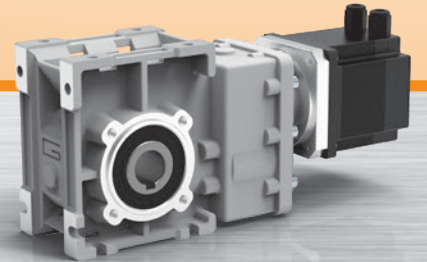
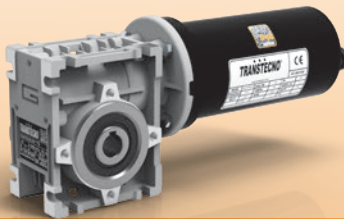
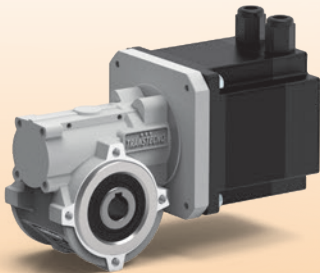
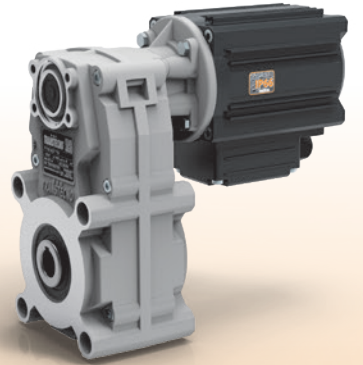
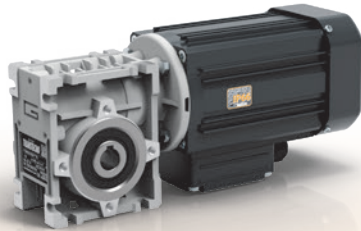


# MINI <sup>TM</sup> **TECNO**


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Introduzione  
Introduction





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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 motoriduttori e variatori.

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

## General information

### Velocità entrata

$n_1$  [min<sup>-1</sup>]

### 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<sup>-1</sup>]

### 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

$Mr_2$  [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

**Mn<sub>2</sub> [Nm]**

### Nominal torque

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

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

$$Mn_2 = M_2 \cdot sf$$

### Coppia trasmessa

**M<sub>2</sub> [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 a vite senza fine

**Rd; Rs**

### Worm 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).*

Nei riduttori combinati, il rendimento complessivo è dato dal prodotto dei rendimenti dei due riduttori, considerando però che nel secondo riduttore il rendimento dovrà essere valutato in base alla ridotta velocità in entrata ottenuta dividendo  $n_1$  per il rapporto  $i$  del primo riduttore.

*In combination gearboxes, overall efficiency is obtained from the combined efficiency of the two gearboxes. However, keep in mind that efficiency of the second gearbox should be determined according to the reduced input speed obtained by dividing  $n_1$  by ratio  $i$  of the first gearbox.*

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.*

Il valore dei rendimenti dinamico e statico dei riduttori a vite senza fine sono riportati nella tabella a pag. N4.

*Dynamic and static efficiency of wormgearboxes are given in the table on page N4.*

Nei riduttori ad ingranaggi CMG e CMB il rendimento medio è del 94%.

*On helical gearboxes CMG and CMB the average efficiency is 94%.*

Nei motovariatori il rendimento assume un valore di 0.85 alla velocità massima e decresce fino a 0.7 alla velocità minima.

*Efficiency is 0.85 at the highest speed decreasing to 0.7 at the lowest speed in motovariators.*

## Reversibilità e irreversibilità

## Reversibility and irreversibility

La diretta conseguenza del rendimento (statico e dinamico) è la reversibilità del riduttore a vite senza fine che consiste nella possibilità di fare ruotare l'albero entrata tramite l'applicazione di una torsione più o meno accentuata sull'albero uscita.

L'impossibilità o la difficoltà ad effettuare l'azione sopra descritta, determina il grado di reversibilità (o irreversibilità) di un riduttore.

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.

*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.*

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

## Potenza in entrata

$P_1$  [kW]

## Input power

È la potenza motore applicata in entrata al riduttore e riferita alla velocità  $n_1$ .

Può essere calcolata come segue:

*This is the power applied by the motor at the gearbox input in reference to speed  $n_1$ .*

*It can be calculated with the following formula:*

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

**Fattore di servizio**

**sf**

**Service factor**

È una grandezza adimensionale che indica il sovradimensionamento da applicare ad una determinata motorizzazione per garantire la resistenza agli urti e la durata richiesta.

Le tabelle di catalogo offrono una vasta scelta di motorizzazioni con fattori di servizio differenziati che possono soddisfare la maggior parte delle applicazioni più o meno gravose.

Per una corretta interpretazione dei valori del fattore di servizio sf riportati a fianco di ogni selezione proposta, riportiamo nelle tabelle seguenti i valori indicativi attribuiti alle classi di carico A, B, C e alla durata di funzionamento giornaliero h/d e al numero di avviamenti/ora.

Definendo la classe di carico a cui riferire l'applicazione, si ricercherà nella tabella il corrispondente valore di sf da utilizzare nella scelta della motorizzazione più idonea.

*This value indicates how a certain drive system is to be over-sized in order to assure the requested service and stand up to shocks.*

*The tables given in the catalogue offer a wide range of drive systems with different service factors able to satisfy most types of applications. To correctly understand service factor values sf given for each item, approximate values for load classes A, B and C along with the number of hours of daily operation h/d and number of start-ups/hours need to be known.*

*Once the load class required for the application has been determined, locate corresponding value sf to be used when selecting the most suitable drive system.*

<b>A - Uniforme</b>	$fa \leq 0.3$
<b>B - Medio</b>	$fa \leq 3$
<b>C - Forte</b>	$fa \leq 10$

<b>A - Uniform</b>	$fa \leq 0.3$
<b>B - Moderate shocks</b>	$fa \leq 3$
<b>C - Heavy shocks</b>	$fa \leq 10$

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

- Je (kgm<sup>2</sup>) momento d'inerzia esterno ridotto all'albero motore.
- Jm (kgm<sup>2</sup>) momento d'inerzia motore.

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

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

- Je (kgm<sup>2</sup>) moment of reduced external inertia at the drive-shaft.
- Jm (kgm<sup>2</sup>) moment of inertia of motor.

If  $fa > 10$  call our Technical Service.

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

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

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

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

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

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

Esempio applicazione:

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

Application example:

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

## Carico radiale

**R; R<sub>2</sub> [N]**

## Radial load

L'applicazione sull'albero in uscita del riduttore di pignoni, pulegge, ecc. determina delle forze radiali che debbono necessariamente essere considerate per evitare sollecitazioni eccessive con il rischio di danneggiamenti del riduttore stesso.

Il calcolo del carico radiale esterno R agente sull'albero del riduttore può essere determinato come segue:

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

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

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

dove:

**d [mm]** diametro primitivo del pignone o della puleggia

**kr** coefficiente riferito al tipo di trasmissione:

**kr = 1.4** ruota per catena

**kr = 1.1** ingranaggio

**kr = 1.5 - 2.5** puleggia per cinghia a V

where:

**d [mm]** diameter of the pinion or pulley

**kr** coefficient in relation to type of transmission:

**kr = 1.4** sprocket wheel

**kr = 1.1** gear

**kr = 1.5 - 2.5** pulley for V belts

È opportuno evidenziare che i valori di R<sub>2</sub> sono riferiti a carichi agenti sulla mezzeria dell'albero lento (considerando l'albero sporgente) per cui il confronto dovrà essere effettuato nelle medesime condizioni.

*Keep in mind that values R<sub>2</sub> 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; A<sub>2</sub> [N]**

## Axial load

A volte, unitamente al carico radiale, può essere presente anche una forza A che agisce assialmente sull'albero uscita; in questo caso considerare che il carico assiale ammissibile A<sub>2</sub> sull'albero è da considerare:

*At times, along with the radial load, force A may be present that acts axially on the output shaft. In this case, keep in mind allowable axial load A<sub>2</sub> that can be applied on the shaft is:*

$$A_2 = R_2 \cdot 0.2$$

Nel caso in cui il valore del carico assiale A agente sull'albero risultasse superiore ad A<sub>2</sub> contattate il ns. Servizio Tecnico.

*If axial load A that acts on the shaft is greater than A<sub>2</sub>, contact the Technical Service.*

## Scelta dei motoriduttori

## Selecting the gearmotors

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

*To select the required gearmotor perform the procedure below:*

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

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

2. Se si conosce la potenza motore P<sub>1</sub> [kW] richiesta, passare al punto 3); se è nota la coppia in uscita M<sub>2</sub> richiesta è necessario calcolare la potenza motore P<sub>1</sub> con la formula:

*2. If the required motor power output P<sub>1</sub> [kW] is known, go to item 3); if the required output torque M<sub>2</sub> is known, determine motor output P<sub>1</sub> by using the following formula:*

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


dove Rd è il rendimento dinamico e n<sub>2</sub> il numero di giri richiesti in uscita al motoriduttore.

*where Rd stands for the dynamic efficiency and n<sub>2</sub> indicates the required output rpm of the gearmotor.*

3. Nelle tabelle dei dati tecnici ricercare la motorizzazione in cui sia  $P_1$  maggiore o uguale a  $P$  e con riferimento ad una velocità  $n_2/n_{2max}$  prossima a quella desiderata, scegliere la motorizzazione in cui il fattore di servizio  $sf$  indicato risulta uguale o superiore a quello ricavato al punto 1).

3. Use the specification chart to search for the power unit where  $P_1$  is greater than or equal to  $P$  with a speed  $n_2/n_{2max}$  that approximates the desired one. Choose a power unit where the indicated service factor  $sf$  is equal to or greater than that calculated at point 1).

### ECM

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>140</b>						
(3000 min <sup>-1</sup> )	<b>600</b>	2.0	5.0	5	<b>ECM100/026</b>	120/240/24E
	<b>400</b>	2.9	3.8	7.5		
	<b>300</b>	3.8	2.9	10		
	<b>200</b>	5.5	2.0	15		
	<b>150</b>	7.1	1.5	20		
	<b>100</b>	10	1.2	30		
	<b>75</b>	12	0.9	40		
	<b>60</b>	14	0.7	50		
	<b>50</b>	13	0.7	60		

Esempio / Example:

#### Applicazione / Application:


Carrello automatico / Automatic carriage

$P_1$  : 140 W  
 $sf$  : 1.5  
 $n_2$  : 150 min<sup>-1</sup>

Motorizzazione scelta / Power unit selected:

**ECM100/026, i = 20,  $P_1$  = 140 W, sf = 1.5**

### ECMP

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>250</b>						
(3000 min <sup>-1</sup> )	<b>50</b>	35	2.3	60	<b>ECMP180/063/050</b>	120/240/24E
	<b>40</b>	42	1.8	75		
	<b>33</b>	48	2.1	90		
	<b>25</b>	58	1.5	120		
	<b>20</b>	69	1.2	150		
	<b>17</b>	77	1.0	180		
	<b>13</b>	90	0.8	240		

Esempio / Example:

#### Applicazione / Application:

Carrello automatico / Automatic carriage

$M_2$  : 58 Nm  
 $sf$  : 1.5  
 $n_2$  : 25 min<sup>-1</sup>

Motorizzazione scelta / Power unit selected:

**ECMP180/063/050, i = 120,  $P_1$  = 250 W, sf = 1.5**

## 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

## 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*

**MINI**  **TECNO**™  
**small** but strong

**CL**

Motoriduttori a vite senza fine  
Wormgearmotors

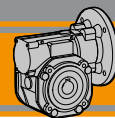


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®





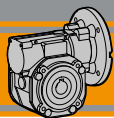




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Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile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

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# CL

## Motoriduttori a vite senza fine Wormgearmotors



### Caratteristiche tecniche

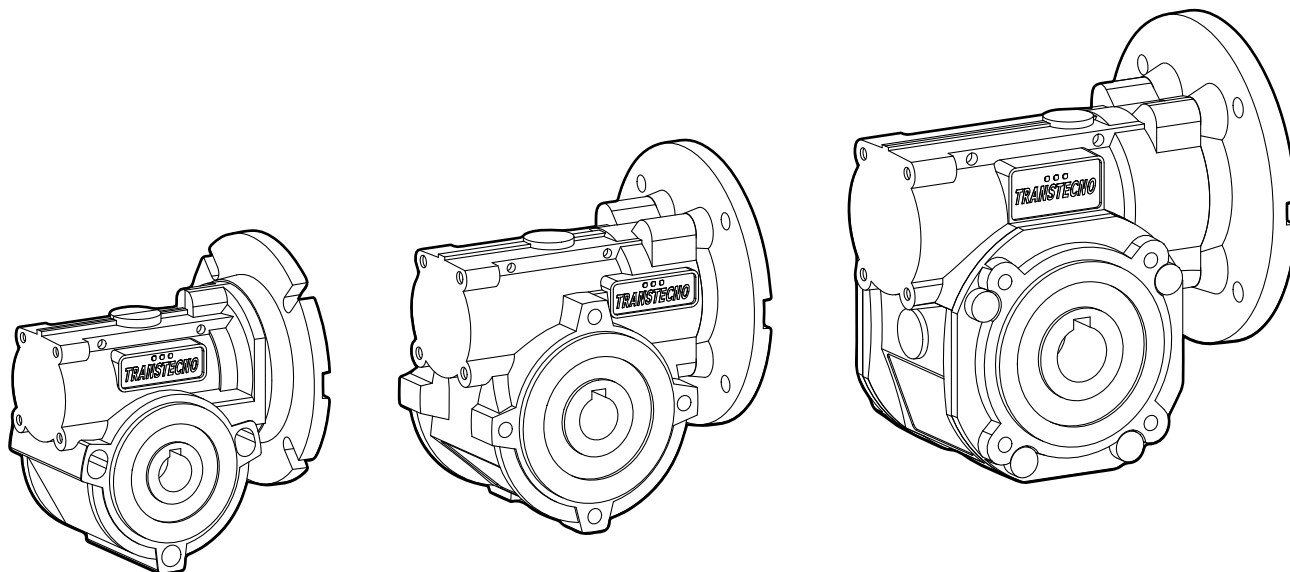
### Technical features

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

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:

Le caratteristiche principali della serie CL sono:

- Carcassa in alluminio
- Lubrificazione permanente con olio sintetico
- Die-cast aluminium housing
- Permanent synthetic oil long life lubrication



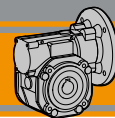
### Designazione

### Classification

## RIDUTTORI A VITE SENZA FINE / WORMGEARBOXES

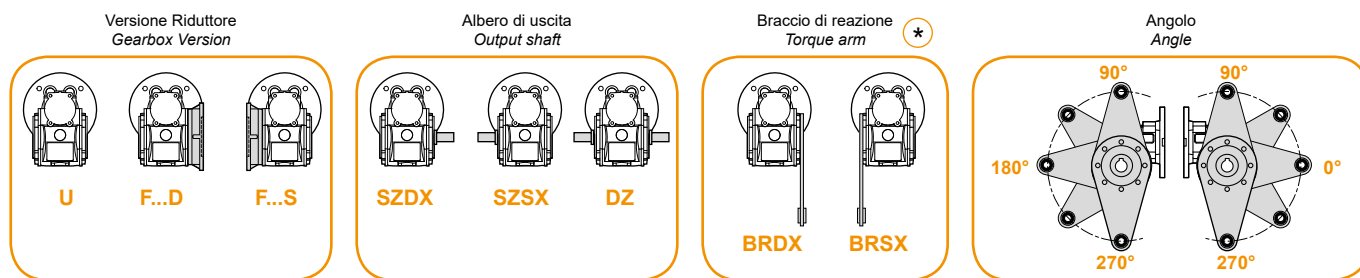
RIDUTTORE / GEARBOX

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
<b>CL</b> 	<b>026</b> <b>026 (D11)</b> <b>026 (D14)</b> <b>030</b> <b>040</b>	<b>U</b> <b>F...</b>	Vedere tabella See tables	<b>56..</b> — <b>71..</b>	<b>B5</b> <b>B14</b>	<b>SZDX</b> <b>SZSX</b> <b>DZ</b>	<b>BRDX</b> <b>BRSX</b> 	<b>0°</b> <b>90°</b> <b>180°</b> <b>270°</b>	<b>VS</b>
<b>CLIS</b> 									



## Designazione

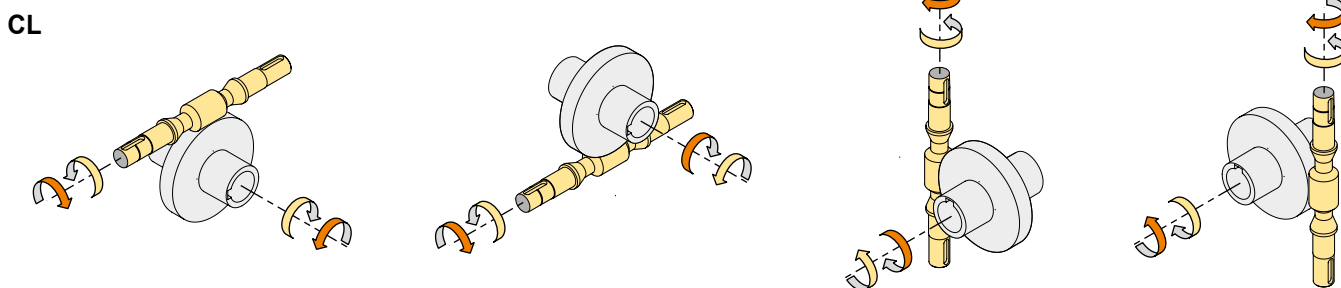
## Classification



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

## Sensi di rotazione

## Direction of rotation



## Simbologia

## Symbols

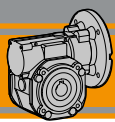
$n_1$	[ $\text{min}^{-1}$ ]	Velocità in ingresso / <i>Input speed</i>	$sf$	Fattore di servizio / <i>Service factor</i>
$n_2$	[ $\text{min}^{-1}$ ]	Velocità in uscita / <i>Output speed</i>	$Rd$	% Rendimento dinamico / <i>Dynamic efficiency</i>
$i$		Rapporto di riduzione / <i>Ratio</i>	$Rs$	% Rendimento 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 <math>P_1</math></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 <math>P_{n1}</math></i>	$\beta$	Angolo d'elica / <i>Helix angle</i>

## Lubrificazione

## Lubrication

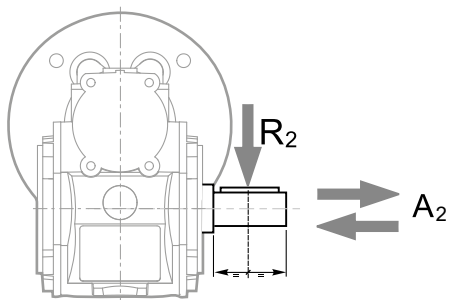
Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

*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

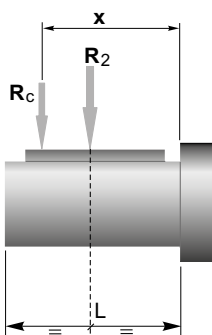


$A_2 = R_2 \times 0.2$

n <sub>2</sub> [min <sup>-1</sup> ]	R <sub>2</sub> [N]		
	CL026	CL030	CL040
187	400	674	1264
140	490	743	1392
93	580	851	1596
70	610	936	1754
56	610	1008	1890
47	610	1069	2004
35	610	1179	2210
28	610	1270	2381
23	610	1356	2542
18	610	1471	2759
14	610	1600	3000

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

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



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

$$R \leq R_c$$

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

	CL		
	026	030	040
a	56	65	84
b	43	50	64
R <sub>2MAX</sub>	610	1600	3000

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'

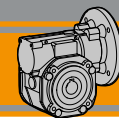
Rendimento

Efficiency

	n <sub>1</sub> [min <sup>-1</sup> ]	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		
CL030		Rs	72	71	68	61	56	46	41	36	34			
	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
CL040		Rs	72	67	63	55	50	43	39	35	31	27	23	21
	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	




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




### Dati tecnici

$n_1$  1400 min<sup>-1</sup>

### Technical data

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$
<b>CLIS026</b>				
	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

<b>CLIS030</b>				
	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

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$
<b>CLIS040</b>				
	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

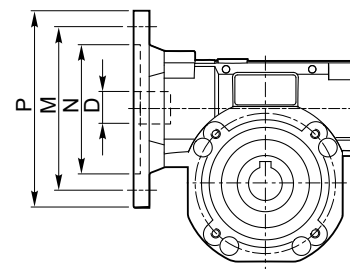
Nota:  
 $Pn_1$  è la potenza meccanica.  
La potenza applicabile è ridotta del fattore termico.  
Per maggiori dettagli consultare il nostro Servizio Tecnico.

Note:  
 $Pn_1$  is an input mechanical power which must be reduced by the heating factor in order to get the relevant one. For more details please contact our Technical Service.

### Motori applicabili

### IEC Motor adapters

	IEC	N	M	P	D	$i$																		
						5	7.5	10	15	20	25	30	40	50	60	80	100							
<b>CL026</b>	56B14	50	65	80	9																			
<b>CL030</b>	63B5	95	115	140	11																			
	63B14	60	75	90																				
	56B5	80	100	120	9																			
	56B14	50	65	80																				
<b>CL040</b>	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	BS	B	B	B	B						
	56B14	50	65	80																				

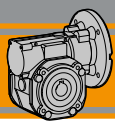


N.B.  
Le aree evidenziate in grigio indicano l'applicabilità della corrispondente grandezza motore.  
N.B. Grey areas indicate motor inputs available on each size of unit.

**B/BS = Boccola di riduzione in acciaio**

**B/BS = Metal shaft sleeve**

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



**CL**

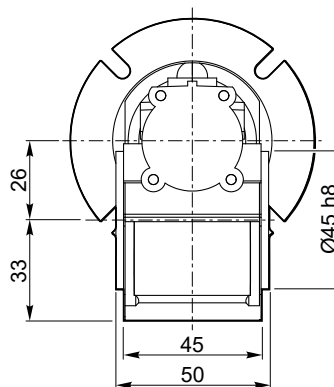
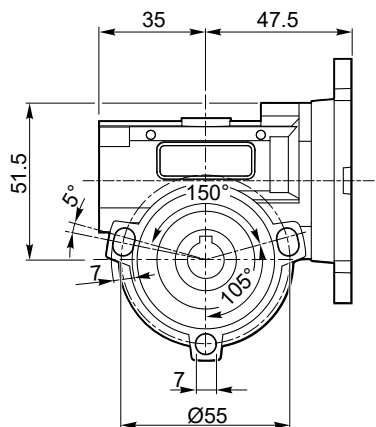
Motoriduttori a vite senza fine  
Wormgearmotors

**MINI**  
TECNO

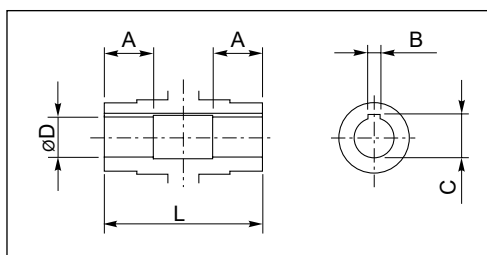
Dimensioni

Dimensions

**CL 026 U**



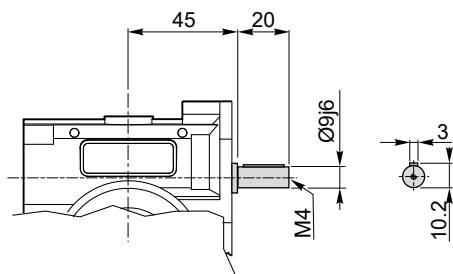
**Kg**  
0.7



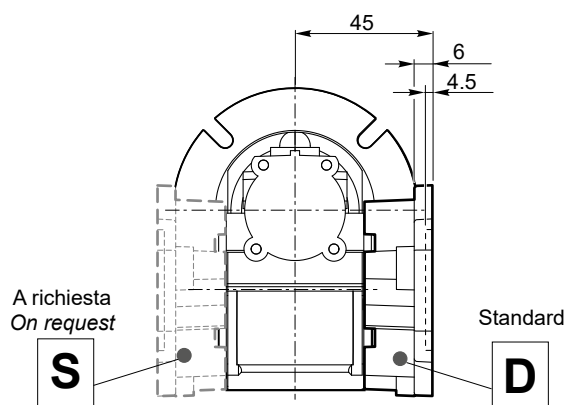
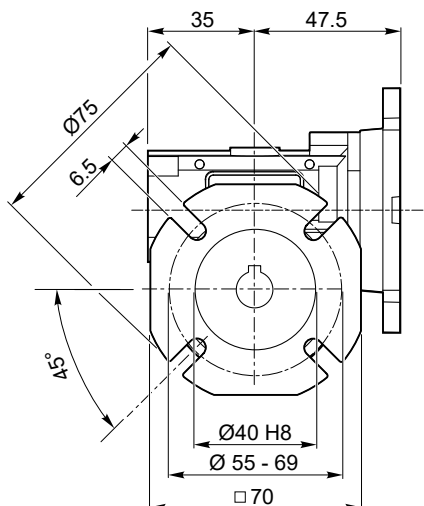
Albero lento cavo / Hollow output shaft

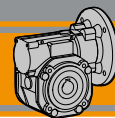
Grandezza Size	Ø D H8	L	A	B	C
CL 026 (D14)	14	50	15	5	16.2
CL 026	12	50	15	4	13.8
CL 026 (D11)	11	50	15	4	12.8

**CLIS 026 ..**



**CL 026 F**

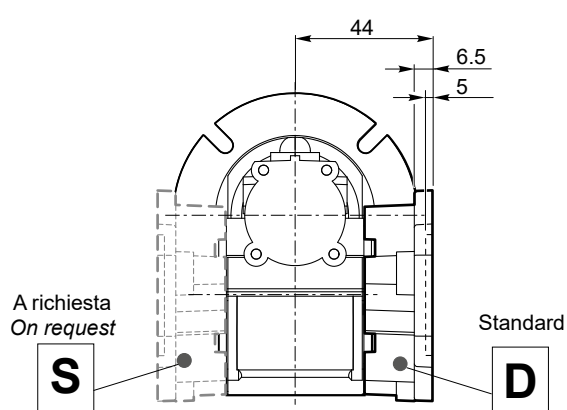
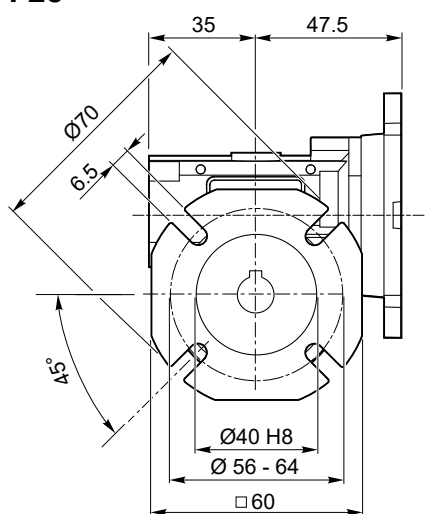




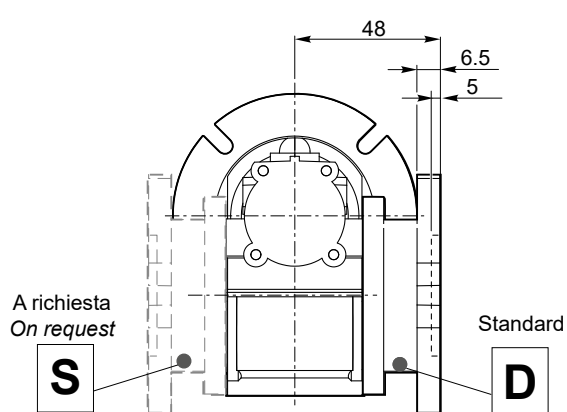
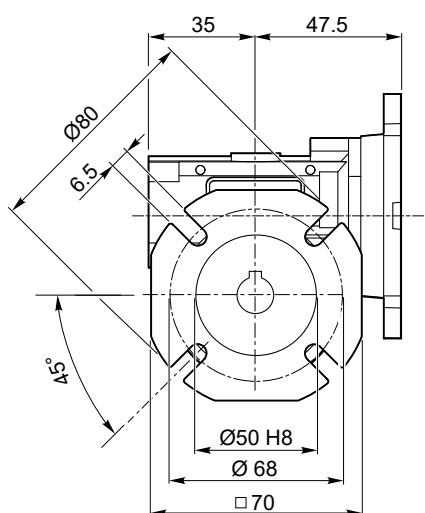
**Dimensioni**

**Dimensions**

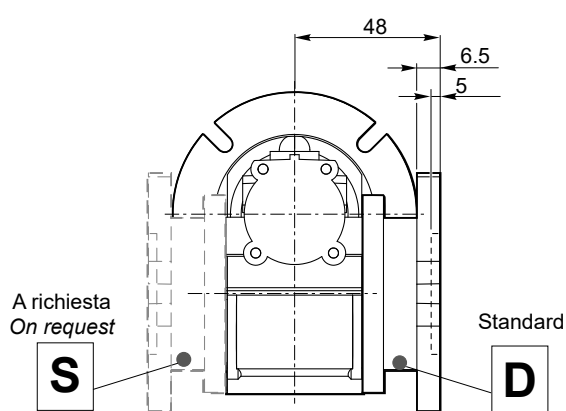
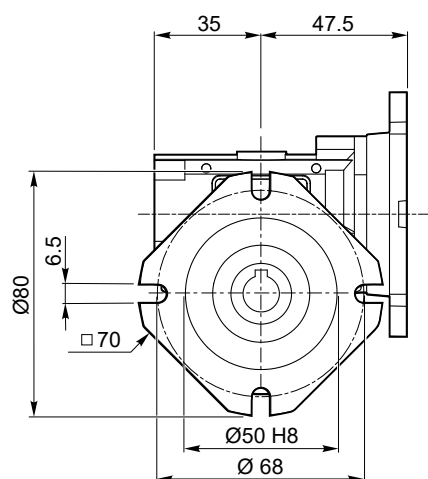
**CL 026 F28**

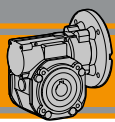


**CL 026 F30**



**CL 026 F30C**

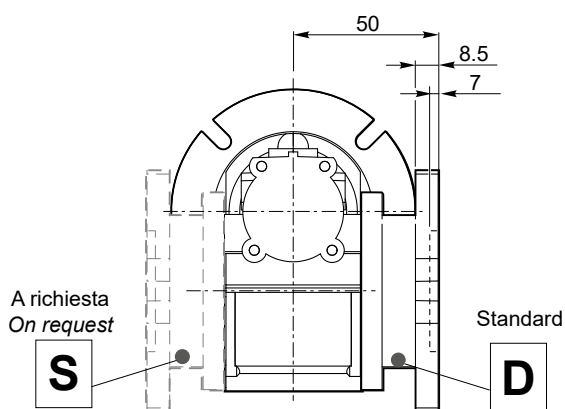
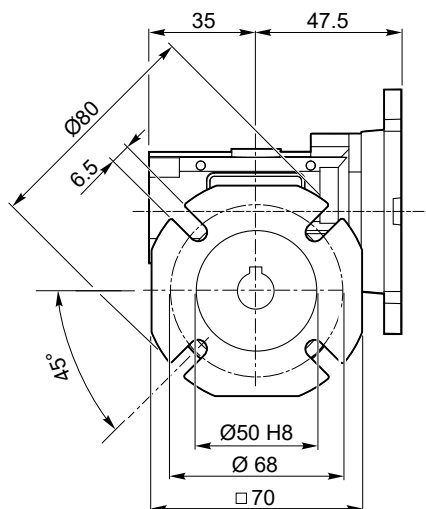




Dimensioni

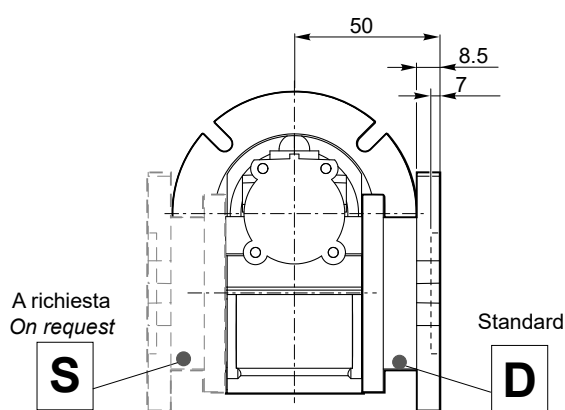
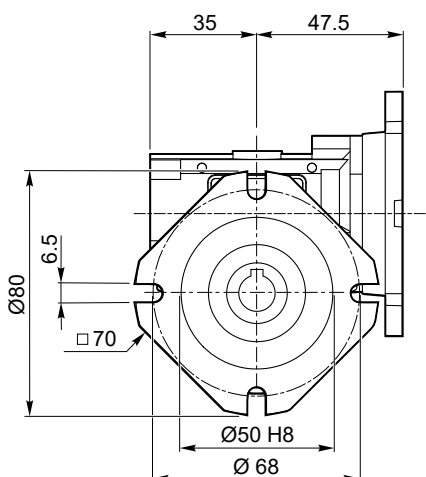
Dimensions

CL 026 F30S



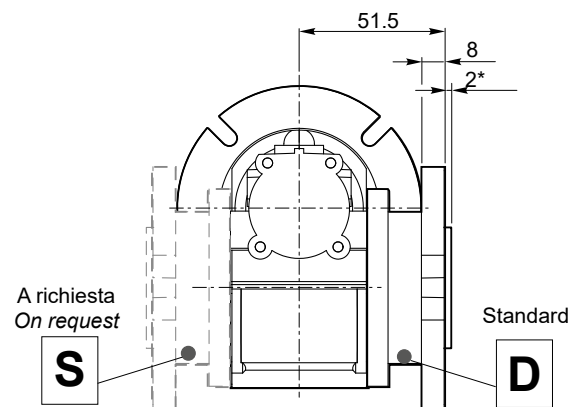
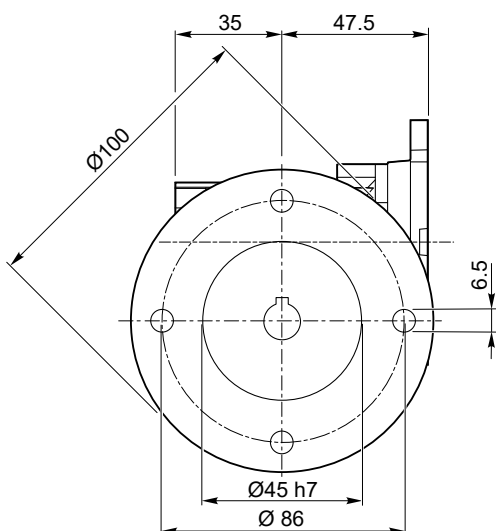
Nota: Esecuzione con flangia uscita F30 e spessore 2mm  
Note: Made with flange F30 and spacer with 2mm thickness

CL 026 F30SC



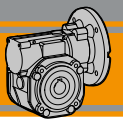
Nota: Esecuzione con flangia uscita F30C e spessore 2mm  
Note: MAde with flange F30C and spacer with 2mm thickness

CL 026 F100



(\*): Centraggio maschio  
(\*): Male centering diameter

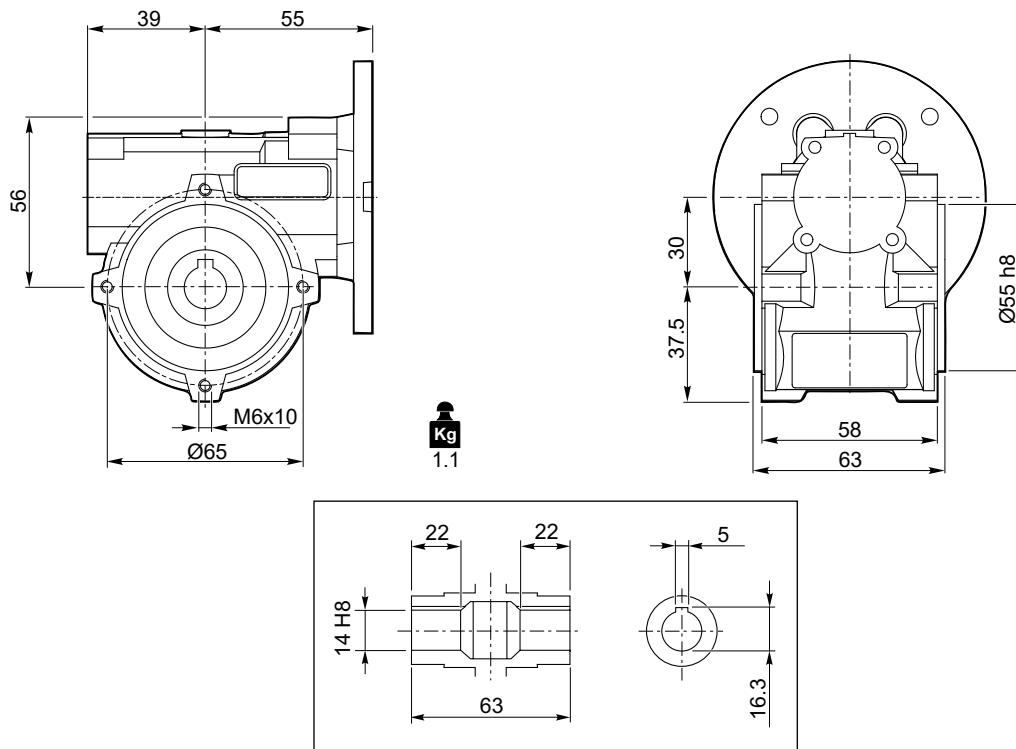




**Dimensioni**

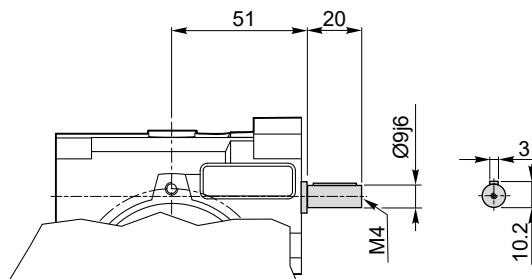
**Dimensions**

**CL 030 U**

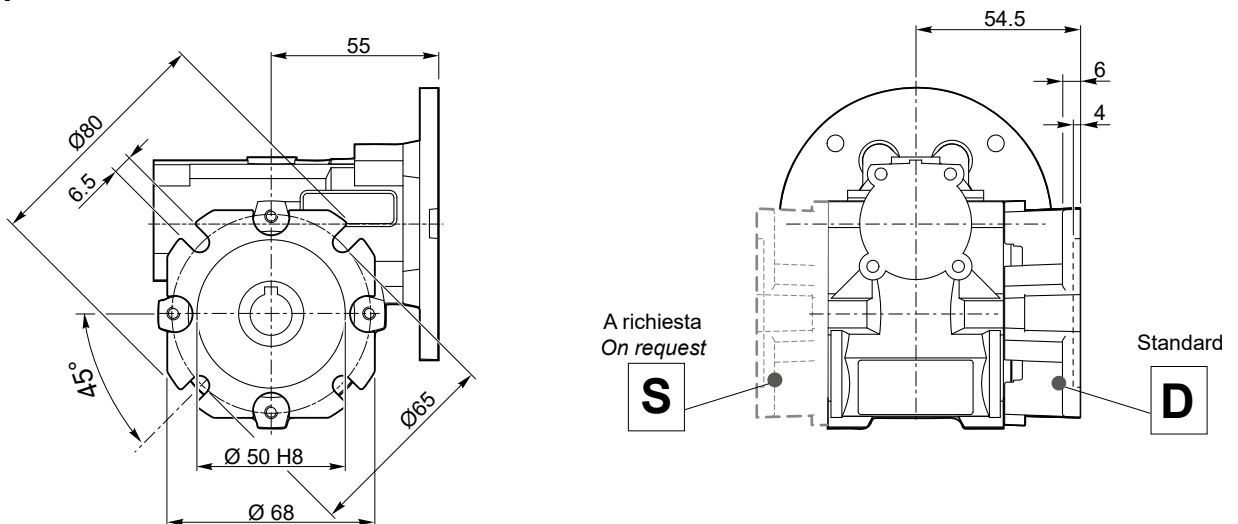


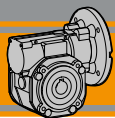
Albero lento cavo / Hollow output shaft

**CLIS 030 ..**



**CL 030 F**

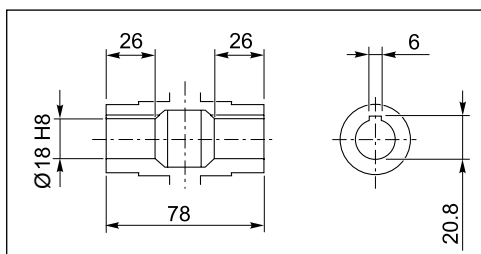
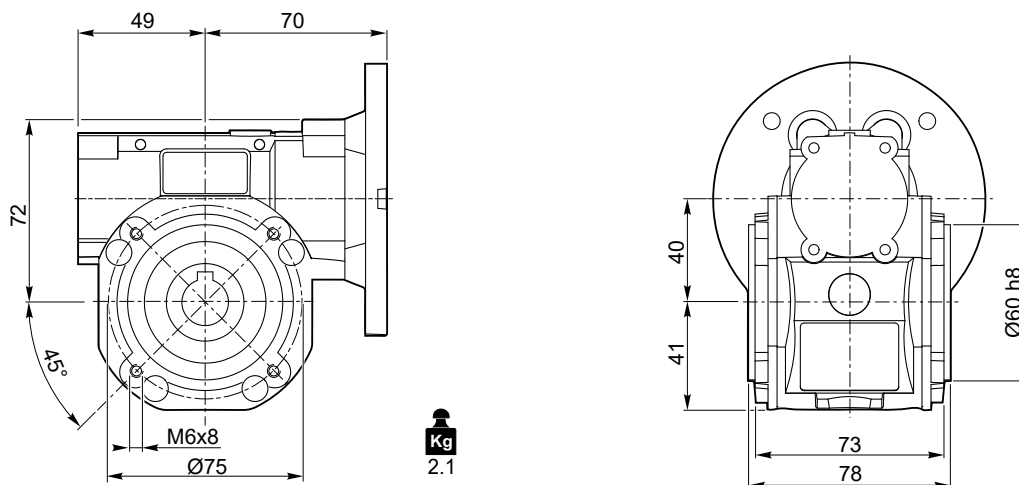




Dimensioni

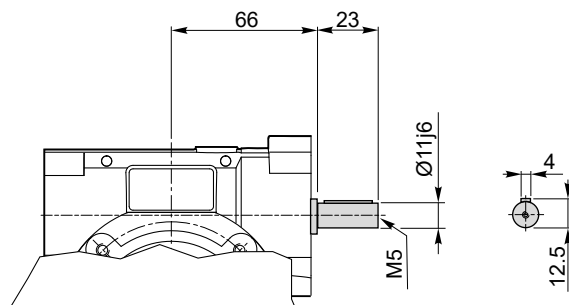
Dimensions

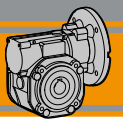
CL 040 U



Albero lento cavo / Hollow output shaft

CLIS 040 ..

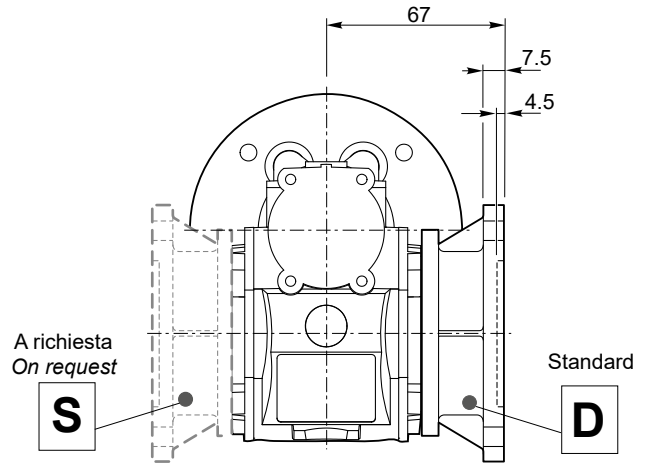
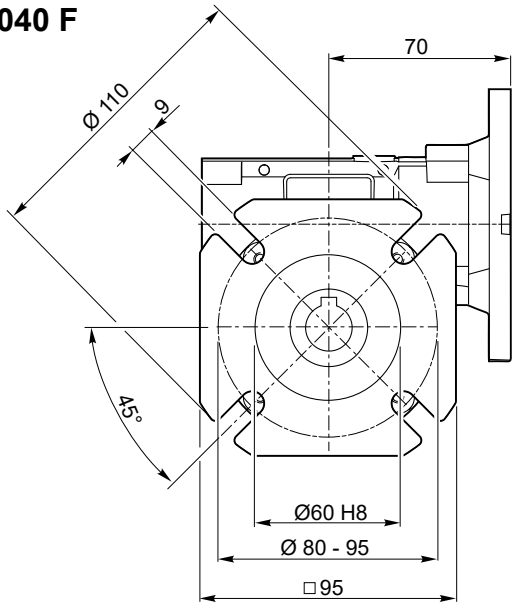




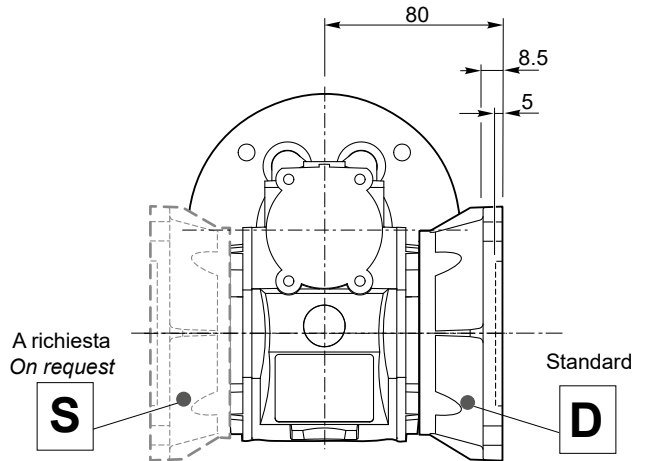
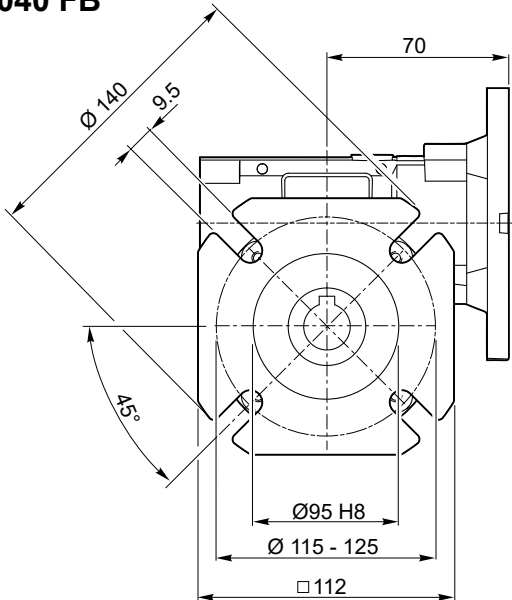
**Dimensioni**

**Dimensions**

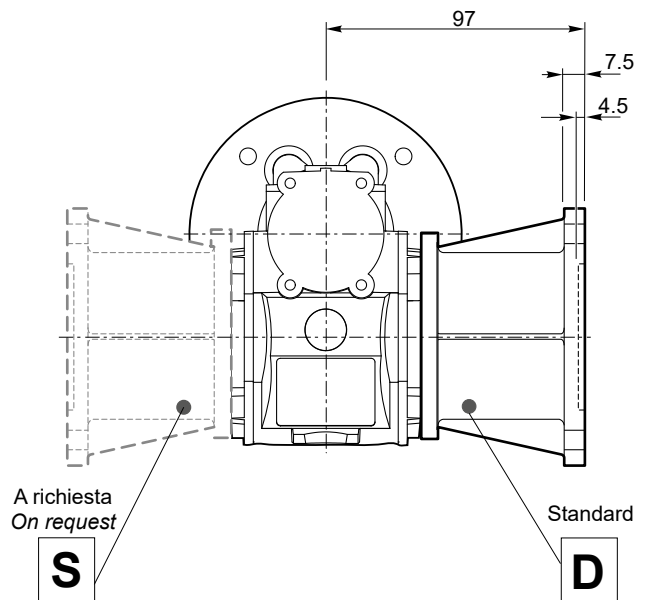
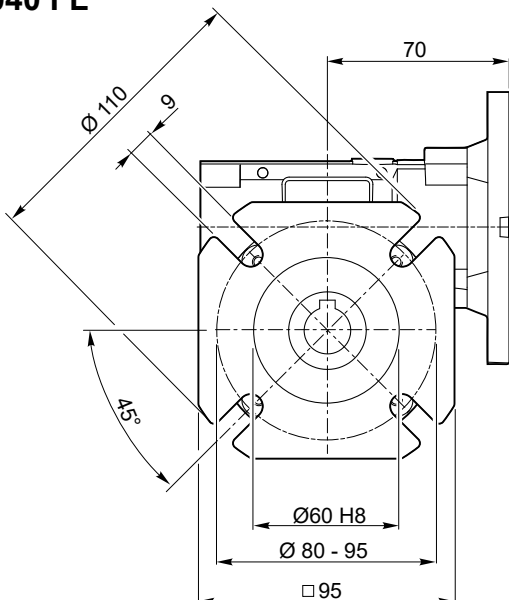
**CL 040 F**

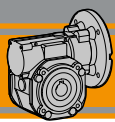


**CL 040 FB**



**CL 040 FL**





CL

Motoriduttori a vite senza fine  
Wormgearmotors

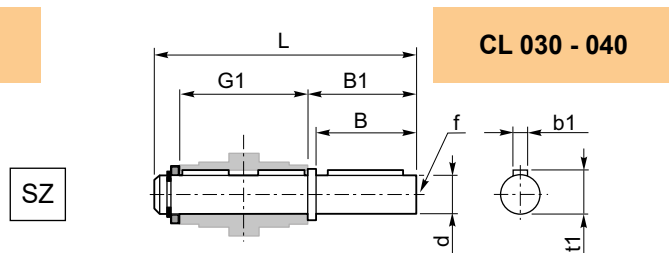
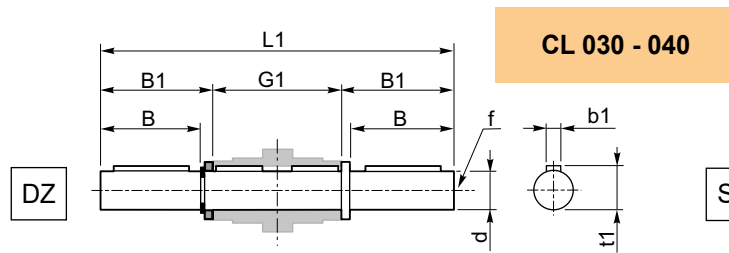


Accessori

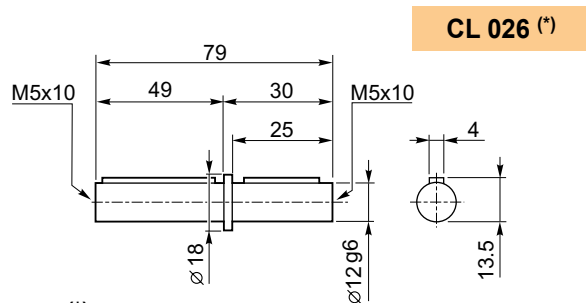
Accessories

Albero lento semplice e doppio

Single and double output shaft



CL	d <sub>h7</sub>	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

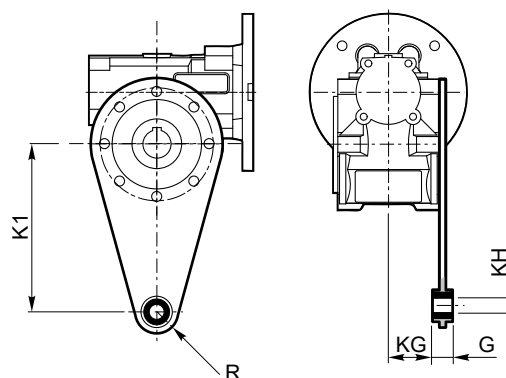


(\*)  
Nota: disponibile solo per cavo uscita Ø12  
Note: available for output hollow shaft Ø12 only

Braccio di reazione

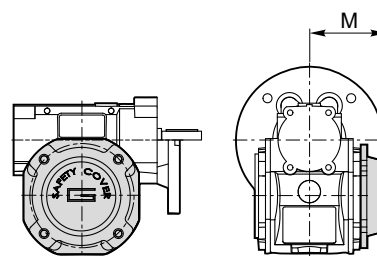
Torque arm

CL	K1	G	KG	KH	R
030	85	14	23	8	15
040	100	14	31	10	18



SC - Safety Cover

CL	M
030	47
040	54.5

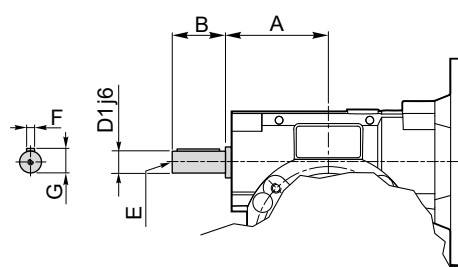


Opzioni

Options

VS - Vite sporgente / Extended input shaft

CL	A	B	D <sub>1j6</sub>	E	F	G
030	45	20	9	M4	3	10.2
040	53	23	11	M5	4	12.5

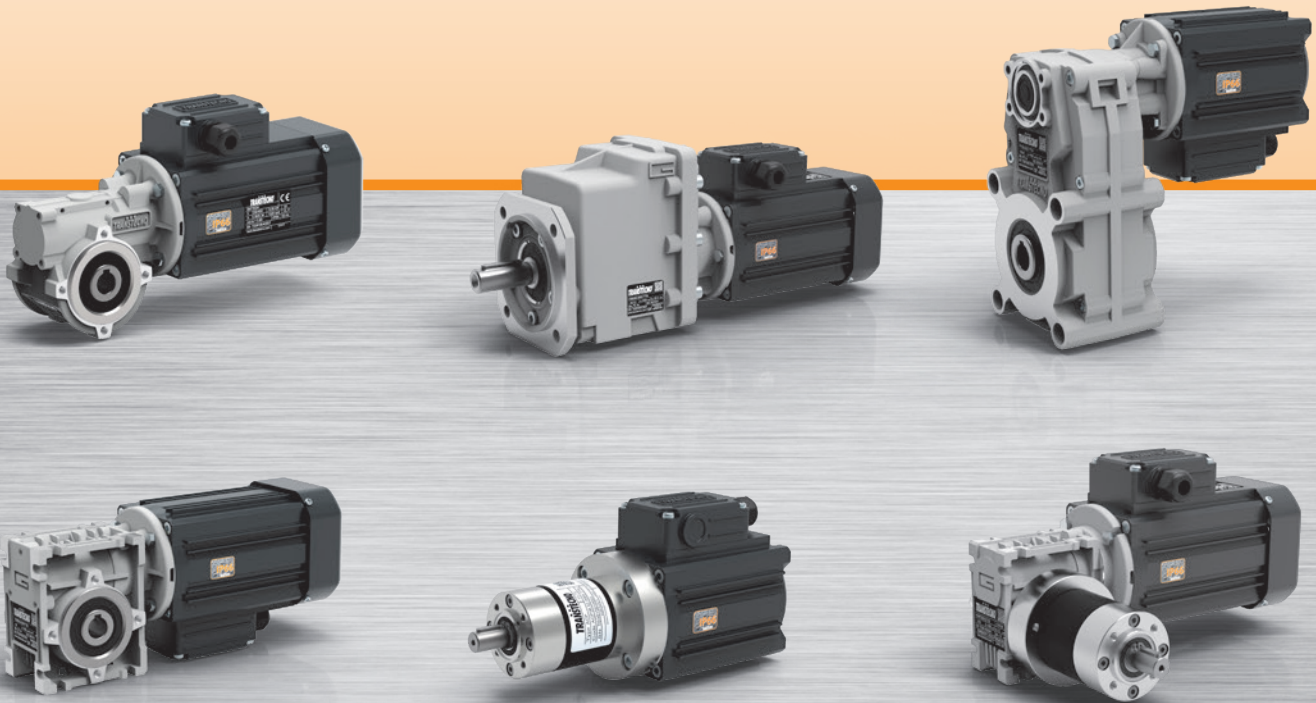


Costruito su richiesta  
Built on request

**MINI**  **TECNO**™  
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Motoriduttori CA  
AC gearmotors













AC



**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®





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**MINI**  **TECNO**™  
**small** but strong

**SM**



**Motori elettrici asincroni CA**  
**AC asynchronous electric motors**

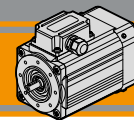


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AC

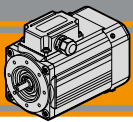




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Designazione	<i>Classification</i>	<b>AA2</b>
Simbologia e formule	<i>Symbols and formulas</i>	<b>AA3</b>
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**Caratteristiche tecniche**

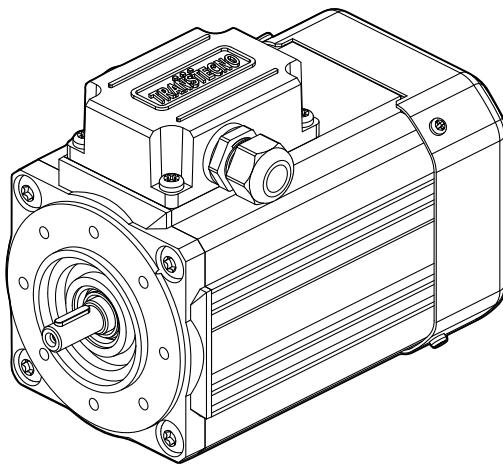
**Technical characteristics**

I motori delle serie SMT ed SMM hanno le seguenti caratteristiche principali:

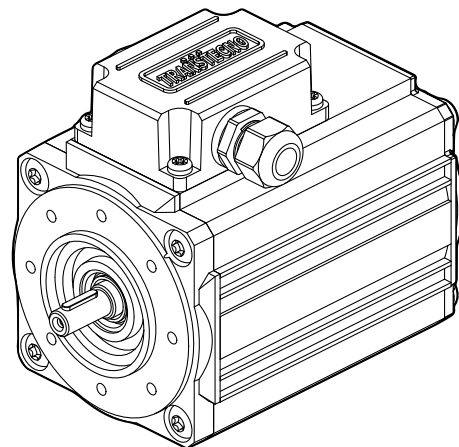
SMT and SMM motor range has the following main features:

- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcasa estrusa in alluminio anodizzato nero
- Motore elettrico AC con grado di protezione IP66
- Rumorosità e vibrazioni contenute
- Isolamento termico di classe F
- Flangia motore IEC B14
- Temperatura ambiente: -20°C / + 40°C
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56,63 e 71
- SMT56, SMT63 e SMT71 adatti al funzionamento con alimentazione da inverter

- Compact design
- AC single phase and three phase motors available
- Extruded aluminum housing black anodized
- AC electric motor in IP66 protection Standard
- Low noise and vibrations
- Class F insulation Standard
- Motor flange IEC B14
- Ambient temperature: -20°C / +40°C
- Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available
- Thermal protection for motor sizes 56, 63 and 71
- SMT56, SMT63 and SMT71 are suitable for running with inverter



**SM .. TEFC**

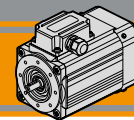


**SM .. TENV**

**Designazione**

**Classification**

SMT	63	2	4	B14	230-400 V	50 Hz	TEFC
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling
<b>SMT</b> trifase three phase	vedi tabelle see tables	<b>1-2-3-4-5</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50Hz</b> <b>60Hz</b>	<b>TEFC</b> <b>TENV</b>
SMM	63	2	4	B14	230 V	50 Hz	TEFC
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling
<b>SMM</b> monofase single phase	vedi tabelle see tables	<b>1-2-3-4</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50Hz</b>	<b>TEFC</b> <b>TENV</b>


**Simbologia e formule**
**Symbols and formulas**

$P_n$	[kW]	Potenza nominale	Rated power
$I_n$	[A]	Corrente nominale (a 400V)	Rated current (at 400V)
$M_n$	[Nm]	Coppia nominale	Rated torque
$n_n$	[rpm]	Velocità nominale	Rated speed
$M_s / M_n$		Rapporto coppia spunto / coppia nominale	Ratio start torque / rated torque
$M_k / M_n$		Rapporto coppia massima / coppia nominale	Ratio max torque / rated torque
$I_s / I_n$		Rapporto corrente di spunto / corrente nominale	Ratio start current / rated current
$\cos\varphi$		Fattore di potenza al carico nominale	Power factor at rated torque load
$\eta$		Rendimento al carico nominale	Efficiency at rated torque load
Potenza Power	[HP]	Potenza [kW] x 1.34 circa	Power [kW] x 1.34 (about)
Potenza resa $P_n$ $P_n$ output power	[kW]	Potenza assorbita x $\eta$	Absorbed power x $\eta$
Pot. assorbita Absorbed power	[kW]	$\frac{\sqrt{x} \cdot I \cdot PF}{1000}$ (monofase)	$\frac{\sqrt{x} \cdot I \cdot PF}{1000}$ (singlephase)
		$\frac{\sqrt{x} \cdot I \cdot \sqrt{3} \cdot PF}{1000}$ (trifase)	$\frac{\sqrt{x} \cdot I \cdot \sqrt{3} \cdot PF}{1000}$ (threephase)
$I_n$ (230 V)		$I_n$ (400 V) x $\sqrt{3}$	$I_n$ (400 V) x $\sqrt{3}$

**Dati tecnici**
**Technical data**
**Motori trifase serie SMT / SMT Series three phase motors**

 poli / poles **4**

SMT	$P_n$ [kW]	$M_n$ [Nm]	$n_n$ [min <sup>-1</sup> ]	$I_n$ (400V) [A]	$\eta$ %	$\cos\varphi$	$M_s/M_n$	$I_s/I_n$	$M_k/M_n$	TEFC Servizio Duty	TENV Servizio Duty	Kg
5014	0.04	0.30	1290	0.25	34.0	0.68	1.65	1.75	1.70	S1 100%	S3 30%	2.3
5024	0.06	0.44	1300	0.35	35.7	0.69	1.55	1.80	1.60			2.7
5034	0.09	0.65	1315	0.54	38.0	0.64	1.80	2.00	1.85			3.5
5044	0.12	0.87	1315	0.64	43.0	0.63	1.80	2.00	1.80			4.2
5624	0.09	0.64	1345	0.45	46.5	0.62	2.50	2.40	2.70			2.9
5634	0.12	0.89	1300	0.45	52.0	0.74	1.90	2.40	1.90			3.2
5644	0.18	1.26	1360	0.69	59.0	0.65	2.50	3.00	2.60			4.4
5654	0.25	1.80	1330	0.93	59.0	0.66	2.50	2.80	2.60			5.1
6324	0.18	1.26	1360	0.69	57.0	0.66	2.50	2.90	2.50			4.3
6334	0.25	1.74	1375	0.94	62.0	0.64	2.80	3.00	2.80			5.0
6344	0.37	2.60	1360	1.24	65.3	0.66	2.70	3.00	2.70			6.2
7124	0.37	2.52	1400	1.10	67.9	0.72	2.75	4.20	2.75			6.6
7134	0.55	3.76	1395	1.55	70.2	0.73	2.90	4.40	2.90			7.7
7144	0.75	5.09	1405	2.00	74.0	0.73	2.90	5.00	2.90			9.4

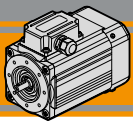
**Motori monofase serie SMM / SMM Single phase motors**

 poli / poles **4**

SMM	$P_n$ [kW]	$M_n$ [Nm]	$n_n$ [min <sup>-1</sup> ]	$I_n$ (230V) [A]	$\eta$ %	$\cos\varphi$	$M_s/M_n$	$I_s/I_n$	$M_k/M_n$	Cond/ cap [uF]	TEFC Servizio Duty	TENV Servizio Duty	Kg
5014	0.04	0.27	1390	0.60	33.4	0.88	0.74	1.6	1.55	8	S1 100%	S3 30%	2.7
5024	0.06	0.42	1380	0.89	34.3	0.85	0.76	1.7	1.50	12			3.5
5034	0.09	0.63	1375	1.10	40.0	0.89	0.80	1.7	1.45	16			4.2
5624	0.09	0.63	1370	0.82	48.6	0.98	0.72	1.7	1.45	6.3			3.3
5634	0.12	0.83	1380	1.06	50.3	0.98	0.75	2.1	1.65	9			3.9
5644	0.18	1.25	1375	1.50	53.8	0.97	0.70	2.2	1.58	12.5			5.0
6324	0.18	1.33	1290	1.50	54.5	0.97	1.00	1.8	1.45	12			5.1
6334	0.25	1.85	1290	1.95	56.8	0.98	0.93	1.9	1.50	16			6.2
7124	0.37	2.72	1300	2.78	58.6	0.99	0.77	2.0	1.35	20			7.3
7134	0.55	3.95	1330	3.54	68.9	0.98	0.66	2.4	1.40	25			9.2

**Nota:**  
 Classe di rendimento Standard IE1

**Note:**  
 Standard efficiency IE1

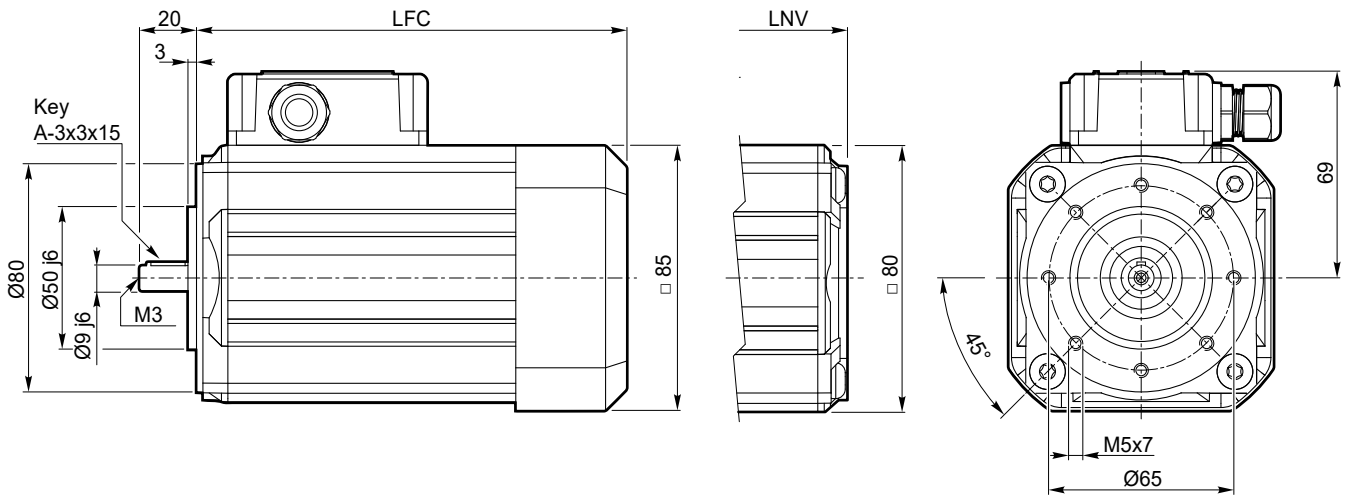


**Dimensioni motori trifase**

**Three phase motors dimensions**

**SMT50.. - B14 - TEFC**

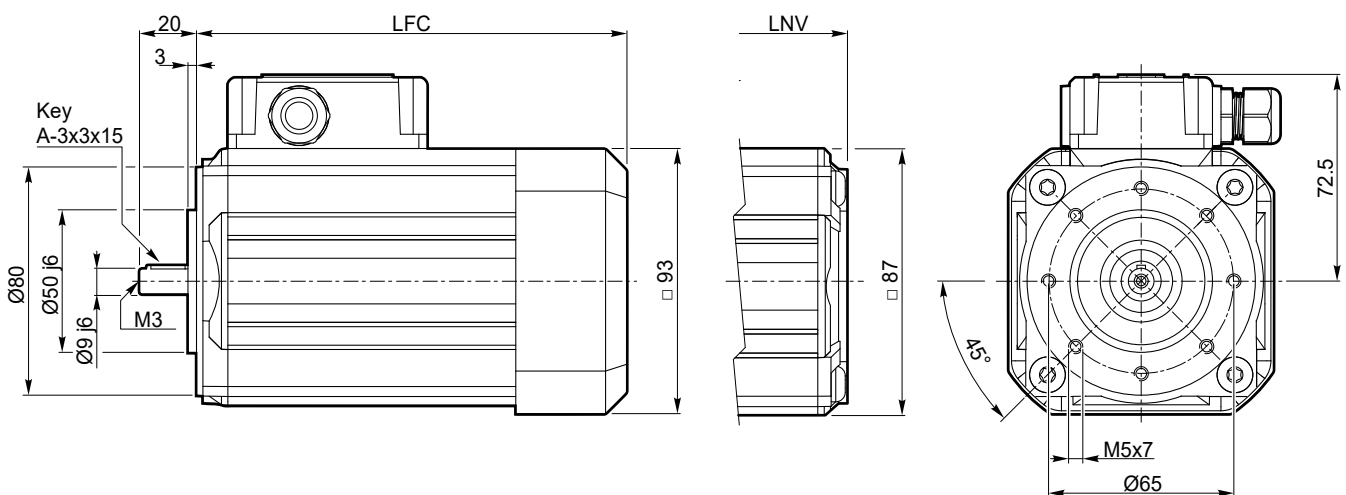
**SMT50.. - B14 - TENV S3 <sup>servizio</sup> <sub>duty</sub> 30%**



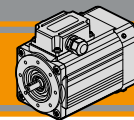
SMT	LFC	LNV
5014	135.5	108.5
5024	150.5	123.5
5034	175.5	148.5
5044	200.5	173.5

**SMT56.. - B14 - TEFC**

**SMT56.. - B14 - TENV S3 <sup>servizio</sup> <sub>duty</sub> 30%**



SMT	LFC	LNV
5624	141	117
5634	151	127
5644	186	162
5654	206	182

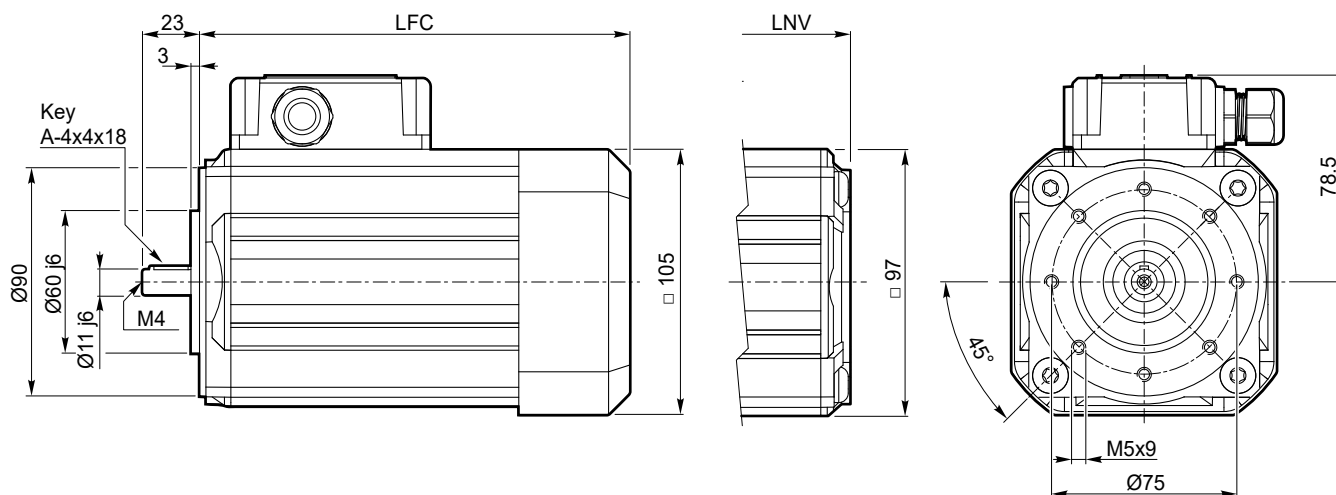


Dimensioni motori trifase

Three phase motors dimensions

SMT63.. - B14 - TEFC

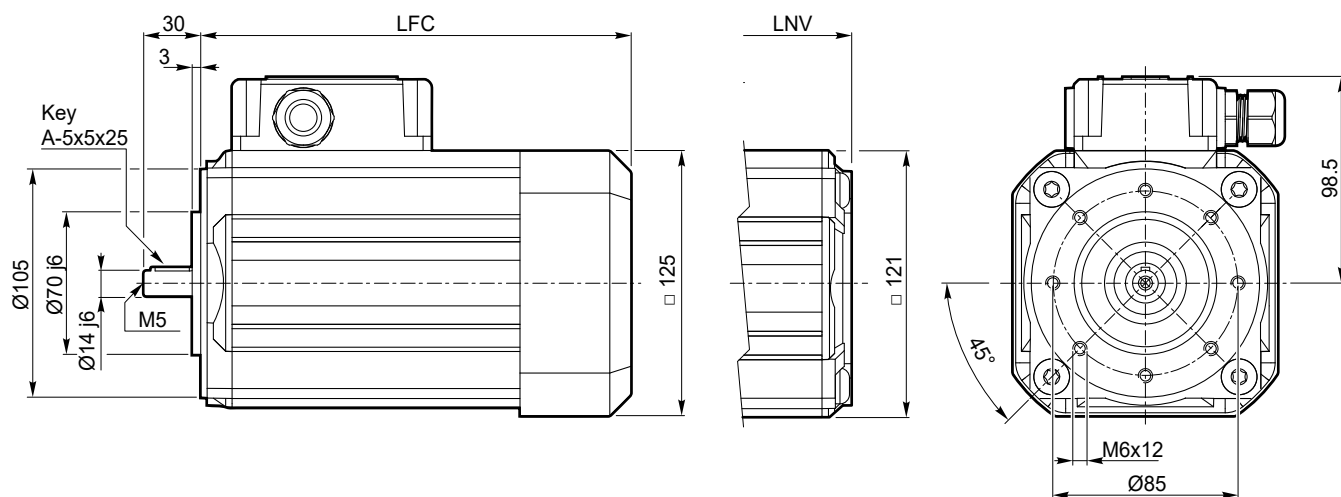
SMT63.. - B14 - TENV S3 servizio duty 30%



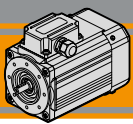
SMT	LFC	LNV
6324	165.5	138.5
6334	180.5	153.5
6344	205.5	178.5

SMT71.. - B14 - TEFC

SMT71.. - B14 - TENV S3 servizio duty 30%



SMT	LFC	LNV
7124	174	145.5
7134	189	160.5
7144	214	185.5

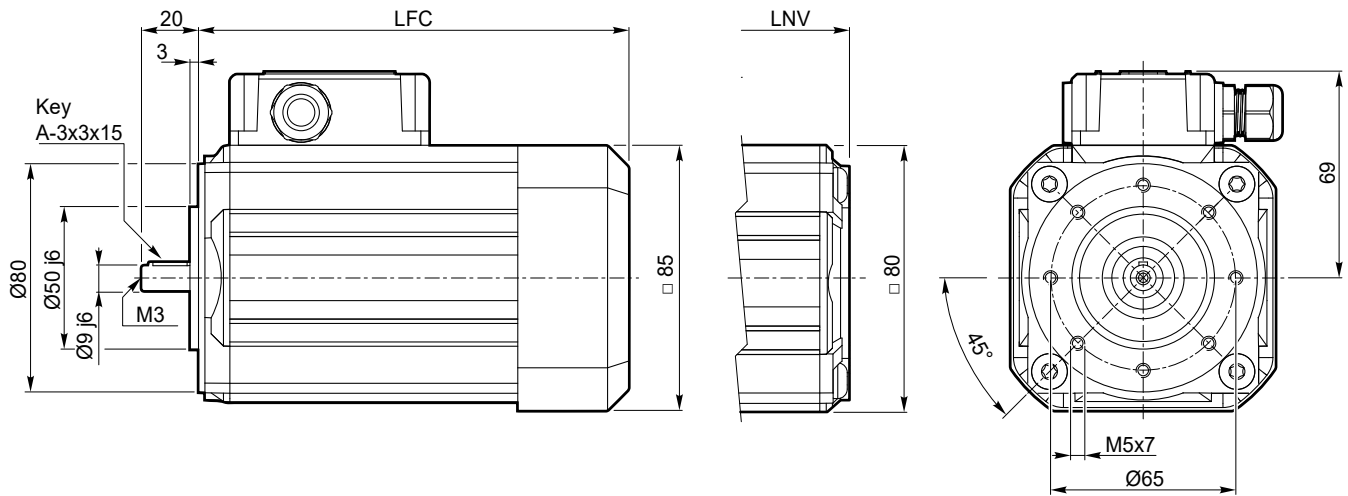


**Dimensioni motori monofase**

**Single phase motors dimensions**

**SMM50.. - B14 - TEFC**

**SMM50.. - B14 - TENV S3 servizio duty 30%**



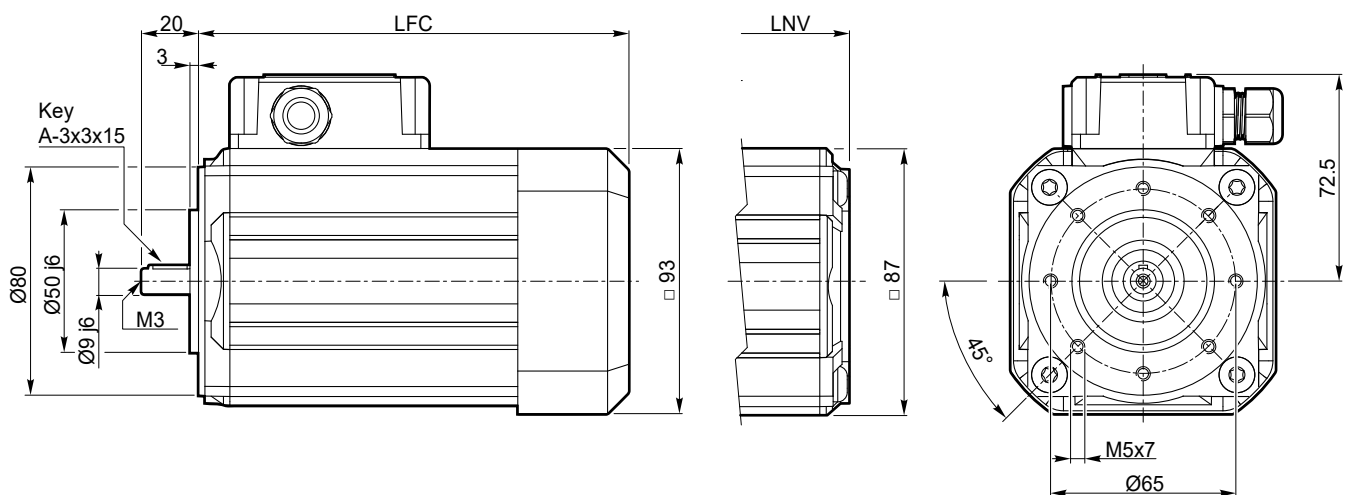
SMM	LFC	LNV
5014	150.5	123.5
5024	175.5	148.5
5034	200.5	173.5

**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately

**SMM56.. - B14 - TEFC**

**SMM56.. - B14 - TENV S3 servizio duty 30%**

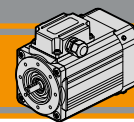


SMM	LFC	LNV
5624	151	127
5634	171	147
5644	206	182

**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately



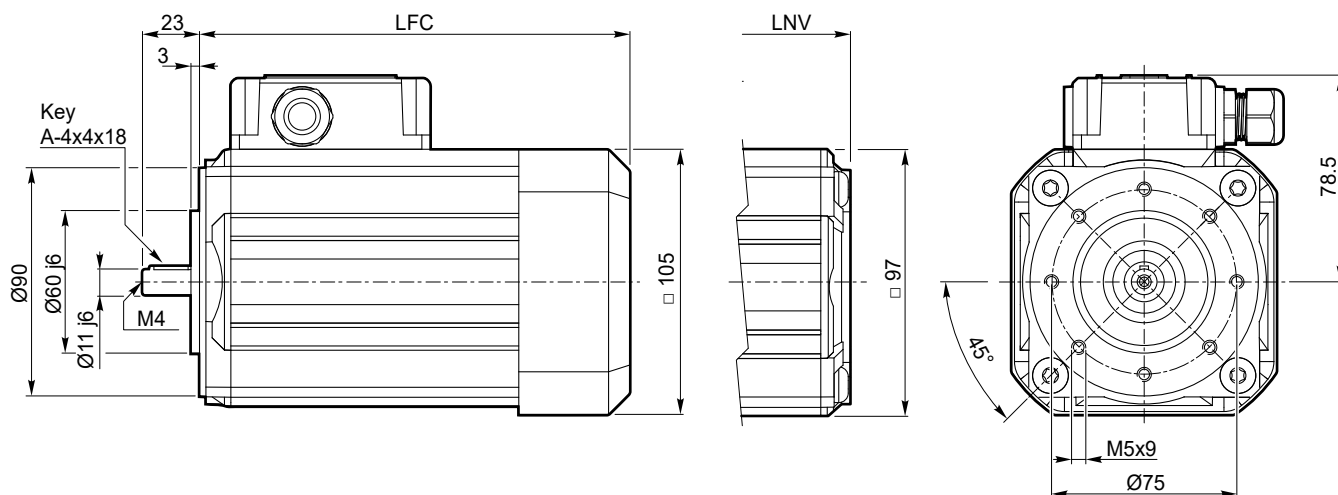


Dimensioni motori monofase

Single phase motors dimensions

**SMM63.. - B14 - TEFC**

**SMM63.. - B14 - TENV S3 servizio duty 30%**



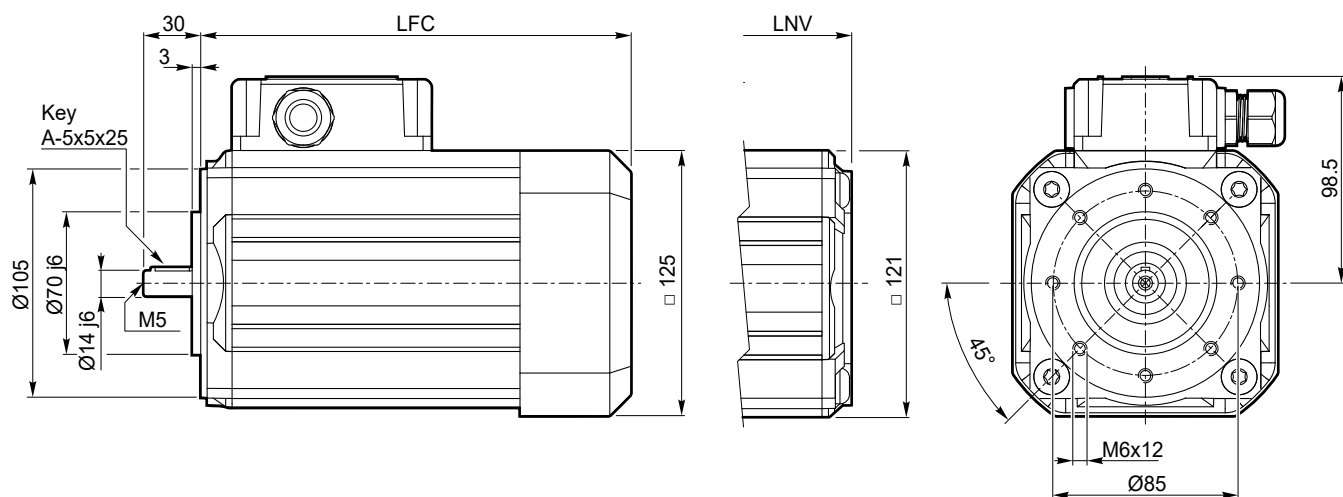
SMM	LFC	LNV
6324	180.5	153.5
6334	205.5	178.5

**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately

**SMM71.. - B14 - TEFC**

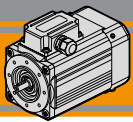
**SMM71.. - B14 - TENV S3 servizio duty 30%**



SMM	LFC	LNV
7124	189	160.5
7134	214	185.5

**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately



**Grado di protezione IP**

**IP protection rating**

Indica il grado di isolamento meccanico del corpo motore.







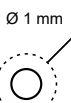

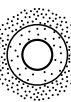
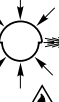




1ª cifra protezione alla penetrazione di corpi solidi.

2ª cifra protezione contro la penetrazione d'acqua.

IP protection rating indicates the degree of mechanical insulation of the motor casing.

The 1<sup>st</sup> figure indicates the level of protection against the intrusion of solid matter.

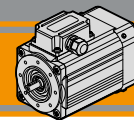
The 2<sup>nd</sup> figure indicates to which degree the motor is waterproof.

IP		Definizione / Description	IP		Definizione / Description
0		Non protetto / No protection	0		Non protetto / No protection
1		Protetto da corpi solidi superiori a Ø 50 mm. Protected against solid matter (over Ø 50 mm).	1		Protetto contro la caduta verticale di gocce d'acqua. Protected against drops of water falling vertically.
2		Protetto da corpi solidi superiori a Ø 12 mm. Protected against solid matter (over Ø 12 mm).	2		Protetto contro la caduta verticale di gocce d'acqua con inclinazione max di 15°. Protected against drops of water falling up to 15°.
3		Protetto da corpi solidi superiori a Ø 2.5 mm. Protected against solid matter (over Ø 2.5 mm).	3		Protetto contro la pioggia. Rain proof.
4		Protetto da corpi solidi superiori a Ø 1 mm. Protected against solid matter (over Ø 1 mm).	4		Protetto contro gli spruzzi. Splash proof.
5		Protetto contro la polvere. Dust protected.	5		Protetto contro getti d'acqua. Water jet proof.
6		Totalmente protetto contro la polvere. Fully dust tight.	6		Protetto dalle ondate. Waveproof.
7		N.A.	7		Protetto contro immersione. Immersion up to 1 metre.
8		N.A.	8		Protetto contro immersione/sommersione prolungata. Immersion beyond 1 metre.

**Normative di riferimento**

**Reference standards**

	Europe EN	World IEC	Italy CEI
<b>Requisiti generali per macchine elettriche</b> <i>General requirements electrical machines</i>	EN 60034-1:2010	IEC 60034-1:2010	CEI EN 60034-1:2010
<b>Classificazione del grado di protezione</b> <i>Classification degree of protection provided by enclosures</i>	EN 60034-5:2001	IEC 60034-5:2001	CEI EN 60034-5:2001
<b>Sistema di raffreddamento</b> <i>Cooling system</i>	EN 60034-6:1993	IEC 60034-6:1993	CEI EN 60034-6:1993
<b>Modalità di montaggio</b> <i>Mounting arrangements</i>	EN 60034-7:1993	IEC 60034-7:1993	CEI EN 60034-7:1993


**Tipi di servizio IEC**
**IEC duty cycles**

Il servizio di un motore indica il tipo di utilizzo e la gravosità del ciclo di lavoro. Lo stesso motore può funzionare in tutti i servizi, purché si moduli la potenza nominale al fine di consentire il corretto equilibrio termico.

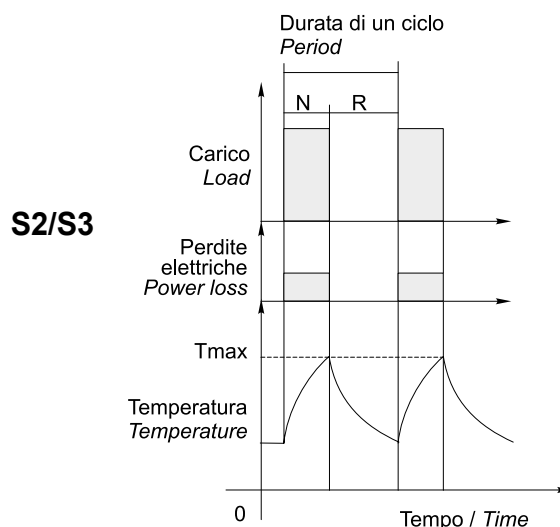
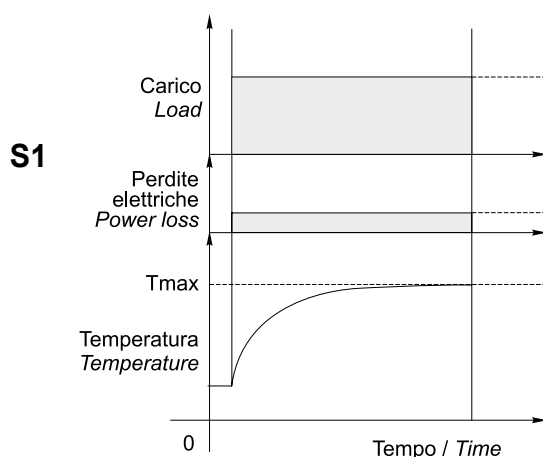
Lo stesso motore è dichiarato per potenze diverse se è diverso il servizio.

*The duty cycle of a motor indicates its use and running cycle. The same motor can work under all these conditions by adjusting the rated power in order to maintain the correct temperature balance. The same motor can be declared as having a different power if it has a different duty cycle.*

<b>S1</b>	<b>Servizio continuo.</b> Funzionamento a carico costante per una durata sufficiente al raggiungimento dell'equilibrio termico.	<b>Continuous duty.</b> The motor works at a constant load for enough time to reach temperature equilibrium
<b>S2</b>	<b>Servizio di durata limitata.</b> 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.	<b>Short time duty.</b> 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.
<b>S3</b>	<b>Servizio periodico intermittente.</b> 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.	<b>Intermittent periodic duty.</b> Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.
<b>S4</b>	<b>Servizio periodico intermittente con avviamento.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia e riposo a carico costante, senza raggiungimento dell'equilibrio termico. La corrente di spunto ha effetti sul riscaldamento del motore.	<b>Intermittent periodic duty with starting.</b> Sequential identical start, run and rest cycles with constant load. Temperature equilibrium is not reached, but starting current affects temperature rise.
<b>S5</b>	<b>Servizio periodico intermittente con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante, frenatura elettrica e riposo, senza raggiungimento dell'equilibrio termico.	<b>Intermittent periodic duty with electric braking.</b> Sequential, identical cycles of starting, running at constant load, electric braking and rest. Temperature equilibrium is not reached.
<b>S6</b>	<b>Servizio periodico ininterrotto con carico intermittente.</b> Sequenza di cicli di lavoro identici con carico costante e senza carico. Non ci sono periodi di riposo.	<b>Continuous operation with intermittent load.</b> Sequential, identical cycles of running with constant load and running with no load. No rest periods.
<b>S7</b>	<b>Servizio periodico ininterrotto con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante e frenatura elettrica, senza periodi di riposo.	<b>Continuous operation with electric braking.</b> Sequential, identical cycles of starting, running at constant load and electric braking. No rest periods.
<b>S8</b>	<b>Servizio periodico ininterrotto con variazioni di carico e di velocità.</b> Sequenza di cicli identici di avviamento, marcia a carico costante e velocità definita, seguiti da marcia a carico costante e velocità differente dalla precedente. Non ci sono periodi di riposo.	<b>Continuous operation with periodic changes in load and speed.</b> Sequential, identical, duty cycles of start, run at constant load and given speed, then run at other constant loads and speeds. No rest periods.
<b>S9</b>	<b>Servizio con variazioni di carico e velocità non periodiche</b>	<b>Load and speed non periodic variations</b>

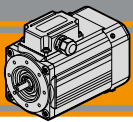
**AC**
**Grafico servizi più comuni**
**Most common services diagram**

N = funzionamento / run  
 R = riposo / rest



NOTA: Lo stesso motore può essere usato per cicli e servizi diversi, con l'unica limitazione che la temperatura interna non superi mai la Tmax stabilita dalla classe di isolamento termico del motore.

NOTE: The same motor can run under all duty services, limitation is due to internal temperature that must not override Tmax stated by motor thermal class.



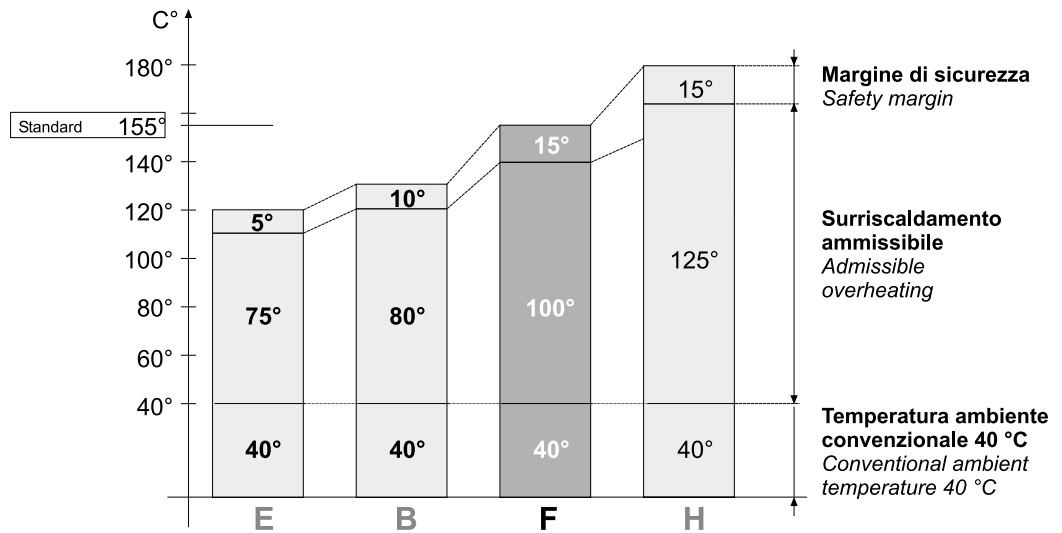
**Classe di isolamento termico**

**Insulation class**

La classe termica indica il grado di resistenza alla temperatura interna, nel punto più caldo (avvolgimenti). Maggiore il carico e migliore deve essere il livello di protezione. Attiene alle resine e in generale a tutti i materiali interni di isolamento.

*Thermal insulation class indicates the level of thermal protection measured at the hottest point inside the motor (windings). The bigger the load, the more thermal insulation is required. This is related to resin and all the internal insulation materials.*

Classe Class	Massima temperatura interna Max. windings temp.
E	120°C
B	130°C
F	155°C
H	180°C



**Serie SM - Funzionamento in ambiente 60 Hz**

**Series SM - 60 Hz line power supply**

In via teorica il motore 400 V 50 Hz può essere alimentato a 60 Hz con le seguenti conseguenze:

*Theoretically a 400 V 50 Hz motor can run under 60 Hz however with the following consequences:*

- La velocità aumenta del 20 % perché dipendente direttamente dalla frequenza.
- La coppia modifica in funzione della tensione (infatti il rapporto tensione/frequenza è proporzionale al flusso magnetico ammesso).  
A 400 V la coppia cala di circa il 20% mentre la potenza rimane invariata.  
A 480 V la coppia rimane invariata e la potenza aumenta del 20% circa.  
Valori intermedi di tensione producono effetti intermedi.

- *20% speed increase as it depends on the frequency.*
- *Varied torque as it depends on the voltage (ratio Volt/Hertz is proportional to the available magnetic flux).*

*With 400 Vac, torque decreases about 20% but the power remains the same.*

*With 480 Vac, torque remains the same and the power increases 20%.*

*Mean voltage gives mean results.*

	50 Hz	60 Hz
<b>400 V</b>	standard	Velocità / speed ≈ + 20% Coppia / torque ≈ -20% Potenza / power ≈ invariata / the same
<b>480 V</b>	Velocità / speed ≈ invariata / the same Coppia / torque - potenza / power ≈ +20% <b>Attenzione, perdite e surriscaldamento</b> <b>Take care of losses and overheating</b>	Velocità / speed ≈ + 20% Coppia / torque ≈ invariata / the same Potenza / power ≈ + 20%

**MINI**  **TECNO**™  
**small** but strong

**CMG**

**Motoriduttori CA ad ingranaggi cilindrici**  
**AC Helical in-line gearmotors**

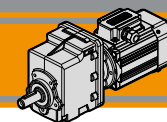


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



AC

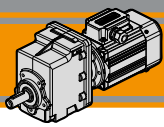




<b>Indice</b>	<b>Index</b>	Pag. Page
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Designazione	<i>Classification</i>	<b>AB2</b>
Sensi di rotazione	<i>Direction of rotation</i>	<b>AB3</b>
Lubrificazione	<i>Lubrication</i>	<b>AB3</b>
Simbologia	<i>Symbols</i>	<b>AB3</b>
Carichi radiali	<i>Radial loads</i>	<b>AB3</b>
Motori applicabili	<i>IEC Motor adapters</i>	<b>AB4</b>
Dati tecnici	<i>Technical data</i>	<b>AB4</b>
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**Caratteristiche tecniche**

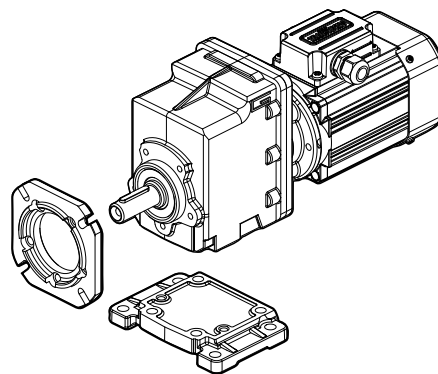
**Technical features**

Le caratteristiche principali dei motoriduttori CMG sono:

- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa motore estrusa in alluminio anodizzato nero
- Carcasse dei riduttori in pressofusione di alluminio
- Motore elettrico AC con grado di protezione IP66
- Lubrificazione permanente con olio sintetico
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56 e 63
- SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter

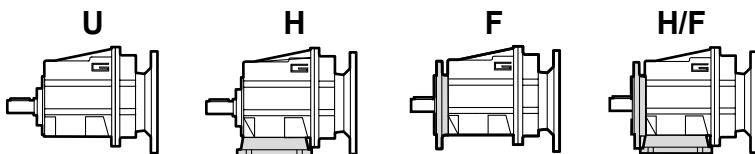
CMG gearmotor range has the following main features:

- Compact design
- AC single phase and three phase motors available
- Motor extruded aluminum housing black anodized
- Gearbox die-cast aluminum housing
- AC electric motor in IP66 protection Standard
- Permanent synthetic oil long-life lubrication
- Ground-hardened helical gears
- Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available
- Thermal protection for motor sizes 56 and 63
- SMT56 and SMT63 are suitable for running with inverter



**Designazione**

**Classification**



RIDUTTORE / GEARBOX

CMG	00	2	H60	10.16	D20	63	B14
Tipo Type	Grandezza Size	Stadi Stages	Versione Version	Rapporto Ratio	Albero uscita Output shaft	IEC 	Forma costruttiva Version
CMG	00	2 3	U... H... F... H.../F...	vedi tabelle see tables	vedi tabelle see tables	56.. 63..	B14

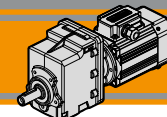
  

SMT	63	2	4	B14	230-400 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsettieria Terminal box pos.
SMT trifase threephase	vedi tabelle see tables	1-2-3-4-5	4	B14	230-400 V	50Hz 60Hz	TEFC TENV	T1 (Std) 

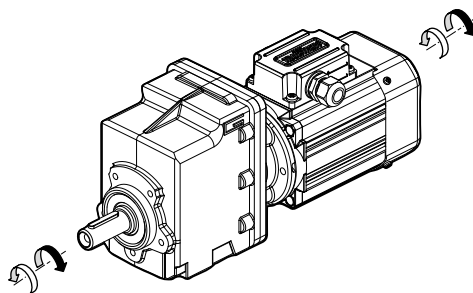
SMM	63	2	4	B14	230 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsettieria Terminal box pos.
SMM monofase singlephase	vedi tabelle see tables	1-2-3-4	4	B14	230 V	50Hz	TEFC TENV	T1 (Std) 





**Sensi di rotazione**

**Direction of rotation**



**Lubrificazione**

**Lubrication**

Tutti i riduttori 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 in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.

