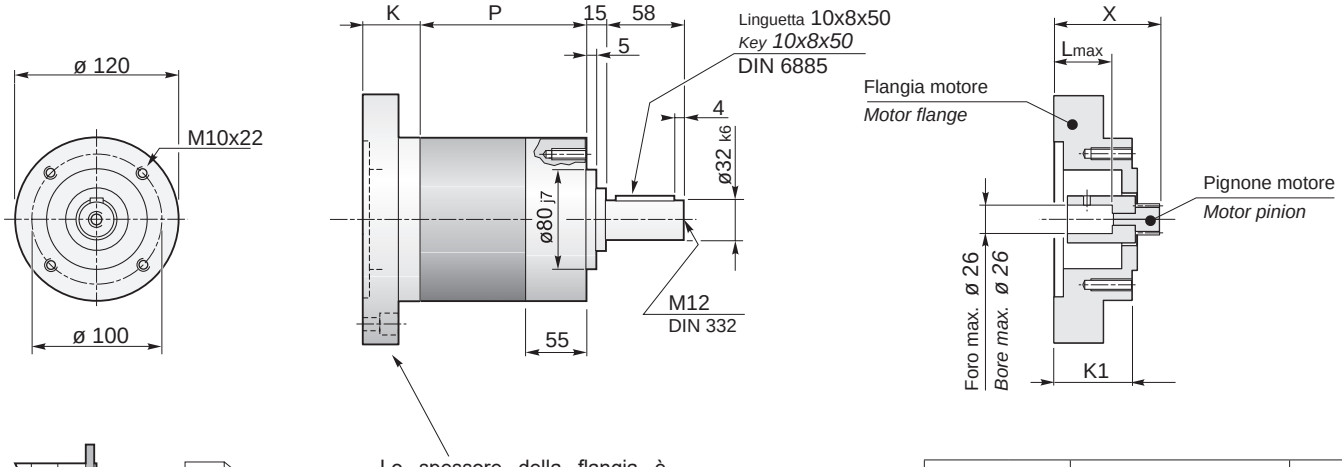


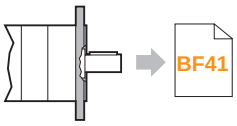


Dimensioni / Dimensions											
Flangia Flange	**Tipo motore Motor type**	**øA**	**□B**	**□C**	**øD**	**øE**	**M**	**K**	**K1**	**L_{max}**	**X**
AS250	**IEC 56B14**	50	-	-	65	105	4 - 5.5	37.2	40	26	60.8
AS251	**IEC 63B14**	60	-	-	75	105	4 - 5.5	37.2	40	26	60.8
AS252	**IEC 71B14**	70	-	-	85	105	4 - 6.5	41.2	44	30	64.8
AS281	**IEC 80B14**	80	-	-	100	120	4 - 6.5	51.2	54	40	74.8
4A.2958	**BL070.. BL140.. BL210..**	73	69.6	105	-	-	4 - M5	39.2	42	28	62.8
...		...	...	...	...	...	...	...	...	...	...

Dimensioni PM con flange motore AS — *PM dimensions with motor flanges AS*

PM120 U





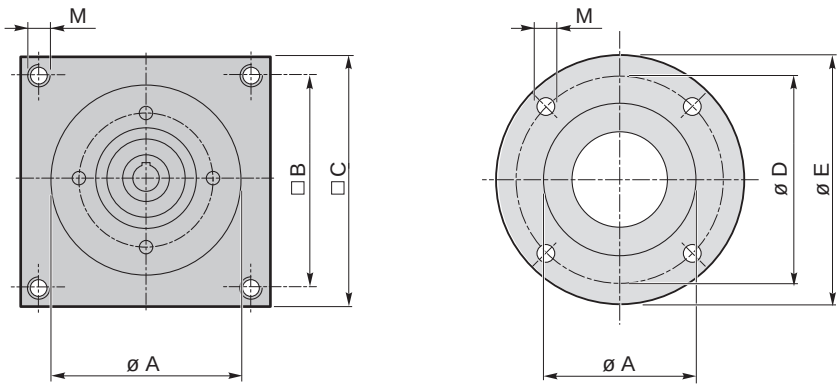
PM120.. C...

Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

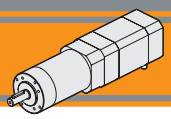
Flange's thickness may vary depending on motorshaft's lenght.

		Lunghezza riduttore Gearbox length P	Kg
PM120...	1	89.2	5.6
	2	123.3	8.0
	3	157.5	10.4

Flange motore — *Motor flanges*



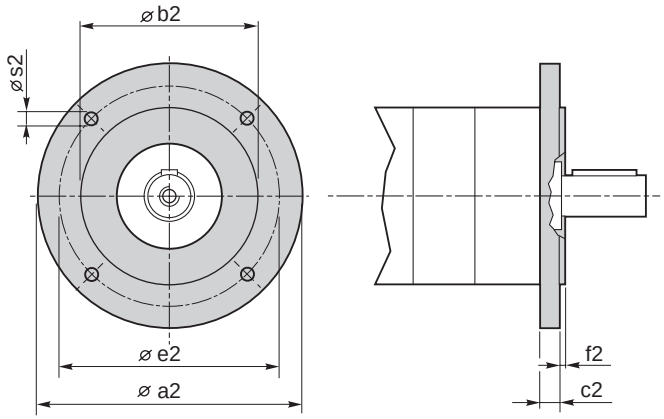
Dimensioni / Dimensions											
Flangia Flange	**Tipo motore Motor type**	**øA**	**□B**	**□C**	**øD**	**øE**	**M**	**K**	**K1**	**L_{max}**	**X**
AS255	**IEC 56B14**	50	-	-	65	120	4 - 5,5	41.9	44.7	28	70.7
AS256	**IEC 63B14**	60	-	-	75	120	4 - 5,5	41.9	44.7	28	70.7
AS257	**IEC 71B14**	70	-	-	85	120	4 - 6,5	43.9	46.8	30	72.8
AS282	**IEC 80B14**	80	-	-	100	120	4 - 6,5	53.9	56.8	40	82.8
AS283	**IEC 90B14**	95	-	-	100	140	4 - 8,5	63.9	66.8	50	92.8
...		...	...	...	...	...	...	...	...	...	...



Dimensioni flange uscita

Output flange dimensions

PM.. C..



PM	Flange uscita / *Output flanges*						
	a2	b2	c2	e2	f2	s2	Flangia *Flange*
52	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	5.5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
62	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	5.5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
72	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	M5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
81	90	60 j7	9	75	2.5	M5	**C90**
	105	70 j7	9	85	2.5	M6	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
105	120	80 j7	12	100	3	M6	**C120**
	140	95 j7	12	115	3.5	M8	**C140**
	160	110 j7	12	130	3.5	M8	**C160**
120	140	95 j7	15	115	3	M8	**C140**
	160	110 j7	15	130	3.5	M8	**C160**

Note/*Notes*

TRANSTECNO®
the modular gearmotor

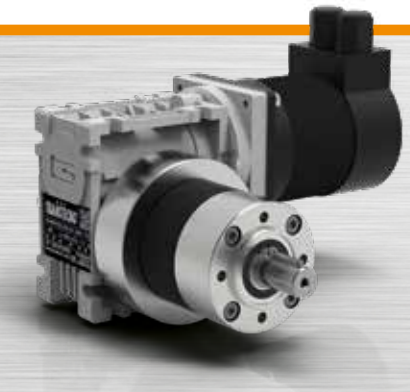
BLWMP

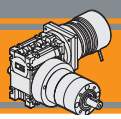
BLWMP

BLWMP Alü

IP55

Motoriduttori brushless CC combinati
Brushless DC double reduction gearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**BG2**
Designazione	*Classification*	**BG2**
Versioni	*Versions*	**BG2**
Simbologia	*Symbols*	**BG2**
Lubrificazione e temperatura	*Lubrication and temperature*	**BG2**
Carichi radiali	*Radial loads*	**BG3**
Rapporti	*Ratios*	**BG3**
Rendimento	*Efficiency*	**BG3**
WMP026/52... con motore brushless BLS 022.240	*WMP026/52... with brushless motor BLS 022.240*	**BG4**
WMP026/62... con motore brushless BLS 022.240	*WMP026/62... with brushless motor BLS 022.240*	**BG5**
WMP030/81... con motore brushless BLS 043.240	*WMP030/81... with brushless motor BLS 043.240*	**BG6**
WMP030/81... con motore brushless BL 070.240	*WMP030/81... with brushless motor BL 070.240*	**BG7**
Dimensioni WMP con flange motore AS	*WMPdimensions with motor flanges AS*	**BG9**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

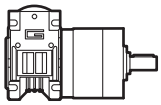
This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche / *Technical features*

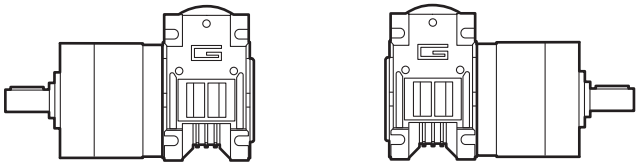
L'accoppiamento di un riduttore a vite senza fine con un riduttore epicicloidale consente di ottenere elevati rapporti di riduzione (i_{max} = 1/18452) e di disporre di un gruppo autolubrificato compatto, silenzioso e con un'elevata affidabilità.

The coupling of a wormgearbox to a planetary gearbox allows to obtain high reduction ratios (i_{max} = 1/18452) and to get a compact, silent, self lubricated with high reliability group.

Designazione / *Classification*

RIDUTTORE / *GEARBOX*					MOTORE / *MOTOR*		
WMP	**026/52**	**2**	**US**	**405**	**BL070.480**	**48V**	**BR**
Tipo *Type*	Grandezza *Size*	Numero stadi epicicloidale *Planetary stages number*	Versione Riduttore *Gearbox Version*	Rapporto in *Ratio in*	Tipo *Type*	Tensione *Voltage*	Freno *Brake*
WMP 	**026/52** **026/62** **030/81**	**1** **2** **3**	**US** **UD**	Vedere tabelle *See tables*	**BLS022.240** **BLS043.240** **BL070.240** **BL070.24B** **BL070.48B** **BL070.480**	**24V-36V** **24V-36V** **24V** **24V** **48V** **48V**	**24V** **48V** **BA16**

Versioni / *Versions*



US **UD**

Simbologia / *Symbols*

n_1	[min^{-1}]	Velocità in ingresso / *Input speed*
n_2	[min^{-1}]	Velocità in uscita / *Output speed*
i		Rapporto di riduzione / *Ratio*
P_1	[kW]	Potenza in entrata / *Input power*
M_n	[Nm]	Coppia nominale in uscita del riduttore / *Maximum output torque of the gearbox*
M_2	[Nm]	Coppia in uscita in funzione di P_1 / *Output torque referred to P_1*
sf		Fattore di servizio / *Service factor*
Rd	%	Rendimento dinamico / *Dynamic efficiency*
A_2	N]	Carico assiale ammissibile in uscita / *Permitted output axial load*
R_2	[N]	Carico radiale ammissibile in uscita / *Permitted output radial load*

Lubrificazione / *Lubrication*

I riduttori a vite senza fine della serie CM sono lubrificati a vita con olio sintetico di viscosità 320 e possono essere installati in qualunque posizione di montaggio.

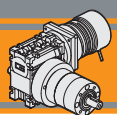
Permanent synthetic oil long-life lubrication allow to use CM wormgearbox range in all mounting position.

I riduttori epicicloidali sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.

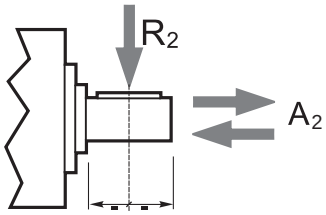
Planetary gearboxes are life-time lubricated with grease, therefore they are maintenancie free.
They can be installed in any location.

Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.



Carichi radiali — *Radial loads*



Numero di stadi *Stages number*	Carichi Radiali R_2 [N] *Radial Load R_2 [N]*		
	PM52	PM62	PM81
1	200	240	400
2	320	360	600
3	450	520	1000

Numero di stadi *Stages number*	Carichi Assiali A_2 [N] *Axial Load A_2 [N]*		
	PM52	PM62	PM81
1	60	70	80
2	100	100	120
3	150	150	200

Rapporti — *Ratios*

Motoriduttore *Gearmotor*	Numero stadi epicicloidale *Planetary stages number*	Rapporto epicicloidale *Planetary ratio*	Rapporto vite senza fine *Wormgearbox ratio*	Rapporto finale *Total ratio*
WMP026/52 WMP026/62 WMP030/81	1	6.75	10	**67.5**
			15	**101.3**
			20	**135**
			30	**202.5**
			40	**270**
			50	**337.5**
			60	**405**
	2	25.01	10	**250.1**
			15	**375.15**
			20	**500.2**
			30	**750.3**
			40	**1000.4**
			50	**1250.5**
			60	**1500.6**
		45.56	60	**2734**

WMP026/52... con motore brushless CC

WMP026/52... with brushless DC motor

WMP 026/52...	ir	BLS022.240												
		24V							36V						
		n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
..1	67.5	4.4	9	2.0	44	10	1.8	3000	5.9	9	2.0	59	10	1.8	4000
	101.3	3.0	12	1.5	30	15	1.2		4.0	12	1.5	40	15	1.2	
	135.0	2.2	15	1.2	22	18	1.0*		3.0	15	1.2	30	18	1.0*	
	202.5	1.5	18	1.0*	15	18	1.0*		2.0	18	1.0*	20	18	1.0*	
	270.0	1.1	18	1.0*	11	18	1.0*		1.5	18	1.0*	15	18	1.0*	
	337.5	0.9	18	1.0*	8.9	18	1.0*		1.2	18	1.0*	12	18	1.0*	
	405.0	0.7	18	1.0*	7.4	18	1.0*		1.0	18	1.0*	9.9	18	1.0*	
..2	250.1	1.2	25	1.0*	12	25	1.0*		1.6	25	1.0*	16	25	1.0*	
	375.15	0.8	25	1.0*	8.0	25	1.0*		1.1	25	1.0*	11	25	1.0*	
	500.2	0.6	25	1.0*	6.0	25	1.0*		0.8	25	1.0*	8.0	25	1.0*	
	750.3	0.4	25	1.0*	4.0	25	1.0*		0.5	25	1.0*	5.3	25	1.0*	
	1000.4	0.3	25	1.0*	3.0	25	1.0*		0.4	25	1.0*	4.0	25	1.0*	
	1250.5	0.2	25	1.0*	2.4	25	1.0*		0.3	25	1.0*	3.2	25	1.0*	
	1500.6	0.2	25	1.0*	2.0	25	1.0*		0.3	25	1.0*	2.7	25	1.0*	
	2733.6	0.1	25	1.0*	1.1	25	1.0*		0.1	25	1.0*	1.5	25	1.0*	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

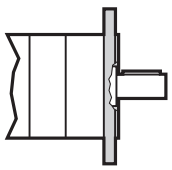
Nota: I valori * indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

***Note:** value * indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

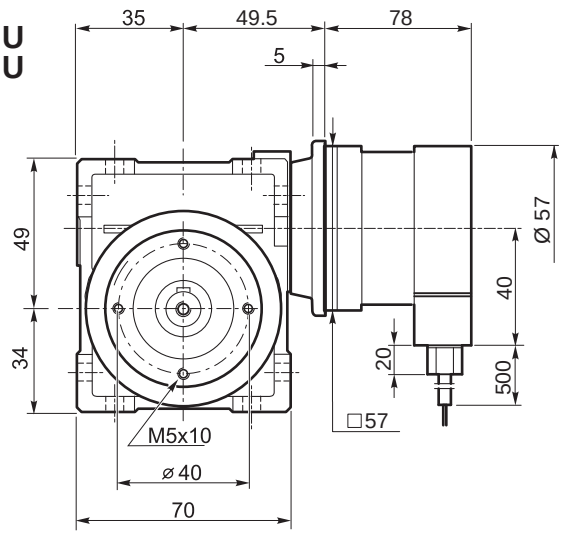
Azionamenti *Drives* → II 2

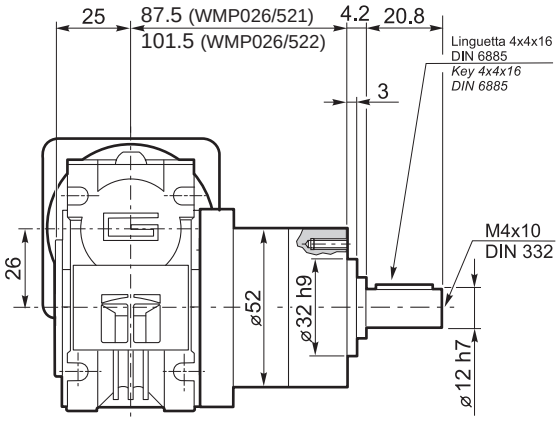


BG10

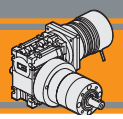
WMP026/521...C
WMP026/522...C

WMP026/521..U
WMP026/522..U
+
BLS022.240





Kg
2.3 (WMP026/521)
2.5 (WMP026/522)



WMP026/62... con motore brushless CC

WMP026/62... with brushless DC motor

WMP 026/62...	ir	BLS022.240												
		24V							36V					
		n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
			M_2	sf		M_2	sf			M_2	sf		M_2	sf	
..1	67.5	4.4	9	4.0	44	10	3.5		5.9	9	4.0	59	10	3.5	
	101.3	3.0	12	2.9	30	15	2.4		4.0	12	2.9	40	15	2.4	
	135.0	2.2	15	2.3	22	19	1.8		3.0	15	2.3	30	19	1.8	
	202.5	1.5	19	1.9	15	26	1.3		2.0	19	1.9	20	26	1.3	
	270.0	1.1	23	1.5	11	32	1.1		1.5	23	1.5	15	32	1.1	
	337.5	0.9	26	1.4	8.9	35	1.0*		1.2	26	1.4	12	35	1.0*	
	405.0	0.7	29	1.2	7.4	35	1.0*		1.0	29	1.2	9.9	35	1.0*	
..2	250.1	1.2	31	1.6	12	35	1.4	3000	1.6	31	1.6	16	35	1.4	4000
	375.15	0.8	41	1.2	8.0	50	1.0*		1.1	41	1.2	11	50	1.0*	
	500.2	0.6	50	1.0*	6.0	50	1.0*		0.8	50	1.0*	8.0	50	1.0*	
	750.3	0.4	50	1.0*	4.0	50	1.0*		0.5	50	1.0*	5.3	50	1.0*	
	1000.4	0.3	50	1.0*	3.0	50	1.0*		0.4	50	1.0*	4.0	50	1.0*	
	1250.5	0.2	50	1.0*	2.4	50	1.0*		0.3	50	1.0*	3.2	50	1.0*	
	1500.6	0.2	50	1.0*	2.0	50	1.0*		0.3	50	1.0*	2.7	50	1.0*	
	2733.6	0.1	50	1.0*	1.1	50	1.0*		0.1	50	1.0*	1.5	50	1.0*	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

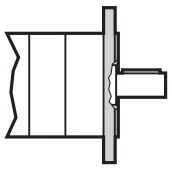
Nota: I valori * indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

***Note:** value * indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

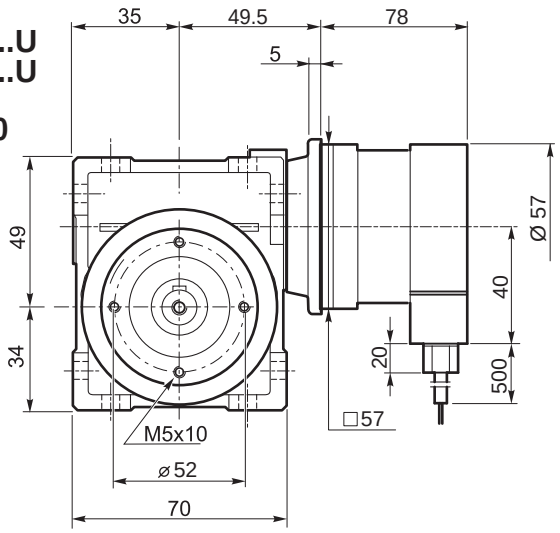
Azionamenti *Drives* → II 2

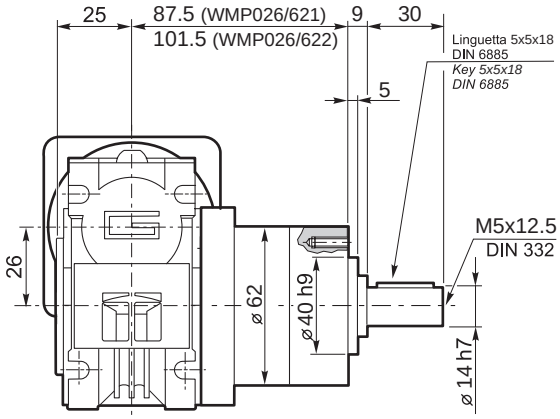


BG10

WMP026/621...C
WMP026/622...C

WMP026/621..U
WMP026/622..U
+
BLS022.240





Kg
2.4 (WMP026/521)
2.8 (WMP026/522)

IP 55

WPM

WMP030/81... con motore brushless CC

WMP030/81... with brushless DC motor

WMP 030/81...		BLS043.240												
		24V							36V						
	ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
..1	67.5	4.4	17	4.7	44	20	4.1		5.9	17	4.7	59	20	4.1	
	101.3	3.0	23	3.4	30	29	2.8		4.0	23	3.4	40	29	2.8	
	135.0	2.2	29	2.7	22	37	2.2		3.0	29	2.7	30	37	2.2	
	202.5	1.5	37	2.2	15	51	1.6		2.0	37	2.2	20	51	1.6	
	270.0	1.1	45	1.8	11	63	1.3		1.5	45	1.8	15	63	1.3	
	337.5	0.9	50	1.6	8.9	74	1.1		1.2	50	1.6	12	74	1.1	
	405.0	0.7	56	1.4	7.4	80	1.0*		1.0	56	1.4	9.9	80	1.0*	
..2	250.1	1.2	60	2.0	12	69	1.8	3000	1.6	60	2.0	16	69	1.8	4000
	375.15	0.8	81	1.5	8.0	100	1.2		1.1	81	1.5	11	100	1.2	
	500.2	0.6	102	1.2	6.0	120	1.0*		0.8	102	1.2	8.0	120	1.0*	
	750.3	0.4	120	1.0*	4.0	120	1.0*		0.5	120	1.0*	5.3	120	1.0*	
	1000.4	0.3	120	1.0*	3.0	120	1.0*		0.4	120	1.0*	4.0	120	1.0*	
	1250.5	0.2	120	1.0*	2.4	120	1.0*		0.3	120	1.0*	3.2	120	1.0*	
	1500.6	0.2	120	1.0*	2.0	120	1.0*		0.3	120	1.0*	2.7	120	1.0*	
	2733.6	0.1	120	1.0*	1.1	120	1.0*		0.1	120	1.0*	1.5	120	1.0*	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

Nota: I valori * indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

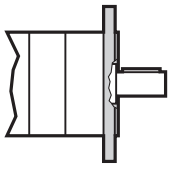
***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

***Note:** value * indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
	4	3	24	3000	0.43	130
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS043.240	0.86	6.8	0.35	1.0	13.6	1.25

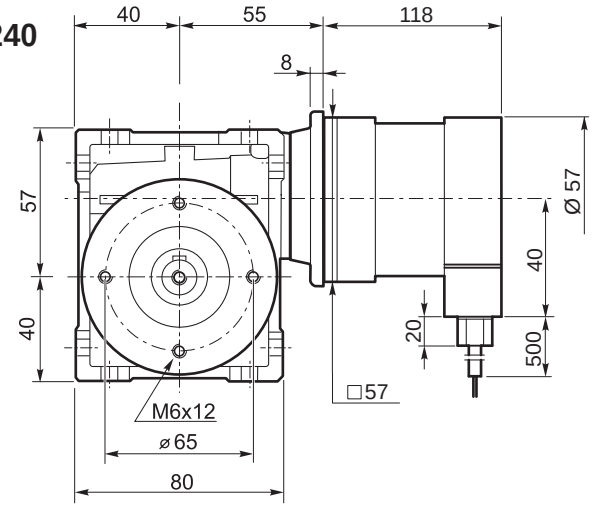
Azionamenti *Drives* → II 2

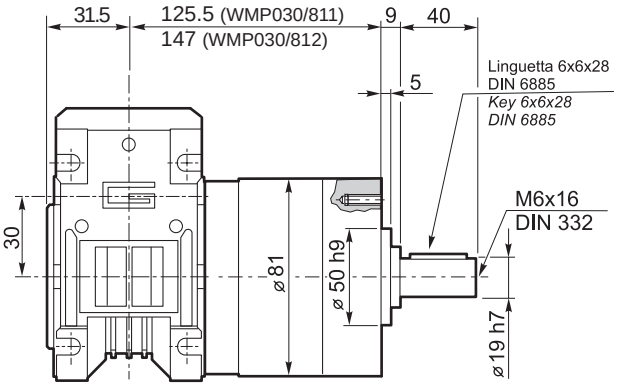
→ BG10



WMP030/811...C
WMP030/812...C

WMP030/811..U
WMP030/812..U
+
BLS043.240





Kg
4.4 (WMP030/811)
5.1 (WMP030/812)

WMP030/81... con motore brushless CC

WMP030/81... with brushless DC motor

WMP 030/81...		BL070.240 / BL070.24B / BL070.480 / BL070.48B						
		24V / 48V						
	ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
			M_2	sf		M_2	sf	
..1	67.5	4.4	28	2.9	44	32	2.5	3000
	101.3	3.0	38	2.1	30	47	1.7	
	135.0	2.2	48	1.7	22	60	1.3	
	202.5	1.5	60	1.3	15	80	1.0*	
	270.0	1.1	73	1.1	11	80	1.0*	
	337.5	0.9	80	1.0*	8.9	80	1.0*	
	405.0	0.7	80	1.0*	7.4	80	1.0*	
..2	250.1	1.2	97	1.2	12	112	1.1	
	375.15	0.8	120	1.0*	8.0	120	1.0*	
	500.2	0.6	120	1.0*	6.0	120	1.0*	
	750.3	0.4	120	1.0*	4.0	120	1.0*	
	1000.4	0.3	120	1.0*	3.0	120	1.0*	
	1250.5	0.2	120	1.0*	2.4	120	1.0*	
	1500.6	0.2	120	1.0*	2.0	120	1.0*	
	2733.6	0.1	120	1.0*	1.1	120	1.0*	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

Nota: I valori * indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

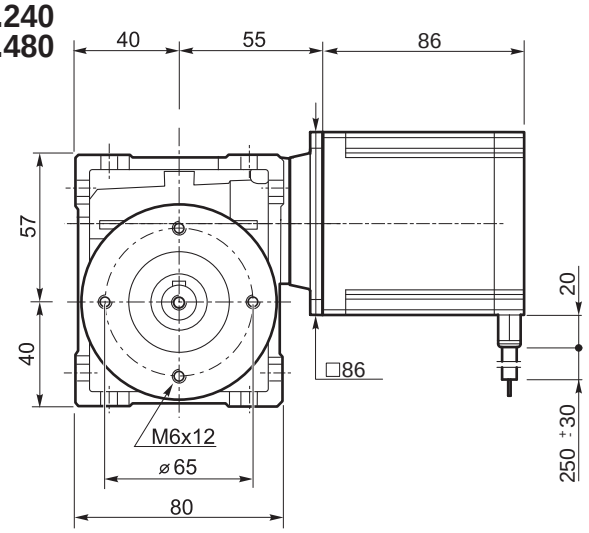
***NOTE:** for continuous or highly intermittent duty, please contact our technical service*

***Note:** value * indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.*

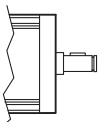
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BL070.240 BL070.24B	8	3	24	3000	0.7	220
BL070.480 BL070.48B	8	3	48	3000	0.7	220
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BL070.240 BL070.24B	1.4	13	0.091	0.23	26	2.1
BL070.480 BL070.48B	1.4	6.5	0.34	1.0	13	2.1

