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Generalità

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 motorriduttori e variatori.

General information

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

n_1 [min⁻¹]

Input speed

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

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

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

When different speeds are required, contact our Technical Service.

Rapporto di riduzione

i

Gear ratio

È una grandezza adimensionale ed è in funzione del numero dei denti degli ingranaggi interni al riduttore.

This value is strictly related to the size and number of teeth gears inside the gearbox.

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.

This value is obtained in wormgearboxes by dividing the number of wheel teeth by the number of starts (Z) of the worm.

Dai dati di catalogo si può ottenere con la relazione:

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

n_2 [min⁻¹]

Output speed

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

M_{r2} [Nm]

Requested torque

È la coppia richiesta dall'applicazione ed è indispensabile per la selezione di una motorizzazione.

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).

Essa può essere comunicata dall'utente oppure calcolata in base ai dati di applicazione (se forniti).

Coppia nominale

Mn₂ [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

M₂ [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).

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

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).

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.

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

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

Reversibilità e irreversibilità

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.

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.

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 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.

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.

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

Reversibility and irreversibility

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.

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 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 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.

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.

Potenza in entrata

P₁ [kW]

Input power

È la potenza motore applicata in entrata al riduttore e riferita alla velocità n₁.

Può essere calcolata come segue:

This is the power applied by the motor at the gearbox input in reference to speed n₁.

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.

A - Uniforme	$fa \leq 0.3$
B - Medio	$fa \leq 3$
C - Forte	$fa \leq 10$

A - Uniform	$fa \leq 0.3$
B - Moderate shocks	$fa \leq 3$
C - Heavy shocks	$fa \leq 10$

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

- Je (kgm²) momento d'inerzia esterno ridotto all'albero motore.
- Jm (kgm²) momento d'inerzia motore.

Se $fa > 10$ interpellare il ns. Servizio Tecnico.

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

- Je (kgm²) moment of reduced external inertia at the drive-shaft.
- Jm (kgm²) 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; R₂ [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 *R₂* 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 *R₂* refer to loads that act on the center-line of the output shaft (considering the shaft protrudes). As a result, the value should be compared under the same conditions.*

Carico assiale

A; A₂ [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 *A₂* 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 *A₂* 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 *A₂* contattate il ns. Servizio Tecnico.

*If axial load *A* that acts on the shaft is greater than *A₂*, 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.
2. Conoscere sia la velocità in uscita *n₂* [rpm] che la coppia in uscita *M₂* [Nm] necessarie all'applicazione. Se è nota la potenza motore *P₁* [kW] è necessario calcolare la coppia *M₂* con la formula:

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. *Knowing the output speed *n₂* [rpm] and the output torque *M₂* [Nm] needed for the application: if the motor power *P₁* [kW] is known, it is necessary to calculate the output torque *M₂* 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 M_2 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					
	n_{2MIN}			n_{2MAX}			n_{2MIN}			n_{2MAX}		
ir	M_2		sf	M_2		sf	M_2		sf	M_2		sf
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	20	2.9	6.9	200	3.6	2.5
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

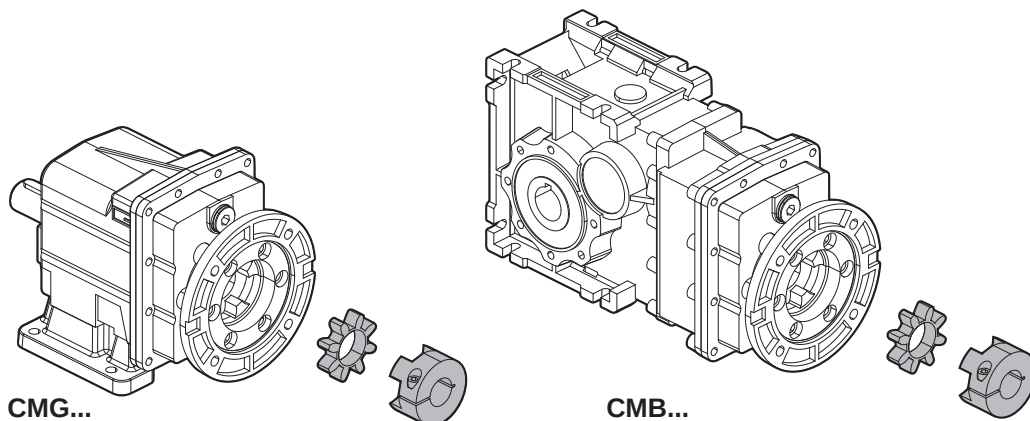
Flexible coupling

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



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

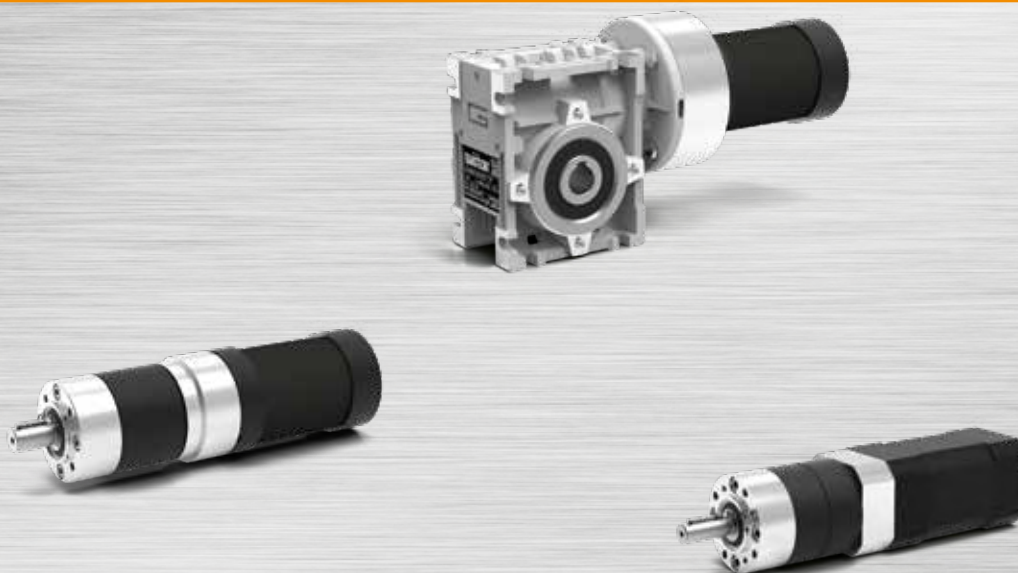
- utilizzo come organo di sollevamento;
- utilizzo in posizioni non previste a catalogo;
- utilizzo in ambiente con pressione diversa da quella atmosferica;
- utilizzo in ambiente con temperature $<0^{\circ}\text{C}$ o $>+40^{\circ}\text{C}$
- utilizzo in ambienti esterni
- servizio continuo o altamente 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 $<0^{\circ}\text{C}$ or $>+40^{\circ}\text{C}$*
- *when used outdoors*
- *continuous or highly intermittent duty for DC or brushless gearmotors*
- *used in applications with high inertia*

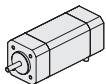
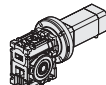
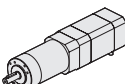
Motoriduttori brushless CC IP 20 IP20 Brushless DC gearmotors



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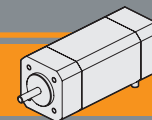
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Motori brushless CC Brushless DC motors

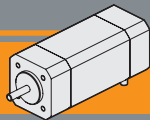




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Motori brushless CC Brushless DC motors

Caratteristiche tecniche

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.

Technical features

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

Indica il grado di isolamento meccanico del corpo motore.

1^a cifra protezione alla penetrazione di corpi solidi.

2^a cifra protezione contro la penetrazione d'acqua.

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

IP enclosures protection indexes

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.

Classe di isolamento termico

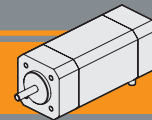
Insulation class

Classe / Class	Δt °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.

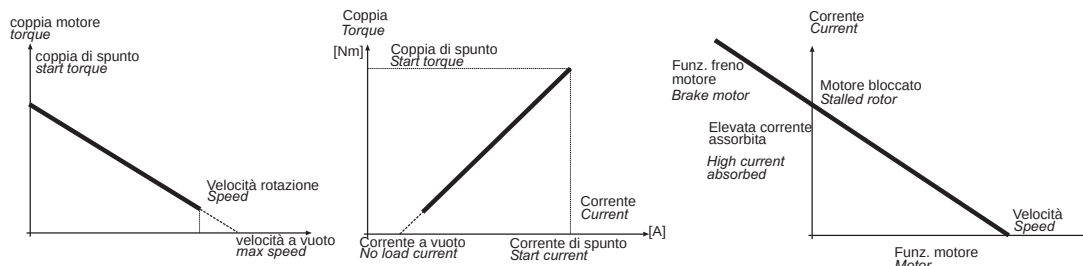


Legenda / Glossario dei grafici

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.

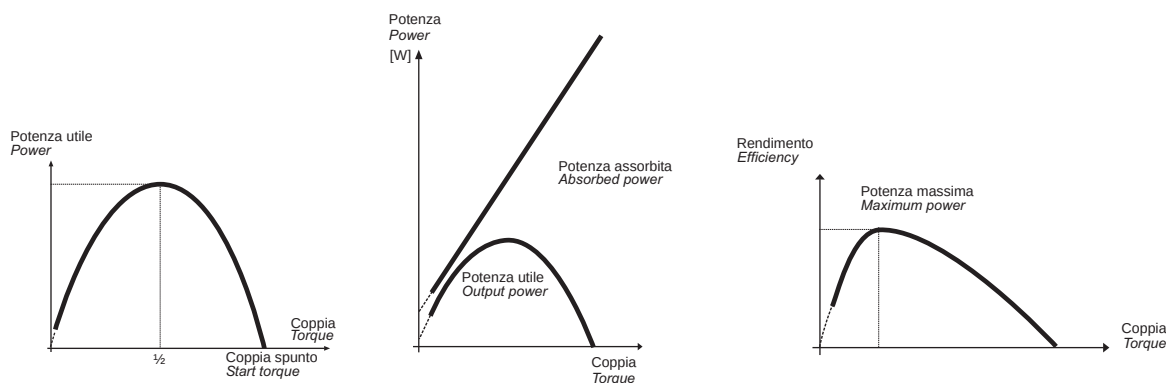


La potenza utile (potenza all' albero) si ricava dalla formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$

The output power is calculated using the formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$



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

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

$$P_n = M_n \cdot S_v$$

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

$$[HP] \cdot 746 = [W]$$

Esempio 2 HP = circa 1500 W.

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

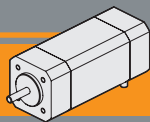
$$P_n = M_n \cdot S_v$$

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

$$[HP] \cdot 746 = [W]$$

Example 2 HP = approx. 1500 W.

S	—	Servizio	Duty
P _n	[W]	Potenza in uscita	Rated power
P _a	[W]	Potenza assorbita	Absorbed power
M _n	[Nm]	Coppia nominale	Rated torque
V	[V]	Tensione	Voltage
I	[A]	Corrente assorbita	Absorbed current
n ₁	[min-1]	Numero giri motore	Motor speed
S _v	[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



Motori brushless CC Brushless DC motors

BL005.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	Stella <i>Star</i>	Max forza radiale <i>Max radial force</i>	15N @ 10 mm dalla flangia <i>15N @ 10 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	IP
			[V]	[min ⁻¹]	[mNm]	[W]	[mNm]	[A]	[A]	[Ω]	[mH]	[mNm/A]	[V/kRPM]	[gcm ²]	[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

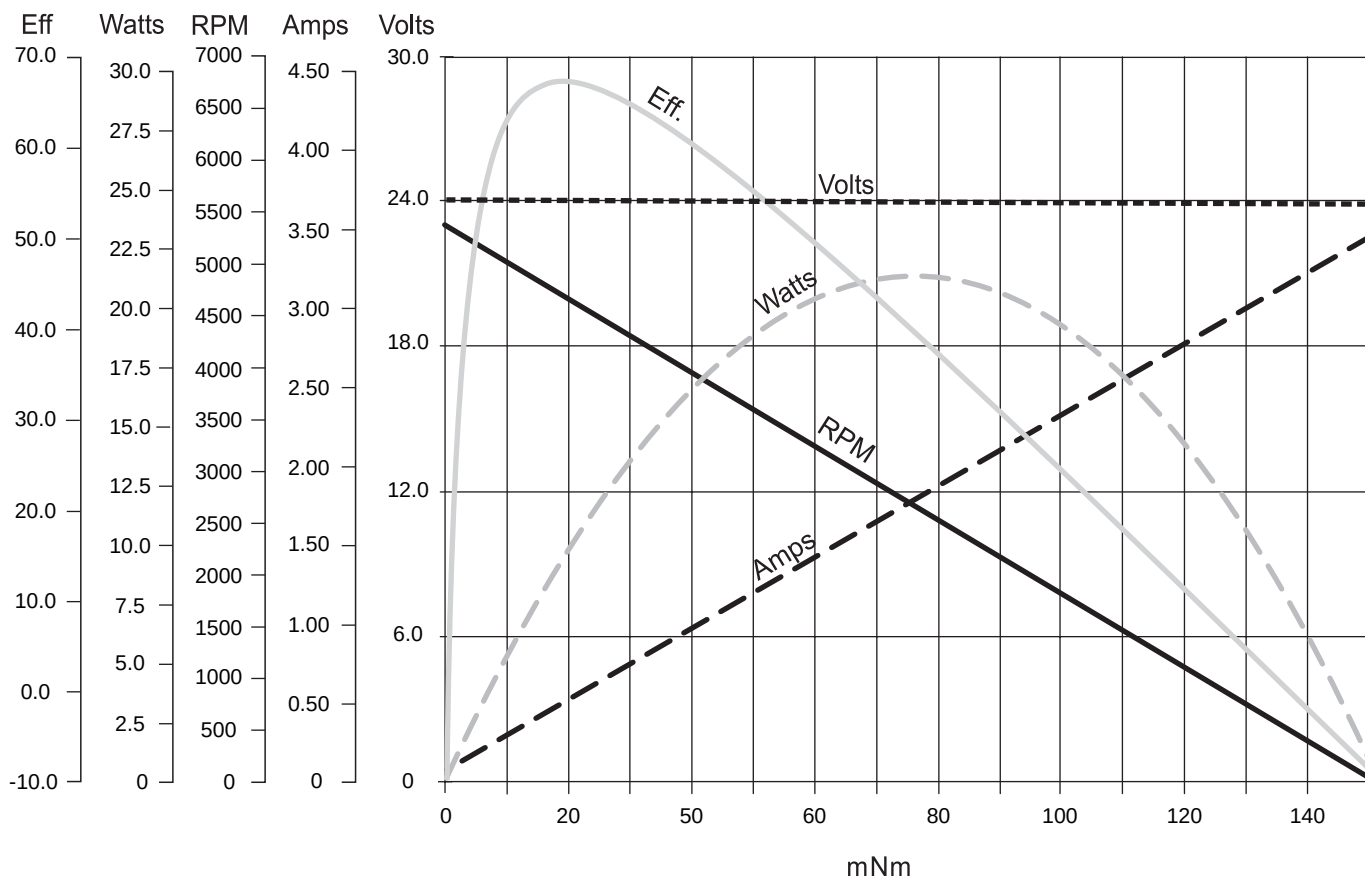
Azionamenti
Drives

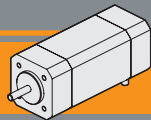


Prestazioni

Performances

BL005.240





BL005.240

Dimensioni

Dimensions

BL005.240

IP 20
BL

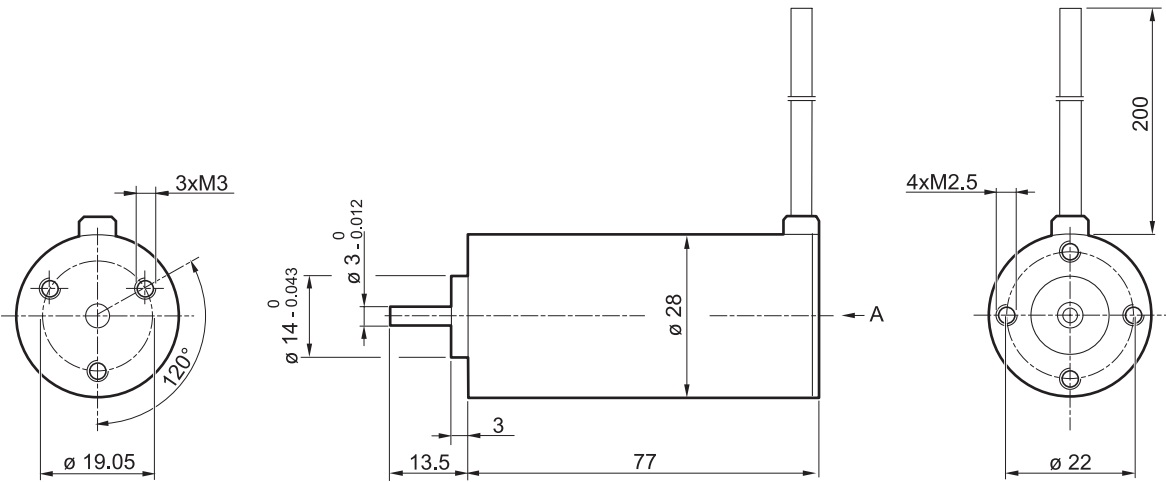


Diagramma dei collegamenti

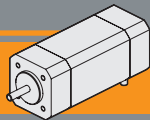
Connection diagram

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



Motori brushless CC

Brushless DC motors

BL012.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	28N @ 20 mm dalla flangia <i>28N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

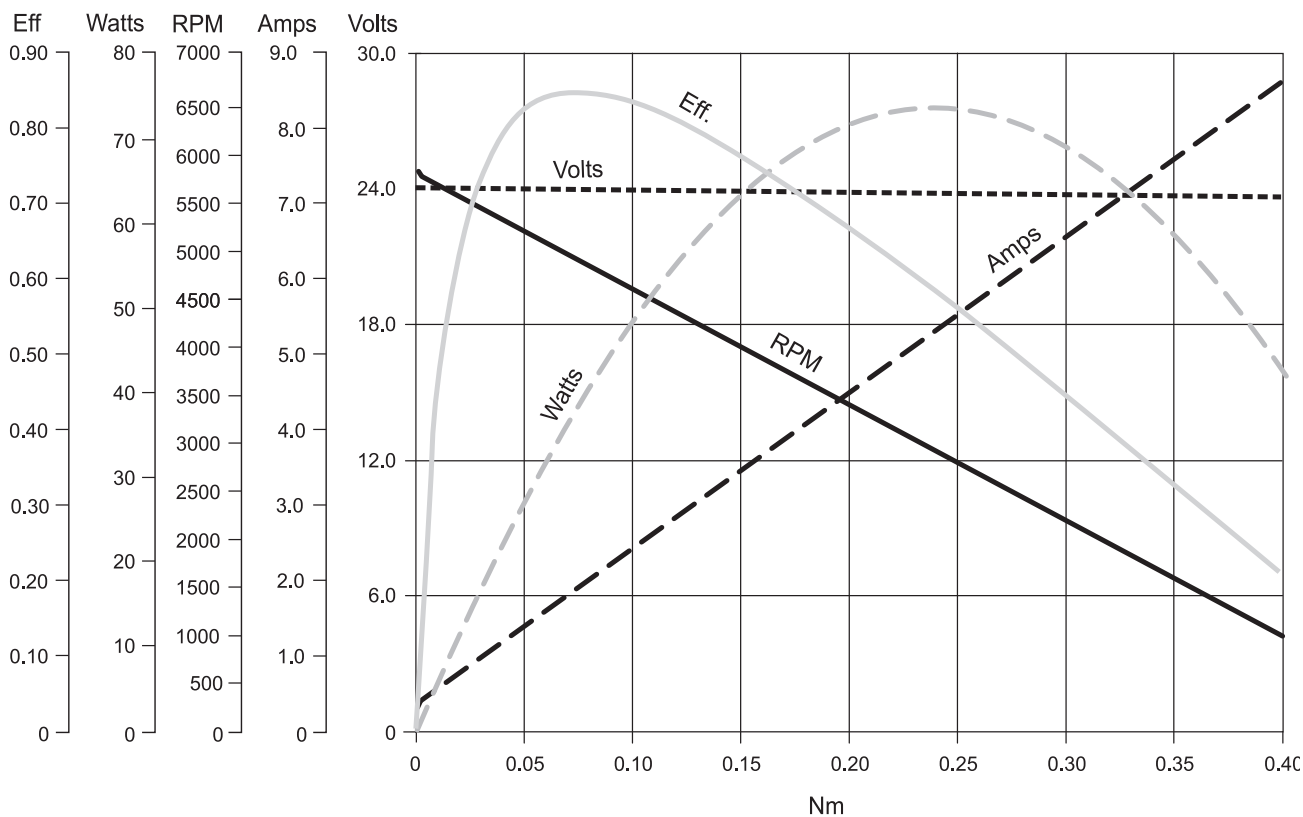
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

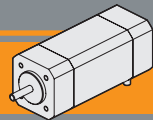
Azionamenti
Drives



Prestazioni

Performances





BL012.240

Dimensioni

Dimensions

BL012.240

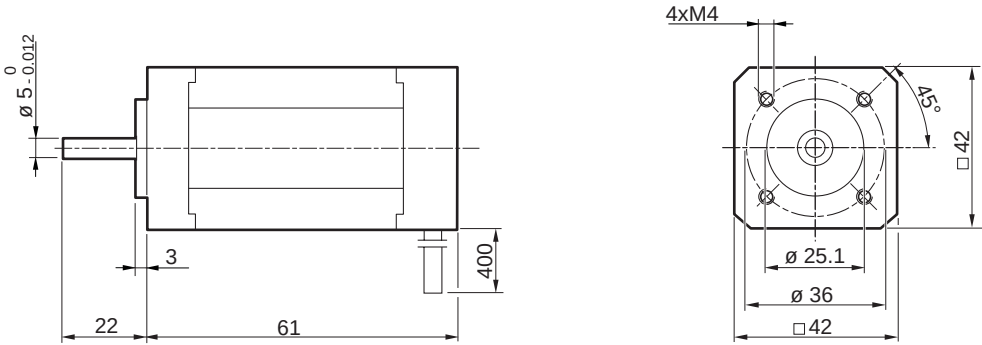


Diagramma dei collegamenti

Connection diagram

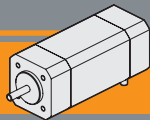
Cavi di potenza Power leads	Descrizione Description
Giallo / Yellow	Fase U / U motor Phase
Rosso / Red	Fase V / V motor Phase
Nero / Black	Fase W / W motor Phase

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

BL IP 20



Motori brushless CC

Brushless DC motors

BL018.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	28N @ 20 mm dalla flangia <i>28N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

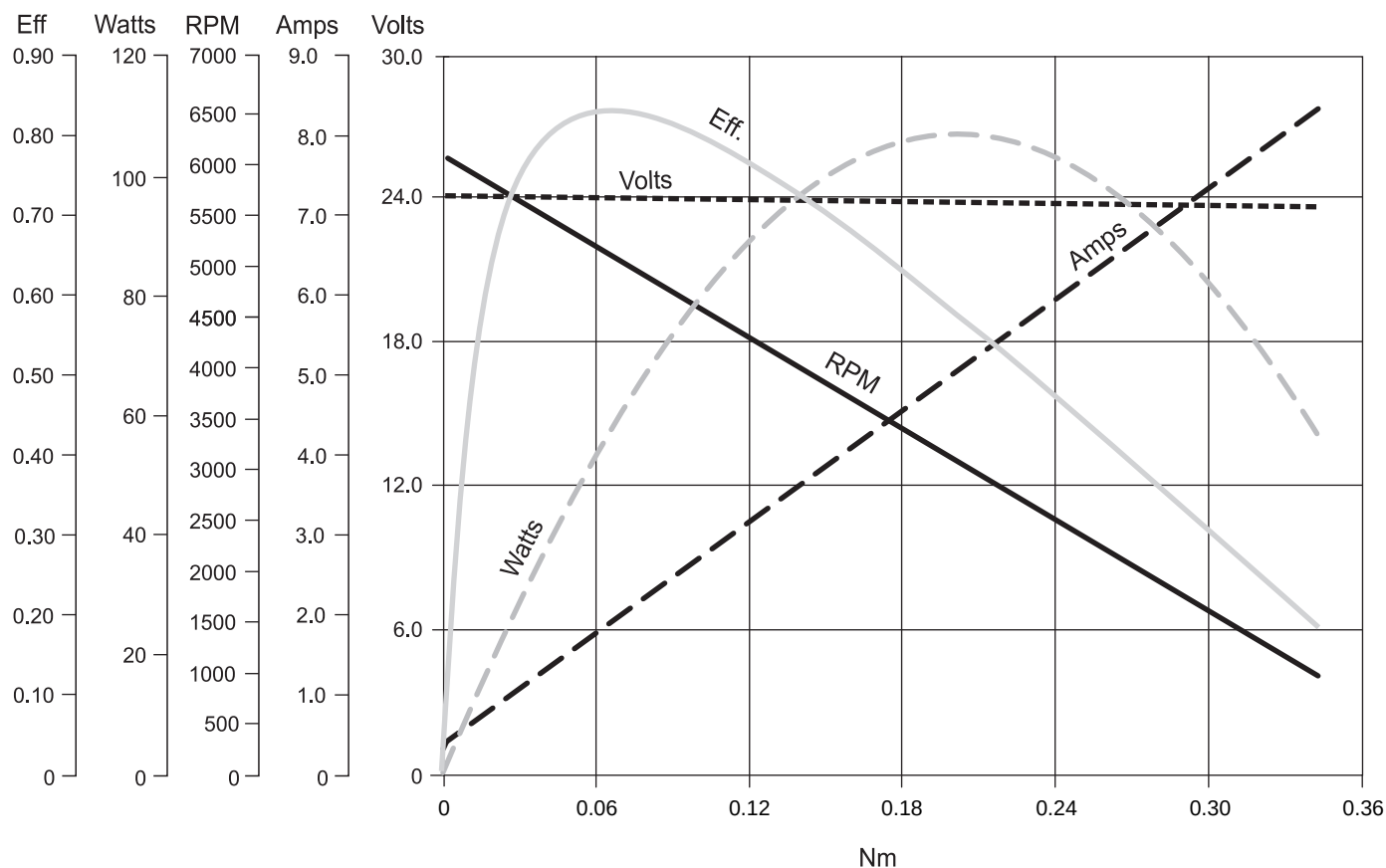
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

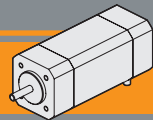
Azionamenti
Drives



Prestazioni

Performances





BL018.240

Dimensioni

Dimensions

BL018.240

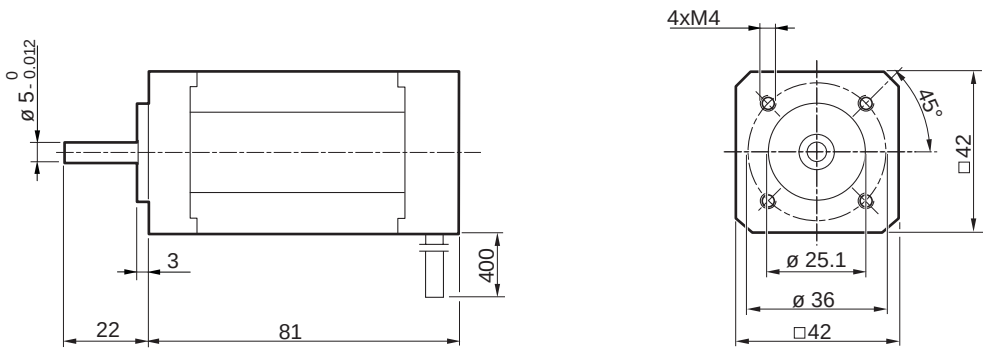


Diagramma dei collegamenti

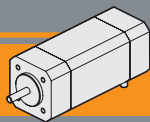
Connection diagram

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



Motori brushless CC **Brushless DC motors**

BL025.24E

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	28N @ 20 mm dalla flangia <i>28N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

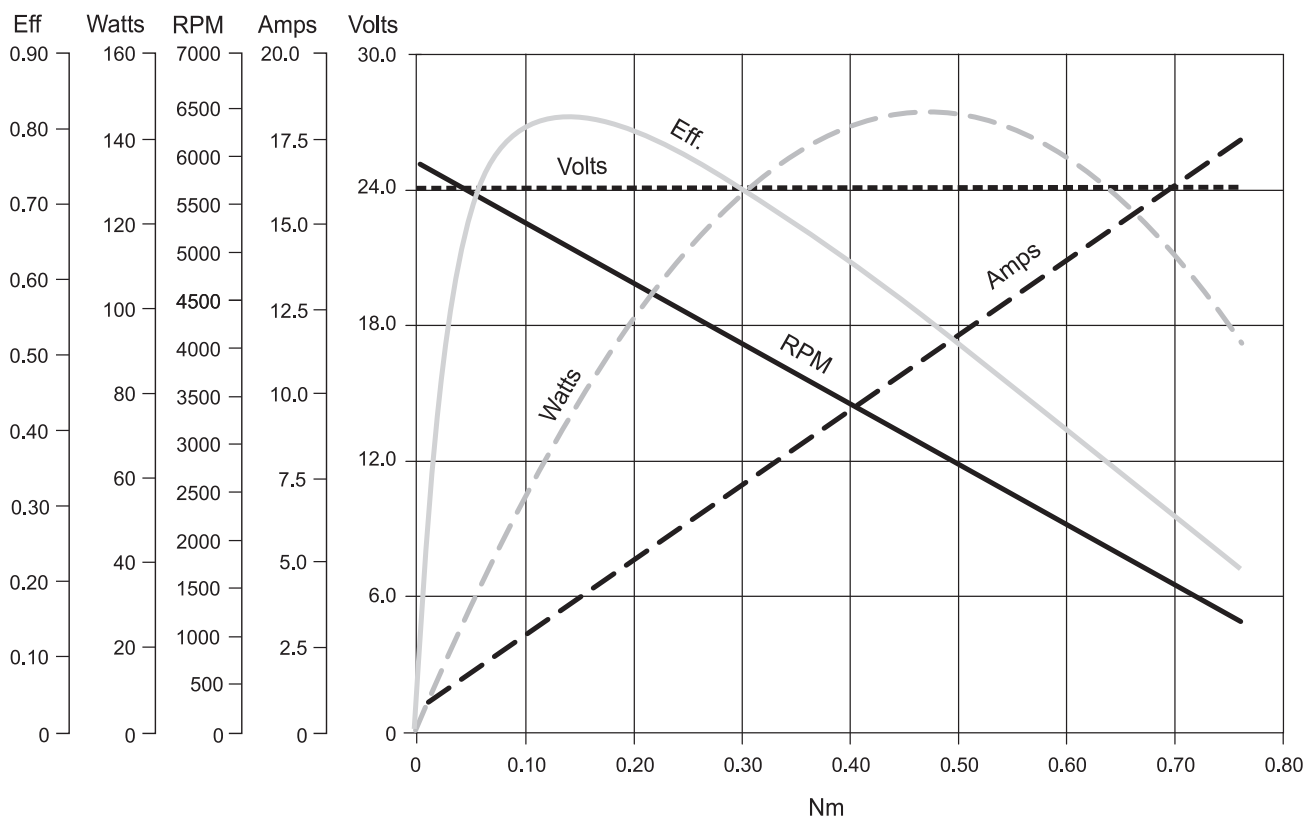
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

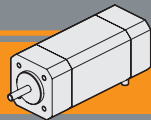
Azionamenti
Drives



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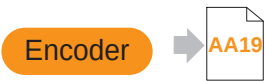
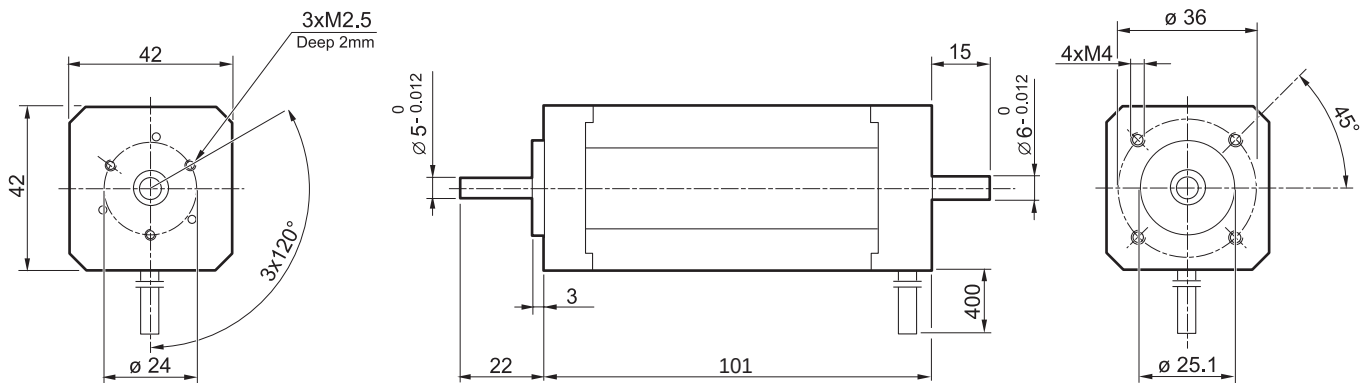


BL025.24E

Dimensioni

Dimensions

BL025.24E



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

Diagramma dei collegamenti

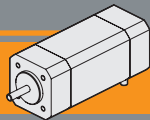
Connection diagram

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



Motori brushless CC Brushless DC motors

BL032.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	75N @ 20 mm dalla flangia <i>75N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	15N
Gioco radiale <i>Radial play</i>	0.025 mm @ 460 g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.025 mm @ 4000 g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

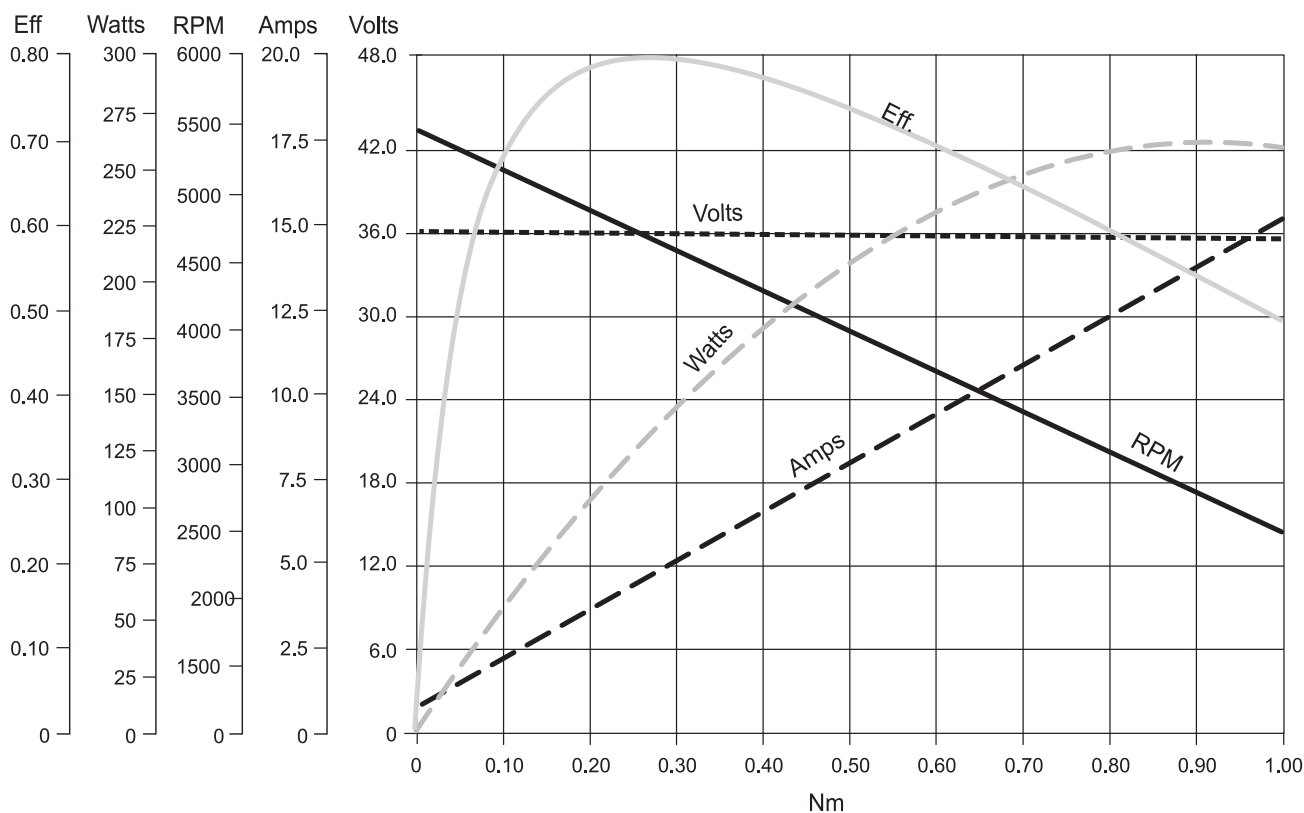
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM Back EMF	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	IP
			[V]	[min ⁻¹]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm ²]	[kg]	
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

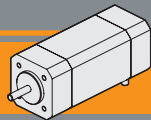
Azionamenti
Drives



Prestazioni

Performances





BL032.240

Dimensioni

Dimensions

BL032.240

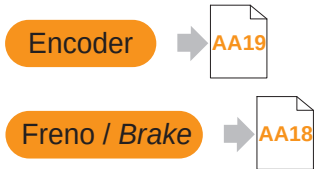
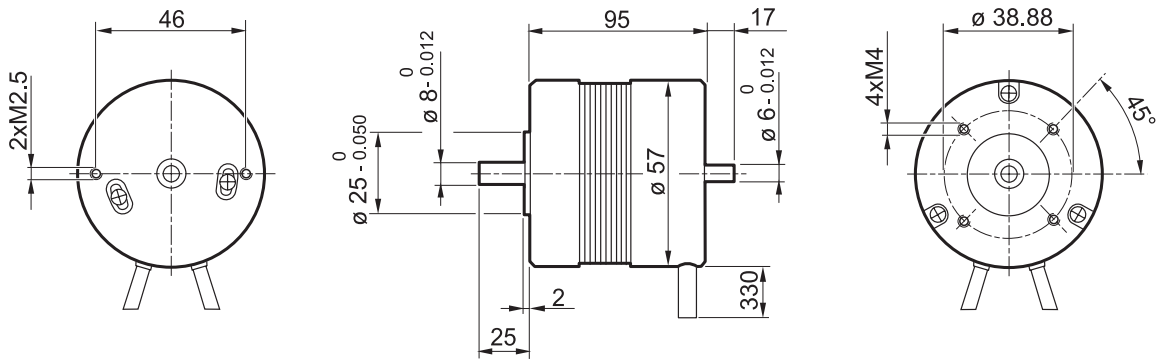


Diagramma dei collegamenti

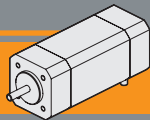
Connection diagram

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



Motori brushless CC **Brushless DC motors**

BL043.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	75N @ 20 mm dalla flangia <i>75N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	15N
Gioco radiale <i>Radial play</i>	0.025 mm @ 460 g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.025 mm @ 4000 g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

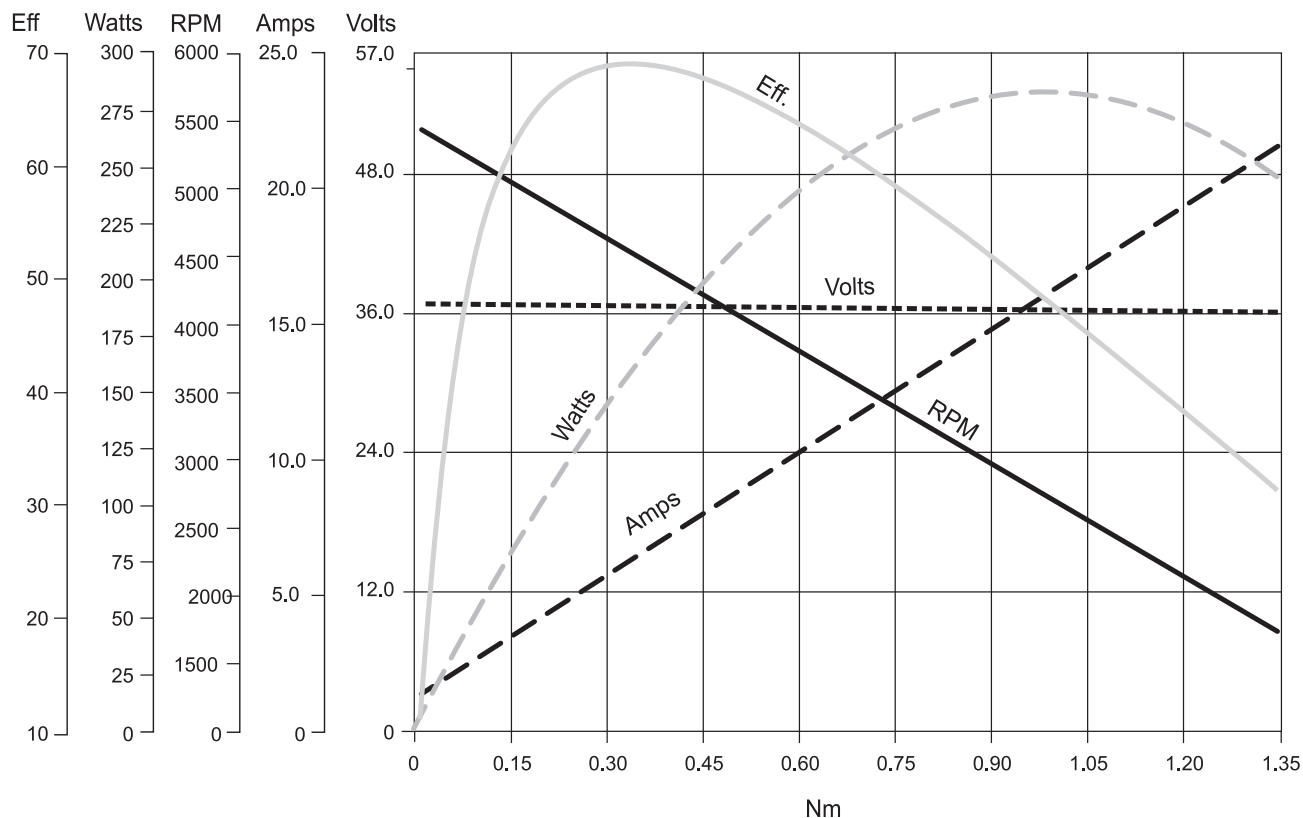
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	IP
			[V]	[min ⁻¹]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm ²]	[kg]	
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

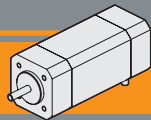
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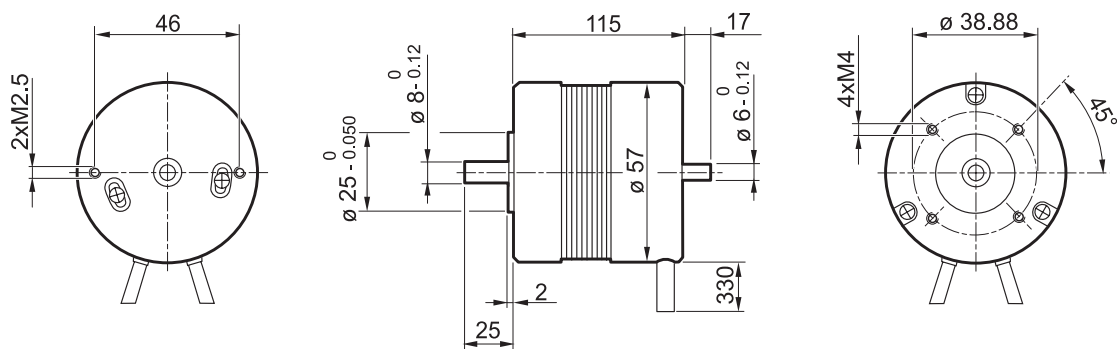


BL043.240

Dimensioni

Dimensions

BL043.240



Encoder

AA19

Freno / Brake

AA18

Diagramma dei collegamenti

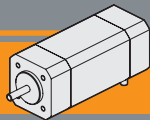
Connection diagram

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



Motori brushless CC Brushless DC motors

BL070.48E

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	Stella <i>Star</i>	Max forza radiale <i>Max radial force</i>	220N @ 20 mm dalla flangia <i>220N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	60N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.05 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

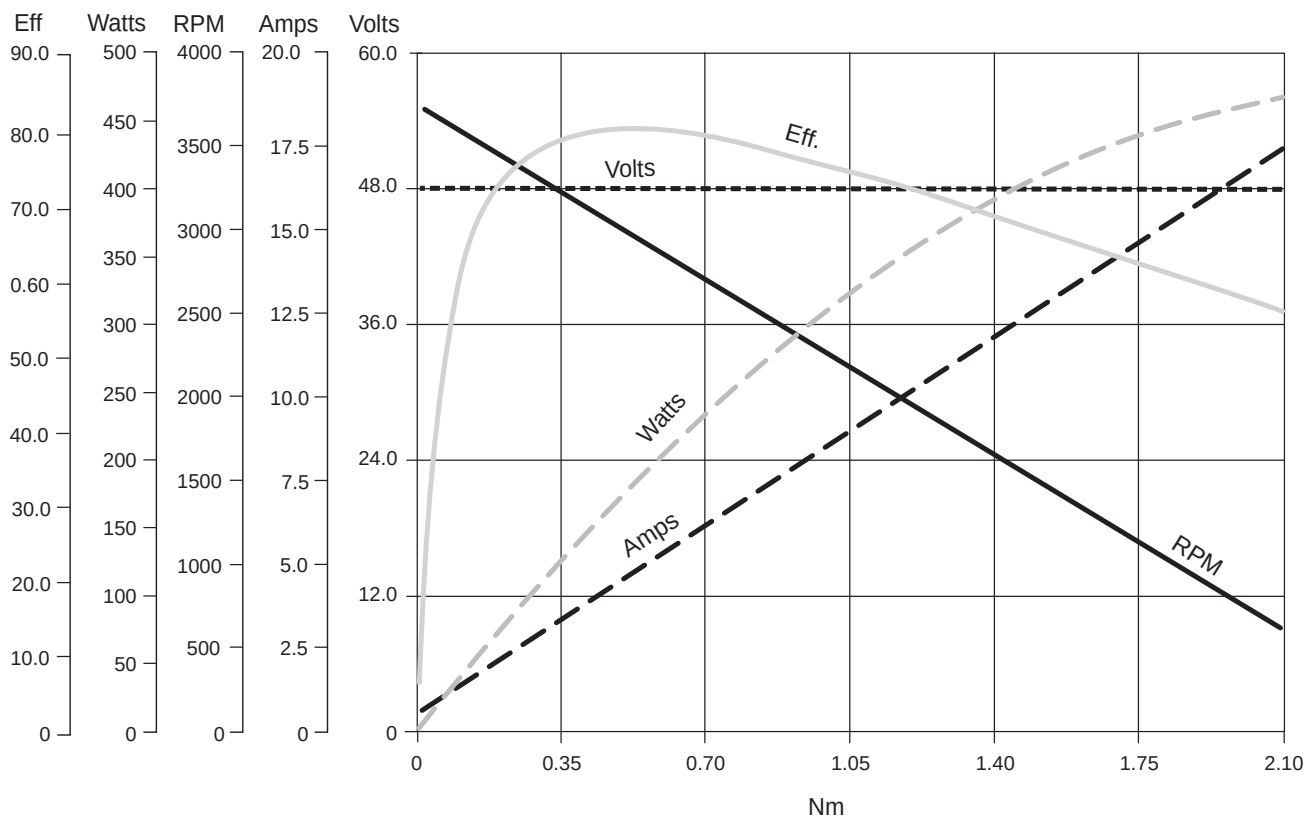
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

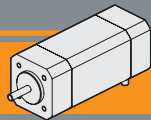
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Prestazioni

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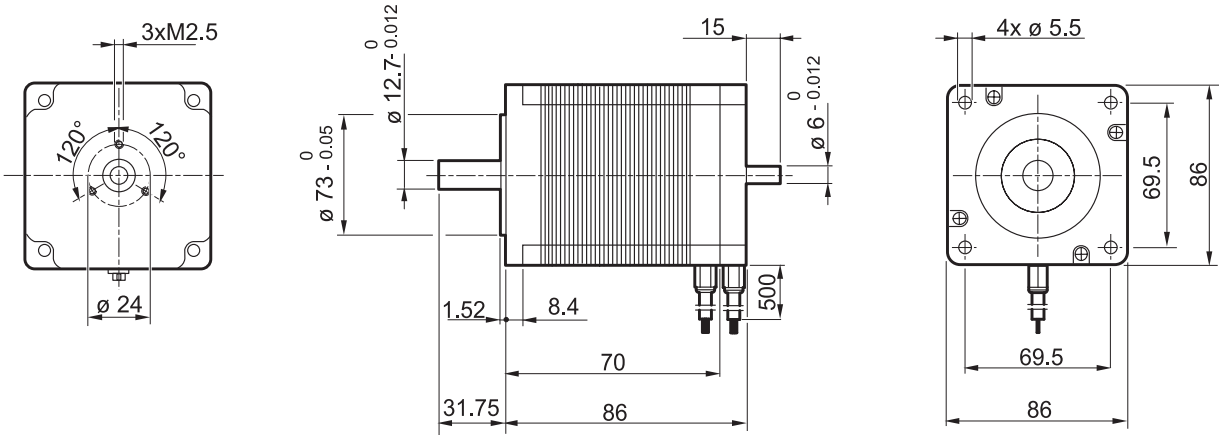


BL070.48E

Dimensioni

Dimensions

BL070.48E



Encoder



Freno / Brake



Diagramma dei collegamenti

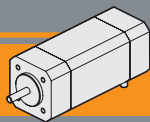
Connection diagram

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

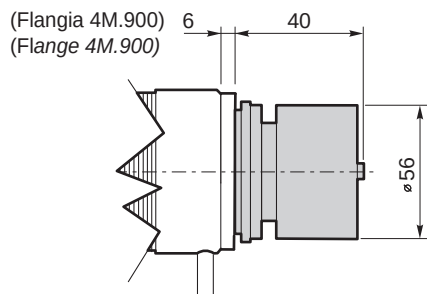


Freno

Brake

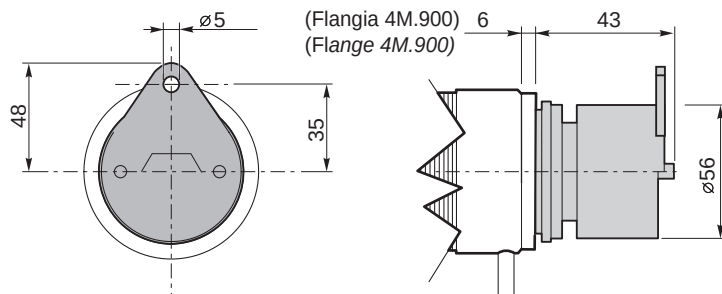
Freno / Brake

BL032...BR
BL043...BR



Freno con leva di sblocco/ Brake with hand release

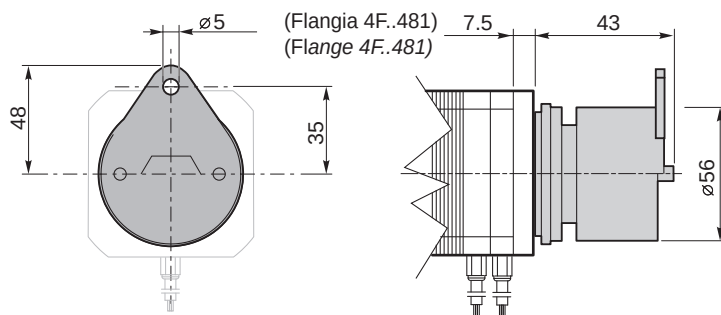
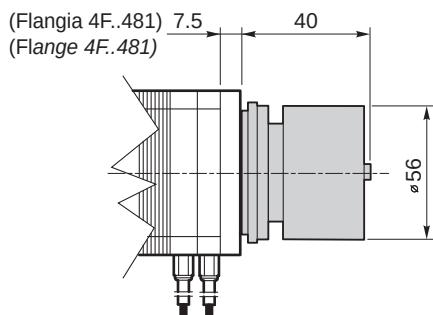
BL032...BRL
BL043...BRL



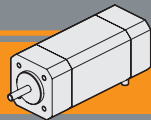
	P _n [W]	V [V]	M _n [Nm]	n ₁ [min ⁻¹]
Caratteristiche del freno / Break features	14	12	2	3000
		24		

BL070...BR

BL070...BRL

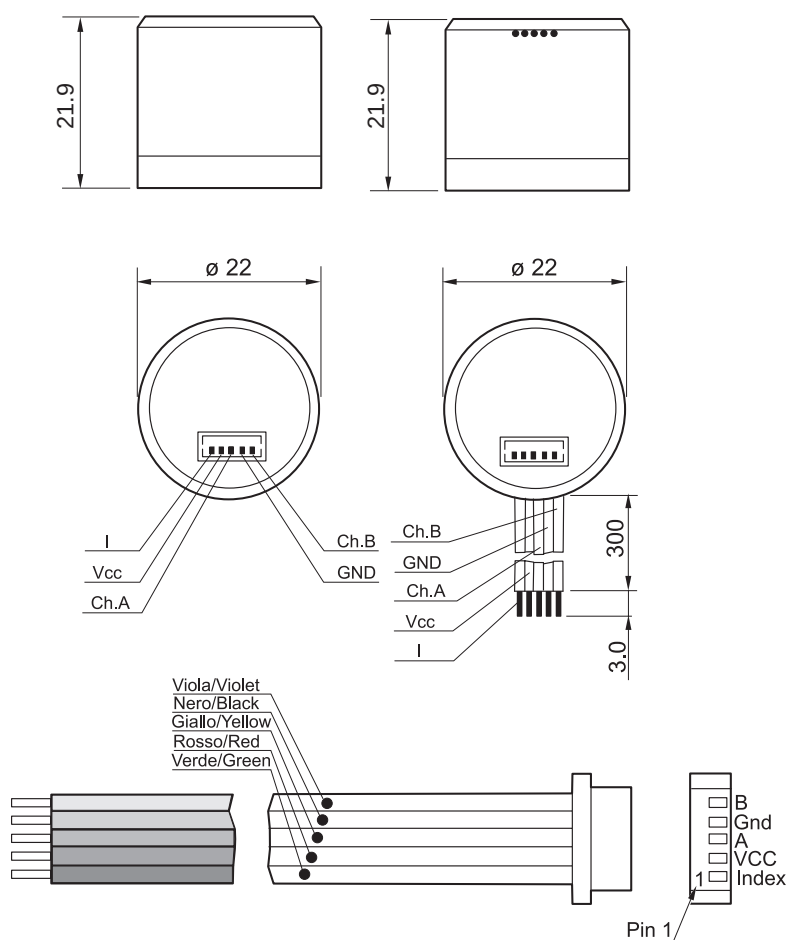


	P _n [W]	V [V]	M _n [Nm]	n ₁ [min ⁻¹]
Caratteristiche del freno / Break features	14	12	2	3000
		24		



Encoder ME22

Encoder ME22

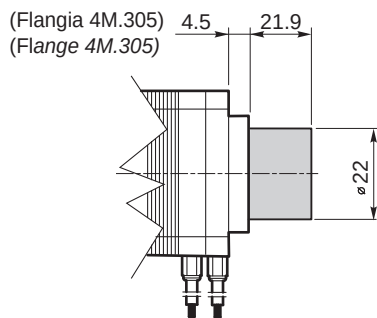


Risoluzione Encoder (CPR) / Encoder Resolution (CPR)	Numero di canali / Number of channels	Tensione d'alimentazione / Power supply
001	2	5 VdC - TTL
100		
300		

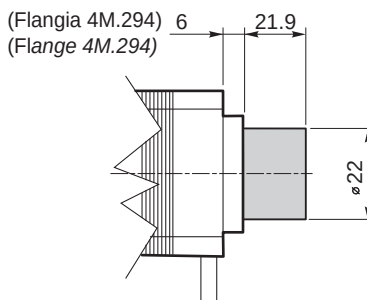
Per risoluzioni encoder non standard, si prega di contattare il nostro Servizio Tecnico.
For non-standard encoder resolution, please contact our Technical Department.

Nota: Fornito con cavo lungo 300 mm
Note: Supplie with cavle 300 mm long

BL025.24E ME22
BL070.48E ME22

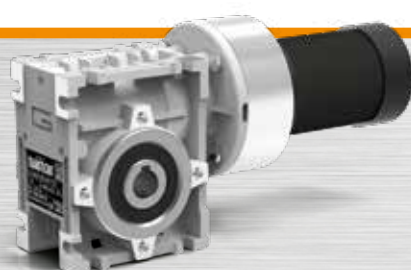


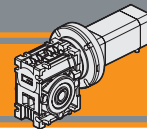
BL032.240 ME22
BL043.240 ME22





Motoriduttori brushless CC a vite senza fine
Brushless DC wormgearmotors

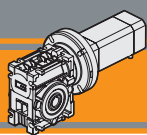




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Simbologia	<i>Symbols</i>	AB2
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Carichi radiali	<i>Radial loads</i>	AB3
Dati di dentatura	<i>Toothing data</i>	AB3
Rendimento	<i>Efficiency</i>	AB3
CM026 con motore brushless	<i>CM026 with brushless motor</i>	AB4
CM030 con motore brushless	<i>CM030 with brushless motor</i>	AB6
Dimensioni	<i>Dimensions</i>	AB8
Opzioni	<i>Options</i>	AB9
Accessori	<i>Accessories</i>	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***



Motoriduttori brushless CC a vite senza fine Brushless DC wormgearmotors

Caratteristiche tecniche

Technical features

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

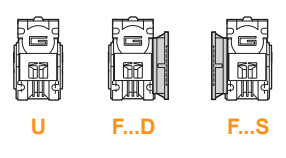
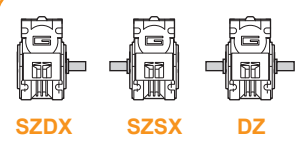
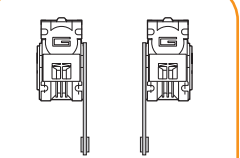
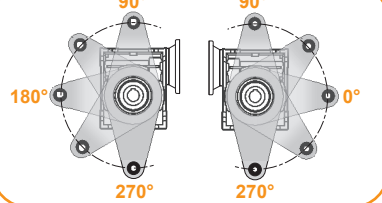
The main features of brushless DC wormgearmotors range CM are:

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

- 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 
Versione Riduttore Gearbox Version				Angolo Angle		
 U F...D F...S				 SZDX SZSX DZ		
Albero di uscita Output shaft				 BRDX BRSX		
				 90° 180° 270° 0°		

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

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

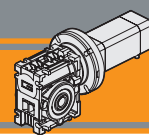
Lubrificazione

Lubrication

I riduttori a vite senza fine 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.

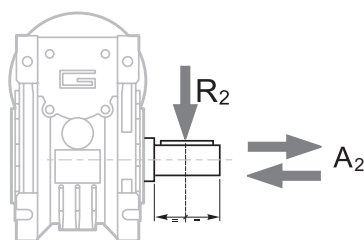
Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use CM026 and CM030 wormgearmotors range in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance. Ambient temperature 0 ÷ 40 °C (in the absence of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

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



Carichi radiali

Radial loads

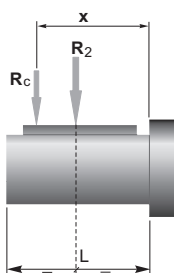


$$A_2 = R_2 \times 0.2$$

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 mezza-
ria 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

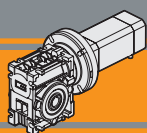
Reversibilità e irreversibilità

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 con-
tains the various degrees of reversibility/irreversibility of wormge-
arboxes 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



Motoriduttori brushless CC a vite senza fine

Brushless DC wormgearmotors

CM026 con motore brushless CC

CM026 with DC brushless motor

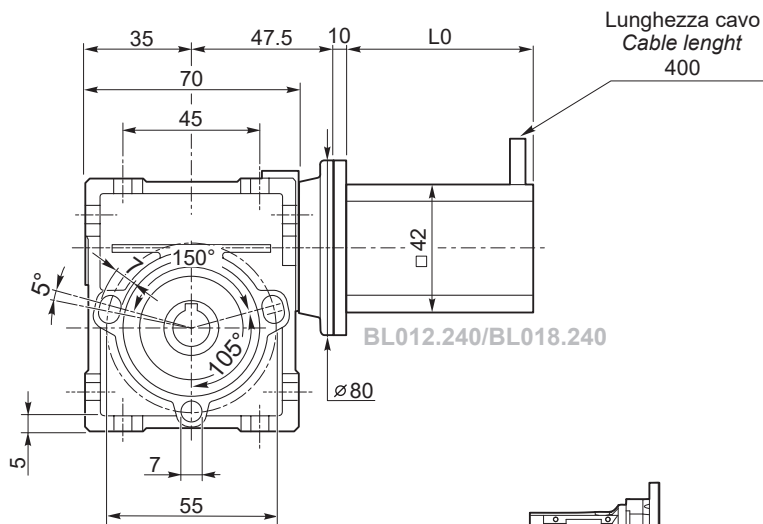
CM026	BL012.240							BL018.240						
	24V							24V						
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir	M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		M ₂ [Nm]	sf		
5	80	0.5	45	800	0.6	16	4000	80	0.7	31	800	0.8	11	4000
7.5	53	0.7	33	533	0.8	12		53	1.1	22	533	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		20	2.4	10	200	3.0	3.3	
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

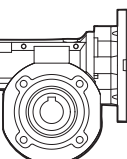
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

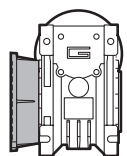
Azionamenti
Drives



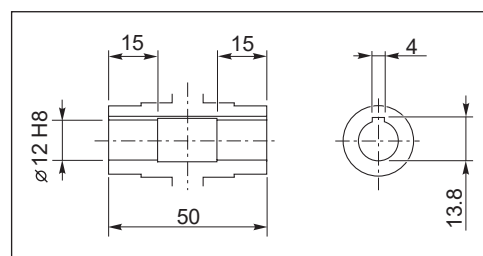
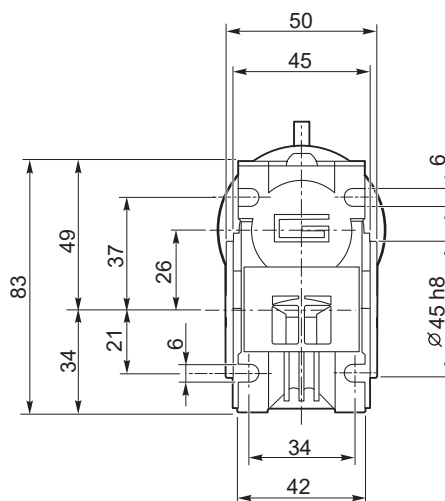
BL012.240/BL018.240



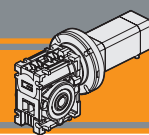
CL026



CM026.. F



Albero lento cavo / Hollow output shaft



CM026 con motore brushless CC

CM026 with DC brushless motor

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

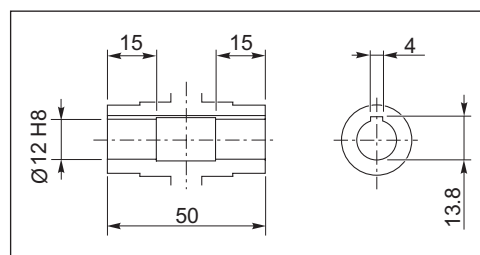
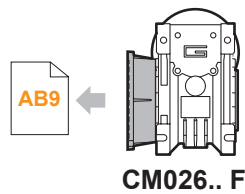
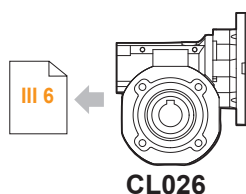
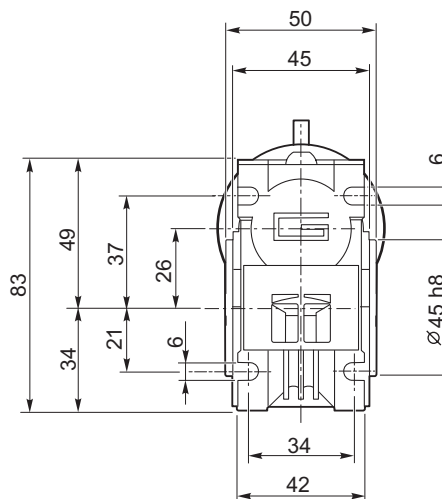
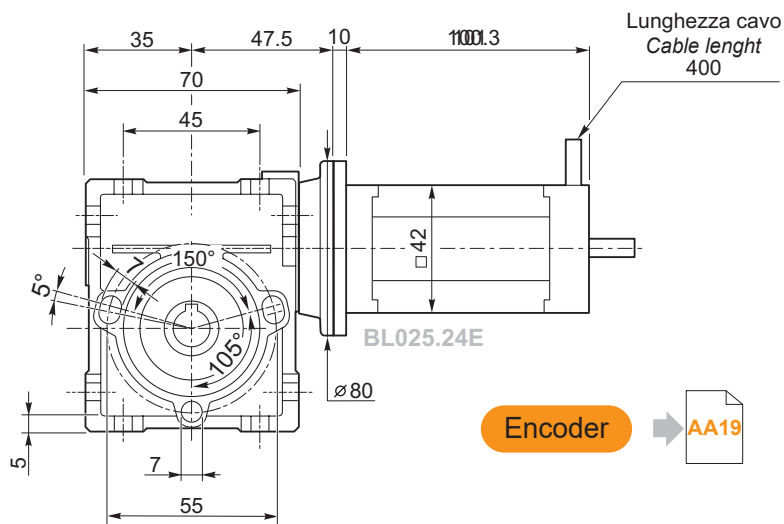
NOTA: le caselle in colore grigio indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

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

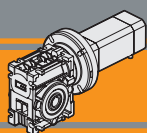
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL025.24E	8	3	24	4000	0.25	105
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [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



Albero lento cavo / Hollow output shaft



Motoriduttori brushless CC a vite senza fine

Brushless DC wormgearmotors

CM030 con motore brushless CC

CM030 with DC brushless motor

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

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.

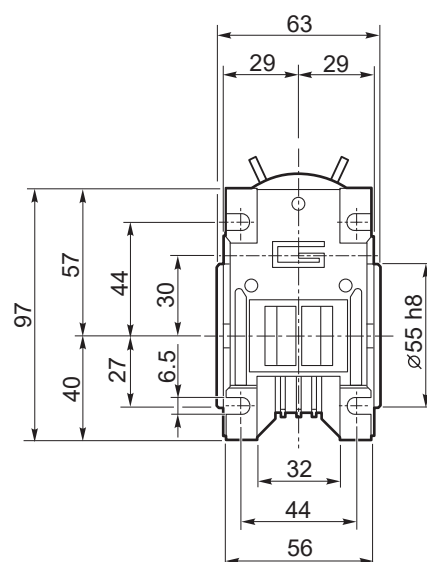
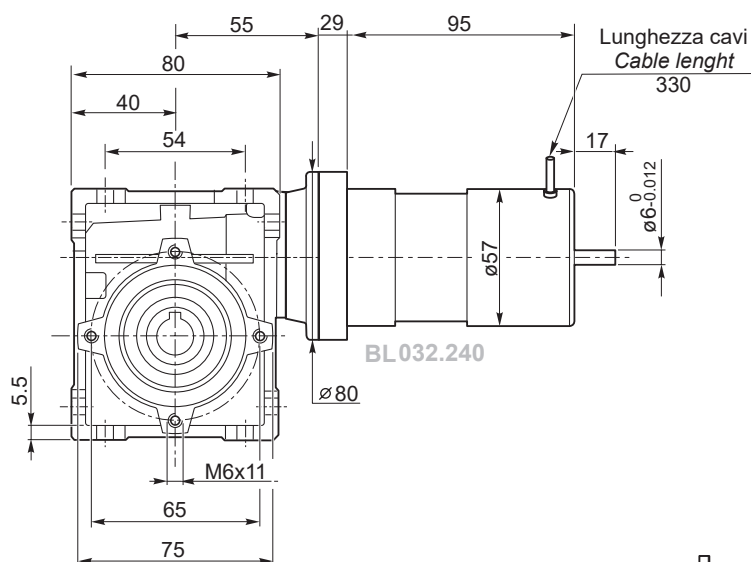
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL032.240	4	3	24	3000	0.32	100
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [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

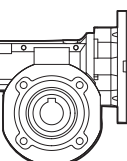
II 2



Encoder

AA19

III 9

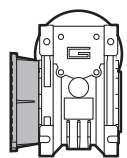


CL030

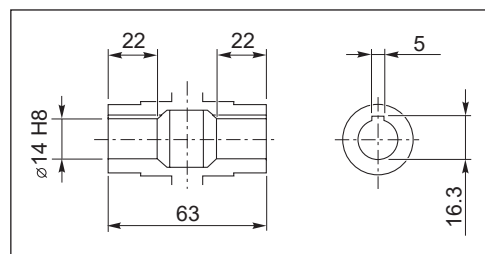
Freno / Brake

AA18

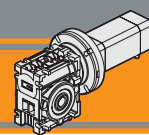
AB9



CM030.. F



Albero lento cavo / Hollow output shaft



CM030 con motore brushless CC

CM030 with DC brushless motor

CM030	BL043.240					
	24V					
	n_{2MIN} [rpm]			n_{2MAX} [rpm]		
ir		M_2 [Nm]	sf		M_2 [Nm]	sf
5	60	1.8	18	600	1.9	6.8
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.

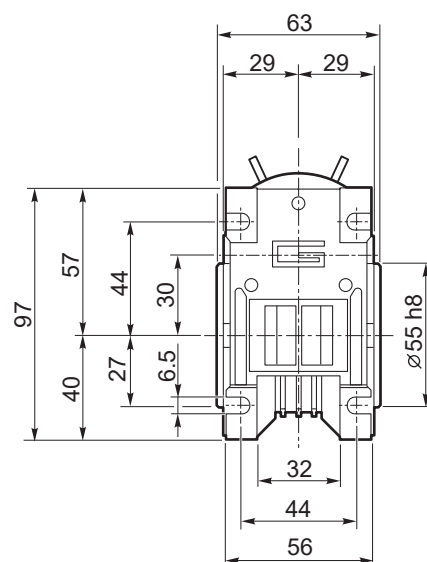
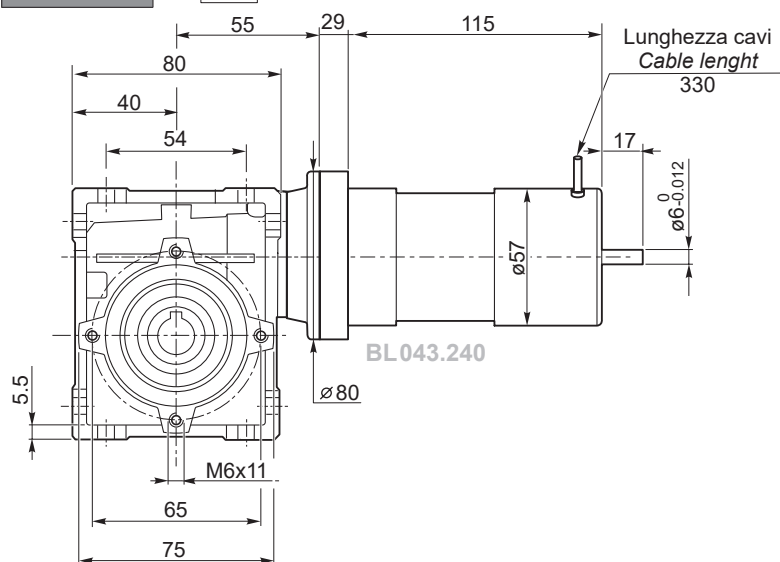
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL043.240	4	3	24	3000	0.43	130
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [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

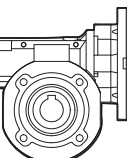
II 2



Encoder

AA19

III 9

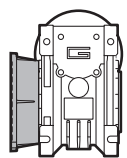


CL030

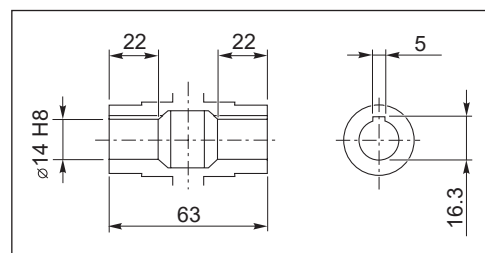
Freno / Brake

AA18

AB9

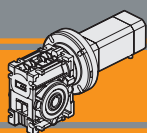


CM030.. F



Albero lento cavo / Hollow output shaft

A-B7

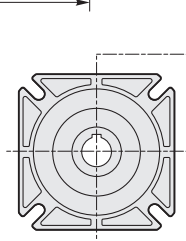
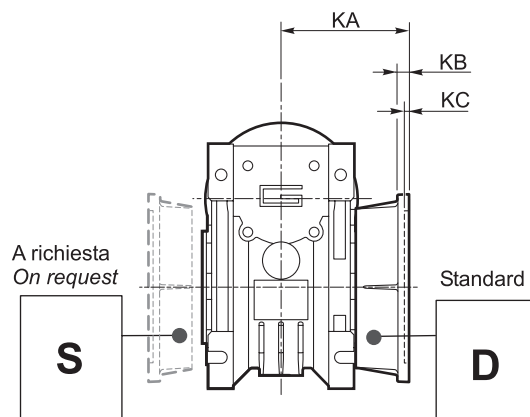
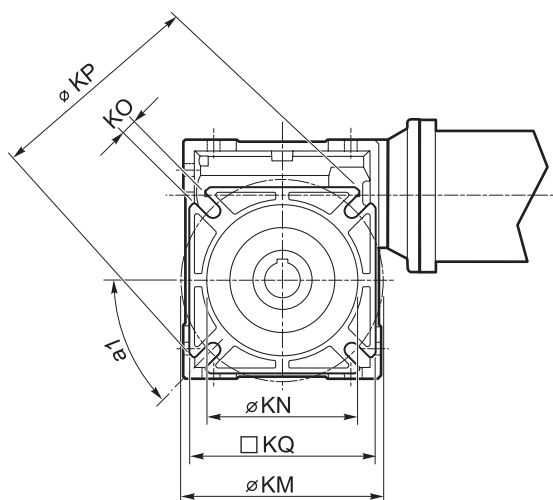


Motoriduttori brushless CC a vite senza fine Brushless DC wormgearmotors

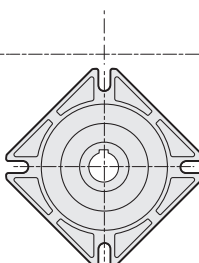
Dimensioni flange uscita

Output flange dimensions

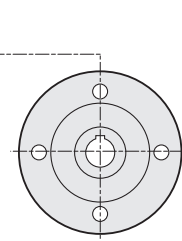
CM.../... F... Flange uscita / Output flanges



..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

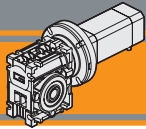
(1): F30S eseguita con F30 e distanziale di spessore 2 mm / F30S made with F30 and spacer with 2mm thickness

	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

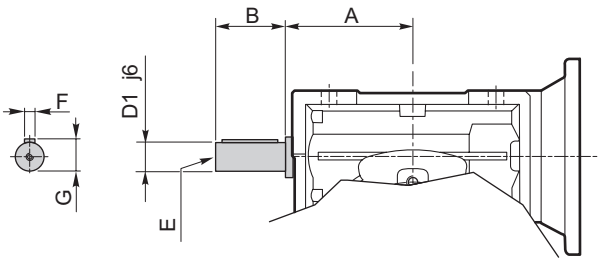
CM	CM..F									CM..FB								CM..FL							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
030	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—



Opzioni

Options

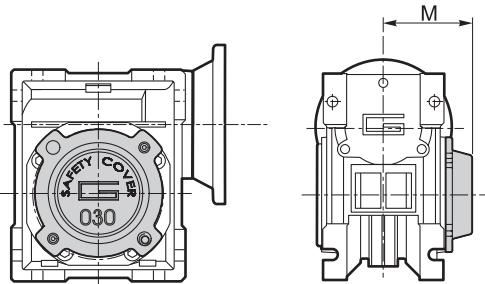
VS - Vite sporgente / *Extended input shaft*



	A	B	D ₁ j6	E	F	G
CM 030	45	20	9	M4	3	10.2

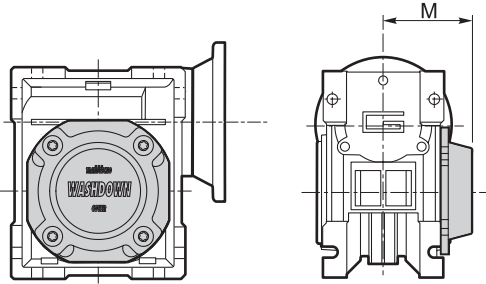
 Costruito su richiesta
Built on request

SC - Safety cover



	M
CM 030	47

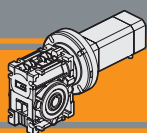
WD - Washdown cover



	M
CM 030	48

IP 20

CM



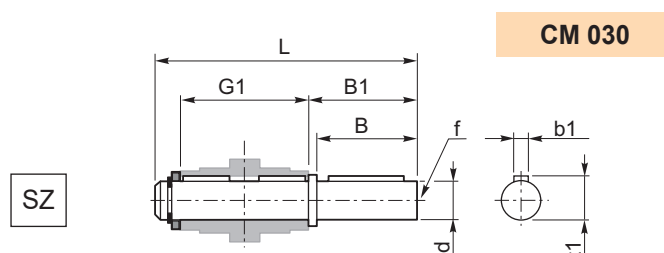
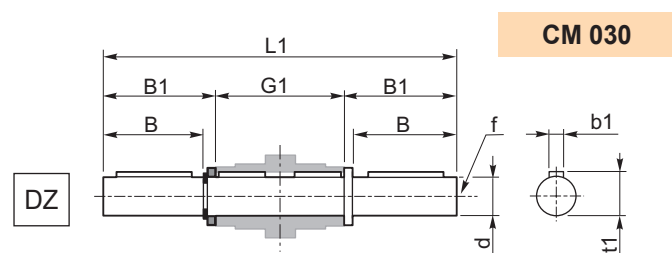
Motoriduttori brushless CC a vite senza fine Brushless DC wormgearmotors

Accessori

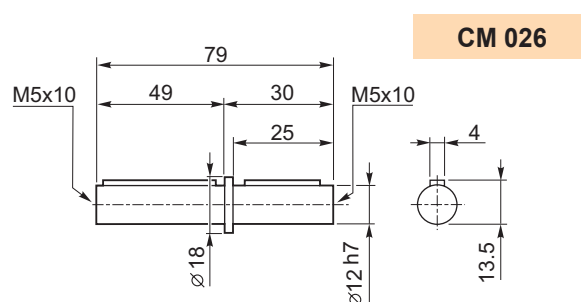
Accessories

Albero lento

Output shaft



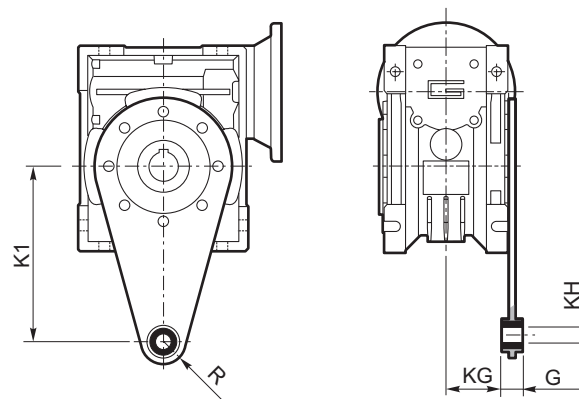
	d h7	B	B1	G1	L	L1	f	b1	t1
CM 030	14	30	32.5	63	102	128	M6	5	16



Braccio di reazione

Torque arm

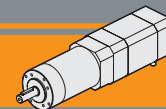
	K1	G	KG	KH	R
CM 030	85	14	23	8	15





Motoriduttori brushless CC epicicloidali
Brushless DC planetary gearmotors

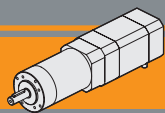




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Simbologia	<i>Symbols</i>	AC2
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Rapporti	<i>Ratios</i>	AC3
PK32BB con motore brushless BL005	<i>PK32BB with brushless motor BL005</i>	AC4
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PM42 con motore brushless BL018.240	<i>PM42 with brushless motor BL018.240</i>	AC6
PM42 con motore brushless BL025.24E	<i>PM42 con motore brushless BL025.24E</i>	AC8
PM52 con motore brushless BL032.240	<i>PM52 con motore brushless BL032.240</i>	AC10
PM52 con motore brushless BL043.240	<i>PM52 con motore brushless BL043.240</i>	AC10
PM62 con motore brushless BL032.240	<i>PM62 with brushless motor BL032.240</i>	AC12
PM62 con motore brushless BL043.240	<i>PM62 with brushless motor BL043.240</i>	AC12
PM62 con motore brushless BL070.480	<i>PM62 with brushless motor BL070.480</i>	AC14

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Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

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 

Simbologia

Symbols

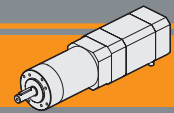
Ns	n° stadi / No. stages	Pn	[W]	Potenza nominale / Nominal power
in	rapporto nominale / nominal ratio	V	[V]	Tensione / Voltage
ir	rapporto reale / real ratio	I	[A]	Assorbimento / Current
M _n	[Nm] coppia in uscita in funzionamento continuativo S1 output torque for continuous operation S1	IC		Classe di 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	Mn	[Nm]	Coppia / Torque
A ₂	[N] massimo carico assiale / max. axial load	n ₁	[Rpm]	Giri / Speed
		IP		Grado di protezione / Enclosure protection
		Kg		Peso / Weight

Lubrificazione

Lubrication

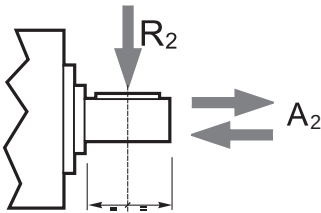
I riduttori epicicloidali sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro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

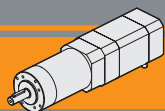
PK32BB - PM32 - PM42 - PM52 - PM62		
Ns	in	ir
1	4	3.7
	4	4.28
	5	5.18
	7	6.75
2	14	13.73
	16	15.88
	18	18.36
	19	19.2
	22	22.2
	25	25.01
	27	26.85
	29	28.93
	35	34.97
	46	45.56
3	51	50.89
	59	58.85
	68	68.06
	71	71.16
	79	78.71
	93	92.7
	95	95.17
	100	99.5
	107	107.2
	115	115.07
	124	123.97
	130	129.62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

IP 20

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

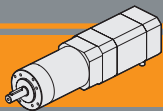
PK32BB - PM32 con motore brushless CC

PK32BB - PM32 with DC brushless motor

P..32			PK32BB + BL005							PM32 + BL005						
			24V							24V						
			n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
Ns	ir	in		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	3700	100	0.1	7.5	1000	0.1	4.5	3700
	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		5.4	2.4	2.8	54	2.4	1.7	
	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.