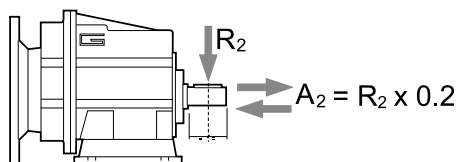
**Simbologia**

**Symbols**

- $n_1$  [min<sup>-1</sup>] Velocità in ingresso / Input speed
- $n_2$  [min<sup>-1</sup>] Velocità in uscita / Output speed
- $i$  Rapporto di riduzione / Ratio
- $P_1$  [kW] Potenza in entrata / Input power
- $M_2$  [Nm] Coppia nominale in uscita in funzione di  $P_1$  / Output torque referred to  $P_1$
- $sf$  Fattore di servizio / Service factor
- $R_2$  [N] Carico radiale ammissibile in uscita / Permitted output radial load
- $A_2$  [N] Carico assiale ammissibile in uscita / Permitted output axial load

**Carichi radiali**

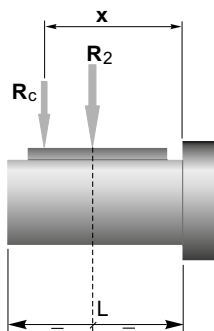
**Radial loads**



	CMG 002												
$n_2$ [min <sup>-1</sup> ]	700	600	500	400	250	180	150	120	100	80	60	40	10
$R_2$ [N]	416	437	465	501	586	653	748	806	958	1032	1136	1300	1300

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

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

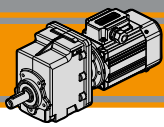


	CMG 002
<b>a</b>	73
<b>b</b>	53
$R_{2MAX}$	1300

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

$$R \leq R_c$$

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



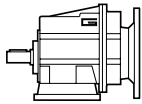
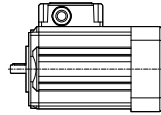
**CMG**

Motoriduttori CA ad ingranaggi cilindrici  
AC Helical in-line gearmotors



Motori applicabili

IEC Motor adapters



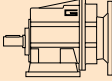

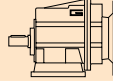

		SMT			SMM		
		5014 5024 5034 5044	5624 5634 5644 5654	6324 6334 6344	5014 5024 5034	5624 5634 5644	6324 6334
<b>CMG</b>	<b>002</b>	5.03 - 55.10					

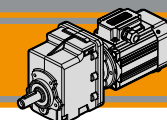
5.03 - 55.10

Rapporti di riduzione i  
Ratio i

Dati tecnici

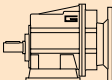

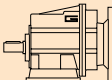

Technical data

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.04</b>							<b>0.09</b>						
SMT5014	<b>279</b>	1	30.4	5.03	<b>CMG002</b>	<b>B14</b>	SMT5034	<b>279</b>	3	13.5	5.03	<b>CMG002</b>	<b>B14</b>
SMM5014	<b>230</b>	2	25.0	6.10			SMM5034	<b>230</b>	4	11.1	6.10		
(1400 min <sup>-1</sup> )	<b>187</b>	2	20.4	7.49			SMT5624	<b>187</b>	4	9.1	7.49		
	<b>156</b>	2	21.2	8.99			SMM5624	<b>156</b>	5	9.4	8.99		
	<b>138</b>	3	18.8	10.16			(1400 min <sup>-1</sup> )	<b>138</b>	6	8.3	10.16		
	<b>116</b>	3	15.8	12.07				<b>116</b>	7	7.0	12.07		
	<b>105</b>	4	20.0	13.40				<b>105</b>	8	8.9	13.40		
	<b>92</b>	4	17.7	15.14				<b>92</b>	9	7.8	15.14		
	<b>77</b>	5	14.7	18.17				<b>77</b>	11	6.5	18.17		
	<b>65</b>	6	12.4	21.58				<b>65</b>	13	5.5	21.58		
	<b>60</b>	6	11.4	23.51				<b>60</b>	14	5.1	23.51		
	<b>56</b>	7	10.6	25.10				<b>56</b>	15	4.7	25.10		
	<b>52</b>	7	9.9	27.08				<b>52</b>	16	4.4	27.08		
	<b>43</b>	9	8.2	32.49				<b>43</b>	19	3.7	32.49		
	<b>33</b>	11	6.4	42.04				<b>33</b>	25	2.8	42.04		
	<b>31</b>	12	6.0	44.89				<b>31</b>	26	2.6	44.89		
	<b>29</b>	13	5.5	48.86		<b>29</b>	29	2.4	48.86				
	<b>25</b>	14	4.8	55.10		<b>25</b>	32	2.2	55.10				
<b>0.06</b>							<b>0.12</b>						
SMT5024	<b>279</b>	2	20.3	5.03	<b>CMG002</b>	<b>B14</b>	SMT5044	<b>279</b>	4	10.1	5.03	<b>CMG002</b>	<b>B14</b>
SMM5024	<b>230</b>	2	16.7	6.10			SMT5634	<b>230</b>	5	8.3	6.10		
(1400 min <sup>-1</sup> )	<b>187</b>	3	13.6	7.49			SMM5634	<b>187</b>	6	6.8	7.49		
	<b>156</b>	4	14.2	8.99			(1400 min <sup>-1</sup> )	<b>156</b>	7	7.1	8.99		
	<b>138</b>	4	12.5	10.16				<b>138</b>	8	6.3	10.16		
	<b>116</b>	5	10.5	12.07				<b>116</b>	9	5.3	12.07		
	<b>105</b>	5	13.3	13.40				<b>105</b>	11	6.7	13.40		
	<b>92</b>	6	11.8	15.14				<b>92</b>	12	5.9	15.14		
	<b>77</b>	7	9.8	18.17				<b>77</b>	14	4.9	18.17		
	<b>65</b>	8	8.3	21.58				<b>65</b>	17	4.1	21.58		
	<b>60</b>	9	7.6	23.51				<b>60</b>	18	3.8	23.51		
	<b>56</b>	10	7.1	25.10				<b>56</b>	20	3.5	25.10		
	<b>52</b>	11	6.6	27.08				<b>52</b>	21	3.3	27.08		
	<b>43</b>	13	5.5	32.49				<b>43</b>	26	2.7	32.49		
	<b>33</b>	17	4.2	42.04				<b>33</b>	33	2.1	42.04		
	<b>31</b>	18	4.0	44.89				<b>31</b>	35	2.0	44.89		
	<b>29</b>	19	3.6	48.86		<b>29</b>	38	1.8	48.86				
	<b>25</b>	22	3.2	55.10		<b>25</b>	43	1.6	55.10				



Dati tecnici

Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		
---------------	-------------------------------	---------------	----	---	-----------------------------------------------------------------------------------	-----------------------------------------------------------------------------------	---------------	-------------------------------	---------------	----	---	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------

**0.18**

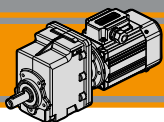
SMT5644	<b>279</b>	6	6.8	5.03	<b>CMG002</b>	<b>B14</b>
SMM5644	<b>230</b>	7	5.6	6.10		<b>B14</b>
SMT6324	<b>187</b>	9	4.5	7.49		<b>B14</b>
SMM6324	<b>156</b>	11	4.7	8.99		<b>B14</b>
(1400 min <sup>-1</sup> )	<b>138</b>	12	4.2	10.16		<b>B14</b>
	<b>116</b>	14	3.5	12.07		<b>B14</b>
	<b>105</b>	16	4.4	13.40		<b>B14</b>
	<b>92</b>	18	3.9	15.14		<b>B14</b>
	<b>77</b>	21	3.3	18.17		<b>B14</b>
	<b>65</b>	25	2.8	21.58		<b>B14</b>
	<b>60</b>	28	2.5	23.51		<b>B14</b>
	<b>56</b>	30	2.4	25.10		<b>B14</b>
	<b>52</b>	32	2.2	27.08		<b>B14</b>
	<b>43</b>	38	1.8	32.49		<b>B14</b>
	<b>33</b>	50	1.4	42.04		<b>B14</b>
	<b>31</b>	53	1.3	44.89		<b>B14</b>
	<b>29</b>	58	1.2	48.86	<b>B14</b>	
	<b>25</b>	65	1.1	55.10	<b>B14</b>	

**0.37**

SMT6344	<b>279</b>	12	3.3	5.03	<b>CMG002</b>	<b>B14</b>
(1400 min <sup>-1</sup> )	<b>230</b>	15	2.7	6.10		<b>B14</b>
	<b>187</b>	18	2.2	7.49		<b>B14</b>
	<b>156</b>	22	2.3	8.99		<b>B14</b>
	<b>138</b>	25	2.0	10.16		<b>B14</b>
	<b>116</b>	29	1.7	12.07		<b>B14</b>
	<b>105</b>	32	2.2	13.40		<b>B14</b>
	<b>92</b>	37	1.9	15.14		<b>B14</b>
	<b>77</b>	44	1.6	18.17		<b>B14</b>
	<b>65</b>	52	1.3	21.58		<b>B14</b>
	<b>60</b>	57	1.2	23.51		<b>B14</b>
	<b>56</b>	61	1.2	25.10		<b>B14</b>
	<b>52</b>	66	1.1	27.08		<b>B14</b>
	<b>43</b>	79	0.9	32.49		<b>B14</b>

**0.25**

SMT5654	<b>279</b>	8	4.9	5.03	<b>CMG002</b>	<b>B14</b>
SMT6334	<b>230</b>	10	4.0	6.10		<b>B14</b>
SMM6334	<b>187</b>	12	3.3	7.49		<b>B14</b>
(1400 min <sup>-1</sup> )	<b>156</b>	15	3.4	8.99		<b>B14</b>
	<b>138</b>	17	3.0	10.16		<b>B14</b>
	<b>116</b>	20	2.5	12.07		<b>B14</b>
	<b>105</b>	22	3.2	13.40		<b>B14</b>
	<b>92</b>	25	2.8	15.14		<b>B14</b>
	<b>77</b>	30	2.4	18.17		<b>B14</b>
	<b>65</b>	35	2.0	21.58		<b>B14</b>
	<b>60</b>	38	1.8	23.51		<b>B14</b>
	<b>56</b>	41	1.7	25.10		<b>B14</b>
	<b>52</b>	44	1.6	27.08		<b>B14</b>
	<b>43</b>	53	1.3	32.49		<b>B14</b>
	<b>33</b>	69	1.0	42.04		<b>B14</b>
	<b>31</b>	73	1.0	44.89		<b>B14</b>
	<b>29</b>	80	0.9	48.86	<b>B14</b>	
	<b>25</b>	90	0.8	55.10	<b>B14</b>	



**CMG**

Motoriduttori CA ad ingranaggi cilindrici  
AC Helical in-line gearmotors



Dimensioni

Dimensions

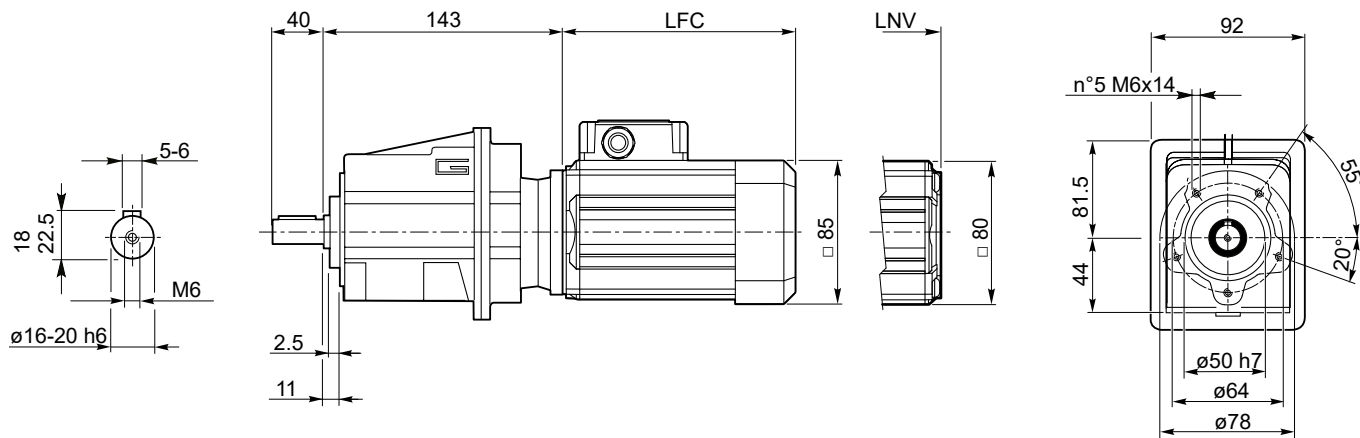
**CMG 002 U**

**CMG 002 U**

SMT50...TEFC  
SMM50... TEFC

SMT50...TENV  
SMM50... TENV

S3 servizio 30%  
duty



SMT	LFC	LNV	Kg	
5014	135.5	108.5	5.2	
5024	150.5	123.5	5.6	
5034	175.5	148.5	6.4	
5044	200.5	173.5	7.1	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	5.6	
5024	175.5	148.5	6.4	
5034	200.5	173.5	7.1	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

CMG...H → AB8

CMG...F → AB8

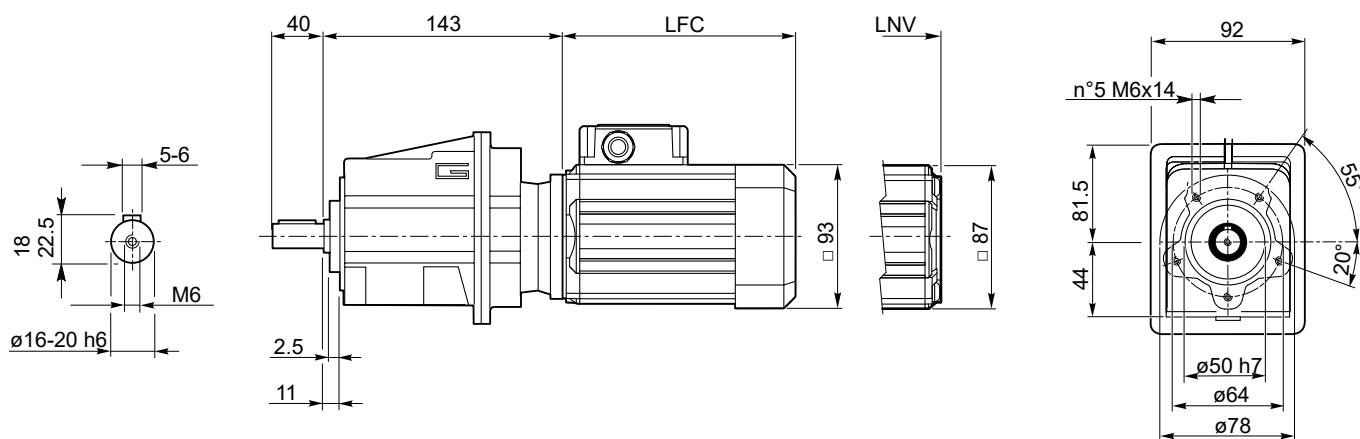
CMG...H/F → AB9

**CMG 002 U**

SMT56...TEFC  
SMM56... TEFC

SMT56...TENV  
SMM56... TENV

S3 servizio 30%  
duty



SMT	LFC	LNV	Kg	
5624	141	117	5.7	
5634	151	127	6.1	
5644	186	162	7.3	
5654	206	182	8	

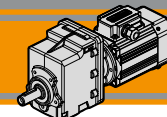
SMM	LFC	LNV	Kg	
5624	151	127	6	
5634	171	147	6.6	
5644	206	182	7.9	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

CMG...H → AB8

CMG...F → AB8

CMG...H/F → AB9



Dimensioni

Dimensions

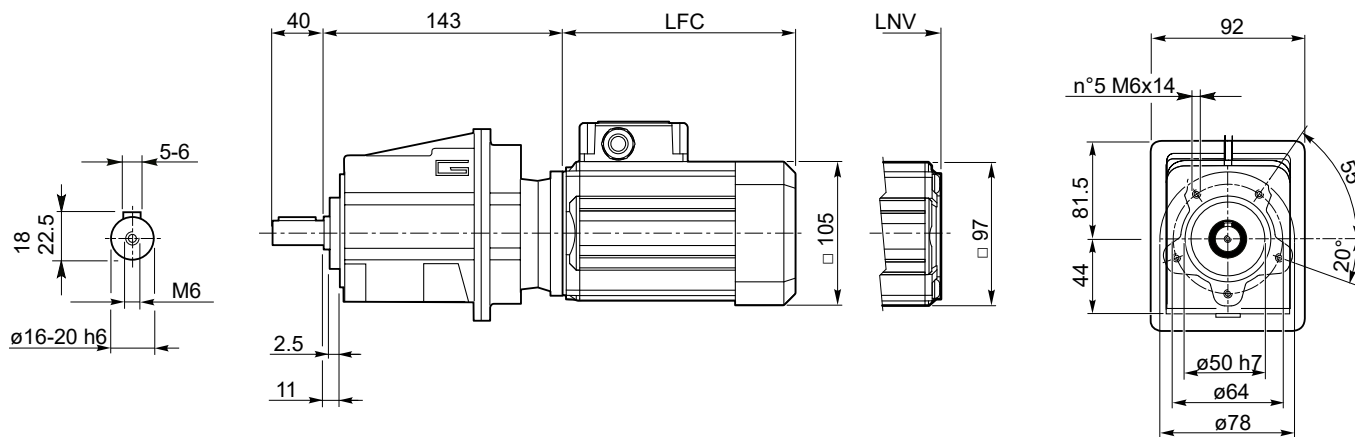
**CMG 002 U**

**CMG 002 U**

SMT63...TEFC  
SMM63... TEFC

SMT63...TENV  
SMM63... TENV

S3 servizio 30%  
duty



SMT	LFC	LNV	
6324	165.5	138.5	7.2
6334	180.5	153.5	7.9
6344	205.5	178.5	9.1

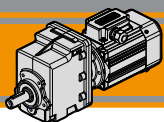
SMM	LFC	LNV	
6324	180.5	153.5	8
6334	205.5	178.5	9.2

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately

CMG...H →

CMG...F →

CMG...H/F →



**CMG**

Motoriduttori CA ad ingranaggi cilindrici  
AC Helical in-line gearmotors

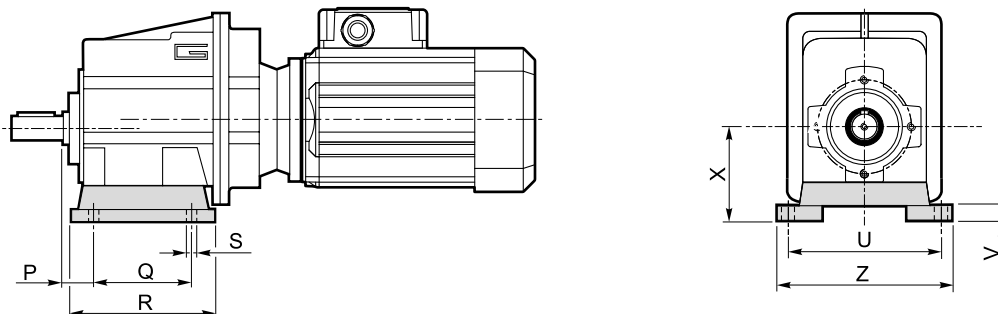


Dimensioni

Dimensions

**CMG..H**

**CMG002 H..**

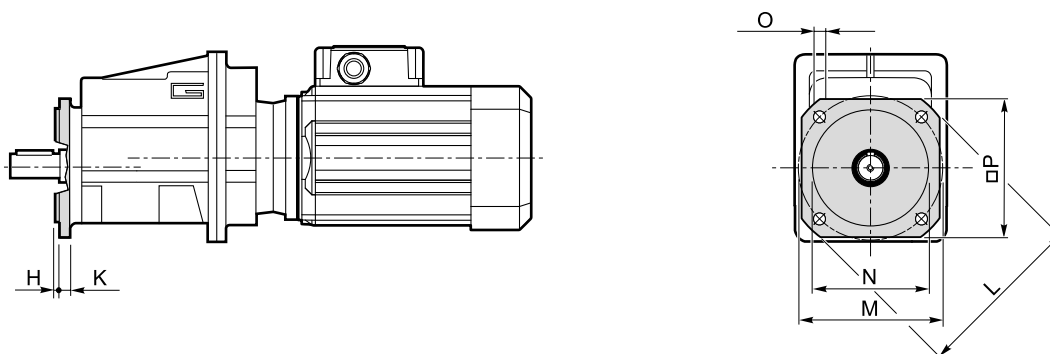


Versione H / H Version										
CMG	P	Q	R	S	U	V	X	Z	Piede / Foot	
									Tipo / Type	Peso / Weight [kg]
002	18	60	80	9	100	10	60	120	H60	0.2
	18	80	104	9	110 - 120	10	75	145	H75	0.3
	18	50 - 87	110	9	110	10	85	135	H85	0.4

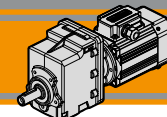
Preferenziale / Preferred

**CMG..F**

**CMG002 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	

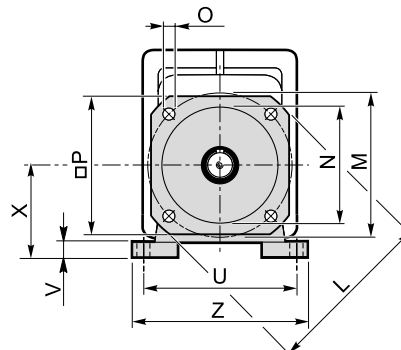
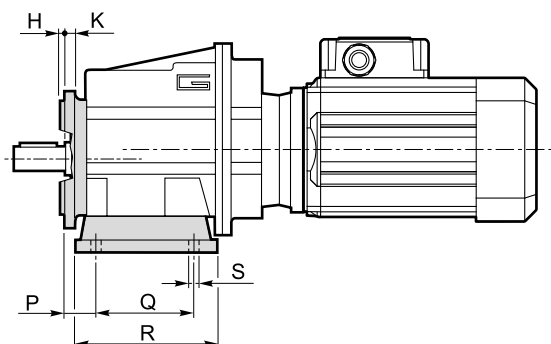


Dimensioni

Dimensions

CMG..H../F..

CMG002 H../F..



Versione H / H Version										Combinazioni possibili H/F Possible combinations H/F							
CMG	P	Q	R	S	U	V	X	Z	Piede / Foot		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	•	•	•				

Preferenziale / Preferred

• Combinazioni possibili H/F / Possible combinations H/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

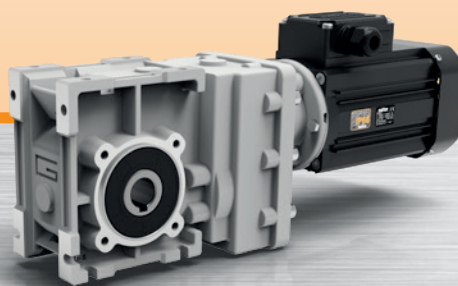




**MINI**  **TECNO**™  
**small** but strong

**CMB**

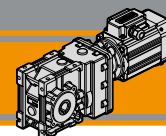
Motoriduttori CA ad assi ortogonali  
AC Helical bevel gearmotors



**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



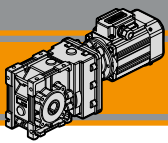




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**Caratteristiche tecniche**

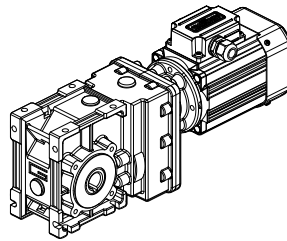
**Technical features**

Le caratteristiche principali dei motoriduttori CMB sono:

CMB gearmotor range has the following main features:

- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa motore estrusa in alluminio anodizzato nero
- Carcasse dei riduttori in pressofusione di alluminio
- Motore elettrico AC con grado di protezione IP66
- Lubrificazione permanente con olio sintetico
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56 e 63
- SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter

- Compact design
- AC single phase and three phase motors available
- Motor extruded aluminum housing black anodized
- Gearbox die-cast aluminum housing
- AC electric motor in IP66 protection Standard
- Permanent synthetic oil long-life lubrication
- Ground-hardened helical gears
- Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available
- Thermal protection for motor sizes 56 and 63
- SMT56 and SMT63 are suitable for running with inverter



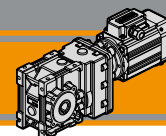
**Designazione**

**Classification**

RIDUTTORE / GEARBOX										
CMB	40 2		U	9.81	D20	63	B14	SZDX	BRSX	90
Tipo Type	Grandezza Size	Stadi Stages	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft	IEC	Forma costruttiva Version	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle
	40	2	U FD FS FBD FBS FLD FLS	vedi tabelle see tables	vedi tabelle see tables	 56.. 63..	B14	SZDX SZSX DZ	BRDX BRSX *	0° 90° 180° 270°
Versione Riduttore Gearbox Version			Albero di uscita Output shaft			Braccio di reazione Torque arm *		Angolo Angle		

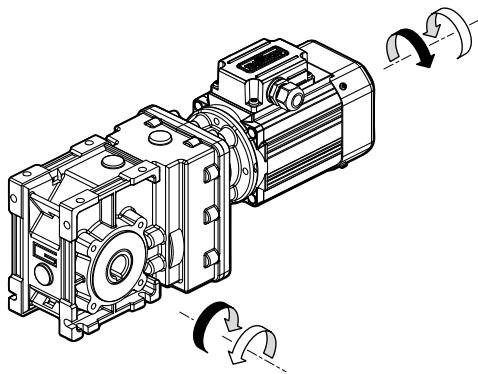
\* NOTA: il braccio di reazione viene fornito smontato.  
NOTE: the torque arm will be supplied not assembled.

SMT	63	2	4	B14	230-400 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
SMT trifase threephase	vedi tabelle see tables	1-2-3-4-5	4	B14	230-400 V	50Hz 60Hz	TEFC TENV	
SMM	63	2	4	B14	230 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
SMM monofase singlephase	vedi tabelle see tables	1-2-3-4	4	B14	230 V	50Hz	TEFC TENV	



Sensi di rotazione

Direction of rotation



Simbologia

Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$M_2$ [Nm]	Coppia in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	sf	Fattore di servizio / <i>Service factor</i>
$i$	Rapporto di riduzione / <i>Ratio</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$P_1$ [kW]	Potenza in entrata / <i>Input power</i>	$R_2$ [N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>

Lubrificazione

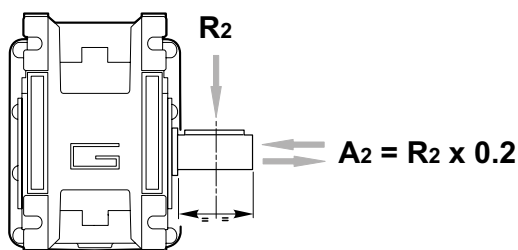
Lubrication

Tutti i riduttori nelle taglie 402 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 sizes 402 in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*

Carichi radiali

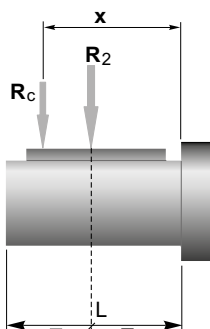
Radial loads



$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]
	CMB 402
400	905
300	996
200	1141
170	1204
140	1414
100	1582
90	1638
60	2047
40	2524
30	2778
20	3180
15	3500
10	3500

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:*

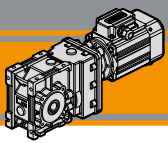


	CMB 402
a	86
b	66
$R_{2MAX}$	3500

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

$$R \leq R_c$$

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



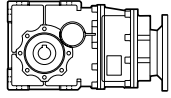
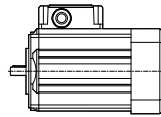
**CMB**

Motoriduttori CA ad assi ortogonali  
AC Helical bevel gearmotors



Motori applicabili

Motor adapters



		SMT			SMM		
		5014 5024 5034 5044	5624 5634 5644 5654	6324 6334 6344	5014 5024 5034	5624 5634 5644	6324 6334
<b>CMB</b>	<b>002</b>	6.18 - 72.50					

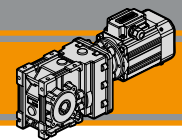
6.18 - 72.50

Rapporti di riduzione i  
Ratio i

Dati tecnici

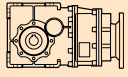

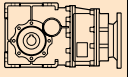

Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		
<b>0.04</b>							<b>0.06</b>						
SMT5014	<b>227</b>	2	25.3	6.18	<b>CMB402</b>	<b>B14</b>	SMT5024	<b>227</b>	2	16.8	6.18	<b>CMB402</b>	<b>B14</b>
SMM5014	<b>187</b>	2	20.8	7.49			SMM5024	<b>187</b>	3	13.9	7.49		
(1400 min <sup>-1</sup> )	<b>152</b>	2	16.9	9.20			(1400 min <sup>-1</sup> )	<b>152</b>	4	11.3	9.20		
	<b>118</b>	3	14.8	11.83				<b>118</b>	5	9.9	11.83		
	<b>112</b>	3	14.1	12.48				<b>112</b>	5	9.4	12.48		
	<b>94</b>	4	11.8	14.83				<b>94</b>	6	7.9	14.83		
	<b>79</b>	5	10.0	17.63				<b>79</b>	7	6.6	17.63		
	<b>75</b>	5	11.5	18.60				<b>75</b>	7	7.7	18.60		
	<b>63</b>	6	9.6	22.33				<b>63</b>	9	6.4	22.33		
	<b>59</b>	6	9.0	23.91				<b>59</b>	9	6.0	23.91		
	<b>48</b>	7	8.8	28.89				<b>48</b>	11	5.8	28.89		
	<b>45</b>	8	8.2	30.84				<b>45</b>	12	5.5	30.84		
	<b>42</b>	9	7.5	33.57				<b>42</b>	13	5.0	33.57		
	<b>39</b>	9	7.1	35.63				<b>39</b>	14	4.7	35.63		
	<b>33</b>	11	5.9	42.75				<b>33</b>	16	4.0	42.75		
	<b>25</b>	14	4.6	55.31				<b>25</b>	21	3.1	55.31		
	<b>24</b>	15	4.3	59.06		<b>24</b>	23	2.9	59.06				
	<b>22</b>	16	3.9	64.29		<b>22</b>	25	2.6	64.29				
	<b>19</b>	19	3.5	72.50		<b>19</b>	28	2.3	72.50				



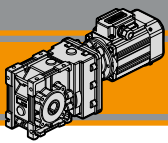
Dati tecnici

Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		
<b>0.09</b>							<b>0.18</b>						
SMT5034	<b>227</b>	4	11.2	6.18	<b>CMB402</b>	<b>B14</b>	SMT5644	<b>227</b>	7	5.6	6.18	<b>CMB402</b>	<b>B14</b>
SMM5034	<b>187</b>	4	9.3	7.49			SMM5644	<b>187</b>	9	4.6	7.49		
SMT5624	<b>152</b>	5	7.5	9.20			SMT6324	<b>152</b>	11	3.8	9.20		
SMM5624	<b>118</b>	7	6.6	11.83			SMM6324	<b>118</b>	14	3.3	11.83		
(1400 min <sup>-1</sup> )	<b>112</b>	7	6.2	12.48			(1400 min <sup>-1</sup> )	<b>112</b>	14	3.1	12.48		
	<b>94</b>	9	5.3	14.83				<b>94</b>	17	2.6	14.83		
	<b>79</b>	10	4.4	17.63				<b>79</b>	20	2.2	17.63		
	<b>75</b>	11	5.1	18.60				<b>75</b>	21	2.6	18.60		
	<b>63</b>	13	4.3	22.33				<b>63</b>	26	2.1	22.33		
	<b>59</b>	14	4.0	23.91				<b>59</b>	28	2.0	23.91		
	<b>48</b>	17	3.9	28.89				<b>48</b>	33	1.9	28.89		
	<b>45</b>	18	3.7	30.84				<b>45</b>	36	1.8	30.84		
	<b>42</b>	19	3.4	33.57				<b>42</b>	39	1.7	33.57		
	<b>39</b>	21	3.2	35.63				<b>39</b>	41	1.6	35.63		
	<b>33</b>	25	2.6	42.75				<b>33</b>	49	1.3	42.75		
	<b>25</b>	32	2.0	55.31				<b>25</b>	64	1.0	55.31		
	<b>24</b>	34	1.9	59.06				<b>24</b>	68	0.95	59.06		
	<b>22</b>	37	1.8	64.29		<b>22</b>	74	0.88	64.29				
	<b>19</b>	42	1.6	72.50		<b>19</b>	84	0.8	72.50				

<b>0.12</b>							<b>0.25</b>						
SMT5044	<b>227</b>	5	8.4	6.18	<b>CMB402</b>	<b>B14</b>	SMT5654	<b>227</b>	10	4.0	6.18	<b>CMB402</b>	<b>B14</b>
SMT5634	<b>187</b>	6	6.9	7.49			SMT6334	<b>187</b>	12	3.3	7.49		
SMM5634	<b>152</b>	7	5.6	9.20			SMM6334	<b>152</b>	15	2.7	9.20		
(1400 min <sup>-1</sup> )	<b>118</b>	9	4.9	11.83			(1400 min <sup>-1</sup> )	<b>118</b>	19	2.4	11.83		
	<b>112</b>	10	4.7	12.48				<b>112</b>	20	2.2	12.48		
	<b>94</b>	11	3.9	14.83				<b>94</b>	24	1.9	14.83		
	<b>79</b>	14	3.3	17.63				<b>79</b>	28	1.6	17.63		
	<b>75</b>	14	3.8	18.60				<b>75</b>	30	1.8	18.60		
	<b>63</b>	17	3.2	22.33				<b>63</b>	36	1.5	22.33		
	<b>59</b>	18	3.0	23.91				<b>59</b>	38	1.4	23.91		
	<b>48</b>	22	2.9	28.89				<b>48</b>	46	1.4	28.89		
	<b>45</b>	24	2.7	30.84				<b>45</b>	49	1.3	30.84		
	<b>42</b>	26	2.5	33.57				<b>42</b>	54	1.2	33.57		
	<b>39</b>	27	2.4	35.63				<b>39</b>	57	1.1	35.63		
	<b>33</b>	33	2.0	42.75				<b>33</b>	69	0.9	42.75		
	<b>25</b>	43	1.5	55.31									
	<b>24</b>	45	1.4	59.06									
	<b>22</b>	49	1.3	64.29									
	<b>19</b>	56	1.2	72.50									

<b>0.37</b>						
SMT6344	<b>227</b>	15	2.7	6.18	<b>CMB402</b>	<b>B14</b>
(1400 min <sup>-1</sup> )	<b>187</b>	18	2.3	7.49		
	<b>152</b>	22	1.8	9.20		
	<b>118</b>	28	1.6	11.83		
	<b>112</b>	30	1.5	12.48		
	<b>94</b>	35	1.3	14.83		
	<b>79</b>	42	1.1	17.63		
	<b>75</b>	44	1.2	18.60		
	<b>63</b>	53	1.0	22.33		
	<b>59</b>	57	1.0	23.91		
	<b>48</b>	69	0.9	28.89		
	<b>45</b>	73	0.9	30.84		
	<b>42</b>	80	0.8	33.57		



**CMB**

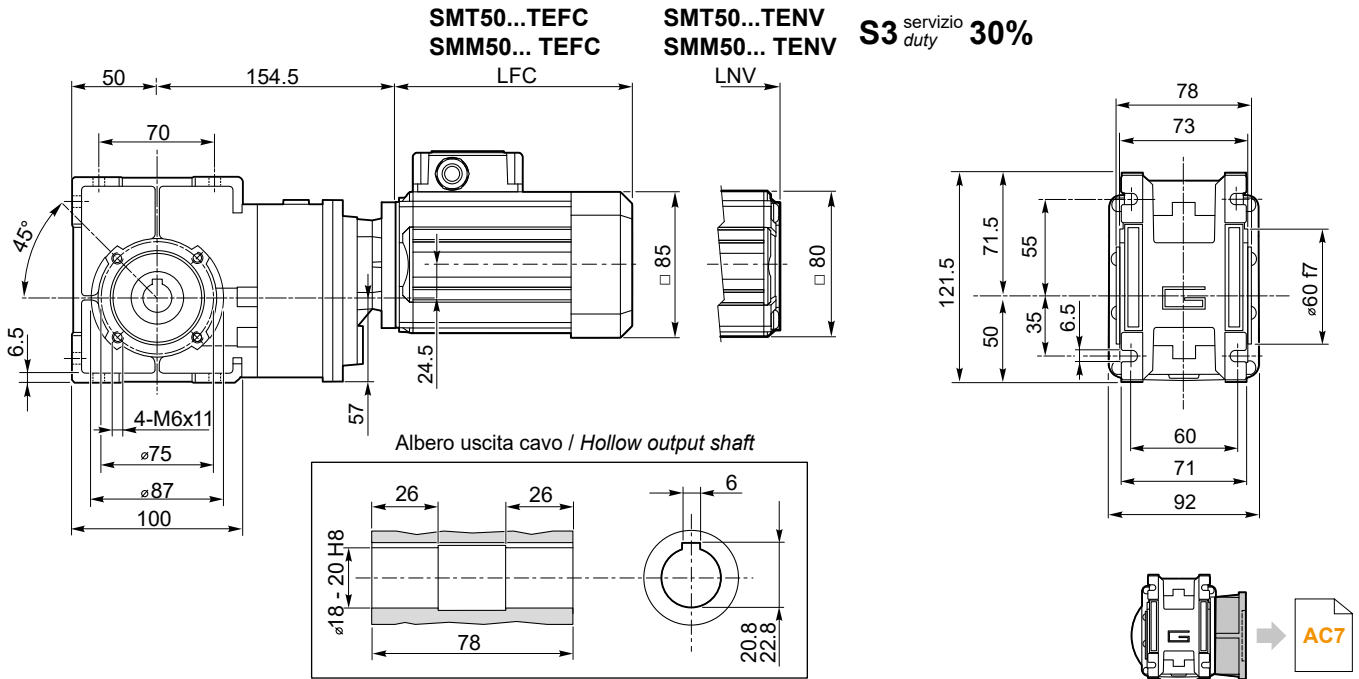
Motoriduttori CA ad assi ortogonali  
AC Helical bevel gearmotors



**Dimensioni**

**Dimensions**

**CMB 402 U**



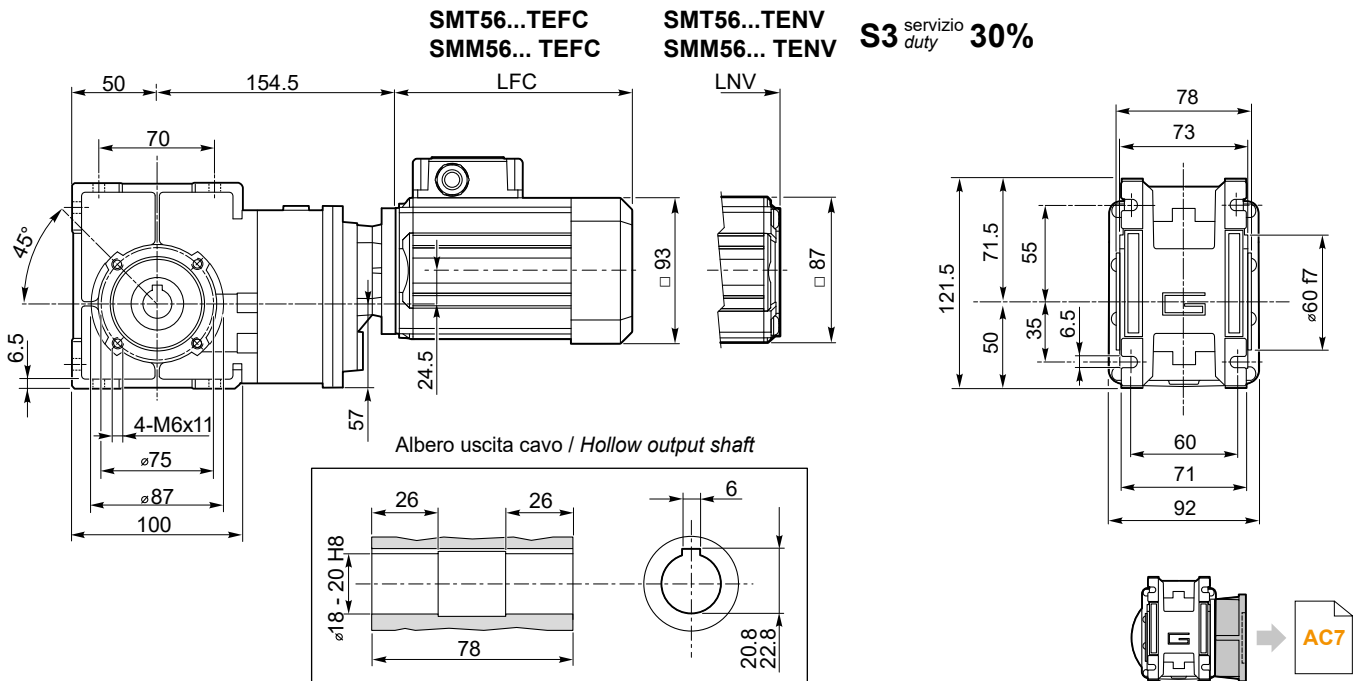
SMT	LFC	LNV	Kg	
5014	135.5	108.5	5.7	
5024	150.5	123.5	6.1	
5034	175.5	148.5	6.9	
5044	200.5	173.5	7.6	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	6.1	
5024	175.5	148.5	6.9	
5034	200.5	173.5	7.6	

**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately

**CMB 402 U**



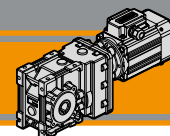
SMT	LFC	LNV	Kg	
5624	141	117	6.2	
5634	151	127	6.6	
5644	186	162	7.8	
5654	206	182	8.5	

SMM	LFC	LNV	Kg	
5624	151	127	6.5	
5634	171	147	7.1	
5644	206	182	8.4	

**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately

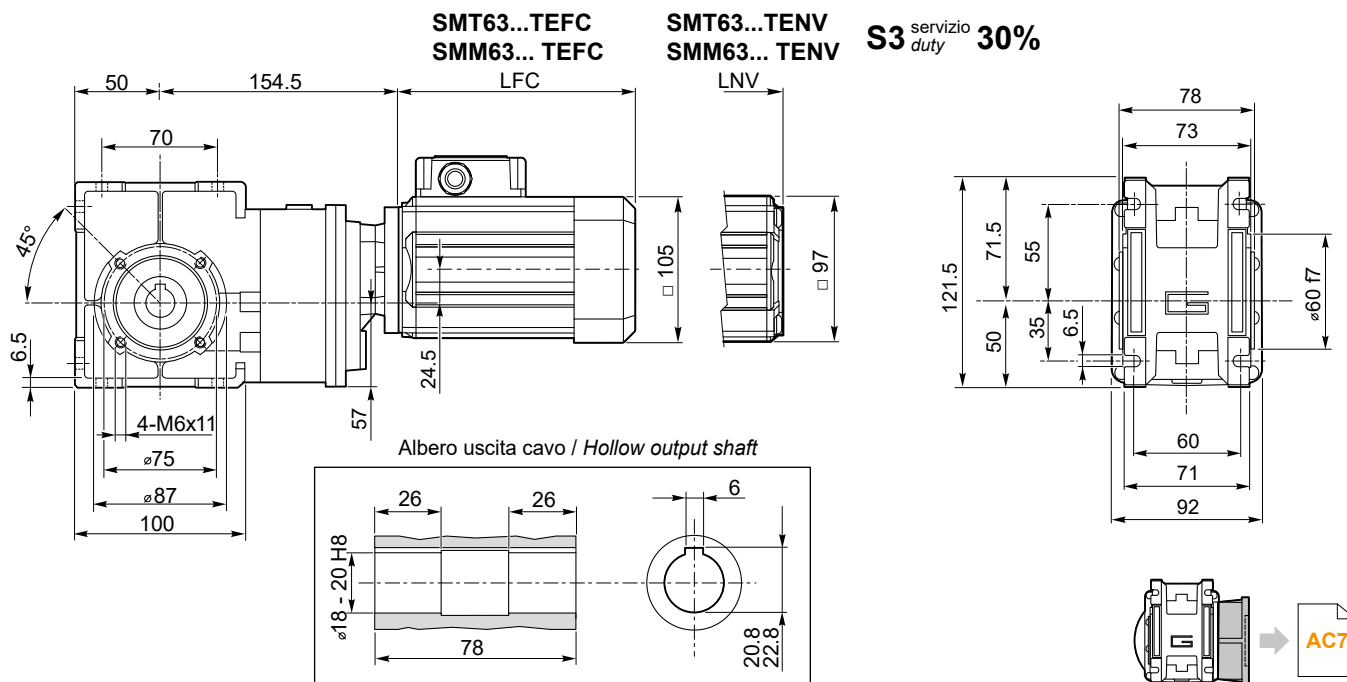




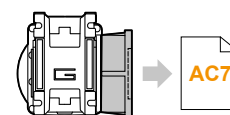
Dimensioni

Dimensions

CMB 402 U



Albero uscita cavo / Hollow output shaft



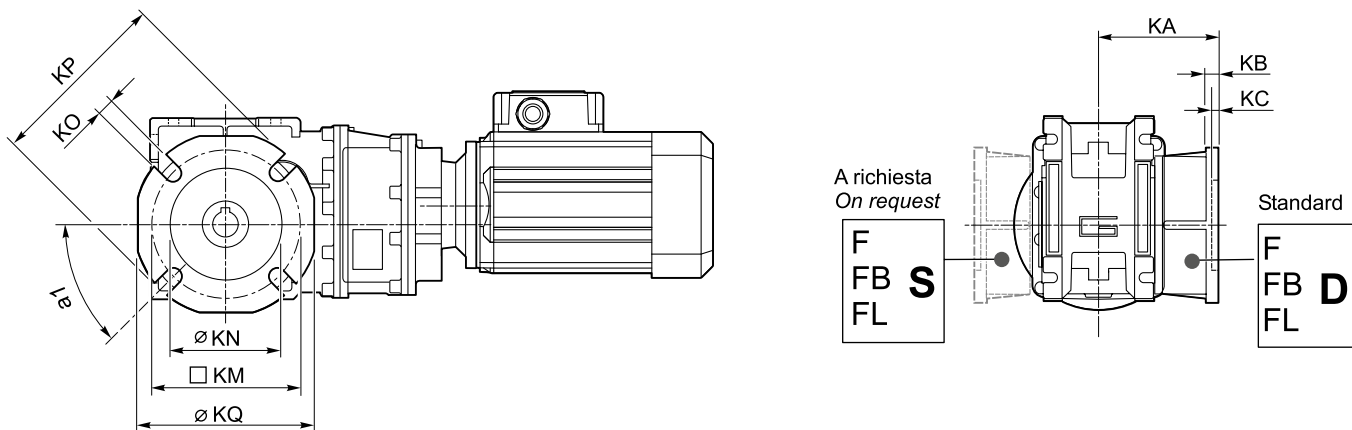
SMT	LFC	LNV	Kg	
6324	165.5	138.5	7.7	
6334	180.5	153.5	8.4	
6344	205.5	178.5	9.6	

SMM	LFC	LNV	Kg	
6324	180.5	153.5	8.5	
6334	205.5	178.5	9.7	

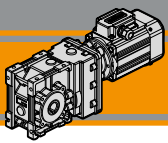
**Nota:**  
il condensatore sarà fornito a corredo

**Note:**  
the capacitor will be supplied separately

CMB402/ F... Flange uscita / Output flanges

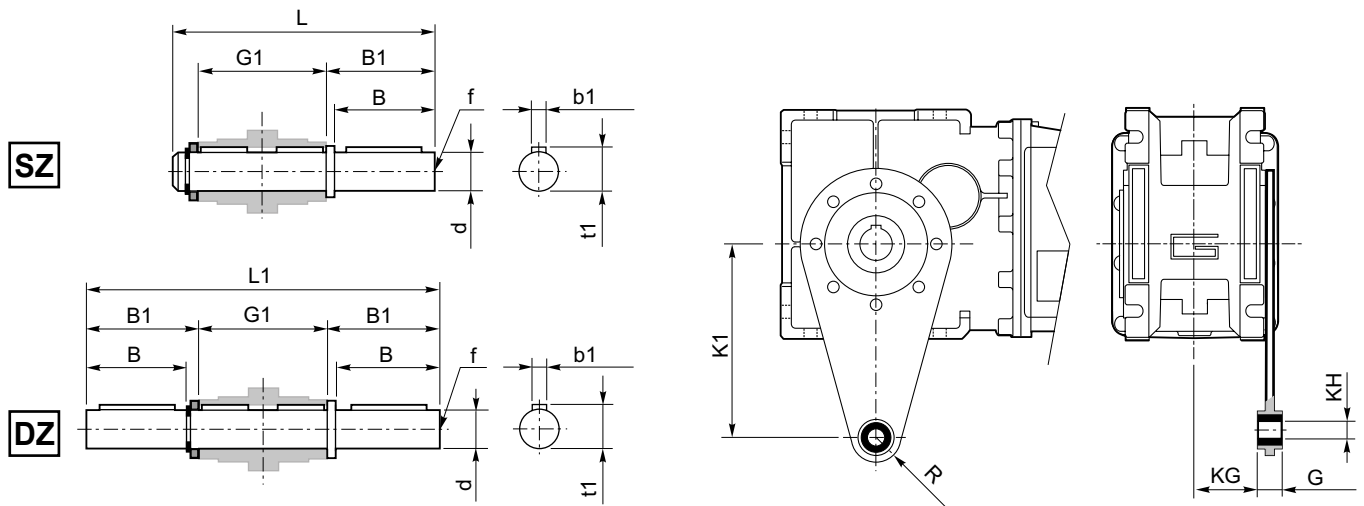


CMB	Flange uscita / Output flanges																										
	F					FL					FB																
	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ
402	45°	67	7.5	4.5	80-95	60	9	110	95	45°	97	7.5	4.5	80-95	60	9	110	95	45°	80	8.5	5	115-125	95	9.5	140	112



**Accessori**

**Accessories**



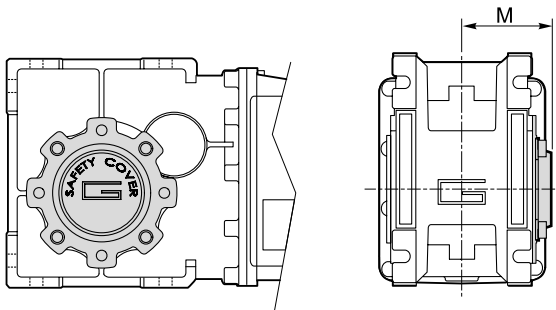
Albero lento / Output shaft

Braccio di reazione / Torque arm

CMB	d h7	B	B1	G1	L	L1	f	b1	t1
<b>402</b>	18	40	43	78	128	164	M6	6	20.5

CMB	K1	G	KG	KH	R
<b>402</b>	100	14	31	10	18

**SC - Safety cover**

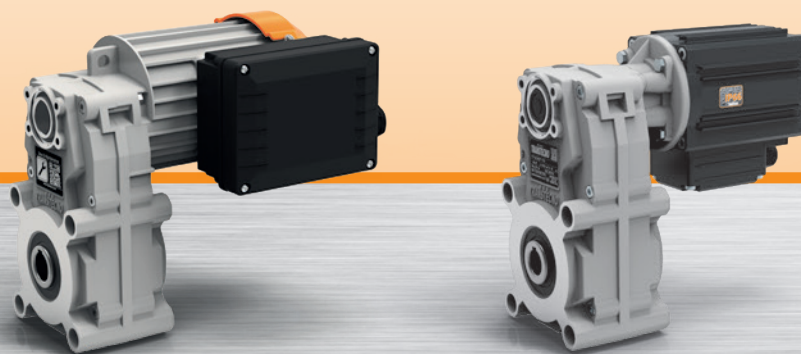


CMB	M
<b>402</b>	54.5

**MINI**  **TECNO**™  
**small** but strong

# KFT105 - FT

Motoriduttori CA pendolari  
AC Helical parallel gearmotors

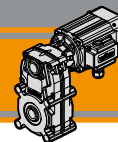


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



AC

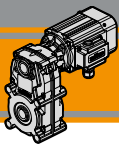




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Simbologia	<i>Symbols</i>	<b>AD3</b>
Lubrificazione	<i>Lubrication</i>	<b>AD3</b>
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Dati tecnici	<i>Technical data</i>	<b>AD5</b>
Dati tecnici elettrici	<i>Electrical technical data</i>	<b>AD7</b>
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**KFT105  
FT**

**Motoriduttori CA pendolari  
AC Helical parallel gearmotors**



**Caratteristiche tecniche**

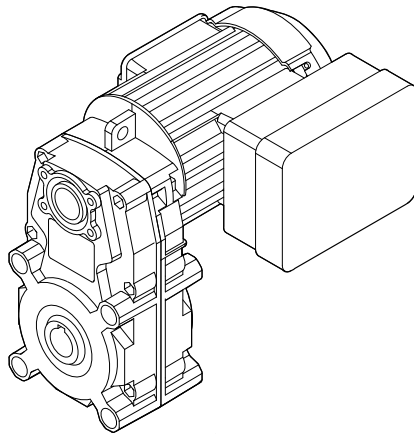
**Technical features**

Le caratteristiche principali dei motoriduttori KFT e FT sono:

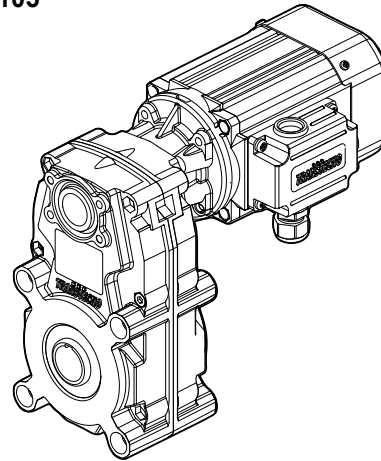
*KFT and FT gearmotor range has the following main features:*

- Costruzione compatta
  - Motorizzazioni in corrente alternata monofase e trifase
  - Carcassa motore estrusa in alluminio anodizzato nero
  - Carcasse dei riduttori in pressofusione di alluminio
  - Motore elettrico AC con grado di protezione IP66
  - Lubrificazione permanente con olio sintetico
  - Ingranaggi sempre rettificati
  - Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
  - Protezioni termiche per le taglie 56 e 63
  - SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter
- *Compact design*
  - *AC single phase and three phase motors available*
  - *Motor extruded aluminum housing black anodized*
  - *Gearbox die-cast aluminum housing*
  - *AC electric motor in IP66 protection Standard*
  - *Permanent synthetic oil long-life lubrication*
  - *Ground helical gears*
  - *Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available*
  - *Thermal protection for motor sizes 56 and 63*
  - *SMT56 and SMT63 are suitable for running with inverter*

**KFT105**

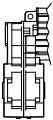


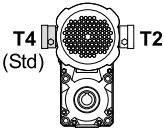
**FT105**

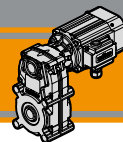


**Designazione**

**Classification**

RIDUTTORE / GEARBOX				
<b>KFT</b>	<b>105/3</b>	<b>U</b>	<b>88.87</b>	<b>O20</b>
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft
<b>KFT</b> 	<b>105/3</b> <b>105/4</b>	<b>U...</b> <b>F...</b>	vedi tabelle see tables	vedi tabelle see tables

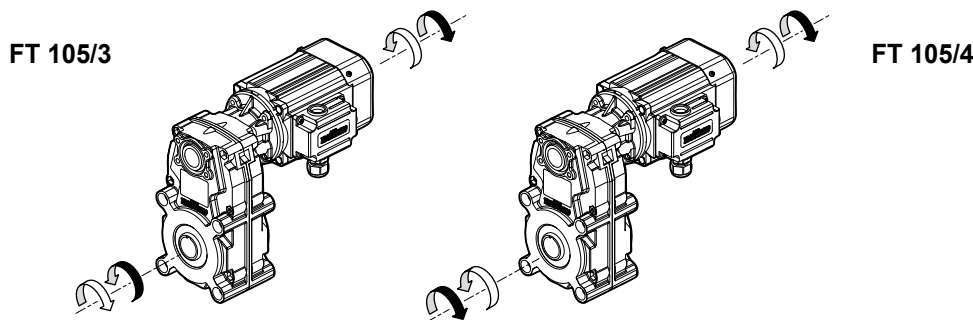
MOTORE / MOTOR						
<b>40W</b>	<b>4p</b>	<b>3ph</b>	<b>230/400V</b>	<b>50Hz</b>	<b>T1</b>	<b>TEFC</b>
Potenza Power	Poli Poles	Fasi Phases	Tensione Voltage	Frequenza Frequency	Pos. morsetti Terminal box pos.	Ventilazione Fan cooling
vedi tabelle see tables	<b>2p</b> <b>4p</b> <b>6p</b>	<b>1ph</b> <b>3ph</b>	<b>230V</b> ... <b>230/400V</b> ...	<b>50Hz</b> <b>60Hz</b>		<b>TEFC</b> <b>TENV</b>


**Designazione**
**Classification**

RIDUTTORE / GEARBOX						
FT	105/3	U	77.07	O20	56	B5
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft	IEC 	Forma costruttiva Version
<b>FT</b> 	<b>105/3</b> <b>105/4</b>	<b>U...</b>	vedi tabelle see tables	vedi tabelle see tables	<b>56</b>	<b>B14</b>

SMT	56	2	4	B14	230-400 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMT</b> trifase threephase	vedi tabelle see tables	<b>1-2-3-4-5</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50Hz</b> <b>60Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 

SMM	56	2	4	B14	230 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMM</b> monofase singlephase	vedi tabelle see tables	<b>1-2-3-4</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 

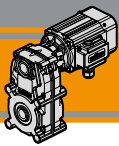
**Sensi di rotazione**
**Direction of rotation**

**Simbologia**
**Symbols**

$n_1$	[ $\text{min}^{-1}$ ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[ $\text{min}^{-1}$ ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[kW]	Potenza nominale in entrata / <i>Nominal input power</i>
$M_{n2}$	[Nm]	Coppia nominale in uscita in funzione di $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>

**Lubrificazione**
**Lubrication**

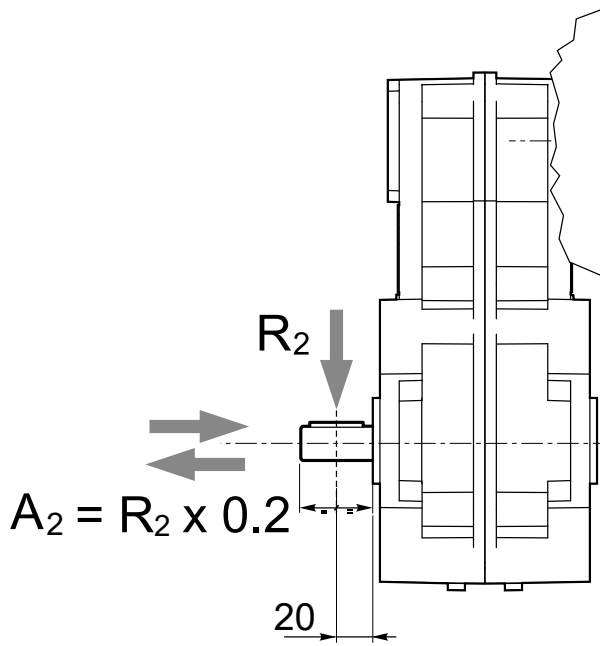
Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

*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**

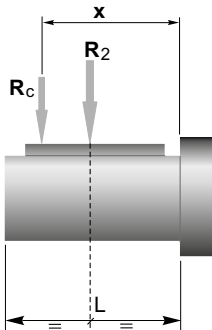
**Radial loads**



$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]
	KFT105 FT105
70	1500
40	1700
30	1850
20	2000
10	2000
5	2000

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

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



	KFT105 FT105
a	82
b	62
$R_{2MAX}$	2000

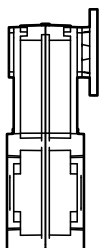
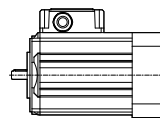
$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

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

$$R \leq R_c$$

**Motori applicabili**

**IEC Motor adapters**

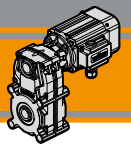


		SMT		SMM	
		5014	5624	5014	5624
		5024	5634	5024	5634
		5034	5644	5034	5644
		5044	5654		
<b>FT</b>	<b>105/3</b>	20.57 - 315.05			
<b>FT</b>	<b>105/4</b>	368.19 - 929.4			

20.57 - 929.4

Rapporti di riduzione i  
Ratio i





### Dati tecnici

### Technical data

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	M <sub>n</sub> [Nm]	i	
------------------------	----------------------------------------	------------------------	----	------------------------	---	--

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	M <sub>n</sub> [Nm]	i	
------------------------	----------------------------------------	------------------------	----	------------------------	---	--

#### 0.025

68	3	12.1	40	20.57	KFT105/3
42	5	9.4	50	33.32	
32	7	9.1	65	44.36	
26	9	7.4	65	54.87	
19	12	5.6	65	71.84	
18	12	5.3	65	77.07	
16	14	4.6	65	88.87	
11	20	3.2	65	124.81	
7.7	29	2.2	65	181.35	
6.2	36	1.8	65	224.32	
4.4	51	1.3	65	315.05	
3.8	58	1.1	65	368.19	KFT105/4
2.6	84	0.8	65	534.98	
2.1	104	0.6	65	661.76	
1.5	120	0.5	65	929.40	

#### 0.09

68	12	3.4	40	20.57	KFT105/3
42	19	2.6	50	33.32	
32	26	2.5	65	44.36	
26	32	2.1	65	54.87	
19	41	1.6	65	71.84	
18	44	1.5	65	77.07	
16	51	1.3	65	88.87	
11	72	0.9	65	124.81	
7.7	105	0.6	65	181.35	
6.2	110	0.6	65	224.32	

#### 0.12

68	16	2.5	40	20.57	KFT105/3
42	26	2.0	50	33.32	
32	34	1.9	65	44.36	
26	42	1.5	65	54.87	
19	55	1.2	65	71.84	
18	59	1.1	65	77.07	
16	68	1.0	65	88.87	
11	96	0.7	65	124.81	
7.7	110	0.6	65	181.35	

#### 0.04

68	5	7.6	40	20.57	KFT105/3
42	9	5.9	50	33.32	
32	11	5.7	65	44.36	
26	14	4.6	65	54.87	
19	18	3.5	65	71.84	
18	20	3.3	65	77.07	
16	23	2.9	65	88.87	
11	32	2.0	65	124.81	
7.7	47	1.4	65	181.35	
6.2	58	1.1	65	224.32	
4.4	81	0.8	65	315.05	
3.8	92	0.7	65	368.19	KFT105/4
2.6	120	0.5	65	534.98	
2.1	120	0.5	65	661.76	

#### 0.06

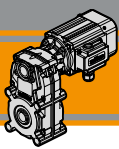
68	8	5.1	40	20.57	KFT105/3
42	13	3.9	50	33.32	
32	17	3.8	65	44.36	
26	21	3.1	65	54.87	
19	28	2.4	65	71.84	
18	30	2.2	65	77.07	
16	34	1.9	65	88.87	
11	48	1.4	65	124.81	
7.7	70	0.9	65	181.35	
6.2	86	0.8	65	224.32	
4.4	110	0.6	65	315.05	
3.8	120	0.5	65	368.19	KFT105/4



N.B.



Verificare sempre che la coppia M<sub>2</sub> utilizzata non ecceda il valore indicato nelle caselle in grigio



N.B.



Please check that the output torque M<sub>2</sub> does not exceed the value in the grey areas


**FT****Motoriduttori CA pendolari**  
**AC Helical parallel gearmotors****MINI**  
**TECNO****Dati tecnici****Technical data**

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.04</b>						
SMT5014	<b>68</b>	5	7.6	20.57	<b>FT105/3</b>	<b>B14</b>
SMM5014	<b>42</b>	9	5.9	33.32		
(1400 min <sup>-1</sup> )	<b>32</b>	11	5.7	44.36		
	<b>26</b>	14	4.6	54.87		
	<b>19</b>	18	3.5	71.84		
	<b>18</b>	20	3.3	77.07		
	<b>16</b>	23	2.9	88.87		
	<b>11</b>	32	2.0	124.81		
	<b>7.7</b>	47	1.4	181.35		
	<b>6.2</b>	58	1.1	224.32		
	<b>4.4</b>	81	0.8	315.05	<b>FT105/4</b>	<b>B14</b>
	<b>3.8</b>	92	0.7	368.19		
	<b>2.6</b>	120	0.5	534.98		
	<b>2.1</b>	120	0.5	661.76		

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.06</b>						
SMT5024	<b>68</b>	8	5.1	20.57	<b>FT105/3</b>	<b>B14</b>
SMM5024	<b>42</b>	13	3.9	33.32		
(1400 min <sup>-1</sup> )	<b>32</b>	17	3.8	44.36		
	<b>26</b>	21	3.1	54.87		
	<b>19</b>	28	2.4	71.84		
	<b>18</b>	30	2.2	77.07		
	<b>16</b>	34	1.9	88.87		
	<b>11</b>	48	1.4	124.81		
	<b>7.7</b>	70	0.9	181.35		
	<b>6.2</b>	86	0.8	224.32		
	<b>4.4</b>	92	0.7	315.05		

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.09</b>						
SMT5034	<b>68</b>	12	3.4	20.57	<b>FT105/3</b>	<b>B14</b>
SMM5034	<b>42</b>	19	2.6	33.32		
SMT5624	<b>32</b>	26	2.5	44.36		
SMM5624	<b>26</b>	32	2.1	54.87		
(1400 min <sup>-1</sup> )	<b>19</b>	41	1.6	71.84		
	<b>18</b>	44	1.5	77.07		
	<b>16</b>	51	1.3	88.87		
	<b>11</b>	72	0.9	124.81		
	<b>7.7</b>	105	0.6	181.35		
	<b>6.2</b>	110	0.6	224.32		

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.12</b>						
SMT5044	<b>68</b>	16	2.5	20.57	<b>FT105/3</b>	<b>B14</b>
SMT5634	<b>42</b>	26	2.0	33.32		
SMM5624	<b>32</b>	34	1.9	44.36		
(1400 min <sup>-1</sup> )	<b>26</b>	42	1.5	54.87		
	<b>19</b>	55	1.2	71.84		
	<b>18</b>	59	1.1	77.07		
	<b>16</b>	68	1.0	88.87		
	<b>11</b>	96	0.7	124.81		
	<b>7.7</b>	110	0.6	181.35		

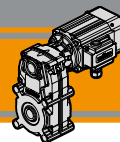
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.18</b>						
SMT5644	<b>68</b>	24	1.7	20.57	<b>FT105/3</b>	<b>B14</b>
SMM5644	<b>42</b>	38	1.3	33.32		
(1400 min <sup>-1</sup> )	<b>32</b>	51	1.3	44.36		
	<b>26</b>	63	1.0	54.87		
	<b>19</b>	83	0.8	71.84		
	<b>18</b>	89	0.7	77.07		
	<b>16</b>	92	0.7	88.87		
	<b>11</b>	110	0.6	124.81		

N.B.

Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio

N.B.

Please check that the output torque M2 does not exceed the value in the grey areas



Dati tecnici elettrici

Electrical technical data

1 Ph	P <sub>n</sub> [W]	V [V]	F [Hz]	I <sub>n</sub> [A]	I <sub>s</sub> [A]	cosØ	C [µF]	TEFC Servizio Duty	TENV Servizio Duty
	25	230	50	0.42	0.84	0.87	6.0	S1 100%	S3 30%
	40			0.47	0.86	0.91	6.3		
	60			0.74	1.50	0.82	8.0		
	90			0.82	1.60	0.93	12.5		
	120			1.38	3.10	0.81	14.0		

3 Ph	P <sub>n</sub> [W]	V [V]	F [Hz]	I <sub>n</sub> [A]	I <sub>s</sub> [A]	cosØ	TEFC Servizio Duty	TENV Servizio Duty
	25	230	50	0.41	0.97	0.54	S1 100%	S3 30%
		400						
	40	230	50	0.43	0.97	0.62		
		400						
	60	230	50	0.72	1.80	0.48		
		400						
	90	230	50	0.74	1.80	0.60		
		400						
	120	230	50	1.34	3.70	0.50		
		400						

Nota:

Classe di rendimento Standard IE1

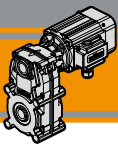
Note:

Standard efficiency IE1

Normative di riferimento

Reference standards

	Europe EN	World IEC	Italy CEI
<b>Requisiti generali per macchine elettriche</b> <i>General requirements electrical machines</i>	EN 60034-1:2010	IEC 60034-1:2010	CEI EN 60034-1:2010
<b>Classificazione del grado di protezione</b> <i>Classification degree of protection provided by enclosures</i>	EN 60034-5:2001	IEC 60034-5:2001	CEI EN 60034-5:2001
<b>Sistema di raffreddamento</b> <i>Cooling system</i>	EN 60034-6:1993	IEC 60034-6:1993	CEI EN 60034-6:1993
<b>Modalità di montaggio</b> <i>Mounting arrangements</i>	EN 60034-7:1993	IEC 60034-7:1993	CEI EN 60034-7:1993



### Dimensioni

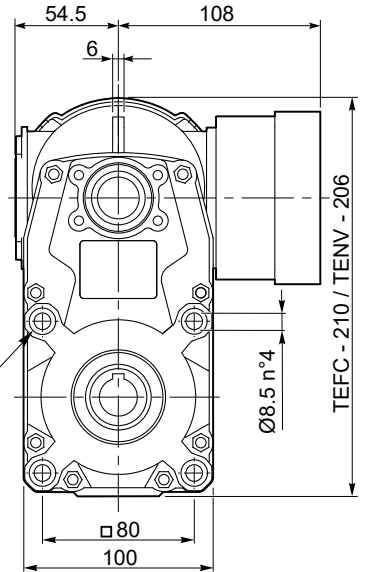
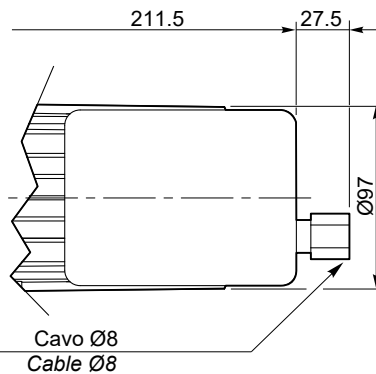
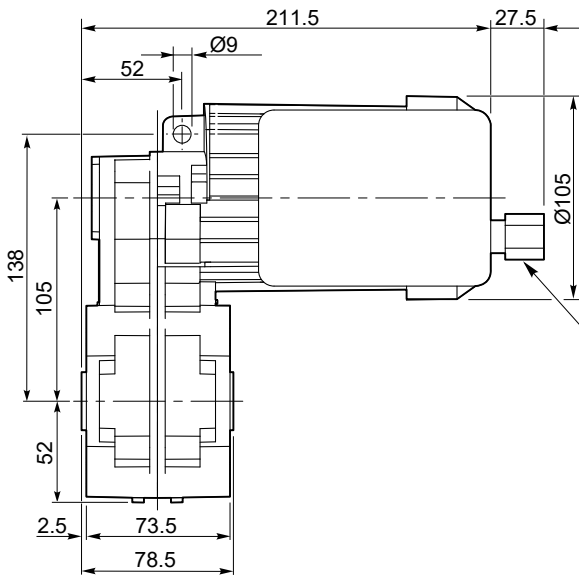
### Dimensions

## KFT 105... 25W - 40W - 60W - 90W

### KFT 105...1 Ph...TEFC

### KFT 105...1 Ph...TENV

S3 servizio duty 30%



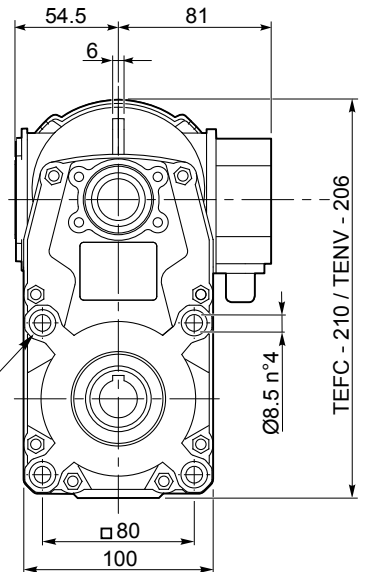
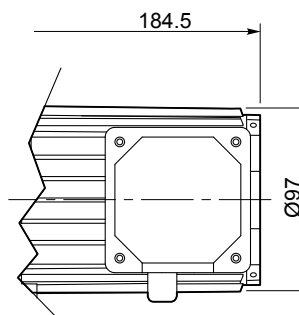
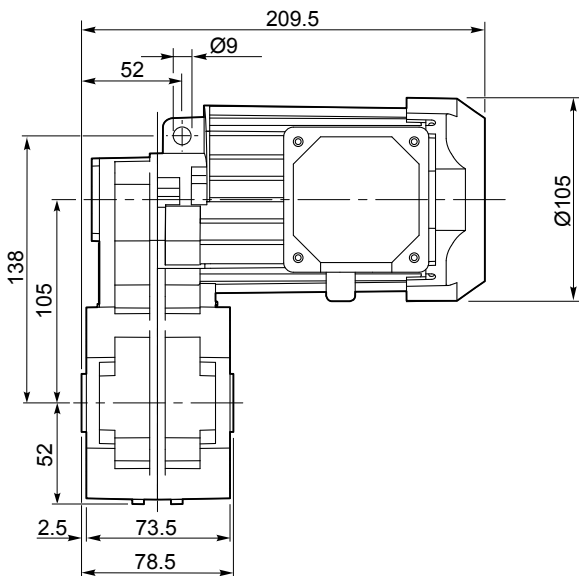
NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

Lamature  $\varnothing 14$   
Prof. 10 mm n°4  
Spot-facing  $\varnothing 14$   
Deep 10 mm n°4

### KFT 105...3 Ph... TEFC

### KFT 105...3 Ph... TENV

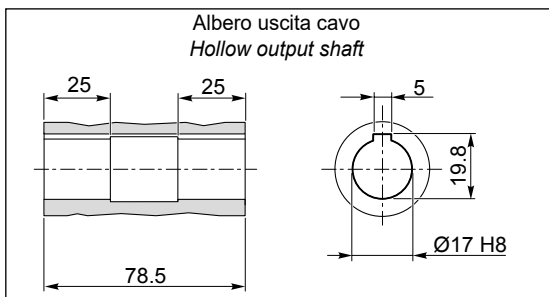
S3 servizio duty 30%



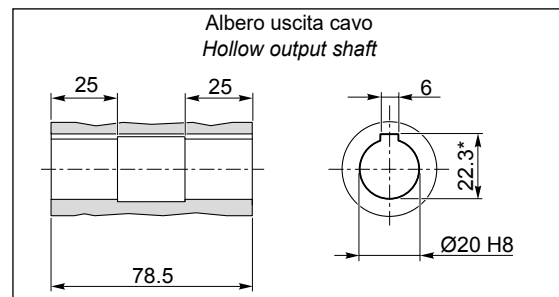
NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

Lamature  $\varnothing 14$   
Prof. 10 mm n°4  
Spot-facing  $\varnothing 14$   
Deep 10 mm n°4

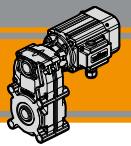
### O17



### O20



\*Sede linguetta ribassata / Special Keyway



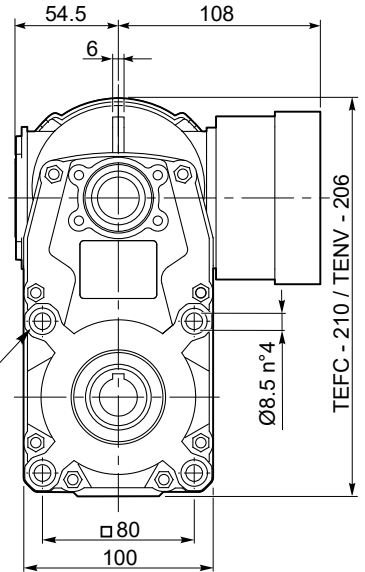
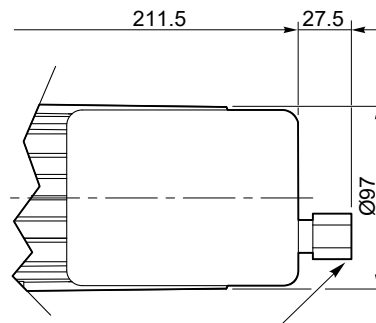
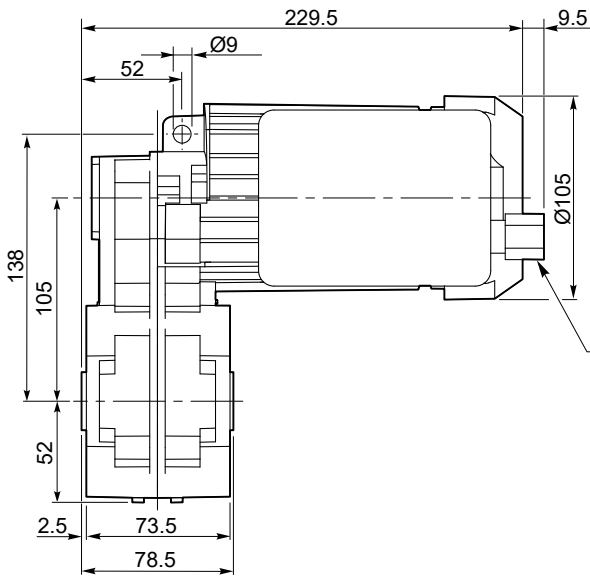
Dimensioni

Dimensions

**KFT 105... 120W**

**KFT 105...1 Ph... TEFC**

**KFT 105...1 Ph...TENV S3 <sup>servizio</sup>duty 30%**



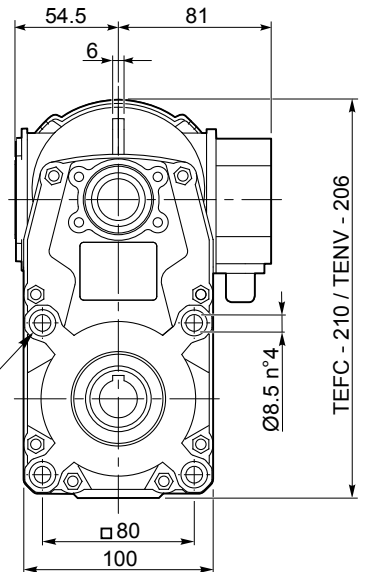
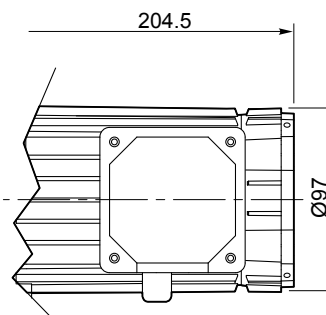
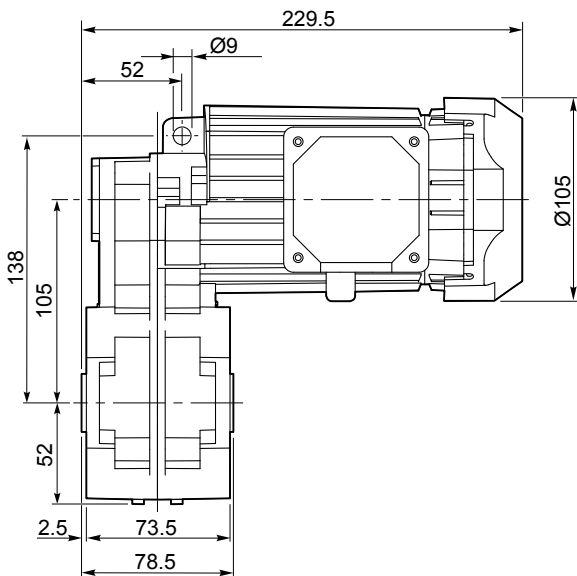
Cavo Ø8  
Cable Ø8

Lamature Ø14  
Prof. 10 mm n°4  
Spot-facing Ø14  
Deep 10 mm n°4

NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

**KFT 105...3 Ph... TEFC**

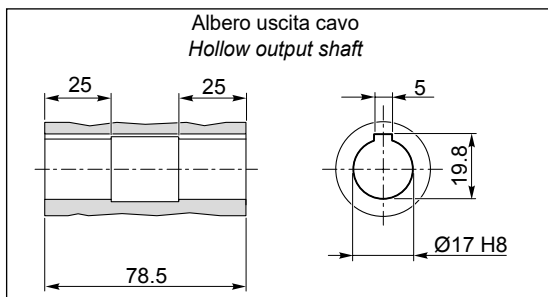
**KFT 105...3 Ph... TENV S3 <sup>servizio</sup>duty 30%**



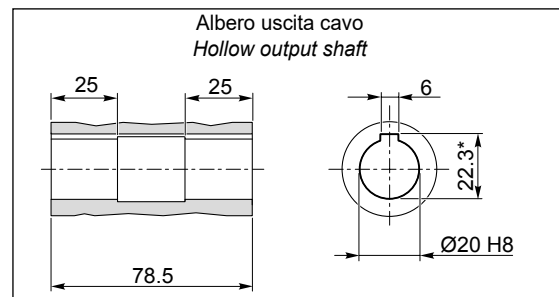
Lamature Ø14  
Prof. 10 mm n°4  
Spot-facing Ø14  
Deep 10 mm n°4

NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

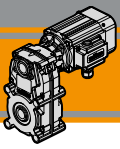
**O17**



**O20**



\*Sede linguetta ribassata/ Special Keyway



**FT**

Motoriduttori CA pendolari  
AC Helical parallel gearmotors



Dimensioni

Dimensions

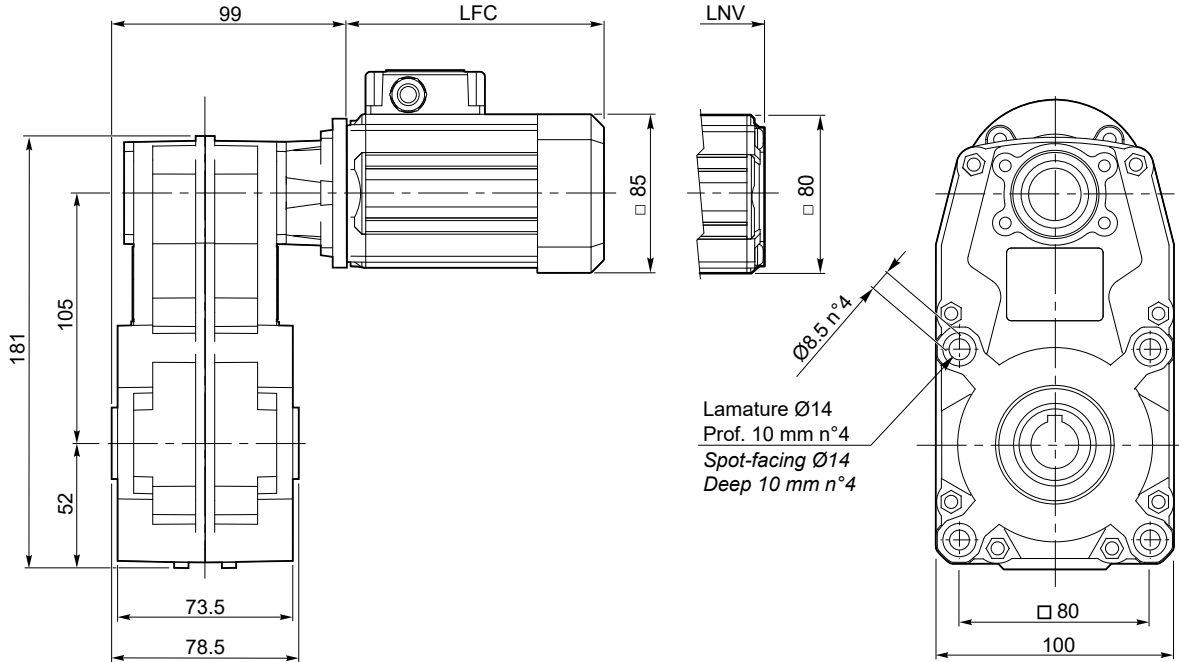
**FT105 U**

**FT 105...U**


**SMT50...TEFC**  
**SMM50... TEFC**


**SMT50...TENV**  
**SMM50... TENV**

**S3** servizio **30%**  
duty



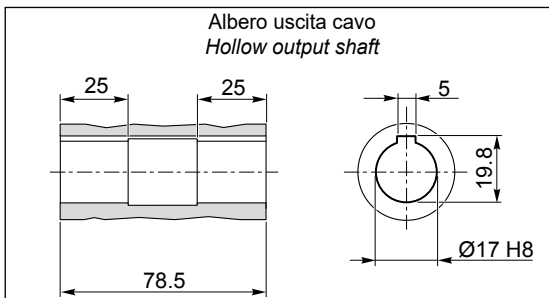
NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

SMT	LFC	LNV	Kg	
5014	135.5	108.5	6.5	
5024	150.5	123.5	6.9	
5034	175.5	148.5	7.7	
5044	200.5	173.5	8.4	

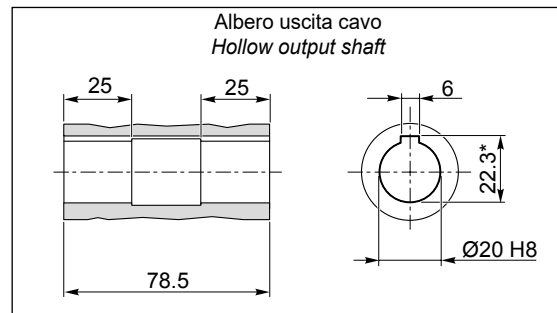
SMM	LFC	LNV	Kg	
5014	150.5	123.5	6.9	
5024	175.5	148.5	7.7	
5034	200.5	173.5	8.4	

**Nota:**  
il condensatore sarà fornito a corredo  
**Note:**  
the capacitor will be supplied separately

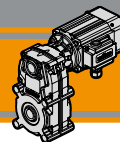
**O17**



**O20**



\*: Sede linguetta ribassata / Special keyway

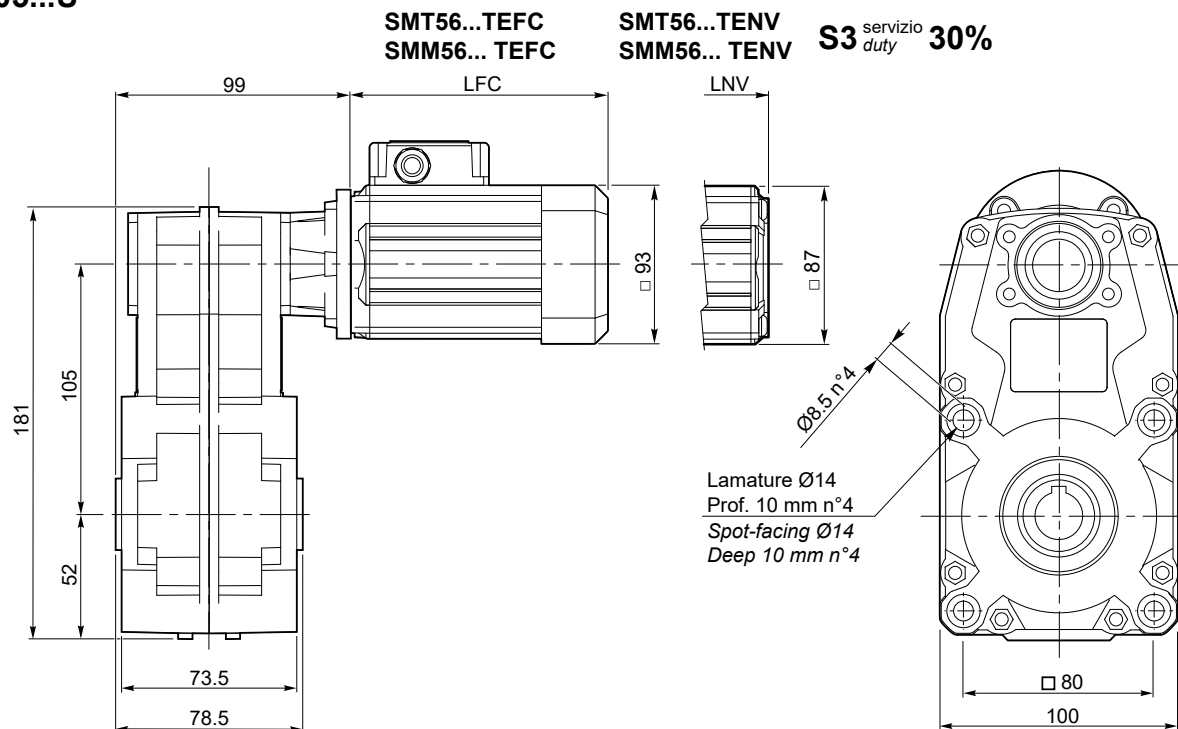


Dimensioni

Dimensions

FT105 U

FT 105...U



S3 servizio duty 30%

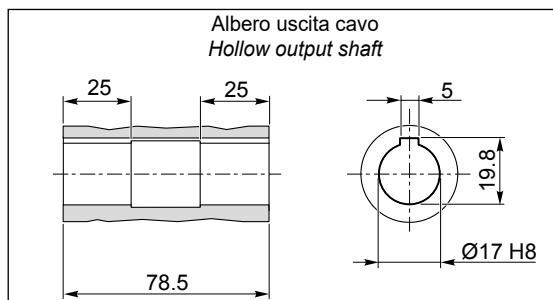
NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

SMT	LFC	LNV	Kg	
5624	141	117	7	
5634	151	127	7.4	
5644	186	162	8.6	
5654	206	182	9.3	

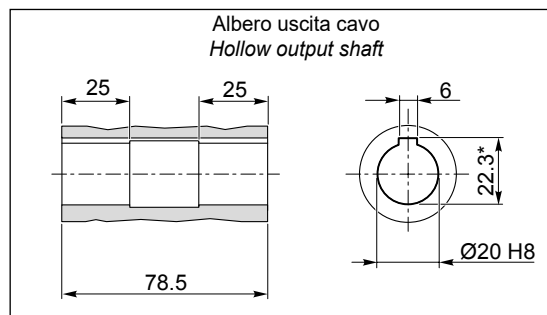
SMM	LFC	LNV	Kg	
5624	151	127	7.3	
5634	171	147	7.9	
5644	206	182	9.2	

**Nota:**  
il condensatore sarà fornito a corredo  
**Note:**  
the capacitor will be supplied separately

O17



O20



\*: Sede linguetta ribassata / Special keyway

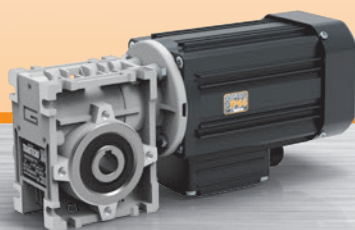




**MINI**  **TECNO**™  
**small** but strong

**CM-CMP**

Motoriduttori CA a vite senza fine  
AC Wormgearmotors

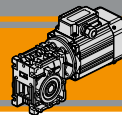


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



AC

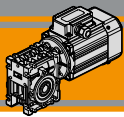




<b>Indice</b>	<b>Index</b>	Pag. Page
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Designazione	<i>Classification</i>	<b>AE2</b>
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Lubrificazione	<i>Lubrication</i>	<b>AE4</b>
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Opzioni	<i>Options</i>	<b>AE17</b>
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**CM  
CMP**

# Motoriduttori CA a vite senza fine AC Wormgearmotors



## Caratteristiche tecniche

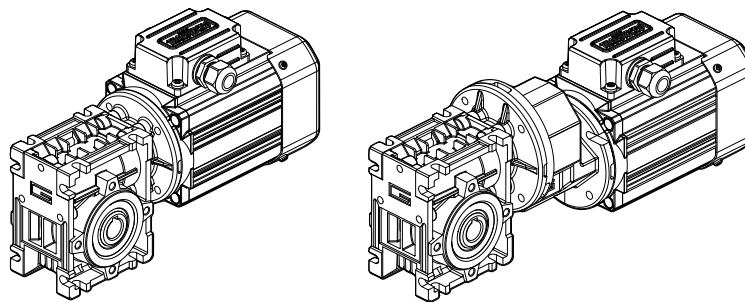
## Technical features

Le caratteristiche principali dei motoriduttori CM e CMP sono:

CM and CMP gearmotors range has the following main features:

- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa motore estrusa in alluminio anodizzato nero
- Carcasse dei riduttori in pressofusione di alluminio
- Motore elettrico AC con grado di protezione IP66
- Lubrificazione permanente con olio sintetico
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56 e 63
- SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter

- Compact design
- AC single phase and three phase motors available
- Motor extruded aluminum housing black anodized
- Gearbox die-cast aluminum housing
- AC electric motor in IP66 protection Standard
- Permanent synthetic oil long-life lubrication
- Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available
- Thermal protection for motor sizes 56 and 63
- SMT56 and SMT63 are suitable for running with inverter



## Designazione

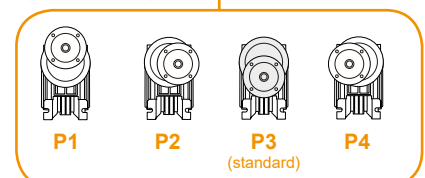
## Classification

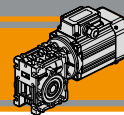
### RIDUTTORI A VITE SENZA FINE / WORMGEARBOXES

RIDUTTORE / GEARBOX									
CM	040	U	10	63	B14	SZDX	BR SX	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
 CM	026 026 (D11) 026 (D14) 030 040	U F...	Vedere tabella See tables	56.. 63..	B14	SZDX SZSX DZ	BRDX BR SX  *	0° 90° 180° 270°	VS

### RIDUTTORI A VITE SENZA FINE CON PRECOPIA / PRE-STAGE WORMGEARBOXES

RIDUTTORE / GEARBOX										
CMP	063/040	U	90	63	B14	SZDX	BR SX	90	P4	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	Pos. di montaggio precoppia Pre stage mounting position	Opzioni Options
 CMP	056/030 056/040 063/040	U F...	Vedere tabella See tables	56.. 63..	B5 B14	SZDX SZSX DZ	BRDX BR SX  *	0° 90° 180° 270°	P1 P2 P3 (standard) P4	VS





## Designazione

## Classification

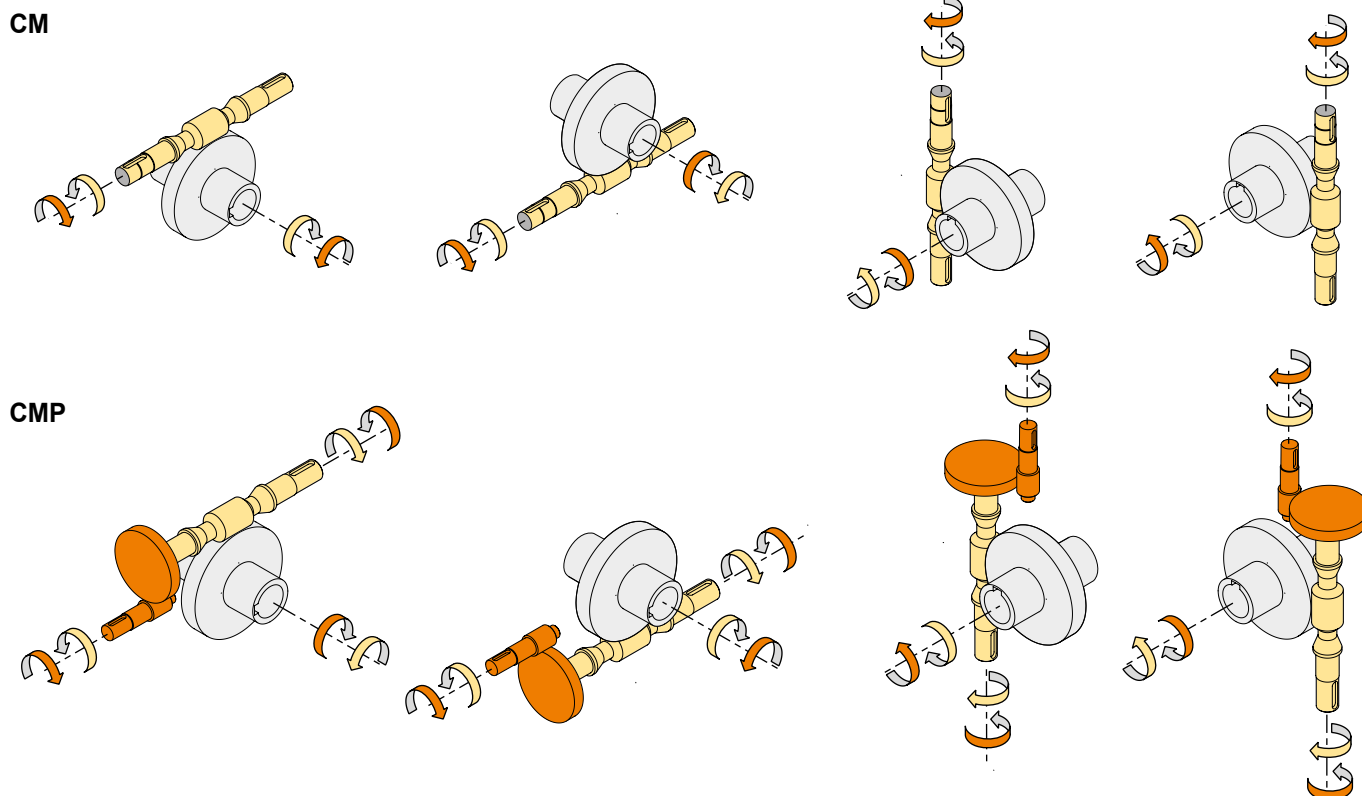
<p>Versione Riduttore Gearbox Version</p> <p><b>U</b>   <b>F...D</b>   <b>F...S</b></p>	<p>Albero di uscita Output shaft</p> <p><b>SZDX</b>   <b>SZSX</b>   <b>DZ</b></p>	<p>Braccio di reazione * Torque arm</p> <p><b>BRDX</b>   <b>BRSX</b></p>	<p>Angolo Angle</p>
---------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	------------------------------------------------------------------------------	-------------------------

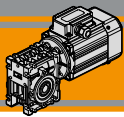
\* NOTA: il braccio di reazione viene fornito smontato.  
NOTE: the torque arm will be supplied not assembled.