Azionamenti *Drives* → II 2

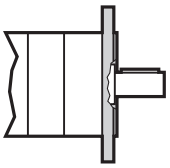
WMP030/811..U
WMP030/812..U
+
BL070.240
BL070.480



BA16 ← Freno *Brake*

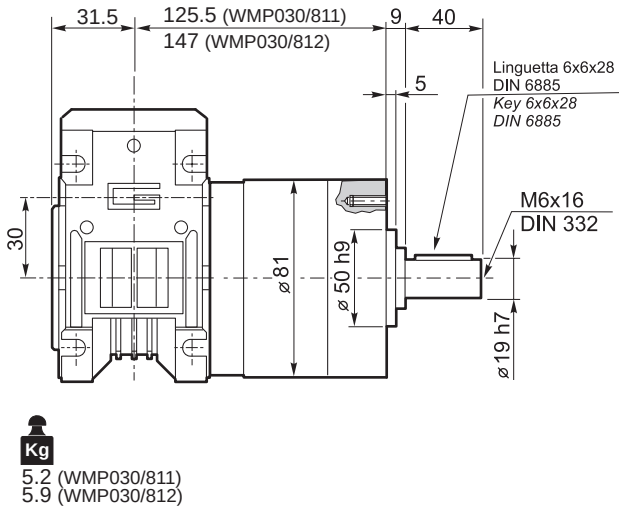


BL070.24B
BL070.48B



→ BG10

WMP030/811...C
WMP030/812...C



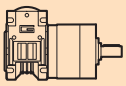
Kg
5.2 (WMP030/811)
5.9 (WMP030/812)

IP 55

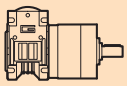
WPM

Dati tecnici

Technical data



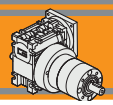
	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
WMP026/521				
n1 = 1400 rpm	**21**	18	59	67.5
	14	18	42	101.3
	10	18	33	135.0
	6.9	18	25	202.5
	5.2	18	20	270.0
	4.1	18	17	337.5
	3.5	18	15	405.0
WMP026/522				
n1 = 1400 rpm	**5.6**	25	24	250.1
	3.7	25	17	375.2
	2.8	25	13	500.2
	1.9	25	10	750.3
	1.4	25	8	1000.4
	1.1	25	7	1250.5
	0.9	25	6	1500.6
	0.5	25	3	2733.6
WMP026/621				
n1 = 1400 rpm	**21**	35	114	67.5
	14	35	81	101.3
	10	35	64	135.0
	6.9	35	48	202.5
	5.2	35	39	270.0
	4.1	35	33	337.5
	3.5	35	30	405.0
WMP026/622				
n1 = 1400 rpm	**5.6**	50	47	250.1
	3.7	50	33	375.2
	2.8	50	26	500.2
	1.9	50	20	750.3
	1.4	50	16	1000.4
	1.1	50	14	1250.5
	0.9	50	12	1500.6
	0.5	50	7	2733.6
WMP030/811				
n1 = 1400 rpm	**21**	80	262	67.5
	14	80	186	101.3
	10	80	147	135.0
	6.9	80	110	202.5
	5.2	80	89	270.0
	4.1	80	76	337.5
	3.5	80	68	405.0
WMP030/812				
n1 = 1400 rpm	**5.6**	120	113	250.1
	3.7	120	80	375.2
	2.8	120	63	500.2
	1.9	120	47	750.3
	1.4	120	38	1000.4
	1.1	120	33	1250.5
	0.9	120	29	1500.6
	0.5	120	16	2733.6



	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
WMP026/521				
n1 = 3000 rpm	**44**	18	123	67.5
	30	18	84	101.3
	22	18	65	135.0
	15	18	48	202.5
	11	18	38	270.0
	8.9	18	33	337.5
	7.4	18	29	405.0
WMP026/522				
n1 = 3000 rpm	**12**	25	49	250.1
	8.0	25	34	375.2
	6.0	25	26	500.2
	4.0	25	19	750.3
	3.0	25	15	1000.4
	2.4	25	13	1250.5
	2.0	25	12	1500.6
	1.1	25	6	2733.6
WMP026/621				
n1 = 3000 rpm	**44**	35	240	67.5
	30	35	164	101.3
	22	35	127	135.0
	15	35	93	202.5
	11	35	75	270.0
	8.9	35	64	337.5
	7.4	35	57	405.0
WMP026/622				
n1 = 3000 rpm	**12**	50	99	250.1
	8.0	50	67	375.2
	6.0	50	52	500.2
	4.0	50	38	750.3
	3.0	50	31	1000.4
	2.4	50	26	1250.5
	2.0	50	23	1500.6
	1.1	50	13	2733.6
WMP030/811				
n1 = 3000 rpm	**44**	80	548	67.5
	30	80	374	101.3
	22	80	291	135.0
	15	80	213	202.5
	11	80	171	270.0
	8.9	80	145	337.5
	7.4	80	129	405.0
WMP030/812				
n1 = 3000 rpm	**12**	120	236	250.1
	8.0	120	161	375.2
	6.0	120	126	500.2
	4.0	120	92	750.3
	3.0	120	74	1000.4
	2.4	120	63	1250.5
	2.0	120	56	1500.6
	1.1	120	31	2733.6

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

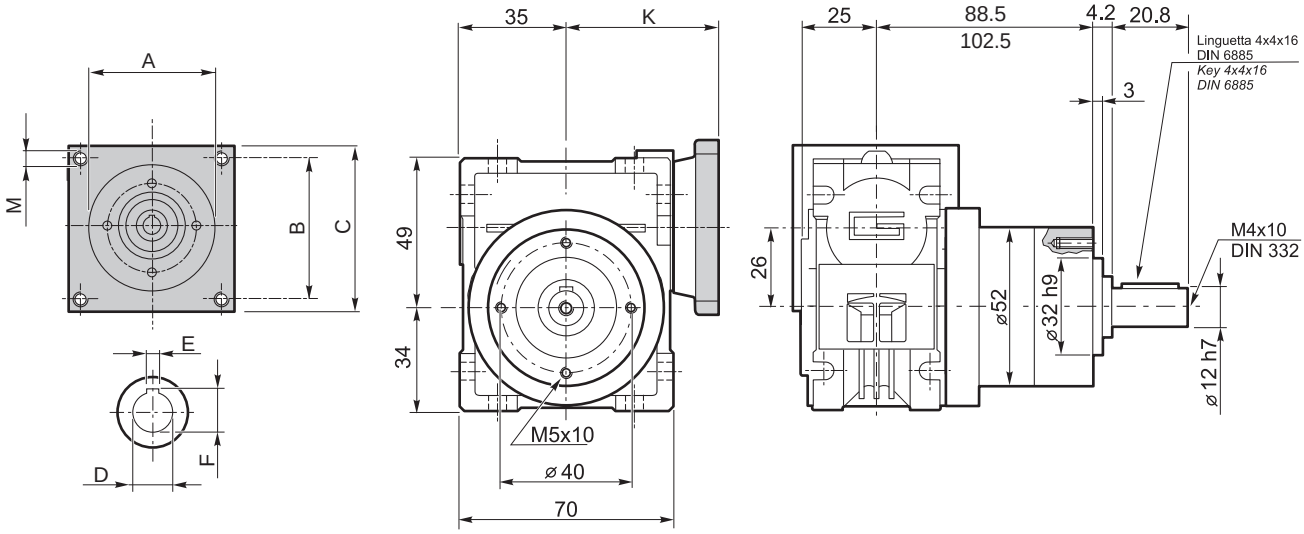
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico



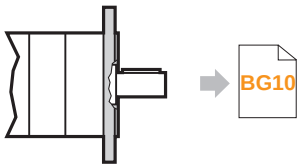
Dimensioni WMP con flange motore AS

WMPdimensions with motor flanges AS

WMP 026/52...

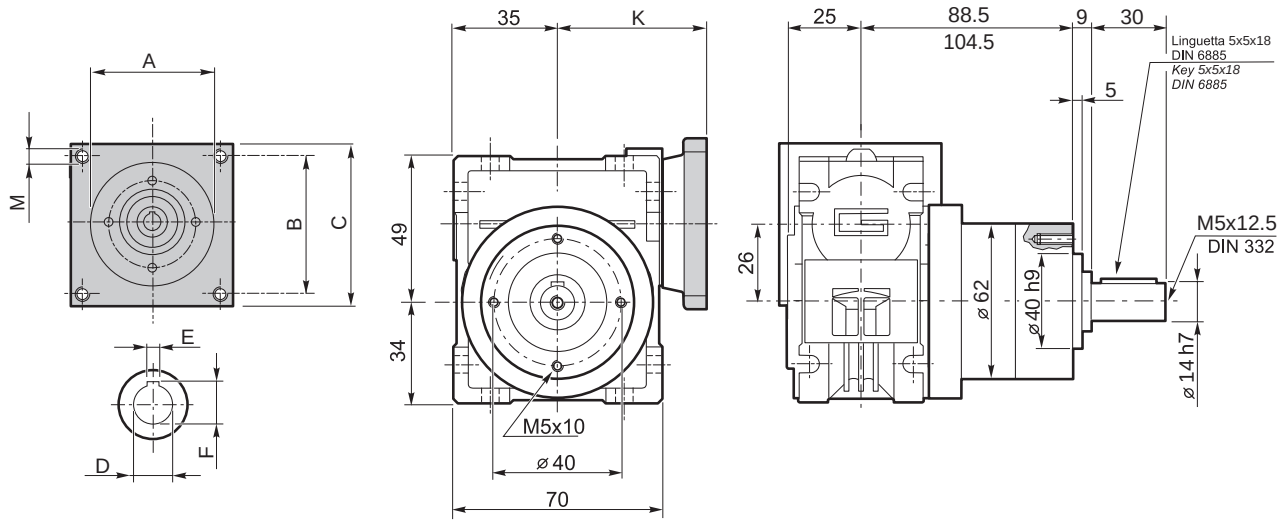


Dimensioni / Dimensions								
AS	A	B	C	M	K	Rapporti / *Ratio* 67.5...2734		
						D	E	F
AS417	38.1	47.1	56	M4	49.5	9	3	10.4
...	...	...	...	...	...	...	...	...

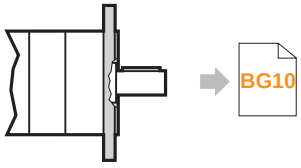


WMP026/52...C

WMP 026/62...



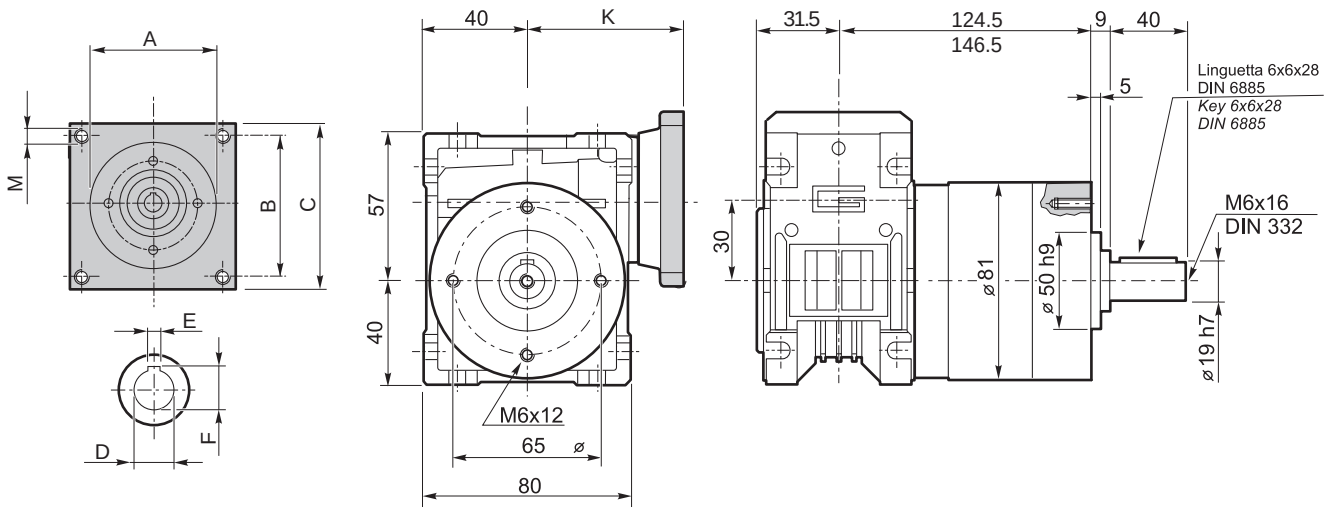
Dimensioni / Dimensions								
AS	A	B	C	M	K	Rapporti / *Ratio* 67.5...2734		
						D	E	F
AS417	38.1	47.1	56	M4	49.5	9	3	10.4
...	...	...	...	...	...	...	...	...



WMP026/62...C

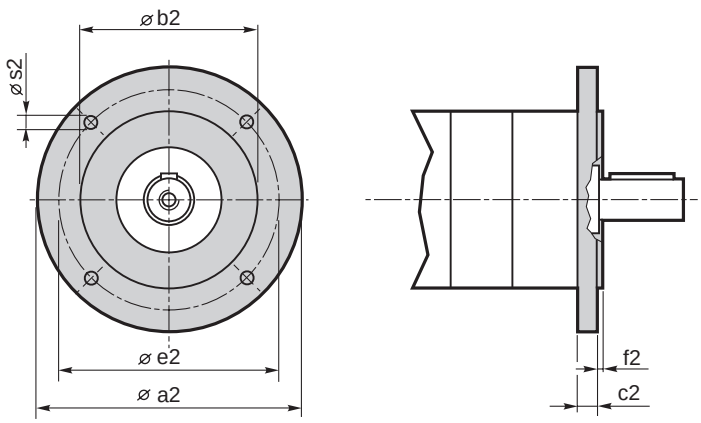
Dimensioni WMP con flange motore AS — *WMP dimensions with motor flanges AS*

WMP 030/81...



Dimensioni / Dimensions												
AS	**A**	**B**	**C**	**M**	**K**	**Rapporti / *Ratio***						
						67.5 - 101.3 - 135 - 202.5 - 270 - 289.3 337.5 - 434 - 578.6 - 867.9 - 1157 - 1147			**405 - 1736 - 2098 - 2734**		
						D	**E**	**F**	**D**	**E**	**F**
AS393	38.1	47.1	57	M5	55	11	4	12.8	9	3	10.4
AS391	73	69.6	86	M5	55	11	4	12.8	9	3	10.4
...	...	...	...	...	...	...	...	...	...	...	...

WMP.../.../... C... Flange uscita / *Output flanges*



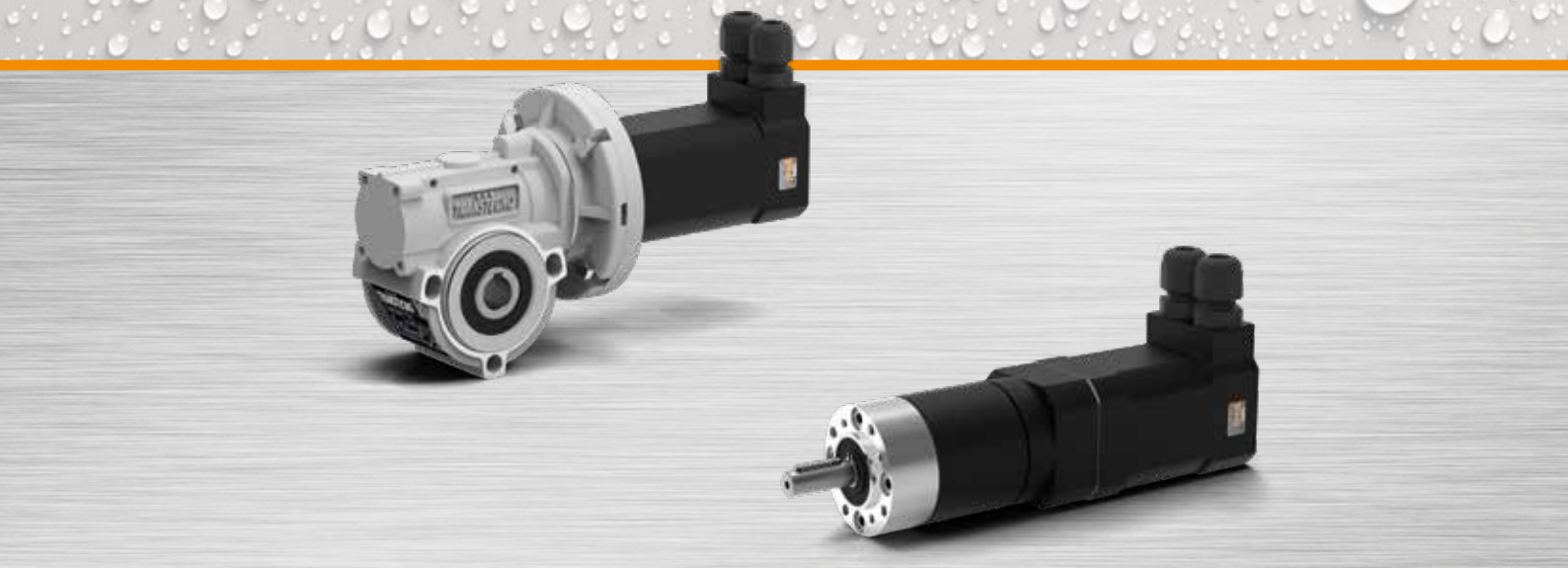
	Dimensioni / Dimensions						
PM	**a2**	**b2**	**c2**	**e2**	**f2**	**s2**	**Flangia uscita *Output flange***
52	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	5.5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
62	80	50 j7	9	65	2.5	M5	**C80**
	90	60 j7	9	75	2.5	5.5	**C90**
	105	70 j7	9	85	2.5	6.5	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**
81	90	60 j7	9	75	2.5	M5	**C90**
	105	70 j7	9	85	2.5	M6	**C105**
	120	80 j7	9	100	3.0	6.5	**C120**

TRANSTECNO®
the modular gearmotor

BLDC Alu

IP66

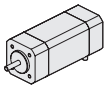
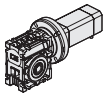
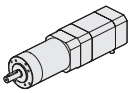
Motoriduttori brushless CC IP66
IP66 Brushless DC gearmotors



IP66

Indice

Index

		Pag. *Page*
 **C-A**	**Motori brushless CC** BLS / **Brushless DC motors** BLS	**C-A1**
ENERGY SAVING  **C-B**	**Motoriduttori brushless CC a vite senza fine** CM / **Brushless DC Wormgearmotors** CM	**C-B1**
ENERGY SAVING  **C-C**	**Motoriduttori brushless CC epicicloidali** PM / **Brushless DC planetary gearmotors** PM	**C-C1**

Questo catalogo annulla e sostituisce ogni precedente edizione o revisione.
Ci riserviamo inoltre il diritto di apportare modifiche senza preavviso.
La versione più aggiornata è disponibile sul sito www.transtecno.com

This catalogue supersedes any previous edition and revision.
We reserve the right to implement modifications without notice.
The most updated version is available on our website www.transtecno.com

TRANSTECNO®
the modular gearmotor

BLS

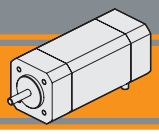
BLS

BLS Alü

IP66

Motori brushless CC
Brushless DC motors





ENERGY SAVING

	Indice	*Index*	Pag. *Page*
	Caratteristiche tecniche	*Technical features*	**CA2**
	Grado di protezione IP	*IP enclosures protection indexes*	**CA2**
	Classe di isolamento termico	*Insulation class*	**CA2**
	Tipi di servizio IEC	*IEC duty cycle ratings*	**CA2**
	Legenda / Glossario dei grafici	*Key / Diagram Glossary*	**CA3**
	Formule utili	*Useful formulas*	**CA3**
BLS012.240	Specifiche costruttive	*General features*	**CA4**
	Prestazioni	*Performances*	**CA4**
	Dimensioni	*Dimensions*	**CA5**
	Diagramma dei collegamenti	*Connection diagram*	**CA5**
BLS018.240	Specifiche costruttive	*General features*	**CA6**
	Prestazioni	*Performances*	**CA6**
	Dimensioni	*Dimensions*	**CA7**
	Diagramma dei collegamenti	*Connection diagram*	**CA7**
BLS025.24E	Specifiche costruttive	*General features*	**CA8**
	Prestazioni	*Performances*	**CA8**
	Dimensioni	*Dimensions*	**CA9**
	Diagramma dei collegamenti	*Connection diagram*	**CA9**
MEM25	Micro encoder	*Micro encoder*	**CA10**
	Descrizione	*Description*	**CA10**
	Caratteristiche principali	*Technical features*	**CA10**
	Designazione	*Classification*	**CA10**
	Specifiche di funzionamento	*Operating conditions*	**CA10**
	Dimensioni e schema di connessione	*Dimensions and connection diagram*	**CA11**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

I motori brushless cc IP 66 serie BLS vengono proposti con tre taglie, da 0.12Nm/0.18Nm/0.25Nm, tutte realizzate con una carcassa quadra 42mm. Le caratteristiche fondamentali realizzate, per ottenere un motore con classe di protezione IP66 sono:

Brushless DC motors IP 66 BLS series are offered in three sizes, 0.12Nm / 0.18Nm / 0.25Nm, all manufactured by a 42mm square casing. The basic features which are realized, in order to obtain a motor with protection class IP66 are:

- Connettori Pg per l'uscita cavi
- Cavo alimentazione motore e cavo dei sensori in PVC schermato
- Verniciatura poliuretanica 2K
- Flangia frontale con fori di fissaggio ciechi ed anello di tenuta sull'albero

- *Pg connectors for outcoming cables*
- *Shielded PVC cables for motor power supply and sensors*
- *2K polyurethane varnish*
- *Front flange with blind fixing holes and sealing ring on the shaft*

Tutti i motori proposti sono 3 fasi 24Vcc, e dotati di sensori di Hall per la loro retroazione digitale.

All the motors proposed are 3 phases 24Vdc, and equipped with Hall sensors for their digital feedback.

La taglia motore da 0,25Nm, modello BLS025.24E, viene proposta con albero bisporgente, anch'esso protetto da un anello di tenuta, per potere accettare il nostro encoder MEM25 ad alta risoluzione.

The motor size 0,25Nm, BLS025.24E model, is available with double extended shaft, which is also protected by a sealing ring, in order to accept our MEM25 high-resolution encoder.

Grado di protezione IP — *IP enclosures protection indexes*

Indica il grado di isolamento meccanico del corpo motore.

1ª cifra protezione alla penetrazione di corpi solidi.

2ª cifra protezione contro la penetrazione d'acqua.

Indicates the degree of mechanical insulation of the motor body.

1st figure indicating level of protection against the penetration of solid bodies.

2nd figure: indicating degree to which the motor is waterproof.

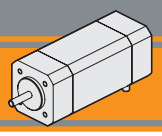
6	Totalmente protetto contro la polvere *Fully dust proof*	**6**	Protetto dalle ondate *Wave proof*

Classe di isolamento termico — *Insulation class*

Classe / *Class*	Δ t °C Temp. ambiente: 40°C *Ambient temperature: 40°C*
B	90°C

Tipi di servizio IEC — *IEC duty cycle ratings*

S1	**Servizio continuo.** Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	***Continuous duty.*** *The motor works at a constant load for enough time to reach temperature equilibrium*
S2	**Servizio di durata limitata.** Funzionamento a carico costante per una durata inferiore a quella necessaria al raggiungimento dell'equilibrio termico, seguito da un periodo di riposo tale da riportare il motore alla temperatura ambiente.	***Short time duty****. The motor works at a constant load, but not long enough to reach temperature equilibrium, and the rest periods are long enough for the motor to reach ambient temperature.*
S3	**Servizio periodico intermittente.** Sequenze di cicli identici di marcia e di riposo a carico costante, senza raggiungimento dell' equilibrio termico. La corrente di spunto ha effetti trascurabili sul surriscaldamento del motore.	***Intermittent periodic duty.*** *Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.*

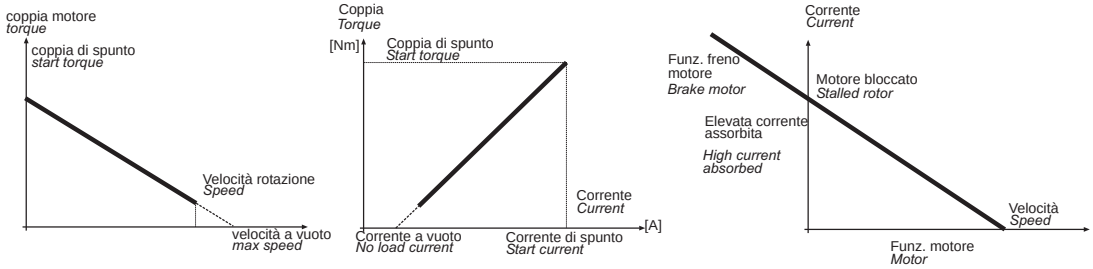


Legenda / Glossario dei grafici

Key / Diagram Glossary

Dato un motore brushless CC, la velocità di rotazione è funzione lineare della coppia; così pure la corrente assorbita è una funzione lineare della coppia. Velocità e corrente variano in maniera sensibile al variare del carico.

With a brushless DC motor, the rotational speed is a linear function of the torque. In the same way, the absorbed current is also a linear function of the torque. Speed and current change a lot against applied torque.

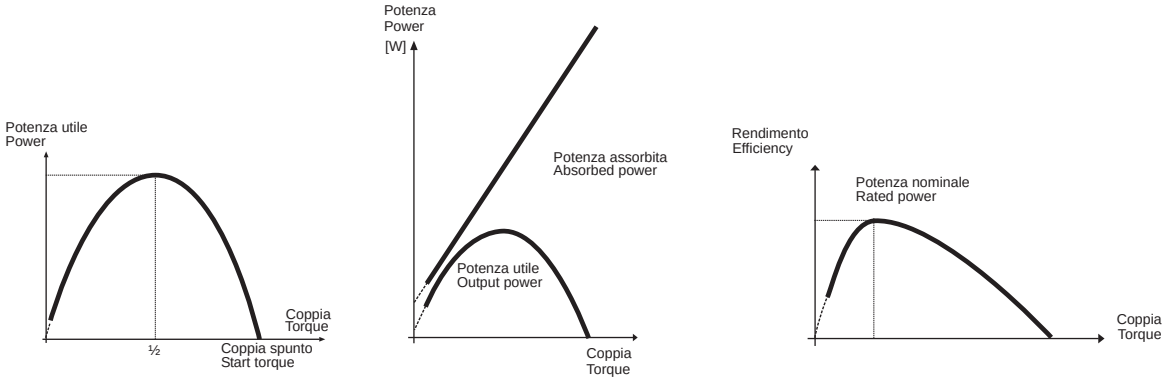


La potenza utile (potenza all' albero) si ricava dalla formula:

$$Pn\ [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$

The output power is calculated using the formula:

$$Pn\ [W] = Mn \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot Mn$$



Poiché la tensione di alimentazione è costante mentre la corrente è linearmente crescente al crescere della coppia, l'andamento della potenza assorbita è una retta crescente. Dal rapporto tra la potenza meccanica e la potenza assorbita si ottiene il grafico dell'efficienza.

Since the supply voltage is constant, whereas the current increases in a linear manner as the torque increases, the absorbed power trend is a straight line going up. Efficiency is shown from the ratio between the output power and the absorbed power.

Formule utili

Useful formulas

$$\eta = \frac{Pn}{Pa}$$

$$Pa = V \cdot I$$

$$Pn = V \cdot I \cdot \eta$$

$$Pn = Mn \cdot Sv$$

$$Sv = \frac{n_1}{9.55}$$

[HP] · 746 = [W].
Esempio 2 HP = circa 1500 W.

$$\eta = \frac{Pn}{Pa}$$

$$Pa = V \cdot I$$

$$Pn = V \cdot I \cdot \eta$$

$$Pn = Mn \cdot Sv$$

$$Sv = \frac{n_1}{9.55}$$

[HP] · 746 = [W].
Example 2 HP = approx. 1500 W.