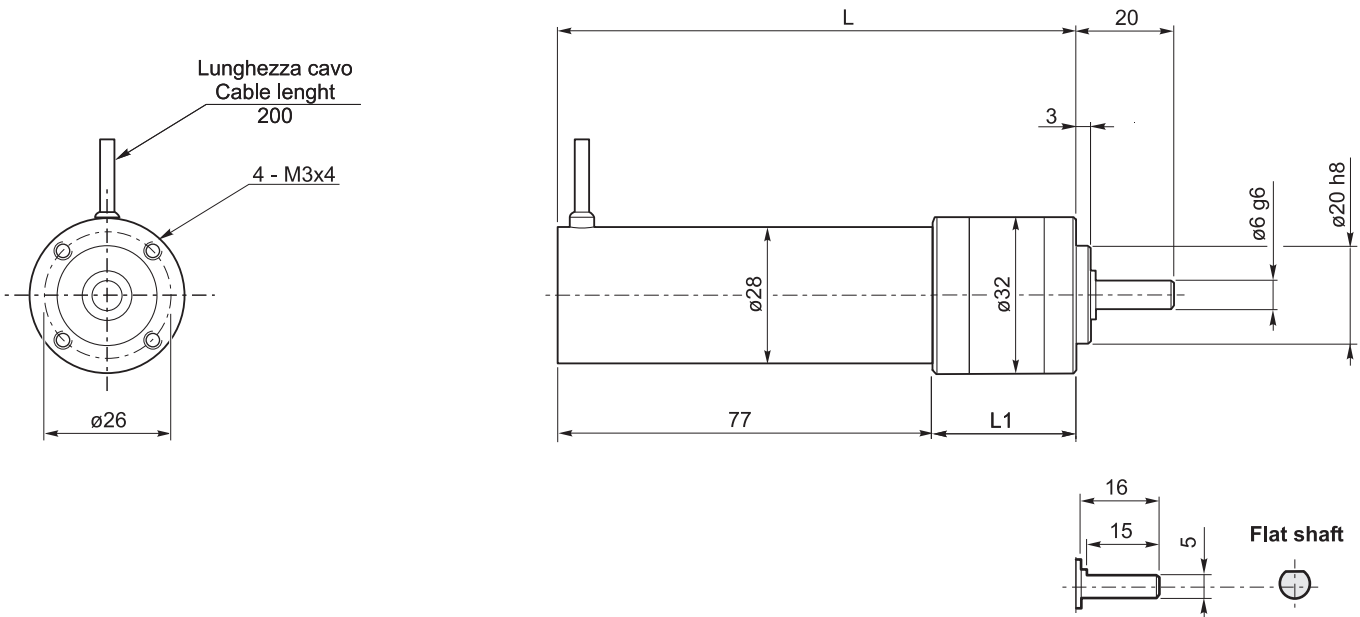
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.



PK32BB - PM32 con motore brushless CC

PK32BB - PM32 with DC brushless motor

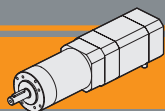
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [mNm]	Potenza nominale Rated power [W]
BL005	4	3	24	3700	50	16
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	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



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

IP 20

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM42 con motore brushless CC

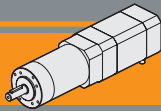
PM42 with DC brushless motor

PM42			BL012.240							BL018.240						
			24V							24V						
			n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]
Ns	ir	in		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	4000	108	0.5	8.1	1081	0.5	4.8	4000
	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	
	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	
3	68.06	68	5.9	6.0	3.7	59	6.0	2.2		5.9	8.8	2.5	59	8.8	1.5	
	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



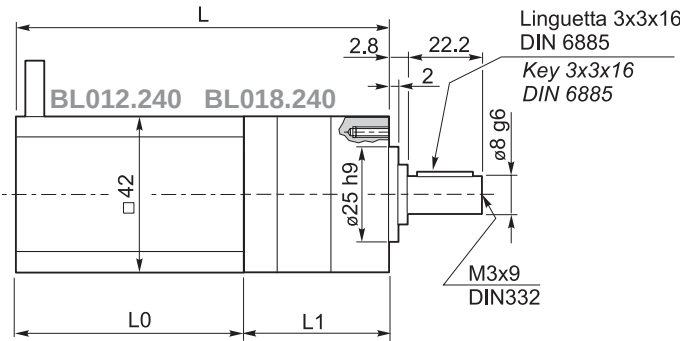
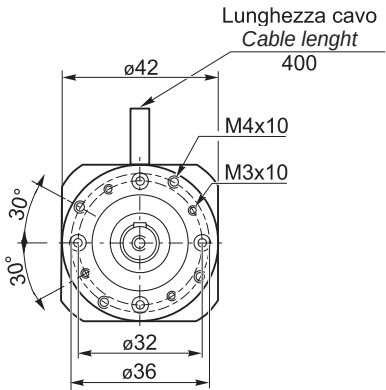
PM42 con motore brushless CC

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

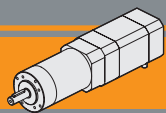
Azionamenti
Drives

II 2



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

IP 20
PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM42 con motore brushless CC

PM42 with DC brushless motor

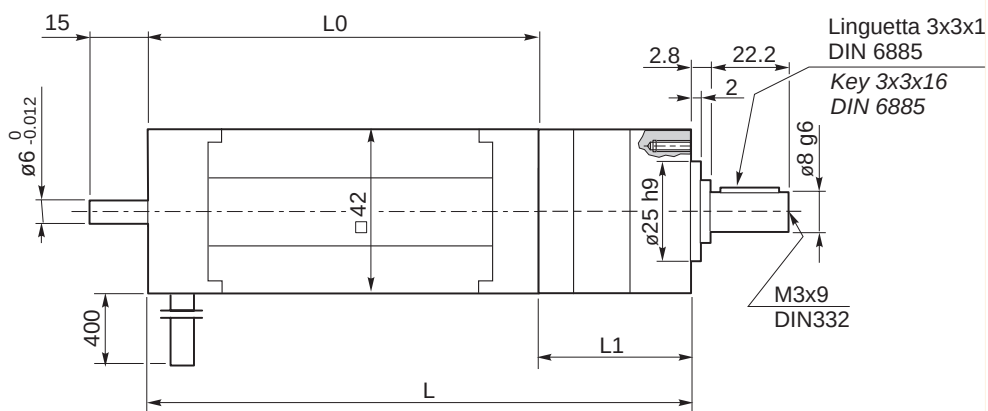
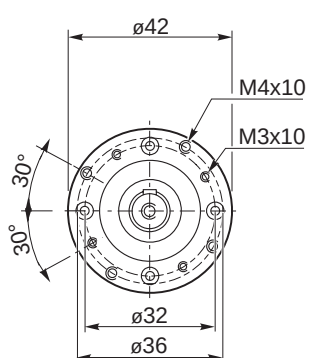
PM42			BL025.24E					
			24V					
			n ₂ MIN [rpm]			n ₂ MAX [rpm]		
Ns	ir	in		M ₂ [Nm]	sf		M ₂ [Nm]	sf
1	3.70	4	108	0.7	6.0	1081	0.7	3.6
	4.28	4	93	0.9	5.2	935	0.9	3.1
	5.18	5	77	1.0	4.3	772	1.0	2.6
	6.75	7	59	1.4	3.3	593	1.4	2.0
2	13.73	14	29	2.6	4.3	291	2.6	2.6
	15.88	16	25	3.0	3.7	252	3.0	2.2
	18.36	18	22	3.4	3.2	218	3.4	1.9
	19.20	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.

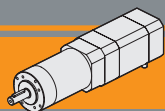
Rapporti preferenziali
Preferred ratios

PM42 with DC brushless motor

IP 20

AA19

A-C9



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM52 con motore brushless CC

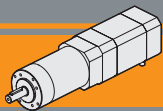
PM52 with DC brushless motor

PM52			BL032.240							BL043.240						
			24V							24V						
			n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
Ns	ir	in		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	3000	108	1.3	4.6	1081	1.3	3.1	3000
	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		5.9	21	1.8	59	21	1.2	
	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



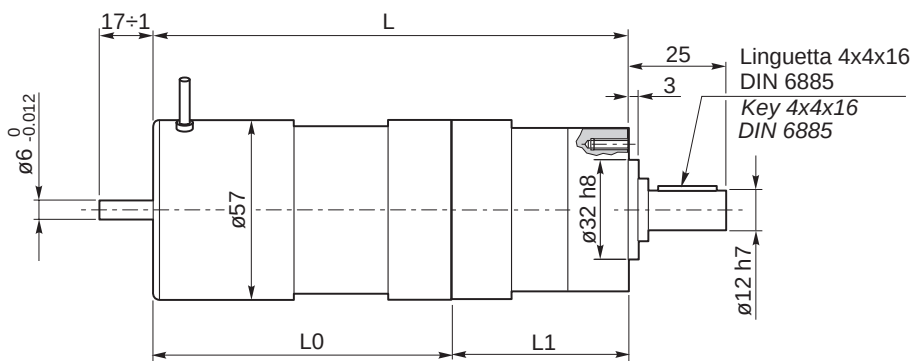
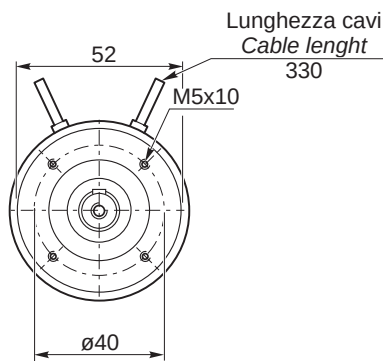
PM52 con motore brushless CC

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

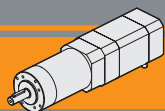
Freno / Brake

AA18

PM52 C..

AC14

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



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM62 con motore brushless CC

PM62 with DC brushless motor

PM62			BL032.240							BL043.240						
			24V							24V						
			n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
Ns	ir	in		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	3000	108	1.3	9.3	1081	1.3	6.3	3000
	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	3000	29	4.4	8.3	291	4.4	5.6	3000
	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	
	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	
3	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.

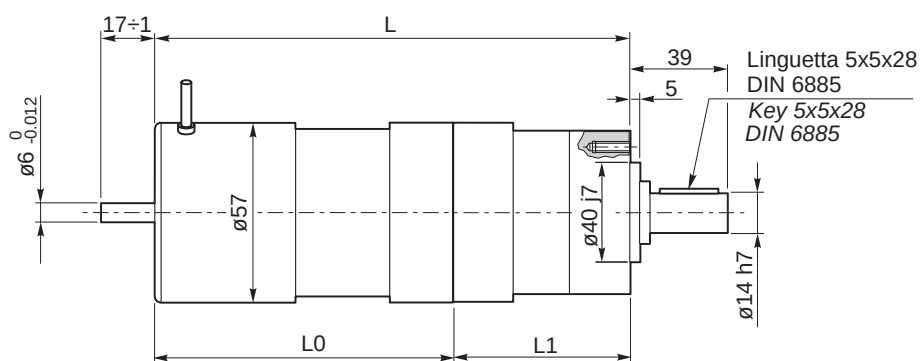
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

Rapporti preferenziali
Preferred ratios

PM62 with DC brushless motor

PM IP 20

II 2



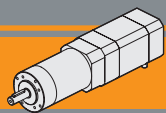
AA19



A diagram showing a cross-section of a pipe. The pipe has a thick wall. A vertical crack is shown on the right side of the pipe wall, extending from the outer surface to the inner surface. The crack is wider at the top and bottom and tapers in the middle. The pipe is shown in a perspective view, with the front edge being a straight line and the back edge being a curved line.

AC14

A-C₁₃



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM62 con motore brushless CC

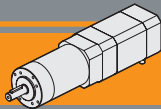
PM62 with DC brushless motor

PM62			BL070.480						
			24V						
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [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



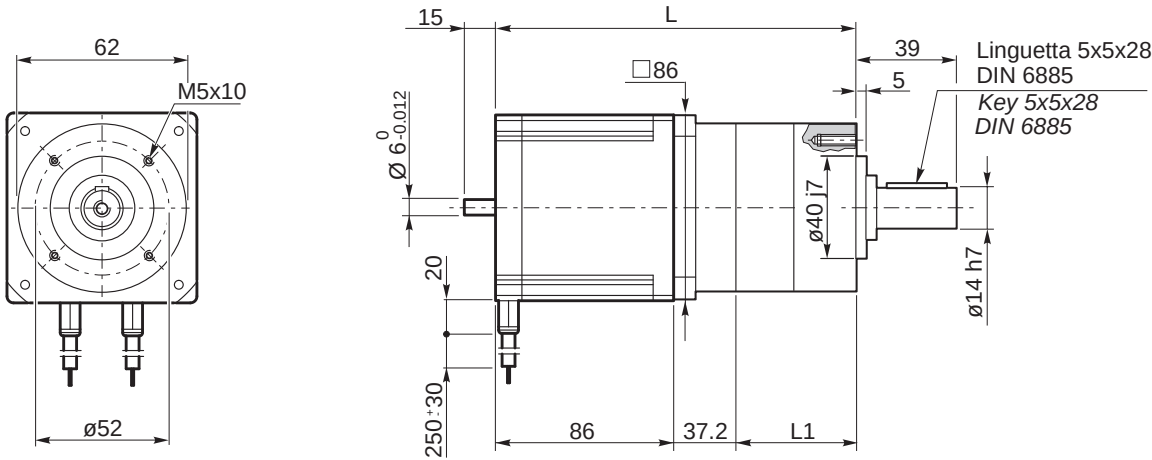
PM62 con motore brushless CC

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



Encoder

AA19

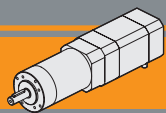
Freno / Brake

AA18

PM62 C..

AC14

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



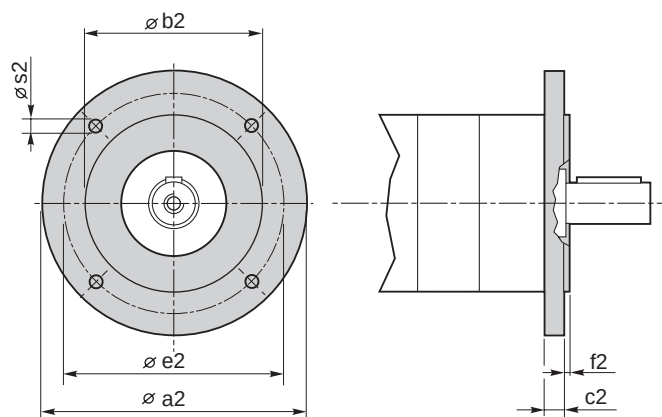
Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

Dimensioni

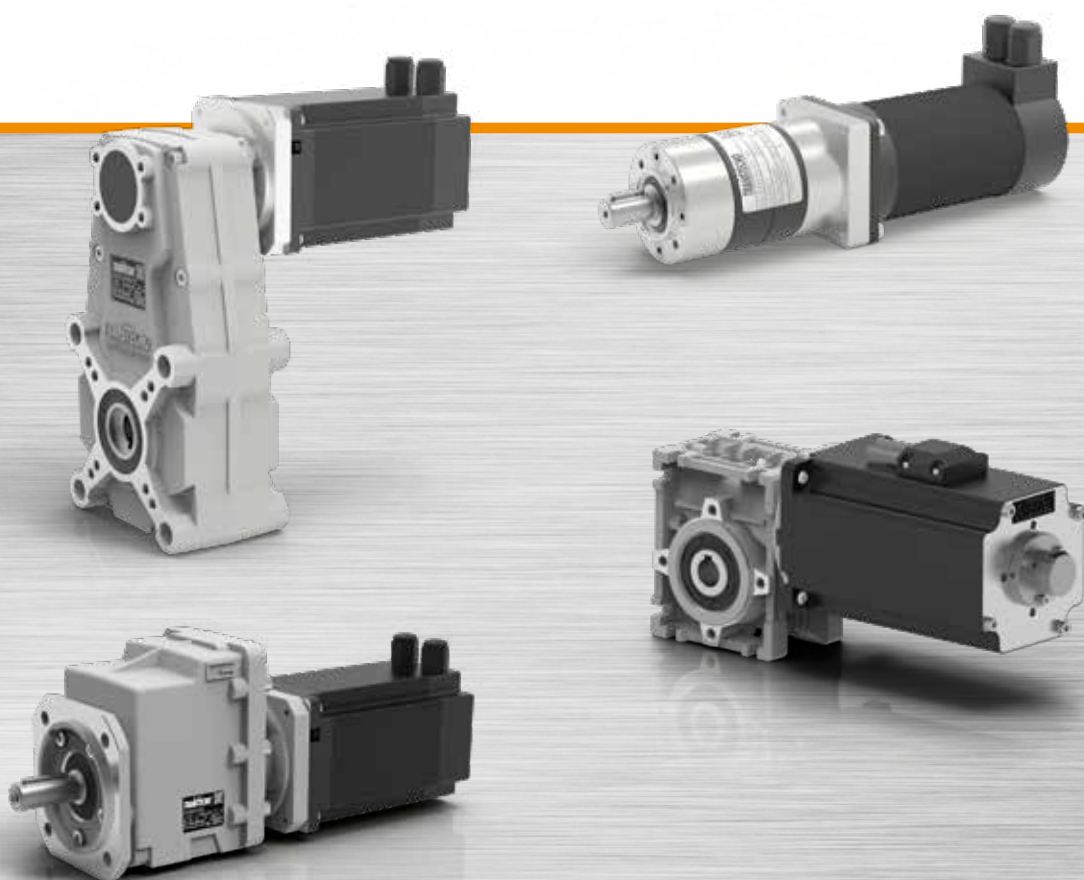
Dimensions

PM.. C..



Flange uscita / Output flanges							
PM	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

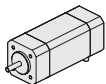
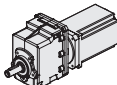
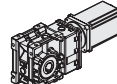
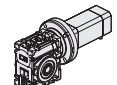
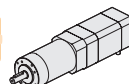
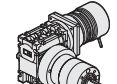
Motoriduttori brushless CC IP55
IP55 Brushless DC gearmotors



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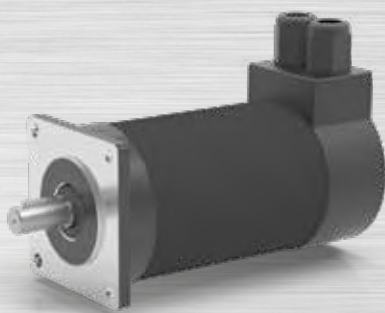
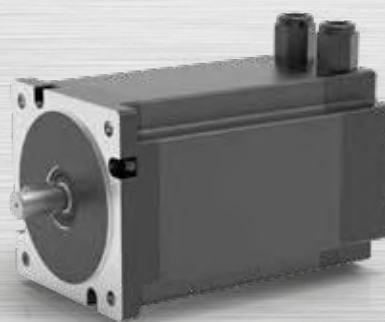
	B-A	Motori brushless CC BL	Brushless DC motors BL	B-A1
 	B-B	Motoriduttori brushless CC ad ingranaggi cilindrici CMG	Brushless DC helical in-line gearmotors CMG	B-B1
 	B-C	Motoriduttori brushless CC ad assi ortogonali CMB	Brushless DC helical bevel gearmotors CMB	B-C1
 	B-D	Motoriduttori brushless CC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

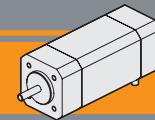
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Motori brushless CC
Brushless DC motors





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ENCODER

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MEHR22 IP65

Descrizione encoder
Caratteristiche principali
Interfaccia elettrica
Condizioni di funzionamento raccomandate

Description encoder
Main specifications
Electrical interface
Recommended operating conditions

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Descrizione encoder
Caratteristiche principali
Interfaccia elettrica
Condizioni di funzionamento raccomandate

Description encoder
Main specifications
Electrical interface
Recommended operating conditions

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Freno
Brake

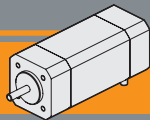
Specifiche costruttive
Dimensioni

General features
Dimensions

BA28
BA28

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Caratteristiche tecniche

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.

Technical features

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

Indica il grado di isolamento meccanico del corpo motore.

1^a cifra protezione alla penetrazione di corpi solidi.

2^a cifra protezione contro la penetrazione d'acqua.

IP enclosures protection indexes

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
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Classe di isolamento termico

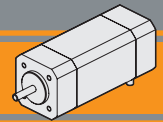
Insulation class

Classe / Class	Δt °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.

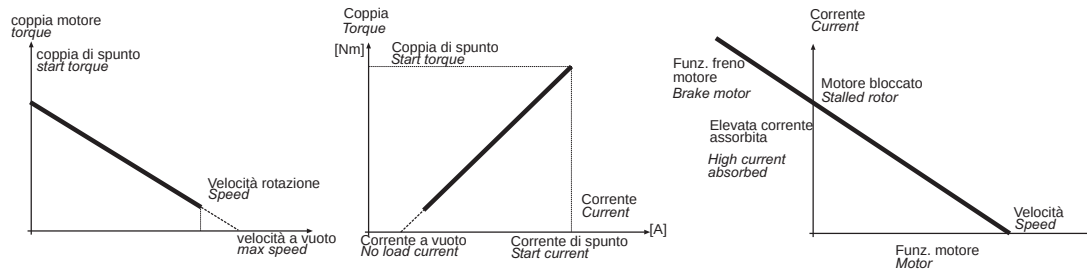


Legenda / Glossario dei grafici

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.

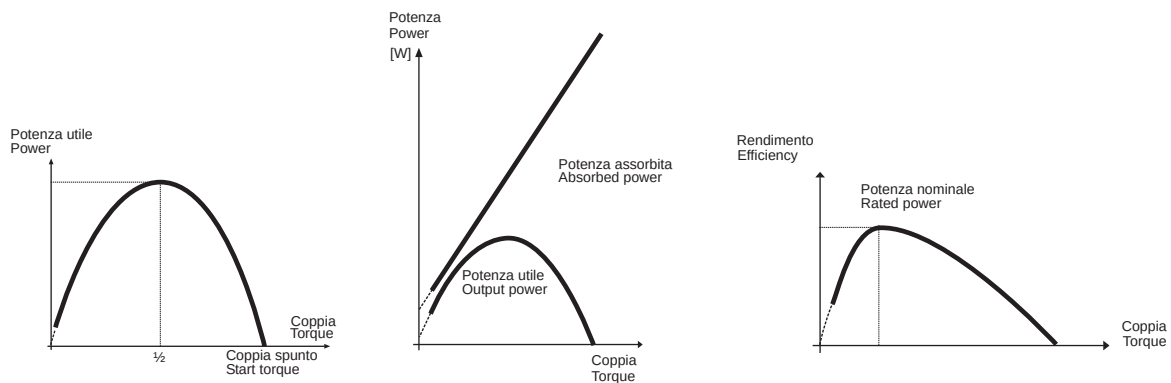


La potenza utile (potenza all' albero) si ricava dalla formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$

The output power is calculated using the formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$



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

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

$$P_n = M_n \cdot S_v$$

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

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

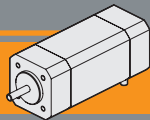
$$P_n = M_n \cdot S_v$$

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

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

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

S	—	Servizio	Duty
P _n	[W]	Potenza in uscita	Rated power
P _a	[W]	Potenza assorbita	Absorbed power
M _n	[Nm]	Coppia nominale	Rated torque
V	[V]	Tensione	Voltage
I	[A]	Corrente assorbita	Absorbed current
n ₁	[min-1]	Numero giri motore	Motor speed
S _v	[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



Motori brushless CC

Brushless DC motors

BLS022.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	75N @ 20 mm dalla flangia <i>75N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	15N
Gioco radiale <i>Radial play</i>	0.025 mm @ 460 g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.025 mm @ 4000 g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

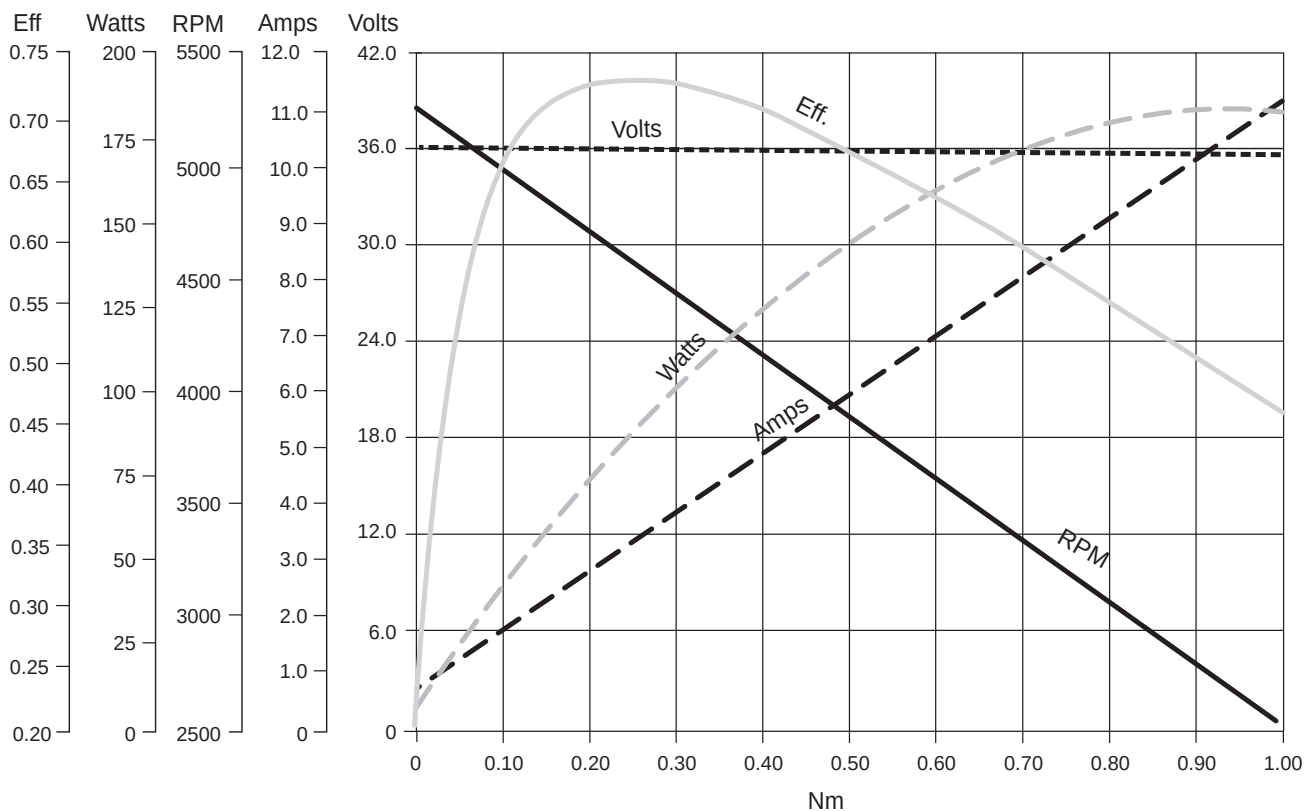
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

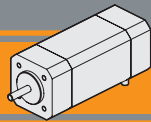
Azionamenti
Drives



Prestazioni

Performances





BLS022.240

Dimensioni

Dimensions

BLS022.240

Linguetta 3x3x16
DIN 6885
Key 3x3x16
DIN 6885

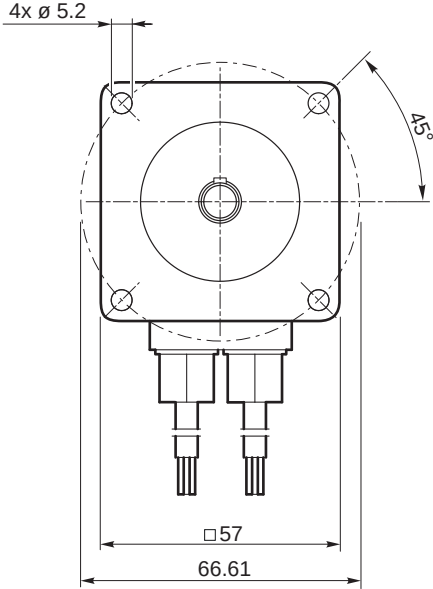
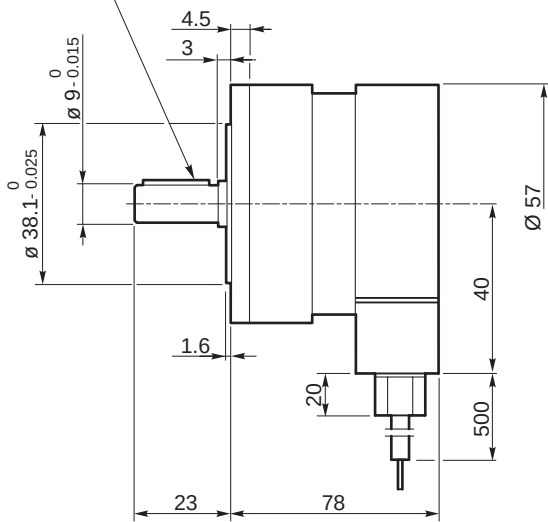


Diagramma dei collegamenti

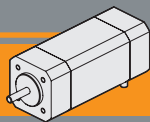
Connection diagram

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



Motori brushless CC Brushless DC motors

BLS043.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	75N @ 20 mm dalla flangia <i>75N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	15N
Gioco radiale <i>Radial play</i>	0.025 mm @ 460 g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.025 mm @ 4000 g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

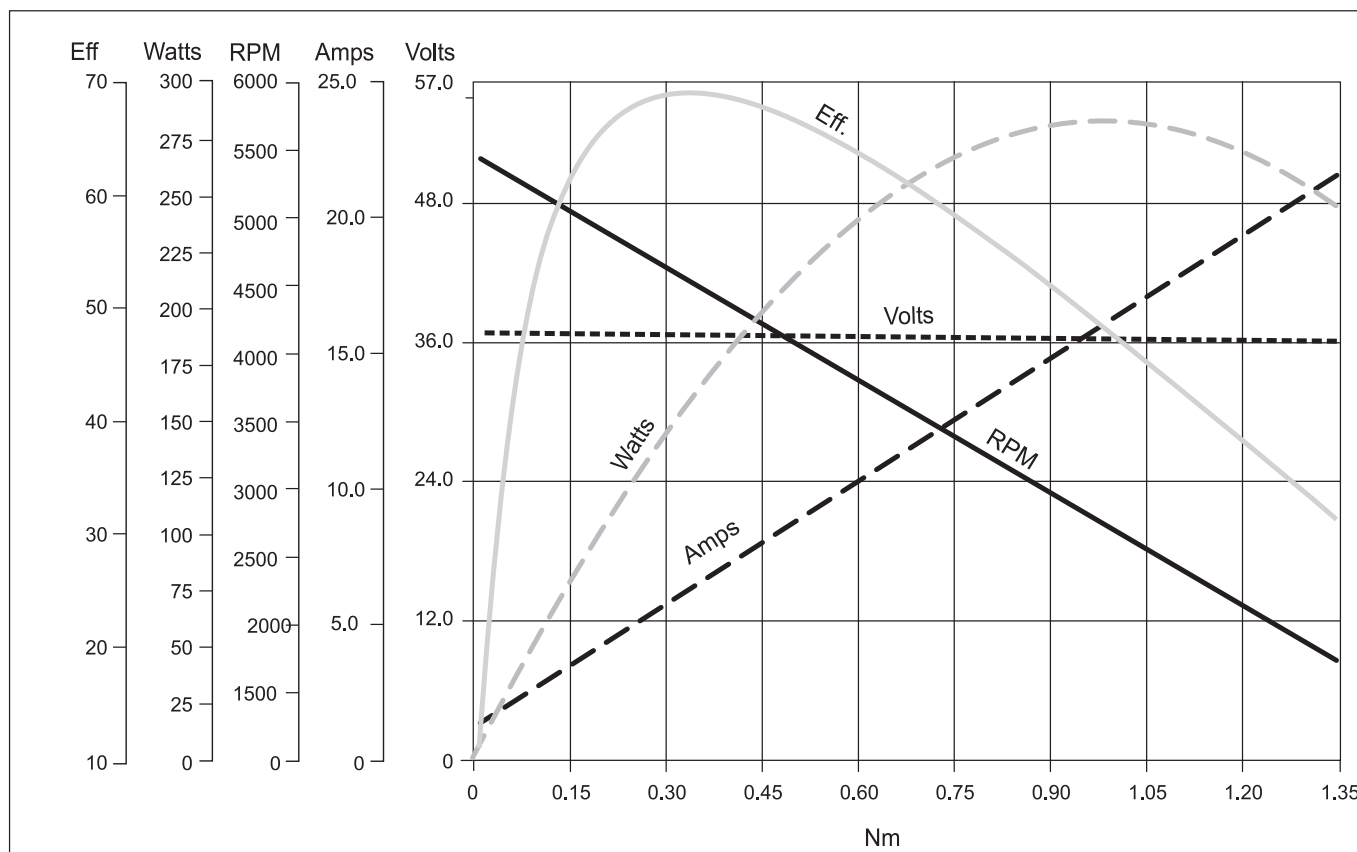
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	IP
			[V]	[min ⁻¹]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm ²]	[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

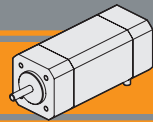
Azionamenti
Drives



Prestazioni

Performances





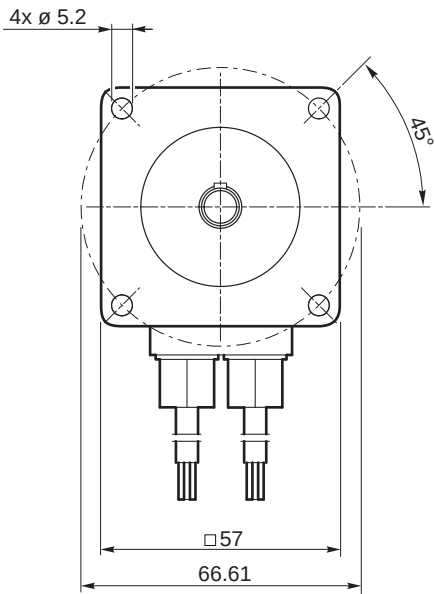
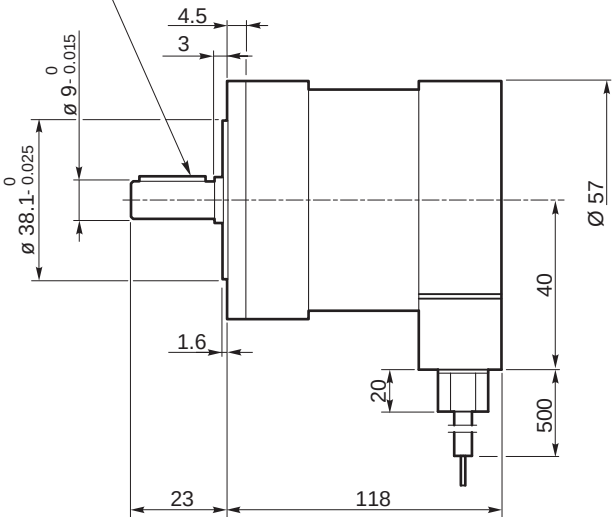
BLS043.240

Dimensioni

Dimensions

BLS043.240

Linguetta 3x3x16
DIN 6885
Key 3x3x16
DIN 6885



IP 55
BL

Diagramma dei collegamenti

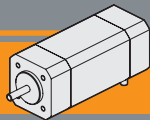
Connection diagram

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Nero (piccolo) Black (small)	Comune per i segnali di HALL Ground for HALL sensors



Motori brushless CC Brushless DC motors

BL070.240 / BL070.24B

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	Stella <i>Star</i>	Max forza radiale <i>Max radial force</i>	220N @ 20 mm dalla flangia <i>220N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	60N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.05 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

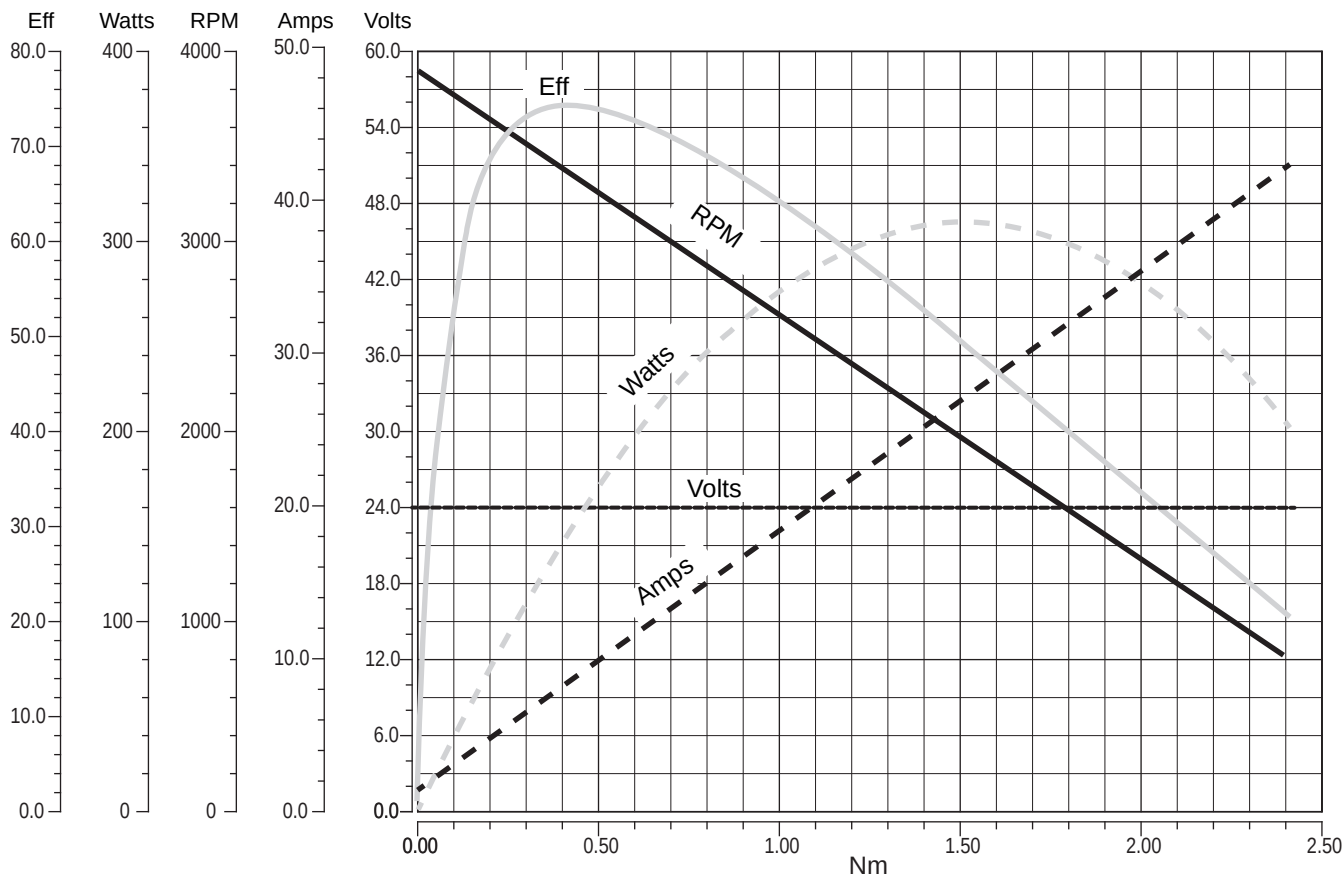
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	IP
			[V]	[min ⁻¹]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm ²]	[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

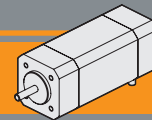
Azionamenti
Drives



Prestazioni

Performances



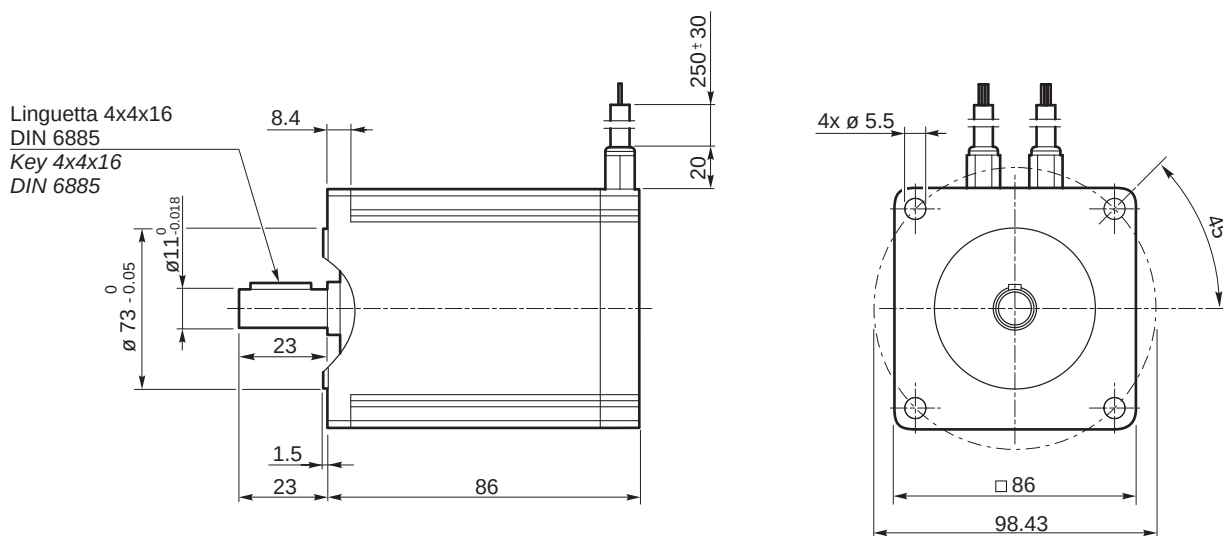


BL070.240 / BL070.24B

Dimensioni

Dimensions

BL070.240



BL070.24B

Freno / Brake

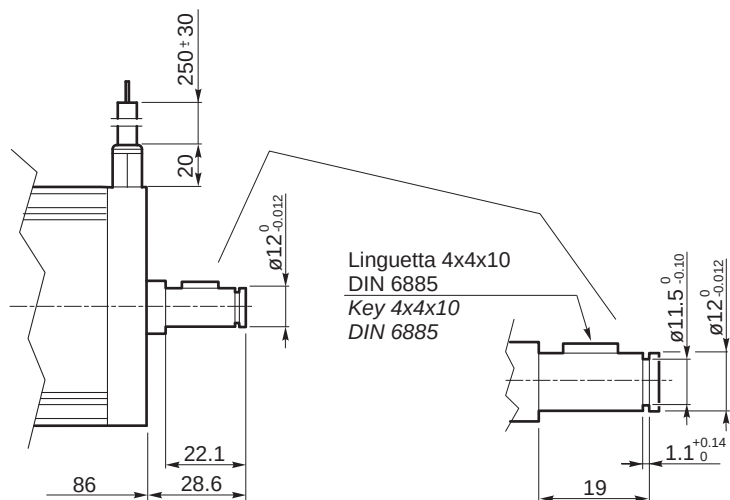


Diagramma dei collegamenti

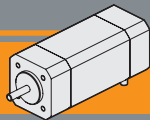
Connection diagram

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



Motori brushless CC Brushless DC motors

BL070.480 / BL070.48B

Specifiche costruttive

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

General features

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

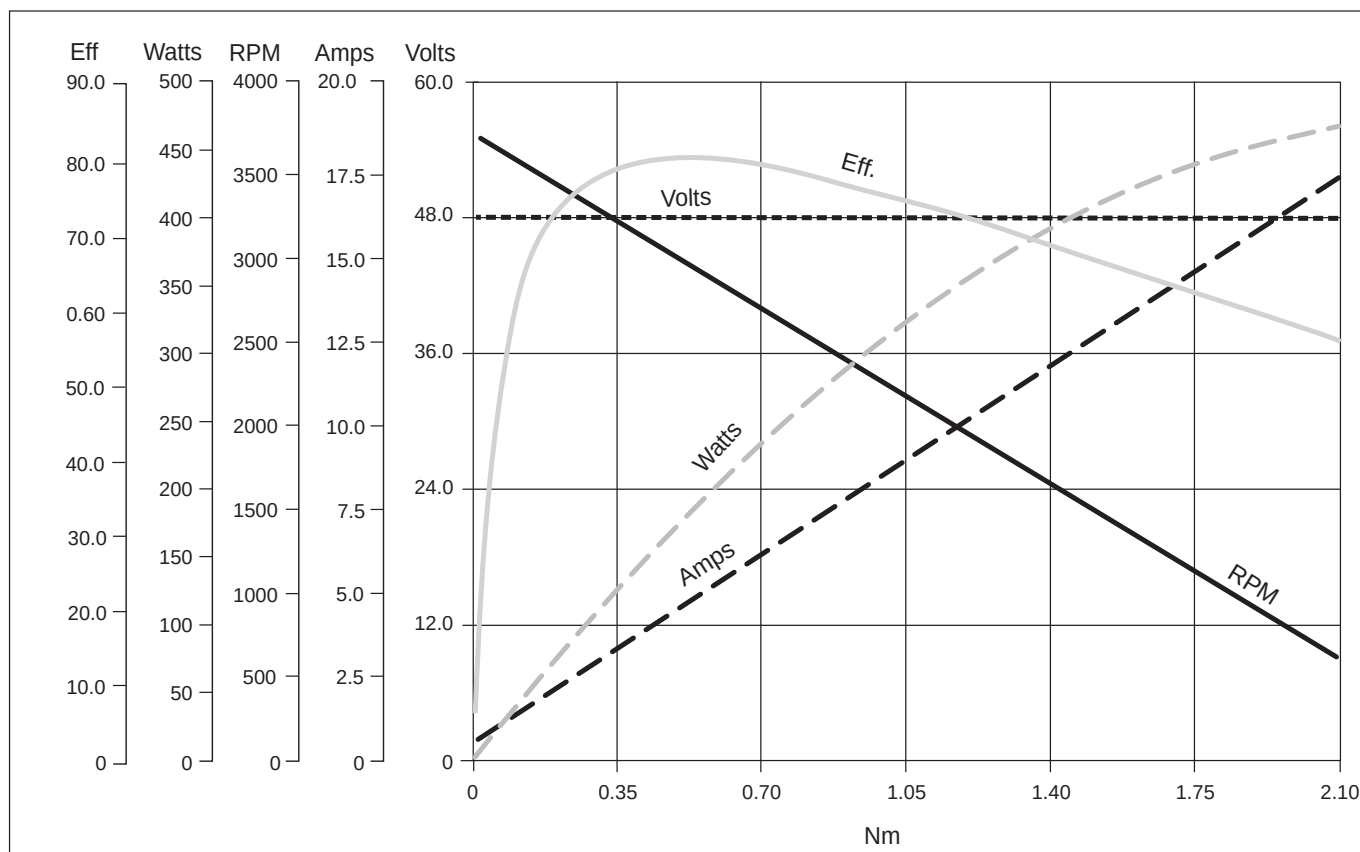
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

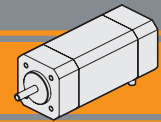
Azionamenti
Drives



Prestazioni

Performances



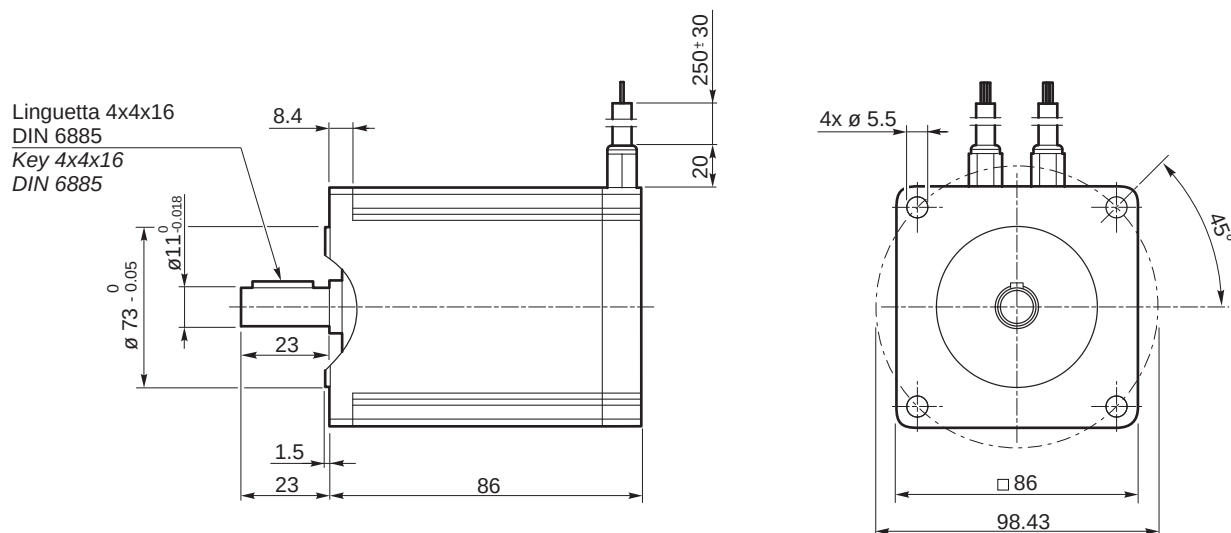


BL070.480 / BL070.48B

Dimensioni

Dimensions

BL070.480



BL070.48B

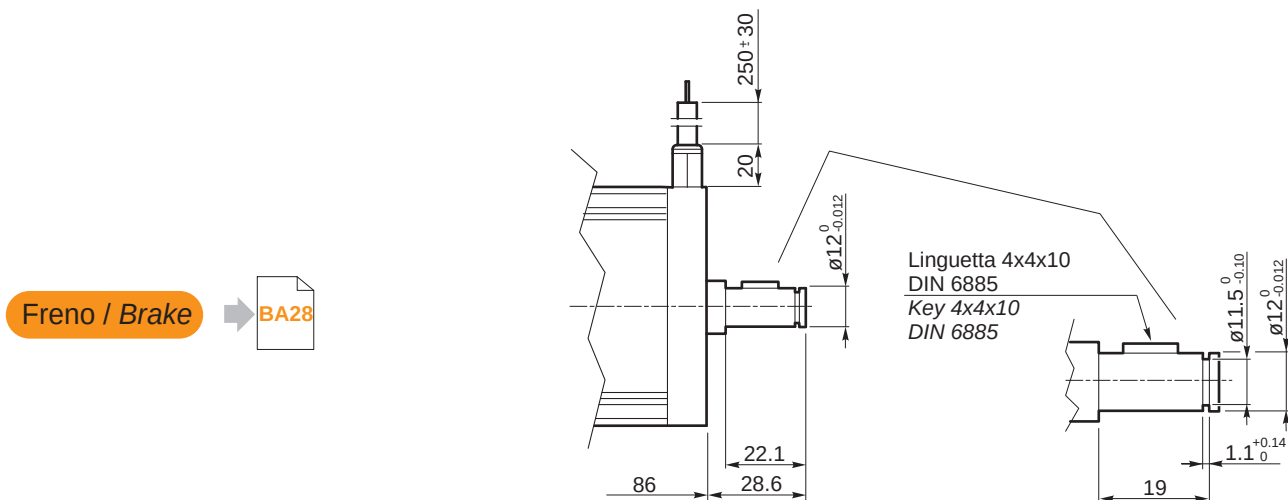


Diagramma dei collegamenti

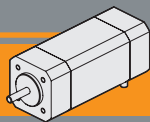
Connection diagram

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



Motori brushless CC Brushless DC motors

BL070.48.80

Specifiche costruttive

General features

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

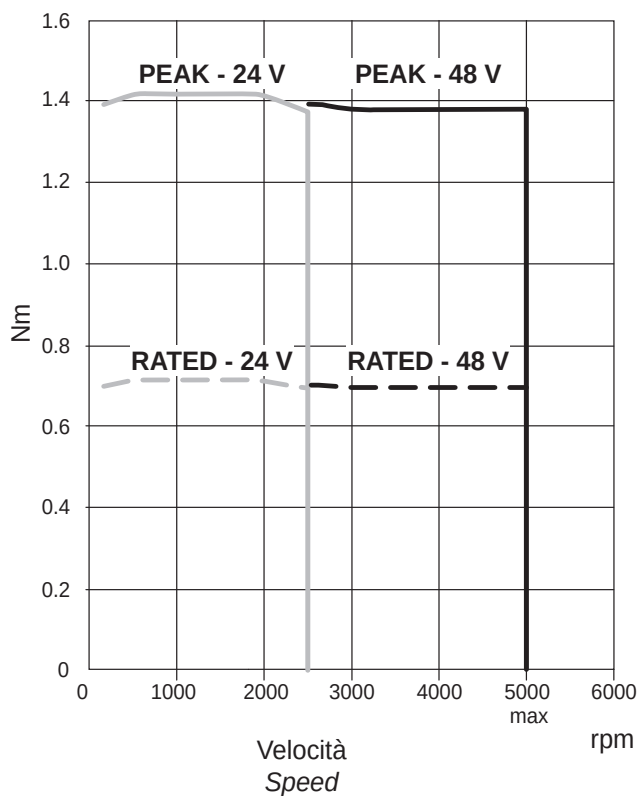
Max forza radiale <i>Max radial force</i>	115 N @ 10 mm
Max forza assiale <i>Max axial force</i>	45 N
Classe di isolamento termico <i>Insulation class</i>	Classe F <i>Class F</i>
Isolamento dielettrico <i>Dielectric strength</i>	500Vac x 1 minuto <i>500 Vac 1 minute</i>
Resistenza isolamento <i>Insulation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

Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>
			[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									

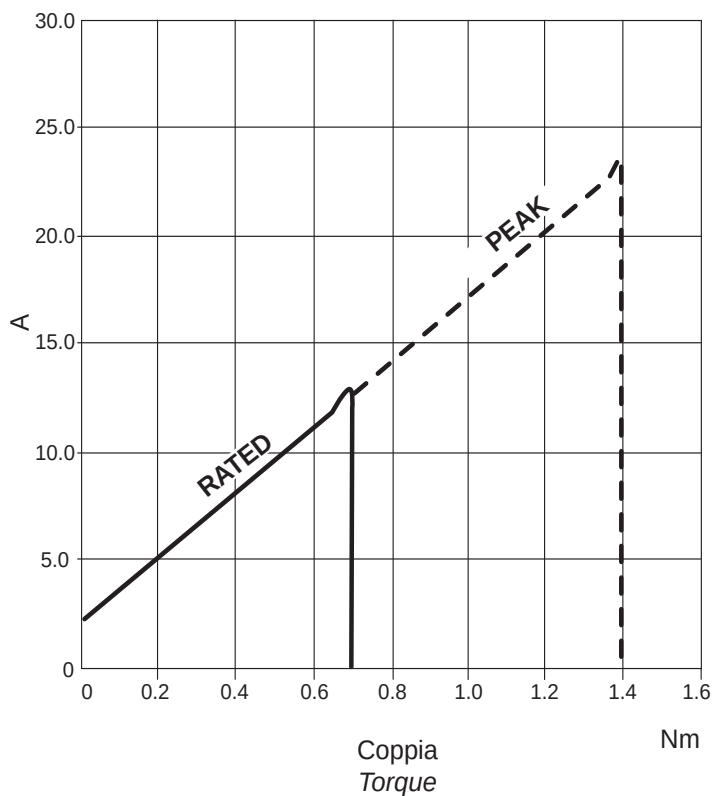
Prestazioni

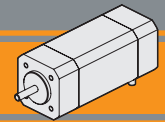
Performances

Coppia
Torque



Corrente motore
Motor current

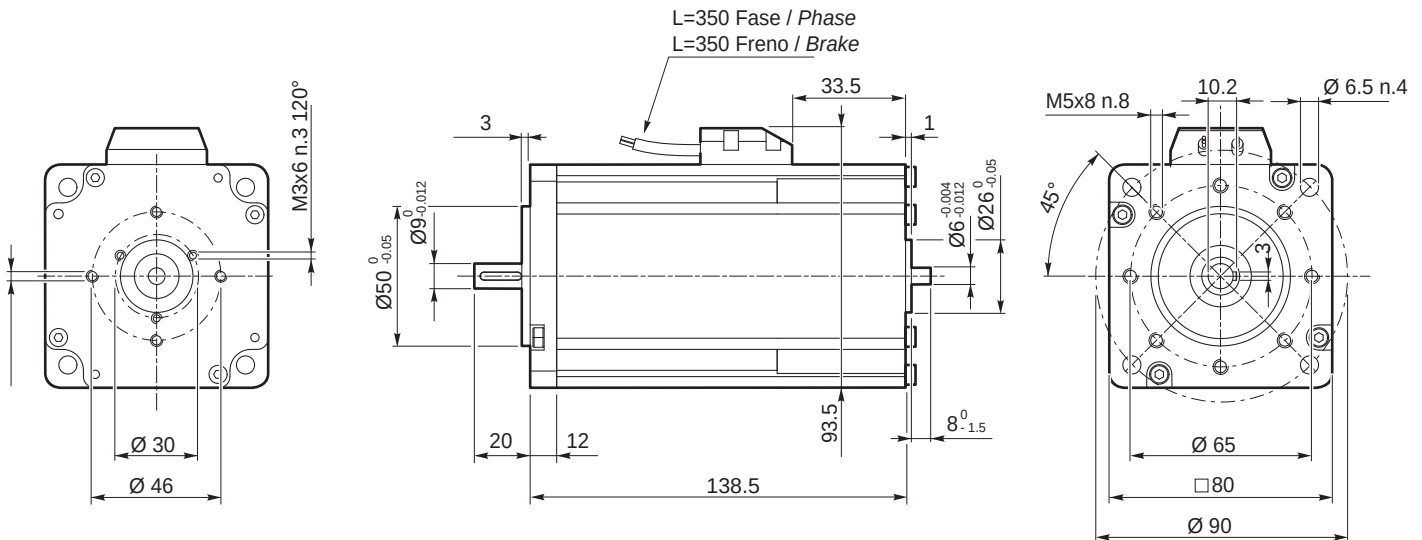




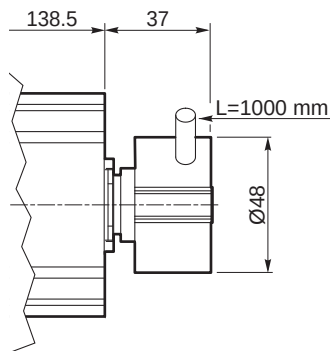
BL070.48.80

Dimensioni

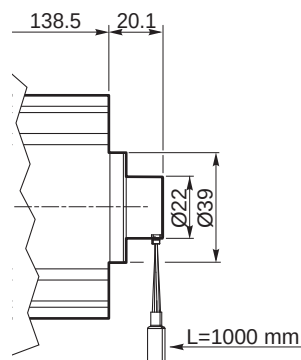
Dimensions



BL070.48.80 + ENCODER HREA 48



BL070.48.80 + ENCODER MEHR 22



BL070.48.80 + ENCODER MEHR 22 IP65

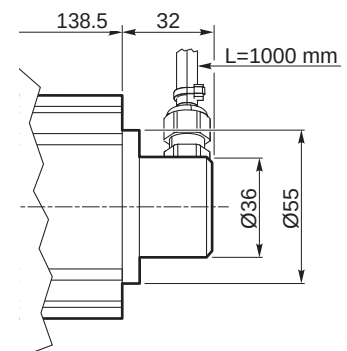


Diagramma dei collegamenti

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

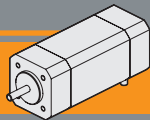
Dati tecnici del freno Brake features	Descrizione Description
Tensione Voltage	24 V / 48 V
Coppia Torque	2 Nm
Potenza Power	9.6 W
Nero Black	Freno Brake
Nero Black	Freno Brake

Caratteristiche Encoder Encoder 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





Motori brushless CC Brushless DC motors

BL140.480

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	Stella <i>Star</i>	Max forza radiale <i>Max radial force</i>	220N @ 20 mm dalla flangia <i>220N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	60N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.05 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

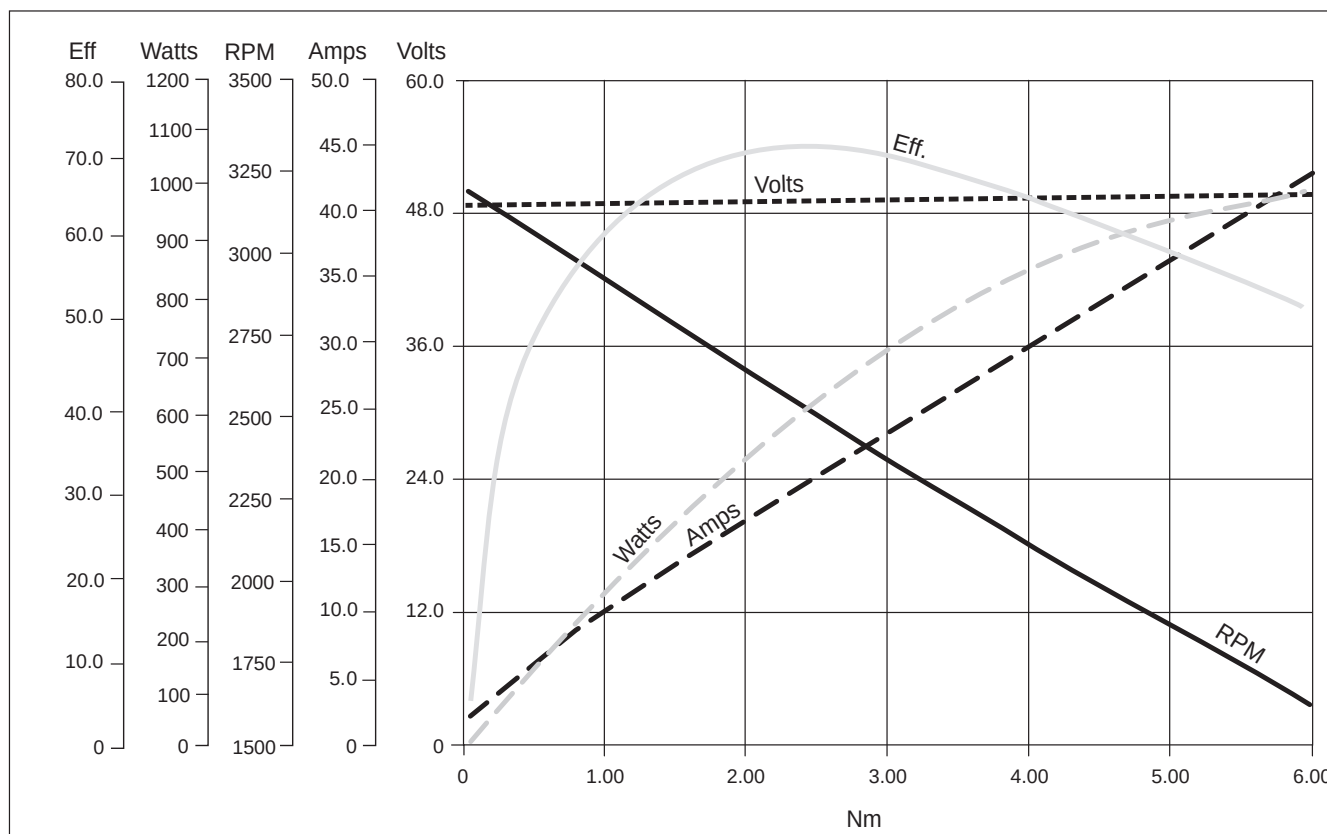
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

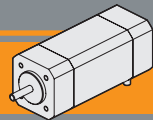
Azionamenti
Drives



Prestazioni

Performances





BL140.480

Dimensioni

Dimensions

BL140.480

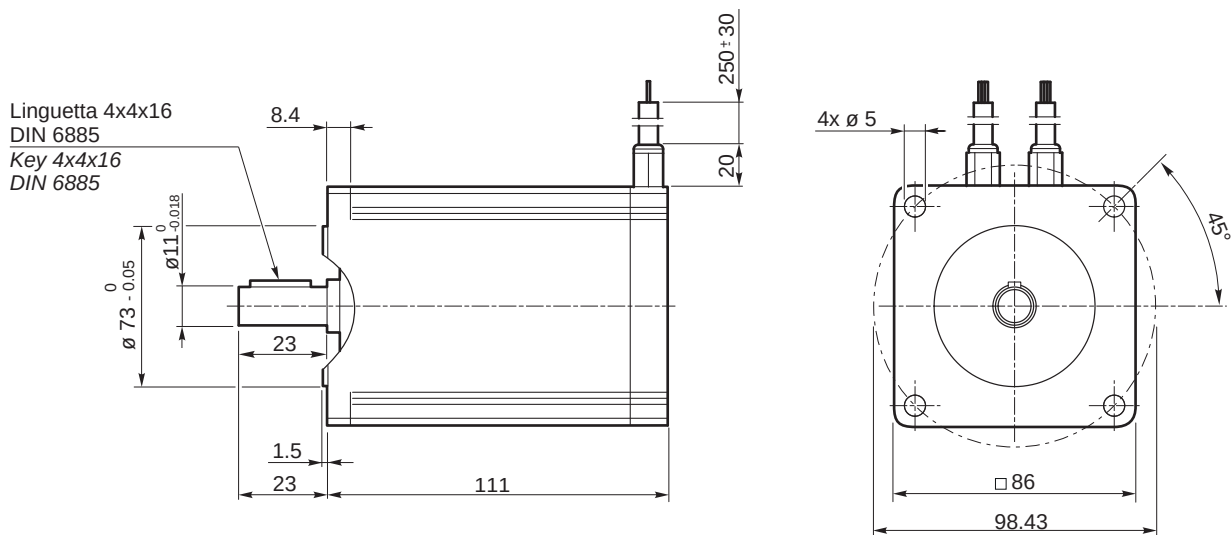


Diagramma dei collegamenti

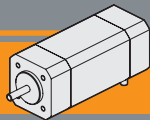
Connection diagram

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



Motori brushless CC Brushless DC motors

BL200.48.95

Specifiche costruttive

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

General features

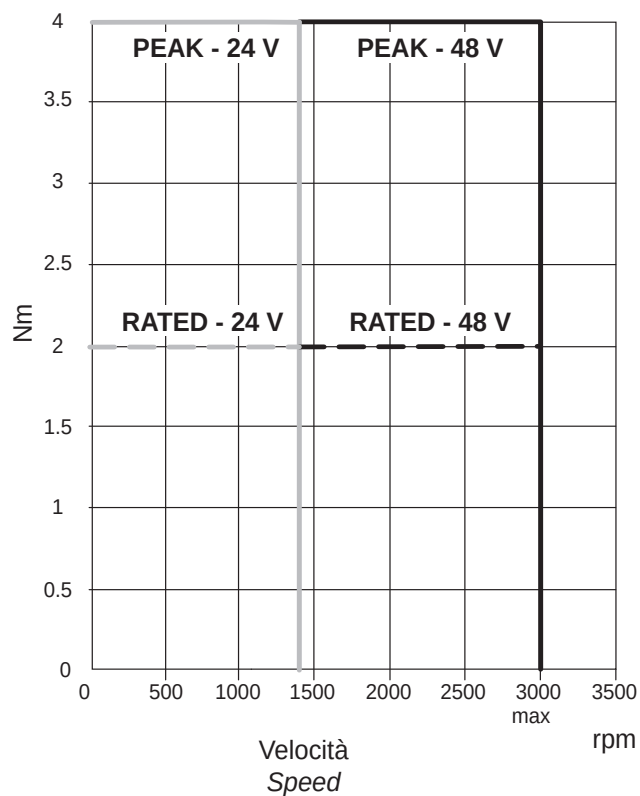
Max forza radiale <i>Max radial force</i>	≤ 392 N @ 10 mm
Max forza assiale <i>Max axial force</i>	≤ 147 N
Classe di isolamento termico <i>Insulation class</i>	Classe F Class F
Isolamento dielettrico <i>Dielectric strength</i>	600 Vdc 1S 2mA
Resistenza isolamento <i>Insulation resistance</i>	600 V ≥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

Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Servizio <i>Service</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>
				[V]	[min ⁻¹]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm ²]	[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									

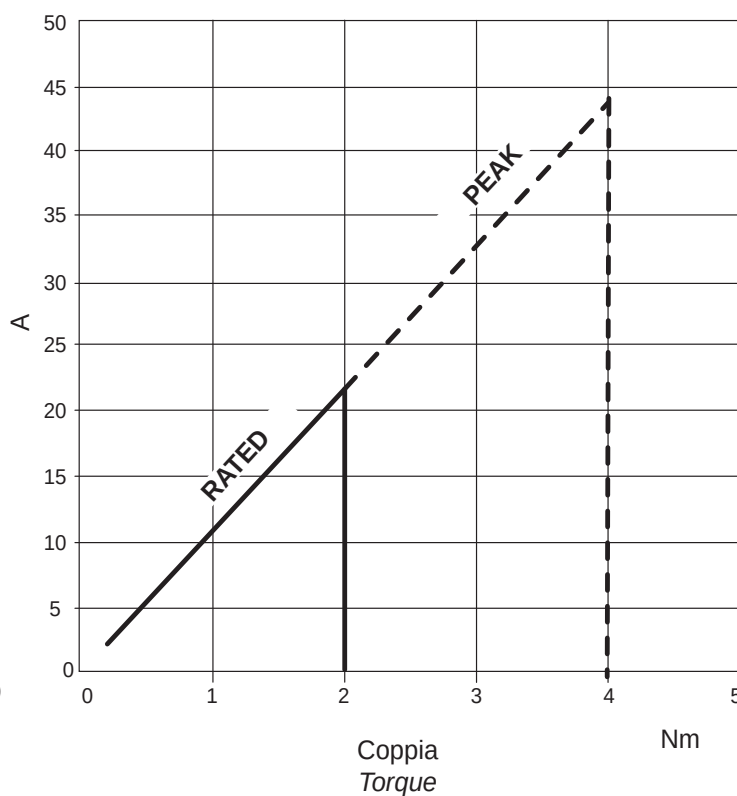
Prestazioni

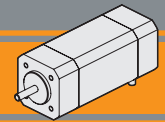
Performances

Coppia
Torque



Corrente motore
Motor current

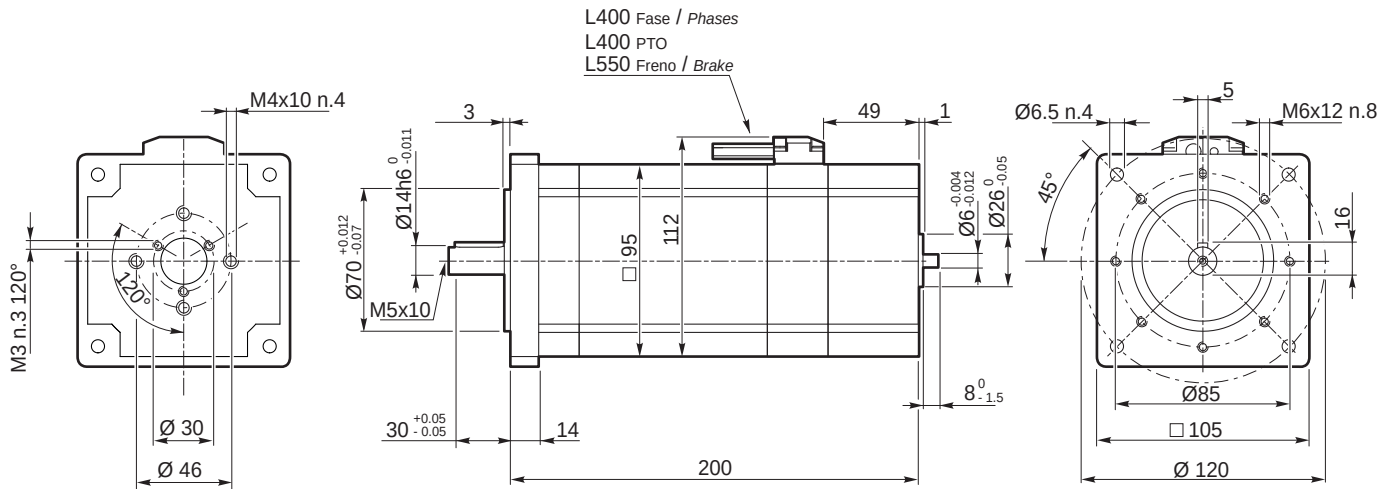




BL200.48.95

Dimensioni

Dimensions



BL200.48.95 + ENCODER HREA 48

BL200.48.95 + ENCODER MEHR 22

BL200.48.95 + ENCODER MEHR 22 IP65

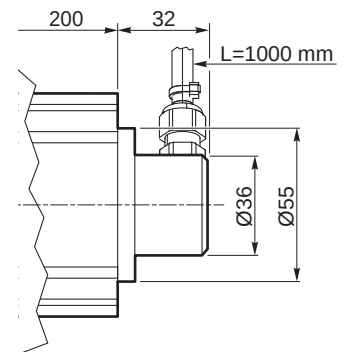
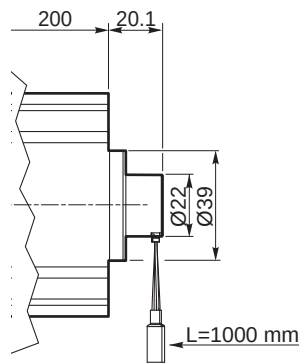
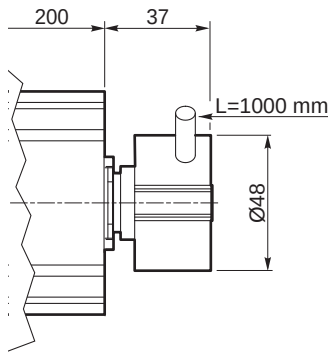


Diagramma dei collegamenti

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

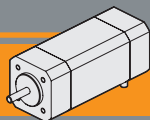
Caratteristiche Encoder Encoder specifications	
Potenza alimentazione e tipo di uscita Power supply and output type	5 V
Circuito di uscita Output circuit	Line - driver / TTL / RS-422
Risoluzione Resolution	2000 CPR
Numero di canali Number channels	ABI - (I/A/B/I) - UVW - (U/V/W) *

*: 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





Motori brushless CC Brushless DC motors

BL210.480 / BL210.48E

Specifiche costruttive

General features

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

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

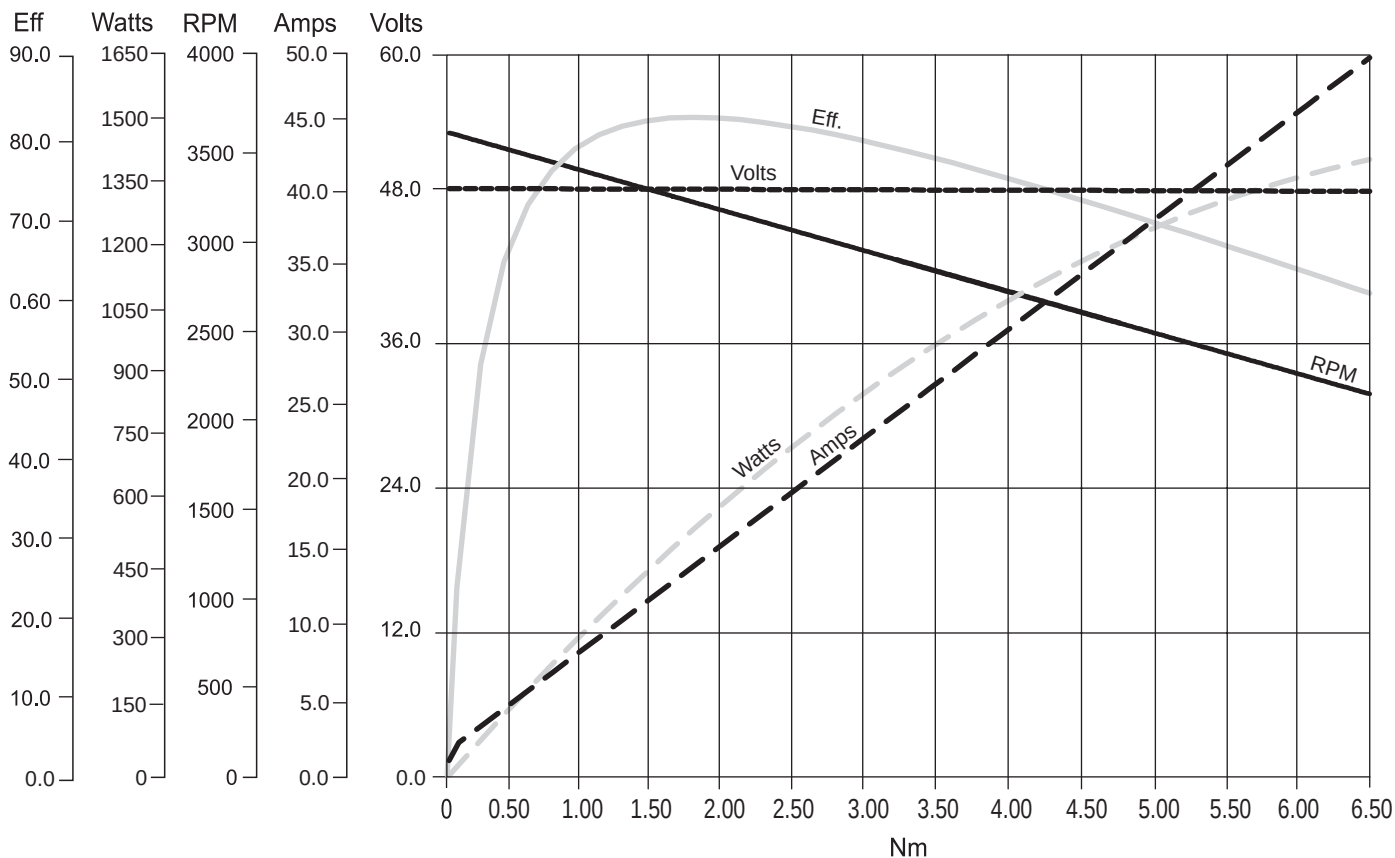
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

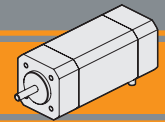
Azionamenti
Drives



Prestazioni

Performances



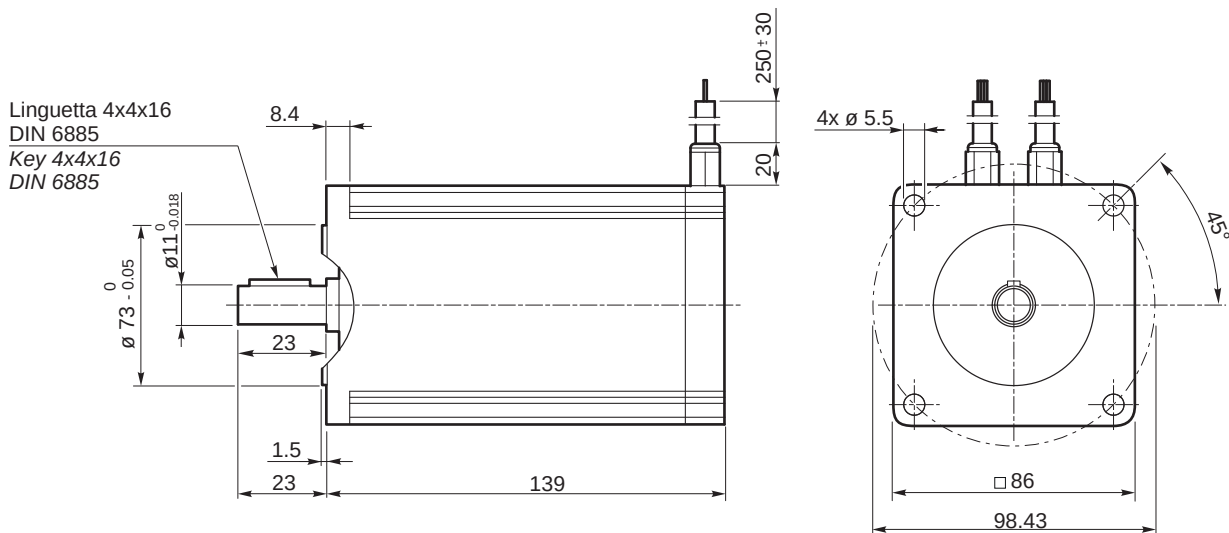


BL210.480 / BL210.48E

Dimensioni

Dimensions

BL210.480



BL210.48E

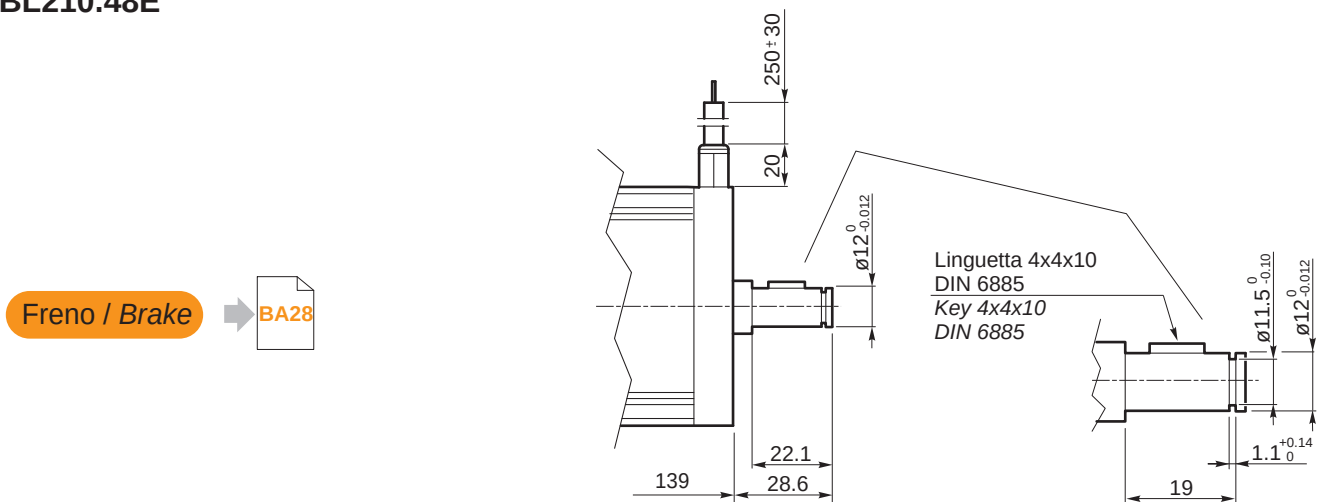


Diagramma dei collegamenti

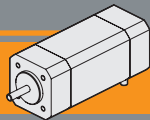
Connection diagram

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



Motori brushless CC Brushless DC motors

BL400.48.120

Specifiche costruttive

General features

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

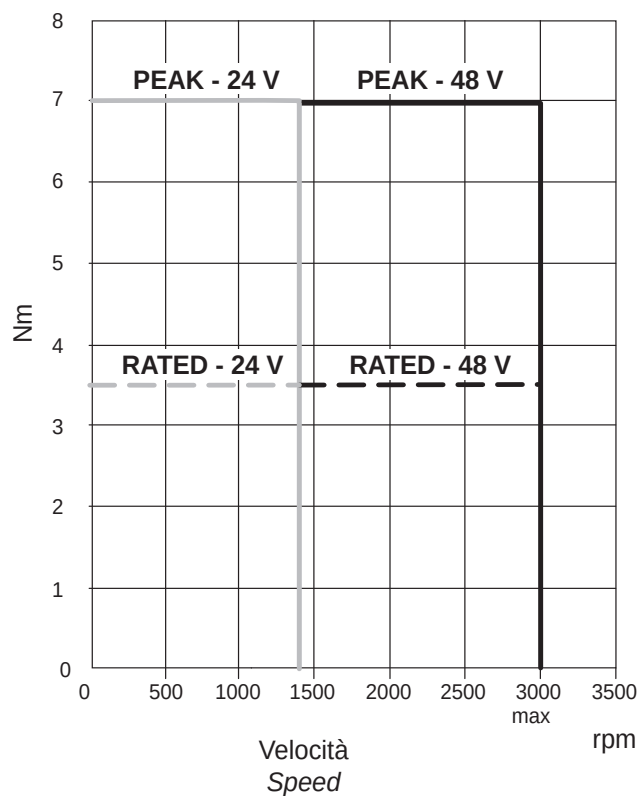
Max forza radiale <i>Max radial force</i>	490 N at 20 mm
Max forza assiale <i>Max axial force</i>	196 N
Classe di isolamento termico <i>Insulation class</i>	Classe F Class F
Isolamento dielettrico <i>Dielectric strength</i>	600 Vdc 1S 2mA
Resistenza isolamento <i>Insulation resistance</i>	500 V $\geq$ 50 M Ω

Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Servizio <i>Service</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>
				[V]	[min ⁻¹]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm ²]	[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						

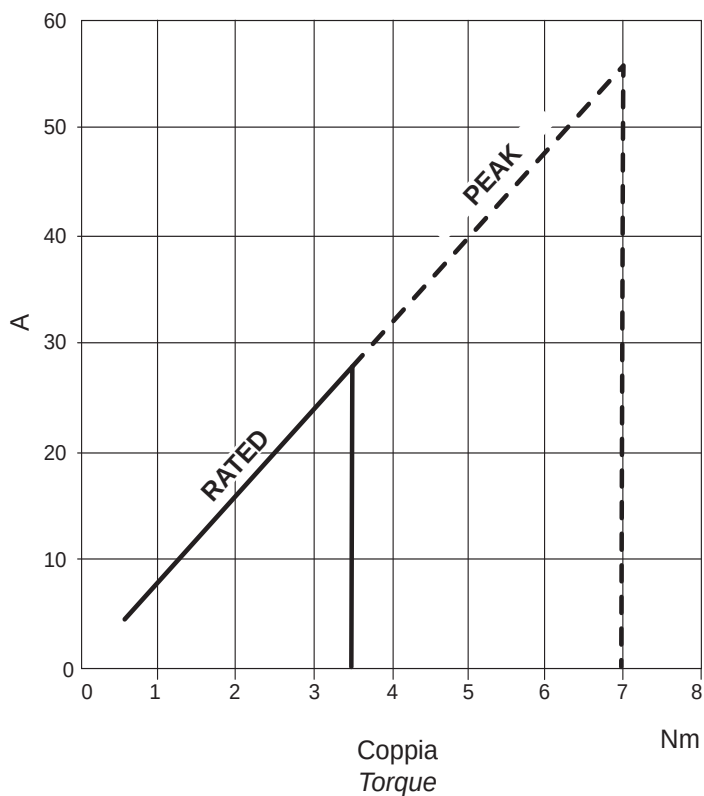
Prestazioni

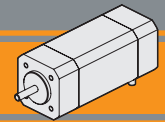
Performances

Coppia
Torque



Corrente motore
Motor current

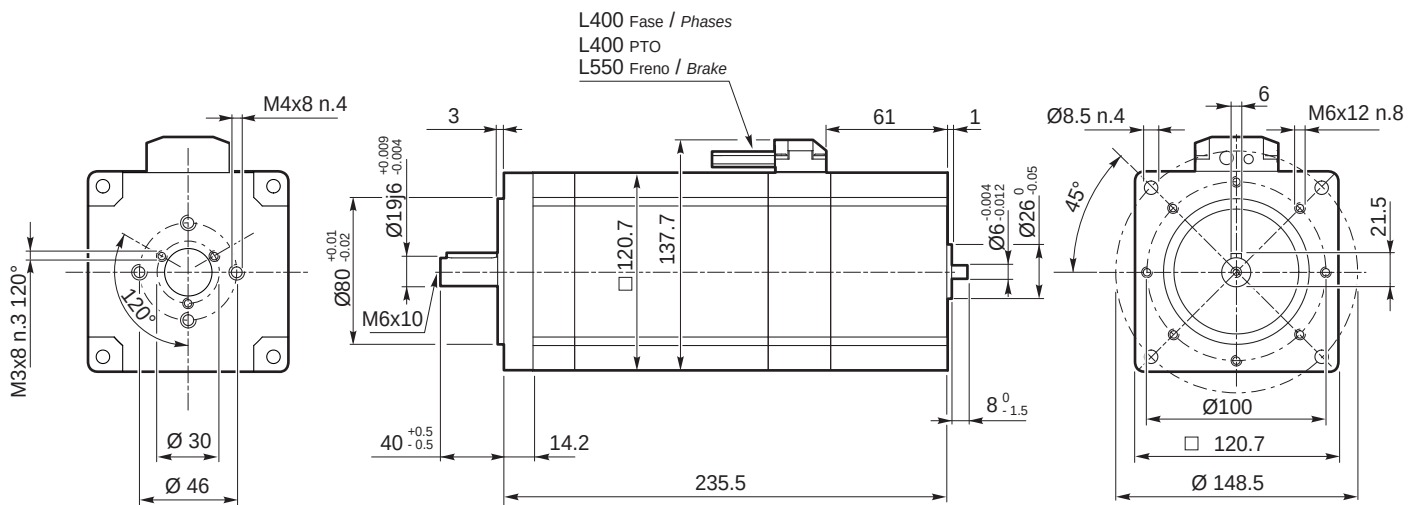




BL400.48.120

Dimensioni

Dimensions



BL400.48.120 + ENCODER HREA 48

BL400.48.120 + ENCODER MEHR 22

BL400.48.120 + ENCODER MEHR 22 IP65

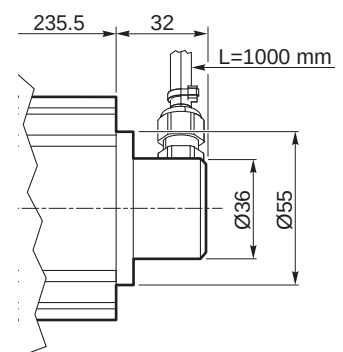
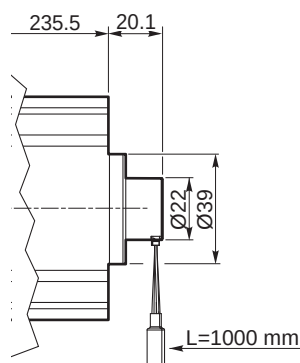
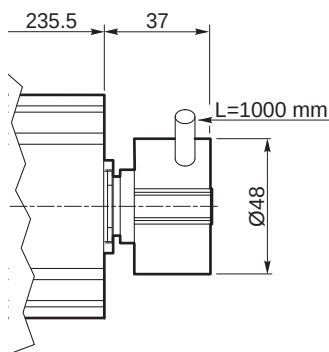


Diagramma dei collegamenti

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

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

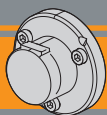
Caratteristiche Encoder Encoder specifications	
Potenza alimentazione e tipo di uscita Power supply and output type	5 V
Circuito di uscita Output circuit	Line - driver / TTL / RS-422
Risoluzione Resolution	2000 CPR
Numero di canali Number channels	ABI - (/A/B/I) - UVW - (/U/V/W) *

*: 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





Encoder MEHR 22

MEHR 22 Encoder

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.