SMT	63	2	4	B14	230-400 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMT</b> trifase threephase	vedi tabelle see tables	<b>1-2-3-4-5</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50Hz</b> <b>60Hz</b>	<b>TEFC</b> <b>TENV</b>	<p>T1 (Std) T4   T2 T3</p>
SMM	63	2	4	B14	230 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMM</b> monofase singlephase	vedi tabelle see tables	<b>1-2-3-4</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50Hz</b>	<b>TEFC</b> <b>TENV</b>	<p>T1 (Std) T4   T2 T3</p>

## Sensi di rotazione

## Direction of rotation





**Simbologia**

**Symbols**

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$R_d$ %	Rendimento dinamico / <i>Dynamic efficiency</i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$i$	Rapporto di riduzione / <i>Ratio</i>	$R_s$ %	Rendimento statico / <i>Static efficiency</i>
$P_1$ [kW]	Potenza in entrata / <i>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 <math>P_1</math></i>	$Z$	Numero di principi della vite / <i>Worm starts</i>
$sf$	Fattore di servizio / <i>Service factor</i>	$\beta$	Angolo d'elica / <i>Helix angle</i>

**Lubrificazione**

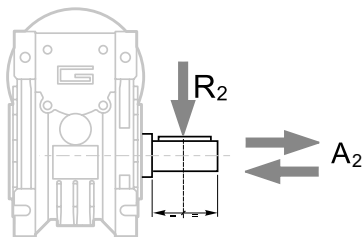
**Lubrication**

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.*

**Carichi radiali**

**Radial loads**

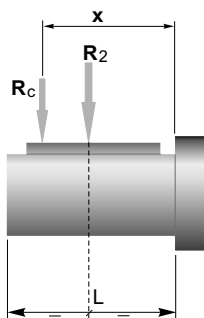


$A_2 = R_2 \times 0.2$

$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]		
	CM026	CM030	CM040
187	400	674	1264
140	490	743	1392
93	580	851	1596
70	610	936	1754
56	610	1008	1890
47	610	1069	2004
35	610	1179	2210
28	610	1270	2381
23	610	1356	2542
18	610	1471	2759
14	610	1600	3000
		CMP... /030	CMP... /040

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:*

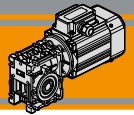


$$R_c = \frac{R_2 \cdot a}{(b + x)} \leq R_{2MAX}$$

$$R \leq R_c$$

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

	CM	CM / CMP	
	026	030	040
<b>a</b>	56	65	84
<b>b</b>	43	50	64
<b>R<sub>2MAX</sub></b>	610	1600	3000



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		
	$\beta$	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
	$\beta$	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
	$\beta$	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'

Rendimento

Efficiency

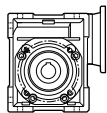
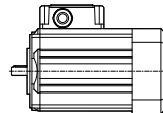
	$n_1$ [min <sup>-1</sup> ]	Rendimento Efficiency	Rapporto / Ratio											
			5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	2800	Rd	89	87	85	83	80		73	68	64	60		
	1400		87	84	83	78	74		66	61	57	53		
	900		84	83	80	75	71		61	57	52	48		
			Rs	72	71	68	61	56		46	41	36	34	
CM030	2800	Rd	89	88	86	84	81	78	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
CM040	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



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

Motori applicabili

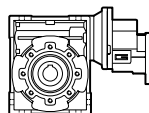
Motor adapters



		SMT			SMM		
		5014 5024 5034 5044	5624 5634 5644 5654	6324 6334 6344	5014 5024 5034	5624 5634 5644	6324 6334
CM	026	5 - 60				5 - 60	
	030	5 - 100		5-50	5 - 100		5-50
	040	5- 100					

5 - 100

Rapporti di riduzione i  
Ratio i



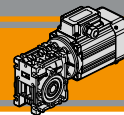
		SMT			SMM		
		5014 5024 5034 5044	5624 5634 5644 5654	6324 6334 6344	5014 5024 5034	5624 5634 5644	6324 6334
CMP	056/030	60 - 150				60 - 150	
	056/040	60 - 300			60 - 300		
	063/040			60 - 120			60 - 120

60 - 300

Rapporti di riduzione i  
Ratio i



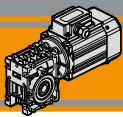




## Dati tecnici

## Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i				$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			
<b>0.12</b>								<b>0.18</b>							
SMT5044	<b>280</b>	3.5	5.1	5	CM030		B14	SMT6324	<b>140</b>	10	4.4	10	CM040		B14
SMT5634	<b>187</b>	5.2	3.8	7.5	CM030		B14	SMM6324	<b>93</b>	15	3.0	15	CM040		B14
SMM5634	<b>140</b>	6.9	3.1	10	CM030		B14	(1400 min <sup>-1</sup> )	<b>70</b>	19	2.1	20	CM040		B14
	<b>93</b>	10	2.2	15	CM030		B14		<b>56</b>	23	1.7	25	CM040		B14
	<b>70</b>	12	1.5	20	CM030		B14		<b>47</b>	26	1.9	30	CM040		B14
	<b>56</b>	15	1.4	25	CM030		B14		<b>35</b>	32	1.3	40	CM040		B14
	<b>47</b>	16	1.3	30	CM030		B14		<b>28</b>	37	1.1	50	CM040		B14
	<b>35</b>	20	1.0	40	CM030		B14		<b>23</b>	43	0.8	60	CM040		B14
	<b>28</b>	24	0.8	50	CM030		B14		<b>23</b>	51	1.1	60	CM040	CMP063/040	B14
	<b>23</b>	32	0.8	60		CMP056/030	B14		<b>19</b>	60	0.9	75		CMP063/040	B14
									<b>18</b>	68	1.0	90		CMP063/040	B14
	<b>93</b>	10	4.5	15	CM040		B14								
	<b>70</b>	13	3.1	20	CM040		B14								
	<b>56</b>	15	2.5	25	CM040		B14								
	<b>47</b>	17	2.8	30	CM040		B14								
	<b>35</b>	21	2.0	40	CM040		B14								
	<b>28</b>	25	1.6	50	CM040		B14								
	<b>23</b>	28	1.3	60	CM040		B14								
	<b>23</b>	34	1.7	60		CMP056/040	B14								
	<b>19</b>	40	1.3	75		CMP056/040	B14								
	<b>18</b>	34	1.0	80	CM040		B14								
	<b>16</b>	45	1.6	90		CMP056/040	B14								
	<b>14</b>	38	0.8	100	CM040		B14								
	<b>12</b>	56	1.1	120		CMP056/040	B14								
	<b>9</b>	64	1.0	150		CMP056/040	B14								
<b>0.18</b>								<b>0.25</b>							
SMT5644	<b>280</b>	5.3	2.4	5	CM026		B14	SMT5654	<b>280</b>	7	1.8	5	CM026		B14
SMM5644	<b>187</b>	7.7	1.8	7.5	CM026		B14	(1400 min <sup>-1</sup> )	<b>187</b>	11	1.3	8	CM026		B14
	<b>140</b>	10	1.4	10	CM026		B14		<b>140</b>	14	1.0	10	CM026		B14
	<b>93</b>	14	1.0	15	CM026		B14								
	<b>70</b>	18	0.8	20	CM026		B14								
									<b>280</b>	7.3	2.5	5	CM030		B14
	<b>280</b>	5.3	3.4	5	CM030		B14		<b>187</b>	11	1.8	7.5	CM030		B14
	<b>187</b>	7.8	2.6	7.5	CM030		B14		<b>140</b>	14	1.5	10	CM030		B14
	<b>140</b>	10	2.0	10	CM030		B14		<b>93</b>	20	1.0	15	CM030		B14
	<b>93</b>	15	1.4	15	CM030		B14		<b>70</b>	27	1.5	20	CM030		B14
	<b>70</b>	18	1.0	20	CM030		B14								
	<b>56</b>	22	0.9	25	CM030		B14								
	<b>47</b>	25	0.9	30	CM030		B14								
									<b>280</b>	7.5	5.5	5	CM040		B14
	<b>280</b>	5.4	7.6	5	CM040		B14		<b>187</b>	11	4.0	7.5	CM040		B14
	<b>187</b>	7.9	5.6	7.5	CM040		B14		<b>140</b>	14	3.1	10	CM040		B14
	<b>140</b>	10	4.4	10	CM040		B14		<b>93</b>	21	2.2	15	CM040		B14
	<b>93</b>	15	3.0	15	CM040		B14		<b>70</b>	27	1.5	20	CM040		B14
	<b>70</b>	19	2.1	20	CM040		B14								
	<b>56</b>	23	1.7	25	CM040		B14								
	<b>47</b>	26	1.9	30	CM040		B14								
	<b>35</b>	32	1.3	40	CM040		B14								
	<b>28</b>	37	1.1	50	CM040		B14								
	<b>23</b>	43	0.8	60	CM040		B14								
	<b>23</b>	51	1.1	60		CMP056/040	B14								
	<b>19</b>	60	0.9	75		CMP056/040	B14								
	<b>18</b>	68	1.0	90		CMP056/040	B14								
<b>0.18</b>								<b>0.25</b>							
SMT6324	<b>280</b>	5.3	3.4	5	CM030		B14	SMT6334	<b>280</b>	7.3	2.5	5	CM030		B14
SMM6324	<b>187</b>	7.8	2.6	7.5	CM030		B14	(1400 min <sup>-1</sup> )	<b>187</b>	11	1.8	7.5	CM030		B14
	<b>140</b>	10	2.0	10	CM030		B14		<b>140</b>	14	1.5	10	CM030		B14
	<b>93</b>	15	1.4	15	CM030		B14		<b>93</b>	20	1.0	15	CM030		B14
	<b>70</b>	18	1.0	20	CM030		B14		<b>70</b>	26	0.7	20	CM030		B14
	<b>56</b>	22	0.9	25	CM030		B14								
	<b>47</b>	25	0.9	30	CM030		B14								
									<b>280</b>	7.5	5.5	5	CM040		B14
	<b>280</b>	5.4	7.6	5	CM040		B14		<b>187</b>	11	4.0	7.5	CM040		B14
	<b>187</b>	7.9	5.6	7.5	CM040		B14		<b>140</b>	14	3.1	10	CM040		B14
	<b>140</b>	10	4.4	10	CM040		B14		<b>93</b>	21	2.2	15	CM040		B14
	<b>93</b>	15	3.0	15	CM040		B14		<b>70</b>	27	1.5	20	CM040		B14
	<b>70</b>	19	2.1	20	CM040		B14								
	<b>56</b>	23	1.7	25	CM040		B14								
	<b>47</b>	26	1.9	30	CM040		B14								
	<b>35</b>	32	1.3	40	CM040		B14								
	<b>28</b>	37	1.1	50	CM040		B14								
	<b>23</b>	43	0.8	60	CM040		B14								
	<b>23</b>	51	1.1	60		CMP056/040	B14								
	<b>19</b>	60	0.9	75		CMP056/040	B14								
	<b>18</b>	68	1.0	90		CMP056/040	B14								
<b>0.18</b>								<b>0.37</b>							
SMT6324	<b>280</b>	5.3	3.4	5	CM030		B14	SMT6334	<b>280</b>	11	1.7	5	CM030		B14
SMM6324	<b>187</b>	7.8	2.6	7.5	CM030		B14	(1400 min <sup>-1</sup> )	<b>187</b>	16	1.2	7.5	CM030		B14
	<b>140</b>	10	2.0	10	CM030		B14		<b>140</b>	21	1.0	10	CM030		B14
	<b>93</b>	15	1.4	15	CM030		B14		<b>93</b>	30	0.7	15	CM030		B14
	<b>70</b>	18	1.0	20	CM030		B14								
	<b>56</b>	22	0.9	25	CM030		B14								
	<b>47</b>	25	0.9	30	CM030		B14								
									<b>280</b>	11	3.7	5	CM040		B14
	<b>280</b>	5.4	7.6	5	CM040		B14		<b>187</b>	16	2.7	7.5	CM040		B14
	<b>187</b>	7.9	5.6	7.5	CM040		B14		<b>140</b>	21	2.1	10	CM040		B14
									<b>93</b>	31	1.5	15	CM040		B14
									<b>70</b>	39	1.0	20	CM040		B14
									<b>56</b>	47	0.8	25	CM040		B14
									<b>47</b>	53	0.9	30	CM040		B14



CM  
CMP

Dimensioni

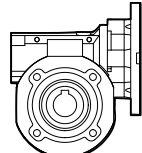
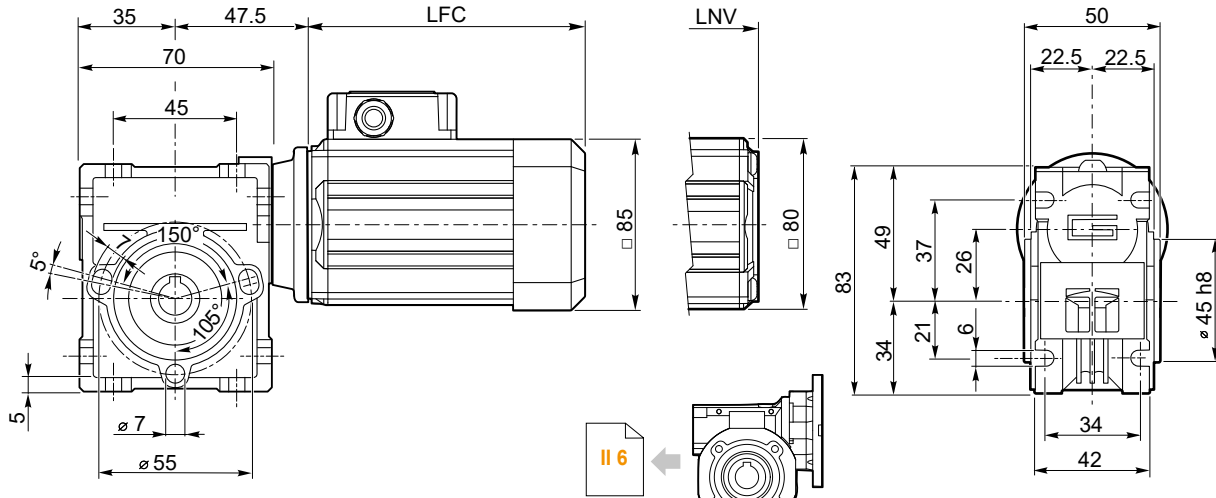
Dimensions

CM 026 .. U

SMT50...TEFC  
SMM50... TEFC

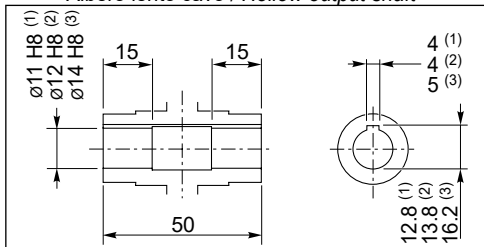
SMT50...TENV  
SMM50... TENV

S3 servizio 30%  
duty



CL026

Albero lento cavo / Hollow output shaft



SMT	LFC	LNV	Kg	
5014	135.5	108.5	3.1	
5024	150.5	123.5	3.5	
5034	175.5	148.5	4.3	
5044	200.5	173.5	5	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	3.5	
5024	175.5	148.5	4.3	
5034	200.5	173.5	5	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

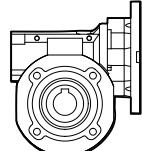
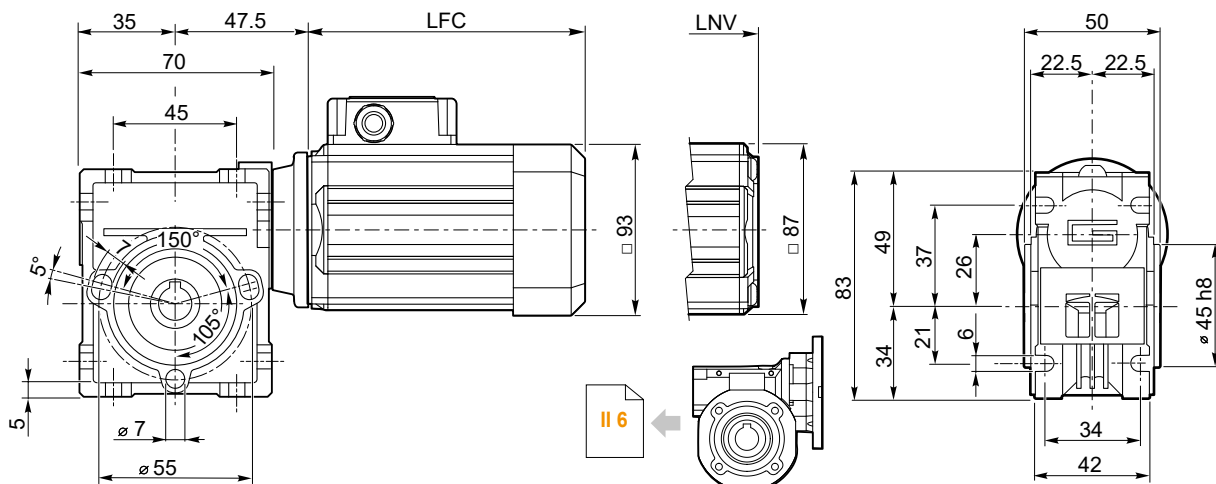
- (1): CM 120/026 (D11)
- (2): CM 120/026
- (3): CM 120/026 (D14)

CM 026 .. U

SMT56...TEFC  
SMM56... TEFC

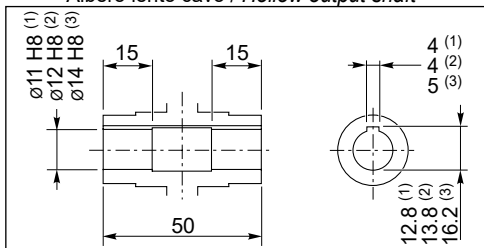
SMT56...TENV  
SMM56... TENV

S3 servizio 30%  
duty



CL026

Albero lento cavo / Hollow output shaft

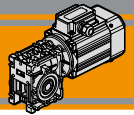


SMT	LFC	LNV	Kg	
5624	141	117	3.6	
5634	151	127	4	
5644	186	162	5.2	
5654	206	182	5.9	

SMM	LFC	LNV	Kg	
5624	151	127	3.9	
5634	171	147	4.5	
5644	206	182	5.8	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

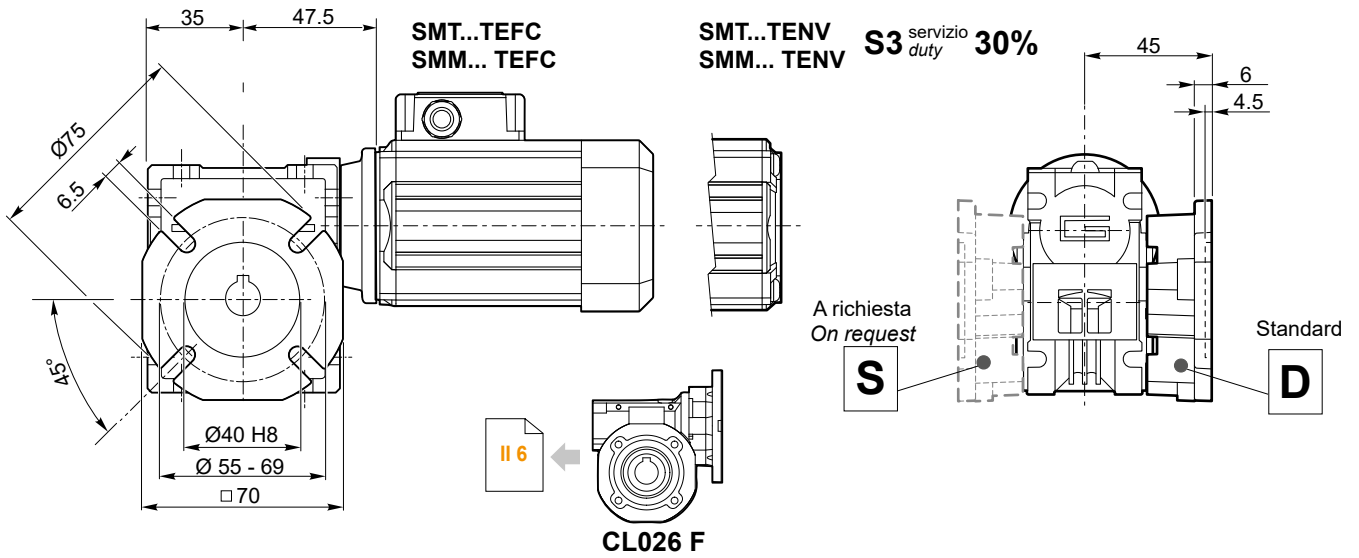
- (1): CM 120/026 (D11)
- (2): CM 120/026
- (3): CM 120/026 (D14)



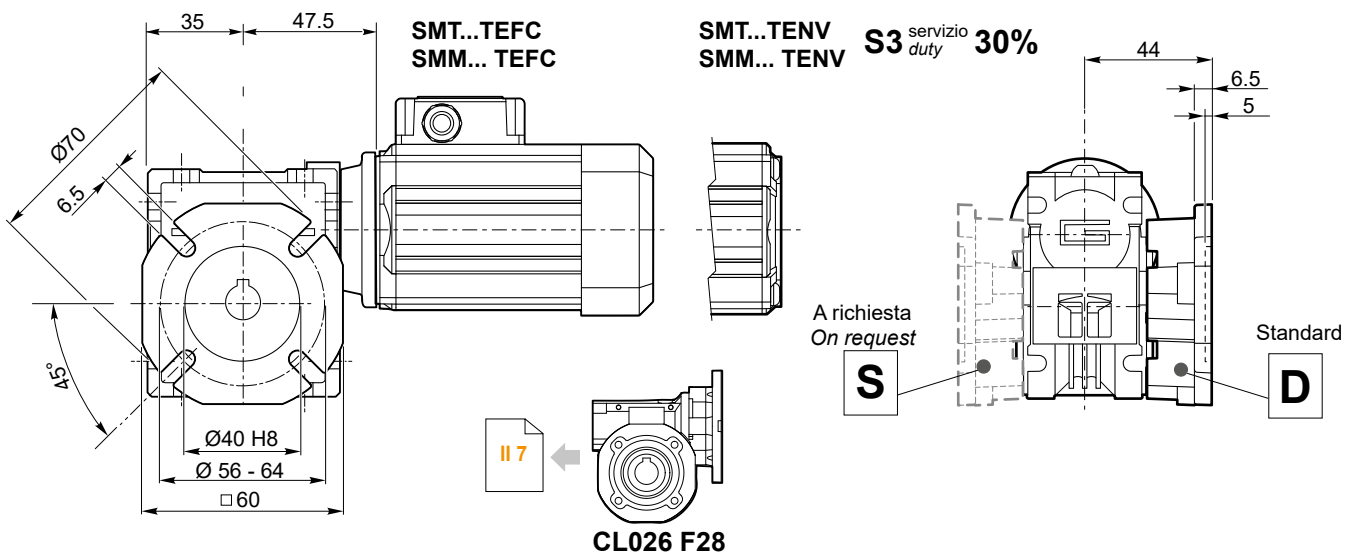
Dimensioni

Dimensions

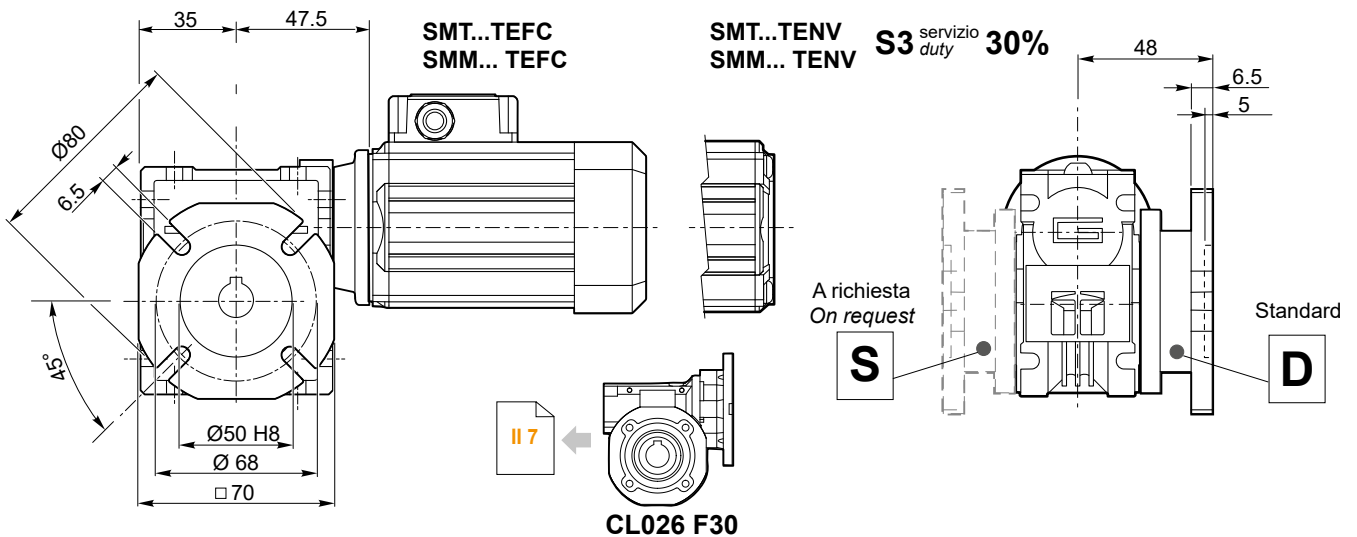
CM 026 .. F

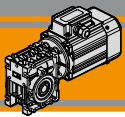


CM 026 .. F28



CM 026 .. F30





CM  
CMP

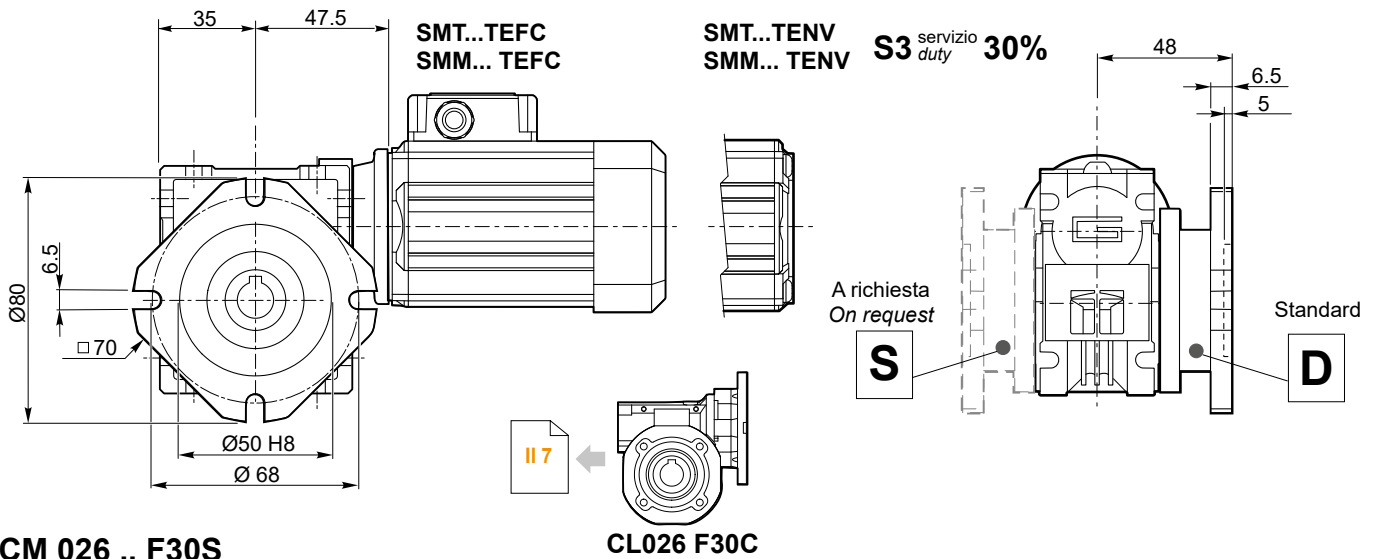
Motoriduttori CA a vite senza fine  
AC Wormgearmotors



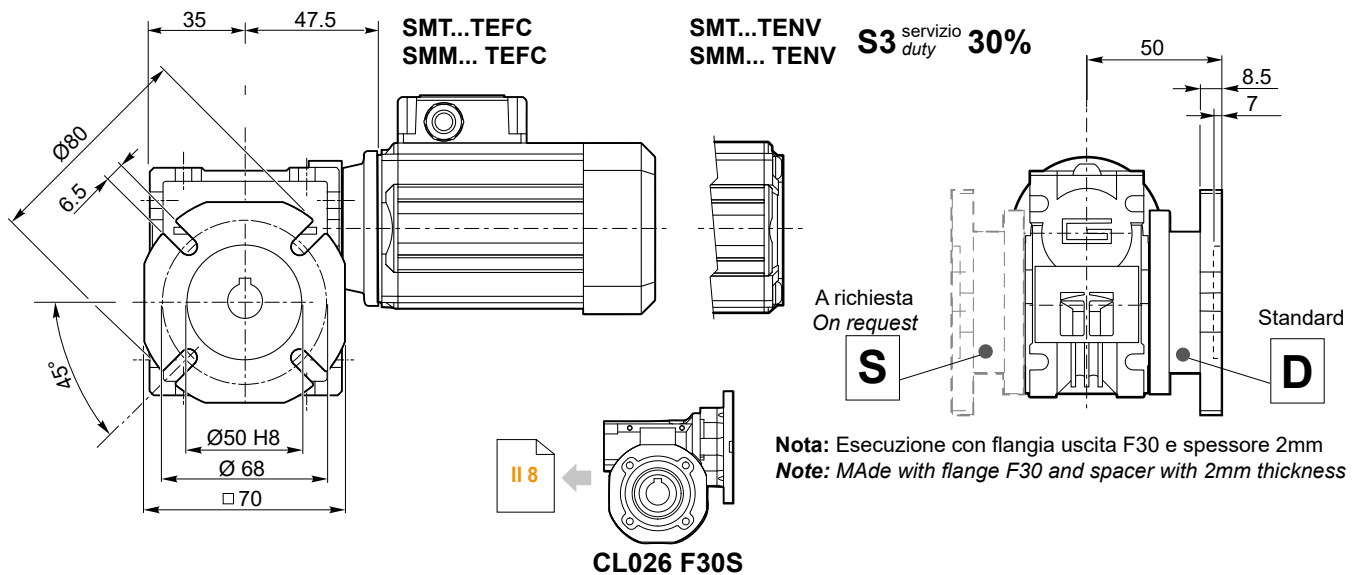
Dimensioni

Dimensions

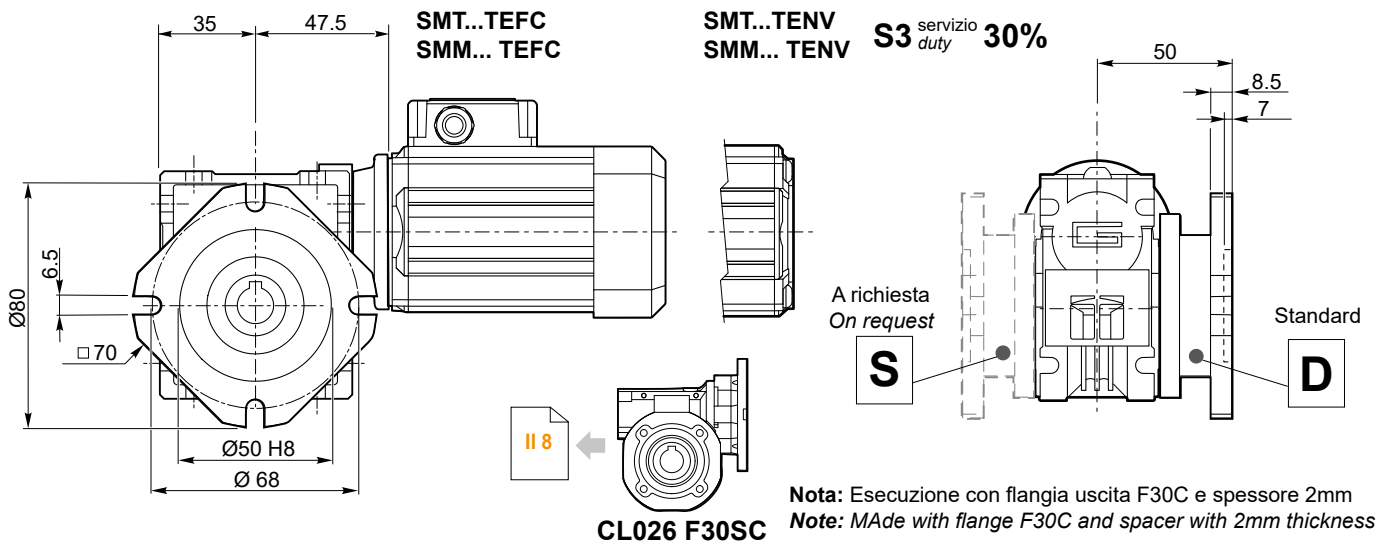
### CM 026 .. F30C

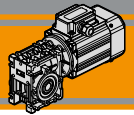


### CM 026 .. F30S



### CM 026 .. F30SC

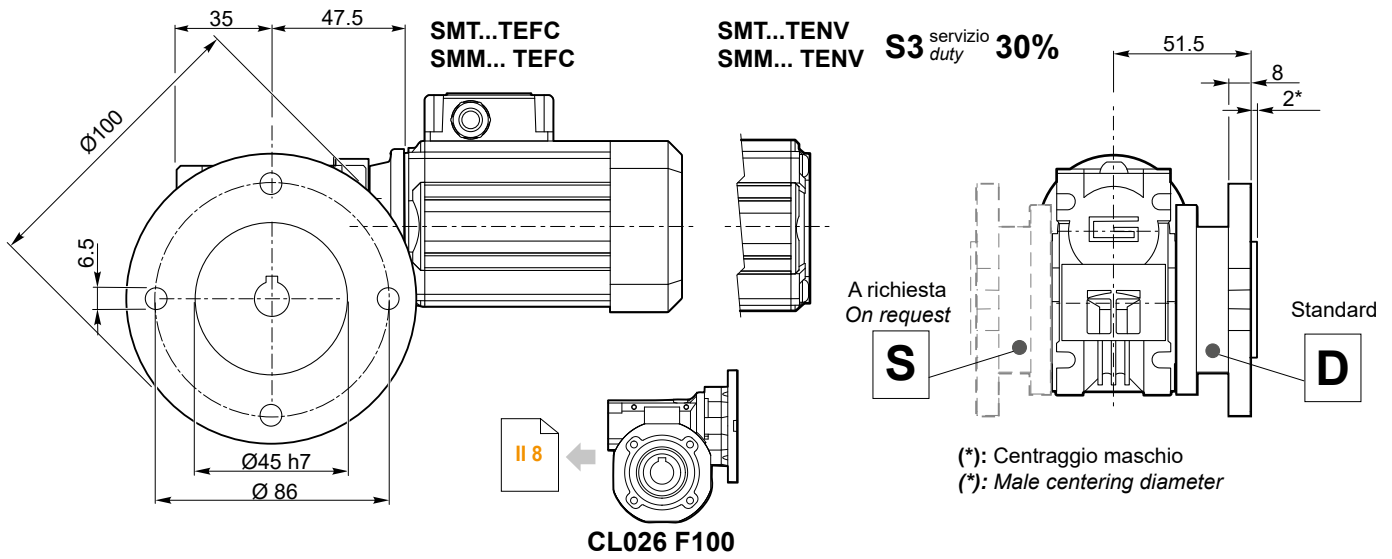




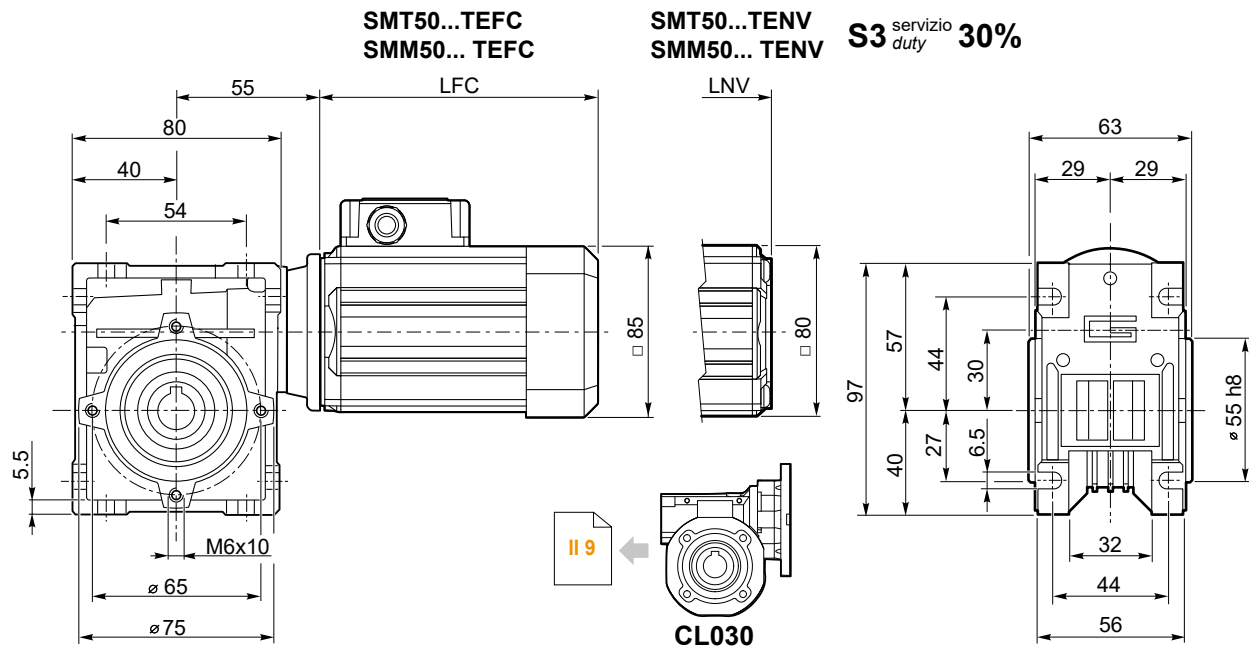
Dimensioni

Dimensions

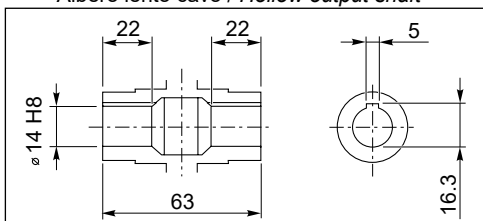
CM 026 .. F100



CM 030 ...U



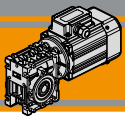
Albero lento cavo / Hollow output shaft



SMT	LFC	LNV	Kg	
5014	135.5	108.5	3.5	
5024	150.5	123.5	3.9	
5034	175.5	148.5	4.7	
5044	200.5	173.5	5.4	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	3.9	
5024	175.5	148.5	4.7	
5034	200.5	173.5	5.4	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately



CM  
CMP

Dimensioni

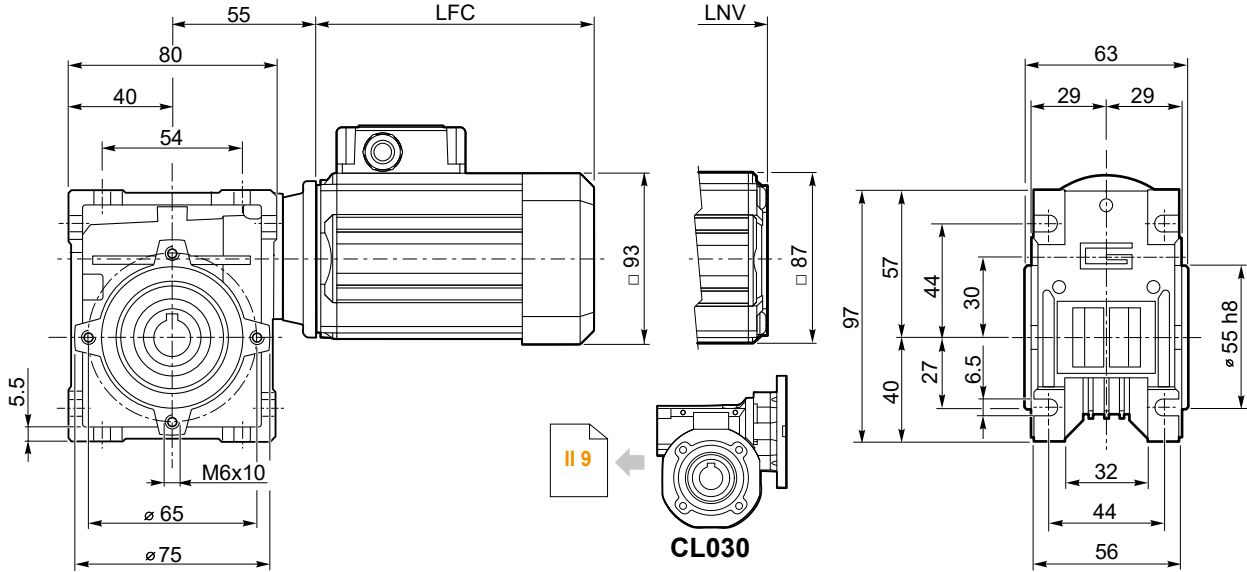
Dimensions

CM 030 ...U

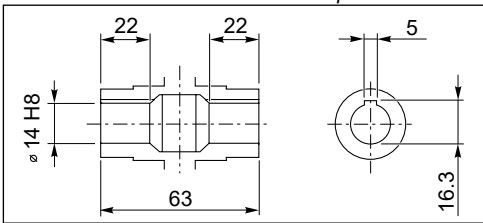
SMT56...TEFC  
SMM56... TEFC

SMT56...TENV  
SMM56... TENV

S3 servizio 30%  
duty



Albero lento cavo / Hollow output shaft



SMT	LFC	LNV	Kg	
5624	141	117	4	
5634	151	127	4.4	
5644	186	162	5.6	
5654	206	182	6.3	

SMM	LFC	LNV	Kg	
5624	151	127	4.3	
5634	171	147	4.9	
5644	206	182	6.2	

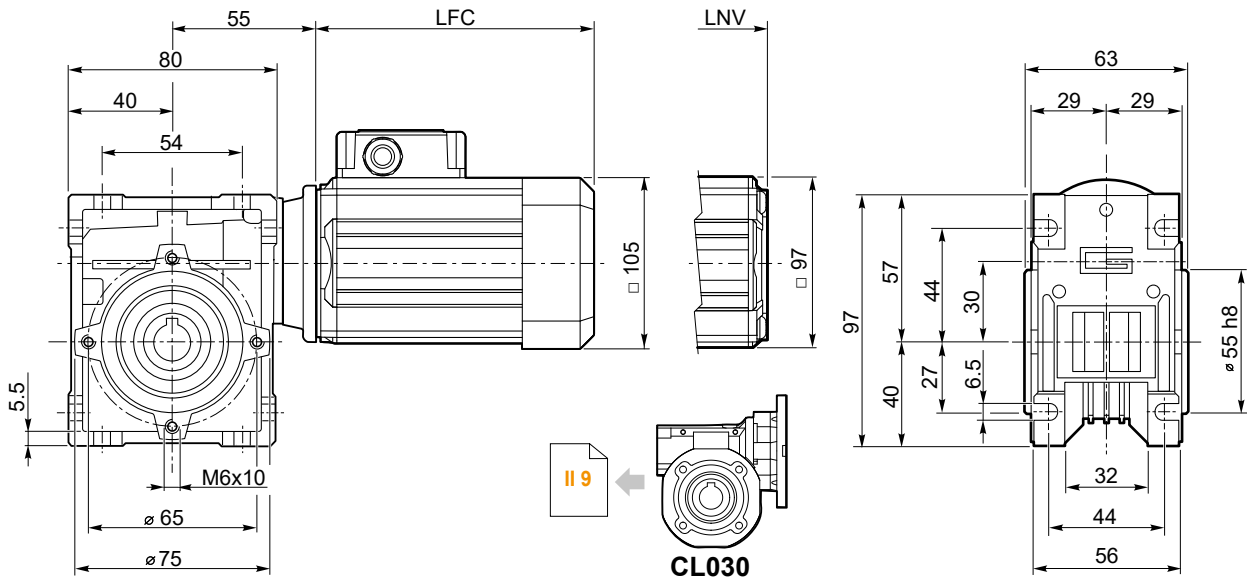
Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

CM 030 ...U

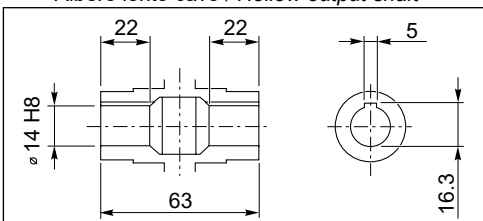
SMT63...TEFC  
SMM63... TEFC

SMT63...TENV  
SMM63... TENV

S3 servizio 30%  
duty



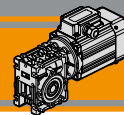
Albero lento cavo / Hollow output shaft



SMT	LFC	LNV	Kg	
6324	165.5	138.5	5.5	
6334	180.5	153.5	6.2	
6344	205.5	178.5	7.4	

SMM	LFC	LNV	Kg	
6324	180.5	153.5	6.3	
6334	205.5	178.5	7.5	

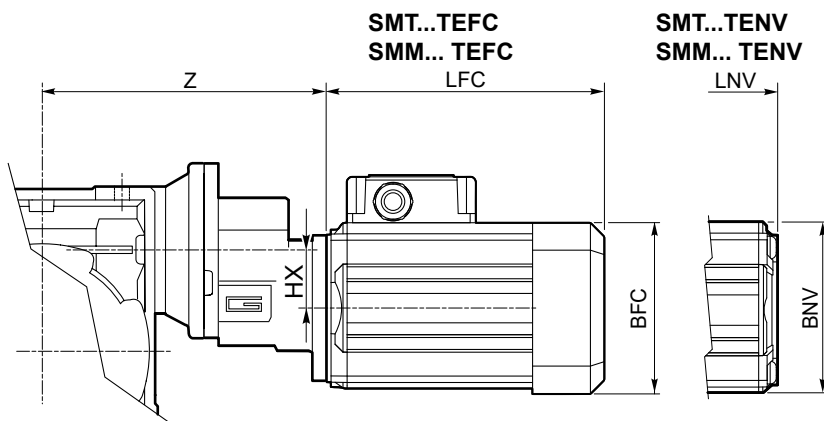
Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately



Dimensioni

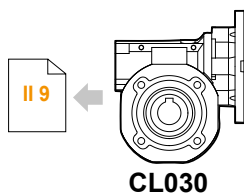
Dimensions

CMP 056/030 ...U



S3 servizio duty 30%

	HX	Z
056/030	30.5	124



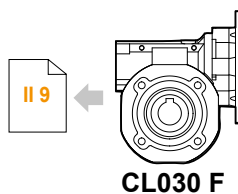
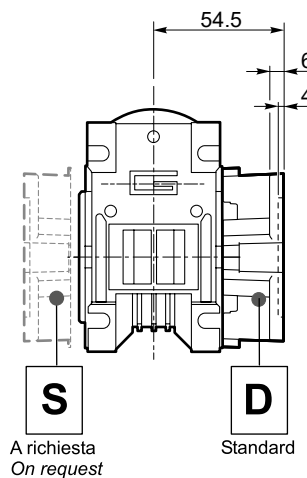
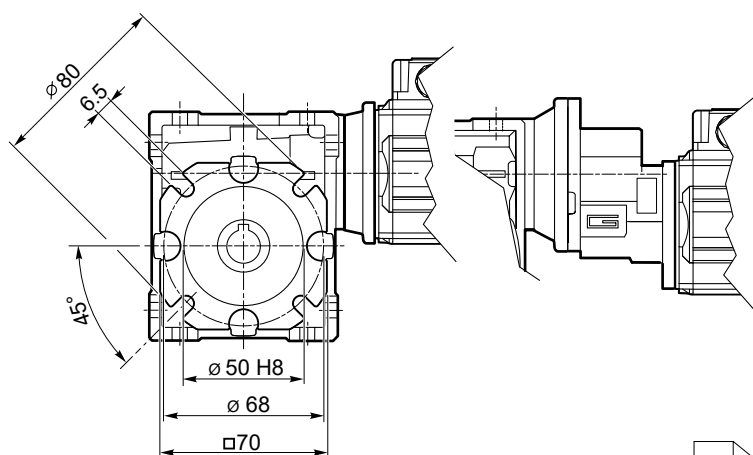
SMT	BFC	BNV	LFC	LNV
5014	□ 85	□ 80	135.5	108.5
5024			150.5	123.5
5034			175.5	148.5
5044			200.5	173.5
5624	□ 93	□ 87	141	117
5634			151	127
5644			186	162
5654			206	182

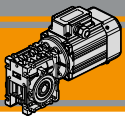
SMM	BFC	BNV	LFC	LNV
5014	□ 85	□ 80	150.5	123.5
5024			175.5	148.5
5034			200.5	173.5
5624			□ 93	□ 87
5634	186	162		
5644	206	182		

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

CM 030 ... - F

CMP 056/030 ... - F





CM  
CMP

Dimensioni

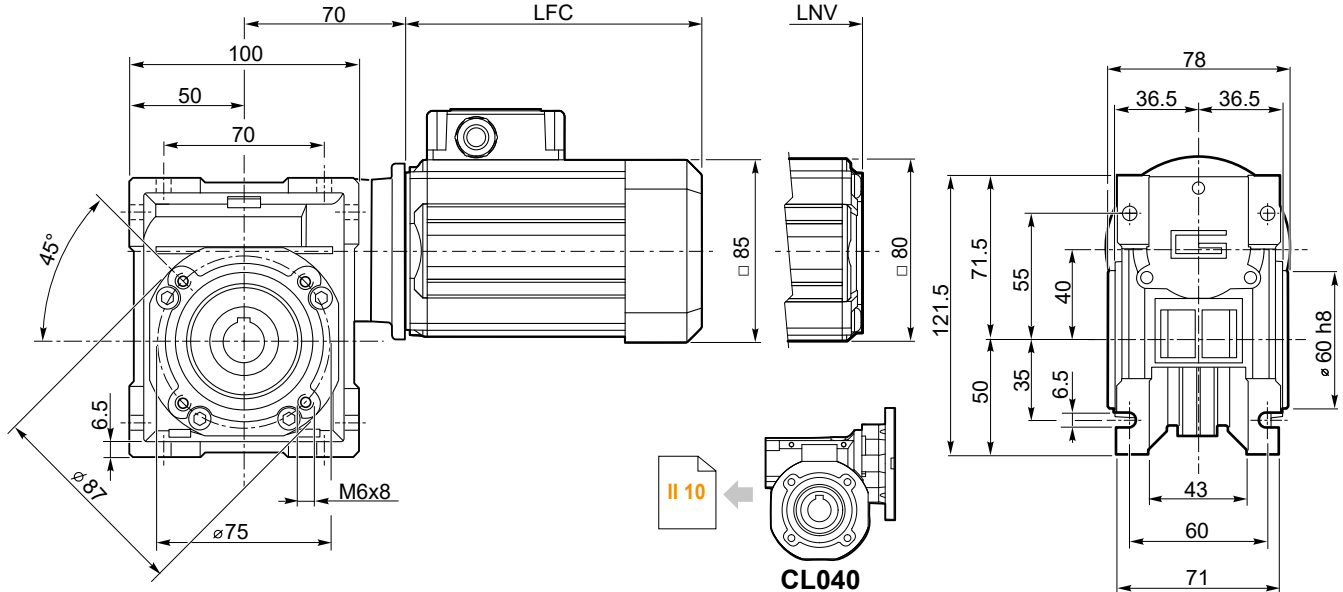
Dimensions

CM 040 ...U

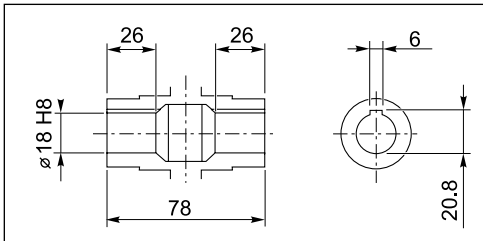
SMT50...TEFC  
SMM50... TEFC

SMT50...TENV  
SMM50... TENV

S3 servizio 30%  
duty



Albero lento cavo / Hollow output shaft



SMT	LFC	LNV	Kg	
5014	135.5	108.5	4.6	
5024	150.5	123.5	5	
5034	175.5	148.5	5.8	
5044	200.5	173.5	6.5	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	5	
5024	175.5	148.5	5.8	
5034	200.5	173.5	6.5	

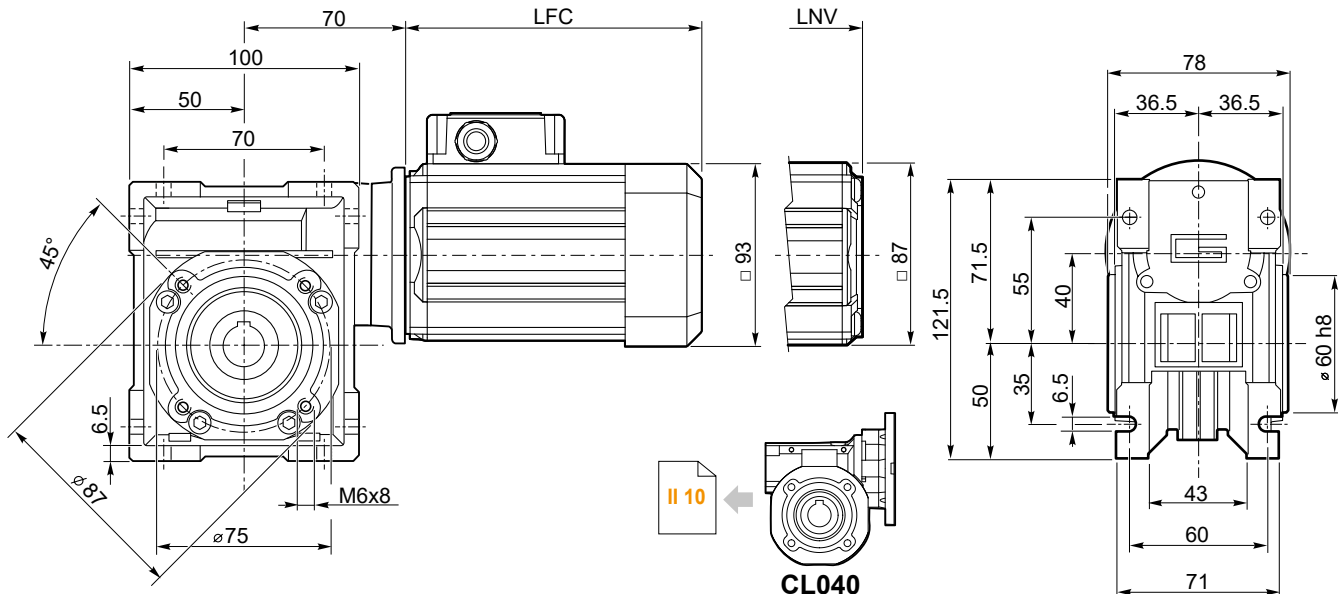
Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

CM 040 ...U

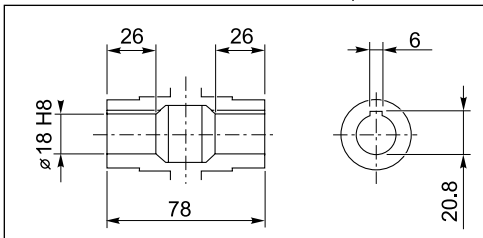
SMT56...TEFC  
SMM56... TEFC

SMT56...TENV  
SMM56... TENV

S3 servizio 30%  
duty



Albero lento cavo / Hollow output shaft

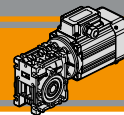


SMT	LFC	LNV	Kg	
5624	141	117	5.1	
5634	151	127	5.5	
5644	186	162	6.7	
5654	206	182	7.4	

SMM	LFC	LNV	Kg	
5624	151	127	5.4	
5634	171	147	6	
5644	206	182	7.3	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

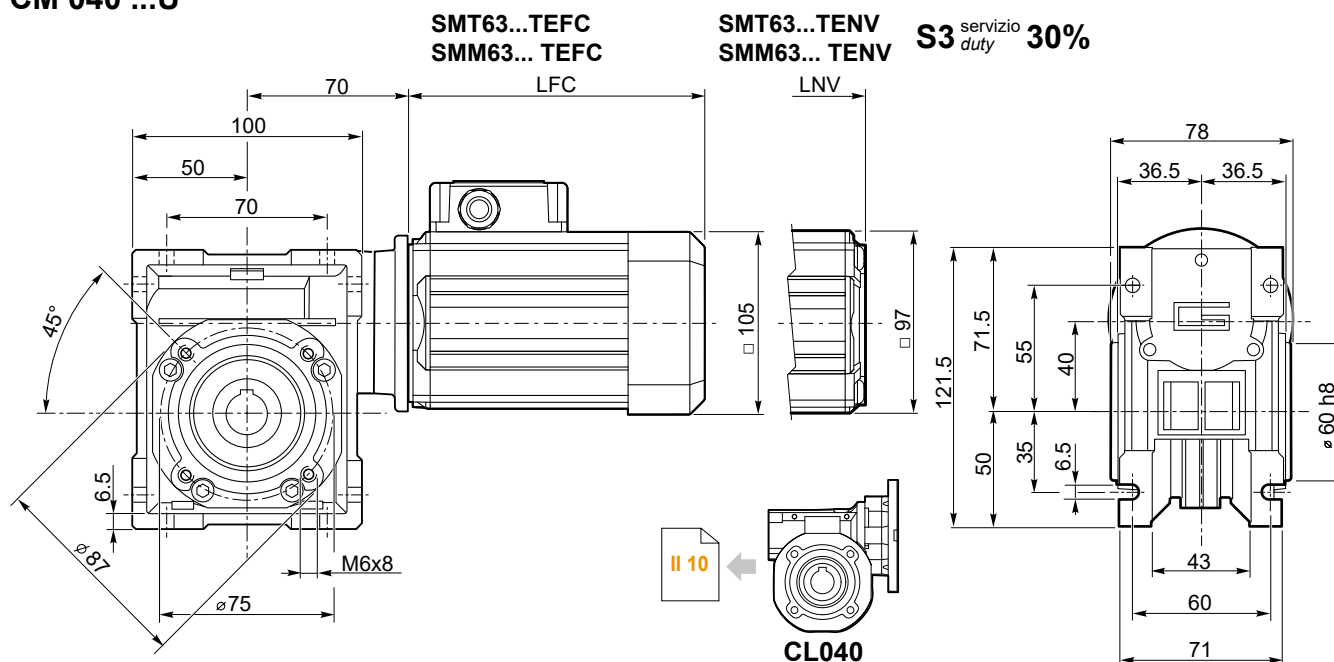




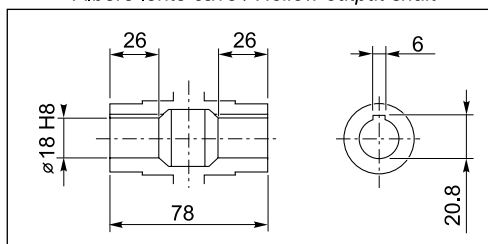
Dimensioni

Dimensions

CM 040 ...U



Albero lento cavo / Hollow output shaft

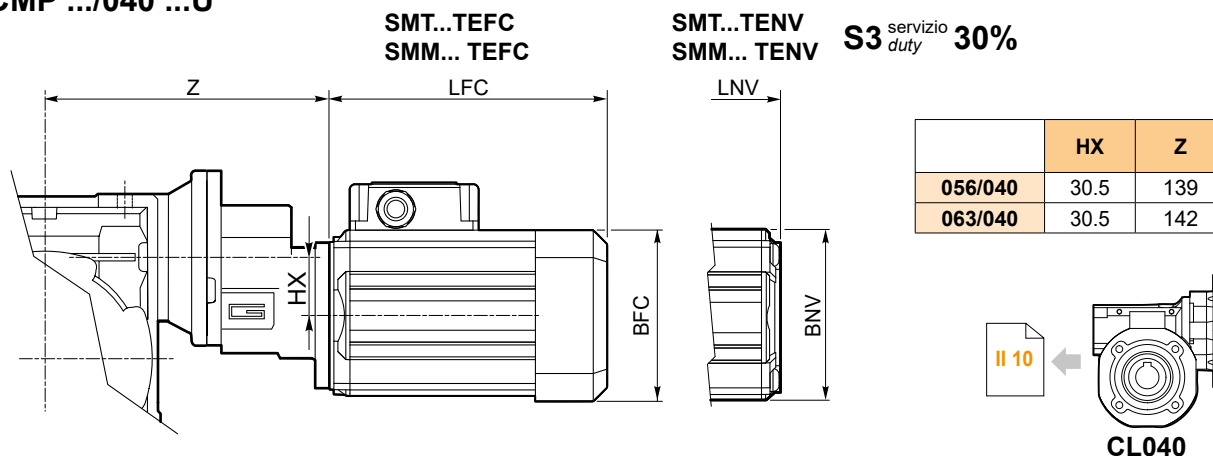


SMT	LFC	LNV	Kg	
6324	165.5	138.5	6.6	
6334	180.5	153.5	7.3	
6344	205.5	178.5	8.5	

SMM	LFC	LNV	Kg	
6324	180.5	153.5	7.4	
6334	205.5	178.5	8.6	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

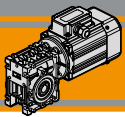
CMP .../040 ...U



SMT	BFC	BNV	LFC	LNV
5014			135.5	108.5
5024	□ 85	□ 80	150.5	123.5
5034			175.5	148.5
5044			200.5	173.5
5624			141	117
5634	□ 93	□ 87	151	127
5644			186	162
5654			206	182
6324			165.5	138.5
6334	□ 105	□ 97	180.5	153.5
6344			205.5	178.5

SMM	BFC	BNV	LFC	LNV
5014			150.5	123.5
5024	□ 85	□ 80	175.5	148.5
5034			200.5	173.5
5624			151	127
5634	□ 93	□ 87	186	162
5644			206	182
6324			180.5	153.5
6334	□ 105	□ 97	205.5	178.5

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

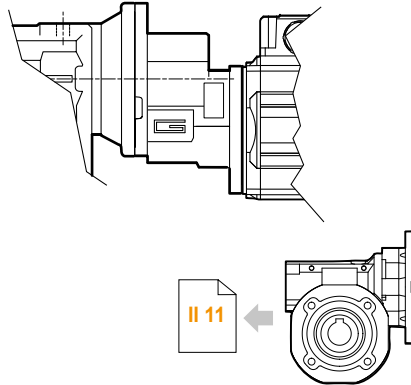
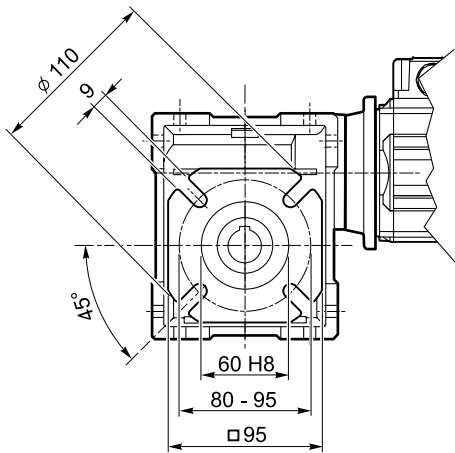


Dimensioni

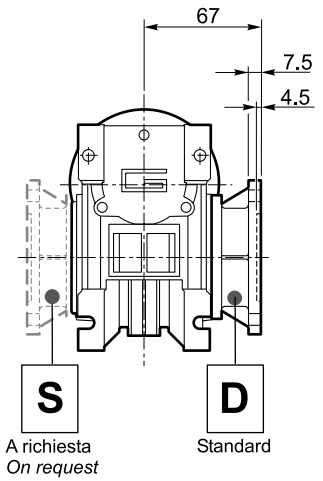
Dimensions

CM 040 ... - F

CMP .../040 ... - F

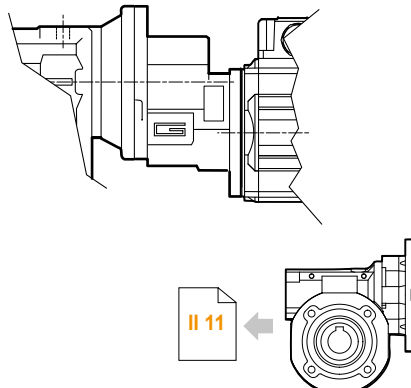
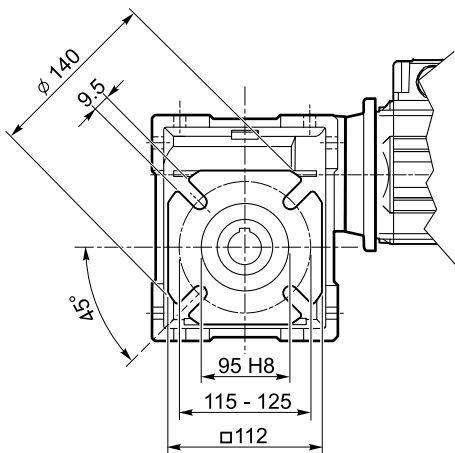


CL040 F

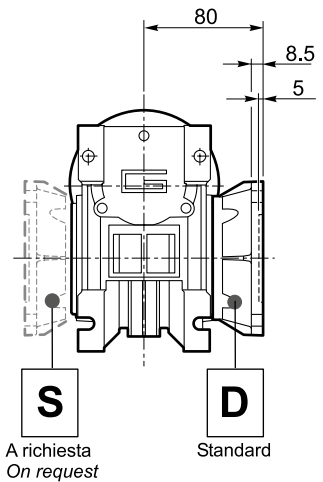


CM 040 ... - FB

CMP .../040 ... - FB

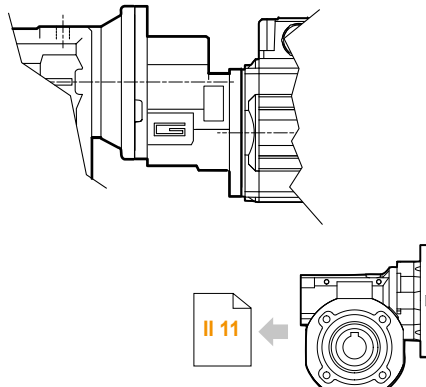
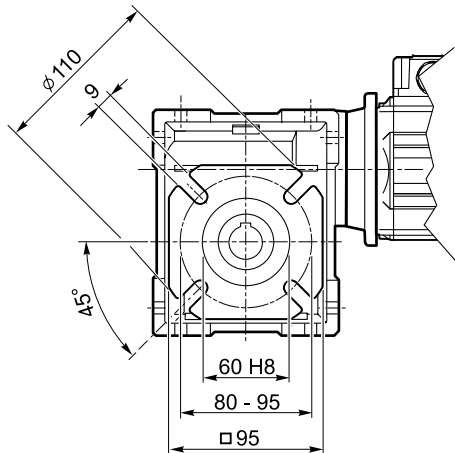


CL040 FB

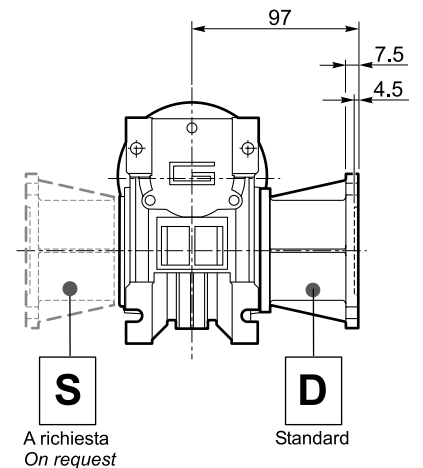


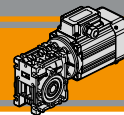
CM 040 ... - FL

CMP .../040 ... - FL



CL040 FL



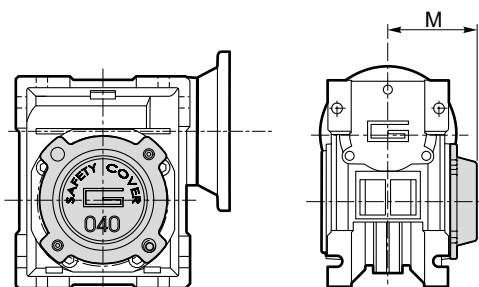
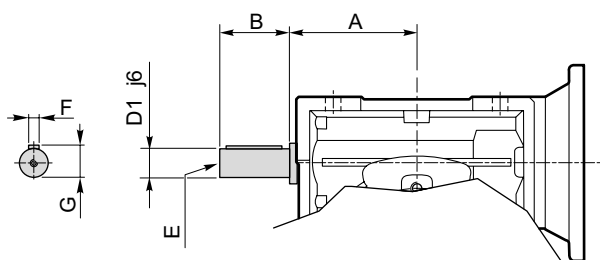


Opzioni

Options

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

**SC** - Safety cover



CM	CMP	A	B	D <sub>1</sub> j <sub>6</sub>	E	F	G
030	056/030	45	20	9	M4	3	10.2
040	056/040 063/040	53	23	11	M5	4	12.5

CM	CMP	M
030	056/030	47
040	056/040 063/040	54.5

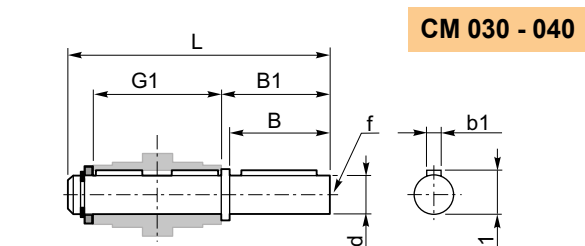
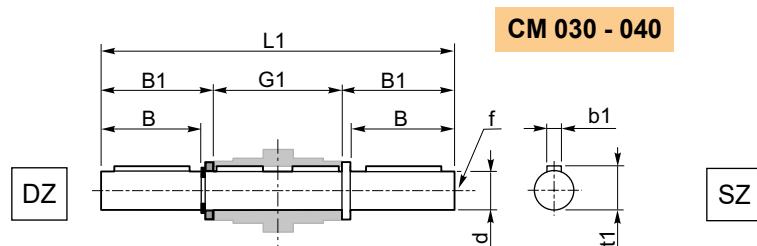
Costruito su richiesta  
*Built on request*

Accessori

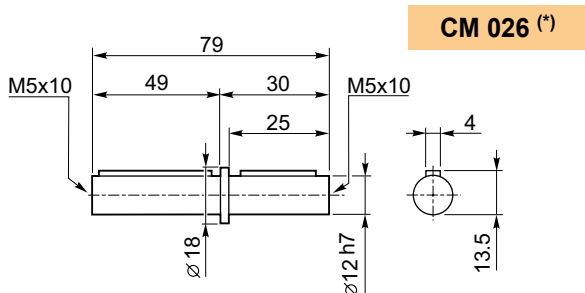
Accessories

Albero lento

Output shaft



CM	CMP	d h <sub>7</sub>	B	B <sub>1</sub>	G <sub>1</sub>	L	L <sub>1</sub>	f	b <sub>1</sub>	t <sub>1</sub>
030	056/030	14	30	32.5	63	102	128	M6	5	16
040	056/040 063/040	18	40	43	78	128	164	M6	6	20.5

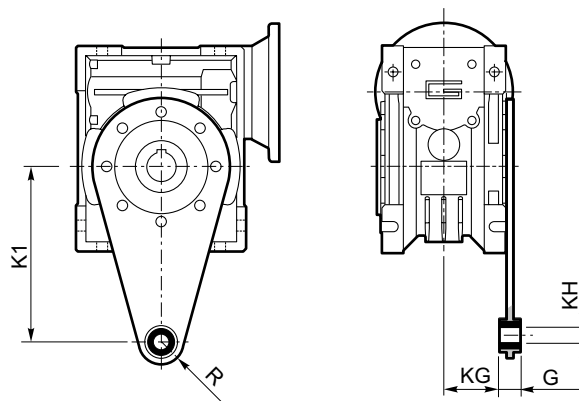


(\*)  
**Nota:** disponibile solo per cavo uscita Ø12  
**Note:** available for output hollow shaft Ø12 only

Braccio di reazione

Torque arm

CM	CMP	K <sub>1</sub>	G	KG	KH	R
030	056/030	85	14	23	8	15
040	056/040 063/040	100	14	31	10	18





**MINI**  **TECNO**™  
**small** but strong

**CMM**

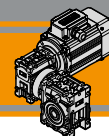
Motoriduttori CA combinati a vite senza fine  
AC Double reduction wormgearmotors



**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



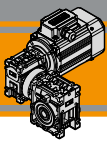




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Designazione	<i>Classification</i>	<b>AF2</b>
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Esecuzioni di montaggio	<i>Mounting executions</i>	<b>AF3</b>
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Dati tecnici	<i>Technical data</i>	<b>AF4</b>
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**Caratteristiche tecniche**

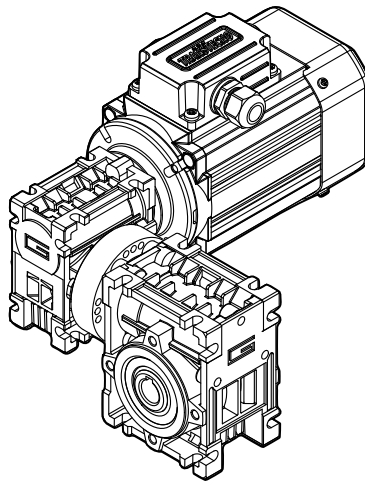
**Technical features**

Le caratteristiche principali dei motoriduttori CMM sono:

- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa motore estrusa in alluminio anodizzato nero
- Carcasse dei riduttori in pressofusione di alluminio
- Motore elettrico AC con grado di protezione IP66
- Lubrificazione permanente con olio sintetico
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56 e 63
- SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter

CMM gearmotors range has the following main features:

- Compact design
- AC single phase and three phase motors available
- Motor extruded aluminum housing black anodized
- Gearbox die-cast aluminum housing
- AC electric motor in IP66 protection Standard
- Permanent synthetic oil long-life lubrication
- Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available
- Thermal protection for motor sizes 56 and 63
- SMT56 and SMT63 are suitable for running with inverter



**Designazione**

**Classification**

RIDUTTORE / GEARBOX										
CMM	030/040	FD	150	63	B5	SZDX	BRSX	90	US1	VS
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	IEC 	Forma costruttiva Version	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Esecuzione di montaggio Mounting execution	Opzioni Options
	026/026 026/026 (D11) 026/026 (D14) 026/030 026/040  030/040	U F...	vedi tabelle see tables	56.. 63..	B5 B14	SZDX SZSX DZ	BRDX BRSX  *	0° 90° 180° 270°	UB1 UB2 US1 US2 UV1 UV2 UC1 UC2	VS1 VS2

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

Versione Riduttore  
Gearbox Version

U    F...D    F...S

Albero di uscita  
Output shaft

SZDX    SZSX    DZ

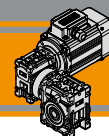
Braccio di reazione  
Torque arm

BRDX    BRSX

Angolo  
Angle

0°    90°    180°    270°





## Designazione

## Classification

SMT	63	2	4	B14	230-400 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMT</b> trifase threephase	vedi tabelle see tables	<b>1-2-3-4-5</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50Hz</b> <b>60Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 

SMM	63	2	4	B14	230 V	50 Hz	TEFC	T1
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMM</b> monofase singlephase	vedi tabelle see tables	<b>1-2-3-4</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 

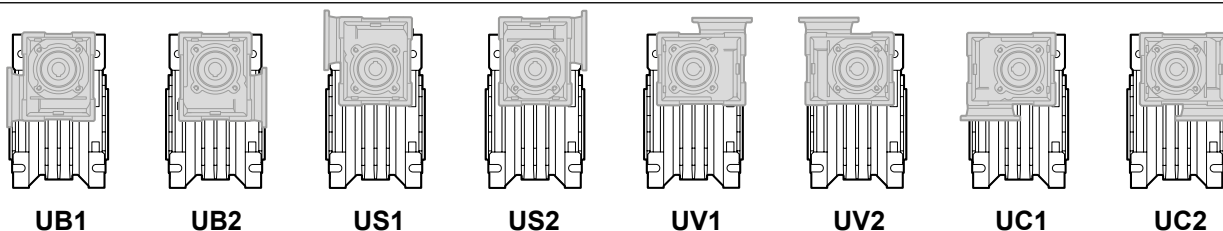
## Simbologia

## Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$M_2$ [Nm]	Coppia in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	sf	Fattore di servizio / <i>Service factor</i>
i	Rapporto di riduzione / <i>Ratio</i>	$R_2$ [N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$P_1$ [kW]	Potenza in entrata / <i>Input power</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>

## Esecuzioni di montaggio

## Mounting executions



## Combinazioni rapporti

## Combination ratio

CMM 026/026 - CMM 026/030 - CMM 026/040												
i (i <sub>1</sub> x i <sub>2</sub> )												
	150	225	300	450	600	900	1200	1500	1800	2400	3000	3600
i <sub>1</sub>	10	15	10	15	20	30	40	50	60	60	60	60
i <sub>2</sub>	15	15	30	30	30	30	30	30	30	40	50	60

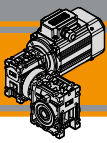
CMM 030/040														
i (i <sub>1</sub> x i <sub>2</sub> )														
	150	200	250	300	400	500	600	750	900	1200	1500	1800	2400	3000
i <sub>1</sub>	10	10	10	10	10	10	20	25	30	40	50	60	60	60
i <sub>2</sub>	15	20	25	30	40	50	30	30	30	30	30	30	40	50

## Lubrificazione

## Lubrication

Tutti i motoriduttori nelle taglie 26, 30, 40 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 size 26, 30, 40 in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*

**CMM****Motoriduttori CA combinati a vite senza fine**  
**AC Double reduction wormgearmotors****Dati tecnici****Technical data**

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
------------------------	----------------------------------------	------------------------	----	---	--	--

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
------------------------	----------------------------------------	------------------------	----	---	--	--

**0.04**

SMT5014	<b>9.3</b>	23	1.1	150	<b>CMM</b> <b>026/026</b>	<b>B14</b>	
SMM5014	<b>6.2</b>	32	0.8	225		<b>B14</b>	
(1400 min <sup>-1</sup> )	<b>4.7</b>	34	0.8	300		<b>B14</b>	
	<b>3.1</b>	34	0.8	450		<b>B14</b>	
	<b>2.3</b>	34	0.8	600		<b>B14</b>	
	<b>1.6</b>	34	0.8	900		<b>B14</b>	
	<b>1.2</b>	34	0.8	1200		<b>B14</b>	
	<b>0.9</b>	34	0.8	1500		<b>B14</b>	
	<b>0.8</b>	34	0.8	1800		<b>B14</b>	
	<b>0.6</b>	28	0.8	2400		<b>B14</b>	
	<b>0.5</b>	25	0.8	3000		<b>B14</b>	
	<b>0.4</b>	23	0.8	3600		<b>B14</b>	
	<b>9.3</b>	23	1.7	150		<b>CMM</b> <b>026/030</b>	<b>B14</b>
	<b>6.2</b>	32	1.2	225			<b>B14</b>
	<b>4.7</b>	37	1.1	300	<b>B14</b>		
	<b>3.1</b>	50	0.8	450	<b>B14</b>		
	<b>2.3</b>	50	0.8	600	<b>B14</b>		
	<b>1.6</b>	50	0.8	900	<b>B14</b>		
	<b>1.2</b>	50	0.8	1200	<b>B14</b>		
	<b>0.9</b>	50	0.8	1500	<b>B14</b>		
	<b>0.8</b>	50	0.8	1800	<b>B14</b>		
	<b>0.6</b>	43	0.8	2400	<b>B14</b>		
	<b>0.5</b>	38	0.8	3000	<b>B14</b>		
	<b>0.4</b>	34	0.8	3600	<b>B14</b>		
	<b>9.3</b>	23	3.7	150	<b>CMM</b> <b>026/040</b>		<b>B14</b>
	<b>6.2</b>	33	2.6	225			<b>B14</b>
	<b>4.7</b>	39	2.3	300		<b>B14</b>	
	<b>3.1</b>	55	1.6	450		<b>B14</b>	
	<b>2.3</b>	69	1.3	600		<b>B14</b>	
	<b>1.6</b>	92	1.0	900		<b>B14</b>	
	<b>1.2</b>	113	0.8	1200		<b>B14</b>	
	<b>0.9</b>	113	0.8	1500		<b>B14</b>	
	<b>0.8</b>	113	0.8	1800		<b>B14</b>	
	<b>0.6</b>	93	0.8	2400		<b>B14</b>	
	<b>0.5</b>	85	0.8	3000		<b>B14</b>	
	<b>0.4</b>	78	0.8	3600		<b>B14</b>	
	<b>9.3</b>	24	3.7	150		<b>CMM</b> <b>030/040</b>	<b>B14</b>
	<b>7.0</b>	31	2.4	200			<b>B14</b>
	<b>5.6</b>	37	1.8	250	<b>B14</b>		
	<b>4.7</b>	39	2.3	300	<b>B14</b>		
	<b>3.5</b>	48	1.6	400	<b>B14</b>		
	<b>2.8</b>	54	1.3	500	<b>B14</b>		
	<b>2.3</b>	70	1.3	600	<b>B14</b>		
	<b>1.9</b>	84	1.1	750	<b>B14</b>		
	<b>1.6</b>	94	1.0	900	<b>B14</b>		
	<b>1.2</b>	113	0.8	1200	<b>B14</b>		
	<b>0.9</b>	113	0.8	1500	<b>B14</b>		
	<b>0.8</b>	113	0.8	1800	<b>B14</b>		
	<b>0.6</b>	93	0.8	2400	<b>B14</b>		
	<b>0.5</b>	85	0.8	3000	<b>B14</b>		

**0.06**

SMT5024	<b>9.3</b>	36	2.4	150	<b>CMM</b> <b>030/040</b>	<b>B14</b>
SMM5024	<b>7.0</b>	46	1.6	200		<b>B14</b>
(1400 min <sup>-1</sup> )	<b>5.6</b>	55	1.2	250		
	<b>4.7</b>	59	1.5	300		
	<b>3.5</b>	72	1.0	400		
	<b>2.8</b>	81	0.8	500		
	<b>2.3</b>	105	0.9	600		
	<b>1.9</b>	113	0.8	750		
	<b>1.6</b>	113	0.8	900		

**0.09**

SMT5034	<b>9.3</b>	49	0.8	150	<b>CMM</b> <b>026/030</b>	<b>B14</b>		
SMM5034	<b>6.2</b>	49	0.8	225		<b>B14</b>		
SMT5624	<b>9.3</b>	53	1.6	150		<b>CMM</b> <b>026/040</b>	<b>B14</b>	
SMM5624	<b>6.2</b>	74	1.2	225			<b>B14</b>	
(1400 min <sup>-1</sup> )	<b>4.7</b>	87	1.0	300			<b>B14</b>	
	<b>3.1</b>	113	0.8	450			<b>B14</b>	
	<b>2.3</b>	113	0.8	600			<b>B14</b>	
	<b>9.3</b>	53	1.6	150			<b>CMM</b> <b>030/040</b>	<b>B14</b>
	<b>7.0</b>	69	1.1	200				<b>B14</b>
	<b>5.6</b>	83	0.8	250				<b>B14</b>
	<b>4.7</b>	88	1.0	300				<b>B14</b>
	<b>3.5</b>	93	0.8	400				<b>B14</b>
	<b>2.8</b>	85	0.8	500				<b>B14</b>
	<b>2.3</b>	113	0.8	600				<b>B14</b>

**0.12**

SMT5044	<b>9.3</b>	70	1.2	150	<b>CMM</b> <b>026/040</b>	<b>B14</b>	
SMT5634	<b>6.2</b>	99	0.9	225		<b>B14</b>	
SMM5624	<b>4.7</b>	113	0.8	300		<b>B14</b>	
(1400 min <sup>-1</sup> )	<b>9.3</b>	71	1.2	150		<b>CMM</b> <b>030/040</b>	<b>B14</b>
	<b>7.0</b>	92	0.8	200			<b>B14</b>
	<b>5.6</b>	84	0.8	250			<b>B14</b>
	<b>4.7</b>	113	0.8	300			<b>B14</b>

**0.18**

SMT5644	<b>9.3</b>	105	0.8	150	<b>CMM</b> <b>026/040</b>	<b>B14</b>	
SMM5644	<b>6.2</b>	109	0.8	225		<b>B14</b>	
(1400 min <sup>-1</sup> )	<b>9.3</b>	107	0.8	150		<b>CMM</b> <b>030/040</b>	<b>B14</b>
	<b>7.0</b>	93	0.8	200			<b>B14</b>

**0.18**

SMT6324	<b>9.3</b>	107	0.8	150	<b>CMM</b> <b>030/040</b>	<b>B14</b>
SMM6334	<b>7.0</b>	93	0.8	225		<b>B14</b>
(1400 min <sup>-1</sup> )						

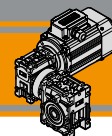
**0.25**

SMT5654	<b>9.3</b>	109	0.8	150	<b>CMM</b> <b>030/040</b>	<b>B14</b>
SMT6334						
SMM6334						
(1400 min <sup>-1</sup> )						

**0.06**

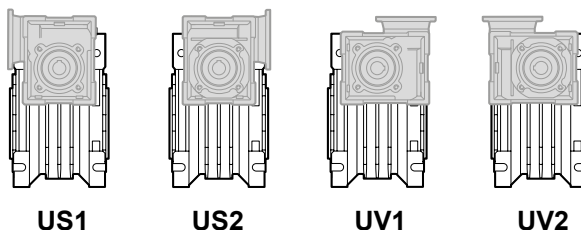
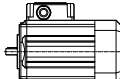
SMT5024	<b>9.3</b>	33	0.8	150	<b>CMM</b> <b>026/026</b>	<b>B14</b>
SMM5024	<b>6.2</b>	33	0.8	225		<b>B14</b>
(1400 min <sup>-1</sup> )	<b>9.3</b>	34	1.1	150	<b>CMM</b> <b>026/030</b>	<b>B14</b>
	<b>6.2</b>	48	0.8	225		<b>B14</b>
	<b>4.7</b>	50	0.8	300		<b>B14</b>
	<b>9.3</b>	35	2.5	150	<b>CMM</b> <b>026/040</b>	<b>B14</b>
	<b>6.2</b>	50	1.8	225		<b>B14</b>
	<b>4.7</b>	58	1.5	300		<b>B14</b>
	<b>3.1</b>	82	1.1	450		<b>B14</b>
	<b>2.3</b>	104	0.9	600		<b>B14</b>
	<b>1.6</b>	113	0.8	900		<b>B14</b>

**Nota:** Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio**Note:** Please check that the output torque M2 does not exceed the value into the grey areas



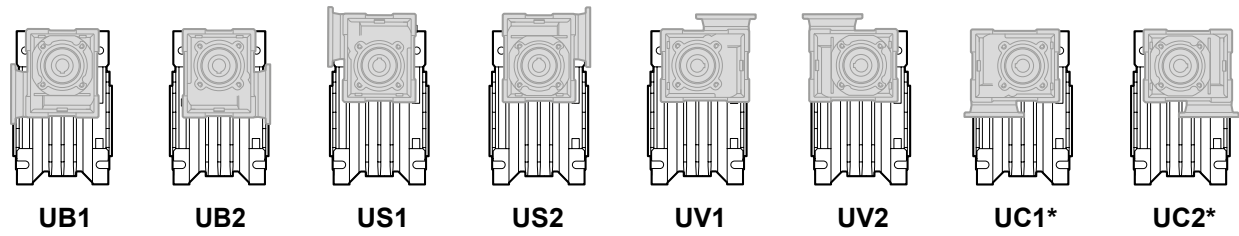
Motori applicabili

Motor adapters

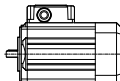



		SMT		SMM	
		5014	5624	5014	5624
		5024	5634	5024	5634
		5034	5644	5034	5644
		5044	5654		
<b>CM</b>	<b>026/026</b>	150 - 3600		150 - 3600	

150 - 3600 Rapporti di riduzione i / Ratio i

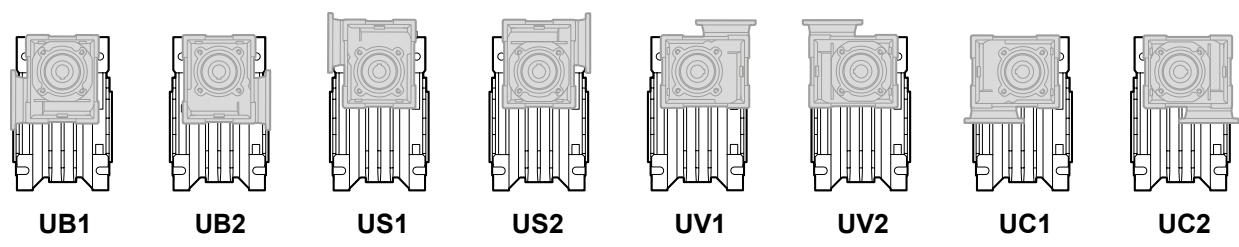
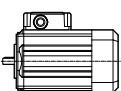


\*: Solo / only SMT 50 - SMM50



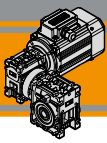
		SMT		SMM	
		5014	5624	5014	5624
		5024	5634	5024	5634
		5034	5644	5034	5644
		5044	5654		
<b>CM</b>	<b>026/030</b>	150 - 3600		150 - 3600	
	<b>026/040</b>				

150 - 3600 Rapporti di riduzione i / Ratio i

		SMT			SMM		
		5014	5624	6324	5014	5624	6314
		5024	5634	6334	5024	5634	6324
		5034	5644	6344	5034	5644	6334
		5044	5654				
<b>CM</b>	<b>030/040</b>	75 - 3600		75-1500	75 - 3600		75-1500

75 - 3600 Rapporti di riduzione i / Ratio i



**CMM**

Motoriduttori CA combinati a vite senza fine  
AC Double reduction wormgearmotors



**Dimensioni**

**Dimensions**

CMM..U - CMM..F...																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>h8</sub>	N1	N2
026/026 (D11)			11														
026/026	45	70	12	83	22	47.5	50	35	34	26	26	34	42	55	45	22.5	21
026/026 (D14)			14														
026/030	54	80	14	97	32	47.5	63	40	34	30	26	44	56	65	55	29	21
026/040	70	100	18	121.5	43	47.5	78	50	34	40	26	60	71	75	60	36.5	21

CMM..U - CMM..F...														
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	Kg
026/026 (D11)												4	12.8	
026/026	6	—	37	49	49	5	15	21	76	7	—	4	13.8	1.6
026/026 (D14)												5	16.2	
026/030	6.5	75	44	57	49	5.5	22	27	81	M6x10(n.4)	90°	5	16.3	2.4
026/040	6.5	87	55	71.5	49	6.5	26	35	91.5	M6x8(n.4)	45°	6	20.8	3.5

	CMM..F						CMM..F28						CMM..F30						CMM..F30S <sup>(1)</sup>														
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
026 (D11)	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
026																																	
026 (D14)																																	

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

	CMM..F30C						CMM..F30SC <sup>(2)</sup>						CMM..F100													
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC *	KM	KN <sub>H7</sub>	KO	KP	KQ	
026 (D11)																										
026	-	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	-	
026 (D14)																										

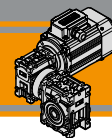
(2): F30SC eseguita con F30C e distanziale di spessore 2 mm / F30SC made with F30C and spacer with 2mm thickness

	CMM..F						CMM..FB						CMM..FL												
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
026/030	45°	54.5	6	4	68	50	6.5(n.4)	80	70								—								
026/040	45°	67	7.5	4.5	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

SMT	BFC	BNV	LFC	LNV
5014			135.5	108.5
5024	□ 85	□ 80	150.5	123.5
5034			175.5	148.5
5044			200.5	173.5
5624			141	117
5634	□ 93	□ 87	151	127
5644			186	162
5654			206	182

SMM	BFC	BNV	LFC	LNV
5014			150.5	123.5
5024	□ 85	□ 80	175.5	148.5
5034			200.5	173.5
5624			151	127
5634	□ 93	□ 87	186	162
5644			206	182

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately



Dimensioni

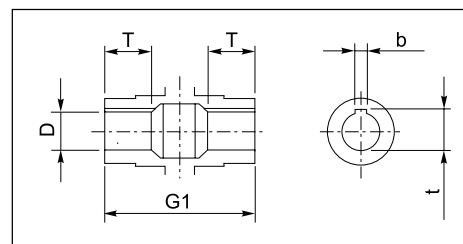
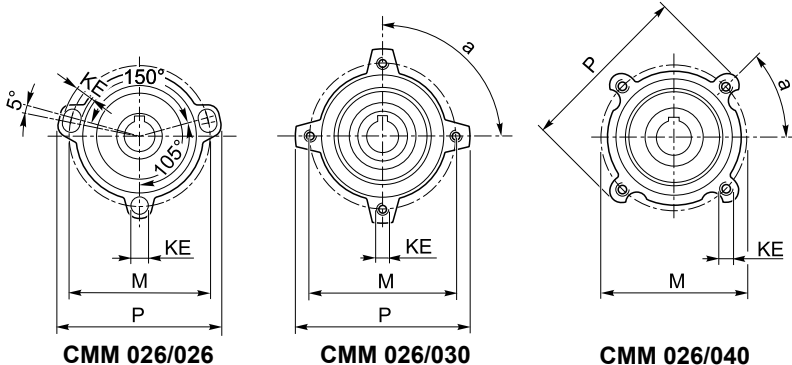
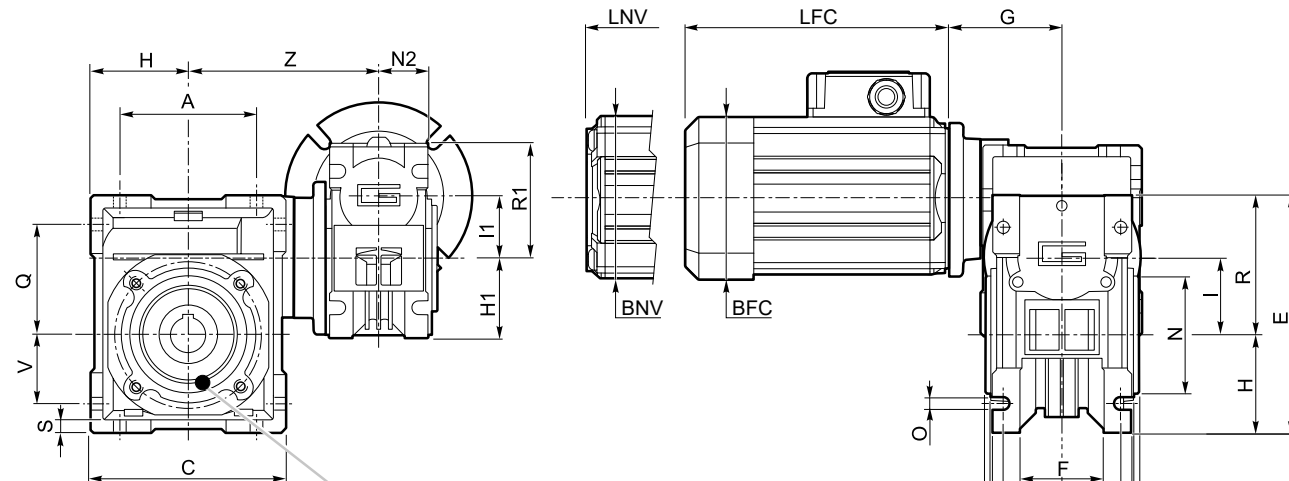
Dimensions

CMM 026/... U

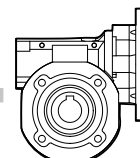
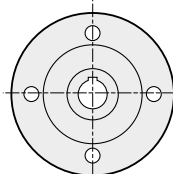
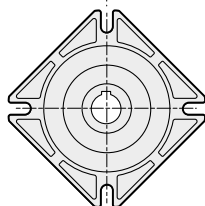
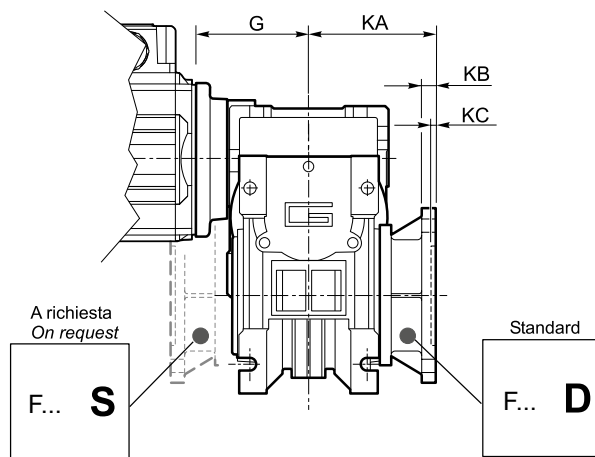
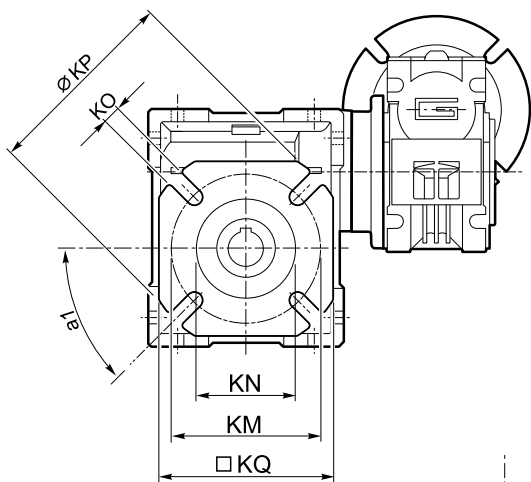
S3 <sup>servizio</sup> <sub>duty</sub> 30%

SMT...TENV  
SMM... TENV

SMT...TEFC  
SMM... TEFC



Albero lento cavo / Hollow output shaft

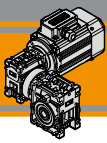


CMM026/026.. F  
CMM026/026.. F28  
CMM026/026.. F30  
CMM026/026.. F30S  
CMM026/030.. F..  
CMM026/040.. F..