S	—	Servizio	*Duty*
Pn	[W]	Potenza in uscita	*Rated power*
Pa	[W]	Potenza assorbita	*Absorbed power*
Mn	[Nm]	Coppia nominale	*Rated torque*
V	[V]	Tensione	*Voltage*
I	[A]	Corrente assorbita	*Absorbed current*
n1	[min-1]	Numero giri motore	*Motor speed*
Sv	[rad/s]	Velocità angolare	*Angular speed*
IC	—	Classe d'isolamento termico	*Thermal insulation class*
FF	—	Fattore di forma	*Form factor*
IP	—	Classe di protezione	*protection class*
η	—	Rendimento	*Efficiency*
Kg	—	Massa	*Mass*

BLS012.240

Specifiche costruttive — *General features*

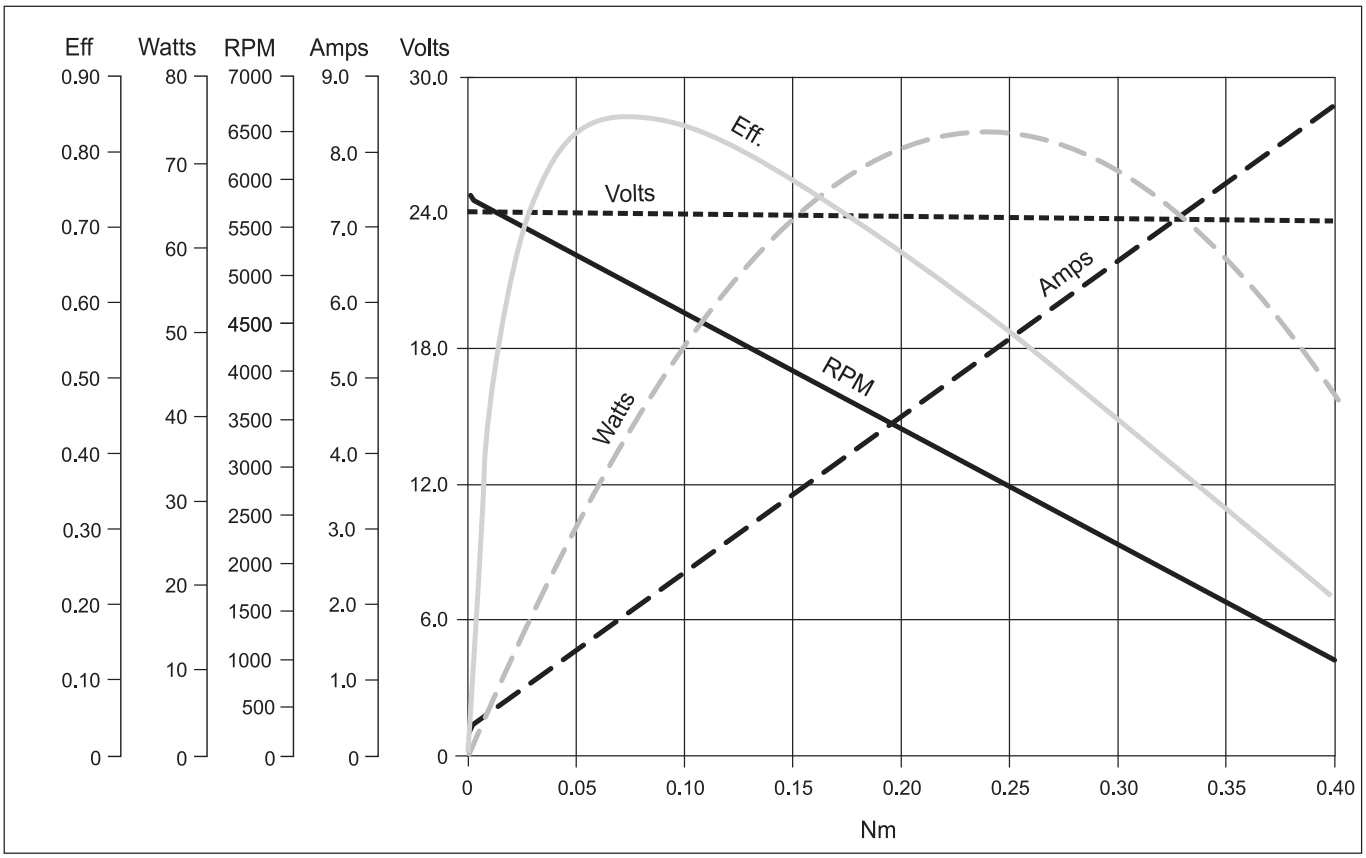
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

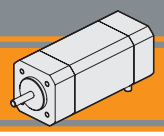
Max forza radiale *Max radial force*	28N @ 20 mm dalla flangia *28N @ 20 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BLS012.240	8	3	24	4000	0.125	52	0.38	3.5	10.6	0.80	1.2	0.0355	3.72	48	0.45	66

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

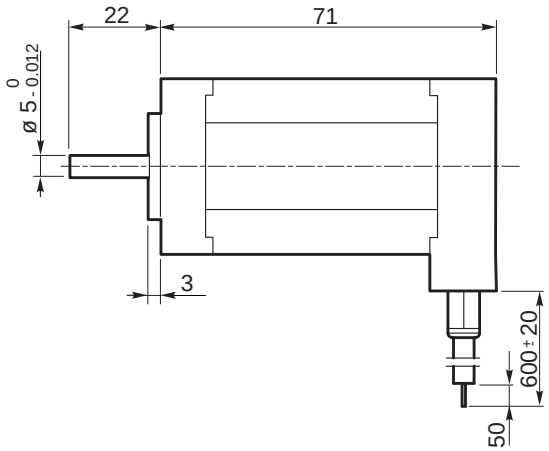




BLS012.240

Dimensioni — *Dimensions*

BLS012.240



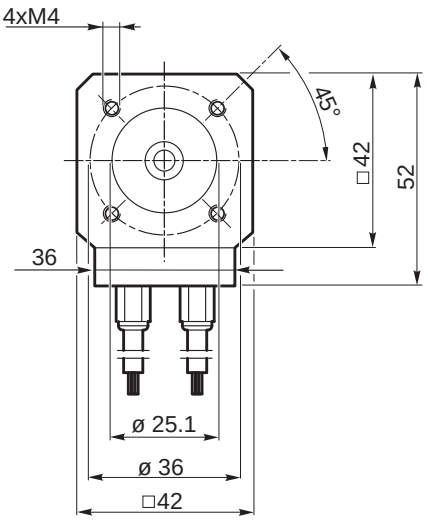


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BLS018.240

Specifiche costruttive — *General features*

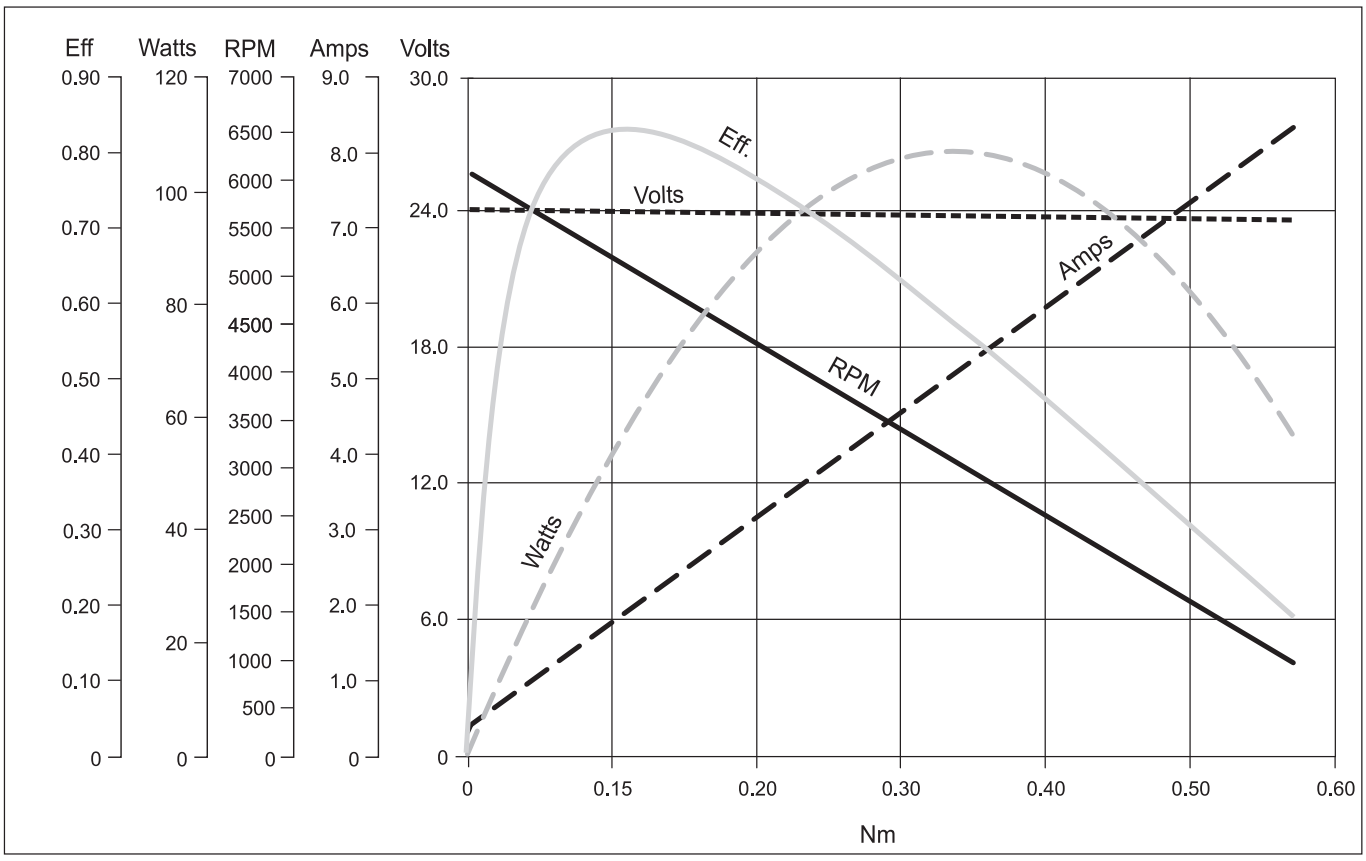
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

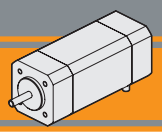
Max forza radiale *Max radial force*	28N @ 20 mm dalla flangia *28N @ 20 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BLS018.240	8	3	24	4000	0.185	78	0.56	5	15.5	0.55	0.8	0.036	3.76	72	0.65	66

Azionamenti *Drives* → II 2

Prestazioni — *Performances*





BLS018.240

Dimensioni — *Dimensions*

BLS018.240

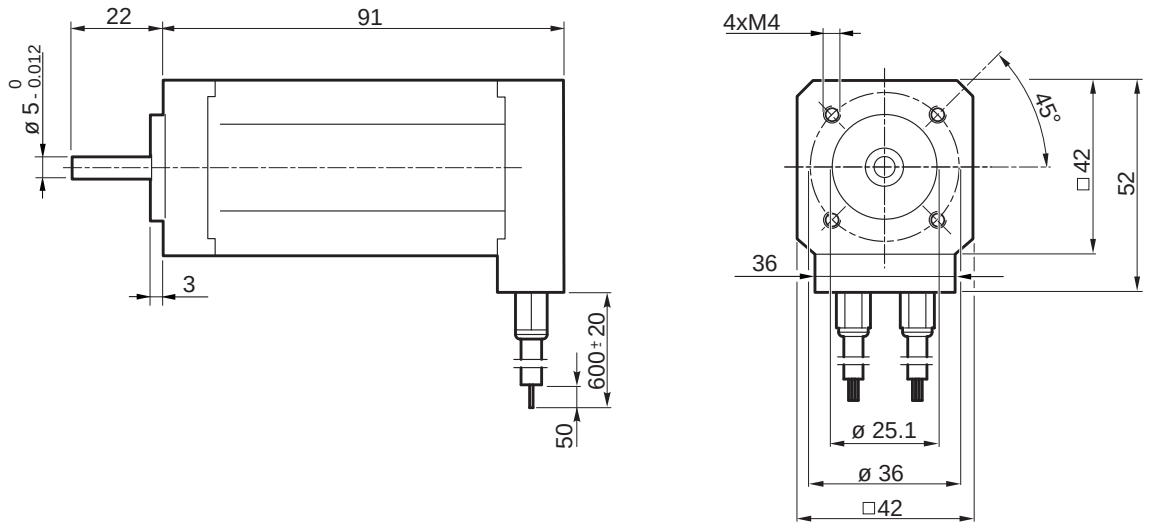


Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

BLS025.24E

Specifiche costruttive — *General features*

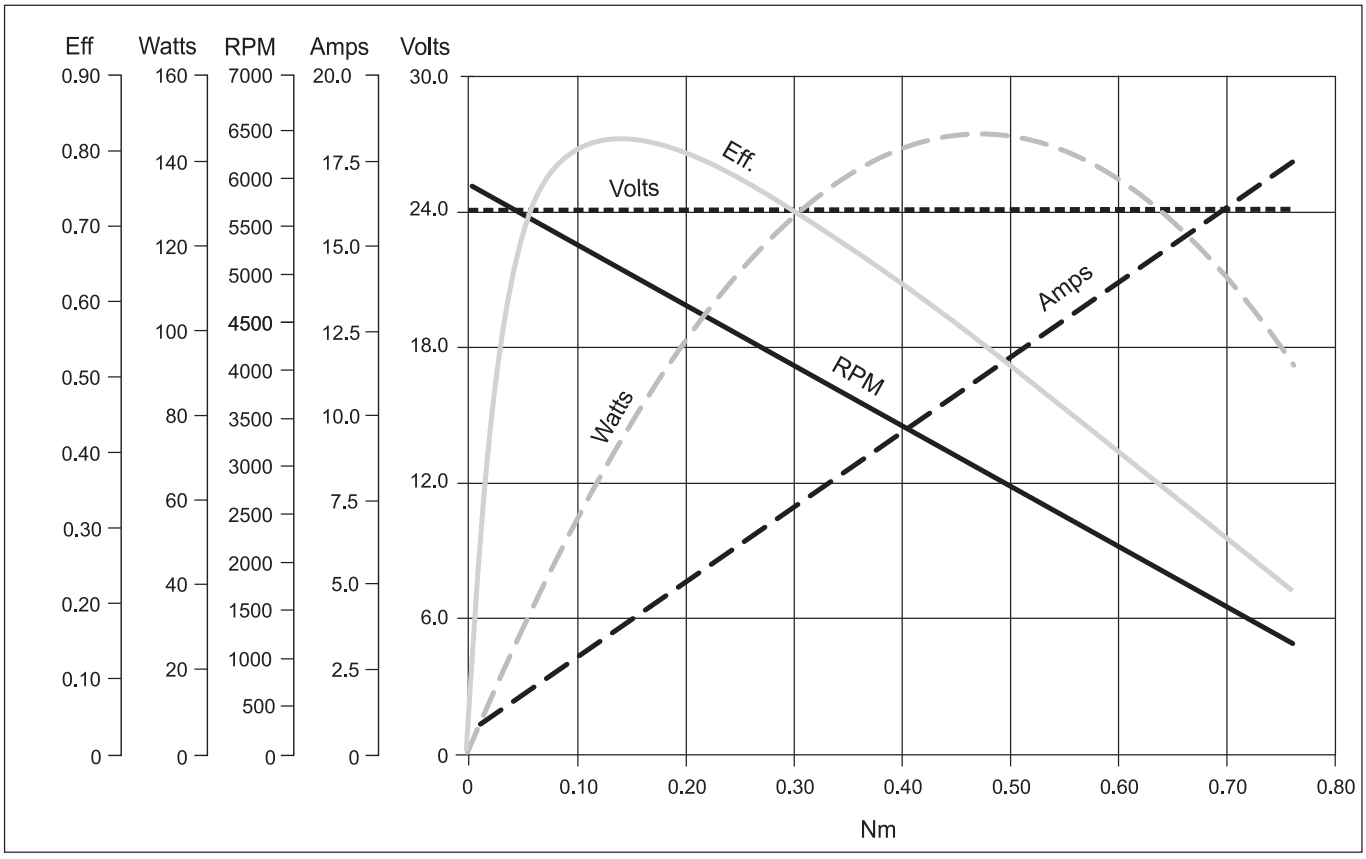
Tipologia di avvolgimento *Winding type*	delta
Angolo sensori Hall *HALL effect angle*	120 gradi elettrici *120 degree electrical angle*
Gioco radiale *Radial play*	0.02 mm @ 450g
Gioco assiale *End play*	0.08 mm @ 450g
Scentratura albero *Shaft run out*	0.025 mm

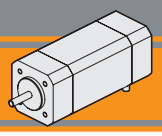
Max forza radiale *Max radial force*	28N @ 20 mm dalla flangia *28N @ 20 mm from flange*
Max forza assiale *Max axial force*	10N
Classe di isolamento termico *Insulation class*	Classe B *Class B*
Isolamento dielettrico *Dielectric strength*	500Vcc x 1 minuto *500 Vdc 1 minute*
Resistenza isolamento *Insulation resistance*	100MΩ minimo, 500Vcc *100MΩ min, 500 Vdc*

Modello *Model*	Poli *Poles*	Fasi *Phases*	Tensione nominale *Rated voltage*	Velocità nominale *Rated speed*	Coppia nominale *Rated torque*	Potenza nominale *Rated power*	Coppia di picco *Peak torque*	Corrente nominale *Rated current*	Corrente di picco *Peak current*	Resistenza fase-fase *Line to line* resistance	Induttanza fase-fase *Line to line* inductance	Costante di coppia *Torque constant*	Costante FCEM *Back EMF*	Inerzia rotore *Rotor inertia*	Peso *Weight*	IP
			[V]	[min^{-1}]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm^2]	[kg]	
BLS025.24E	8	3	24	4000	0.25	105	0.75	6.6	21	0.3	0.5	0.0376	3.9	96	0.8	66

Azionamenti *Drives* → II 2

Prestazioni — *Performances*

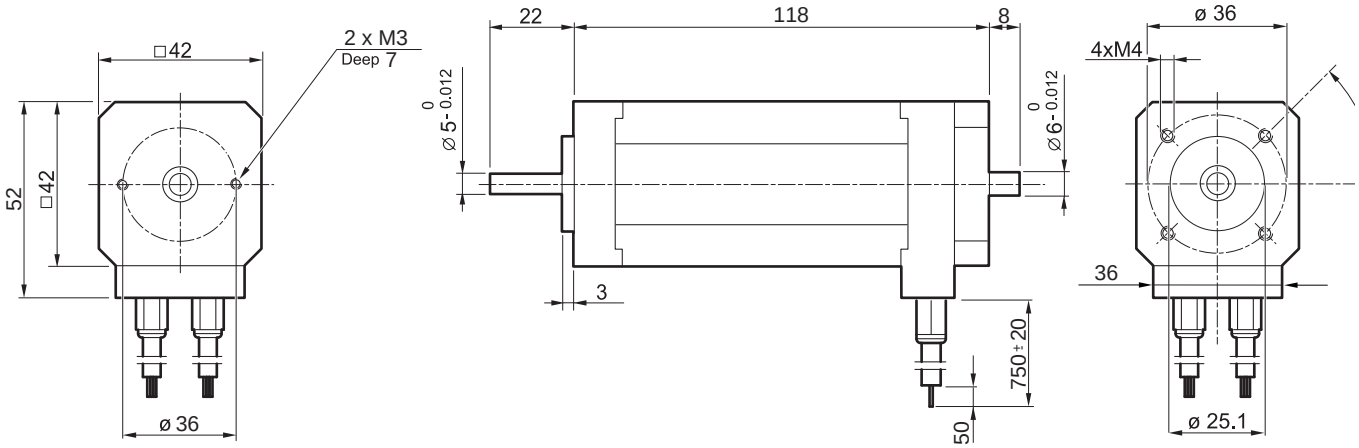




BLS025.24E

Dimensioni — *Dimensions*

BLS025.24E



Encoder → CA10

IP 66

BLS

Diagramma dei collegamenti — *Connection diagram*

Cavi di potenza *Power leads*	Descrizione *Description*
Giallo / *Yellow*	Fase U / *U motor Phase*
Rosso / *Red*	*Fase V / V motor Phase*
Nero / *Black*	Fase W / *W motor Phase*

Nota: Si raccomanda di seguire fedelmente gli schemi di collegamento qui riportati, pericolo di danneggiamento del motore o dell'elettronica.

Note: *Pls, follow strictly the above connection diagrams, danger for the motor and the electric control*

Cavi di segnale *Signal leads*	Descrizione *Description*
Blue	HALL fase U *U phase HALL*
Verde ***Green***	HALL fase V *V phase HALL*
Bianco ***White***	HALL fase W *W phase HALL*
Rosso (piccolo) ***Red (small)***	Alimentazione HALL + 5Vcc *Supply voltage for Hall sensors, + 5 Vdc*
Nero (piccolo) ***Black (small)***	Comune per i segnali di HALL *Ground for HALL sensors*

Descrizione

MEM25 è un encoder magnetico ad albero cavo, affidabile ed economico, che può essere fissato rapidamente e con facilità. L'encoder offre due uscite ad onda quadra in quadratura (sfasate di 90 gradi), per conteggio e direzione ed un canale di zero.

Questo encoder ha un grado di protezione IP65.

Description

The MEM25 is a reliable low cost magnetic hollow shaft encoder that can be fixed quickly and easily.
The encoder provides two square wave outputs in quadrature (90 degrees phase shifted) for counting and direction information and an index channel.
This encoder has an IP65 protection degree.

Caratteristiche principali

- Dimensioni compatte: 28.0 mm (diametro) x 31.8 mm (lunghezza)
- Montaggio rapido e semplice, senza venire a contatto con componenti sensibili
- Canali di uscita: 2 (in quadratura) + 1 canale di zero
- Tensione d'alimentazione: 5 Vcc.
- Tipo di uscita: TTL compatibile.
- Circuito di uscita: pull up
- Risoluzione: 512 CPR (Conteggi Per Rotazione).
- Diametro albero: 6.0 mm
- Temperatura di funzionamento: da -20 °C a +85 °C.
- Frequenza: 500 kHz.
- Grado di protezione: IP65
- Conforme alla direttiva UE 2002/95/CE (RoHS)

Technical features

- *Small size: 28.0 mm (diameter) x 31.8 mm (length)*
- *Quick and easy assembly without touching sensitive components*
- *Output channels: 2 (quadrature) + 1 index channel*
- *Power supply: 5 VDC*
- *Output type: TTL compatible.*
- *Output circuit: pull-up*
- *Resolution: 512 CPR (counts per revolution)*
- *Shaft diameter: 6.0 mm*
- *Operating temperature: -20 °C to +85 °C*
- *Frequency: 500 kHz*
- *Protection degree: IP65*
- *Compliant EU-directive 2002/95/EG (RoHS)*

Designazione

Classification

MEM25	512	6.000	3 A/B/I	Cable 1 mt

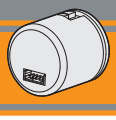
Specifiche di funzionamento

Operating conditions

Le specifiche elettriche sono valide solo quando l'encoder opera nell'intervallo di temperatura di funzionamento.
Le misure sono riferite alla temperatura di 25 °C, con alimentazione Vcc = 5 V ± 5%.

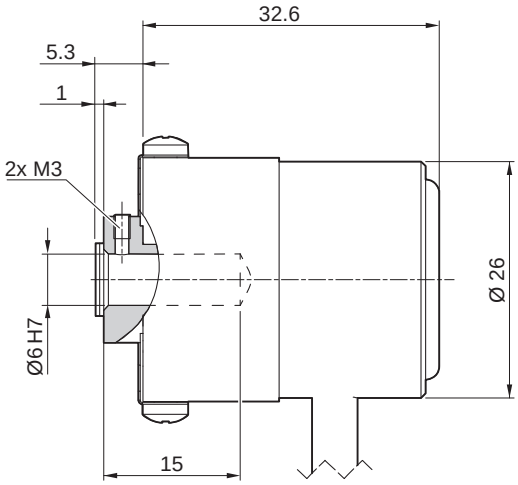
Electrical characteristics are only effective for the range of the operating temperatures.
Typical values at 25°C and Vdc = 5 V

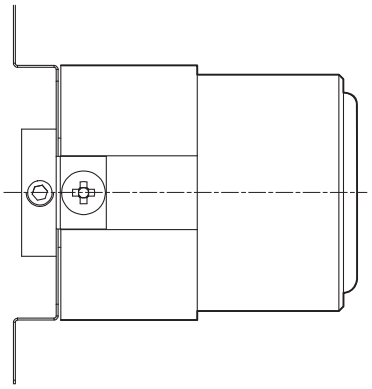
Parametri *Parameters*	**Simbolo** *Symbols*	**Nominale** *Rated*	**Min.** *Min.*	**Max.** *Max.*	**Unità** *Unit*	**Note** *Notes*
Temperatura di funzionamento *Operating Temperature*	T_A	+25	- 20	+85	° C	
Tensione di alimentazione *Supply voltage*	V_{CC}	5.0	4.5	5.5	V_{DC}	
Corrente di alimentazione (due canali) *Supply current (two channels)*	I_{CC}	20	37	44	mA	
Frequenza di conteggio *Output frequency*	f			500	kHz	rpm x N / 60 x 10^{-3}
Tensione di uscita livello alto (versione standard) *High level output voltage (standard)*	V_{OH}		2.4	V_{CC}	V_{DC}	I_{OH} = -1.0 mA
Tensione di uscita livello basso (versione standard *Low level output voltage (standard)*	V_{OL}			0.7	V_{DC}	I_{OL} = 20 mA
Tempo di salita (versione standard) *Rise time (standard)*	T_r	5	15	20	ns	
Tempo di discesa (versioni standard) *Fall time (standard)*	T_f	5	15	20	ns	

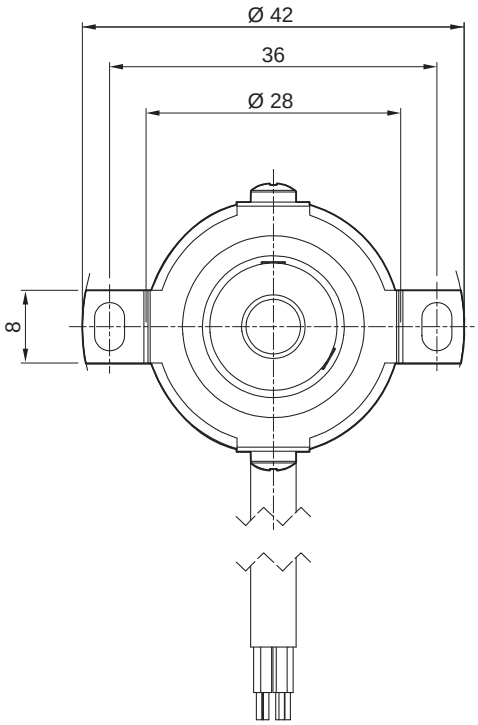


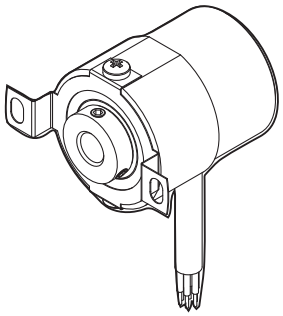
Dimensioni e schema di connessione

Dimensions and connection diagram









Signal	Wire Color
UB	white
GND	brown
N.C.	green
Ch. I	yellow
Ch. A	grey
Ch. B	pink

Note/*Notes*

TRANSTECNO®
the modular gearmotor

BLCM

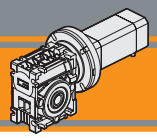
BLCM

BLCM Alu

IP66

Motoriduttori brushless CC a vite senza fine
Brushless DC wormgearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**CB2**
Designazione	*Classification*	**CB2**
Simbologia	*Symbols*	**CB2**
Lubrificazione	*Lubrication*	**CB2**
Carichi radiali	*Radial loads*	**CB3**
Dati di dentatura	*Toothing data*	**CB3**
Rendimento	*Efficiency*	**CB3**
CM026/CL026 con motore brushless	*CM026/CL026 with brushless motor*	**CB4**
Dimensioni	*Dimensions*	**CB5**
Accessori	*Accessories*	**CB6**
Opzioni	*Options*	**CB6**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata. l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels. the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