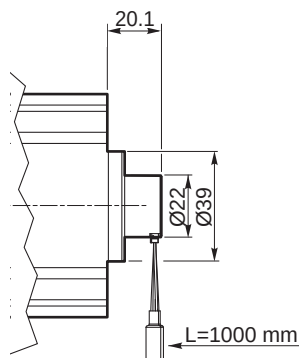
Caratteristiche principali

- 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

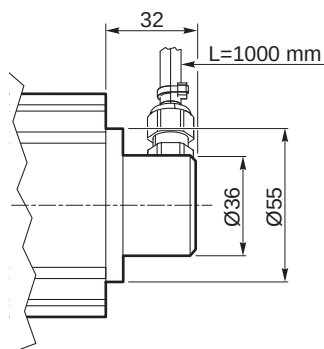
Main specifications

- 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



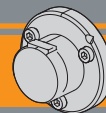
ENCODER MEHR 22 IP65



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.

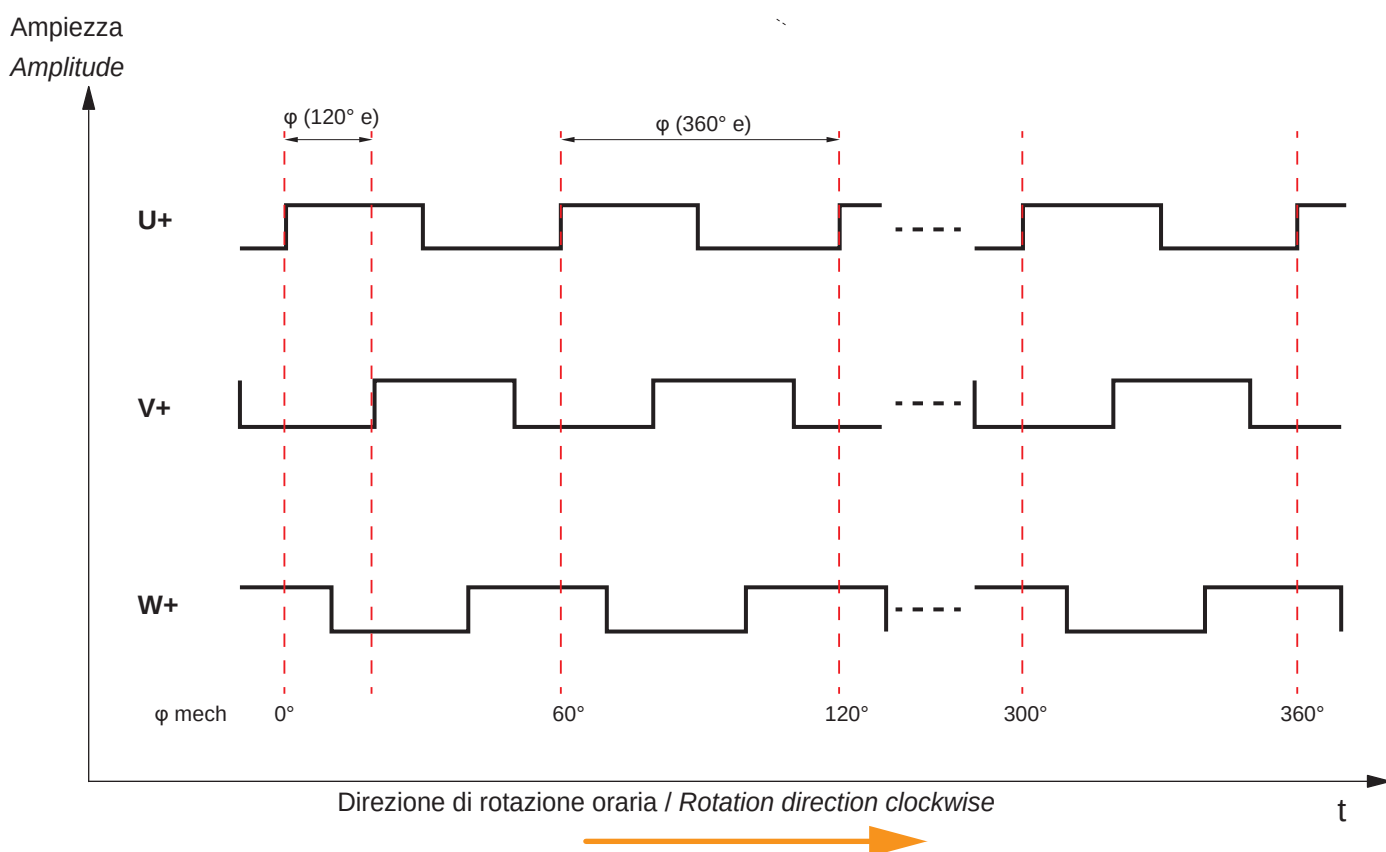
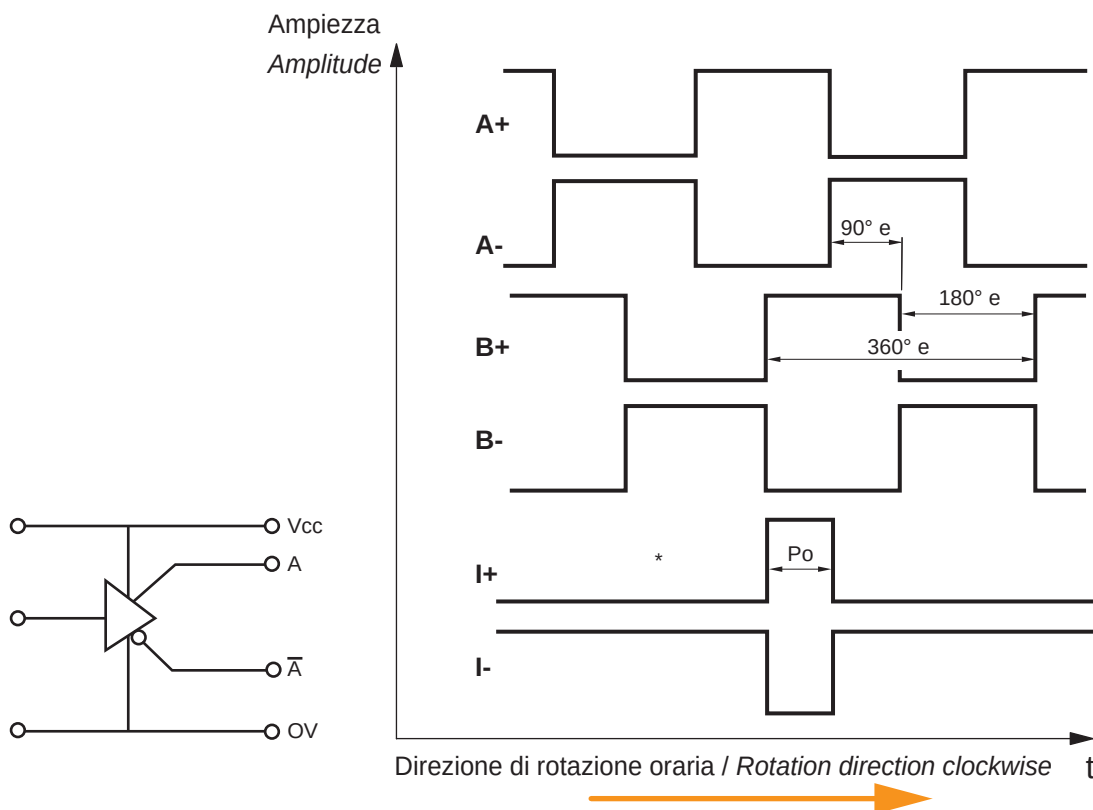


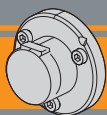
Solo motori BL070.48.80, BL200.48.95, BL400.48.120

BL070.48.80, BL200.48.95, BL400.48.120 motors only

Interfaccia elettrica

Electrical interface





Encoder MEHR 22

MEHR 22 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 $V_{CC} = 5\text{ V} \pm 5\%$.

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

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 Pulsewidth			180°		° e	
Errore di fase Phaseshift			90°		° e	
Ciclo di lavoro Duty Cycle			1 : 1			
Precisione angolare Relative angular accuracy				<50	%	$0,32 \cdot e^{(0,4 \cdot n)} [n = \text{bit}]$
Frequenza di conteggio Count frequency	f			400	kHz	$\text{rpm} \cdot N / 60 \times 10^{-3}$
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

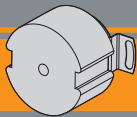
Ambiente Environment	Simbolo Symbol	Min.	Standard	Max.	Unità Unit	Note Notes
Temperatura di funzionamento Operating temperature	T_A	- 20	+25	+ 85	°C	
Temperatura di stoccaggio Storage temperature	T_S	-40		+ 85	°C	
Umidità Humidity exposure				90	% RH	senza condensa not condensing
Vibrazione Vibration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

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

Description 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.

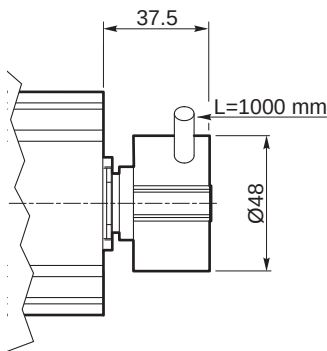
HREA 48 is an encoder optical hall sensor with hollow shaft. This encoder is specially developed to have a low cost and to work for applications, where precision and speed are essential. The encoder provides two square wave outputs A and B and their negative outputs /A-/B, The signal I and its negative /I represent the "ZERO" notch, the use of the hall sensors with 8 pole U-V-W and its 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

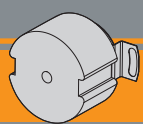
Main specifications

- Canali di uscita encoder: A-B-I e /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

- 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 (length)
- 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



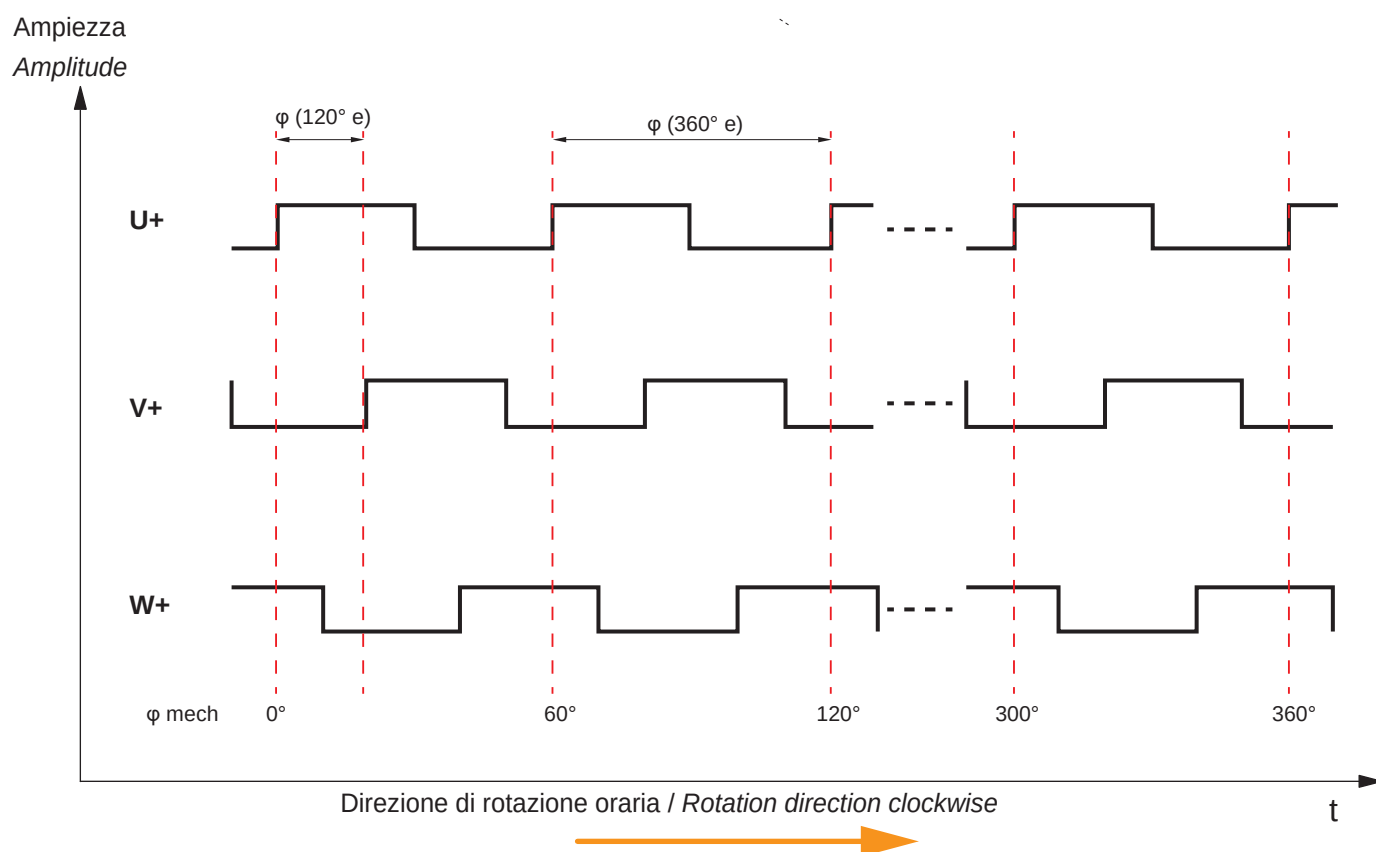
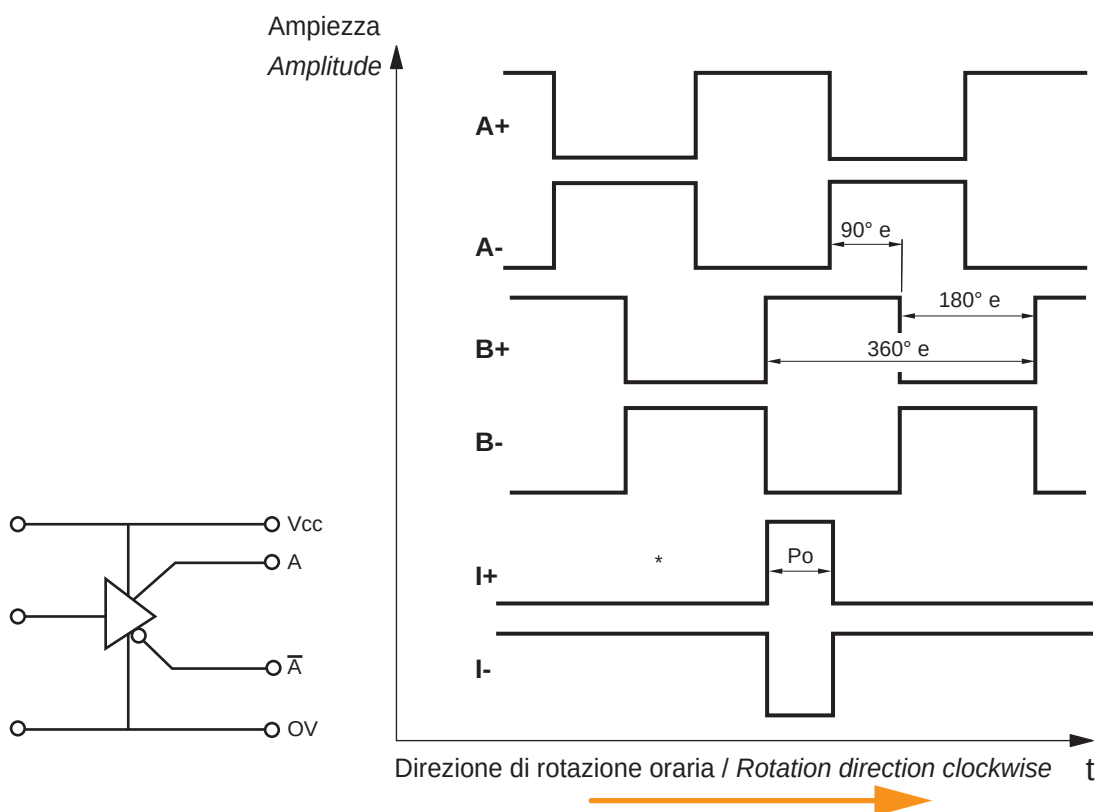
Encoder HREA 48 HREA 48 Encoder

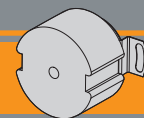
Solo motori BL070.48.80, BL200.48.95, BL400.48.120

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 $V_{CC} = 5\text{ V} \pm 5\%$.

Electrical characteristics are only effective for the range of the operating temperatures.

Standard values at 25 °C and $V_{DC} = 5\text{ V}$.

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 Pulsewidth			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

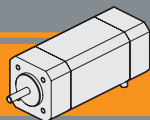
Ambiente Environment	Simbolo Symbol	Min.	Standard	Max.	Unità Unit	Note Notes
Temperatura di funzionamento Operating temperature	T_A	- 20	+25	+ 85	°C	
Temperatura di stoccaggio Storage temperature	T_S	-40		+ 85	°C	
Umidità Humidity exposure				90	% RH	senza condensa not condensing
Vibrazione Vibration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

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.

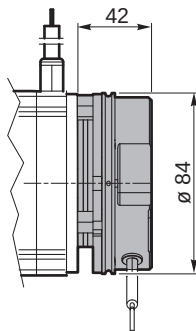


Freno

Brake

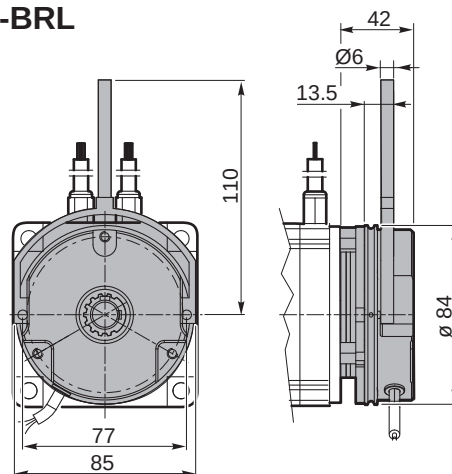
Freno / Brake

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

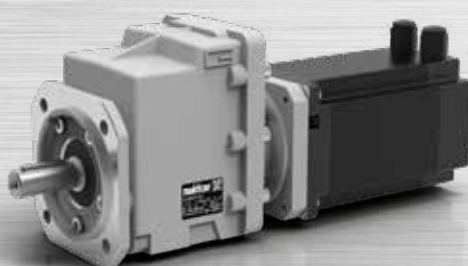


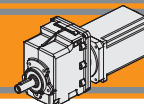
	P _n [W]	V [V]	M _n [Nm]	n ₁ [min ⁻¹]	 Kg	IP
Caratteristiche del freno / Break features	23	48	4.5	3000	0.90	20



Motoriduttori brushless CC
ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

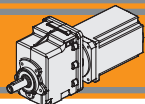




Indice	Index	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	BB2
Designazione	<i>Classification</i>	BB2
Simbologia	<i>Symbols</i>	BB2
Lubrificazione e temperatura	<i>Lubrication and temperature</i>	BB3
Carichi radiali	<i>Radial loads</i>	BB3
CMG002 con motore brushless BLS 043.240	<i>CMG002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

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Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

Caratteristiche tecniche

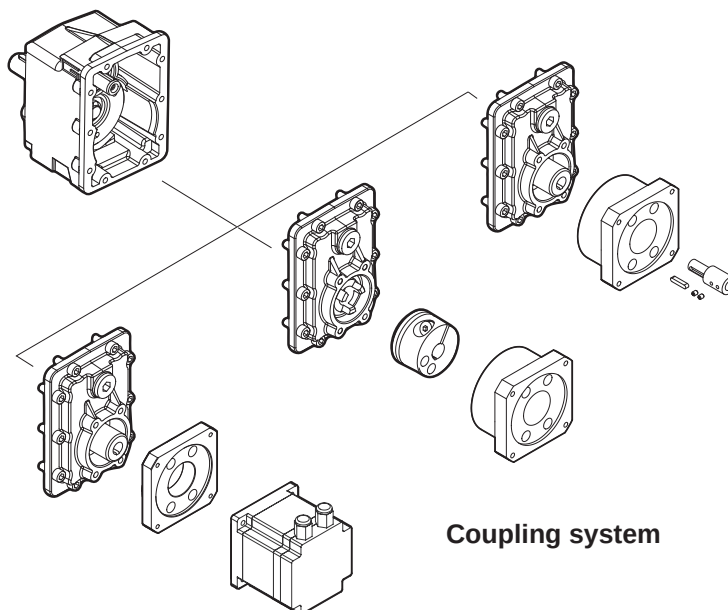
Le caratteristiche principali dei motoriduttori brushless CC ad ingranaggi cilindrici della serie CMG sono:

- 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
- Carcasce dei riduttori in pressofusione di alluminio
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili per accoppiamento ingresso motore con giunto elastico

Technical features

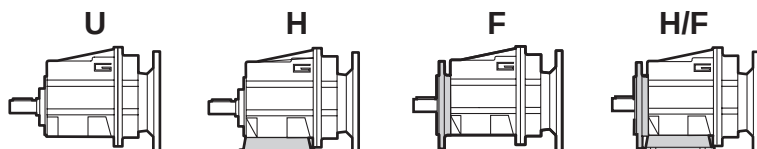
The main features of brushless DC helical gearmotors range CMG series are:

- 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



Designazione

Classification



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

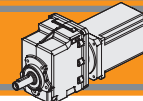
MOTORE / MOTOR		
BL070.480	48V	BR
Tipo Type	Tensione Voltage	Freno Brake
BLS043.240	24V-36V	24V
BL070.240	24V	48V
BL070.24B	24V	
BL070.48B	48V	
BL070.480	48V	
BL070.48.80	24V-48V	
BL140.480	48V	
BL200.48.95	24V-48V	
BL210.480	24V-48V	
BL210.48E	48V	
BL400.48.120	48V	



Simbologia

Symbols

i	Rapporto di riduzione / ratio	V	[V]	Tensione / Voltage
M ₂	[Nm] Coppia in uscita in funzionamento continuativo S1 Output torque for continuous operation S1	I	[A]	Assorbimento / Current
Rd	Rendimento dinamico / efficiency	M ₂	[Nm]	Coppia / Torque
R ₂	[N] Massimo carico radiale al centro dell'albero uscita Max. radial load at output shaft centre	n _{1MAX}	[Rpm]	Giri max entrata / Max Input Speed
A ₂	[N] Massimo carico assiale / max. axial load	IP		Grado di protezione / Enclosure protection
sf	Fattore di servizio / Service factor	Kg		Peso / Weight
		n ₂	[Rpm]	Giri in uscita / Output Speed



Lubrificazione e temperatura

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 $0 \div 40\text{ }^{\circ}\text{C}$ (in assenza di congelamento ed in assenza di condensa).

Per temperature diverse, contattare nostro UT.

Lubrication and temperature

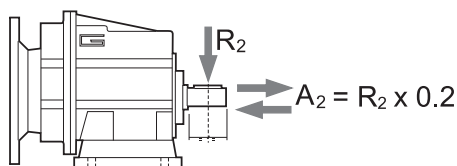
Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use CMG in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.

Ambient temperature $0 \div 40\text{ }^{\circ}\text{C}$ (in the absence of freezing and condensation).

For temperature outside this range please contact our technical dept.

Carichi radiali

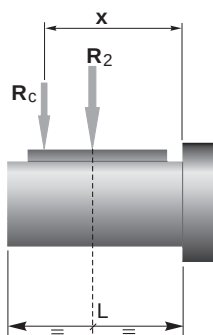
Radial loads



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 mezzes-
ria 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:*

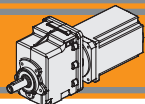


	CMG 002	CMG 012	CMG 022	CMG 032	CMG 042
a	73	104	117	132	150
b	53	84	92	102	115
R_{2MAX}	1300	2500	5000	6500	8000

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

$$R \leq R_c$$

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



Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BLS043.240													
	24V						36V							
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir	M ₂ [Nm]	sf	M ₂ [Nm]	sf	M ₂ [Nm]	M ₂ [Nm]		sf	M ₂ [Nm]	sf				
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

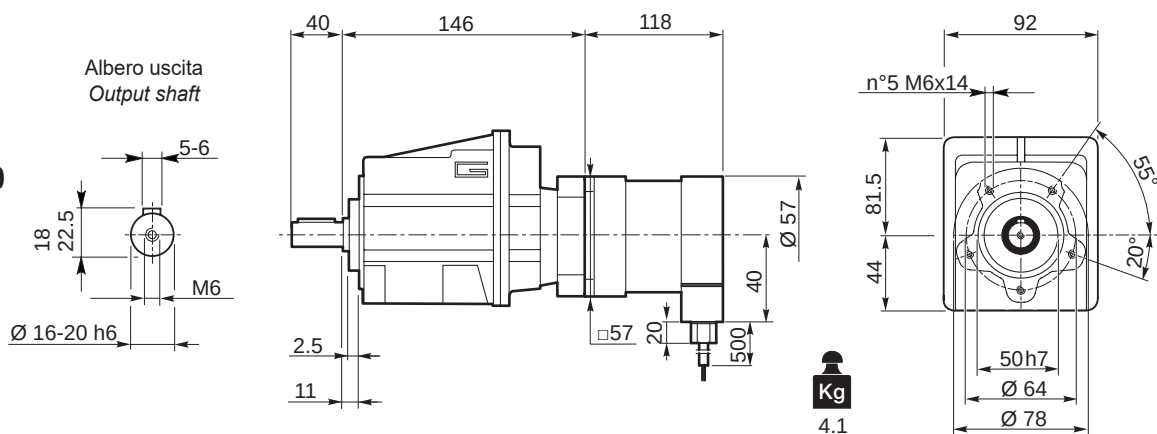
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

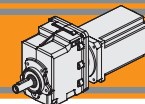
CMG002U..
+
BLS043.240



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					
	n _{2MIN} [rpm]			n _{2MAX} [rpm]		
ir		M ₂ [Nm]	sf		M ₂ [Nm]	sf
5.0	60	3.4	13.6	596	3.4	9.2
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

BA28

Freno
Brake

BL070.24B
BL070.48B

CMG002..H

BB19

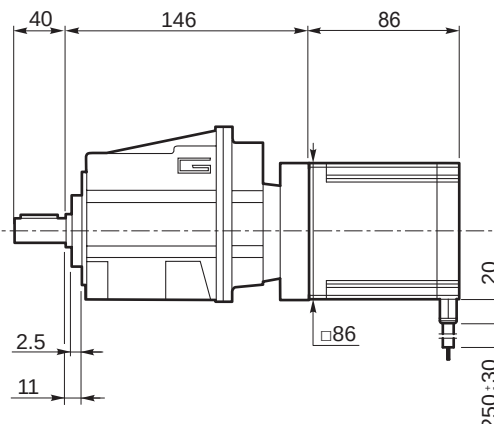
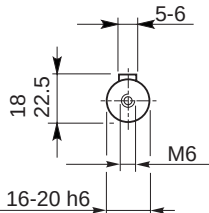
CMG002..F

BB20

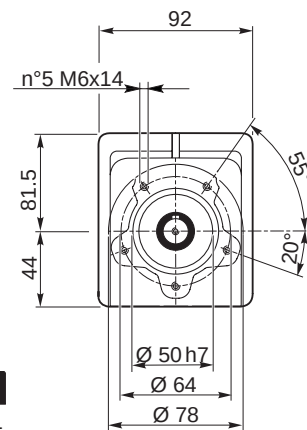
CMG002..H/F

BB21

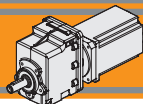
Albero uscita
Output shaft



Kg
4.1



CMG IP 55



Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL070.48.80											
	24V						48V					
	n ₂ MIN [rpm]		n ₂ MAX [rpm]		n ₁ MAX [rpm]		n ₂ MIN [rpm]		n ₂ MAX [rpm]		n ₁ MAX [rpm]	
ir	M ₂ [Nm]	sf	M ₂ [Nm]	sf	2500	4000	M ₂ [Nm]	sf	M ₂ [Nm]	sf	4000	4000
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	22	12	6.6	220	12	4.0
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

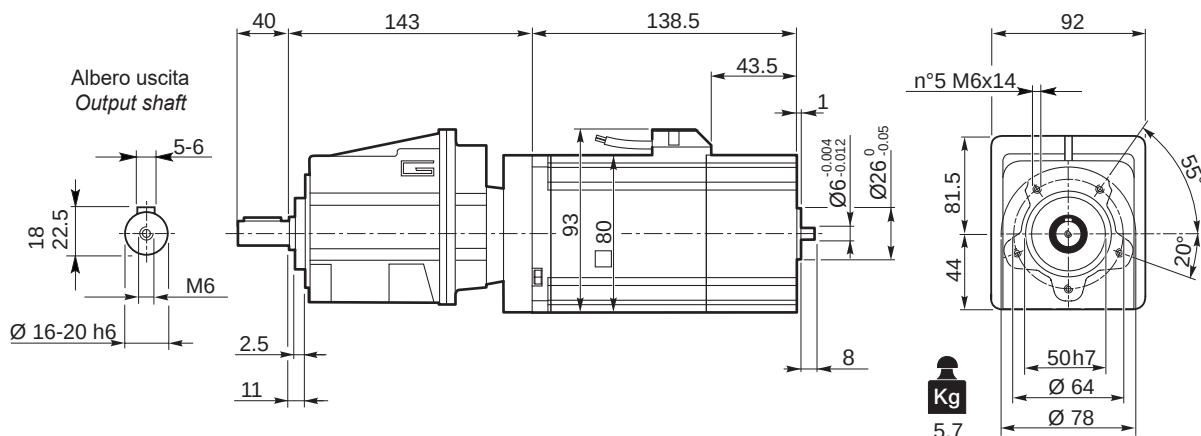
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione nominale Rated voltage [V]	Velocità nominale Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]	Coppia di picco Peak torque [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

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 [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

CMG002U..
+
BL070.48.80



Encoder

BA13

CMG002..H

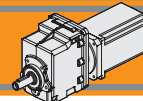
BB19

CMG002..F

BB20

CMG002..H/F

BB21



CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL140.480					
	48V					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir		M ₂ [Nm]	sf		M ₂ [Nm]	sf
5.0	60	6.8	6.8	596	6.8	4.6
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

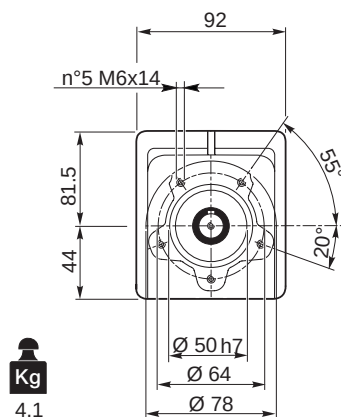
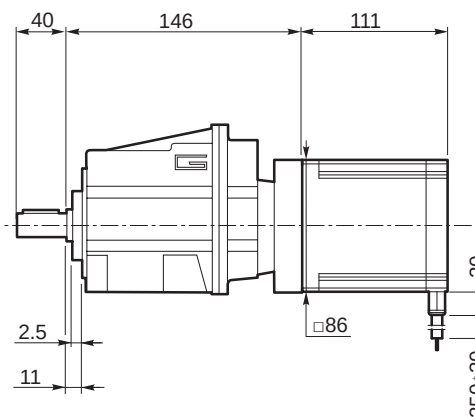
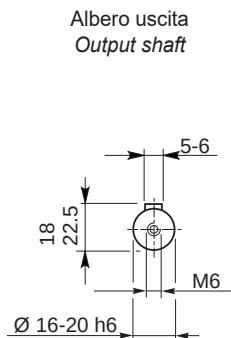
NOTE: for continuous or highly intermittent duty, please contact our technical service

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



CMG002U..
+
BL140.480

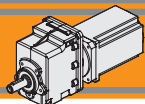


Kg
4.1

CMG002..H → BB19

CMG002..F → BB20

CMG002..H/F → BB21



Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG002 con motore brushless CC

CMG002 with brushless DC motor

CMG 002	BL200.48.95													
	24V						48V							
	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		
ir							1500							3000
5.0	30	9.7	4.8	298	9.7	4.1		60	9.7	4.8	597	9.7	3.2	
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.

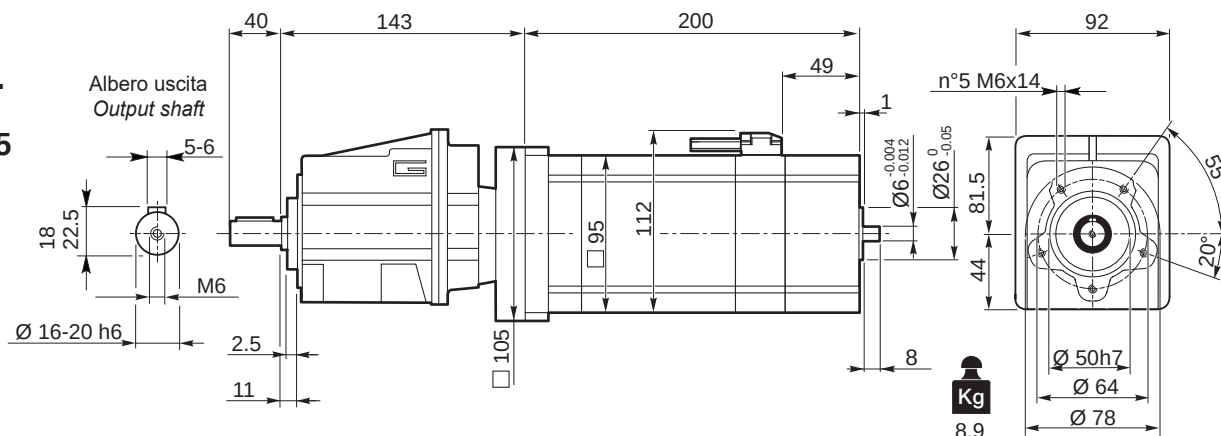
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Servizio Service	Tensione nominale Rated voltage [V]	Velocità nominale Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]	Coppia di picco Peak torque [Nm]
BL200.48.95	8	3	S1	48	3000	2.0	650	4.0
				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 [gcm ²]	Peso Weight [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

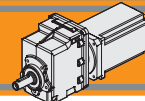
Azionamenti
Drives



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					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir		M ₂ [Nm]	sf		M ₂ [Nm]	sf
5.0	60	10	4.5	596	10	3.1
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

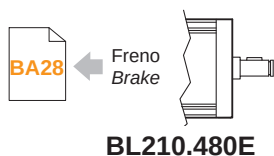
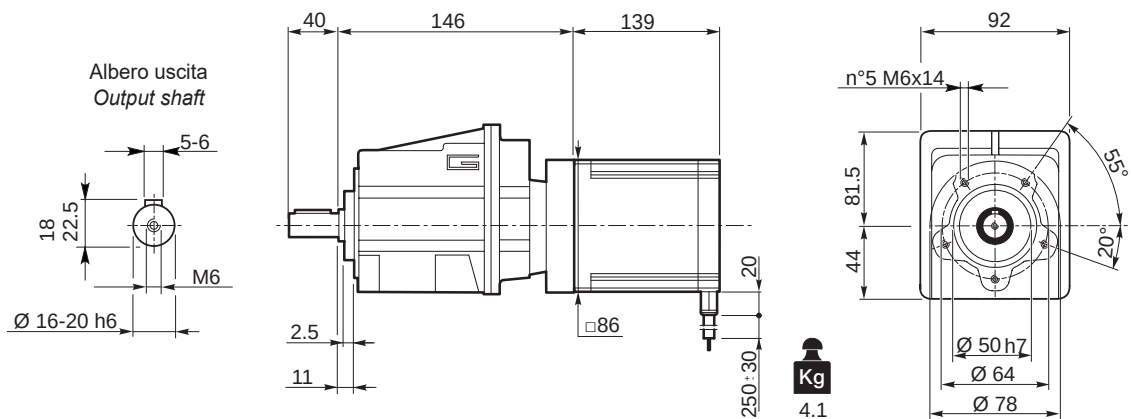
NOTE: for continuous or highly intermittent duty, please contact our technical service

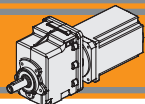
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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



CMG002U..
+
BL210.480





Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG012 con motore brushless CC

CMG012 with brushless DC motor

CMG 012	BL140.480						
	48V						
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir		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

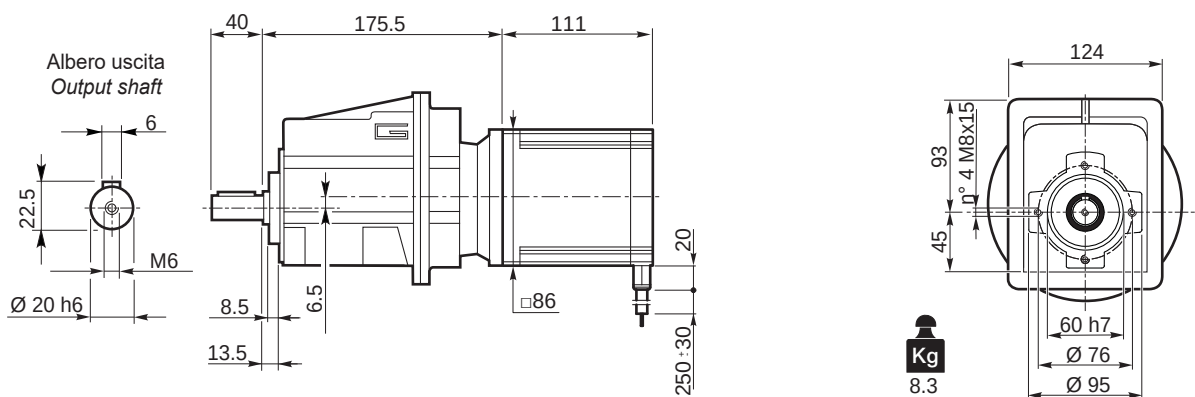
NOTE: for continuous or highly intermittent duty, please contact our technical service

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



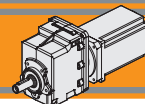
CMG012U..
+
BL140.480



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					
	n _{2MIN} [rpm]		n _{2MAX} [rpm]		n _{1MAX} [rpm]		n _{2MIN} [rpm]		n _{2MAX} [rpm]		n _{1MAX} [rpm]	
ir	M ₂ [Nm]	sf	M ₂ [Nm]	sf	1500	3000	M ₂ [Nm]	sf	M ₂ [Nm]	sf	1500	3000
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	21	28	4.9	205	28	3.3
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

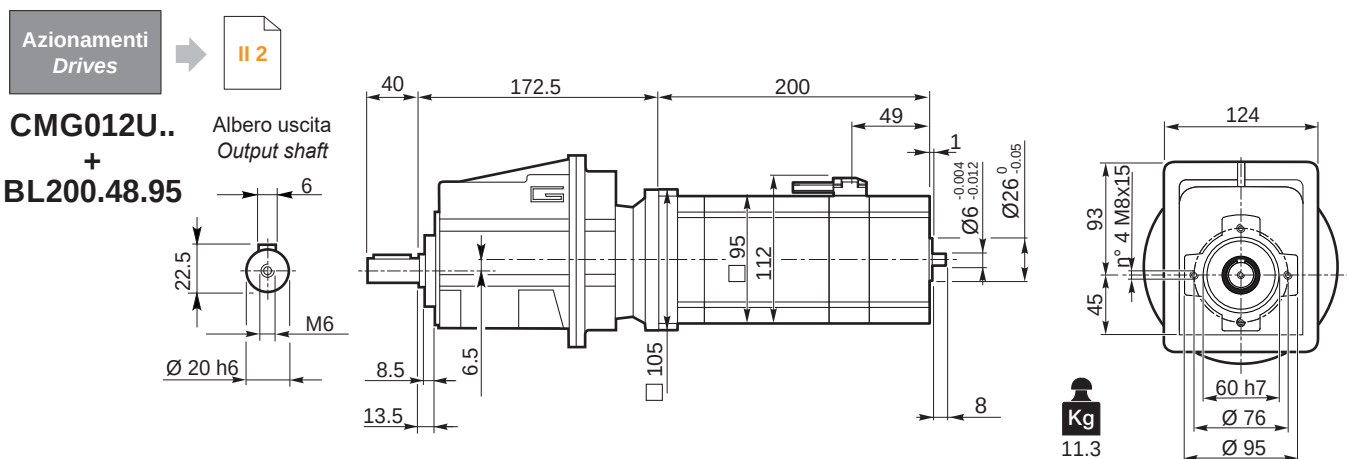
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

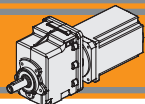
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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 [gcm ²]	Peso Weight [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6



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



Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG012 con motore brushless CC

CMG012 with brushless DC motor

CMG 012	BL210.480 / BL210.48E					
	48V					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir		M ₂ [Nm]	sf		M ₂ [Nm]	sf
3.82	79	7.7	9.0	786	7.7	6.1
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

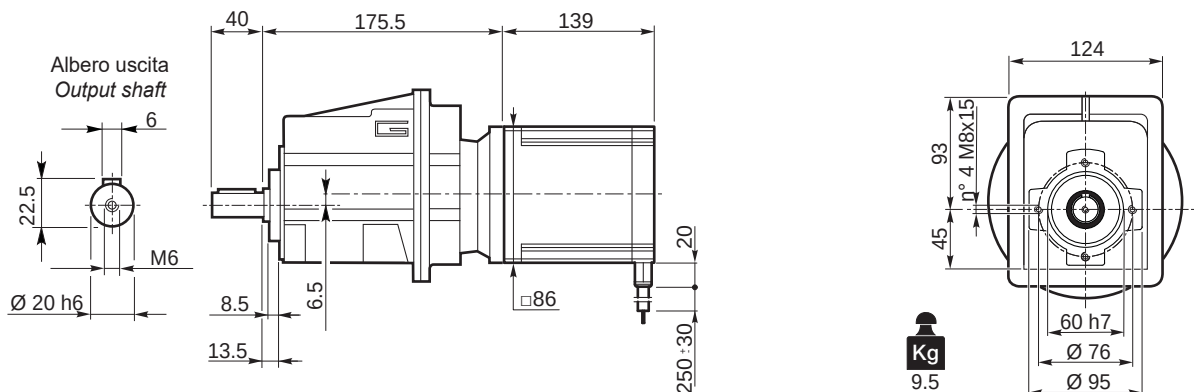
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
 Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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



Freno
Brake

CMG012..H



CMG012..F



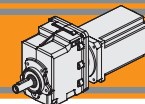
CMG012..H/F



B-B12

BL210.480E

0524A



CMG012 con motore brushless CC

CMG012 with brushless DC motor

CMG 012	BL400.48.120											
	24V						48V					
	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{2MIN} [rpm]			n _{2MAX} [rpm]		
ir	M ₂ [Nm]		sf	M ₂ [Nm]		sf	M ₂ [Nm]		sf	M ₂ [Nm]		sf
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	21	49	2.8	205	49	1.9
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

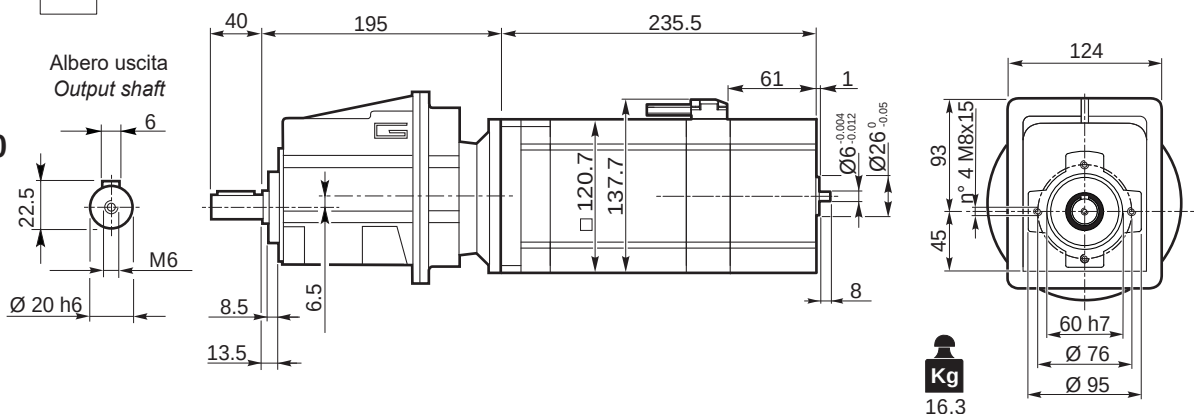
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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



Encoder

BA21

CMG012..H

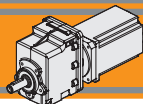
BB19

CMG012..F

BB20

CMG012..H/F

BB21



Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG022 con motore brushless CC

CMG022 with brushless DC motor

CMG 022	BL200.48.95											
	24V						48V					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir	M ₂ [Nm]		sf	M ₂ [Nm]		sf	M ₂ [Nm]		sf	M ₂ [Nm]		sf
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	20	28	8.1	203	28	5.5
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	

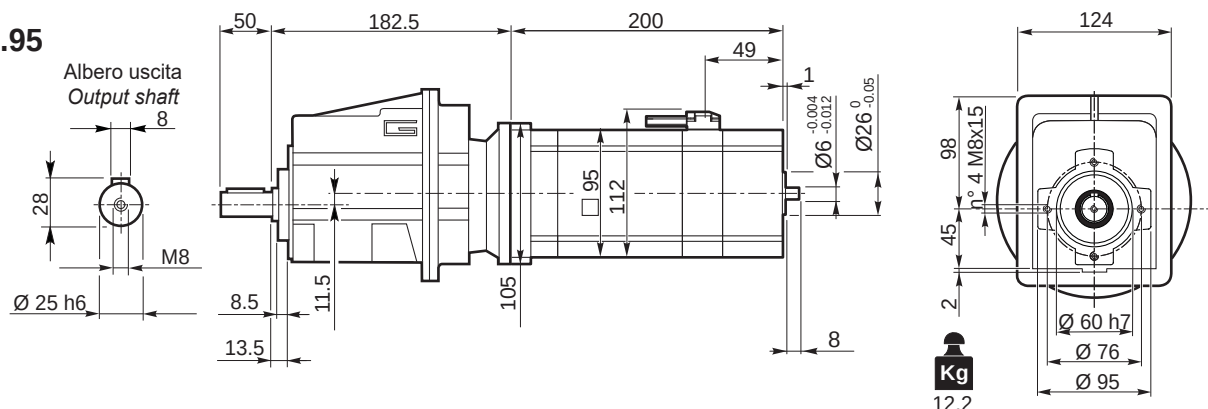
Tipo Type	Corrente nominale Rated current [A]	Corrente di picco Peak current [A]	Resistenza fase-fase Line to line resistance [Ω]	Induttanza fase-fase Line to line inductance [mH]	Costante di coppia Torque constant [Nm/A]	Costante FCEM Back EMF [V/kRPM]	Inerzia rotore Rotor inertia [gcm ²]	Peso Weight [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti
Drives



CMG022U..

+
BL200.48.95



CMG022..H → BB19

CMG022..F → BB20

CMG022..H/F → BB21

CMG IP 55

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

Azionamenti Drives



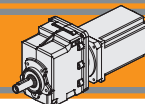
Technical drawing of the output shaft assembly. The side view shows a shaft with a diameter of $\varnothing 25 \text{ h6}$ and a length of 28. The front view shows a shaft with a diameter of $\varnothing 25 \text{ h6}$ and a length of 28. The shaft is mounted on a housing with a diameter of $\varnothing 86$ and a length of 139. The housing has a diameter of $\varnothing 95$ and a length of 124. The shaft is secured with a nut and washer, with a torque specification of $\text{n}^\circ 4 \text{ M8x15}$. The weight of the assembly is 10.4 Kg.

B-B₁₅



CMG022 with brushless DC motor

0524A



CMG032 con motore brushless CC

CMG032 with brushless DC motor

CMG 032	BL400.48.120													
	24V						48V							
ir	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
	M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		M ₂ [Nm]	sf		
3.74	37	13	13.7	374	13	11.9	1400	80	13	13.7	802	13	9.3	3000
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		16.5	61	4.5	165	61	3.1	
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

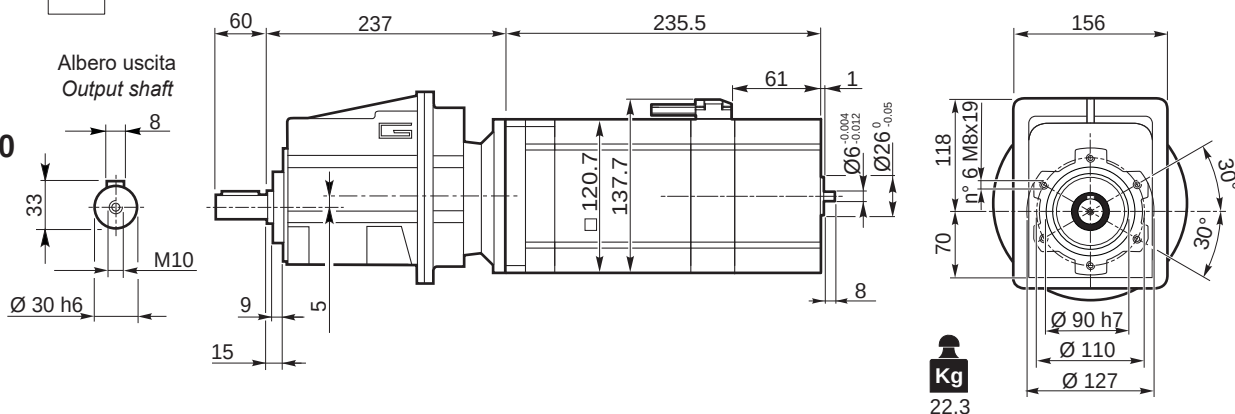
CMG033: 3 stage version available up to reduction ratio 427.03

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

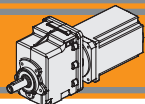
BB19

CMG032..F

BB20

CMG032..H/F

BB21



Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

CMG042 con motore brushless CC

CMG042 with brushless DC motor

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

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

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

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

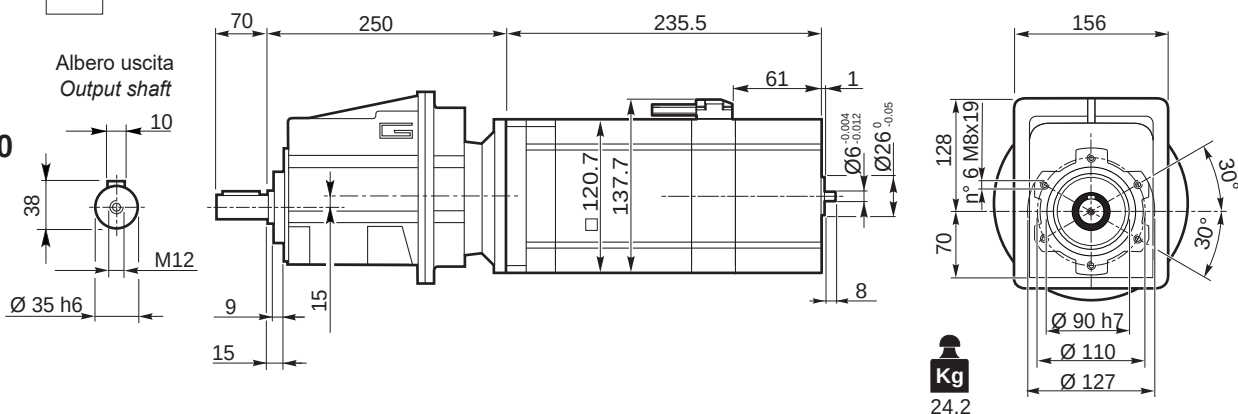
CMG043: 3 stage version available up to reduction ratio 427.03

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



Encoder

BA21

CMG032..H

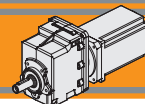
BB19

CMG032..F

BB20

CMG032..H/F

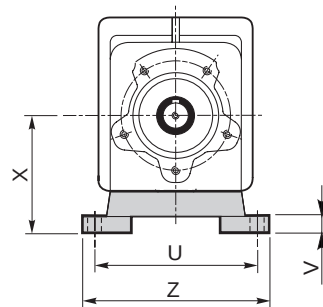
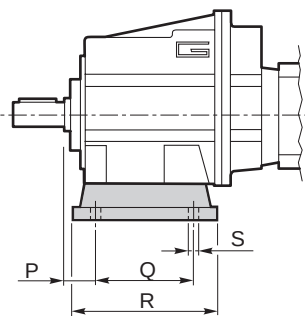
BB21



CMG..2 con motore brushless CC

CMG..2 with brushless DC motor

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

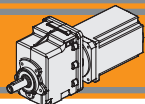


Versione H / H Version										
CMG	P	Q	R	S	U	V	X	Z	Piede / Foot	
									Tipo / Type	Peso / Weight [kg]
002	18	60	80	9	100	10	60	120	H60	0.2
	18	80	104	9	110 - 120	10	75	145	H75	0.3
	18	50 - 87	110	9	110	10	85	135	H85	0.4
012	20	85	108	9	115	12	65	139	H65	0.7
	18	80	118	9	110	12	75	140	H75	1.0
	25	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

IP 55

CMG

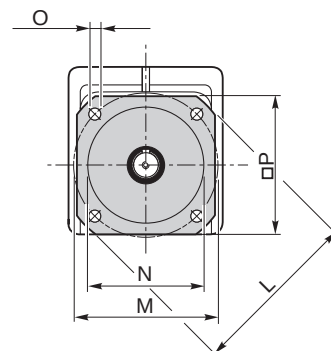
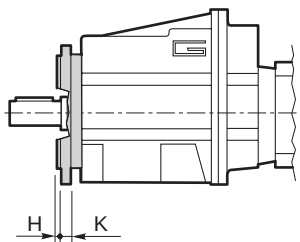


Motoriduttori brushless CC ad ingranaggi cilindrici Brushless DC helical in-line gearmotors

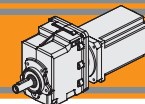
CMG..2 con motore brushless CC

CMG..2 with brushless DC motor

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



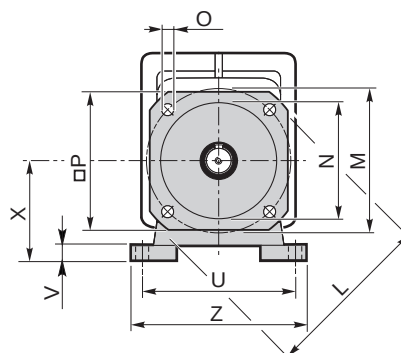
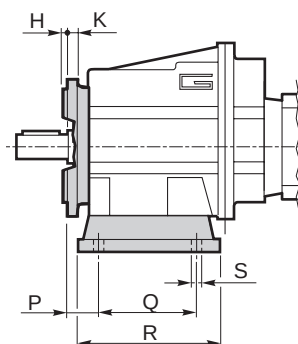
Versione F / F Version									
CMG	H	K	L	M	N f7	O	P	Flangia / Flange	
								Tipo / Type	Peso / Weight [kg]
002	3.5	7	105	85	70	6.5	90	F105	0.1
	3.5	8	120	100	80	7	100	F120	0.2
	3.5	8	140	115	95	9	115	F140	0.2
012	3	9	120	100	80	9	106	F120	0.5
	3.5	9	140	115	95	9	115	F140	0.8
	3.5	9	160	130	110	9	126	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

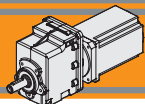
CMG002..H/F
CMG012..H/F
CMG022..H/F
CMG032..H/F
CMG042..H/F



Versione H / H Version										Combinazioni possibili H/F <i>Possible combinations H/F</i>							
CMG	P	Q	R	S	U	V	X	Z	Piede / Foot		F105	F120	F140	F160	F200	F250	F300
									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

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

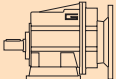


Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

Dati tecnici

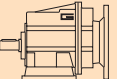
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
---	-------------------------------	----------------	----------------	-----

CMG 002

$n_1 = 1400$ 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

$n_1 = 3000$ 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

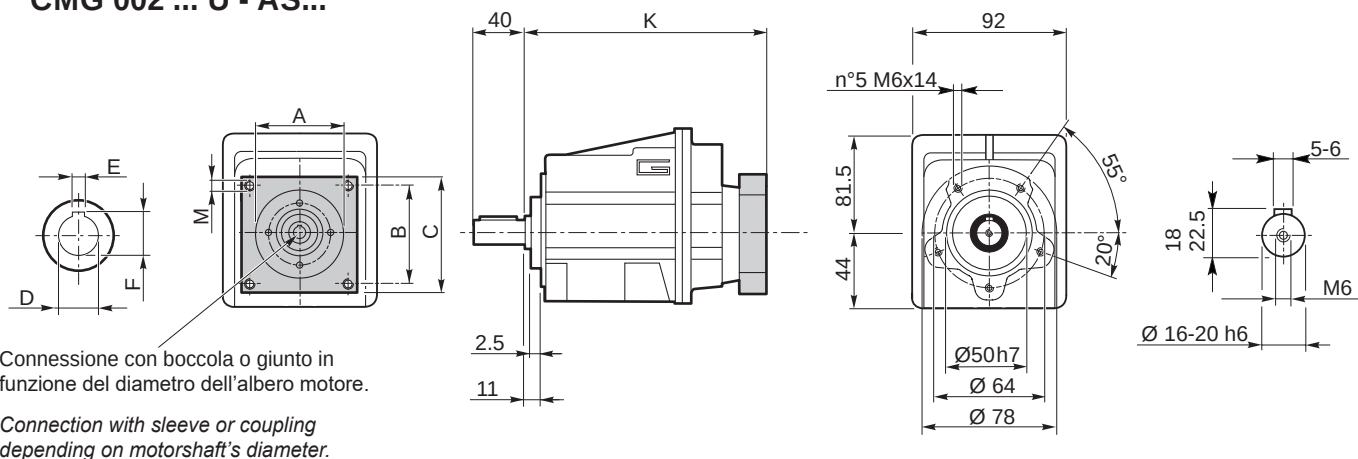
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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...



CMG002..H → BB19

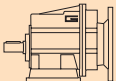
CMG002..F → BB20

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

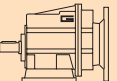
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
---	-------------------------------	----------------	----------------	-----

CMG 012

$n_1 = 1400$ 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

$n_1 = 3000$ 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

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

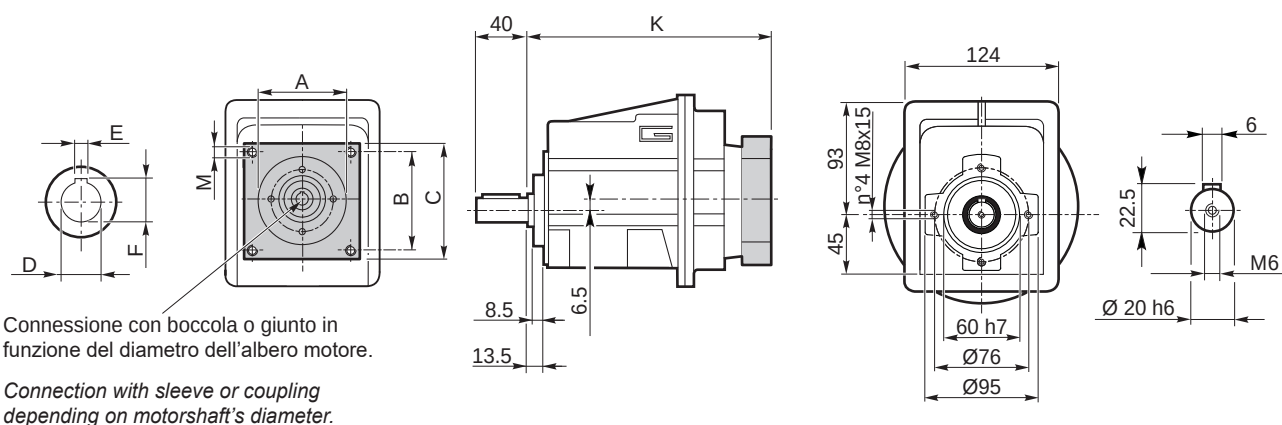
CMG013: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 443,59

CMG013: 3 stage version available up to reduction ratio 443.59

Dimensioni CMG con flange motore AS

CMG dimensions with motor flanges AS

CMG 012 ... U - AS...

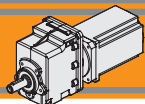


CMG012..H → BB19

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
...	...	...	...	...	...	...	...	...

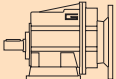


Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

Dati tecnici

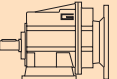
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
---	-------------------------------	----------------	----------------	-----

CMG 022

$n_1 = 1400$ 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

$n_1 = 3000$ 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

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

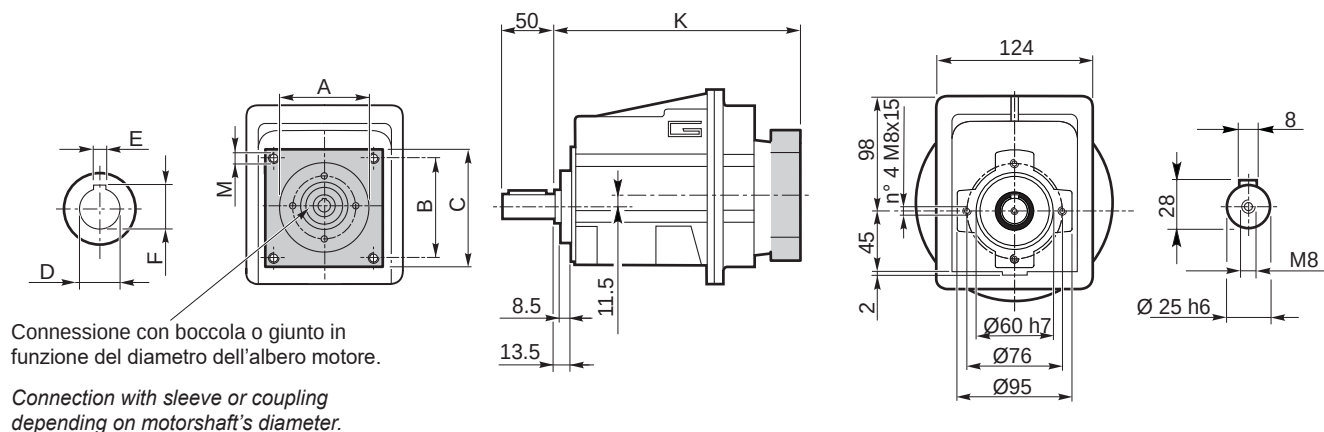
CMG023: disponibile nella versione a 3 stadi con rapporto di riduzione fino a 449.14

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...

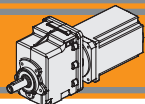


CMG022..H → BB19

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
...	...	...	...	...	...	...	...	...

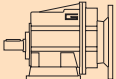


Motoriduttori brushless CC ad ingranaggi cilindrici

Brushless DC helical in-line gearmotors

Dati tecnici

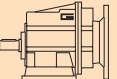
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
---	-------------------------------	----------------	----------------	-----

CMG 042

$n_1 = 1400$ 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

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
---	-------------------------------	----------------	----------------	-----

CMG 042

$n_1 = 3000$ 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

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

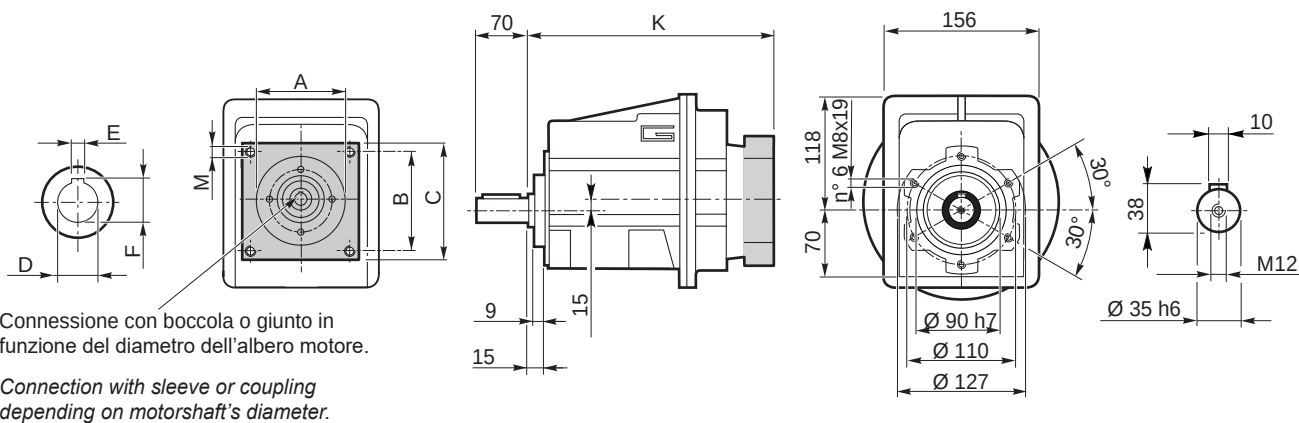
NOTE: for continuous or highly intermittent duty, please contact our technical service

CMG043: 3 stage version available up to reduction ratio 427.03

Dimensioni CMG con flange motore AS

CMG dimensions with motor flanges AS

CMG 042 ... U - AS...



CMG042..H ➔ **BB19**

CMG042..F ➔ **BB20**

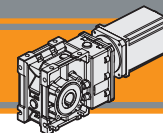
CMG042..H/F ➔ **BB21**

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



Motoriduttori brushless CC ad assi ortogonali
Brushless DC helical bevel gearmotors

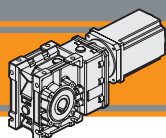




Indice	Index	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	BC2
Designazione	<i>Classification</i>	BC2
Simbologia	<i>Symbols</i>	BC3
Lubrificazione e temperatura	<i>Lubrication and temperature</i>	BC3
Carichi radiali	<i>Radial loads</i>	BC3
CMB402 con motore brushless BLS043.240	<i>CMB402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

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Motoriduttori brushless CC ad assi ortogonali Brushless DC helical bevel gearmotors

Caratteristiche tecniche

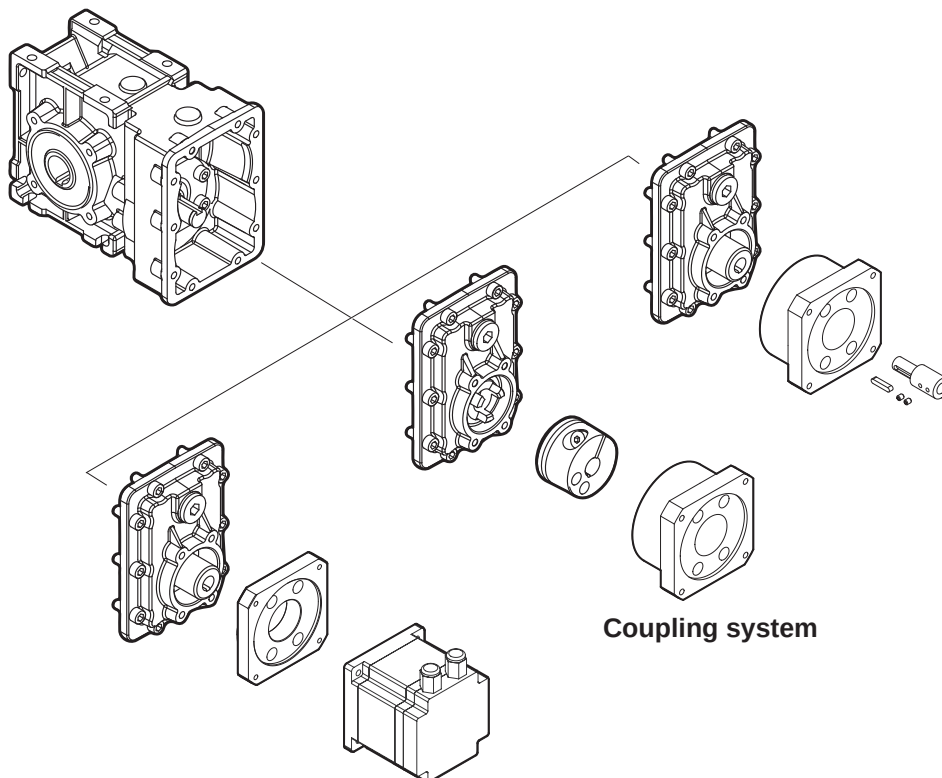
Technical features

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 synthetic oil long life lubrication
- Die-cast aluminium housing
- Ground-hardened helical gears.
- Available for motor input coupling with elastic coupling



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

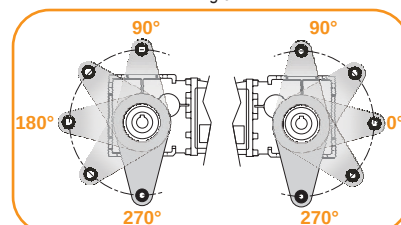
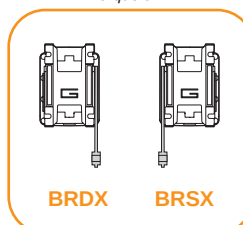
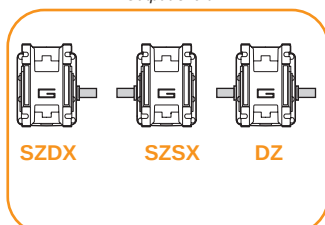
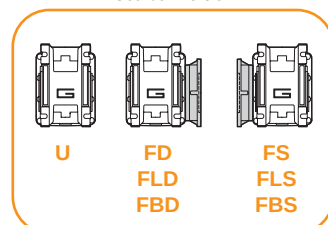
MOTORE / MOTOR		
BL070.480	48V	BR
Tipo Type	Tensione Voltage	Freno Brake
BLS043.240 BL070.240 BL070.24B BL070.48B BL070.480 BL070.48.80 BL140.480 BL200.48.95 BL210.480 BL210.48E BL400.48.120	24V-36V 24V 24V 48V 48V 24V-48V 48V 24V-48V 24V-48V 48V 48V	24V 48V BA16

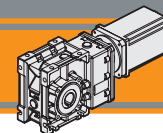
Versione Riduttore
Gearbox Version

Albero di uscita
Output shaft

Braccio di reazione
Torque arm

Angolo
Angle





Simbologia

Symbols

Ns	n° stadi / No. stages	Mn ₂	[Nm]	Coppia nominale in uscita in funzione di Pn1 Nominal output torque referred to Pn1
ir	rapporto reale / real ratio	n _{1MAX}	[Rpm]	Velocità max entrata / Max input speed
M ₂	[Nm] coppia in uscita output torque	V	[V]	Tensione / Voltage
A ₂	[N] Carico assiale ammissibile in uscita Permitted output axial load	n ₂	[Rpm]	Velocità in uscita / Output Speed
R ₂	[N] Carico radiale ammissibile in uscita Permitted output radial load	IP		Grado di protezione / Enclosure protection
Pn ₁	[kW] Potenza nominale in entrata Nominal input power	Kg		Peso / Weight
		sf		Fattore di servizio / Service Factor

Lubrificazione e temperaura

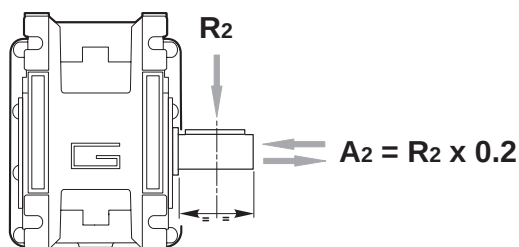
Lubrication and temperature

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 lubrication (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.