CMM026/026.. F30C  
CMM026/026.. F30SC

CMM026/026.. F100

CL026  
CL030  
CL040



**Dimensioni**

**Dimensions**

CMM.. - CMM..F - CMM..FB - CMM..FL																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>H8</sub>	N1	N2
030/040	70	100	18	121.5	43	55	78	50	40	40	30	60	71	75	60	36.5	29

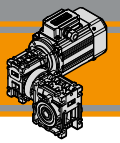
CMM.. - CMM..F - CMM..FB - CMM..FL															
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	Kg	
030/040	6.5	87	55	71.5	57	6.5	26	35	122	M6x8(n.4)	45°	6	20.8 (21.8)	3.9	

	CMM..F								CMM..FB								CMM..FL								
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
030/040	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

SMT	BFC	BNV	LFC	LNv
5014	□ 85	□ 80	135.5	108.5
5024			150.5	123.5
5034			175.5	148.5
5044			200.5	173.5
5624	□ 93	□ 87	141	117
5634			151	127
5644			186	162
5654			206	182
6324	□ 105	□ 97	165.5	138.5
6334			180.5	153.5
6344			205.5	178.5

SMM	BFC	BNV	LFC	LNv
5014	□ 85	□ 80	150.5	123.5
5024			175.5	148.5
5034			200.5	173.5
5624			151	127
5634	□ 93	□ 87	186	162
5644			206	182
6324			180.5	153.5
6334	□ 105	□ 97	205.5	178.5

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately



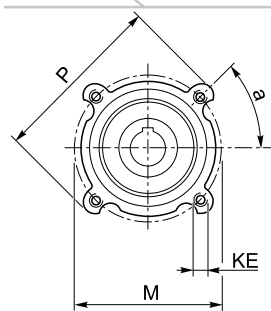
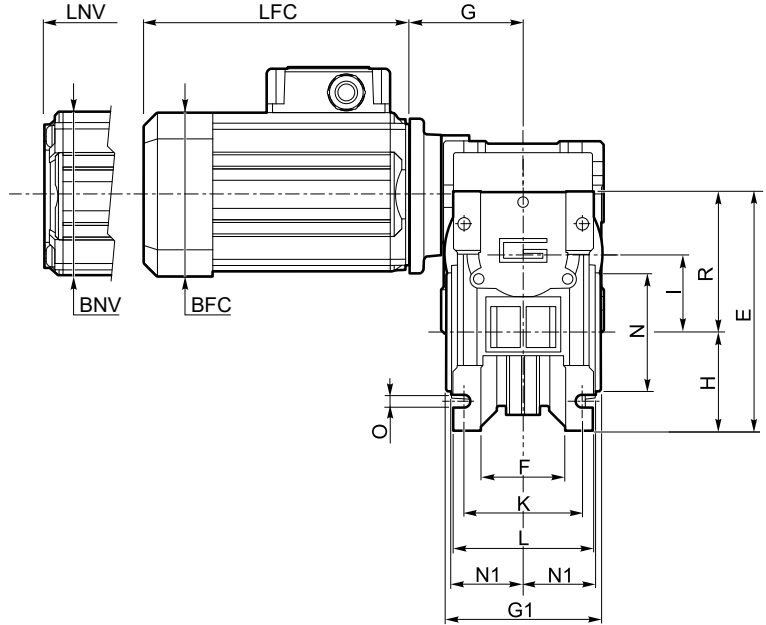
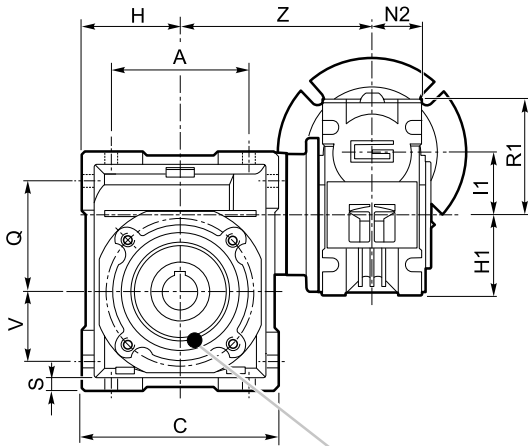
**Dimensioni**

**Dimensions**

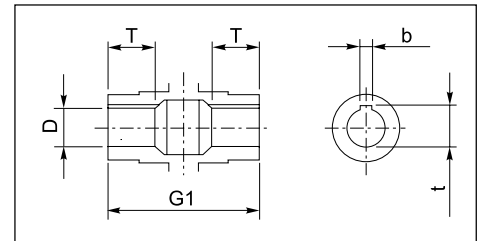
**CMM 030/040 U**

**S3** servizio duty 30% **SMT...TENV**  
**SMM... TENV**

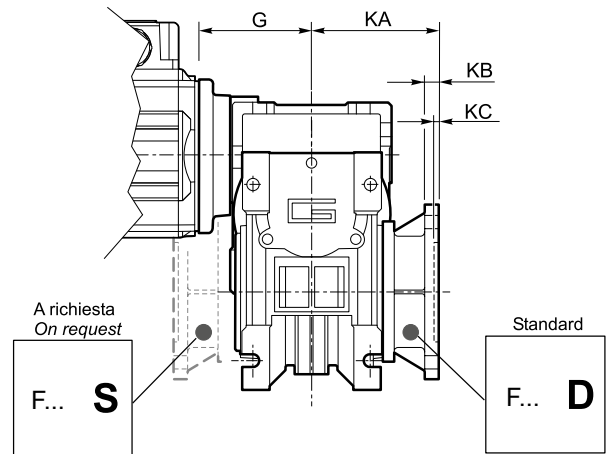
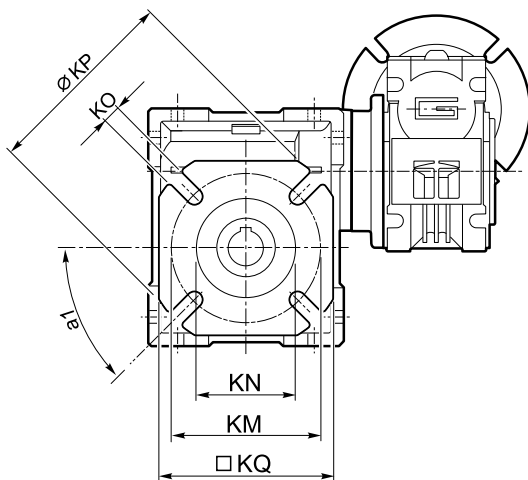
**SMT...TEFC**  
**SMM... TEFC**



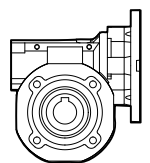
**CMM 030/040**



Albero lento cavo / Hollow output shaft

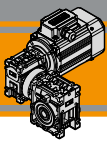


II 9  
II 10



**CL030**  
**CL040**

**AC**

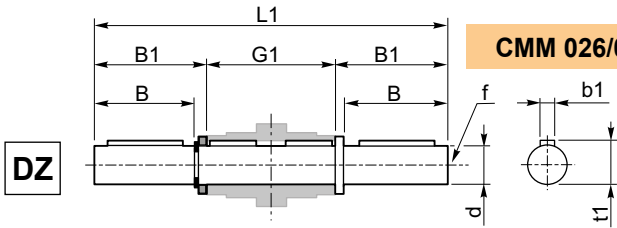


**Accessori**

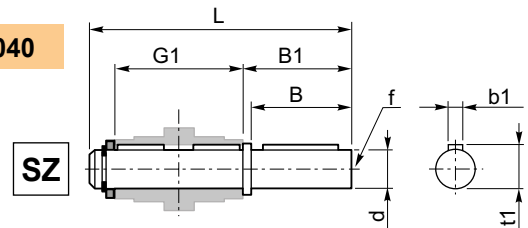
**Accessories**

**Albero lento semplice e doppio**

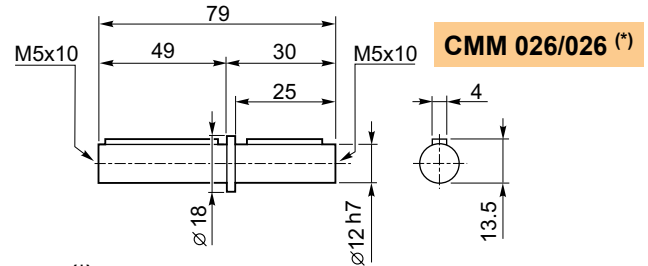
**Single and double output shaft**



**CMM 026/030 - CMM 030/040**



CMM	d <sub>h7</sub>	B	B1	G1	L	L1	f	b1	t1
026/030	14	30	32.5	63	102	128	M6	5	16
026/040 030/040	18	40	43	78	128	164	M6	6	20.5



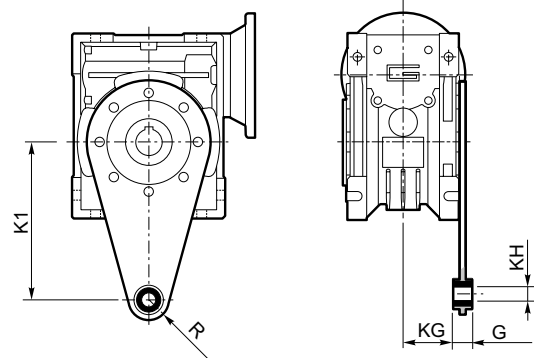
**CMM 026/026 (\*)**

(\*)  
**Nota:** disponibile solo per cavo uscita Ø12  
**Note:** available for output hollow shaft Ø12 only

**Braccio di reazione**

**Torque arm**

CMM	K1	G	KG	KH	R
026/030	85	14	23	8	15
026/040 030/040	100	14	31	10	18

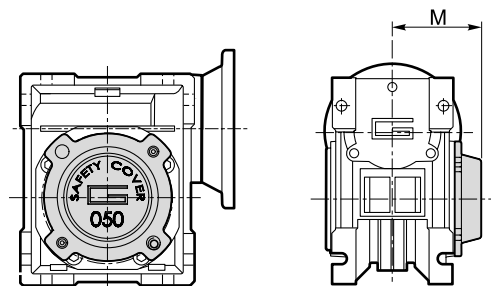
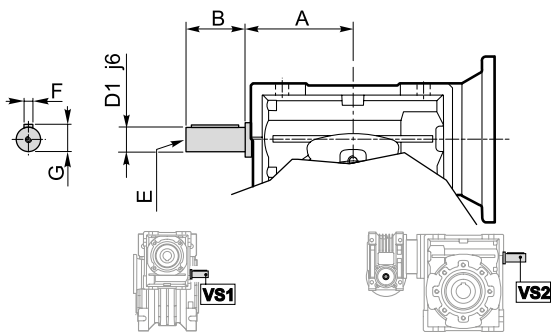


**Opzioni**

**Options**

**VS1 - VS2 - Vite sporgente / Extended input shaft**

**SC - Safety cover**



CMM	VS1						VS2					
	A	B	D <sub>1</sub> j6	E	F	G	A	B	D <sub>1</sub> j6	E	F	G
026/030	—	—	—	—	—	—	45	20	9	M4	3	10.2
026/040	—	—	—	—	—	—	53	23	11	M5	4	12.5
030/040	45	20	9	M4	3	10.2	53	23	11	M5	4	12.5

M	CM	
	30	40
	47	54.5

Costruito su richiesta  
Built on request



**MINI**  **TECNO**™  
**small** but strong

P

AC

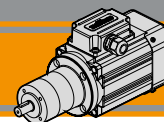
## Motoriduttori CA epicicloidali AC Planetary gearmotors



**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



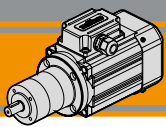




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Rapporti	<i>Ratios</i>	<b>AG3</b>
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**P**

**Motoriduttori CA epicicloidali**  
**AC planetary gearmotors**



**Caratteristiche tecniche**

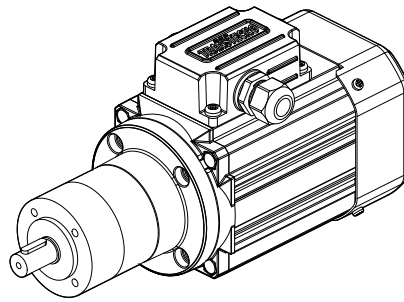
**Technical features**

Le caratteristiche principali dei motoriduttori P sono:

*P gearmotors gearmotors have the following main features:*

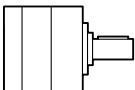
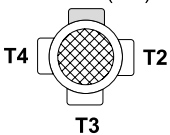
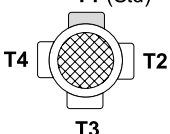
- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa motore estrusa in alluminio anodizzato nero
- Motore elettrico AC con grado di protezione IP66
- Adatti per servizio continuo ed intermittente
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56 e 63
- SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter

- *Compact design*
- *AC single phase and three phase motors available*
- *Motor extruded aluminum housing black anodized*
- *AC electric motor in IP66 protection Standard*
- *Suitable for continuous and intermittent operations*
- *Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available*
- *Thermal protection for motor sizes 56 and 63*
- *SMT56 and SMT63 are suitable for running with inverter*



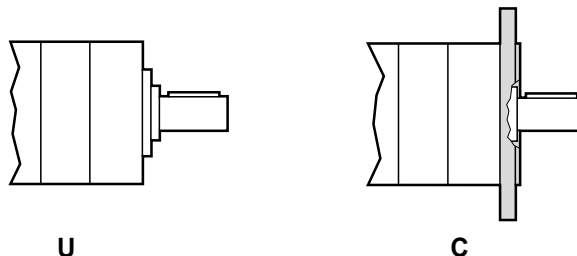
**Designazione**

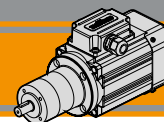
**Classification**

RIDUTTORE / GEARMOTOR								
<b>P</b>	<b>52</b>	<b>2</b>			<b>C</b>	<b>34.97</b>		
Tipo Type	Grandezza Size	Stadi riduttore Gearbox stages			Versione riduttore Gearbox Version	Rapporto Ratio		
<b>P</b> 	<b>52</b> <b>62</b>	<b>1</b> <b>2</b> <b>3</b>			<b>U</b> <b>C80</b> <b>C90</b> <b>C105</b> <b>C120</b>	Vedere tabella See tables		
<b>SMT</b>	<b>56</b>	<b>2</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50 Hz</b>	<b>TEFC</b>	<b>T1</b>
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMT</b> trifase threephase	vedi tabelle see tables	<b>1-2-3-4-5</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50Hz</b> <b>60Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 
<b>SMM</b>	<b>56</b>	<b>2</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50 Hz</b>	<b>TEFC</b>	<b>T1</b>
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.
<b>SMM</b> monofase singlephase	vedi tabelle see tables	<b>1-2-3-4</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 

**Versioni**

**Versions**





### Simbologia

### Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$sf$	Fattore di servizio / <i>Service factor</i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	Rd %	Rendimento dinamico / <i>Dynamic efficiency</i>
$i$	Rapporto di riduzione / <i>Ratio</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$P_1$ [kW]	Potenza in entrata / <i>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 <math>P_1</math></i>		

### Lubrificazione

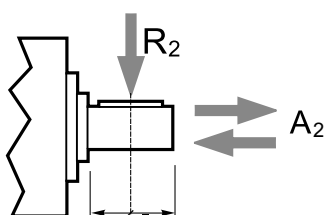
### Lubrication

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.*

### Carichi radiali

### Radial loads



Numero di stadi Stages number	Carichi Radiali $R_2$ [N] / Radial Load $R_2$ [N]	
	P52	P62
1	200	240
2	320	360
3	450	520

Numero di stadi Stages number	Carichi Assiali $A_2$ [N] / Axial Load $A_2$ [N]	
	P52	P62
1	60	70
2	100	100
3	150	150

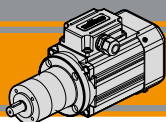
### Rapporti

### Ratios

Numero di stadi Stages number	Per tutte le grandezze di riduttori della serie P For all gearbox sizes of P range	
	Rapporti / Ratios	
1	3.70	
	4.28	
	5.18	
2	6.75	
	13.73	
	15.88	
	18.36	
	19.20	
	22.20	
	25.01	
	26.85	
	28.93	
	34.97	
3	45.56	
	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 P52, P62.**  
*Preferred ratios for P52, P62.*

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



**P**

**Motoriduttori CA epicicloidali**  
**AC planetary gearmotors**



**Dati tecnici**

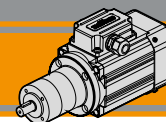
**Technical data**

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i								
<b>0.04</b>							<b>0.06</b>												
SMT5014	<b>378</b>	0.8	6.3	3.7	<b>521</b>	<b>B14</b>	SMT5024	<b>378</b>	1	4.2	3.7	<b>521</b>	<b>B14</b>						
SMM5014	<b>327</b>	0.9	5.4	4.28			SMM5024	<b>327</b>	1	3.6	4.28			SMM5024	<b>327</b>	1	3.6	4.28	
(1400 min <sup>-1</sup> )	<b>270</b>	1.1	4.5	5.18			<b>B14</b>	(1400 min <sup>-1</sup> )	<b>270</b>	2	3.0			5.18	<b>B14</b>	<b>270</b>	2	3.0	5.18
	<b>207</b>	1.5	3.4	6.75			<b>B14</b>		<b>207</b>	2	2.3			6.75	<b>B14</b>		<b>207</b>	2	2.3
	<b>102</b>	3	5.4	13.73	<b>522</b>	<b>B14</b>		<b>102</b>	4	3.6	13.73	<b>522</b>	<b>B14</b>						
	<b>88</b>	3	4.7	15.88			<b>B14</b>		<b>88</b>	5	3.1			15.88	<b>B14</b>				
	<b>76</b>	4	4.0	18.36			<b>B14</b>		<b>76</b>	6	2.7			18.36	<b>B14</b>				
	<b>73</b>	4	3.9	19.2			<b>B14</b>		<b>73</b>	6	2.6			19.2	<b>B14</b>				
	<b>63</b>	5	3.3	22.2			<b>B14</b>		<b>63</b>	7	2.2			22.2	<b>B14</b>				
	<b>56</b>	5	3.0	25.01			<b>B14</b>		<b>56</b>	8	2.0			25.01	<b>B14</b>				
	<b>52</b>	5	2.8	26.85			<b>B14</b>		<b>52</b>	8	1.8			26.85	<b>B14</b>				
	<b>48</b>	6	2.6	28.93			<b>B14</b>		<b>48</b>	9	1.7			28.93	<b>B14</b>				
	<b>40</b>	7	2.1	34.97			<b>B14</b>		<b>40</b>	11	1.4			34.97	<b>B14</b>				
	<b>31</b>	9	1.6	45.56			<b>B14</b>		<b>31</b>	14	1.1			45.56	<b>B14</b>				
	<b>28</b>	10	3.3	50.89			<b>523</b>	<b>B14</b>		<b>28</b>	15			2.2	50.89	<b>523</b>	<b>B14</b>		
	<b>24</b>	11	2.8	58.85					<b>B14</b>		<b>24</b>			17	1.9			58.85	<b>B14</b>
	<b>21</b>	13	2.4	68.06	<b>B14</b>				<b>21</b>	19	1.6	68.06	<b>B14</b>						
	<b>20</b>	14	2.3	71.16	<b>B14</b>				<b>20</b>	20	1.6	71.16	<b>B14</b>						
	<b>18</b>	15	2.1	78.71	<b>B14</b>				<b>18</b>	23	1.4	78.71	<b>B14</b>						
	<b>15</b>	18	1.8	92.7	<b>B14</b>				<b>15</b>	27	1.2	92.7	<b>B14</b>						
	<b>15</b>	18	1.7	95.17	<b>B14</b>				<b>15</b>	27	1.2	95.17	<b>B14</b>						
	<b>14</b>	19	1.7	99.5	<b>B14</b>				<b>14</b>	29	1.1	99.5	<b>B14</b>						
	<b>13</b>	20	1.5	107.2	<b>B14</b>				<b>13</b>	31	1.0	107.2	<b>B14</b>						
	<b>12</b>	22	1.4	115.07	<b>B14</b>				<b>12</b>	33	1.0	115.07	<b>B14</b>						
	<b>11</b>	24	1.3	123.97	<b>B14</b>				<b>11</b>	36	0.9	123.97	<b>B14</b>						
	<b>11</b>	25	1.3	129.62	<b>B14</b>				<b>11</b>	37	0.9	129.62	<b>B14</b>						
	<b>10</b>	27	1.2	139.13	<b>B14</b>		<b>10</b>	40	0.8	139.13	<b>B14</b>								
	<b>9.3</b>	29	1.1	149.9	<b>B14</b>		<b>9.3</b>	45	0.7	149.9	<b>B14</b>								
	<b>8.3</b>	32	1.0	168.84	<b>B14</b>		<b>8.3</b>	45	0.7	168.84	<b>B14</b>								
	<b>7.7</b>	35	0.9	181.24	<b>B14</b>		<b>7.7</b>	45	0.7	181.24	<b>B14</b>								
	<b>7.2</b>	37	0.8	195.26	<b>B14</b>		<b>7.2</b>	45	0.7	195.26	<b>B14</b>								
	<b>5.9</b>	45	0.7	236.09	<b>B14</b>														
	<b>4.6</b>	45	0.7	307.54	<b>B14</b>														
	<b>56</b>	5	6.2	25.01	<b>622</b>	<b>B14</b>		<b>56</b>	8	4.1	25.01	<b>622</b>	<b>B14</b>						
	<b>52</b>	5	5.8	26.85			<b>B14</b>		<b>52</b>	8	3.8			26.85	<b>B14</b>				
	<b>48</b>	6	5.3	28.93			<b>B14</b>		<b>48</b>	9	3.6			28.93	<b>B14</b>				
	<b>40</b>	7	4.4	34.97			<b>B14</b>		<b>40</b>	11	2.9			34.97	<b>B14</b>				
	<b>31</b>	9	3.4	45.56	<b>B14</b>		<b>31</b>	14	2.3	45.56	<b>B14</b>								
	<b>28</b>	10	6.5	50.89	<b>623</b>	<b>B14</b>		<b>28</b>	15	4.3	50.89	<b>623</b>	<b>B14</b>						
	<b>24</b>	11	5.6	58.85			<b>B14</b>		<b>24</b>	17	3.8			58.85	<b>B14</b>				
	<b>21</b>	13	4.9	68.06			<b>B14</b>		<b>21</b>	19	3.2			68.06	<b>B14</b>				
	<b>20</b>	14	4.7	71.16			<b>B14</b>		<b>20</b>	20	3.1			71.16	<b>B14</b>				
	<b>18</b>	15	4.2	78.71			<b>B14</b>		<b>18</b>	23	2.8			78.71	<b>B14</b>				
	<b>15</b>	18	3.6	92.7			<b>B14</b>		<b>15</b>	27	2.4			92.7	<b>B14</b>				
	<b>15</b>	18	3.5	95.17			<b>B14</b>		<b>15</b>	27	2.3			95.17	<b>B14</b>				
	<b>14</b>	19	3.3	99.5			<b>B14</b>		<b>14</b>	29	2.2			99.5	<b>B14</b>				
	<b>13</b>	20	3.1	107.2			<b>B14</b>		<b>13</b>	31	2.1			107.2	<b>B14</b>				
	<b>12</b>	22	2.9	115.07			<b>B14</b>		<b>12</b>	33	1.9			115.07	<b>B14</b>				
	<b>11</b>	24	2.7	123.97			<b>B14</b>		<b>11</b>	36	1.8			123.97	<b>B14</b>				
	<b>11</b>	25	2.6	129.62			<b>B14</b>		<b>11</b>	37	1.7			129.62	<b>B14</b>				
	<b>10</b>	27	2.4	139.13	<b>B14</b>		<b>10</b>	40	1.6	139.13	<b>B14</b>								
	<b>9.3</b>	29	2.2	149.9	<b>B14</b>		<b>9.3</b>	43	1.5	149.9	<b>B14</b>								
	<b>8.3</b>	32	2.0	168.84	<b>B14</b>		<b>8.3</b>	48	1.3	168.84	<b>B14</b>								
	<b>7.7</b>	35	1.8	181.24	<b>B14</b>		<b>7.7</b>	52	1.2	181.24	<b>B14</b>								
	<b>7.2</b>	37	1.7	195.26	<b>B14</b>		<b>7.2</b>	56	1.1	195.26	<b>B14</b>								
	<b>5.9</b>	45	1.4	236.09	<b>B14</b>		<b>5.9</b>	68	0.9	236.09	<b>B14</b>								
	<b>4.6</b>	59	1.1	307.54	<b>B14</b>		<b>4.6</b>	88	0.7	307.54	<b>B14</b>								

NOTA  
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

NOTE  
For sf=0.7 check that the duty torque does not exceed the value M2

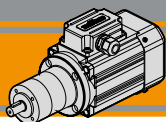
Motoriduttori preferenziali / Preferred gearmotors


**Dati tecnici**
**Technical data**

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		
<b>0.09</b>							<b>0.12</b>						
SMT5034	<b>378</b>	2	2.8	3.7	<b>521</b>	<b>B14</b>	SMT5044	<b>378</b>	2	2.1	3.7	<b>521</b>	<b>B14</b>
SMM5034	<b>327</b>	2	2.4	4.28		<b>B14</b>	SMT5634	<b>327</b>	3	1.8	4.28		<b>B14</b>
SMT5624	<b>270</b>	3	2.0	5.18		<b>B14</b>	SMM5634	<b>270</b>	3	1.5	5.18		<b>B14</b>
SMM5624 (1400 min <sup>-1</sup> )	<b>207</b>	3	1.5	6.75		<b>B14</b>	(1400 min <sup>-1</sup> )	<b>207</b>	4	1.1	6.75		<b>B14</b>
	<b>102</b>	6	2.4	13.73	<b>522</b>	<b>B14</b>	<b>102</b>	8	1.8	13.73	<b>522</b>	<b>B14</b>	
	<b>88</b>	7	2.1	15.88		<b>B14</b>	<b>88</b>	10	1.6	15.88		<b>B14</b>	
	<b>76</b>	8	1.8	18.36		<b>B14</b>	<b>76</b>	11	1.3	18.36		<b>B14</b>	
	<b>73</b>	9	1.7	19.2		<b>B14</b>	<b>73</b>	12	1.3	19.2		<b>B14</b>	
	<b>63</b>	10	1.5	22.2		<b>B14</b>	<b>63</b>	14	1.1	22.2		<b>B14</b>	
	<b>56</b>	12	1.3	25.01		<b>B14</b>	<b>56</b>	15	1.0	25.01		<b>B14</b>	
	<b>52</b>	12	1.2	26.85		<b>B14</b>	<b>52</b>	16	0.9	26.85		<b>B14</b>	
	<b>48</b>	13	1.1	28.93		<b>B14</b>	<b>48</b>	18	0.9	28.93		<b>B14</b>	
	<b>40</b>	16	0.9	34.97		<b>B14</b>	<b>40</b>	22	0.7	34.97		<b>B14</b>	
	<b>31</b>	21	0.7	45.56		<b>B14</b>	<b>31</b>	22	0.7	45.56		<b>B14</b>	
	<b>28</b>	22	1.4	50.89	<b>523</b>	<b>B14</b>	<b>28</b>	29	1.1	50.89	<b>523</b>	<b>B14</b>	
	<b>24</b>	25	1.3	58.85		<b>B14</b>	<b>24</b>	34	0.9	58.85		<b>B14</b>	
	<b>21</b>	29	1.1	68.06		<b>B14</b>	<b>21</b>	39	0.8	68.06		<b>B14</b>	
	<b>20</b>	31	1.0	71.16		<b>B14</b>	<b>20</b>	41	0.8	71.16		<b>B14</b>	
	<b>18</b>	34	0.9	78.71		<b>B14</b>	<b>18</b>	45	0.7	78.71		<b>B14</b>	
	<b>15</b>	40	0.8	92.7		<b>B14</b>	<b>15</b>	45	0.7	92.7		<b>B14</b>	
	<b>15</b>	41	0.8	95.17		<b>B14</b>	<b>15</b>	45	0.7	95.17		<b>B14</b>	
	<b>14</b>	45	0.7	99.5		<b>B14</b>	<b>14</b>	45	0.7	99.5		<b>B14</b>	
	<b>13</b>	45	0.7	107.2		<b>B14</b>	<b>13</b>	45	0.7	107.2		<b>B14</b>	
	<b>12</b>	45	0.7	115.07		<b>B14</b>	<b>12</b>	45	0.7	115.07		<b>B14</b>	
	<b>11</b>	45	0.7	123.97	<b>B14</b>	<b>11</b>	45	0.7	123.97	<b>B14</b>			
	<b>11</b>	45	0.7	129.62	<b>B14</b>	<b>11</b>	45	0.7	129.62	<b>B14</b>			
	<b>10</b>	45	0.7	139.13	<b>B14</b>	<b>10</b>	45	0.7	139.13	<b>B14</b>			
	<b>56</b>	12	2.7	25.01	<b>622</b>	<b>B14</b>	<b>378</b>	2	4.2	3.7	<b>621</b>	<b>B14</b>	
	<b>52</b>	12	2.6	26.85		<b>B14</b>	<b>327</b>	3	3.6	4.28		<b>B14</b>	
	<b>48</b>	13	2.4	28.93		<b>B14</b>	<b>270</b>	3	3.0	5.18		<b>B14</b>	
	<b>40</b>	16	2.0	34.97		<b>B14</b>	<b>207</b>	4	2.3	6.75		<b>B14</b>	
	<b>31</b>	21	1.5	45.56	<b>B14</b>								
	<b>28</b>	22	2.9	50.89	<b>623</b>	<b>B14</b>	<b>102</b>	8	3.8	13.73	<b>622</b>	<b>B14</b>	
	<b>24</b>	25	2.5	58.85		<b>B14</b>	<b>88</b>	10	3.2	15.88		<b>B14</b>	
	<b>21</b>	29	2.2	68.06		<b>B14</b>	<b>76</b>	11	2.8	18.36		<b>B14</b>	
	<b>20</b>	31	2.1	71.16		<b>B14</b>	<b>73</b>	12	2.7	19.2		<b>B14</b>	
	<b>18</b>	34	1.9	78.71		<b>B14</b>	<b>63</b>	14	2.3	22.2		<b>B14</b>	
	<b>15</b>	40	1.6	92.7		<b>B14</b>	<b>56</b>	15	2.1	25.01		<b>B14</b>	
	<b>15</b>	41	1.5	95.17		<b>B14</b>	<b>52</b>	16	1.9	26.85		<b>B14</b>	
	<b>14</b>	43	1.5	99.5		<b>B14</b>	<b>48</b>	18	1.8	28.93		<b>B14</b>	
	<b>13</b>	46	1.4	107.2		<b>B14</b>	<b>40</b>	21	1.5	34.97		<b>B14</b>	
	<b>12</b>	49	1.3	115.07		<b>B14</b>	<b>31</b>	28	1.1	45.56		<b>B14</b>	
	<b>11</b>	53	1.2	123.97	<b>B14</b>								
	<b>11</b>	56	1.1	129.62	<b>B14</b>	<b>28</b>	29	2.2	50.89	<b>623</b>	<b>B14</b>		
	<b>10</b>	60	1.1	139.13	<b>B14</b>	<b>24</b>	34	1.9	58.85		<b>B14</b>		
	<b>9.3</b>	64	1.0	149.9	<b>B14</b>	<b>21</b>	39	1.6	68.06		<b>B14</b>		
	<b>8.3</b>	73	0.9	168.84	<b>B14</b>	<b>20</b>	41	1.6	71.16		<b>B14</b>		
	<b>7.7</b>	78	0.8	181.24	<b>B14</b>	<b>18</b>	45	1.4	78.71		<b>B14</b>		
	<b>7.2</b>	84	0.8	195.26	<b>B14</b>	<b>15</b>	53	1.2	92.7		<b>B14</b>		
	<b>5.9</b>	90	0.7	236.09	<b>B14</b>	<b>15</b>	55	1.2	95.17		<b>B14</b>		
	<b>4.6</b>	90	0.7	307.54	<b>B14</b>	<b>14</b>	57	1.1	99.5		<b>B14</b>		
						<b>13</b>	61	1.0	107.2		<b>B14</b>		
						<b>12</b>	66	1.0	115.07		<b>B14</b>		
						<b>11</b>	71	0.9	123.97	<b>B14</b>			
						<b>11</b>	74	0.9	129.62	<b>B14</b>			
						<b>10</b>	80	0.8	139.13	<b>B14</b>			
						<b>9.3</b>	90	0.7	149.9	<b>B14</b>			
						<b>8.3</b>	90	0.7	168.84	<b>B14</b>			
						<b>7.7</b>	90	0.7	181.24	<b>B14</b>			
						<b>7.2</b>	90	0.7	195.26	<b>B14</b>			

NOTA  
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

NOTE  
For sf=0.7 check that the duty torque does not exceed the value M2

**P****Motoriduttori CA epicicloidali  
AC planetary gearmotors****Dati tecnici****Technical data**

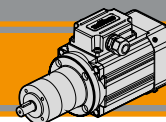
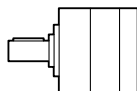
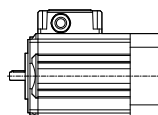
$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i				
<b>0.18</b>							<b>0.25</b>								
SMT5644	<b>378</b>	4	1.4	3.7	<b>521</b>	<b>B14</b>	SMT5654	<b>378</b>	4	1.4	3.7	<b>521</b>	<b>B14</b>		
SMM5644	<b>327</b>	4	1.2	4.28			SMT6334	<b>327</b>	4	1.2	4.28				
SMT6324	<b>270</b>	5	1.0	5.18			SMM6334	<b>270</b>	5	1.0	5.18				
SMM6324	<b>207</b>	7	0.8	6.75			(1400 min <sup>-1</sup> )	<b>207</b>	7	0.8	6.75				
(1400 min <sup>-1</sup> )	<b>102</b>	13	1.2	13.73	<b>522</b>	<b>B14</b>	<b>102</b>	18	0.9	13.73	<b>522</b>	<b>B14</b>			
	<b>88</b>	15	1.0	15.88			<b>88</b>	20	0.7	15.88					
	<b>76</b>	17	0.9	18.36			<b>76</b>	22	0.7	18.36					
	<b>73</b>	18	0.9	19.2			<b>73</b>	22	0.7	19.2					
	<b>63</b>	22	0.7	22.2	<b>523</b>	<b>B14</b>	<b>378</b>	5	2.0	3.7	<b>621</b>	<b>B14</b>			
	<b>56</b>	22	0.7	25.01			<b>327</b>	6	1.7	4.28					
	<b>52</b>	22	0.7	26.85			<b>270</b>	7	1.4	5.18					
	<b>48</b>	22	0.7	28.93			<b>207</b>	9	1.1	6.75					
	<b>28</b>	45	0.7	50.89	<b>621</b>	<b>B14</b>	<b>102</b>	18	1.8	13.73	<b>622</b>	<b>B14</b>			
	<b>24</b>	45	0.7	58.85			<b>88</b>	20	1.6	15.88					
	<b>21</b>	45	0.7	68.06			<b>76</b>	23	1.3	18.36					
	<b>20</b>	45	0.7	71.16			<b>73</b>	25	1.3	19.2					
	<b>378</b>	4	2.8	3.7	<b>622</b>	<b>B14</b>	<b>63</b>	28	1.1	22.2	<b>623</b>	<b>B14</b>			
	<b>327</b>	4	2.4	4.28			<b>56</b>	32	1.0	25.01					
	<b>270</b>	5	2.0	5.18			<b>52</b>	34	0.9	26.85					
	<b>207</b>	7	1.5	6.75			<b>48</b>	37	0.9	28.93					
	<b>102</b>	13	2.5	13.73	<b>623</b>	<b>B14</b>	<b>40</b>	45	0.7	34.97	<b>B14</b>	<b>B14</b>			
	<b>88</b>	15	2.2	15.88			<b>31</b>	45	0.7	45.56					
	<b>76</b>	17	1.9	18.36			<b>28</b>	61	1.0	50.89					
	<b>73</b>	18	1.8	19.2			<b>24</b>	70	0.9	58.85					
	<b>63</b>	20	1.5	22.2	<b>623</b>	<b>B14</b>	<b>21</b>	81	0.8	68.06	<b>B14</b>	<b>B14</b>			
	<b>56</b>	23	1.4	25.01			<b>20</b>	85	0.7	71.16					
	<b>52</b>	25	1.3	26.85			<b>18</b>	90	0.7	78.71					
	<b>48</b>	27	1.2	28.93			<b>15</b>	90	0.7	92.7					
	<b>40</b>	32	1.0	34.97	<b>623</b>	<b>B14</b>	<b>15</b>	90	0.7	95.17	<b>B14</b>	<b>B14</b>			
	<b>31</b>	42	0.8	45.56			<b>14</b>	90	0.7	99.5					
	<b>28</b>	44	1.4	50.89			<b>0.37</b>								
	<b>24</b>	51	1.3	58.85			SMT6344	<b>378</b>	7	1.4			3.7	<b>621</b>	<b>B14</b>
	<b>21</b>	58	1.1	68.06	(1400 min <sup>-1</sup> )	<b>327</b>	9	1.2	4.28						
	<b>20</b>	61	1.0	71.16	<b>270</b>	10	1.0	5.18							
	<b>18</b>	68	0.9	78.71	<b>207</b>	14	0.7	6.75							
	<b>15</b>	80	0.8	92.7	<b>622</b>	<b>B14</b>	<b>102</b>	26	1.2	13.73	<b>623</b>	<b>B14</b>			
	<b>15</b>	82	0.8	95.17			<b>88</b>	30	1.1	15.88					
	<b>14</b>	86	0.7	99.5			<b>76</b>	35	0.9	18.36					
	<b>13</b>	90	0.7	107.2			<b>73</b>	36	0.9	19.2					
	<b>12</b>	90	0.7	115.07	<b>623</b>	<b>B14</b>	<b>63</b>	42	0.8	22.2	<b>B14</b>	<b>B14</b>			
	<b>11</b>	90	0.7	123.97			<b>56</b>	45	0.7	25.01					
	<b>11</b>	90	0.7	129.62			<b>52</b>	45	0.7	26.85					
	<b>10</b>	90	0.7	139.13			<b>48</b>	45	0.7	28.93					
					<b>623</b>	<b>B14</b>	<b>28</b>	90	0.7	50.89	<b>B14</b>	<b>B14</b>			
							<b>24</b>	90	0.7	58.85					
							<b>21</b>	90	0.7	68.06					
							<b>20</b>	90	0.7	71.16					

NOTA  
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

NOTE  
For sf=0.7 check that the duty torque does not exceed the value M2

Motoriduttori preferenziali / Preferred gearmotors

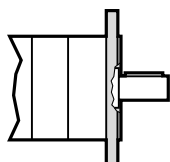
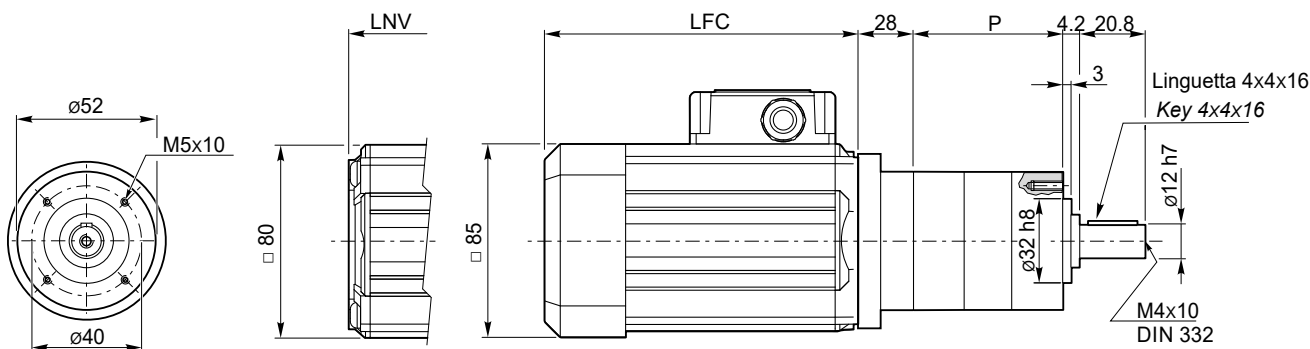



**Motori applicabili**
**IEC Motor adapters**


		SMT		SMM		SMT		SMM	
		5014	5624	5014	5624	6324		6324	
		5024	5634	5024	5634	6334		6334	
		5034	5644	5034	5644	6344			
		5044	5654						
<b>P</b>	52...								
	62...								


 Flangia di combainazione  
 Combination flange

**Dimensioni**
**Dimensions**
**P52 ... U**
**S3** servizio 30%  
 duty

**SMT50...TENV**  
**SMM50... TENV**
**SMT50...TEFC**  
**SMM50... TEFC**

**P52...C**

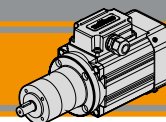

Tipo Type	Numero di stadi Stages number	P
P52...	1	46
	2	60
	3	74

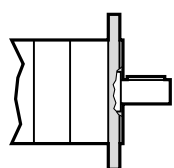
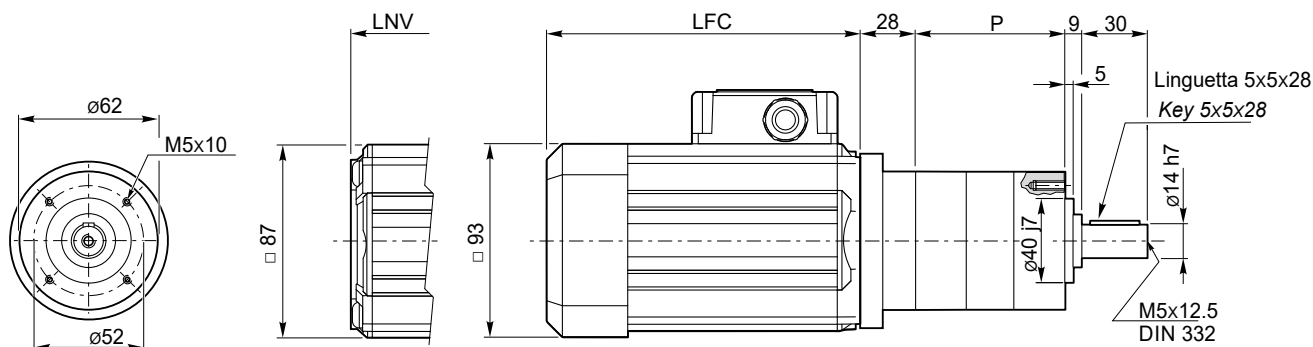
SMT	LFC	LNV	Kg	
5014	135.5	108.5	3.4	
5024	150.5	123.5	3.8	
5034	175.5	148.5	4.6	
5044	200.5	173.5	5.3	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	3.8	
5024	175.5	148.5	4.6	
5034	200.5	173.5	5.3	

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately




**Dimensioni**
**Dimensions**
**P62 ... U**
**S3** servizio duty

**30%**
**SMT56...TENV**  
**SMM56... TENV**
**SMT56...TEFC**  
**SMM56... TEFC**

**P62...C**

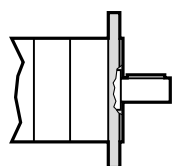
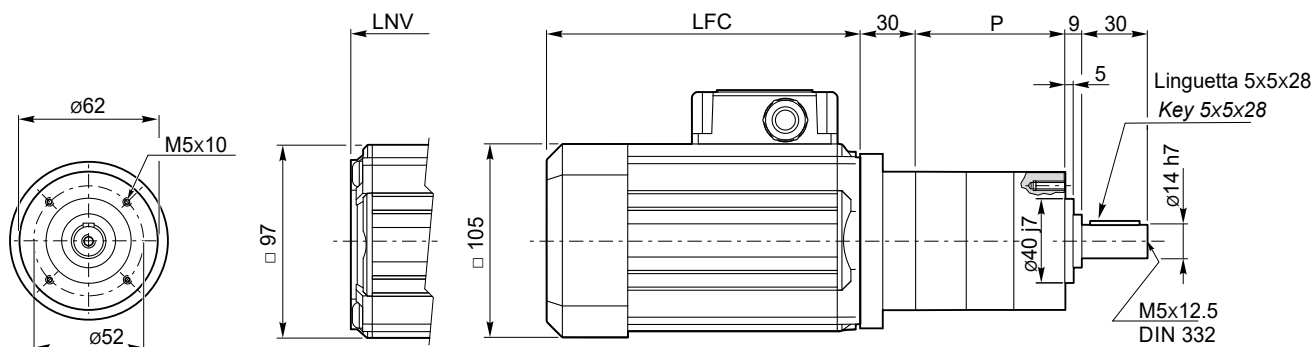

Tipo Type	Numero di stadi Stages number	P
P62...	1	46
	2	62
	3	78

SMT	LFC	LNV	Kg	
5624	141	117	4.4	
5634	151	127	4.8	
5644	186	162	6	
5654	206	182	6.7	

SMM	LFC	LNV	Kg	
5624	151	127	4.7	
5634	171	147	5.3	
5644	206	182	6.6	

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately

**P62 ... U**
**S3** servizio duty

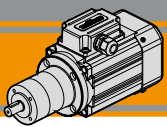
**30%**
**SMT63...TENV**  
**SMM63... TENV**
**SMT63...TEFC**  
**SMM63... TEFC**

**P62...C**


Tipo Type	Numero di stadi Stages number	P
P62...	1	46
	2	62
	3	78

SMT	LFC	LNV	Kg	
6324	165.5	138.5	5.9	
6334	180.5	153.5	6.6	
6344	205.5	178.5	7.8	

SMM	LFC	LNV	Kg	
6324	180.5	153.5	6.7	
6334	205.5	178.5	7.9	

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately



**P**

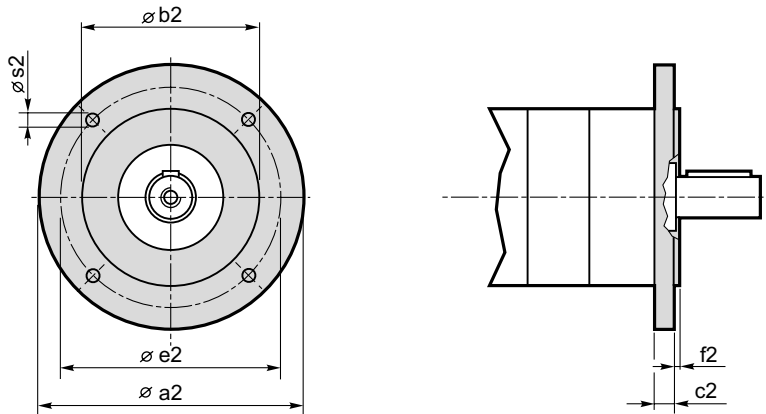
Motoriduttori CA epicicloidali  
AC planetary gearmotors

**MINI TECNO**

**Dimensioni**

**Dimensions**

**P.../... C...** Flange uscita / Output flanges



Dimensioni / Dimensions							
P	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

**MINI**  **TECNO**™  
**small** but strong

**WMP**

Motoriduttori CA combinati  
AC Double reduction gearmotors

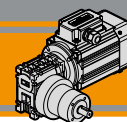


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



AC

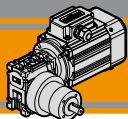




<b>Indice</b>	<b>Index</b>	Pag. Page
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Designazione	<i>Classification</i>	<b>AH2</b>
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Simbologia	<i>Symbols</i>	<b>AH3</b>
Lubrificazione	<i>Lubrication</i>	<b>AH3</b>
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Rapporti	<i>Ratios</i>	<b>AH3</b>
Dati tecnici	<i>Technical data</i>	<b>AH4</b>
Motori applicabili	<i>IEC Motor adapters</i>	<b>AH5</b>
Dimensioni	<i>Dimensions</i>	<b>AH5</b>

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**Caratteristiche tecniche**

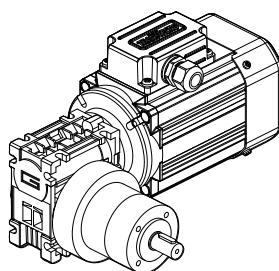
**Technical features**

Le caratteristiche principali dei motoriduttori WMP sono:

WMP gearmotors gearmotors have the following main features:


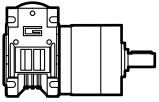
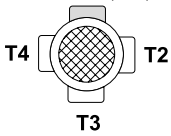
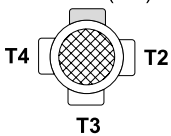
- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa motore estrusa in alluminio anodizzato nero
- Motore elettrico AC con grado di protezione IP66
- Adatti per servizio continuo ed intermittente
- Disponibili sia nella versione ventilata TEFC (servizio S1) che non ventilata TENV (servizio S3)
- Protezioni termiche per le taglie 56 e 63
- SMT56 e SMT63 adatti al funzionamento con alimentazione da inverter

- Compact design
- AC single phase and three phase motors available
- Motor extruded aluminum housing black anodized
- AC electric motor in IP66 protection Standard
- Suitable for continuous and intermittent operations
- Fan cooled TEFC (duty S1) and not ventilated TENV (duty S3) versions available
- Thermal protection for motor sizes 56 and 63
- SMT56 and SMT63 are suitable for running with inverter



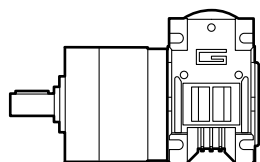
**Designazione**

**Classification**

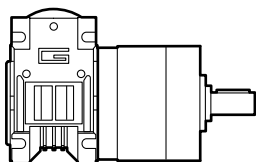
RIDUTTORE / GEARMOTOR									
WMP	026/52	2	C	202.5	56 B14				
Tipo Type	Grandezza Size	Numero stadi epicicloidale Planetary stages number	Versione riduttore Gearbox Version	Rapporto Ratio	IEC  56 B14				
<b>WMP</b> 	<b>026/52</b> <b>026/62</b>	<b>1</b> <b>2</b> <b>3</b>	<b>US</b> <b>UD</b> <b>CS80...120</b> <b>CD80...120</b>	Vedere tabella See tables					
SMT	56	2	4	B14	230-400 V	50 Hz	TEFC	T1	
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.	
<b>SMT</b> trifase threephase	vedi tabelle see tables	<b>1-2-3-4-5</b>	<b>4</b>	<b>B14</b>	<b>230-400 V</b>	<b>50Hz</b> <b>60Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 	
SMM	56	2	4	B14	230 V	50 Hz	TEFC	T1	
Tipo Type	Grandezza Size	Indicativo potenza Power coefficient	Poli Poles	Forma costruttiva Version	Tensione Voltage	Frequenza Frequency	Ventilazione Fan cooling	Pos. morsetteria Terminal box pos.	
<b>SMM</b> monofase singlephase	vedi tabelle see tables	<b>1-2-3-4</b>	<b>4</b>	<b>B14</b>	<b>230 V</b>	<b>50Hz</b>	<b>TEFC</b> <b>TENV</b>	<b>T1 (Std)</b> 	

**Versioni**

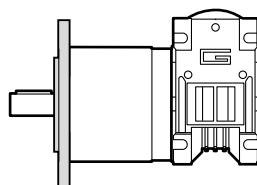
**Versions**



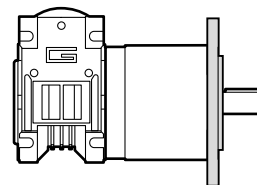
US



UD

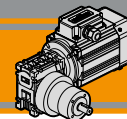


CS



CD





**Simbologia**

**Symbols**

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$sf$	Fattore di servizio / <i>Service factor</i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	Rd %	Rendimento dinamico / <i>Dynamic efficiency</i>
$i$	Rapporto di riduzione / <i>Ratio</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$P_1$ [kW]	Potenza in entrata / <i>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 <math>P_1</math></i>		

**Lubrificazione**

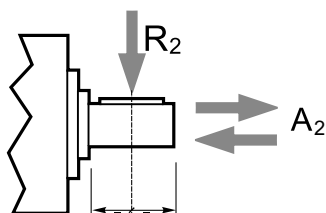
**Lubrication**

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.*

**Carichi radiali**

**Radial loads**



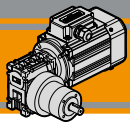
Numero di stadi <i>Stages number</i>	Carichi Radiali $R_2$ [N] / <i>Radial Load <math>R_2</math> [N]</i>	
	P52	P62
1	200	240
2	320	360
3	450	520

Numero di stadi <i>Stages number</i>	Carichi Assiali $A_2$ [N] / <i>Axial Load <math>A_2</math> [N]</i>	
	P52	P62
1	60	70
2	100	100
3	150	150

**Rapporti**

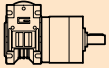
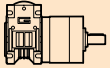
**Ratios**

Motoriduttore <i>Gearmotor</i>	Numero stadi epicicloidale <i>Planetary stages number</i>	Rapporto epicicloidale <i>Planetary ratio</i>	Rapporto vite senza fine <i>Wormgearbox ratio</i>	Rapporto finale <i>Total ratio</i>
WMP 026/052 WMP 026/062	1	6.75	10	67.5
			15	101.3
			20	135
			30	202.5
			40	270
			50	337.5
	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



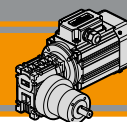
**Dati tecnici**

**Technical data**

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>0.04</b>							<b>0.06</b>						
SMT5014	<b>20.7</b>	12.2	2.0	67.5	<b>026/521</b>	<b>B14</b>	SMT5024	<b>20.7</b>	18.3	1.4	67.5	<b>026/521</b>	<b>B14</b>
SMM5014	<b>13.8</b>	17.2	1.4	101.3			SMM5024	<b>13.8</b>	25.0	1.0	101.3		
(1400 min <sup>-1</sup> )	<b>10.4</b>	21.8	1.1	135			(1400 min <sup>-1</sup> )	<b>10.4</b>	25.0	1.0	135		
	<b>6.9</b>	25.0	1.0	202.5									
	<b>5.2</b>	25.0	1.0	270									
	<b>4.1</b>	25.0	1.0	337.5	<b>026/522</b>	<b>B14</b>		<b>20.7</b>	18.3	2.2	67.5	<b>026/621</b>	<b>B14</b>
	<b>3.5</b>	25.0	1.0	405				<b>13.8</b>	25.9	1.5	101.3		
								<b>10.4</b>	32.7	1.2	135		
								<b>6.9</b>	40.0	1.0	202.5		
	<b>5.6</b>	25.0	1.0	250.1				<b>5.2</b>	40.0	1.0	270		
	<b>3.7</b>	25.0	1.0	375.15									
	<b>2.8</b>	25.0	1.0	500.2				<b>5.6</b>	50.0	1.0	250.1		
	<b>1.9</b>	25.0	1.0	750.3									
	<b>1.4</b>	25.0	1.0	1000.4									
	<b>1.1</b>	25.0	1.0	1250.5									
	<b>0.9</b>	25.0	1.0	1500.6	<b>026/621</b>	<b>B14</b>					<b>026/622</b>	<b>B14</b>	
	<b>0.5</b>	25.0	1.0	2734									
	<b>20.7</b>	12.2	3.3	67.5									
	<b>13.8</b>	17.2	2.3	101.3									
	<b>10.4</b>	21.8	1.8	135									
	<b>6.9</b>	29.2	1.4	202.5									
	<b>5.2</b>	36.0	1.1	270									
	<b>4.1</b>	40.0	1.0	337.5									
	<b>3.5</b>	40.0	1.0	405									
					<b>026/622</b>	<b>B14</b>					<b>B14</b>	<b>B14</b>	
	<b>5.6</b>	42.5	1.2	250.1									
	<b>3.7</b>	50.0	1.0	375.15									
	<b>2.8</b>	50.0	1.0	500.2									
	<b>1.9</b>	50.0	1.0	750.3									
	<b>1.4</b>	50.0	1.0	1000.4									
	<b>1.1</b>	50.0	1.0	1250.5									
	<b>0.9</b>	50.0	1.0	1500.6									
	<b>0.5</b>	50.0	1.0	2734									
<b>0.09</b>							<b>0.12</b>						
SMT5034	<b>20.7</b>	25.0	1.0	67.5	<b>026/521</b>	<b>B14</b>	SMT5044	<b>20.7</b>	36.7	1.1	67.5	<b>026/621</b>	<b>B14</b>
SMM5034							SMM5034						
SMT5624	<b>20.7</b>	27.5	1.5	67.5	<b>026/621</b>	<b>B14</b>	SMT5634				<b>026/622</b>	<b>B14</b>	
SMM5624	<b>13.8</b>	38.8	1.0	101.3			SMM5634	<b>13.8</b>	40.0	1.0			101.3
(1400 min <sup>-1</sup> )	<b>10.4</b>	40.0	1.0	135			(1400 min <sup>-1</sup> )						
<b>0.18</b>							<b>0.18</b>						
SMT5644	<b>20.7</b>	40.0	1.0	67.5	<b>026/621</b>	<b>B14</b>	SMT5644	<b>20.7</b>	40.0	1.0	67.5	<b>026/621</b>	<b>B14</b>
SMM5644							SMM5644						
SMT6324							SMT6324						
SMM6324							SMM6324						
(1400 min <sup>-1</sup> )							(1400 min <sup>-1</sup> )						

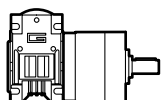
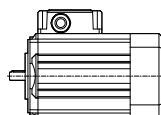
N.B.  
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio.

N.B.  
Please check that the output torque M2 does not exceed the value in the grey areas.



Motori applicabili

IEC Motor adapters



		SMT		SMM	
		5014	5624	5014	5624
		5024	5634	5024	5634
		5034	5644	5034	5644
		5044	5654		
WMP	026/52	67.5 - 2734			
	026/62	67.5 - 2734			

67.5 - 2734

Rapporti di riduzione i  
Ratio i

Dimensioni

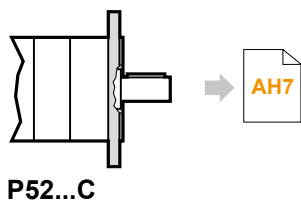
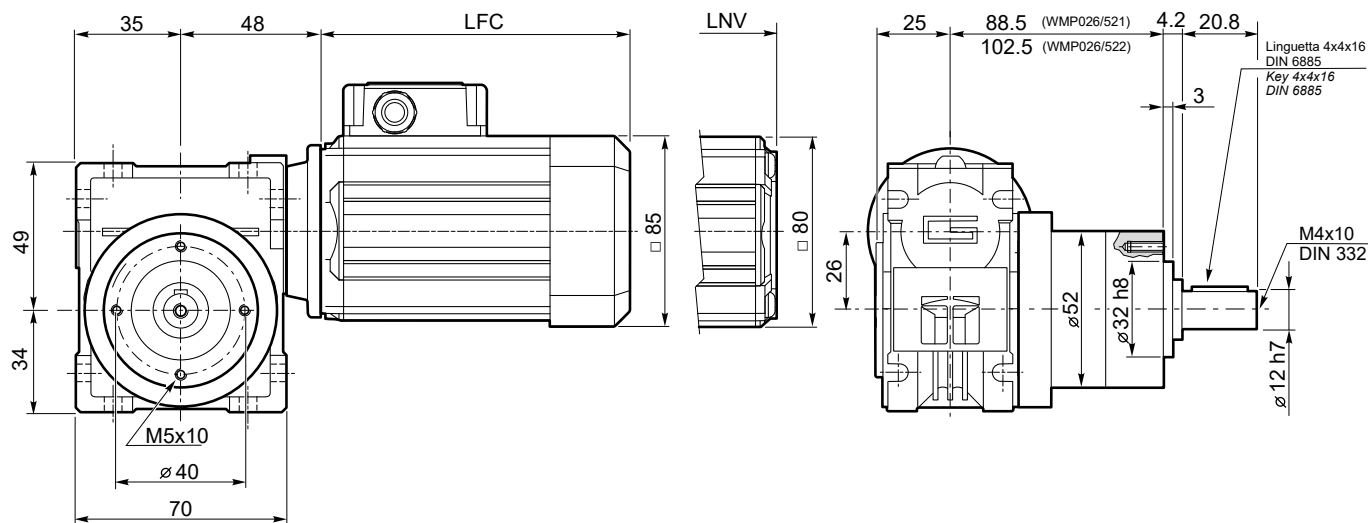
Dimensions

WMP 026/521  
WMP 026/522

SMT50...TEFC  
SMM50... TEFC

SMT50...TENV  
SMM50... TENV

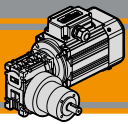
S3 servizio 30%  
duty



SMT	LFC	LNV	Kg	
5014	135.5	108.5	4.1	
5024	150.5	123.5	4.5	
5034	175.5	148.5	5.3	
5044	200.5	173.5	6	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	4.5	
5024	175.5	148.5	5.3	
5034	200.5	173.5	6	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately



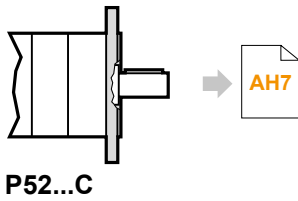
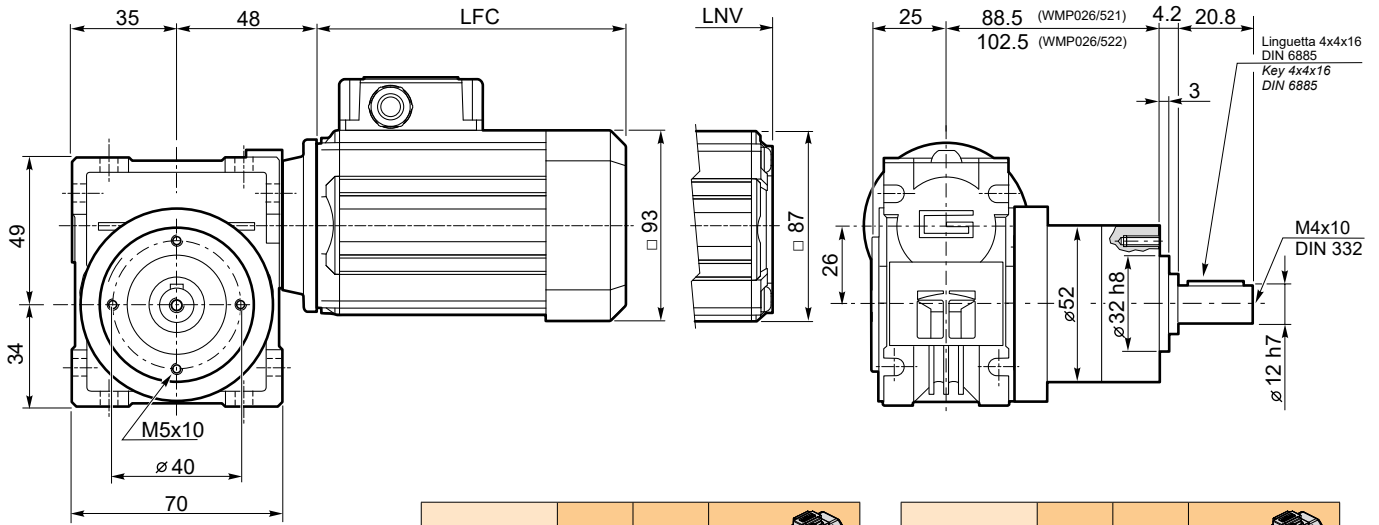
**Dimensioni**

**Dimensions**


**WMP 026/521**  
**WMP 026/522**


**SMT56...TEFC**  
**SMM56... TEFC**

**SMT56...TENV**  
**SMM56... TENV** **S3** servizio **30%**  
duty



**P52...C**

SMT	LFC	LNV	Kg	
5624	141	117	4.6	
5634	151	127	5	
5644	186	162	6.2	
5654	206	182	6.9	

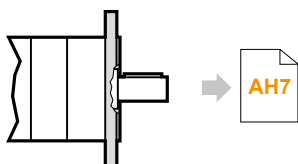
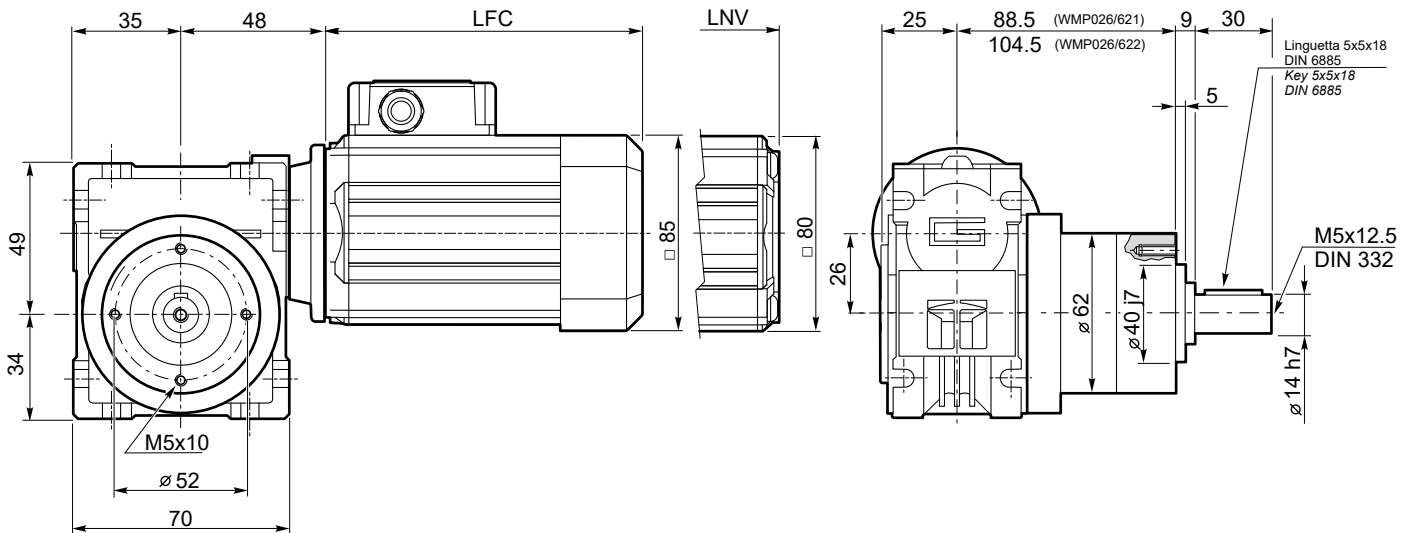
SMM	LFC	LNV	Kg	
5624	151	127	4.9	
5634	171	147	5.5	
5644	206	182	6.8	

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately


**WMP 026/621**  
**WMP 026/622**


**SMT50...TEFC**  
**SMM50... TEFC**

**SMT50...TENV**  
**SMM50... TENV** **S3** servizio **30%**  
duty

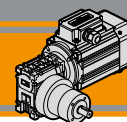


**P62...C**

SMT	LFC	LNV	Kg	
5014	135.5	108.5	4.4	
5024	150.5	123.5	4.8	
5034	175.5	148.5	5.6	
5044	200.5	173.5	6.3	

SMM	LFC	LNV	Kg	
5014	150.5	123.5	4.8	
5024	175.5	148.5	5.6	
5034	200.5	173.5	6.3	

**Nota:** il condensatore sarà fornito a corredo  
**Note:** the capacitor will be supplied separately



Dimensioni

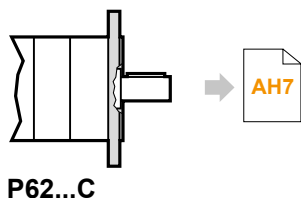
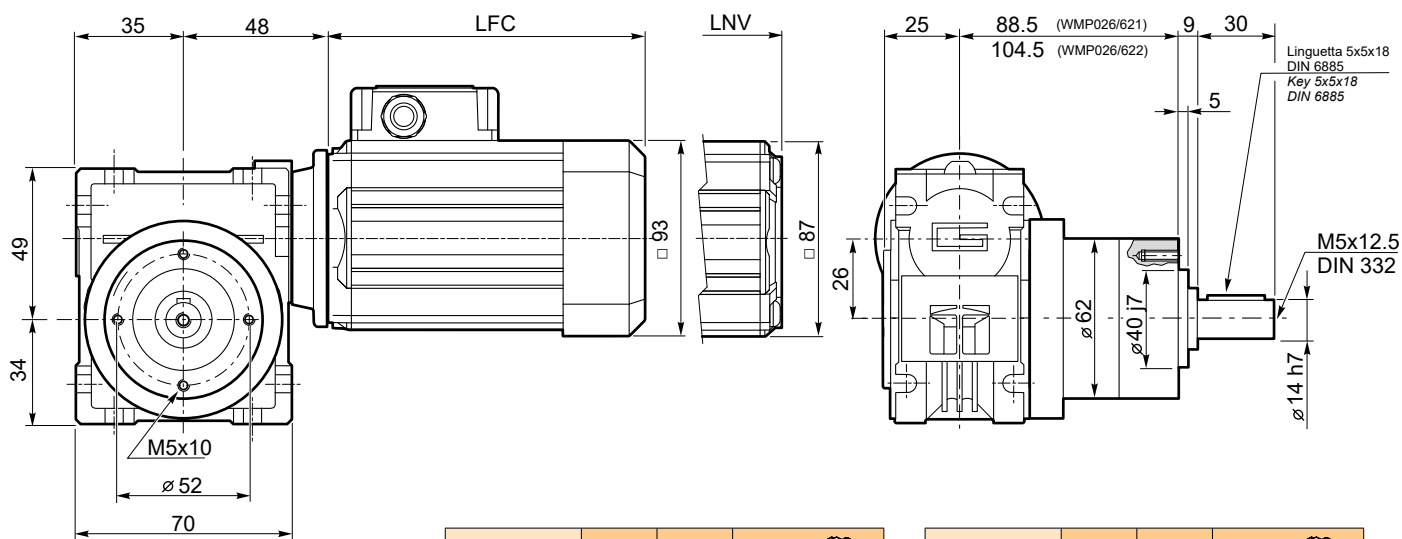
Dimensions

WMP 026/621  
WMP 026/622

SMT56...TEFC  
SMM56... TEFC

SMT56...TENV  
SMM56... TENV

S3 servizio 30%  
duty

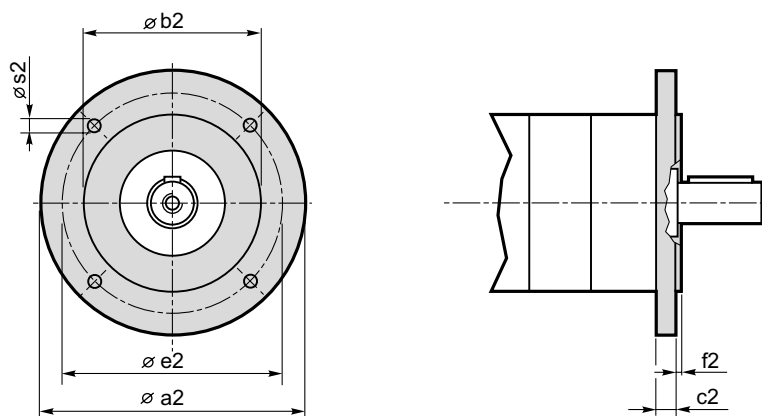


SMT	LFC	LNV	Kg	
5624	141	117	4.9	
5634	151	127	5.3	
5644	186	162	6.5	
5654	206	182	7.2	

SMM	LFC	LNV	Kg	
5624	151	127	5.2	
5634	171	147	5.8	
5644	206	182	7.1	

Nota: il condensatore sarà fornito a corredo  
Note: the capacitor will be supplied separately

P.../... C... Flange uscita / Output flanges

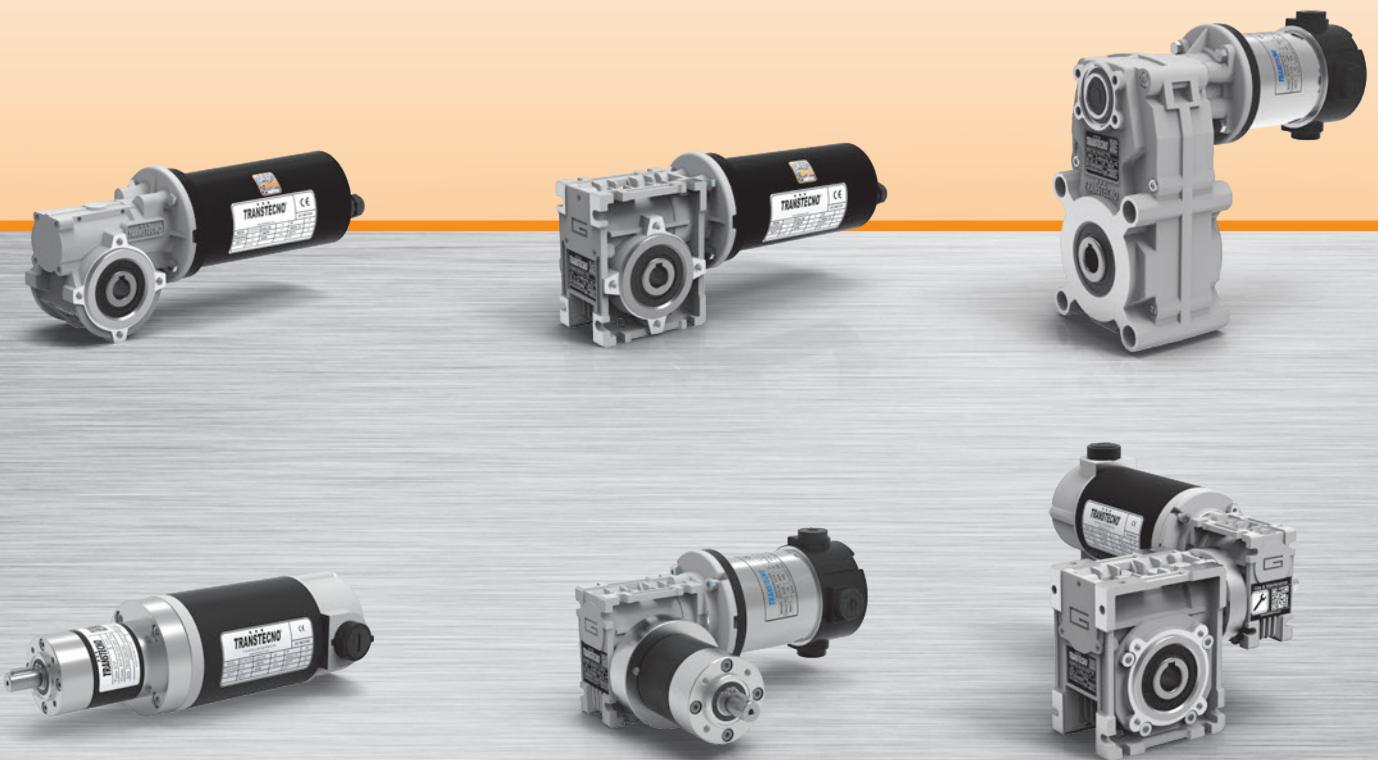


Dimensioni / Dimensions							
P	a2	b2	c2	e2	f2	s2	Flangia uscita Output flange
52	80	50 j7	9	65	2.5	M5	C80
	90	60 j7	9	75	2.5	5.5	C90
	105	70 j7	9	85	2.5	6.5	C105
	120	80 j7	9	100	3.0	6.5	C120
62	80	50 j7	9	65	2.5	M5	C80
	90	60 j7	9	75	2.5	5.5	C90
	105	70 j7	9	85	2.5	6.5	C105
	120	80 j7	9	100	3.0	6.5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



**MINI**  **TECNO**™  
**small** but strong

Motoriduttori CC  
DC gearmotors




















**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC





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 	<b>B-C</b> Motori elettrici CC IP66 - Ferrite EC IP66	IP66 DC Electric motors - Ferrite EC IP66	B-C1
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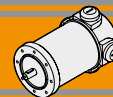
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Motori elettrici CC - Neodimio  
DC electric motors - Neodymium



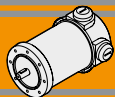




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## Caratteristiche tecniche

I magneti in Neodimio (NdFeB) fanno parte dei magneti a terre rare e sono attualmente i magneti più potenti in produzione. Dotati di alta forza coercitiva (resistenza alla smagnetizzazione) ed alto valore di saturazione magnetica, sono in grado di immagazzinare moltissima energia magnetica. Pertanto, i motori CC dotati di magneti in Neodimio forniscono alti valori di coppia pur in dimensioni ridotte, grazie all'alta densità di flusso del campo magnetico.

Le caratteristiche principali dei motori elettrici CC a magneti permanenti in neodimio ND sono:

- Campo magnetico generato da magneti permanenti in Neodimio ( NdFeB )
- Costruzione tubolare senza ventilazione
- Disponibili in una grandezza diametro 65
- Alimentazione a bassa tensione 12 o 24 Vcc
- Potenza 160W e 250W S2
- Elevata coppia di spunto
- Maggiori coppie e potenze rispetto ai corrispettivi motori a magneti permanenti standard (a parità di dimensioni)
- Predisposizione encoder / freno

### Classe di isolamento termico

Gli avvolgimenti del rotore sono soggetti a surriscaldamento, come pure altre parti del motore. Il grado di isolamento indica la massima temperatura ammissibile oltre la quale l'isolante della matassa e l'isolante di tutte le parti soggette ad elevato riscaldamento perde le caratteristiche di buon isolante, con pericolo di danneggiamento del motore.

### Servizio

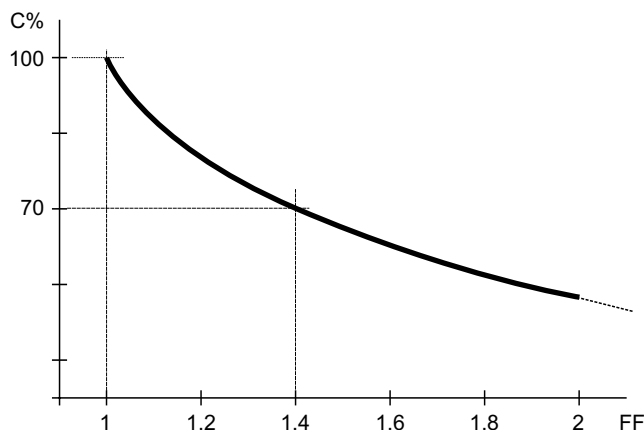
Rappresenta la relazione tra il tempo di lavoro ed il tempo di riposo del motore. Servizio continuo (S1) = funzionamento continuo del motore a pieno carico.

Servizio intermittente (S2, S3, etc...) = periodi alternati di lavoro e di riposo tali da raffreddare il motore. Dato un motore, la potenza espressa per servizio continuo è inferiore a quella per servizio intermittente.

### Fattore di forma

Indica quanta componente spuria alternata è presente nella alimentazione CC del motore. Più alto è il fattore ed inferiore è l'efficienza del motore. Alimentatori ad SCR = F.F 1.40. Alimentazione pura da batteria = FF 1 Alimentazione da transistori (modulazione PWM) = FF 1.05.

Qualitativamente l'andamento della coppia (percentuale) rispetto al fattore di forma è indicato nel grafico seguente:



## Technical features

*Neodymium magnet (NdFeB) is a type of rare-earth magnet and is currently the strongest type of permanent magnets. Due to high coercivity resistance to being demagnetized and high saturation magnetization, they have potential for storing large amounts of magnetic energy. Therefore permanent Neodymium magnets DC motors can provide high torque in compact size due to the high density flux of magnet field.*

*The main features of ND neodymium permanent magnets DC electric motors range are:*

- *Magnetic field generated by Neodymium ( NdFeB ) permanent magnets*
- *Tubular construction without fan*
- *Available in one size diameter 65*
- *Low voltage power supply 12 or 24 Vdc*
- *Power ratings available 160W and 250W S2*
- *High starting torque*
- *Higher torque and higher power than standard permanent magnet D.C. motors.*
- *Suitable for encoder / brake assembly*

### Thermal insulation class

*The windings of the rotor can overheat just like other parts of the motor too. The degree of insulation indicates the maximum allowable temperature above which the insulation of the windings, as well as that of all the parts which heat up to a high temperature, loses its insulating properties and the motor therefore risks being damaged.*

### Duty cycle

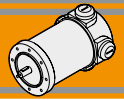
*This represents the relationship between the time the motor operates and the time it remains stationary. Continuous operation (S1) = the motor operates non-stop under full load.*

*Intermittent operation (S2, S3, etc.) = alternating periods of work and rest so that the motor can cool down. The output power for continuous operation is lower than that for intermittent operation.*

### Form factor

*It indicates how much spurious alternating current is present in the D.C. motor power supply. The higher the factor, the lower the motor's efficiency. SCR power supplies = F.F 1.40. Battery supply = FF 1 Transistor supply (PWM modulation) = FF 1.05.*

*The graph below indicates the torque trend (percentage) in relation to the form factor:*


**Grado di protezione IP**
**IP enclosures protection indexes**

Indica il grado di isolamento meccanico del corpo motore.

Indicates the degree of mechanical insulation of the motor body.

1<sup>a</sup> cifra: protezione alla penetrazione di corpi solidi.

1<sup>st</sup> figure: indicating level of protection against the penetration of solid bodies.

2<sup>a</sup> cifra: protezione contro la penetrazione d'acqua.

2<sup>nd</sup> figure: indicating degree to which the motor is waterproof.

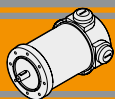
<b>0</b>	Non protetto / No protection	<b>0</b>	Non protetto / No protection
<b>1</b>	Protetto da corpi solidi superiori a Ø 50 mm. <i>Protected against solid matters (over Ø 50 mm)</i>	<b>1</b>	Protetto contro la caduta verticale di gocce d'acqua. <i>Protected against drops of water falling vertically</i>
<b>2</b>	Protetto da corpi solidi superiori a Ø 12 mm. <i>Protected against solid matters (over Ø 12 mm)</i>	<b>2</b>	Protetto contro la caduta verticale di gocce d'acqua con inclinazione max di 15° <i>Protected against drops of water falling up to 15°</i>
<b>3</b>	Protetto da corpi solidi superiori a Ø 2.5 mm. <i>Protected against solid matters (over Ø 2.5 mm)</i>	<b>3</b>	Protetto contro la pioggia. <i>Rain proof fixture</i>
<b>4</b>	Protetto da corpi solidi superiori a Ø 1 mm. <i>Protected against solid matters (over Ø 1 mm)</i>	<b>4</b>	Protetto contro gli spruzzi. <i>Splash proof fixture</i>
<b>5</b>	Protetto contro la polvere <i>Dust proof</i>	<b>5</b>	Protetto contro getti d'acqua <i>Water jet proof</i>
<b>6</b>	Totalmente protetto contro la polvere <i>Fully dust proof</i>	<b>6</b>	Protetto dalle ondate <i>Wave proof</i>
<b>7</b>	N.A.	<b>7</b>	Protetto contro immersione <i>Watertight immersion fixture.</i>
<b>8</b>	N.A.	<b>8</b>	Protetto contro immersione/sommersione prolungata <i>Watertight immersion fixture for a long time.</i>

**Classe di isolamento termico**
**Insulation class**

Classe / Class	$\Delta t$ °C Temp. ambiente: 40°C Ambient temperature: 40°C
<b>A</b>	65°C
<b>B</b>	90°C
<b>F</b>	115°C
<b>H</b>	140°C

**Tipi di servizio IEC**
**IEC duty cycle ratings**

<b>S1</b>	<b>Servizio continuo.</b> Funzionamento a carico costante per una durata sufficiente al raggiungimento dell'equilibrio termico.	<b>Continuous duty.</b> The motor works at a constant load for enough time to reach temperature equilibrium
<b>S2</b>	<b>Servizio di durata limitata.</b> 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.	<b>Short time duty.</b> 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.
<b>S3</b>	<b>Servizio periodico intermittente.</b> 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.	<b>Intermittent periodic duty.</b> Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.
<b>S4</b>	<b>Servizio periodico intermittente con avviamento.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia e riposo a carico costante, senza raggiungimento dell'equilibrio termico. La corrente di spunto ha effetti sul riscaldamento del motore.	<b>Intermittent periodic duty with starting.</b> Sequential identical start, run and rest cycles with constant load. Temperature equilibrium is not reached, but starting current affects temperature rise.
<b>S5</b>	<b>Servizio periodico intermittente con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante, frenatura elettrica e riposo, senza raggiungimento dell'equilibrio termico.	<b>Intermittent periodic duty with electric braking.</b> Sequential, identical cycles of starting, running at constant load, electric braking and rest. Temperature equilibrium is not reached.
<b>S6</b>	<b>Servizio periodico ininterrotto con carico intermittente.</b> Sequenza di cicli di lavoro identici con carico costante e senza carico. Non ci sono periodi di riposo.	<b>Continuous operation with intermittent load.</b> Sequential, identical cycles of running with constant load and running with no load. No rest periods.
<b>S7</b>	<b>Servizio periodico ininterrotto con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante e frenatura elettrica, senza periodi di riposo.	<b>Continuous operation with electric braking.</b> Sequential, identical cycles of starting, running at constant load and electric braking. No rest periods.
<b>S8</b>	<b>Servizio periodico ininterrotto con variazioni di carico e di velocità.</b> Sequenza di cicli identici di avviamento, marcia a carico costante e velocità definita, seguiti da marcia a carico costante differente e velocità differente dalla precedente. Non ci sono periodi di riposo.	<b>Continuous operation with periodic changes in load and speed.</b> Sequential, identical, duty cycles of start, run at constant load and given speed, then run at other constant loads and speeds. No rest periods.



**ND120.120 - ND120.240**

**Caratteristiche**

**Features**

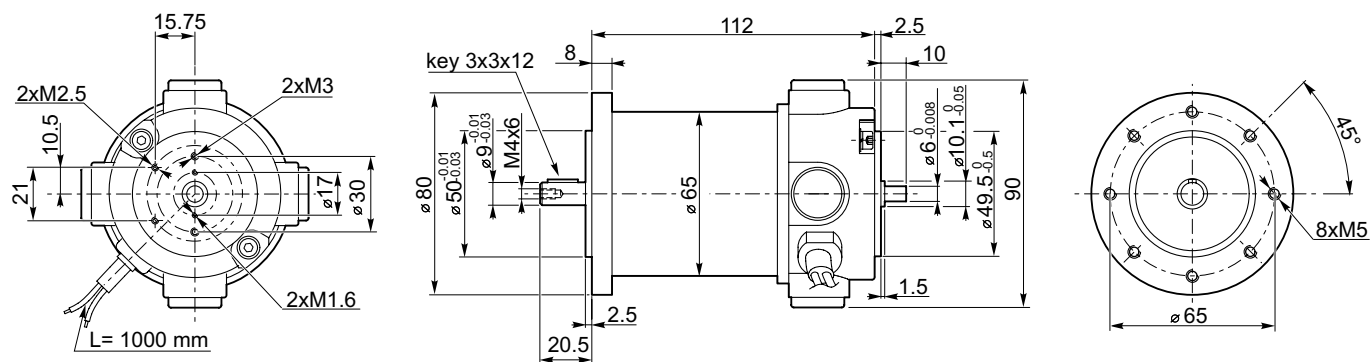
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	160 W S2 (120 W S1)
Magneti	4 magneti in terre rare
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Cavo di alimentazione	Lunghezza: 1000 mm
Bisporgenza	Standard

Construction	Tubular, without fan
Size	Ø 65 mm
Power	160 W S2 (120 W S1)
Magnets	4 rare earth magnets
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 brushes made of graphite/copper composite
Electric cable	Length: 1000 mm
Rear Shaft	Standard

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
ND120.120	S1	120	12	13.9	F	1	0.38	3000	20	1.6
	S2 20'	160		19			0.51			
ND120.240	S1	120	24	6.9			0.38			
	S2 20'	160		9.0			0.51			

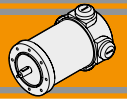
**Dimensioni**

**Dimensions**



- Freno / Brake → BA9
- Encoder → BA9



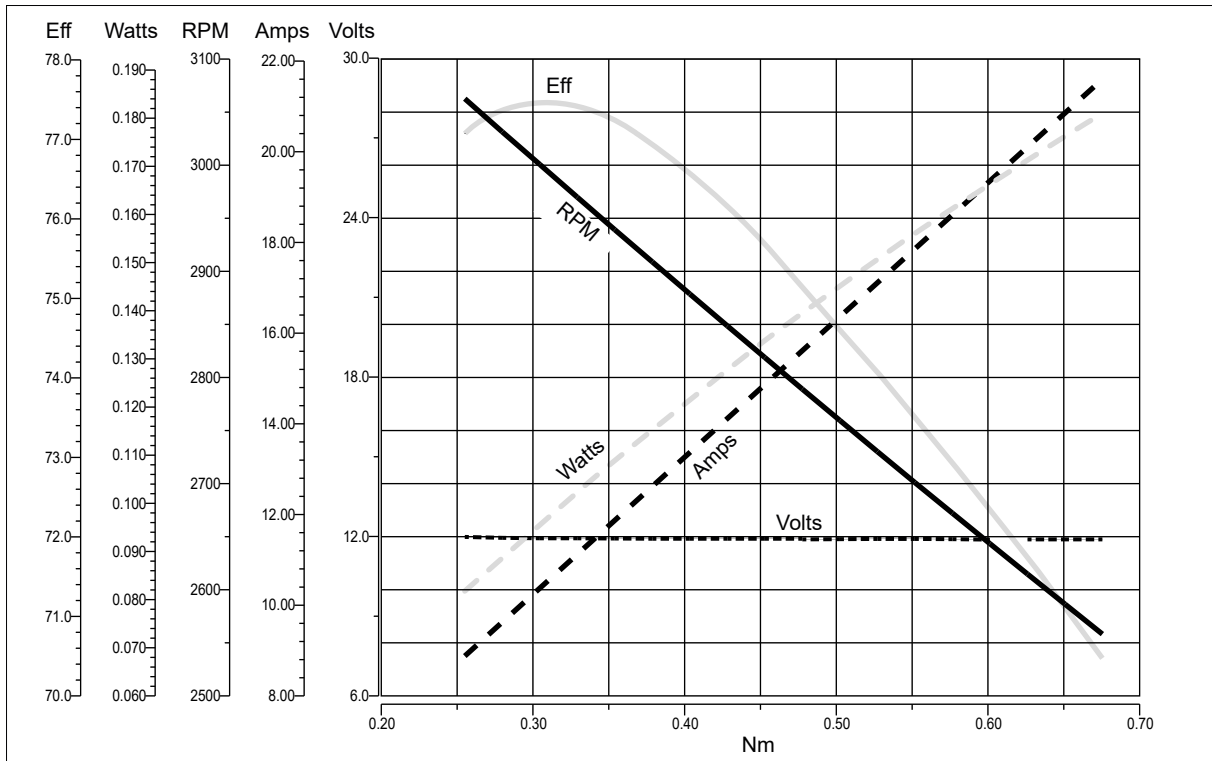


**ND120.120 - ND120.240**

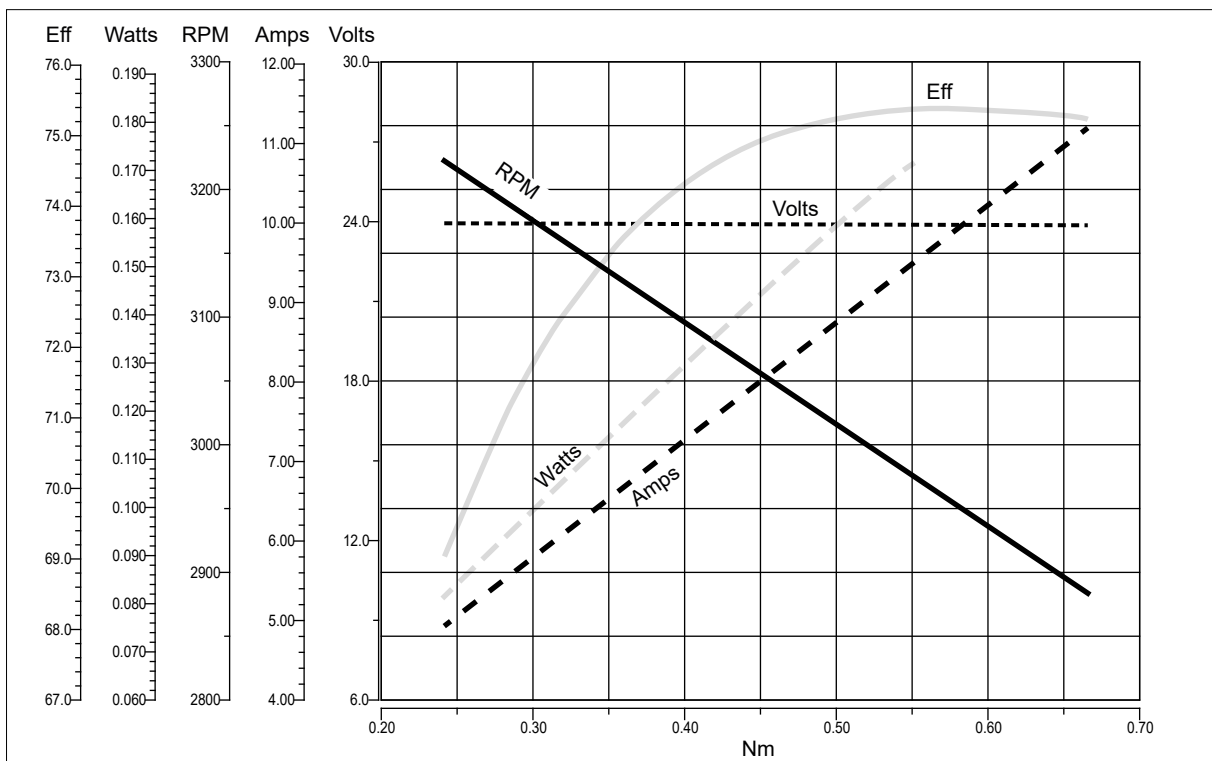
Prestazioni

Performances

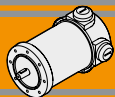
**ND120.120**



**ND120.240**



DC

**ND**
**Motori elettrici CC - Neodimio**  
**DC Electric motors - Neodymium**


## ND180.120 - ND180.240

### Caratteristiche

### Features

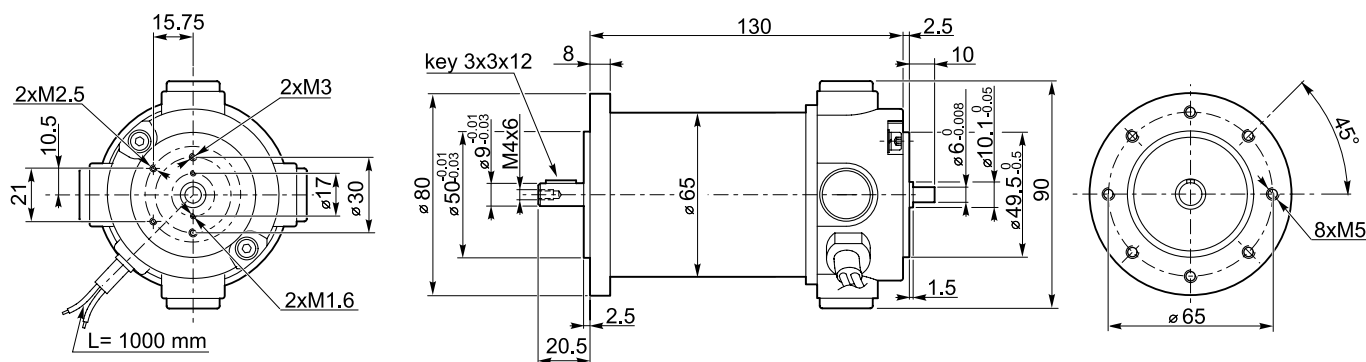
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	250 W S2 (180 W S1)
Magneti	4 magneti in terre rare
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Cavo di alimentazione	Lunghezza: 1000 mm
Bisporgenza	Standard

Construction	Tubular, without fan
Size	Ø 65 mm
Power	250 W S2 (180 W S1)
Magnets	4 rare earth magnets
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 brushes made of graphite/copper composite
Electric cable	Length: 1000 mm
Rear Shaft	Standard

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
ND180.120	S1	180	12	20	F	1	0.57	3000	20	1.95
	S2 20'	250		30			0.80			
ND180.240	S1	180	24	10						
	S2 20'	250		14			0.57			
							0.80			

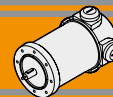
### Dimensioni

### Dimensions



Freno / Brake → BA9

Encoder → BA9

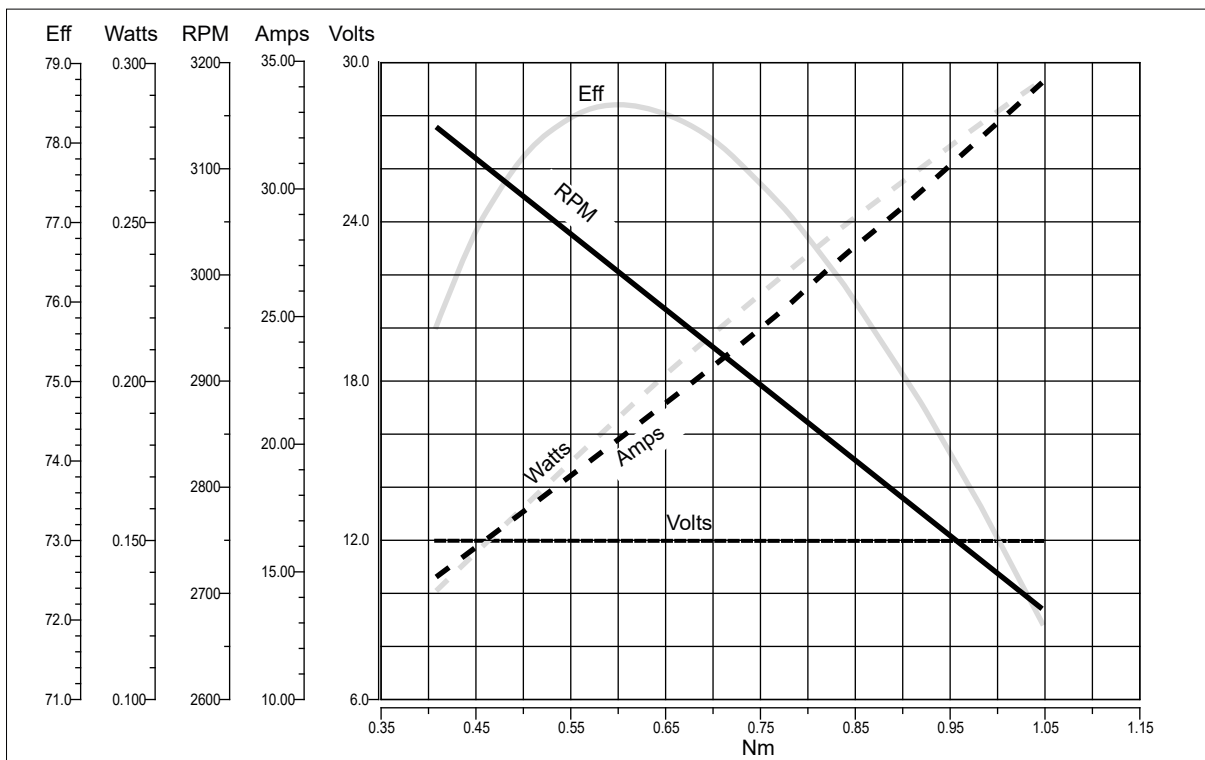


**ND180.120 - ND180.240**

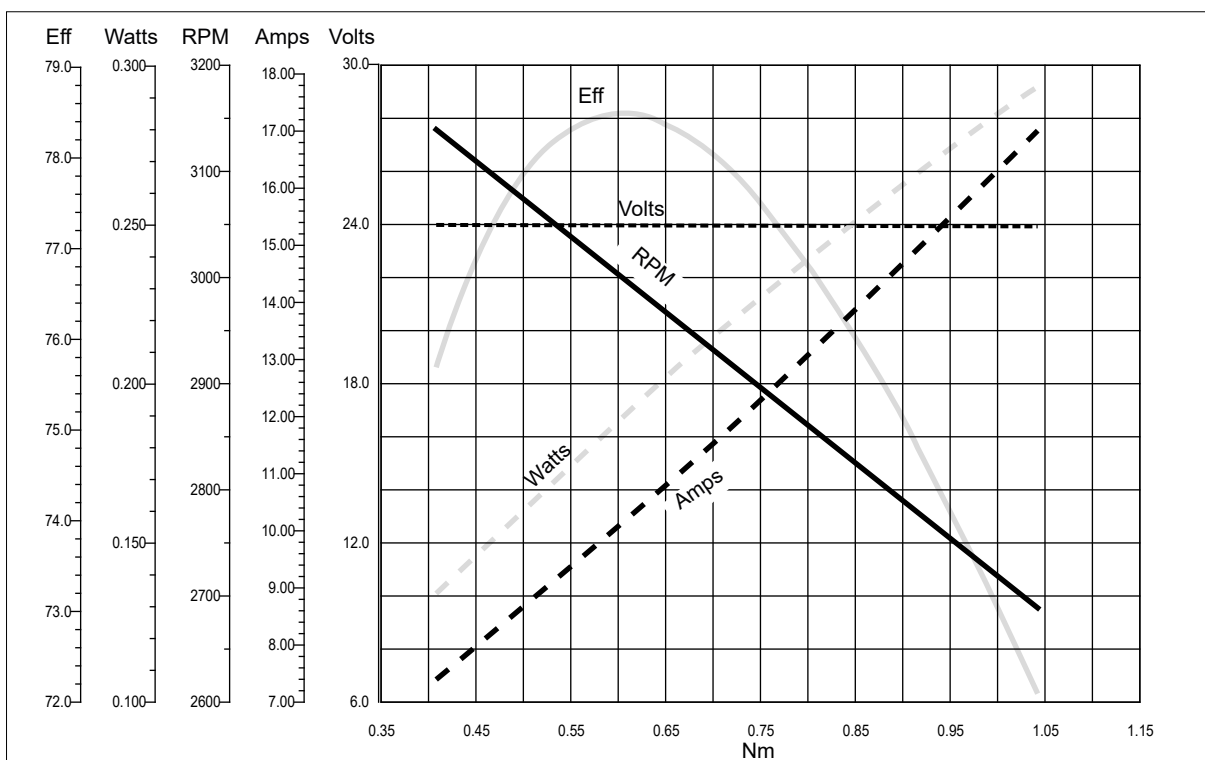
Prestazioni

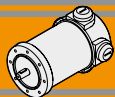
Performances

**ND180.120**



**ND180.240**



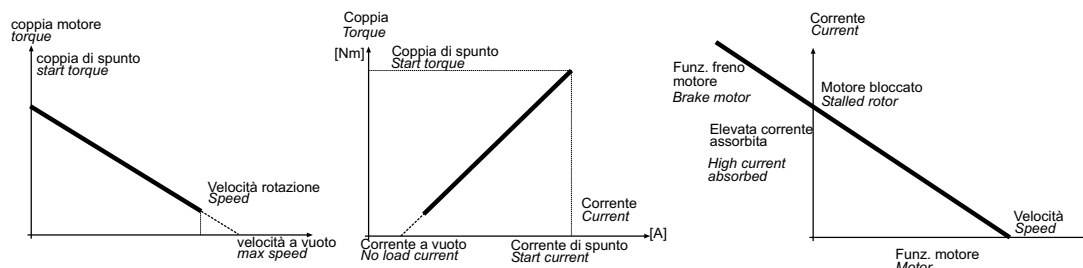


**Legenda / Glossario dei grafici**

**Key / Diagram Glossary**

Dato un motore in 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 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.

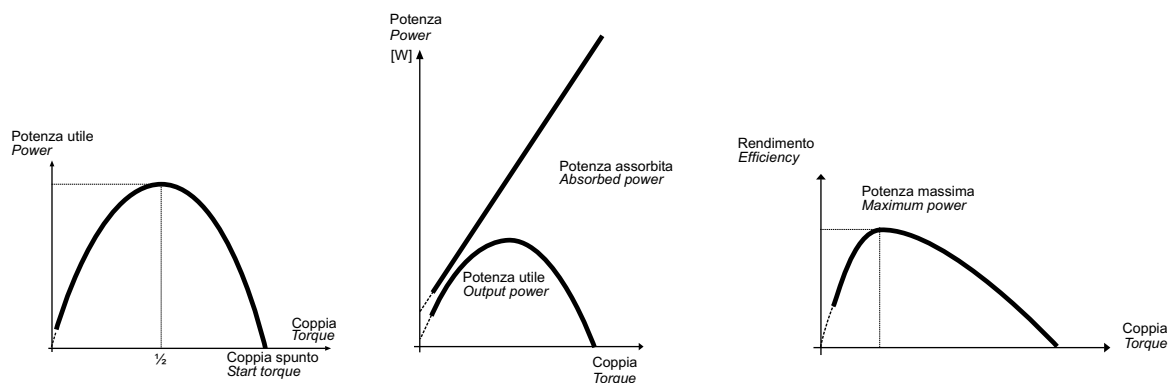


La potenza utile (potenza all'albero) si ricava dalla formula:

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

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**

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

$$P_a = V \cdot I$$

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

$$P_n = M_n \cdot S_v$$

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

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

$$P_a = V \cdot I$$

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

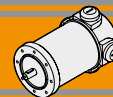
$$P_n = M_n \cdot S_v$$

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

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

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

<b>S</b>	—	Servizio	<i>Duty</i>
<b>P<sub>n</sub></b>	[W]	Potenza in uscita	<i>Rated power</i>
<b>P<sub>a</sub></b>	[W]	Potenza assorbita	<i>Absorbed power</i>
<b>M<sub>n</sub></b>	[Nm]	Coppia nominale	<i>Rated torque</i>
<b>V</b>	[V]	Tensione	<i>Voltage</i>
<b>I</b>	[A]	Corrente assorbita	<i>Absorbed current</i>
<b>n<sub>1</sub></b>	[min <sup>-1</sup> ]	Numero giri motore	<i>Motor speed</i>
<b>S<sub>v</sub></b>	[rad/s]	Velocità angolare	<i>Angular speed</i>
<b>IC</b>	—	Classe d'isolamento termico	<i>Thermal insulation class</i>
<b>FF</b>	—	Fattore di forma	<i>Form factor</i>
<b>IP</b>	—	Classe di protezione	<i>Protection class</i>
<b>η</b>	—	Rendimento	<i>Efficiency</i>
<b>Kg</b>	—	Peso	<i>Weight</i>

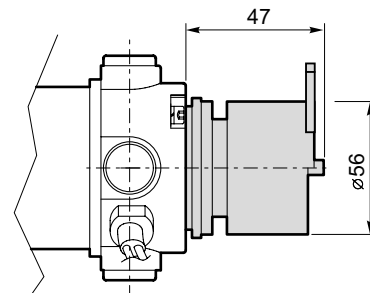
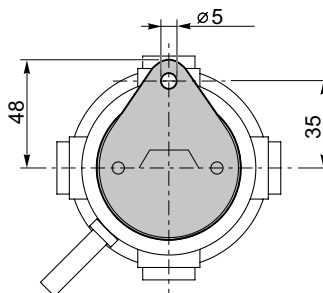
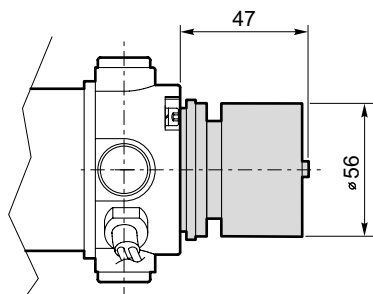


Freno

Brake

ND...BR Freno / Brake

ND...BRL Freno con leva di sblocco / Brake with hand release

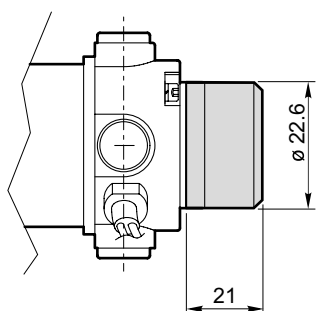


	Pn [W]	V [V]	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]
Caratteristiche del freno / Break features	14	12 24	2	3000

Encoder

Encoder

ND...ME22



Nota: Fornito con cavo lungo 300 mm

Note: Supplie with cavle 300 mm long

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.



**MINI**  **TECNO**™  
**small** but strong

**EC**

**Motori elettrici CC - Ferrite**  
**DC electric motors - Ferrite**



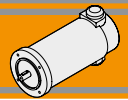
**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



**DC**



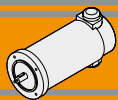




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## Caratteristiche tecniche

## Technical features

Le caratteristiche principali dei motori elettrici CC a magneti permanenti in ferrite EC sono:

- Campo magnetico generato da magneti permanenti in ferrite
- Costruzione tubolare, senza ventilazione
- Disponibili in 6 grandezze: diametro 42, 52, 65, 81, 104, 110 mm
- Alimentazione a bassa tensione, 12 o 24 Vcc
- Potenze disponibili da 30 a 800 W S2
- Elevate coppie di spunto
- Elevate coppie e potenze in dimensioni compatte

The main features of EC ferrite permanent magnets DC electric motors range are:

- Magnetic field generated by permanent ferrite magnets
- Tubular construction, without fan
- Available in 6 sizes: diameter 42, 52, 65, 81, 104, 110 mm
- Low voltage power supply, 12 or 24 Vdc
- Power ratings available from 30 to 800 W S2
- High starting torque
- High torque and output power with compact package

### Classe di isolamento termico

Gli avvolgimenti del rotore sono soggetti a surriscaldamento, come pure altre parti del motore. Il grado di isolamento indica la massima temperatura ammissibile oltre la quale l'isolante della matassa e l'isolante di tutte le parti soggette ad elevato riscaldamento perde le caratteristiche di buon isolante, con pericolo di danneggiamento del motore.

### Thermal insulation class

The windings of the rotor can overheat just like other parts of the motor too. The degree of insulation indicates the maximum allowable temperature above which the insulation of the windings, as well as that of all the parts which heat up to a high temperature, loses its insulating properties and the motor therefore risks being damaged.

### Servizio

Rappresenta la relazione tra il tempo di lavoro ed il tempo di riposo del motore. Servizio continuo (S1) = funzionamento continuo del motore a pieno carico.

Servizio intermittente (S2, S3, etc...) = periodi alternati di lavoro e di riposo tali da raffreddare il motore. Dato un motore, la potenza espressa per servizio continuo è inferiore a quella per servizio intermittente.

### Duty cycle

This represents the relationship between the time the motor operates and the time it remains stationary. Continuous operation (S1) = the motor operates non-stop under full load.

Intermittent operation (S2, S3, etc.) = alternating periods of work and rest so that the motor can cool down. The output power for continuous operation is lower than that for intermittent operation.

### Fattore di forma

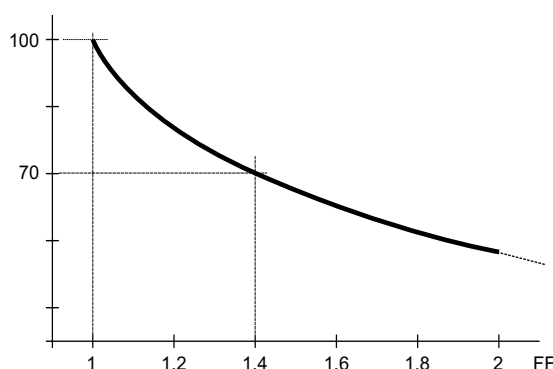
Indica quanta componente spuria alternata è presente nella alimentazione CC del motore. Più alto è il fattore ed inferiore è l'efficienza del motore. Alimentatori ad SCR = F.F 1.40. Alimentazione pura da batteria = FF 1. Alimentazione da transistori (modulazione PWM) = FF 1.05.

Qualitativamente l'andamento della coppia (percentuale) rispetto al fattore di forma è indicato nel grafico seguente:

### Form factor

It indicates how much spurious alternating current is present in the D.C. motor power supply. The higher the factor, the lower the motor's efficiency. SCR power supplies = F.F 1.40. Battery supply = FF 1 Transistor supply (PWM modulation) = FF 1.05.

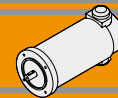
The graph below indicates the torque trend (percentage) in relation to the form factor.



## Simbologia

## Symbols

<b>S</b>	—	Servizio / Duty	<b>M<sub>Br</sub></b>	[Nm]	Coppia nominale del freno / Brake motor torque
<b>P<sub>n</sub></b>	[W]	Potenza in uscita / Rated power	<b>n<sub>1 max</sub></b>	[min <sup>-1</sup> ]	Velocità massima / Max speed
<b>P<sub>a</sub></b>	[W]	Potenza assorbita / Absorbed power	<b>T<sub>r</sub></b>	[ms]	Tempo di inserzione / Engaging time
<b>M<sub>n</sub></b>	[Nm]	Coppia nominale / Rated torque	<b>T<sub>f</sub></b>	[ms]	Tempo di disimpegno / Disengaging time
<b>V</b>	[V]	Tensione / Voltage	<b>IC</b>	—	Classe d'isolamento termico / Thermal insulation class
<b>I</b>	[A]	Corrente assorbita / Absorbed current	<b>FF</b>	—	Fattore di forma / Form factor
<b>n<sub>1</sub></b>	[min <sup>-1</sup> ]	Numero giri motore / Motor speed	<b>IP</b>	—	Classe di protezione / Protection class
<b>S<sub>v</sub></b>	[rad/s]	Velocità angolare / Angular speed	<b>η</b>	—	Rendimento / Efficiency
<b>P<sub>e</sub></b>	[W]	Potenza elettrica del freno / Brake electric power	<b>K<sub>g</sub></b>	—	Peso / Weight


**Grado di protezione IP**
**IP enclosures protection indexes**

Indica il grado di isolamento meccanico del corpo motore.

Indicates the degree of mechanical insulation of the motor body.

1ª cifra protezione alla penetrazione di corpi solidi.

 1<sup>st</sup> figure indicating level of protection against the penetration of solid bodies.

2ª cifra protezione contro la penetrazione d'acqua.

 2<sup>nd</sup> figure: indicating degree to which the motor is waterproof.

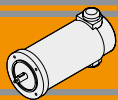
<b>0</b>	Non protetto / No protection	<b>0</b>	Non protetto / No protection
<b>1</b>	Protetto da corpi solidi superiori a Ø 50 mm. <i>Protected against solid matters (over Ø 50 mm)</i>	<b>1</b>	Protetto contro la caduta verticale di gocce d'acqua. <i>Protected against drops of water falling vertically</i>
<b>2</b>	Protetto da corpi solidi superiori a Ø 12 mm. <i>Protected against solid matters (over Ø 12 mm)</i>	<b>2</b>	Protetto contro la caduta verticale di gocce d'acqua con inclinazione max di 15° <i>Protected against drops of water falling up to 15°</i>
<b>3</b>	Protetto da corpi solidi superiori a Ø 2,5 mm. <i>Protected against solid matters (over Ø 2,5 mm)</i>	<b>3</b>	Protetto contro la pioggia. <i>Rain proof fixture</i>
<b>4</b>	Protetto da corpi solidi superiori a Ø1 mm. <i>Protected against solid matters (over Ø1 mm)</i>	<b>4</b>	Protetto contro gli spruzzi. <i>Splash proof fixture</i>
<b>5</b>	Protetto contro la polvere <i>Dust proof</i>	<b>5</b>	Protetto contro getti d'acqua <i>Water jet proof</i>
<b>6</b>	Totalmente protetto contro la polvere <i>Fully dust proof</i>	<b>6</b>	Protetto dalle ondate <i>Wave proof</i>
<b>7</b>	N.A.	<b>7</b>	Protetto contro immersione <i>Watertight immersion fixture.</i>
<b>8</b>	N.A.	<b>8</b>	Protetto contro immersione/sommersione prolungata <i>Watertight immersion fixture for a long time.</i>

**Classe di isolamento termico**
**Insulation class**

Classe / Class	$\Delta t$ °C Temp. ambiente: 40°C <i>Ambient temperature: 40°C</i>
<b>A</b>	65°C
<b>B</b>	90°C
<b>F</b>	115°C
<b>H</b>	140°C

**Tipi di servizio IEC**
**IEC duty cycle ratings**

<b>S1</b>	<b>Servizio continuo.</b> Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	<b>Continuous duty.</b> The motor works at a constant load for enough time to reach temperature equilibrium
<b>S2</b>	<b>Servizio di durata limitata.</b> 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.	<b>Short time duty.</b> 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.
<b>S3</b>	<b>Servizio periodico intermittente.</b> 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.	<b>Intermittent periodic duty.</b> Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.
<b>S4</b>	<b>Servizio periodico intermittente con avviamento.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia e riposo a carico costante, senza raggiungimento dell'equilibrio termico. La corrente di spunto ha effetti sul riscaldamento del motore.	<b>Intermittent periodic duty with starting.</b> Sequential identical start, run and rest cycles with constant load. Temperature equilibrium is not reached, but starting current affects temperature rise.
<b>S5</b>	<b>Servizio periodico intermittente con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante, frenatura elettrica e riposo, senza raggiungimento dell'equilibrio termico.	<b>Intermittent periodic duty with electric braking.</b> Sequential, identical cycles of starting, running at constant load, electric braking and rest. Temperature equilibrium is not reached.
<b>S6</b>	<b>Servizio periodico ininterrotto con carico intermittente.</b> Sequenza di cicli di lavoro identici con carico costante e senza carico. Non ci sono periodi di riposo.	<b>Continuous operation with intermittent load.</b> Sequential, identical cycles of running with constant load and running with no load. No rest periods.
<b>S7</b>	<b>Servizio periodico ininterrotto con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante e frenatura elettrica, senza periodi di riposo.	<b>Continuous operation with electric braking.</b> Sequential, identical cycles of starting, running at constant load and electric braking. No rest periods.
<b>S8</b>	<b>Servizio periodico ininterrotto con variazioni di carico e di velocità.</b> Sequenza di cicli identici di avviamento, marcia a carico costante e velocità definita, seguiti da marcia a carico costante differente e velocità differente dalla precedente. Non ci sono periodi di riposo.	<b>Continuous operation with periodic changes in load and speed.</b> Sequential, identical, duty cycles of start, run at constant load and given speed, then run at other constant loads and speeds. No rest periods.