Caratteristiche tecniche — *Technical features*

Le caratteristiche principali dei motoriduttori brushless CC a vite senza fine della serie CM sono:

- Alimentazione in bassa tensione 24 Vcc
- Possibilità di montaggio encoder
- Coppie motore disponibili da 0,12 a 0,25Nm
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico

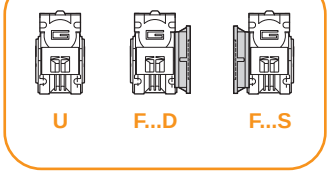
The main features of brushles DC wormgearmotors range CM are:

- *Low voltage power supply 24 Vdc*
- *Suitable for encoder assembly*
- *Motor torque ratings available from 0,12 up to 0,25Nm*
- *Die-cast aluminium housings*
- *Permanent synthetic oil long life lubrication*

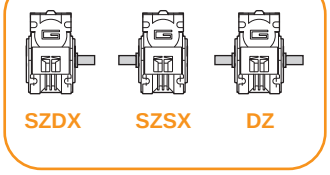
Designazione — *Classification*

RIDUTTORE / *GEARBOX*				MOTORE / *MOTOR*		
CM	**026**	**20**	**U**	**BLS012.240**	**24V**	**E**
Tipo *Type*	Grandezza *Size*	Rapporto in *Ratio in*	Versione *Version*	Tipo *Type*	Tensione *Voltage*	Opzioni *Options*
CM	**026**	Vedere tabelle *See tables*	**U** **F**	**BLS012.240**	**24V**	**-**
				BLS018.240	**24V**	**-**
				BLS025.24E	**24V**	**Encoder**
						CA10

Versione Riduttore *Gearbox Version*



Albero di uscita *Output shaft*



Simbologia — *Symbols*

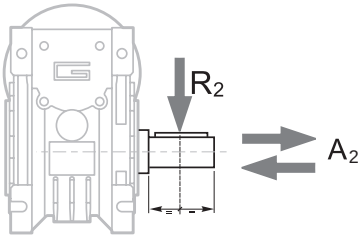
Ns		n° stadi / *No. stages*	Pn	[W]	Potenza nominale / *Nominal power*
in		rapporto nominale / *nominal ratio*	V	[V]	*Tensione / Voltage*
ir		rapporto reale / *real ratio*	I	[A]	Assorbimento / *Current*
M_n	[Nm]	coppia in uscita in funzionamento continuativo S1 *output torque for continuous operation S1*	IC		Classe di isolamento termico / *Thermal insulation class*
Rd		rendimento dinamico / *efficiency*	FF		Fattore di forma / *Form factor*
R_2	[N]	massimo carico radiale al centro dell'albero uscita max. *radial load at output shaft centre*	n_1	[Rpm]	Giri / *Speed*
A_2	[N]	massimo carico assiale / *max. axial load*	IP		Grado di protezione / *Enclosure protection*
			Kg		Peso / *Weight*

Lubrificazione — *Lubrication*

I riduttori a vite senza fine sono lubrificati a vita con olio sintetico di viscosità 320 e possono essere installati in qualunque posizione di montaggio.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long-life lubrication allow to use wormgearbox range in all mounting position.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

Carichi radiali — *Radial loads*

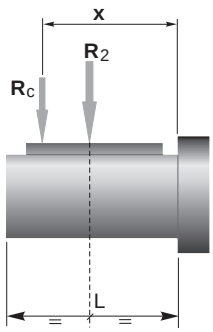


$A_2 = R_2 \times 0.2$

n_2 [min^{-1}]	R_2 [N]
	CM026
600	271
400	310
300	342
200	391
150	479
120	514
100	547
75	609
60	610
50	610
38	610
30	610

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:



$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

	CM
	026
a	56
b	43
R_{2MAX}	610

Dati di dentatura — *Toothing data*

	Dati della coppia vite-corona Worm wheel data	Rapporto / *Ratio*								
		5	7.5	10	15	20	30	40	50	60
CM026	Z	6	4	3	2	2	1	1	1	1
	β	34° 35'	24° 41'	19° 1'	12° 57 '	10° 30'	6° 33'	5° 17'	4° 26'	3°49'

Rendimento — *Efficiency*

	n_1 [min^{-1}]	Rendimento Efficiency	Rapporto / *Ratio*								
			5	7.5	10	15	20	30	40	50	60
CM026	2800	Rd	0.89	0. 87	0. 85	0. 83	0. 80	0. 73	0. 68	0. 64	0. 60
		Rs	0. 72	0. 71	0. 68	0. 61	0. 56	0. 46	0. 41	0. 36	0. 34

Reversibilità e irreversibilità — *Reversibility and irreversibility*

La tabella sottostante riporta a titolo puramente indicativo i vari gradi di reversibilità/irreversibilità nei riduttori a vite senza fine in funzione del rendimento dinamico Rd e statico Rs.

The table below is provided for reference purposes only. It contains the various degrees of reversibility/irreversibility of wormgearboxes in relation to dynamic Rd and static Rs efficiency.

Rd	Reversibilità e irreversibilità dinamica	*Dynamic reversibility and irreversibility*
> 0.60	Reversibilità dinamica	Dynamic reversibility
0.50 - 0.60	Reversibilità dinamica incerta	Uncertain dynamic reversibility
0.40 - 0.50	Buona irreversibilità dinamica	Good dynamic irreversibility
<0.40	Irreversibilità dinamica	Dynamic irreversibility
Rs	**Reversibilità e irreversibilità statica**	***Static reversibility and irreversibility***
> 0.55	Reversibilità statica	Static reversibility
0.50 - 0.55	Reversibilità statica incerta	Uncertain static reversibility
<0.50	Irreversibilità statica	Static irreversibility

CM026 con motore brushless CC

CM026with DC brushless motor

CM026	BLS012.240							BLS018.240						
	24V							24V						
ir	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]	n_{2MIN}	M_2	sf	n_{2MAX}	M_2	sf	n_{1MAX} [rpm]
5	80	0.5	45	800	0.6	16		80	0.7	31	800	0.8	11	
7.5	53	0.7	33	533	0.8	12		53	1.1	22	533	1.2	8.0	
10	40	0.9	26	400	1.1	9.1		40	1.4	17	400	1.6	6.1	
15	27	1.3	19	267	1.6	6.2		27	1.9	13	267	2.3	4.2	
20	20	1.6	14	200	2.0	4.8	4000	20	2.4	10	200	3.0	3.3	4000
30	13	2.1	12	133	2.7	3.8		13	3.1	8.2	133	4.1	2.6	
40	10	2.5	8.0	100	3.4	2.8		10	3.7	5.4	100	5.0	1.9	
50	8	2.8	6.8	80	4.0	2.2		8	4.2	4.6	80	5.9	1.5	
60	7	3.2	5.4	67	4.5	1.8		7	4.7	3.6	67	6.7	1.2	

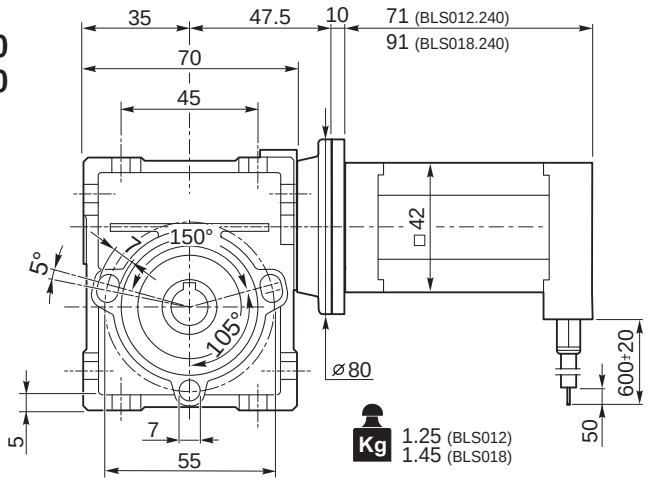
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

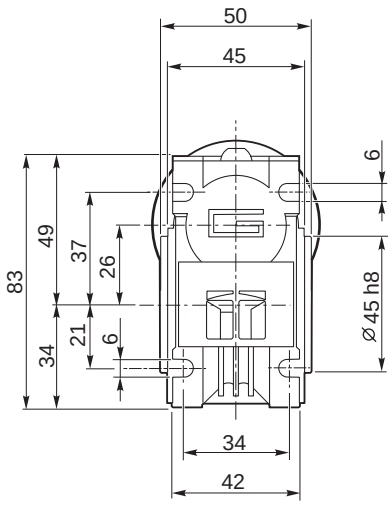
NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS012.240	8	3	24	4000	0.125	52.5
BLS018.240	8	3	24	4000	0.185	77.5
Tipo *Type*	**Coppia massima** Peak torque [Nm]	**Corrente nominale** *Rated current* [A]	**Resistenza** *Resistance* [ohm]	**Induttanza** *Inductance* [mH]	**Corrente massima** *Peak current* [A]	**Peso** *Weight* [kg]
BLS012.240	0.25	3.5	0.8	1.2	7.0	0.45
BLS018.240	0.37	5.0	0.55	0.8	10.0	0.65

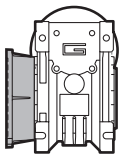
Azionamenti *Drives* → II 2

CM026..U
+
BLS012.240
BLS018.240



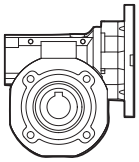


CB6 →

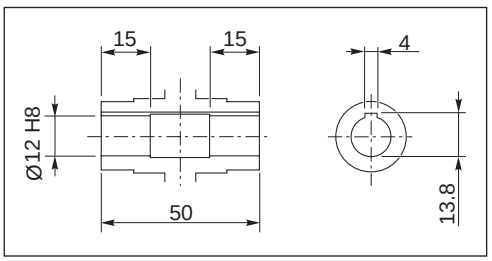


CM026.. F

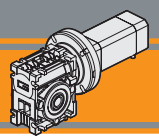
III 6 →



CL026



Albero lento cavo / *Hollow output shaft*



CM026 con motore brushless CC — *CM026 with DC brushless motor*

CM026	BLS025.24E 24V						
ir	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
		M_2	sf		M_2	sf	
5	80	1.0	23	800	1.1	8	4000
7.5	53	1.5	16	533	1.6	5.9	
10	40	1.9	13	400	2.1	4.5	
15	27	2.6	9	267	3.1	3.1	
20	20	3.3	7	200	4.0	2.4	
30	13	4.1	6.1	133	5.5	1.9	
40	10	5.0	4.0	100	6.8	1.4	
50	8	5.6	3.4	80	8.0	1.1	
60	7	6.3	2.7	67	9.0	0.9	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

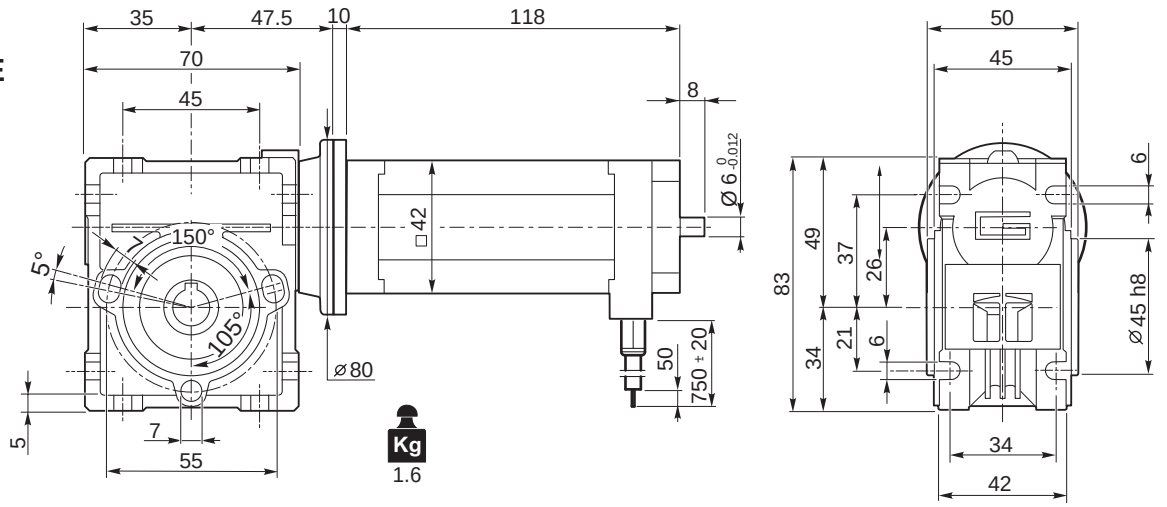
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS025.24E	8	3	24	4000	0.25	105
Tipo *Type*	**Coppia massima Peak torque [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [ohm]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS025.24E	0.5	7.0	0.3	0.5	21	0.8

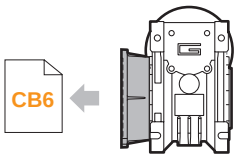
Azionamenti *Drives* → II 2

IP 66

CM

CM026..U + BLS025.24E

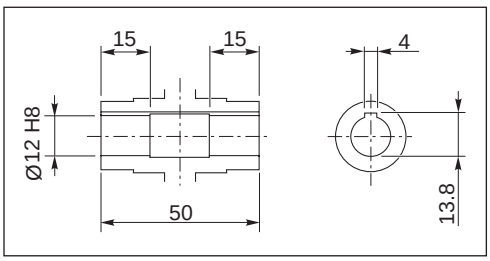




CB6 ← **CM026.. F**

III 6 ← **CL026**

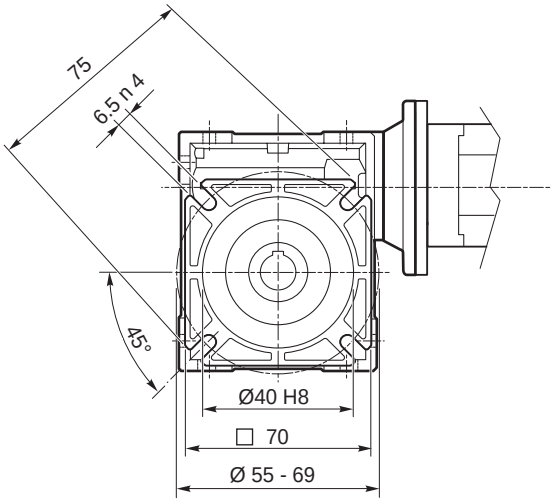
Encoder → CA10

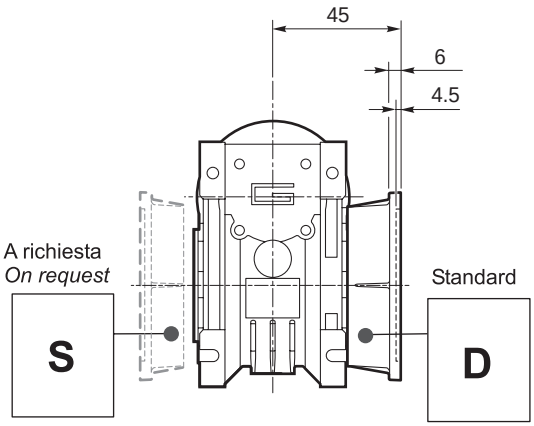


Albero lento cavo / *Hollow output shaft*

Dimensioni — *Dimensions*

CM026/... F... Flange uscita / *Output flanges*



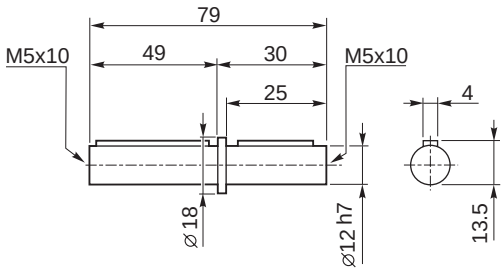


Accessori — *Accessories*

Albero lento — ***Output shaft***

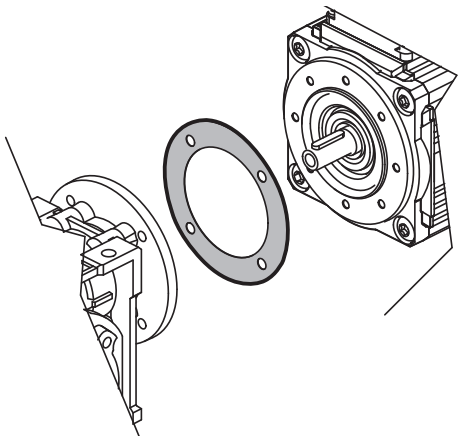
CM 026

SZ

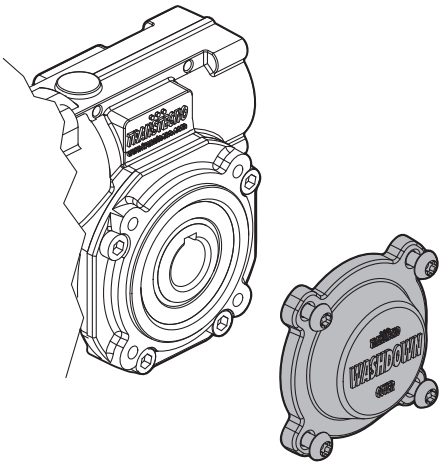


Opzioni — *Options*

Guarnizione CA (a richiesta) / *Rubber gasket (on request)*



Coperchio Washdown (a richiesta) / *Washdown cover (on request)*



TRANSTECNO®
the modular gearmotor

BLPM

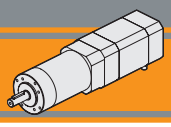
BLPM

BLPM Alu

IP66

Motoriduttori brushless CC epicicloidali
Brushless DC planetary gearmotors





ENERGY SAVING

Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**CC2**
Designazione	*Classification*	**CC2**
Simbologia	*Symbols*	**CC2**
Lubrificazione	*Lubrification*	**CC2**
Carichi radiali	*Radial loads*	**CC3**
Rapporti	*Ratios*	**CC3**
PM42 con motore brushless	*PM42 with brushless motor*	**CC4**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.intecno-srl.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.intecno-srl.com***

Caratteristiche tecniche — *Technical features*

Le caratteristiche principali dei motoriduttori epicicloidali brushless CC della serie PM sono:

- Alimentazione in bassa tensione 24 V
- Possibilità di montaggio encoder
- Coppie motori disponibili 0.12 Nm a 0,25 Nm
- Lubrificazione permanente a grasso
- Completamente in metallo
- Doppio cuscinetto su albero di uscita

The main features of brushless DC planetary gearmotors range PM series are:

- *Low voltage power supply 24 V*
- *Suitable for encoder assembly*
- *Motor torque ratings available from 0.12 Nm up to 0,25 Nm*
- *Permanent grease long life lubrication*
- *Completely made out of metal*
- *Double ball bearing on output shaft*

Designazione — *Classification*

RIDUTTORE / *GEARBOX*

PM	42	2	46
Tipo *Type*	Grandezza *Size*	Stadi riduttore *Gearbox stages*	Rapporto in *Ratio in*
PM	**42**	**1** **2** **3**	Vedere tabelle *See tables*

MOTORE / *MOTOR*

BLS012.240	24V	E
Tipo *Type*	Tensione *Voltage*	Opzioni *Options*
BLS012.240	**24V**	**-**
BLS018.240	**24V**	**-**
BLS025.24E	**24V**	**Encoder**

CA10

Simbologia — *Symbols*

Ns		n° stadi / *No. stages*
in		rapporto nominale / *nominal ratio*
ir		rapporto reale / *real ratio*
M_n	[Nm]	coppia in uscita in funzionamento continuativo S1 *output torque for continuous operation S1*
Rd		rendimento dinamico / *efficiency*
R_2	[N]	massimo carico radiale al centro dell'albero uscita max. *radial load at output shaft centre*
A_2	[N]	massimo carico assiale / *max. axial load*

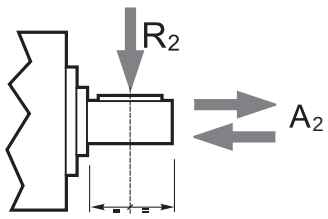
Pn	[W]	Potenza nominale / *Nominal power*
V	[V]	*Tensione / Voltage*
I	[A]	Assorbimento / *Current*
IC		Classe di isolamento termico / *Thermal insulation class*
FF		Fattore di forma / *Form factor*
Mn	[Nm]	Coppia / *Torque*
n_1	[Rpm]	Giri / *Speed*
IP		Grado di protezione / *Enclosure protection*
Kg		Peso / *Weight*

Lubrificazione — *Lubrication*

I riduttori epicicloidali sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Planetary gearboxes are life-time lubricated with grease, therefore they are maintenance free.
They can be installed in any location.
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).
For temperature outside this range please contact our technical dept.

Carichi radiali — *Radial loads*



Ns	Carichi Radiali R_2 [N] / *Radial Load R_2 [N]*
	PM42
1	160
2	230
3	300

Ns	Carichi Assiali A_2 [N] / *Axial Load A_2 [N]*
	PM 42
1	50
2	80
3	110

Rapporti — *Ratios*

PM 42		
Ns	in	ir
1	**4**	**3.7**
	4	4.28
	5	5.18
	7	**6.75**
2	**14**	**13.73**
	16	15.88
	18	18.36
	19	19.2
	22	22.2
	25	**25.01**
	27	26.85
	29	28.93
	35	34.97
	46	**45.56**
3	51	50.89
	59	58.85
	68	68.06
	71	71.16
	79	78.71
	93	**92.7**
	95	95.17
	100	99.5
	107	107.2
	115	115.07
	124	123.97
	130	129.62
	139	139.13
	150	149.9
	169	**168.84**
	181	181.24
	195	195.26
	236	236.09
	308	**307.54**

Rapporti preferenziali
Preferred ratios

PM42 con motore brushless CC

PM42 with DC brushless motor

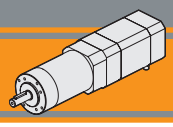
PM42			BLS012.240							BLS018.240						
			24V							24V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	108	0.4	12.0	1081	0.4	7.2		108	0.5	8.1	1081	0.5	4.8	
	4.28	4	93	0.4	10.3	935	0.4	6.2		93	0.6	7.0	935	0.6	4.2	
	5.18	5	77	0.5	8.5	772	0.5	5.1		77	0.8	5.8	772	0.8	3.5	
	6.75	**7**	59	0.7	6.6	593	0.7	3.9		59	1.0	4.4	593	1.0	2.7	
2	**13.73**	**14**	29	1.3	8.6	291	1.3	5.2		29	1.9	5.8	291	1.9	3.5	
	15.88	16	25	1.5	7.4	252	1.5	4.5		25	2.2	5.0	252	2.2	3.0	
	18.36	18	22	1.7	6.4	218	1.7	3.9		22	2.5	4.3	218	2.5	2.6	
	19.2	19	21	1.8	6.1	208	1.8	3.7		21	2.7	4.2	208	2.7	2.5	
	22.2	22	18	2.1	5.3	180	2.1	3.2		18	3.1	3.6	180	3.1	2.2	
	25.01	**25**	16	2.3	4.7	160	2.3	2.8		16	3.5	3.2	160	3.5	1.9	
	26.9	27	15	2.5	4.4	149	2.5	2.6		15	3.7	3.0	149	3.7	1.8	
	28.9	29	14	2.7	4.1	138	2.7	2.4		14	4.0	2.8	138	4.0	1.7	
	35.0	35	11.4	3.3	3.4	114	3.3	2.0		11.4	4.9	2.3	114	4.9	1.4	
	45.6	**46**	8.8	4.3	2.6	88	4.3	1.6		8.8	6.3	1.7	88	6.3	1.0	
3	50.9	51	7.9	4.5	5.0	79	4.5	3.0		7.9	6.6	3.4	79	6.6	2.0	
	58.9	59	6.8	5.1	4.3	68	5.1	2.6		6.8	7.6	2.9	68	7.6	1.7	
	68.1	68	5.9	6.0	3.7	59	6.0	2.2	4000	5.9	8.8	2.5	59	8.8	1.5	4000
	71.2	71	5.6	6.2	3.6	56	6.2	2.1		5.6	9.2	2.4	56	9.2	1.4	
	78.7	79	5.1	6.9	3.2	51	6.9	1.9		5.1	10.2	2.2	51	10	1.3	
	92.7	**93**	4.3	8.1	2.7	43	8.1	1.6		4.3	12.0	1.8	43	12	1.1	
	95.2	95	4.2	8.3	2.7	42	8.3	1.6		4.2	12.3	1.8	42	12	1.1	
	99.5	100	4.0	8.7	2.5	40	8.7	1.5		4.0	12.9	1.7	40	13	1.0	
	107.2	107	3.7	9.4	2.4	37	9.4	1.4		3.7	13.9	1.6	37	14	1.0	
	115.07	115	3.5	10	2.2	35	10	1.3		3.5	15	1.5	35	15	0.9	
	123.97	124	3.2	11	2.0	32	11	1.2		3.2	16	1.4	32	16	0.8	
	129.62	130	3.1	11	1.9	31	11	1.2		3.1	17	1.3	31	17	0.8	
	139.13	139	2.9	12	1.8	29	12	1.1		2.9	18	1.2	29	18	0.7	
	149.9	150	2.7	13	1.7	27	13	1.0		2.7	19	1.1	27	18	0.7	
	168.84	**169**	2.4	15	1.5	24	15	0.9		2.4	22	1.0	24	18	0.7	
	181.24	181	2.2	16	1.4	22	16	0.8		2.2	23	0.9	22	18	0.7	
	195.26	195	2.0	17	1.3	20	17	0.8		2.0	25	0.9	20	18	0.7	
	236.09	236	1.7	21	1.1	17	18	0.7		1.7	31	0.7	17	18	0.7	
	307.54	**308**	1.3	27	0.8	13.0	18	0.7		1.3	31	0.7	13.0	18	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

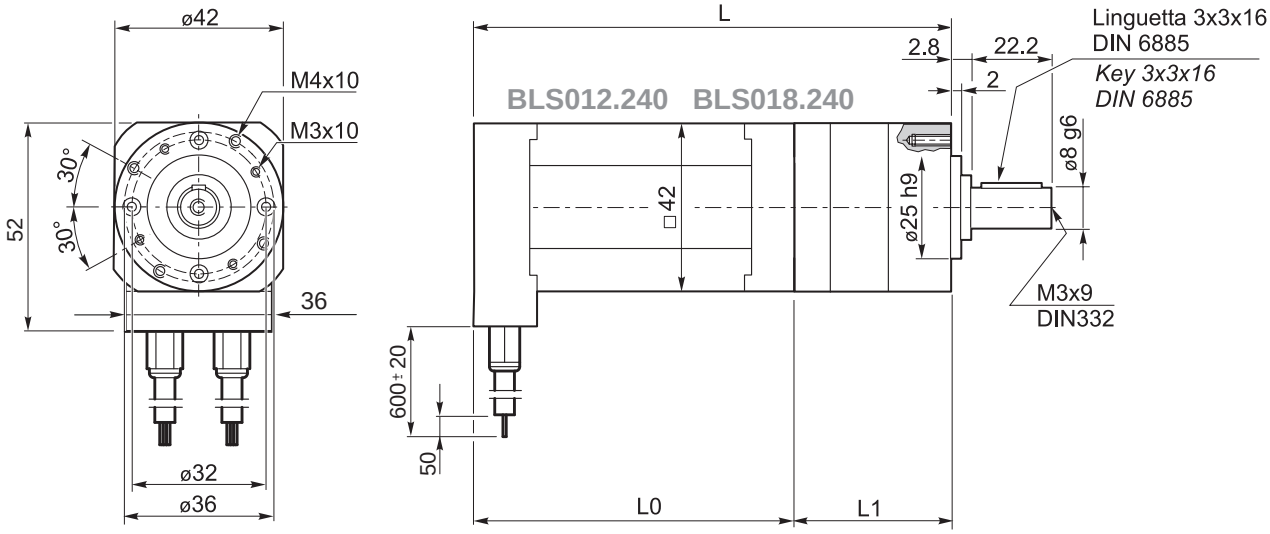
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM42 con motore brushless CC — *PM42 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS012.240	8	3	24	4000	0.125	52.5
BLS018.240	8	3	24	4000	0.185	77.5
Tipo *Type*	**Coppia massima *Peak torque* [Nm]**	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
BLS012.240	0.25	3.5	0.8	1.2	7.0	0.45
BLS018.240	0.37	5.0	0.55	0.8	10.0	0.65