Carichi radiali

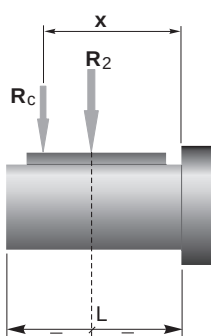
Radial loads



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 mezzes-
sia 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:

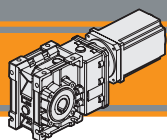


	CMB 402	CMB 502	CMB 633	CMB 903
a	86	104	118	157
b	66	79	93	117
R _{2MAX}	3500	4200	6500	9500

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

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

$$R \leq R_c$$



Motoriduttori brushless CC ad assi ortogonali

Brushless DC helical bevel gearmotors

CMB402 con motore brushless CC

CMB402 with brushless DC motor

CMB402	BLS043.240											
	24V						36V					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir	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	17	9.7	6.5	167	9.7	3.9
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

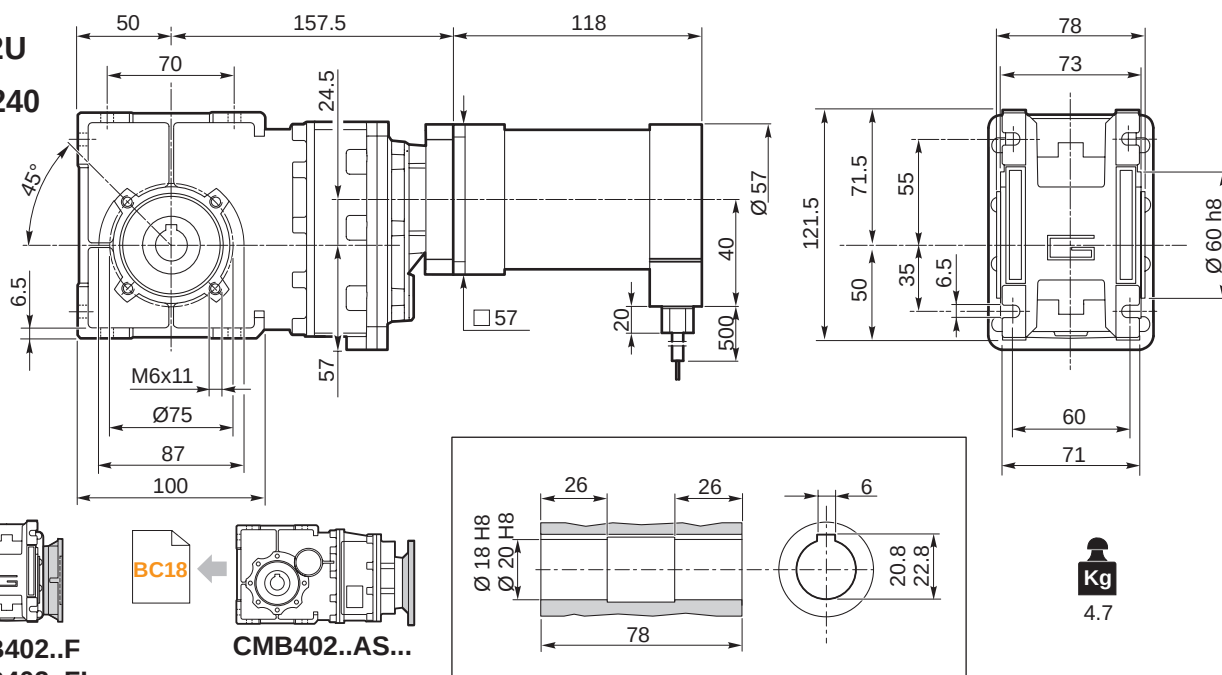
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

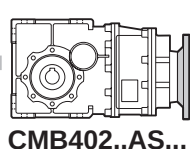
Azionamenti
Drives

II 2

CMB402U
+
BLS043.240



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



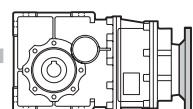
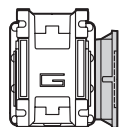
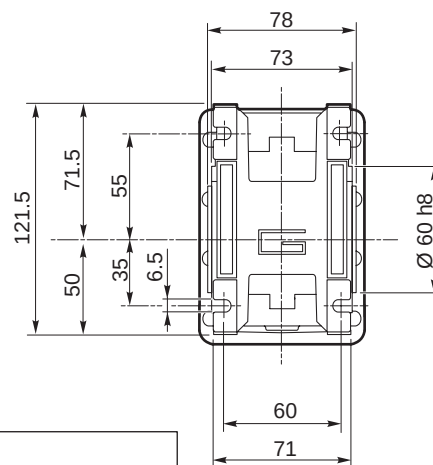
Albero lento cavo / Hollow output shaft

CMB402 with brushless DC motor

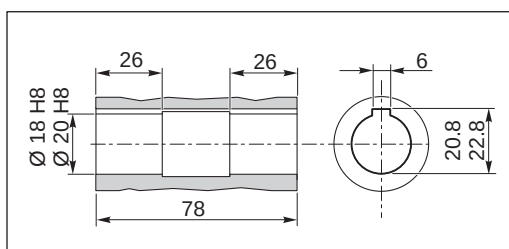
CMB IP 55

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

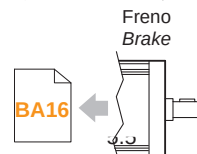
Azionamenti Drives

[illegible]

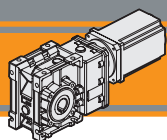
Kg
5.5



Albero lento cavo / *Hollow output shaft*



BL070.24B
BL070.48B



Motoriduttori brushless CC ad assi ortogonali

Brushless DC helical bevel gearmotors

CMB402 con motore brushless CC

CMB402 with brushless DC motor

CMB402	BL070.48.80													
	24V						48V							
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir	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	2500	65	4.1	11.3	648	4.1	6.8	4000
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		17	16	4.0	167	16	2.4	
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.

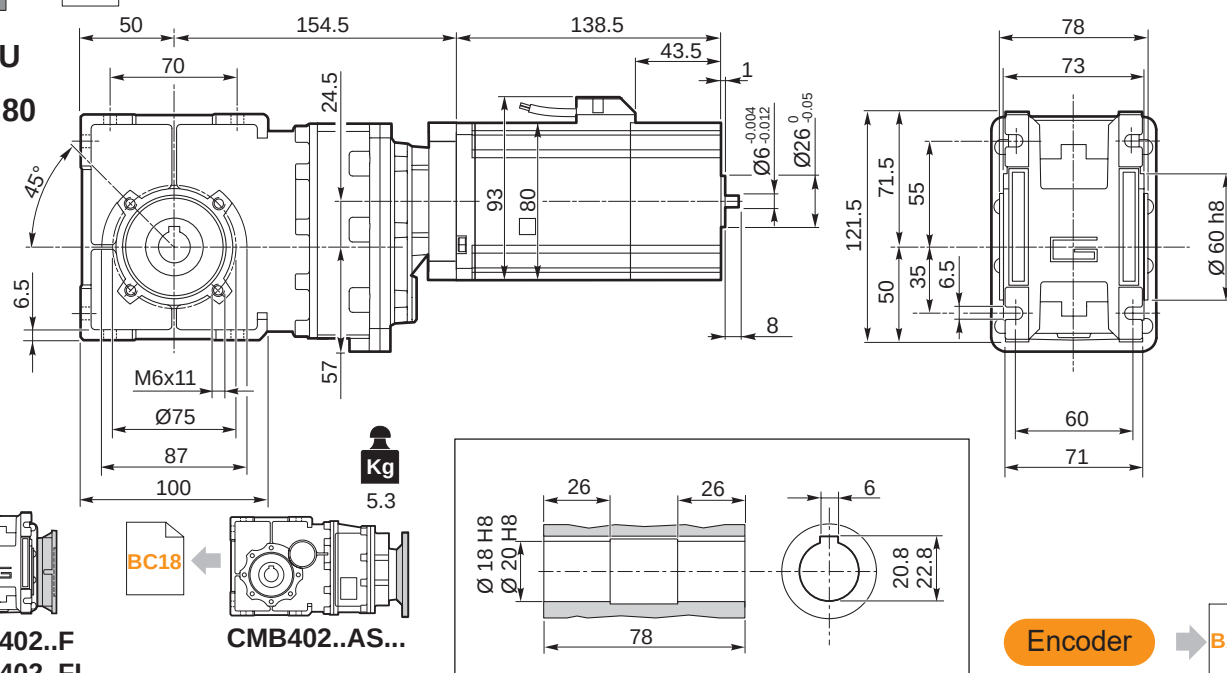
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione nominale Rated voltage [V]	Velocità nominale Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]	Coppia di picco Peak torque [Nm]
BL070.48.80	8	3	48	4350	0.7	320	1.4
			24	2500		185	

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 [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

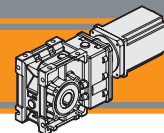
CMB402U
+
BL070.48.80



Albero lento cavo / Hollow output shaft

B-C6

0724A



CMB402 con motore brushless CC

CMB402 with brushless DC motor

CMB402	BL140.480					
	48V					
	n_{2MIN} [rpm]			n_{2MAX} [rpm]		
ir		M_2 [Nm]	sf		M_2 [Nm]	sf
6.18	49	8.1	5.7	486	8.1	3.8
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

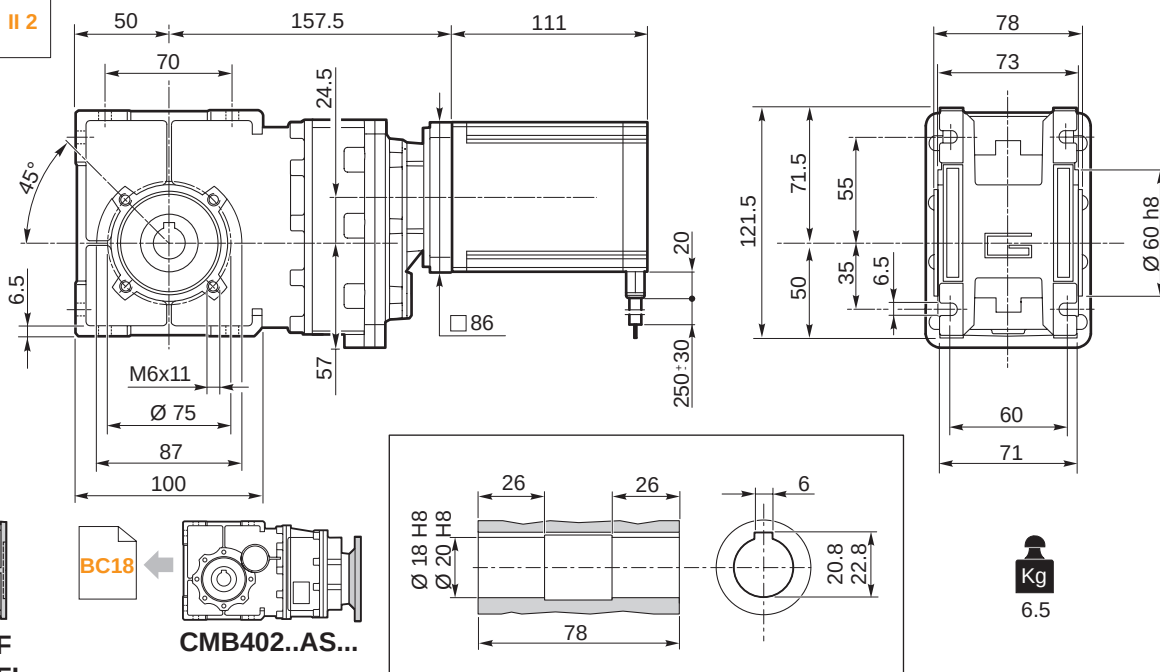
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service S1 is exceeded. Please, contact our technical office.

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



CMB402U
+
BL140.480

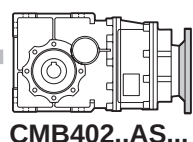


Albero lento cavo / Hollow output shaft

Kg
6.5



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



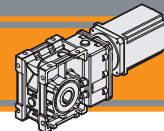
CMB402..AS...



CMB502 with brushless DC motor

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

BL070.24B
BL070.48B



CMB502 con motore brushless CC

CMB502 with brushless DC motor

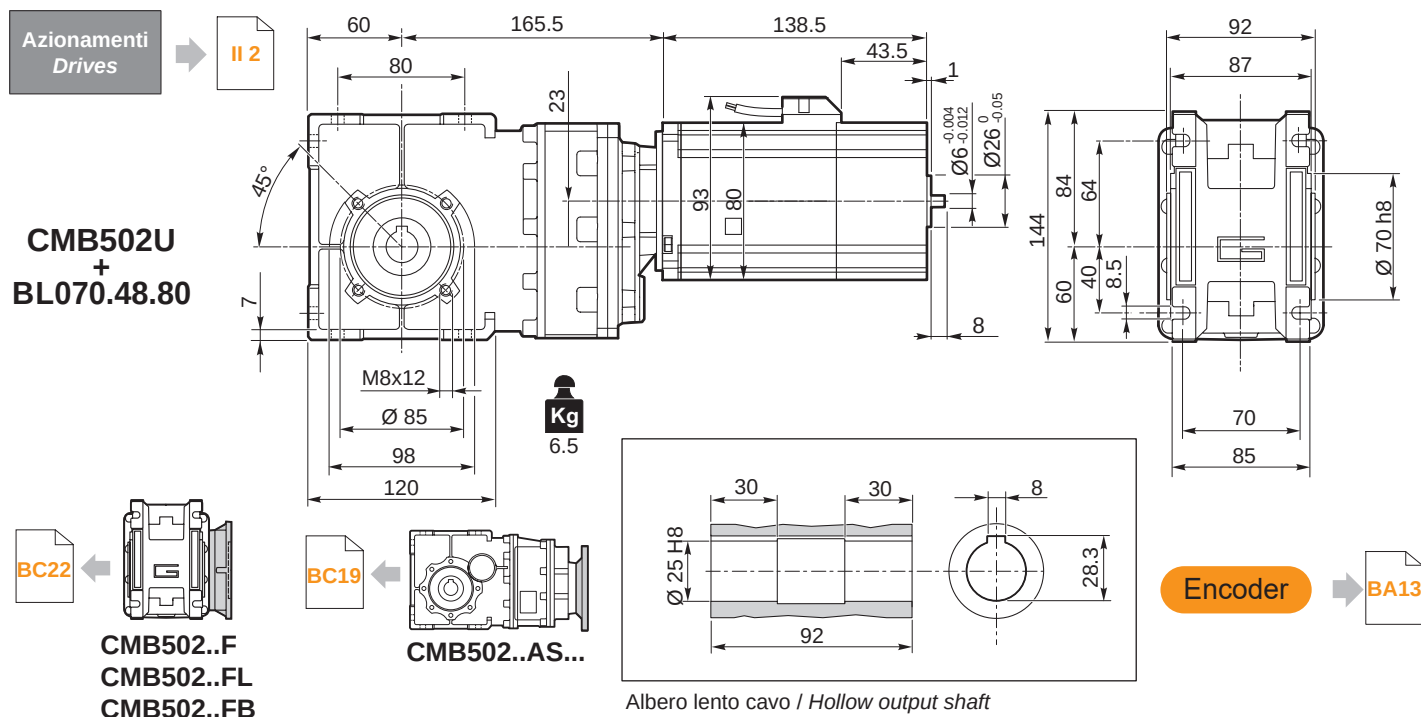
CMB502	BL070.48.80											
	24V						48V					
	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{2MIN} [rpm]			n _{2MAX} [rpm]		
ir	M ₂ [Nm]		sf	M ₂ [Nm]		sf	M ₂ [Nm]		sf	M ₂ [Nm]		sf
6.18	40	4.1	19.8	405	4.1	13.4	65	4.1	19.8	648	4.1	11.9
7.49	33	4.9	16.3	334	4.9	11.1	53	4.9	16.3	534	4.9	9.8
9.20	27	6.1	13.3	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	17	16	8.0	167	16	4.8
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

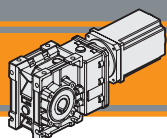
NOTE: for continuous or highly intermittent duty, please contact our technical service

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 [gcm ²]	Peso Weight [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8



CMB IP 55



Motoriduttori brushless CC ad assi ortogonali

Brushless DC helical bevel gearmotors

CMB502 con motore brushless CC

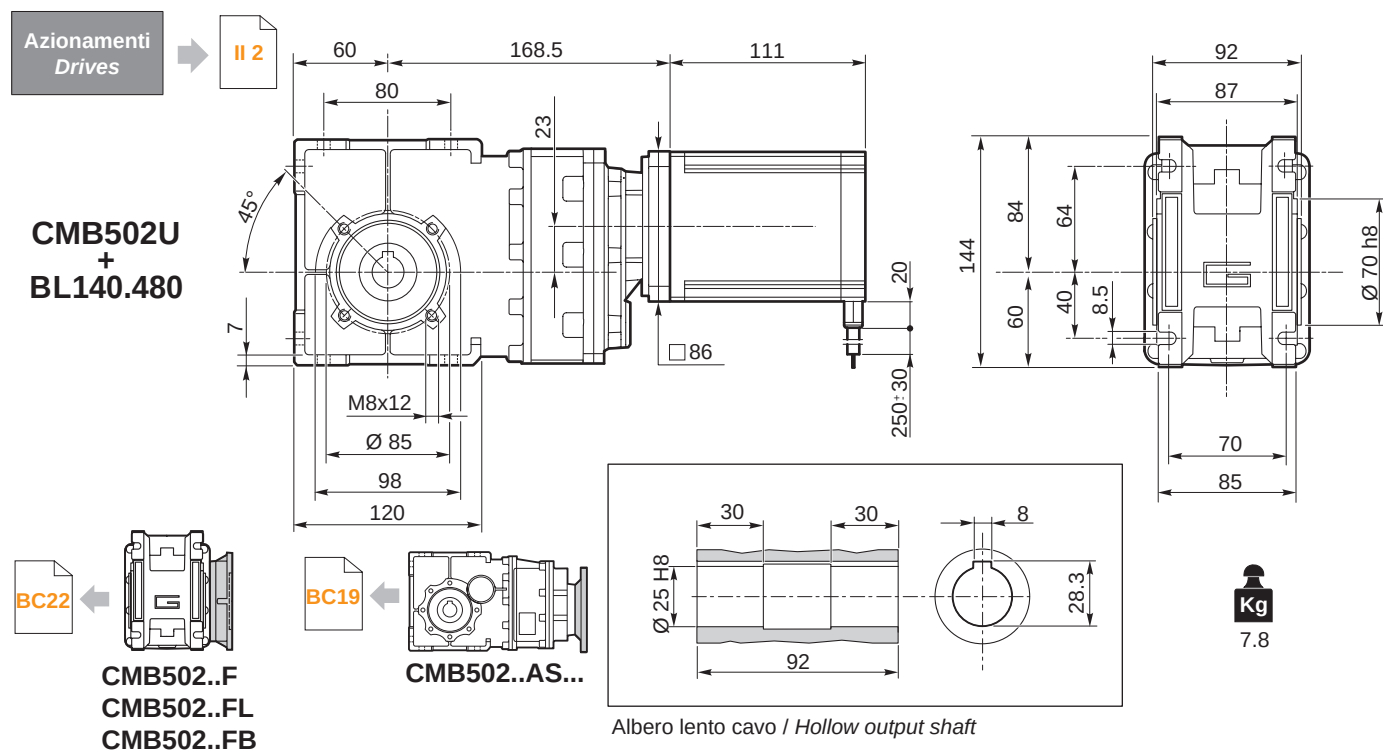
CMB502 with brushless DC motor

CMB502	BL140.480					
	48V					
	n_{2MIN} [rpm]			n_{2MAX} [rpm]		
ir		M_2 [Nm]	sf		M_2 [Nm]	sf
6.18	49	8.1	9.9	486	8.1	6.7
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



CMB502 with brushless DC motor

CMB IP 55

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

Page 10

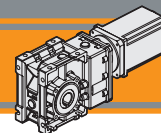
Tipo Type	Corrente nominale Rated current [A]	Corrente di picco Peak current [A]	Resistenza fase-fase Line to line resistance [Ω]	Induttanza fase-fase Line to line inductance [mH]	Costante di coppia Torque constant [Nm/A]	Costante FCEM Back EMF [V/kRPM]	Inerzia rotore Rotor inertia [gcm²]	Peso Weight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





CMB502 with brushless DC motor

0724A



CMB633 con motore brushless CC

CMB633 with brushless DC motor

CMB633	BL140.480					
	48V					
	n_{2MIN} [rpm]			n_{2MAX} [rpm]		
ir		M_2 [Nm]	sf		M_2 [Nm]	sf
6.58	46	8.5	20.3	456	8.5	13.8
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

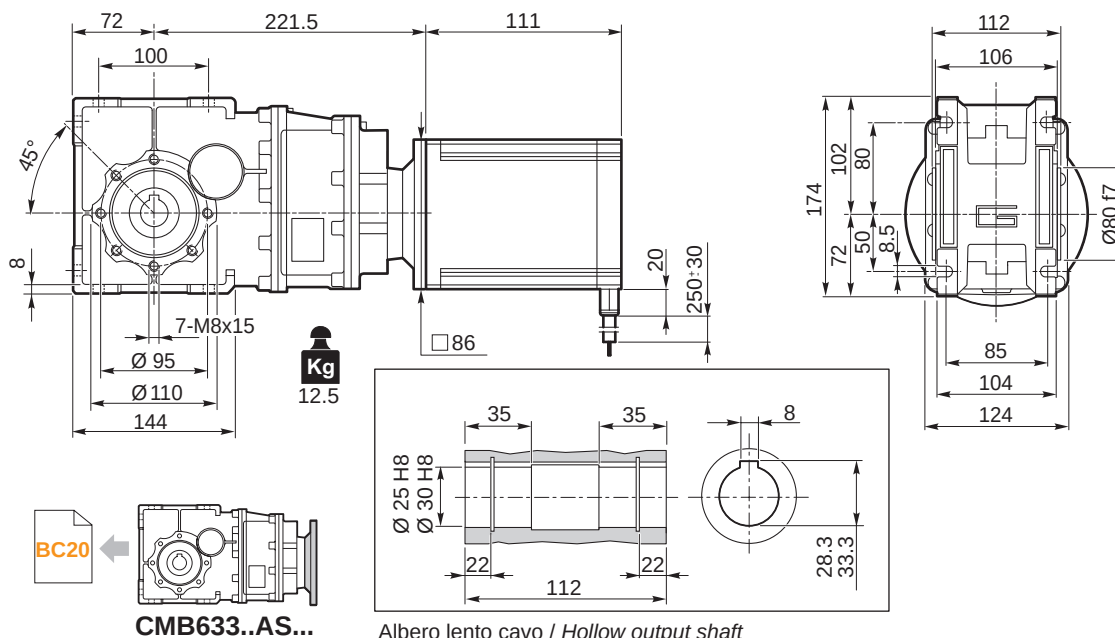
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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



Albero lento cavo / Hollow output shaft



CMB633 with brushless DC motor

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.

BA17

CMB633 with brushless DC motor

CMB IP 55

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.

Azionamenti Drives

11 2

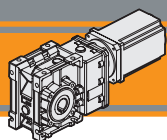
BC22

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

CMB633..AS...

Albero lento cavo / *Hollow output shaft*

BL210.48E



Motoriduttori brushless CC ad assi ortogonali

Brushless DC helical bevel gearmotors

CMB633 con motore brushless CC

CMB633 with brushless DC motor

CMB633	BL400.48.120												
	24V							48V					
	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]		
ir	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	1400	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		8.4	116	2.2	84	116	1.5
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

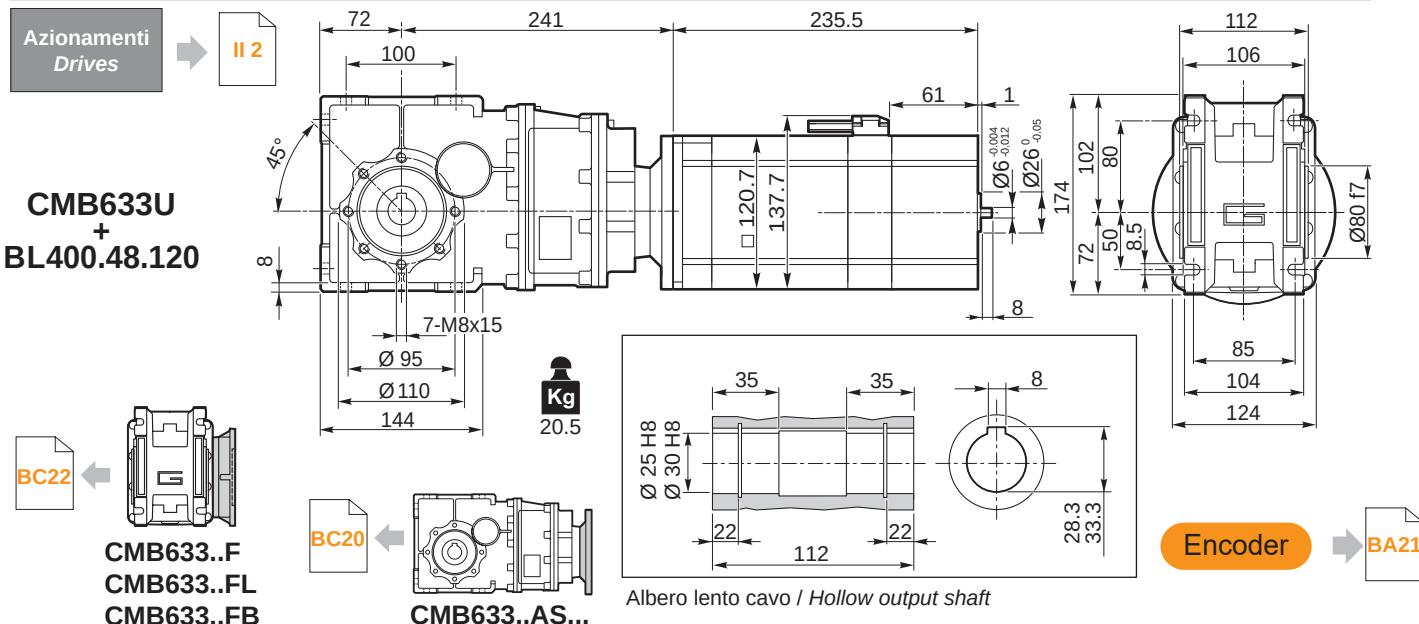
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

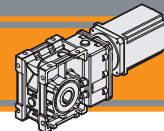
NOTE: for continuous or highly intermittent duty, please contact our technical service

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 [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11





CMB903 con motore brushless CC

CMB903 with brushless DC motor

CMB903	BL400.48.120													
	24V							48V						
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir	M ₂ [Nm]	sf	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	1400	45	21	15.0	451	21	10.2	3000
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		6.3	152	3.8	63	152	2.6	
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 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

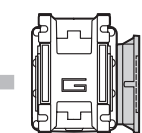
Tipo Type	Resistenza fase-fase Line to line resistance [Ω]	Induttanza fase-fase Line to line inductance [mH]	Costante di coppia Torque constant [Nm/A]	Costante FCEM Back EMF [V/kRPM]	Inerzia rotore Rotor inertia [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti
Drives

II 2

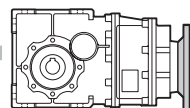
CMB903U
+
BL400.48.120

BC22



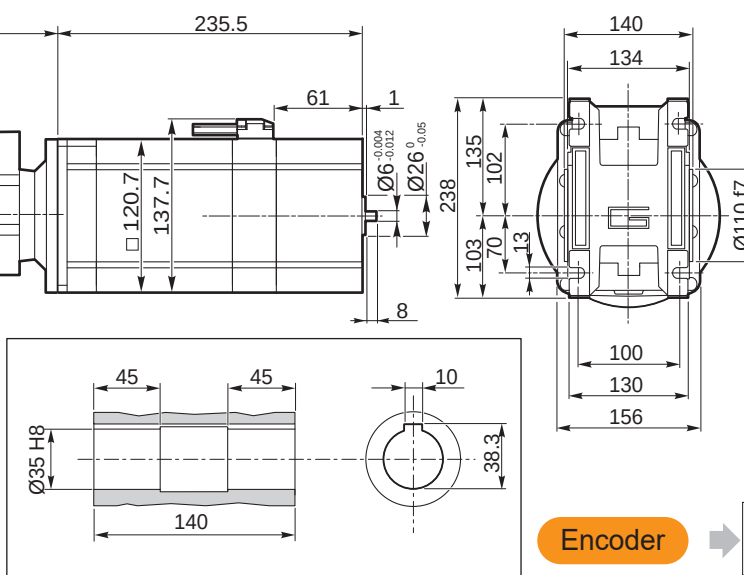
CMB903..F

BC18



CMB903..AS...

Kg
29.4



Albero lento cavo / Hollow output shaft

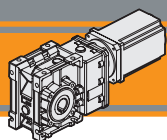
Encoder

BA21

B-C17

0724A

CMB IP 55

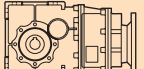


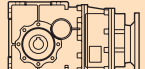
Motoriduttori brushless CC ad assi ortogonali

Brushless DC helical bevel gearmotors

Dati tecnici

Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
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	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
---	-------------------------------	----------------	----------------	-----

CMB 402

$n_1 = 1400$ 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

CMB 402

$n_1 = 3000$ 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

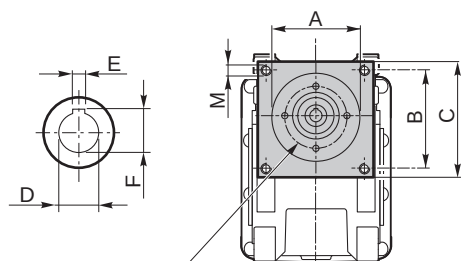
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

Dimensioni CMB con flange motore AS

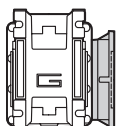
CMB dimensions with motor flanges AS

CMB402 - U - AS...

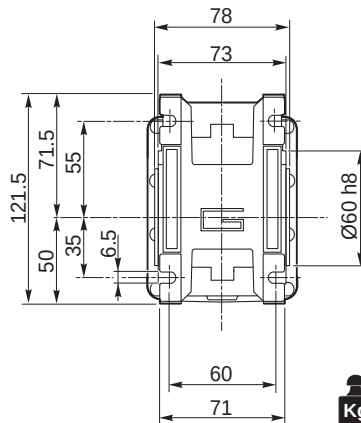
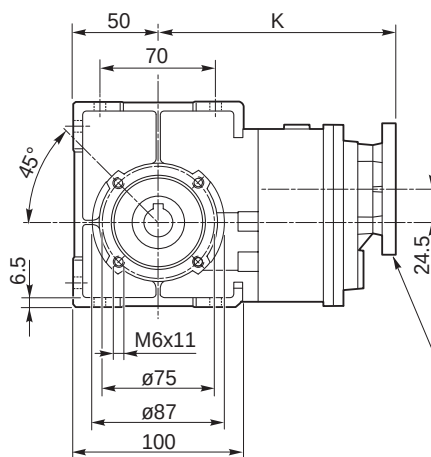


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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



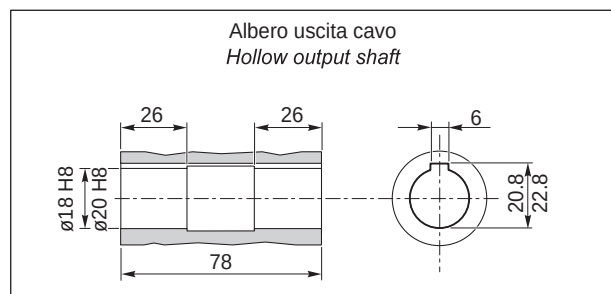
CMB402..F
CMB402..FL
CMB402..FB

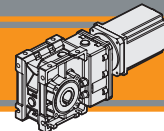


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

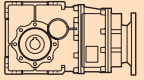
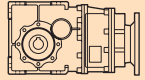
Dimensioni / Dimensions								
AS	A	B	C	M	K	D	E	F
AS392FX	38.1	47.1	64	M5	157.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	157.5	9	3	10.5
						11	4	12.8
						14	5	16.3
...	...	...	...	...	...	...	...	...





Dati tecnici

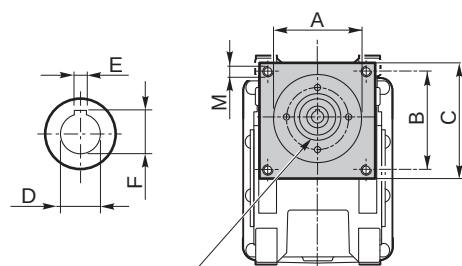
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i		n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 502					CMB 502				
$n_1 = 1400 \text{ rpm}$	227	70	1.8	6.18	$n_1 = 3000 \text{ rpm}$	486	54.6	2.89	6.18
	187	70	1.5	7.49		400	54.6	2.38	7.49
	152	70	1.2	9.20		326	54.6	1.94	9.20
	118	90	1.2	11.83		254	70.2	1.94	11.83
	112	90	1.1	12.48		240	70.2	1.84	12.48
	94.4	90	0.95	14.83		202	70.2	1.55	14.83
	79.4	90	0.80	17.63		170	70.2	1.30	17.63
	75.3	110	0.92	18.60		161	85.8	1.51	18.60
	62.7	110	0.77	22.33		134	85.8	1.26	22.33
	58.6	110	0.72	23.91		126	85.8	1.17	23.91
	48.5	125	0.67	28.89		104	97.5	1.10	28.89
	45.4	125	0.63	30.84		97.3	97.5	1.03	30.84
	41.7	125	0.58	33.57		89.4	97.5	0.95	33.57
	39.3	125	0.55	35.63		84.2	97.5	0.90	35.63
	32.7	125	0.46	42.75		70.2	97.5	0.75	42.75
	25.3	125	0.35	55.31		54.2	97.5	0.58	55.31
	23.7	125	0.33	59.06		50.8	97.5	0.54	59.06
	21.8	125	0.30	64.29		46.7	97.5	0.50	64.29
	19.3	125	0.27	72.50		41.4	97.5	0.44	72.50

Dimensioni CMB con flange motore AS

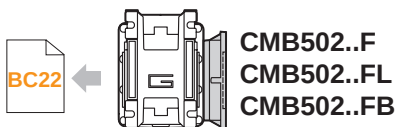
CMB dimensions with motor flanges AS

CMB502 - U - AS...

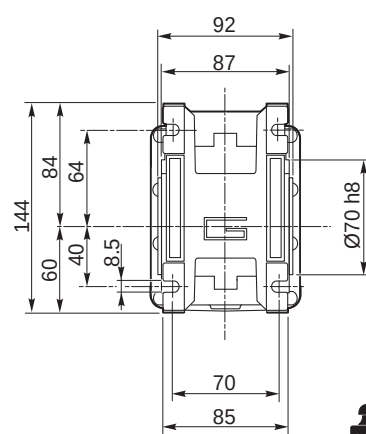
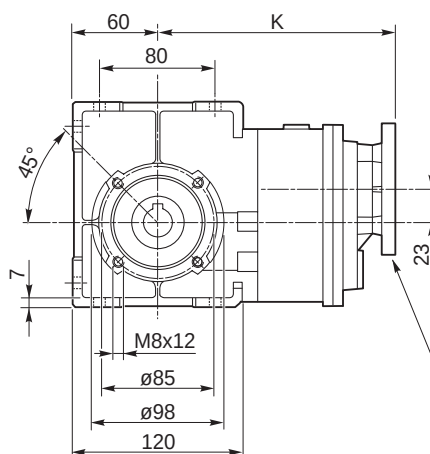


Connessione con boccia o giunto in funzione del diametro dell'albero motore.

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



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

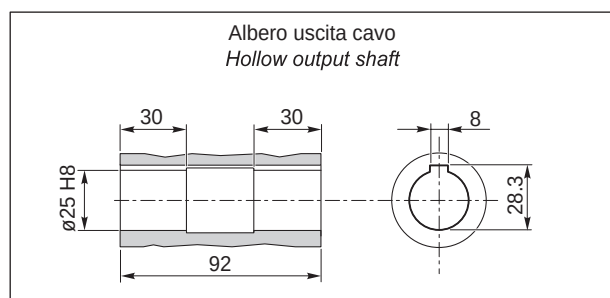


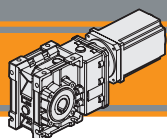
Kg
4.8

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

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

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
...	...	...	...	...	...	...	...	...



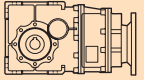
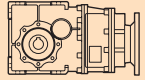


Motoriduttori brushless CC ad assi ortogonali

Brushless DC helical bevel gearmotors

Dati tecnici

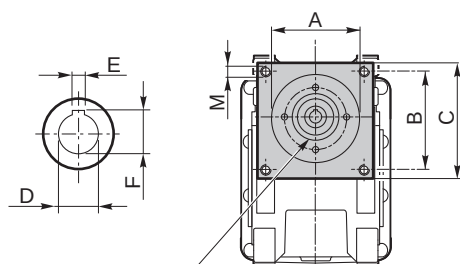
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i		n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 633					CMB 633				
$n_1 = 1400 \text{ rpm}$	213	150	3.6	6.58	$n_1 = 3000 \text{ rpm}$	456	117	5.6	6.58
	175	150	2.9	7.99		376	117	4.6	7.99
	143	150	2.4	9.81		306	117	3.7	9.81
	134	150	2.2	10.44		287	117	3.5	10.44
	112	150	1.9	12.53		239	117	2.9	12.53
	105	150	1.8	13.31		225	117	2.8	13.31
	89	170	1.7	15.81		190	133	2.6	15.81
	79	220	1.9	17.77		169	172	3.0	17.77
	65	220	1.6	21.56		139	172	2.5	21.56
	53	220	1.3	26.48		113	172	2.0	26.48
	50	220	1.2	28.17		106	172	1.9	28.17
	41	220	1.0	33.81		89	172	1.6	33.81
	39	220	0.96	35.92		84	172	1.5	35.92
	36	250	1.00	38.88		77	195	1.6	38.88
	30	250	0.83	47.16		64	195	1.3	47.16
	24	250	0.67	57.93		52	195	1.1	57.93
	23	250	0.63	61.63		49	195	0.99	61.63
	19	250	0.53	73.96		41	195	0.83	73.96
	18	250	0.50	78.58		38	195	0.78	78.58
	15	250	0.42	93.33		32	195	0.66	93.33
	10	250	0.28	140.52		21	195	0.44	140.52
	7.7	250	0.21	181.81		17	195	0.34	181.81
	6.6	250	0.18	211.31		14	195	0.29	211.31
	5.9	250	0.16	238.31		13	195	0.26	238.31

Dimensioni CMB con flange motore AS

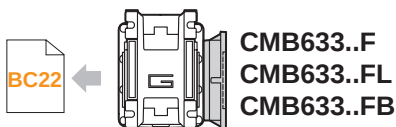
CMB dimensions with motor flanges AS

CMB633 - U - AS...

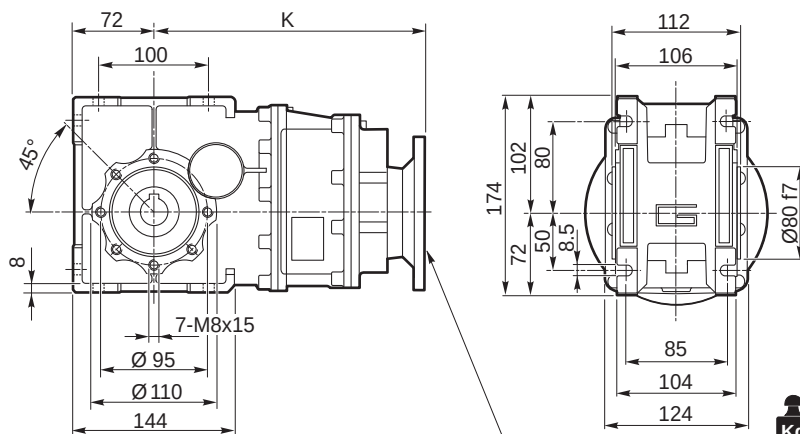


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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



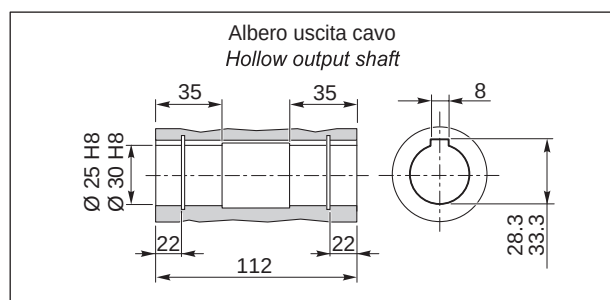
CMB633..F
CMB633..FL
CMB633..FB

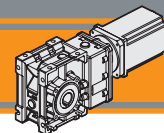


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

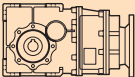
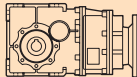
Dimensioni / Dimensions								
AS	A	B	C	M	K	D	E	F
AS392FX	38.1	47.1	64	M5	221.5	9	3	10.5
						14	4	12.8
						14	5	16.3
AS384FX	73	69.6	86	M5	221.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS302	73	69.6	86	M5	241	19	6	21.8
						24	8	27.3
...	...	...	...	...	...	...	...	...





Dati tecnici

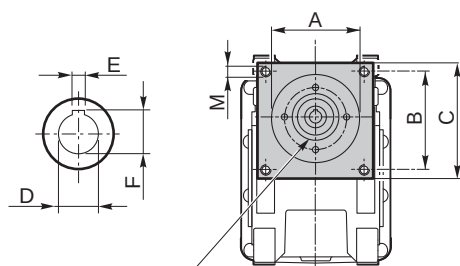
Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i		n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 903					CMB 903				
$n_1 = 1400 \text{ rpm}$	211	280	6.6	6.65	$n_1 = 3000 \text{ rpm}$	451	218	10.3	6.65
	175	280	5.5	8.00		375	218	8.6	8.00
	144	280	4.5	9.74		308	218	7.0	9.74
	125	280	3.9	11.21		268	218	6.1	11.21
	99	300	3.3	14.09		213	234	5.2	14.09
	78	450	3.9	17.95		167	351	6.1	17.95
	65	450	3.2	21.60		139	351	5.1	21.60
	53	450	2.7	26.30		114	351	4.2	26.30
	46	450	2.3	30.25		99	351	3.6	30.25
	36	500	2.0	39.26		76	390	3.1	39.26
	30	500	1.7	47.25		63	390	2.6	47.25
	24	500	1.4	57.52		52	390	2.1	57.52
	21	500	1.2	66.17		45	390	1.9	66.17
	17	500	0.94	83.20		36	390	1.5	83.20
	13	500	0.72	108.09		28	390	1.1	108.09
	11	500	0.59	132.23		23	390	0.93	132.23
	9.5	500	0.53	147.92		20	390	0.83	147.92
	8.4	500	0.47	167.09		18	390	0.73	167.09
	7.3	500	0.41	191.06		16	390	0.64	191.06
	6.3	500	0.35	221.88		14	390	0.55	221.88
	5.3	500	0.30	262.96		11	390	0.47	262.96

Dimensioni CMB con flange motore AS

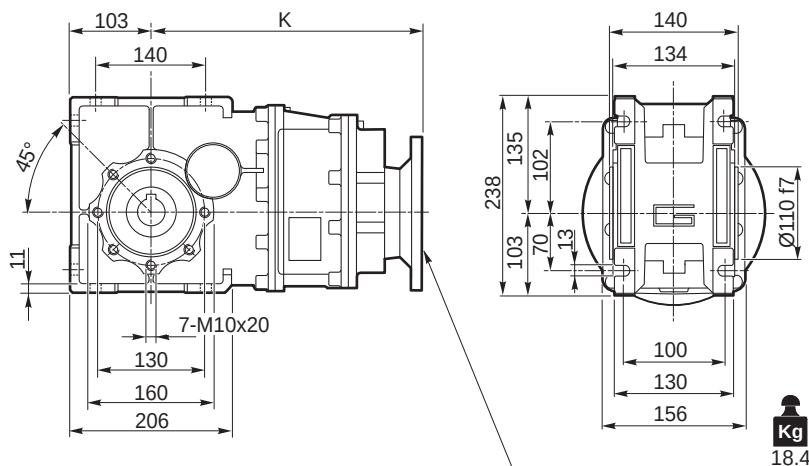
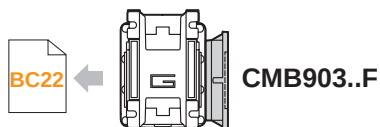
CMB dimensions with motor flanges AS

CMB903 - U - AS...



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

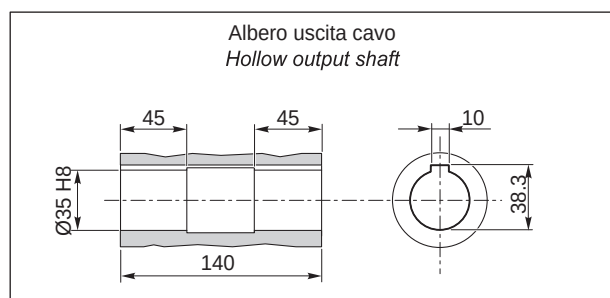
Connection with sleeve or coupling depending on motorshaft's diameter.

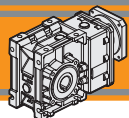


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

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





CMB

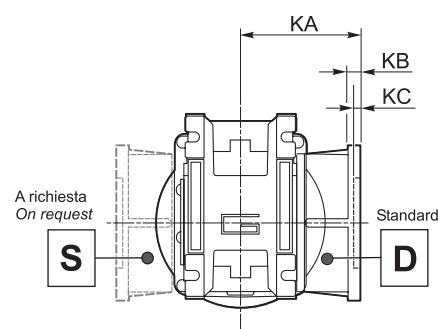
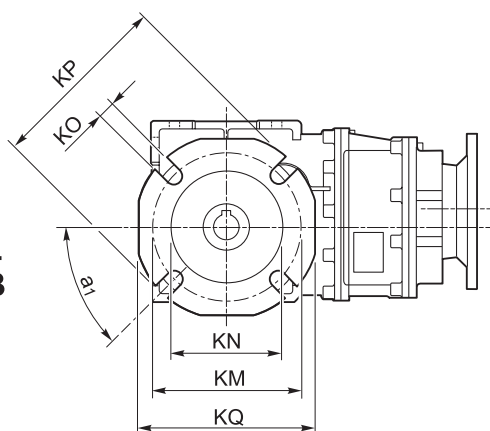
Riduttori ad assi ortogonali Helical bevel gearboxes

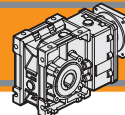
Flange uscita

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	-									-								

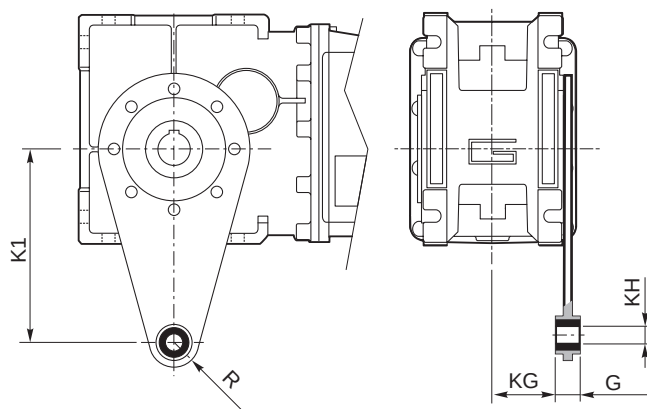
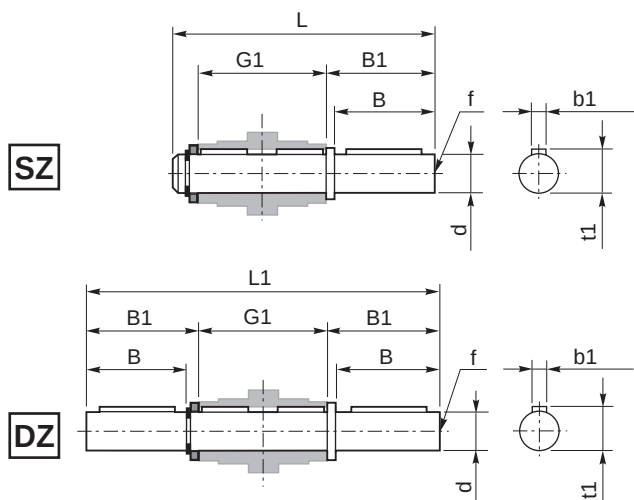
CMB..F
CMB..FL
CMB..FB





Accessori

Accessories



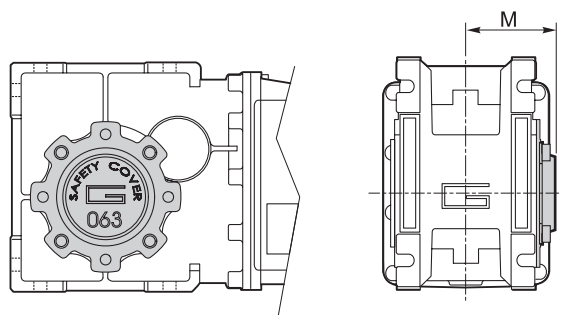
Albero lento / Output shaft

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

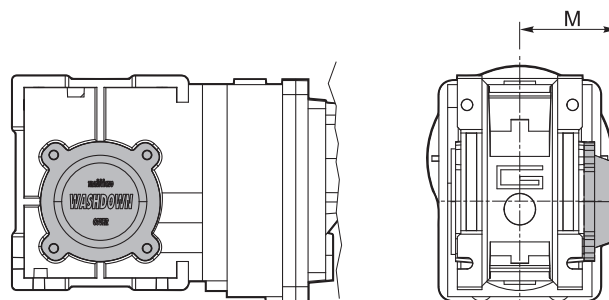
Braccio di reazione / Torque arm

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



WD - Washdown cover



CMB CMBIS	M
402	54.5
502	62.5
633	73
903	94

CMB CMBIS	M
402	55.5
502	63.5
633	71.5
903	95

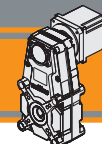
IP 55

CMB



Motoriduttori brushless CC pendolari
Brushless DC helical parallel gearmotors





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Simbologia	<i>Symbols</i>	BD3
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Carichi radiali	<i>Radial loads</i>	BD4
FT105 con motore brushless BLS022.240	<i>FT105 with BLS022.240 brushless motor</i>	BD5
FT105 con motore brushless BLS043.240	<i>FT105 with BLS043.240 brushless motor</i>	BD6
FT146 con motore brushless BLS043.240	<i>FT146 with BLS043.240 brushless motor</i>	BD7
FT146 con motore brushless BL070.240	<i>FT146 with BL070.240 brushless motor</i>	BD8
FT146 con motore brushless BL070.480	<i>FT146 with BL070.480 brushless motor</i>	BD8
FT146 con motore brushless BL070.48.80	<i>FT146 with BL070.48.80 brushless motor</i>	BD9
FT146 con motore brushless BL140.480	<i>FT146 with BL140.480 brushless motor</i>	BD10
FT176 con motore brushless BL070.480	<i>FT146 with BL070.480 brushless motor</i>	BD11
FT176 con motore brushless BL070.48.80	<i>FT146 with BL070.48.80 brushless motor</i>	BD12
FT176 con motore brushless BL140.480	<i>FT176 with BL140.480 brushless motor</i>	BD13
FT176 con motore brushless BL200.48.95	<i>FT176 with BL200.48.95 brushless motor</i>	BD14
FT176 con motore brushless BL210.480	<i>FT176 with BL210.480 brushless motor</i>	BD15
FT176 con motore brushless BL400.48.120	<i>FT176 with BL400.48.120 brushless motor</i>	BD16
FT196 con motore brushless BL210.480	<i>FT196 with BL210.480 brushless motor</i>	BD17
FT196 con motore brushless BL200.48.95	<i>FT196 with BL200.48.95 brushless motor</i>	BD18
FT196 con motore brushless BL400.48.120	<i>FT196 with BL400.48.120 brushless motor</i>	BD19
Dati tecnici	<i>Technical data</i>	BD20
Dimensioni FT con flange motore AS	<i>FT dimensions with motor flanges AS</i>	BD22

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Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

Caratteristiche tecniche

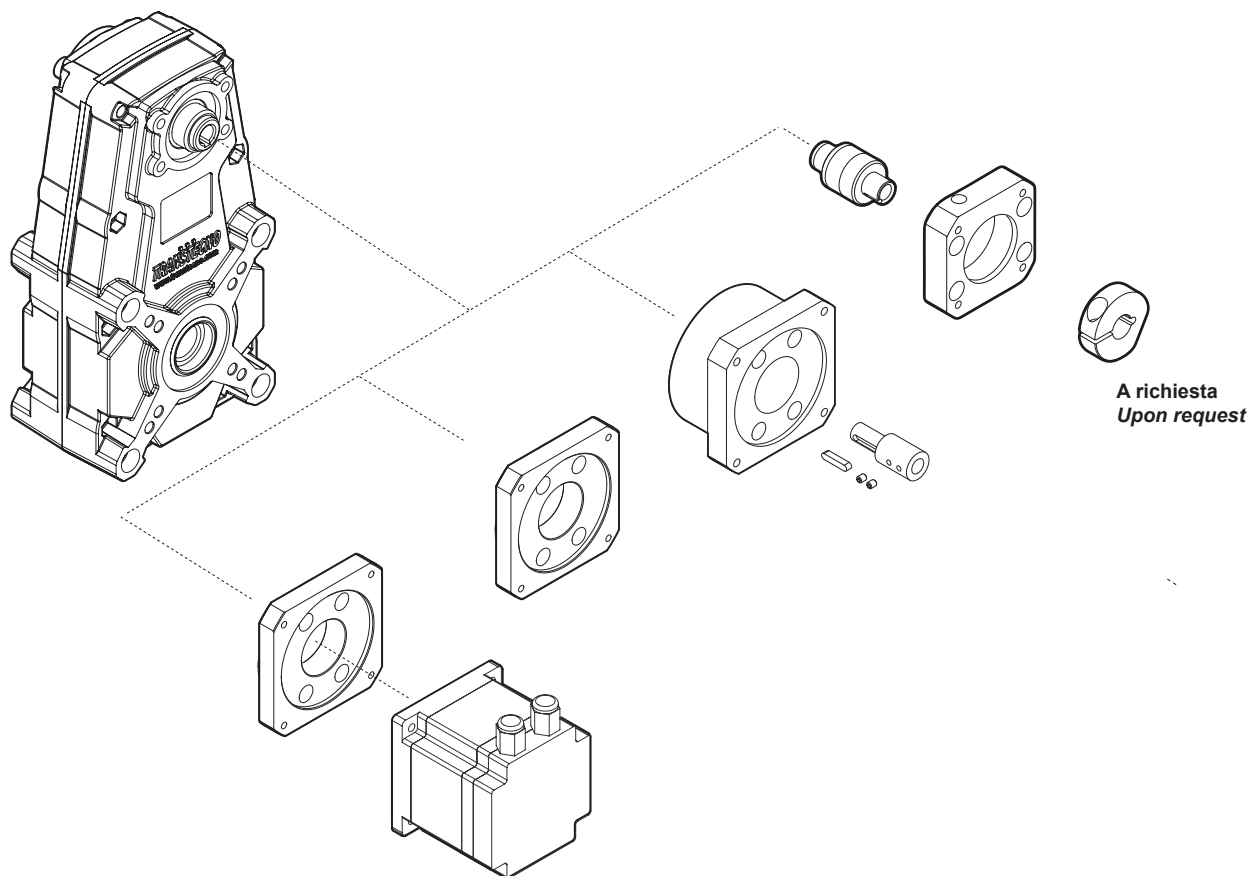
Technical features

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 synthetic 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*





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 

Simbologia

Symbols

Ns	n° stadi / No. stages	Mn ₂	[Nm]	Coppia nominale in uscita in funzione di Pn1 Nominal output torque referred to Pn1
ir	rapporto reale / real ratio	n _{1MAX}	[Rpm]	Velocità max entrata / Max input speed
M ₂	[Nm]	V	[V]	Tensione / Voltage
A ₂	[N]	n ₂	[Rpm]	Velocità in uscita / Output Speed
R ₂	[N]	IP		Grado di protezione / Enclosure protection
Pn ₁	[kW]	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 lubrication (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.

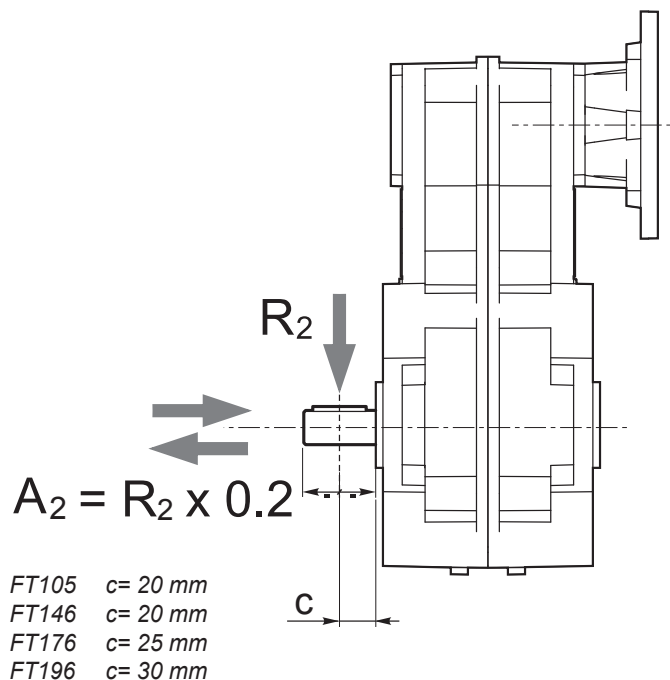


Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

Carichi radiali

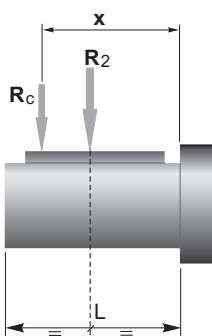
Radial loads



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 mezzes-
 ria 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

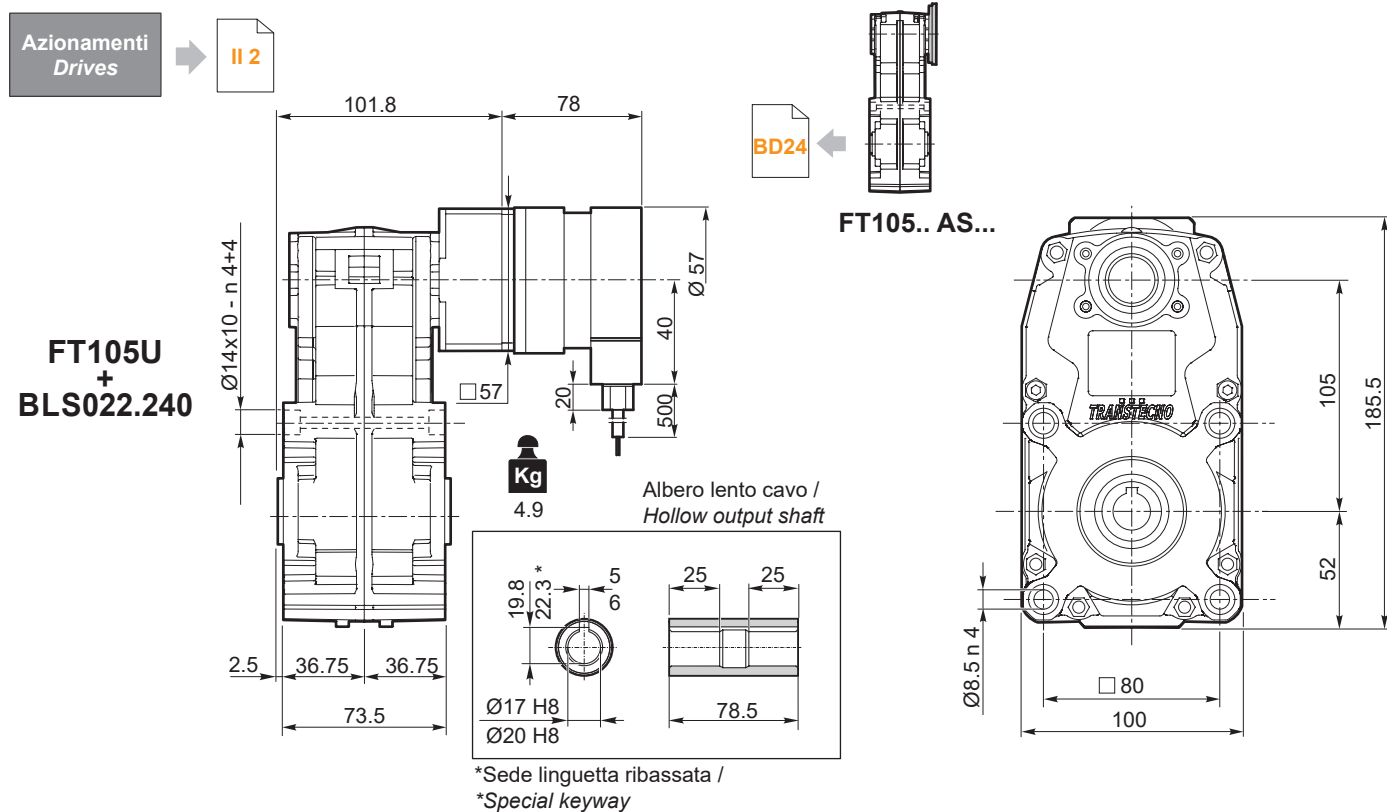
FT105		BLS022.240													
		24V							36V						
		n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]
ir	Ns	M ₂ [Nm]		sf	M ₂ [Nm]		sf		M ₂ [Nm]		sf	M ₂ [Nm]		sf	
20.57	3	14.6	4.3	10.8	146	4.3	7.3	3000	19.4	4.3	10.8	194	4.3	6.5	4000
33.32		9.0	6.9	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	4	1.0	65	1.1	10	65	0.8	3000	1.3	65	1.1	13	64	0.7	4000
368.19		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





Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

FT105 con motore brushless CC

FT105 with brushless DC motor

FT105		BLS043.240													
		24V							36V						
ir	Ns	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [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	4	1.0	105	0.7	10	72	0.7	1.3	105	0.7	13	64	0.7		
368.19		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

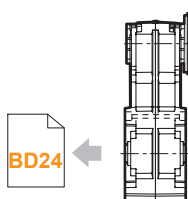
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

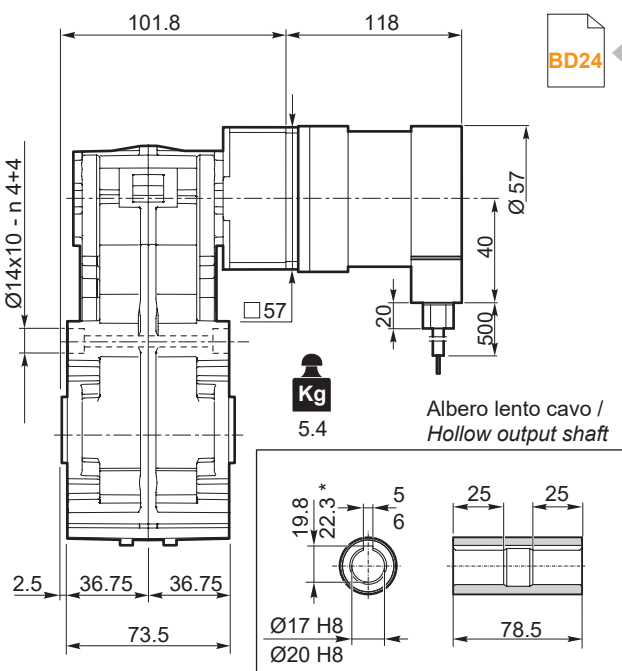
Azionamenti
Drives

II 2

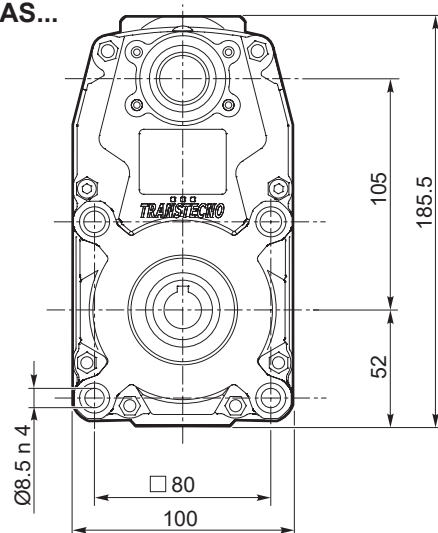


FT105.. AS...

FT105U
+
BLS043.240



*Sede linguetta ribassata /
*Special keyway



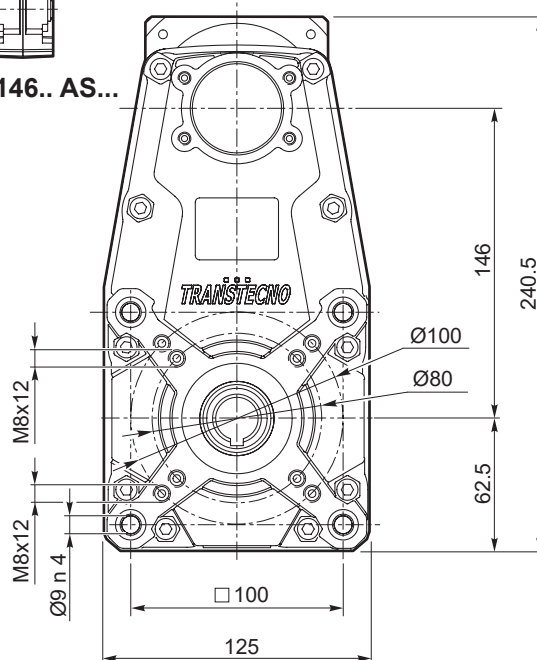
FT IP 55

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.

Azionamenti Drives



**FT146U
+
BLS043.240**



Albero lento cavo / *Hollow output shaft*



Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

FT146 con motore brushless CC

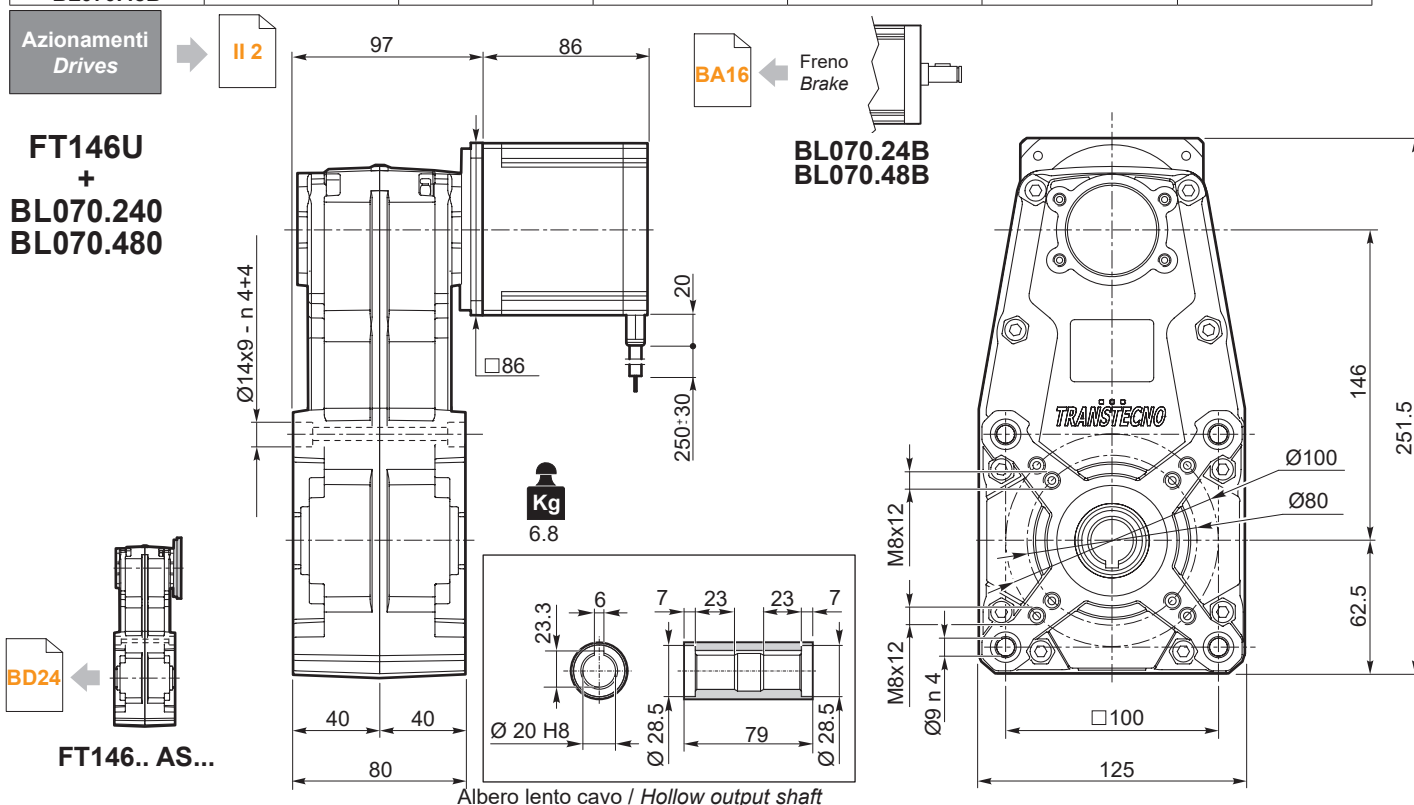
FT146 with brushless DC motor

FT146	BL070.240 / BL070.24B / BL070.480 / BL070.48B					
	24V / 48V					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir		M ₂ [Nm]	sf		M ₂ [Nm]	sf
18.75	16.0	12	7.5	160	12	5.1
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



FT IP 55

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

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





Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

FT146 con motore brushless CC

FT146 with brushless DC motor

FT146	BL140.480						
	48V						
	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]
ir		M ₂ [Nm]	sf		M ₂ [Nm]	sf	
18.75	16.0	25	3.7	160	25	2.5	3000
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	
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

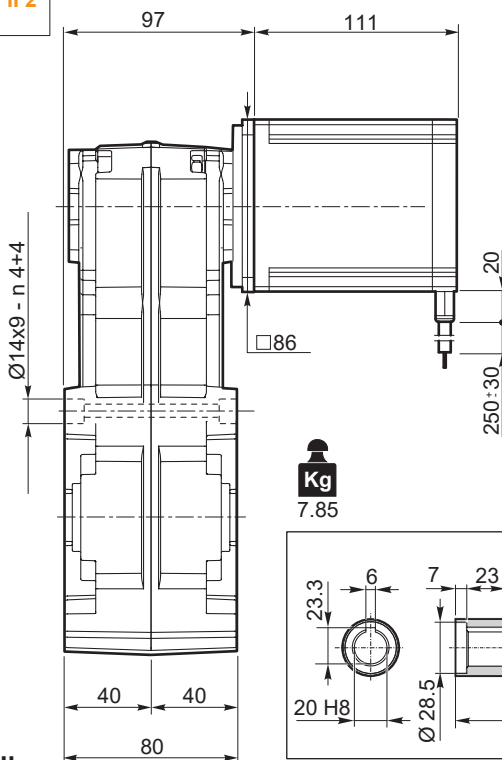
Azionamenti
Drives

II 2

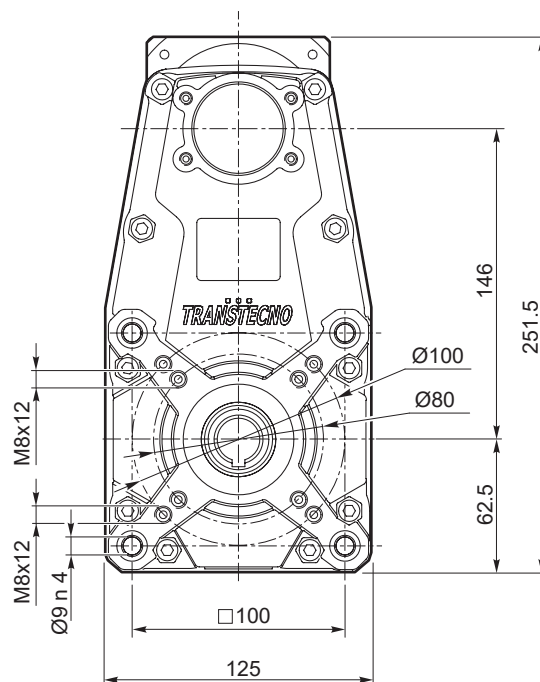
FT146U
+
BL140.480

BD24

FT146.. AS...



Albero lento cavo / Hollow output shaft



FT IP 55

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

**Azionamenti
Drives**

**FT176U
+
BL070.480**

BL070.48B

Lamature Ø15
Prof. 9 mm n°4
Spot-facing Ø15
Deep 9 mm n°4

**Freno
Brake**

BK070.48B

**Kg
12.1**

Ø9 n°4

M8x16 n°7

Ø95

120

154

Ø80 h8

Ø80 h8

Ø25 H8

Ø30 H8

28.3

33.3

8

8

35

35

22

22

112

7

98

112

3

3

77

176

290

118

86

20

250-30

86

3D23

FT176.. AS...



Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

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	2500	28	9.5	16.9	276	9.5	10.1	3000
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		5.3	50	5.8	53	50	3.5	
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 FCME 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

Encoder

BA13

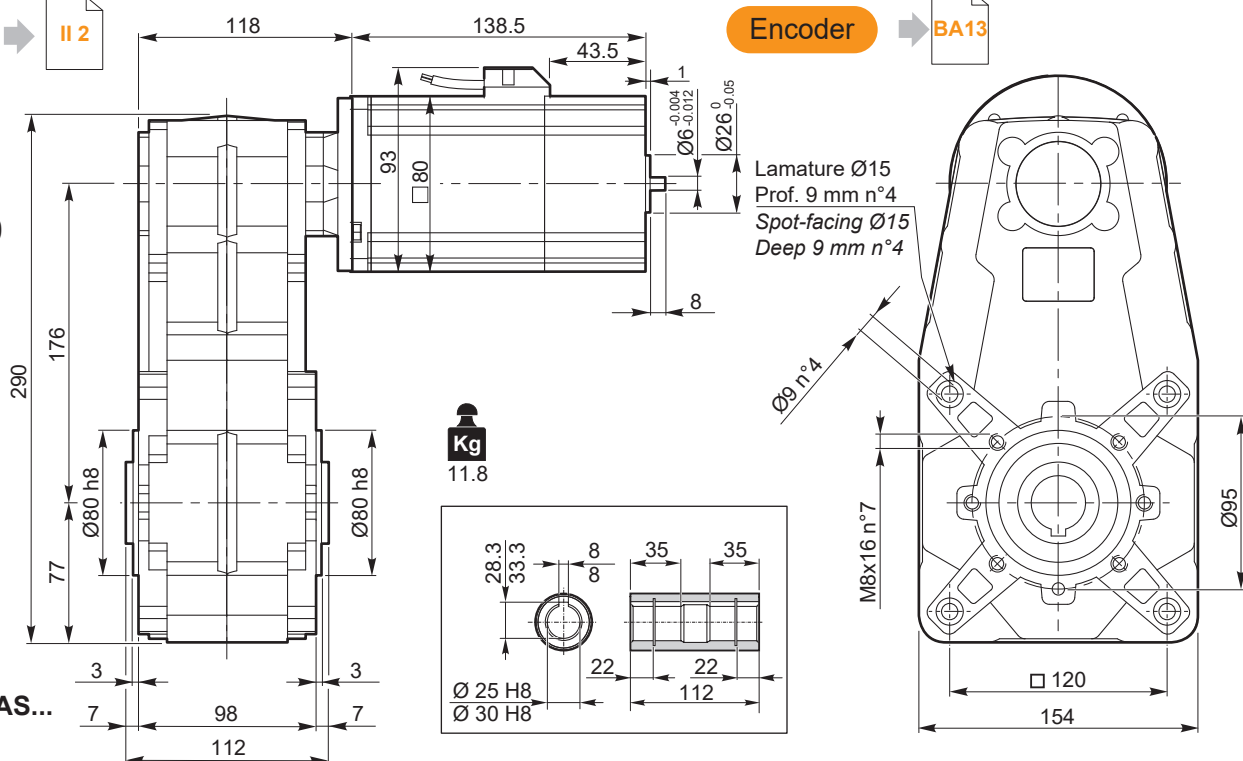
FT176U
+
BL070.48.80

BD23

FT176.. AS...

B-D12

1124A





FT176	BL140.480					
	48V					
	n ₂ MIN [rpm]			n ₂ MAX [rpm]		
ir	M ₂ [Nm]		sf	M ₂ [Nm]		n ₁ MAX [rpm]
14.49	21	19	8.4	207	19	3000
17.31	17	23	7.6	173	23	
20.97	14	28	6.7	143	28	
24.56	12	32	6.4	122	32	
29.33	10	39	5.4	102	39	
34.62	8.7	46	4.8	87	46	
37.50	8.0	49	4.4	80	49	
41.35	7.3	54	4.2	73	54	
44.79	6.7	59	4.1	67	59	
50.10	6.0	66	3.8	60	66	
54.26	5.5	71	3.7	55	71	
63.55	4.7	84	3.2	47	84	
75.90	4.0	100	2.9	40	100	
85.40	3.5	112	2.6	35	112	
89.60	3.3	118	2.7	33	118	
107.02	2.8	141	2.4	28	141	
126.92	2.4	167	2.1	24	167	
144.74	2.1	190	1.8	21	190	
163.25	1.8	215	1.6	18	215	
204.08	1.5	269	1.3	15	269	
215.11	1.4	283	1.2	14	283	
276.68	1.1	364	0.9	11	293	
303.29	1.0	399	0.9	10	293	
390.11	0.8	431	0.8	7.7	293	

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

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

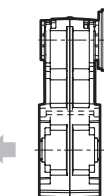
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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

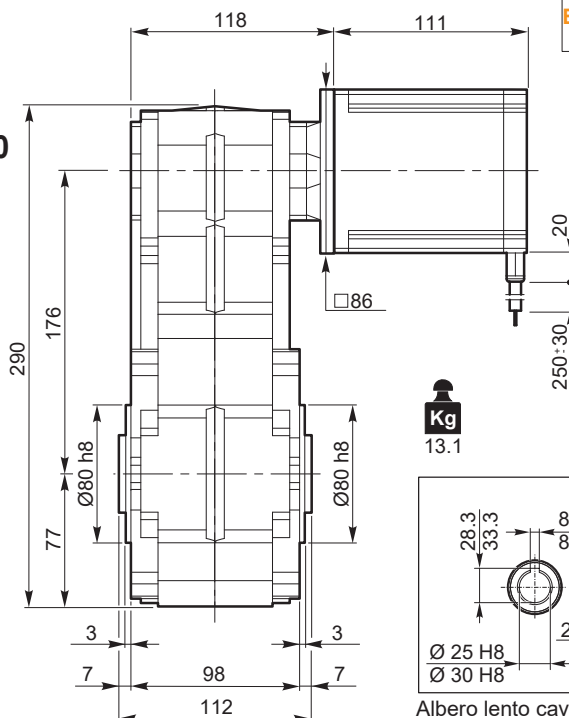
BD23



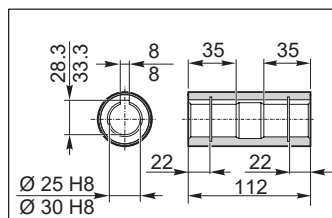
FT176.. AS...