**EC020.120 - EC020.24E**

**Caratteristiche**

**Features**

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 42 mm
Potenza	30 W S2 (20 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 di composto grafite-rame
Cavo di alimentazione	Connettori faston (0.8 x 2.8 mm)
Opzioni	Filtro EMC
	Encoder magnetico max. 2 imp/giro, 2 canali Max.

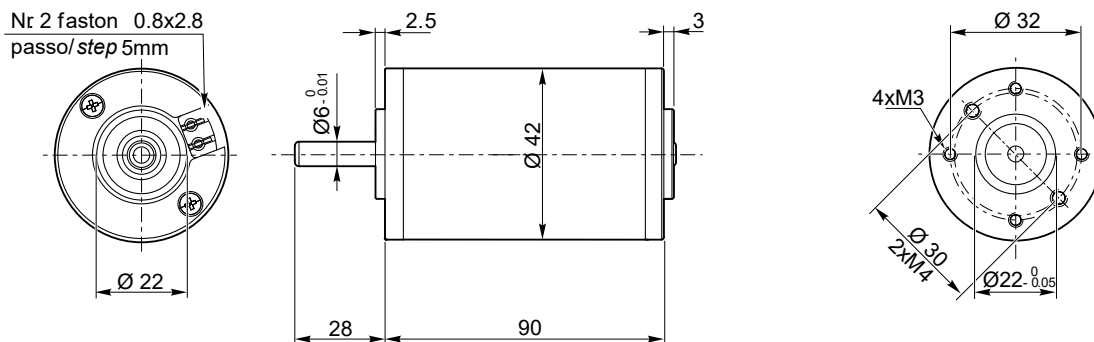
Construction	Tubular, without fan
Size	Ø 42 mm
Power	30 W S2 (20 W S1)
Magnets	2
Bearings	Ball bearing
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 brushes made of graphite/copper composite
Electric cable	Faston terminals (0.8 x 2.8 mm)
Options	EMC filter
	Magnetic encoder max 2 ppr, Max. 2 channels

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC020.120	S1	20	12	2.6	B	1	0.06	2850	20	0.4
	S2 6'	30		3.5			0.08			
EC020.24E	S1	20	24	1.4			0.06			
	S2 6'	30		1.9			0.08			

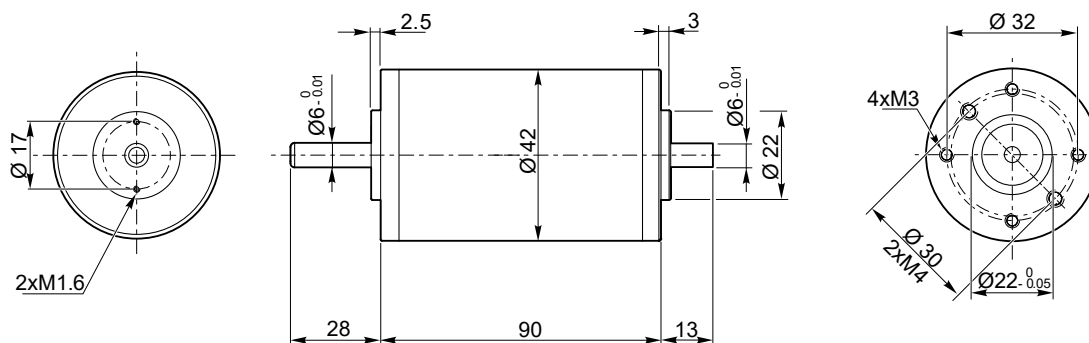
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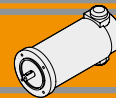
**Dimensions**

**EC020.120**



**EC020.24E**



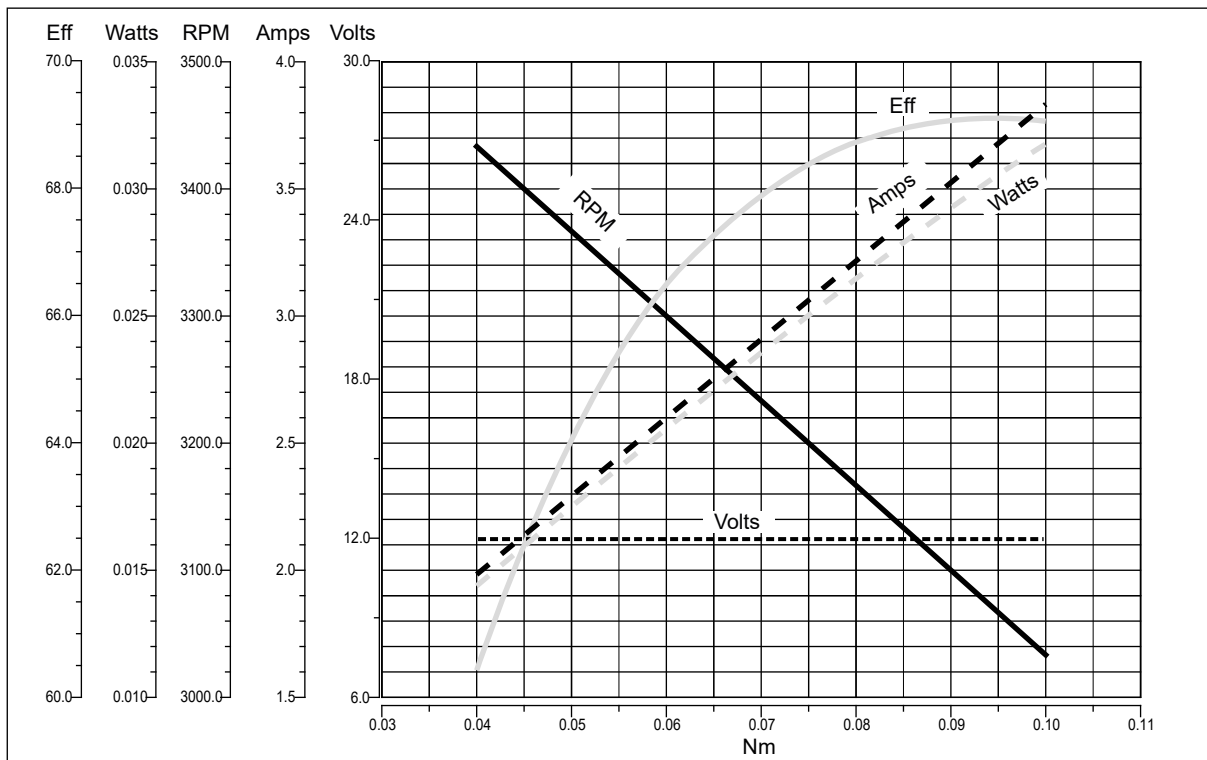


**EC020.120 - EC020.24E**

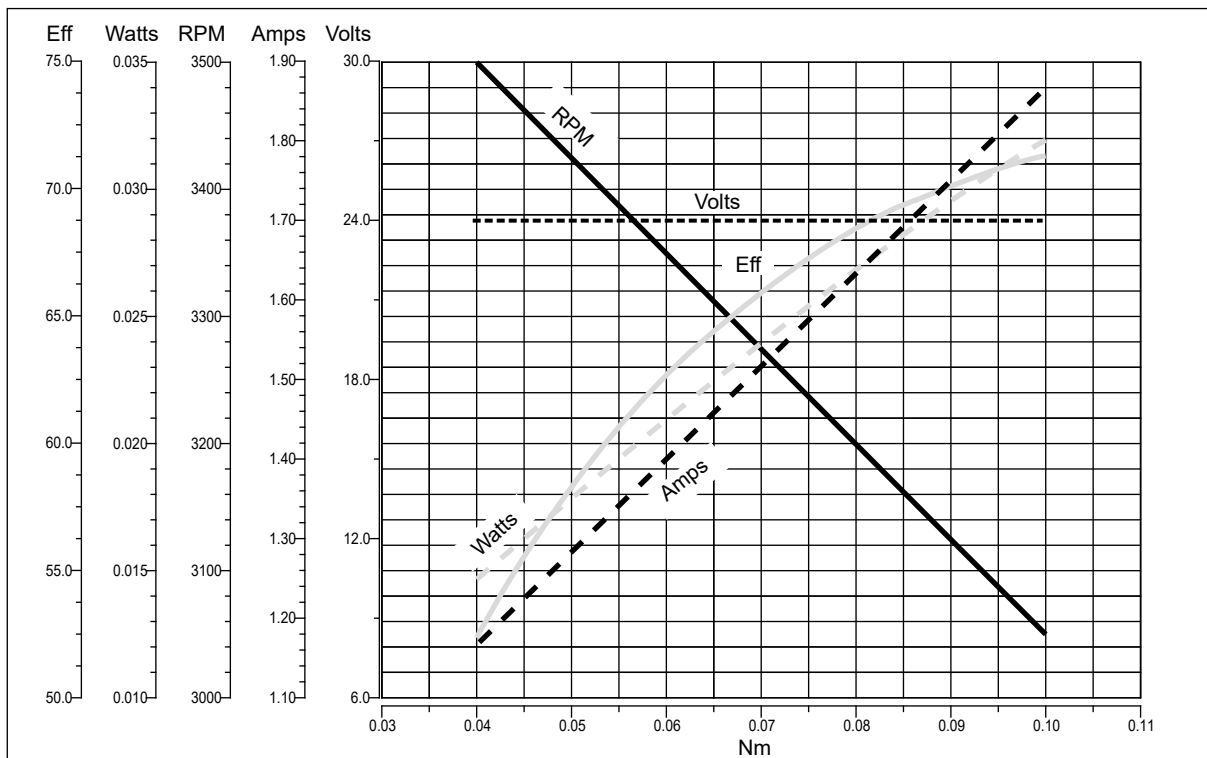
Prestazioni

Performances

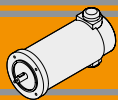
**EC020.120**



**EC020.24E**



DC



**EC035.120 - EC035.240**

**Caratteristiche**

**Features**

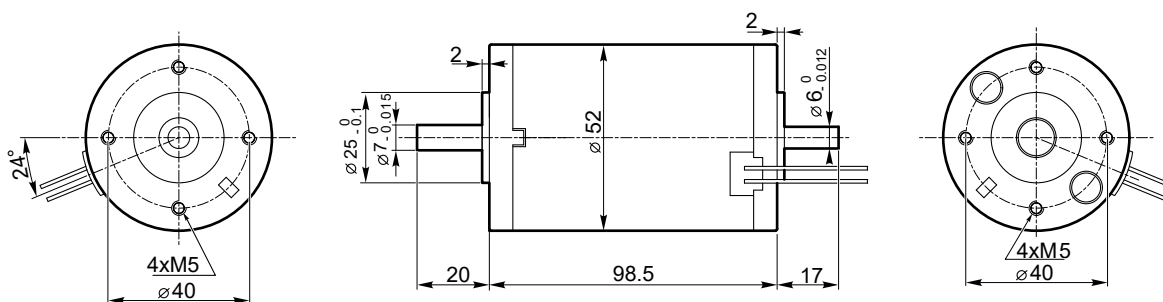
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 52 mm
Potenza	55 W S2 (35 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 200 mm
Opzioni	Encoder magnetico max. 1 imp/giro, max.2 canali

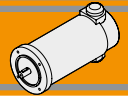
Construction	Tubular, without fan
Size	Ø 52 mm
Power	55 W S2 (35 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 200 mm
Options	Magnetic encoder max 1 ppr, Max. 2 channels

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC035.120	S1	35	12	5.2	F	1	0.11	3000	20	0.8
	S2 9'	55		8.0			0.18			
EC035.240	S1	35	24	2.6	F	1	0.11		20	0.8
	S2 9'	55		4.0			0.18			

**Dimensioni**

**Dimensions**



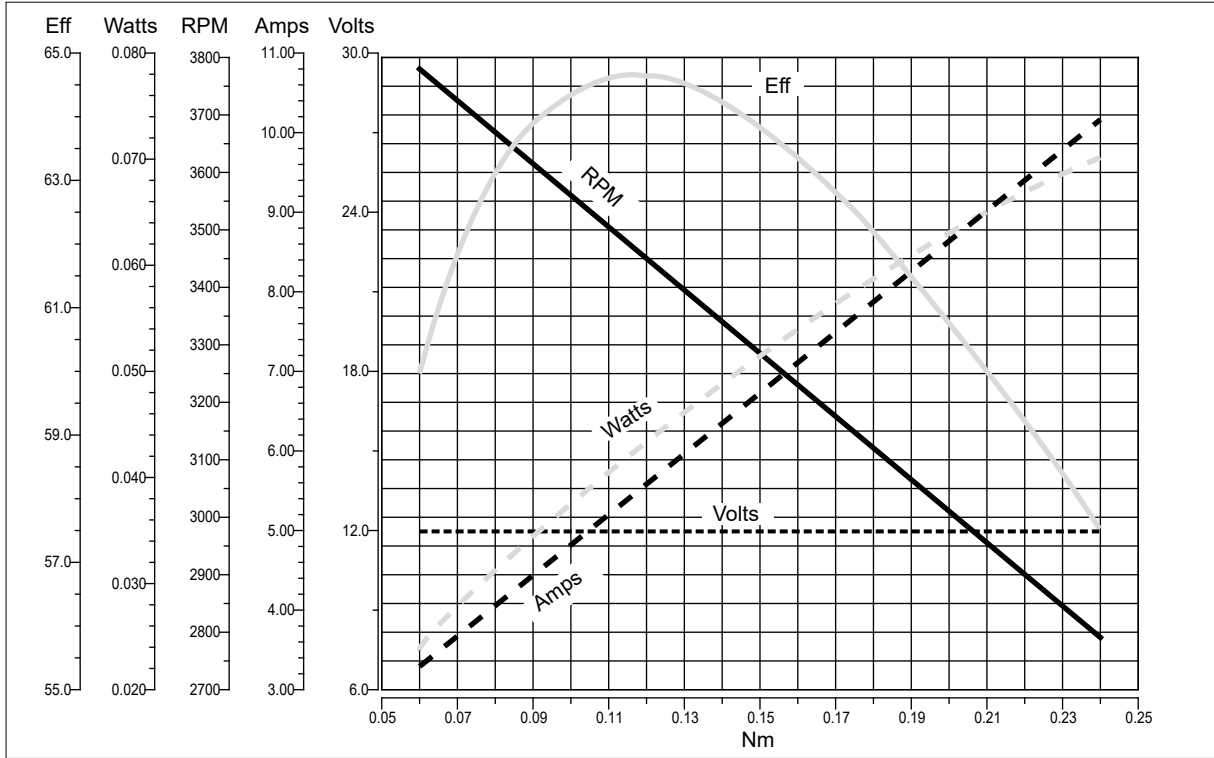


**EC035.120 - EC035.240**

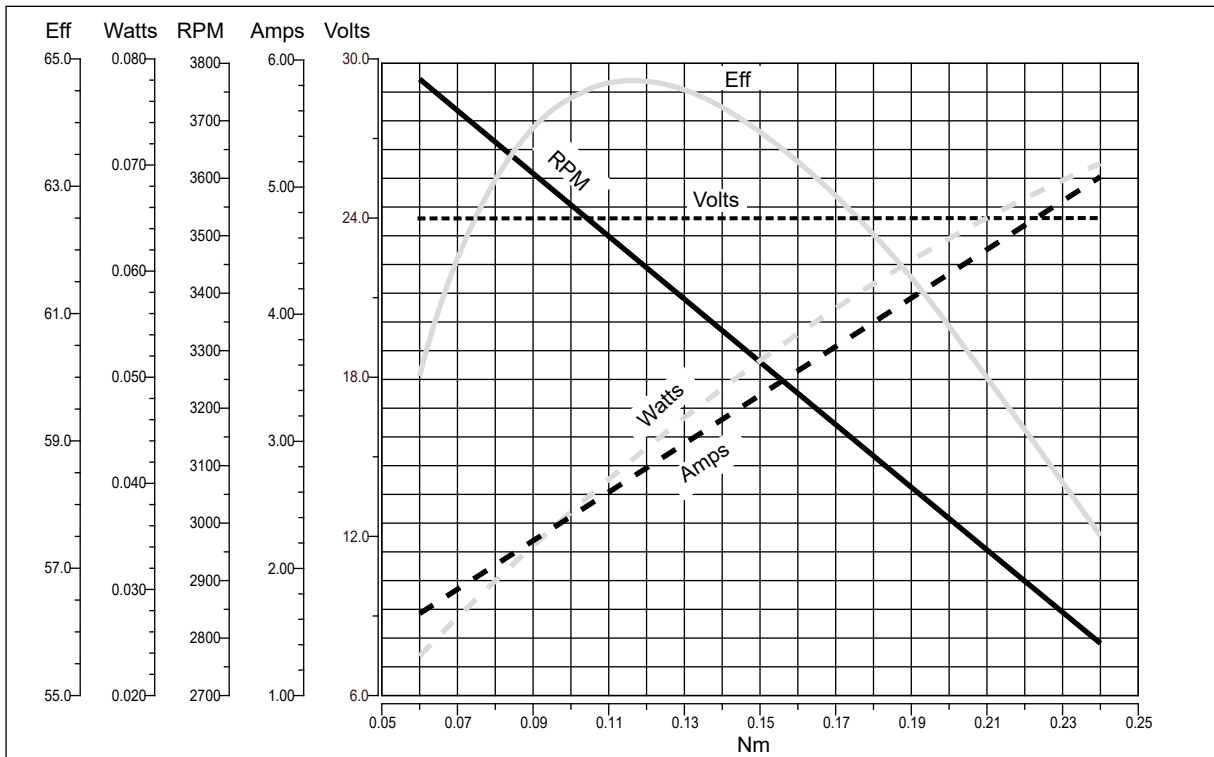
Prestazioni

Performances

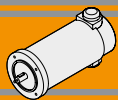
**EC035.120**



**EC035.240**



DC



**EC050.12E - EC050.24E**

**Caratteristiche**

**Features**

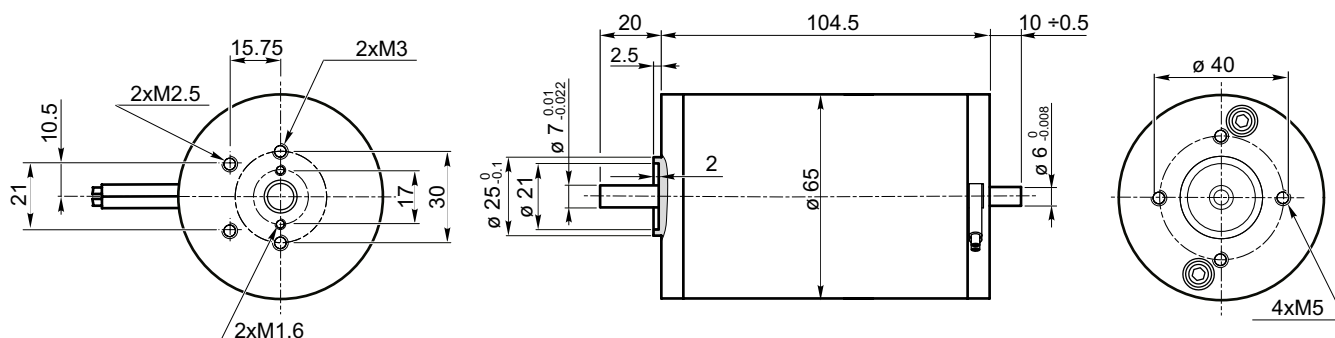
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	70 W S2 (50 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 200 mm
Bisporgenza	Standard

Construction	Tubular, without fan
Size	Ø 65 mm
Power	70 W S2 (50 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 200 mm
Rear Shaft	Standard

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC050.12E	S1	50	12	6.5	F	1	0.16	3000	20	1.2
	S2 30'	70		9.0			0.22			
EC050.24E	S1	50	24	3.2			0.16			
	S2 30'	70		4.5			0.22			

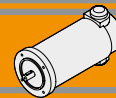
**Dimensioni**

**Dimensions**



- Freno / Brake → BB23
- Encoder → BB24



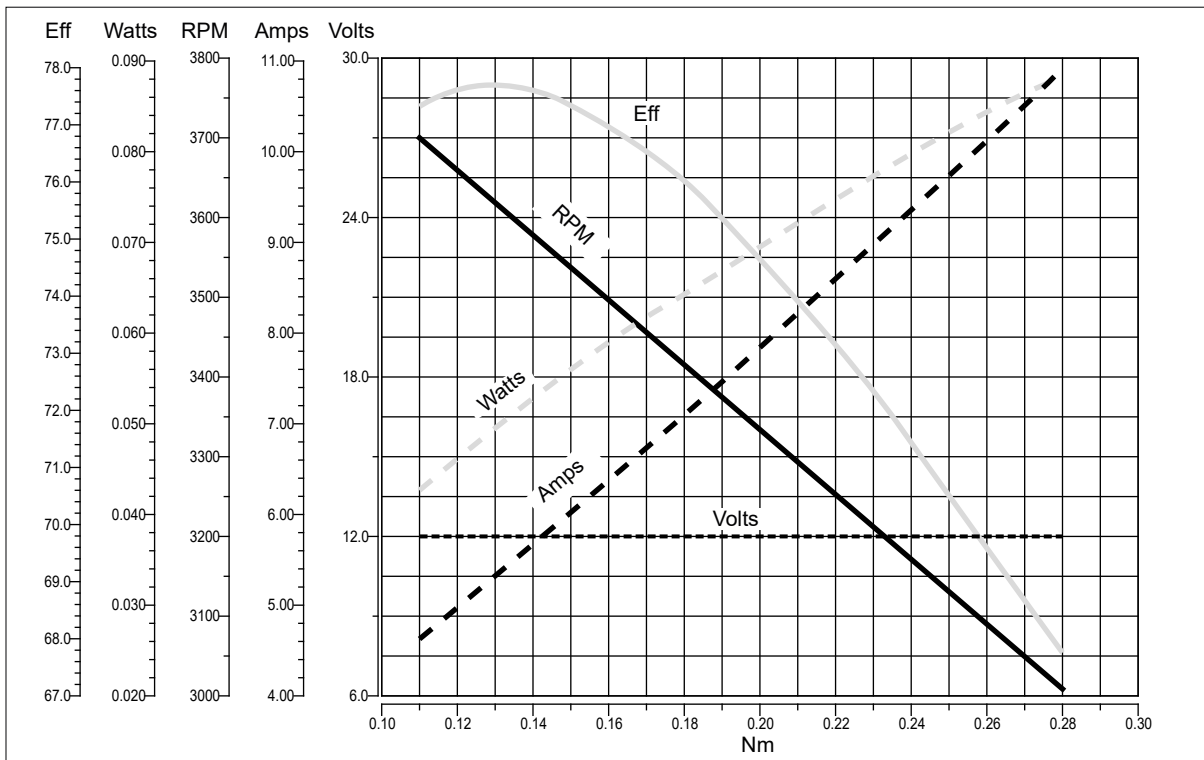


**EC050.12E - EC050.24E**

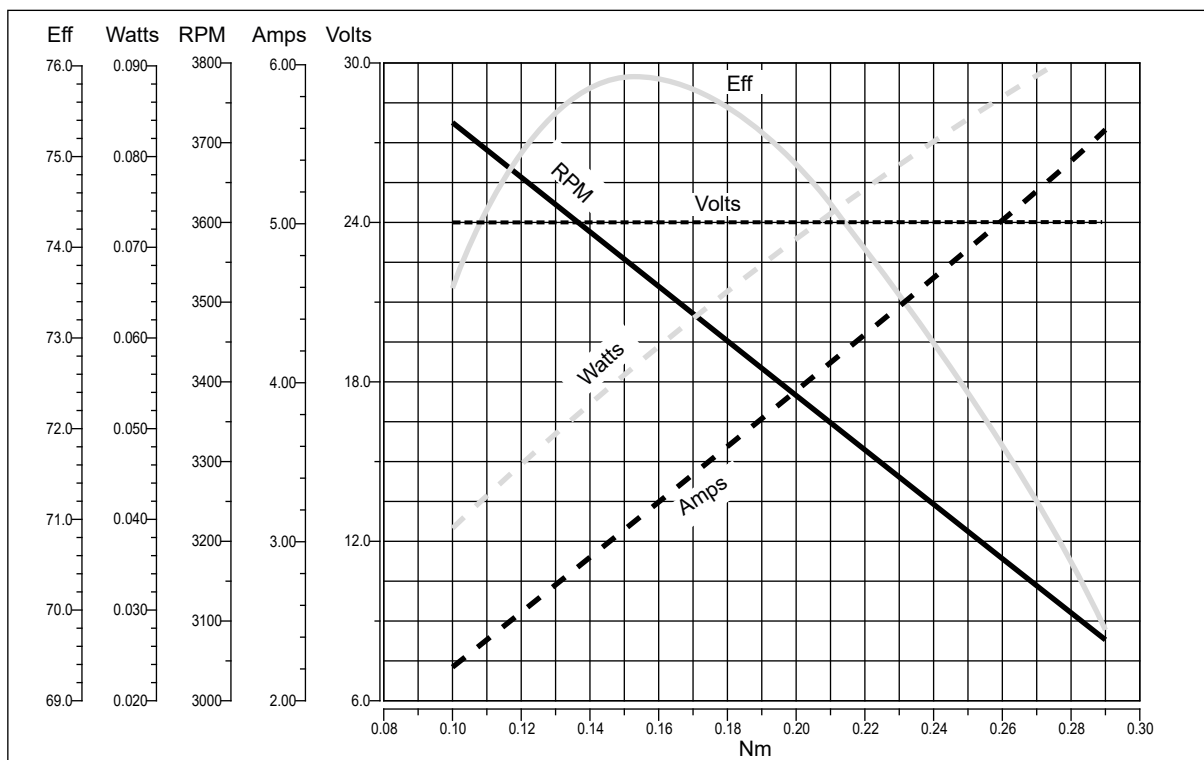
Prestazioni

Performances

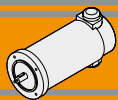
**EC050.12E**



**EC050.24E**



DC



**EC070.12E - EC070.24E**

**Caratteristiche**

**Features**

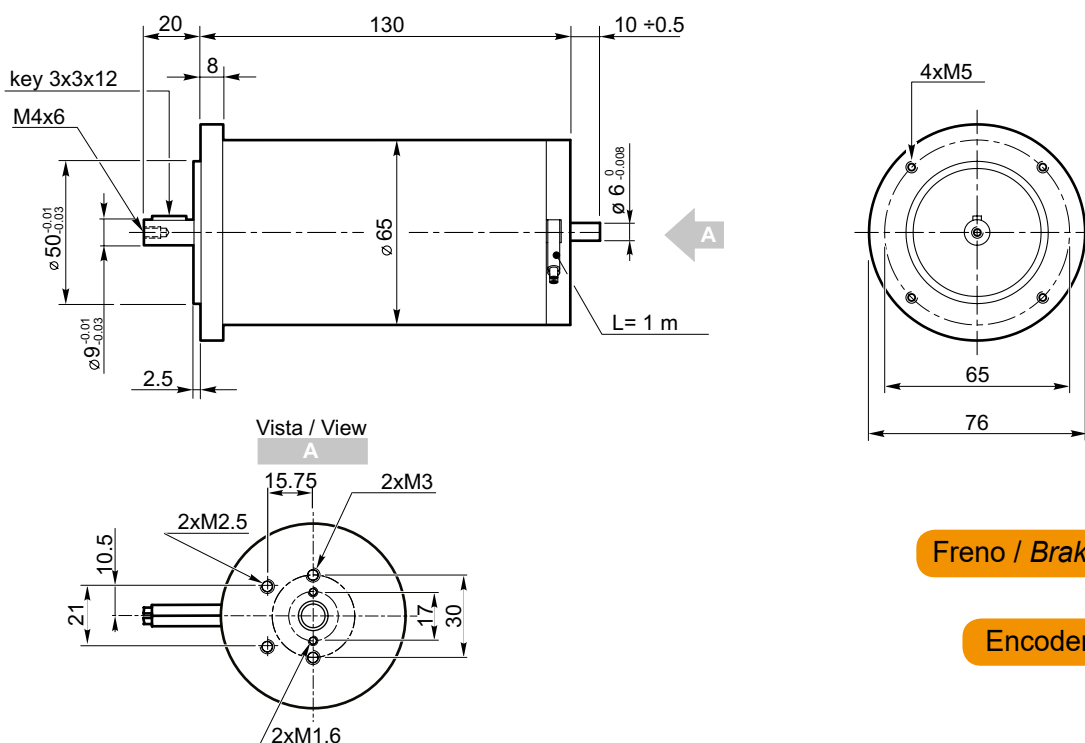
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	100 W S2
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 1000 mm

Construction	Tubular, without fan
Size	Ø 65 mm
Power	100 W S2
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 1000 mm

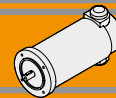
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC070.12E	S1	70	12	8.4	F	1	0.22	3000	20	1.7
	S2 30'	100		11.8			0.31			
EC070.24E	S1	70	24	4.2			0.22			
	S2 30'	100		5.9			0.31			

**Dimensioni**

**Dimensions**



- Freno / Brake → BB23
- Encoder → BB24

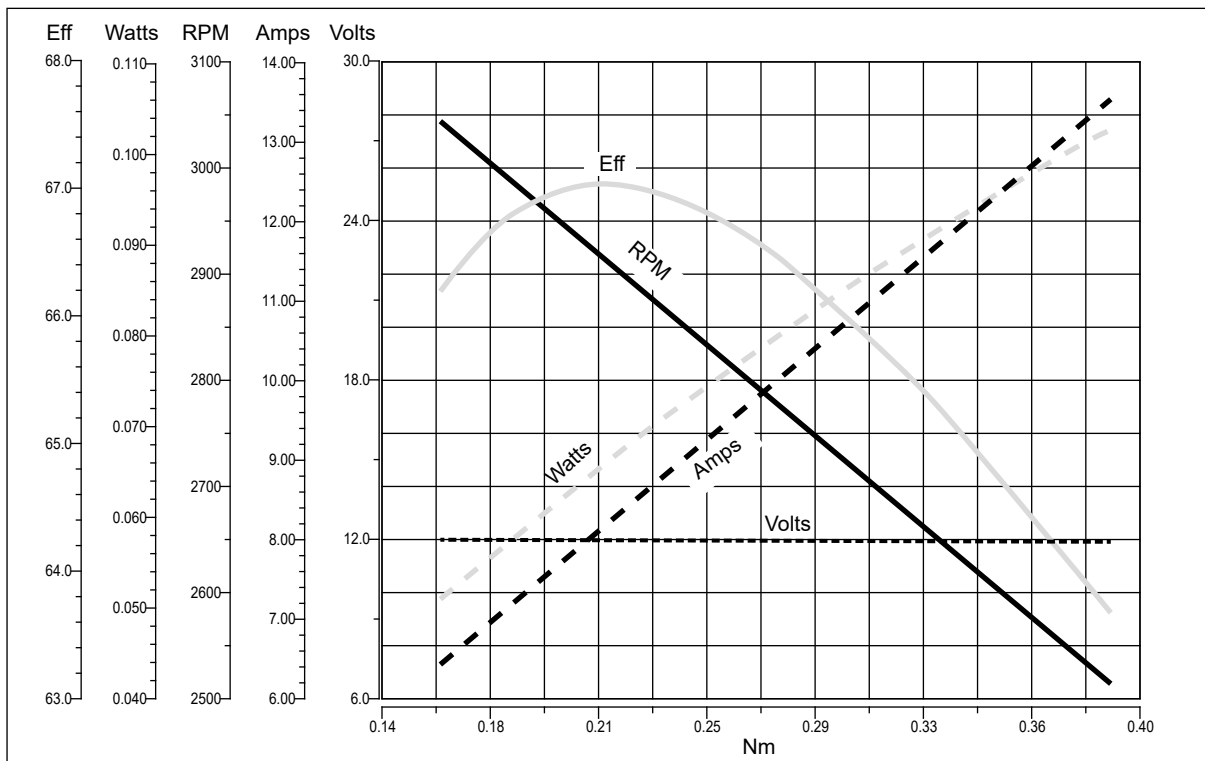


**EC070.12E - EC070.24E**

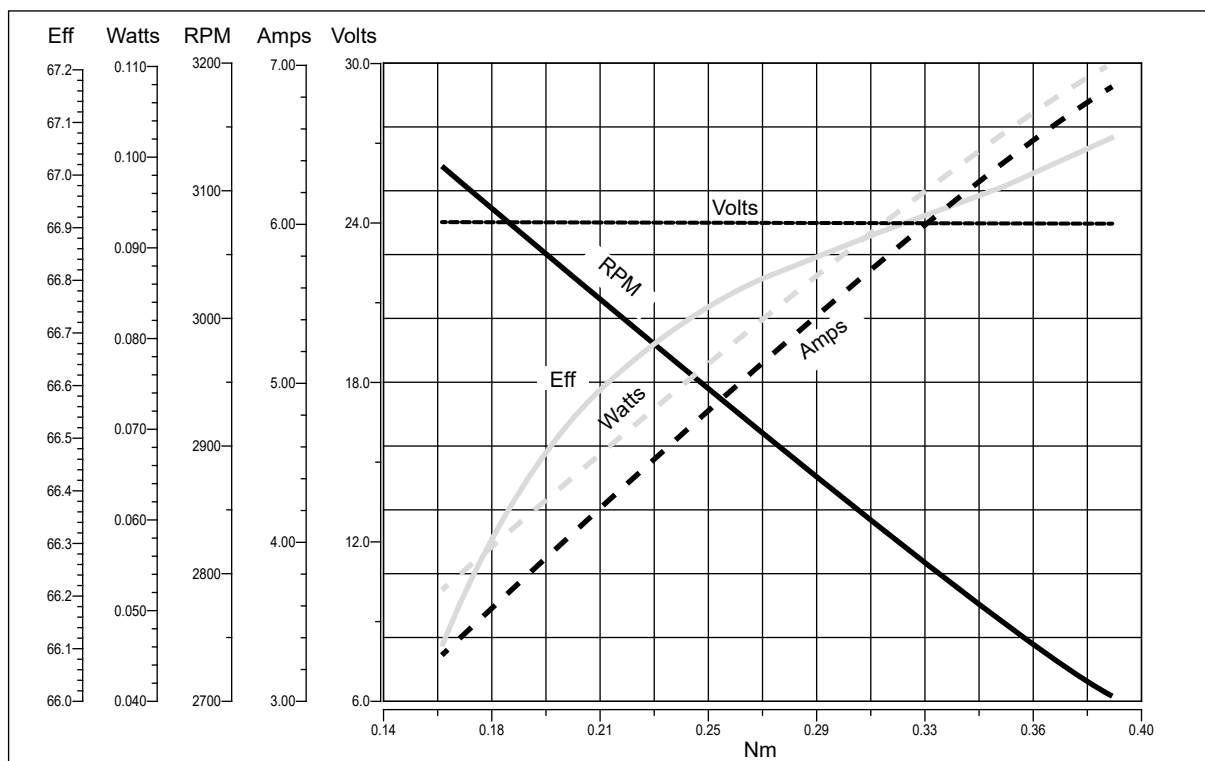
Prestazioni

Performances

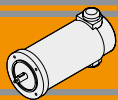
**EC070.12E**



**EC070.24E**



DC



**EC100.120 - EC100.240 - EC100.24E**

**Caratteristiche**

**Features**

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 80 mm
Potenza	140 W S2 (100 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 di composto grafite-rame
Dimensione spazzole	LxPxH = 17.1 x 6.5 x 16.7 mm
Cavo di alimentazione	Lunghezza: 1000 mm
Bisporgenza	Standard solo EC100.24E

Construction	Tubular, without fan
Size	Ø 80 mm
Power	140 W S2 (100 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Brushes size	LxWxH = 17.1 x 6.5 x 16.7 mm
Electric cable	Length: 1000 mm
Rear shaft	Standard only EC100.24E

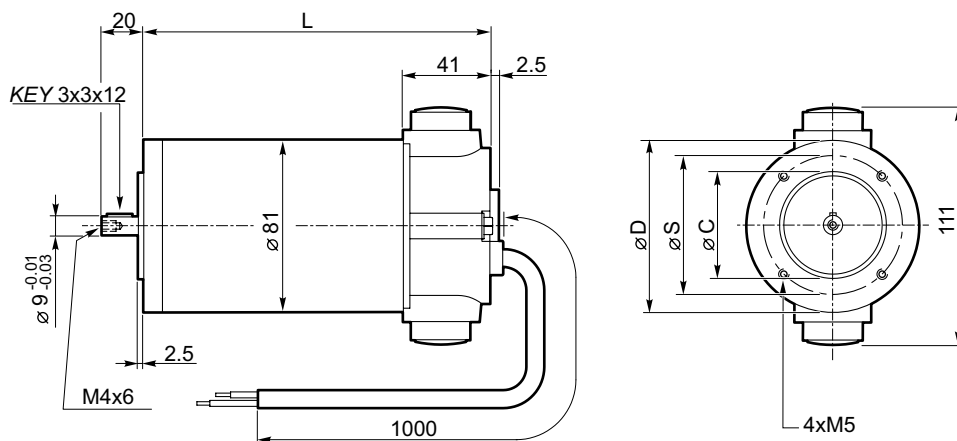
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC100.120	S1	100	12	12	F	1	0.31	3000	40	2.7
	S2 25'	140		16.8			0.43			
EC100.240	S1	100	24	6			0.31			
	S2 25'	140		8.4			0.43			
EC100.24E	S1	100	24	6			0.31		20	
	S2 25'	140		8.4			0.43			

**Dimensioni**

**Dimensions**

**EC100.120  
EC100.240**

56 B14	
L	153
D	80
S	65
C (-0.03 / -0.01)	50
63B14*	
L	155
D	90
S	75
C (-0.03 / -0.01)	60

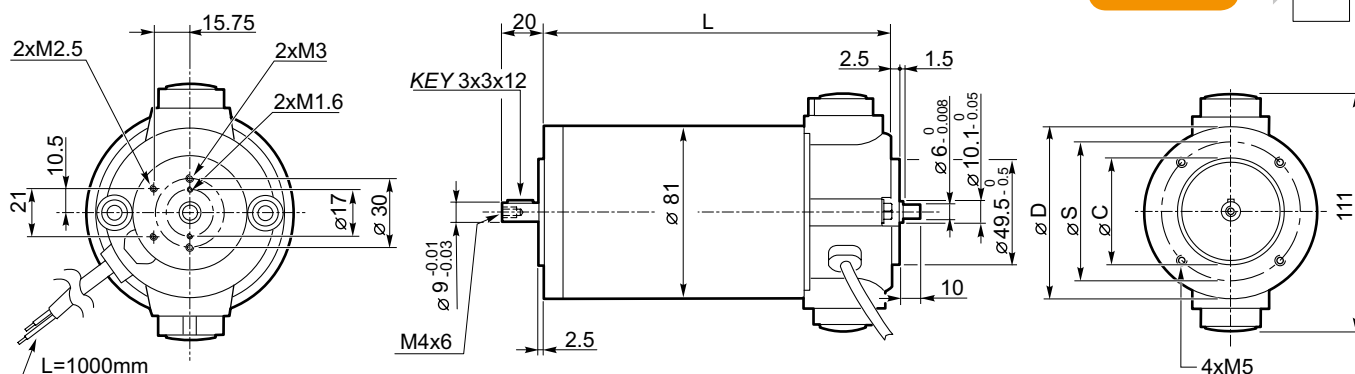


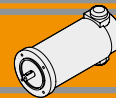
\* Usare boccola 9/11  
\* Use sleeve 9/11

Freno / Brake → [BB23](#)

Encoder → [BB24](#)

**EC100.24E**



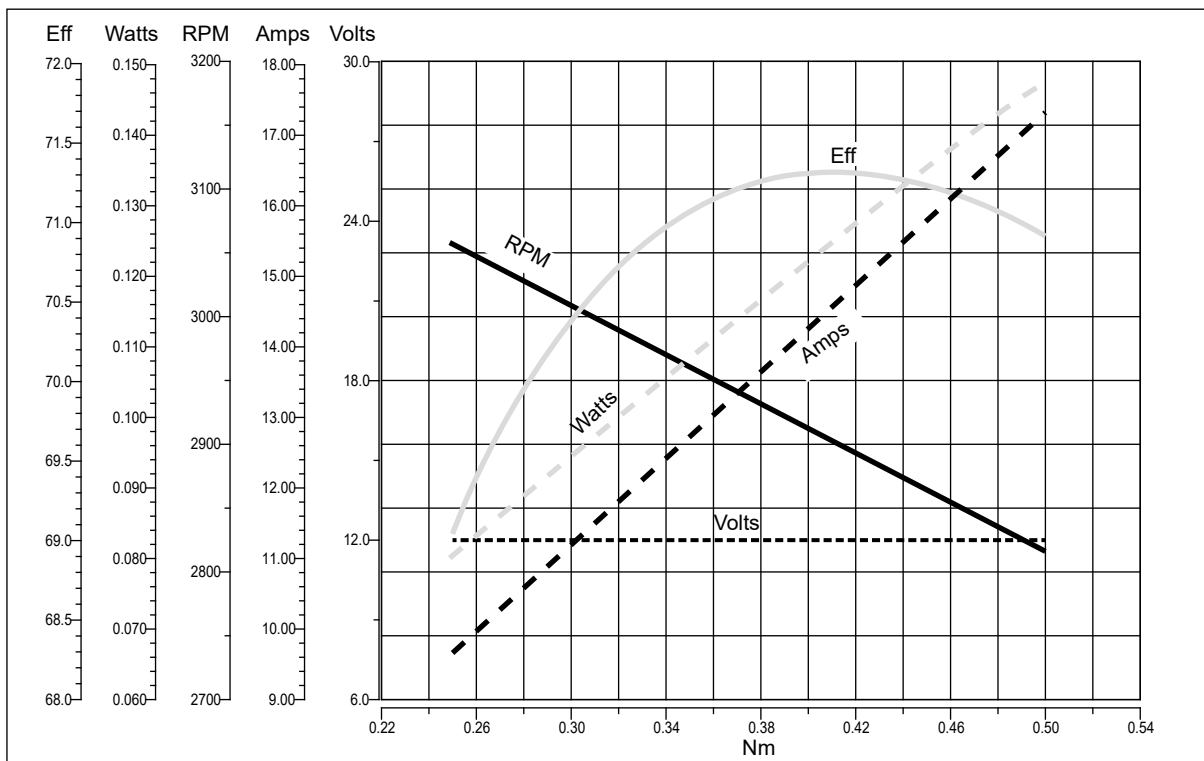


**EC100.120 - EC100.240 - EC100.24E**

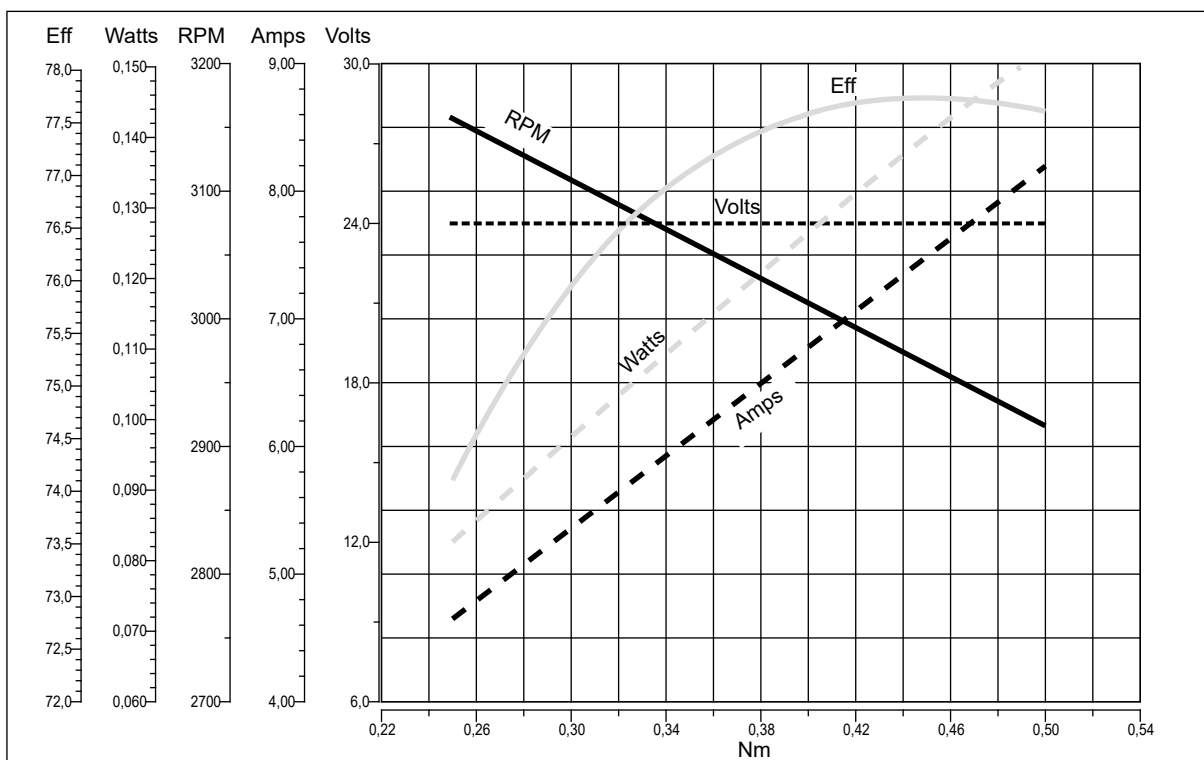
Prestazioni

Performances

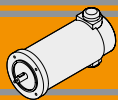
**EC100.120**



**EC100.240 - EC100.24E**



DC



**EC180.120 - EC180.240 - EC180.24E**

**Caratteristiche**

**Features**

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 80 mm
Potenza	250 W S2 (180 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 di composto grafite-rame
Dimensione spazzole	LxPxH = 17.1 x 6.5 x 16.7 mm
Cavo di alimentazione	Lunghezza: 1000 mm
Bisporgenza	Standard solo EC180.24E

Construction	Tubular, without fan
Size	Ø 80 mm
Power	250 W S2 (180 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Brushes size	LxPxH = 17.1 x 6.5 x 16.7 mm
Electric cable	Length: 1000 mm
Rear shaft	Standard only EC180.24E

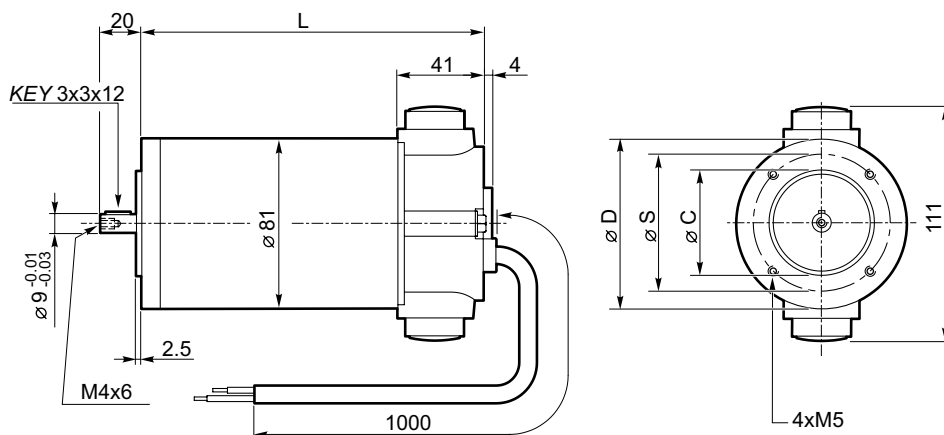
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC180.120	S1	180	12	21.5	F	1	0.57	3000	40	3.4
	S2 25'	250		30			0.8			
EC180.240	S1	180	24	10.8			0.57			
	S2 25'	250		15			0.8			
EC180.24E	S1	180		10.8			0.57		20	
	S2 25'	250		15			0.8			

**Dimensioni**

**Dimensions**

**EC180.120  
EC180.240**

56 B14	
L	185
D	80
S	65
C (-0.03 / -0.01)	50
63B14*	
L	187
D	90
S	75
C (-0.03 / -0.01)	60

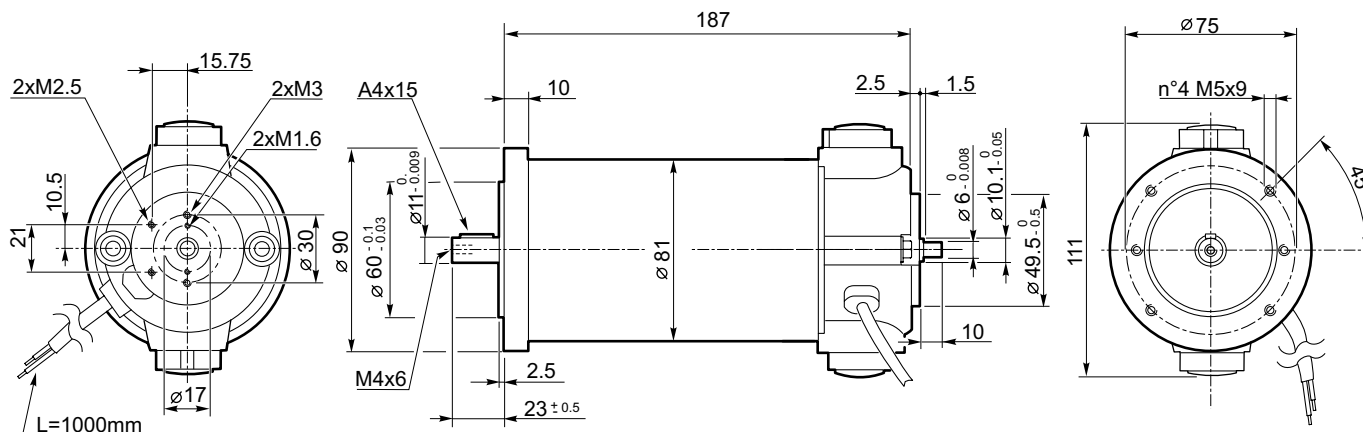


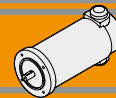
\* Usare boccola 9/11  
\* Use sleeve 9/11

Freno / Brake → BB23

Encoder → BB24

**EC180.24E**



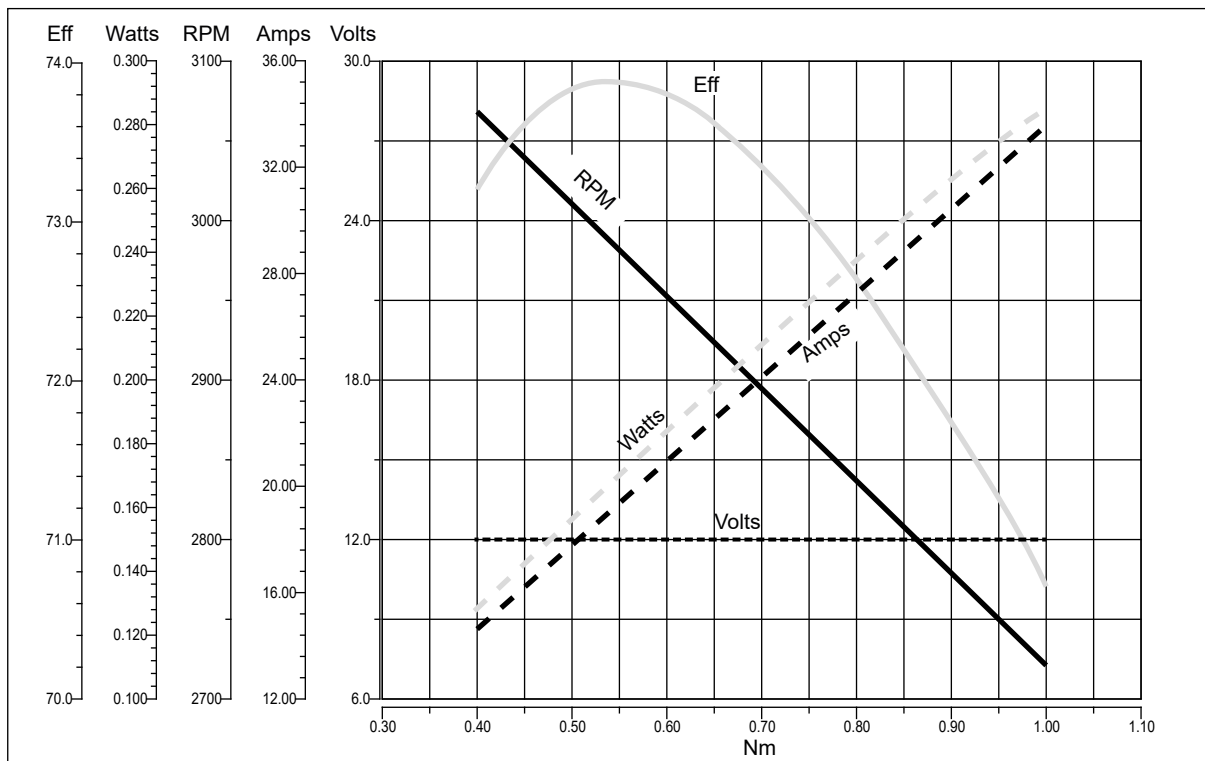


**EC180.120 - EC180.240 - EC180.24E**

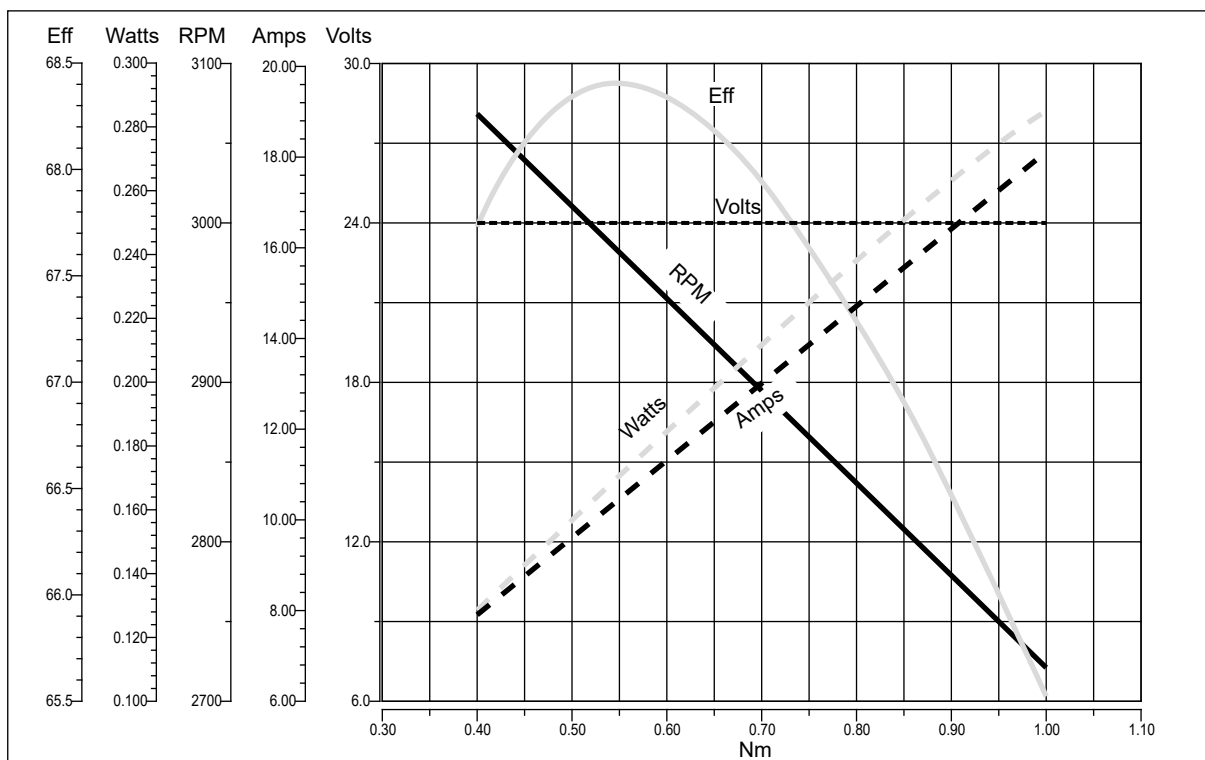
Prestazioni

Performances

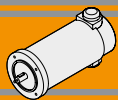
**EC180.120**



**EC180.240 - EC180.24E**



DC



**EC250.120 - EC250.240**

**Caratteristiche**

**Features**

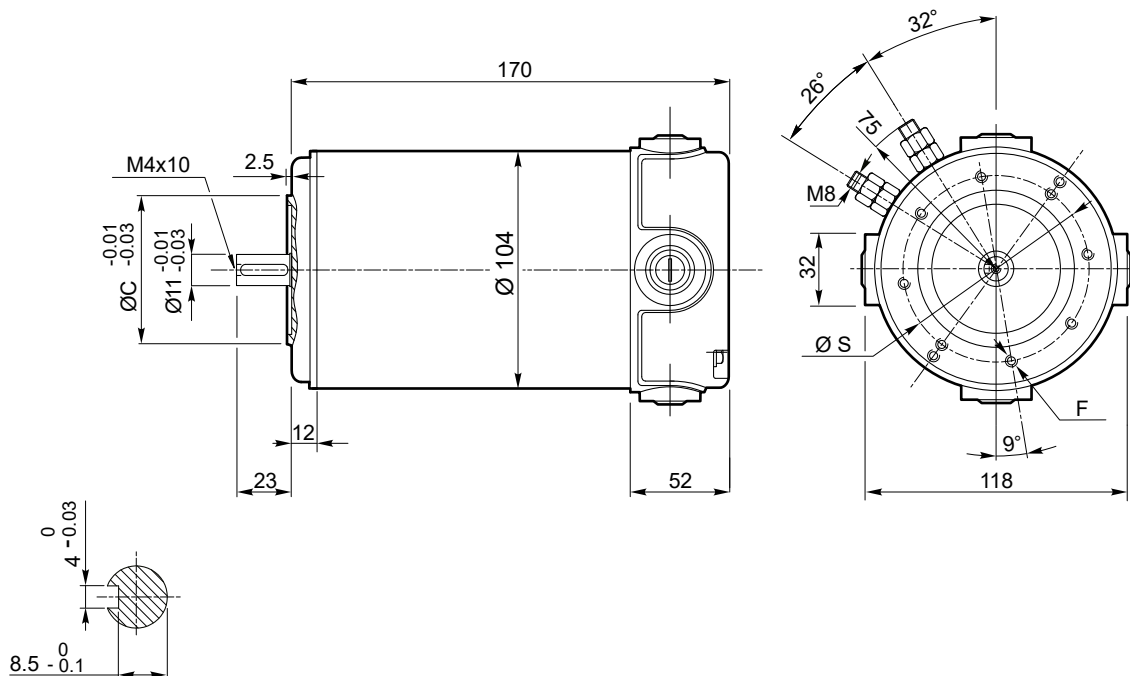
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 104 mm
Potenza	350 W S2 (250 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Dimensione spazzole	LxPxH = 18.9 x 9.5 x 16.7 mm
Terminali	2 con doppio dado di fissaggio

Construction	Tubular, without fan
Size	Ø 104 mm
Power	350 W S2 (250 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 inside brushes made of graphite/copper composite
Brushes size	LxPxH = 18.9 x 9.5 x 16.7 mm
Leads terminals	2, with double nut

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC250.120	S1	250	12	30	F	1	0.8	3000	40	4.15
	S2 25'	350		38.5			1.12			
EC250.240	S1	250	24	15			0.8			
	S2 25'	350		20.5			1.12			

**Dimensioni**

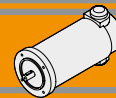
**Dimensions**



	63 B14	71 B14*
S	75	85
C (-0.03 / -0.01)	60	70
F	8 - M5	8 - M6

\* Usare boccola 11/14  
\* Use sleeve 11/14



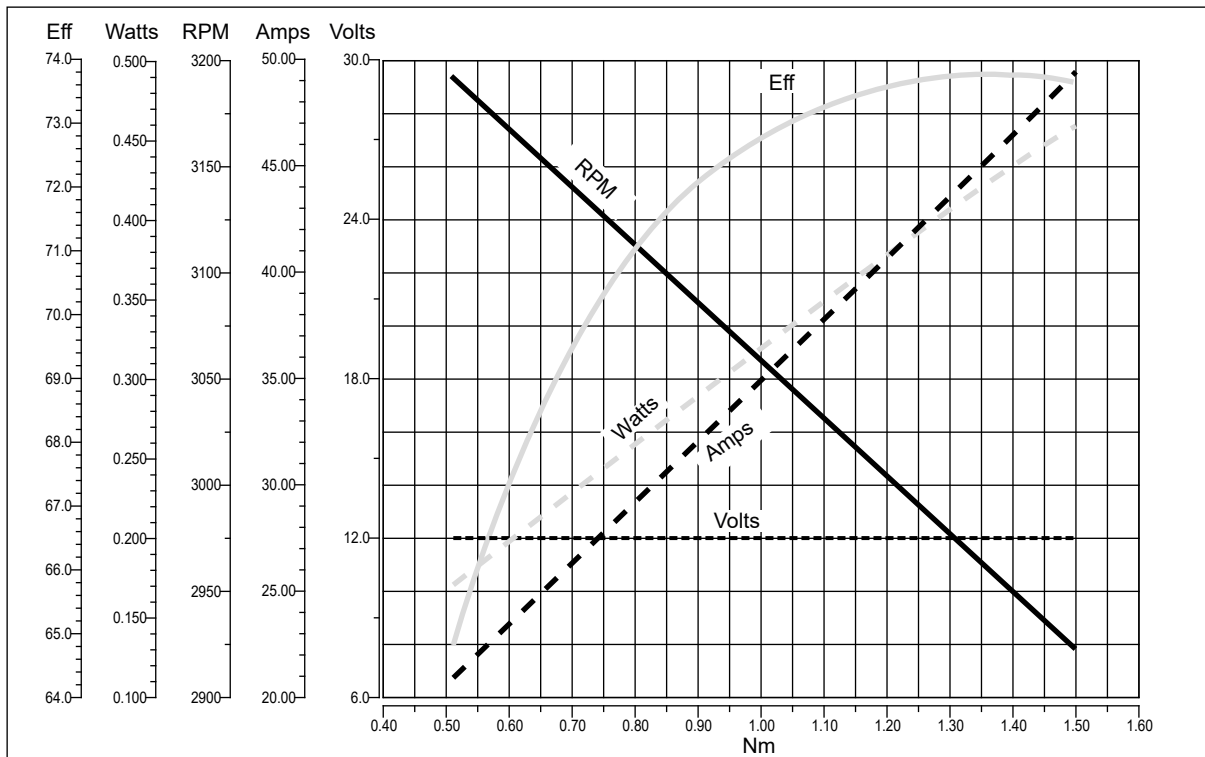


**EC250.120 - EC250.240**

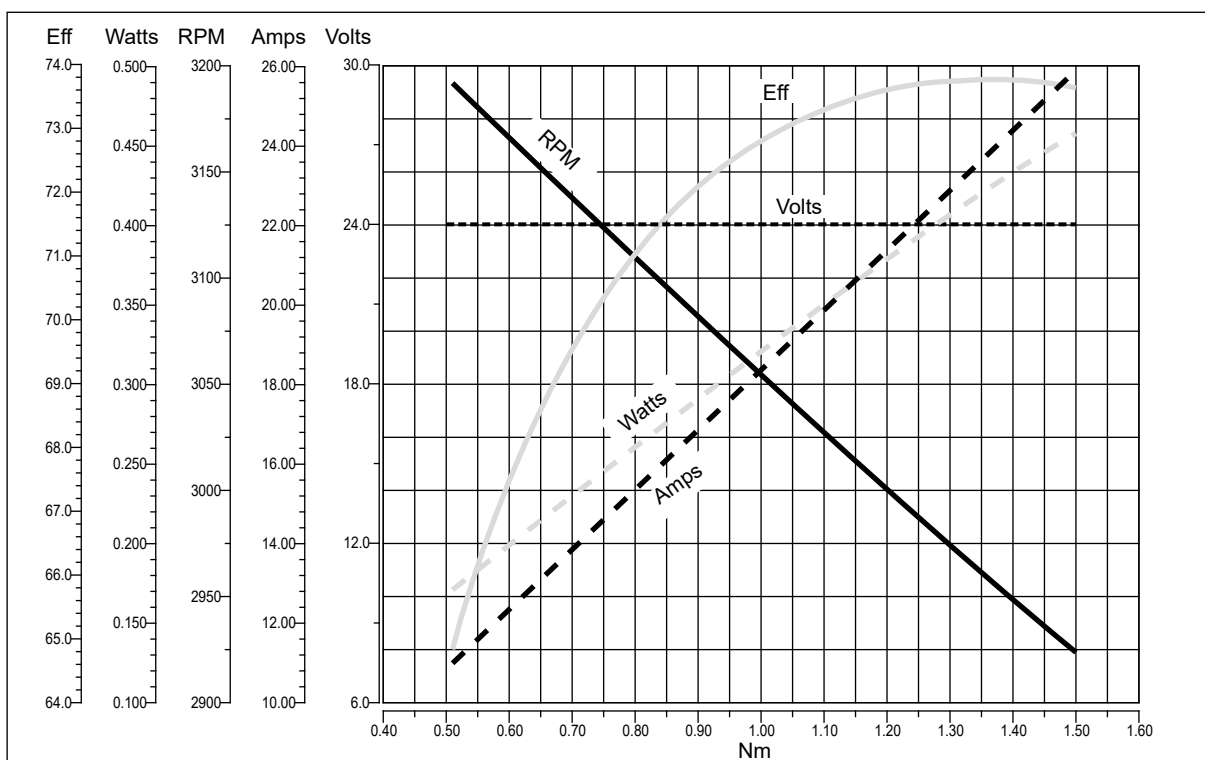
Prestazioni

Performances

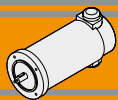
**EC250.120**



**EC250.240**



DC



**EC350.120 - EC350.240**

**Caratteristiche**

**Features**

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 110 mm
Potenza	500 W S2 (350 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Dimensione spazzole	LxPxH = 18.9 x 9.5 x 16.7 mm
Terminali	2 con dadi di fissaggio
Freno	Elettromagnetico

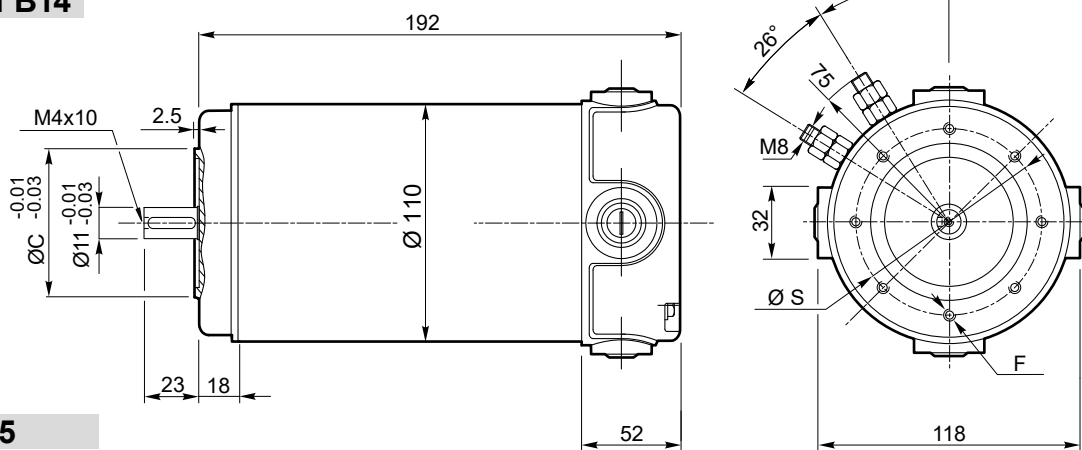
Construction	Tubular, without fan
Size	Ø 110 mm
Power	500 W S2 (350 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 brushes made of graphite/copper composite
Brushes size	LxPxH = 18.9 x 9.5 x 16.7 mm
Leads terminals	2, with double nut
Brake	Electromagnetic

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC350.120	S1	350	12	42	F	1	1.12	3000	40	5.1
	S2 30'	500		58.8			1.57			
EC350.240	S1	350	24	21			1.12		40	5.3
	S2 30'	500		29.4			1.57			

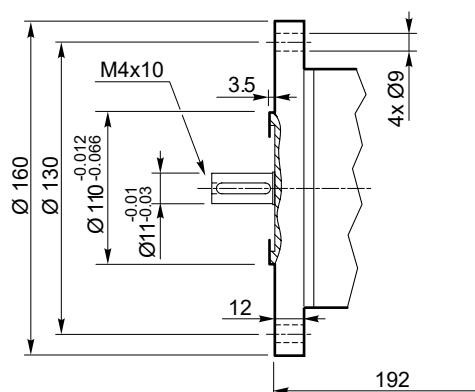
**Dimensioni**

**Dimensions**

**63 B14 - 71 B14**



**71 B5**

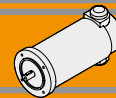


Freno / Brake



	63 B14	71 B14*
S	75	85
C (-0.03 / -0.01)	60	70
F	8 - M5	8 - M6

\* Usare boccola 11/14  
\* Use sleeve 11/14

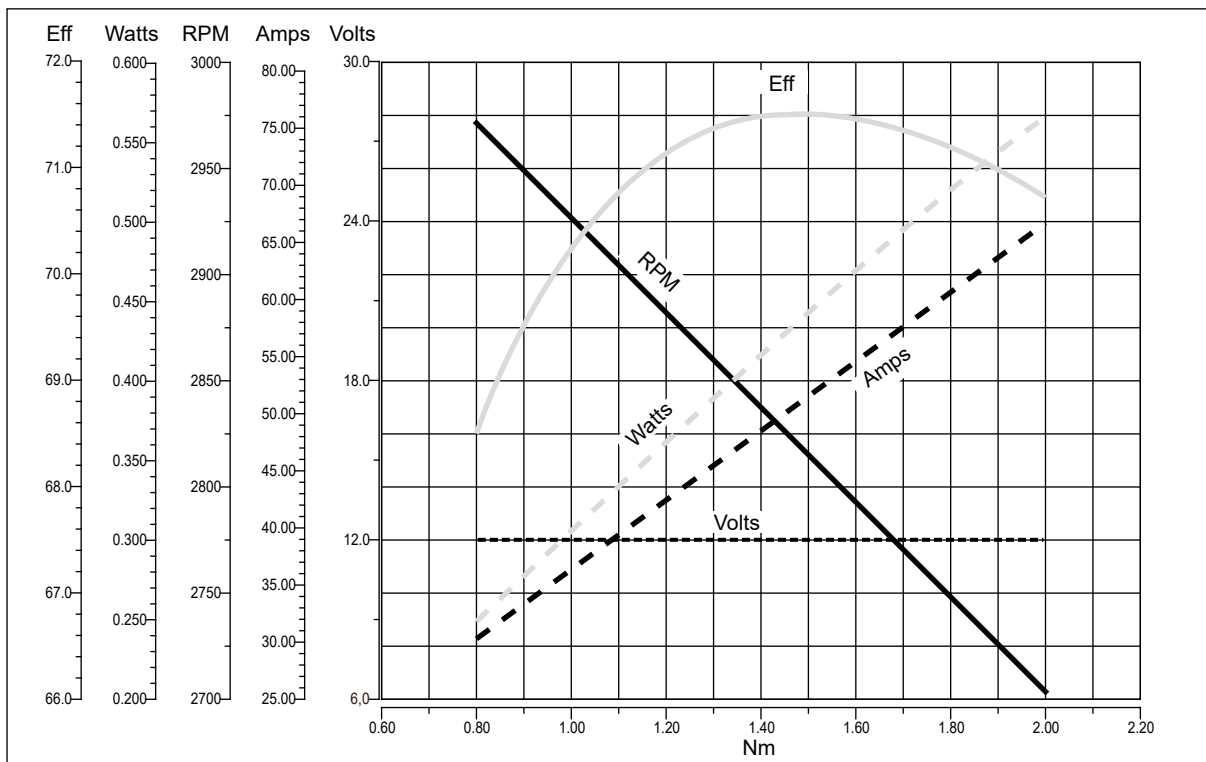


**EC350.120 - EC350.240**

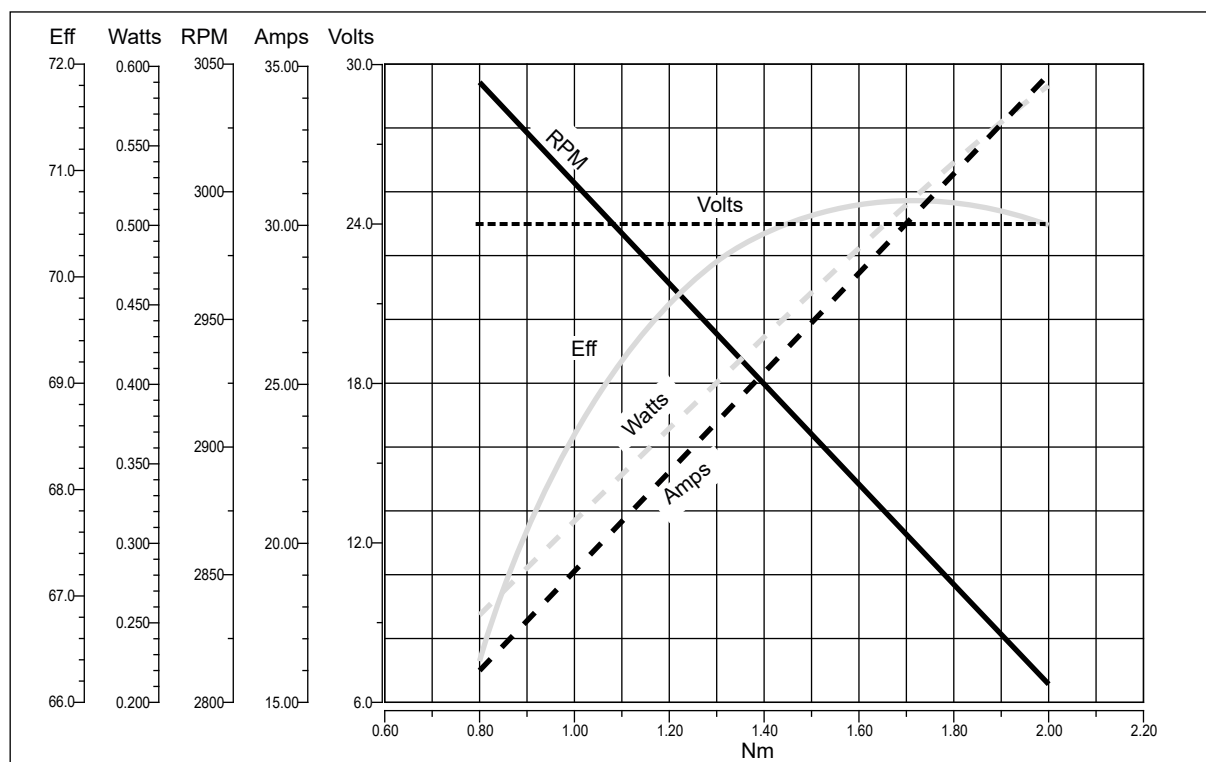
Prestazioni

Performances

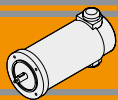
**EC350.120**



**EC350.240**



DC



**EC600.120 - EC600.240**

**Caratteristiche**

**Features**

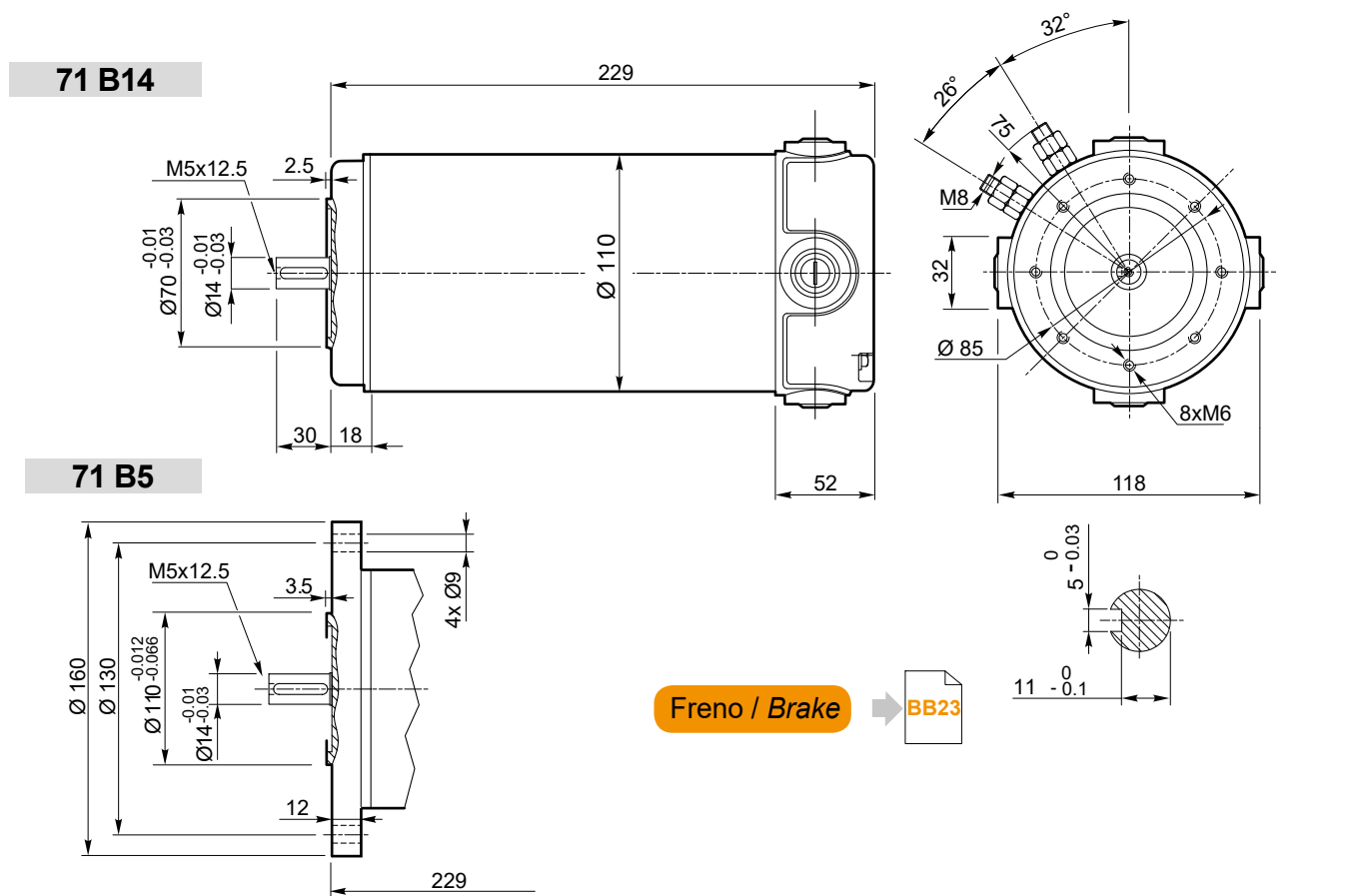
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 110 mm
Potenza	800 W S2 (600 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Dimensione spazzole	LxPxH = 18.9 x 9.5 x 16.7 mm
Terminali	2 con doppio dado di fissaggio
Freno	Elettromagnetico

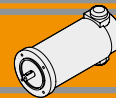
Construction	Tubular, without fan
Size	Ø 110 mm
Power	800 W S2 (600 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 brushes made of graphite/copper composite
Brushes size	LxPxH = 18.9 x 9.5 x 16.7 mm
Leads terminals	2, with double nut
Brake	Electromagnetic

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC600.120	S1	600	12	71	F	1	1.91	3000	40	6.6
	S2 30'	800		94.4			2.54			
EC600.240	S1	600	24	35.5			1.91		40	7.1
	S2 30'	800		47.2			2.54			

**Dimensioni**

**Dimensions**



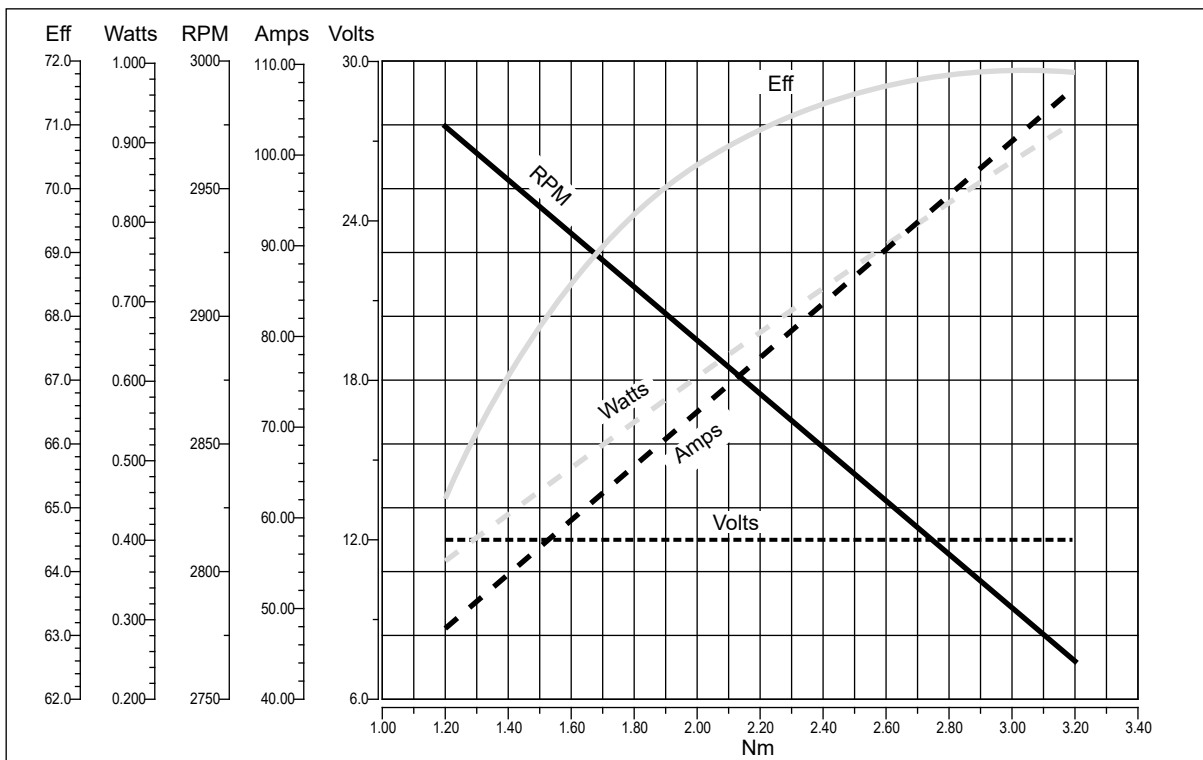


**EC600.120 - EC600.240**

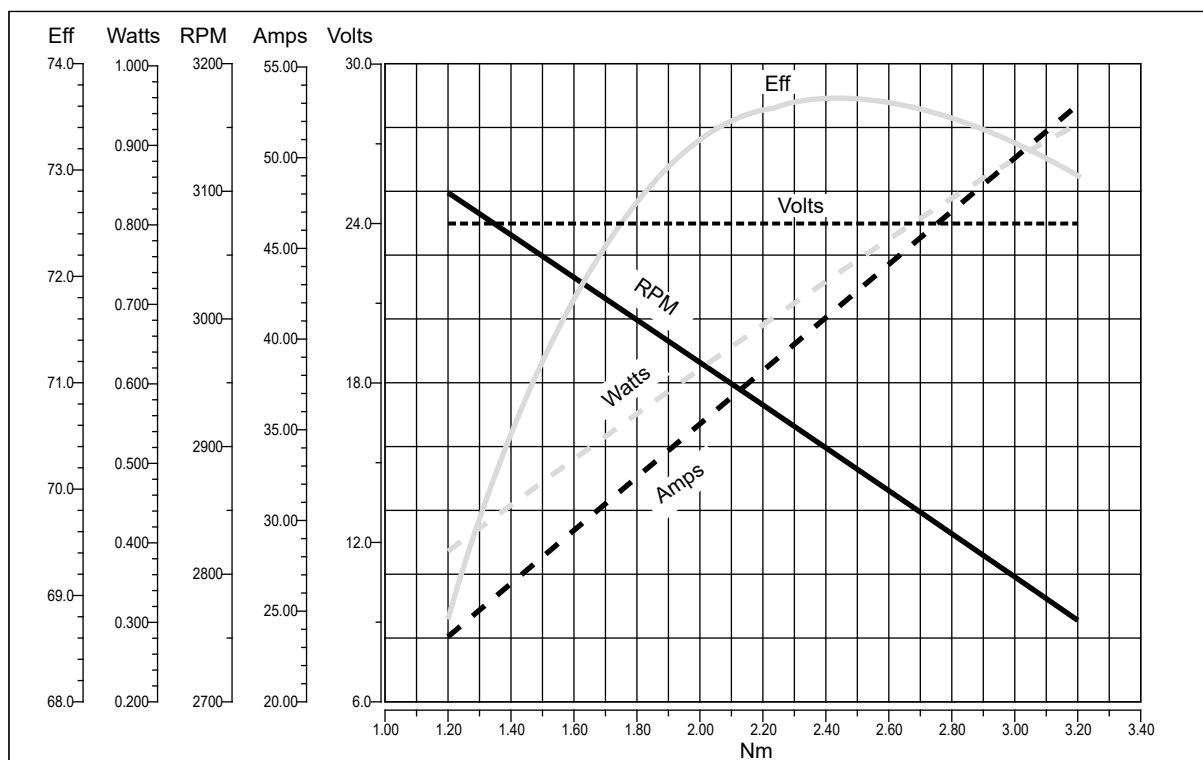
Prestazioni

Performances

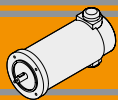
**EC600.120**



**EC600.240**



DC

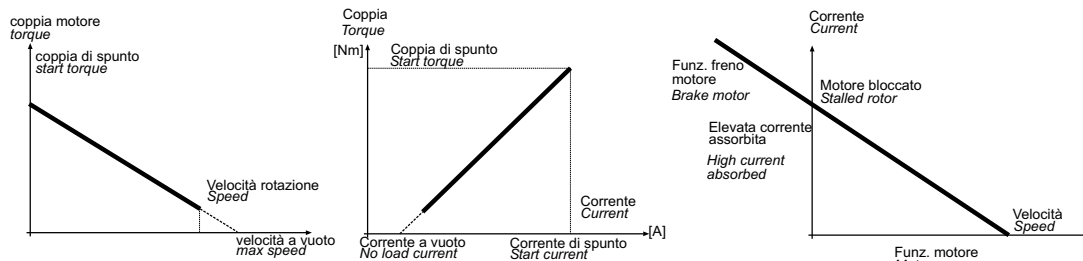


**Legenda / Glossario dei grafici**

**Key / Diagram Glossary**

Dato un motore in C.C, 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 D.C. 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.

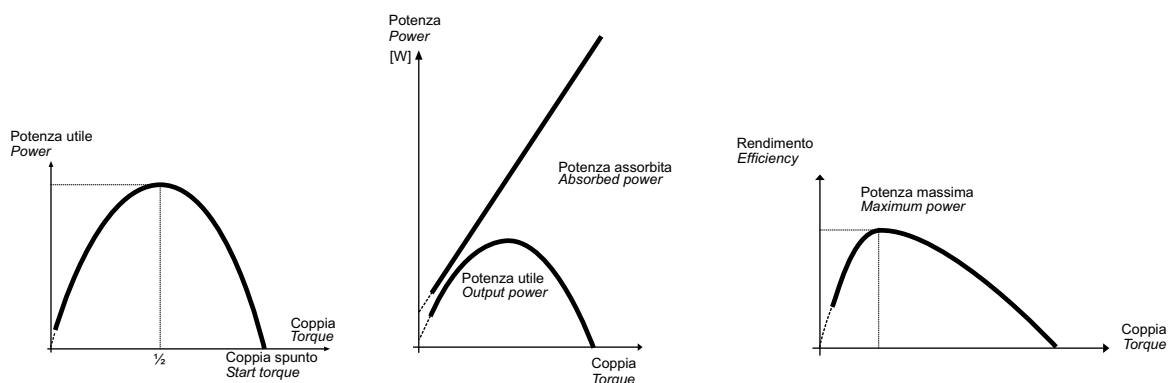


La potenza utile (potenza all' albero) si ricava dalla formula:

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

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 un 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.

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

$$P_a = V \cdot I$$

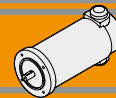
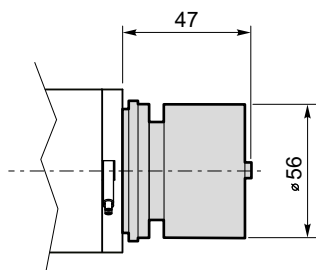
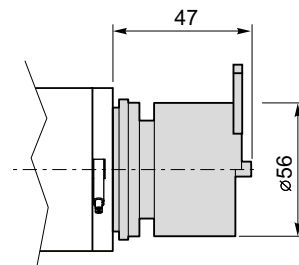
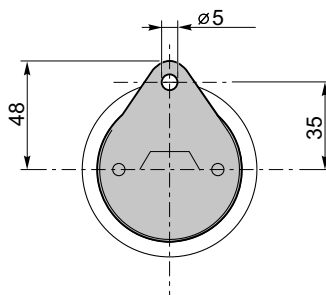
$$P_n = V \cdot I \cdot \eta$$

$$P_n = M_n \cdot S_v$$

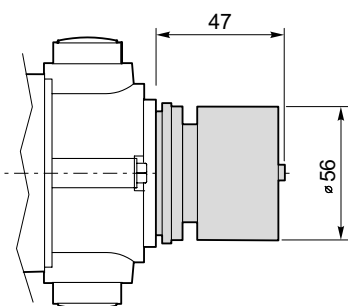
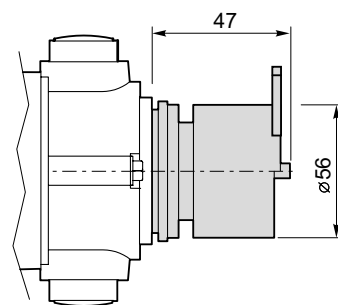
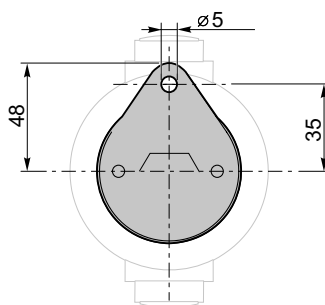
$$S_v = \frac{n_1}{9.55}$$

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

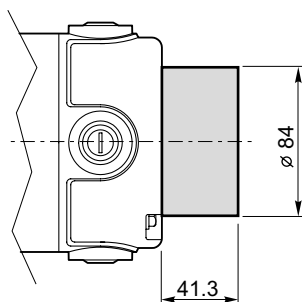
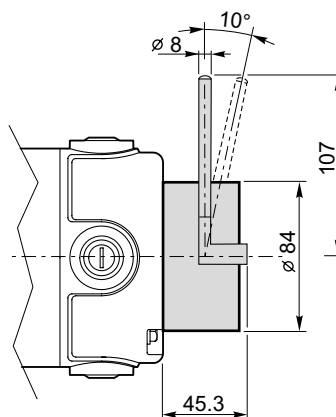
Example 2 HP = approx. 1500 W.