Azionamenti *Drives* → II 2



	Ns	L1	BLS012.240 L0	BLS012.240 L	BLS012.240 Kg	BLS018.240 L0	BLS018.240 L	BLS018.240 Kg
PM42	1	67	71	138	0.70	91	158	0.90
	2	80		151	0.81		171	1.01
	3	93		164	0.92		184	1.12

PM42 con motore brushless CC

PM42 with DC brushless motor

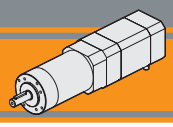
PM42			BLS025.240						
			24V						
Ns	ir	in	n_{2MIN} [rpm]	M_2 [Nm]	sf	n_{2MAX} [rpm]	M_2 [Nm]	sf	n_{1MAX} [rpm]
1	**3.7**	**4**	108	0.7	6.0	1081	0.7	3.6	
	4.28	4	93	0.9	5.2	935	0.9	3.1	
	5.18	5	77	1.0	4.3	772	1.0	2.6	
	6.75	**7**	59	1.4	3.3	593	1.4	2.0	
2	**13.73**	**14**	29	2.6	4.3	291	2.6	2.6	
	15.88	16	25	3.0	3.7	252	3.0	2.2	
	18.36	18	22	3.4	3.2	218	3.4	1.9	
	19.2	19	21	3.6	3.1	208	3.6	1.8	
	22.2	22	18	4.2	2.7	180	4.2	1.6	
	25.01	**25**	16	4.7	2.4	160	4.7	1.4	
	26.9	27	15	5.0	2.2	149	5.0	1.3	
	28.9	29	14	5.4	2.0	138	5.4	1.2	
	35.0	35	11	6.6	1.7	114	6.6	1.0	
	45.6	**46**	8.8	8.5	1.3	88	8.5	0.8	
3	50.9	51	7.9	8.9	2.5	79	8.9	1.5	
	58.9	59	6.8	10	2.1	68	10	1.3	
	68.1	68	5.9	12	1.9	59	12	1.1	4000
	71.2	71	5.6	12	1.8	56	12	1.1	
	78.7	79	5.1	14	1.6	51	14	1.0	
	92.7	**93**	4.3	16	1.4	43	16	0.8	
	95.2	95	4.2	17	1.3	42	17	0.8	
	99.5	100	4.0	17	1.3	40	17	0.8	
	107.2	107	3.7	19	1.2	37	19	0.7	
	115.07	115	3.5	20	1.1	35	20	0.7	
	123.97	124	3.2	22	1.0	32	20	0.7	
	129.62	130	3.1	23	1.0	31	20	0.7	
	139.13	139	2.9	24	0.9	29	20	0.7	
	149.9	150	2.7	26	0.8	27	20	0.7	
	168.84	**169**	2.4	30	0.7	24	20	0.7	
	181.24	181	2.2	30	0.7	22	20	0.7	
	195.26	195	2.0	30	0.7	20	20	0.7	
	236.09	236	1.7	30	0.7	17	20	0.7	
	307.54	**308**	1.3	30	0.7	13	20	0.7	

NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

NOTE: *for continuous or highly intermittent duty, please contact our technical service*

Rapporti preferenziali
Preferred ratios

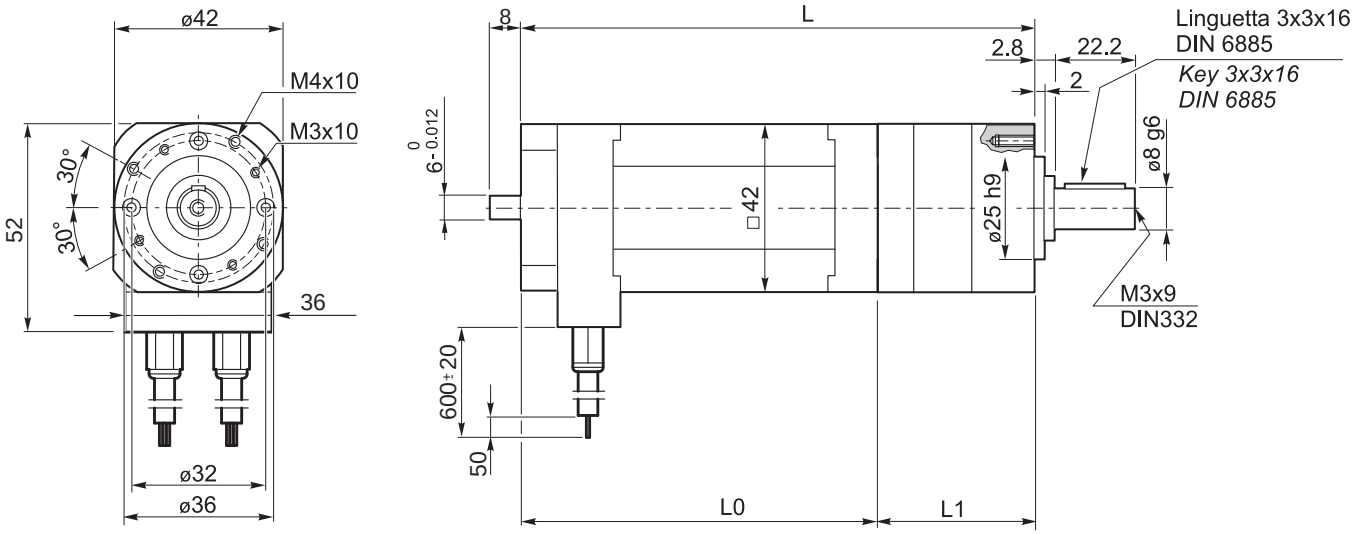
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.



PM42 con motore brushless CC — *PM42 with DC brushless motor*

Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage* [V]	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Coppia massima *Peak torque* [Nm]
BLS025.24E	8	3	24	4000	0.25	0.50
	Potenza nominale *Rated power* [W]	**Corrente nominale *Rated current* [A]**	**Resistenza *Resistance* [Ω]**	**Induttanza *Inductance* [mH]**	**Corrente massima *Peak current* [A]**	**Peso *Weight* [kg]**
	105	7	0.3	0.5	14	0.8

Azionamenti *Drives* → II 2



Encoder → CA10

			BL025.24E		
	Ns	**L1**	**L0**	**L**	**Kg**
PM42	1	67	118	185	1.05
	2	80	118	198	1.16
	3	93	118	211	1.27

IP 66
PM

Note/*Notes*

TRANSTECNO®
the modular gearmotor

BLD

BLD

BLD Alü

Azionamenti per motori brushless CC
Brushless DC motor controls





	Indice	*Index*	Pag. *Page*
	Selezione azionamento	***Drive selection***	**II2**
	Selezione azionamento per motori Brushless	*Brushless motor drive selection guide*	
BLD07-IT	**AZIONAMENTO 4Q PER MOTORI BRUSHLESS**	***DRIVE 4Q FOR BRUSHLESS MOTORS***	
	Caratteristiche standard	*Standard features*	**II3**
	Dati tecnici principali	*Specifications*	**II3**
	Dimensioni	*Dimensions*	**II4**
	Collegamenti	*Connection*	**II4**
BLD15	**AZIONAMENTO 4Q PER MOTORI BRUSHLESS**	***DRIVE 4Q FOR BRUSHLESS MOTORS***	
	Caratteristiche standard	*Standard charwacteristic*	**II6**
	Dati tecnici principali	*Specifications*	**II6**
	Dimensioni	*Dimensions*	**II7**
	Collegamenti	*Connections*	**II8**
BLD60 DIGITAL	**AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC**	***4Q DRIVE FOR DC BRUSHLESS MOTORS***	
	Caratteristiche standard	*Standard characteristic*	**II10**
	Dati tecnici principali	*Specifications*	**II10**
	Dimensioni	*Dimensions*	**II10**
	Collegamenti per motore Brushless serie BL	*Connections for Brushless motor BL series*	**II11**
BLDT60 DIGITAL PLUS	**AZIONAMENTO 4Q DIGITALE PER MOTORI BRUSHLESS CC**	***DIGITAL 4Q DRIVE FOR DC BRUSHLESS MOTORS***	
	Caratteristiche standard	*Standard characteristic*	**II12**
	Dati tecnici principali	*Specifications*	**II12**
	Dimensioni	*Dimensions*	**II13**
	Collegamenti per motore Brushless serie BL	*Connections for Brushless motor BL series*	**II14**

SELEZIONE AZIONAMENTO — *DRIVE SELECTION*

Selezione azionamento per motore brushless — *Brushless motor drive selection guide*

Motori applicabili *Suitable motors*	Scheda / *Driver*	Corrente Nominale / *Rated Current* (A)	Corrente di Picco / *Peak Current* (A)
BL005.240	BLD07-IT	1	3
BL012.240	BLD07-IT - BLD15	3.5	7
BLS012.240	BLD07-IT - BLD15	3.5	7
BL018.240	BLD07-IT - BLD15	5	10
BLS018.240	BLD07-IT - BLD15	5	10
BLS022.240	BLD07-IT - BLD15	3.7	7.4
BL025.24E	BLD07-IT - BLD15	6.6	13.2
BLS025.24E	BLD07-IT - BLD15	6.6	13.2
BL032.240	BLD07-IT - BLD15	5	10
BL043.240	BLD07-IT - BLD15	6.8	13.6
BLS043.240	BLD07-IT - BLD15	6.8	13.6
BL070.240	BLD15	13	26
BL070.24B	BLD15	13	26
BL070.48E	BLD15	6.5	13
BL070.48B	BLD15	6.5	13
BL070.480	BLD15	6.5	13
BL140.480	BLD15 /BLD60 DIGITAL	13	26
BL210.480	BLD60 DIGITAL	18.7	37.4
BL210.48E	BLD60 DIGITAL	18.7	37.4
BL070.48.80	BLD60 DIGITAL / BLDT60 DIGITAL PLUS	50 / 60	75 / 100
BL200.48.95	BLD60 DIGITAL / BLDT60 DIGITAL PLUS	50 / 60	75 / 100
BL400.48.120	BLD60 DIGITAL / BLDT60 DIGITAL PLUS	50 / 60	75 / 100



BLD07-IT

AZIONAMENTO 4Q PER MOTORI BRUSHLESS

L'azionamento BLD07-IT è la nuova e aggiornata versione della precedente BLD07. Realizzato su una nuova PCB, sono state implementate caratteristiche e funzionalità che prima si potevano ottenere solo con drive di potenze superiori.
Il risultato è quello di avere un drive più versatile e all' avanguardia, che può essere customizzato, oppure comandato via bus di campo (CAN Open opzionale).

DRIVE 4Q FOR BRUSHLESS MOTORS

The BLD07-IT drive is the new and updated version of the previous BLD07. Built on a new PCB, features and functionality have been implemented, where previously could only be achieved with higher power drive.
The result is to have a more versatile drive and to 'cutting edge, which can be customized, or controlled via the field bus (CAN Open optional).

Caratteristiche standard

- Azionamento bidirezionale rigenerativo
- Alimentazione singola CC
- 3 Leds per la diagnostica (stato ed allarmi)
- Protetto per corto circuito, min/max tensione, mancanza celle di Hall
- Protezione termica motore Ixt
- Connettori estraibili (segnali e potenza)
- Comando di velocità analogico 0 +10Vcc e PWM
- 4 Ingressi digitali – optoisolati
- 2 Uscite NPN - allarmi e frequenza di lavoro
- Regolazione rampa di accelerazione

Standard features

- *Bidirectional regenerative operation*
- *Single supply DC voltage*
- *3 diagnostic Leds (State and Alarms)*
- *Protections for: Over/Under voltage,*
- *Over current, Hall missing*
- *Ixt motor current protection*
- *Power and signals extractable connectors*
- *Analog speed command 0 + 10Vdc and PWM*
- *4 Digital inputs – optoisolated*
- *2 NPN - fault drive and running frequency*
- *Acceleration adjustment*

Dati tecnici principali

• Idoneo per motori BLDC trifase	4/8 poli
• Retroazione digitale	sensori di Hall
• Frequenza PWM	20 KHz
• Temperatura operativa	0/+40°C
• Ingresso analogico	0/+10Vcc
• Regolazione della velocità	
• Rampa accelerazione regolabile (tramite dip switch)	0.1/1sec
• Regolazione corrente max	
• Regolazione della velocità (potenziometro esterno o interno)	esterno 10KΩ

Specifications

• *Suitable for 3ph BLDC motors*	*4/8 poles*
• *Digital feedback*	*Hall sensors*
• *PWM frequency*	*20 KHz*
• *Operative temperature*	*0/+40°C*
• *Analog inputs range*	*0/+10Vdc*
• *Variable speed range*	
• *Acceleration ramp adjustable (by dip switch)*	*0.1/1sec*
• *Current max regulation*	
• *Speed change regulation (by external or internal pot)*	*external 10KΩ*

MODELLO / *MODEL*		BLD07-IT
Tensione nominale motore *Motor DC Voltage*	(Vdc)	24 - 36
Tensione di alimentazione min / max *Supply DC Voltage Range min / max*	(Vdc)	20-40
Corrente nominale *Rated Current*	(A)	7
Corrente di picco (1) *Peak Current*	(A)	14
Potenza nominale (2) Rated Power	(W)	230
Potenza di picco (3) *Peak Power*	(W)	460

(1) La corrente di picco viene erogata per un tempo di circa 2 secondi
(1) *Peak current (Adc) for 2 sec.*

(2) La potenza nominale è riferita al valore di tensione e di corrente nominale
(2) *Power of amplifier at the rated current and rated voltage*

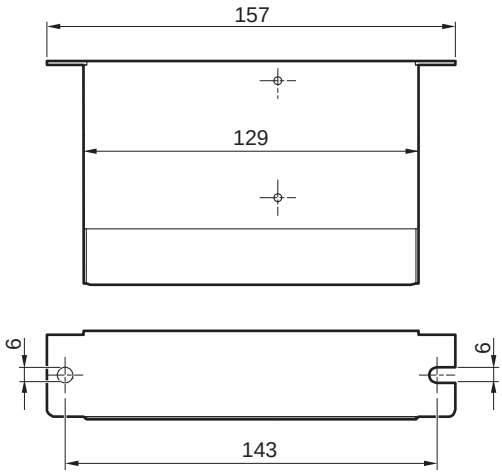
(3) La potenza di picco è riferita al valore di tensione nominale e di corrente di picco
(3) *Power of amplifier at the peak current and rated voltage*

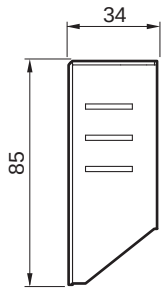
BLD07-IT

AZIONAMENTO 4Q PER MOTORI BRUSHLESS

DRIVE 4Q FOR BRUSHLESS MOTORS

Dimensioni / *Dimensions*

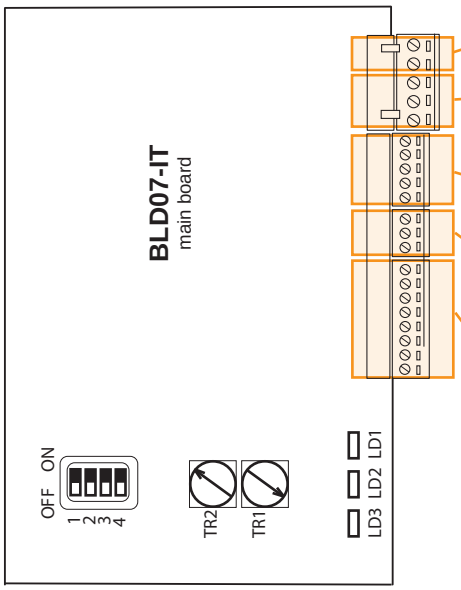




Collegamenti / *Connections*

L'azionamento BLD07-IT è dotato di:
- connettore estraibile a 5 morsetti per la parte di potenza;
- tre connettori estraibili, per un totale di 16 morsetti, per la gestione dei segnali in ingresso ed in uscita.

The BLD07-IT drive is equipped with:
- *removable connector with 5 terminals for the power part;*
- *3 removable connectors, for a total of 16 terminals, for the management of the input and output signal.*



V+	Alimentazione: positivo Vcc	*Voltage supply: positive Vdc*
GND	Alimentazione: negativo	*Voltage supply: negative*
U	Motore fase U	*Motor phase U*
V	Motore fase V	*Motor phase V*
W	Motore fase W	*Motor phase W*
H-	Alimentazione sensore Hall (negativo)	*Sensor Hall (negative)*
HW	Sensore Hall: fase W	*Hall sensor phase W*
HV	Sensore Hall: fase V	*Hall sensor phase V*
HU	Sensore Hall: fase U	*Hall sensor phase U*
H+	Alimentazione sensore Hall (+12V)	*Sensor Hall: positive (+12V)*
+10V	Potenziometro esterno 10k	*External pot. 10k*
SIG	Segnale analogico 0/+10V	*Analogo Signal 0/+10V*
GND		
FREQ	Uscita onda quadra proporzionale alla velocità (NPN open coll.)	*Square wave output proportional to the speed (NPN Open coll.)*
FAULT	Uscita di allarme (NPN open coll.)	*Alarm output* (NPN open coll.)
+12V	Sorgente tensione	*Voltage source*
F/R	Senso di marcia	*Selection of the direction*
R/S	Avvio/arresto	*Start/stop*
GND	Comune R/S e F/R	*R/S and F/R Common for commands*
IN1	Input digitale	*Digital input*
IN2	Input digitale	*Digital input*

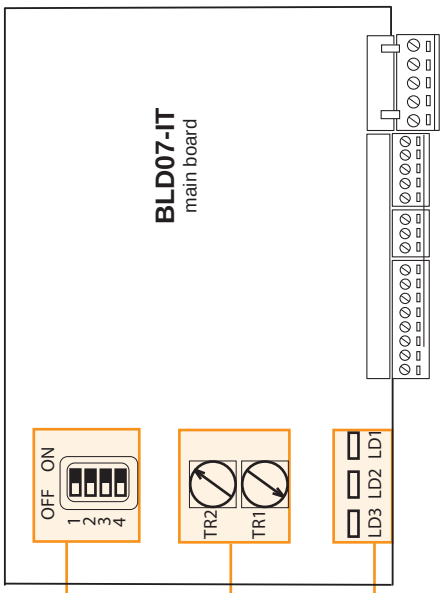
BLD07-IT

AZIONAMENTO 4Q PER MOTORI BRUSHLESS

DRIVE 4Q FOR BRUSHLESS MOTORS

Collegamenti

Connections



Led		
LD1	Verde - power ON	*Green - power ON*
LD2	Rosso - allarme in corso	*Red - alarm*
LD3	Giallo - superamento corrente max.	*Yellow - the drive is in limit of current*
	Presenti 2 Leds per la chiusura dei contatti R/S e F/R	*2 LEDs for the closing of R/S and F/R*

Trimmer		
TR1	Regolazione velocità (crescente con rotazione oraria)	*External speed pot (clockwise to increase)*
TR2	Limitazione corrente (crescente con rotazione antioraria)	*Current limitation (counter clockwise to increase)*

Dip Switch		
1	**OFF =** Controllo velocità da pot. interno TR1	*Internal speed pot TR1*
	ON = Controllo velocità da pot. esterno o segnale analogico 0/+10V	*External speed pot or analog signal 0/+10V*
2	**OFF =** Funzionamento in anello chiuso **ON =** Funzionamento in anello aperto	*Operating in closed loop* *Operating in open loop*
3	**OFF =** Rampe rapide (0.1 s)	*Fast Acceleration (about 0.1 sec)*
	ON = Rampe lente (1.0 s)	*Slow acceleration (about 1.0 sec)*
4	**OFF =** per motori a 4 poli	*4 poles motors*
	ON = per motori a 8 poli	*8 poles motors*

BLD15

AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC

L'azionamento BLD15 è l'evoluzione sia in potenza che in controllo dell'azionamento BLD07-IT. La BLD15 è in grado di effettuare un controllo del motore brushless sia in coppia che in velocità con retroazione da sensori di Hall, la gestione in coppia o in velocità può avvenire con l'utilizzo di un segnale analogico o di un segnale digitale su network tramite i protocolli: ModBus RTU RS485 o CANOpen CIA301-CIA402.

4Q DRIVE FOR DC BRUSHLESS MOTORS

The BLD15 drive is the evolution in both power and control of the BLD07-IT drive. The BLD15 is able to control the brushless motor both in torque and in speed with feedback from Hall sensors, the management in torque or in speed can have an analog signal or a digital signal on the network through the protocols: ModBus RTU RS485 or CANOpen CIA301-CIA402.

Caratteristiche standard

- Azionamento bidirezionale rigenerativo
- Alimentazione singola CC
- 3 Leds per la diagnostica (stato ed allarmi)
- Protetto per corto circuito, min/max tensione, mancanza celle di Hall
- Protezione termica motore Ixt
- Connettori estraibili (segnali e potenza)
- Comando di velocità analogico 0 +10Vcc e PWM (2 kHz)
- 4 Ingressi digitali – optoisolati
- 2 Uscite NPN - allarmi e frequenza di lavoro
- Regolazione rampa di accelerazione
- Versione TORQUE control
- Versione ModBus RTU RS485
- Versione CANOpen CIA301-CIA402

Standard features

- *Bidirectional regenerative operation*
- *Single supply DC voltage*
- *3 diagnostic Leds (State and Alarms)*
- *Protections for: Over/Under voltage,*
- *Over current, Hall missing*
- *Ixt motor current protection*
- *Power and signals extractable connectors*
- *Analog speed command 0 + 10Vdc and PWM (2 kHz)*
- *4 Digital inputs – optoisolated*
- *2 NPN - fault drive and running frequency*
- *Acceleration adjustment*
- *TORQUE control version*
- *ModBus RTU RS485 version*
- *CANOpen CIA301-CIA402 version*

Dati tecnici principali

Idoneo per motori BLDC trifase	4/8 poli
Retroazione digitale	sensori di Hall
Controllo motore in frequenza PWM	20 kHz
Temperatura operativa	0/+40°C
Ingresso analogico	0/+10Vcc
Rampa accelerazione regolabile (tramite dip switch)	0.1/1.0sec
Regolazione corrente max	
Regolazione della velocità (potenziometro esterno o interno)	esterno 10KΩ

Specifications

Suitable for 3ph BLDC motors	*4/8 poles*
Digital feedback	*Hall sensors*
Motor control in PWM frequency	*20 kHz*
Operative temperature	*0/+40°C*
Analog inputs range	*0/+10Vdc*
Acceleration ramp adjustable (by dip switch)	*0.1/1.0sec*
Current max regulation	
Speed change regulation (by external or internal pot)	*external 10KΩ*

MODELLO / *MODEL*		BLD15
Tensione nominale motore *Motor DC Voltage*	(Vdc)	24 - 36 - 48
Tensione di alimentazione min / max *Supply DC Voltage Range min / max*	(Vdc)	20-65
Corrente nominale *Rated Current*	(A)	15
Corrente di picco (1) *Peak Current*	(A)	30
Potenza nominale (2) Rated Power	(W)	650
Potenza di picco (3) *Peak Power*	(W)	1300

(1) La corrente di picco viene erogata per un tempo di circa 2 secondi
(1) *Peak current (Adc) for 2 sec.*

(2) La potenza nominale è riferita al valore di tensione e di corrente nominale
(2) *Power of amplifier at the rated current and rated voltage*

(3) La potenza di picco è riferita al valore di tensione nominale e di corrente di picco
(3) *Power of amplifier at the peak current and rated voltage*

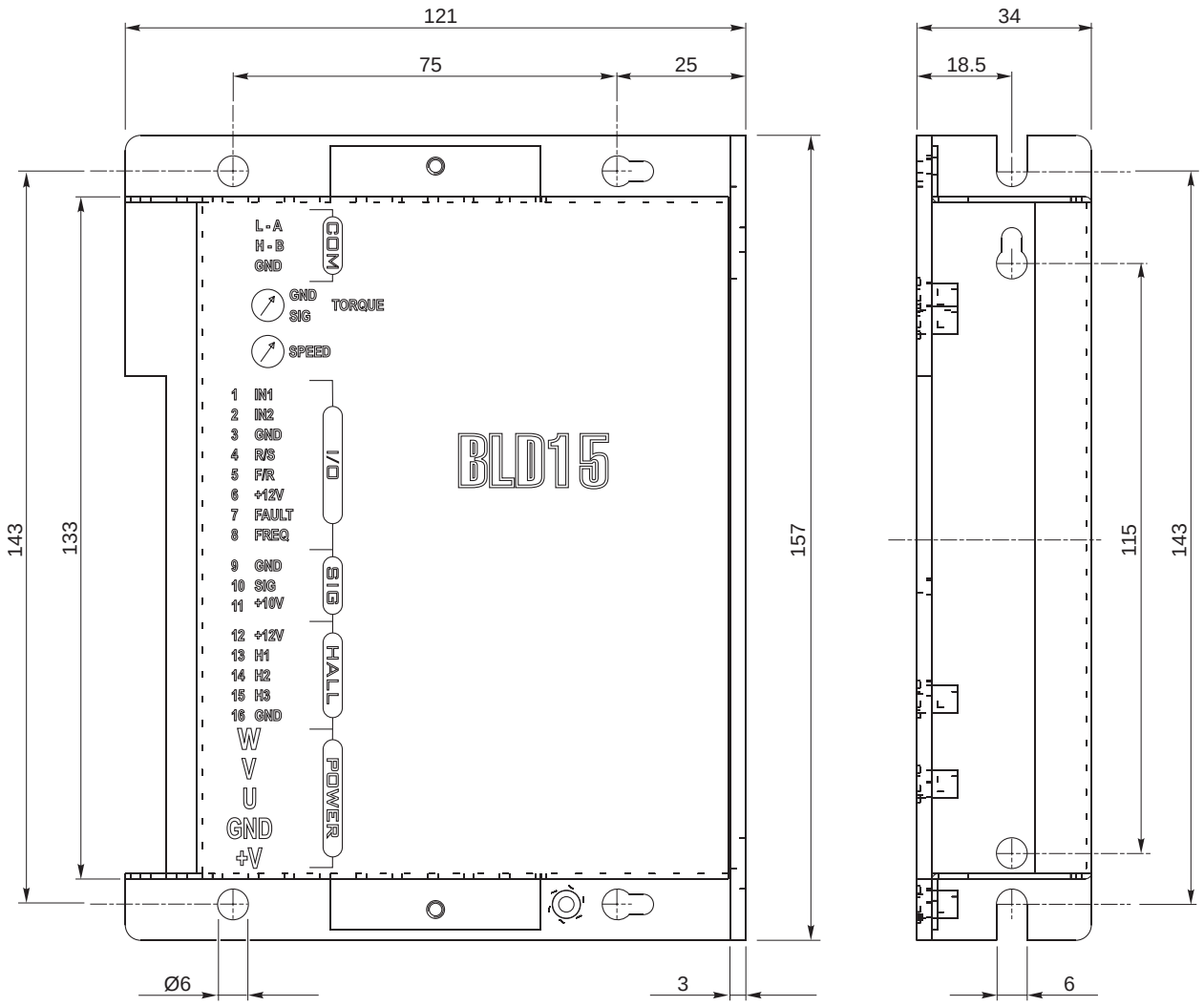
BLD15

**AZIONAMENTO 4Q
PER MOTORI BRUSHLESS CC**

***4Q DRIVE
FOR DC BRUSHLESS MOTORS***

Dimensioni

Dimensions



Drivers

BLD15

AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC

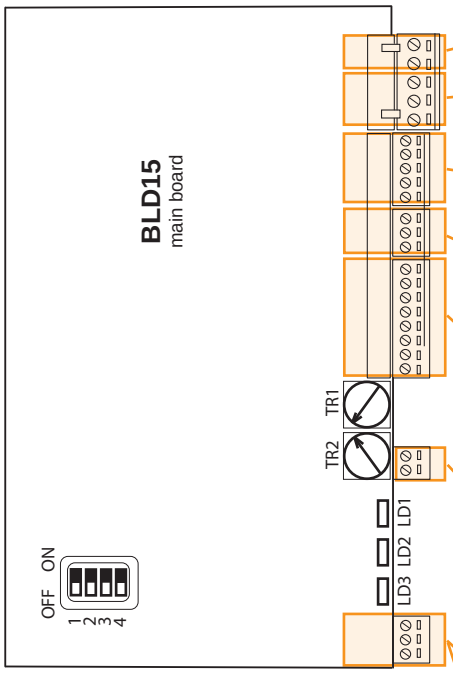
4Q DRIVE FOR DC BRUSHLESS MOTORS

Collegamenti

Connections

L'azionamento BLD15 è dotato di:
- connettore estraibile a 5 poli per la parte di potenza;
- tre connettori estraibili, per un totale di 16 morsetti, per la gestione dei segnali in ingresso ed in uscita.
  Versione TORQUE
- connettore estraibile a 2 morsetti
  Versione ModBus/CANOpen
- connettore estraibile a 3 morsetti