Lamature Ø15
Prof. 9 mm n°4
Spot-facing Ø15
Deep 9 mm n°4

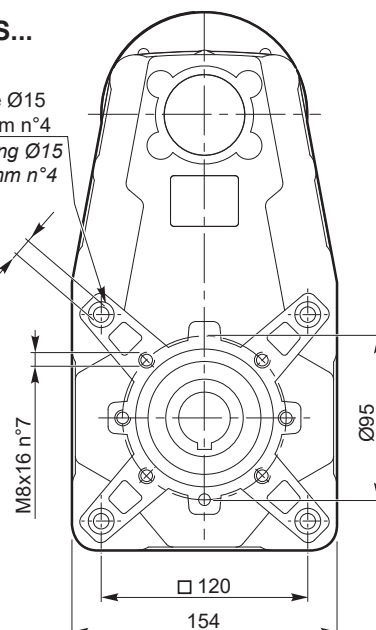
FT176U
+
BL140.480



Kg
13.1



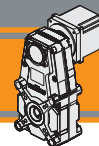
Albero lento cavo / Hollow output shaft





FT176 with brushless DC motor

1124A



FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL210.480 / BL210.48E						
	48V						
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir		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

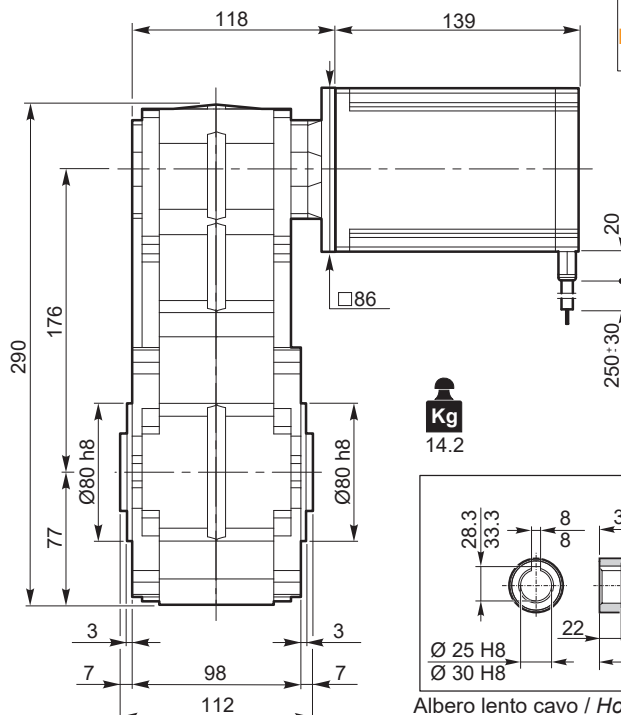
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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

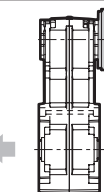
Azionamenti
Drives

II 2

FT176U
+
BL210.480



BD23



FT176.. AS...

Lamature Ø15
Prof. 9 mm n°4
Spot-facing Ø15
Deep 9 mm n°4

BA16

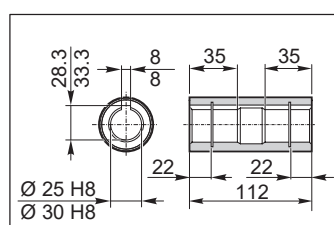
Freno
Brake

BL210.48E

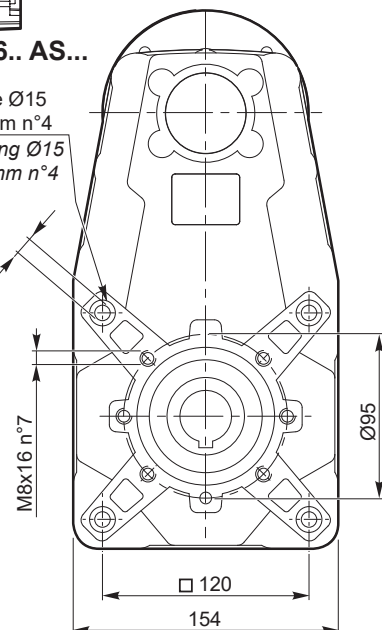
Ø9 n°4

M8x16 n°7

Kg
14.2



Albero lento cavo / Hollow output shaft



FT IP 55

B-D15

1124A



Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

FT176 con motore brushless CC

FT176 with brushless DC motor

FT176	BL400.48.120										
	24V						48V				
	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{1MAX} [rpm]
ir	M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		
14.49	10	48	3.4	97	48	2.9	1400	21	48	3.4	3000
17.31	8.1	57	3.0	81	57	2.6		17	57	3.0	
20.97	6.7	69	2.7	67	69	2.3		14	69	2.7	
24.56	5.7	81	2.6	57	81	2.2		12	81	2.6	
29.33	4.8	96	2.1	48	96	1.9		10	96	2.1	
34.62	4.0	114	1.9	40	114	1.7		8.7	114	1.9	
37.50	3.7	123	1.8	37	123	1.5		8.0	123	1.8	
41.35	3.4	136	1.7	34	136	1.5		7.3	136	1.7	
44.79	3.1	147	1.6	31	147	1.4		6.7	147	1.6	
50.10	2.8	165	1.5	28	165	1.3		6.0	165	1.5	
54.26	2.6	179	1.5	26	179	1.3		5.5	179	1.5	
63.55	2.2	209	1.3	22	209	1.1		4.7	209	1.3	
75.90	1.8	250	1.2	18	250	1.0		4.0	250	1.2	
85.40	1.6	281	1.0	16	281	0.9		3.5	281	1.0	
89.60	1.6	295	1.1	16	295	0.9		3.3	295	1.1	
107.02	1.3	352	0.9	13	352	0.8		2.8	352	0.9	
126.92	1.1	418	0.8	11	418	0.7		2.4	418	0.8	
144.74	1.0	476	0.7	10	420	0.7		2.1	476	0.7	
163.25	0.9	490	0.7	8.6	420	0.7		1.8	490	0.7	
204.08	0.7	490	0.7	6.9	420	0.7		1.5	490	0.7	
215.11	0.65	490	0.7	6.5	420	0.7		1.4	490	0.7	
276.68	0.51	490	0.7	5.1	420	0.7		1.1	490	0.7	
303.29	0.46	490	0.7	4.6	420	0.7		1.0	490	0.7	
390.11	0.36	490	0.7	3.6	420	0.7		0.77	490	0.7	

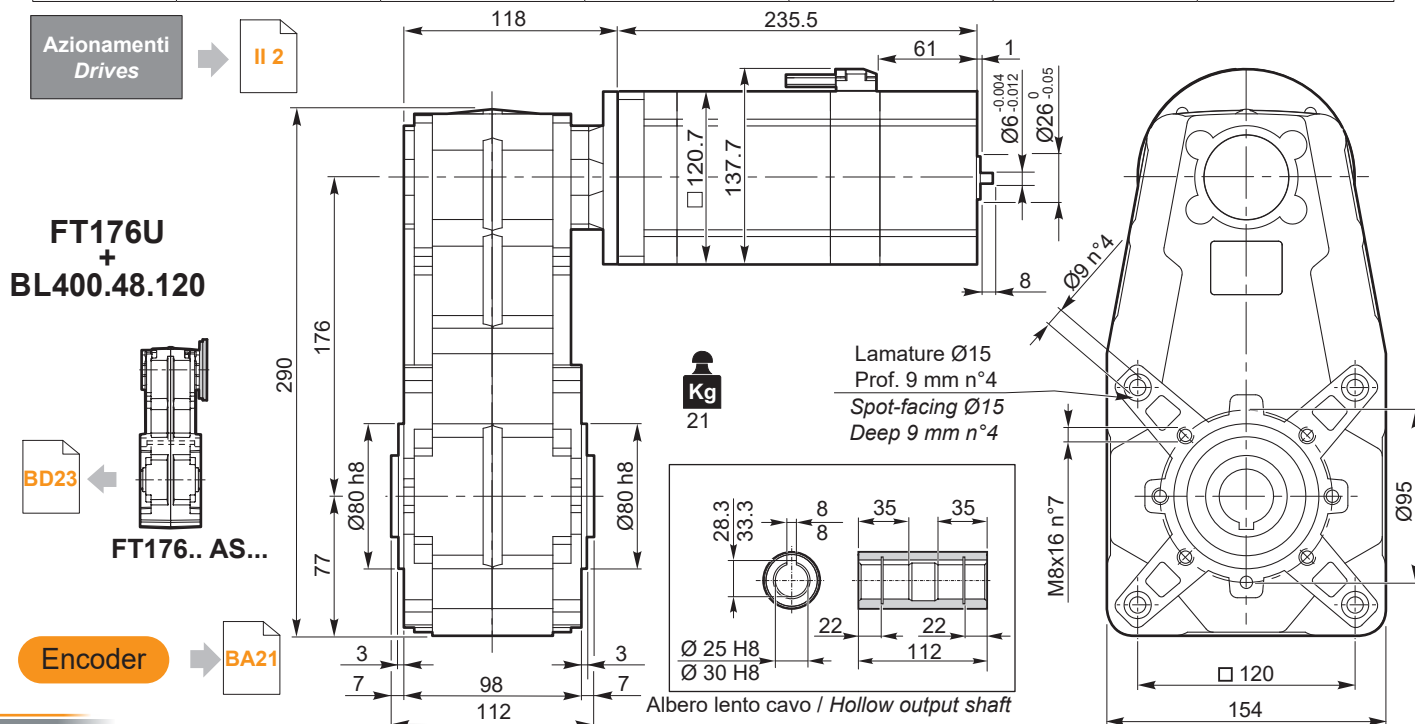
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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 [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11





FT196 con motore brushless CC

FT196 with brushless DC motor

FT196	BL210.480 / BL210.48E						
	48V						
	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]
ir		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

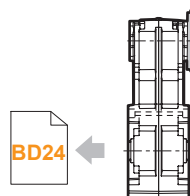
NOTE: for continuous or highly intermittent duty, please contact our technical service

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.

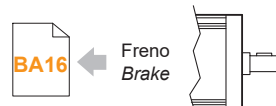
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated 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

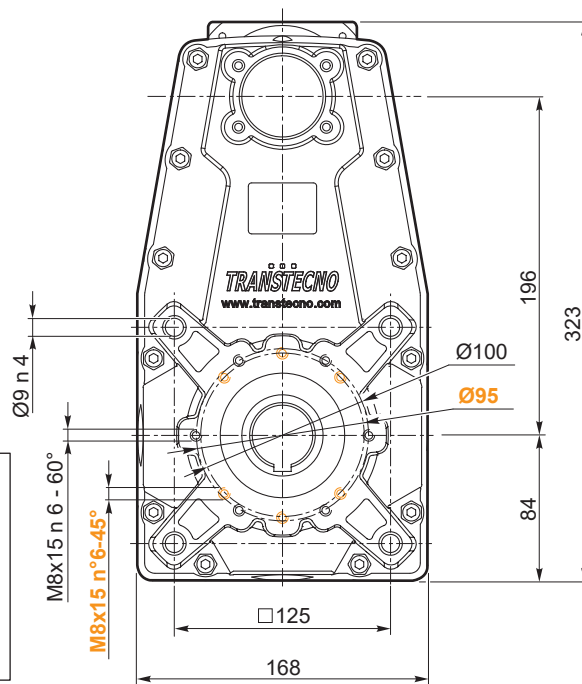
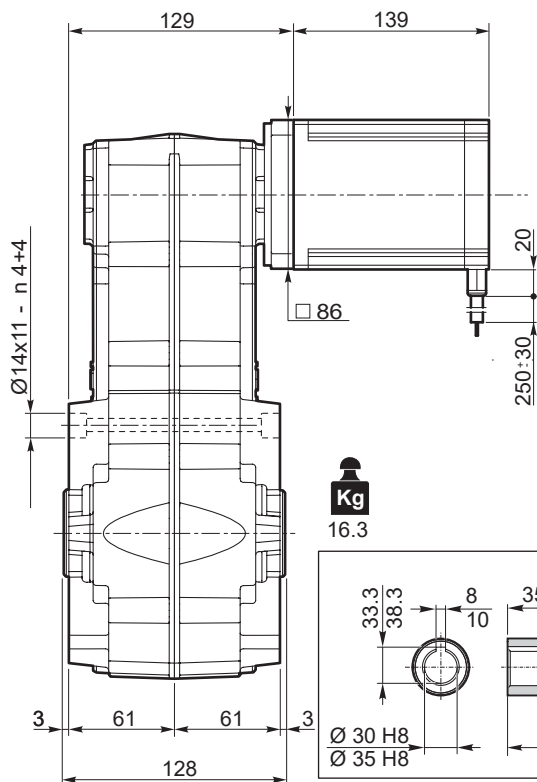


FT196.. AS...



BL210.48E

FT196U
+
BL210.480





Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

FT196 con motore brushless CC

FT196 with brushless DC motor

FT196	BL200.48.95													
	24V						48V							
ir	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [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 24	3000 1500	2.0	650 300	4.0

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]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti
Drives



FT196U
+
BL200.48.95

BD24

FT196.. AS...

Kg
18.1

Albero lento cavo / Hollow output shaft

Encoder



B-D18

1124A



FT196 con motore brushless CC

FT196 with brushless DC motor

FT196	BL400.48.120										
	24V						48V				
	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{1MAX} [rpm]
ir	M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		
20.41	6.9	67	6.0	69	67	5.2	1400	15	67	6.0	3000
34.81	4.0	115	4.0	40	115	3.5		8.6	115	4.0	
42.61	3.3	140	3.7	33	140	3.2		7.0	140	3.7	
59.36	2.4	195	2.9	24	195	2.6		5.1	195	2.9	
72.68	1.9	239	2.6	19	239	2.3		4.1	239	2.6	
92.82	1.5	305	2.1	15	305	1.8		3.2	305	2.1	
123.95	1.1	408	1.6	11	408	1.3		2.4	408	1.6	
158.02	0.89	520	1.2	8.9	520	1.1		1.9	520	1.2	
201.80	0.69	664	1.0	6.9	664	0.8		1.5	664	1.0	
269.47	0.52	880	0.7	5.2	780	0.7		1.1	880	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.

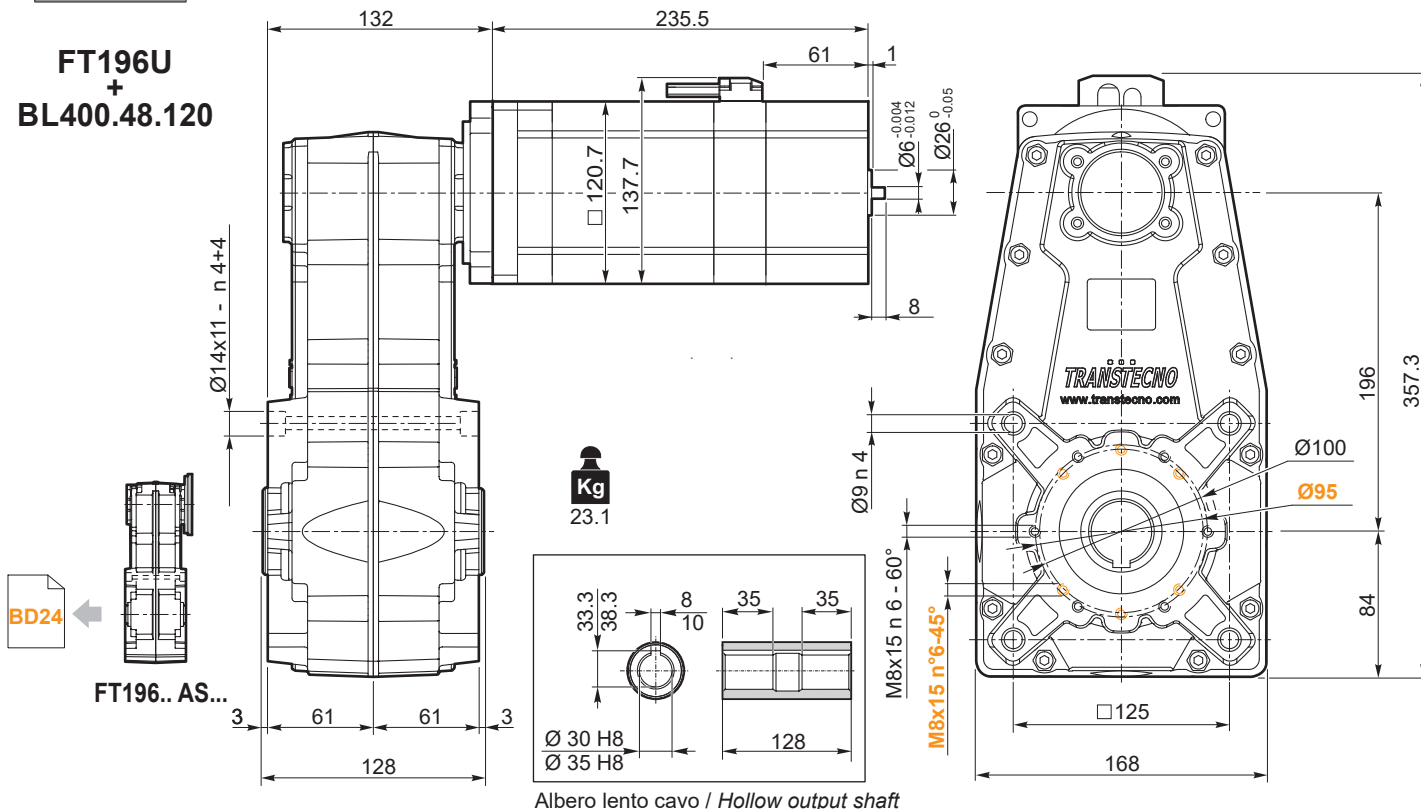
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Servizio Service	Tensione nominale Rated voltage [V]	Velocità nominale Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]	Coppia di picco Peak torque [Nm]	Corrente nominale Rated current [A]	Corrente 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 [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti Drives

II 2

FT196U
+
BL400.48.120



Encoder

BA21



Motoriduttori brushless CC pendolari

Brushless DC helical parallel gearmotors

Dati tecnici

Technical data

	n₂ [min ⁻¹]	Mn₂ [Nm]	Pn₁ [kW]	i	
FT105					
FT105/3	n1 = 1400 rpm	68	40	0.30	20.57
		42	50	0.23	33.32
		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		65	0.028	368.19
		0.019		534.98	
		0.015		661.76	
		0.011		929.40	

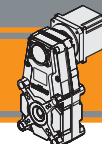
FT146				
n1 = 1400 rpm	75	80	0.65	18.75
	53		0.47	26.17
	50		0.43	28.26
	40	100	0.44	35.07
	35		0.39	39.44
	30		0.33	46.44
	26		0.29	52.86
	23	110	0.28	60.63
	20		0.24	70.00
	17		0.20	84.63
	15		0.18	95.61
	12		0.15	113.40
	10		0.13	133.45
	9.3		0.11	150.18
	8.7	120	0.11	160.43
	7.8		0.10	178.83
	6.3		0.082	223.92
	5.9		0.077	236.83
	4.7		0.061	300.07
	3.5		0.046	397.38

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

	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
	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

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

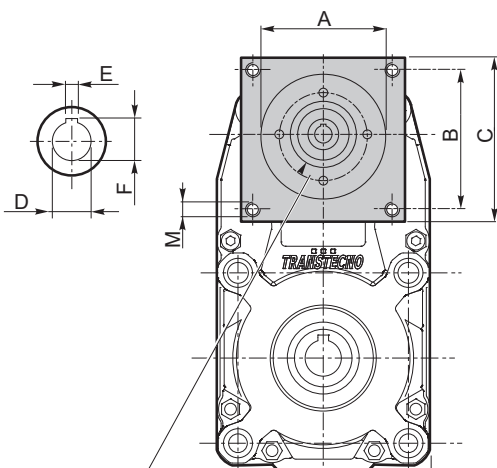


Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

Dimensioni FT con flange motore AS

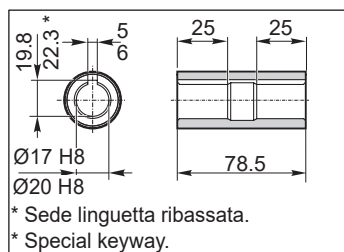
FT dimensions with motor flanges AS

FT105 - U - AS...

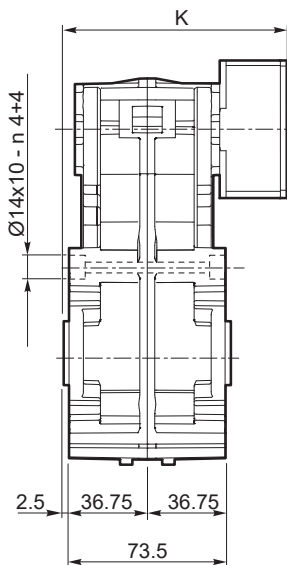


Connessione con boccia o giunto in funzione del diametro dell'albero motore.

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

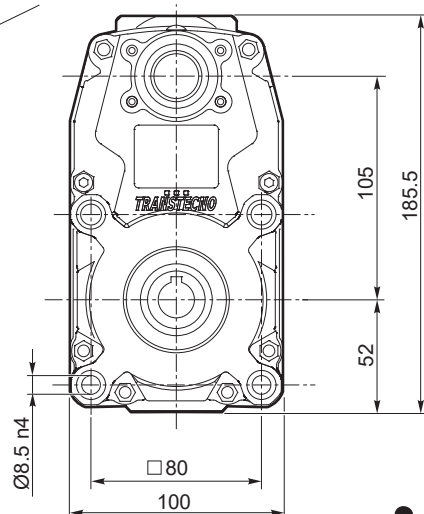


Albero lento cavo / Hollow output shaft



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

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

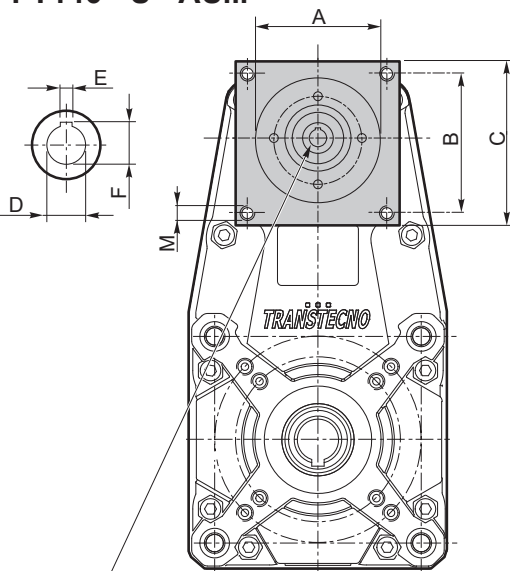


Kg
4.2

Dimensioni / Dimensions

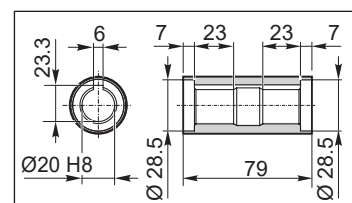
AS	A	B	C	M	K	D	E	F
AS416	38.1	47.1	56.6	M5	101.8	9	3	10.4
...	...	...	...	...	...	...	...	...

FT146 - U - AS...

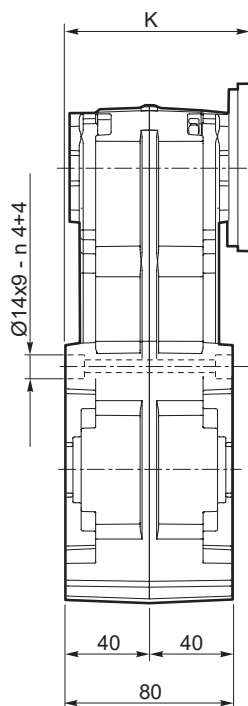


Connessione con boccia o giunto in funzione del diametro dell'albero motore.

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

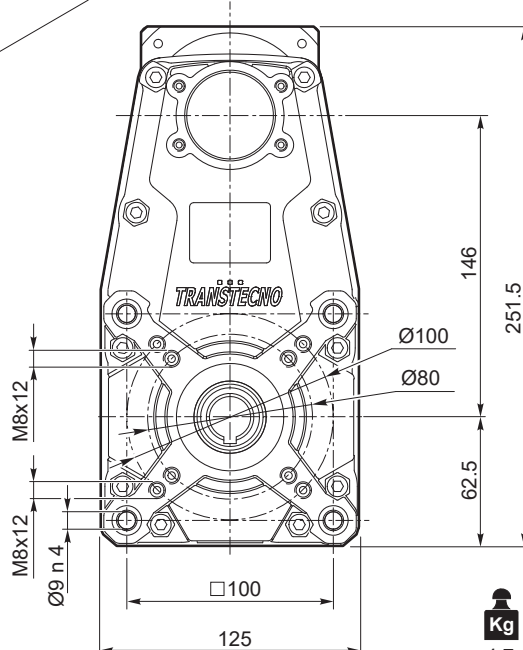


Albero lento cavo / Hollow output shaft



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
...	...	...	...	...	...	...	...	...



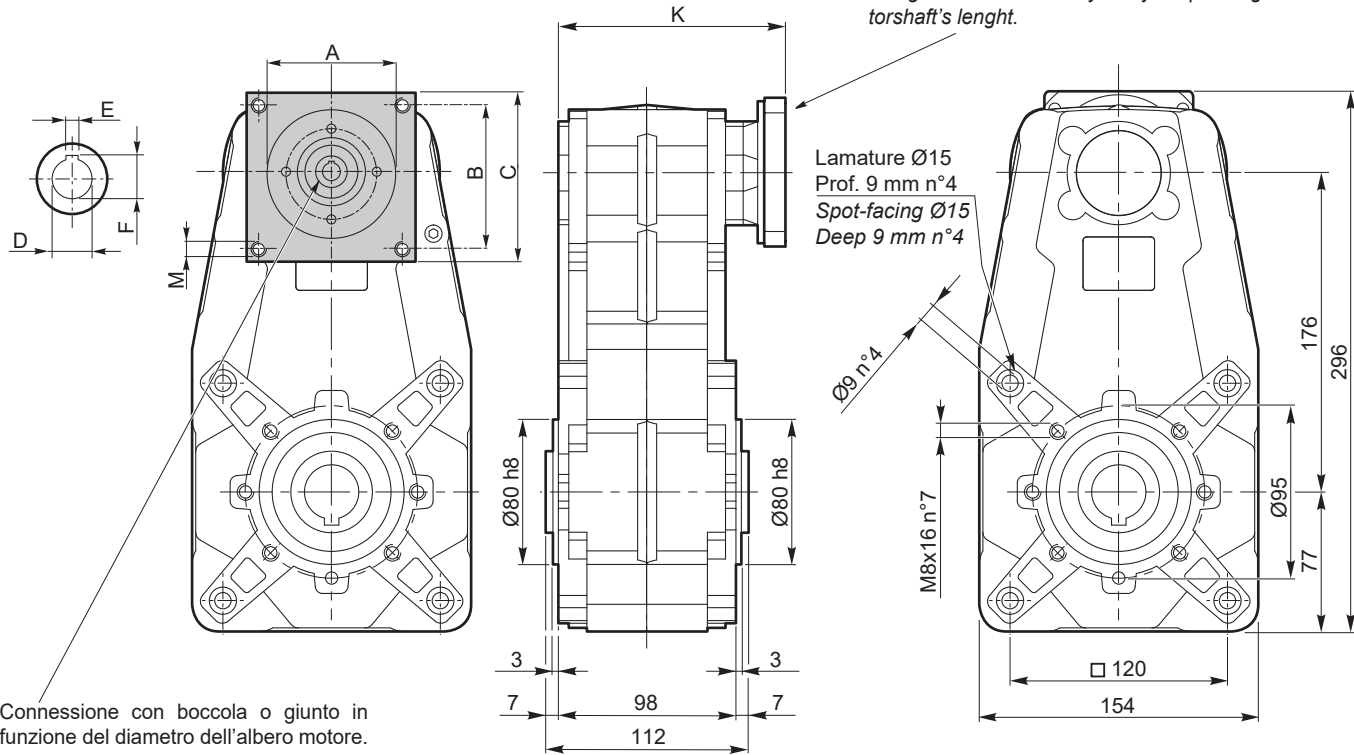
Dimensioni FT con flange motore AS

FT dimensions with motor flanges AS

FT176 - U - AS...

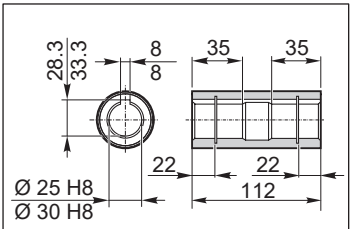
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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.



Lamature Ø15
Prof. 9 mm n°4
Spot-facing Ø15
Deep 9 mm n°4

Ø9 n°4
M8x16 n°7

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
...	...	...	...	...	...	...	...	...

IP 55
FT



Motoriduttori brushless CC pendolari Brushless DC helical parallel gearmotors

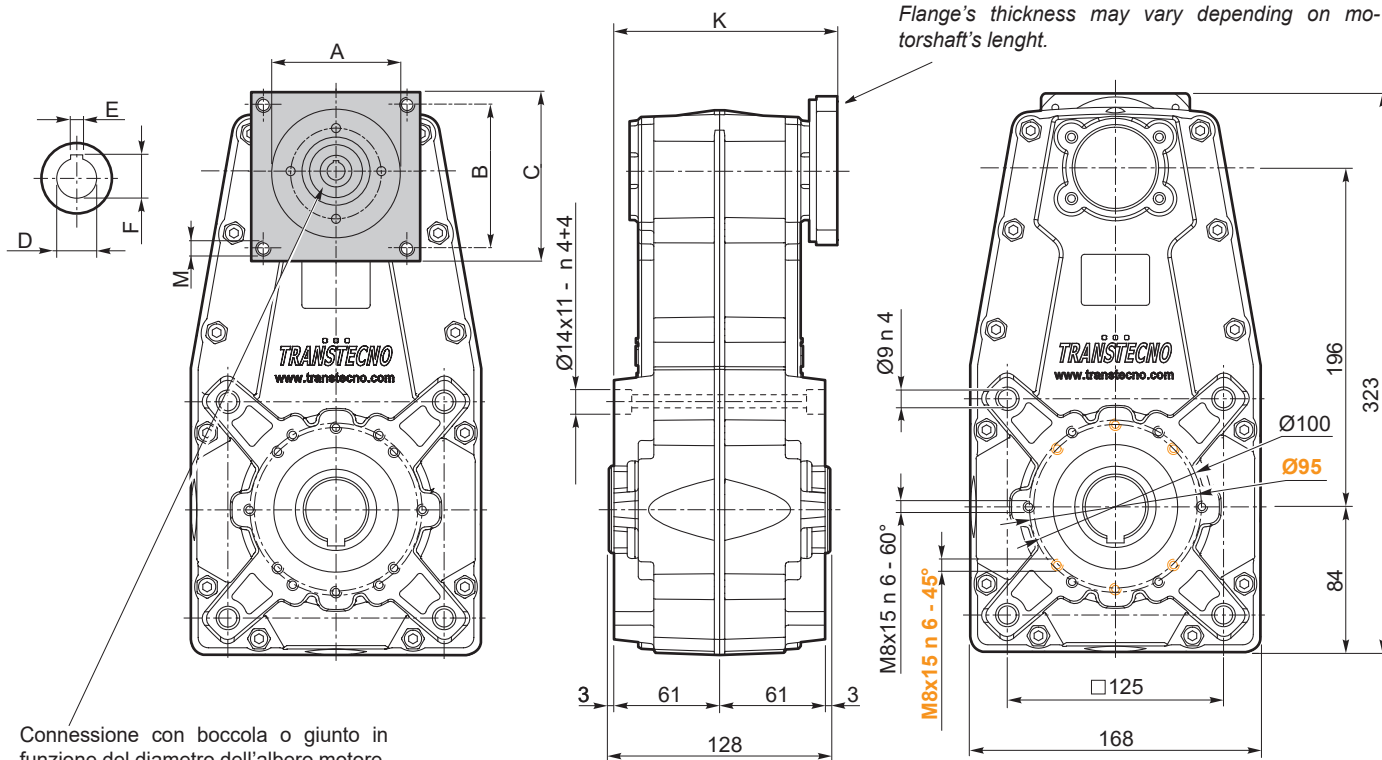
Dimensioni FT con flange motore AS

FT dimensions with motor flanges AS

FT196 - U - AS...

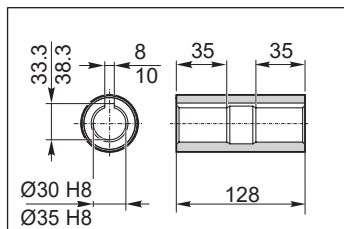
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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



Connessione con boccia 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

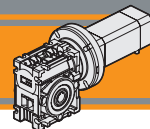
Dimensioni / Dimensions

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
...	...	...	...	...	...	...	...	...



Motoriduttori brushless CC a vite senza fine
Brushless DC Wormgearmotors

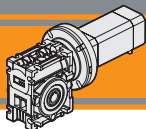




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CM026 con motore brushless BLS 022.240	<i>CM026 with brushless motor BLS 022.240</i>	BE5
CM030 con motore brushless BLS 043.240	<i>CM030 with brushless motor BLS 043.240</i>	BE6
CM030 con motore brushless BL 070.240	<i>CM030 with brushless motor BLS 070.240</i>	BE7
CM030 con motore brushless BL 070.480	<i>CM030 with brushless motor BL 070.480</i>	BE7
CM030 con motore brushless BL 070.48.80	<i>CM030 with brushless motor BL 070.48.80</i>	BE8
CM040 con motore brushless BLS 043.240	<i>CM040 with brushless motor BLS 043.240</i>	BE9
CM040 con motore brushless BL 070.240	<i>CM040 with brushless motor BL 070.240</i>	BE10
CM040 con motore brushless BL 070.480	<i>CM040 with brushless motor BL 070.480</i>	BE10
CM040 con motore brushless BL 070.48.80	<i>CM040 with brushless motor BL 070.48.80</i>	BE11
CM040 con motore brushless BL 140.480	<i>CM040 with brushless motor BL 140.480</i>	BE12
CM040 con motore brushless BL 210.480	<i>CM040 with brushless motor BL 210.480</i>	BE13
CM050 con motore brushless BL 070.240	<i>CM050 with brushless motor BL 070.240</i>	BE14
CM050 con motore brushless BL 070.480	<i>CM050 with brushless motor BL 070.480</i>	BE14
CM050 con motore brushless BL 140.480	<i>CM050 with brushless motor BL 140.480</i>	BE15
CM050 con motore brushless BL 200.48.95	<i>CM050 with brushless motor BL 200.48.95</i>	BE16
CM050 con motore brushless BL 210.480	<i>CM050 with brushless motor BL 210.480</i>	BE17
CM063 con motore brushless BL 070.240	<i>CM063 with brushless motor BL 070.240</i>	BE18
CM063 con motore brushless BL 070.480	<i>CM063 with brushless motor BL 070.480</i>	BE18
CM063 con motore brushless BL 140.480	<i>CM063 with brushless motor BL 140.480</i>	BE19
CM063 con motore brushless BL 200.48.95	<i>CM063 with brushless motor BL 200.48.95</i>	BE20
CM063 con motore brushless BL 210.480	<i>CM063 with brushless motor BL 210.480</i>	BE21
CM063 con motore brushless BL 400.48.120	<i>CM063 with brushless motor BL 400.48.120</i>	BE22
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Dimensioni CM con flange motore AS	<i>CM dimensions with motor flanges AS</i>	BE25
Dimensioni flange uscita	<i>Output flange dimensions</i>	BE28
Opzioni	<i>Options</i>	BE28
Accessori	<i>Accessories</i>	BE30

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Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

Caratteristiche tecniche

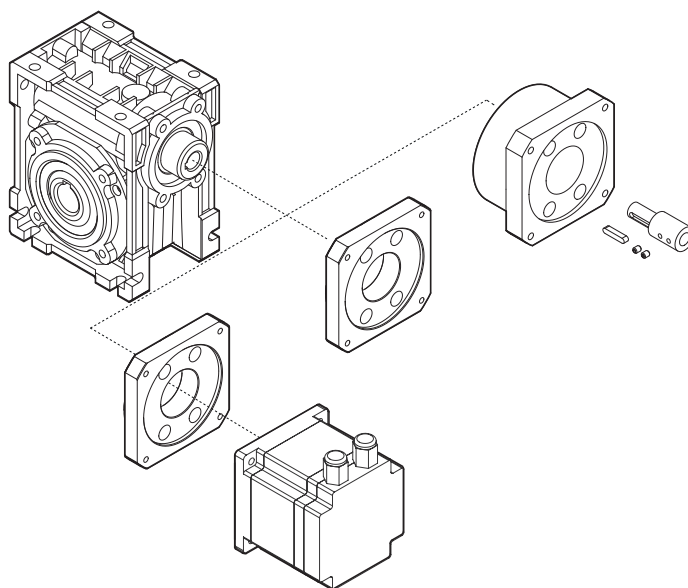
Technical features

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
- Carcasce 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

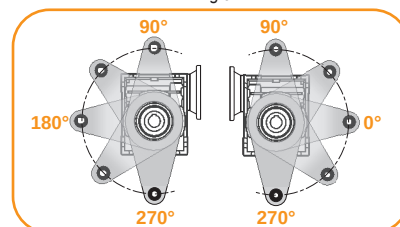
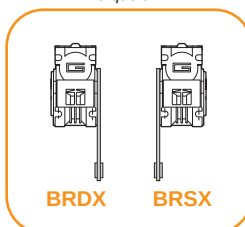
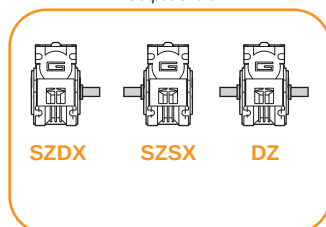
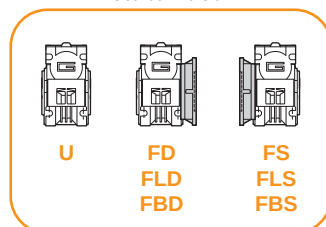
MOTORE / MOTOR		
BL070.480	48V	BR
Tipo Type	Tensione Voltage	Freno Brake
BLS022.240 BLS043.240 BL070.240 BL070.24B BL070.48B BL070.480 BL070.48.80 BL140.480 BL200.48.95 BL210.480 BL210.48E BL400.48.120	24V-36V 24V-36V 24V 24V 48V 48V 24V-48V 48V 24V-48V 24V-48V 48V 48V	24V 48V

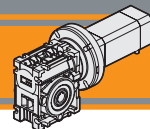
Versione Riduttore
Gearbox Version

Albero di uscita
Output shaft

Braccio di reazione
Torque arm

Angolo
Angle





Simbologia

Symbols

Ns	n° stadi / No. stages	n _{1MAX}	[Rpm]	Velocità max entrata / Max input speed
ir	rapporto reale / real ratio	V	[V]	Tensione / Voltage
M ₂	[Nm] coppia in uscita output torque	n ₂	[Rpm]	Velocità in uscita / Output Speed
A ₂	[N] Carico assiale ammissibile in uscita Permitted output axial load	IP		Grado di protezione / Enclosure protection
R ₂	[N] Carico radiale ammissibile in uscita Permitted output radial load	Kg		Peso / Weight
Pn ₁	[kW] Potenza nominale in entrata Nominal input power	sf		Fattore di servizio / Service Factor
Mn ₂	[Nm] Coppia nominale in uscita in funzione di Pn1 Nominal output torque referred to Pn1	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.

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.

Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).

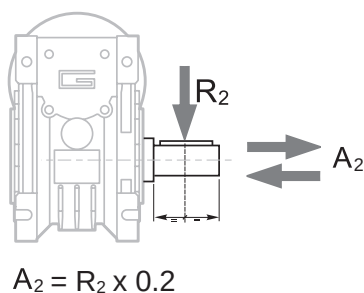
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).

Per temperature diverse, contattare nostro UT.

For temperature outside this range please contact our technical dept.

Carichi radiali

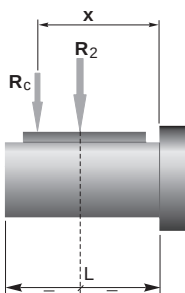
Radial loads



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 mezzesfera 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:

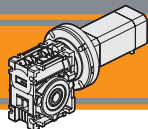


	CM					
	026	030	040	050	063	070
a	56	65	84	101	120	122
b	43	50	64	76	95	92
R _{2MAX}	610	1600	3000	4200	5800	6200

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

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

$$R \leq R_c$$



Motoriduttori brushless CC a vite senza fine Brushless DC Wormgearmotors

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

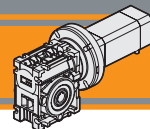
Reversibilità e irreversibilità

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 ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]
		M ₂	sf		M ₂	sf			M ₂	sf		M ₂	sf	
5	60	0.9	27	600	1.0	10	3000	80	0.9	21	800	1.0	8.0	4000
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		20	2.9	6.9	200	3.6	2.5	
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

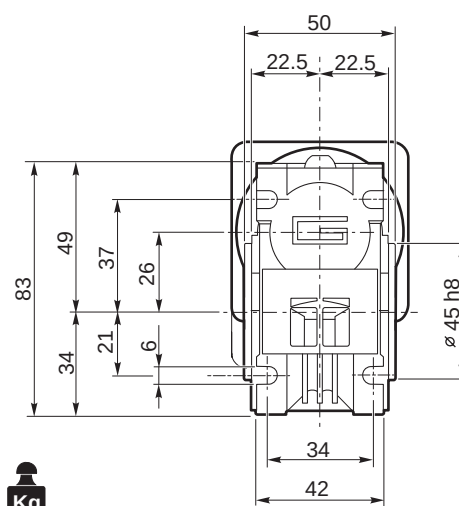
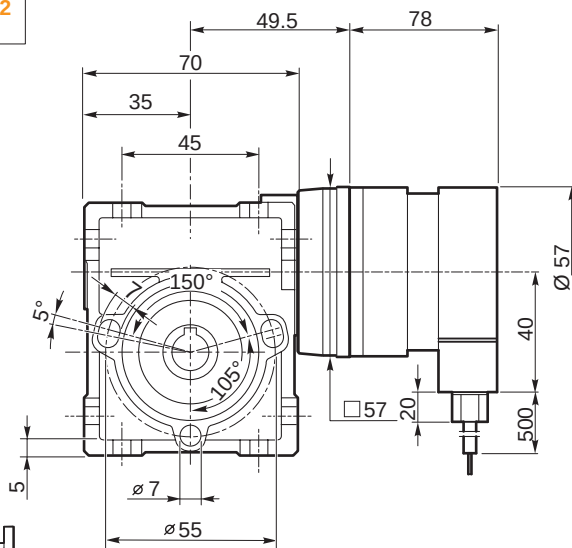
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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

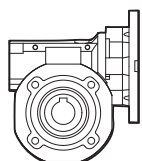
Azionamenti
Drives



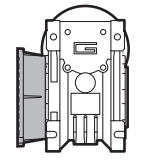
CM026..U
+
BLS022.240



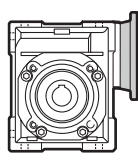
Kg
2.5



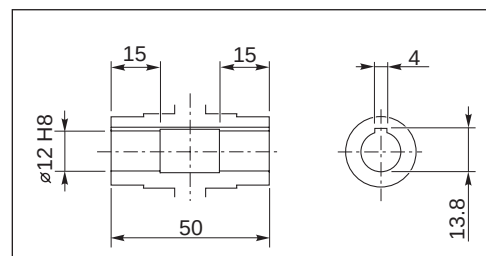
CL026



CM026.. F



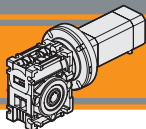
CM026.. AS...



Albero lento cavo / Hollow output shaft

IP 55

CM



Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

CM030 con motore brushless CC

CM030 with brushless DC motor

CM030	BLS043.240											
	24V						36V					
	n ₂ MIN			n ₂ MAX			n ₂ MIN			n ₂ MAX		
ir	M ₂	sf		M ₂	sf	n ₁ MAX [rpm]	M ₂	sf		M ₂	sf	n ₁ MAX [rpm]
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	13	7.1	5.5	133	9.5	1.7
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 S1 is exceeded. Please, contact our technical office.

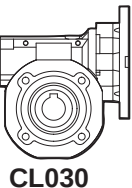
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale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

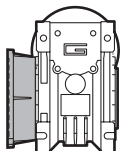
CM030..U
+
BLS043.240

III 7



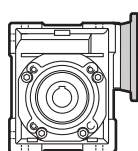
CL030

BE28

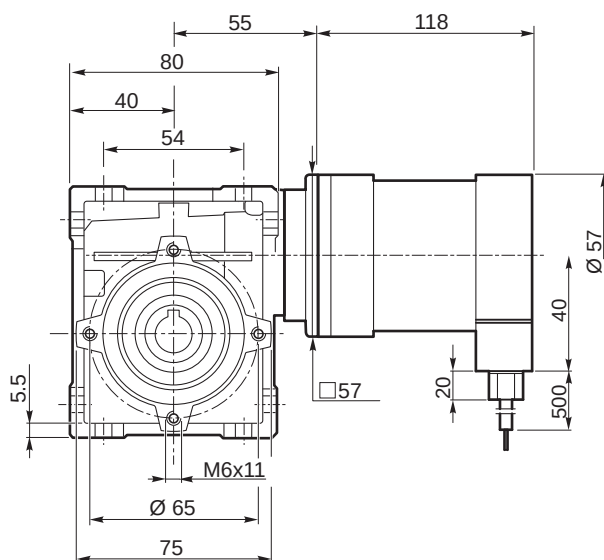


CM030.. F

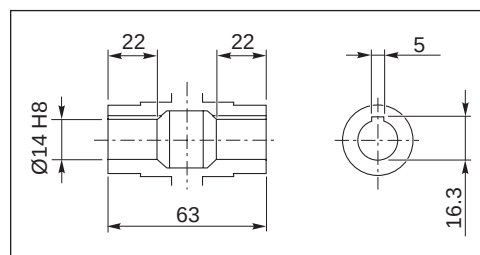
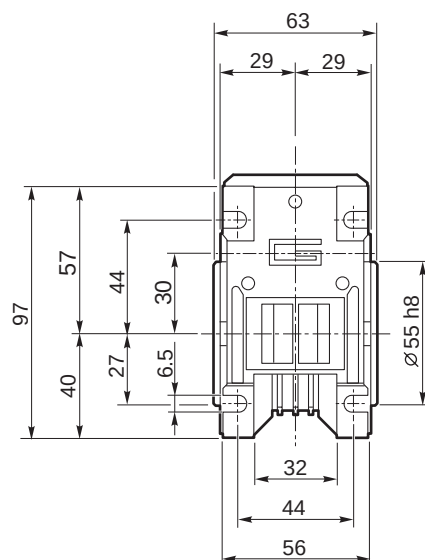
BE25



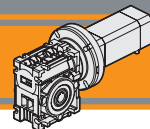
CM030.. AS...



Kg
3.4



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

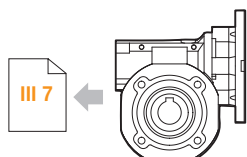
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service S1 is exceeded. Please, contact our technical office.

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

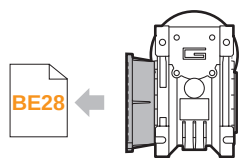
Azionamenti
Drives



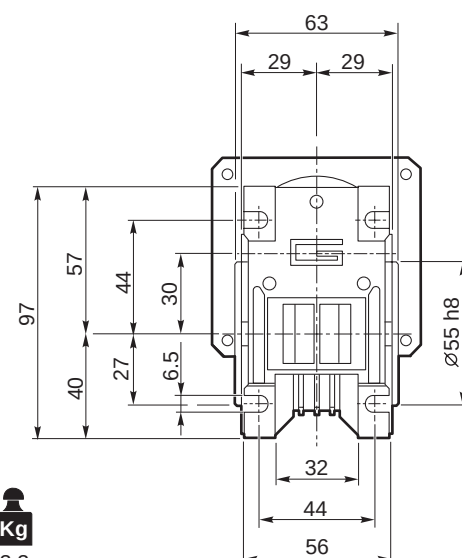
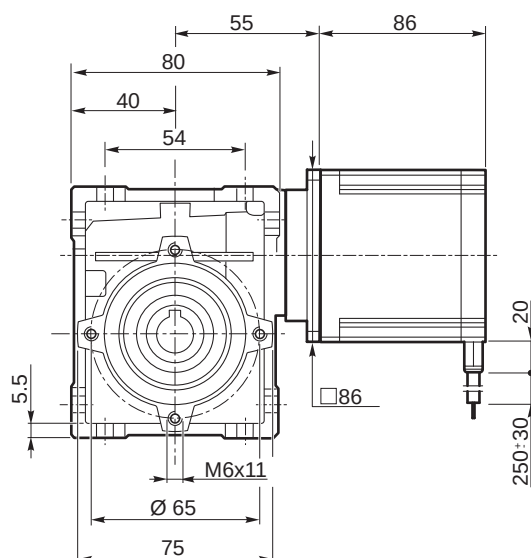
CM030..U
+
BL070.240
BL070.480



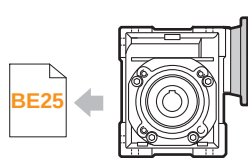
CL030



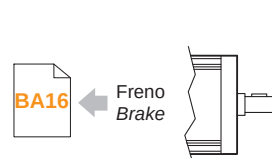
CM030.. F



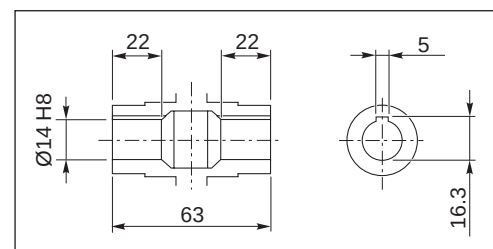
Kg
3.3



CM030.. AS...



BL070.24B
BL070.48B



Albero lento cavo / Hollow output shaft

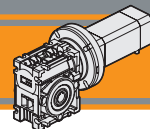
IP 55

CM



CM040 with brushless DC motor

0624A



CM040 con motore brushless CC

CM040 with brushless DC motor

CM040	BLS043.240											
	24V						36V					
	n ₂ MIN			n ₂ MAX			n ₂ MIN			n ₂ MAX		
ir	M ₂	sf		M ₂	sf	n ₁ MAX [rpm]	M ₂	sf		M ₂	sf	n ₁ MAX [rpm]
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	13	7.9	9.4	133	10	3.4
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

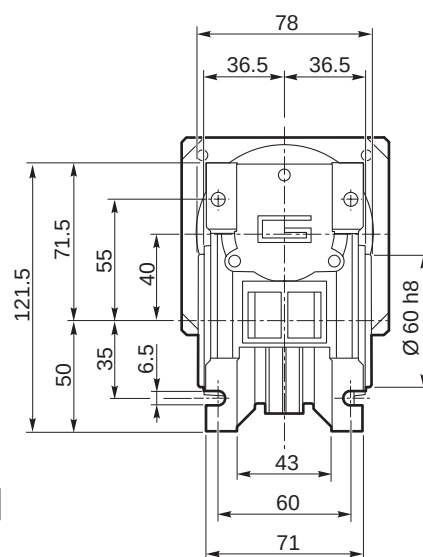
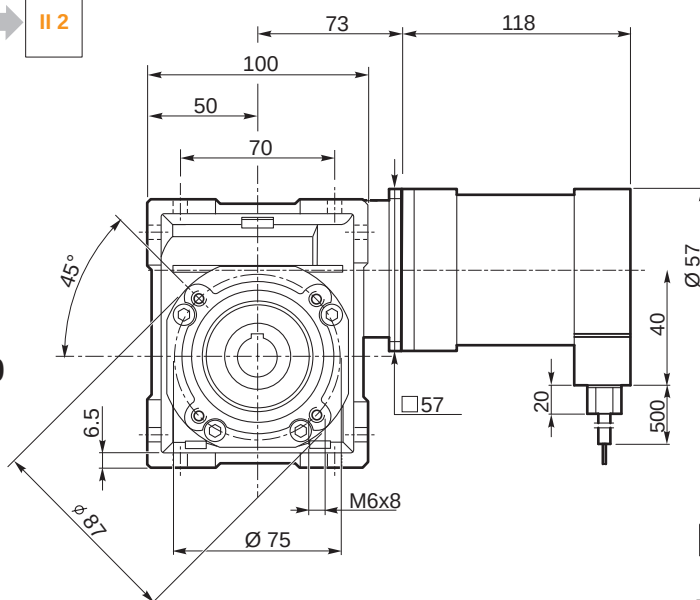
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service S1 is exceeded. Please, contact our technical office.

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

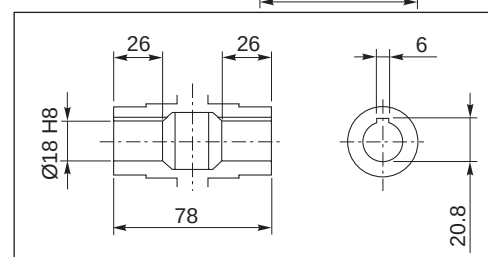
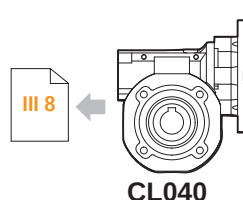
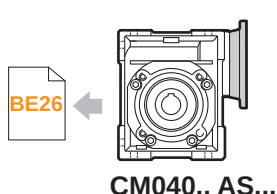
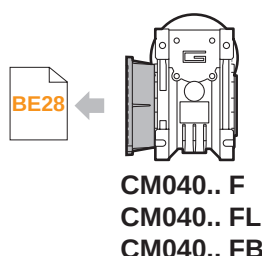
Azionamenti
Drives

II 2

CM040..U
+
BLS043.240

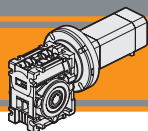


Kg
3.5



Albero lento cavo / Hollow output shaft

IP 55
CM



Motoriduttori brushless CC a vite senza fine Brushless DC Wormgearmotors

CM040 con motore brushless CC

CM040 with brushless DC motor

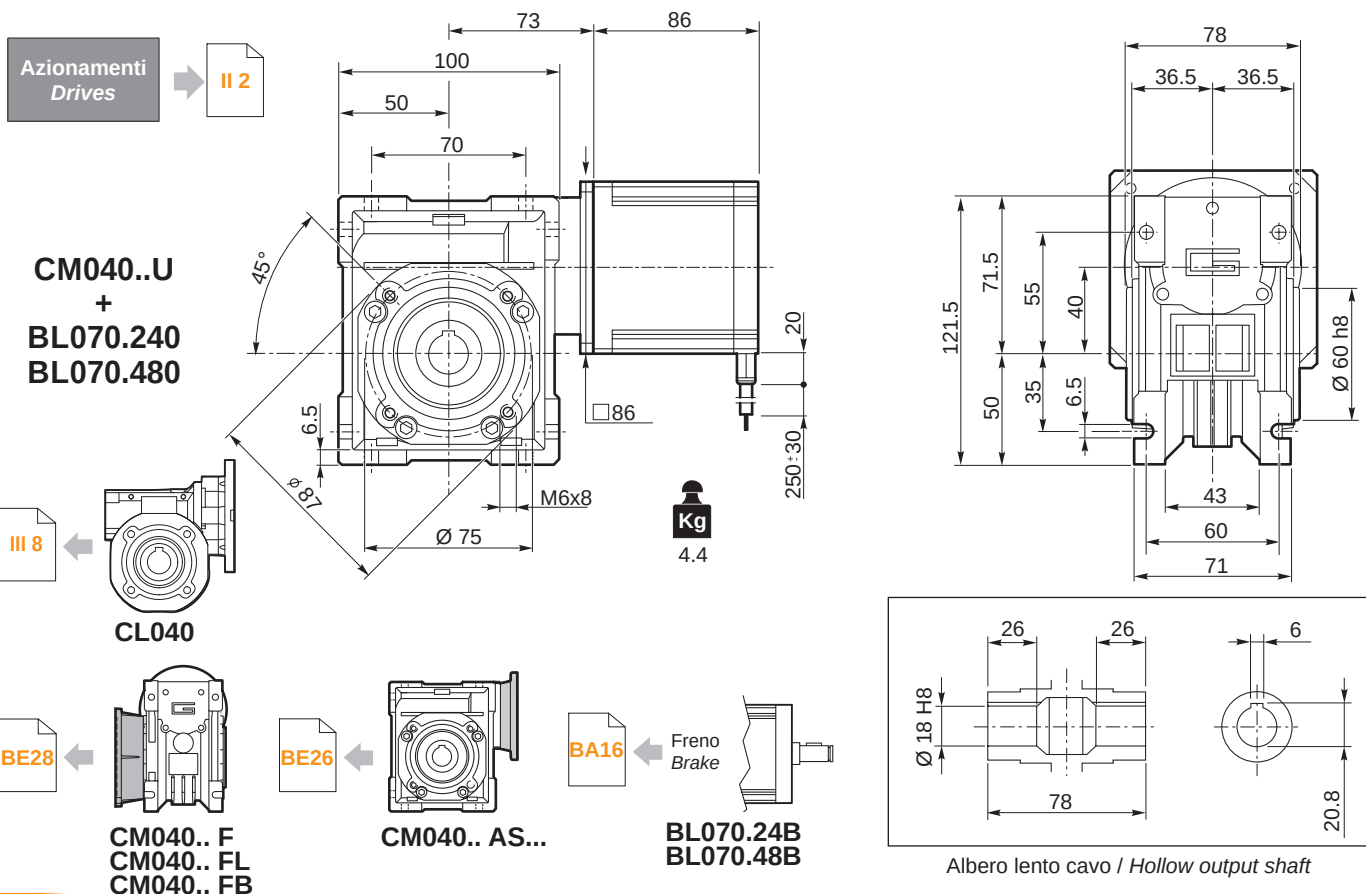
CM040	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]
		M ₂	sf		M ₂	sf	
5	60	2.9	25	600	3.2	9.2	3000
7.5	40	4.2	18	400	4.7	6.6	
10	30	5.3	14	300	6.1	5.4	
15	20	7.4	11	200	8.8	3.9	
20	15	9.5	7.1	150	12	2.6	
25	12	11	5.4	120	14	2.0	
30	10	12	6.7	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



CM040 with brushless DC motor

CM IP 55

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

Page 10 of 10

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



Technical drawing of the BA13 encoder showing front, side, and rear views with dimensions.

Front View Dimensions:

- Overall width: 100
- Distance from center to mounting hole center: 50
- Distance between mounting holes: 70
- Mounting hole diameter: $\varnothing 7.5$
- Mounting hole pitch: M6x8
- Overall height: 70
- Flange thickness: 6.5
- Flange outer diameter: $\varnothing 87$
- Flange chamfer angle: 45°

Side View Dimensions:

- Overall length: 138.5
- Distance from front flange to rear flange: 70
- Distance from front flange to encoder body: 43.5
- Encoder body length: 93
- Encoder body diameter: $\varnothing 26_{-0.012}^0$
- Encoder body tolerance: -0.004
- Encoder body chamfer: 1
- Encoder body mounting hole diameter: $\varnothing 8$

Rear View Dimensions:

- Overall width: 78
- Distance from center to mounting hole center: 36.5
- Distance between mounting holes: 71
- Mounting hole diameter: $\varnothing 60 \text{ h8}$
- Mounting hole pitch: 43
- Mounting hole distance: 60
- Overall height: 121.5
- Distance from center to mounting hole center: 50
- Distance from center to mounting hole center: 35
- Distance from center to mounting hole center: 6.5
- Distance from center to mounting hole center: 40
- Distance from center to mounting hole center: 71.5

Weight: 4.1 Kg

Encoder Type: BA13

BA13

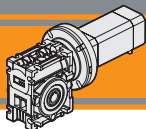
A line drawing of a front door lock assembly. It features a vertical handle on the left side, a keyhole in the center, and a rectangular lock body. The assembly is mounted on a door frame.

BE26

III 8

CL040

Albero lento cavo / *Hollow output shaft*



Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

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

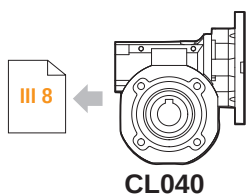
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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

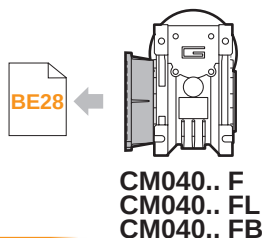
Azionamenti
Drives

II 2

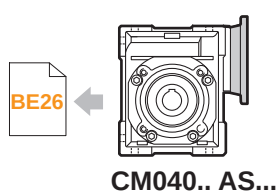
CM040..U
+
BL140.480



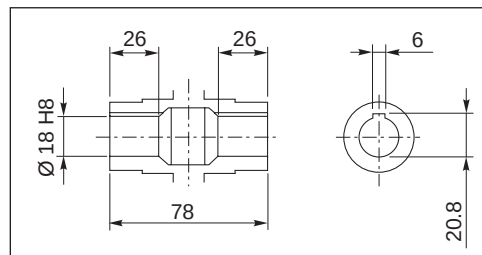
III 8



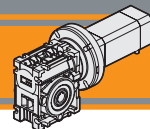
BE28



BE26



Albero lento cavo / Hollow output shaft



CM040 con motore brushless CC

CM040 with brushless DC motor

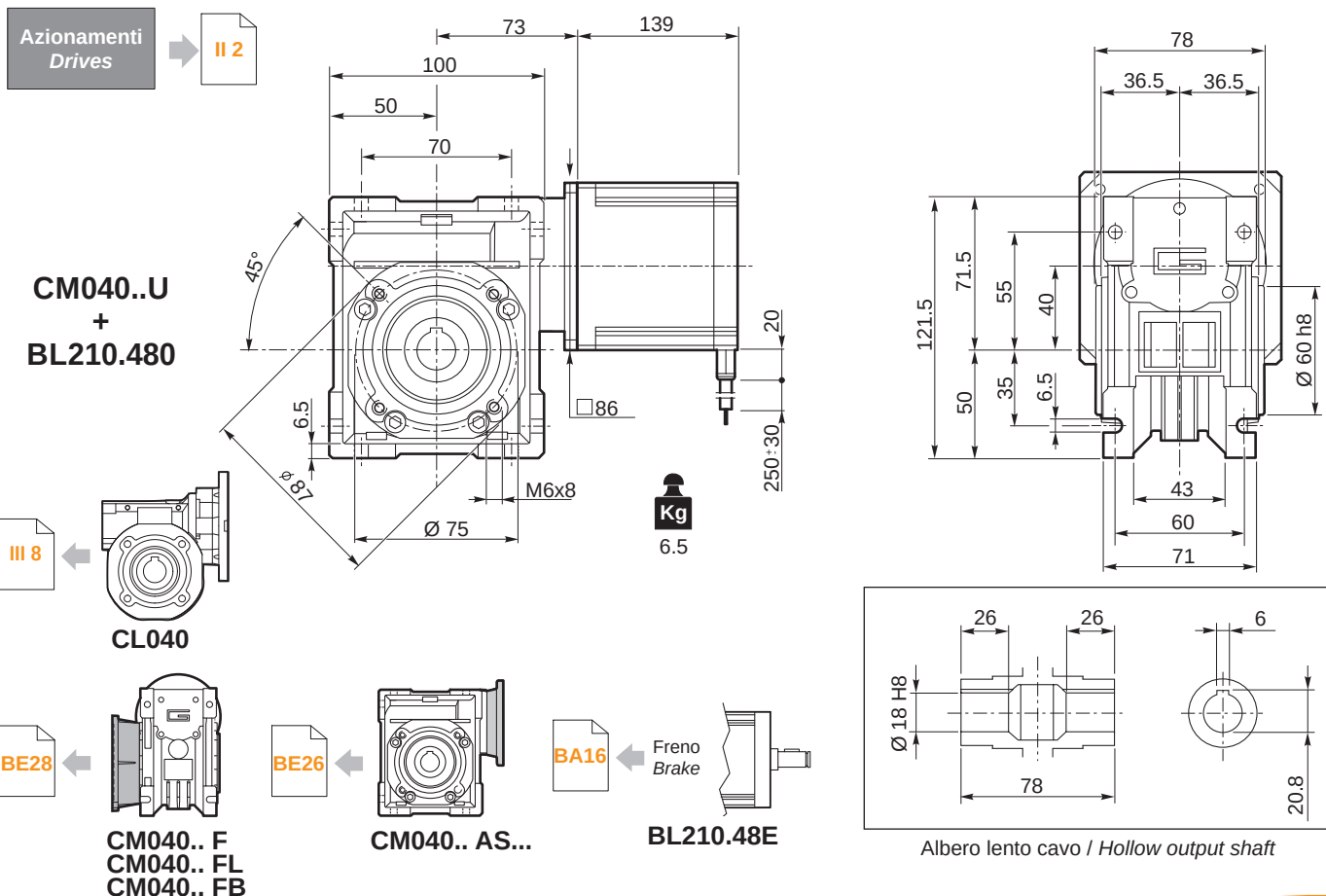
CM040	BL210.480 / BL210.48E					
	48V					
ir	n ₂ MIN			n ₂ MAX		
		M ₂	sf		M ₂	sf
5	60	8.6	8.5	600	9.4	3.1
7.5	40	12	6.1	400	14	2.2
10	30	16	4.7	300	18	1.8
15	20	22	3.6	200	27	1.3
20	15	29	2.3	150	35	0.9
25	12	34	1.8	120	42	0.7
30	10	37	2.2	100	49	0.8
40	7.5	45	1.5	75	52	0.7
50	6.0	50	1.2	60	41	0.7
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

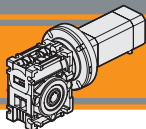
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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





Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

CM050 con motore brushless CC

CM050 with brushless DC motor

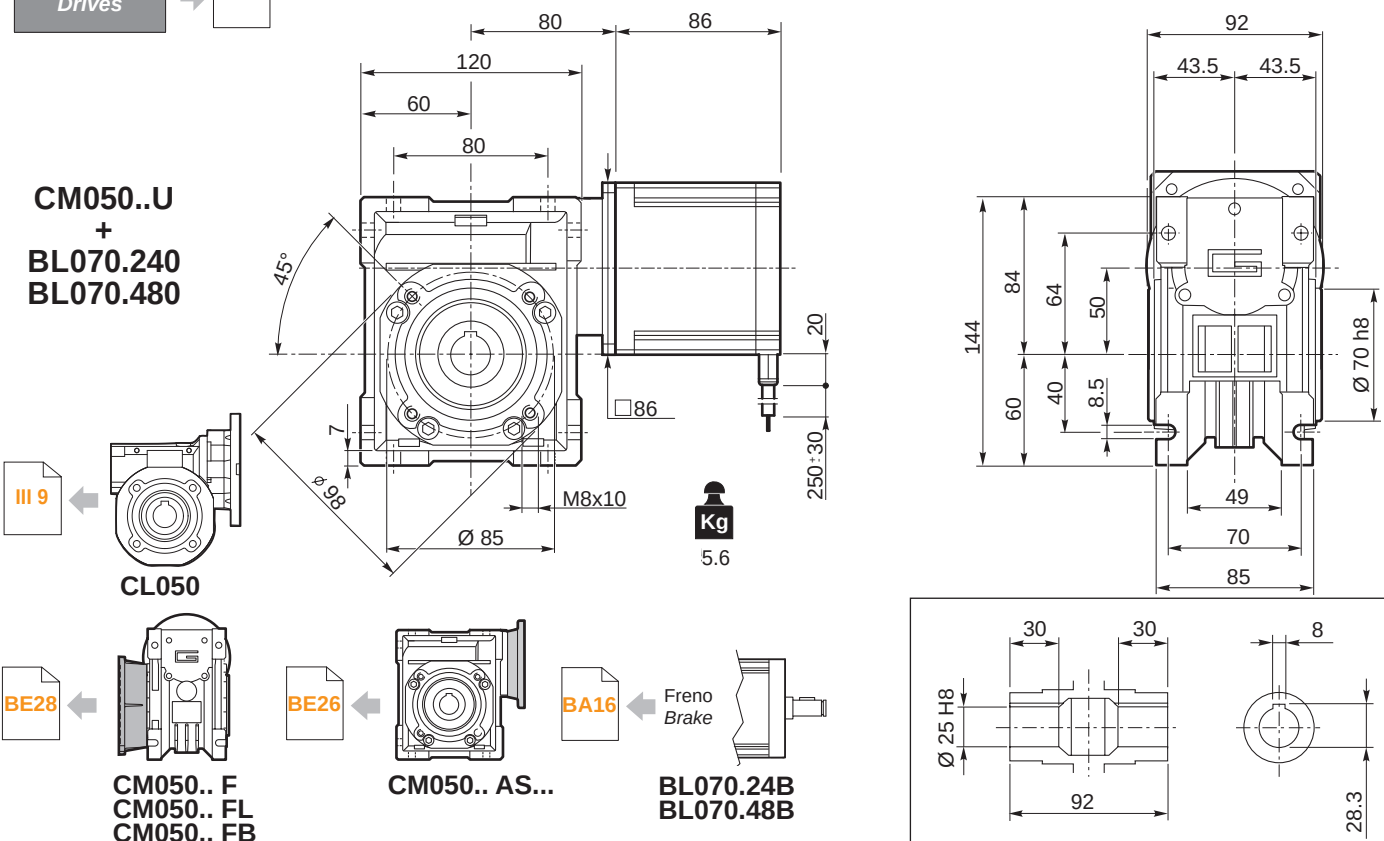
CM050	BL070.240 / BL070.24B / BL070.480 / BL070.48B					
	24V / 48V					
ir	n ₂ MIN			n ₂ MAX		
		M ₂	sf		M ₂	sf
5	60	3.0	46.4	600	3.3	16.0
7.5	40	4.2	33.1	400	4.7	12.1
10	30	5.4	26.2	300	6.2	9.7
15	20	7.6	18.4	200	9.0	6.9
20	15	9.4	13.3	150	11.8	4.7
25	12	11	10.3	120	14.4	3.6
30	10	12	12.4	100	16.4	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



Albero lento cavo / Hollow output shaft

CM050 with brushless DC motor

CM IP 55

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.



**CM050..U
+
BL140.480**

III 9

CL050



CM050.. F
CM050.. FL
CM050.. FB

BE26

CM050.. AS...

Kg
6.65

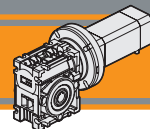
Albero lento cavo / *Hollow output shaft*

B-E₁₅



CM050 with brushless DC motor

0624A



CM050 con motore brushless CC

CM050 with brushless DC motor

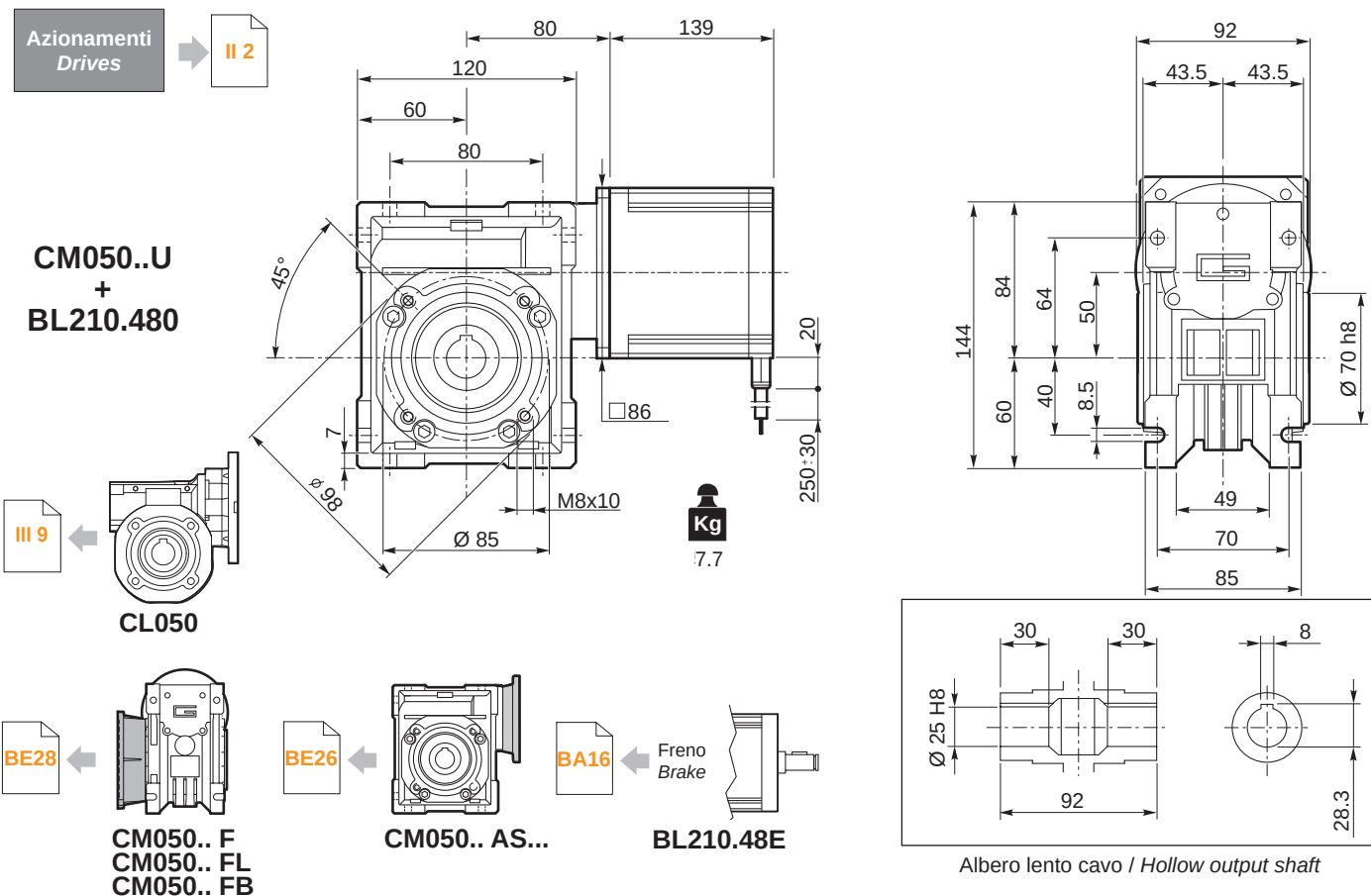
CM050	BL210.480 / BL210.48E						
	48V						
ir	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]
		M ₂	sf		M ₂	sf	
5	60	8.7	16	600	9.6	5.6	3000
7.5	40	12	11	400	14	4.0	
10	30	16	8.9	300	19	3.2	
15	20	23	6.5	200	28	2.2	
20	15	29	4.5	150	35	1.6	
25	12	34	3.4	120	43	1.2	
30	10	37	4.2	100	52	1.3	
40	7.5	45	2.9	75	62	1.0	
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	

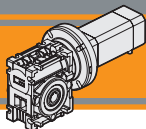
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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





Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL070.240 / BL070.24B / BL070.480 / BL070.48B						
	24V / 48V						
ir	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]
		M ₂	sf		M ₂	sf	
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

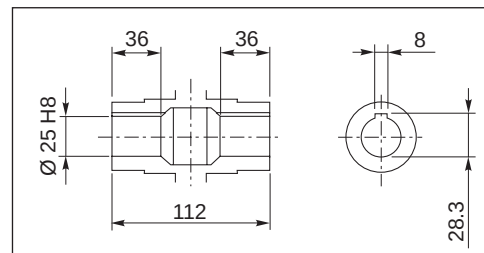
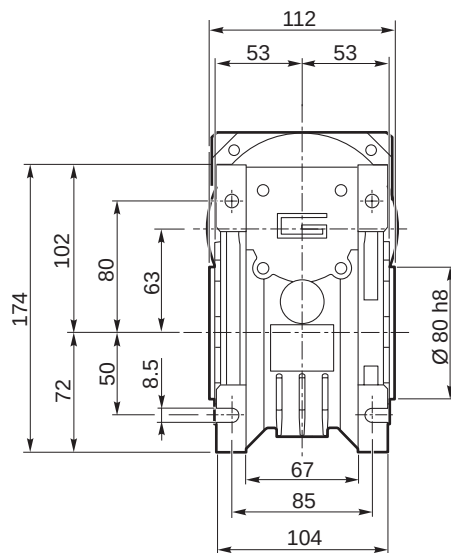
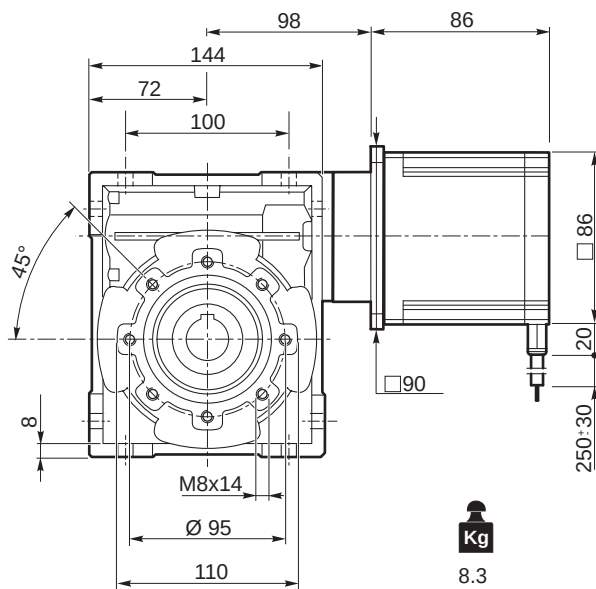
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

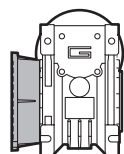
II 2

CM063..U
+
BL070.240
BL070.480



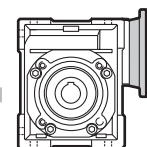
Albero lento cavo / Hollow output shaft

BE28



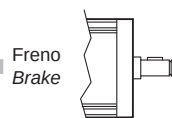
CM063.. F
CM063.. FL
CM063.. FB

BE27



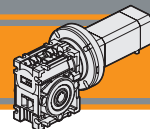
CM063.. AS...