**Freno**
**Brake**
**Freno / Brake**
**EC050...BR  
EC070...BR**

**Freno con leva di sblocco/ Brake with hand release**
**EC050...BRL  
EC070...BRL**


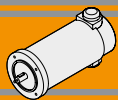
	<b>P<sub>n</sub></b> [W]	<b>V</b> [V]	<b>M<sub>n</sub></b> [Nm]	<b>n<sub>1</sub></b> [min <sup>-1</sup> ]
<b>Caratteristiche del freno / Break features</b>	14	12 24	2	3000

**EC100.24E BR  
EC180.24E BR**

**EC100.24E BRL  
EC180.24E BRL**


	<b>P<sub>n</sub></b> [W]	<b>V</b> [V]	<b>M<sub>n</sub></b> [Nm]	<b>n<sub>1</sub></b> [min <sup>-1</sup> ]
<b>Caratteristiche del freno / Break features</b>	14	12 24	2	3000

**EC350...BR  
EC600...BR**

**EC350...BRL  
EC600...BRL**


	<b>P<sub>n</sub></b> [W]	<b>V</b> [V]	<b>M<sub>n</sub></b> [Nm]	<b>n<sub>1</sub></b> [min <sup>-1</sup> ]
<b>Caratteristiche del freno / Break features</b>	25	12 24	5	3000



Encoder

Encoder

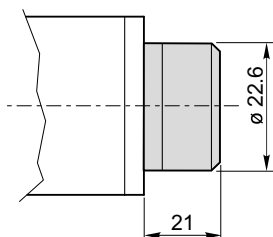
**EC020.24E ME22**

**EC050.12E ME22**

**EC050.24E ME22**

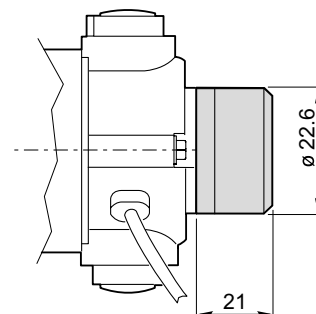
**EC070.12E ME22**

**EC070.24E ME22**



**EC100.24E ME22**

**EC180.24E 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*



**MINI**  **TECNO**™  
**small** but strong

**EC IP66**



**Motori elettrici CC IP66 - Ferrite**  
**IP66 DC electric motors - Ferrite**

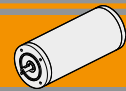


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



**DC**

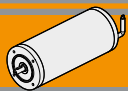




	<b>Indice</b>	<b>Index</b>	<b>Pag. Page</b>
<b>EC070.120.66</b> <b>EC070.240.66</b>	Caratteristiche	<i>Features</i>	<b>BC2</b>
	Dimensioni	<i>Dimensions</i>	<b>BC2</b>
	Prestazioni	<i>Performances</i>	<b>BC3</b>
<b>EC100.120.66</b> <b>EC100.240.66</b>	Caratteristiche	<i>Features</i>	<b>BC4</b>
	Dimensioni	<i>Dimensions</i>	<b>BC4</b>
	Prestazioni	<i>Performances</i>	<b>BC4</b>
<b>EC180.120.66</b> <b>EC180.240.66</b>	Caratteristiche	<i>Features</i>	<b>BC6</b>
	Dimensioni	<i>Dimensions</i>	<b>BC6</b>
	Prestazioni	<i>Performances</i>	<b>BC6</b>
<b>EC250.120.66</b> <b>EC250.240.66</b>	Caratteristiche	<i>Features</i>	<b>BC8</b>
	Dimensioni	<i>Dimensions</i>	<b>BC8</b>
	Prestazioni	<i>Performances</i>	<b>BC9</b>
<b>EC350.120.66</b> <b>EC350.240.66</b>	Caratteristiche	<i>Features</i>	<b>BC10</b>
	Dimensioni	<i>Dimensions</i>	<b>BC10</b>
	Prestazioni	<i>Performances</i>	<b>BC11</b>
<b>EC600.120.66</b> <b>EC600.240.66</b>	Caratteristiche	<i>Features</i>	<b>BC12</b>
	Dimensioni	<i>Dimensions</i>	<b>BC12</b>
	Prestazioni	<i>Performances</i>	<b>BC13</b>

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### EC070.120.66 - EC070.240.66

#### Caratteristiche

#### Features

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	100 W S2 (70 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 1000 mm

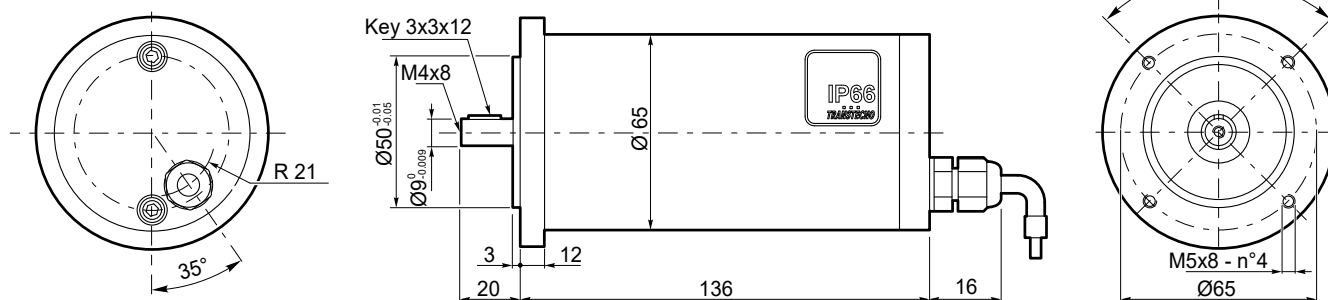
Construction	Tubular, without fan
Size	Ø 65 mm
Power	100 W S2 (70 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 1000 mm

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC070.120.66	S1	70	12	8.4	F	1	0.22	3000	66	1.7
	S2 30'	100		11.8			0.31			
EC070.240.66	S1	70	24	4.2			0.22			
	S2 30'	100		5.9			0.31			

#### Dimensioni

#### Dimensions

EC070.120.66  
EC070.240.66



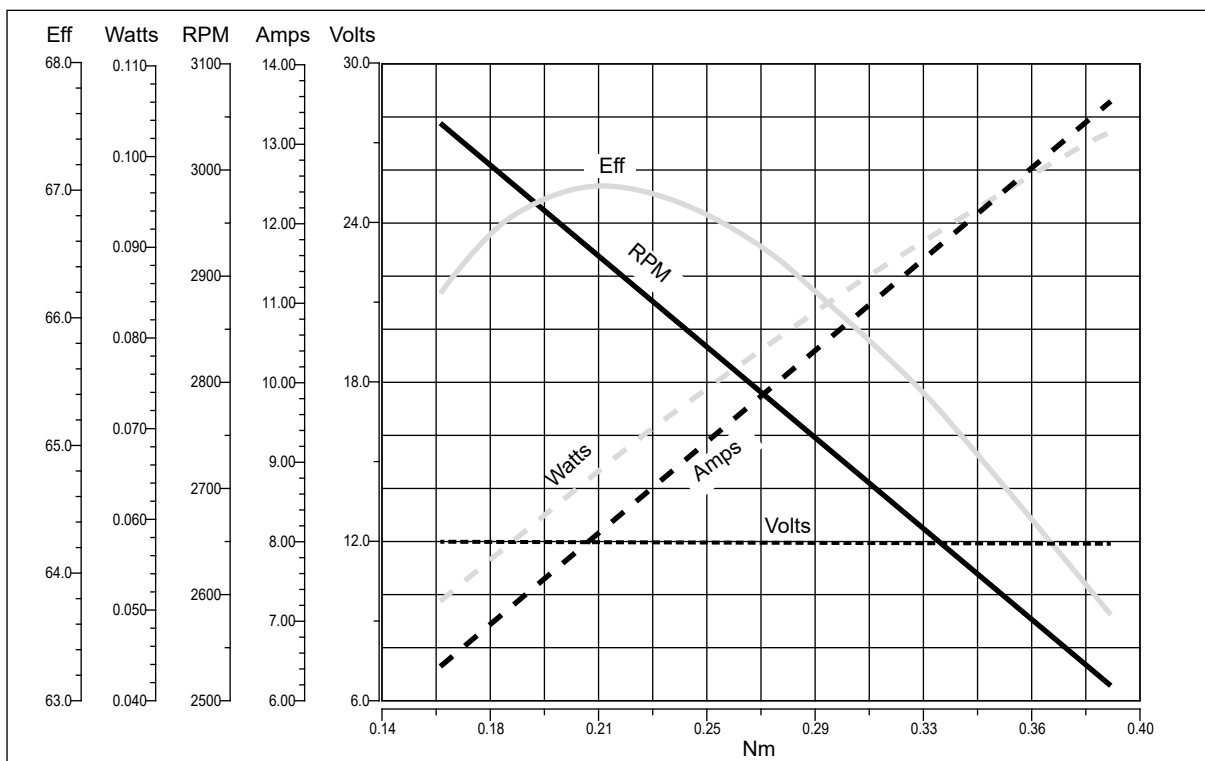


**EC070.120.66 - EC070.240.66**

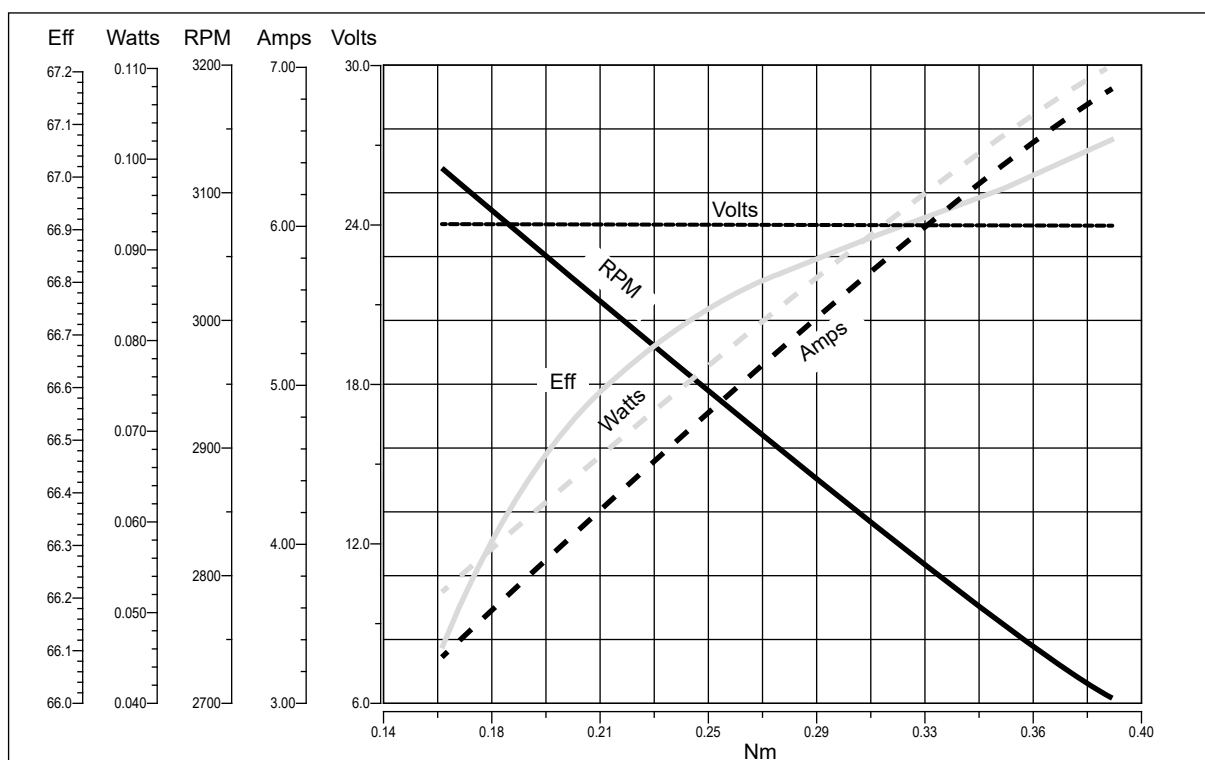
Prestazioni

Performances

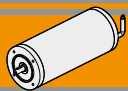
**EC070.120.66**



**EC070.240.66**



DC



## EC100.120.66 - EC100.240.66

### Caratteristiche

### Features

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 80 mm
Potenza	140 W S2 (100 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Cavo di alimentazione	Lunghezza: 1000 mm

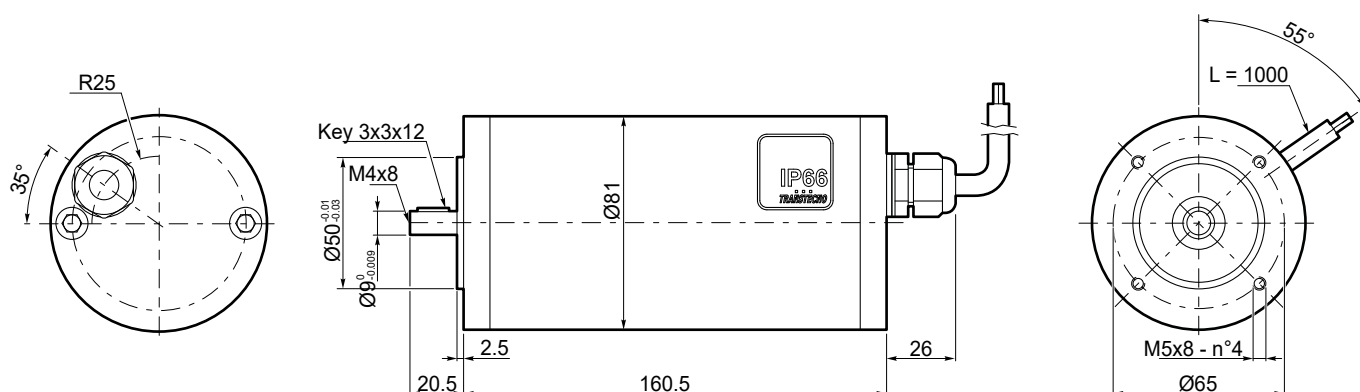
Construction	Tubular, without fan
Size	Ø 80 mm
Power	140 W S2 (100 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Electric cable	Length: 1000 mm

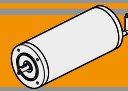
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC100.120.66	S1	100	12	12	F	1	0.31	3000	66	2.7
	S2 25'	140		16.8			0.43			
EC100.240.66	S1	100	24	6			0.31			
	S2 25'	140		8.4			0.43			

### Dimensioni

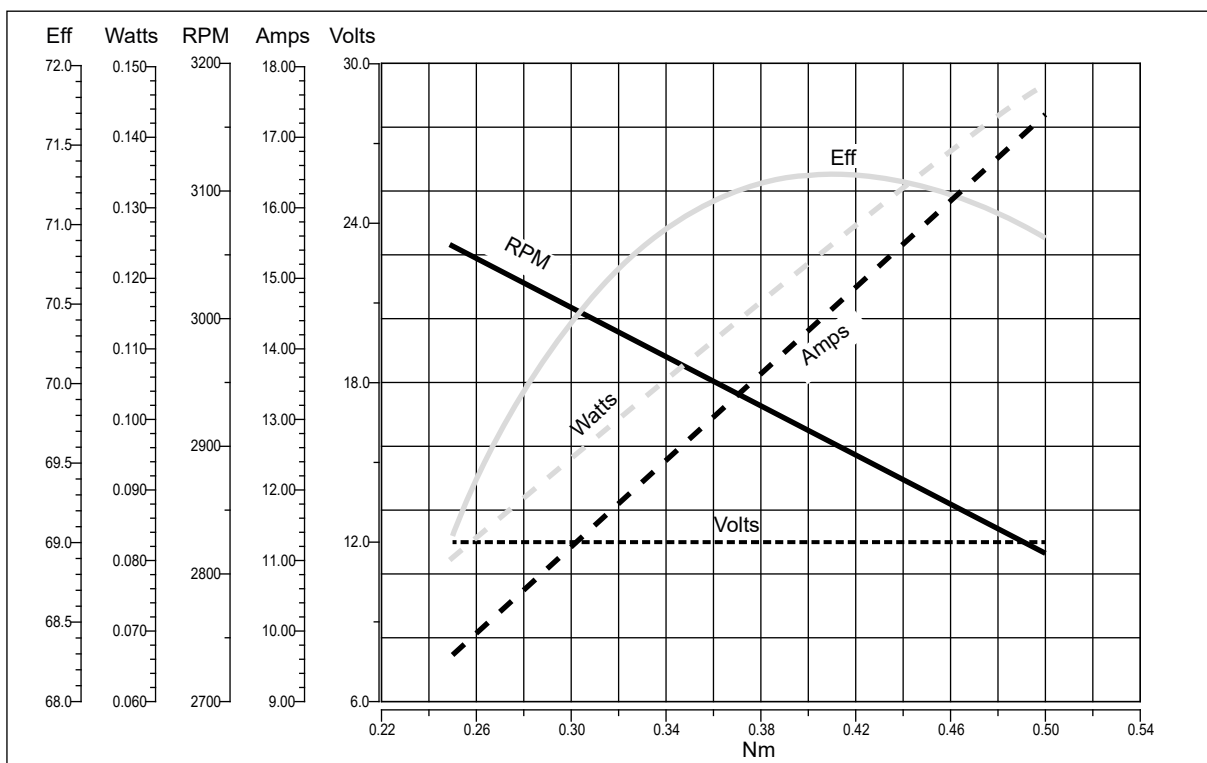
### Dimensions

EC100.120.66  
EC100.240.66

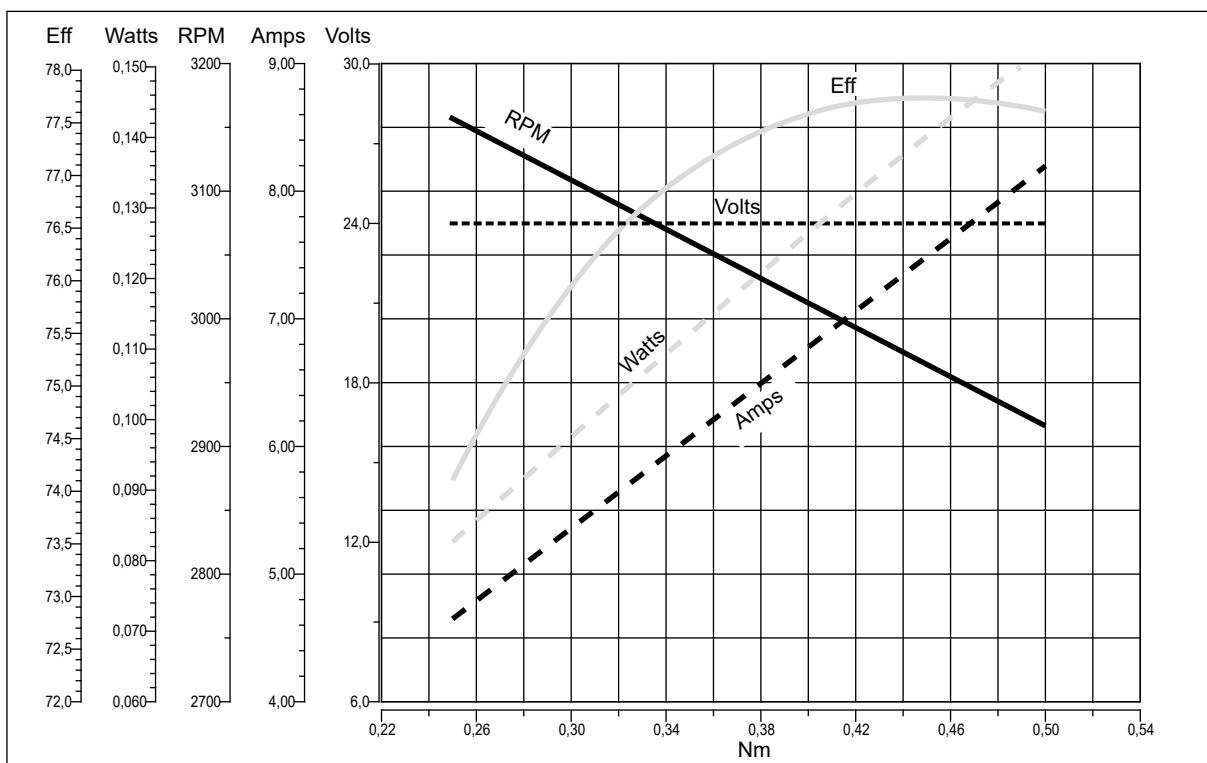


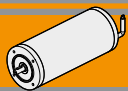


**EC100.120.66**



**EC100.240.66**





## EC180.120.66 - EC180.240.66

### Caratteristiche

### Features

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 80 mm
Potenza	250 W S2 (180 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Cavo di alimentazione	Lunghezza: 1000 mm

Construction	Tubular, without fan
Size	Ø 80 mm
Power	250 W S2 (180 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Electric cable	Length: 1000 mm

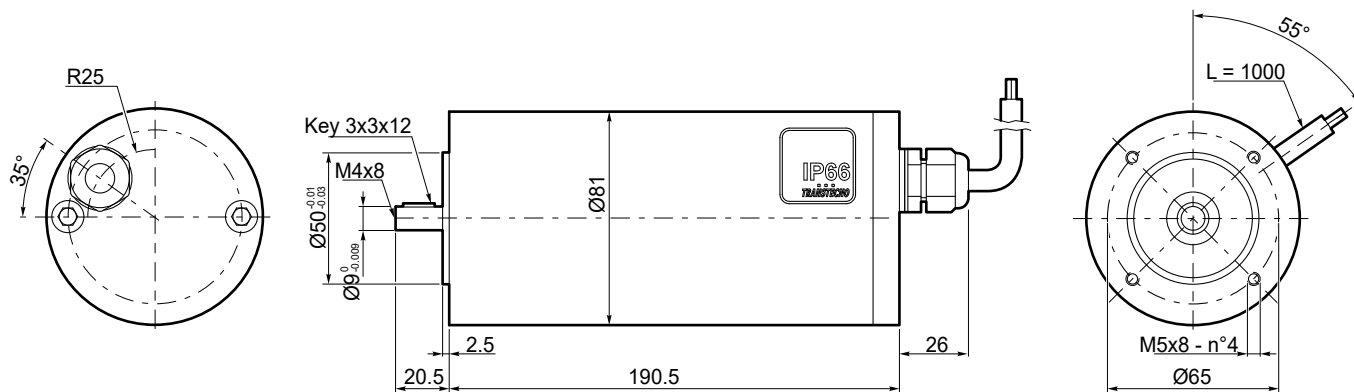
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC180.120.66	S1	180	12	21.5	F	1	0.57	3000	66	3.4
	S2 25'	250		30			0.8			
EC180.240.66	S1	180	24	10.8						
	S2 25'	250		15			0.8			

### Dimensioni

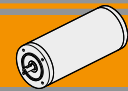
### Dimensions

#### EC180.120.66

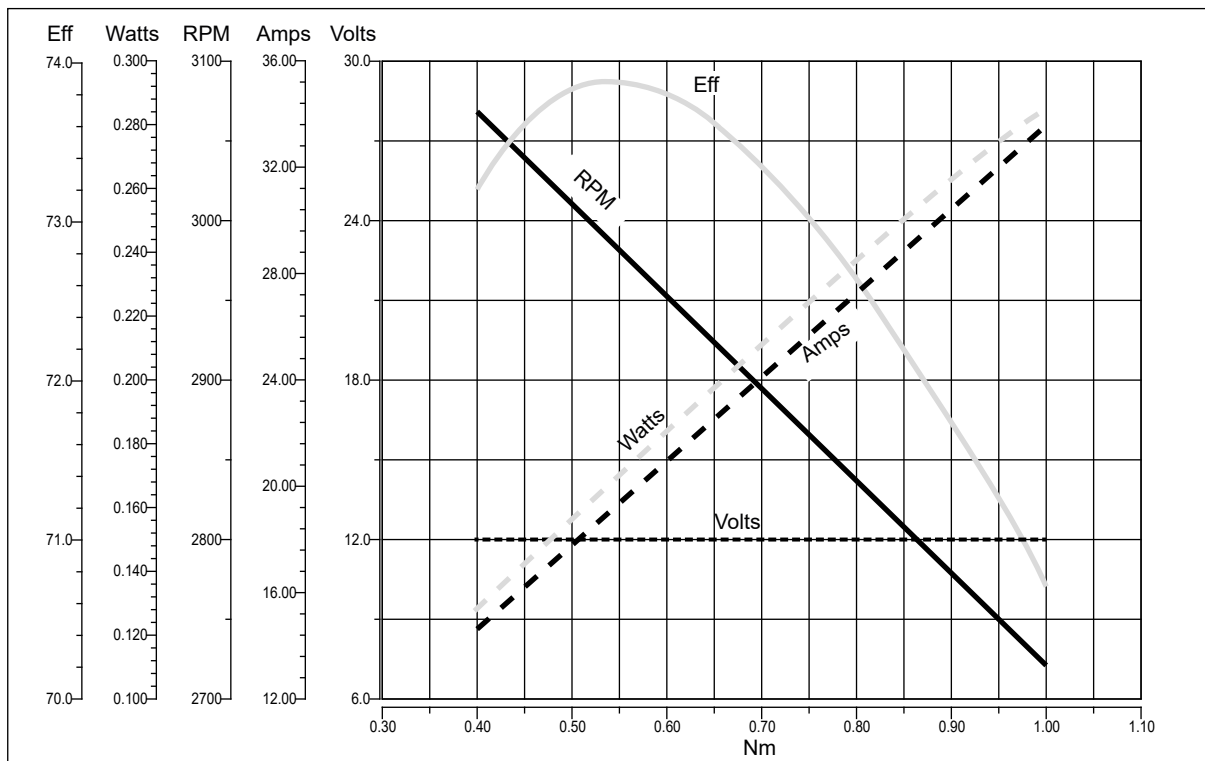
#### EC180.240.66



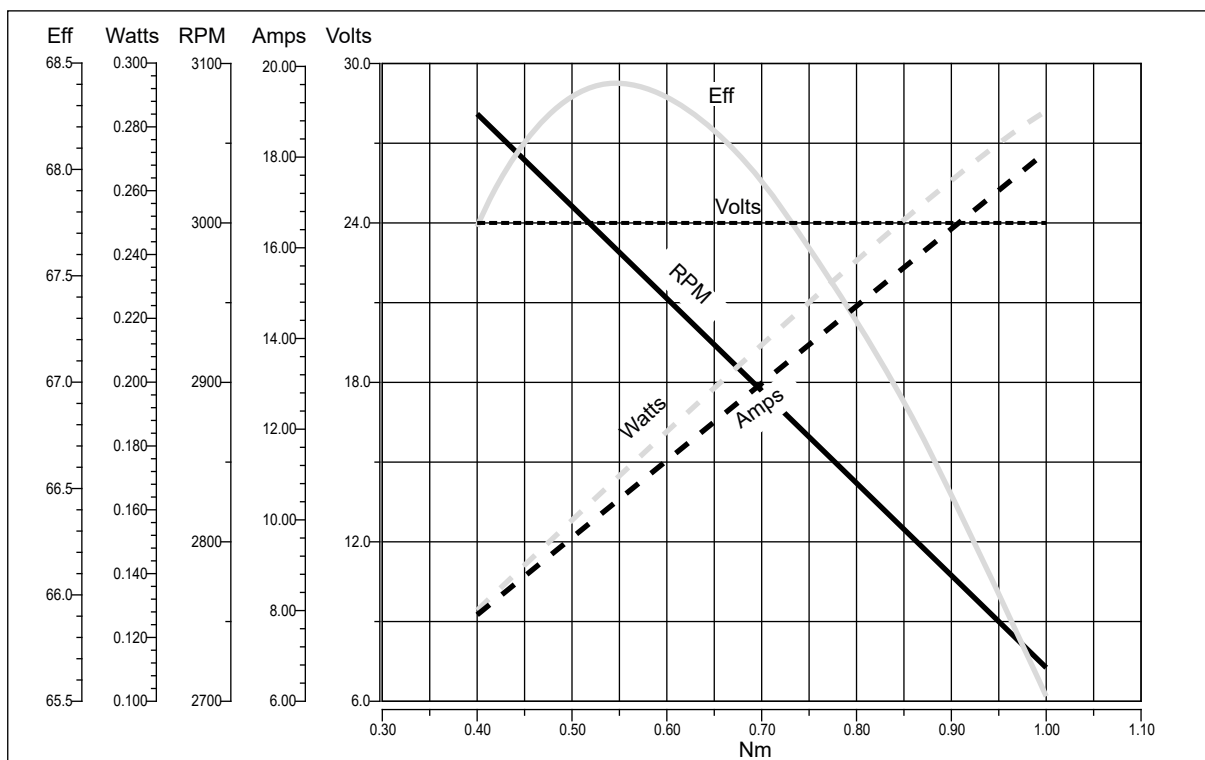


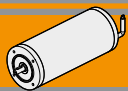


**EC180.120.66**



**EC180.240.66**





## EC250.120.66 - EC250.240.66

### Caratteristiche

### Features

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 104 mm
Potenza	350 W S2 (250 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Terminali	2 con doppio dado di fissaggio

Construction	Tubular, without fan
Size	Ø 104 mm
Power	350 W S2 (250 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Leads terminals	2, with double nut

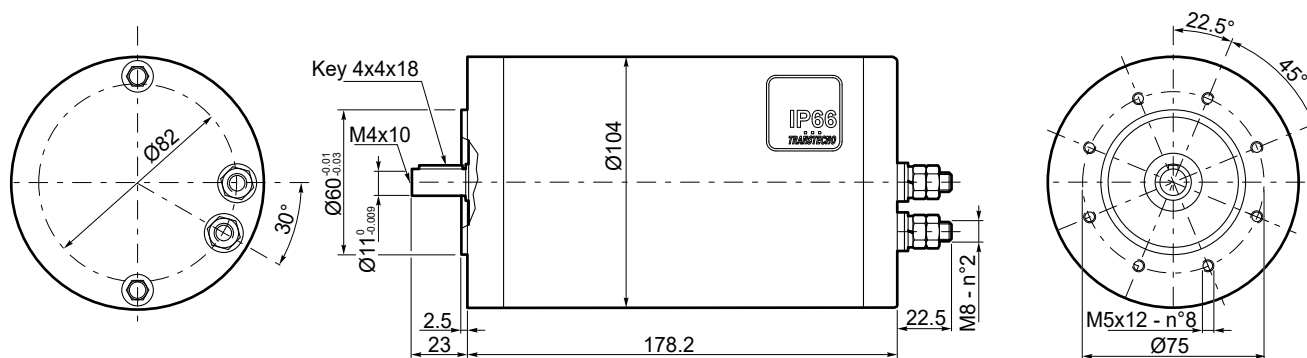
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC250.120.66	S1	250	12	30	F	1	0.8	3000	66	4.15
	S2 25'	350		38.5			1.12			
EC250.240.66	S1	250	24	15						
	S2 25'	350		20.5			1.12			

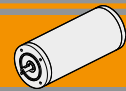
### Dimensioni

### Dimensions

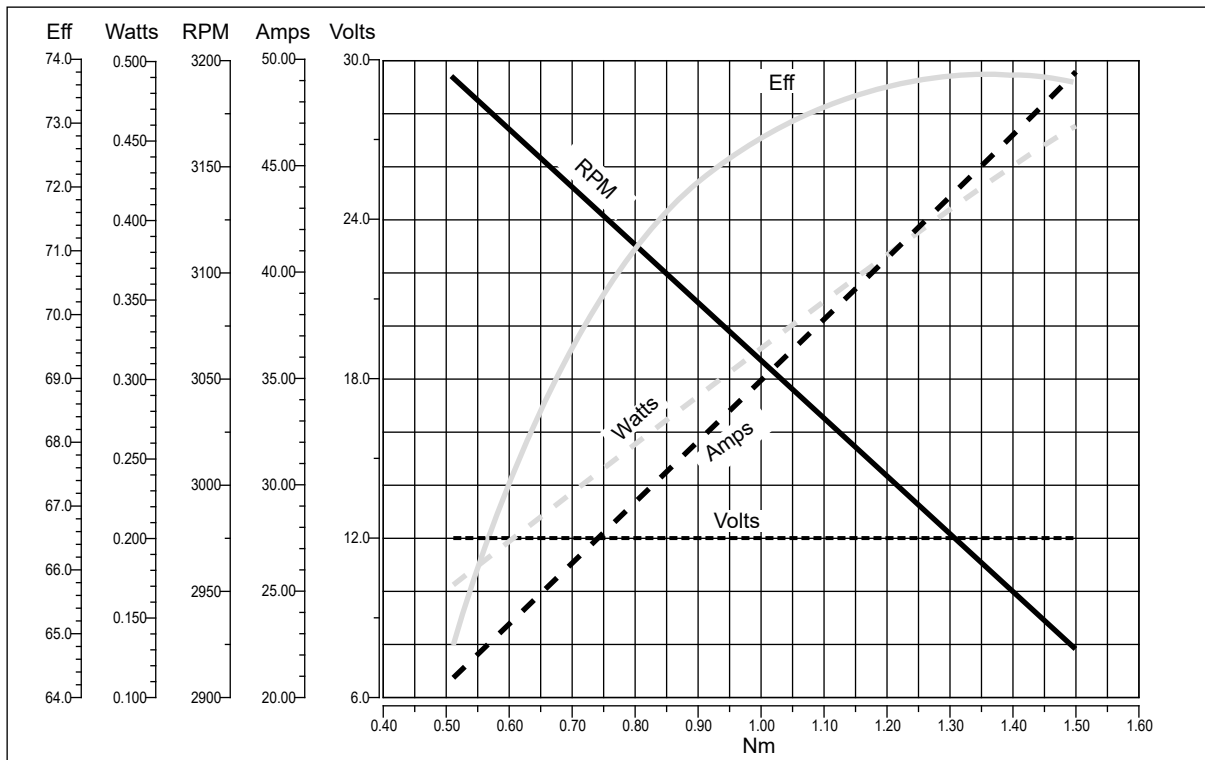
EC250.120.66

EC250.240.66

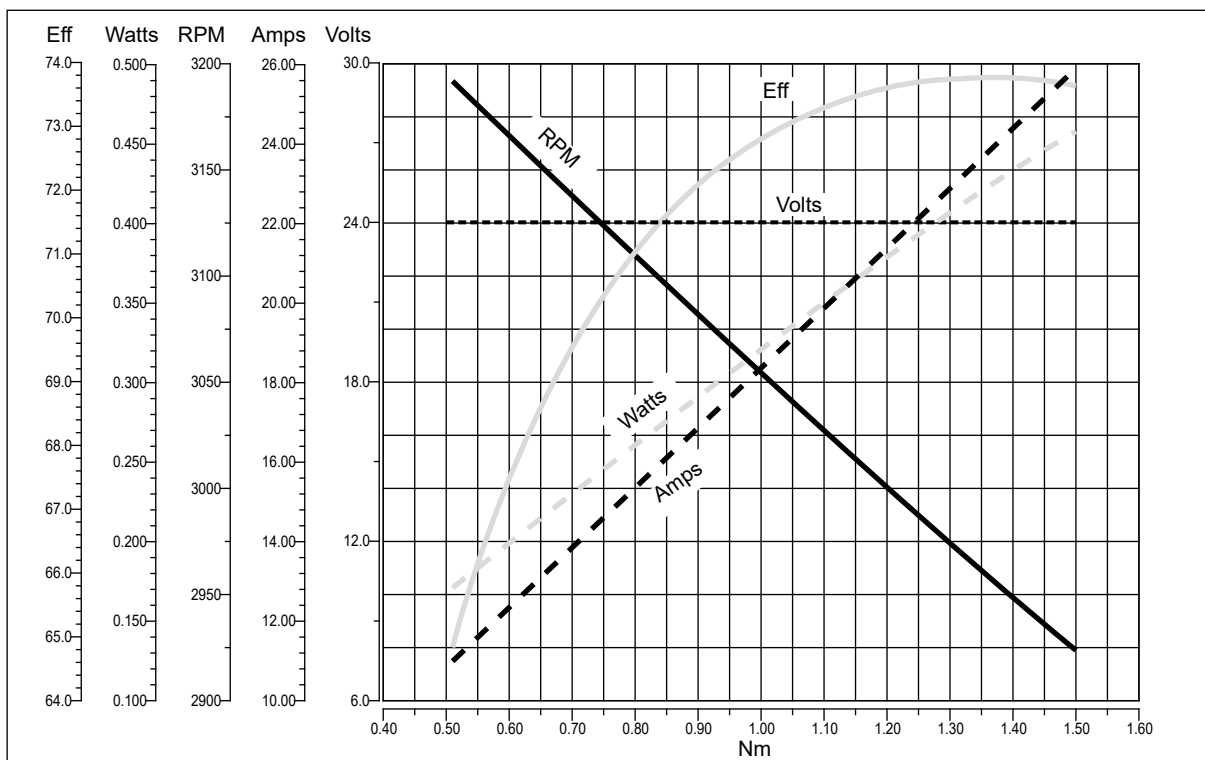


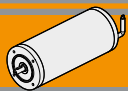


**EC250.120.66**



**EC250.240.66**





### EC350.120.66 - EC350.240.66

#### Caratteristiche

#### Features

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 110 mm
Potenza	500 W S2 (350 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Terminali	2 con dadi di fissaggio

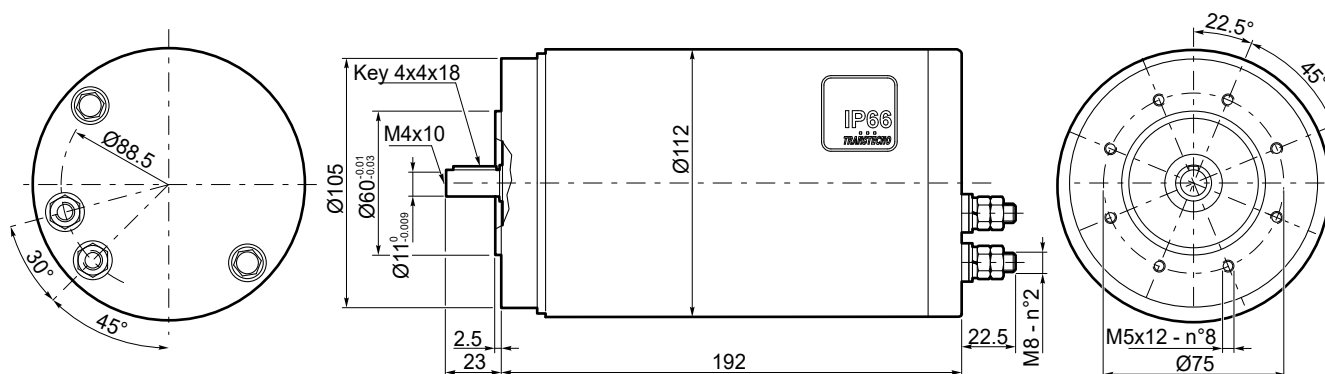
Construction	Tubular, without fan
Size	Ø 110 mm
Power	500 W S2 (350 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Leads terminals	2, with double nut

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC350.120.66	S1	350	12	42	F	1	1.12	3000	66	5.1
	S2 30'	500		58.8			1.57			
EC350.240.66	S1	350	24	21			1.12			5.3
	S2 30'	500		29.4			1.57			

#### Dimensioni

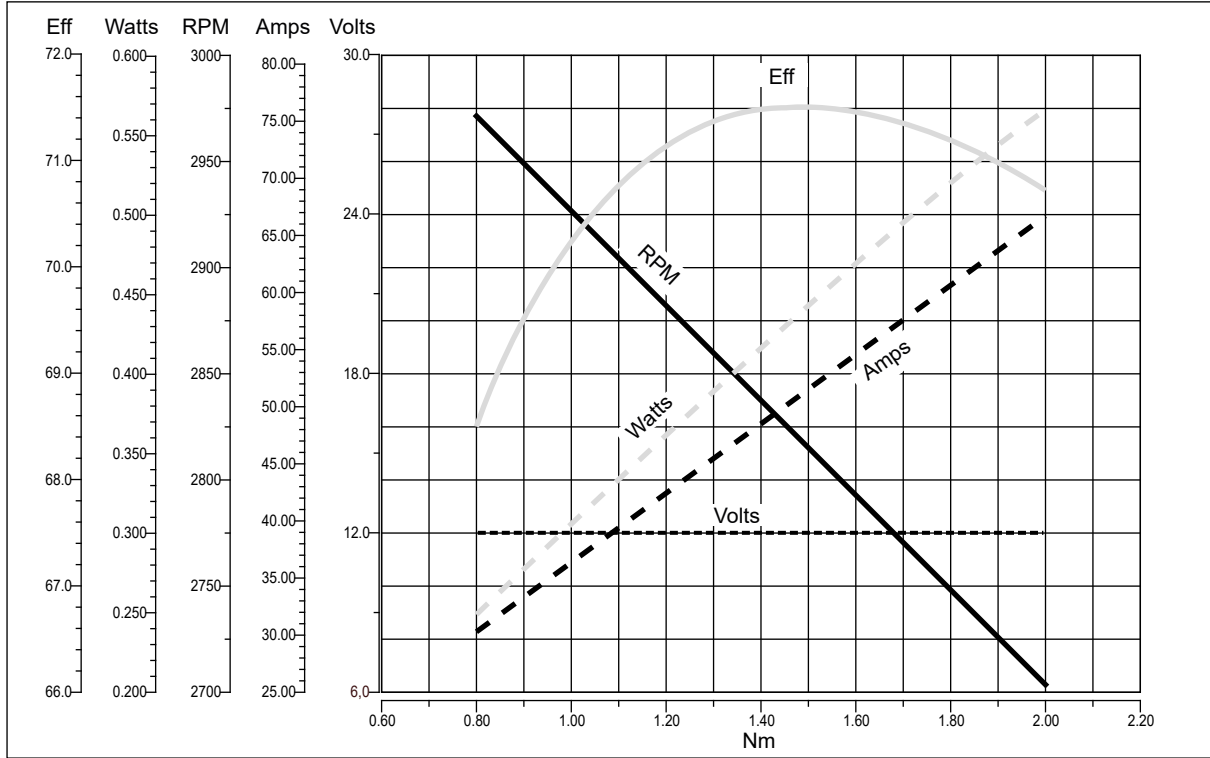
#### Dimensions

EC350.120.66  
EC350.240.66

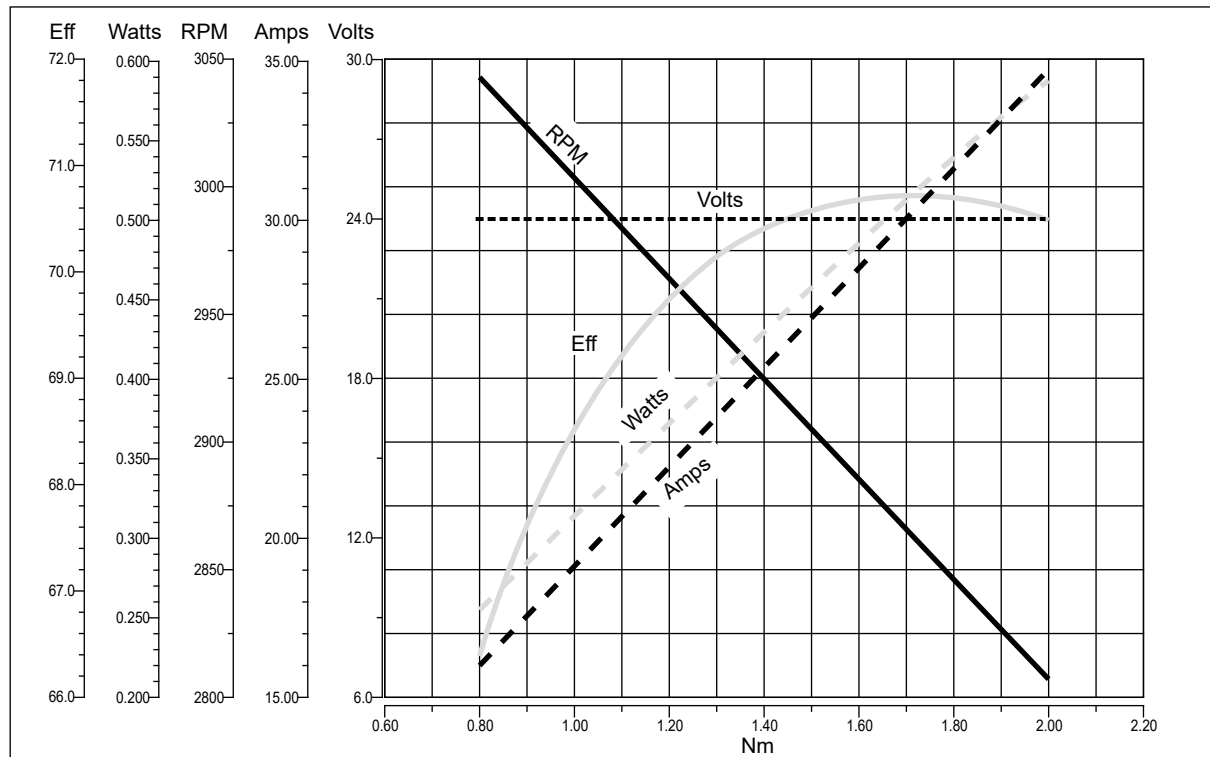


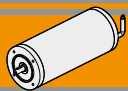


**EC350.120.66**



**EC350.240.66**





### EC600.120.66 - EC600.240.66

#### Caratteristiche

#### Features

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 110 mm
Potenza	800 W S2 (600 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Terminali	2 con doppio dado di fissaggio

Construction	Tubular, without fan
Size	Ø 110 mm
Power	800 W S2 (600 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Leads terminals	2, with double nut

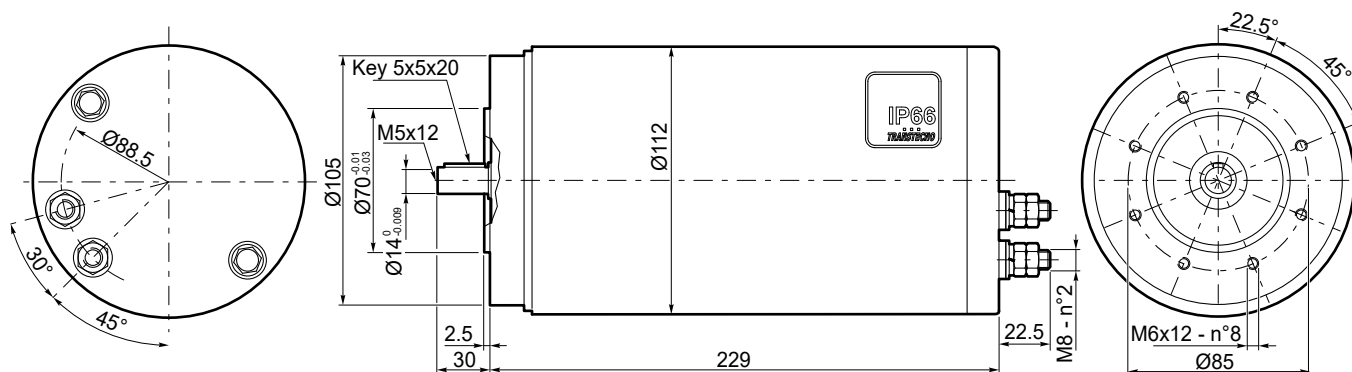
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC600.120.66	S1	600	12	71	F	1	1.91	3000	66	6.6
	S2 30'	800		94.4			2.54			
EC600.240.66	S1	600	24	35.5			1.91			7.1
	S2 30'	800		47.2			2.54			

#### Dimensioni

#### Dimensions

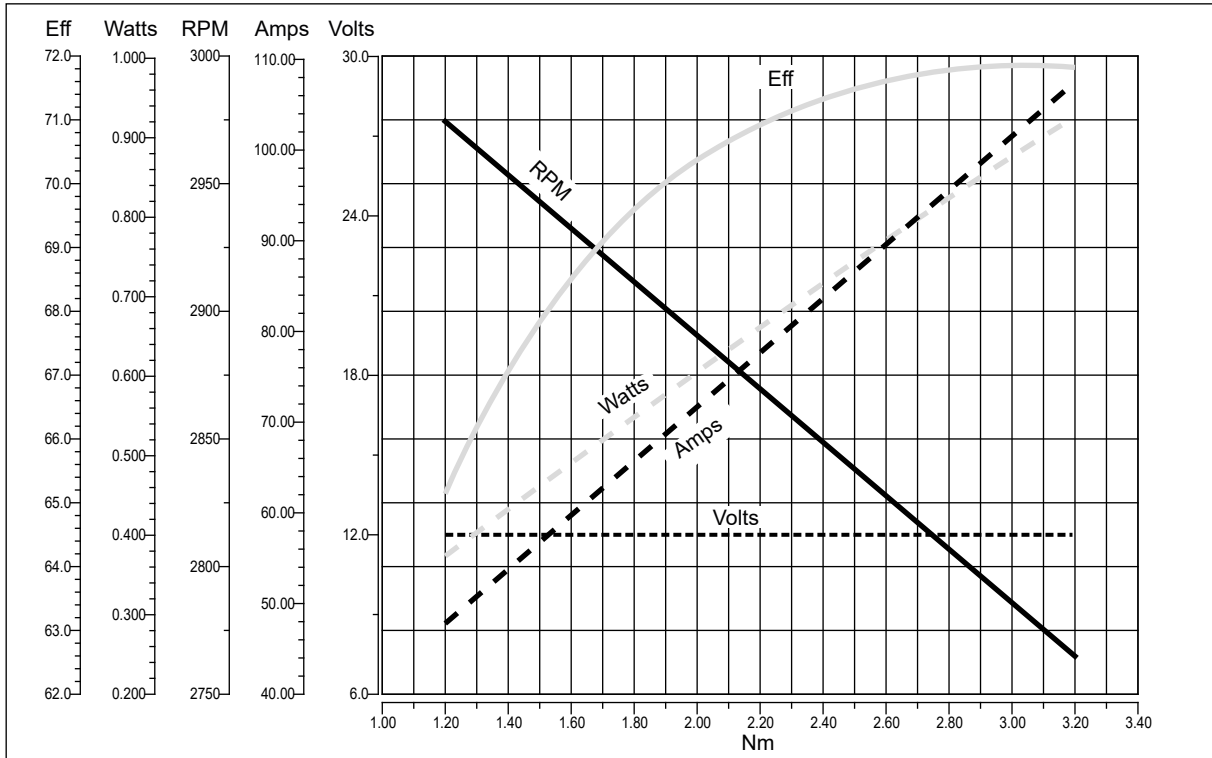
#### EC600.120.66

#### EC600.240.66

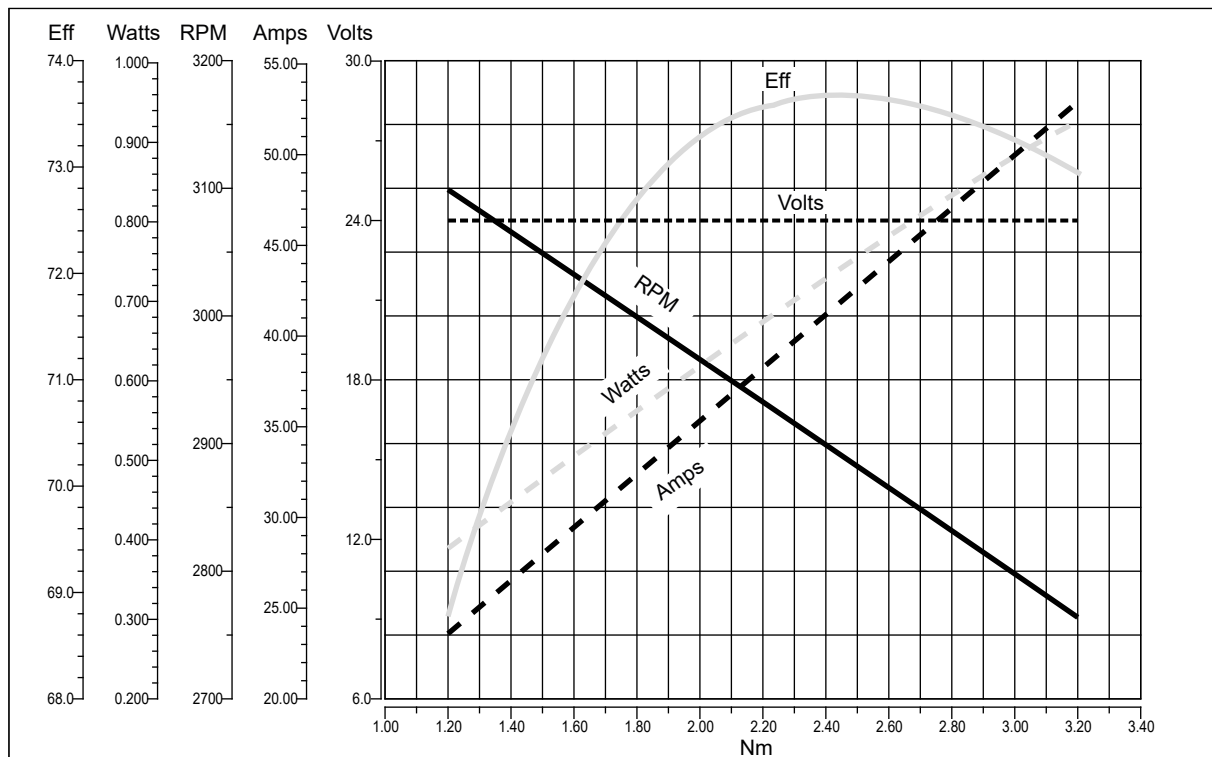




**EC600.120.66**



**EC600.240.66**



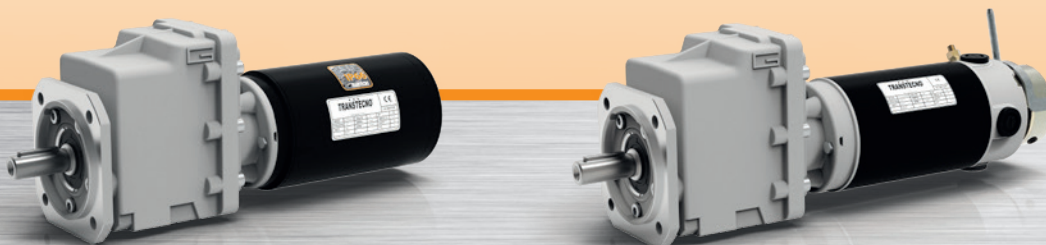




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**NDCMG**  
**ECMG**

Motoriduttori CC ad ingranaggi cilindrici  
DC helical in-line gearmotors

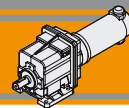


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DC

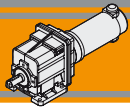




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Sensi di rotazione	<i>Direction of rotation</i>	<b>BD3</b>
Lubrificazione	<i>Lubrication</i>	<b>BD3</b>
Simbologia	<i>Symbols</i>	<b>BD3</b>
Carichi radiali	<i>Radial loads</i>	<b>BD4</b>
Motori applicabili	<i>IEC Motor adapters</i>	<b>BD4</b>
Dati tecnici per servizio S2	<i>Technical data for S2 duty</i>	<b>BD5</b>
Dimensioni	<i>Dimensions</i>	<b>BD7</b>

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### Caratteristiche tecniche

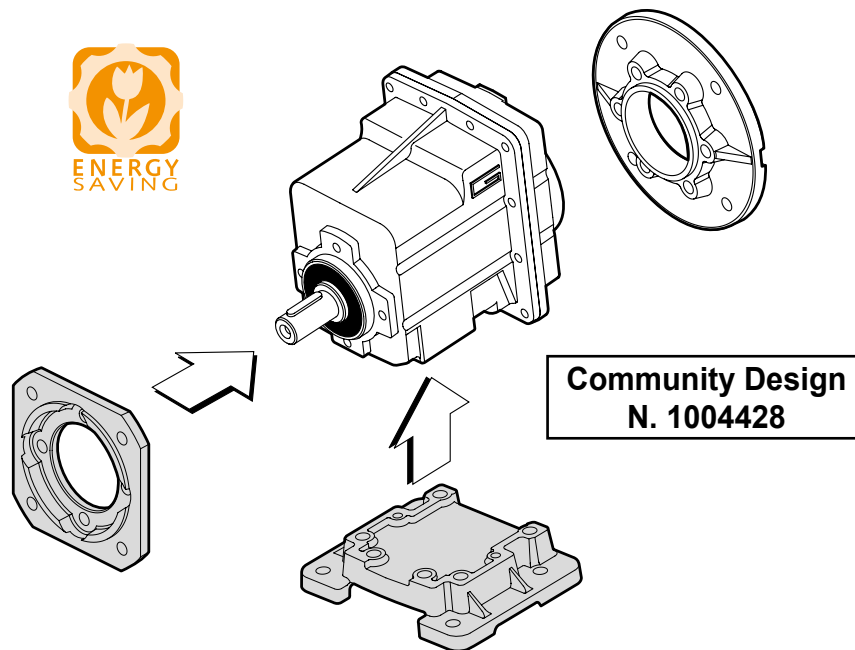
### Technical features

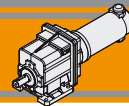
I motoriduttori CC ad ingranaggi cilindrici a magneti permanenti in neodimio **NDCMG** e in ferrite **ECMG** hanno le seguenti caratteristiche principali:

- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 800W S2
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati

**NDCMG** neodymium permanent magnets and **ECMG** ferrite permanent magnets DC helical in-line gearmotors range has the following main features:

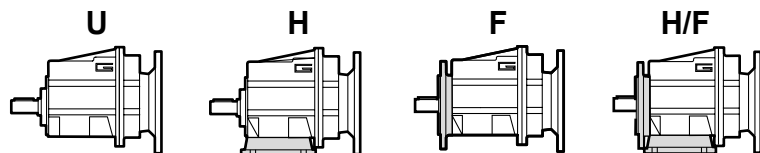
- Low voltage power supply 12/24 Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 100 to 800W S2
- Die-cast aluminum housing
- Permanent synthetic oil long-life lubrication
- Ground-hardened helical gears

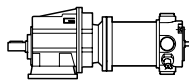


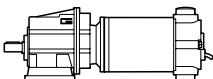


Designazione

Classification

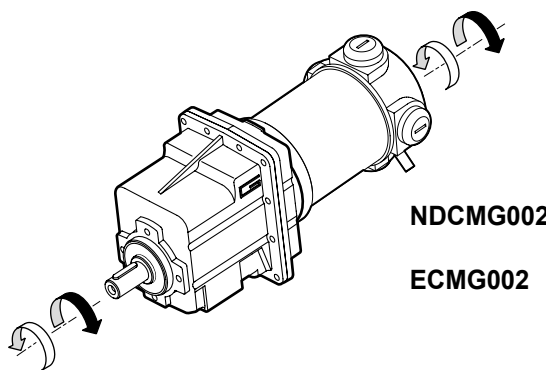


MOTORIDUTTORE / GEARMOTOR					
NDCMG	120/002	U	8.99	D20	240
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero uscita Output shaft	Versione motore Motor version
NDCMG 	120/002 180/002	U... H... F... H.../F...	vedi tabelle see tables	vedi tabelle see tables	120 240

MOTORIDUTTORE / GEARMOTOR					
ECMG	100/002	U	8.99	D20	240
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero uscita Output shaft	Versione motore Motor version
ECMG 	070/002 100/002 180/002 250/002 350/002 600/002	U... H... F... H.../F...	vedi tabelle see tables	vedi tabelle see tables	120 240 24E

Sensi di rotazione

Direction of rotation



NDCMG002

ECMG002

Lubrificazione

Lubrication

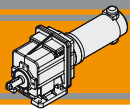
Tutti i riduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

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

Simbologia

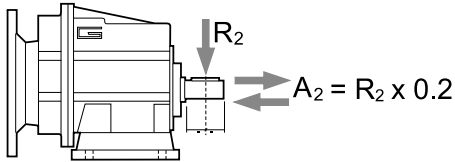
Symbols

$n_1$	[min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>



Carichi radiali

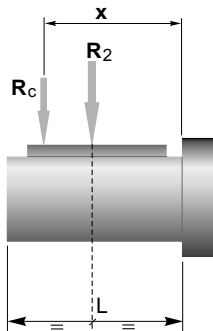
Radial loads



n <sub>2</sub> [min <sup>-1</sup> ]	R <sub>2</sub> [N]
	CMG 002
700	416
600	437
500	465
400	501
250	586
180	653
150	748
120	806
100	958
80	1032
60	1136
40	1300
10	1300

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:



	CMG 002
a	73
b	53
R <sub>2MAX</sub>	1300

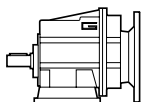
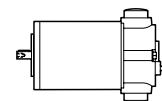
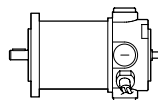
$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

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

$$R \leq R_c$$

Motori applicabili

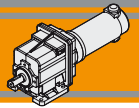
IEC Motor adapters



CMG	002	ND		EC						
		120.120 120.240	180.120 180.240	070.12E 070.24E	100.120 100.240 100.24E	180.120 180.240	180.24E	250.120 250.240	350.120 350.240	600.120 600.240
		5.03 - 55.10								

5.03 - 55.10

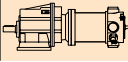
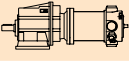
Rapporti di riduzione i  
Ratio i

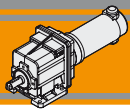


Dati tecnici per servizio S2

**ND CMG**

Technical data for S2 duty

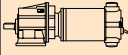
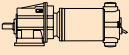
$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version			
<b>160</b>							<b>250</b>									
(3000 min <sup>-1</sup> )	<b>596</b>	2.5	12.6	5.03	<b>120/002</b>	120/240	(3000 min <sup>-1</sup> )	<b>596</b>	3.8	8.1	5.03	<b>180/002</b>	120/240			
	<b>492</b>	3.0	10.4	6.10					<b>492</b>	4.7	6.7			6.10		
	<b>401</b>	3.7	8.5	7.49					<b>401</b>	5.7	5.4			7.49		
	<b>334</b>	4.4	8.9	8.99					<b>334</b>	6.9	5.7			8.99		
	<b>295</b>	5.0	7.9	10.16					<b>295</b>	7.8	5.0			10.16		
	<b>249</b>	5.9	6.6	12.07					<b>249</b>	9.2	4.2			12.07		
	<b>224</b>	6.6	8.4	13.40					<b>224</b>	10	5.4			13.40		
	<b>198</b>	7.4	7.4	15.14					<b>198</b>	12	4.8			15.14		
	<b>165</b>	8.9	6.2	18.17					<b>165</b>	14	4.0			18.17		
	<b>139</b>	11	5.2	21.58					<b>139</b>	17	3.3			21.58		
	<b>128</b>	12	4.8	23.51					<b>128</b>	18	3.1			23.51		
	<b>120</b>	12	4.5	25.10					<b>120</b>	19	2.9			25.10		
	<b>111</b>	13	4.2	27.08					<b>111</b>	21	2.7			27.08		
	<b>92</b>	16	3.5	32.49					<b>92</b>	25	2.2			32.49		
	<b>71</b>	21	2.7	42.04					<b>71</b>	32	1.7			42.04		
	<b>67</b>	22	2.5	44.89			<b>67</b>	34	1.6	44.89						
	<b>61</b>	24	2.3	48.86			<b>61</b>	37	1.5	48.86						
	<b>54</b>	27	2.0	55.10			<b>54</b>	42	1.3	55.10						



### Dati tecnici per servizio S2

### EC CMG

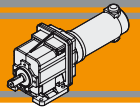
### Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version			
<b>100</b>																
(3000 min <sup>-1</sup> )	<b>596</b>	1.5	20.2	5.03	<b>070/002</b>	12E/24E	(3000 min <sup>-1</sup> )	<b>596</b>	5.4	5.8	5.03	<b>250/002</b>	120/240			
	<b>492</b>	1.9	16.6	6.10					<b>492</b>	6.5	4.8			6.10		
	<b>401</b>	2.3	13.5	7.49					<b>401</b>	8.0	3.9			7.49		
	<b>334</b>	2.7	14.2	8.99					<b>334</b>	10	4.1			8.99		
	<b>295</b>	3.1	12.6	10.16					<b>295</b>	11	3.6			10.16		
	<b>249</b>	3.7	10.6	12.07					<b>249</b>	13	3.0			12.07		
	<b>224</b>	4.1	13.4	13.40					<b>224</b>	14	3.8			13.40		
	<b>198</b>	4.6	11.9	15.14					<b>198</b>	16	3.4			15.14		
	<b>165</b>	5.5	9.9	18.17					<b>165</b>	19	2.8			18.17		
	<b>139</b>	6.6	8.3	21.58					<b>139</b>	23	2.4			21.58		
	<b>128</b>	7.2	7.7	23.51					<b>128</b>	25	2.2			23.51		
	<b>120</b>	7.7	7.2	25.10					<b>120</b>	27	2.0			25.10		
	<b>111</b>	8.3	6.6	27.08					<b>111</b>	29	1.9			27.08		
	<b>92</b>	9.9	5.5	32.49					<b>92</b>	35	1.6			32.49		
	<b>71</b>	13	4.3	42.04					<b>71</b>	45	1.2			42.04		
	<b>67</b>	14	4.0	44.89					<b>67</b>	48	1.1			44.89		
	<b>61</b>	15	3.7	48.86			<b>61</b>	52	1.1	48.86						
	<b>54</b>	17	3.3	55.10			<b>54</b>	59	0.9	55.10						
<b>140</b>																
(3000 min <sup>-1</sup> )	<b>596</b>	2.2	14.4	5.03	<b>100/002</b>	120/240/24E	(3000 min <sup>-1</sup> )	<b>596</b>	7.7	4.0	5.03	<b>350/002</b>	120/240			
	<b>492</b>	2.6	11.9	6.10					<b>492</b>	9.3	3.3			6.10		
	<b>401</b>	3.2	9.7	7.49					<b>401</b>	11	2.7			7.49		
	<b>334</b>	3.8	10.1	8.99					<b>334</b>	14	2.8			8.99		
	<b>295</b>	4.3	9.0	10.16					<b>295</b>	16	2.5			10.16		
	<b>249</b>	5.2	7.6	12.07					<b>249</b>	18	2.1			12.07		
	<b>224</b>	5.7	9.6	13.40					<b>224</b>	20	2.7			13.40		
	<b>198</b>	6.5	8.5	15.14					<b>198</b>	23	2.4			15.14		
	<b>165</b>	7.8	7.1	18.17					<b>165</b>	28	2.0			18.17		
	<b>139</b>	9.2	6.0	21.58					<b>139</b>	33	1.7			21.58		
	<b>128</b>	10	5.5	23.51					<b>128</b>	36	1.5			23.51		
	<b>120</b>	11	5.1	25.10					<b>120</b>	38	1.4			25.10		
	<b>111</b>	12	4.7	27.08					<b>111</b>	41	1.3			27.08		
	<b>92</b>	14	4.0	32.49					<b>92</b>	50	1.1			32.49		
	<b>71</b>	18	3.1	42.04					<b>71</b>	64	0.9			42.04		
	<b>67</b>	19	2.9	44.89					<b>67</b>	69	0.8			44.89		
	<b>61</b>	21	2.6	48.86			<b>61</b>	75	0.7	48.86						
	<b>54</b>	24	2.3	55.10												
<b>250</b>																
(3000 min <sup>-1</sup> )	<b>596</b>	3.8	8.1	5.03	<b>180/002</b>	120/240/24E	(3000 min <sup>-1</sup> )	<b>596</b>	12	2.5	5.03	<b>600/002</b>	120/240			
	<b>492</b>	4.7	6.7	6.10					<b>492</b>	15	2.1			6.10		
	<b>401</b>	5.7	5.4	7.49					<b>401</b>	18	1.7			7.49		
	<b>334</b>	6.9	5.7	8.99					<b>334</b>	22	1.8			8.99		
	<b>295</b>	7.8	5.0	10.16					<b>295</b>	25	1.6			10.16		
	<b>249</b>	9.2	4.2	12.07					<b>249</b>	30	1.3			12.07		
	<b>224</b>	10	5.4	13.40					<b>224</b>	33	1.7			13.40		
	<b>198</b>	12	4.8	15.14					<b>198</b>	37	1.5			15.14		
	<b>165</b>	14	4.0	18.17					<b>165</b>	44	1.2			18.17		
	<b>139</b>	17	3.3	21.58					<b>139</b>	53	1.0			21.58		
	<b>128</b>	18	3.1	23.51					<b>128</b>	57	1.0			23.51		
	<b>120</b>	19	2.9	25.10					<b>120</b>	61	0.9			25.10		
	<b>111</b>	21	2.7	27.08					<b>111</b>	66	0.8			27.08		
	<b>92</b>	25	2.2	32.49					<b>92</b>	79	0.7			32.49		
	<b>71</b>	32	1.7	42.04					<b>71</b>	79	0.7			42.04		
	<b>67</b>	34	1.6	44.89					<b>67</b>	79	0.7			44.89		
	<b>61</b>	37	1.5	48.86												
	<b>54</b>	42	1.3	55.10												

NOTA  
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio

NOTE  
Please check that the output torque M2 does not exceed the value in the grey areas



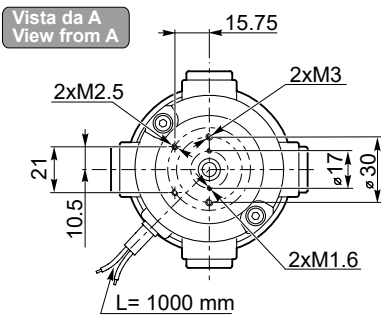
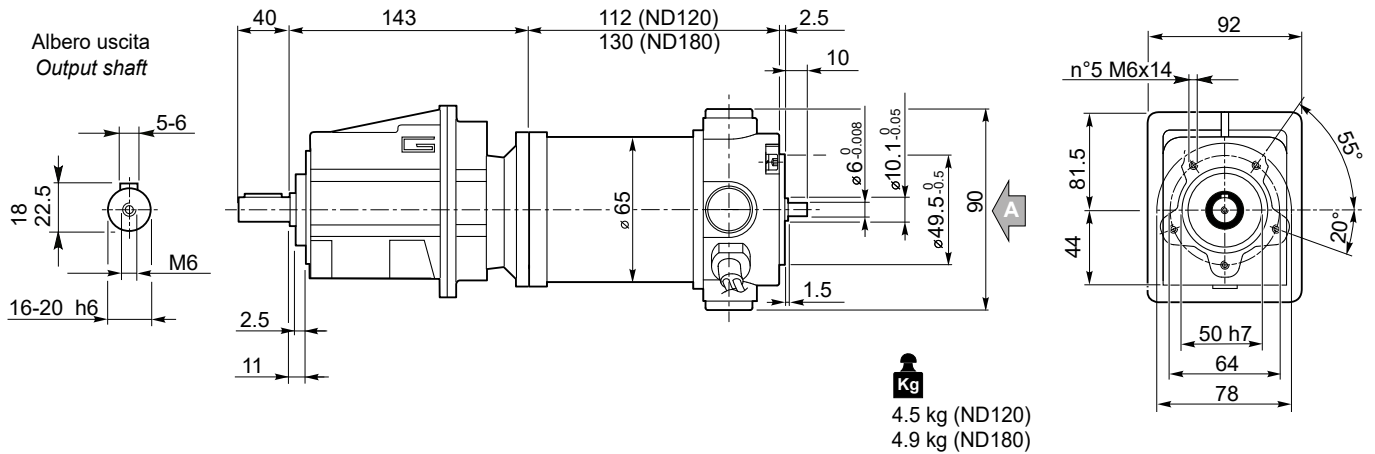


Dimensioni

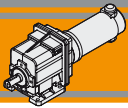
Dimensions

## NDCMG..U

NDCMG120/002 U  
NDCMG180/002 U



- NDCMG...H → [BD12](#)
- Freno / Brake → [BA9](#)
- NDCMG...F → [BD12](#)
- Encoder → [BA9](#)
- NDCMG...H/F → [BD13](#)

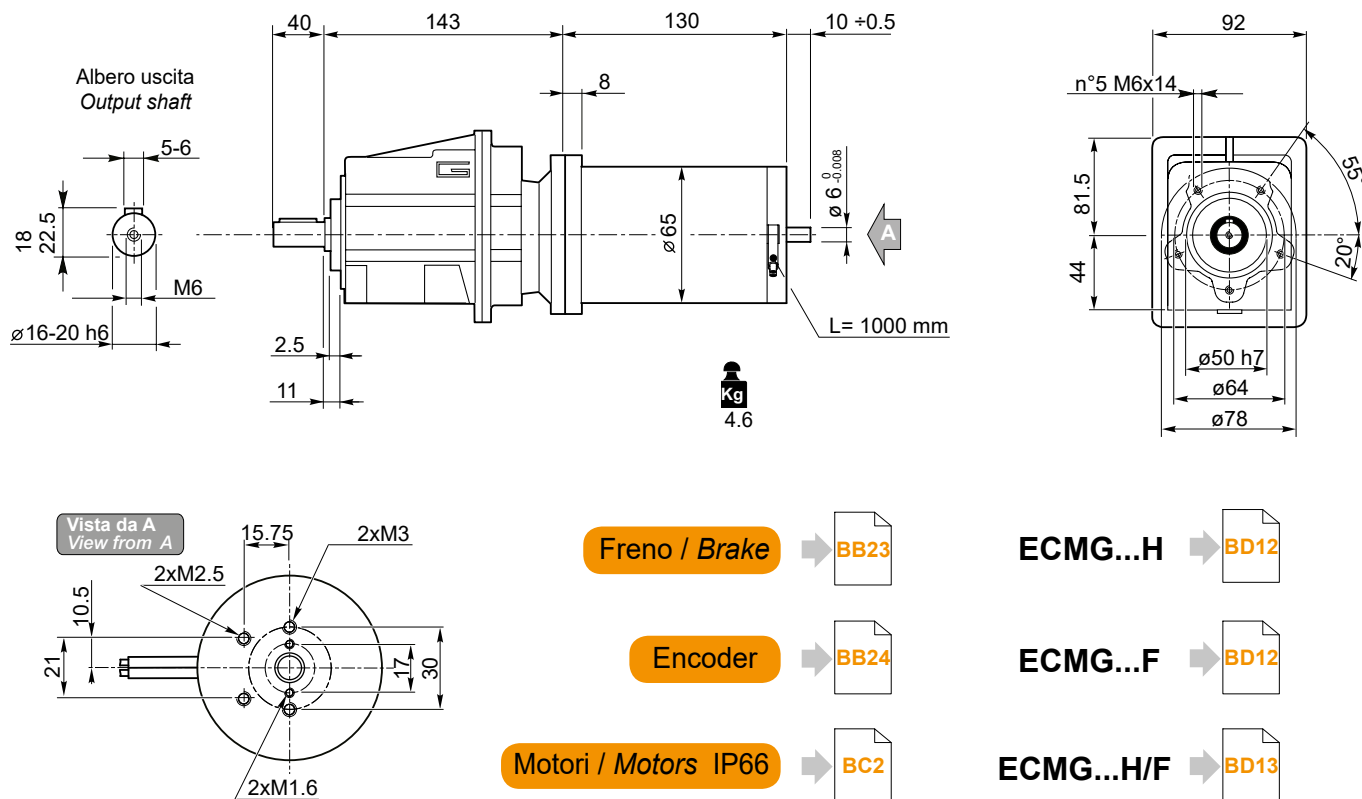


### Dimensioni

### Dimensions

## ECMG..U

### ECMG070/002 U

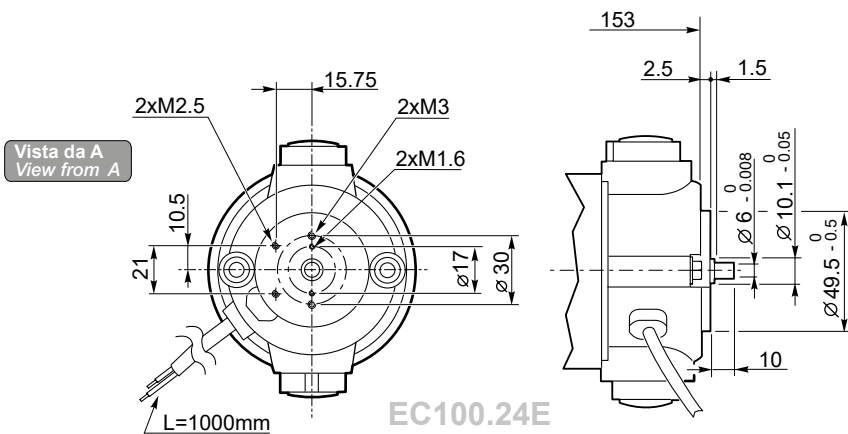
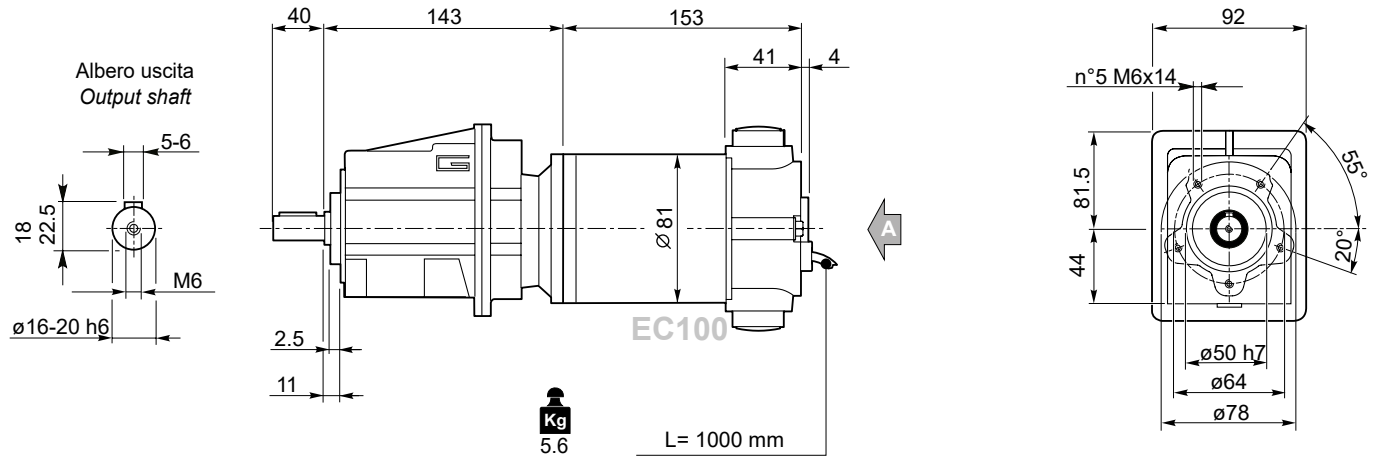


Dimensioni

Dimensions

**ECMG..U**

**ECMG100/002 U**



Freno / Brake → **BB23**

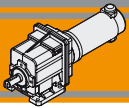
Encoder → **BB24**

Motori / Motors IP66 → **BC4**

ECMG...H → **BD12**

ECMG...F → **BD12**

ECMG...H/F → **BD13**

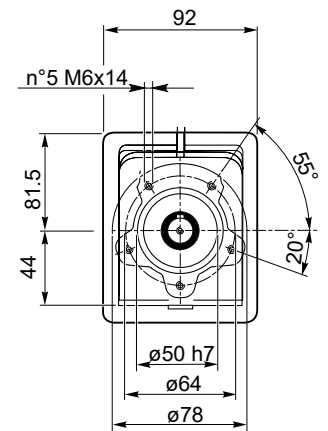
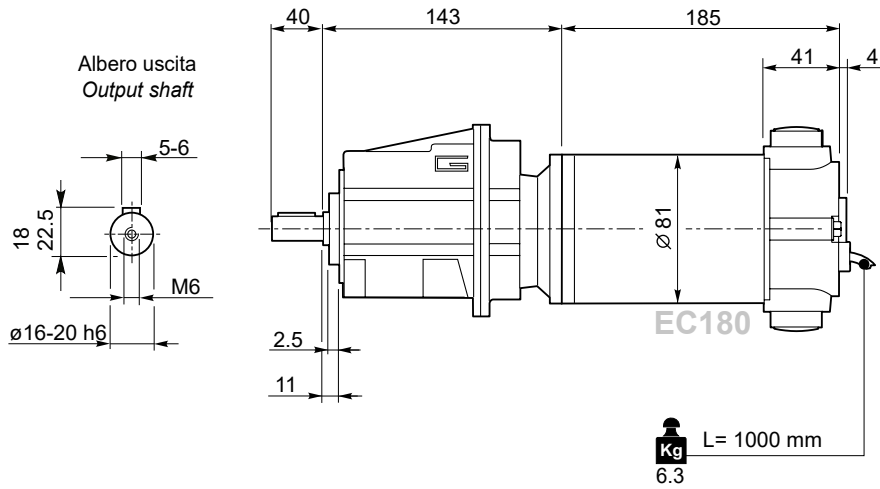


### Dimensioni

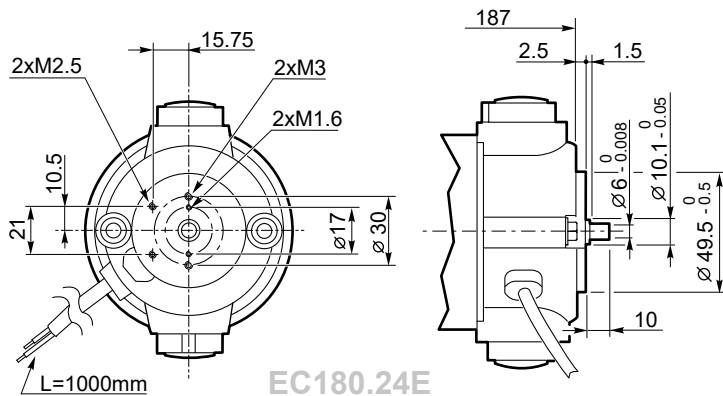
### Dimensions

## ECMG..U

### ECMG180/002 U



Vista da A  
View from A



Freno / Brake → [BB23](#)

Encoder → [BB24](#)

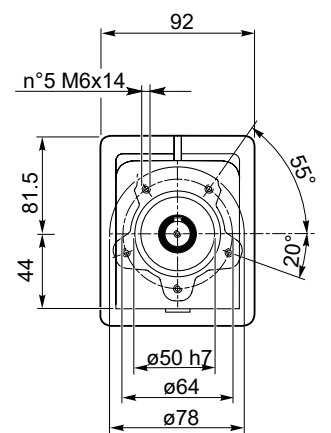
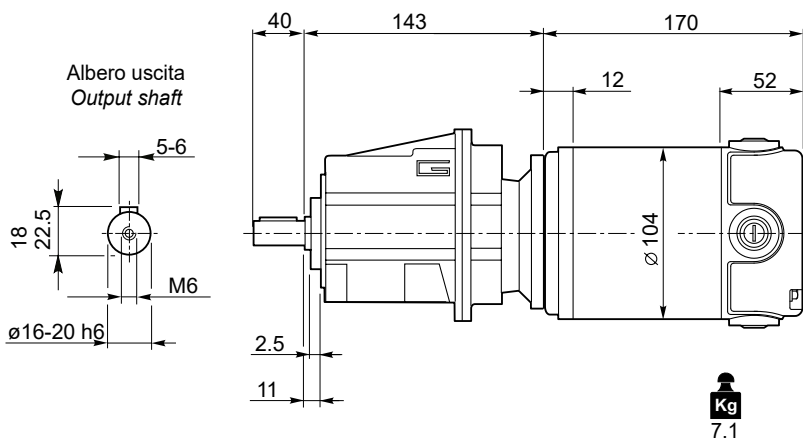
Motori / Motors IP66 → [BC6](#)

ECMG...H → [BD12](#)

ECMG...F → [BD12](#)

ECMG...H/F → [BD13](#)

### ECMG250/002 U

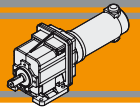


Motori / Motors IP66 → [BC8](#)

ECMG...H → [BD12](#)

ECMG...F → [BD12](#)

ECMG...H/F → [BD13](#)

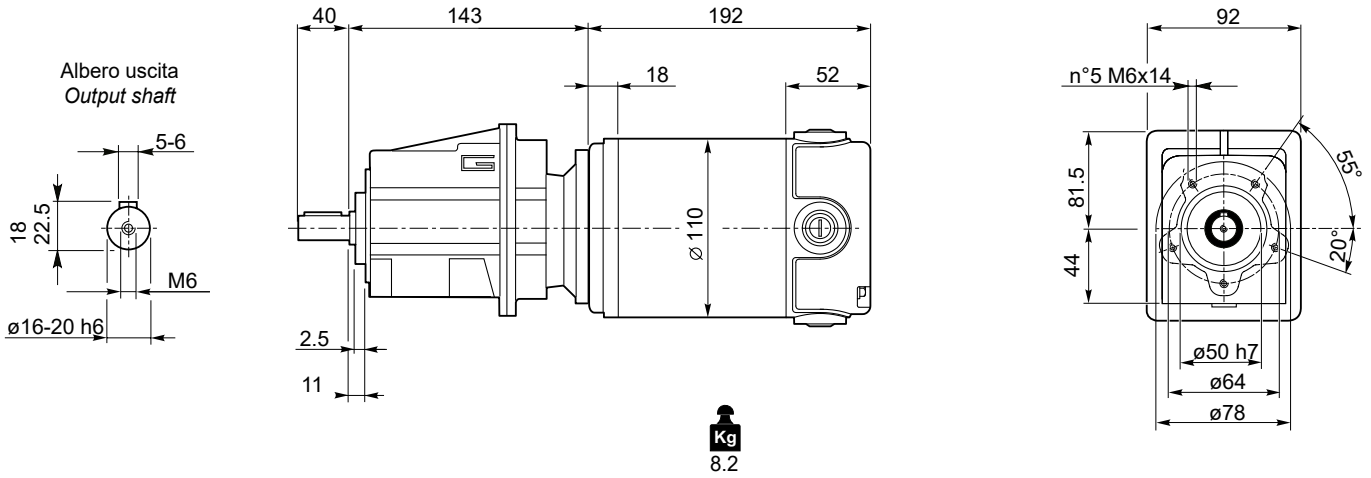


Dimensioni

Dimensions

ECMG..U

ECMG350/002 U



Freno / Brake



Motori / Motors IP66



ECMG...H



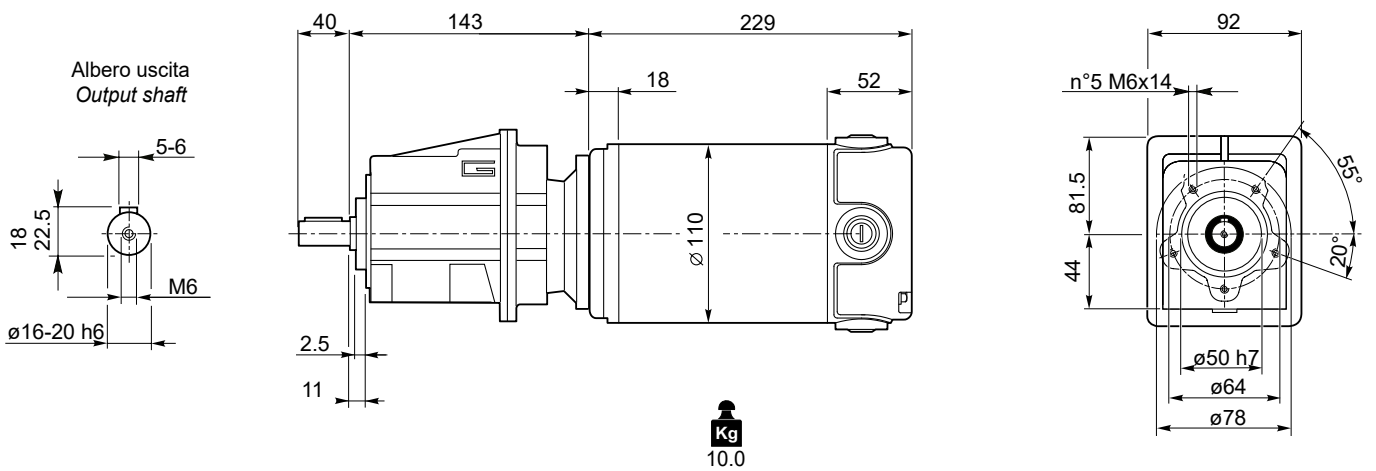
ECMG...F



ECMG...H/F



ECMG600/002 U



Freno / Brake



Motori / Motors IP66



ECMG...H



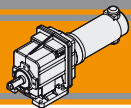
ECMG...F



ECMG...H/F



DC

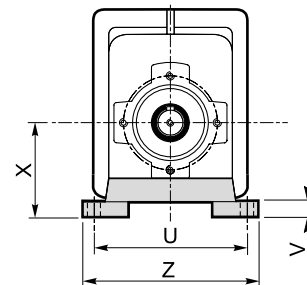
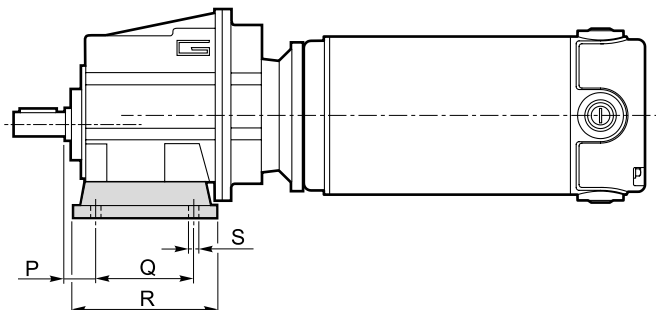


**Dimensioni**

**Dimensions**

**NDCMG..H - ECMG..H**

**NDCMG..2 H..  
ECMG..2 H..**

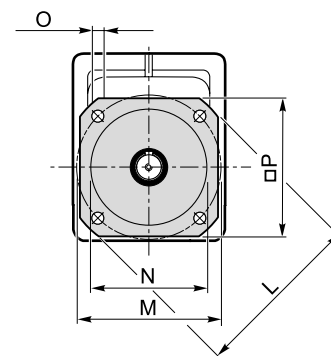
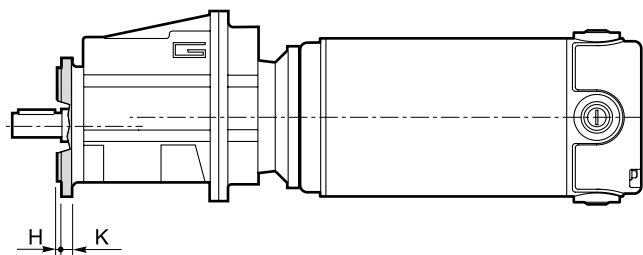


Versione H / H Version										
CMG	P	Q	R	S	U	V	X	Z	Piede / Foot	
									Tipo / Type	Peso / Weight [kg]
002	18	60	80	9	100	10	60	120	H60	0.2
	18	80	104	9	110 - 120	10	75	145	H75	0.3
	18	50 - 87	110	9	110	10	85	135	H85	0.4

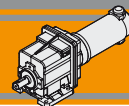
■ Preferenziale / Preferred

**NDCMG..F - ECMG..F**

**NDCMG..2 F..  
ECMG..2 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	

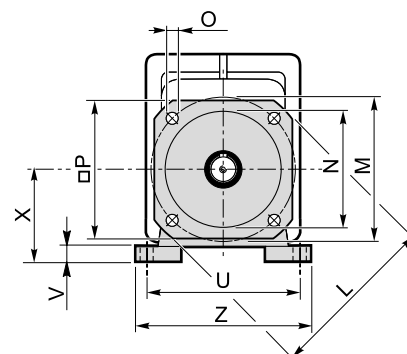
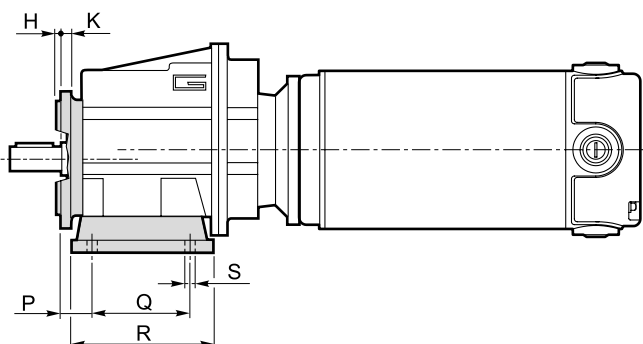


Dimensioni

Dimensions

NDCMG..H../F.. - ECMG..H../F..

NDCMG..2 H../F..  
ECMG..2 H../F..



Versione H / H Version									Combinazioni possibili H/F Possible combinations H/F								
CMG	P	Q	R	S	U	V	X	Z	Piede / Foot		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	•	•	•				

■ Preferenziale / Preferred

• Combinazioni possibili H/F / Possible combinations H/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

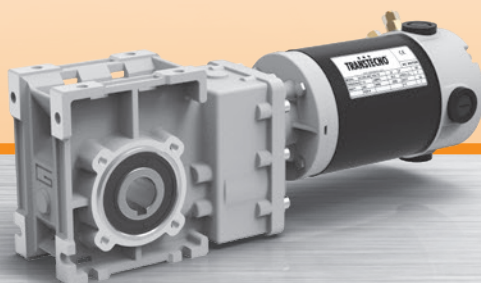




**MINI**  **TECNO**™  
**small** but strong

**NDCMB**  
**ECMB**

Motoriduttori CC ad assi ortogonali  
DC helical bevel gearmotors

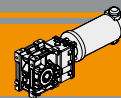


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC

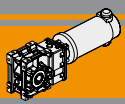




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**NDCMB  
ECMB**

**Motoriduttori CC ad assi ortogonali  
DC Helical bevel gearmotors**



**Caratteristiche tecniche**

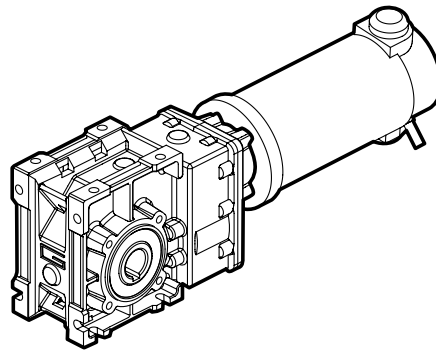
**Technical features**

I motoriduttori CC ortogonali a magneti permanenti in neodimio **NDCMB** e in ferrite **ECMB** hanno le seguenti caratteristiche principali:

**NDCMB neodymium permanent magnets and ECMB ferrite permanent magnets DC helical bevel gearmotors range has the following main features:**

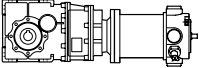
- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 800W S2
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati

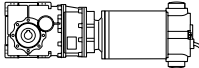
- Low voltage power supply 12/24 Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 100 to 800W S2
- Die-cast aluminum housing
- Permanent synthetic oil long-life lubrication
- Ground-hardened helical gears



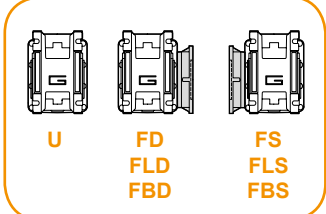
**Designazione**

**Classification**

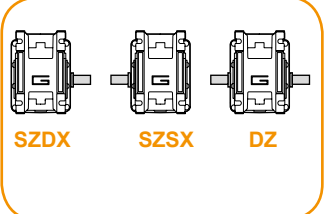
MOTORIDUTTORE / GEARMOTOR								
<b>NDCMB</b>	<b>120/402</b>	<b>U</b>	<b>9.2</b>	<b>D20</b>	<b>SZDX</b>	<b>BRSX</b>	<b>90</b>	<b>240</b>
Tipo Type	Grandezza Size	Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Versione Motore Motor Version
<b>NDCMB</b> 	<b>120/402</b> <b>180/402</b>	<b>U</b> <b>FD</b> <b>FS</b> <b>FLD</b> <b>FLS</b> <b>FBD</b> <b>FBS</b>	Vedere tabella See tables	Vedere tabella See tables	<b>SZDX</b> <b>SZSX</b> <b>DZ</b>	<b>BRDX</b> <b>BRSX</b> *	<b>0°</b> <b>90°</b> <b>180°</b> <b>270°</b>	<b>120</b> <b>240</b>

MOTORIDUTTORE / GEARMOTOR								
<b>ECMB</b>	<b>100/402</b>	<b>U</b>	<b>9.2</b>	<b>D20</b>	<b>SZDX</b>	<b>BRSX</b>	<b>90</b>	<b>240</b>
Tipo Type	Grandezza Size	Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Versione Motore Motor Version
<b>ECMB</b> 	<b>070/402</b> <b>100/402</b> <b>180/402</b> <b>250/402</b> <b>350/402</b> <b>600/402</b>	<b>U</b> <b>FD</b> <b>FS</b> <b>FLD</b> <b>FLS</b> <b>FBD</b> <b>FBS</b>	Vedere tabella See tables	Vedere tabella See tables	<b>SZDX</b> <b>SZSX</b> <b>DZ</b>	<b>BRDX</b> <b>BRSX</b> *	<b>0°</b> <b>90°</b> <b>180°</b> <b>270°</b>	<b>120</b> <b>240</b> <b>24E</b>

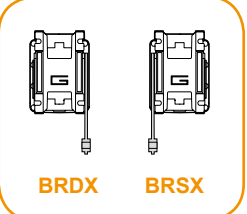
Versione Riduttore  
Gearbox Version



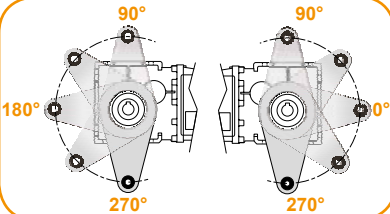
Albero di uscita  
Output shaft



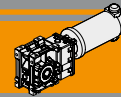
Braccio di reazione  
Torque arm \*



Angolo  
Angle

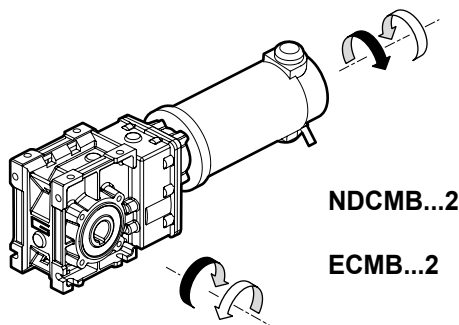


\* **NOTA: il braccio di reazione viene fornito smontato.**  
**NOTE: the torque arm will be supplied not assembled.**



Sensi di rotazione

Direction of rotation



Simbologia

Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$M_2$ [Nm]	Coppia in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	sf	Fattore di servizio / <i>Service factor</i>
i	Rapporto di riduzione / <i>Ratio</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$P_1$ [kW]	Potenza in entrata / <i>Input power</i>	$R_2$ [N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>

Lubrificazione

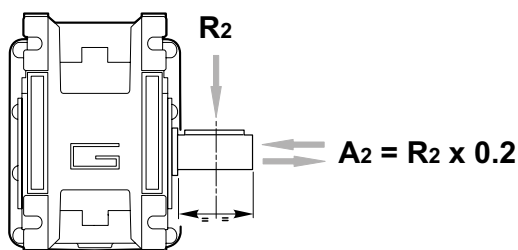
Lubrication

Tutti i riduttori nelle taglie 402 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 sizes 402 in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*

Carichi radiali

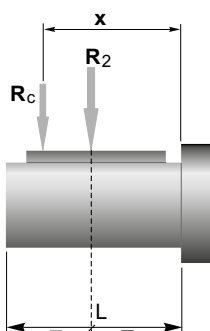
Radial loads



$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]
	CMB 402
400	905
300	996
200	1141
170	1204
140	1414
100	1582
90	1638
60	2047
40	2524
30	2778
20	3180
15	3500
10	3500

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:*

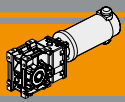


	CMB 402
a	86
b	66
$R_{2MAX}$	3500

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

$$R \leq R_c$$

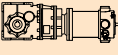
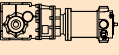
*a, b = valori riportati nella tabella  
a, b = values given in the table*

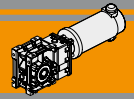


### Dati tecnici per servizio S2

### NDCMB

### Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>160</b>							<b>250</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	3.0	10.5	6.18	<b>120/402</b>	120/240	(3000 min <sup>-1</sup> )	<b>485</b>	4.6	6.7	6.18	<b>180/402</b>	120/240
	<b>401</b>	3.6	8.6	7.49									
	<b>326</b>	4.4	7.0	9.20									
	<b>254</b>	5.7	6.2	11.83									
	<b>240</b>	6.0	5.9	12.48									
	<b>202</b>	7.1	4.9	14.83									
	<b>170</b>	8.4	4.1	17.63									
	<b>161</b>	8.9	4.8	18.60									
	<b>134</b>	10	4.0	22.33									
	<b>125</b>	11	3.8	23.91									
	<b>104</b>	14	3.7	28.89									
	<b>97</b>	15	3.5	30.84									
	<b>89</b>	16	3.2	33.57									
	<b>84</b>	17	3.0	35.63									
	<b>70</b>	21	2.5	42.75									
	<b>54</b>	27	1.9	55.31									
	<b>51</b>	29	1.8	59.06									
	<b>47</b>	31	1.7	64.29									
	<b>41</b>	35	1.5	72.50									



Dati tecnici per servizio S2

ECMB

Technical data for S2 duty

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
<b>100</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	1.8	16.8	6.18	<b>070/402</b>	12E/24E
	<b>401</b>	2.2	13.8	7.49		
	<b>326</b>	2.8	11.3	9.20		
	<b>254</b>	3.5	9.9	11.83		
	<b>240</b>	3.7	9.4	12.48		
	<b>202</b>	4.4	7.9	14.83		
	<b>170</b>	5.3	6.6	17.63		
	<b>161</b>	5.6	7.7	18.60		
	<b>134</b>	6.7	6.4	22.33		
	<b>125</b>	7.2	6.0	23.91		
	<b>104</b>	8.6	5.9	28.89		
	<b>97</b>	9.2	5.5	30.84		
	<b>89</b>	10	5.1	33.57		
	<b>84</b>	11	4.8	35.63		
	<b>70</b>	13	4.0	42.75		
	<b>54</b>	17	3.1	55.31		
	<b>51</b>	18	2.9	59.06		
	<b>47</b>	19	2.7	64.29		
	<b>41</b>	22	2.4	72.50		

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
<b>350</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	6.5	4.8	6.18	<b>250/402</b>	120/240
	<b>401</b>	7.8	4	7.49		
	<b>326</b>	9.6	3.2	9.20		
	<b>254</b>	12	2.8	11.83		
	<b>240</b>	13	2.7	12.48		
	<b>202</b>	16	2.3	14.83		
	<b>170</b>	19	1.9	17.63		
	<b>161</b>	20	2.2	18.60		
	<b>134</b>	23	1.8	22.33		
	<b>125</b>	25	1.7	23.91		
	<b>104</b>	30	1.7	28.89		
	<b>97</b>	32	1.6	30.84		
	<b>89</b>	35	1.5	33.57		
	<b>84</b>	37	1.4	35.63		
	<b>70</b>	45	1.1	42.75		
	<b>54</b>	58	0.9	55.31		
	<b>51</b>	62	0.8	59.06		
	<b>47</b>	67	0.8	64.29		
	<b>41</b>	72	0.7	72.50		

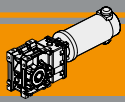
<b>140</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	2.6	12.0	6.18	<b>100/402</b>	120/240/24E
	<b>401</b>	3.1	9.9	7.49		
	<b>326</b>	3.9	8.0	9.20		
	<b>254</b>	5.0	7.1	11.83		
	<b>240</b>	5.2	6.7	12.48		
	<b>202</b>	6.2	5.6	14.83		
	<b>170</b>	7.4	4.7	17.63		
	<b>161</b>	7.8	5.5	18.60		
	<b>134</b>	9.4	4.6	22.33		
	<b>125</b>	10	4.3	23.91		
	<b>104</b>	12	4.2	28.89		
	<b>97</b>	13	3.9	30.84		
	<b>89</b>	14	3.6	33.57		
	<b>84</b>	15	3.4	35.63		
	<b>70</b>	18	2.8	42.75		
	<b>54</b>	23	2.2	55.31		
	<b>51</b>	25	2.1	59.06		
	<b>47</b>	27	1.9	64.29		
	<b>41</b>	30	1.7	72.50		

<b>500</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	9	3.4	6.18	<b>350/402</b>	120/240
	<b>401</b>	11	2.8	7.49		
	<b>326</b>	14	2.3	9.2		
	<b>254</b>	18	2.0	11.83		
	<b>240</b>	19	1.9	12.48		
	<b>202</b>	22	1.6	14.83		
	<b>170</b>	26	1.3	17.63		
	<b>161</b>	28	1.5	18.6		
	<b>134</b>	33	1.3	22.33		
	<b>125</b>	36	1.2	23.91		
	<b>104</b>	43	1.2	28.89		
	<b>97</b>	46	1.1	30.84		
	<b>89</b>	50	1.0	33.57		
	<b>84</b>	53	1.0	35.63		
	<b>70</b>	64	0.8	42.75		
	<b>54</b>	73	0.7	55.31		
	<b>51</b>	73	0.7	59.06		
	<b>47</b>	73	0.7	64.29		

<b>250</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	4.6	6.7	6.18	<b>180/402</b>	120/240/24E
	<b>401</b>	5.6	5.5	7.49		
	<b>326</b>	6.9	4.5	9.20		
	<b>254</b>	8.8	4.0	11.83		
	<b>240</b>	9.3	3.7	12.48		
	<b>202</b>	11	3.2	14.83		
	<b>170</b>	13	2.7	17.63		
	<b>161</b>	14	3.1	18.60		
	<b>134</b>	17	2.6	22.33		
	<b>125</b>	18	2.4	23.91		
	<b>104</b>	22	2.4	28.89		
	<b>97</b>	23	2.2	30.84		
	<b>89</b>	25	2.0	33.57		
	<b>84</b>	27	1.9	35.63		
	<b>70</b>	32	1.6	42.75		
	<b>54</b>	41	1.2	55.31		
	<b>51</b>	44	1.2	59.06		
	<b>47</b>	48	1.1	64.29		
	<b>41</b>	54	0.9	72.50		

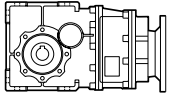
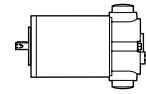
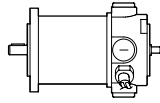
<b>800</b>						
(3000 min <sup>-1</sup> )	<b>485</b>	15	2.1	6.18	<b>600/402</b>	120/240
	<b>401</b>	18	1.7	7.49		
	<b>326</b>	22	1.4	9.20		
	<b>254</b>	28	1.2	11.83		
	<b>240</b>	30	1.2	12.48		
	<b>202</b>	36	1.0	14.83		
	<b>170</b>	42	0.8	17.63		
	<b>161</b>	45	1.0	18.60		
	<b>134</b>	53	0.8	22.33		
	<b>125</b>	57	0.8	23.91		
	<b>104</b>	69	0.7	28.89		
	<b>97</b>	73	0.7	30.84		
	<b>89</b>	73	0.7	33.57		
	<b>84</b>	73	0.7	35.63		
	<b>70</b>	73	0.7	42.75		

NOTA  
Verificare sempre che la coppia M<sub>2</sub> utilizzata non ecceda il valore indicato nelle caselle in grigio  
NOTE  
Please check that the output torque M<sub>2</sub> does not exceed the value in the grey areas



Motori applicabili

Motor adapters



		ND		EC					
		120.120 120.240	180.120 180.240	070.12E 070.24E	100.120 100.240 100.24E	180.120 180.240 180.24E	250.120 250.240	350.120 350.240	600.120 600.240
<b>CMB</b>	<b>402</b>	6.18 - 72.50							

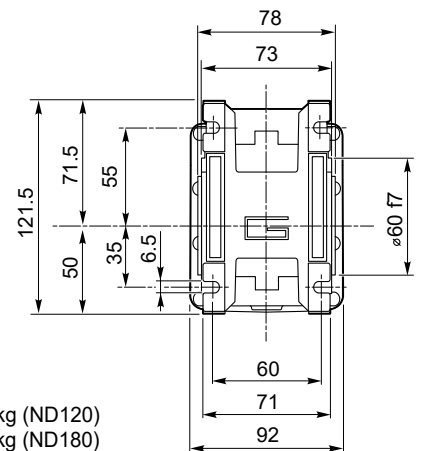
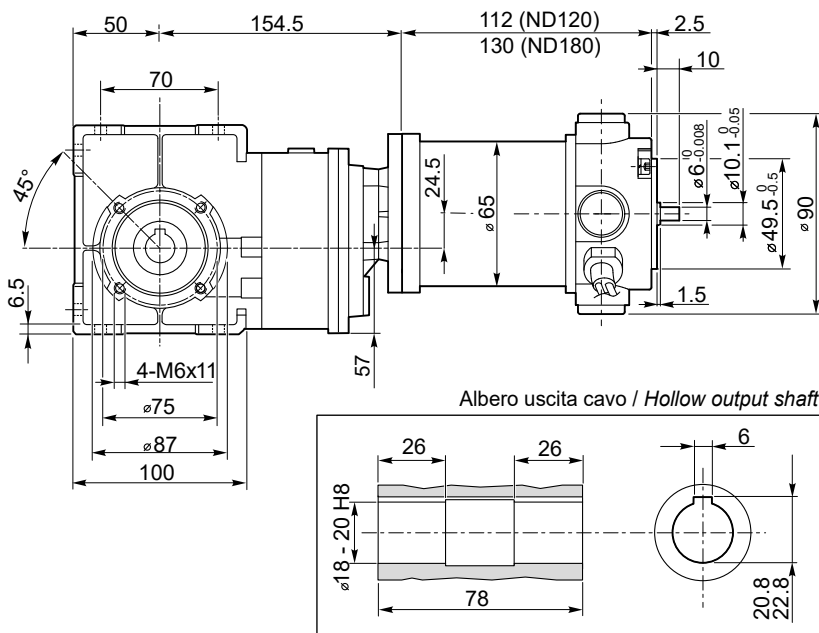
6.18 - 72.50

Rapporti di riduzione i  
Ratio i

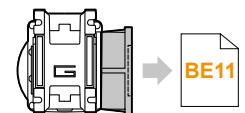
Dimensioni

Dimensions

NDCMB120/402 U  
NDCMB180/402 U

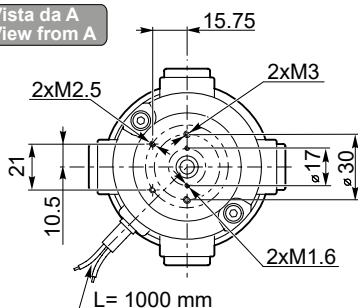


5.0 kg (ND120)  
5.4 kg (ND180)

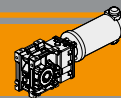


BE11

Vista da A  
View from A



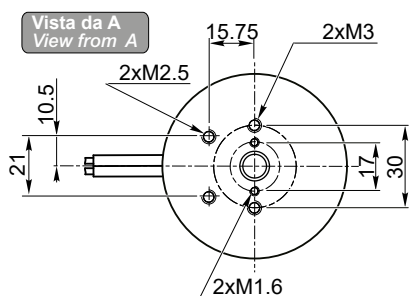
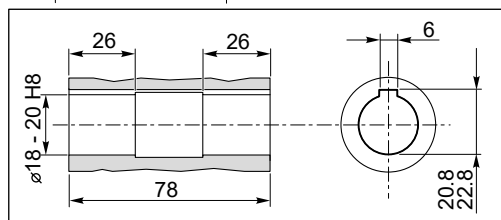
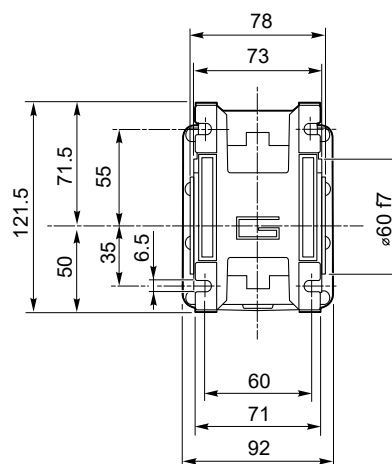
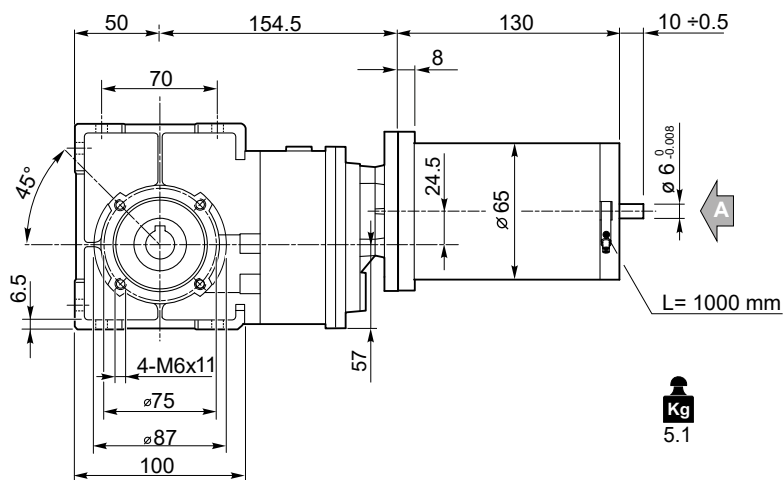




Dimensioni

Dimensions

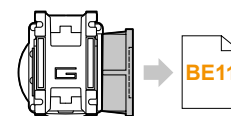
ECMB070/402 U



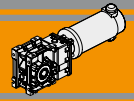
Freno / Brake → BB23

Encoder → BB24

Motori / Motors IP66 → BC2



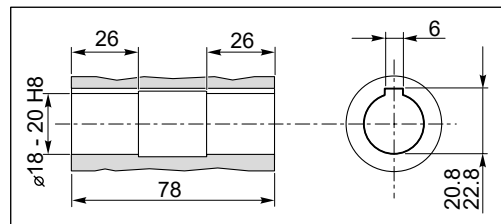
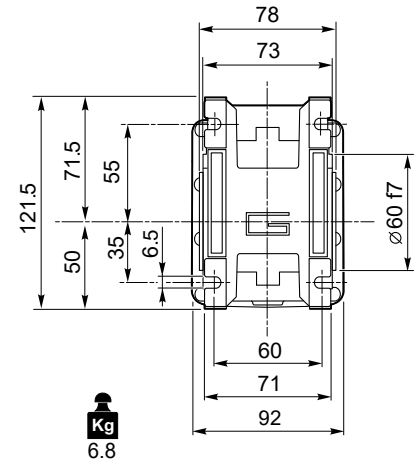
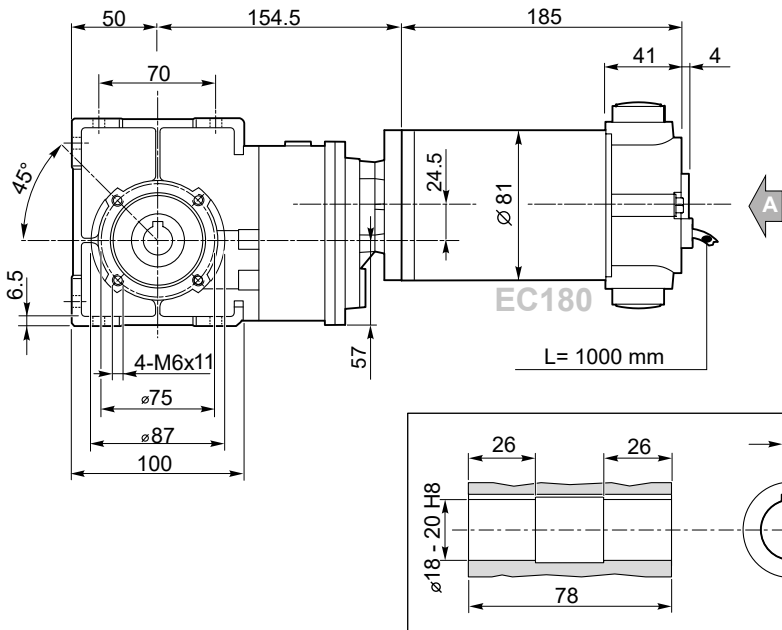