The BLD15 drive is equipped with:
- *removable connector with 5 terminals for the power part;*
- *3 removable connectors, for a total of 16 terminals, for the management of the input and output signal.*
  TORQUE Version
- *removable connector with 2 terminals*
  ModBus/CANOpen Version
- *removable connector with 3 terminals*



V+	Alimentazione: positivo Vcc	*Voltage supply: positive Vdc*
GND	Alimentazione: negativo	*Voltage supply: negative*
U	Motore fase U	*Motor phase U*
V	Motore fase V	*Motor phase V*
W	Motore fase W	*Motor phase W*
H-	Alimentazione sensore Hall (negativo)	*Sensor Hall (negative)*
HW	Sensore Hall: fase W	*Hall sensor phase W*
HV	Sensore Hall: fase V	*Hall sensor phase V*
HU	Sensore Hall: fase U	*Hall sensor phase U*
H+	Alimentazione sensore Hall (+12V)	*Sensor Hall: positive (+12V)*
+10V	Potenziometro esterno 10k	*External pot. 10k*
SIG		
GND		
FREQ	Uscita onda quadra proporzionale alla velocità (NPN open coll.)	*Square wave output proportional to the speed (NPN Open coll.)*
FAULT	Uscita di allarme (NPN open coll.)	*Alarm output (NPN open coll.)*
+12V	Sorgente tensione	*Voltage source*
F/R	Senso di marcia	*Selection of the direction*
R/S	Avvio/arresto	*Start/stop*
GND	Comune R/S e F/R	*R/S and F/R Common for commands*
IN1	Input digitale	*Digital input*
IN2	Input digitale	*Digital input*

TORQUE VERSION (optional)		
SIG	POSITIVO (0-10V)	POSITIVE (0-10V)
GND	NEGATIVO (0-10V)	NEGATIVE (0-10V)

CANOPEN VERSION (optional)		
GND	**GND**	**GND**
H	CAN H	CAN H
L	CAN L	CAN L

MODBUS VERSION (optional)		
GND	**GND**	**GND**
B	MODBUS B	MODBUS B
A	MODBUS A	MODBUS A

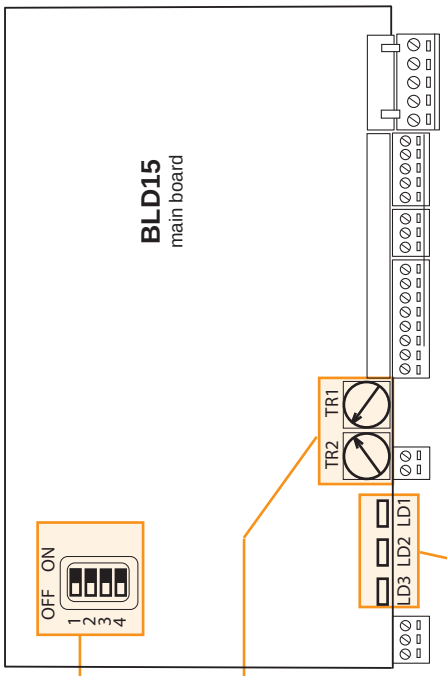
BLD15

AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC

4Q DRIVE FOR DC BRUSHLESS MOTORS

Collegamenti

Connections



Led		
LD1	Verde - power ON	*Green - power ON*
LD2	Rosso - allarme in corso	*Red - alarm*
LD3	Giallo - superamento corrente max.	*Yellow - the drive is in limit of current*
	Presenti 2 Leds per la chiusura dei contatti R/S e F/R	*2 LEDs for the closing of R/S and F/R*

Trimmer			Opzionale	Optional
TR1	Regolazione velocità (crescente con rotazione oraria)	*External speed pot (clockwise to increase)*	Regolazione della rampa in accelerazione	*Acceleration ramp adjustable*
TR2*	Limitazione corrente (crescente con rotazione antioraria)	*Current limitation (counter clockwise to increase)*	Regolazione della rampa in decelerazione	*Deceleration ramp adjustable*

(*) Non presente con versione torque
(*) *Not designed for torque version*

Dip Switch		
1	**OFF =** Controllo velocità da pot. interno TR1	*Internal speed pot TR1*
	ON = Controllo velocità da pot. esterno o segnale analogico 0/+10V	*External speed pot or analog signal 0/+10V*
2	**OFF =** Funzionamento in anello chiuso **ON =** Funzionamento in anello aperto	*Operating in closed loop* *Operating in open loop*
3	**OFF =** Rampe rapide (0.1 s)	*Fast Acceleration (about 0.1 sec)*
	ON = Rampe lente (1.0 s)	*Slow acceleration (about 1.0 sec)*
4	**OFF =** per motori a 4 poli	*4 poles motors*
	ON = per motori a 8 poli	*8 poles motors*

BLD60 DIGITAL

AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC

BLD60 Digital è un controller di velocità ad anello chiuso che utilizza componenti di potenza IGBT e MOSFET. Utilizza il segnale di Hall del motore brushless per eseguire il controllo della velocità ad anello chiuso, e riduce l'errore tramite il regolatore dei PID. E' in grado di raggiungere la coppia massima anche alle basse velocità da 150 a 4000 giri al minuto. Il drive utilizza il protocollo ModbusRS485 RTU per poter comunicare i parametri e gestire i motori su di un Network.

4Q DRIVE FOR DC BRUSHLESS MOTORS

BLD30 Digital BLDC motor driver is a closed-loop speed controller, which uses IGBT and MOS power, uses the Hall signal of the DC brushless motor to perform double-loop speed control, and has a PID speed regulator in the control link. The system control is stable and reliable.
It can always reach the maximum torque at low speed, and the speed control range is 150 to 4000rpm. The driver use the protocol Modbus RS485 RTU to comunicate in a network.

Caratteristiche standard

- **Azionamento trifase a quattro quadranti per motori Brushless**
- Alimentazione singola DC
- Display digitale (gestione azionamento e stato allarmi)
- Protetto per corto circuito, min/max tensione, sovratemperatura, mancanza celle di hall.
- Protezione termica
- Connettori estraibili 8 vie (segnali) e 5 vie (sensori di Hall).
- 1 Comando di velocità differenziale analogico +5V
- 1 Comando di coppia analogico +5V per realizzare avvitatori, svolgitori, macchine test, ecc
- Feedback da sensori di HALL
- 2 Uscita NPN segnalazione allarme azionamento feedback velocità
- 2 trimmer (gestione velocità e corrente).

Standard characteristic

- ***Four quadrant regenerative drive for Brushless motor***
- *Single supply DC voltage*
- *Digital display (drive management and alarm status)*
- *Protections for: Over/Under voltage, max. temperature, Over current*
- *thermal protection*
- *signals extractable connectors (8 ways and 5 ways)..*
- *1 Differential velocity input +5V*
- *1 Torque mode (demand current) input +5V*
- *Feedback by HALL sensors*
- *2 NPN output (feedback speed and fault)*
- *2 Potentiometer (Speed, current)*

Dati tecnici principali

- Idoneo per motori BLDC trifase 4/8 poli
- Retroazione digitale sensori di Hall
- Controllo motore in frequenza PWM 20 kHz
- Temperatura operativa 0/+40°C
- Ingresso analogico 0/5 Vcc
- Rampa accelerazione regolabile (tramite display digitale) 0.1/10 sec
- Regolazione corrente max
- Regolazione della velocità (potenziometro esterno o interno) esterno 10kΩ
- Controllo motore in digitale RS485

Specifications

- *Suitable for 3ph BLDC motors 4/8 poli*
- *Digital feedback Hall sensors*
- *Motor control in PWM frequency 20 kHz*
- *Operative temperature 0/+40°C*
- *Analog inputs range 0/5 Vdc*
- *Acceleration ramp adjustable (by digital display) 0.1/10 sec*
- *Cuirrent max regulation*
- *Speed change regulation (by external or internal pot)) external 10kΩ*
- *Digital motor control RS485*

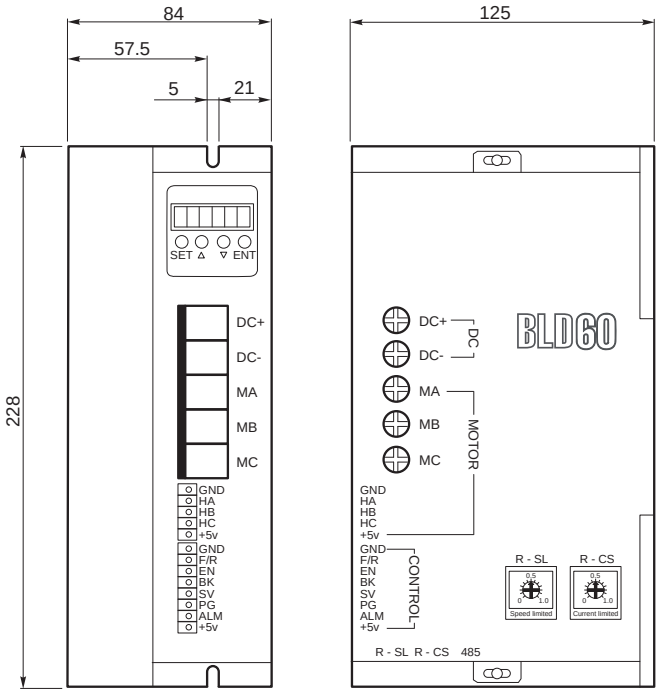
Dimensioni

Dimensions

MODELLO / *MODEL*		BLD60 Digital
Tensione nominale motore *Motor DC Voltage*	(Vdc)	24 - 36 - 48
Tensione di alimentazione min / max *Supply DC Voltage Range min / max*	(Vdc)	20 - 60
Corrente nominale *Rated Current*	(A)	50 A
Corrente di picco (1) *Peak Current*	(A)	75 A
Potenza nominale (2) Rated Power	(W)	1500
Potenza di picco (3) *Peak Power*	(W)	2120

(1) La corrente di picco viene erogata per un tempo di circa 2 secondi
(1) *Peak current (Adc) for 2 sec.*

(2) La potenza nominale è riferita al valore di tensione e di corrente nominale
(2) *Power of amplifier at the rated current and rated voltage*
(3) La potenza di picco è riferita al valore di tensione nominale e di corrente di picco
(3) *Power of amplifier at the peak current and rated voltage*



BLD60 DIGITAL

AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC

4Q DRIVE FOR DC BRUSHLESS MOTORS

Collegamenti per motori brushless serie BL

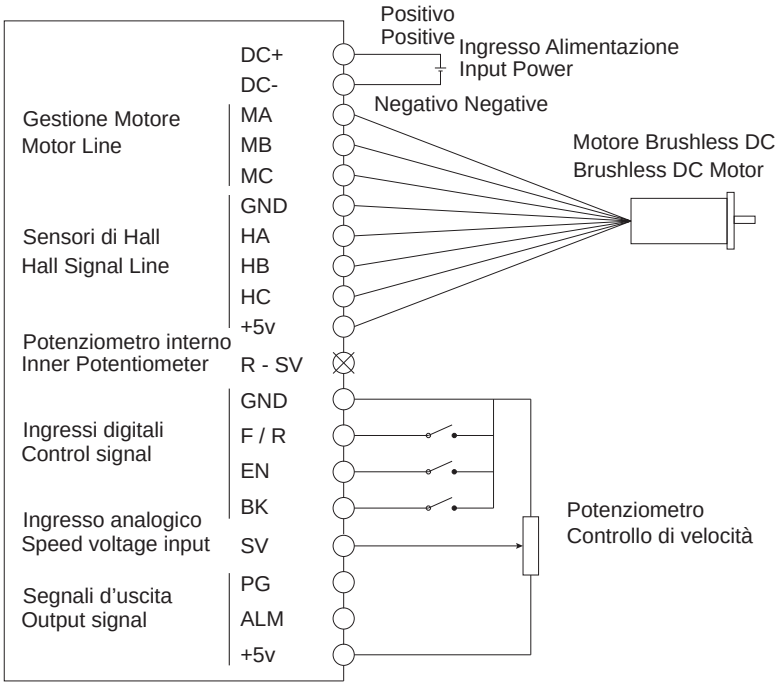
Connections for brushless motors BL series

Fili di potenza:
- fase motore U: pin MA
- fase motore V: pin MB
- fase motore W: pin MC

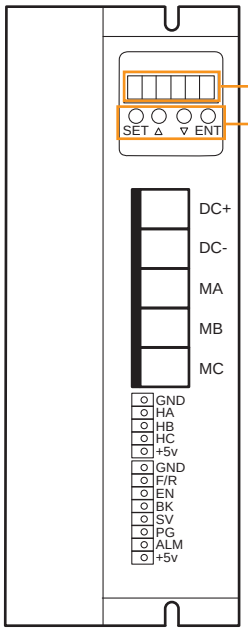
Fili di segnale:
- Rosso piccolo (+Vcc): pin +5V
- Nero piccolo (GND): pin GND
- Blue (hall U): pin HA
- Verde (hall V): pin NB
- Bianco (hall W): pin HC

Power wires:
- *phase motor U: pin MA*
- *phase motor V: pin MB*
- *phase motor W: pin MC*

Fili di segnale:
- *Red small (+Vdc): pin +5V*
- *Black small (GND): pin GND*
- *Blue (hall U): pin HA*
- *Green (hall V): pin HB*
- *White (hall W): pin HC*



DISPLAY LED	
FEEDBACK VISIVO	*VISUAL FEEDBACK*



TASTRIERA / *CONTROLLER*	
TASTIERA PER SETTAGGIO PARAMETRI	*KEYBOARD FOR PARAMETER SETTING*



BLDT60 DIGITAL PLUS

AZIONAMENTO 4Q DIGITALE PER MOTORI BRUSHLESS CC

BLDT60 DIGITAL PLUS è un controller completamente digitale che funziona in modalità coppia, velocità o posizione ed utilizza la Space Vector Modulation (SVM), che si traduce in un maggiore utilizzo della tensione del bus e una ridotta dissipazione del calore rispetto al PWM tradizionale. L'azionamento può essere configurato per una varietà di segnali e di comando esterni. I comandi possono anche essere configurati utilizzando il Motion Engine integrato nell'azionamento, in modo da gestire il movimento tramite il processore interno. Oltre al controllo del motore, questi azionamenti dispongono di ingressi e uscite digitali e analogiche dedicati e programmabili per migliorare l'interfacciamento con controller e dispositivi esterni. tramite il protocollo di comunicazione RS232/485 o Modbus RTU puo gestire e comunicare in un networking fornendo dati o gestendoli per il controllo puntuale del motore.

DIGITAL 4Q DRIVE FOR DC BRUSHLESS MOTORS

The BLD60 DIGITAL PLUS servo drives is a fully digital drives operate in torque, velocity, or position mode and employ Space Vector Modulation (SVM), which results in higher bus voltage utilization and reduced heat dissipation compared to traditional PWM. The drive can be configured for a variety of external command signals. Commands can also be configured using the drive's built-in Motion Engine, an internal motion controller used with distributed motion applications. In addition to motor control, these drives feature dedicated and programmable digital and analog inputs and outputs to enhance interfacing with external controllers and devices.
Network communication is accomplished using either RS-485/232 or Modbus RTU.

Caratteristiche standard

- Funzionamento rigenerativo a quattro quadranti
- Tecnologia Space Vector Modulation (SVM)
- Design completamente digitale all'avanguardia
- Impostazioni di guadagno programmabili
- Limiti di corrente, tensione, velocità e posizione completamente configurabili
- PIDF Velocity Loop
- Anello di posizione PID + FF
- Dimensioni compatte, alta densità di potenza
- Hardware da analogico a digitale a 16 bit
- Commutazione della modalità "On-the-fly"
- Cambio di impostazione del guadagno "On-the-fly"
- Ingressi Safe Torque Off (STO) dedicati

Standard characteristic

- Four Quadrant Regenerative Operation
- Space Vector Modulation (SVM) Technology
- Fully Digital State-of-the-art Design
- Programmable Gain Settings
- Fully Configurable Current, Voltage, Velocity and Position Limits
- PIDF Velocity Loop
- PID + FF Position Loop
- Compact Size, High Power Density
- 16-bit Analog to Digital Hardware
- On-the-Fly Mode Switching
- On-the-Fly Gain Set Switching
- Dedicated Safe Torque Off (STO) Inputs

Dati tecnici principali

- Idoneo per motori BLDC trifase 4/8 poli
- Retroazione digitale Encoder incrementale
- Retroazione digitale sensori di Hall
- Regolazione corrente max
- Posizionamento ± 10 Vdc
- Encoder incrementale ausiliario
- Over the Network
- Analogica ±10 V
- Sequencing
- Indexing
- Jogging

Specifications

- *Suitable for 3ph BLDC motors 4/8 pole*
- *PWM and Direction*
- *Encoder Following*
- *Over the Network*
- *±10 V Analog*
- *Halls Following*
- *±10 Vdc Position*
- *Auxiliary Incremental Encoder*
- *Sequencing*
- *Indexing*
- *Jogging*

BLDT60 DIGITAL PLUS

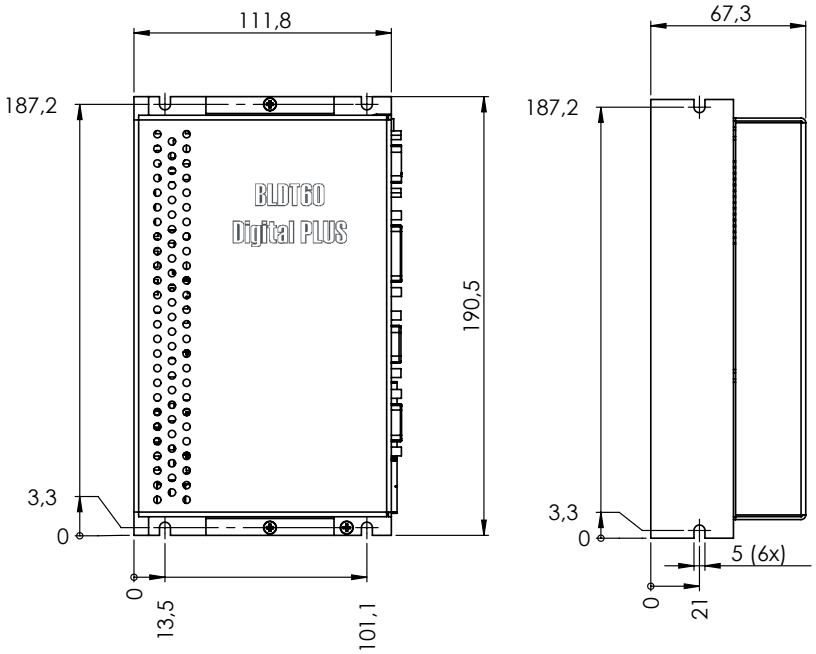
Dimensioni

Dimensions

MODELLO / *MODEL*		BLD60 Digital Plus
Tensione nominale motore *Motor DC Voltage*	(Vdc)	24 - 36 - 48
Tensione di alimentazione min / max *Supply DC Voltage Range min / max*	(Vdc)	20 - 60
Corrente nominale *Rated Current*	(A)	60 A (60 Arms)
Corrente di picco (1) *Peak Current*	(A)	100 A (70.7 Arms)
Potenza nominale (2) Rated Power	(W)	1500
Potenza di picco (3) *Peak Power*	(W)	4560

(1) La corrente di picco viene erogata per un tempo di circa 2 secondi
(1) *Peak current (Adc) for 2 sec.*

(2) La potenza nominale è riferita al valore di tensione e di corrente nominale
(2) *Power of amplifier at the rated current and rated voltage*
(3) La potenza di picco è riferita al valore di tensione nominale e di corrente di picco
(3) *Power of amplifier at the peak current and rated voltage*

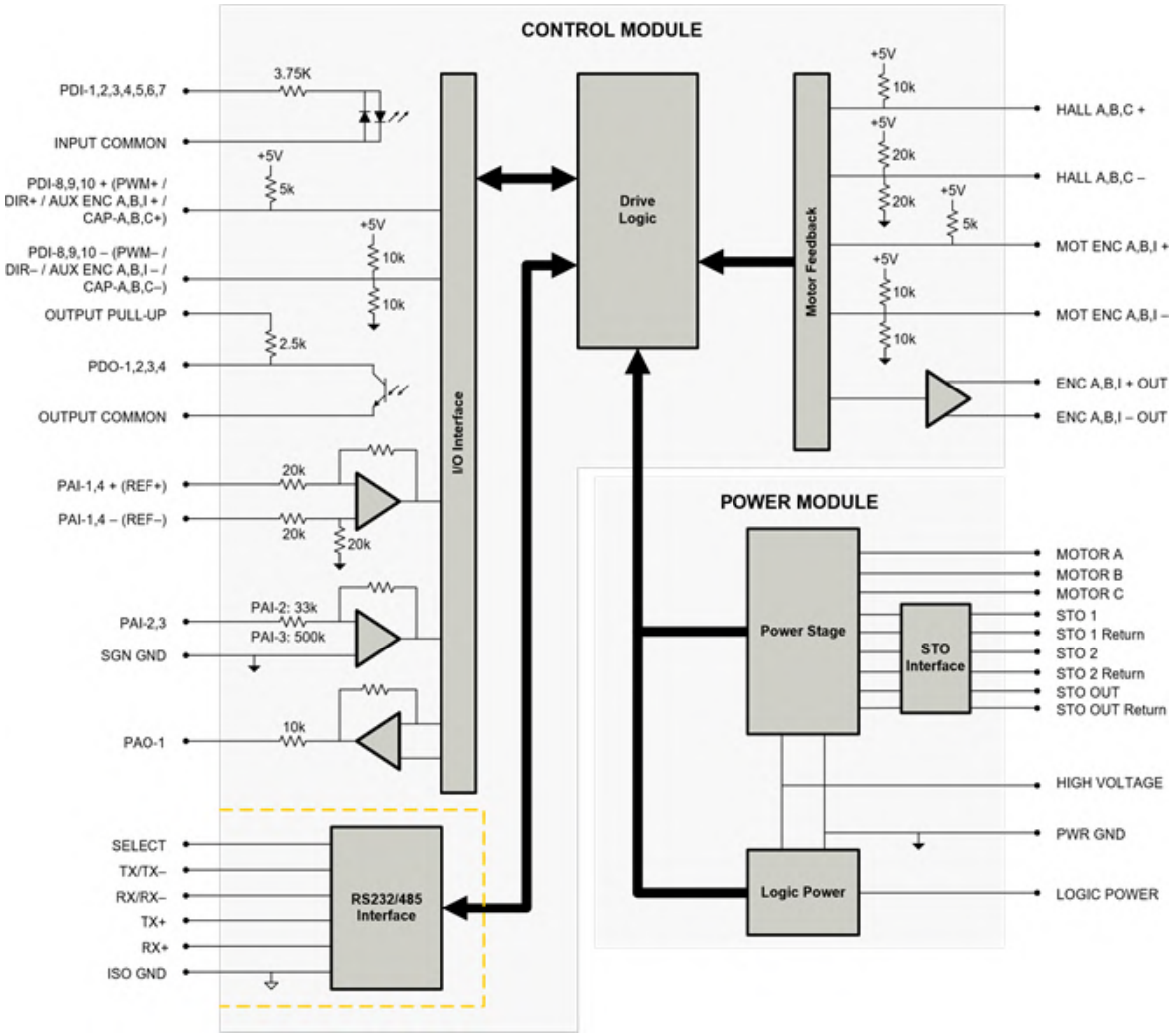


Collegamenti per motori brushless serie BL

Connections for brushless motors BL series

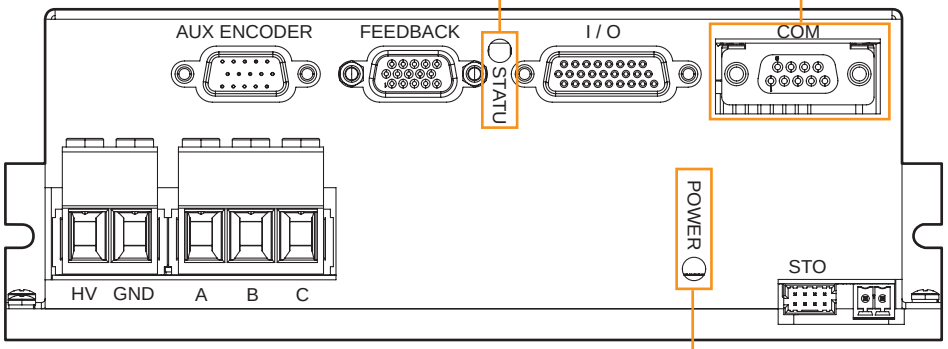
Fili di potenza:
- fase motore U: pin A
- fase motore V: pin B
- fase motore W: pin C
- HV + VCC

Power wires:
- *phase motor U: pin A*
- *phase motor V: pin B*
- *phase motor W: pin C*
- *HV + VCC*



LED	
Verde - Ready ON	*Green - Ready ON*
Rosso - Allarme in corso	*Red - Alarm*

RS232 / MODBUS RS485 RTU	
CANOPEN (Opzionale)	*CANOPEN (Optional)*
ETHERCAT (Opzionale)	*ETHERCAT (Optional)*