BA16



BL070.24B
BL070.48B

Freno
Brake



CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL140.480						
	48V						
ir	n ₂ MIN			n ₂ MAX			n ₁ MAX [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

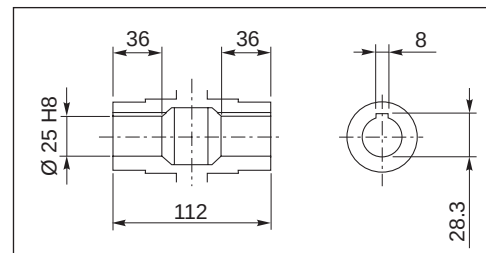
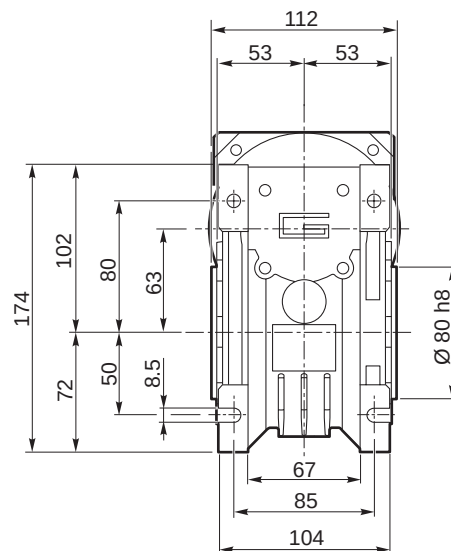
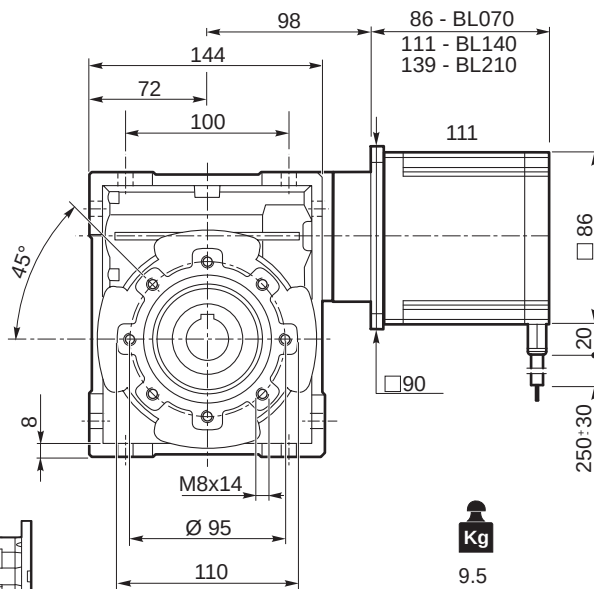
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

Azionamenti
Drives

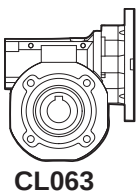
II 2

CM063..U
+
BL140.480

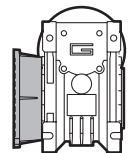


Albero lento cavo / Hollow output shaft

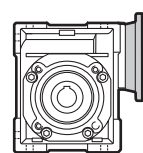
III 10



BE28

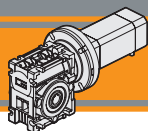


BE27



IP 55

CM



Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL200.48.95											
	24V						48V					
	n _{2MIN}			n _{2MAX}			n _{2MIN}			n _{2MAX}		
ir	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	12	33	6.5	120	42	2.3
30	5.0	36	6.0	50	45	3.7	10	36	7.8	100	47	2.7
40	3.8	43	4.6	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

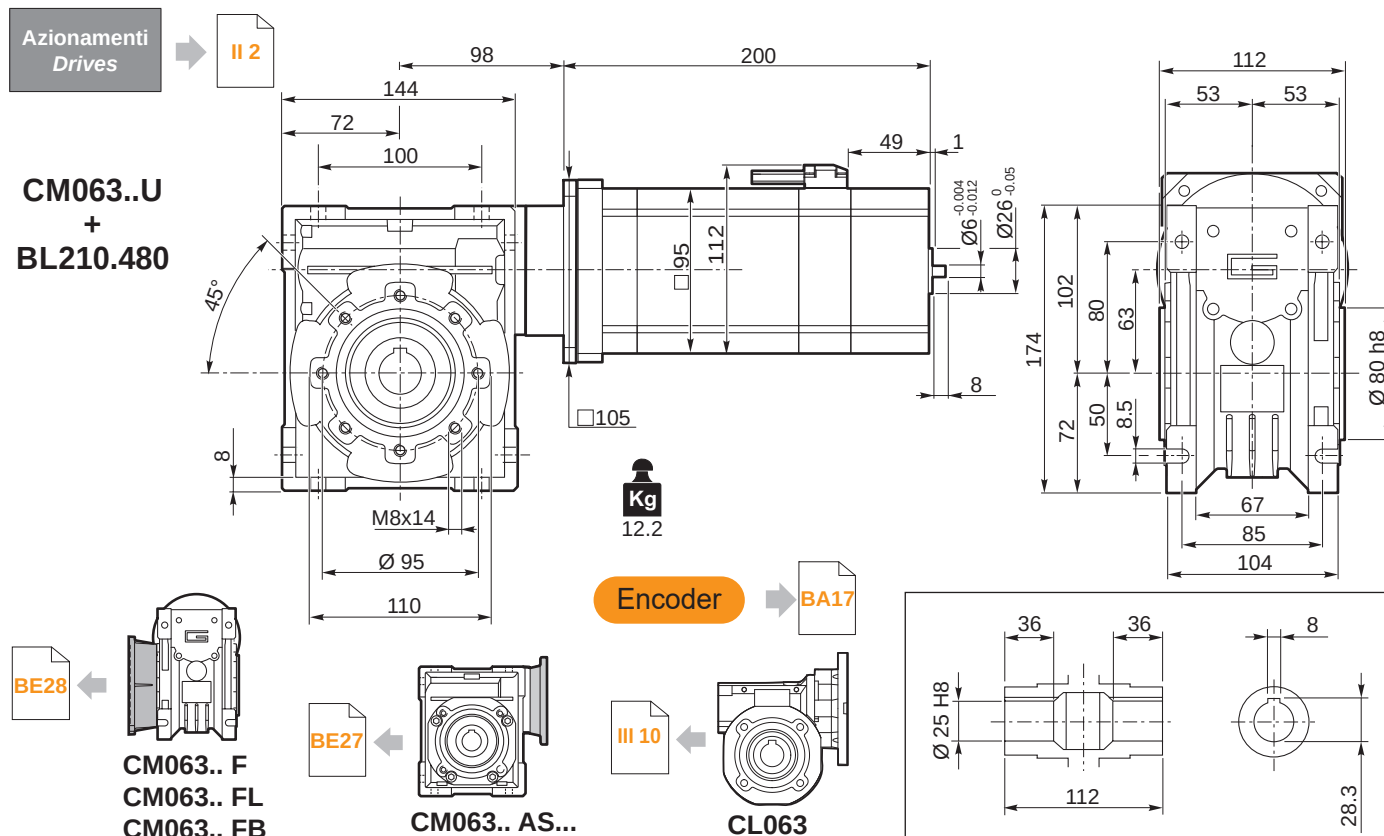
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

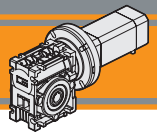
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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 [gcm ²]	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}			n _{2MAX}			n _{1MAX} [rpm]
		M ₂	sf		M ₂	sf	
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

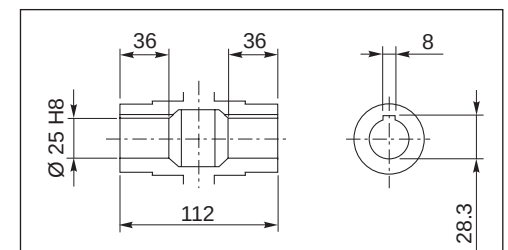
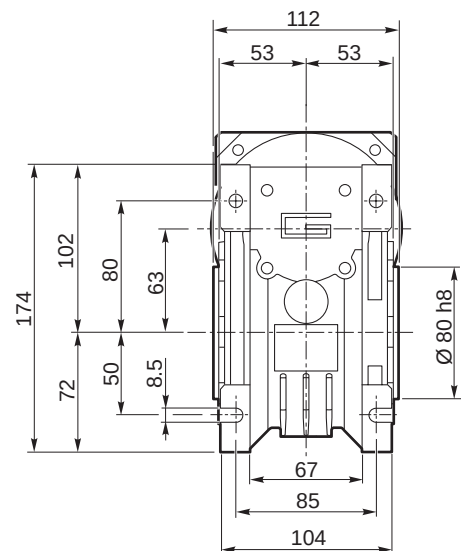
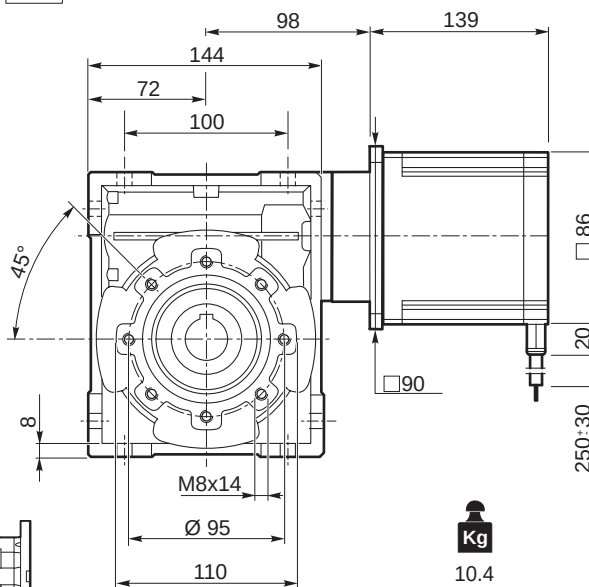
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
 Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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

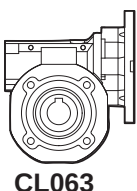
Azionamenti
Drives



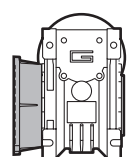
CM063..U
+
BL210.480



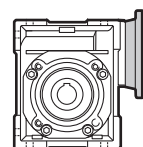
Albero lento cavo / Hollow output shaft



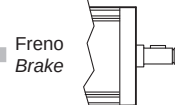
CL063



CM063.. F
CM063.. FL
CM063.. FB

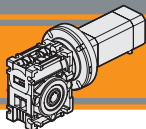


CM063.. AS...



BL210.48E

Freno
Brake



Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

CM063 con motore brushless CC

CM063 with brushless DC motor

CM063	BL400.48.120											
	24V						48V					
	n _{2MIN}			n _{2MAX}			n _{2MIN}			n _{2MAX}		
ir	M ₂		sf	M ₂		sf	M ₂		sf	M ₂		sf
5	28	14	19.3	280	16	8.5	60	15	16.1	600	16	6.1
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

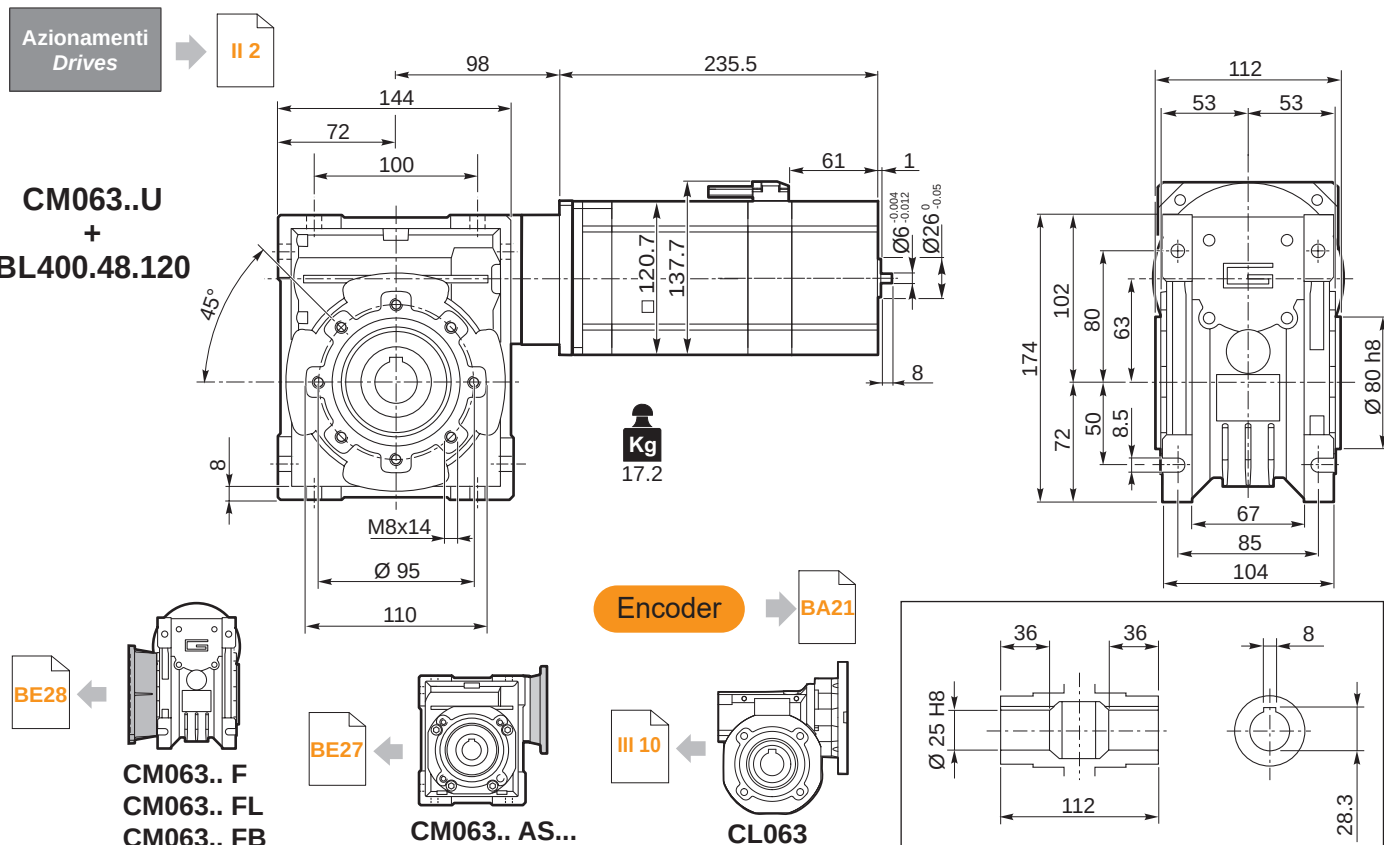
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

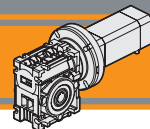
NOTE: for continuous or highly intermittent duty, please contact our technical service

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 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 [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11





CM070 con motore brushless CC

CM063 with brushless DC motor

CM070	BL400.48.120											
	24V						48V					
	n ₂ MIN			n ₂ MAX			n ₂ MIN			n ₂ MAX		
ir	M ₂	sf		M ₂	sf	n ₁ MAX [rpm]	M ₂	sf		M ₂	sf	n ₁ MAX [rpm]
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	10	66	6.3	100	84	2.2
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

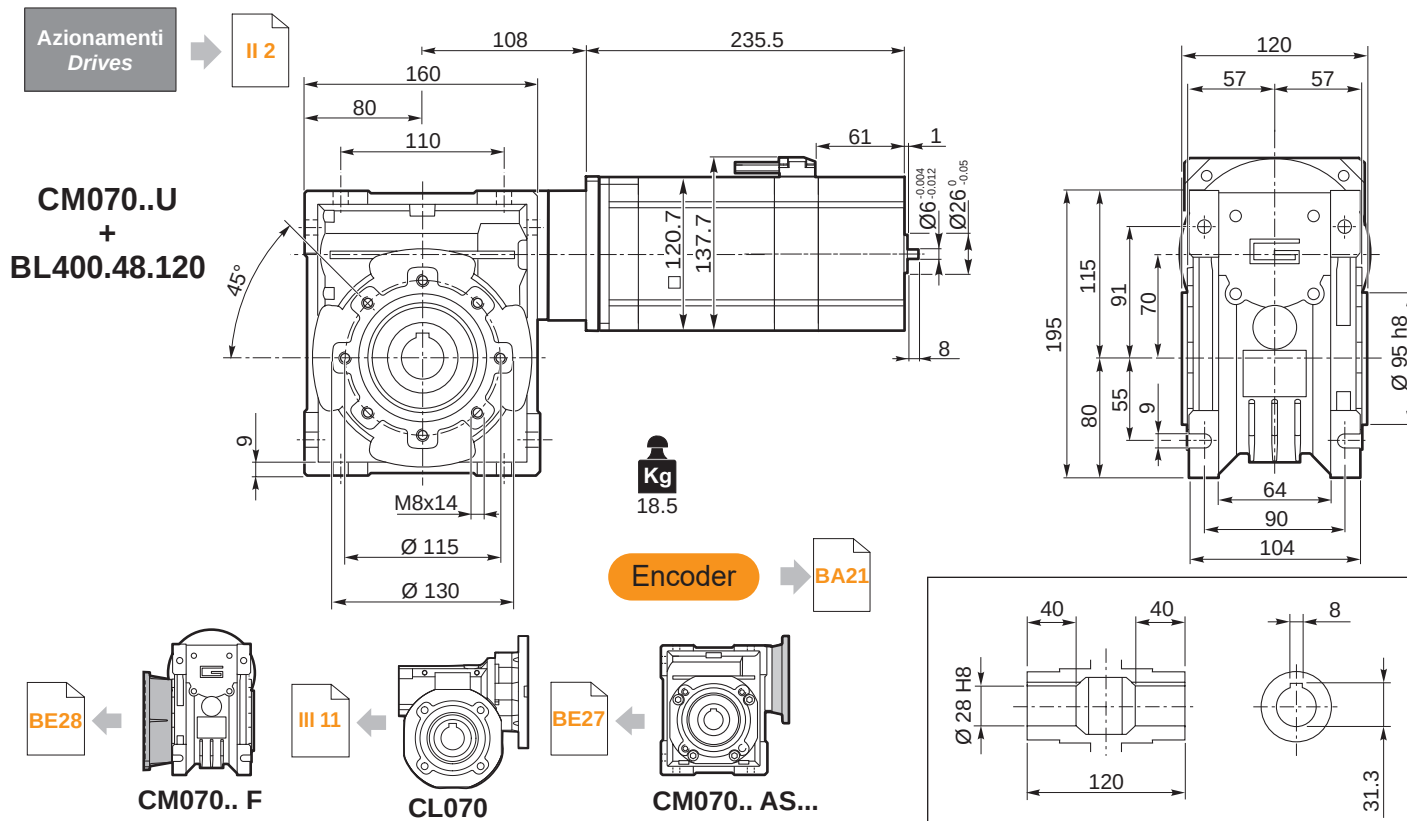
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

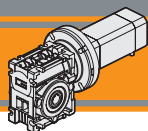
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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 [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11



Albero lento cavo / Hollow output shaft



Motoriduttori brushless CC a vite senza fine

Brushless DC Wormgearmotors

Dati tecnici

Technical data

	n_2 [min ⁻¹]	Mn_2 [Nm]	Pn_1 [kW]	i
CM026				
$n_1 = 1400 \text{ rpm}$	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				
$n_1 = 1400 \text{ rpm}$	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				
$n_1 = 1400 \text{ rpm}$	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				
$n_1 = 1400 \text{ rpm}$	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				
$n_1 = 1400 \text{ rpm}$	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				
$n_1 = 1400 \text{ rpm}$	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				
$n_1 = 3000 \text{ rpm}$	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				
$n_1 = 3000 \text{ rpm}$	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				
$n_1 = 3000 \text{ rpm}$	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				
$n_1 = 3000 \text{ rpm}$	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				
$n_1 = 3000 \text{ rpm}$	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				
$n_1 = 1400 \text{ rpm}$	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

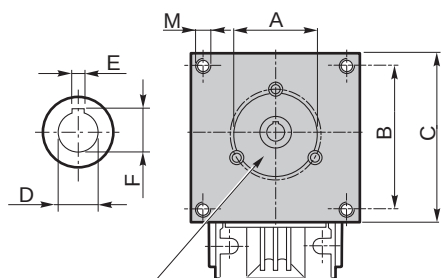
NOTE: for continuous or highly intermittent duty, please contact our technical service



Dimensioni CM con flange motore AS

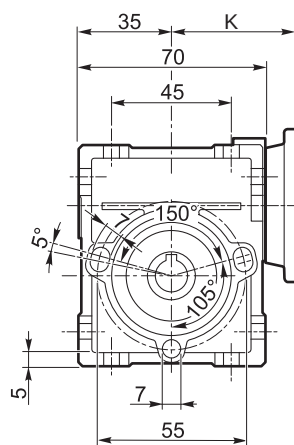
CM dimensions with motor flanges AS

CM026 - U - AS...



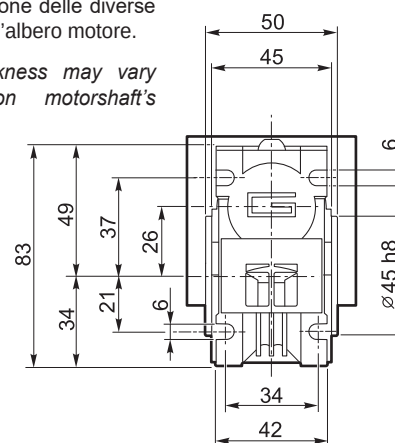
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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

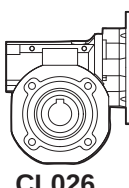


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

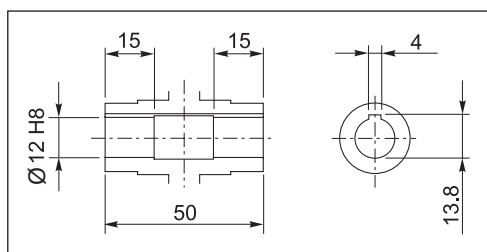


CM026.. F



CL026

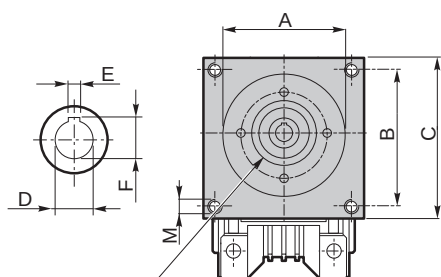
Kg
0.8



Albero lento cavo / Hollow output shaft

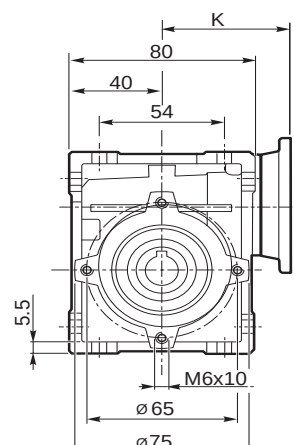
Dimensioni / Dimensions						Rapporti / Ratio		
AS	A	B	C	M	K	5...100		
						D	E	F
AS417	38.1	47.1	56	M4	49.5	9	3	10.4
...	...	...	...	...	...	...	...	...

CM030 - U - AS...



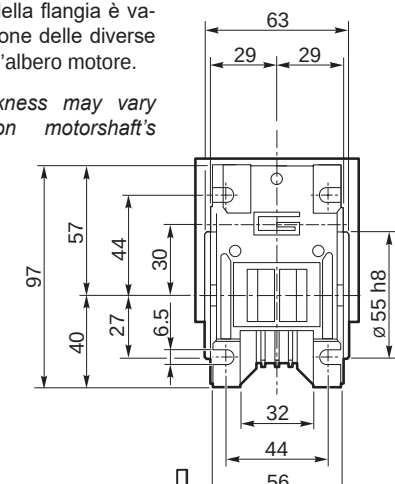
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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

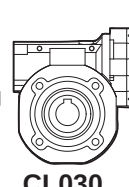


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

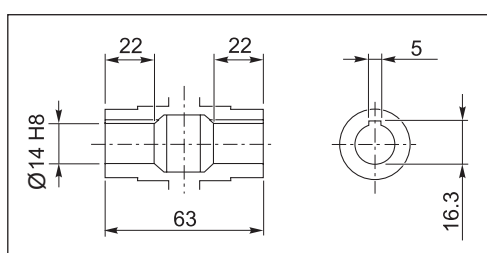


CM030.. F



CL030

Kg
1.2

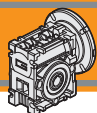


Albero lento cavo / Hollow output shaft

Dimensioni / Dimensions						Rapporti / Ratio					
AS	A	B	C	M	K	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
...	...	...	...	...	...	...	...	...	...	...	...

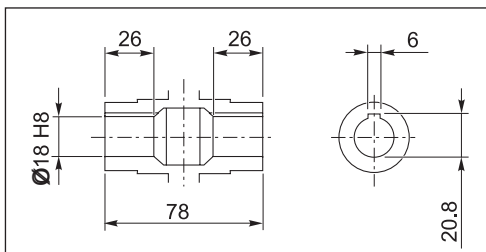
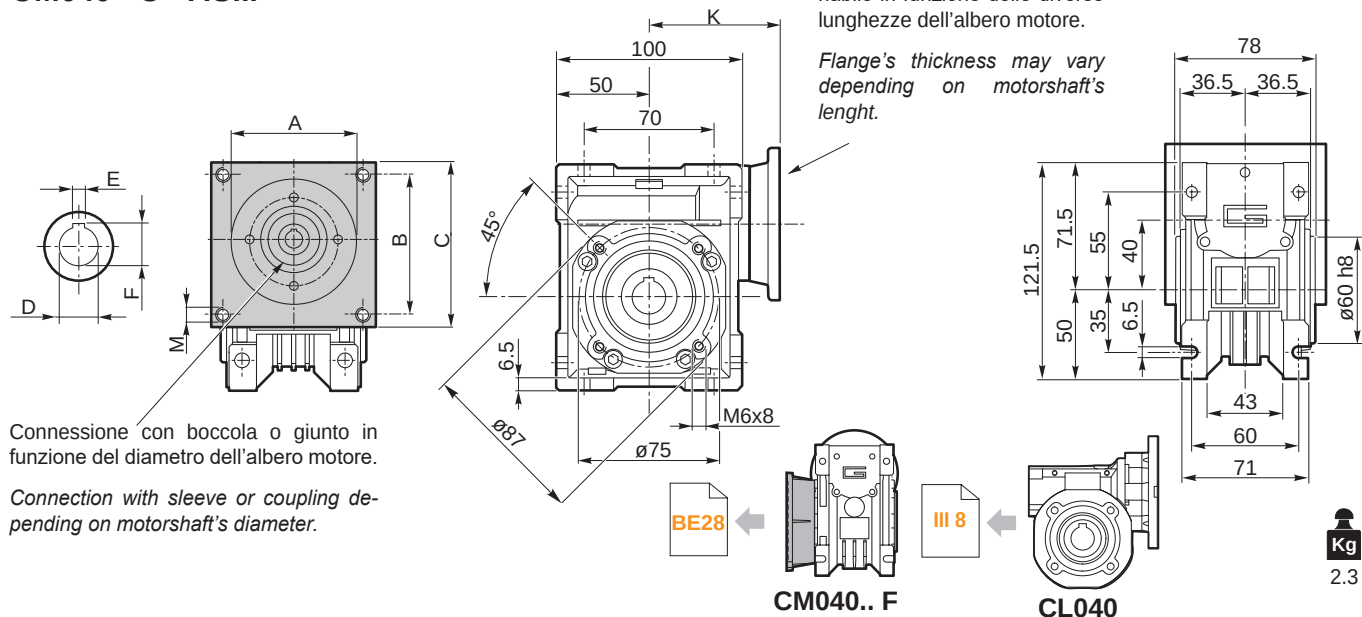
IP 55

CM

**CM****Riduttori a vite senza fine**
Wormgearboxes**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.



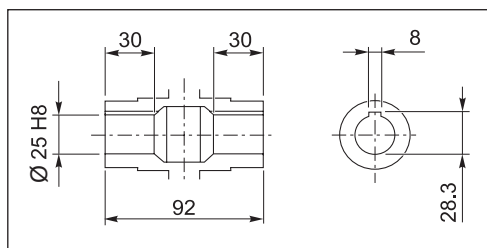
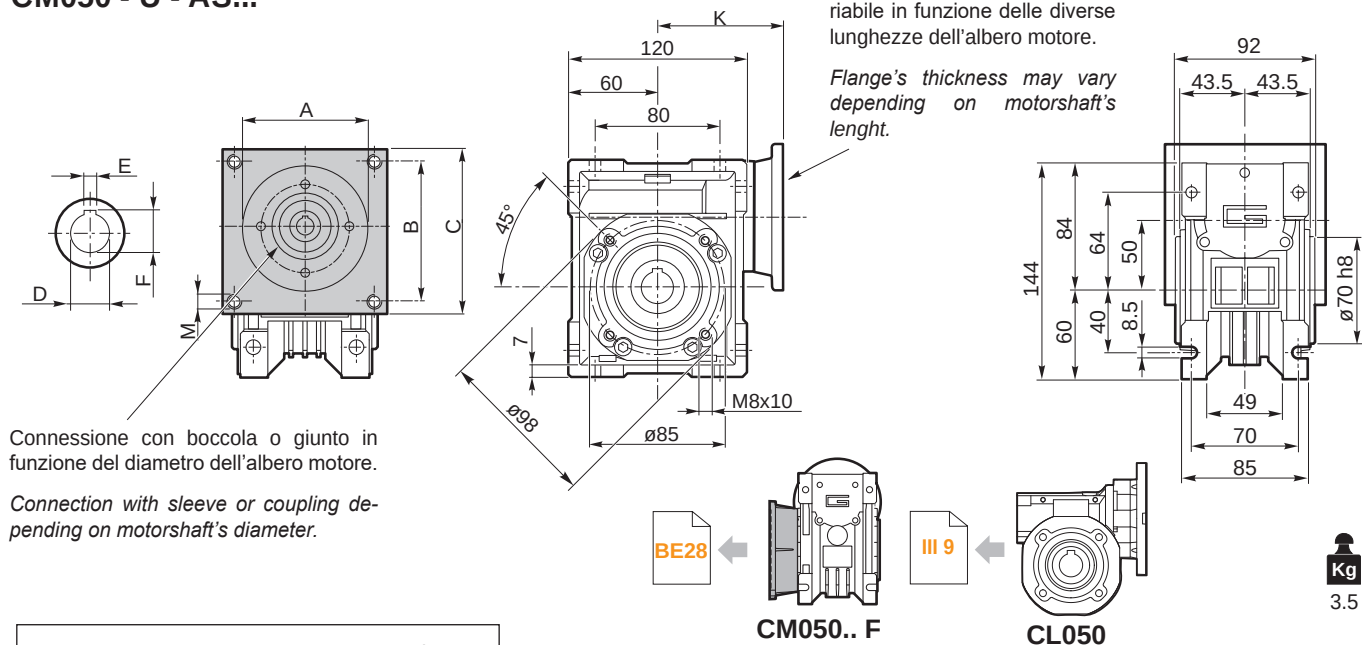
Albero lento cavo / Hollow output shaft

Dimensioni / Dimensions											
AS	A	B	C	M	K	Rapporti / Ratio					
						5...40			50...100		
						D	E	F	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...

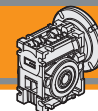
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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



Albero lento cavo / Hollow output shaft

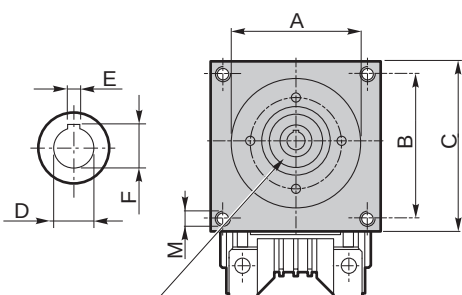
Dimensioni / Dimensions											
AS	A	B	C	M	K	Rapporti / Ratio					
						5...30			40...80		100
						D	E	F	D	E	F
AS363	73	69.5	86	M5	80	19	6	21.8	14	5	16.3
...	...	...	...	...	...	...	...	...	...	...	...



Dimensioni CM con flange motore AS

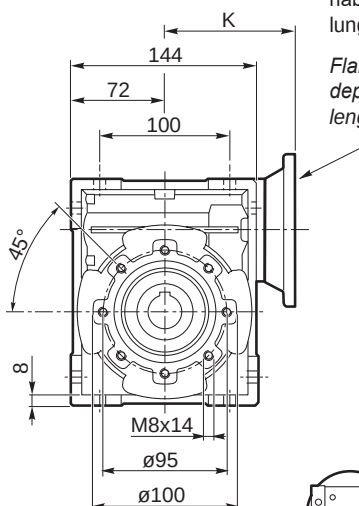
CM dimensions with motor flanges AS

CM063 - U - AS...



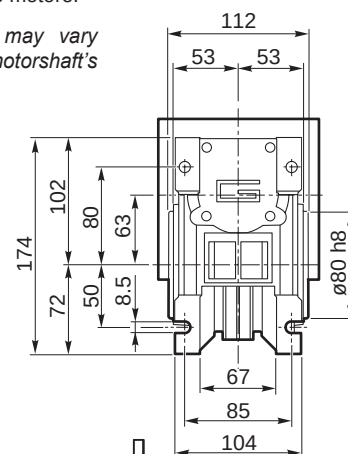
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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

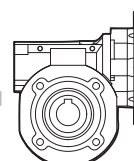


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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



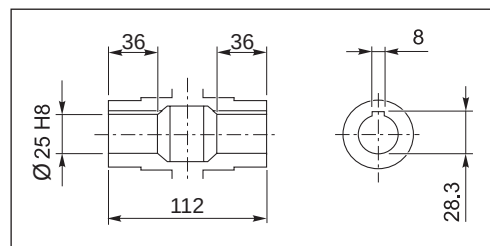
CM063.. F



CL063



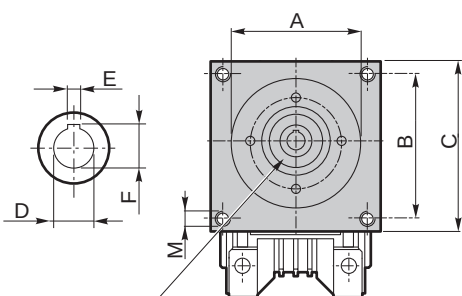
6.2



Albero lento cavo / Hollow output shaft

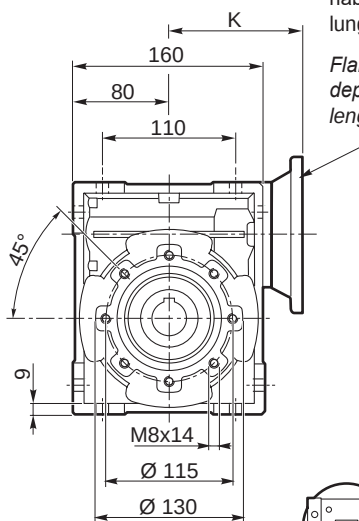
Dimensioni / Dimensions														
AS	A	B	C	M	K	Rapporti / Ratio								
						5...30			40...60			80...100		
						D	E	F	D	E	F	D	E	F
AS302	73	69.6	86	M5	98	24	8	27.3	19	6	21.8	14	5	16.3
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

CM070 - U - AS...



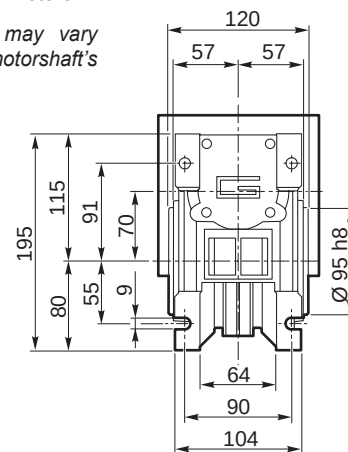
Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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

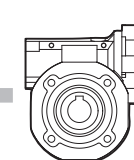


Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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



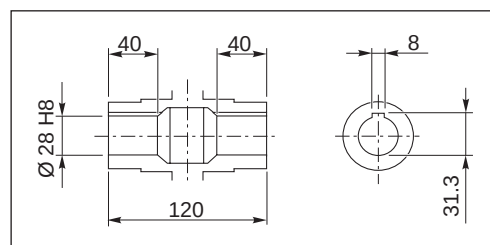
CM070.. F



CL070

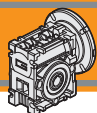
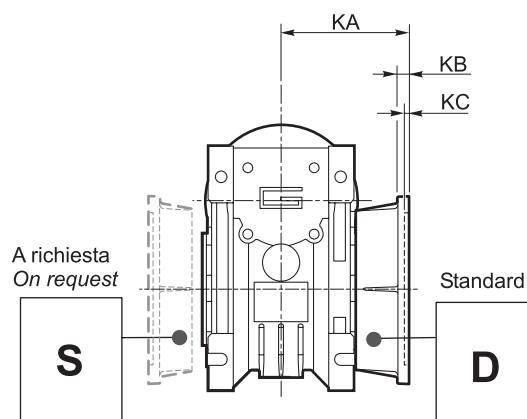
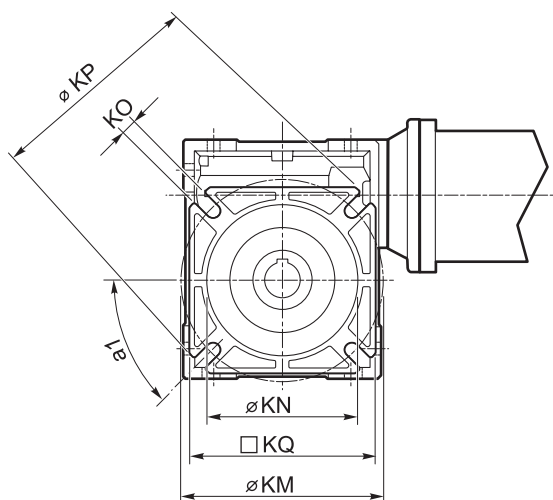


7.5



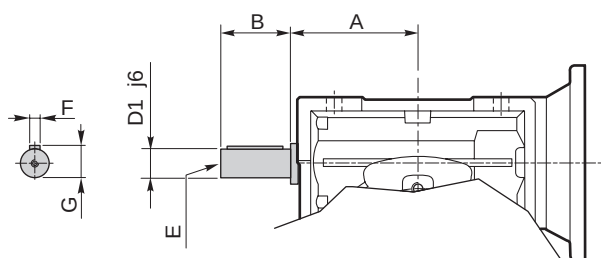
Albero lento cavo / Hollow output shaft

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

**CM****Riduttori a vite senza fine**
Wormgearboxes**Dimensioni flange uscita****Output flange dimensions****CM.../... F...** Flange uscita / Output flanges

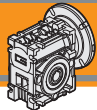
	CM..F									CM..F28								CM..F30							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
026	45°	45	6	4.5	55-69	40	6.5(n.4)	75	70	44	6.5	5	56-64	40	6.5	70	60	48	6.5	5	68	50	6.5	80	70

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

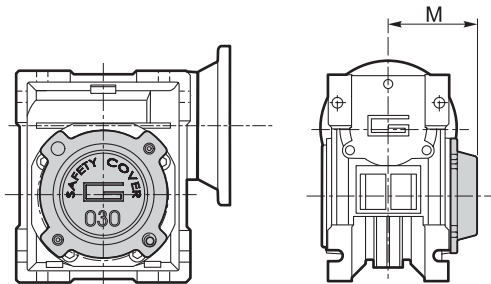
Opzioni**Options****VS - Vite sporgente / Extended input shaft**

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

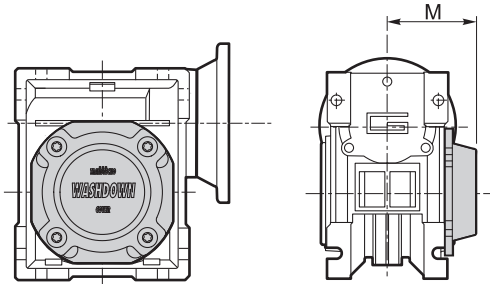


SC - Safety cover



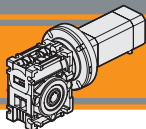
CM	M
030	47
040	54.5
050	62.5
063	73
070	75

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



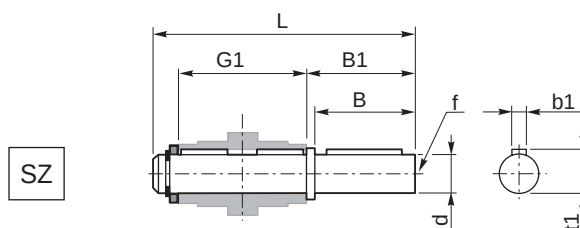
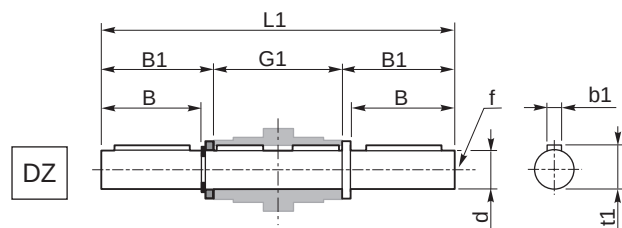
Motoriduttori brushless CC a vite senza fine Brushless DC Wormgearmotors

Accessori

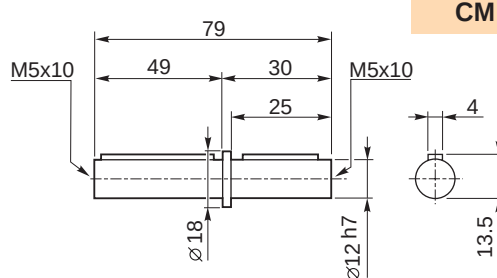
Accessories

Albero lento

Output shaft



	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

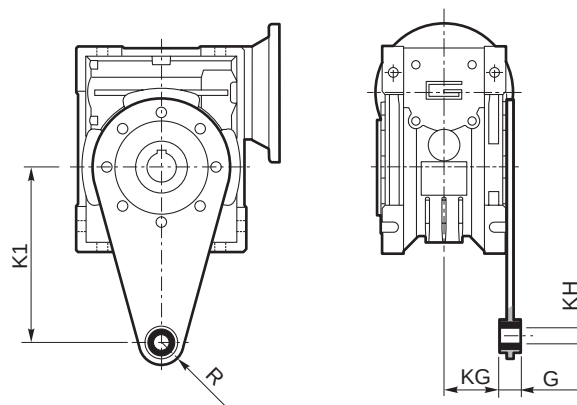


CM 026

Braccio di reazione

Torque arm

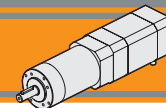
	K1	G	KG	KH	R
CM 030	85	14	23	8	15
CM 040	100	14	31	10	18
CM 050	100	14	38	10	18
CM 063	150	14	47.5	10	18
CM 070	200	25	46.5	20	30





Motoriduttori brushless CC epicicloidali
Brushless DC planetary gearmotors

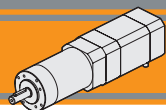




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Simbologia	<i>Symbols</i>	BF2
Lubrificazione e temperatura	<i>Lubrication and temperature</i>	BF3
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Rapporti	<i>Ratios</i>	BF3
PM52 con motore brushless BLS 022.240	<i>PM52 with brushless motor BLS 022.240</i>	BF4
PM52 con motore brushless BLS 043.240	<i>PM52 with brushless motor BLS 043.240</i>	BF6
PM62 con motore brushless BL 070.240	<i>PM62 with brushless motor BL 070.240</i>	BF8
PM62 con motore brushless BL 070.480	<i>PM62 with brushless motor BL 070.480</i>	BF8
PM62 con motore brushless BL 070.48.80	<i>PM62 with brushless motor BL 070.48.80</i>	BF10
PM62 con motore brushless BL 140.480	<i>PM62 with brushless motor BL 140.480</i>	BF12
PM72 con motore brushless BL 070.240	<i>PM72 with brushless motor BL 070.240</i>	BF14
PM72 con motore brushless BL 070.480	<i>PM72 with brushless motor BL 070.480</i>	BF14
PM72 con motore brushless BL 070.48.80	<i>PM72 with brushless motor BL 070.48.80</i>	BF16
PM72 con motore brushless BL 140.480	<i>PM72 with brushless motor BL 140.480</i>	BF18
PM81 con motore brushless BL 140.480	<i>PM81 with brushless motor BL 140.480</i>	BF20
PM81 con motore brushless BL 200.48.95	<i>PM81 with brushless motor BL 200.48.95</i>	BF22
PM81 con motore brushless BL 210.480	<i>PM81 with brushless motor BL 210.480</i>	BF24
PM105 con motore brushless BL 200.48.95	<i>PM105 with brushless motor BL 200.48.95</i>	BF26
PM105 con motore brushless BL 210.480	<i>PM105 with brushless motor BL 210.480</i>	BF28
PM105 con motore brushless BL 400.48.120	<i>PM105 with brushless motor BL 400.48.120</i>	BF30
PM120 con motore brushless BL 400.48.120	<i>PM120 with brushless motor BL 400.48.120</i>	BF32
Dati tecnici	<i>Technical data</i>	BF34
Dimensioni PM con flange motore AS	<i>PM dimensions with motor flanges AS</i>	BF35
Flange uscita	<i>Output flange</i>	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**

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Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

Caratteristiche tecniche

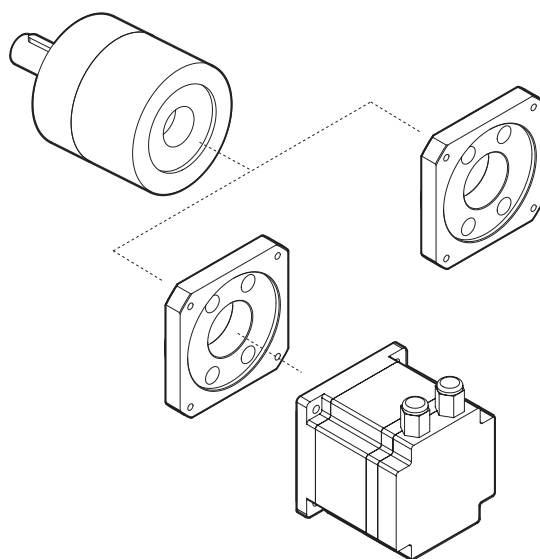
Technical features

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



Designazione

Classification

RIDUTTORE / GEARBOX			
PM	52	2	46
Tipo Type	Grandezza Size	Stadi riduttore Gearbox stages	Rapporto in Ratio in
PM	52	1 2 3	Vedere tabelle See tables
	62		
	72		
	81		
	105 120		

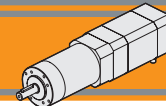
MOTORE / MOTOR		
BL070.480	48V	BR
Tipo Type	Tensione Voltage	Freno Brake
BLS022.240	24V-36V	24V
BLS043.240	24V-36V	48V
BL070.240	24V	BA16
BL070.24B	24V	
BL070.48B	48V	
BL070.480	48V	
BL070.48.80	24V-48V	
BL140.480	48V	BA16
BL200.48.95	24V-48V	
BL210.480	24V-48V	
BL210.48E	48V	
BL400.48.120	48V	

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

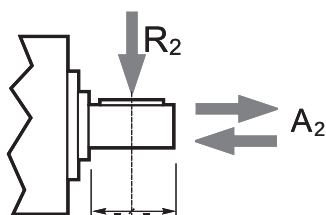
Lubrication and temperature

I motoriduttori epicycloidali PM sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.
Temperatura ambiente $0 \div 40\text{ }^{\circ}\text{C}$ (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 $0 \div 40\text{ }^{\circ}\text{C}$ (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

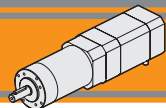
Ratios

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



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM52 con motore brushless

PM52 with brushless motor

PM52			BLS022.240														
			24V						36V								
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	
				M ₂ [Nm]	sf		M ₂ [Nm]	sf				M ₂ [Nm]	sf		M ₂ [Nm]		sf
1	3.7	4	81	0.7	9.0	811	0.7	6.1	3000	108	0.7	9.0	1081	0.7	5.4	4000	
	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		5.9	10	3.5	59	10	2.1		
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.

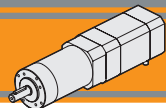
PM52 with brushless DC motor

Azionamenti
Drives → II 2

PM IP 55



PM52.. AS... PM52.. C...



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM52 con motore brushless CC

PM52 with brushless DC motor

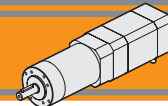
PM52			BLS043.240														
			24V						36V								
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	
			M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]
1	3.7	4	81	1.3	4.6	811	1.3	3.1	3000	108	1.3	4.6	1081	1.3	2.8	4000	
	4.28	4	70	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		5.9	20	1.8	59	20	1.1		
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

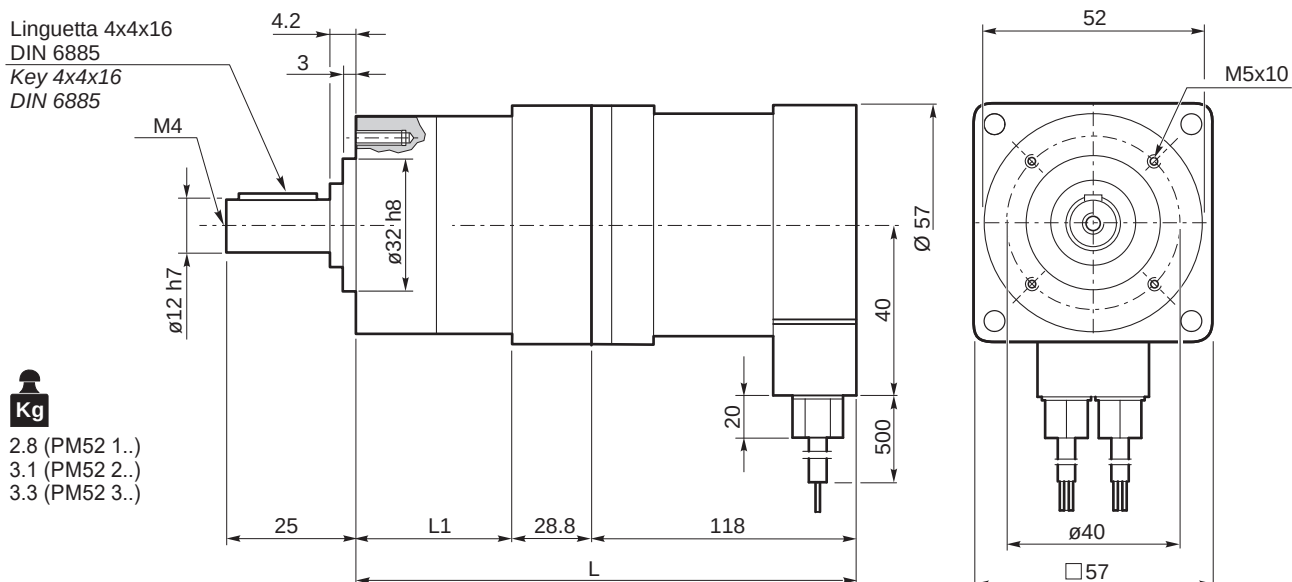
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale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

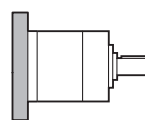


PM52.. + BLS043.240

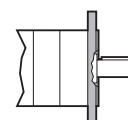
IP 55
PM



PM52	BLS043.240		
	Ns	L1	L
	1	47.2	194.0
	2	61.3	208.1
	3	75.6	222.4



PM52.. AS...



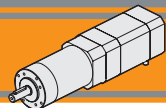
PM52.. C...



BF35



BF41



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM62 con motore brushless CC

PM62 with brushless DC motor

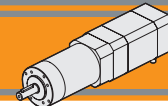
PM62			BL070.240 / BL070.24B / BL070.480 / BL070.48B							
			24V / 48V							
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	
				M ₂ [Nm]	sf		M ₂ [Nm]	sf		
1	3.7	4	81	2.1	5.6	811	2.1	3.8	3000	
	4.28	4	70	2.4	4.8	701	2.4	3.3		
	5.18	5	58	2.9	4.0	579	2.9	2.7		
	6.75	7	44	3.8	3.0	444	3.8	2.1		
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		
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

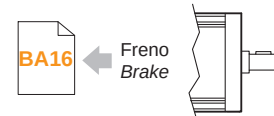
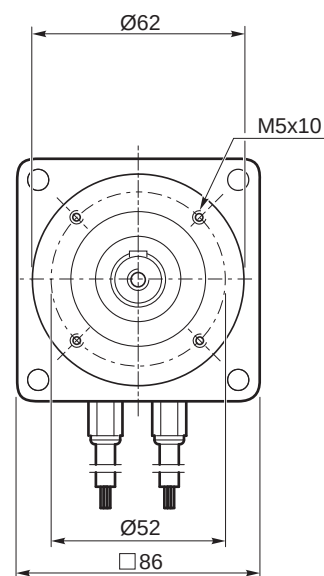
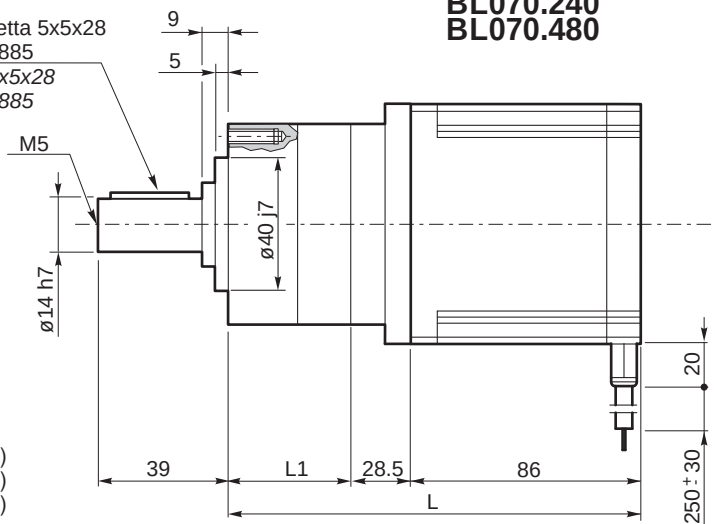


PM62..
+
BL070.240
BL070.480



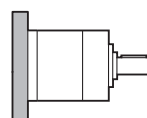
2.9 (PM62 1..
3.3 (PM62 2..
3.7 (PM62 3..)

Linguetta 5x5x28
DIN 6885
Key 5x5x28
DIN 6885

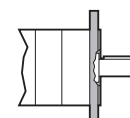


BL070.24B
BL070.48B

PM62	Ns	L1	BL 070.240 BL 070.480
			L
	1	45.3	159.8
	2	62.2	176.7
	3	79.2	193.7



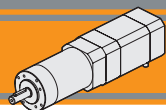
PM62.. AS...



PM62.. C...

IP 55

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM62 con motore brushless CC

PM62 with brushless DC motor

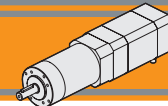
PM62			BL070.48.80														
			24V							48V							
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	
				M ₂ [Nm]	sf		M ₂ [Nm]	sf				M ₂ [Nm]	sf		M ₂ [Nm]		sf
1	3.7	4	68	2.1	5.7	676	2.1	3.9	2500	108	2.1	5.7	1081	2.1	3.4	4000	
	4.28	4	58	2.4	4.9	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		5.9	33	2.2	59	33	1.3		
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	

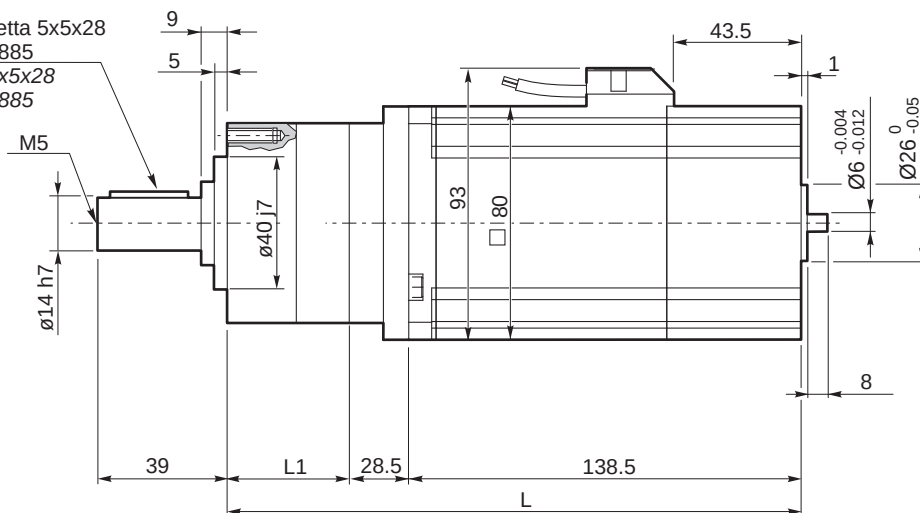
Tipo Type	Corrente nominale Rated current [A]	Corrente di picco Peak current [A]	Resistenza fase-fase Line to line resistance [Ω]	Induttanza fase-fase Line to line inductance [mH]	Costante di coppia Torque constant [Nm/A]	Costante FCEM Back EMF [V/kRPM]	Inerzia rotore Rotor inertia [gcm ²]	Peso Weight [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti
Drives



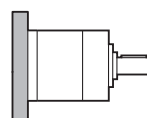
PM62..
+
BL070.48.80

Linguetta 5x5x28
DIN 6885
Key 5x5x28
DIN 6885

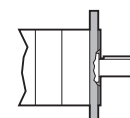


2.9 (PM62 1..)
3.3 (PM62 2..)
3.7 (PM62 3..)

PM62	BL 070.48.80		
	Ns	L1	L
	1	45.3	209.7
	2	62.2	226.6
	3	79.2	243.6



PM62.. AS...



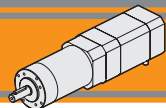
PM62.. C...

Encoder



IP 55

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM62 con motore brushless CC

PM62 with brushless DC motor

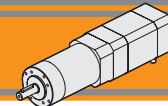
PM62			BL140.480					
			48V					
Ns	ir	in	n _{2MIN} [rpm]			n _{2MAX} [rpm]		
			M ₂ [Nm]		sf	M ₂ [Nm]		n _{1MAX} [rpm]
1	3.7	4	81	4.1	2.8	811	4.1	3000
	4.28	4	70	4.8	2.4	701	4.8	
	5.18	5	58	5.8	2.0	579	5.8	
	6.75	7	44	7.6	1.5	444	7.6	
2	13.73	14	22	14	2.6	218	14	
	15.88	16	19	16	2.2	189	16	
	18.36	18	16	19	1.9	163	19	
	19.2	19	16	20	1.8	156	20	
	22.2	22	14	23	1.6	135	23	
	25.01	25	12	26	1.4	120	26	
	26.9	27	11	28	1.3	112	28	
	28.9	29	10	30	1.2	104	30	
	35.0	35	8.6	37	1.0	86	36	
	45.6	46	6.6	48	0.8	66	36	
	50.9	51	5.9	50	1.5	59	50	
	58.9	59	5.1	58	1.3	51	58	
3	68.06	68	4.4	67	1.1	44	67	
	71.2	71	4.2	70	1.1	42	70	
	78.7	79	3.8	77	1.0	38	71	
	92.7	93	3.2	91	0.8	32	71	
	95.2	95	3.2	93	0.8	32	71	
	99.5	100	3.0	98	0.8	30	71	
	107.2	107	2.8	105	0.7	28	71	
	115.07	115	2.6	105	0.7	26	71	
	123.97	124	2.4	105	0.7	24	71	
	129.62	130	2.3	105	0.7	23	71	
	139.13	139	2.2	105	0.7	22	71	
	149.9	150	2.0	105	0.7	20	71	
	168.84	169	1.8	105	0.7	18	71	
	181.24	181	1.7	105	0.7	17	71	
	195.26	195	1.5	105	0.7	15	71	
	236.09	236	1.3	105	0.7	13	71	
	307.54	308	1.0	105	0.7	9.8	71	

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

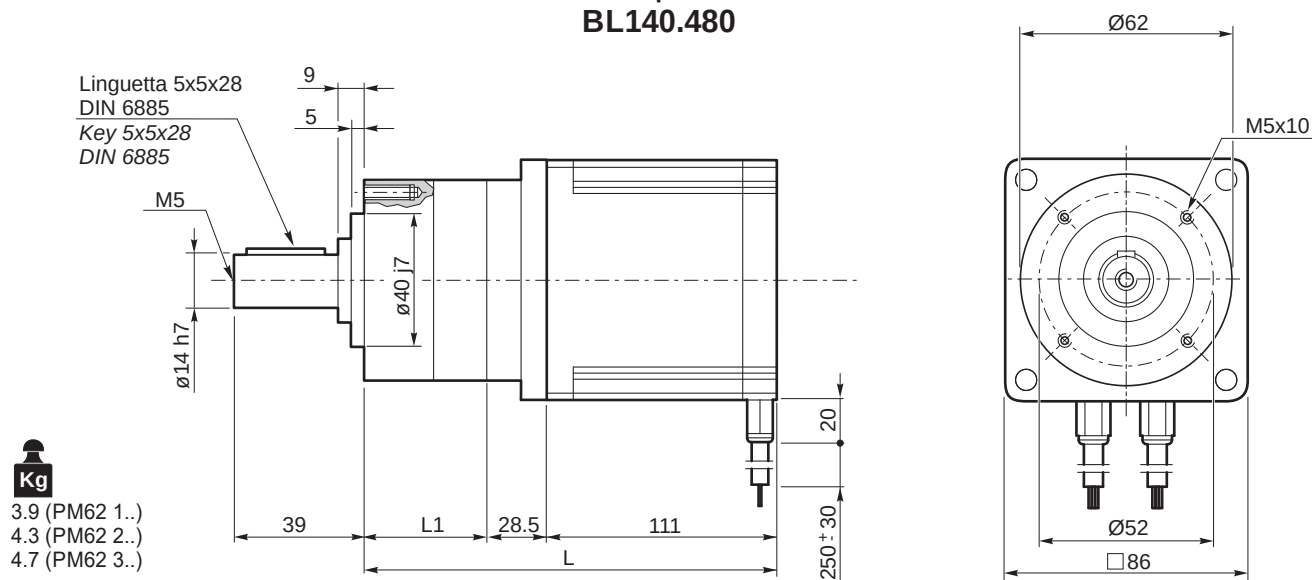
PM62 with brushless DC motor

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

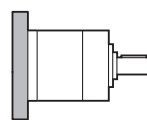
Azionamenti
Drives



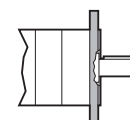
PM62.. + BL140.480



PM62	Ns	L1	BL 140.480
			L
	1	45.3	184.8
	2	62.2	201.7
	3	79.2	218.7



PM62.. AS...

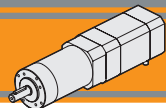


PM62.. C...



IP 55

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM72 con motore brushless CC

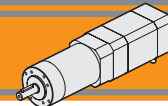
PM72 with brushless DC motor

PM72			BL070.240 / BL070.24B / BL070.480 / BL070.48B							
			24V / 48V							
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	
				M ₂ [Nm]	sf		M ₂ [Nm]	sf		
1	3.7	4	81	2.1	10.0	811	2.1	6.8	3000	
	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		
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

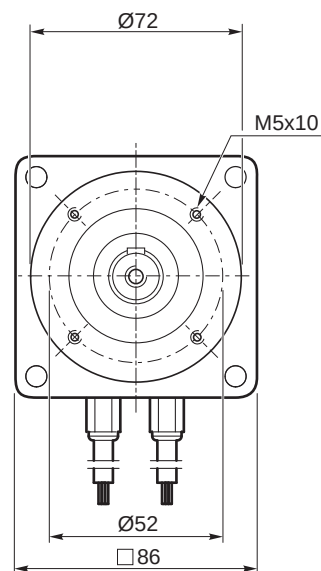
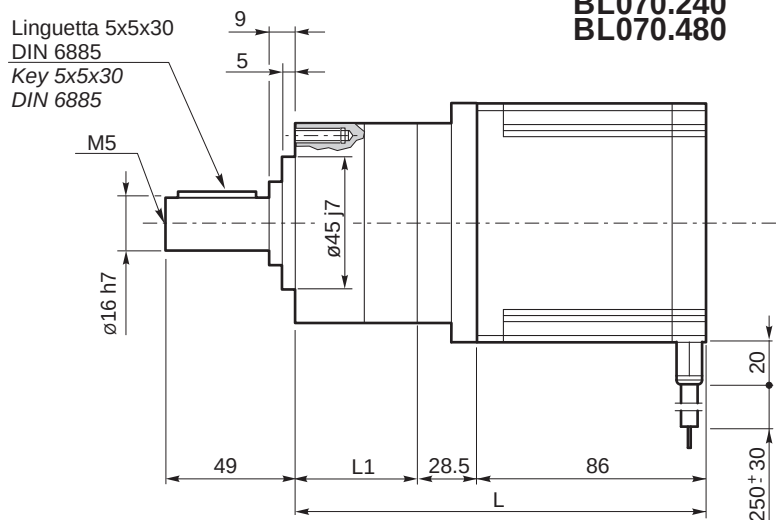
PM72 with brushless DC motor

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

Azionamenti
Drives

II 2

PM72..
+
BL070.240
BL070.480



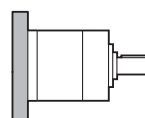
6.0 (PM72 1..)
6.5 (PM72 2..)
7.0 (PM72 3..)

BA16

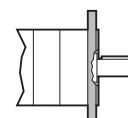
Freno
Brake

BL070.24B
BL070.48B

PM72	Ns	L1	BL 070.240 BL 070.480
			L
PM72	1	55.7	170.6
	2	75.8	190.2
	3	95.3	209.8



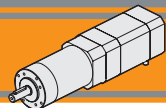
PM72.. AS...



PM72.. C...

BF37

BF41



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM72 con motore brushless CC

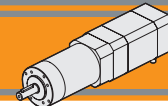
PM72 with brushless DC motor

PM72			BL070.48.80														
			24V						48V								
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [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	2500	108	2.1	10.0	1081	2.1	6.0	4000	
	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		5.9	33	3.7	59	33	2.2		
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	

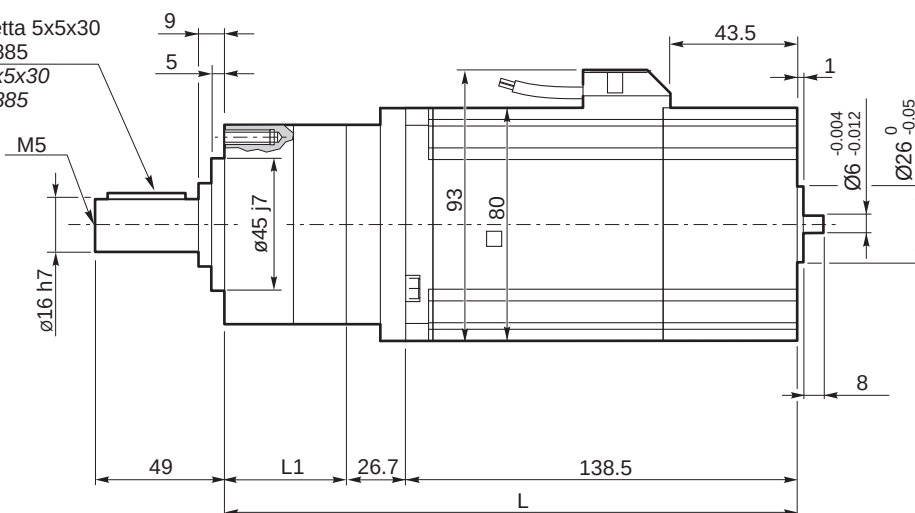
Tipo Type	Corrente nominale Rated current [A]	Corrente di picco Peak current [A]	Resistenza fase-fase Line to line resistance [Ω]	Induttanza fase-fase Line to line inductance [mH]	Costante di coppia Torque constant [Nm/A]	Costante FCEM Back EMF [V/kRPM]	Inerzia rotore Rotor inertia [gcm ²]	Peso Weight [kg]
BL070.48.80	12	36	0.072	0.304	0.1	6.15	1000	1.8

Azionamenti
Drives



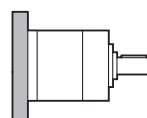
PM72..
+
BL070.48.80

Linguetta 5x5x30
DIN 6885
Key 5x5x30
DIN 6885

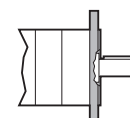


3.5 (PM72 1..)
4.0 (PM72 2..)
4.5 (PM72 3..)

PM72	Ns	L1	BL 070.48.80
			L
	1	55.7	220.9
	2	75.8	241
	3	95.3	260.5



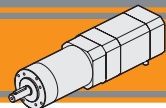
PM72.. AS...



PM72.. C...

Encoder





Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM72 con motore brushless CC

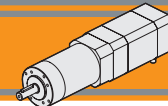
PM72 with brushless DC motor

PM72			BL140.480					
			48V					
			n _{2MIN} [rpm]			n _{2MAX} [rpm]		
Ns	ir	in	M ₂ [Nm]		sf	M ₂ [Nm]		sf
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
	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

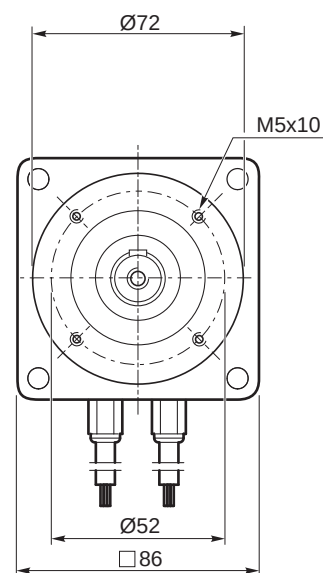
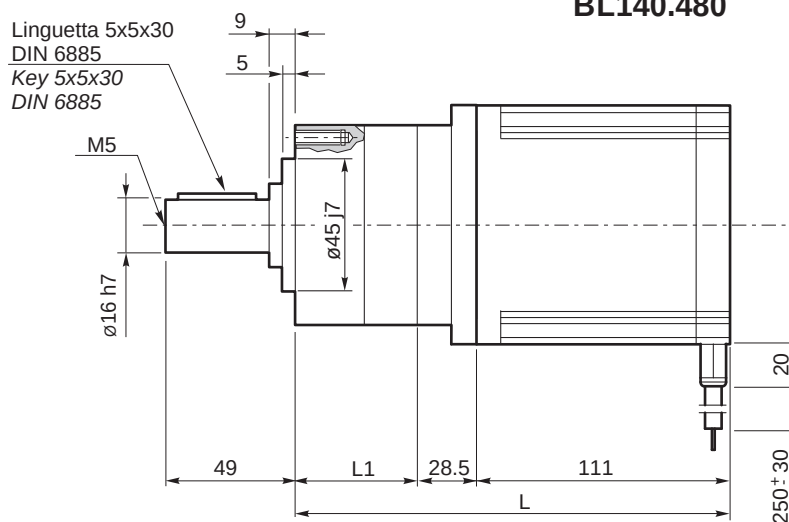
PM72 with brushless DC motor

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

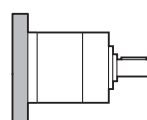


PM72..
+
BL140.480

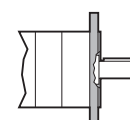


7.0 (PM72 1..)
7.5 (PM72 2..)
8.0 (PM72 3..)

PM72	BL 140.480		
	Ns	L1	L
	1	55.7	195.6
	2	75.8	215.2
	3	95.3	234.8

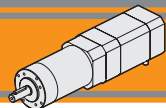


PM72.. AS...



PM72.. C...





Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM81 con motore brushless CC

PM81with brushless DC motor

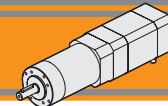
PM81			BL140.480					
			48V					
Ns	ir	in	n _{2MIN} [rpm]			n _{2MAX} [rpm]		
			M ₂ [Nm]		sf	M ₂ [Nm]		sf
1	3.70	4	81	4.1	6.9	811	4.1	4.7
	4.28	4	70	4.8	6.0	701	4.8	4.1
	5.18	5	58	5.8	5.0	579	5.8	3.4
	6.75	7	44	7.6	3.8	444	7.6	2.6
2	13.73	14	22	14	6.1	218	14	4.2
	15.88	16	19	17	5.3	189	16	3.6
	18.36	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

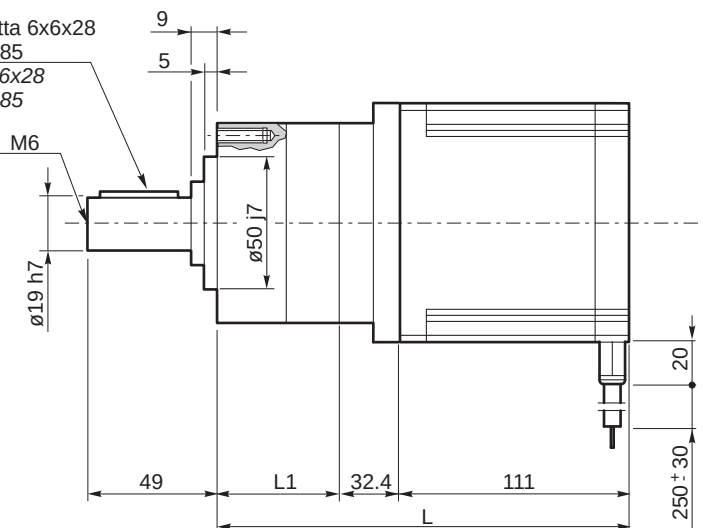
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL140.480	8	3	48	3000	1.4	440
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [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



PM81..
+
BL140.480

Linguetta 6x6x28
DIN 6885
Key 6x6x28
DIN 6885

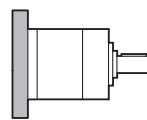


5.0 (PM81 1..
5.7 (PM81 2..
6.4 (PM81 3..)

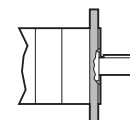
IP 55

PM

PM81	BL 140.480		
	Ns	L1	L
	1	62.2	205.6
	2	83.8	227.2
	3	105.5	248.9

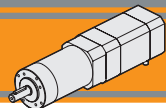


PM81.. AS...



PM81.. C...





Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM81 con motore brushless CC

PM81 with brushless DC motor

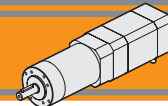
PM81			BL200.48.95																
			24V							48V									
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]			
			M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		M ₂ [Nm]	sf					
1	3.7	4	41	5.9	5.0	405	5.9	4.3		81	5.9	5.0	811	5.9	3.4				
	4.28	4	35	6.8	4.3	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	1500	5.9	71	2.5	59		71	1.7	3000
		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	4.4	95		1.9	44	95	1.3				
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

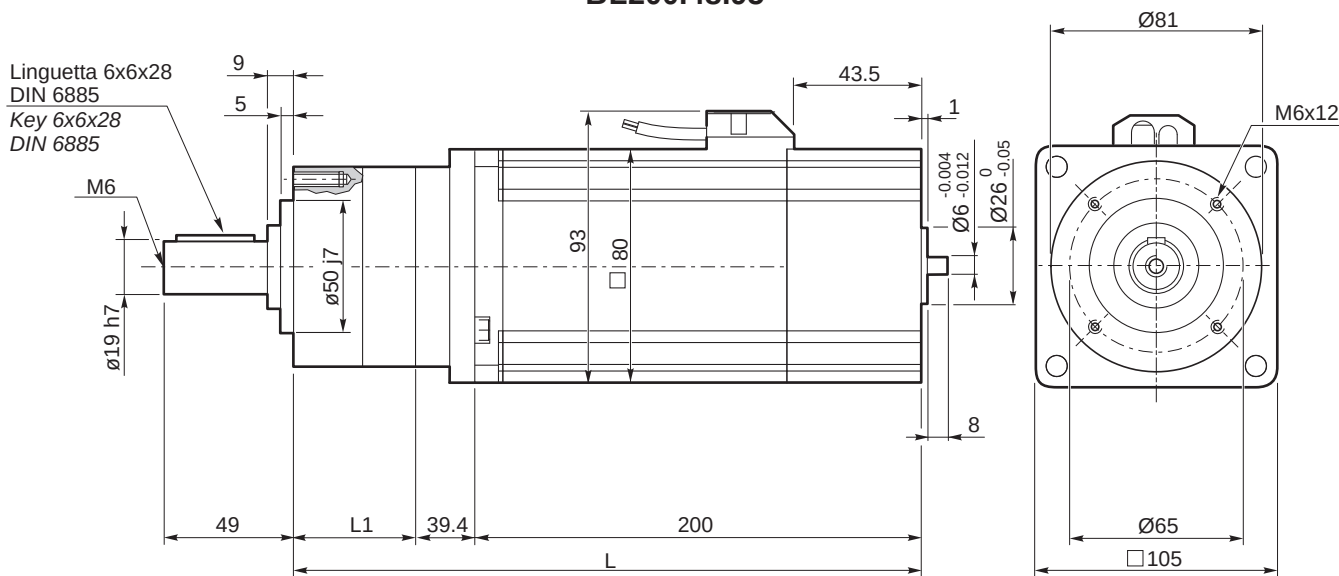
PM81 with brushless DC motor

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 [gcm ²]	Peso Weight [kg]
BL200.48.95	16.5	49.5	0.068 +/- 15%	0.25	0.091	6.7 +/- 10%	2820	6

Azionamenti
Drives

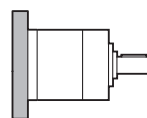


PM81..
+
BL200.48.95

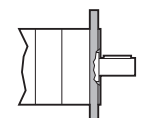


8.6 (PM81 1..)
9.3 (PM81 2..)
10.0 (PM81 3..)

PM81	BL 200.48.95		
	Ns	L1	L
	1	62.2	301.6
	2	83.8	323.2
	3	105.5	344.9



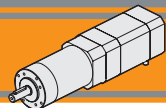
PM81.. AS...



PM81.. C...

Encoder





Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM81 con motore brushless CC

PM81 with brushless DC motor

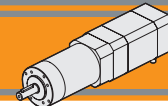
PM81			BL210.480 / BL210.48E					
			48V					
			n ₂ MIN [rpm]			n ₂ MAX [rpm]		
Ns	ir	in	M ₂ [Nm]		sf	M ₂ [Nm]		n ₁ MAX [rpm]
1	3.70	4	81	6.2	4.6	811	6.2	3000
	4.28	4	70	7.2	4.0	701	7.2	
	5.18	5	58	8.7	3.3	579	8.7	
	6.75	7	44	11	2.5	444	11	
2	13.73	14	22	21	4.1	218	21	
	15.88	16	19	25	3.5	189	25	
	18.36	18	16	28	3.1	163	28	
	19.20	19	16	30	2.9	156	30	
	22.20	22	14	35	2.5	135	35	
	25.01	25	12	39	2.2	120	39	
	26.85	27	11	42	2.1	112	42	
	28.93	29	10	46	1.9	104	46	
	34.97	35	8.6	55	1.6	86	55	
	45.56	46	6.6	72	1.2	66	72	
3	50.89	51	5.9	75	2.4	59	75	
	58.85	59	5.1	87	2.0	51	87	
	68.06	68	4.4	100	1.8	44	100	
	71.16	71	4.2	105	1.7	42	105	
	78.71	79	3.8	116	1.5	38	116	
	92.70	93	3.2	136	1.3	32	136	
	95.17	95	3.2	140	1.3	32	140	
	99.50	100	3.0	146	1.2	30	146	
	107.20	107	2.8	158	1.1	28	158	
	115.07	115	2.6	169	1.0	26	169	
	123.97	124	2.4	182	1.0	24	171	
	129.62	130	2.3	191	0.9	23	171	
	139.13	139	2.2	205	0.9	22	171	
	149.90	150	2.0	220	0.8	20	171	
	168.84	169	1.8	248	0.7	18	171	
	181.24	181	1.7	250	0.7	17	171	
	195.26	195	1.5	250	0.7	15	171	
	236.09	236	1.3	250	0.7	13	171	
	307.54	308	1.0	250	0.7	9.8	171	

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

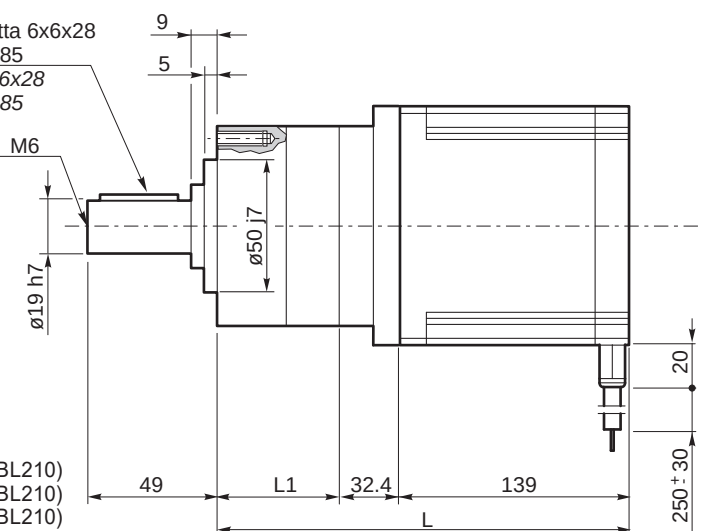
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL210.480 BL210.48E	8	3	48	3000	2.1	660
Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated 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

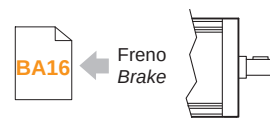
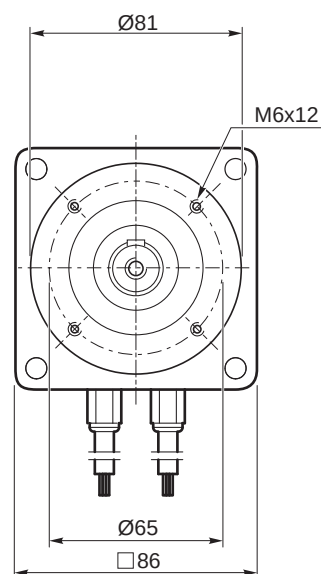


PM81..
+
BL210.480

Linguetta 6x6x28
DIN 6885
Key 6x6x28
DIN 6885

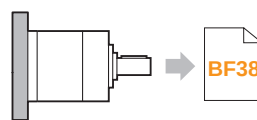


6.0 (PM81 1..+BL210)
6.7 (PM81 2..+BL210)
7.4 (PM81 3..+BL210)

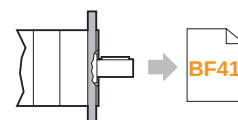


BL210.480E

PM81	BL 210.480		
	Ns	L1	L
	1	62.2	233.6
	2	83.8	255.2
	3	105.5	276.9



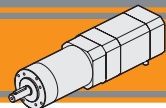
PM81.. AS...



PM81.. C...

IP 55

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM105 con motore brushless CC

PM105 with brushless DC motor

PM105			BL200.48.95														
			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	3.70	4	41	5.9	8.7	405	5.9	7.6	1500	81	5.9	8.7	811	5.9	5.9	3000	
	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		4.4	95	3.0	44	95	2.0		
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 with brushless DC motor

PM IP 55

II 2

PM105..
+
BL200.48.95

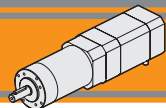


11.1 (PM105 1..)
12.7 (PM105 2..)
14.3 (PM105 3..)

A diagram showing a bolted joint. A bolt is inserted through a plate, and a split pin (cotter pin) is used to lock the nut. The split pin is inserted through the nut and the bolt, and its ends are bent over to secure the joint.

PM105.. C...