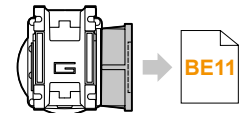
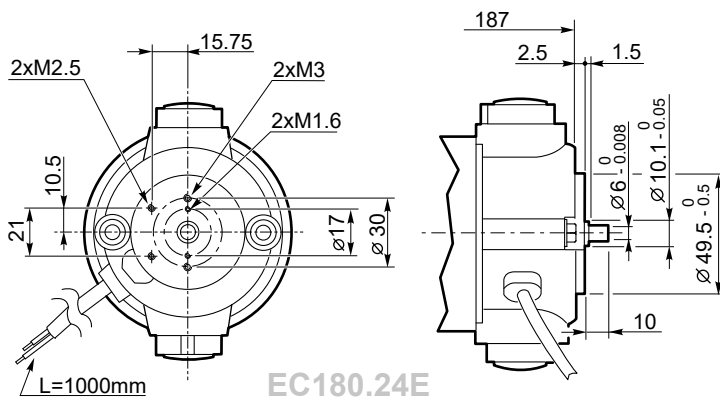
**Dimensioni**

**Dimensions**

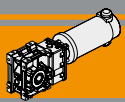
**ECMB180/402 U**



Vista da A  
View from A



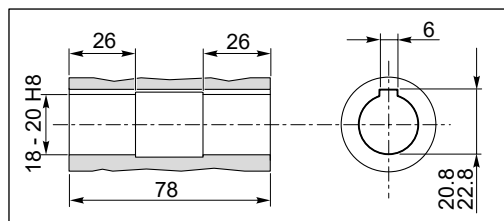
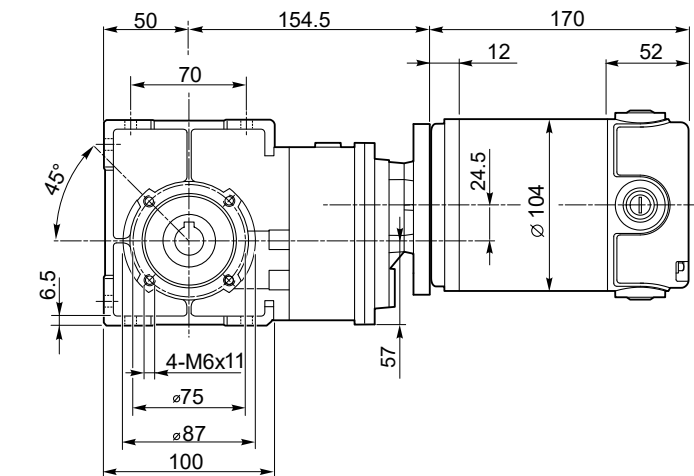
**DC**



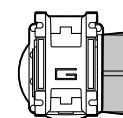
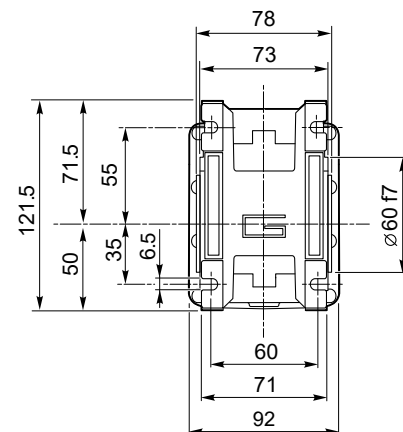
### Dimensioni

### Dimensions

#### ECMB250/402 U



**Kg**  
7.6

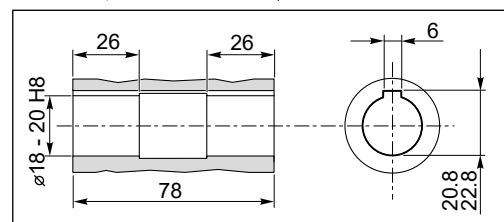
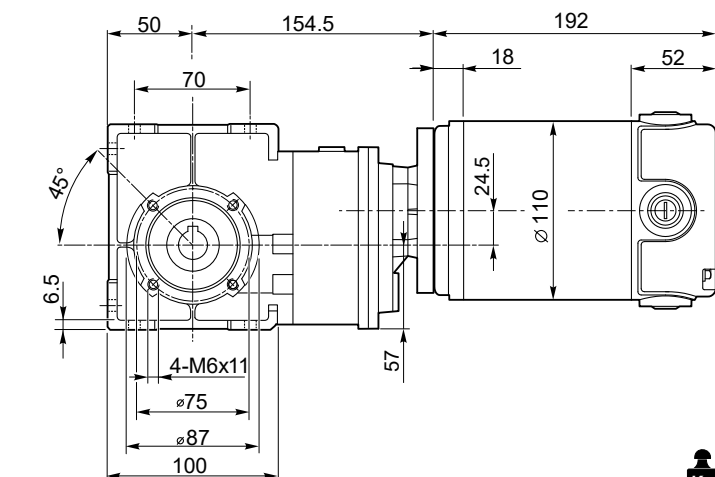


BE11

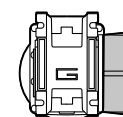
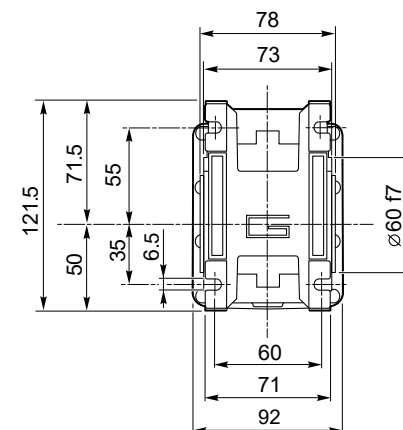
Motori / Motors IP66

BC8

#### ECMB350/402 U



**Kg**  
8.7



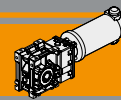
BE11

Freno / Brake

BB24

Motori / Motors IP66

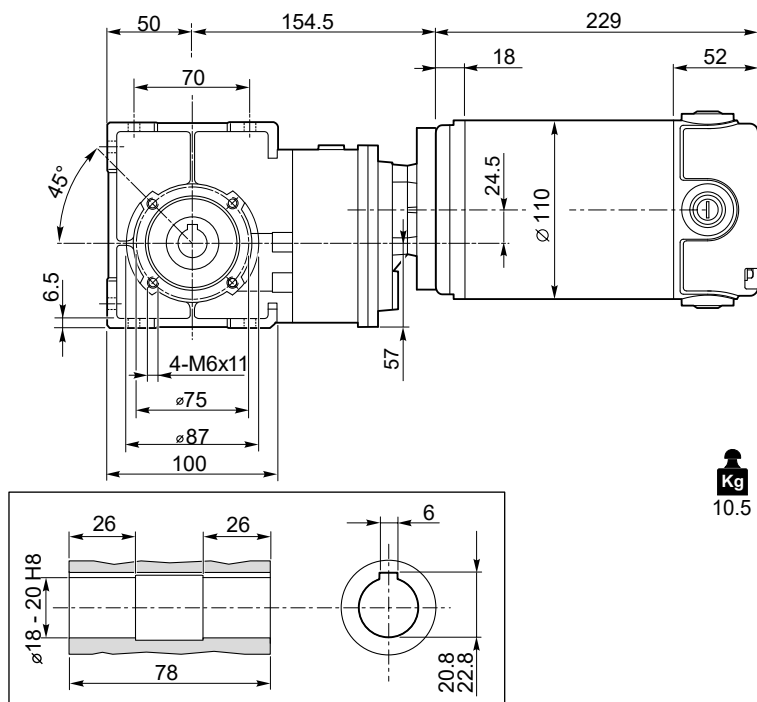
BC10



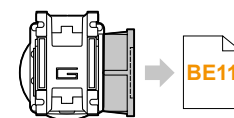
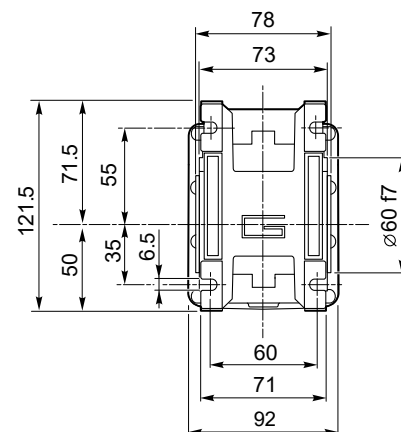
Dimensioni

Dimensions

ECMB600/402 U



**Kg**  
10.5



BE11

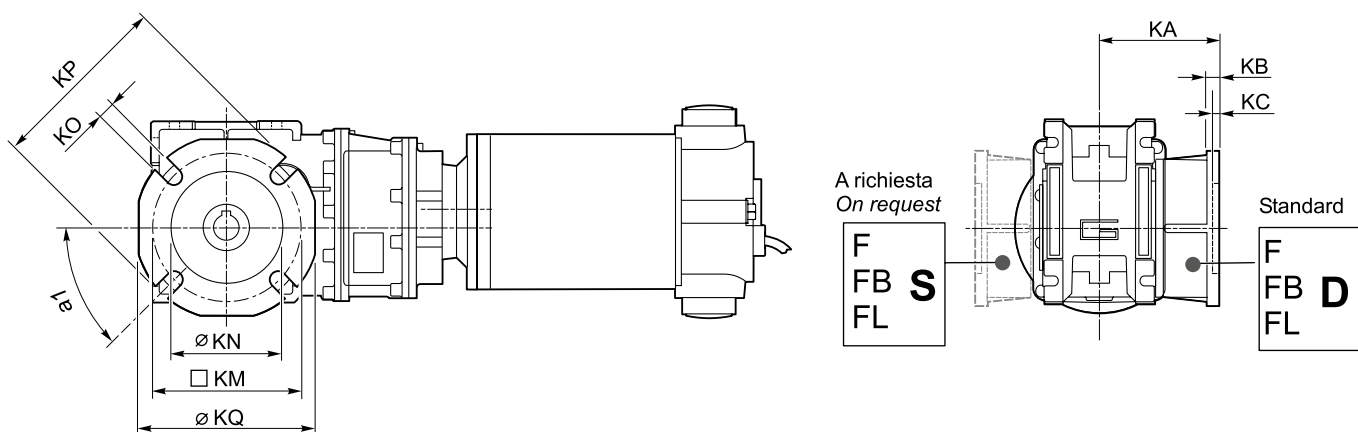


BB23



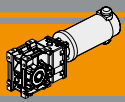
BC12

NDCMB.../ F... - ECMB.../... F... Flange uscita / Output flanges



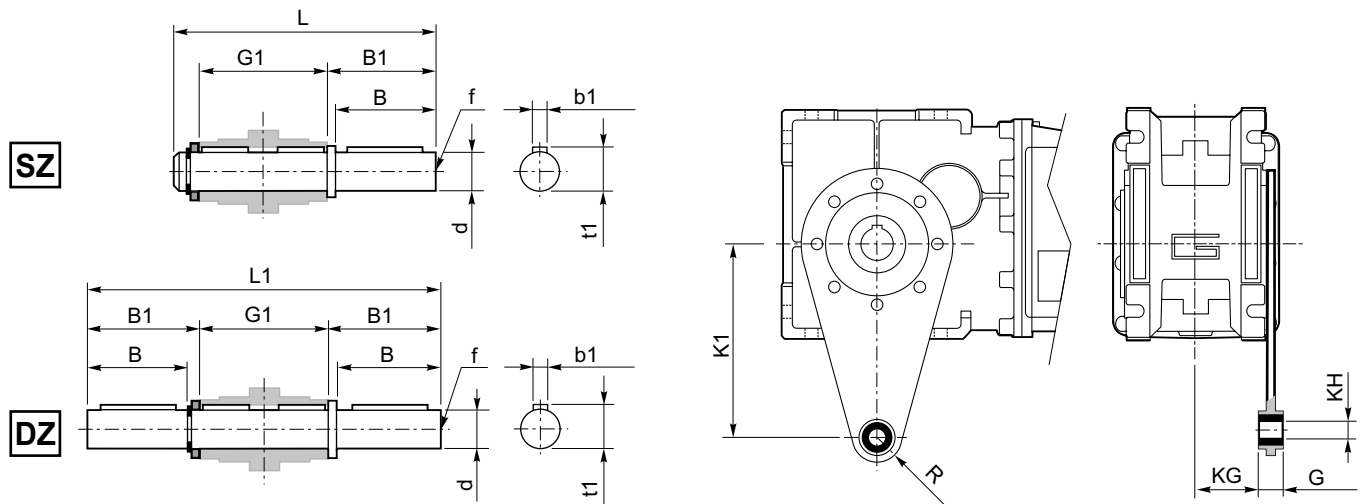
CMB	Flange uscita / Output flanges																										
	F					FL					FB																
	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ
402	45°	67	7.5	4.5	80-95	60	9	110	95	45°	97	7.5	4.5	80-95	60	9	110	95	45°	80	8.5	5	115-125	95	9.5	140	112

DC



**Accessori**

**Accessories**



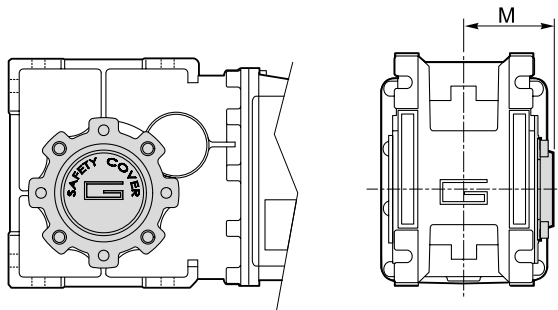
Albero lento / Output shaft

Braccio di reazione / Torque arm

CMB	d h7	B	B1	G1	L	L1	f	b1	t1
<b>402</b>	18	40	43	78	128	164	M6	6	20.5

CMB	K1	G	KG	KH	R
<b>402</b>	100	14	31	10	18

**SC - Safety cover**

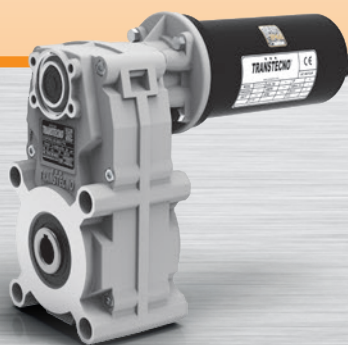


CMB	M
<b>402</b>	54.5

**MINI**  **TECNO**™  
**small** but strong

**NDFT**  
**ECFT**

Motoriduttori CC pendolari  
DC Helical parallel gearmotors



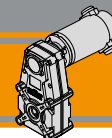
**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC



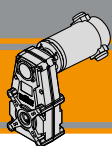




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Designazione	<i>Classification</i>	<b>BF2</b>
Sensi di rotazione	<i>Direction of rotation</i>	<b>BF3</b>
Simbologia	<i>Symbols</i>	<b>BF3</b>
Lubrificazione	<i>Lubrication</i>	<b>BF3</b>
Carichi radiali	<i>Radial loads</i>	<b>BF4</b>
Dati tecnici	<i>Technical data</i>	<b>BF5</b>
Motori applicabili	<i>Motor adapters</i>	<b>BF6</b>
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**NDFT  
ECFT**

# Motoriduttori CC pendolari DC Helical parallel gearmotors



## Caratteristiche tecniche

## Technical features

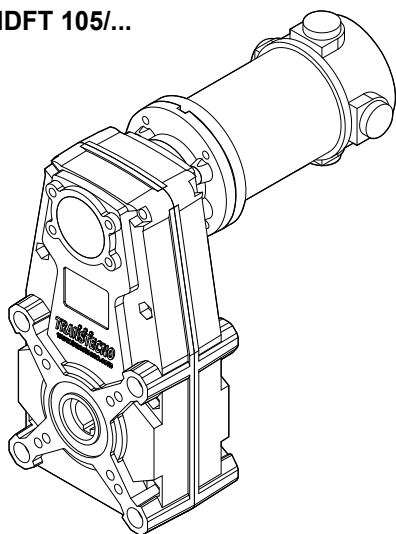
I motoriduttori CC pendolari a magneti permanenti in neodimio **NDFT** e in ferrite **ECFT** hanno le seguenti caratteristiche principali:

**NDFT** neodymium permanent magnets and **ECFT** ferrite permanent magnets DC helical parallel gearmotors range has the following main features:

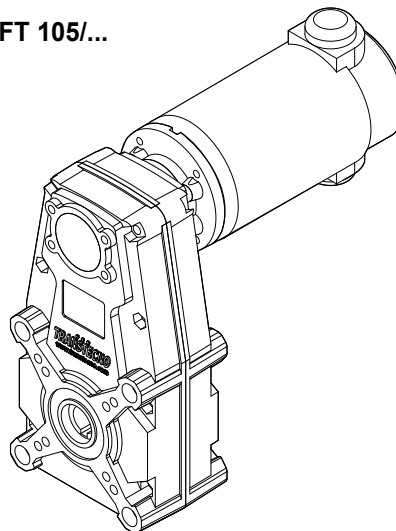
- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 800W S2
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Ingranaggi cilindrici a denti elicoidali.

- Low voltage power supply 12/24 Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 160 to 250W S2
- Die-cast aluminum housing
- Permanent synthetic oil long-life lubrication
- helical gears.

**NDFT 105/...**

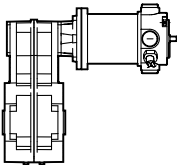


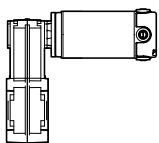
**ECFT 105/...**

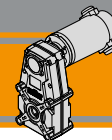


## Designazione

## Classification

MOTORIDUTTORE / GEARMOTOR					
<b>NDFT</b>	<b>120/146</b>	<b>U</b>	<b>60.63</b>	<b>O20</b>	<b>240</b>
Tipo Type	Grandezza Size	Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Versione Motore Motor Version
<b>NDFT</b> 	<b>120/105/3</b> <b>120/105/4</b> <b>180/105/3</b>	<b>U...</b>	Vedere tabella  See tables	Vedere tabella  See tables	<b>120</b>  <b>240</b>

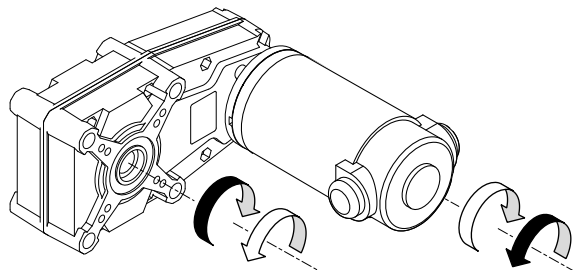
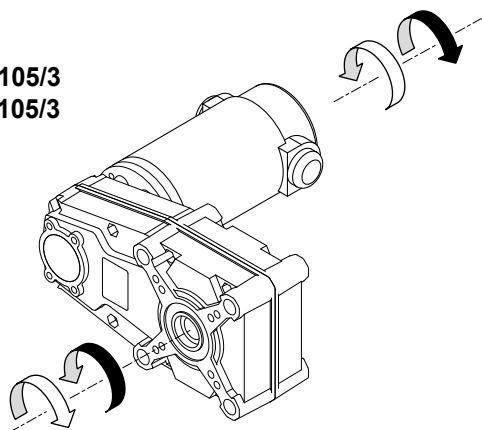
MOTORIDUTTORE / GEARMOTORS					
<b>ECFT</b>	<b>180/146</b>	<b>U</b>	<b>60.63</b>	<b>O20</b>	<b>B5</b>
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft	Versione motore Motor version
<b>ECFT</b> 	<b>070/105/3</b> <b>070/105/4</b> <b>100/105/3</b> <b>180/105/3</b>	<b>U...</b>	vedi tabelle see tables	vedi tabelle see tables	<b>120</b> <b>240</b> <b>12E</b> <b>24E</b>



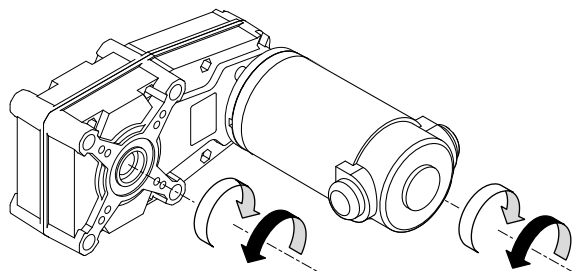
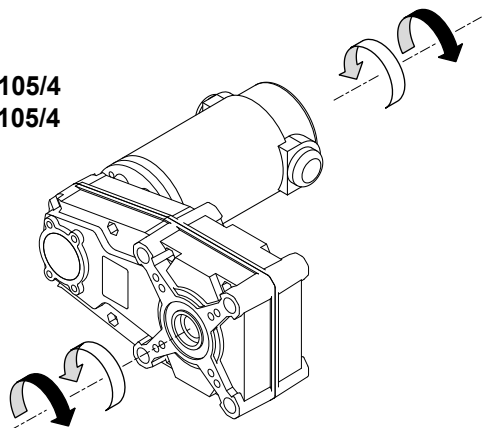
Sensi di rotazione

Direction of rotation

NDFT 105/3  
ECFT 105/3



NDFT 105/4  
ECFT 105/4



Simbologia

Symbols

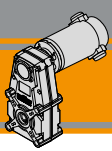
$n_1$	[ $\text{min}^{-1}$ ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[ $\text{min}^{-1}$ ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[kW]	Potenza nominale in entrata / <i>Nominal input power</i>
$M_{n2}$	[Nm]	Coppia nominale in uscita in funzione di $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>

Lubrificazione

Lubrication

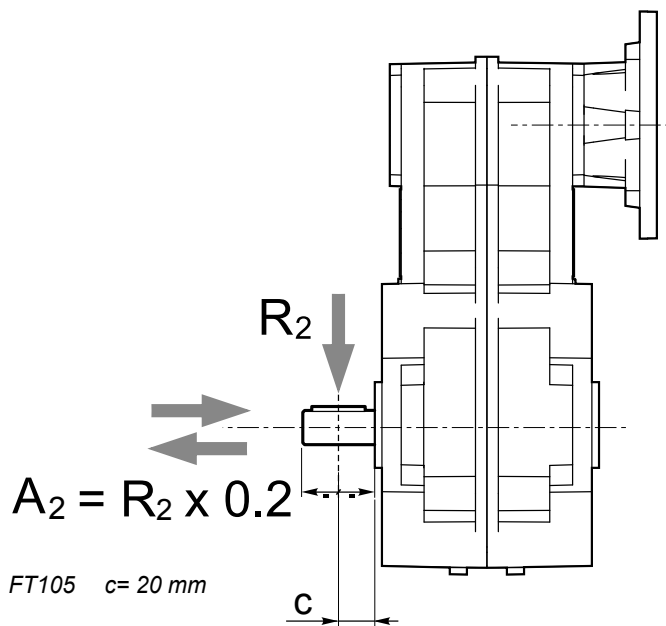
Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

*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

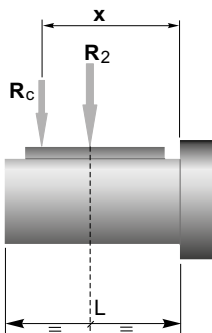
Radial loads



$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]
	FT105
70	1500
40	1700
30	1850
20	2000
10	2000
5	2000

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

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

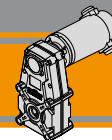




	FT105
a	82
b	62
$R_{2MAX}$	2000

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

$$R \leq R_c$$

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


**Dati tecnici**
**NDFT**
**Technical data**

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>160</b>							<b>250</b>						
(3000 min <sup>-1</sup> )	<b>146</b>	10	3.2	20.57	<b>120/105/3</b>	120/240	(3000 min <sup>-1</sup> )	<b>146</b>	15	2.0	20.57	<b>180/105/3</b>	120/240
	<b>90</b>	16	2.4	33.32									
	<b>68</b>	21	2.4	44.36									
	<b>55</b>	26	1.9	54.87									
	<b>42</b>	34	1.5	71.84									
	<b>39</b>	37	1.4	77.07									
	<b>34</b>	43	1.2	88.87									
	<b>24</b>	60	0.8	124.81									
	<b>17</b>	86	0.6	181.35									
	<b>13</b>	86	0.6	224.32									
	<b>9.5</b>	86	0.6	315.05									
	<b>8.1</b>	86	0.6	368.19			<b>120/105/4</b>	120/240					
	<b>5.6</b>	86	0.6	534.98									
	<b>4.5</b>	86	0.6	661.76									
	<b>3.2</b>	86	0.6	929.40									



**NOTA**

Verificare sempre che la coppia  $M_2$  utilizzata non ecceda il valore indicato nelle caselle in grigio

**NOTE**

Please check that the output torque  $M_2$  does not exceed the value in the grey areas

**Dati tecnici**
**ECFT**
**Technical data**

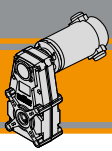
$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>100</b>							<b>250</b>						
(3000 min <sup>-1</sup> )	<b>146</b>	6	5.1	20.57	<b>070/105/3</b>	<b>12E/24E</b>	(3000 min <sup>-1</sup> )	<b>146</b>	15	2.0	20.57	<b>180/105/3</b>	<b>120/240</b>
	<b>90</b>	10	3.9	33.32									
	<b>68</b>	13	3.8	44.36									
	<b>55</b>	16	3.1	54.87									
	<b>42</b>	21	2.4	71.84									
	<b>39</b>	23	2.2	77.07									
	<b>34</b>	27	1.9	88.87									
	<b>24</b>	37	1.4	124.81									
	<b>17</b>	54	0.9	181.35									
	<b>13</b>	67	0.8	224.32									
	<b>9.5</b>	86	0.6	315.05									
	<b>8.1</b>	86	0.6	368.19			<b>070/105/4</b>	<b>12E/24E</b>					
	<b>5.6</b>	86	0.6	534.98									
	<b>4.5</b>	86	0.6	661.76									
	<b>3.2</b>	86	0.6	929.40									
<b>140</b>													
(3000 min <sup>-1</sup> )	<b>146</b>	9	3.6	20.57	<b>100/105/3</b>	<b>120/240/24E</b>							
	<b>90</b>	14	2.8	33.32									
	<b>68</b>	19	2.7	44.36									
	<b>55</b>	23	2.2	54.87									
	<b>42</b>	30	1.7	71.84									
	<b>39</b>	32	1.6	77.07									
	<b>34</b>	37	1.4	88.87									
	<b>24</b>	52	1.0	124.81									
	<b>16.5</b>	76	0.7	181.35									

**NOTA**

Verificare sempre che la coppia  $M_2$  utilizzata non ecceda il valore indicato nelle caselle in grigio

**NOTE**

Please check that the output torque  $M_2$  does not exceed the value in the grey areas



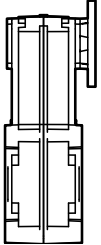
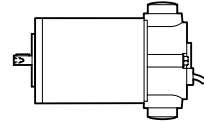
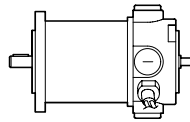
**NDFT  
ECFT**

**Motoriduttori CC pendolari  
DC Helical parallel gearmotors**



**Motori applicabili**

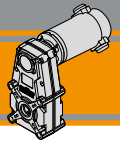
**Motor adapters**



		ND		EC		
		120.120 120.240	180.120 180.240	070.12E 070.24E	100.120 100.240 100.24E	180.120 180.240
<b>FT</b>	105/3	20.57 - 315.05				
	105/4	368.19 - 929.4				

20.57 - 315.05

Rapporti di riduzione  $i$   
Ratio  $i$

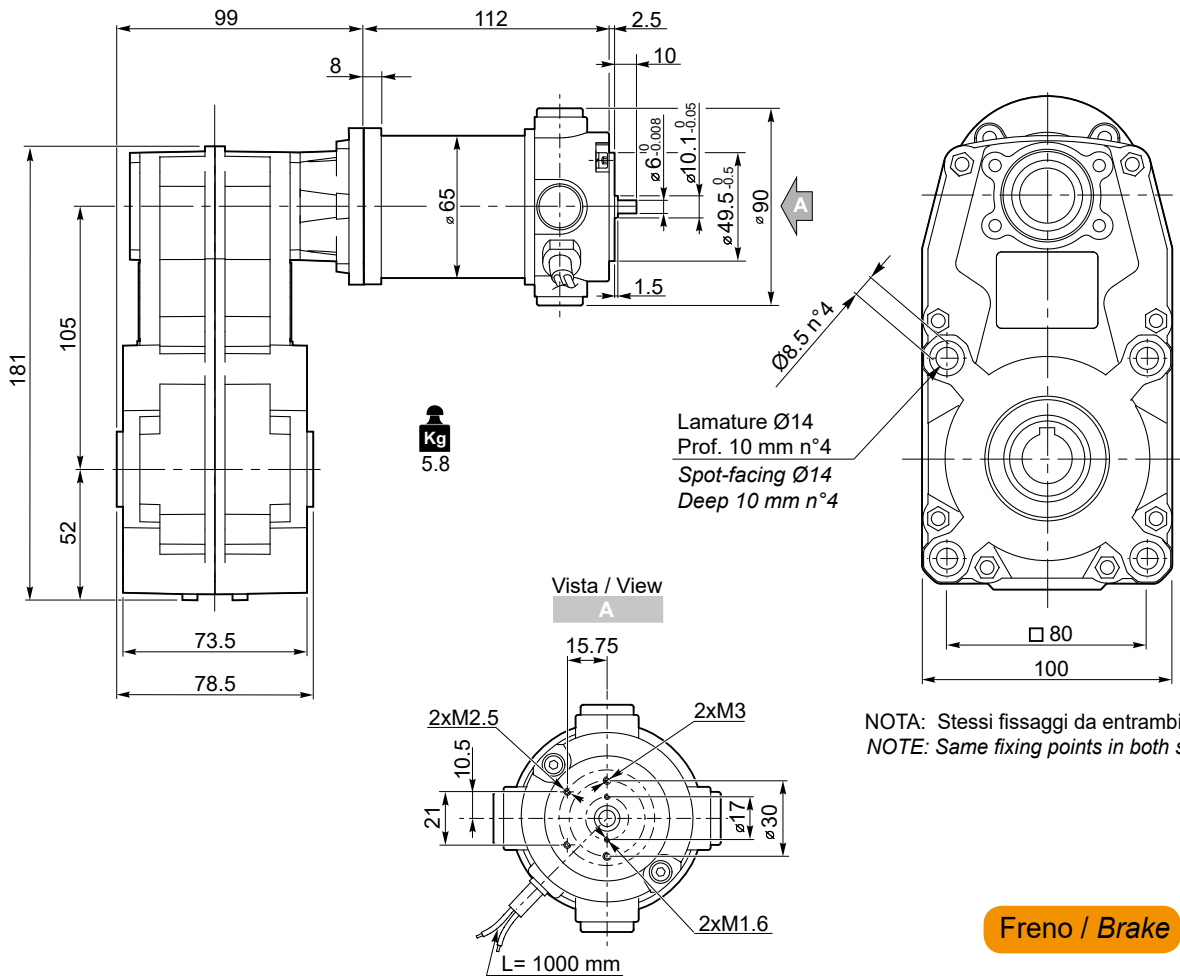


Dimensioni

Dimensions

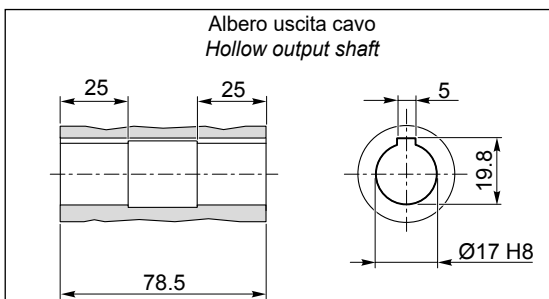
**NDFT 120/105**

**NDFT 120/105...U**

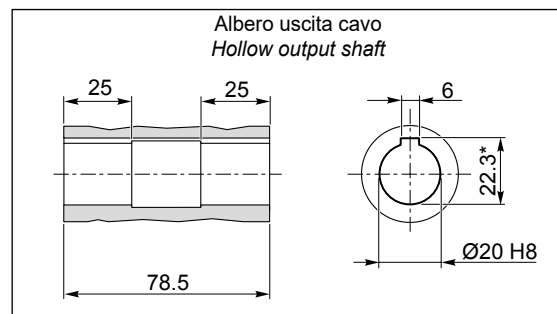


- Freno / Brake** → BA9
- Encoder** → BA9

**O17**

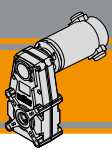


**O20**



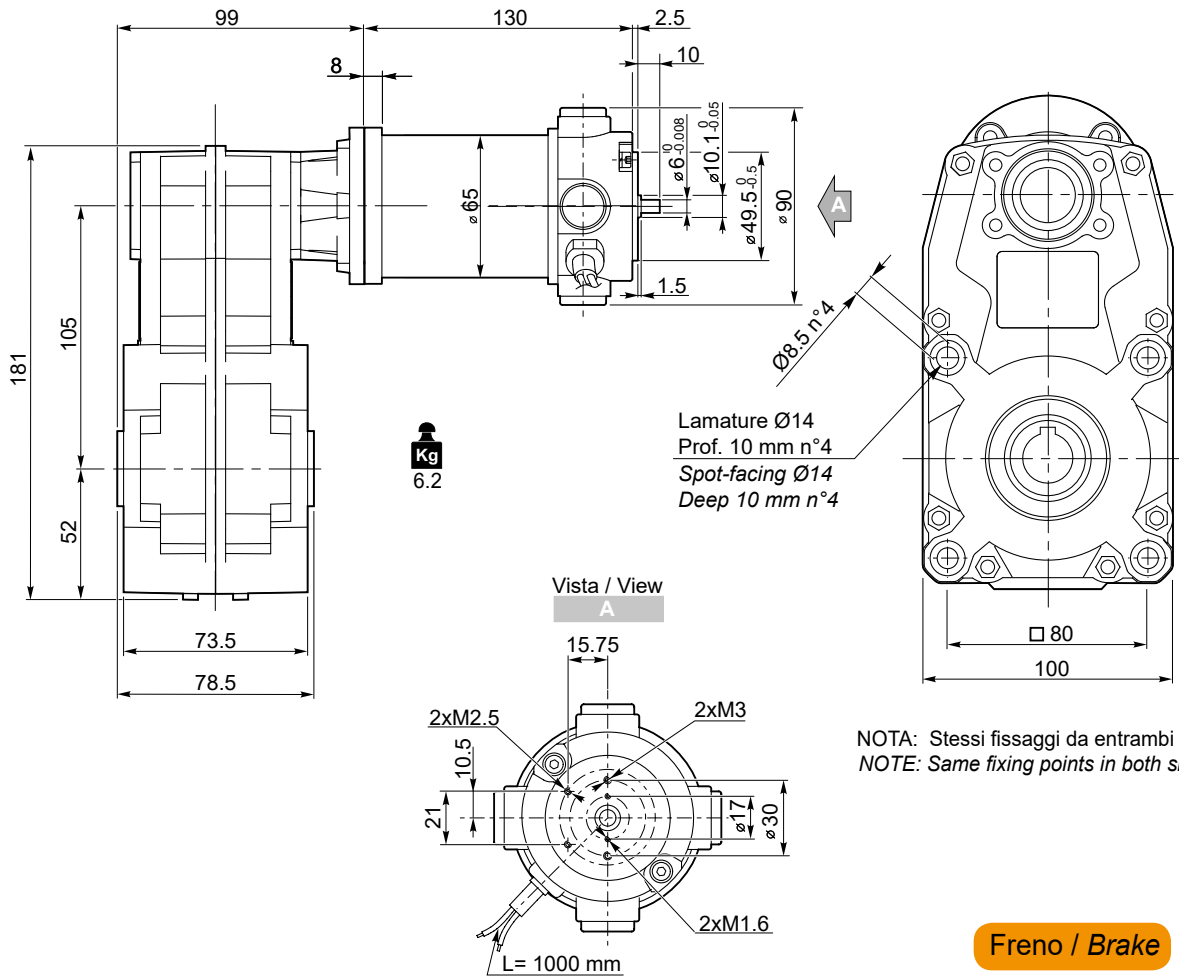
\*: Sede linguetta ribassata / Special keyway

DC



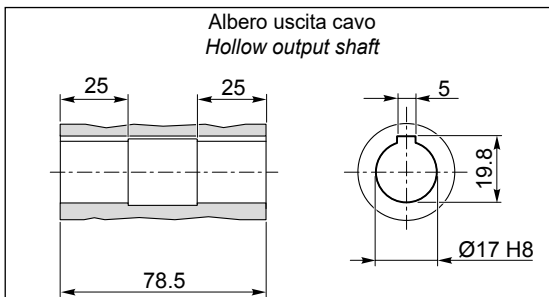
## NDFT 180/105

### NDFT 180/105...U

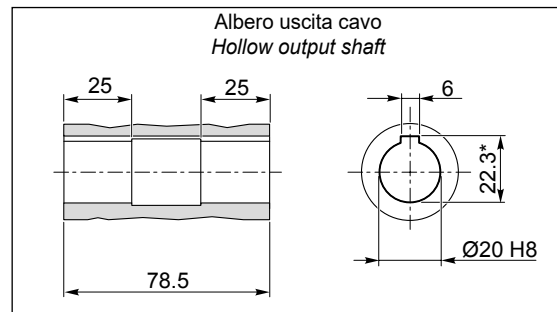


- Freno / Brake → BA9
- Encoder → BA9

### O17

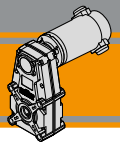


### O20



\*: Sede linguetta ribassata / Special keyway



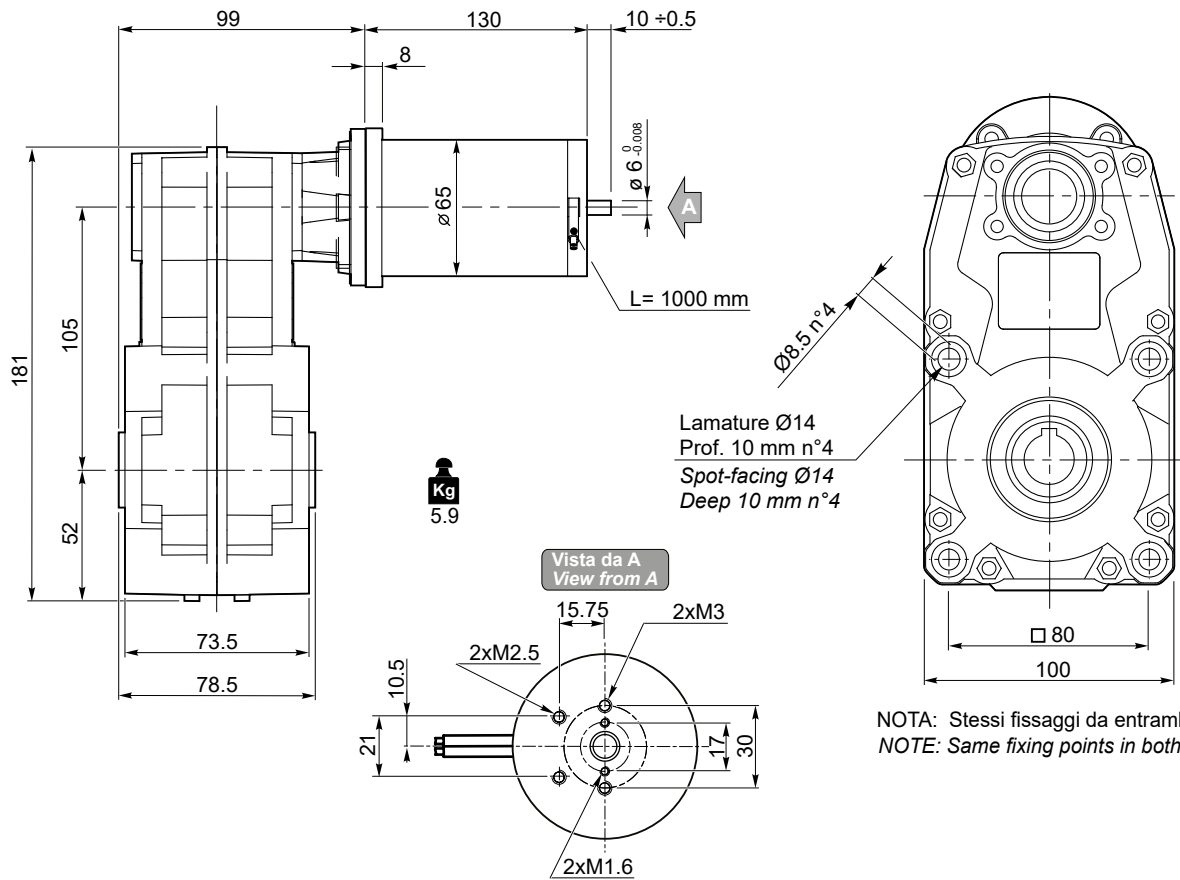


Dimensioni

Dimensions

ECFT 070/105

ECFT 070/105...U

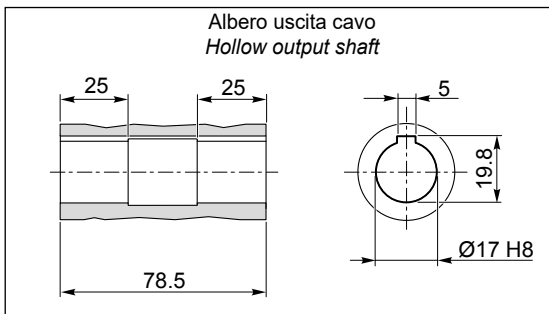


Freno / Brake → BB23

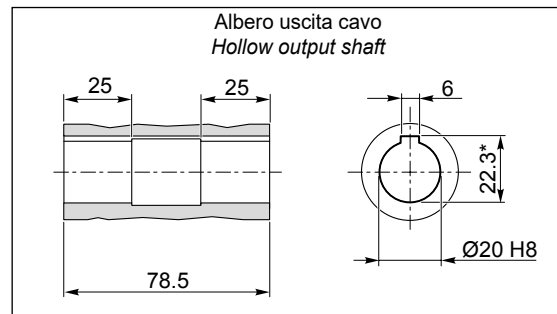
Encoder → BB24

Motori / Motors IP66 → BC2

O17

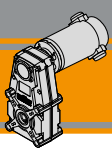


O20



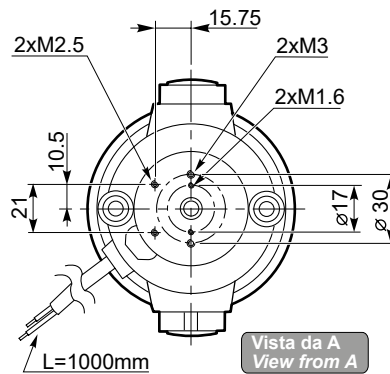
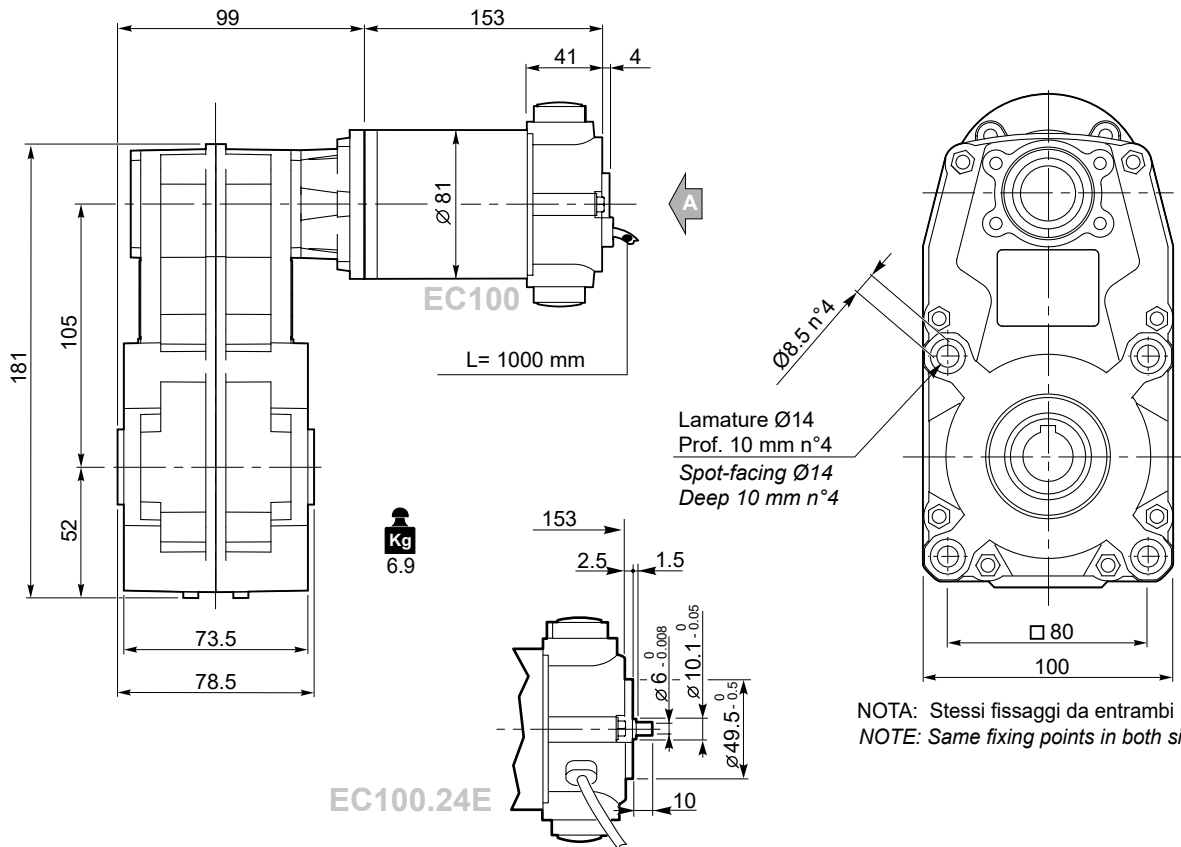
\*: Sede linguetta ribassata / Special keyway

DC



### ECFT 100/105

#### ECFT 100/105...U

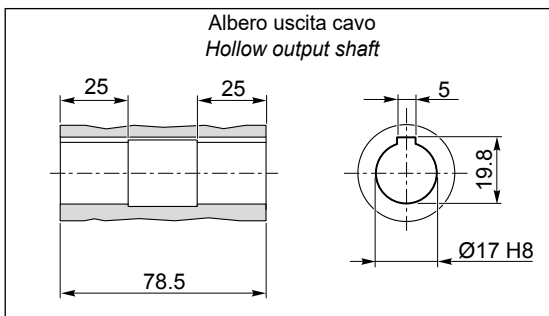


Freno / Brake → [BB23](#)

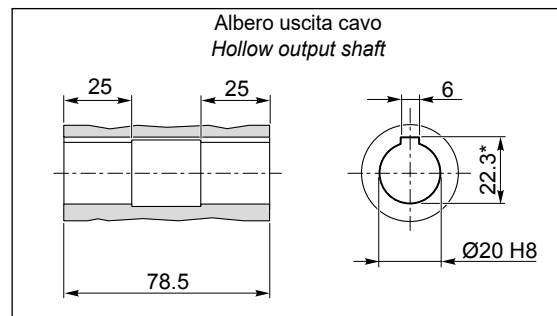
Encoder → [BB24](#)

Motori / Motors IP66 → [BC4](#)

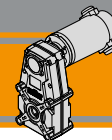
#### O17



#### O20



\*: Sede linguetta ribassata / Special keyway

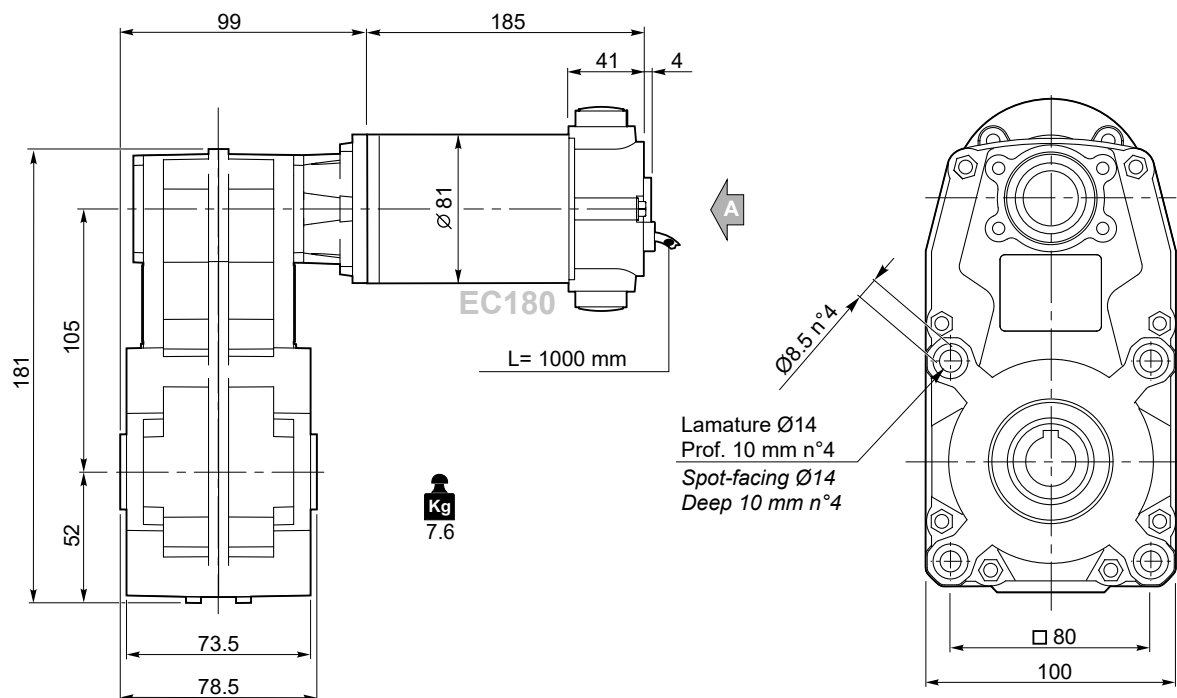


Dimensioni

Dimensions

**ECFT 180/105**

**ECFT 180/105...U**

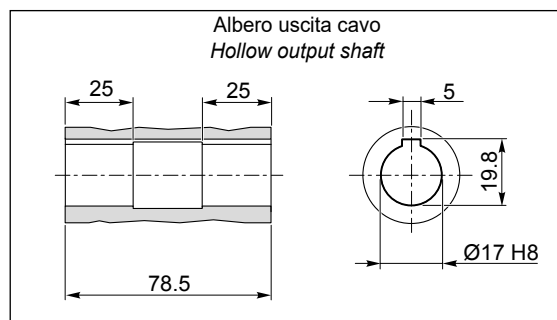


Lamature  $\varnothing 14$   
Prof. 10 mm n°4  
Spot-facing  $\varnothing 14$   
Deep 10 mm n°4

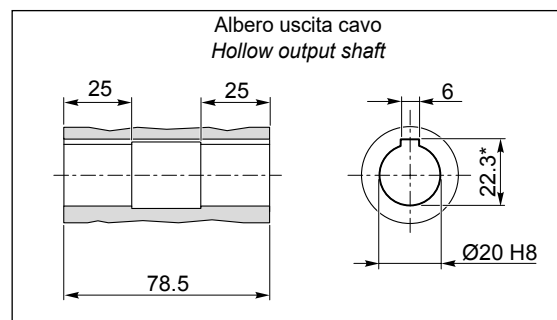
NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

- Freno / Brake → BB23
- Encoder → BB24
- Motori / Motors IP66 → BC6

**O17**



**O20**



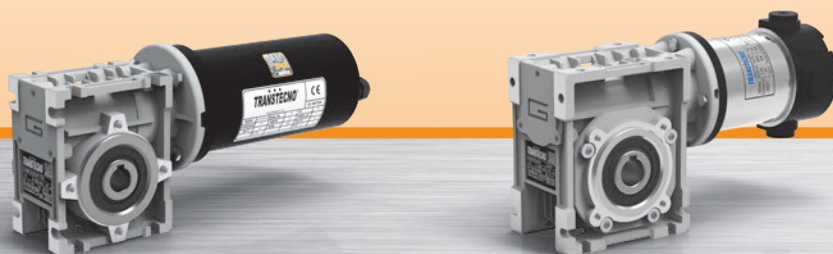
\*: Sede linguetta ribassata / Special keyway



**MINI**  **TECNO**™  
**small** but strong

**NDCM**  
**ECM**

Motoriduttori CC a vite senza fine  
DC wormgearmotors

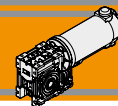


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC

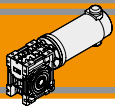




<b>Indice</b>	<b>Index</b>	Pag. Page
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Designazione	<i>Classification</i>	<b>BG2</b>
Simbologia	<i>Symbols</i>	<b>BG3</b>
Lubrificazione	<i>Lubrication</i>	<b>BG3</b>
Carichi radiali	<i>Radial loads</i>	<b>BG3</b>
Dati di dentatura	<i>Toothing data</i>	<b>BG4</b>
Rendimento	<i>Efficiency</i>	<b>BG4</b>
Dati tecnici per servizio S2	<i>Technical data for S2 duty</i>	<b>BG5</b>
Motori applicabili	<i>Motor adapters</i>	<b>BG8</b>
Dimensioni	<i>Dimensions</i>	<b>BG8</b>
Opzioni	<i>Options</i>	<b>BG23</b>
Accessori	<i>Accessories</i>	<b>BG24</b>

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Caratteristiche tecniche

Technical features

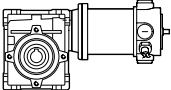
I motoriduttori CC a vite senza fine a magneti permanenti in neodimio **NDCM** e in ferrite **ECM** hanno le seguenti caratteristiche principali:

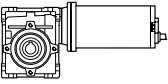
**NDCM** neodymium permanent magnets and **ECM** ferrite permanent magnets DC wormgearmotors range has the following main features:

- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 800 W S2
- Carcasce dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Low voltage power supply 12/24 Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 100 to 800 W S2
- Die-cast aluminum housing
- Permanent synthetic oil long life lubrication

Designazione

Classification

MOTORIDUTTORE / GEARMOTOR									
NDCM	120/030		U	10	SZDX	BRSX	90	240	VS
Tipo Type	Grandezza Size		Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Versione Motore Motor Version	Opzioni Options
	120/026	180/026	U F...	Vedere tabella See tables	SZDX SZSX DZ	BRDX BRSX  *	0° 90° 180° 270°	120 — 240	VS
	120/026 (D11)	180/026 (D11)							
	120/026 (D14)	180/026 (D14)							
	120/030	180/030							
	120/040	180/040							

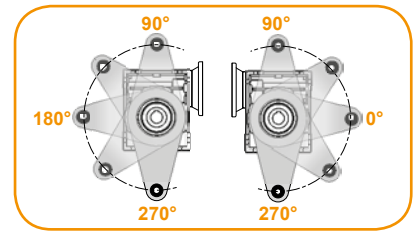
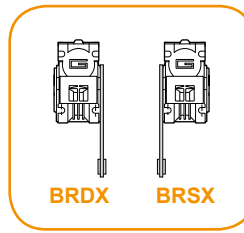
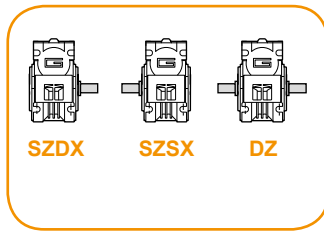
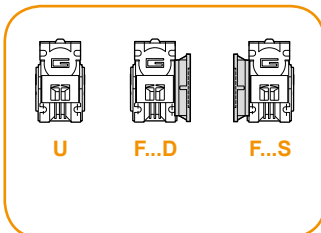
MOTORIDUTTORE / GEARMOTOR												
ECM	070/026					U	10	SZDX	BRSX	90	240	VS
Tipo Type	Grandezza Size					Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Versione Motore Motor Version	Opzioni Options
	035/026	070/026	100/026	180/026	250/030	U F...	Vedere tabella See tables	SZDX SZSX DZ	BRDX BRSX  *	0° 90° 180° 270°	120	VS
	035/026 (D11)	070/026 (D11)	100/026 (D11)	180/026 (D11)	250/040							
	035/026 (D14)	070/026 (D14)	100/026 (D14)	180/026 (D14)								
	035/030	070/030	100/030	180/030	350/030							
			100/040	180/040	350/040							
	050/026				600/040							
050/026 (D11)												
050/026 (D14)												
050/030												

Versione Riduttore  
Gearbox Version

Albero di uscita  
Output shaft

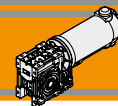
Braccio di reazione  
Torque arm \*

Angolo  
Angle



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





## Simbologia

## Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>	$R_d$ %	Rendimento dinamico / <i>Dynamic efficiency</i>
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>	$A_2$ [N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$i$	Rapporto di riduzione / <i>Ratio</i>	$R_s$ %	Rendimento statico / <i>Static efficiency</i>
$P_1$ [kW]	Potenza in entrata / <i>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 <math>P_1</math></i>	$Z$	Numero di principi della vite / <i>Worm starts</i>
$sf$	Fattore di servizio / <i>Service factor</i>	$\beta$	Angolo d'elica / <i>Helix angle</i>

## Lubrificazione

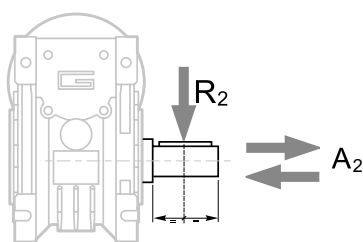
## Lubrication

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.*

## Carichi radiali

## Radial loads

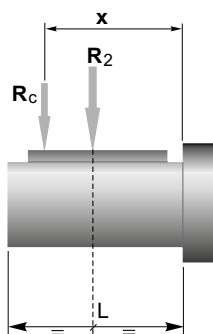


$$A_2 = R_2 \times 0.2$$

$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]		
	CM026	CM030	CM040
187	400	674	1264
140	490	743	1392
93	580	851	1596
70	610	936	1754
56	610	1008	1890
47	610	1069	2004
35	610	1179	2210
28	610	1270	2381
23	610	1356	2542
18	610	1471	2759
14	610	1600	3000

Quando il carico radiale risultante non è applicato sulla mezzera 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:*

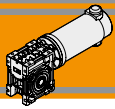


$$R_c = \frac{R_2 \cdot a}{(b + x)} \leq R_{2MAX}$$

$$R \leq R_c$$

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

	CM		
	026	030	040
<b>a</b>	56	65	84
<b>b</b>	43	50	64
<b>R<sub>2MAX</sub></b>	610	1600	3000



**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		
	$\beta$	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
	$\beta$	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
	$\beta$	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'

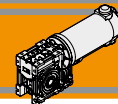
**Rendimento**

**Efficiency**

	$n_1$ [min <sup>-1</sup> ]	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	
CM040	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	



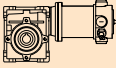
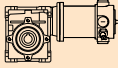
**Rendimento teorico del riduttore dopo il rodaggio**  
*Theoretical efficiency of the gearbox after the first running period*



Dati tecnici per servizio S2

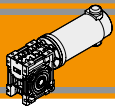
NDCM

Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version
<b>160</b>							<b>250</b>						
(3000 min <sup>-1</sup> )	<b>600</b>	2	4.4	5	<b>120/026</b>	<b>120/240</b>	(3000 min <sup>-1</sup> )	<b>600</b>	4	2.8	5	<b>180/026</b>	<b>120/240</b>
	<b>400</b>	3	3.3	7.5	<b>120/026</b>			<b>400</b>	5	2.1	7.5	<b>180/026</b>	
	<b>300</b>	4	2.5	10	<b>120/026</b>			<b>300</b>	7	1.6	10	<b>180/026</b>	
	<b>200</b>	6	1.7	15	<b>120/026</b>			<b>200</b>	10	1.1	15	<b>180/026</b>	
	<b>150</b>	8	1.3	20	<b>120/026</b>			<b>150</b>	13	0.9	20	<b>180/026</b>	
	<b>100</b>	11	1.1	30	<b>120/026</b>			<b>100</b>	17	0.7	30	<b>180/026</b>	
	<b>75</b>	14	0.8	40	<b>120/026</b>			<b>75</b>	16	0.7	40	<b>180/026</b>	
	<b>60</b>	14	0.7	50	<b>120/026</b>			<b>60</b>	14	0.7	50	<b>180/026</b>	
	<b>50</b>	13	0.7	60	<b>120/026</b>			<b>50</b>	13	0.7	60	<b>180/026</b>	
	<b>600</b>	2	5.7	5	<b>120/030</b>	<b>120/240</b>		<b>600</b>	4	3.7	5	<b>180/030</b>	<b>120/240</b>
	<b>400</b>	3	4.5	7.5	<b>120/030</b>			<b>400</b>	5	2.9	7.5	<b>180/030</b>	
	<b>300</b>	4	3.7	10	<b>120/030</b>			<b>300</b>	7	2.3	10	<b>180/030</b>	
	<b>200</b>	6	2.5	15	<b>120/030</b>			<b>200</b>	10	1.6	15	<b>180/030</b>	
	<b>150</b>	8	1.7	20	<b>120/030</b>			<b>150</b>	13	1.1	20	<b>180/030</b>	
	<b>120</b>	10	1.5	25	<b>120/030</b>			<b>120</b>	16	1.0	25	<b>180/030</b>	
	<b>100</b>	11	1.6	30	<b>120/030</b>			<b>100</b>	18	1.0	30	<b>180/030</b>	
	<b>75</b>	14	1.1	40	<b>120/030</b>			<b>75</b>	22	0.7	40	<b>180/030</b>	
	<b>60</b>	17	0.9	50	<b>120/030</b>			<b>60</b>	21	0.7	50	<b>180/030</b>	
	<b>50</b>	20	0.7	60	<b>120/030</b>			<b>50</b>	20	0.7	60	<b>180/030</b>	
	<b>38</b>	17	0.7	80	<b>120/030</b>			<b>38</b>	17	0.7	80	<b>180/030</b>	
	<b>30</b>	16	0.7	100	<b>120/030</b>			<b>30</b>	16	0.7	100	<b>180/030</b>	
	<b>150</b>	8	3.7	20	<b>120/040</b>	<b>120/240</b>		<b>600</b>	4	8.1	5	<b>180/040</b>	<b>120/240</b>
	<b>120</b>	10	2.7	25	<b>120/040</b>			<b>400</b>	5	5.8	7.5	<b>180/040</b>	
	<b>100</b>	12	3.2	30	<b>120/040</b>			<b>300</b>	7	4.8	10	<b>180/040</b>	
	<b>75</b>	15	2.3	40	<b>120/040</b>			<b>200</b>	10	3.5	15	<b>180/040</b>	
	<b>60</b>	18	1.8	50	<b>120/040</b>			<b>150</b>	13	2.3	20	<b>180/040</b>	
	<b>50</b>	20	1.4	60	<b>120/040</b>			<b>120</b>	16	1.8	25	<b>180/040</b>	
	<b>38</b>	24	1.1	80	<b>120/040</b>			<b>100</b>	18	2.1	30	<b>180/040</b>	
	<b>30</b>	29	0.8	100	<b>120/040</b>			<b>75</b>	23	1.5	40	<b>180/040</b>	
								<b>60</b>	27	1.2	50	<b>180/040</b>	
								<b>50</b>	32	0.9	60	<b>180/040</b>	
								<b>38</b>	38	0.7	80	<b>180/040</b>	
								<b>30</b>	34	0.7	100	<b>180/040</b>	

N.B.  
Verificare sempre che la coppia  $M_2$  utilizzata non ecceda il valore indicato nelle caselle in grigio



N.B.  
Please check that the output torque  $M_2$  does not exceed the value in the grey areas



### Dati tecnici per servizio S2

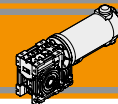
### ECM

### Technical data for S2 duty

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version	P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
<b>55</b>							<b>100</b>						
(3000 min <sup>-1</sup> )	<b>600</b>	0.8	12.8	5	<b>ECM035/026</b>	120/240	(3000 min <sup>-1</sup> )	<b>600</b>	1.4	7.1	5	<b>ECM070/026</b>	12E/24E
	<b>400</b>	1.1	9.6	7.5				<b>400</b>	2.1	5.3	7.5		
	<b>300</b>	1.5	7.4	10				<b>300</b>	2.7	4.1	10		
	<b>200</b>	2.2	5.0	15				<b>200</b>	4.0	2.8	15		
	<b>150</b>	2.8	3.9	20				<b>150</b>	5.1	2.2	20		
	<b>100</b>	3.8	3.1	30				<b>100</b>	7.0	1.7	30		
	<b>75</b>	4.8	2.3	40				<b>75</b>	8.7	1.3	40		
	<b>60</b>	5.6	1.8	50				<b>60</b>	10	1.0	50		
	<b>50</b>	6.3	1.4	60				<b>50</b>	11	0.8	60		
	<b>600</b>	0.8	16.7	5			<b>ECM035/030</b>	120/240	<b>600</b>	1.4	9.2		
	<b>400</b>	1.2	13.0	7.5		<b>400</b>			2.1	7.1	7.5		
	<b>300</b>	1.5	10.6	10		<b>300</b>			2.7	5.8	10		
	<b>200</b>	2.2	7.3	15		<b>200</b>			4.0	4.0	15		
	<b>150</b>	2.8	4.9	20		<b>150</b>			5.2	2.7	20		
	<b>120</b>	3.4	4.4	25		<b>120</b>			6.2	2.4	25		
	<b>100</b>	3.9	4.6	30		<b>100</b>			7.1	2.5	30		
	<b>75</b>	4.9	3.3	40		<b>75</b>			8.9	1.8	40		
	<b>60</b>	5.7	2.6	50		<b>60</b>			10	1.4	50		
	<b>50</b>	6.5	2.1	60		<b>50</b>			12	1.2	60		
	<b>38</b>	8.0	1.5	80		<b>38</b>	15	0.8	80				
	<b>30</b>	9.1	1.2	100		<b>30</b>	17	0.7	100				
<b>70</b>							<b>140</b>						
(3000 min <sup>-1</sup> )	<b>600</b>	1.0	10.1	5	<b>ECM050/026</b>	120/240	(3000 min <sup>-1</sup> )	<b>600</b>	2.0	5.0	5	<b>ECM100/026</b>	120/240/24E
	<b>400</b>	1.5	7.6	7.5				<b>400</b>	2.9	3.8	7.5		
	<b>300</b>	1.9	5.8	10				<b>300</b>	3.8	2.9	10		
	<b>200</b>	2.8	4.0	15				<b>200</b>	5.5	2.0	15		
	<b>150</b>	3.6	3.1	20				<b>150</b>	7.1	1.5	20		
	<b>100</b>	4.9	2.5	30				<b>100</b>	10	1.2	30		
	<b>75</b>	6.1	1.8	40				<b>75</b>	12	0.9	40		
	<b>60</b>	7.1	1.4	50				<b>60</b>	14	0.7	50		
	<b>50</b>	8.0	1.1	60				<b>50</b>	13	0.7	60		
	<b>600</b>	1.0	13.1	5			<b>ECM050/030</b>	120/240	<b>200</b>	5.6	2.8		
	<b>400</b>	1.5	10.2	7.5		<b>150</b>			7.2	1.9	20		
	<b>300</b>	1.9	8.3	10		<b>120</b>			8.7	1.7	25		
	<b>200</b>	2.8	5.7	15		<b>100</b>			10	1.8	30		
	<b>150</b>	3.6	3.9	20		<b>75</b>			12	1.3	40		
	<b>120</b>	4.3	3.5	25		<b>60</b>			14	1.0	50		
	<b>100</b>	4.9	3.6	30		<b>50</b>			17	0.8	60		
	<b>75</b>	6.2	2.6	40		<b>38</b>			17	0.7	80		
	<b>60</b>	7.2	2.1	50		<b>30</b>			16	0.7	100		
	<b>50</b>	8.3	1.7	60		<b>100</b>			10	3.7	30	<b>ECM100/040</b> 120/240/24E	
	<b>38</b>	10.2	1.2	80		<b>75</b>	13	2.6	40				
	<b>30</b>	11.6	0.9	100		<b>60</b>	15	2.1	50				
						<b>50</b>	18	1.6	60				
						<b>38</b>	21	1.3	80				
						<b>30</b>	25	1.0	100				

NOTA  
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio

NOTE  
Please check that the output torque M2 does not exceed the value in the grey areas



Dati tecnici per servizio S2

ECM

Technical data for S2 duty

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
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P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
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250

(3000 min <sup>-1</sup> )	<b>600</b>	3.5	2.8	5	<b>ECM180/026</b>	120/240		
	<b>400</b>	5.2	2.1	7.5				
	<b>300</b>	6.8	1.6	10				
	<b>200</b>	10	1.1	15				
	<b>150</b>	13	0.9	20				
	<b>100</b>	17	0.7	30				
	<b>75</b>	16	0.7	40				
	<b>60</b>	14	0.7	50				
	<b>50</b>	13	0.7	60				
	<b>600</b>	3.5	3.7	5				
	<b>400</b>	5.3	2.9	7.5				
	<b>300</b>	6.8	2.3	10				
	<b>200</b>	10	1.6	15				
	<b>150</b>	13	1.1	20				
	<b>120</b>	16	1.0	25				
	<b>100</b>	18	1.0	30				
	<b>75</b>	22	0.7	40				
<b>60</b>	21	0.7	50					
<b>50</b>	20	0.7	60					
<b>38</b>	17	0.7	80					
<b>30</b>	16	0.7	100					
	<b>600</b>	3.5	3.7	5	<b>ECM180/030</b>	120/240/24E		
	<b>400</b>	5.3	2.9	7.5				
	<b>300</b>	6.8	2.3	10				
	<b>200</b>	10	1.6	15				
	<b>150</b>	13	1.1	20				
	<b>120</b>	16	1.0	25				
	<b>100</b>	18	1.0	30				
	<b>75</b>	22	0.7	40				
	<b>60</b>	21	0.7	50				
	<b>50</b>	20	0.7	60				
	<b>38</b>	17	0.7	80				
	<b>30</b>	16	0.7	100				
	<b>200</b>	10	3.5	15			<b>ECM180/040</b>	120/240/24E
	<b>150</b>	13	2.3	20				
	<b>120</b>	16	1.8	25				
	<b>100</b>	18	2.1	30				
	<b>75</b>	23	1.5	40				
	<b>60</b>	27	1.2	50				
	<b>50</b>	32	0.9	60				
	<b>38</b>	38	0.7	80				
	<b>30</b>	34	0.7	100				

500

(3000 min <sup>-1</sup> )	<b>600</b>	7.1	1.8	5	<b>ECM350/030</b>	120/240
	<b>400</b>	11	1.4	7.5		
	<b>300</b>	14	1.2	10		
	<b>200</b>	20	0.8	15		
	<b>150</b>	20	0.7	20		
	<b>120</b>	21	0.7	25		
	<b>100</b>	26	0.7	30		
	<b>75</b>	23	0.7	40		
	<b>60</b>	21	0.7	50		
	<b>600</b>	7.2	4.0	5		
	<b>400</b>	11	2.9	7.5		
	<b>300</b>	14	2.4	10		
	<b>200</b>	20	1.7	15		
	<b>150</b>	26	1.2	20		
	<b>120</b>	32	0.9	25		
	<b>100</b>	37	1.0	30		
	<b>75</b>	46	0.7	40		
<b>60</b>	46	0.7	50			
<b>50</b>	41	0.7	60			
<b>38</b>	39	0.7	80			
<b>30</b>	34	0.7	100			

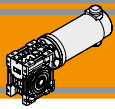
800

(3000 min <sup>-1</sup> )	<b>600</b>	11	2.5	5	<b>ECM600/040</b>	120/240
	<b>400</b>	17	1.8	7.5		
	<b>300</b>	22	1.5	10		
	<b>200</b>	32	1.1	15		
	<b>150</b>	42	0.7	20		
	<b>120</b>	40	0.7	25		
	<b>100</b>	54	0.7	30		
	<b>75</b>	49	0.7	40		

350

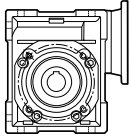
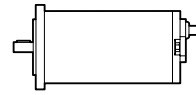
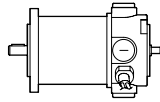
(3000 min <sup>-1</sup> )	<b>600</b>	5.0	2.6	5	<b>ECM250/030</b>	120/240
	<b>400</b>	7.4	2.0	7.5		
	<b>300</b>	10	1.7	10		
	<b>200</b>	14	1.1	15		
	<b>150</b>	18	0.8	20		
	<b>120</b>	22	0.7	25		
	<b>100</b>	25	0.7	30		
	<b>75</b>	22	0.7	40		
	<b>60</b>	21	0.7	50		
	<b>200</b>	14	2.5	15		
	<b>150</b>	18	1.7	20		
	<b>120</b>	22	1.3	25		
	<b>100</b>	26	1.5	30		
	<b>75</b>	33	1.0	40		
	<b>60</b>	38	0.8	50		
	<b>50</b>	44	0.7	60		
	<b>38</b>	38	0.7	80		
<b>30</b>	35	0.7	100			

N.B.  
Verificare sempre che la coppia M2 utilizzata non  
ecceda il valore indicato nelle caselle in grigio  
N.B.  
Please check that the output torque M2 does not  
exceed the value in the grey areas



**Motori applicabili**

**Motor adapters**



		ND		EC								
		120.120 120.240	180.120 180.240	035.12E 035.24E	050.12E 050.24E	070.12E 070.24E	100.120 100.240 100.24E	180.120 180.240	180.24E	250.120 250.240	350.120 350.240	600.120 600.240
<b>CM</b>	<b>026</b>	5-60	5-60	5-60	5-60	5-60	5-60	5-60				
	<b>030</b>	5-100	5-100	5-100	5-100	5-100	5-100	5-100	5-50	5-50	5-50	
	<b>040</b>	5-100	5-100				5-100	5-100	5-100	5-100	5-100	5-40

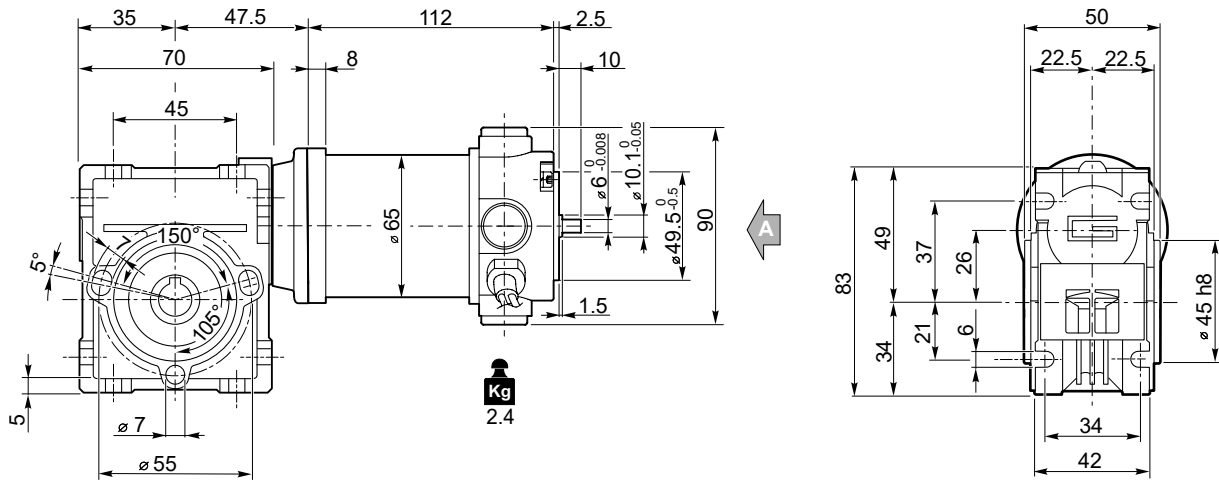
5-100

Rapporti di riduzione *i*  
Ratio *i*

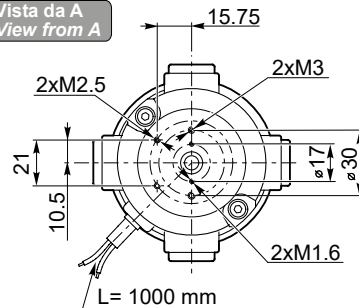
**Dimensioni**

**Dimensions**

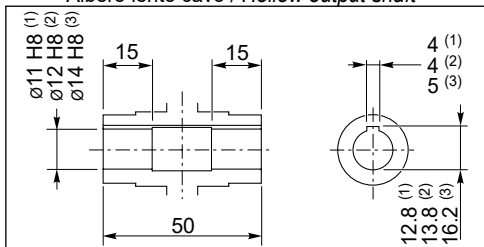
**NDCM120/026 U**



Vista da A  
View from A



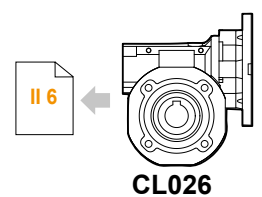
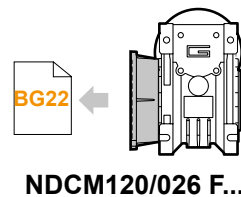
Albero lento cavo / Hollow output shaft

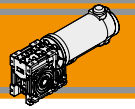


Freno / Brake → BA9

Encoder → BA9

- (1): NDCM 120/026 (D11)
- (2): NDCM 120/026
- (3): NDCM 120/026 (D14)

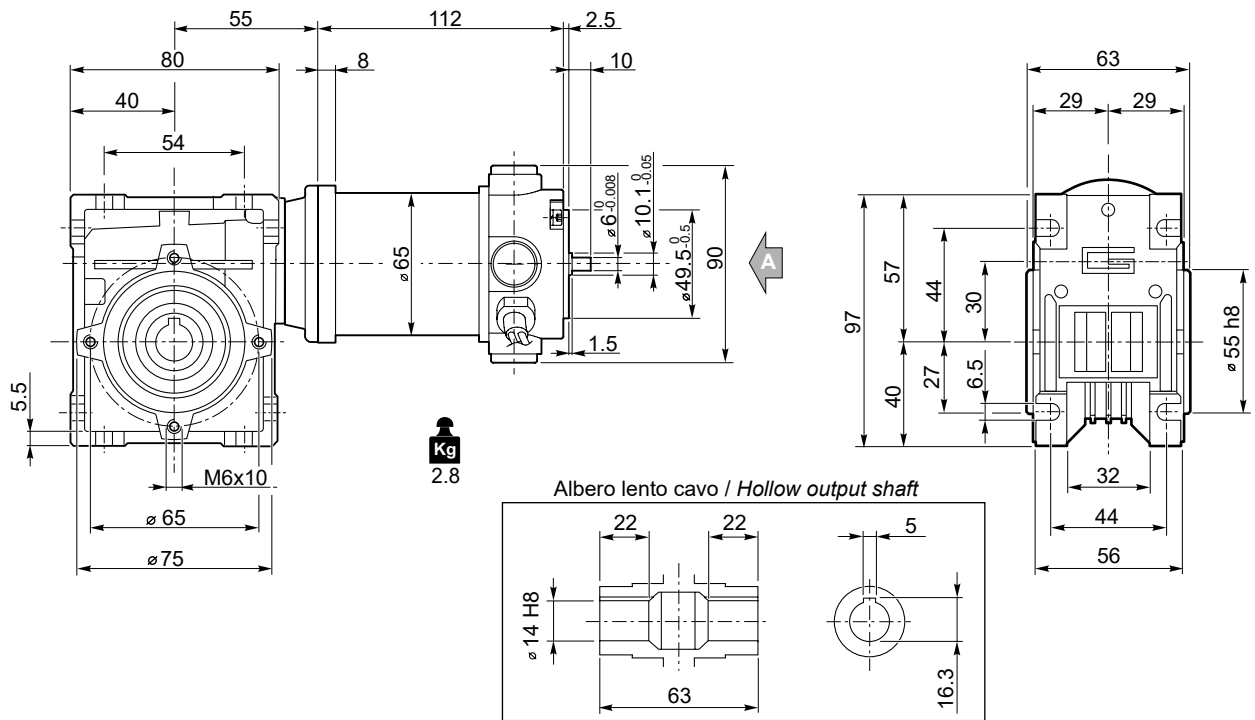




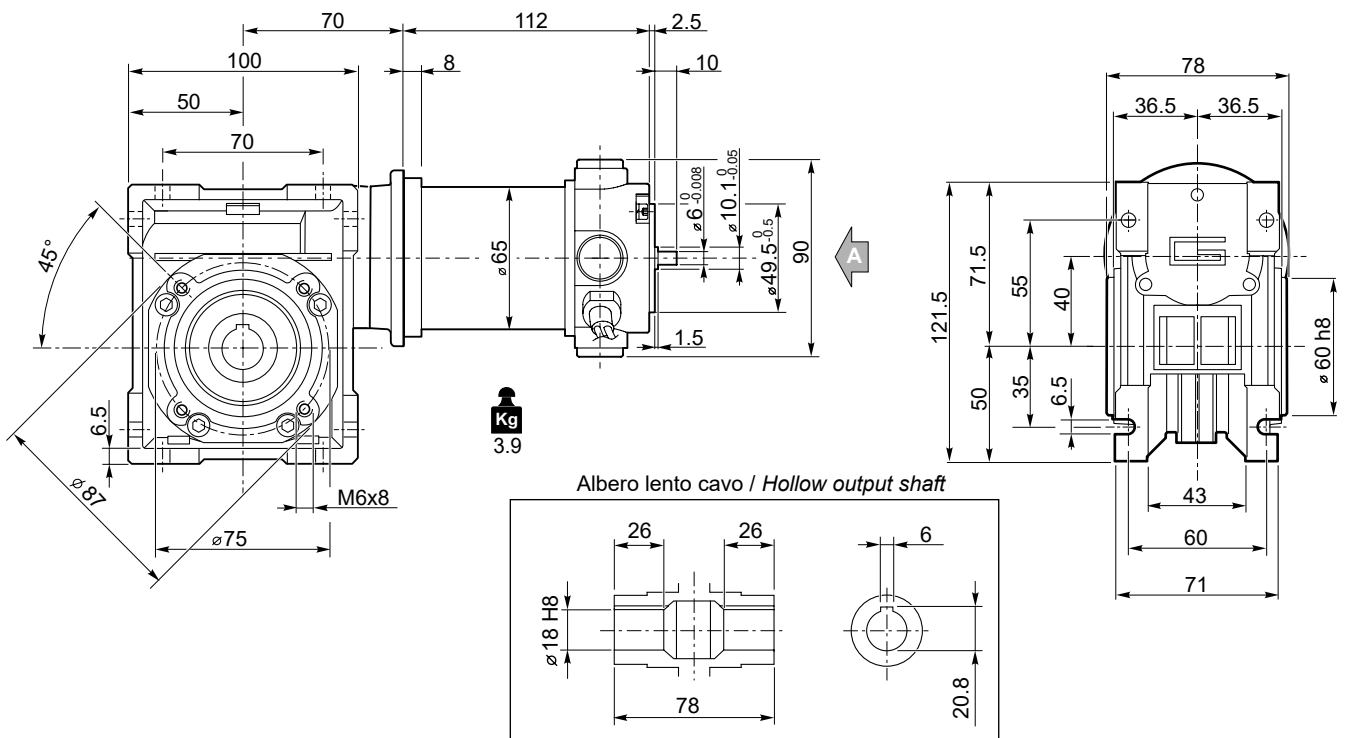
**Dimensioni**

**Dimensions**

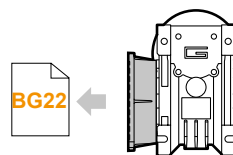
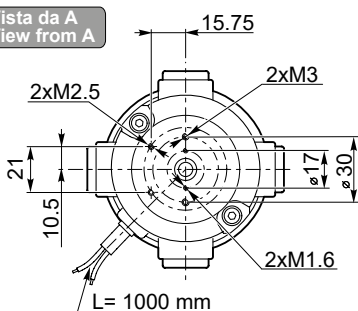
**NDCM120/030 U**



**NDCM120/040 U**

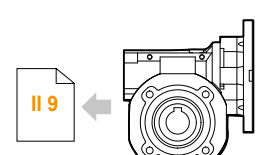


Vista da A  
View from A



**NDCM120/030 F**  
**NDCM120/040 F...**

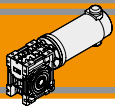
Freno / Brake



**CL030**  
**CL040**

Encoder

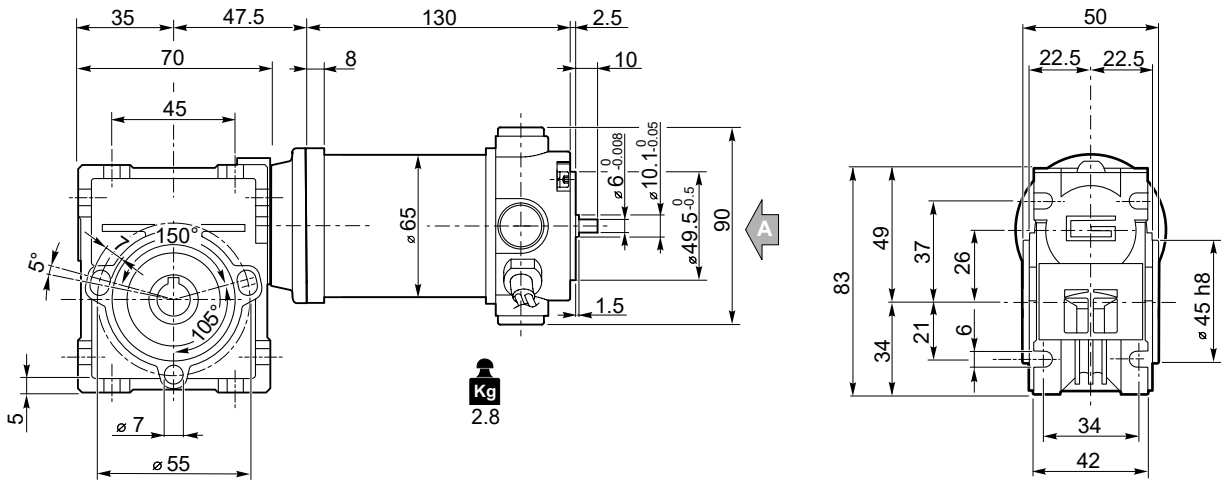




### Dimensioni

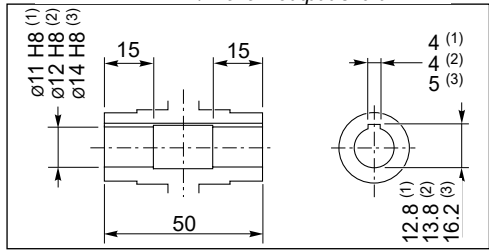
### Dimensions

#### NDCM180/026 U



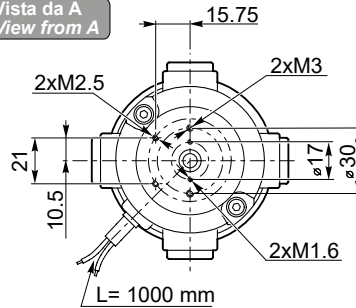
**Kg**  
2.8

#### Albero lento cavo / Hollow output shaft



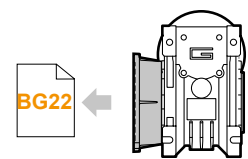
- (1): NDCM 180/026 (D11)
- (2): NDCM 180/026
- (3): NDCM 180/026 (D14)

#### Vista da A View from A

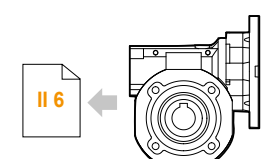


Freno / Brake → BA9

Encoder → BA9

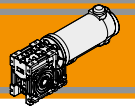


NDCM180/026 F...



CL026

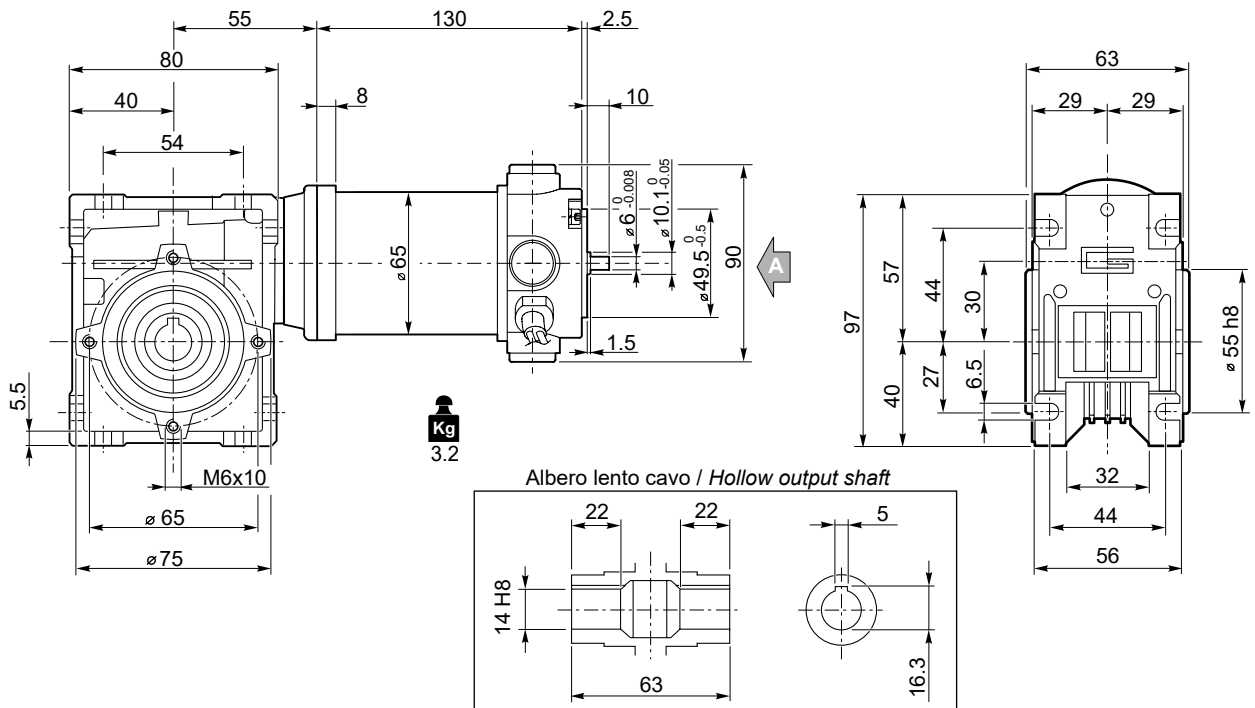




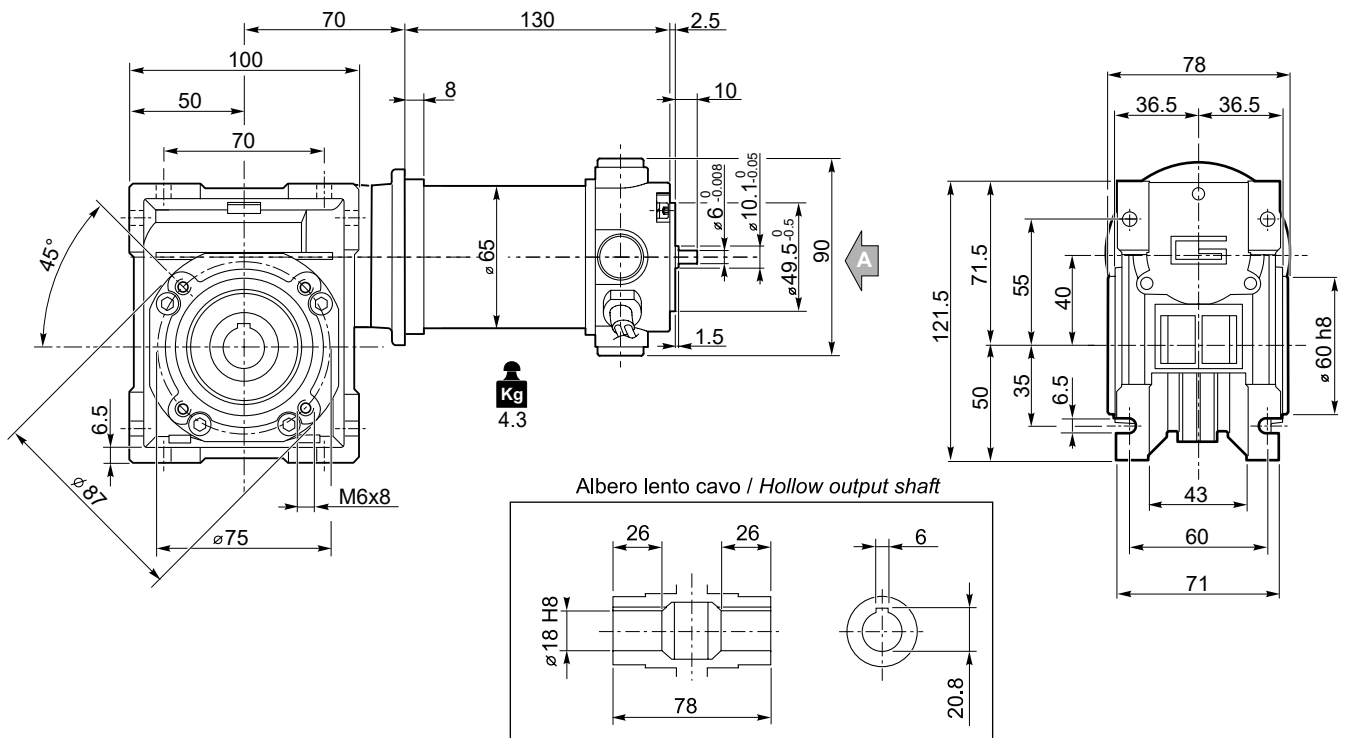
Dimensioni

Dimensions

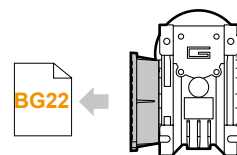
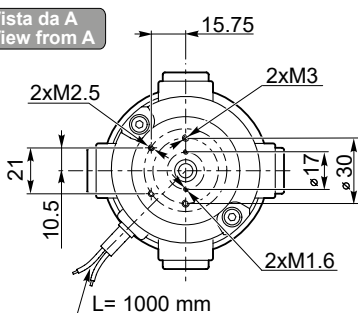
**NDCM180/030 U**