LED	
Verde - Ready ON	*Green - Ready ON*

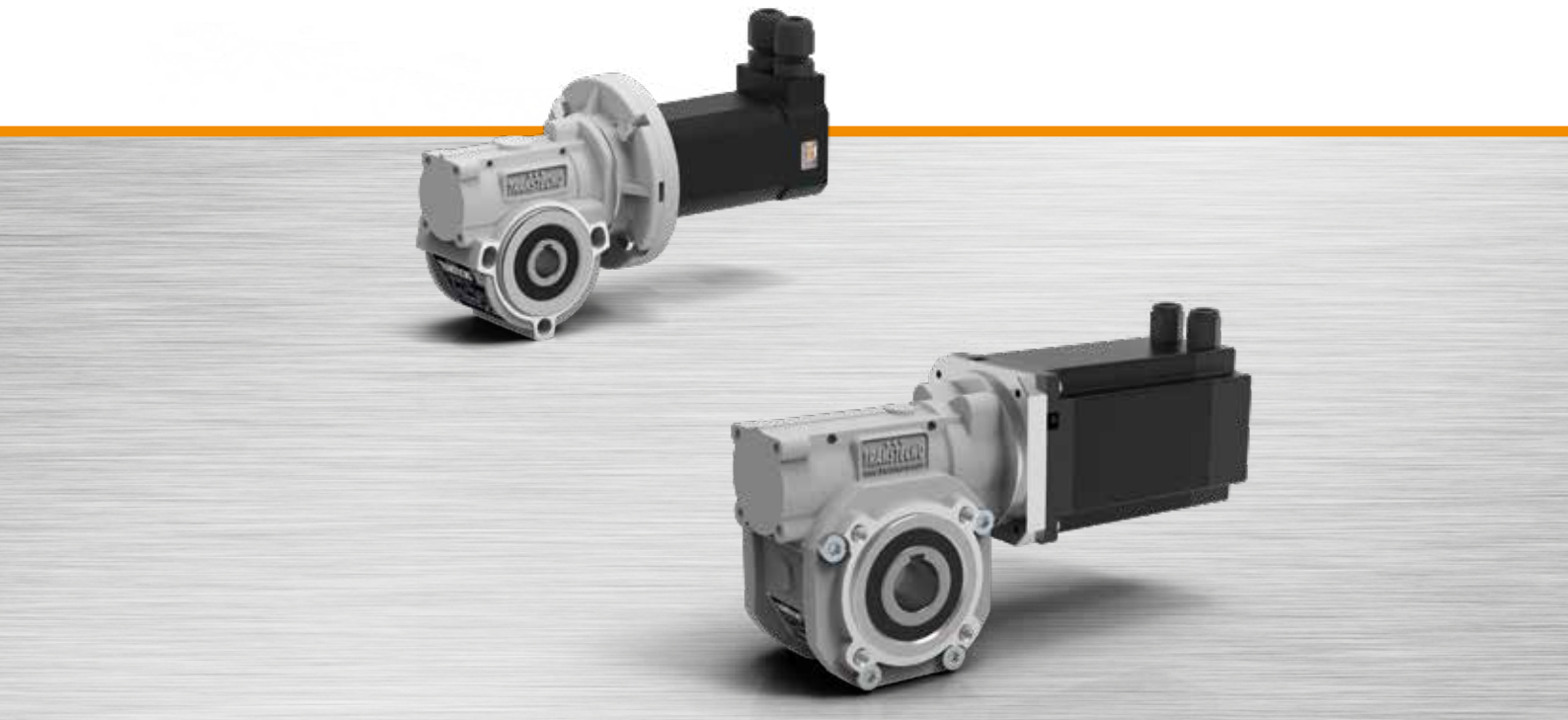
TRANSTECNO®
the modular gearmotor

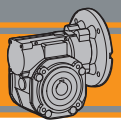
CL

cl

BLCL
Alu

Motoriduttori a vite senza fine
Wormgearmotors





Indice	*Index*	Pag. *Page*
Caratteristiche tecniche	*Technical features*	**III2**
Designazione	*Classification*	**III2**
Sensi di rotazione	*Direction of rotation*	**III2**
Simbologia	*Symbols*	**III3**
Lubrificazione	*Lubrication*	**III3**
Carichi radiali	*Radial loads*	**III3**
Dati di dentatura	*Toothing data*	**III4**
Rendimento	*Efficiency*	**III4**
Motori applicabili	*IEC Motor adapters*	**III5**
Dimensioni	*Dimensions*	**III6**
Accessori	*Accessories*	**III12**
Opzioni	*Options*	**III13**

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet www.transtecno.com**

This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. ***In this case the latest version is available on our web site www.transtecno.com***

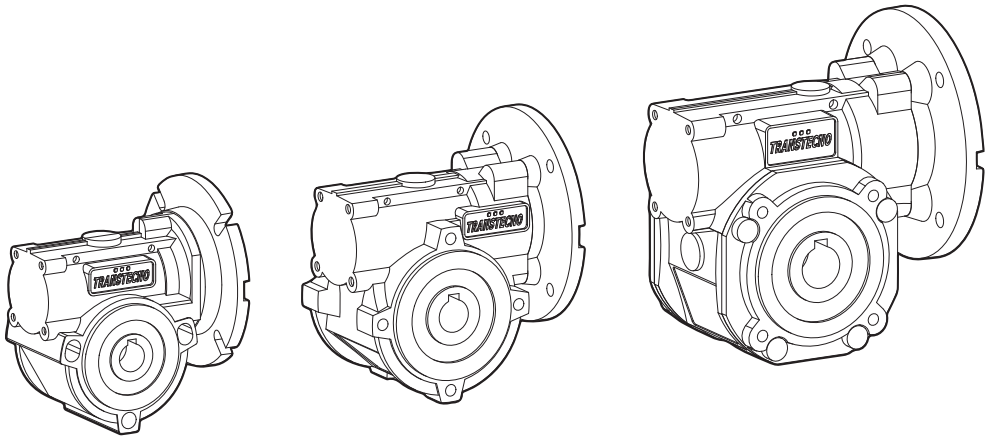
Caratteristiche tecniche — *Technical features*

L'elevata modularità contraddistingue i motoriduttori a vite senza fine della serie CL: i diversi kit entrata ed uscita li rendono estremamente versatili.
Le caratteristiche principali della serie CL sono:

- Carcassa in alluminio
- Lubrificazione permanente con olio sintetico

The high degree of modularity is a design feature of CL wormgearmotors range thanks to a wide selection of input and output kits. Main features of CL range are:

- *Die-cast aluminium housing*
- *Permanent synthetic oil long life lubrication*



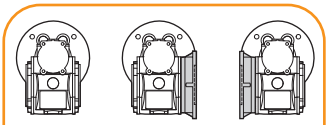
Designazione — *Classification*

RIDUTTORI A VITE SENZA FINE / WORMGEARBOXES

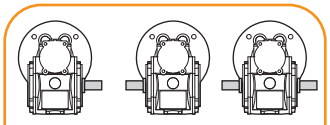
RIDUTTORE / *GEARBOX*

CL	030	U	10	63	B14	SZDX	BRSX	90	VS
Tipo *Type*	Grandezza *Size*	Versione riduttore *Gearbox Version*	Rapporto *Ratio*	IEC	Forma costruttiva *Version*	Albero di uscita *Output shaft*	Braccio di reazione *Torque arm*	Angolo *Angle*	Opzioni *Options*
CL	026 030 040 050 063 070	U F...	Vedere tabella *See tables*	56.. — 100/112	B5 B14	SZDX SZSX DZ	BRDX BRSX (*)	0° 90° 180° 270°	VS

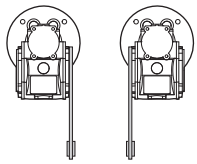
Versione Riduttore *Gearbox Version*



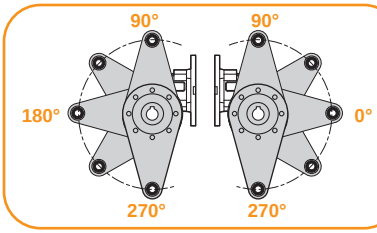
Albero di uscita *Output shaft*



Braccio di reazione *Torque arm* (*)



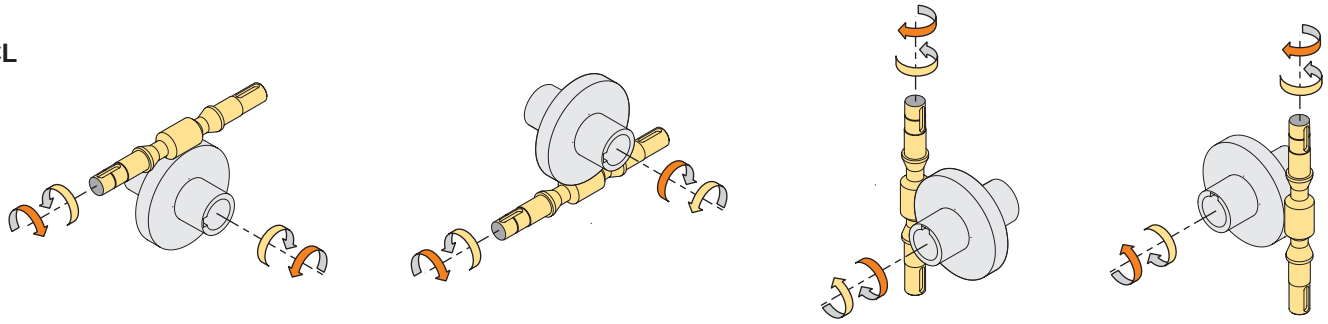
Angolo *Angle*



(*) NOTA: il braccio di reazione viene fornito smontato.
NOTE: the torque arm will be supplied not assembled.

Sensi di rotazione — *Direction of rotation*

CL



Simbologia — *Symbols*

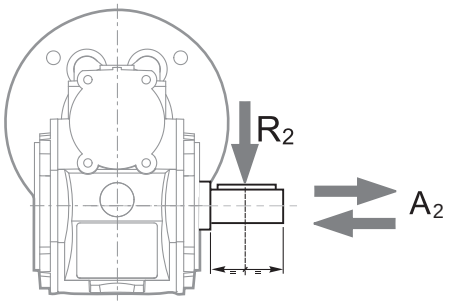
n_1	[min^{-1}]	Velocità in ingresso / *Input speed*	sf		Fattore di servizio / *Service factor*
n_2	[min^{-1}]	Velocità in uscita / *Output speed*	Rd	%	Rendimento dinamico / *Dynamic efficiency*
i		Rapporto di riduzione / *Ratio*	Rs	%	Rendimento statico / *Static efficiency*
P_1	[kW]	Potenza in entrata / *Nominal input power*	R_2	[N]	Carico radiale ammissibile in uscita / *Permitted output radial load*
M_2	[Nm]	Coppia in uscita in funzione di P_1 / *Output torque referred to P_1*	A_2	[N]	Carico assiale ammissibile in uscita / *Permitted output axial load*
Pn_1	[kW]	Potenza nominale in entrata / *Nominal input power*	Z		Numero di principi della vite / *Worm starts*
Mn_2	[Nm]	Coppia nominale in uscita in funzione di Pn_1 / *Nominal output torque referred to Pn_1*	β		Angolo d'elica / *Helix angle*

Lubrificazione — *Lubrication*

Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di monatggio e non necessitano di manutenzione.

Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use the gearmotors in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.

Carichi radiali — *Radial loads*

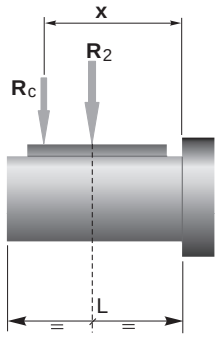


$A_2 = R_2 \times 0.2$

n_2 [min^{-1}]	R_2 [N]					
	CL026	CL030	CL040	CL050	CL063	CL070
187	400	674	1264	1770	2445	2613
140	490	743	1392	1949	2692	2878
93	580	851	1596	2234	3085	3298
70	610	936	1754	2456	3392	3626
56	610	1008	1890	2646	3654	3906
47	610	1069	2004	2805	3874	4141
35	610	1179	2210	3095	4273	4568
28	610	1270	2381	3334	4603	4921
23	610	1356	2542	3559	4915	5254
18	610	1471	2759	3862	5334	5702
14	610	1600	3000	4200	5800	6200

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:



	CL	CL / CLP				
	026	030	040	050	063	070
a	56	65	84	101	120	122
b	43	50	64	76	95	92
R_{2MAX}	610	1600	3000	4200	5800	6200

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

a, b = valori riportati nella tabella
a, b = values given in the table

Dati di dentatura — *Toothing data*

	Dati della coppia vite-corona *Worm wheel data*	Rapporto / *Ratio*											
		5	7.5	10	15	20	25	30	40	50	60	80	100
CL026	Z	6	4	3	2	2		1	1	1	1		
	β	34° 35'	24° 41'	19° 1'	12° 57 '	10° 30'		6° 33'	5° 17'	4° 26'	3°49'		
CL030	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	27° 4'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'
CL040	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3°46'	2° 57'	2° 25'
CL050	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	33° 37'	23° 54'	18° 23'	12° 29'	10° 6'	8° 28'	6° 19'	5° 5'	4° 15'	3° 39'	2°51'	2° 20'
CL063	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	34° 23'	24° 31'	18° 53'	12° 50'	10° 24'	8° 44'	6° 30'	5° 14'	4° 23'	3° 47'	2° 57'	2° 25'
CL070	Z		4	3	2	2	2	1	1	1	1	1	1
	β		26°12'	20°15'	13°49'	11°15'	9°29'	7°0'	5°41'	4°46'	4°7'	3°13'	2°39'

Rendimento — *Efficiency*

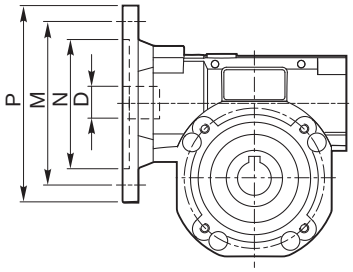
	n_1 [min^{-1}]	Rendimento *Efficiency*	Rapporto / *Ratio*											
			5	7.5	10	15	20	25	30	40	50	60	80	100
CL026	2800	Rd	89	87	85	83	80		73	68	64	60		
	1400		87	84	83	78	74		66	61	57	53		
	900		84	83	80	75	71		61	57	52	48		
		Rs	72	71	68	61	56	46	41	36	34			
CL030	2800	Rd	89	88	86	84	81	78	74	70	65	62	57	52
	1400		86	85	84	79	75	72	67	62	58	55	48	43
	900		84	83	81	75	71	68	62	58	53	49	43	39
		Rs	72	67	63	55	50	43	39	35	31	27	23	21
CL040	2800	Rd	90	89	87	84	83	80	77	73	69	66	60	56
	1400		88	86	84	81	78	74	70	65	60	58	52	46
	900		86	84	82	77	74	70	66	60	57	53	46	41
		Rs	74	71	67	60	55	51	45	40	36	32	28	24
CL050	2800	Rd	91	90	88	86	84	82	78	74	71	68	62	58
	1400		89	87	85	82	79	76	72	67	63	60	54	49
	900		87	85	84	79	75	72	68	62	59	55	48	43
		Rs	73	70	66	59	55	51	44	39	35	32	27	23
CL063	2800	Rd	91	90	88	86	84	83	79	76	73	70	65	60
	1400		90	88	86	84	81	78	75	70	66	63	57	52
	900		89	86	84	81	78	75	70	65	61	58	52	47
		Rs	73	71	67	60	55	51	45	40	36	33	28	24
CL070	2800	Rd		90	89	87	85	84	80	77	74	72	67	62
	1400			89	87	84	82	80	76	72	68	65	60	53
	900			87	85	82	79	77	72	67	63	60	54	49
		Rs		72	69	62	60	55	48	43	38	36	31	26

Rendimento teorico del riduttore dopo il rodaggio
Theoretical efficiency of the gearbox after the first running period

Motori applicabili

IEC Motor adapters

	IEC	N	M	P	D	i											
						5	7.5	10	15	20	25	30	40	50	60	80	100
CL026	**56B14**	50	65	80	9												
CL030	**63B5**	95	115	140	11												
	63B14	60	75	90													
	56B5	80	100	120	9	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**			
	56B14	50	65	80													
CL040	**71B5**	110	130	160	14												
	71B14	70	85	105													
	63B5	95	115	140	11	**B**	**B**	**B**	**B**	**B**	**B**	**B**	**B**				
	63B14	60	75	90													
	56B5	80	100	120	9	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**B**	**B**	**B**	**B**
	56B14	50	65	80													
CL050	**80B5**	130	165	200	19												
	80B14	80	100	120													
	71B5	110	130	160	14	**B**	**B**	**B**	**B**	**B**	**B**	**B**					
	71B14	70	85	105													
	63B5	95	115	140	11	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**B**	**B**	**B**	**B**	
	63B14	60	75	90													
CL063	**90B5**	130	165	200	24												
	90B14	95	115	140													
	80B5	130	165	200	19	**B**	**B**	**B**	**B**	**B**	**B**	**B**					
	80B14	80	100	120													
	71B5	110	130	160	14	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**BS**	**B**	**B**	**B**		
	71B14	70	85	105													
	63B5	95	115	140	11								**BS**	**BS**	**BS**	**B**	**B**
CL070	**100/112B5**	180	215	250	28												
	100/112B14	110	130	160													
	90B5	130	165	200	24		**B**	**B**	**B**	**B**							
	90B14	95	115	140													
	80B5	130	165	200	19		**BS**	**BS**	**BS**	**BS**	**B**	**B**	**B**				
	80B14	80	100	120													
	71B5	110	130	160	14						**BS**	**BS**	**BS**	**B**	**B**	**B**	**B**



N.B.

Le aree evidenziate in grigio indicano l'applicabilità della corrispondente grandezza motore.

N.B. Grey areas indicate motor inputs available on each size of unit.

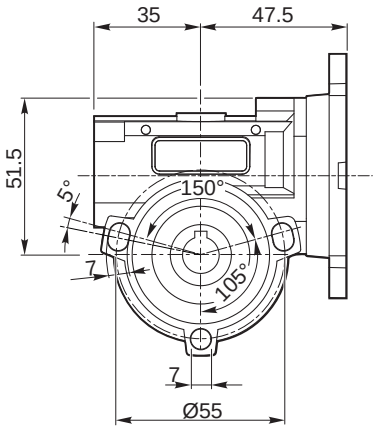
B/BS = Boccola di riduzione in acciaio

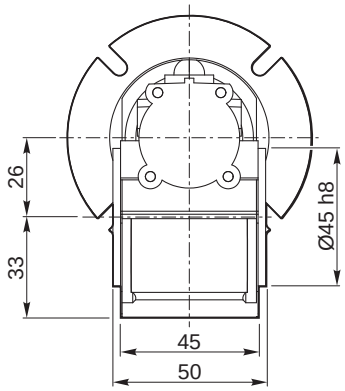
B/BS = Metal shaft sleeve

Nota: flange Nema disponibili a richiesta
***Note:** Nema flange available on demand*

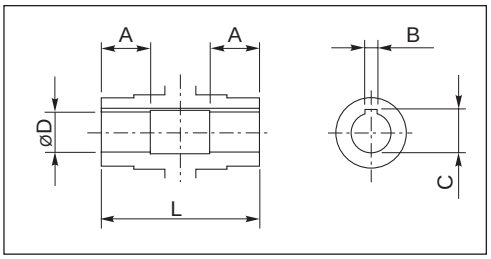
Dimensioni — *Dimensions*

CL 026 U





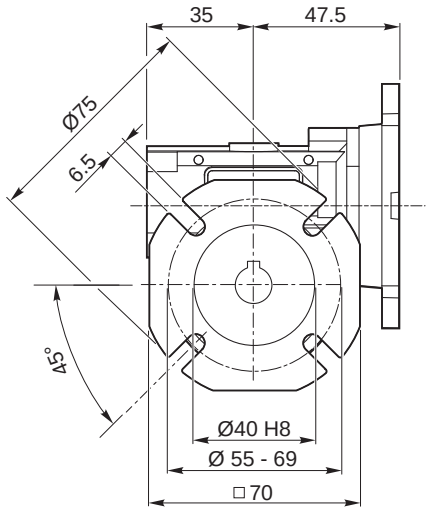
Kg
0.7

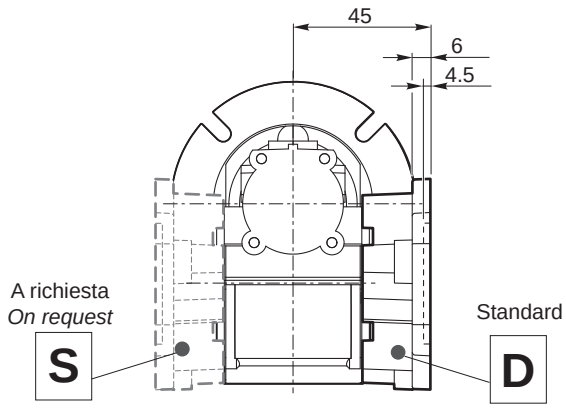


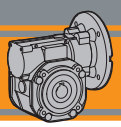
Albero lento cavo / *Hollow output shaft*

Grandezza *Size*	ø D H8	L	A	B	C
CL 026	12	50	15	4	13.8

CL 026 F

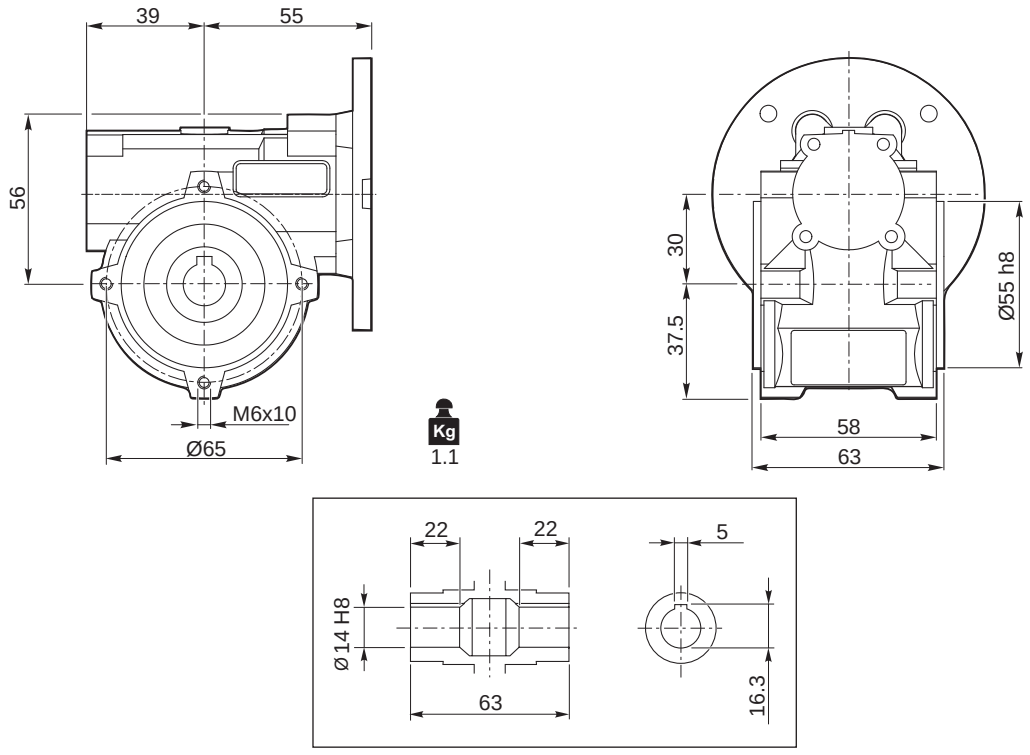






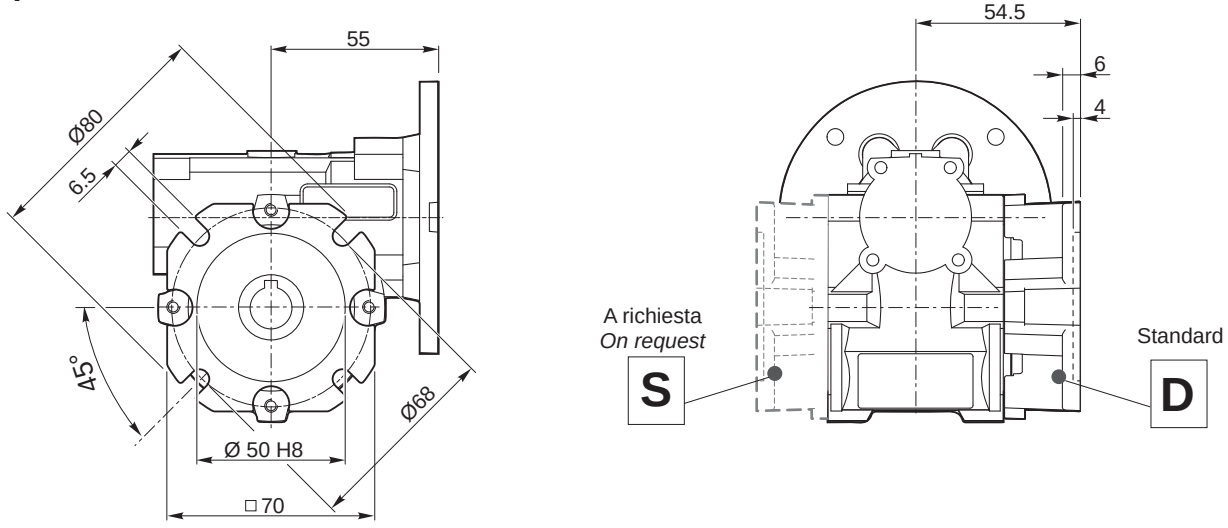
Dimensioni ***Dimensions***

CL 030 U



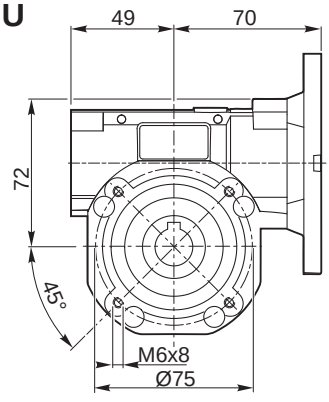
Albero lento cavo / *Hollow output shaft*

CL 030 F

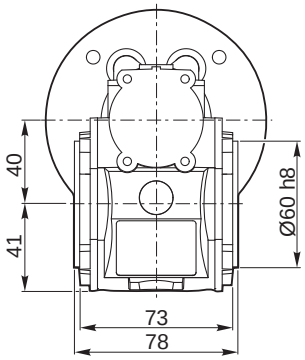


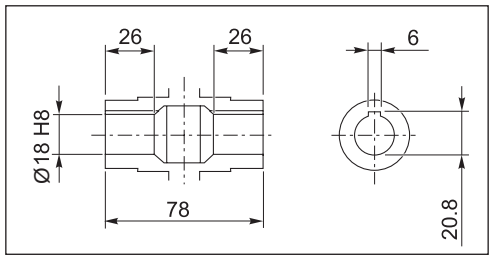
Dimensioni ***Dimensions***

CL 040 U



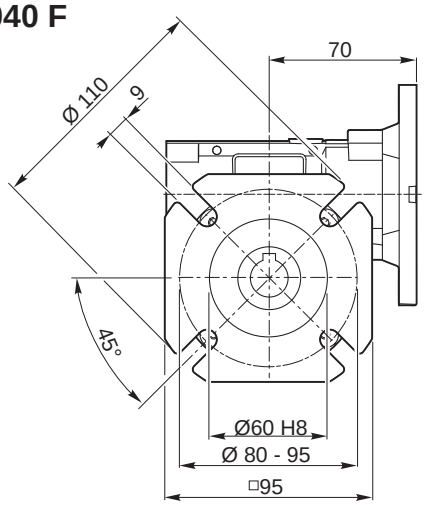
Kg 2.1

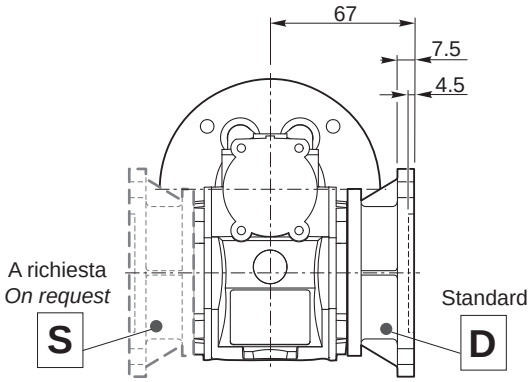




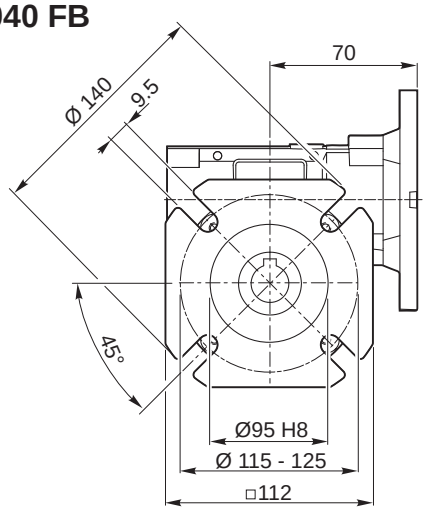
Albero lento cavo / *Hollow output shaft*