➔ **BA1**



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM105 con motore brushless CC

PM105 with brushless DC motor

PM105			BL210.480 / BL210.48E					
			48V					
			n _{2MIN} [rpm]			n _{2MAX} [rpm]		
Ns	ir	in	M ₂ [Nm]		sf	M ₂ [Nm]		n _{1MAX} [rpm]
1	3.70	4	81	6.2	8.3	811	6.2	3000
	4.28	4	70	7.2	7.2	701	7.2	
	5.18	5	58	8.7	5.9	579	8.7	
	6.75	7	44	11	4.6	444	11	
2	13.73	14	22	22	7.2	218	22	
	15.88	16	19	25	6.2	189	25	
	18.36	18	16	29	5.4	163	29	
	19.2	19	16	30	5.1	156	30	
	22.2	22	14	35	4.4	135	35	
	25.01	25	12	39	3.9	120	39	
	26.9	27	11	42	3.7	112	42	
	28.9	29	10	46	3.4	104	46	
	35.0	35	8.6	55	2.8	86	55	
	45.6	46	6.6	72	2.2	66	72	
3	50.9	51	5.9	75	3.8	59	75	
	58.9	59	5.1	87	3.3	51	87	
	68.06	68	4.4	100	2.9	44	100	
	71.2	71	4.2	105	2.7	42	105	
	78.7	79	3.8	116	2.5	38	116	
	92.7	93	3.2	136	2.1	32	136	
	95.2	95	3.2	140	2.1	32	140	
	99.5	100	3.0	146	2.0	30	146	
	107.2	107	2.8	158	1.8	28	158	
	115.07	115	2.6	169	1.7	26	169	
	123.97	124	2.4	182	1.6	24	182	
	129.62	130	2.3	191	1.5	23	191	
	139.13	139	2.2	205	1.4	22	205	
	149.9	150	2.0	220	1.3	20	220	
	168.84	169	1.8	248	1.2	18	248	
	181.24	181	1.7	266	1.1	17	266	
	195.26	195	1.5	287	1.0	15	270	
	236.09	236	1.3	347	0.8	13	270	
	307.54	308	1.0	400	0.7	10	270	

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

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

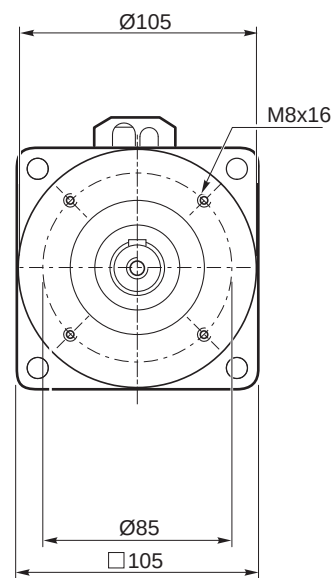
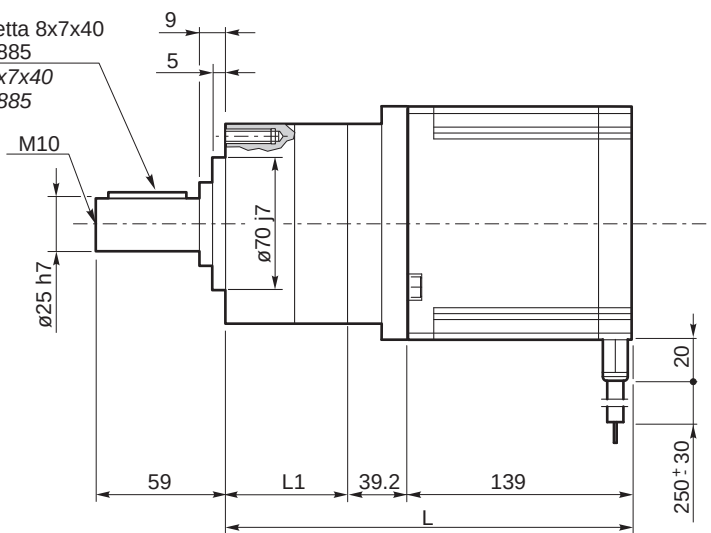
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1.
Contattare il ns. servizio tecnico
*Attention: rated torque withstood by gear reducer for service in S1 is exceeded.
Please, contact our technical office.*

PM105 with brushless DC motor

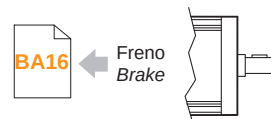
PM IP 55

II 2

Linguetta 8x7x40
DIN 6885
Key 8x7x40
DIN 6885



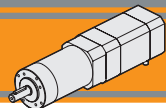
9.5 (PM105 1..)
11.1 (PM105 2..)
12.7 (PM105 3..)



BL210.48E

A diagram showing a bolted joint. A bolt is inserted through a plate, and a split pin (cotter pin) is used to lock the nut. The split pin is inserted through the nut and the bolt, and its ends are bent over to secure the joint.

PM105.. C...



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM105 con motore brushless CC

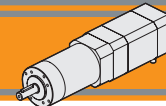
PM105 with brushless DC motor

PM105			BL400.48.120														
			24V							48V							
Ns	ir	in	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	n ₂ MIN [rpm]			n ₂ MAX [rpm]			n ₁ MAX [rpm]	
				M ₂ [Nm]	sf		M ₂ [Nm]	sf				M ₂ [Nm]	sf		M ₂ [Nm]		sf
1	3.70	4	38	10	5.0	378	10	4.3	1400	81	10	5.0	811	10	3.4	3000	
	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		4.4	167	1.7	44	167	1.2		
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

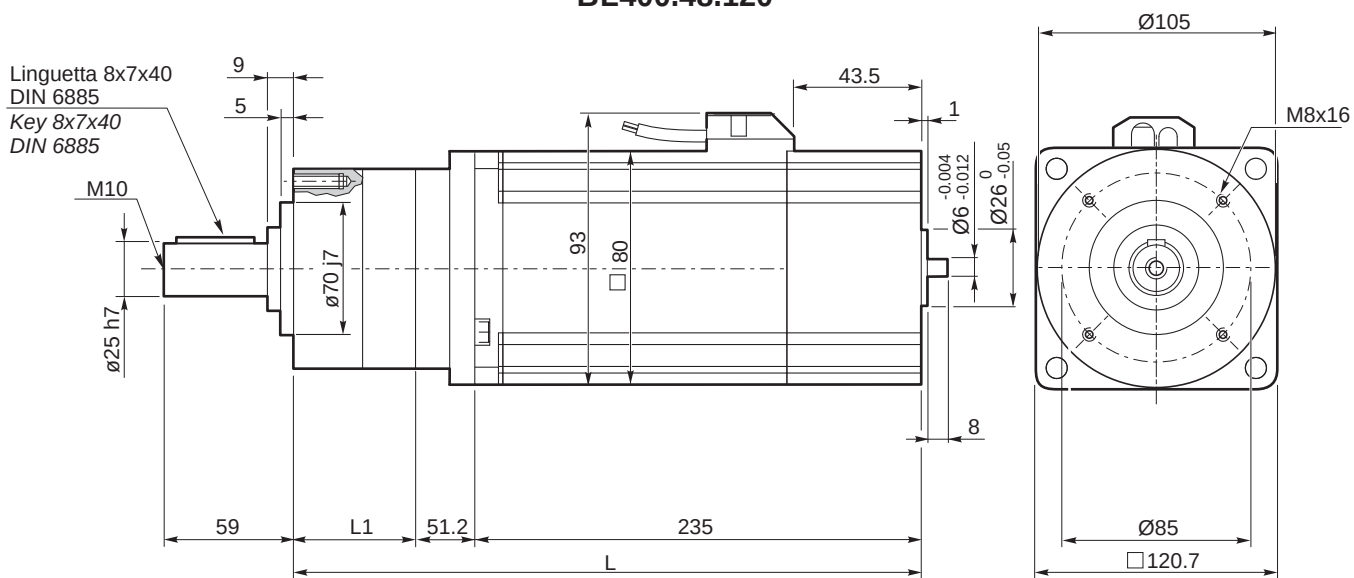
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Servizio Service	Tensione nominale Rated voltage [V]	Velocità nominale Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]	Coppia di picco Peak torque [Nm]	Corrente nominale Rated current [A]	Corrente 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 [gcm ²]	Peso Weight [kg]
BL400.48.120	0.064	0.31	0.120	12.6	21380	11

Azionamenti
Drives

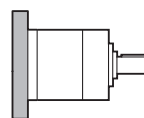


PM105.. + BL400.48.120

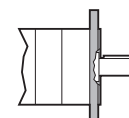


16.6 (PM105 1..)
18.2 (PM105 2..)
20.8 (PM105 3..)

PM105	BL 400.48.120		
	Ns	L1	L
	1	75.7	361.9
	2	106.9	393.1
	3	137.9	424.1



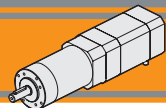
PM105.. AS...



PM105.. C...

Encoder





Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM120 con motore brushless CC

PM120 with brushless DC motor

PM120			BL400.48.120													
			24V						48V							
			n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]
Ns	ir	in	M ₂ [Nm]	sf	M ₂ [Nm]	sf	M ₂ [Nm]	sf		M ₂ [Nm]	sf	M ₂ [Nm]	sf			
1	3.7	4	38	10	7.1	378	10	6.2	1400	81	10	7.1	811	10	4.8	3000
	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		6.6	120	1.8	66	120	1.3	
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

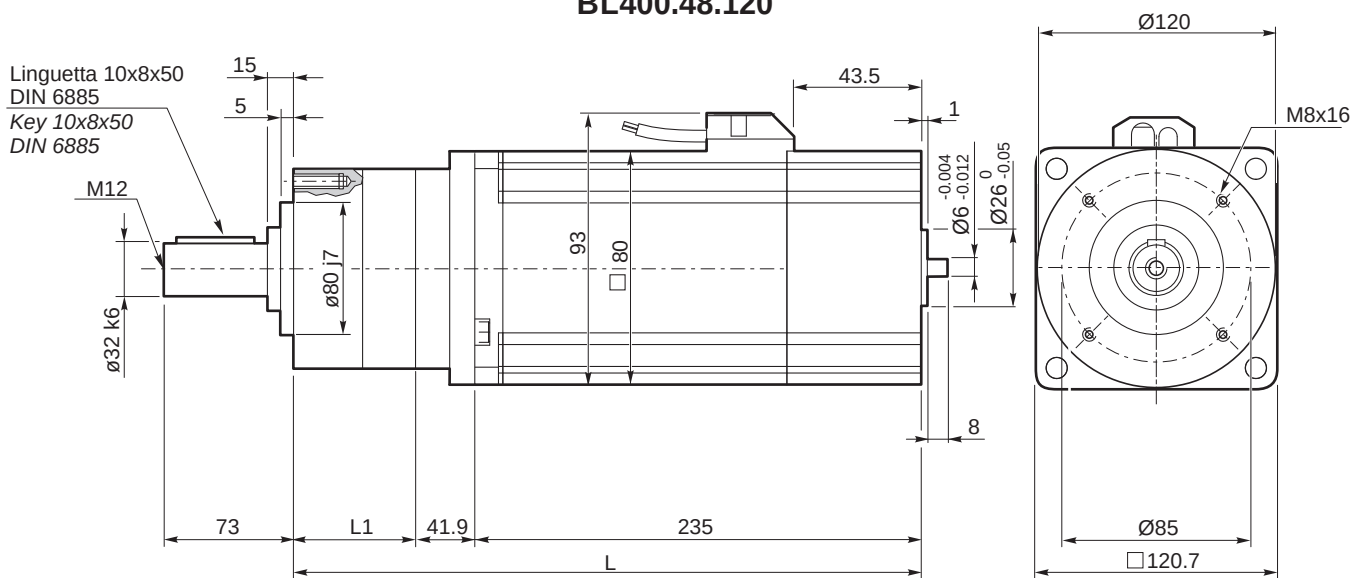
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1.
Contattare il ns. servizio tecnico
*Attention: rated torque withstood by gear reducer for service in S1 is exceeded.
Please, contact our technical office.*

PM120 with brushless DC motor

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

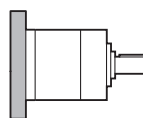
II 2

**PM120
+
BL400.48.120**

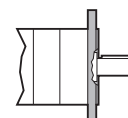


18.0 (PM120 1..)
20.4 (PM120 2..)
22.8 (PM120 3..)

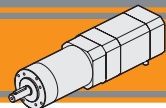
			BL 400.48.120
	Ns	L1	L
PM120	1	89.2	378.6
	2	123.3	412.3
	3	157.5	446.5



→ **BF40**



BF41



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

Dati tecnici

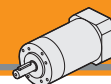
Technical data

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													50	64
	4.28*	3	3.9	4	5.1	8	10	14	18	20	25	35	45	—	—
	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

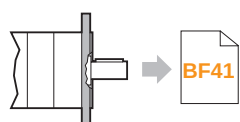
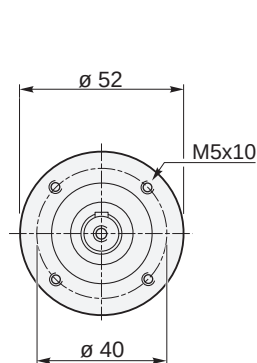
*: Rapporto non disponibile per PM120 / Ratio not available for PM120



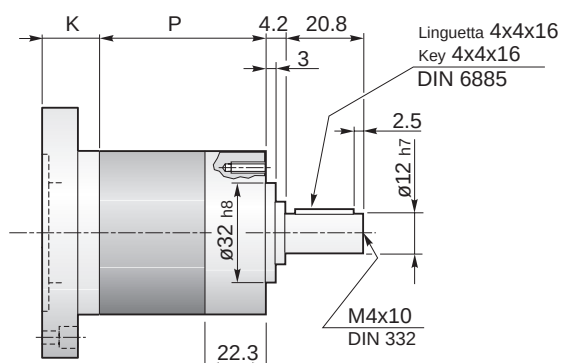
Dimensioni PM con flange motore AS

PM dimensions with motor flanges AS

PM52 U

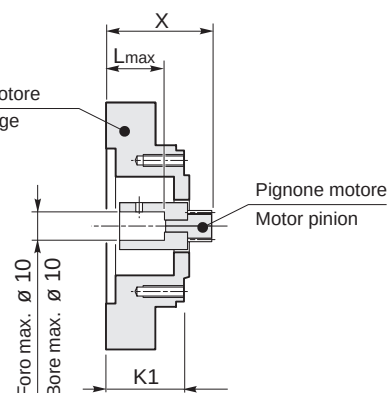


PM52.. C...



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

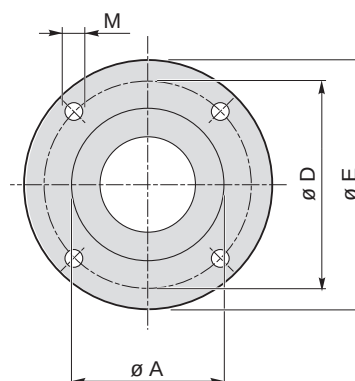
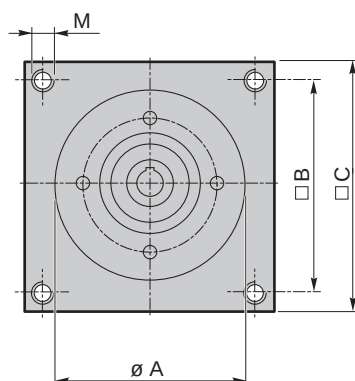
Flange's thickness may vary depending on motorshaft's lenght.



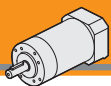
		Lunghezza riduttore Gearbox length	 Kg
		P	
PM52...	1	47.2	0.7
	2	61.3	0.9
	3	75.6	1.1

Flange motore

Motor flanges

[illegible]

Preferenziali / Preferred



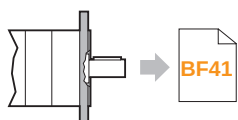
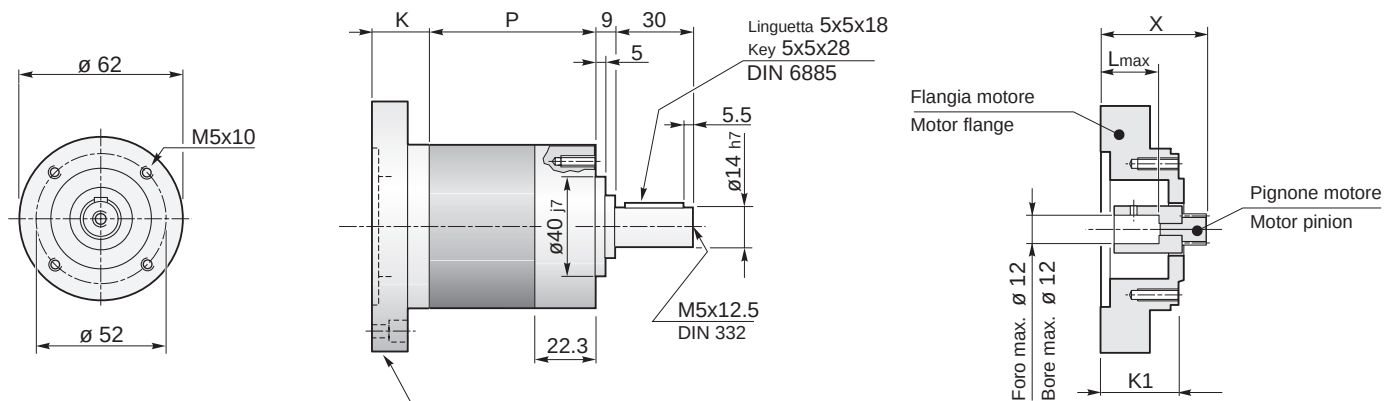
PM

Riduttori epicicloidali
Planetary gearboxes

Dimensioni PM con flange motore AS

PM dimensions with motor flanges AS

PM62 U



PM62.. C...

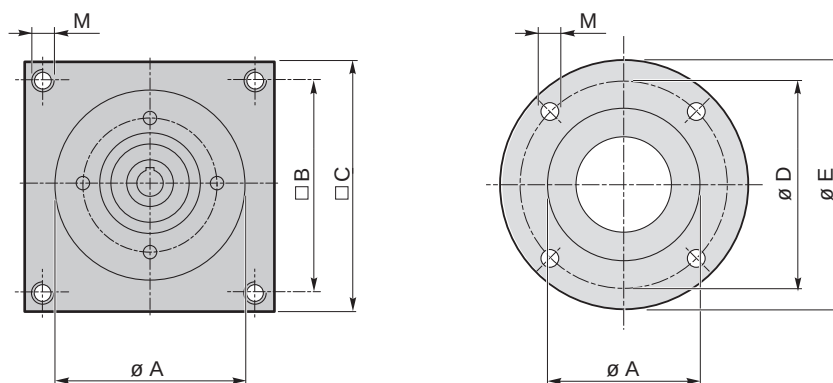
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

		Lunghezza riduttore Gearbox length	Kg
		P	
PM62...	1	45.3	0.8
	2	62.2	1.2
	3	79.2	1.6

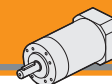
Flange motore

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
...		...	...	...	...	...	...	...	...	...	...

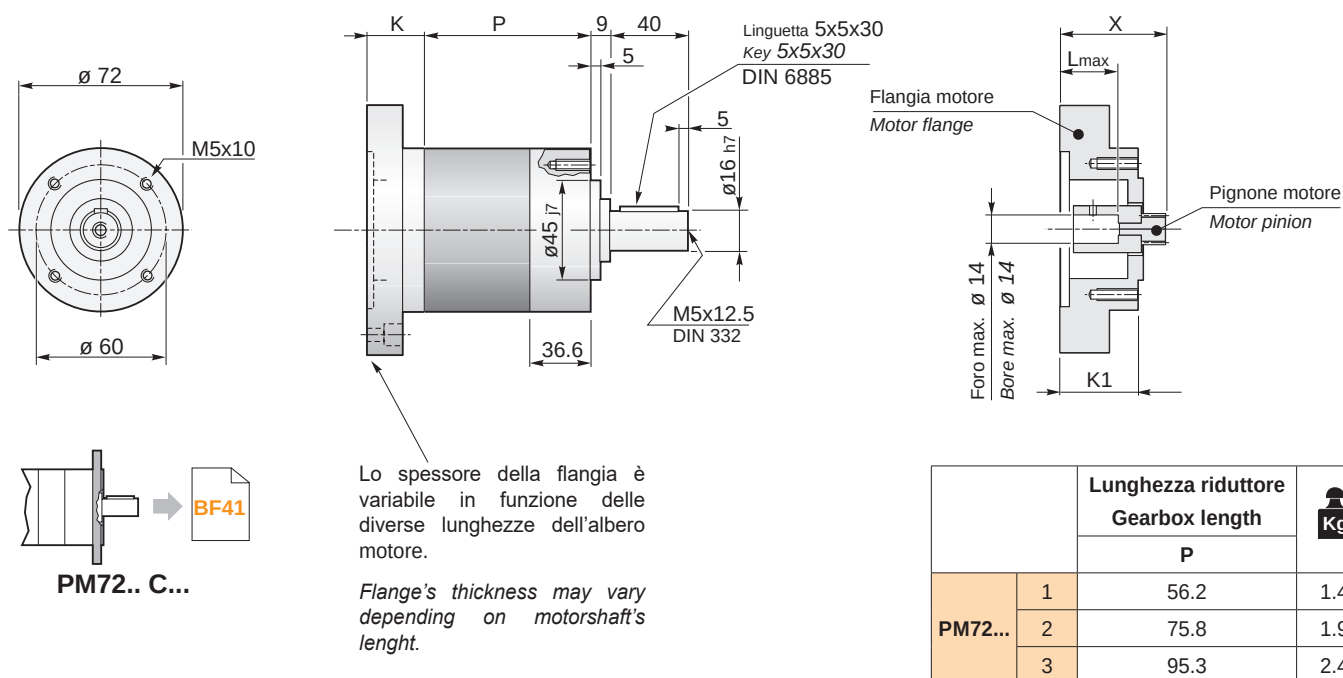
Preferenziali / Preferred



Dimensioni PM con flange motore AS

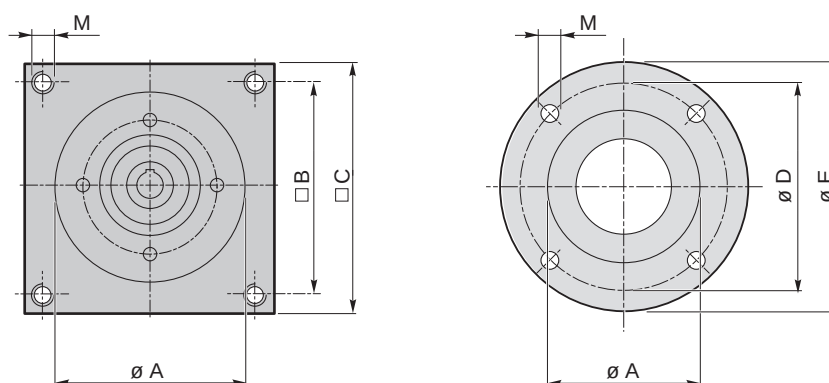
PM dimensions with motor flanges AS

PM72 U



Flange motore

Motor flanges

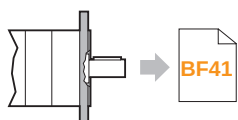
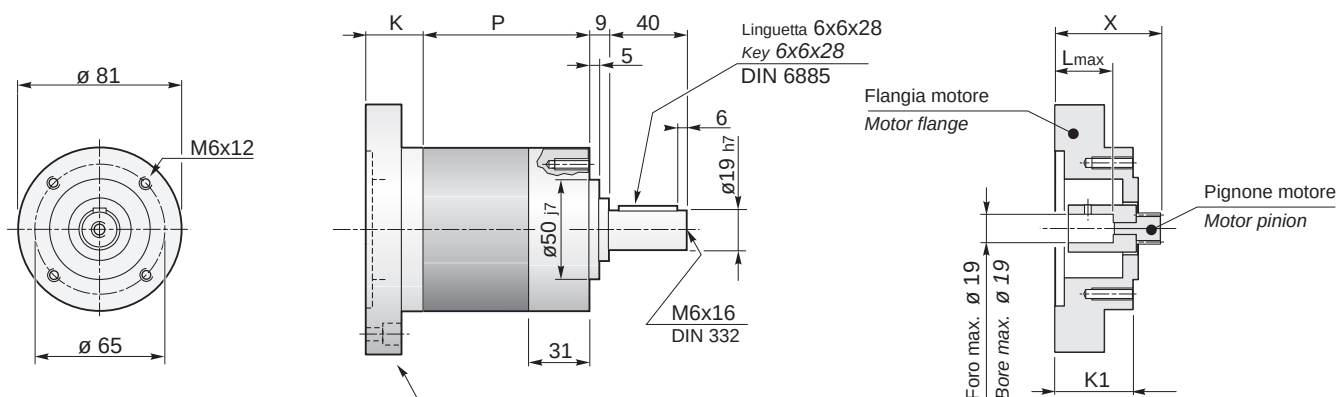


Dimensioni / Dimensions											
Flangia Flange	Tipo motore Motor type	øA	□B	□C	øD	øE	M	K	K1	L _{max}	X
AS245	IEC 56B14	50	-	-	65	80	4 - 5.5	26.7	29.5	20	44.1
AS246	IEC 63B14	60	-	-	75	90	4 - 5.5	28.7	31.5	23	46.1
AS247	IEC 71B14	70	-	-	85	105	4 - 6.5	35.7	38.5	30	53.1
AS464	BL070.. BL140.. BL210..	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...

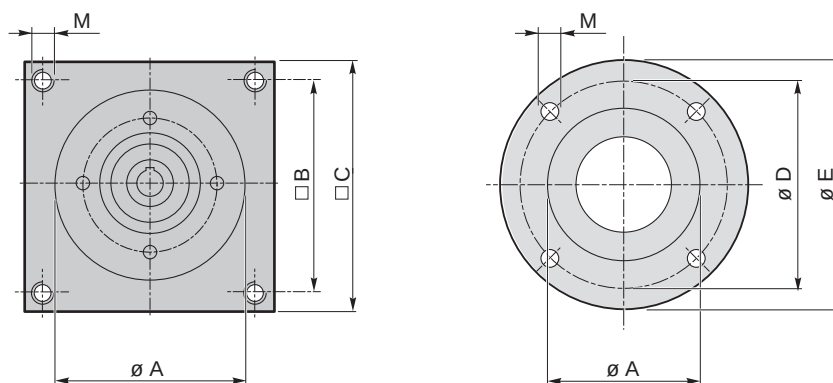
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

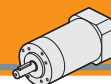
		Lunghezza riduttore Gearbox length	 Kg
		P	
PM62...	1	62.5	1.8
	2	83.8	2.5
	3	105.5	3.2

Flange motore

Motor flanges

[illegible]

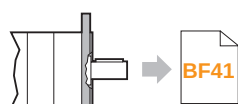
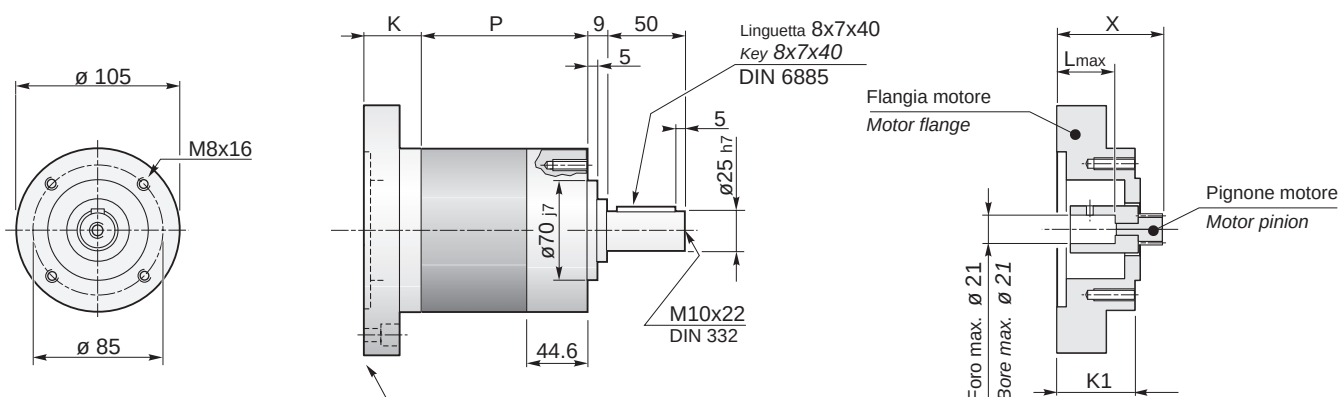
Preferenziali / Preferred



Dimensioni PM con flange motore AS

PM dimensions with motor flanges AS

PM105 U

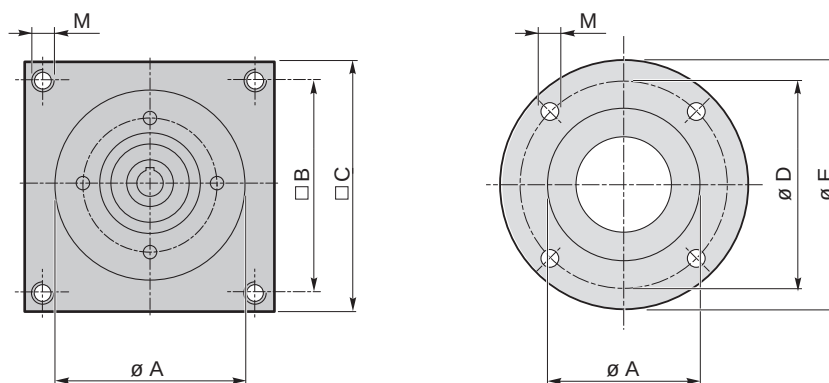


PM105.. C...

		Lunghezza riduttore Gearbox length	Kg
		P	
PM105...	1	75.7	4.4
	2	106.9	6.0
	3	137.9	7.6

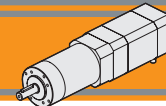
Flange motore

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
...		...	...	...	...	...	...	...	...	...	...

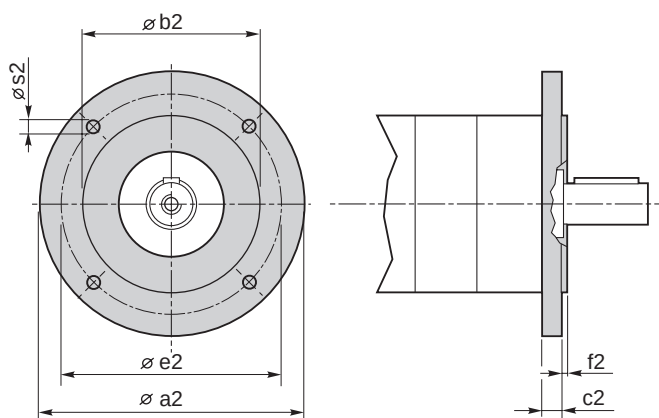




Dimensioni flange uscita

Output flange dimensions

PM.. C..

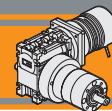


PM	Flange uscita / Output flanges						Flangia Flange
	a2	b2	c2	e2	f2	s2	
52	80	50 j7	9	65	2.5	M5	C80
	90	60 j7	9	75	2.5	5.5	C90
	105	70 j7	9	85	2.5	6.5	C105
	120	80 j7	9	100	3.0	6.5	C120
62	80	50 j7	9	65	2.5	M5	C80
	90	60 j7	9	75	2.5	5.5	C90
	105	70 j7	9	85	2.5	6.5	C105
	120	80 j7	9	100	3.0	6.5	C120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



Motoriduttori brushless CC combinati
Brushless DC double reduction gearmotors

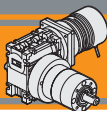




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Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile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

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Motoriduttori brushless CC combinati

Brushless DC double reduction gearmotors

Caratteristiche tecniche

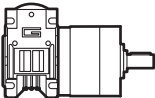
L'accoppiamento di un riduttore a vite senza fine con un riduttore epicicloidale consente di ottenere elevati rapporti di riduzione ($i_{\max} = 1/18452$) e di disporre di un gruppo autolubrificato compatto, silenzioso e con un'elevata affidabilità.

Technical features

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.

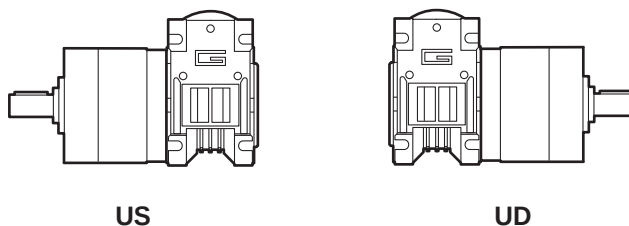
Designazione

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 

Versioni

Versions



Simbologia

Symbols

n_1	$[\text{min}^{-1}]$	Velocità in ingresso / Input speed
n_2	$[\text{min}^{-1}]$	Velocità in uscita / Output speed
i		Rapporto di riduzione / Ratio
P_1	$[\text{kW}]$	Potenza in entrata / Input power
M_n	$[\text{Nm}]$	Coppia nominale in uscita del riduttore / Maximum output torque of the gearbox
M_2	$[\text{Nm}]$	Coppia in uscita in funzione di P_1 / Output torque referred to P_1
sf		Fattore di servizio / Service factor
R_d	%	Rendimento dinamico / Dynamic efficiency
A_2	$[\text{N}]$	Carico assiale ammissibile in uscita / Permitted output axial load
R_2	$[\text{N}]$	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.

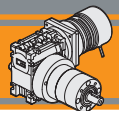
Permanent synthetic oil long-life lubrication allow to use CM wormgearbox range in all mounting position.

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 maintenance free. They can be installed in any location.

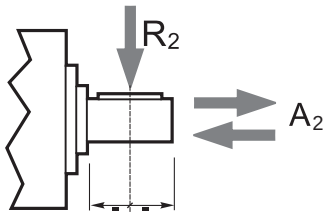
Temperatura ambiente $0 \div 40^\circ\text{C}$ (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro UT.

Ambient temperature $0 \div 40^\circ\text{C}$ (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

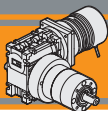
Rapporti

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... with brushless DC motor



Motoriduttori brushless CC combinati

Brushless DC double reduction gearmotors

WMP030/81... con motore brushless CC

WMP030/81... with brushless DC motor

WMP 030/81...		BLS043.240													
		24V							36V						
		n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]
ir		M ₂	sf	M ₂	sf	M ₂	sf		M ₂	sf	M ₂	sf			
..1	67.5	4.4	17	4.7	44	20	4.1	3000	5.9	17	4.7	59	20	4.1	4000
	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		1.6	60	2.0	16	69	1.8	
	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*	

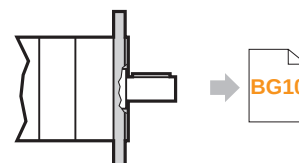
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

Nota: I valori * indicano il superamento della coppia massima sopportata dal riduttore per il servizio in S1.

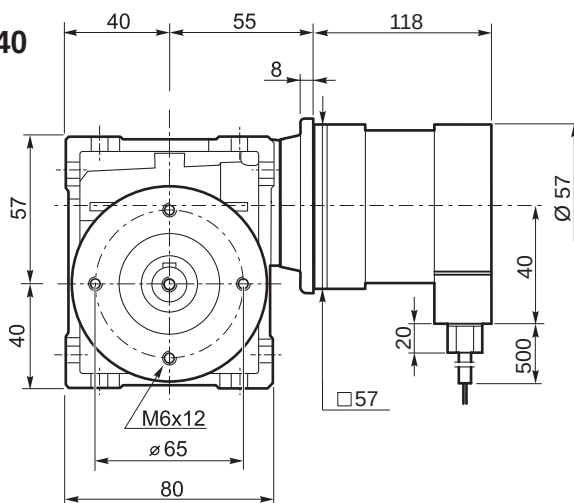
NOTE: for continuous or highly intermittent duty, please contact our technical service

Note: value * indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

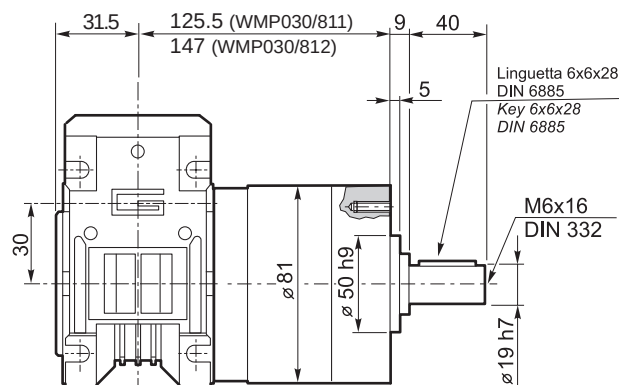
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BLS043.240	4	3	36	4000	0.43	180
	4	3	24	3000	0.43	130
Tipo Type	Coppia massima Peak torque [Nm]	Corrente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



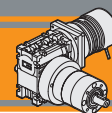
WMP030/811..U
WMP030/812..U
+
BLS043.240



WMP030/811...C
WMP030/812...C



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					
		n_{2MIN}			n_{2MAX}		
		M_2		sf	M_2		n_{1MAX} [rpm]
..1	67.5	4.4	28	2.9	44	32	2.5
	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*
..2	405.0	0.7	80	1.0*	7.4	80	1.0*
	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

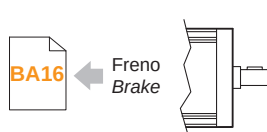
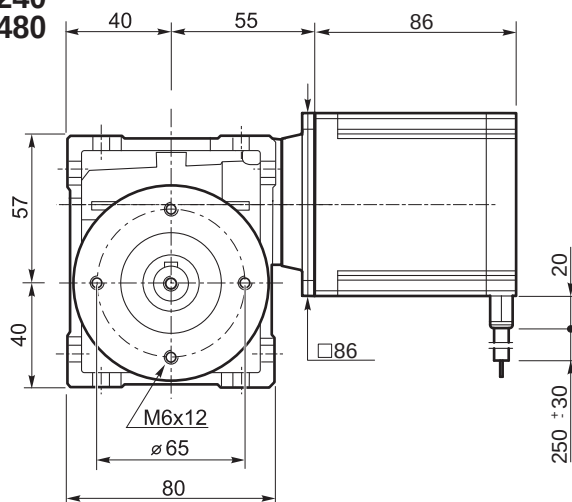
Note: value * indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

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

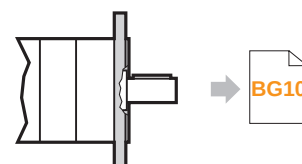
Azionamenti
Drives



WMP030/811..U
WMP030/812..U
+
BL070.240
BL070.480



BL070.24B
BL070.48B



WMP030/811...C
WMP030/812...C



5.2 (WMP030/811)
5.9 (WMP030/812)

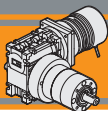
Linguetta 6x6x28
DIN 6885
Key 6x6x28
DIN 6885

M6x16
DIN 332

WPM IP 55

B-G7

0623A

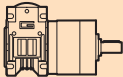


Motoriduttori brushless CC combinati

Brushless DC double reduction gearmotors

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

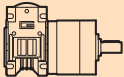
WMP026/522				
n1 = 1400 rpm	5.6	25	24	250.1
	3.7	25	17	375.2
	2.8	25	13	500.2
	1.9	25	10	750.3
	1.4	25	8	1000.4
	1.1	25	7	1250.5
	0.9	25	6	1500.6
	0.5	25	3	2733.6

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

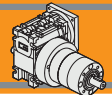
WMP026/622				
n1 = 3000 rpm	12	50	99	250.1
	8.0	50	67	375.2
	6.0	50	52	500.2
	4.0	50	38	750.3
	3.0	50	31	1000.4
	2.4	50	26	1250.5
	2.0	50	23	1500.6
	1.1	50	13	2733.6

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

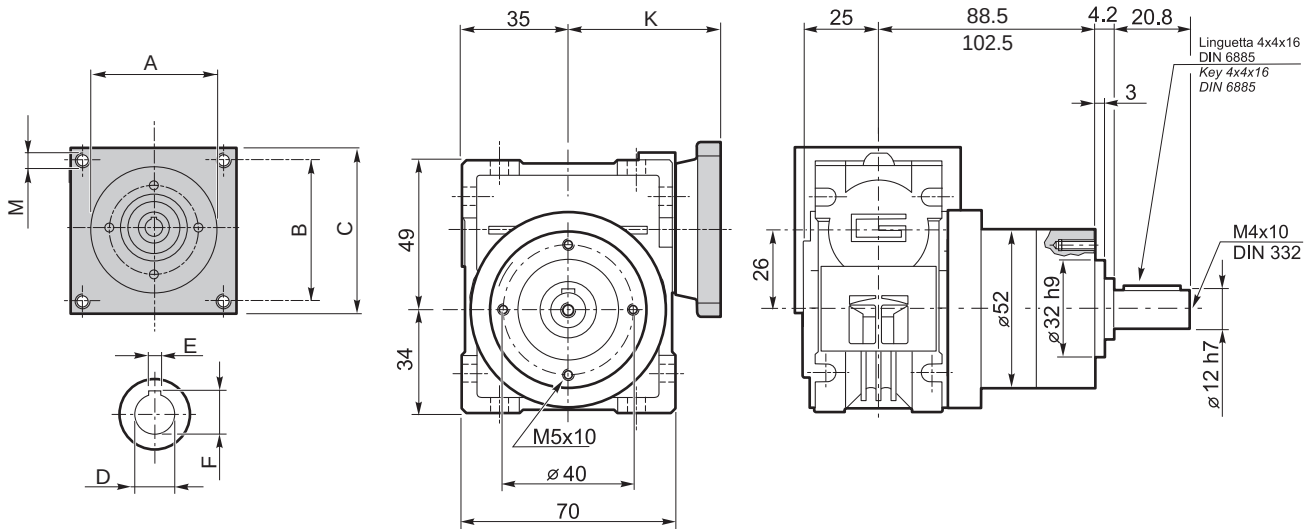
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico



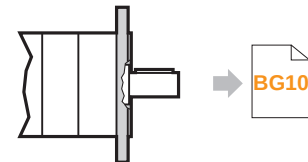
Dimensioni WMP con flange motore AS

WMP dimensions with motor flanges AS

WMP 026/52...

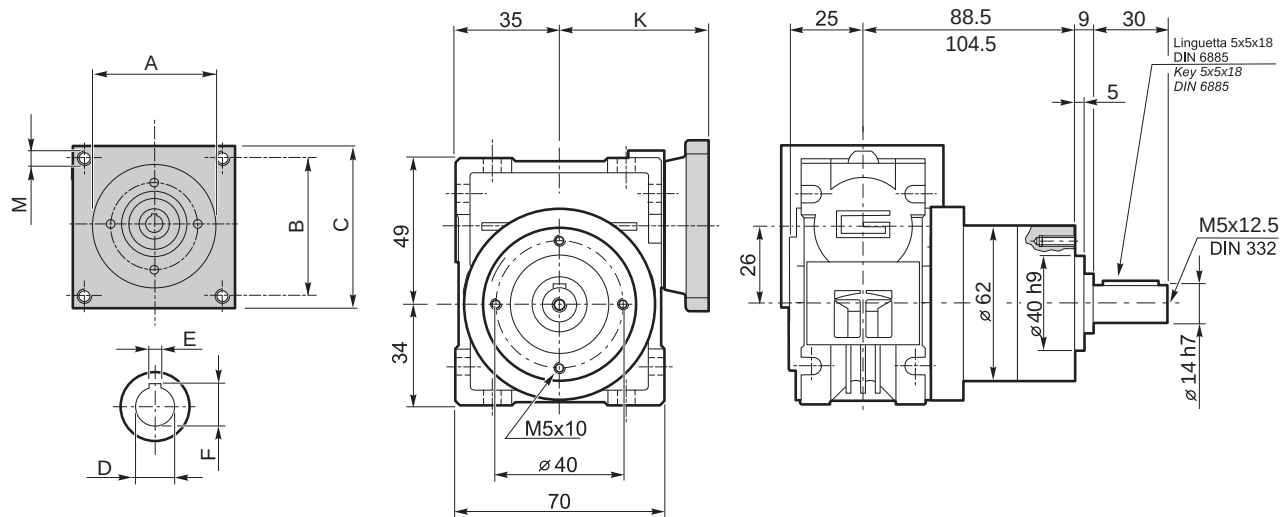


Dimensioni / Dimensions								
AS	A	B	C	M	K	Rapporti / Ratio		
						67.5...2734		
						D	E	F
AS417	38.1	47.1	56	M4	49.5	9	3	10.4
...	...	...	...	...	...	...	...	...

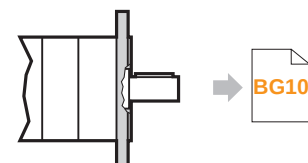


WMP026/52...C

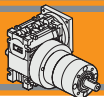
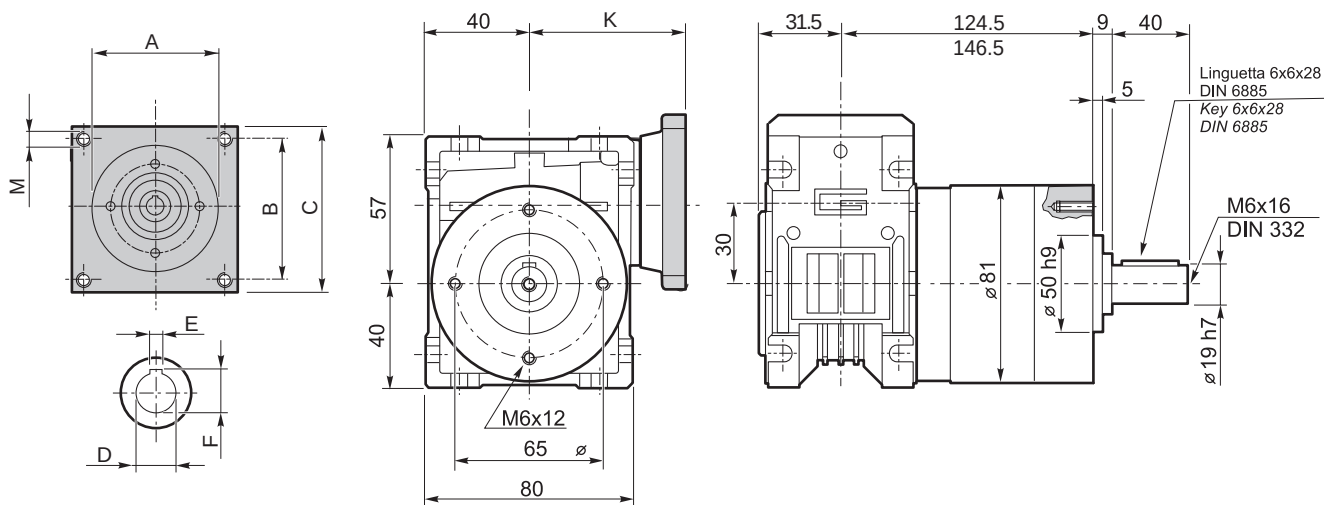
WMP 026/62...



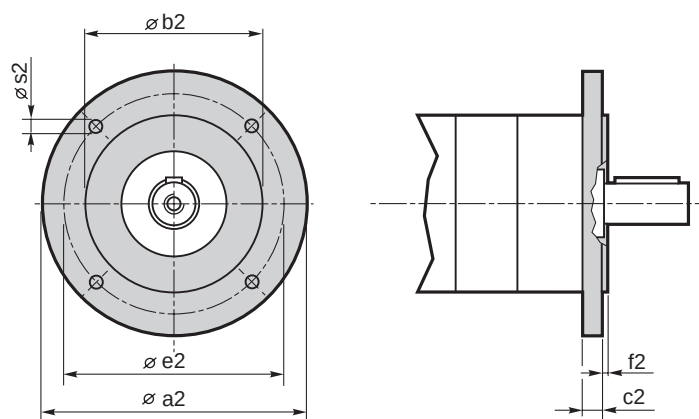
Dimensioni / Dimensions								
AS	A	B	C	M	K	Rapporti / Ratio		
						67.5...2734		
						D	E	F
AS417	38.1	47.1	56	M4	49.5	9	3	10.4
...	...	...	...	...	...	...	...	...



WMP026/62...C

**WMP****Riduttori combinati**
Double reduction gearboxes**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

Motoriduttori brushless CC IP66
IP66 Brushless DC gearmotors

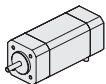
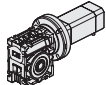
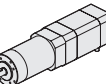




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 	C-B	Motoriduttori brushless CC a vite senza fine CM	Brushless DC Wormgearmotors CM	C-B1
 	C-C	Motoriduttori brushless CC epicicloidali PM	Brushless DC planetary gearmotors PM	C-C1

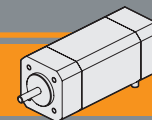
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www.transtecno.com*



Motori brushless CC
Brushless DC motors

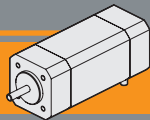




	Indice	Index	Pag. Page
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	Grado di protezione IP	<i>IP enclosures protection indexes</i>	CA2
	Classe di isolamento termico	<i>Insulation class</i>	CA2
	Tipi di servizio IEC	<i>IEC duty cycle ratings</i>	CA2
	Legenda / Glossario dei grafici	<i>Key / Diagram Glossary</i>	CA3
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MEM25	Micro encoder	<i>Micro encoder</i>	CA10
	Descrizione	<i>Description</i>	CA10
	Caratteristiche principali	<i>Technical features</i>	CA10
	Designazione	<i>Classification</i>	CA10
	Specifiche di funzionamento	<i>Operating conditions</i>	CA10
	Dimensioni e schema di connessione	<i>Dimensions and connection diagram</i>	CA11

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Motori brushless CC Brushless DC motors

Caratteristiche tecniche

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:

- 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

Tutti i motori proposti sono 3 fasi 24Vcc, e dotati di sensori di Hall per la loro retroazione digitale.

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.

Technical features

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:

- 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

All the motors proposed are 3 phases 24Vdc, and equipped with Hall sensors for their digital feedback.

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

Indica il grado di isolamento meccanico del corpo motore.

1^a cifra protezione alla penetrazione di corpi solidi.

2^a cifra protezione contro la penetrazione d'acqua.

IP enclosures protection indexes

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
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Classe di isolamento termico

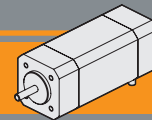
Insulation class

Classe / Class	Δt °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.

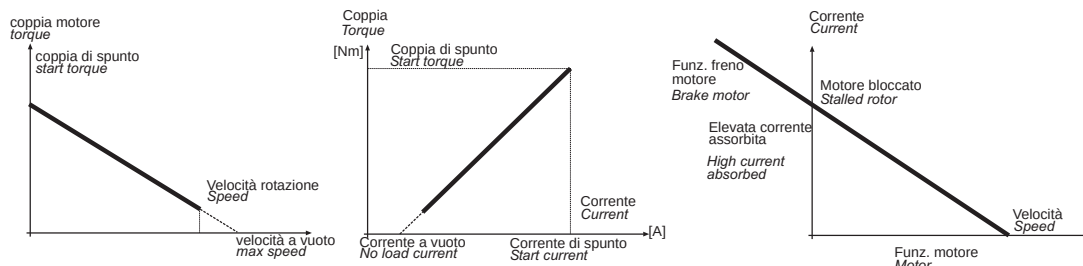


Legenda / Glossario dei grafici

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.

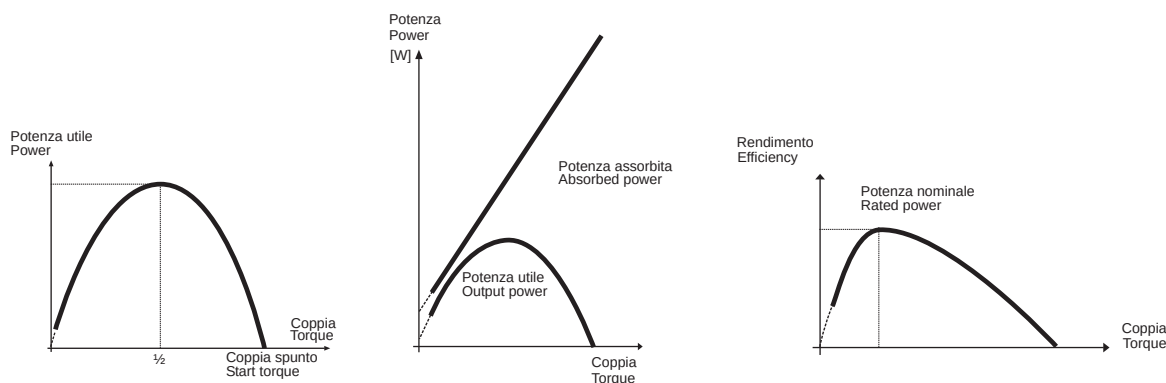


La potenza utile (potenza all' albero) si ricava dalla formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$

The output power is calculated using the formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$



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

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

$$P_n = M_n \cdot S_v$$

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

$$[HP] \cdot 746 = [W]$$

Esempio 2 HP = circa 1500 W.

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

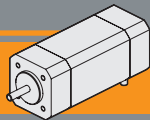
$$P_n = M_n \cdot S_v$$

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

$$[HP] \cdot 746 = [W]$$

Example 2 HP = approx. 1500 W.

S	—	Servizio	Duty
P _n	[W]	Potenza in uscita	Rated power
P _a	[W]	Potenza assorbita	Absorbed power
M _n	[Nm]	Coppia nominale	Rated torque
V	[V]	Tensione	Voltage
I	[A]	Corrente assorbita	Absorbed current
n ₁	[min ⁻¹]	Numero giri motore	Motor speed
S _v	[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



Motori brushless CC

Brushless DC motors

BLS012.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	28N @ 20 mm dalla flangia <i>28N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

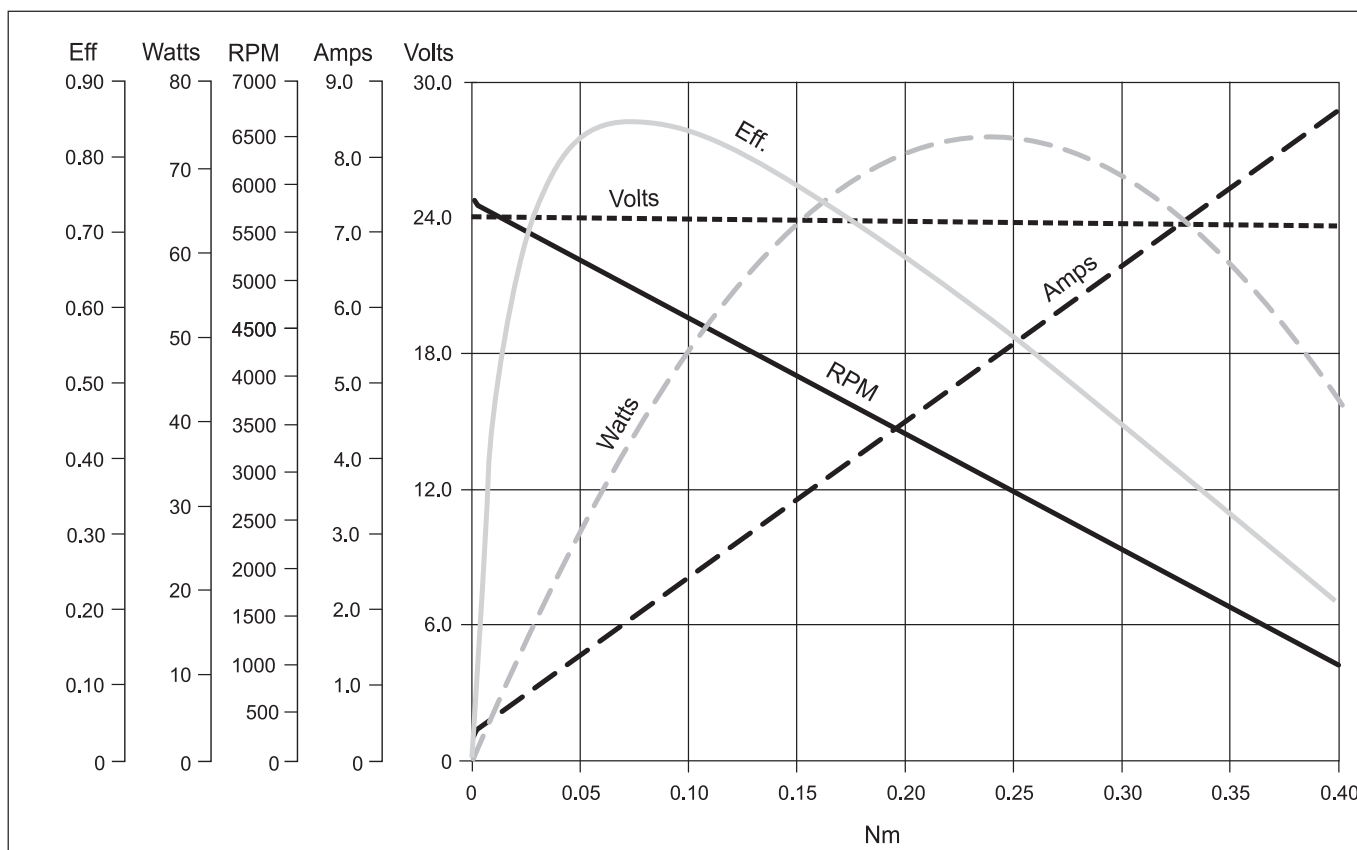
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

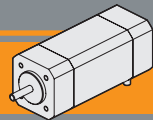
Azionamenti
Drives



Prestazioni

Performances





BLS012.240

Dimensioni

Dimensions

BLS012.240

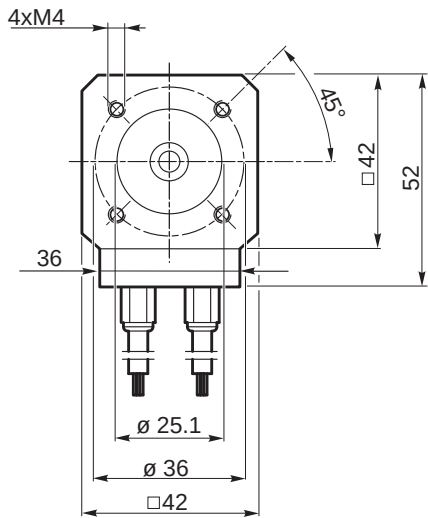
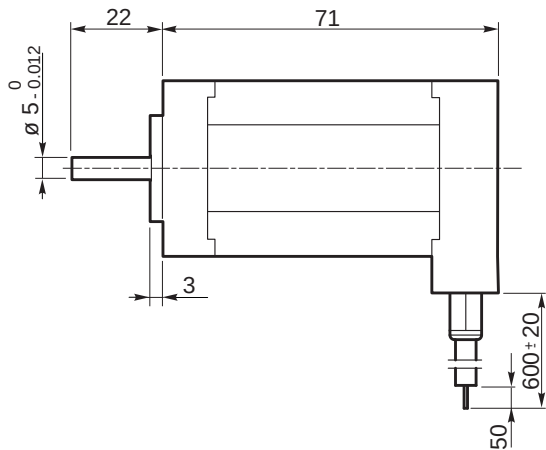


Diagramma dei collegamenti

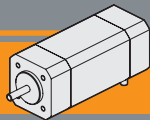
Connection diagram

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



Motori brushless CC

Brushless DC motors

BLS018.240

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	28N @ 20 mm dalla flangia <i>28N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

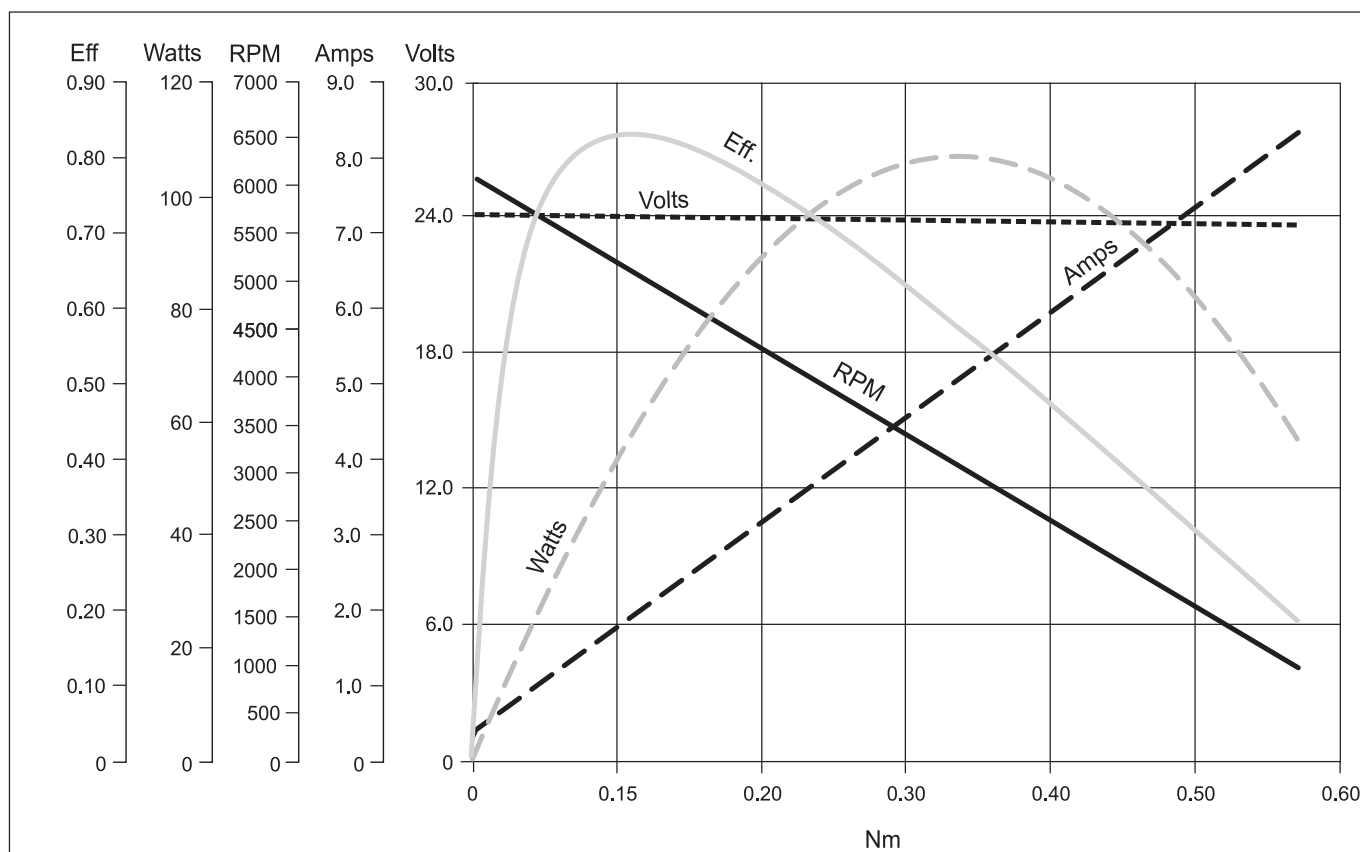
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

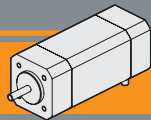
Azionamenti
Drives



Prestazioni

Performances





BLS018.240

Dimensioni

Dimensions

BLS018.240

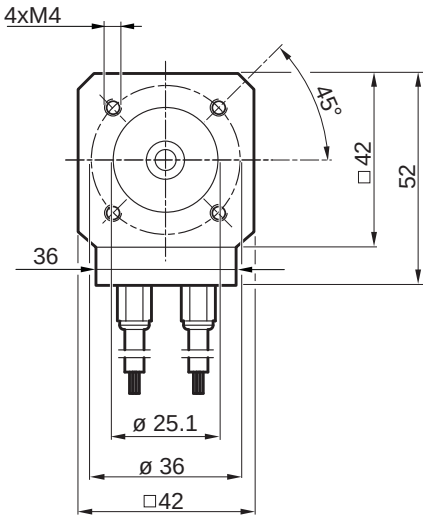
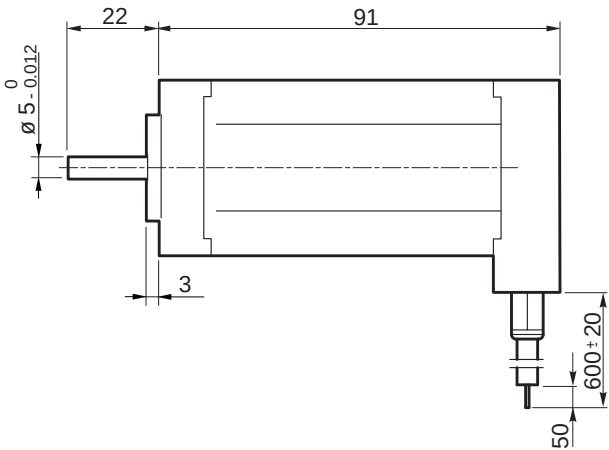


Diagramma dei collegamenti

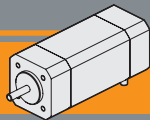
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Verde Green	HALL fase V V phase HALL
Bianco White	HALL fase W W phase HALL
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Nero (piccolo) Black (small)	Comune per i segnali di HALL Ground for HALL sensors



Motori brushless CC

Brushless DC motors

BLS025.24E

Specifiche costruttive

General features

Tipologia di avvolgimento <i>Winding type</i>	delta	Max forza radiale <i>Max radial force</i>	28N @ 20 mm dalla flangia <i>28N @ 20 mm from flange</i>
Angolo sensori Hall <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	Max forza assiale <i>Max axial force</i>	10N
Gioco radiale <i>Radial play</i>	0.02 mm @ 450g	Classe di isolamento termico <i>Insulation class</i>	Classe B <i>Class B</i>
Gioco assiale <i>End play</i>	0.08 mm @ 450g	Isolamento dielettrico <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
Scentratura albero <i>Shaft run out</i>	0.025 mm	Resistenza isolamento <i>Insulation resistance</i>	100MΩ minimo, 500Vcc <i>100MΩ min, 500 Vdc</i>

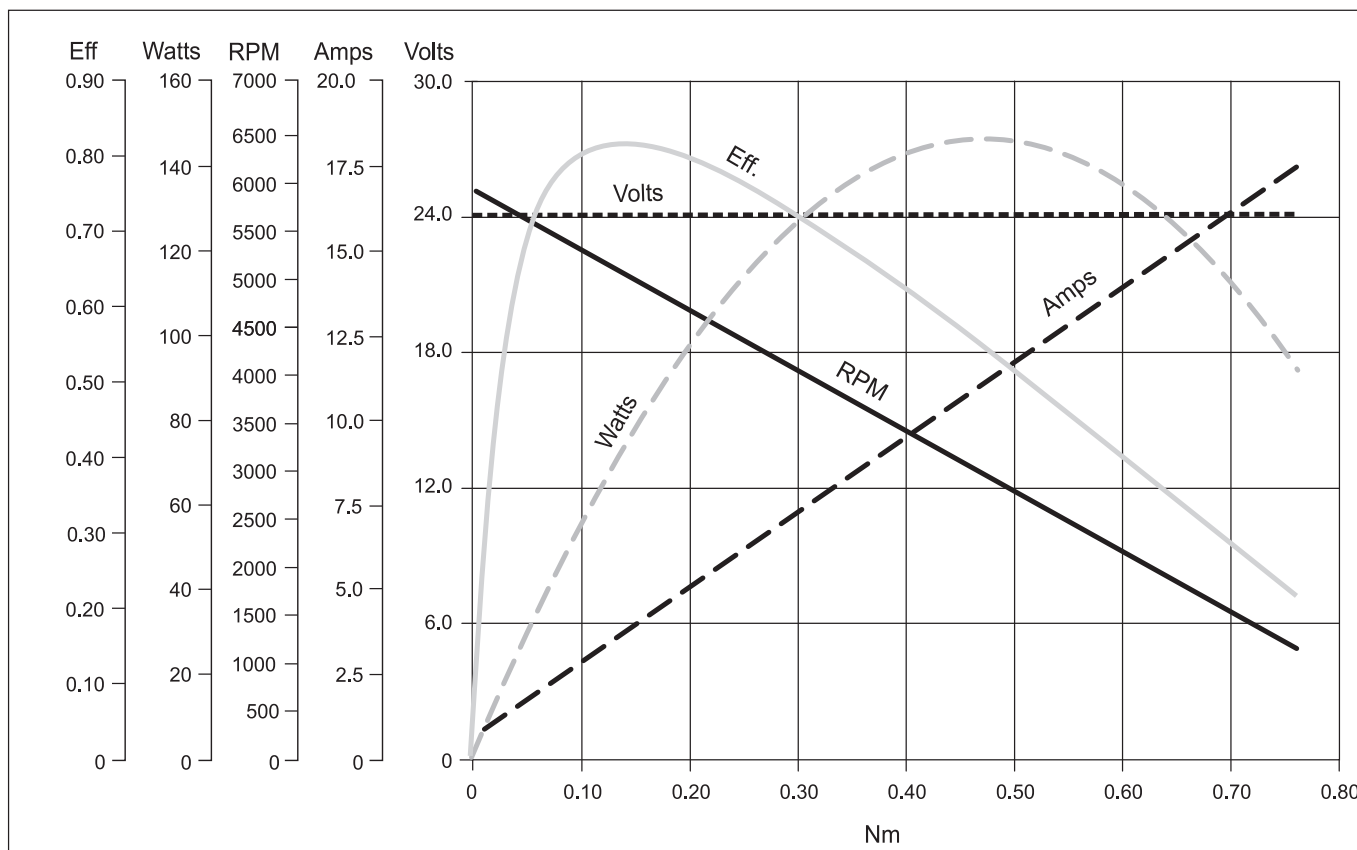
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale <i>Rated voltage</i>	Velocità nominale <i>Rated speed</i>	Coppia nominale <i>Rated torque</i>	Potenza nominale <i>Rated power</i>	Coppia di picco <i>Peak torque</i>	Corrente nominale <i>Rated current</i>	Corrente di picco <i>Peak current</i>	Resistenza fase-fase <i>Line to line resistance</i>	Induttanza fase-fase <i>Line to line inductance</i>	Costante di coppia <i>Torque constant</i>	Costante FCEM <i>Back EMF</i>	Inerzia rotore <i>Rotor inertia</i>	Peso <i>Weight</i>	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

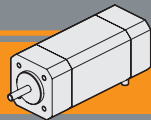
Azionamenti
Drives



Prestazioni

Performances





BLS025.24E

Dimensioni

Dimensions

BLS025.24E

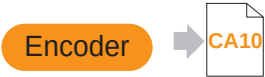
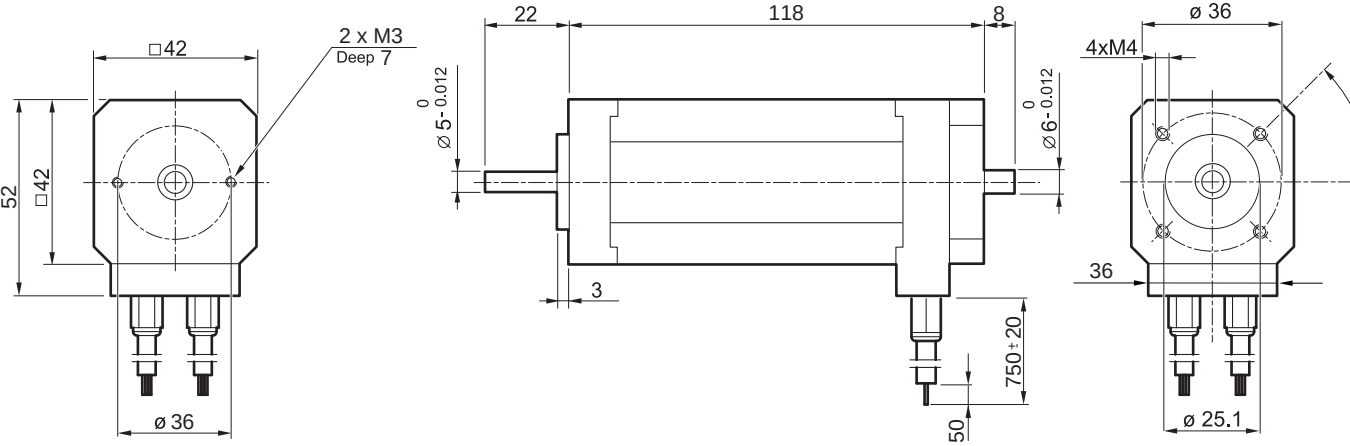


Diagramma dei collegamenti

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



Micro encoder MEM25

MEM25 Micro encoder

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
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Specifiche di funzionamento

Operating conditions

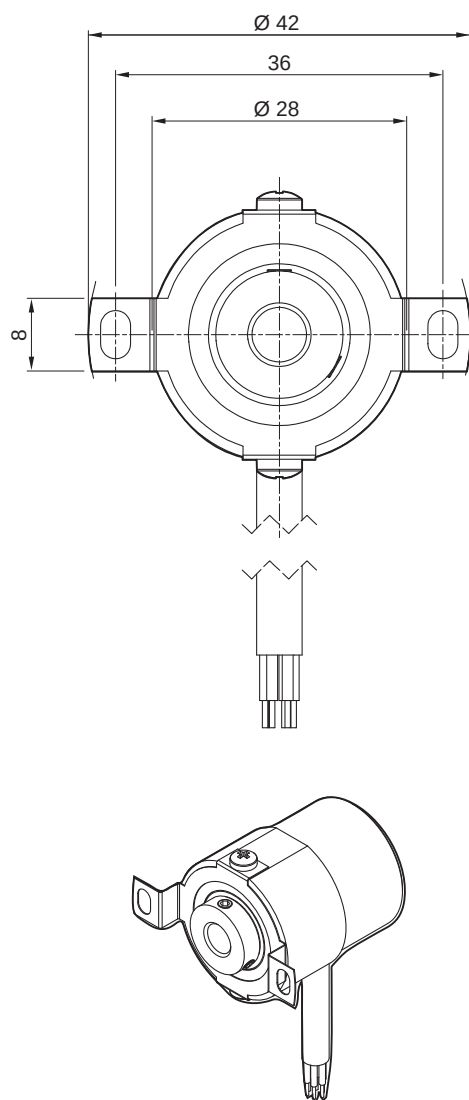
Le specifiche elettriche sono valide solo quando l'encoder opera nell'intervallo di temperatura di funzionamento.
Le misure sono riferite alla temperatura di 25 °C, con alimentazione Vcc = 5 V ± 5%.

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	

Dimensions and connection diagram

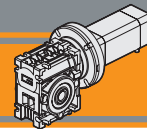


Signal	Wire Color
UB	white
GND	brown
N.C.	green
Ch. I	yellow
Ch. A	grey
Ch. B	pink



Motoriduttori brushless CC a vite senza fine
Brushless DC wormgearmotors

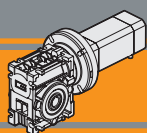




Indice	Index	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	CB2
Designazione	<i>Classification</i>	CB2
Simbologia	<i>Symbols</i>	CB2
Lubrificazione	<i>Lubrication</i>	CB2
Carichi radiali	<i>Radial loads</i>	CB3
Dati di dentatura	<i>Toothing data</i>	CB3
Rendimento	<i>Efficiency</i>	CB3
CM026/CL026 con motore brushless	<i>CM026/CL026 with brushless motor</i>	CB4
Dimensioni	<i>Dimensions</i>	CB5
Accessori	<i>Accessories</i>	CB6
Opzioni	<i>Options</i>	CB6

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Motoriduttori brushless CC a vite senza fine

Brushless DC wormgearmotors

Caratteristiche tecniche

Technical features

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

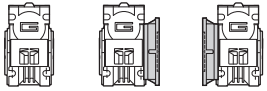
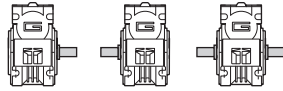
The main features of brushless DC wormgearmotors range CM are:

- Alimentazione in bassa tensione 24 Vcc
- Possibilità di montaggio encoder
- Coppie motore disponibili da 0,12 a 0,25Nm
- Carcasce dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico

- 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
						
Versione Riduttore Gearbox Version				Albero di uscita Output shaft		
						
U F...D F...S				SZDX SZSX DZ		

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.

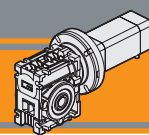
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).

Per temperature diverse, contattare nostro UT.

Permanent synthetic oil long-life lubrication allow to use wormgearbox range in all mounting position.

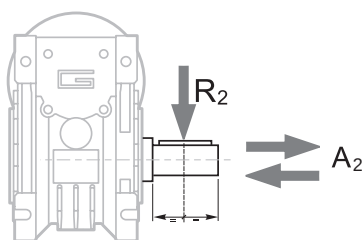
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).

For temperature outside this range please contact our technical dept.



Carichi radiali

Radial loads

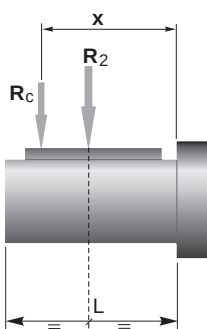


$$A_2 = R_2 \times 0.2$$

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 mezzes-
ria 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

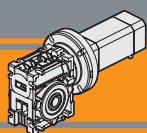
Reversibilità e irreversibilità

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 ren-
dimento dinamico Rd e statico Rs.

The table below is provided for reference purposes
only. It contains the various degrees of reversi-
bility/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



Motoriduttori brushless CC a vite senza fine Brushless DC wormgearmotors

CM026 con motore brushless CC

CM026with DC brushless motor

CM026	BLS012.240							BLS018.240						
	24V							24V						
	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]	n ₂ MIN			n ₂ MAX			n ₁ MAX [rpm]
ir	M ₂	sf		M ₂	sf			M ₂	sf		M ₂	sf		
5	80	0.5	45	800	0.6	16	4000	80	0.7	31	800	0.8	11	4000
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		20	2.4	10	200	3.0	3.3	
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

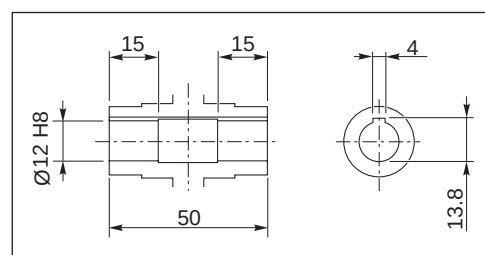
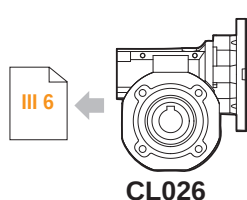
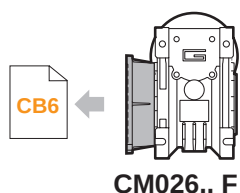
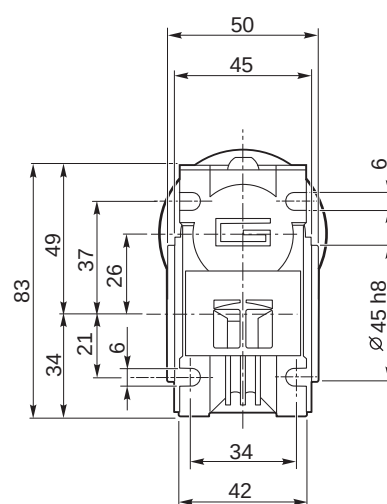
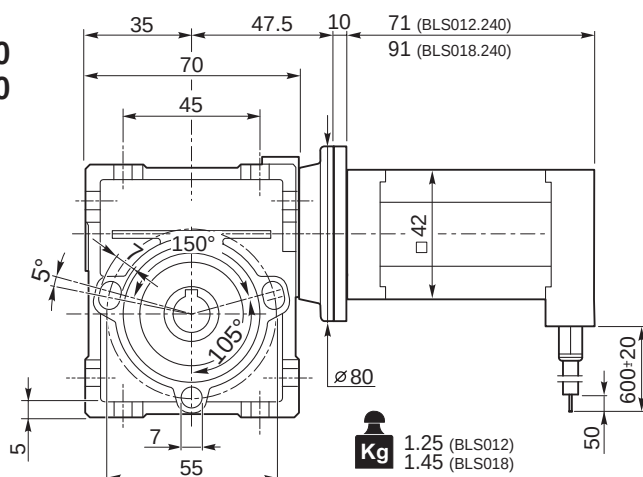
NOTE: for continuous or highly intermittent duty, please contact our technical service

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

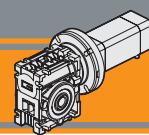
Azionamenti
Drives

II 2

CM026..U
+
BLS012.240
BLS018.240



Albero lento cavo / Hollow output shaft



CM026 con motore brushless CC

CM026 with DC brushless motor

CM026	BLS025.24E						
	24V						
	n_{2MIN}			n_{2MAX}			n_{1MAX} [rpm]
ir		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

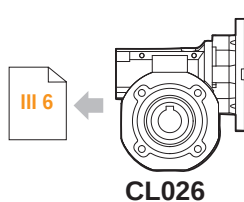
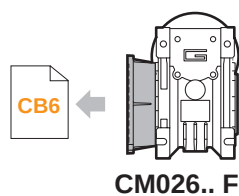
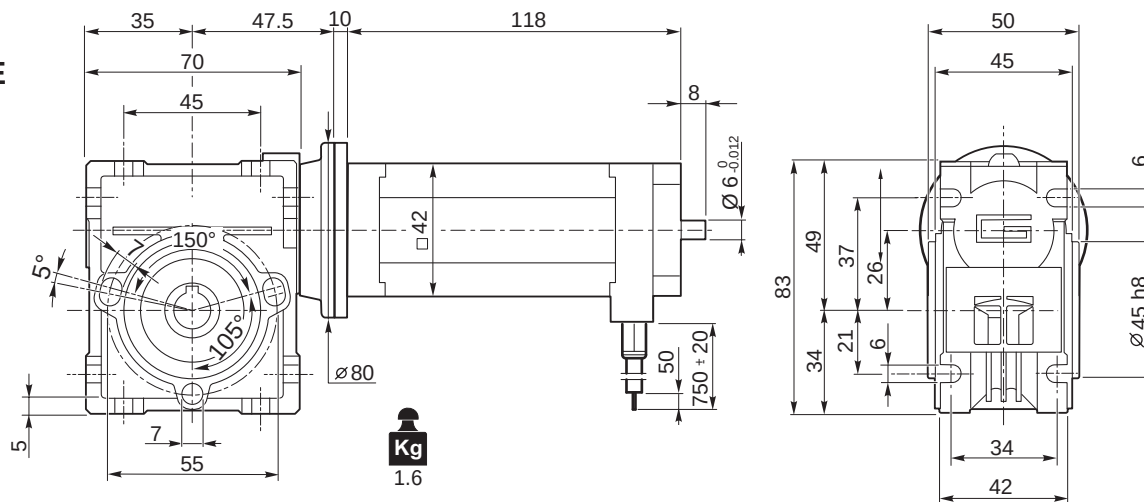
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service S1 is exceeded. Please, contact our technical office.

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

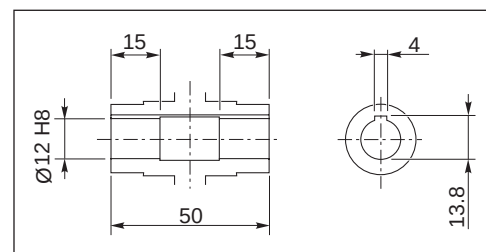
II 2

CM026..U + BLS025.24E



Encoder

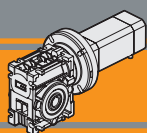
CA10



Albero lento cavo / Hollow output shaft

IP 66

CM

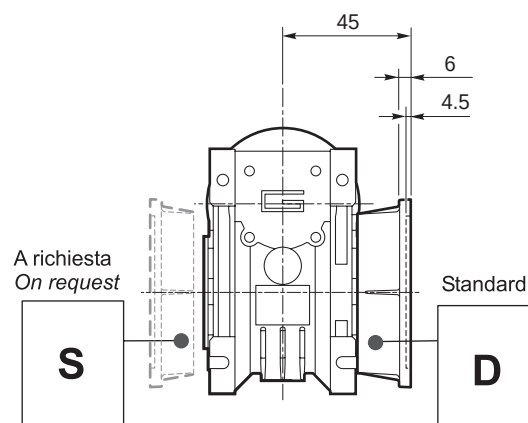
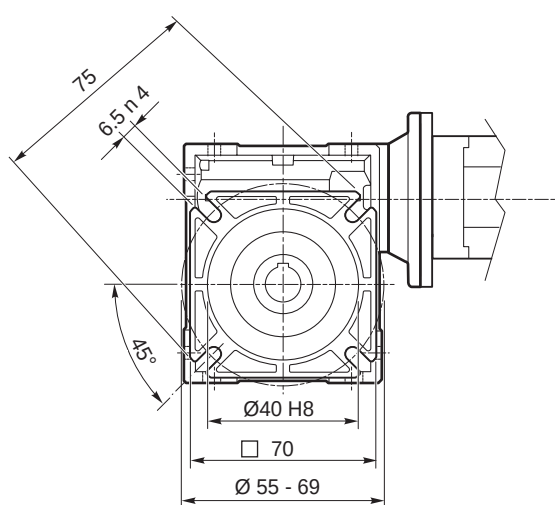


Motoriduttori brushless CC a vite senza fine Brushless DC wormgearmotors

Dimensioni

Dimensions

CM026/... F... Flange uscita / Output flanges



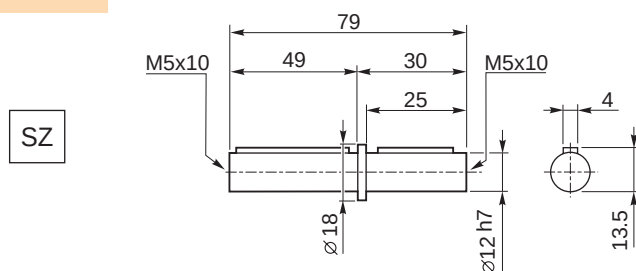
Accessori

Accessories

Albero lento

Output shaft

CM 026

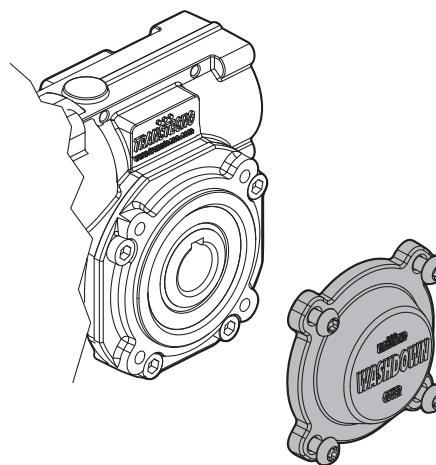
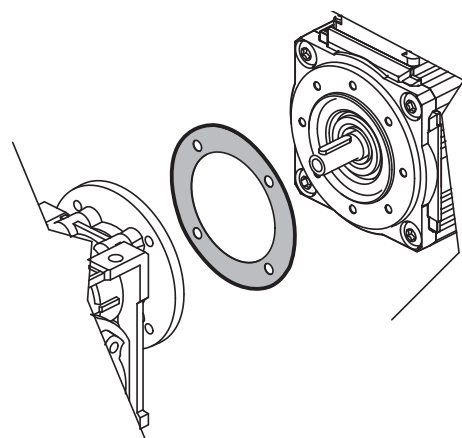


Opzioni

Options

Guarnizione CA (a richiesta) / Rubber gasket (on request)

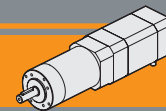
Coperchio Washdown (a richiesta) / Washdown cover (on request)





Motoriduttori brushless CC epicicloidali
Brushless DC planetary gearmotors

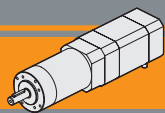




Indice	Index	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	CC2
Designazione	<i>Classification</i>	CC2
Simbologia	<i>Symbols</i>	CC2
Lubrificazione	<i>Lubrication</i>	CC2
Carichi radiali	<i>Radial loads</i>	CC3
Rapporti	<i>Ratios</i>	CC3
PM42 con motore brushless	<i>PM42 with brushless motor</i>	CC4

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Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

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
		

Simbologia

Symbols

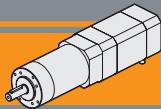
Ns	n° stadi / No. stages	Pn	[W]	Potenza nominale / Nominal power
in	rapporto nominale / nominal ratio	V	[V]	Tensione / Voltage
ir	rapporto reale / real ratio	I	[A]	Assorbimento / Current
M _n	[Nm] coppia in uscita in funzionamento continuativo S1 output torque for continuous operation S1	IC		Classe di 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	Mn	[Nm]	Coppia / Torque
A ₂	[N] massimo carico assiale / max. axial load	n ₁	[Rpm]	Giri / Speed
		IP		Grado di protezione / Enclosure protection
		Kg		Peso / Weight

Lubrificazione

Lubrication

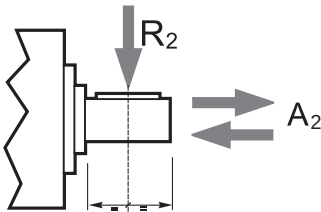
I riduttori epicicloidali sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione.
Questo gli consente di essere installati praticamente ovunque.
Temperatura ambiente 0 ÷ 40 °C (in assenza di congelamento ed in assenza di condensa).
Per temperature diverse, contattare nostro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

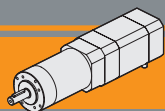
Ratios

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

IP 66

PM



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM42 con motore brushless CC

PM42 with DC brushless motor

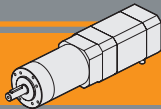
PM42			BLS012.240						BLS018.240								
			24V						24V								
Ns	ir	in	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	n _{2MIN} [rpm]			n _{2MAX} [rpm]			n _{1MAX} [rpm]	
			M ₂ [Nm]	sf		M ₂ [Nm]	sf			M ₂ [Nm]	sf		M ₂ [Nm]	sf			
1	3.7	4	108	0.4	12.0	1081	0.4	7.2	4000	108	0.5	8.1	1081	0.5	4.8	4000	
	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		5.9	8.8	2.5	59	8.8	1.5		
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

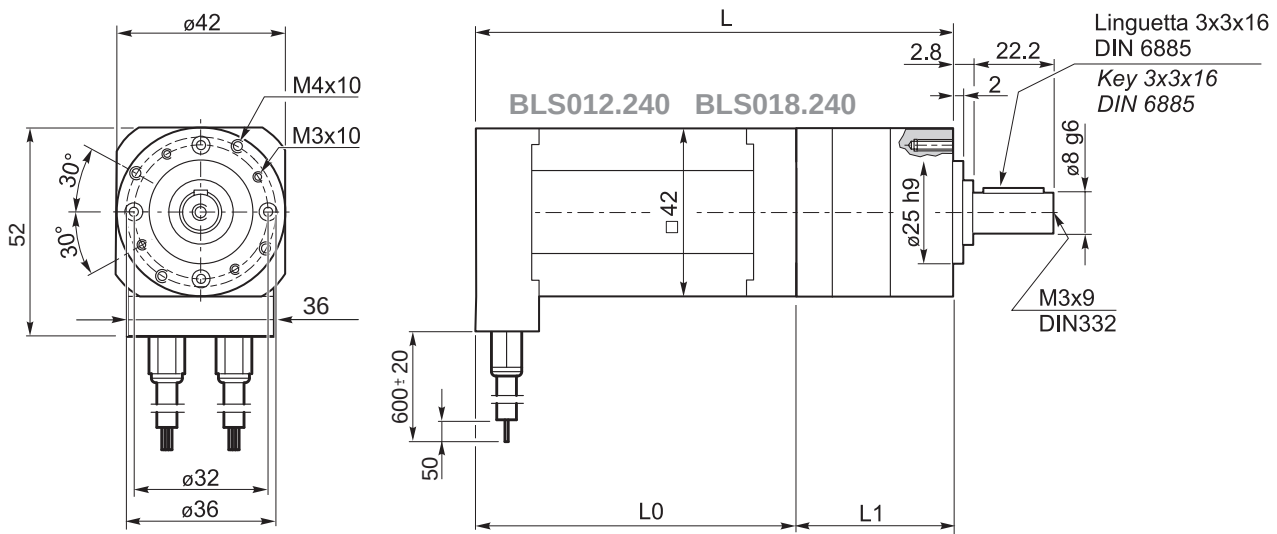
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1.
Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded.
Please, contact our technical office.



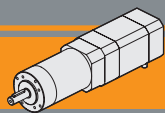
PM42 con motore brushless CC

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



			BLS012.240			BLS018.240		
PM42	Ns	L1	L0	L	Kg	L0	L	Kg
	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



Motoriduttori brushless CC epicicloidali

Brushless DC planetary gearmotors

PM42 con motore brushless CC

PM42 with DC brushless motor

PM42			BLS025.240					
			24V					
			n _{2MIN} [rpm]			n _{2MAX} [rpm]		
Ns	ir	in	M ₂ [Nm]		sf	M ₂ [Nm]		sf
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
	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
3	68.1	68	5.9	12	1.9	59	12	1.1
	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

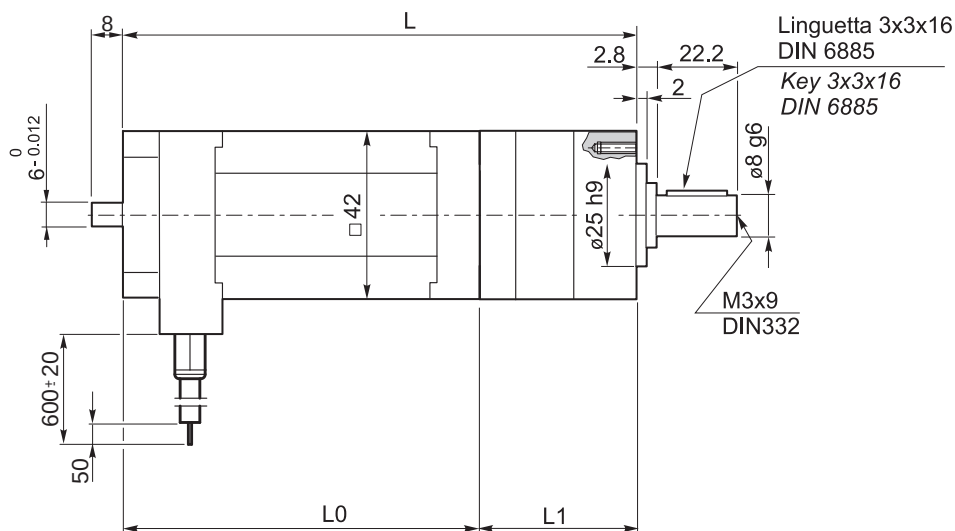
NOTE: for continuous or highly intermittent duty, please contact our technical service

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 with DC brushless motor

Azionamenti Drives



			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

Azionamenti per motori brushless CC Brushless DC motor controls





	Indice	Index	
	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 characteristics	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 <i>Suitable motors</i>	Scheda / Driver	Corrente Nominale / <i>Rated Current</i> (A)	Corrente di Picco / <i>Peak Current</i> (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

DRIVE 4Q FOR BRUSHLESS MOTORS

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).

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

Standard features

- 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

- 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

Specifications

- 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 0.1/1sec (tramite dip switch)
- Regolazione corrente max
- Regolazione della velocità (potenziometro esterno o interno) esterno 10KΩ

- 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 0.1/1sec (by dip switch)
- 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



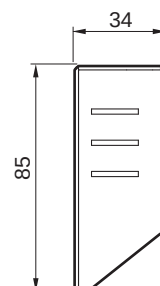
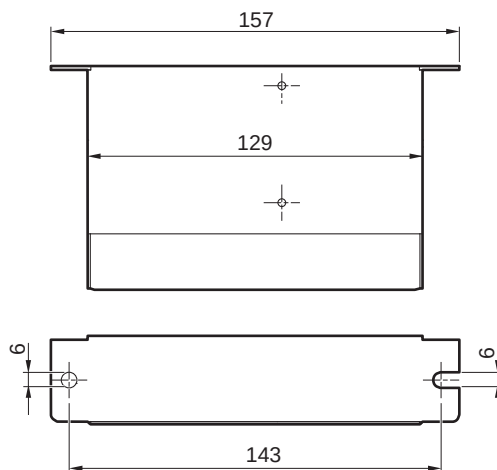
BLD07-IT

AZIONAMENTO 4Q PER MOTORI BRUSHLESS

DRIVE 4Q FOR BRUSHLESS MOTORS

Dimensioni

Dimensions



Collegamenti

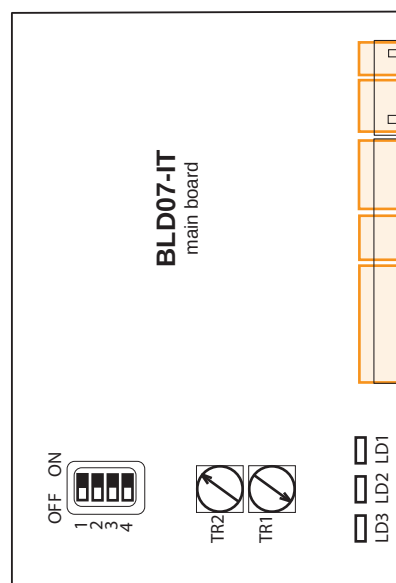
Connections

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	Potenzimetro esterno 10k	External pot. 10k
SIG	Segnale analogico 0/+10V	Analog 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
IN1	Input digitale	Digital input
IN2	Input digitale	Digital input



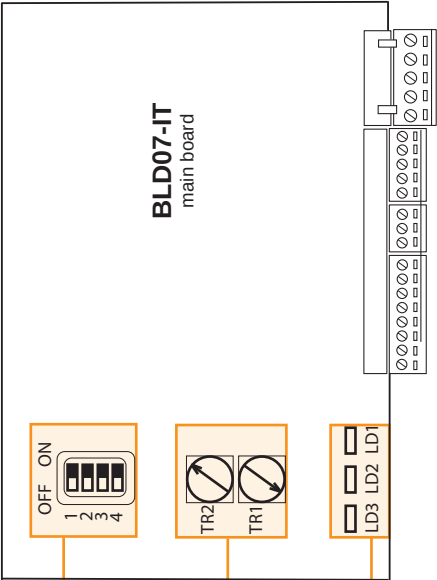
BLD07-IT

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	Operating in closed loop
	ON = Funzionamento in anello aperto	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

4Q DRIVE FOR DC BRUSHLESS MOTORS

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.

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

Standard features

- 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

- 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

Specifications

- 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 0.1/1.0sec (tramite dip switch)
- Regolazione corrente max
- Regolazione della velocità (potenziometro esterno o interno) esterno 10KΩ

- 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 0.1/1.0sec (by dip switch)
- 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



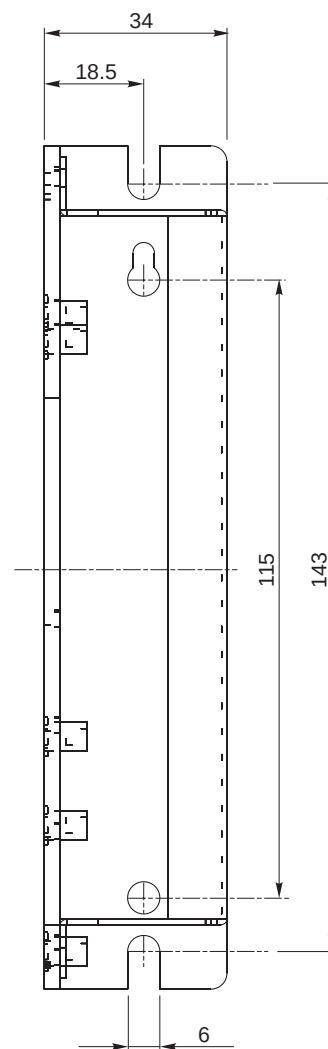
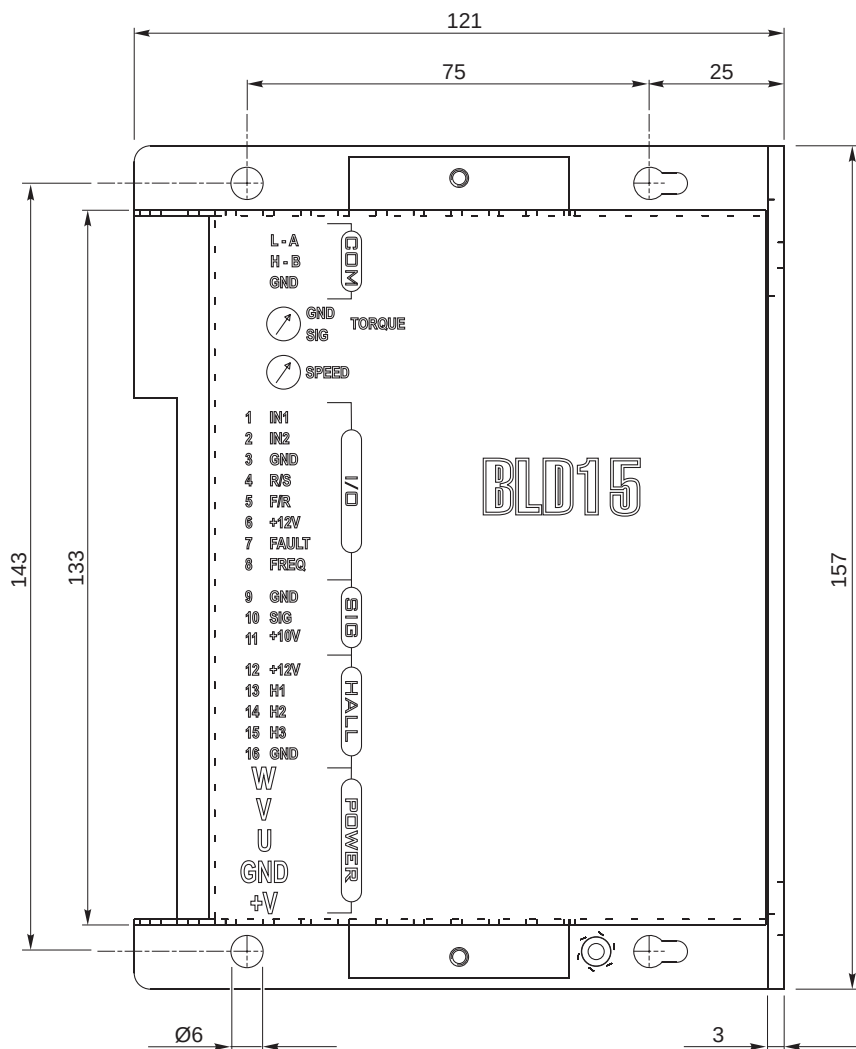
BLD15

AZIONAMENTO 4Q
PER MOTORI BRUSHLESS CC

4Q DRIVE
FOR DC BRUSHLESS MOTORS

Dimensioni

Dimensions





Azionamenti per motori brushless CC

Brushless DC motor controls

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:

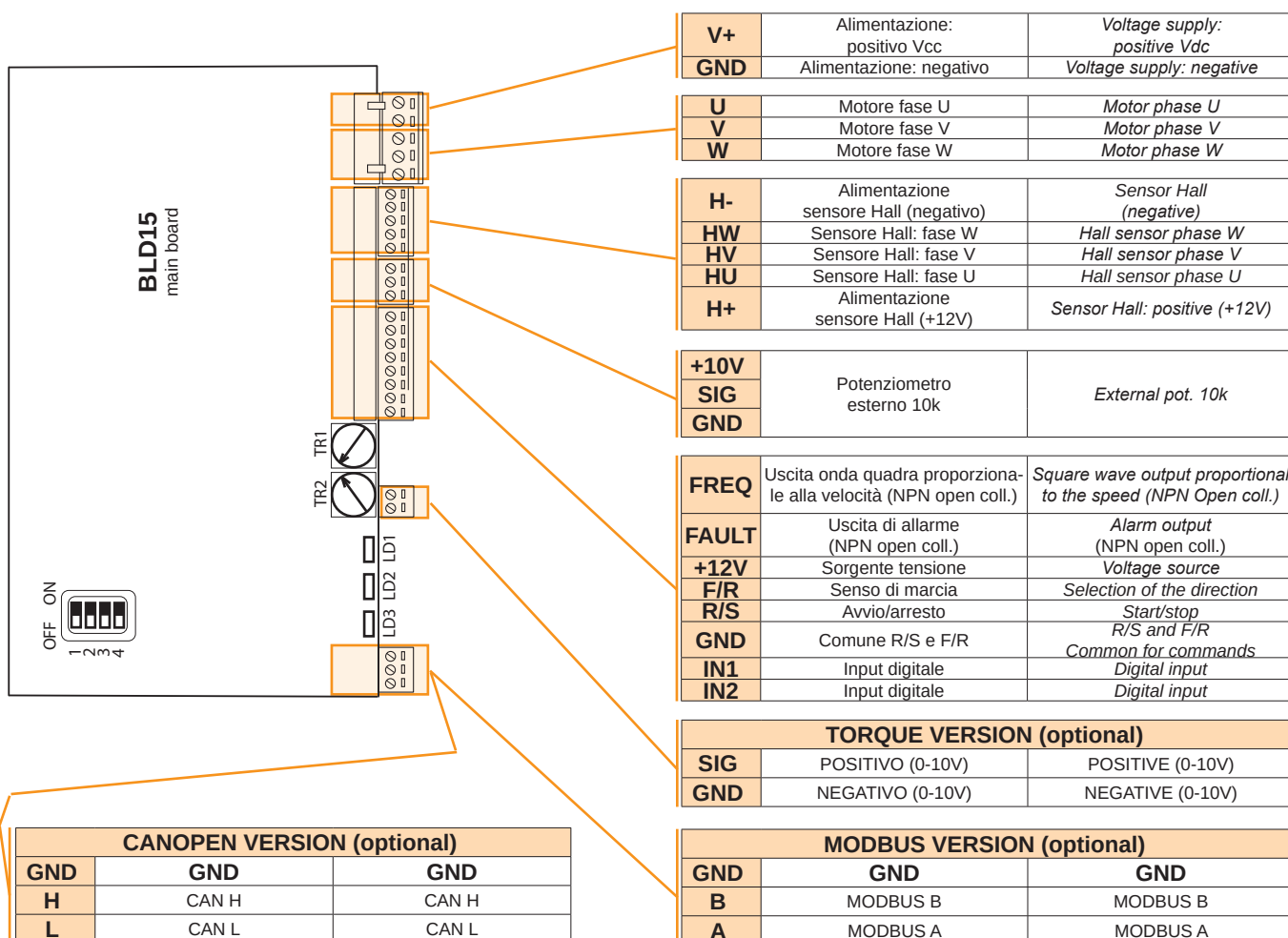
- removable connector with 5 terminals for the power part;
- 3 removable connectors, for a total of 16 terminals, for the management of the input and output signal.

TORQUE Version

- removable connector with 2 terminals

ModBus/CANOpen Version

- removable connector with 3 terminals





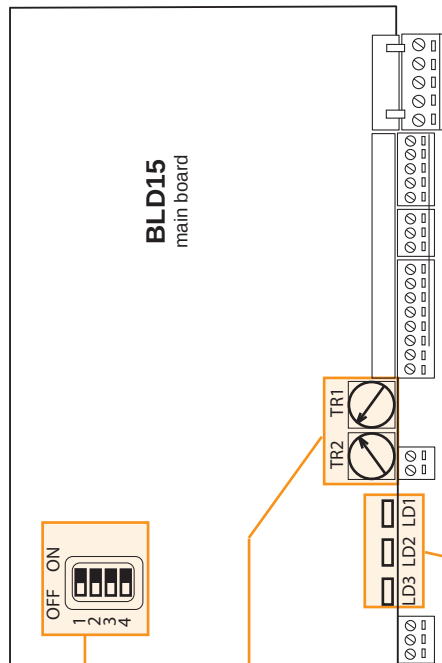
BLD15

**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
TR2*	Limitazione corrente (crescente con rotazione antioraria)	Current limitation (counter clockwise to increase)	Regolazione della rampa in decelerazione
			Acceleration ramp adjustable
			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	Operating in closed loop
	ON = Funzionamento in anello aperto	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.

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, svingitori, macchine test, ecc
- Feedback da sensori di HALL
- 2 Uscita NPN segnalazione allarme azionamento feedback velocità
- 2 trimmer (gestione velocità e corrente).

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

Dimensioni

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

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 communicate in a network.

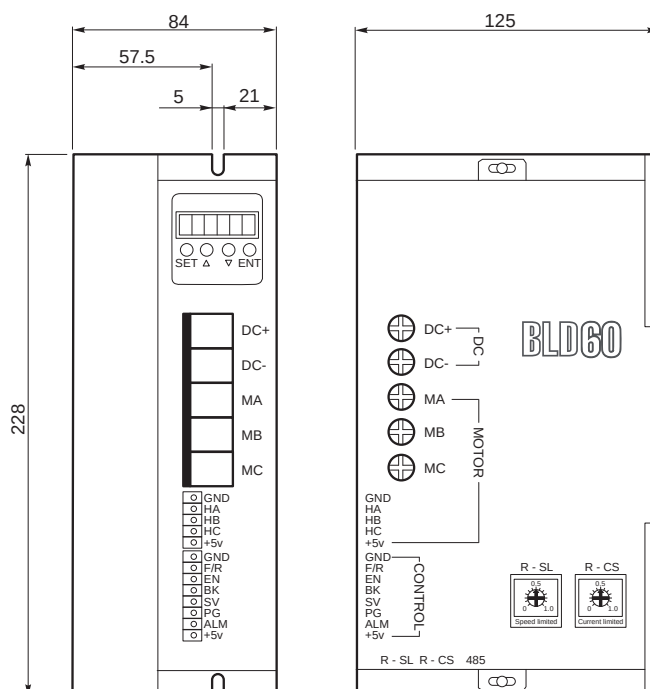
Standard characteristic

- 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)

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
• Current max regulation	
• Speed change regulation (by external or internal pot))	external 10kΩ
• Digital motor control	RS485

Dimensions





BLD60 DIGITAL

**AZIONAMENTO 4Q
PER MOTORI BRUSHLESS CC**

Collegamenti per motori brushless serie BL

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

**4Q DRIVE
FOR DC BRUSHLESS MOTORS**

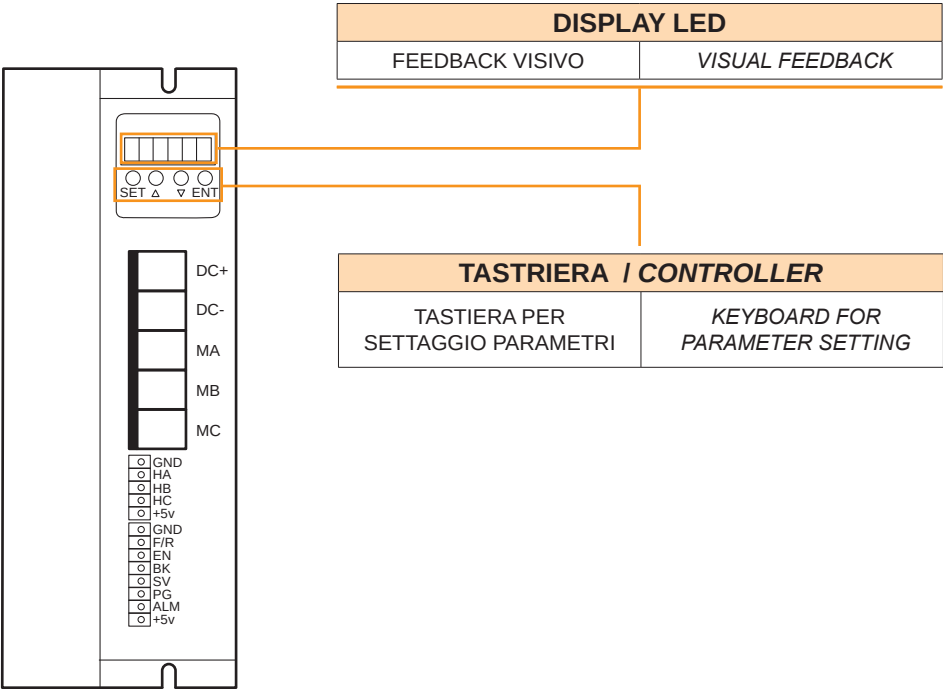
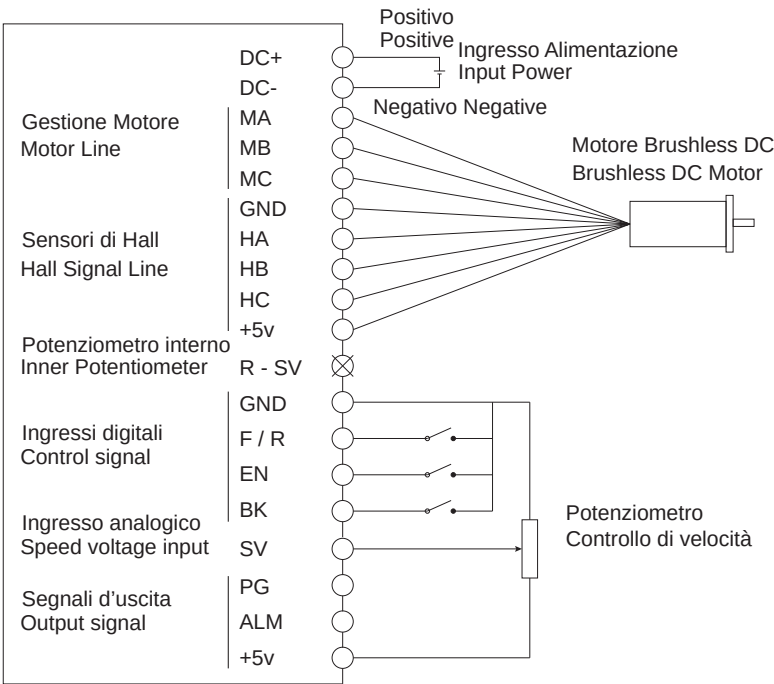
Connections for brushless motors BL series

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





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 può 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



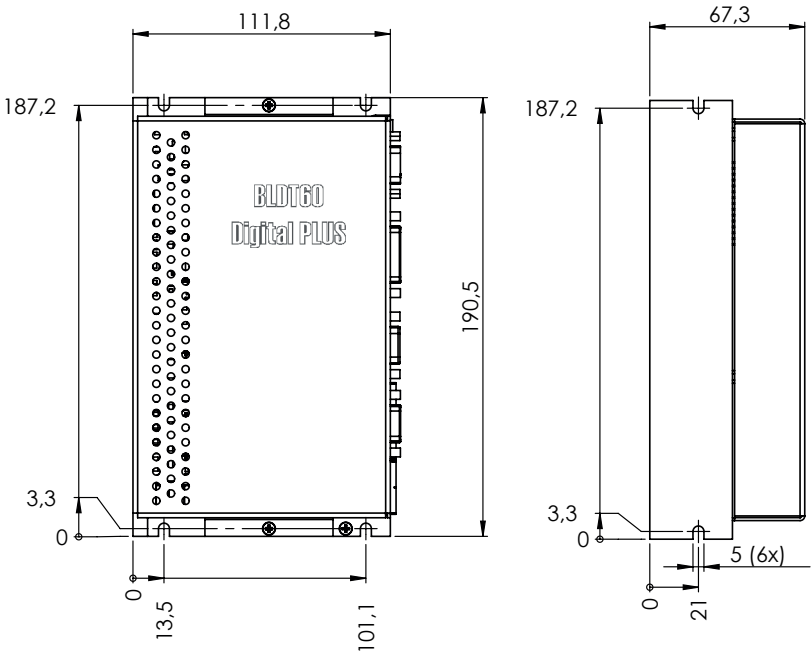
BLDT60 DIGITAL PLUS

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*





Azionamenti per motori brushless CC

Brushless DC motor controls

Collegamenti per motori brushless serie BL

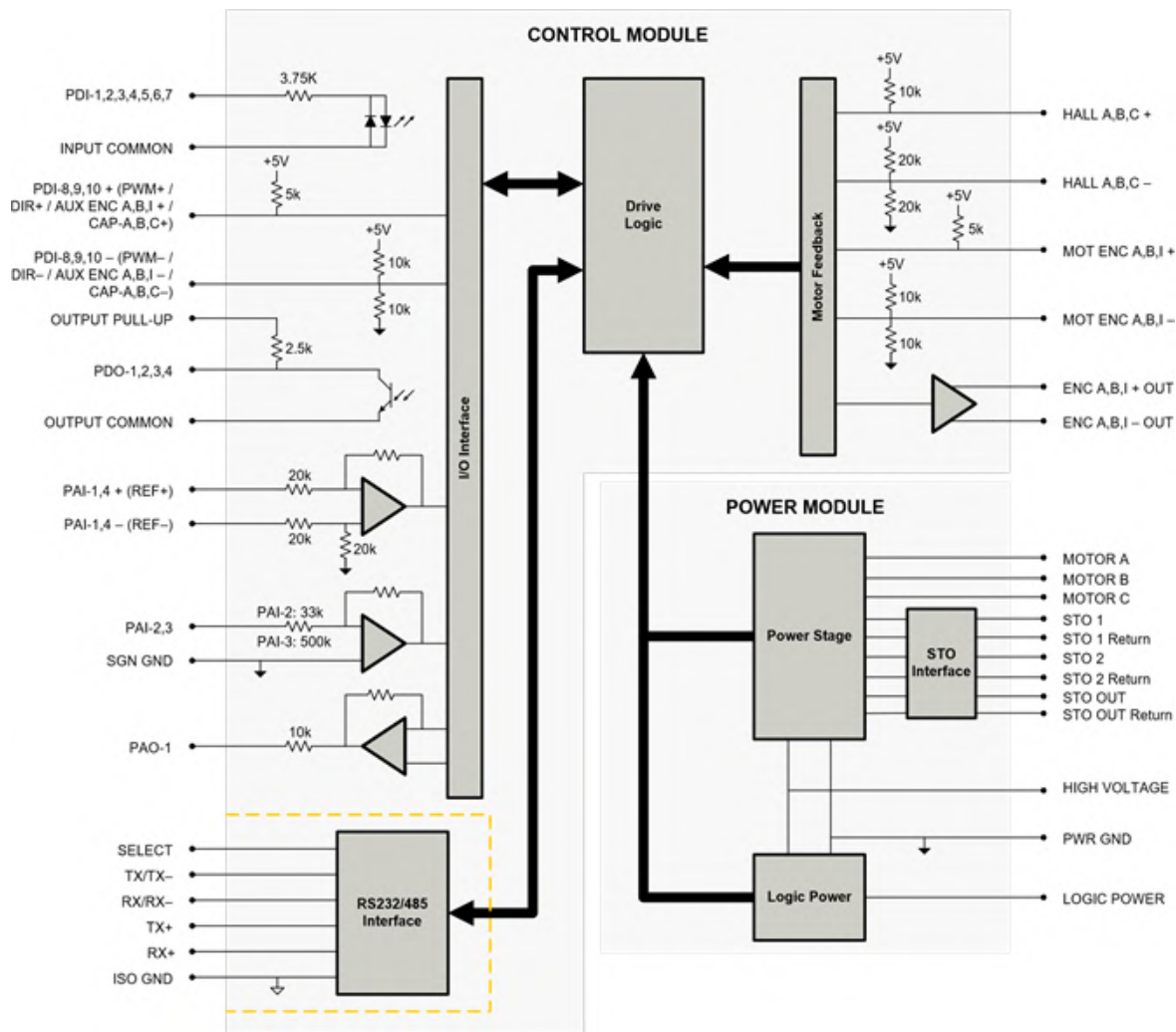
Connections for brushless motors BL series

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

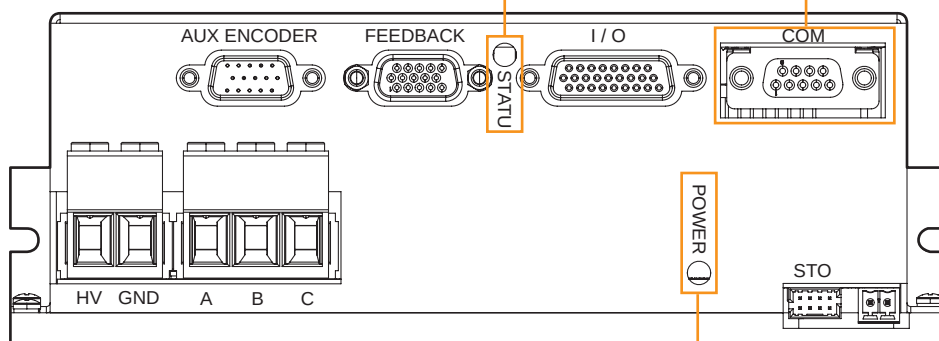


LED

Verde - Ready ON	Green - Ready ON
Rosso - Allarme in corso	Red - Alarm

RS232 / MODBUS RS485 RTU

CANOPEN (Opzionale)	CANOPEN (Optional)
ETHERCAT (Opzionale)	ETHERCAT (Optional)



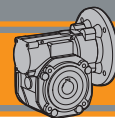
LED

Verde - Ready ON	Green - Ready ON
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Motoriduttori a vite senza fine **Wormgearmotors**

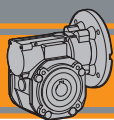




Indice	Index	Pag. Page
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Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione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

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CL

Motoriduttori a vite senza fine Wormgearmotors

Caratteristiche tecniche

Technical features

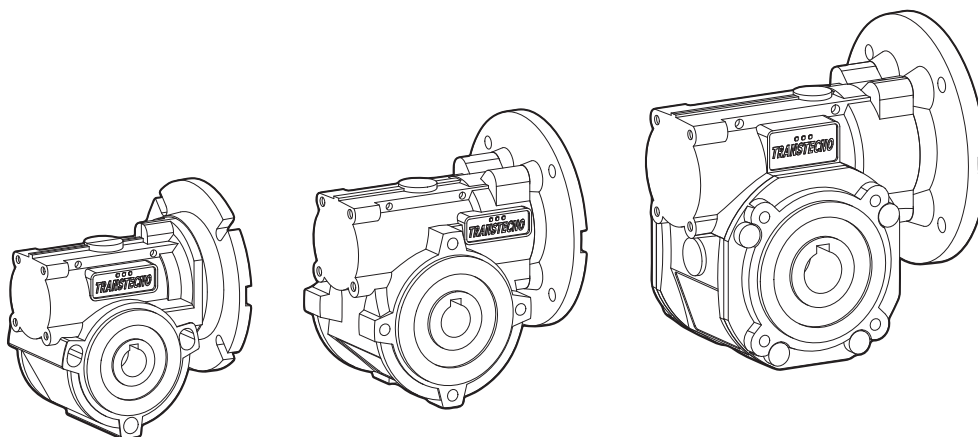
L'elevata modularità contraddistingue i motoriduttori a vite senza fine della serie CL: i diversi kit entrata ed uscita li rendono estremamente versatili.

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:

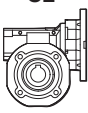
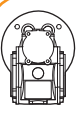
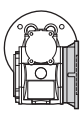
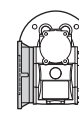
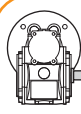
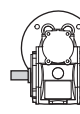
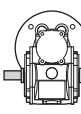
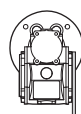
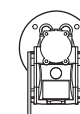
- Die-cast aluminium housing
- Permanent synthetic oil long life lubrication



Designazione

Classification

RIDUTTORI A VITE SENZA FINE / WORMGEARBOXES

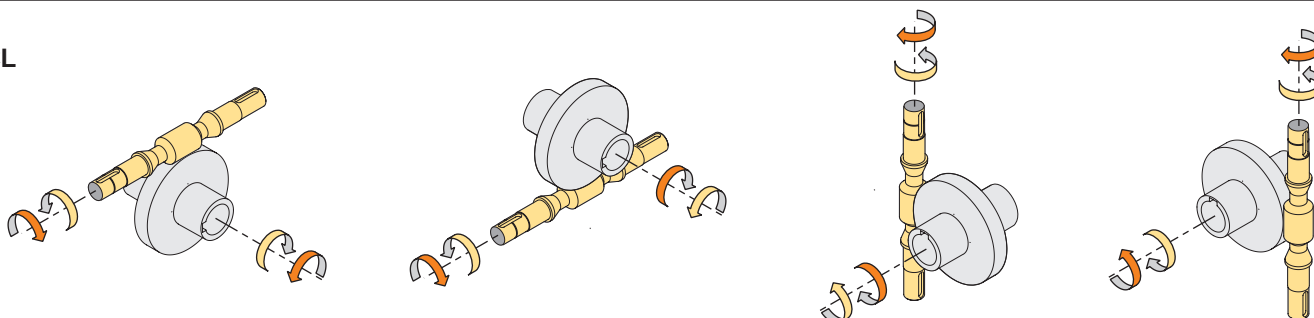
RIDUTTORE / GEARBOX									
CL	030	U	10	63	B14	SZDX	BRSX	90	VS
Tipo Type	Grandezza Size	Versione riduttore Gearbox Version	Rapporto Ratio	IEC	Forma costruttiva Version	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Opzioni Options
CL 	026 030 040 050 063 070	U F...	Vedere 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		
 U  F...D  F...S		 SZDX  SZSX  DZ			 BRDX  BRSX		 90°  180°  270°  0°		

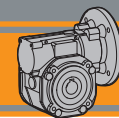
* NOTA: il braccio di reazione viene fornito smontato.
NOTE: the torque arm will be supplied not assembled.

Sensi di rotazione

Direction of rotation

CL





Simbologia

Symbols

n_1 [min ⁻¹]	Velocità in ingresso / <i>Input speed</i>	sf	Fattore di servizio / <i>Service factor</i>
n_2 [min ⁻¹]	Velocità in uscita / <i>Output speed</i>	Rd %	Rendimento dinamico / <i>Dynamic efficiency</i>
i	Rapporto di riduzione / <i>Ratio</i>	Rs %	Rendimento statico / <i>Static efficiency</i>
P_1 [kW]	Potenza in entrata / <i>Nominal input power</i>	R_2 [N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
M_2 [Nm]	Coppia in uscita in funzione di P_1 / <i>Output torque referred to P_1</i>	A_2 [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
P_{n1} [kW]	Potenza nominale in entrata / <i>Nominal input power</i>	Z	Numero di principi della vite / <i>Worm starts</i>
M_{n2} [Nm]	Coppia nominale in uscita in funzione di P_{n1} / <i>Nominal output torque referred to P_{n1}</i>	β	Angolo d'elica / <i>Helix angle</i>

Lubrificazione

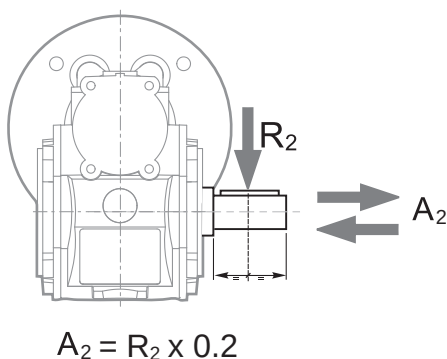
Lubrication

Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio 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

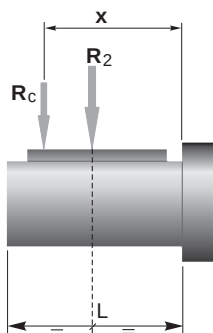
Radial loads



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 mezzzeria 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:

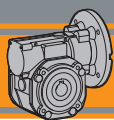


	CL	CL / CLP				
	026	030	040	050	063	070
a	56	65	84	101	120	122
b	43	50	64	76	95	92
R_{2MAX}	610	1600	3000	4200	5800	6200

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

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

$$R \leq R_c$$

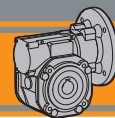
**CL****Motoriduttori a vite senza fine**
Wormgearmotors**Dati di dentatura****Toothing data**

	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

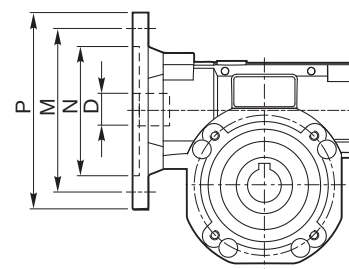
**Rendimento teorico del riduttore dopo il rodaggio****Theoretical efficiency of the gearbox after the first running period**



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.

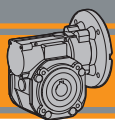
Le aree evidenziate in grigio indicano l'applicabilità della corrispondente grandezza motore.

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

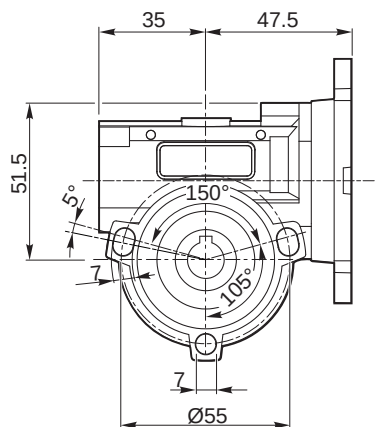
Nota: flange Nema disponibili a richiesta
Note: Nema flange available on demand



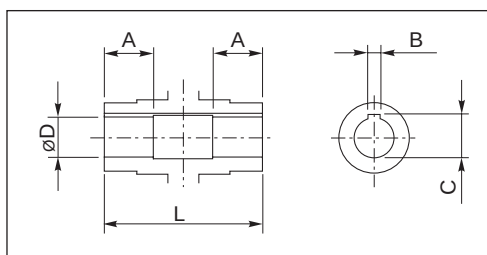
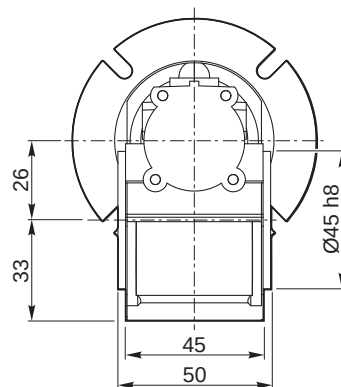
Dimensioni

Dimensions

CL 026 U



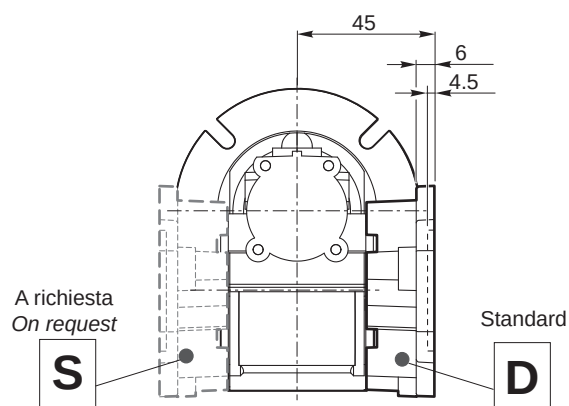
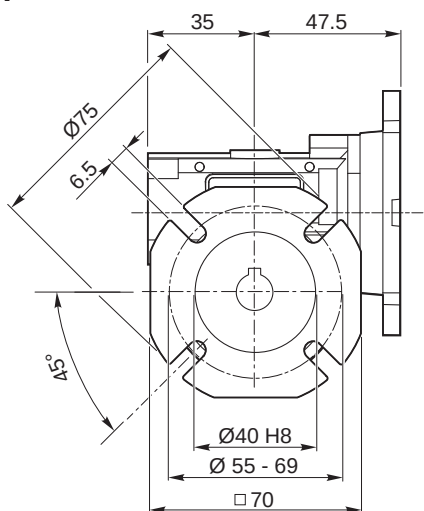
Kg
0.7

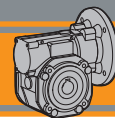


Albero lento cavo / Hollow output shaft

Grandezza Size	Ø D H8	L	A	B	C
CL 026	12	50	15	4	13.8

CL 026 F

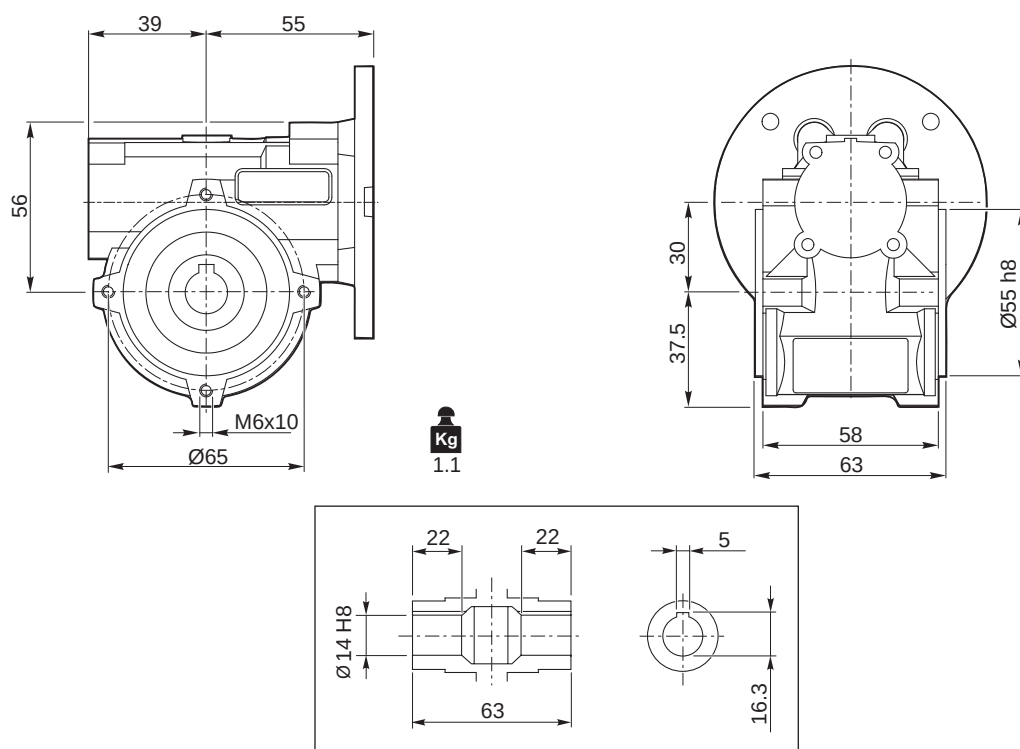




Dimensioni

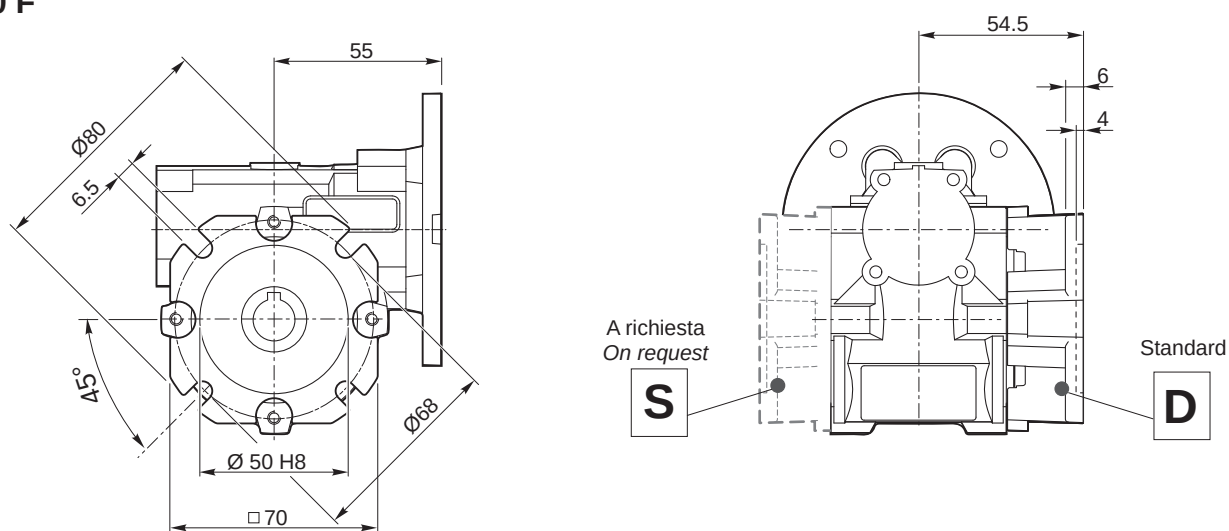
Dimensions

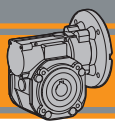
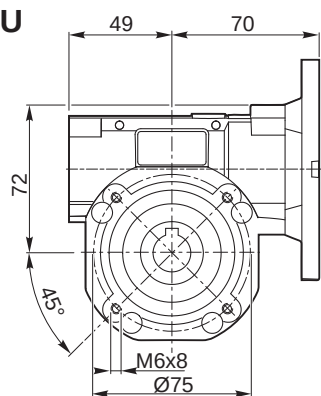
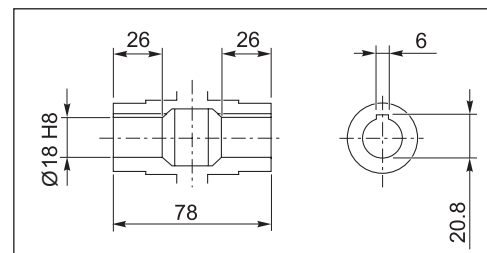
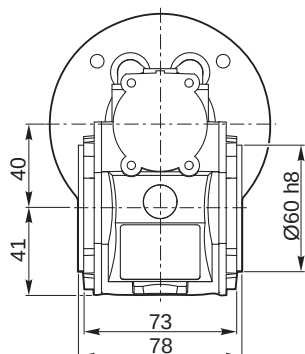
CL 030 U



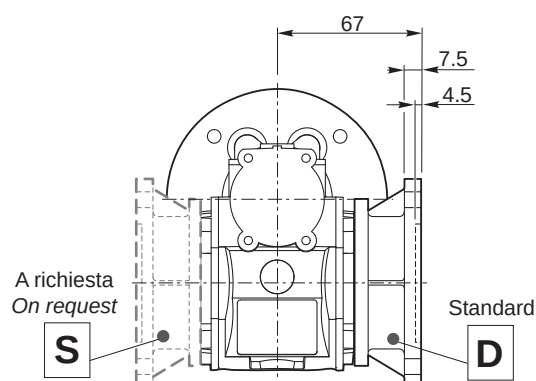
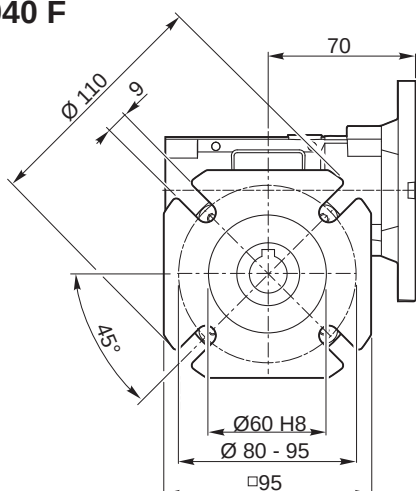
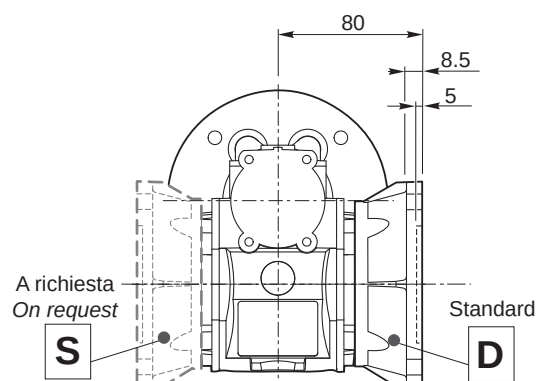
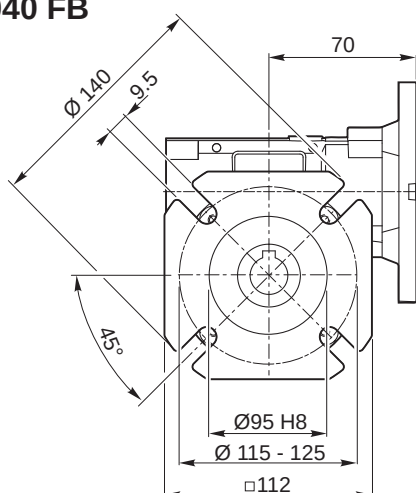
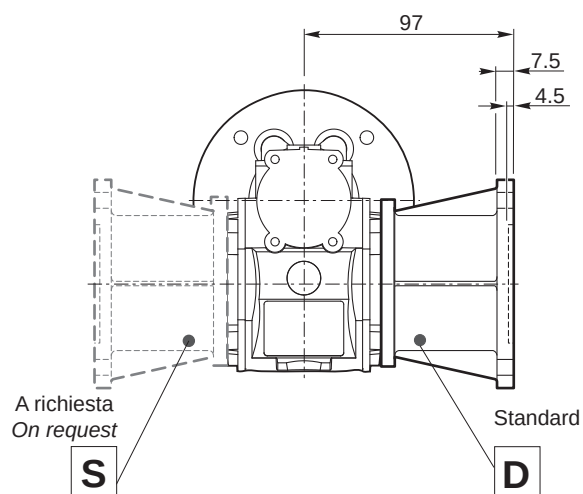
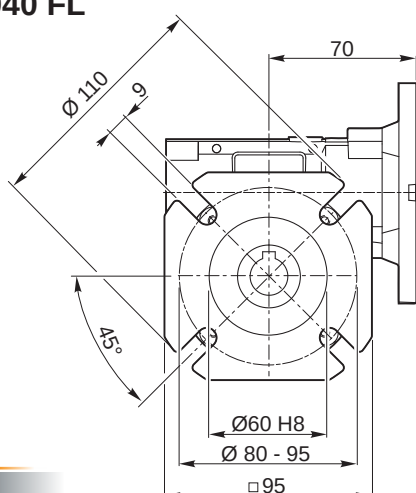
Albero lento cavo / *Hollow output shaft*

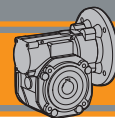
CL 030 F



**CL****Motoriduttori a vite senza fine**
Wormgearmotors**Dimensioni****Dimensions****CL 040 U****Kg**
2.1

Albero lento cavo / Hollow output shaft

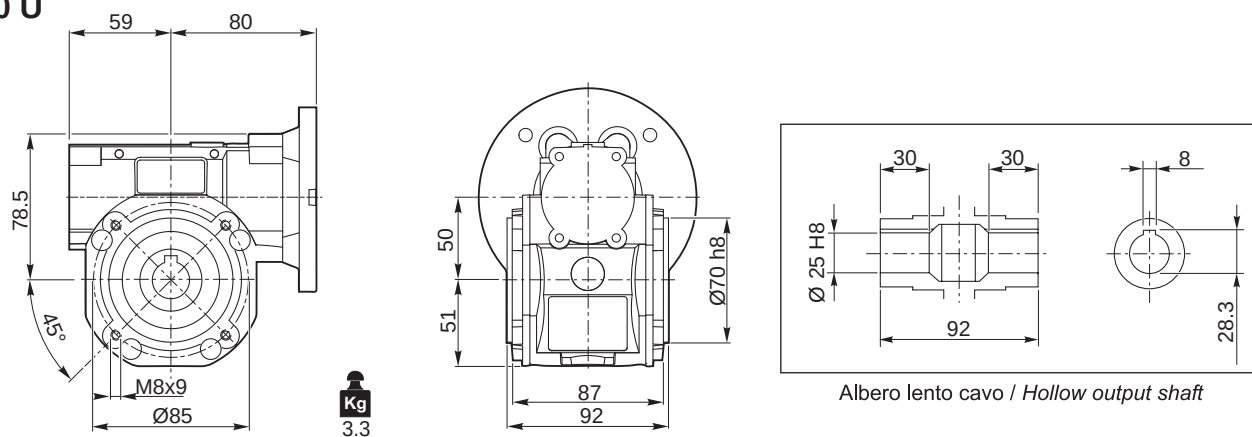
CL 040 F**CL 040 FB****CL 040 FL**



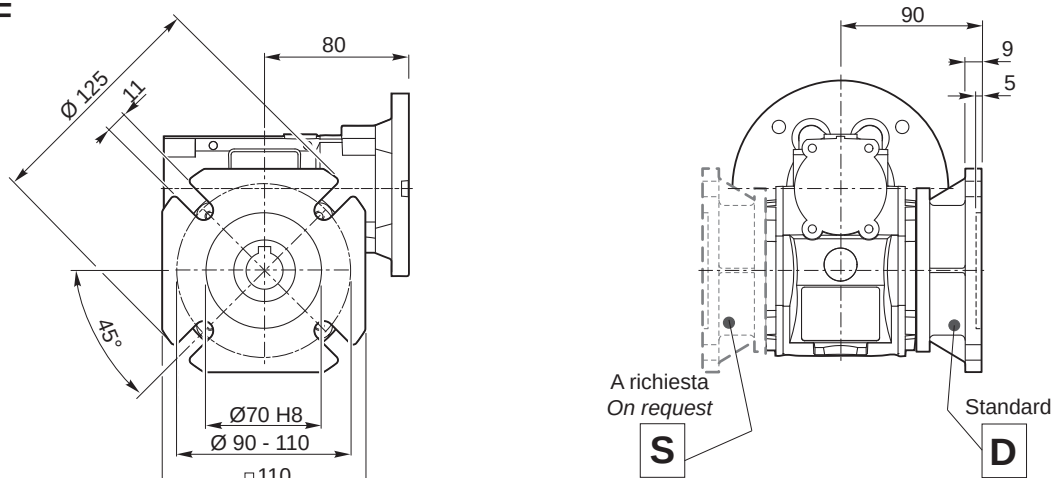
Dimensioni

Dimensions

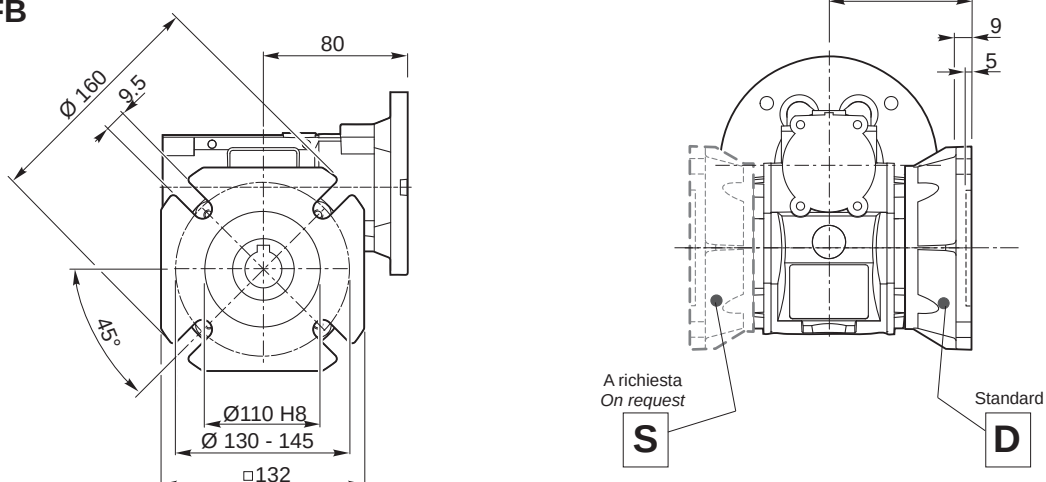
CL 050 U



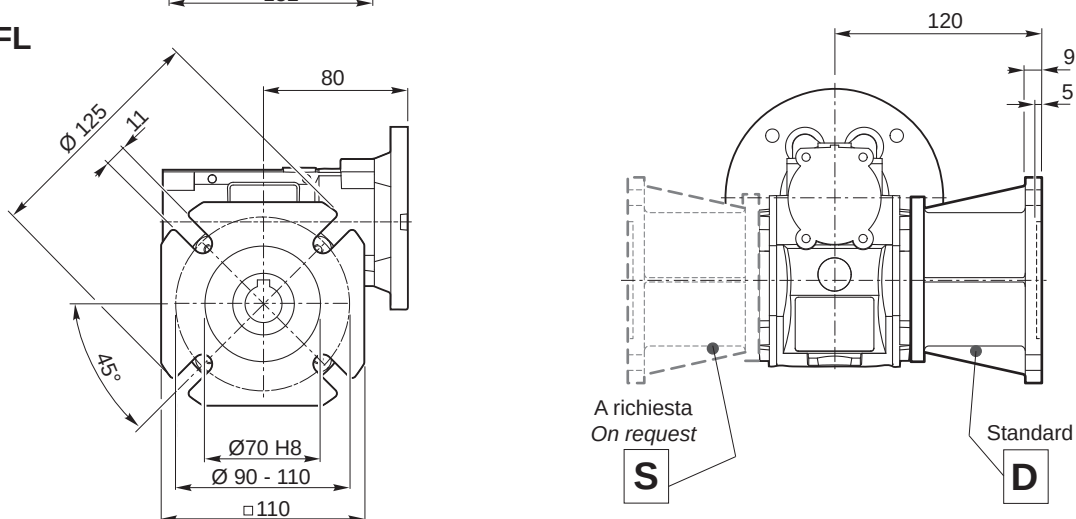
CL 050 F

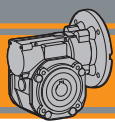


CL 050 FB



CL 050 FL





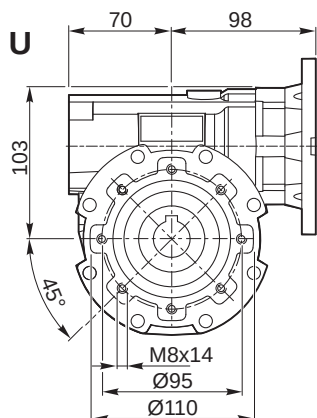
CL

Motoriduttori a vite senza fine
Wormgearmotors

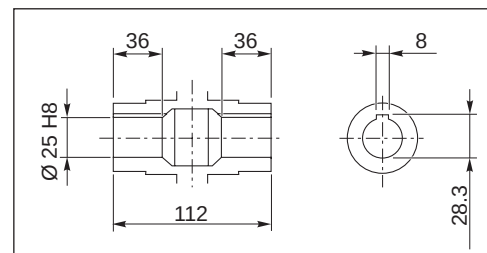
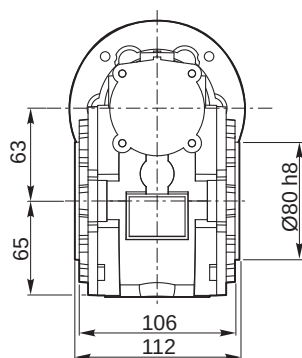
Dimensioni

Dimensions

CL 063 U

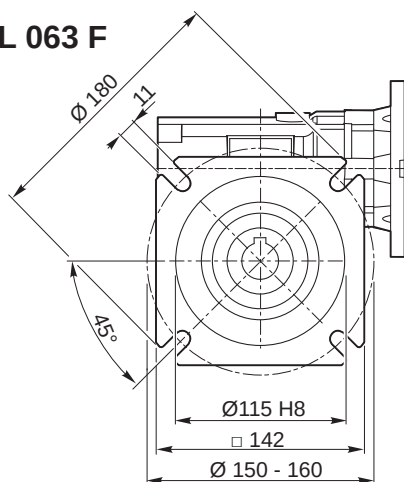


Kg
6.0



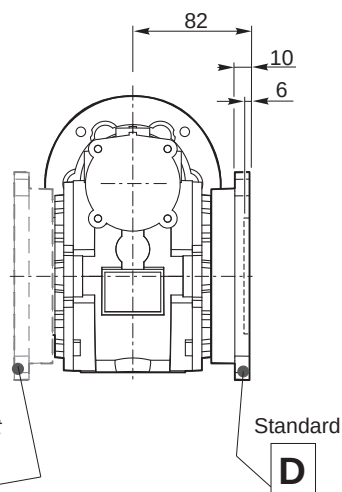
Albero lento cavo / Hollow output shaft

CL 063 F

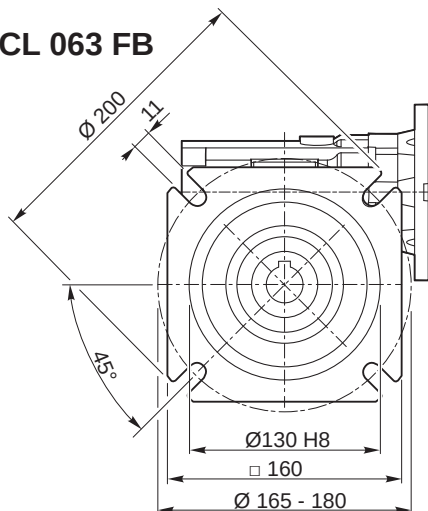


A richiesta
On request

S

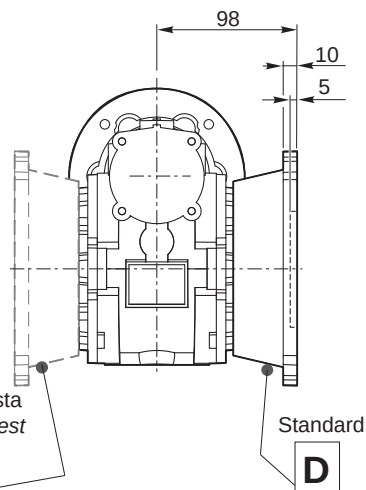


CL 063 FB

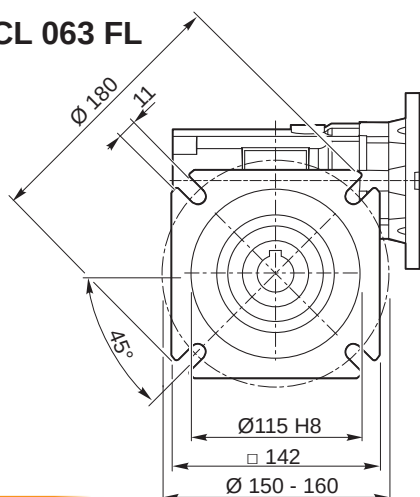


A richiesta
On request

S

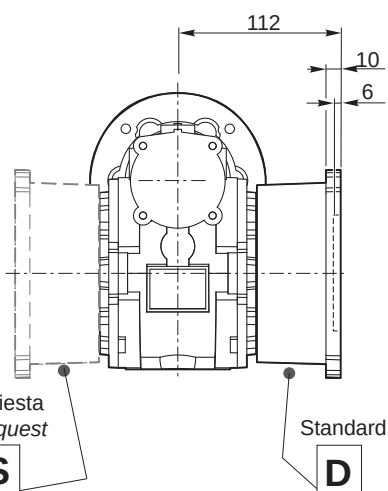


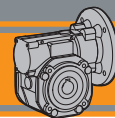
CL 063 FL



A richiesta
On request

S

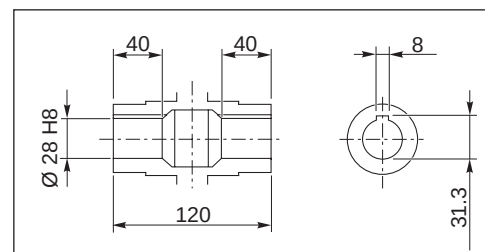
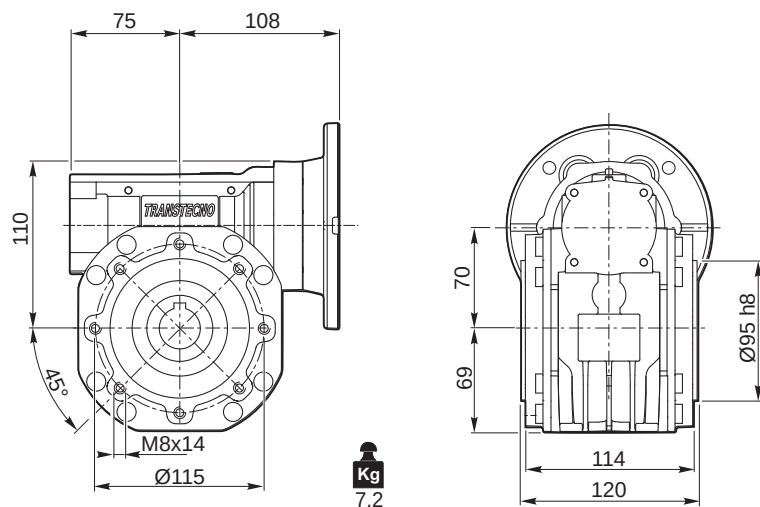




Dimensioni

Dimensions

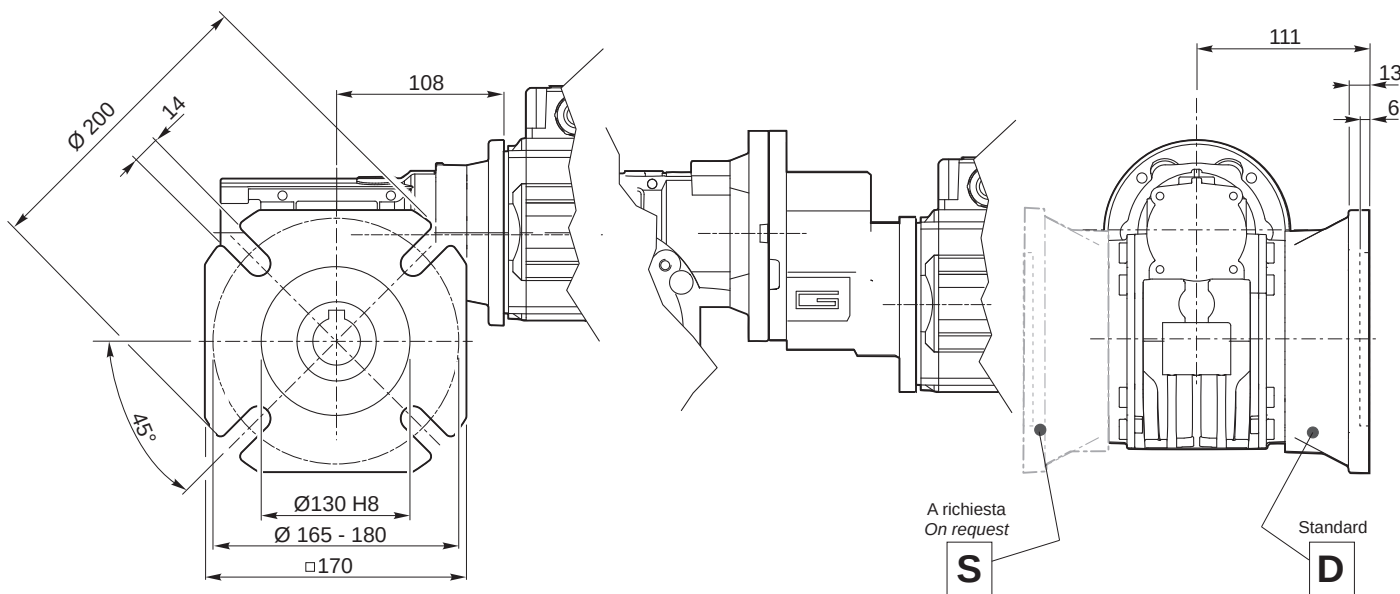
CL 070 U

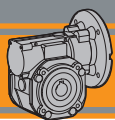


Albero lento cavo / Hollow output shaft

CL 070 F

CLP../070 F





CL

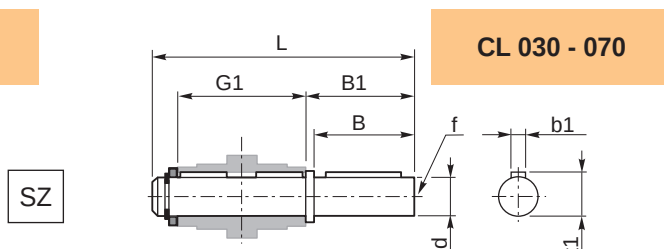
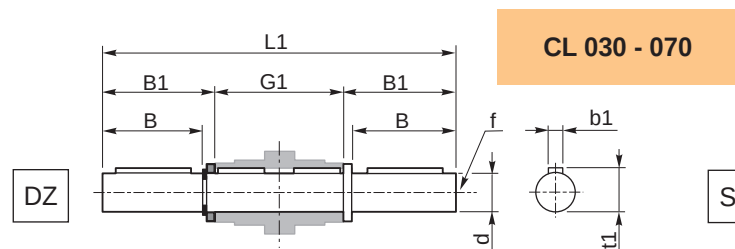
Motoriduttori a vite senza fine
Wormgearmotors

Accessori

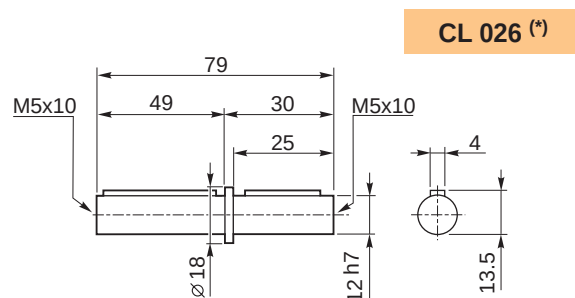
Accessories

Albero lento semplice e doppio

Single and double output shaft



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



(*)

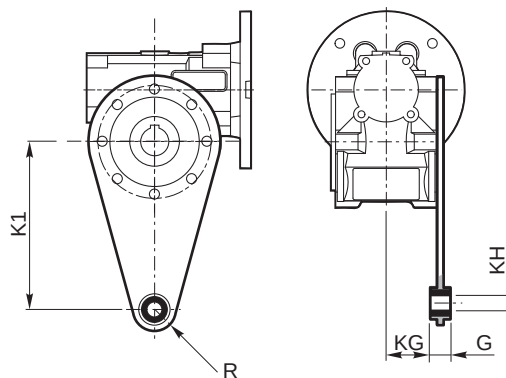
Nota: disponibile solo per cavo uscita Ø12

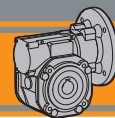
Note: available for output hollow shaft Ø12 only

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



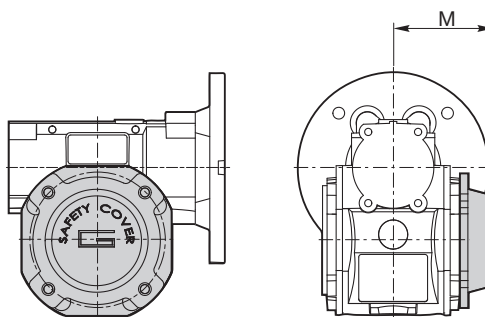


Accessori

Accessories

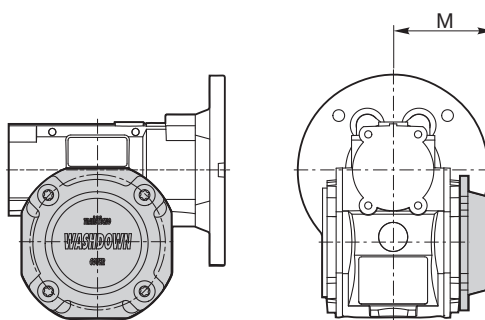
SC - Safety Cover

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



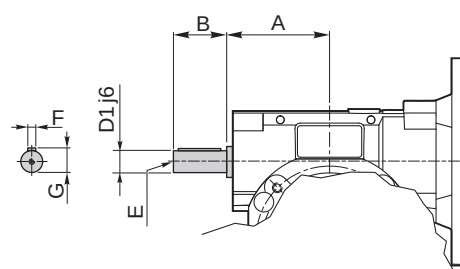
(*)
Nota: Viti escluse dalla fornitura
Note: Screws not provided

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

[illegible]

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