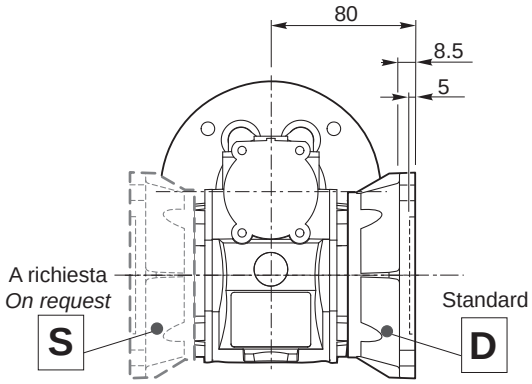
CL 040 F



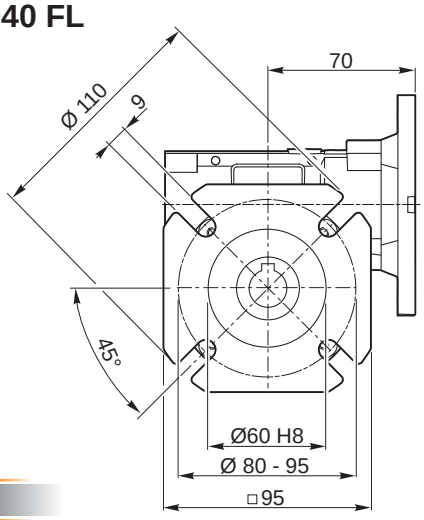


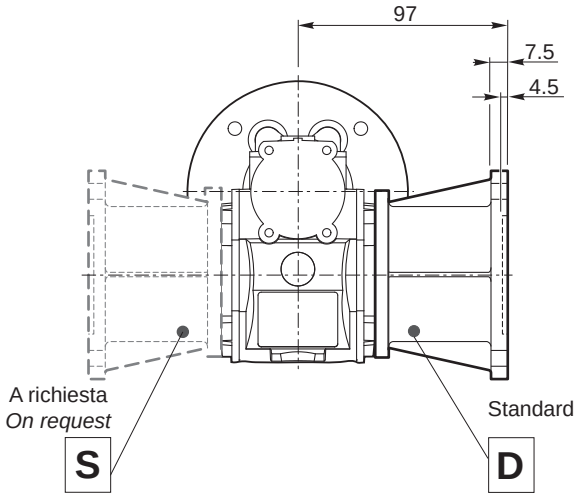
CL 040 FB





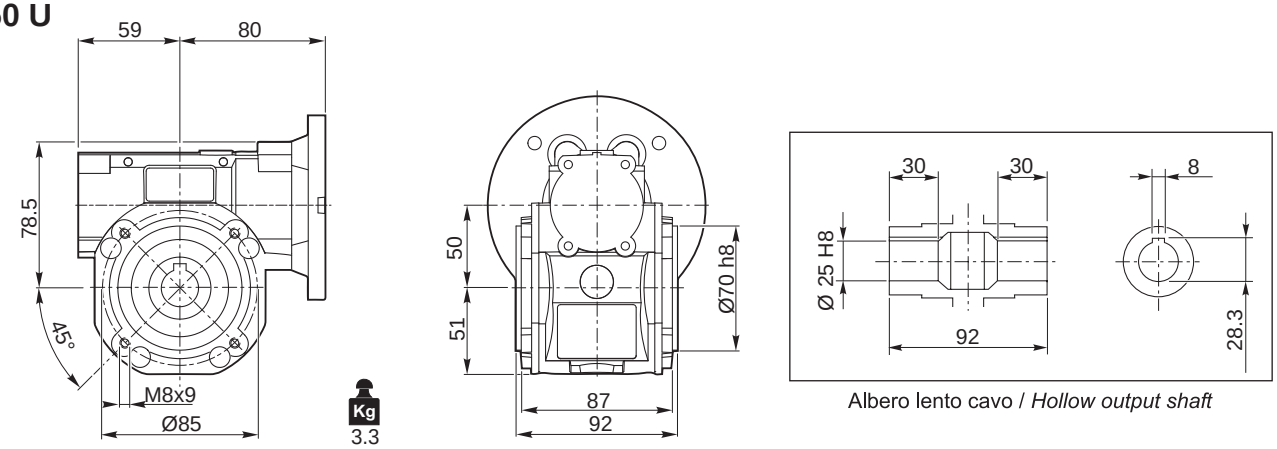
CL 040 FL





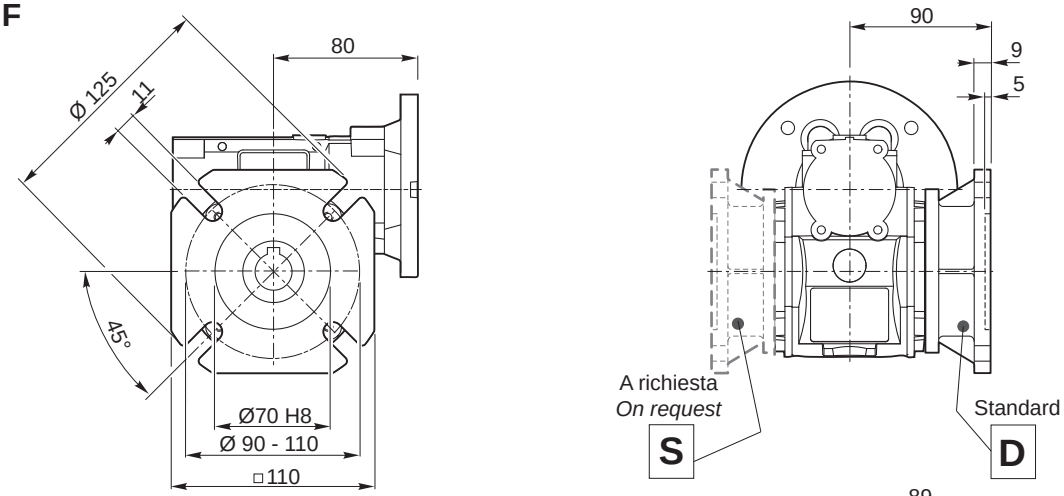
Dimensioni — *Dimensions*

CL 050 U

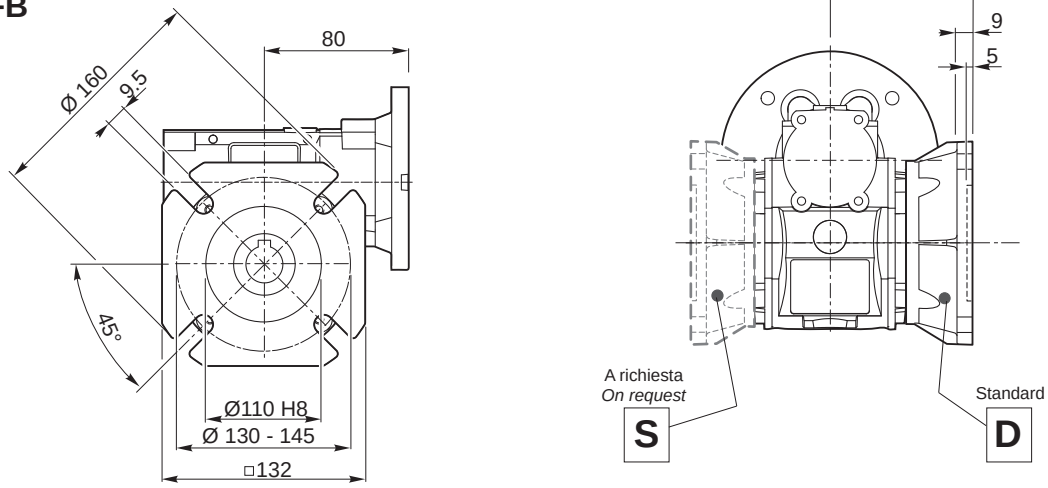


Albero lento cavo / *Hollow output shaft*

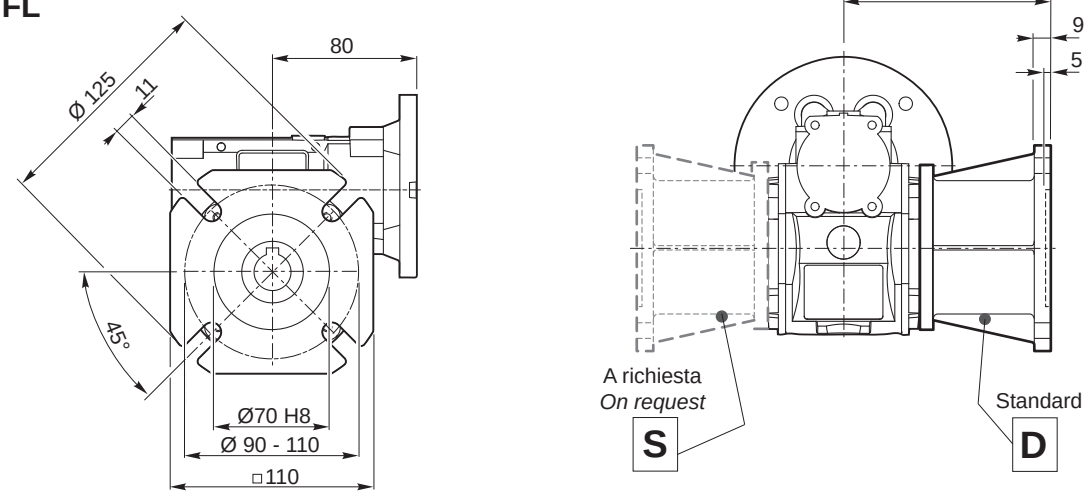
CL 050 F



CL 050 FB

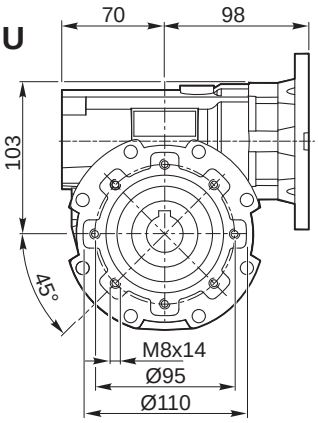


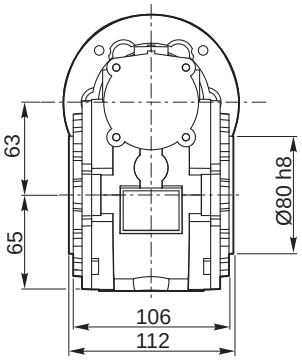
CL 050 FL

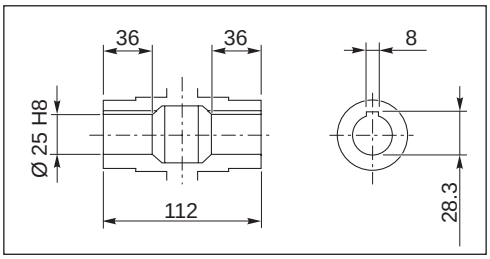


Dimensioni — *Dimensions*

CL 063 U



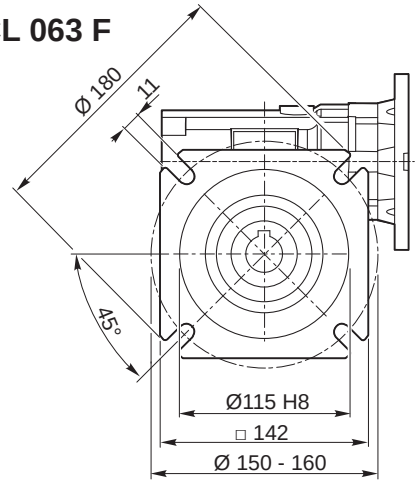


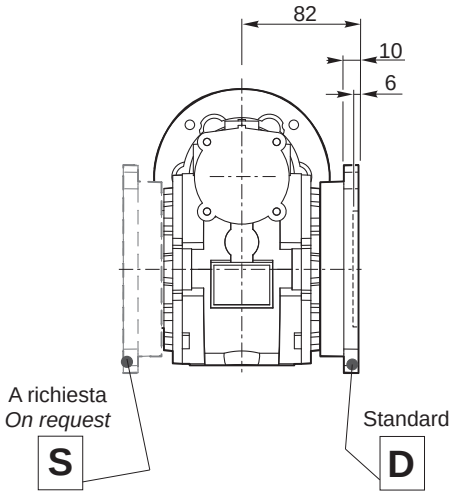


Albero lento cavo / *Hollow output shaft*

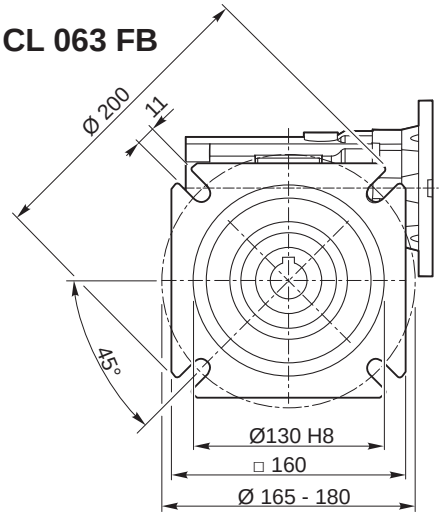
Kg 6.0

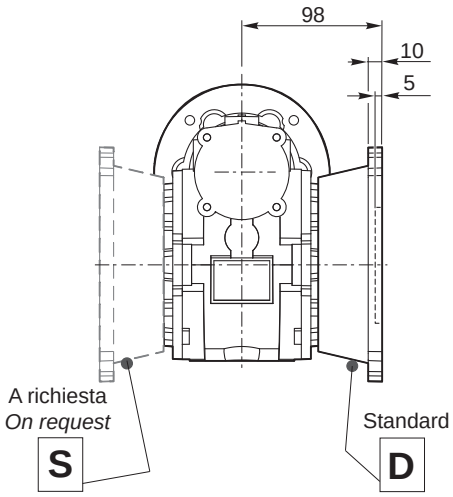
CL 063 F



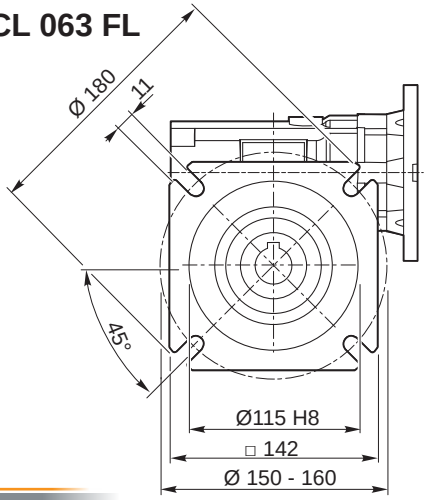


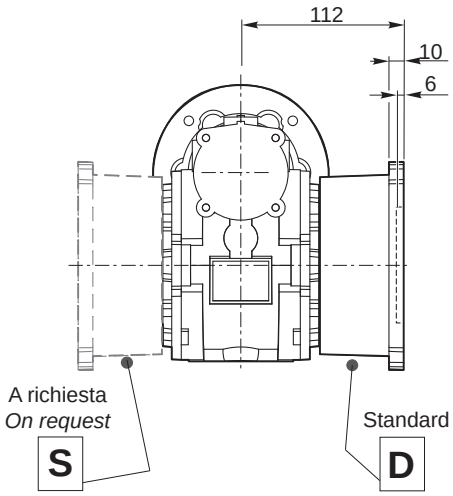
CL 063 FB

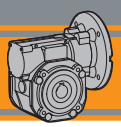




CL 063 FL

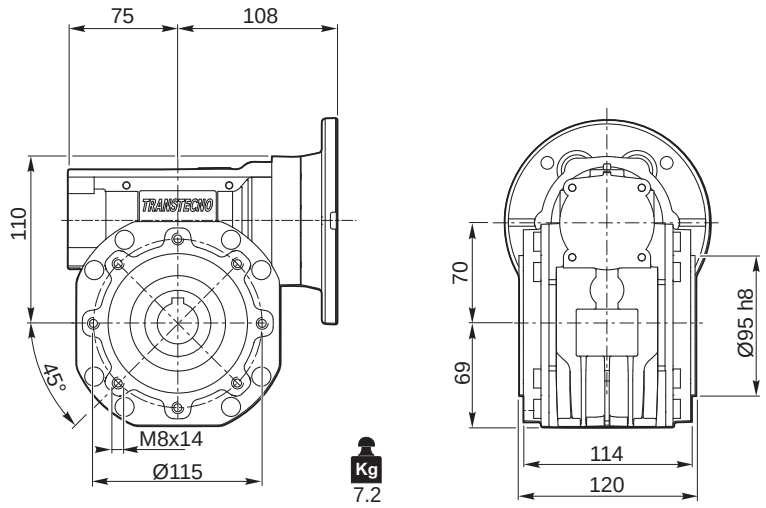


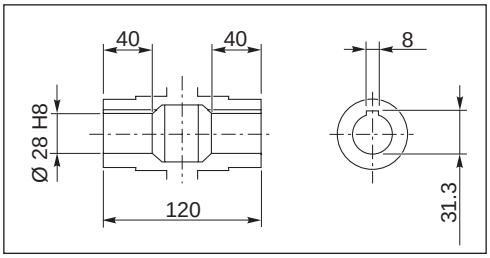




Dimensioni ***Dimensions***

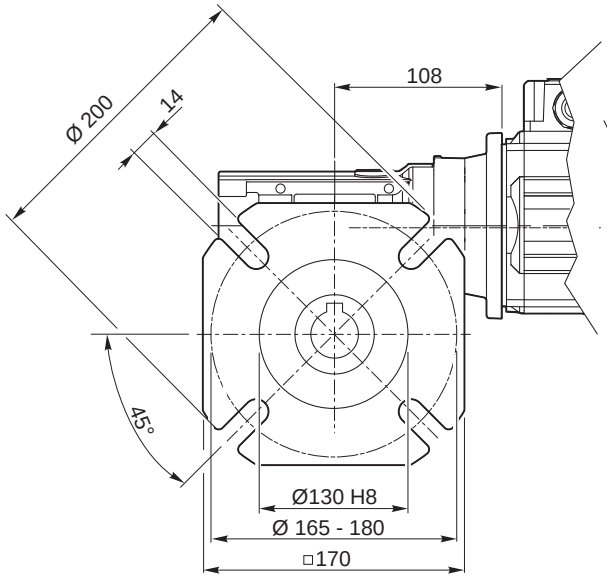
CL 070 U



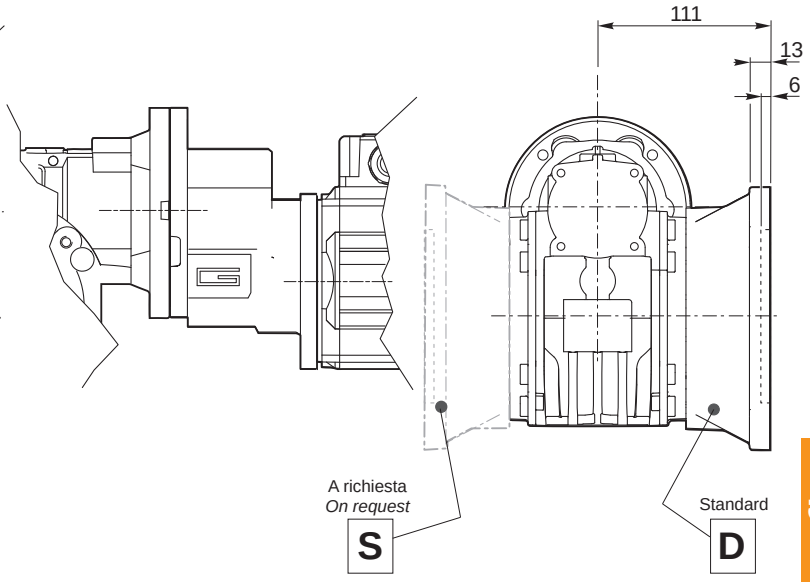


Albero lento cavo / *Hollow output shaft*

CL 070 F



CLP../070 F

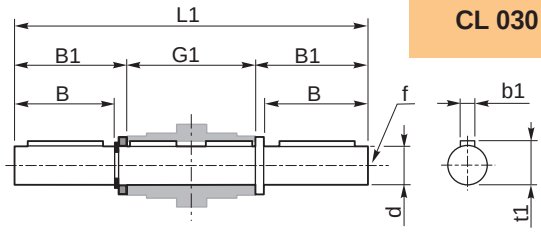


Accessori — *Accessories*

Albero lento semplice e doppio — *Single and double output shaft*

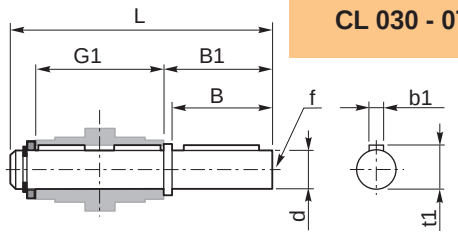
CL 030 - 070

DZ



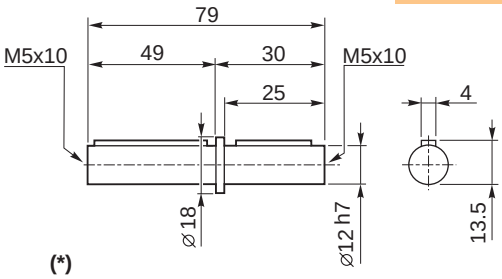
CL 030 - 070

SZ



CL	d h7	B	B1	G1	L	L1	f	b1	t1
030	14	30	32.5	63	102	128	M6	5	16
040	18	40	43	78	128	164	M6	6	20.5
050	25	50	53.5	92	153	199	M10	8	28
063	25	50	53.5	112	173	219	M10	8	28
070	28	60	63.5	120	192	247	M10	8	31

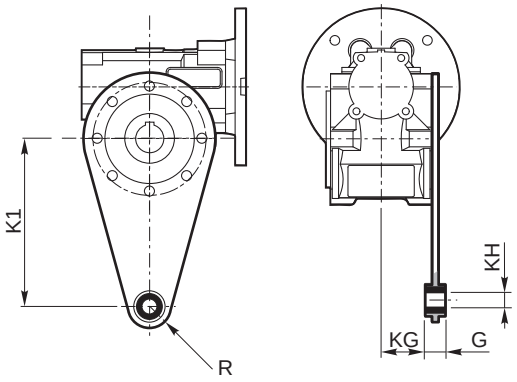
CL 026 (*)



(*)
Nota: disponibile solo per cavo uscita Ø12
Note: *available for output hollow shaft Ø12 only*

Braccio di reazione — *Torque arm*

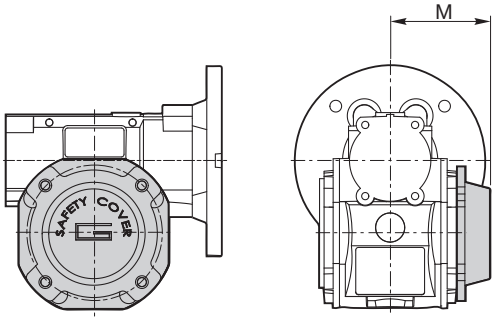
CL	K1	G	KG	KH	R
030	85	14	23	8	15
040	100	14	31	10	18
050	100	14	38	10	18
063	150	14	47.5	10	18
070	200	25	46.5	20	30



Accessori — *Accessories*

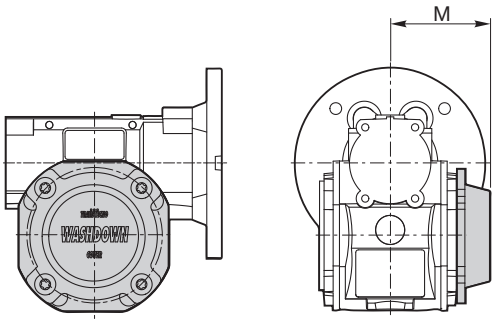
SC - *Safety Cover*

CL	M
030	47
040	54.5
050	62.5
063	73
070	75



WD - *Kit washdown cover*

CL	M
026*	37.5
030	48
040	55.5
050	63.5
063	71.5
070	76

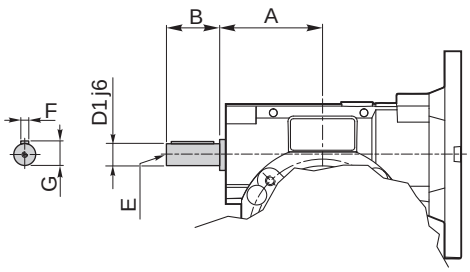


(*)
Nota: Viti escluse dalla fornitura
Note: *Screws not provided*

Opzioni — *Options*

VS - Vite sporgente / *Extended input shaft*

CL	A	B	D_1 j6	E	F	G
030	45	20	9	M4	3	10.2
040	53	23	11	M5	4	12.5
050	64	30	14	M6	5	16
063	75	40	19	M6	6	21.5
070	84	40	19	M6	6	21.5



Costruito su richiesta
Built on request

Note/*Notes*

TRANSTECNO SRL
HEADQUARTERS
Company subject to the management
and coordination of INTERPUMP GROUP SPA
Via Caduti di Sabbiuno, 11/D-E
40011 Anzola dell'Emilia (BO)
ITALY
T+39 051 64 25 811
F +39 051 73 49 43
sales@transtecno.com
www.transtecno.com

TRANSTECNO®
the modular gearmotor

MEMBER OF INTERPUMP GROUP

CATBLDCALU1124



HANGZHOU INTERPUMP
POWER TRANSMISSIONS CO LTD
No.4 Xiuyan Road Fengdu Industry Zone
Pingyao Town Yuhang District
Hangzhou City, Zhejiang Province
311115 – CHINA
T +86 571 86 92 02 60
info-china@transtecno.cn
www.transtecno.cn

TRANSTECNO IBÉRICA
THE MODULAR GEARMOTOR, S.A.
Carrer de la Ciència, 45
08840 Viladecans (Barcelona) - SPAIN
T +34 931 598 950
info@transtecno.es
www.transtecno.es

TRANSTECNO B.V.
Siliciumweg 32
3812 SX Amersfoort - NETHERLANDS
T +31(0) 33 45 19 505
info@transtecno.nl
www.transtecno.nl

TRANSTECNO AANDRIJFTECHNIEK B.V.
Siliciumweg 32
3812 SX Amersfoort - NETHERLANDS
T +31 (0) 33 20 4 7 006
info@transtecnoaandrijftechniek.nl
www.transtecnoaandrijftechniek.nl

MA TRANSTECNO S.A.P.I. DE C.V.
Julián Sepúlveda Dávila #107,
Parque Industrial SG
Apodaca, Nuevo León, CP. 66640
MÉXICO
T +52 8113340920
info@transtecno.com.mx
www.transtecno.com.mx

TRANSTECNO USA
8 Creek Parkway,
Boothwyn PA 19061-8136 - UNITED STATES
T + 1 (610) 4970154

TRANSTECNO USA – WEST COAST BRANCH
14561 Fryelands Blvd SE
Monroe, WA 98272 - UNITED STATES
T +1 360-863-1300
usaoffice@transtecno.com
www.transtecno.com

TRANSTECNO CANADA
51 B Caldari Road Unit 10
Vaughan, ON L4K 4G3 - CANADA
T +1 905 761 0762
canadaoffice@transtecno.com
www.transtecno.com

TRANSTECNO INDIA
#6A, Sipcot Industrial complex, Phase-1,Elasagiri Road
Hosur – 635126 Tamilnadu - INDIA
T +91 4344 274434
M +91 81443 88800

TRANSTECNO INDIA – NORTH BRANCH
Plot No: 3 A, Sector 2, IIE, Sidcul, Pantnagar
U.S. Nagar, Uttarakhand – 263153 - INDIA
indiaoffice@transtecno.com
www.transtecno.com

TRANSTECNO BRAZIL
Rua Gilberto de Zorzi, 525 Forqueta - CEP. 95115-730
CX Postal 3544 Caxias do Sul RS – BRAZIL

TRANSTECNO BRAZIL – SÃO PAULO BRANCH
R. Mafalda Barnabe Soliane, 314 – CEP. 13347-610
Indaiatuba, São Paulo - BRAZIL
T +55 19 3437 2520

TRANSTECNO BRAZIL – PORTO ALEGRE BRANCH
Rua Dr. Freire Alemão 155 / 402 - CEP. 90450-060
Auxiliadora Porto Alegre RS - BRAZIL
T +55 51 4042 0916
M +55 51 811 45 962
braziloffice@transtecno.com
www.transtecno.com.br

INTERPUMP ANTRIEBSTECHNIK GMBH
Büro Stuttgart - GERMANY
T +49 (0)171 4781909
germanoffice@transtecno.com
www.transtecno.com

SALES OFFICE OCEANIA
Unit 5, 12 Nyholt Drive, Yatala 4207
Queensland - AUSTRALIA
T +61 07 3800 0103
M +61 04 38060997

UNIT 9 , 94 Boundary Rd, Sunshine West 3020
Victoria - AUSTRALIA
T +61 9312 4722
oceaniaoffice@transtecno.com
www.transtecno.com.au

www.transtecno.com