**NDCM180/040 U**

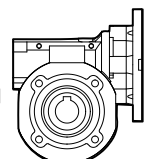


Vista da A  
View from A



**NDCM180/030 F**  
**NDCM180/040 F...**

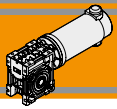
Freno / Brake



**CL030**  
**CL040**

Encoder

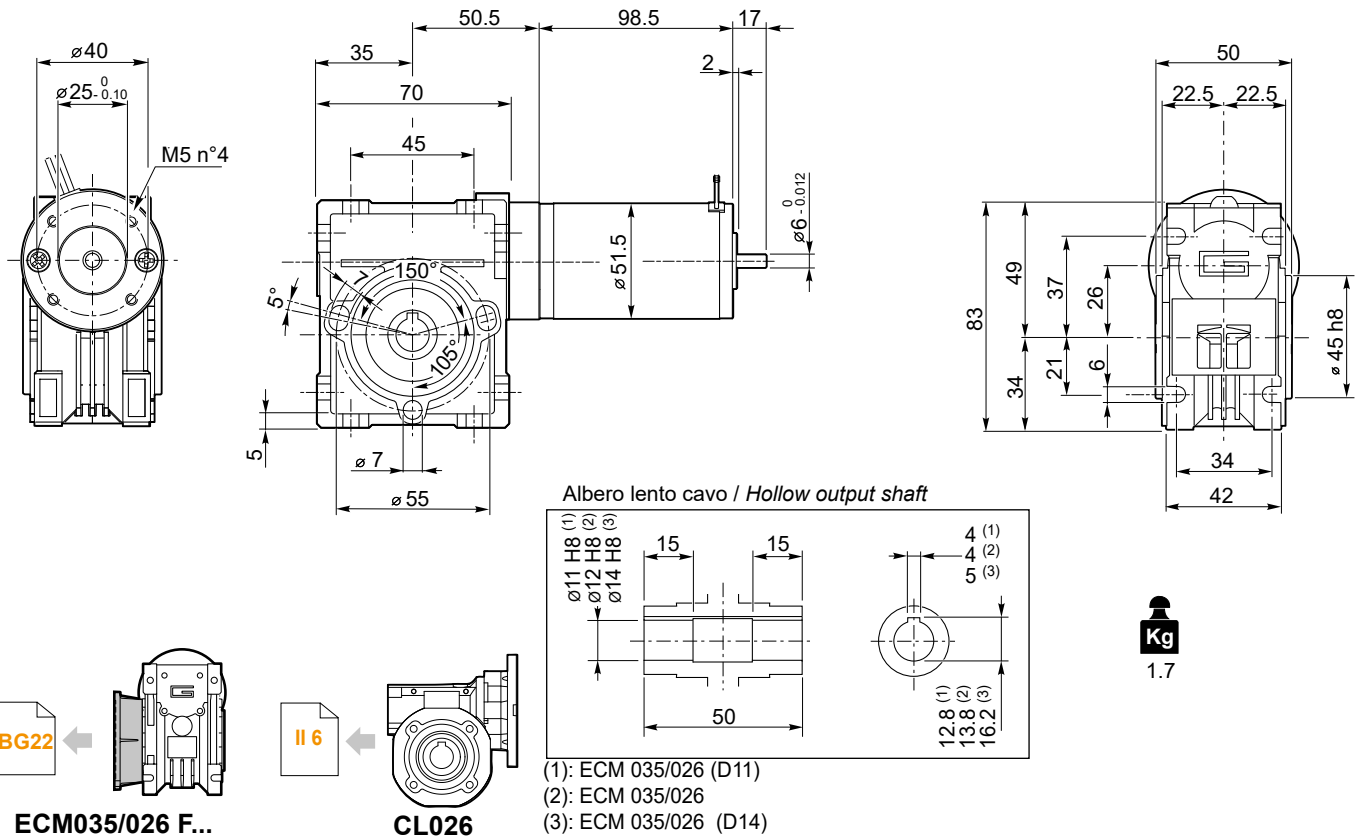




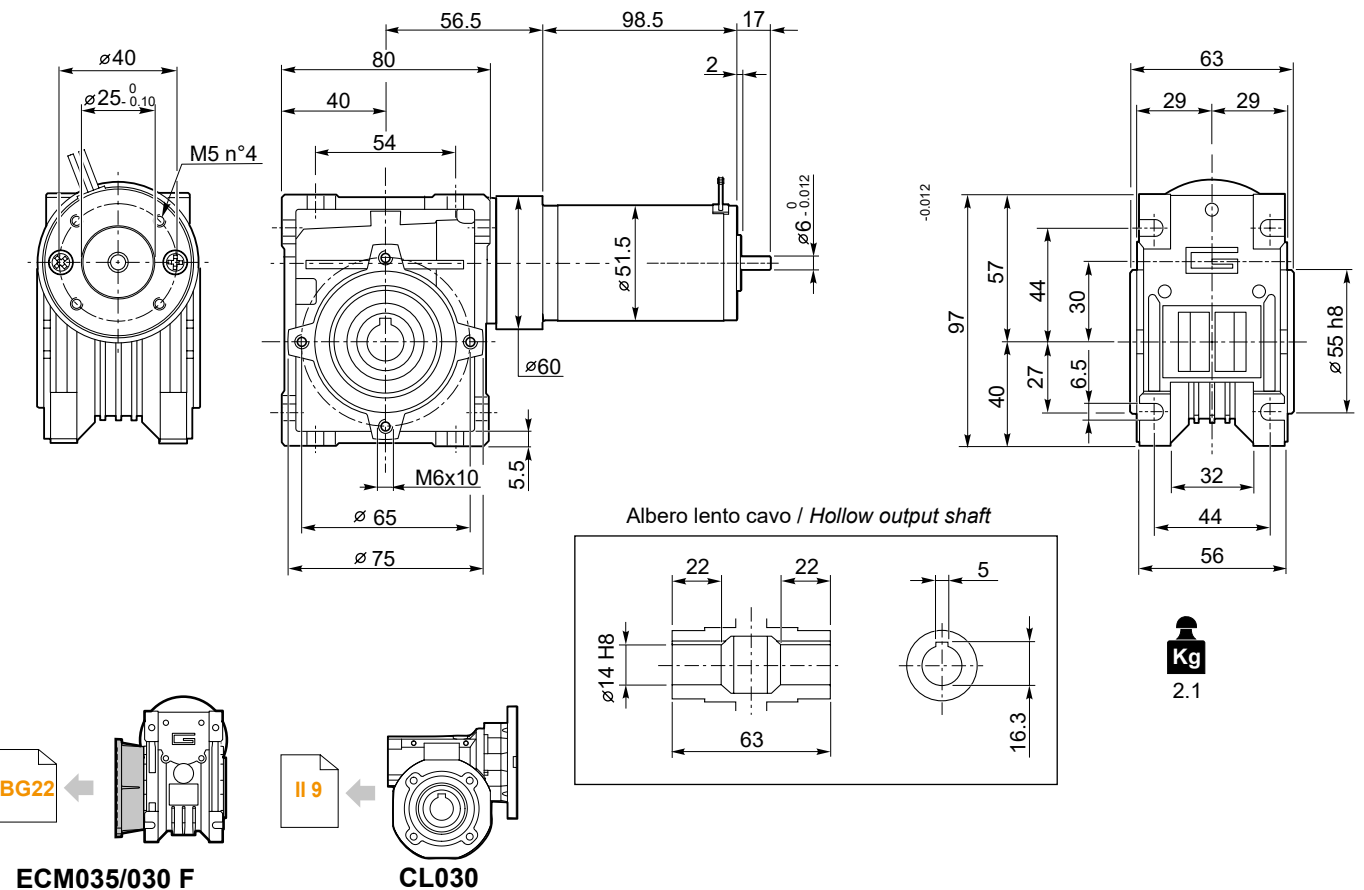
**Dimensioni**

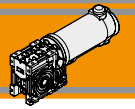
**Dimensions**

**ECM035/026 U**



**ECM035/030 U**

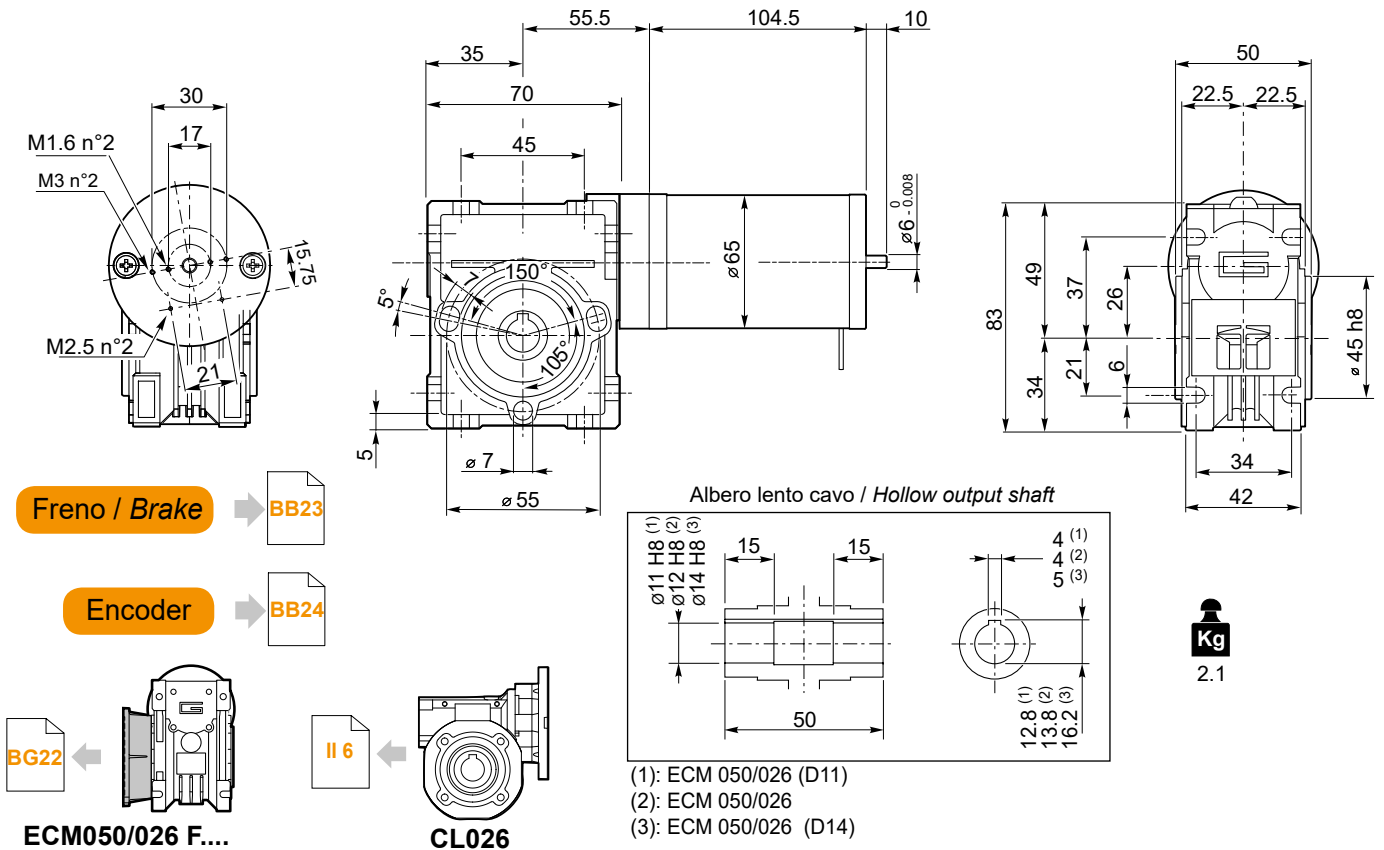




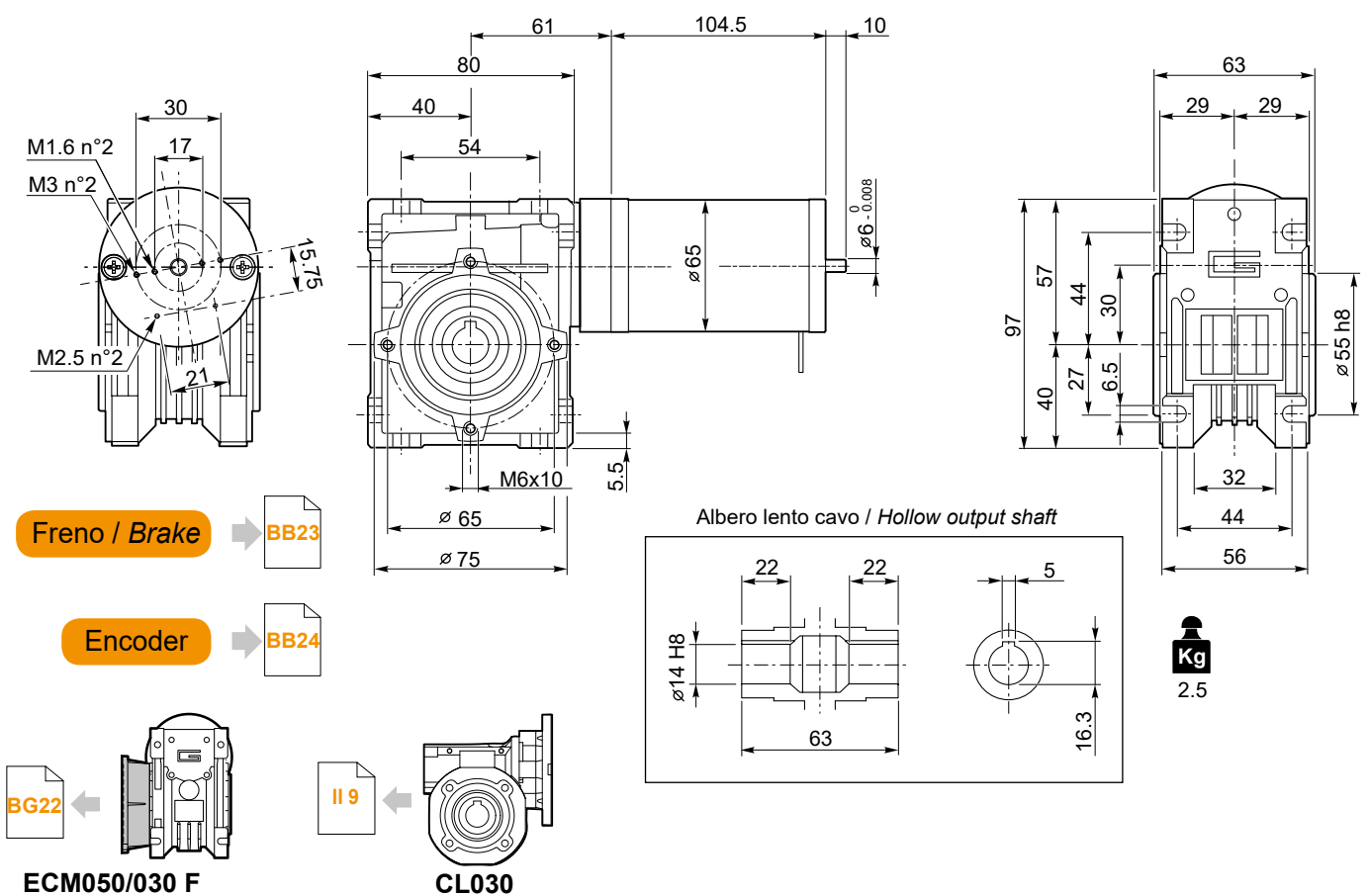
Dimensioni

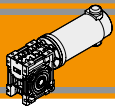
Dimensions

ECM050/026 U



ECM050/030 U

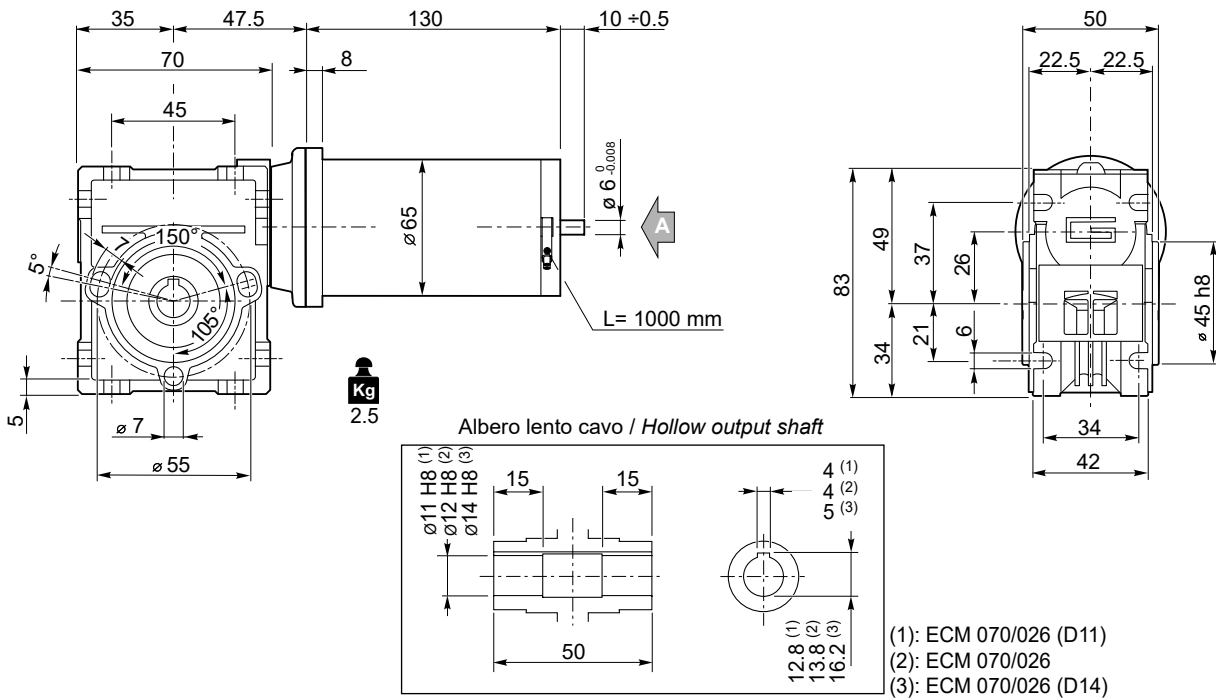




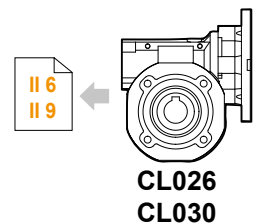
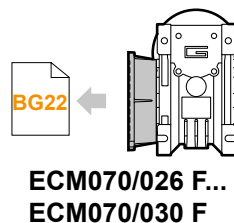
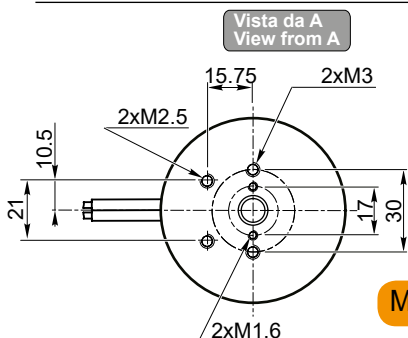
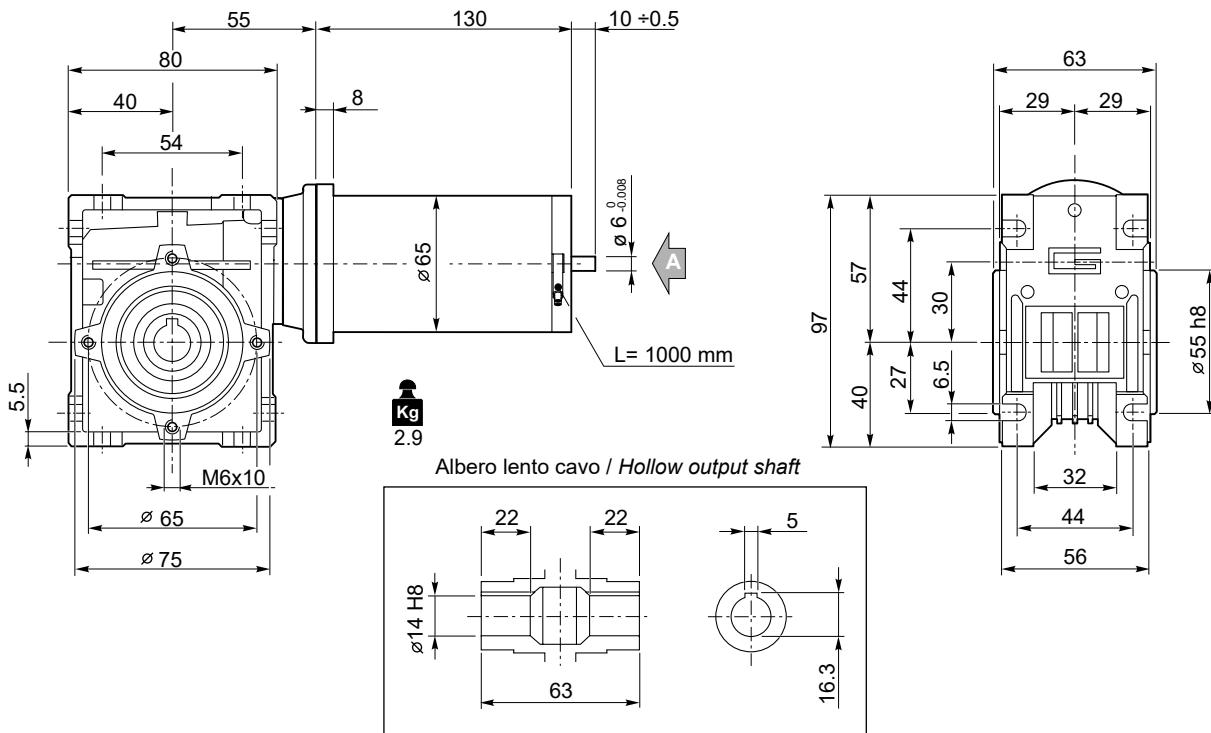
### Dimensioni

### Dimensions

#### ECM070/026 U



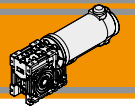
#### ECM070/030 U



Motori / Motors IP66 → BC2

Freno / Brake → BB23

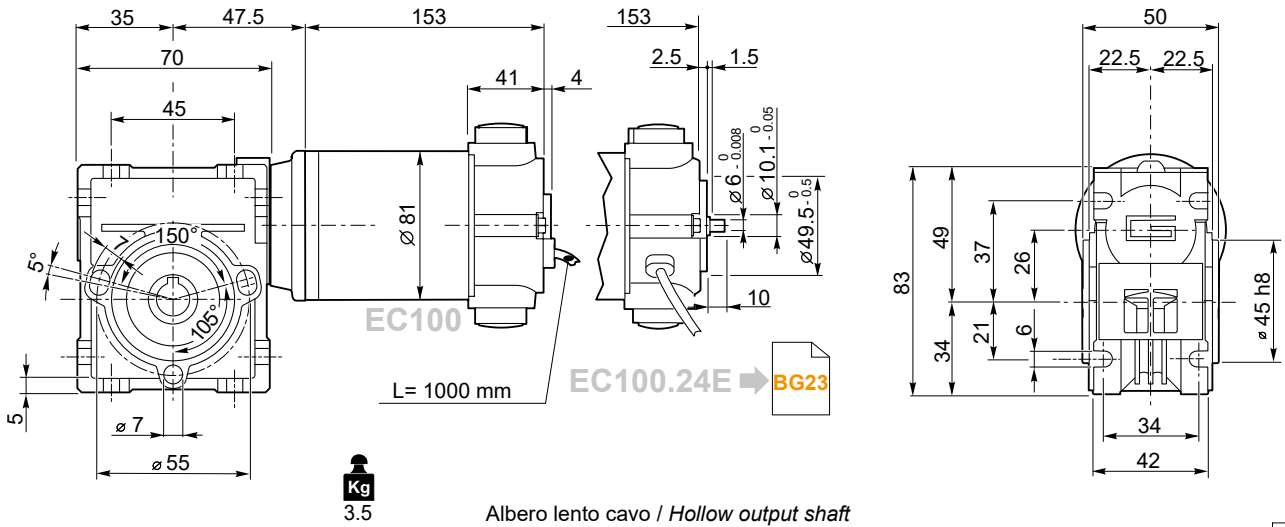
Encoder → BB24



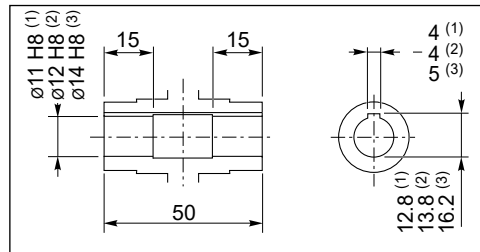
**Dimensioni**

**Dimensions**

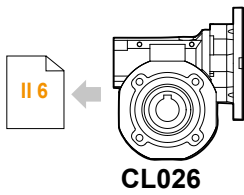
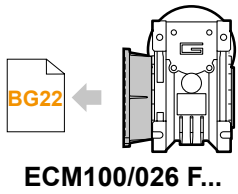
**ECM100/026 U**



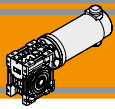
Albero lento cavo / Hollow output shaft



- (1): ECM 100/026 (D11)
- (2): ECM 100/026
- (3): ECM 100/026 (D14)



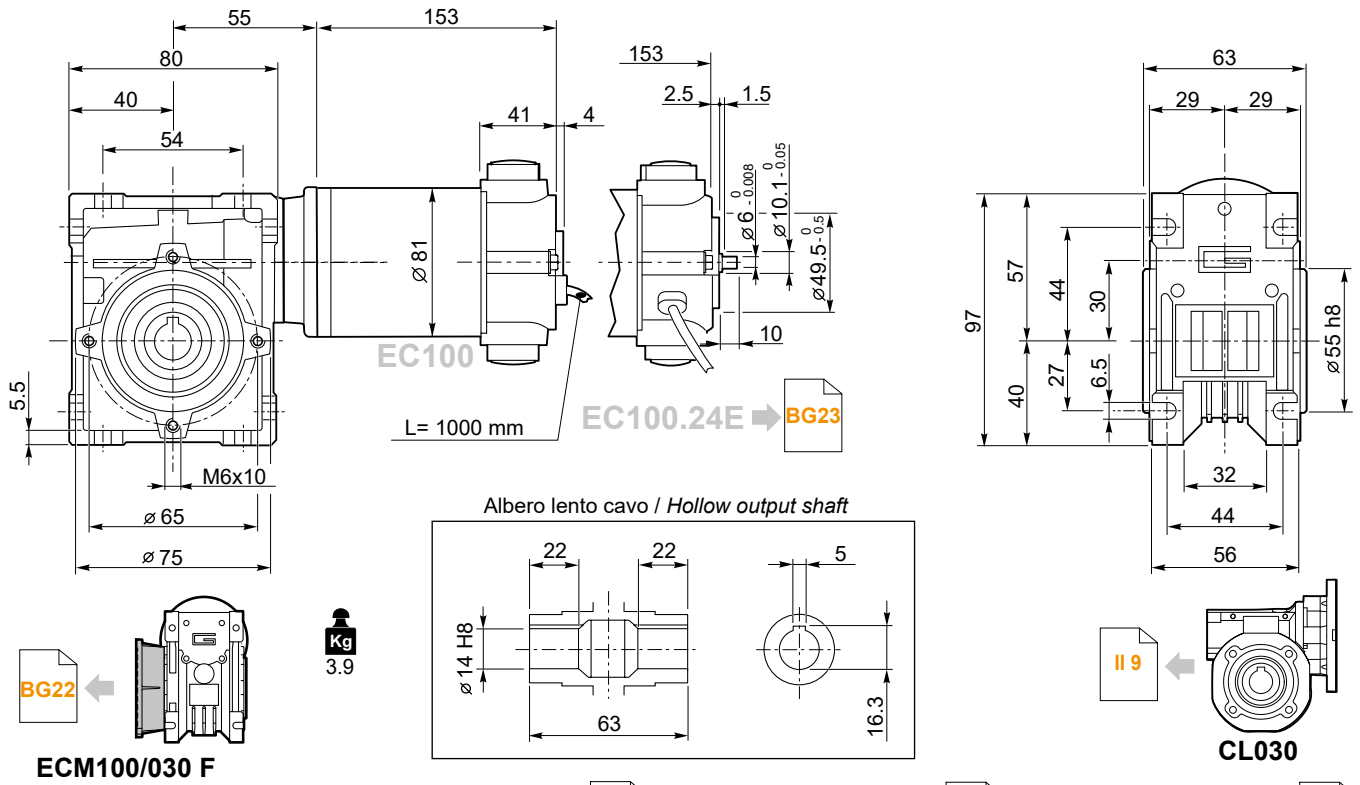
- Motors / Motors IP66 → BC4
- Freno / Brake → BB23
- Encoder → BB24



### Dimensioni

### Dimensions

#### ECM100/030 U



BG22

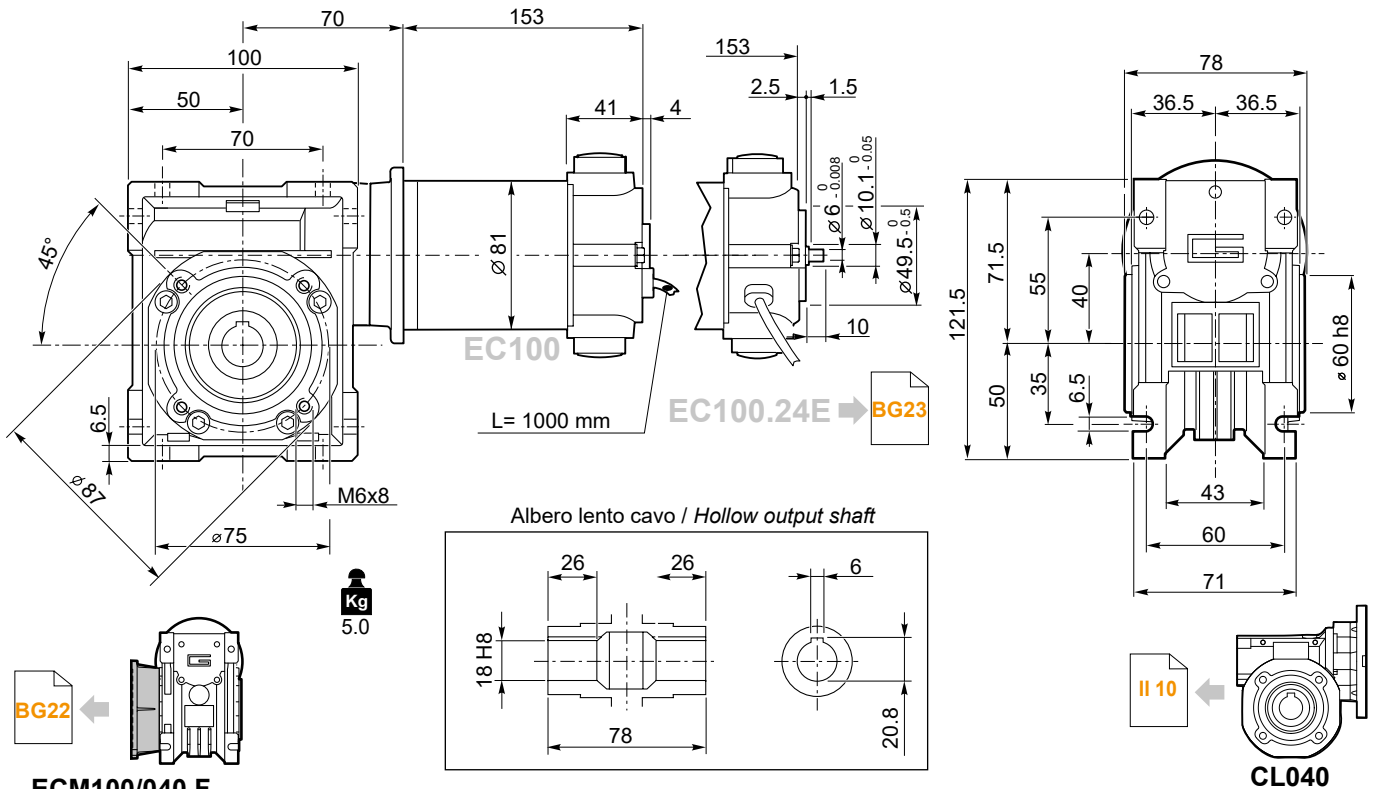
ECM100/030 F

Motori / Motors IP66 → BC4

Freno / Brake → BB23

Encoder → BB24

#### ECM100/040 U



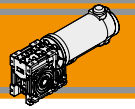
BG22

ECM100/040 F  
ECM100/040 FL  
ECM100/040 FB

Motori / Motors IP66 → BC4

Freno / Brake → BB23

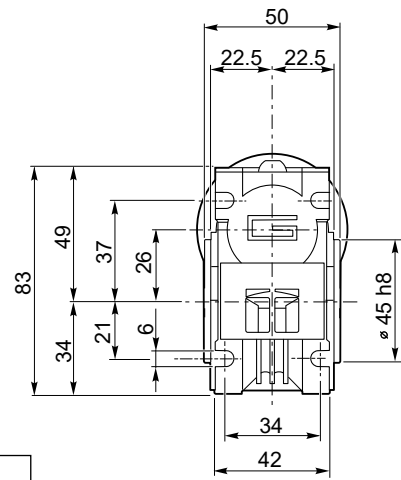
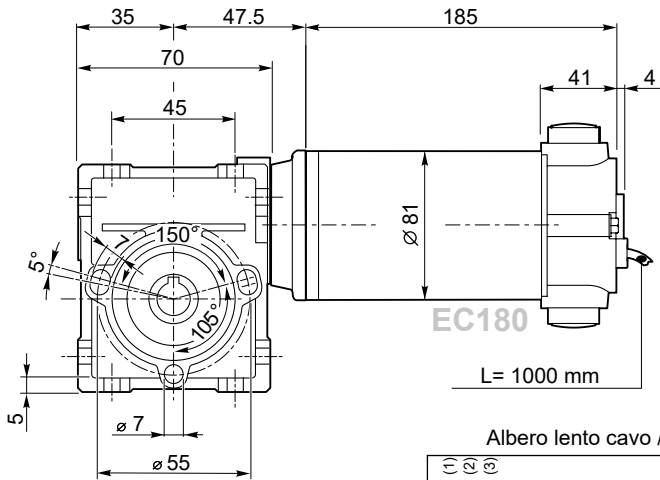
Encoder → BB24



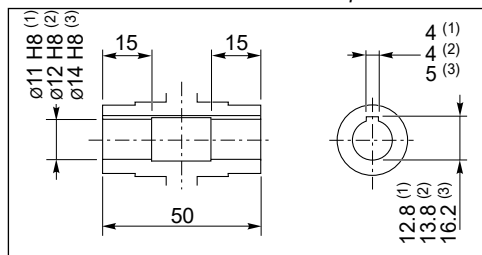
Dimensioni

Dimensions

ECM180/026 U

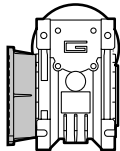


Albero lento cavo / Hollow output shaft



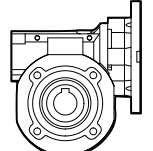
- (1): ECM 180/026 (D11)
- (2): ECM 180/026
- (3): ECM 180/026 (D14)

**Kg**  
4.2



ECM180/026 F...

Motori / Motors IP66



CL026

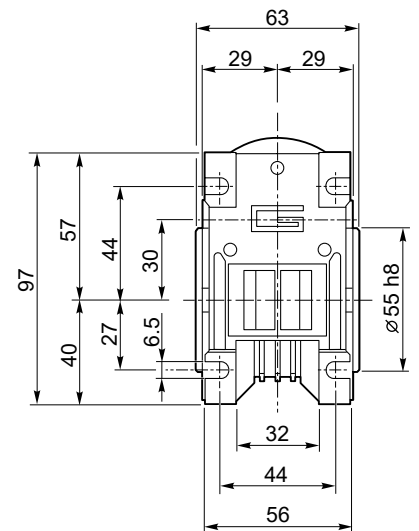
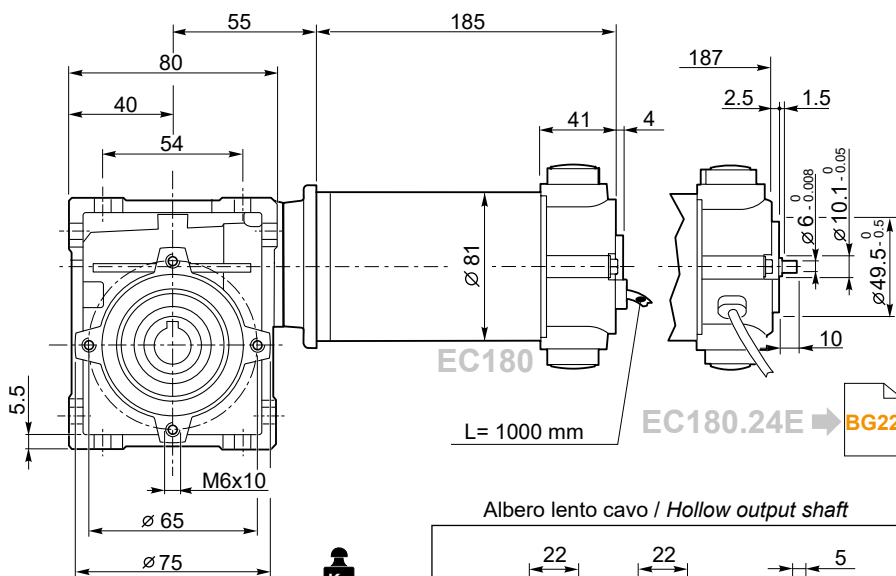
Freno / Brake



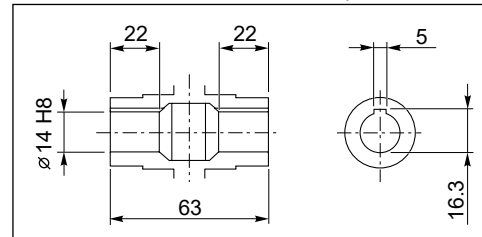
Encoder



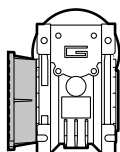
ECM180/030 U



Albero lento cavo / Hollow output shaft



**Kg**  
4.6



ECM180/030 F

Motori / Motors IP66



Freno / Brake

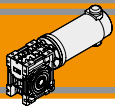


Encoder



CL030

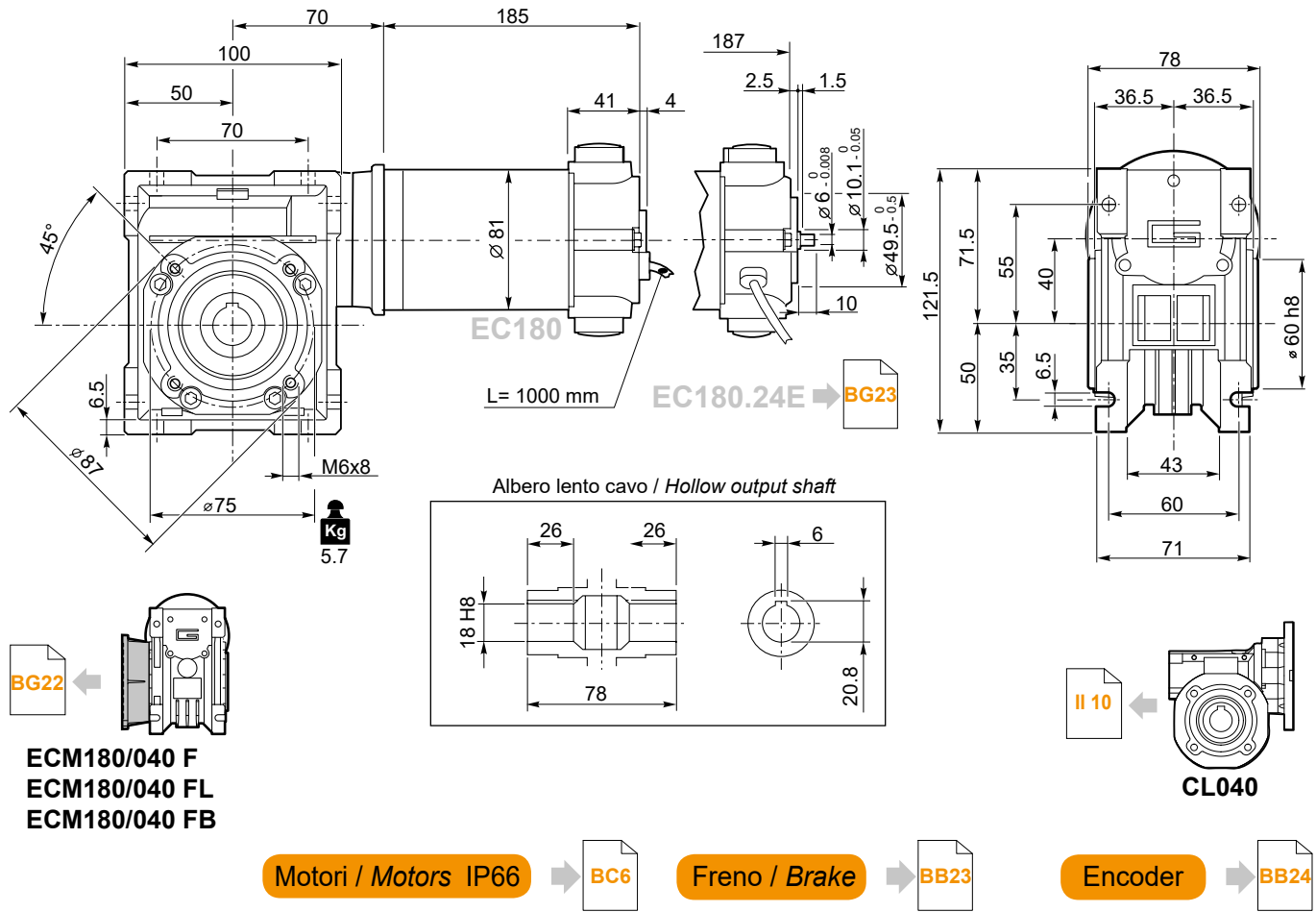
DC



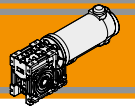
### Dimensioni

### Dimensions

## ECM180/040 U



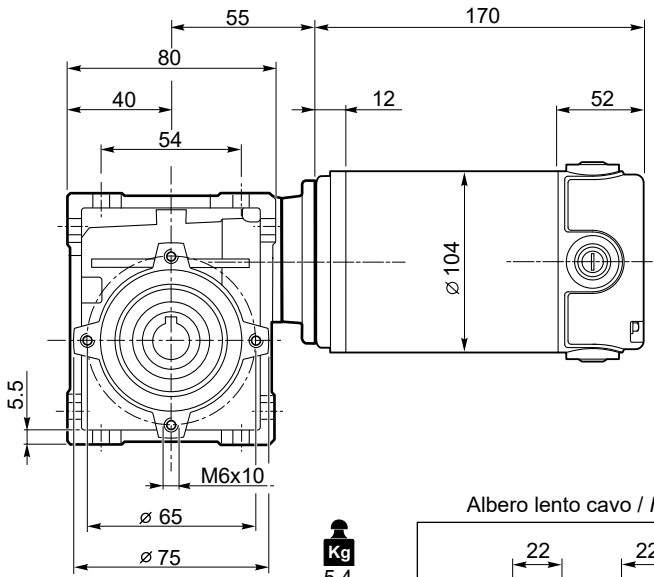




Dimensioni

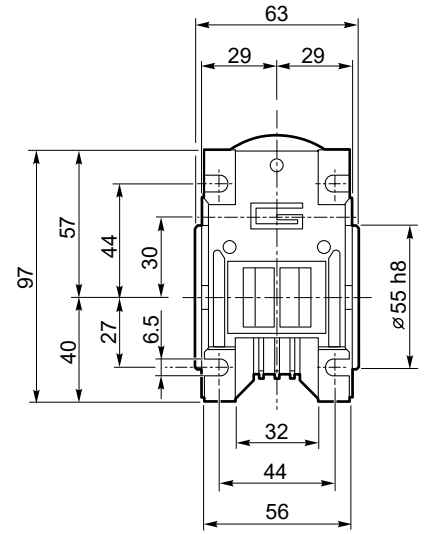
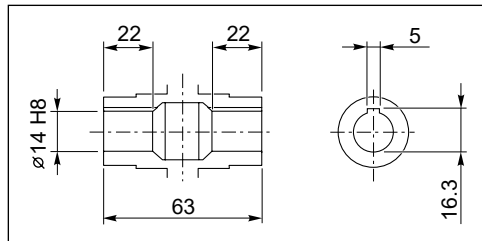
Dimensions

ECM250/030 U

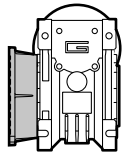


**Kg**  
5.4

Albero lento cavo / Hollow output shaft

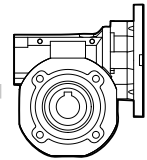


BG22



ECM250/030 F

II 9

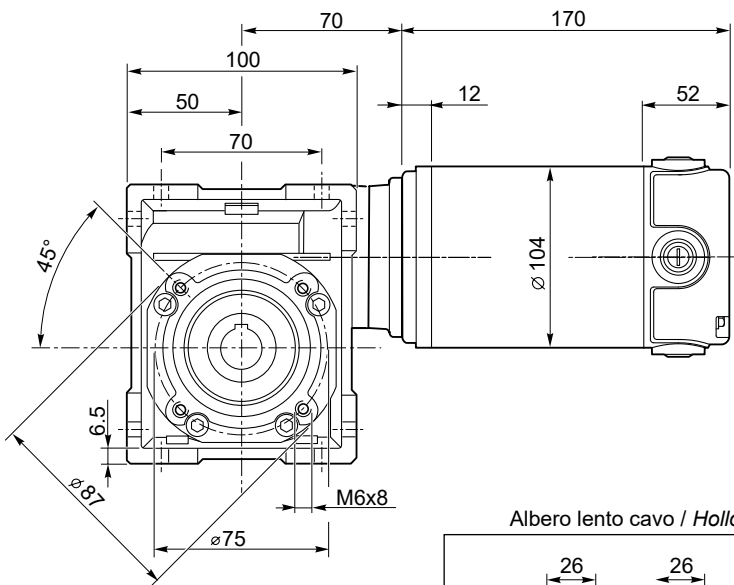


CL030

Motori / Motors IP66

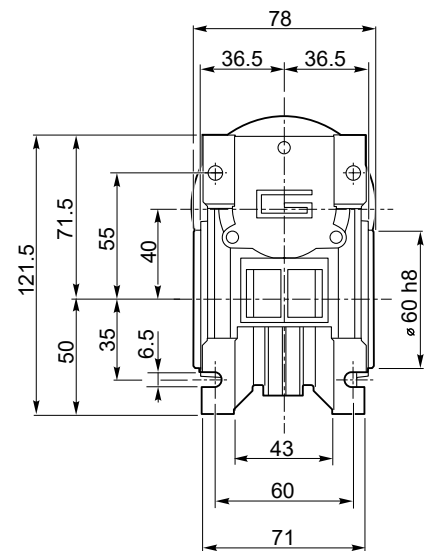
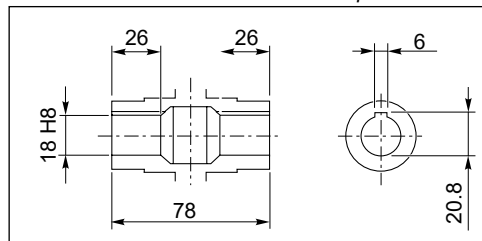
BC8

ECM250/040 U

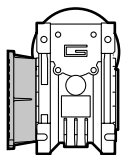


**Kg**  
6.5

Albero lento cavo / Hollow output shaft

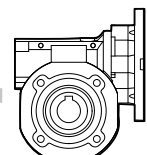


BG22



ECM250/040 F  
ECM250/040 FL  
ECM250/040 FB

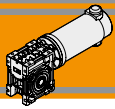
II 10



CL040

Motori / Motors IP66

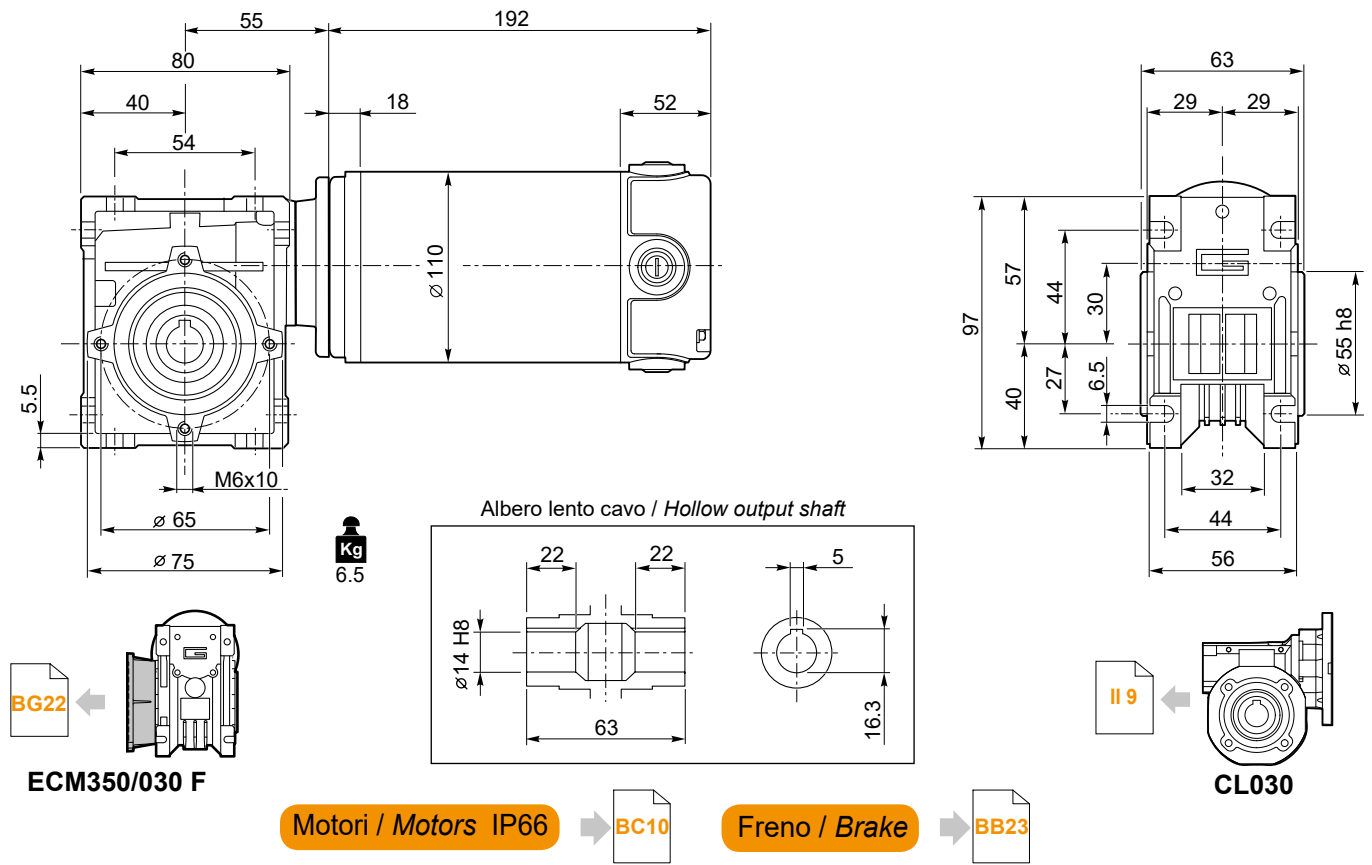
BC8



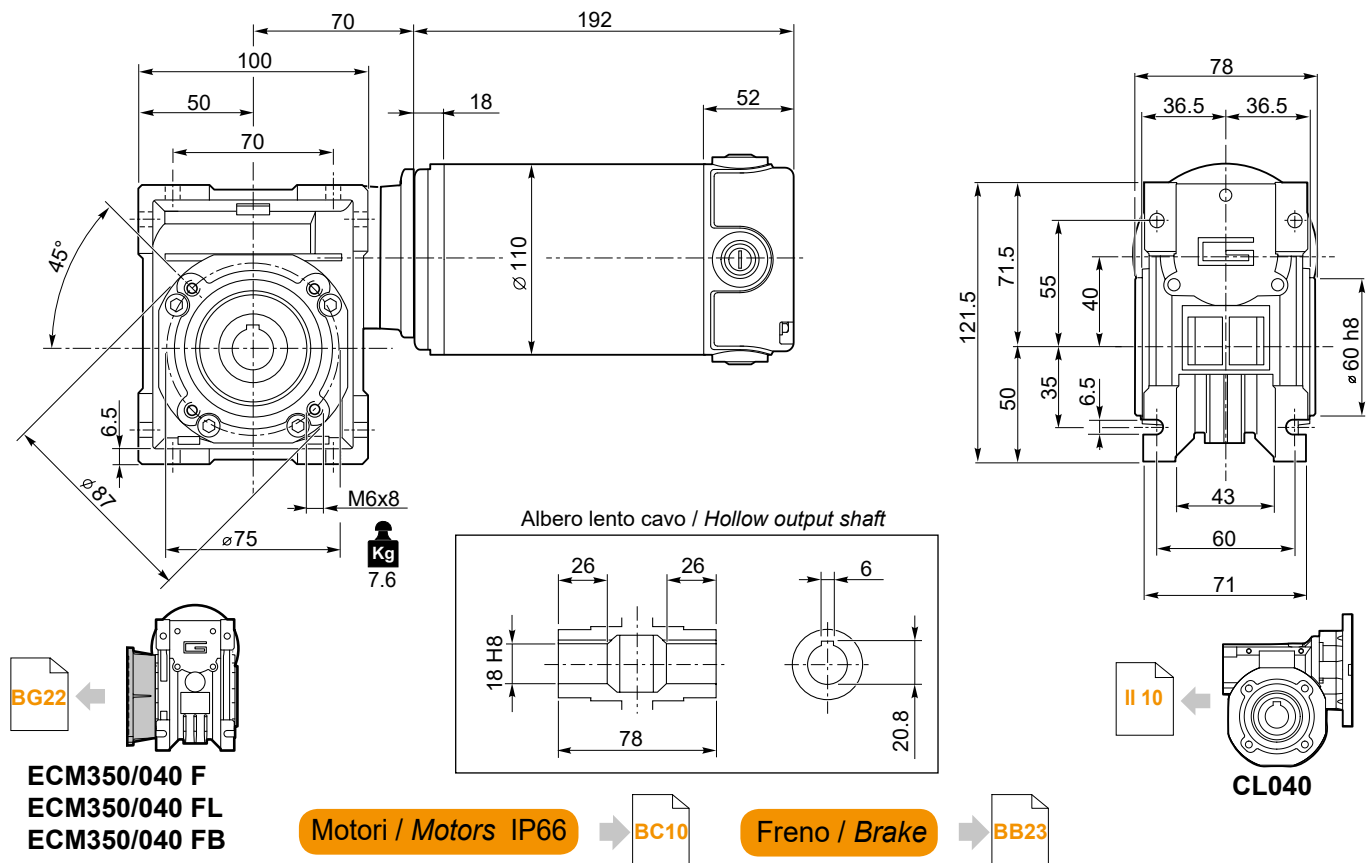
**Dimensioni**

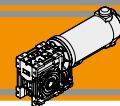
**Dimensions**

**ECM350/030 U**



**ECM350/040 U**

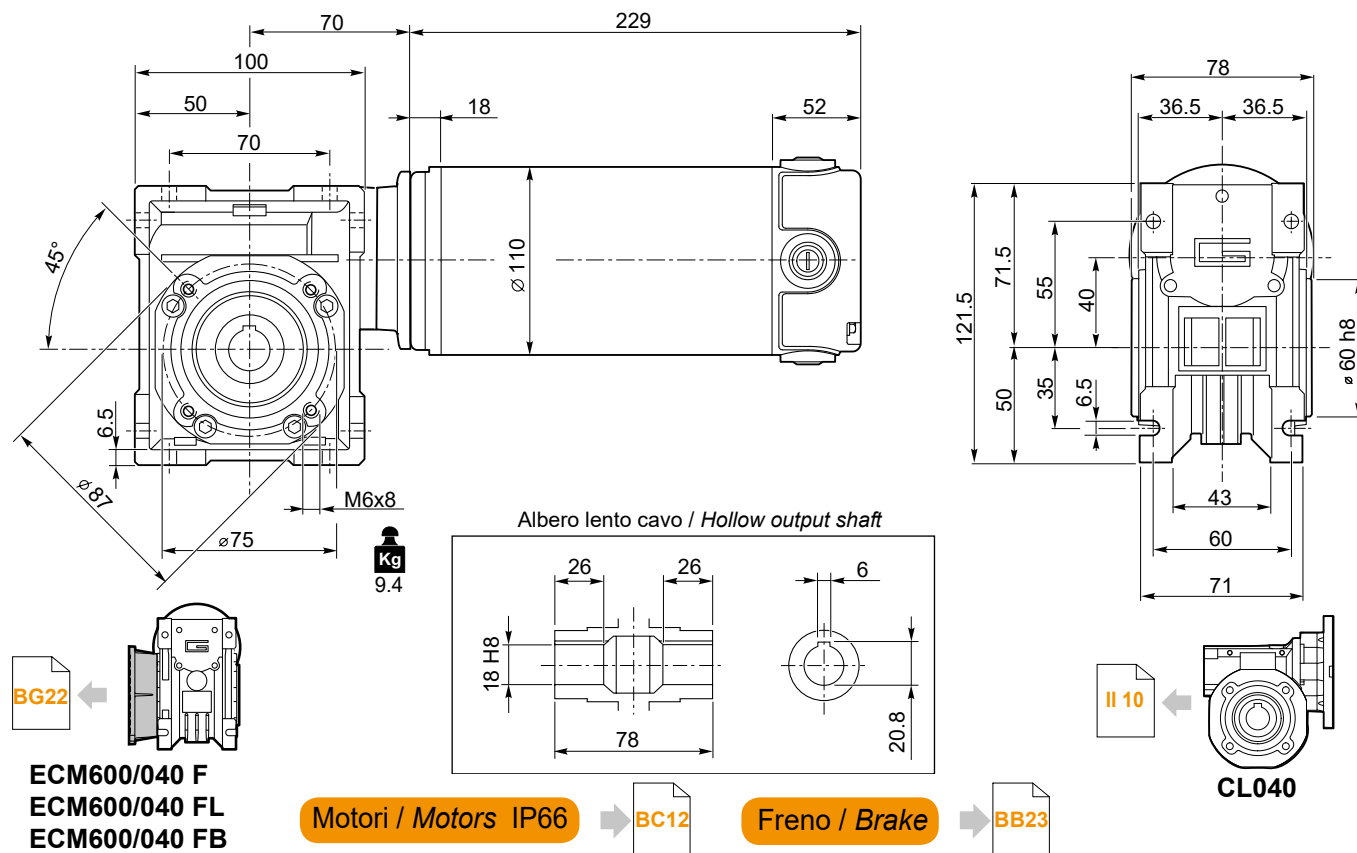


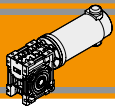


**Dimensioni**

**Dimensions**

**ECM600/040 U**

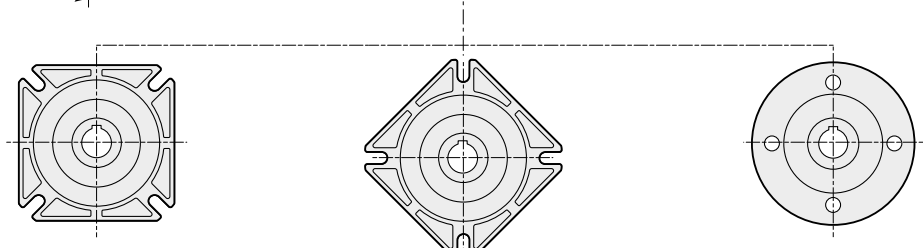
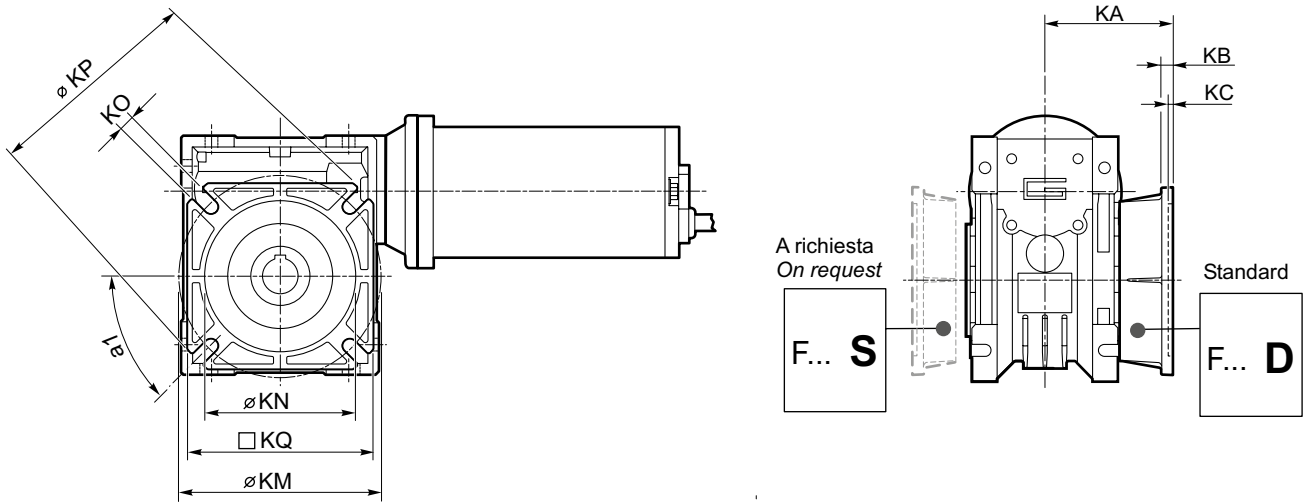




**Dimensioni**

**Dimensions**

**NDCM.../.... F... - ECM.../... F... Flange uscita / Output flanges**



- ..CM026 ../. F**  
**..CM026 ../. F28**  
**..CM026 ../. F30**  
**..CM026 ../. F30S**  
**..CM030 ../. F..**  
**..CM040 ../. F..**
- ..CM026 ../. F30C**  
**..CM026 ../. F30SC**
- ..CM026 ../. F100**

	CM..F							CM..F28							CM..F30							CM..F30S <sup>(1)</sup>											
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
<b>026 (D11)</b>	45°	45	6	4.5	55-69	40	6.5	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
<b>026 (D14)</b>							(n.4)																										

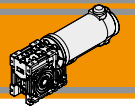
(1): F30S eseguita con F30 e distanziale di spessore 2 mm / F30S made with F30 and spacer with 2mm thickness

	CM..F30C							CM..F30SC <sup>(2)</sup>							CM..F100										
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC *	KM	KN <sub>h7</sub>	KO	KP	KQ
<b>026 (D11)</b>	-	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	-
<b>026 (D14)</b>																									

(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

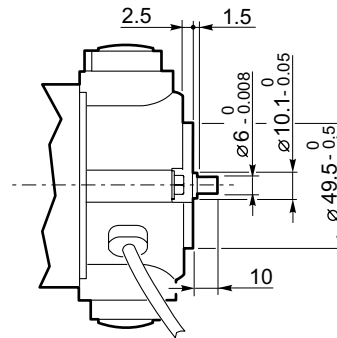
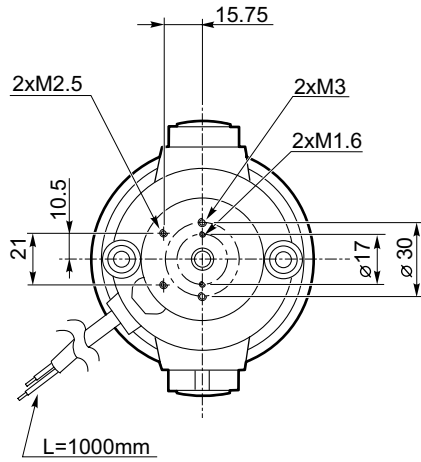
CM	CM..F							CM..FB							CM..FL										
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
<b>030</b>	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<b>040</b>	45°	67	7.5	4	80-95	60	9(n.4)	110	95	80	8.5	5	115-125	95	9.5(n.4)	140	112	97	7.5	4.5	80-95	60	9 (n.4)	110	95



Dimensioni

Dimensions

EC100.24E  
EC180.24E

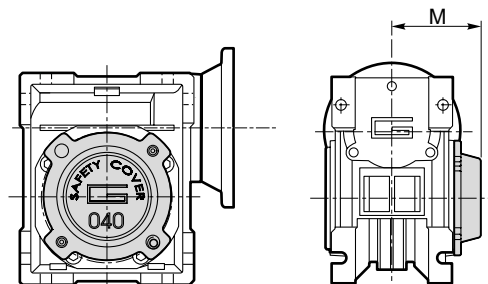
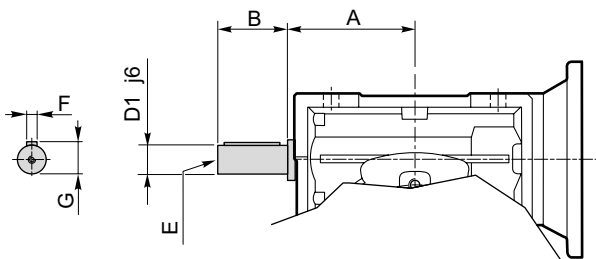


Opzioni

Options

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

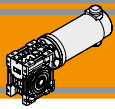
**SC** - Safety cover



	A	B	D <sub>1</sub> j6	E	F	G
CM 030	45	20	9	M4	3	10.2
CM 040	53	23	11	M5	4	12.5

	M
CM 030	47
CM 040	54.5

Costruito su richiesta  
Built on request

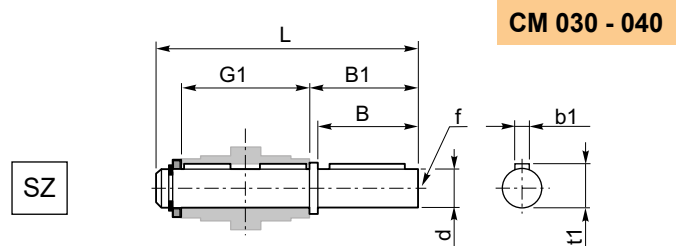
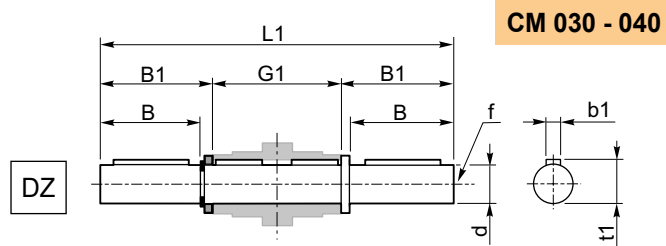


**Accessori**

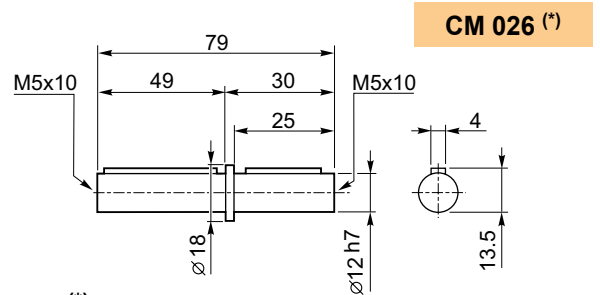
**Accessories**

**Albero lento**

**Output shaft**



	d h7	B	B1	G1	L	L1	f	b1	t1
<b>CM 030</b>	14	30	32.5	63	102	128	M6	5	16
<b>CM 040</b>	18	40	43	78	128	164	M6	6	20.5

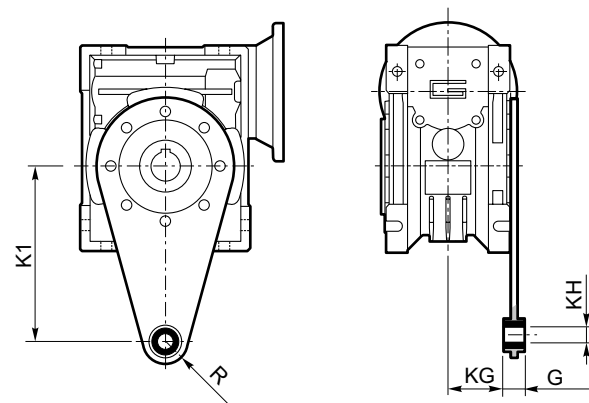


(\*)  
**Nota:** disponibile solo per cavo uscita Ø12  
**Note:** available for output hollow shaft Ø12 only

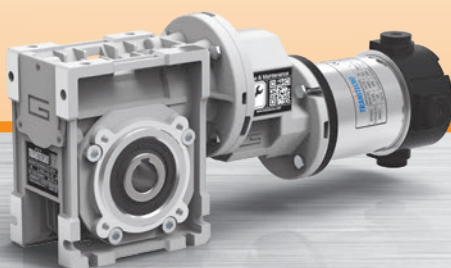
**Braccio di reazione**

**Torque arm**

	K1	G	KG	KH	R
<b>CM 030</b>	85	14	23	8	15
<b>CM 040</b>	100	14	31	10	18

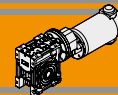


Motoriduttori CC a vite senza fine con precoppia  
DC pre stage wormgearmotors





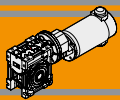




<b>Indice</b>	<b>Index</b>	Pag. Page
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Designazione	<i>Classification</i>	<b>BH2</b>
Simbologia	<i>Symbols</i>	<b>BH3</b>
Lubrificazione	<i>Lubrication</i>	<b>BH3</b>
Carichi radiali	<i>Radial loads</i>	<b>BH3</b>
Dati tecnici per servizio S2	<i>Technical data for S2 duty</i>	<b>BH4</b>
Motori applicabili	<i>Motor adapters</i>	<b>BH5</b>
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*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](http://www.transtecno.com)*



**Caratteristiche tecniche**

**Technical features**

I motoriduttori CC a vite senza fine con precoppia a magneti permanenti in neodimio **NDCMP** e in ferrite **ECMP** hanno le seguenti caratteristiche principali:

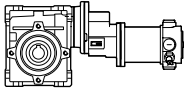
**NDCMP** neodymium permanent magnets and **ECMP** ferrite permanent magnets DC pre stage wormgearmotors range has the following main features:

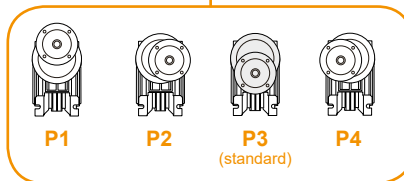
- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 350W S2
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico

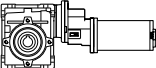
- Low voltage power supply 12/24 Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 100 up to 350W S2
- Die-cast aluminum housings
- Permanent synthetic oil long-life lubrication.

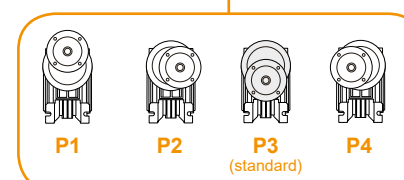
**Designazione**

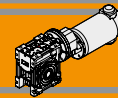
**Classification**

MOTORIDUTTORE / GEARMOTOR										
NDCMP	120/056/030		U	90	SZDX	BRSX	90	P4	240	VS
Tipo Type	Grandezza Size		Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Pos. di montaggio precoppia Pre stage mounting position	Versione Motore Motor Version	Opzioni Options
 <p><b>NDCMP</b></p>	120/056/030	180/056/030	<b>U</b> <b>FD</b> <b>FS</b> <b>FLD</b> <b>FLS</b> <b>FBD</b> <b>FBS</b>	Vedere tabella  <i>See            tables</i>	<b>SZDX</b> <b>SZSX</b> <b>DZ</b>	<b>BRDX</b> <b>BRSX</b>  *	<b>0°</b> <b>90°</b> <b>180°</b> <b>270°</b>	<b>P1</b> <b>P2</b> <b>P3</b> (standard) <b>P4</b>	<b>120 — 240</b>	<b>VS</b>
	120/056/040	180/056/040								



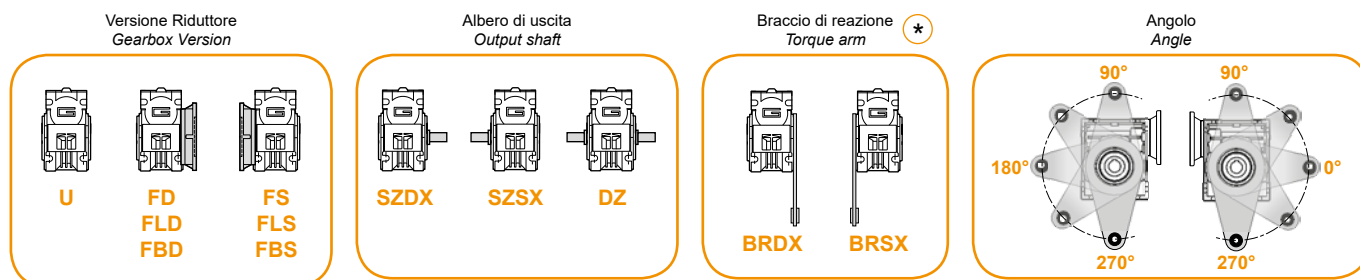
MOTORIDUTTORE / GEARMOTOR										
ECMP	070/056/030		U	90	SZDX	BRSX	90	P4	240	VS
Tipo Type	Grandezza Size		Versione Riduttore Gearbox Version	Rapporto Ratio	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Pos. di montaggio precoppia Pre stage mounting position	Versione Motore Motor Version	Opzioni Options
 <p><b>ECMP</b></p>	070/056/030	180/056/030	<b>U</b> <b>FD</b> <b>FS</b> <b>FLD</b> <b>FLS</b> <b>FBD</b> <b>FBS</b>	Vedere tabella  <i>See tables</i>	<b>SZDX</b> <b>SZSX</b> <b>DZ</b>	<b>BRDX</b> <b>BRSX</b>  *	<b>0°</b> <b>90°</b> <b>180°</b> <b>270°</b>	<b>P1</b> <b>P2</b> <b>P3</b> (standard) <b>P4</b>	<b>120</b>  <b>240</b>  <b>24E</b>	<b>VS</b>
	070/056/040	180/056/040								
	100/056/030	250/063/040								
	100/056/040									





## Designazione

## Classification



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

## 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  
 $P_1$  [kW] Potenza in entrata / Input power

$M_2$  [Nm] Coppia in uscita in funzione di  $P_1$  / Output torque referred to  $P_1$   
*sf* Fattore di servizio / Service factor  
 $R_2$  [N] Carico radiale ammissibile in uscita / Permitted output radial load  
 $A_2$  [N] Carico assiale ammissibile in uscita / Permitted output axial load

## Lubrificazione

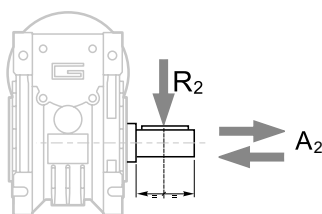
## Lubrication

I riduttori a vite senza fine con precoppia della serie CMP 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 CMP range in all mounting positions.

## Carichi radiali

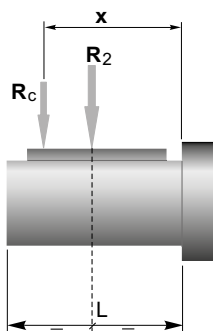
## Radial loads



$n_2$ [ $\text{min}^{-1}$ ]	$R_2$ [N]	
	CM030	CM040
35	1179	2210
28	1270	2381
23	1356	2542
18	1471	2759
14	1600	3000

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

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

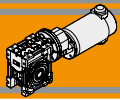


$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

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

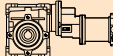
	CM	
	030	040
<i>a</i>	65	84
<i>b</i>	50	64
$R_{2MAX}$	1600	3000

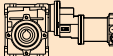


**Dati tecnici per servizio S2**

**NDCMP**

**Technical data for S2 duty**

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
-----------------------	----------------------------------------	------------------------	----	---	-----------------------------------------------------------------------------------	----------------------------------

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
-----------------------	----------------------------------------	------------------------	----	---	-------------------------------------------------------------------------------------	----------------------------------

**160**

(3000 min <sup>-1</sup> )	<b>50</b>	21	1.0	60	<b>120/056/030</b>	120/240	
	<b>40</b>	25	0.9	75			
	<b>33</b>	28	1.0	90			
	<b>25</b>	35	0.7	120			
	<b>20</b>	31	0.7	150			
		<b>50</b>	22	2.0	60	<b>120/056/040</b>	120/240
		<b>40</b>	26	1.7	75		
		<b>33</b>	30	1.9	90		
		<b>25</b>	36	1.3	120		
		<b>20</b>	43	1.1	150		
	<b>17</b>	48	0.9	180			
	<b>13</b>	55	0.7	240			
	<b>10</b>	51	0.7	300			

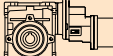
**250**


(3000 min <sup>-1</sup> )	<b>50</b>	31	0.7	60	<b>180/056/030</b>	180/240	
	<b>40</b>	31	0.7	75			
	<b>33</b>	39	0.7	90			
	<b>25</b>	33	0.7	120			
	<b>20</b>	31	0.7	150			
		<b>50</b>	35	1.3	60	<b>180/056/040</b>	180/240
		<b>40</b>	41	1.1	75		
		<b>33</b>	46	1.2	90		
		<b>25</b>	56	0.9	120		
		<b>20</b>	66	0.7	150		
	<b>17</b>	61	0.7	180			
	<b>13</b>	57	0.7	240			
	<b>10</b>	51	0.7	300			

**Dati tecnici per servizio S2**

**ECMP**

**Technical data for S2 duty**

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
-----------------------	----------------------------------------	------------------------	----	---	-----------------------------------------------------------------------------------	----------------------------------

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version
-----------------------	----------------------------------------	------------------------	----	---	-------------------------------------------------------------------------------------	----------------------------------

**100**

(3000 min <sup>-1</sup> )	<b>50</b>	13	1.7	60	<b>ECMP070/056/030</b>	12E/24E	
	<b>40</b>	16	1.4	75			
	<b>33</b>	17	1.6	90			
	<b>25</b>	22	1.1	120			
	<b>20</b>	25	0.9	150			
		<b>50</b>	14	3.2	60	<b>ECMP070/056/040</b>	12E/24E
		<b>40</b>	16	2.7	75		
		<b>33</b>	19	3.0	90		
		<b>25</b>	22	2.1	120		
		<b>20</b>	27	1.7	150		
	<b>17</b>	30	1.4	180			
	<b>13</b>	34	1.2	240			
	<b>10</b>	38	0.9	300			

**250**

(3000 min <sup>-1</sup> )	<b>50</b>	33	0.7	60	<b>ECMP180/056/030</b>	120/240	
	<b>40</b>	31	0.7	75			
	<b>33</b>	39	0.7	90			
	<b>25</b>	33	0.7	120			
	<b>20</b>	31	0.7	150			
		<b>50</b>	35	1.3	60	<b>ECMP180/056/040</b>	120/240
		<b>40</b>	41	1.1	75		
		<b>33</b>	46	1.2	90		
		<b>25</b>	56	0.9	120		
		<b>20</b>	67	0.7	150		
	<b>17</b>	61	0.7	180			
	<b>13</b>	57	0.7	240			
	<b>10</b>	51	0.7	300			
	<b>50</b>	35	1.3	60	<b>ECMP180/063/040</b>	24E	
	<b>40</b>	41	1.1	75			
	<b>33</b>	46	1.2	90			
	<b>25</b>	56	0.9	120			

**140**

(3000 min <sup>-1</sup> )	<b>50</b>	19	1.2	60	<b>ECMP100/056/030</b>	120/240/24E	
	<b>40</b>	22	1.0	75			
	<b>33</b>	24	1.1	90			
	<b>25</b>	30	0.8	120			
	<b>20</b>	31	0.7	150			
		<b>50</b>	19	2.3	60	<b>ECMP100/056/040</b>	120/240/24E
		<b>40</b>	23	1.9	75		
		<b>33</b>	26	2.2	90		
		<b>25</b>	31	1.5	120		
		<b>20</b>	37	1.2	150		
	<b>17</b>	42	1.0	180			
	<b>13</b>	48	0.8	240			
	<b>10</b>	54	0.7	300			

**350**

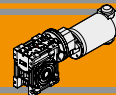
(3000 min <sup>-1</sup> )	<b>50</b>	48	0.9	60	<b>ECMP250/063/040</b>	120/240
	<b>40</b>	57	0.8	75		
	<b>33</b>	65	0.9	90		
	<b>25</b>	69	0.7	120		

**NOTA**

Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio

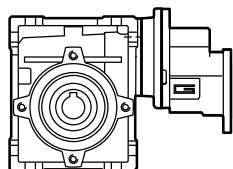
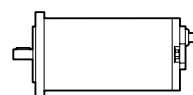
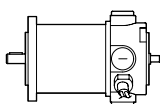
**NOTE**

Please check that the output torque M2 does not exceed the value in the grey areas



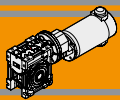
Motori applicabili

Motor adapters



		ND		EC					
		120.120 120.240	180.120 180.240	070.12E 070.24E	100.120 100.240 100.24E	180.120 180.240	180.24E	250.120 250.240	350.120 350.240
<b>CMP</b>	<b>056/030</b>	150	150	150	150	150			
	<b>056/040</b>	300	300	300	300	300			
	<b>063/040</b>						120	120	120

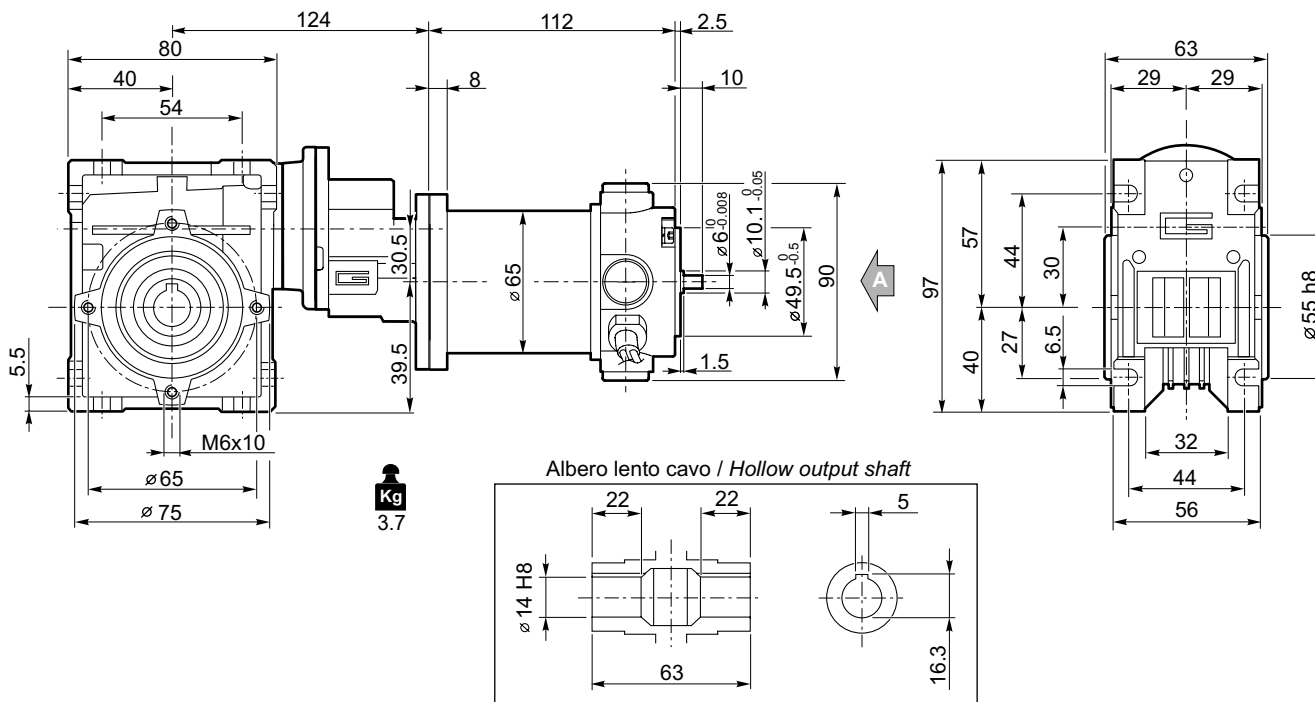
150 Rapporto di riduzione massimo  $i_{max}$   
Maximum ratio  $i_{max}$



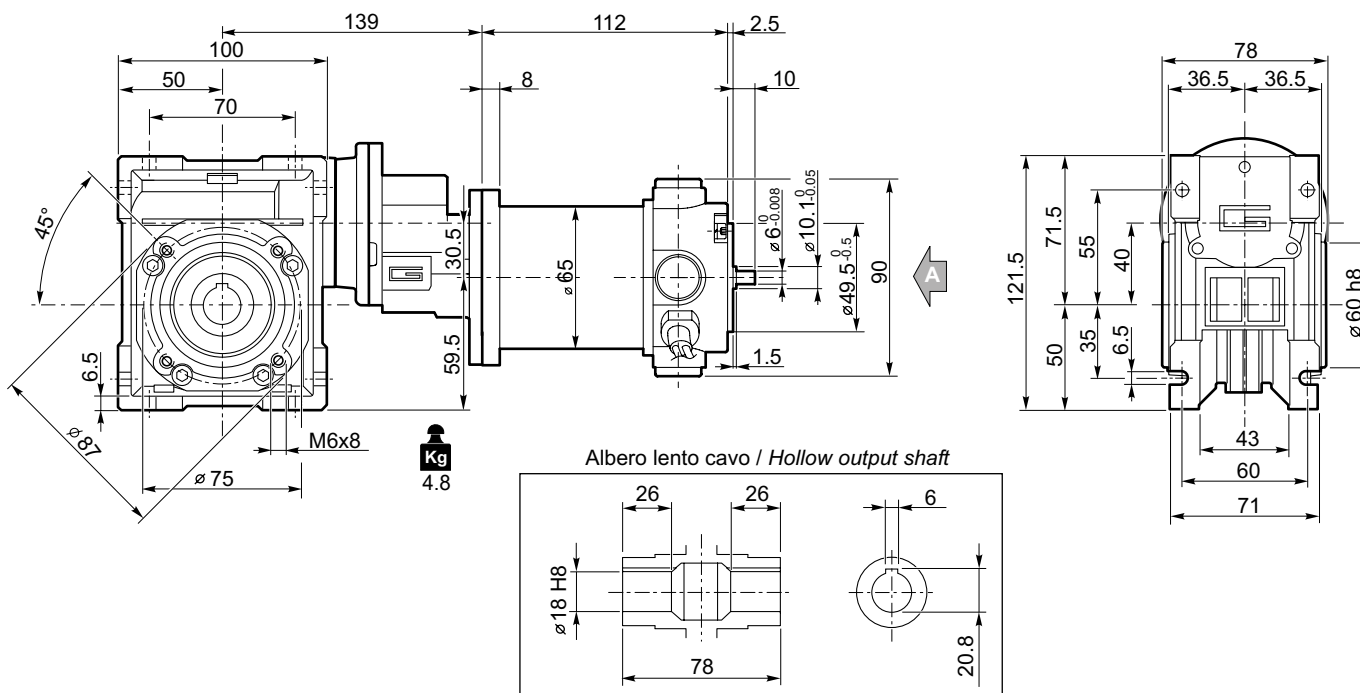
### Dimensioni

### Dimensions

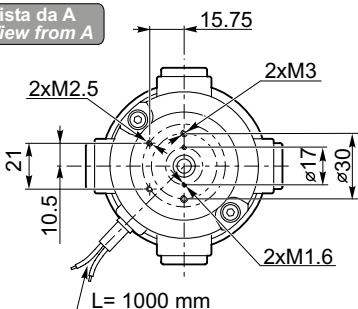
#### NDCMP120/056/030 U



#### NDCMP120/056/040 U

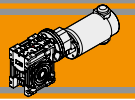


Vista da A  
View from A



Accessory options for the motor:

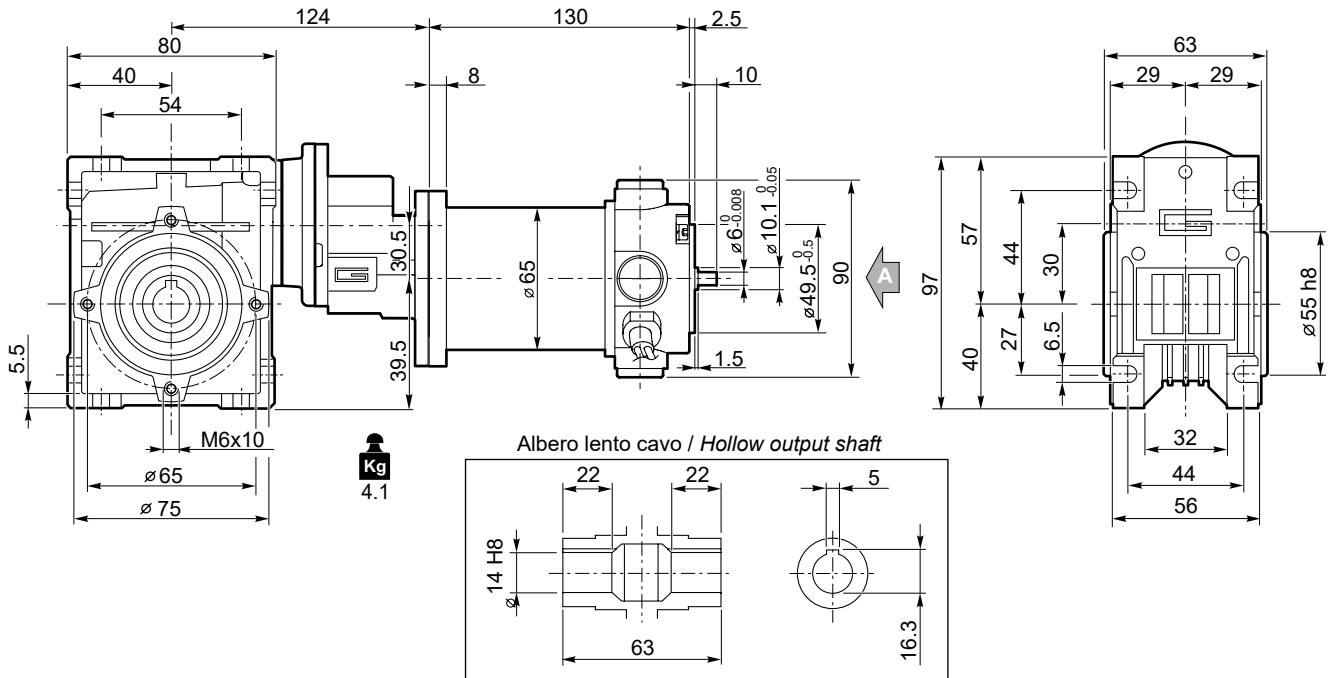
- BH12
- CL030
- CL040
- Freno / Brake BA9
- Encoder BA9



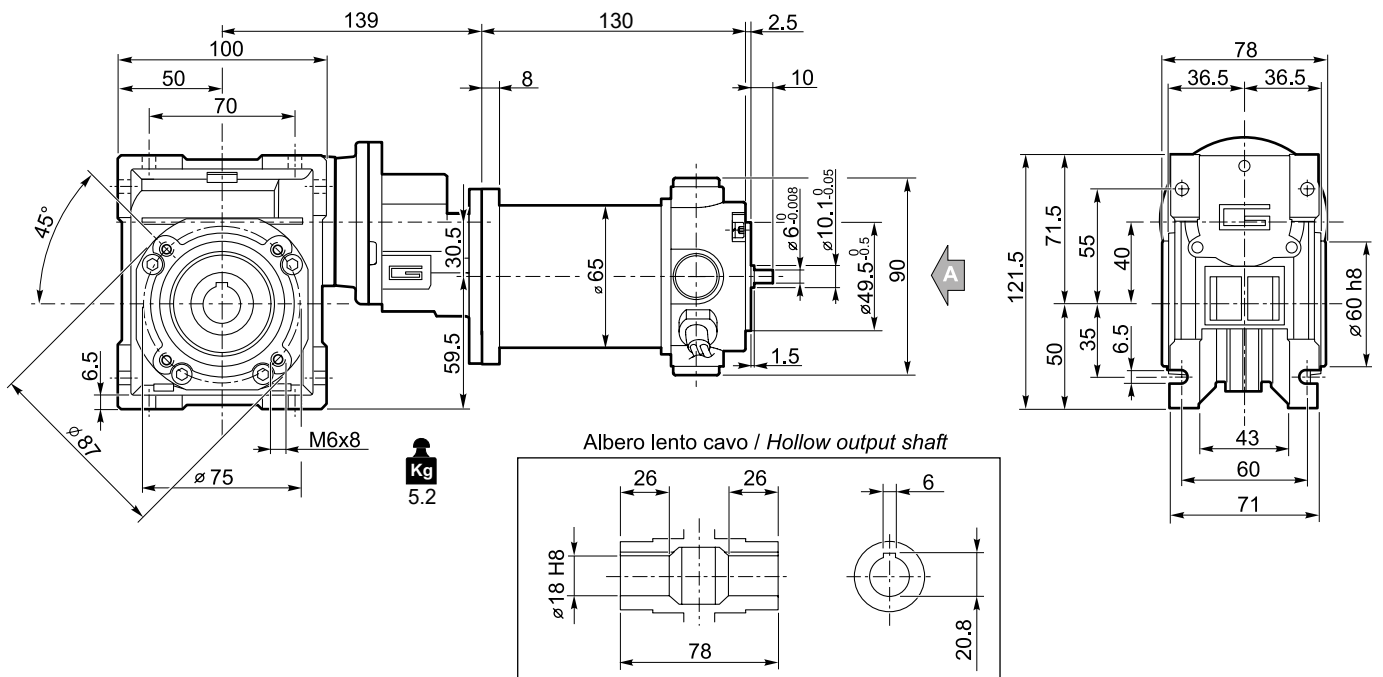
**Dimensioni**

**Dimensions**

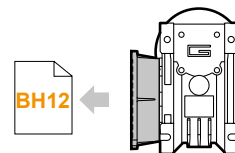
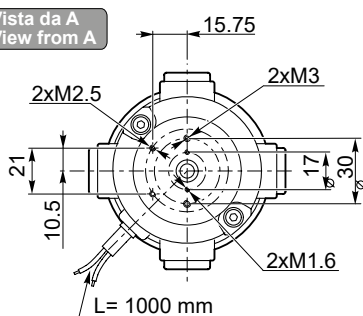
**NDCMP180/056/030 U**



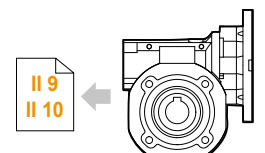
**NDCMP180/056/040 U**



Vista da A  
View from A



**NDCMP180/056/030 F**  
**NDCMP180/056/040 F..**



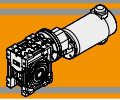
**CL030**  
**CL040**

Freno / Brake



Encoder

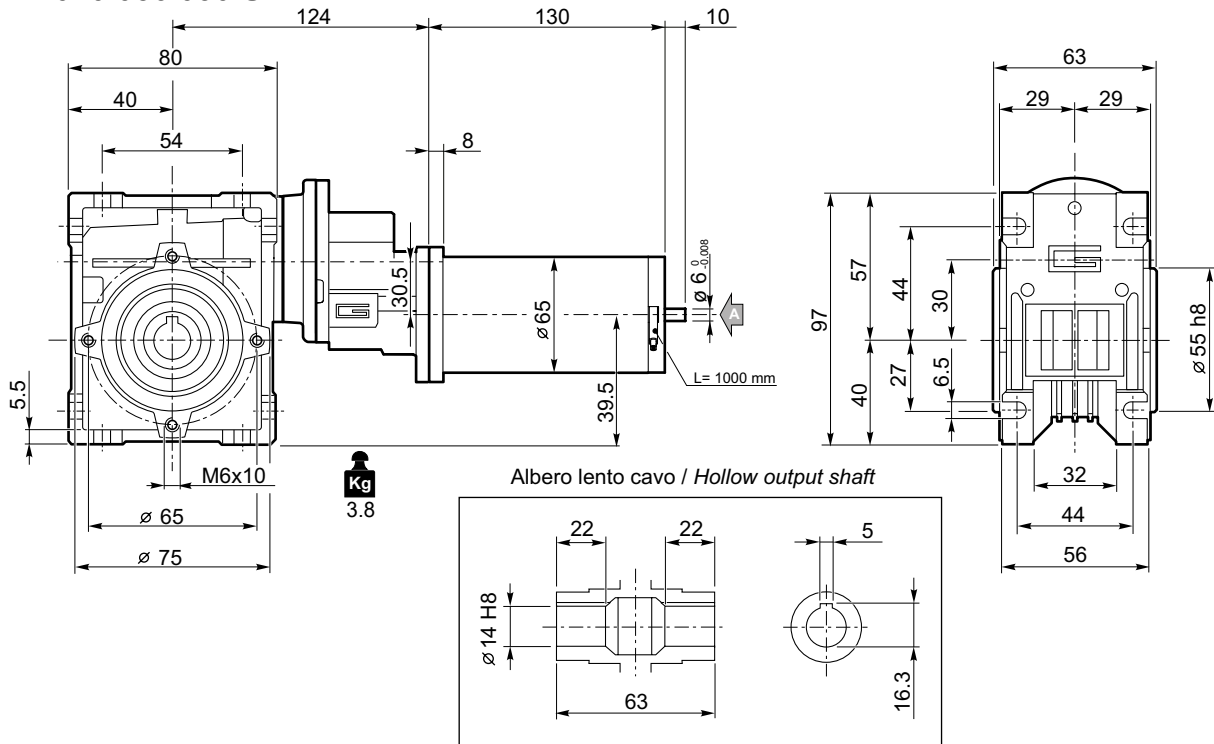




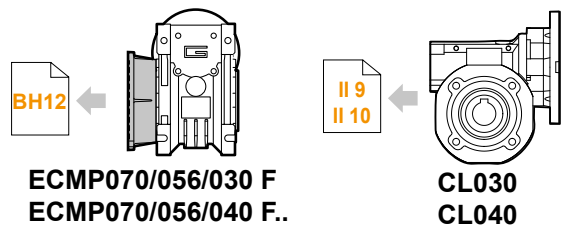
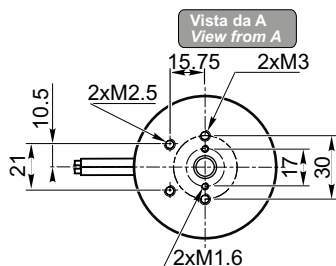
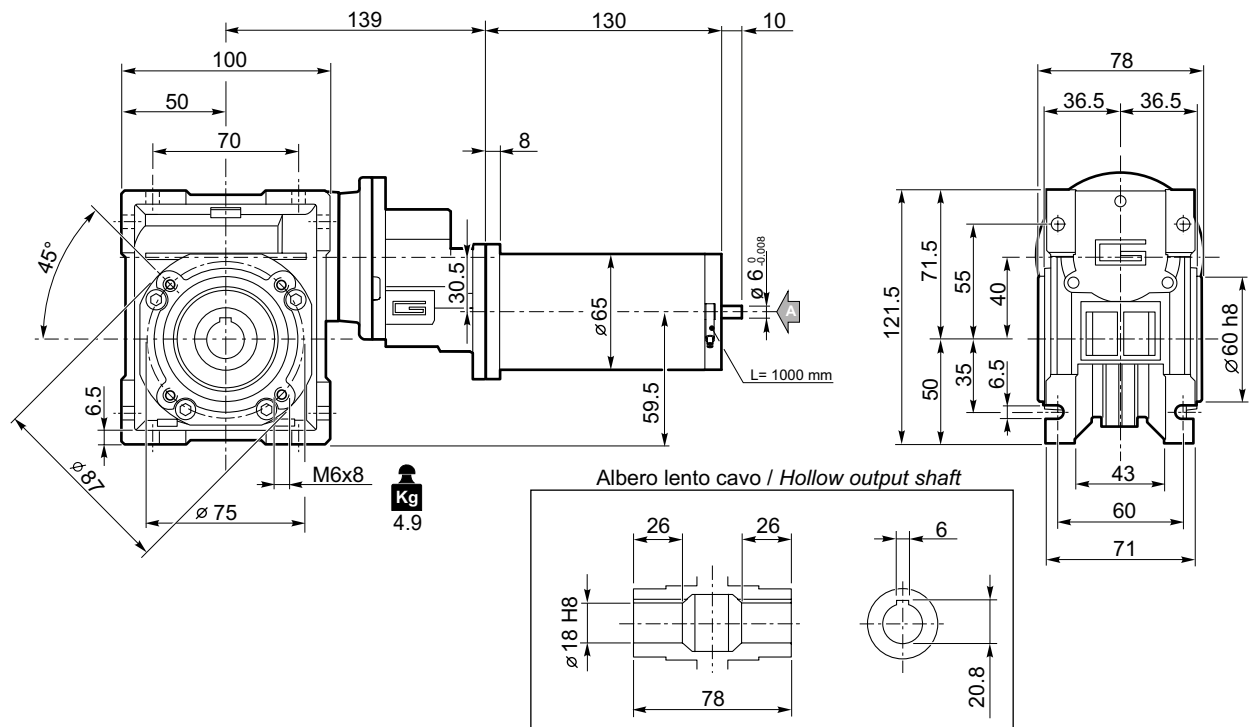
### Dimensioni

### Dimensions

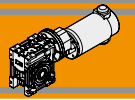
#### ECMP070/056/030 U



#### ECMP070/056/040 U



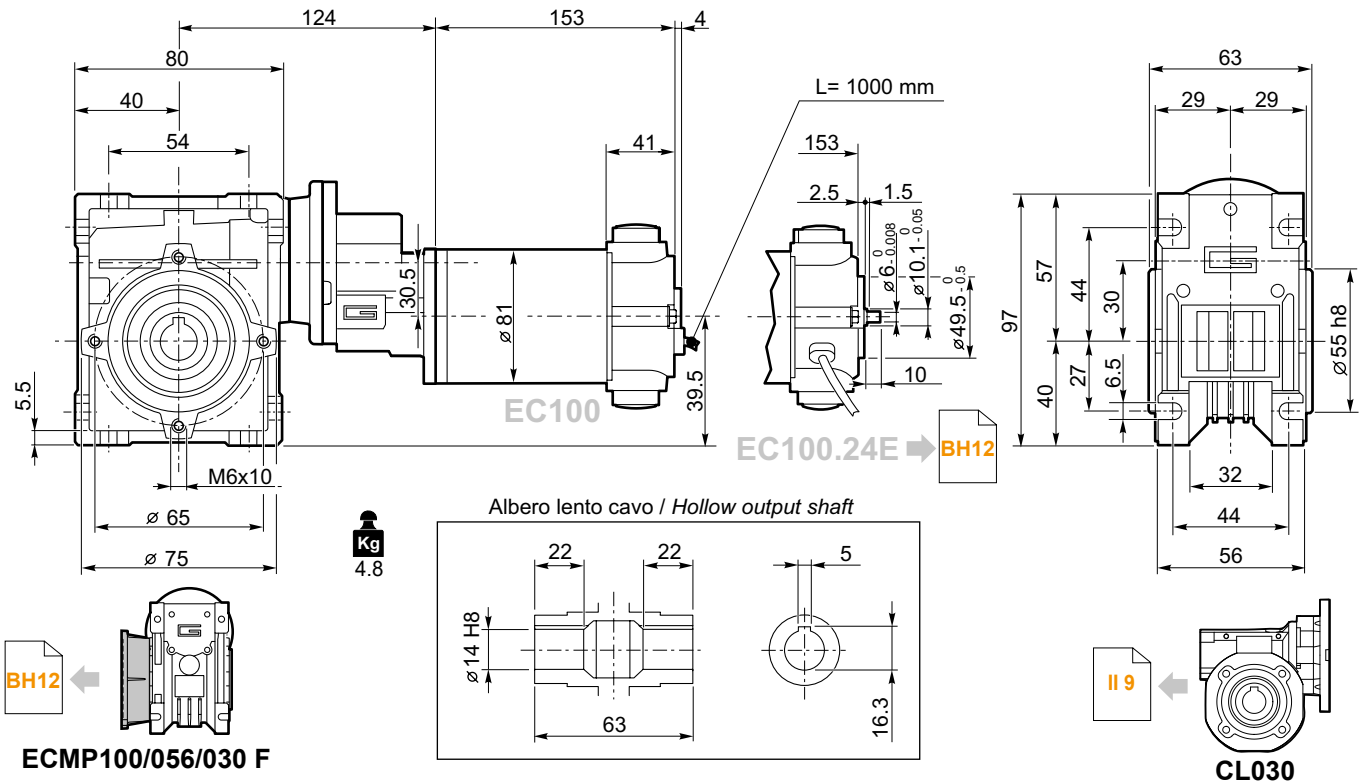




Dimensioni

Dimensions

ECMP100/056/030 U



Motori / Motors IP66



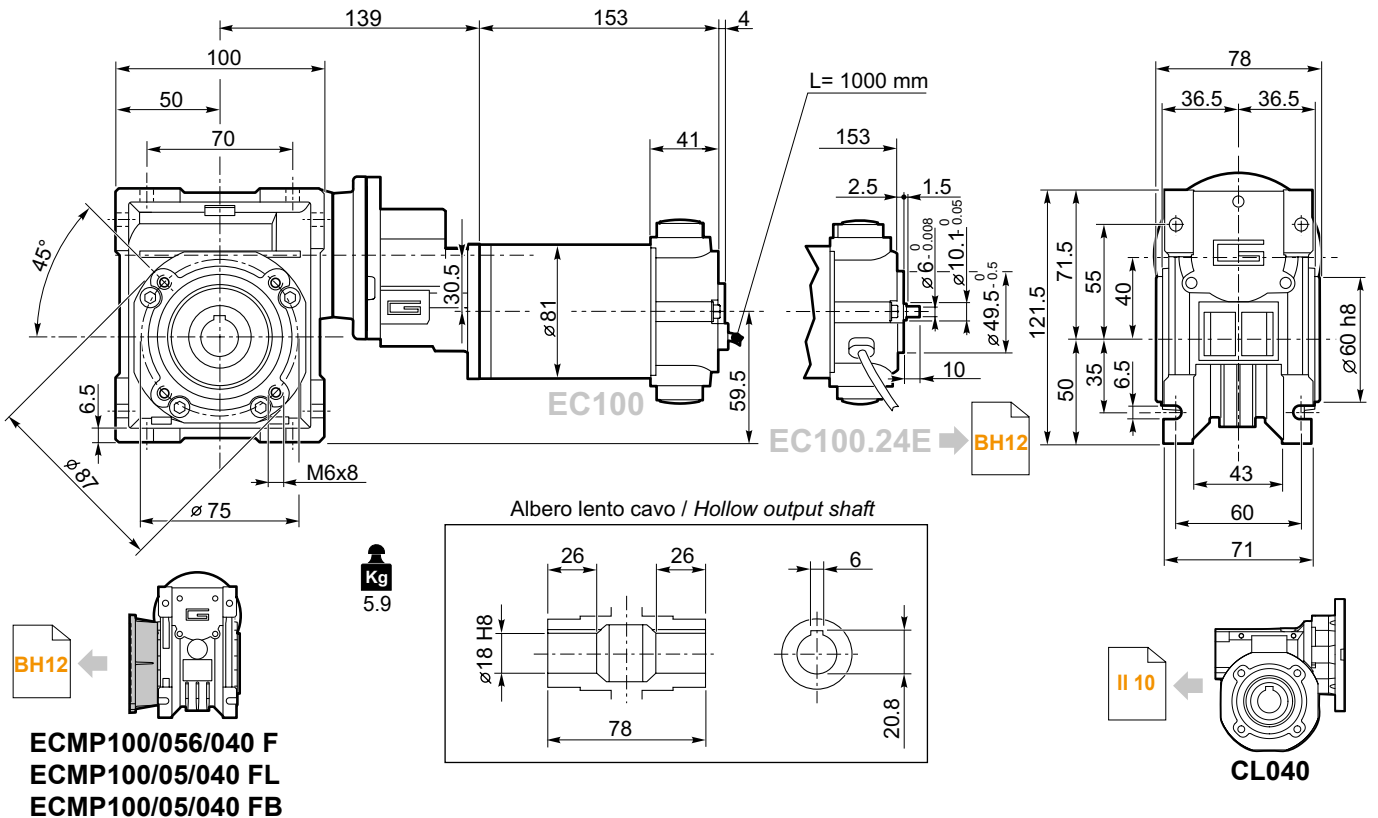
Freno / Brake



Encoder



ECMP100/056/040 U



Motori / Motors IP66



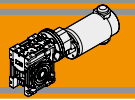
Freno / Brake



Encoder



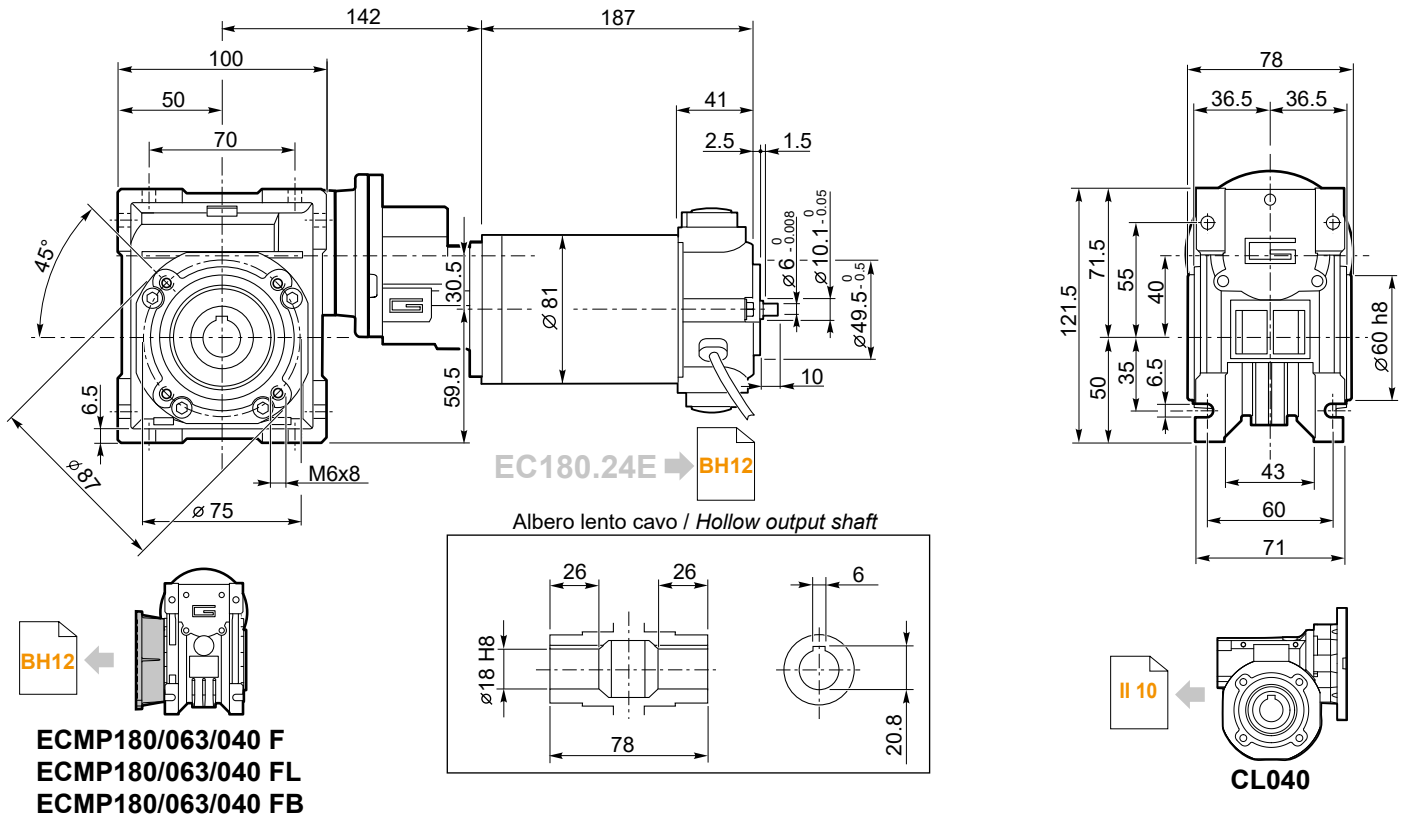




**Dimensioni**

**Dimensions**

**ECMP180/063/040 U**

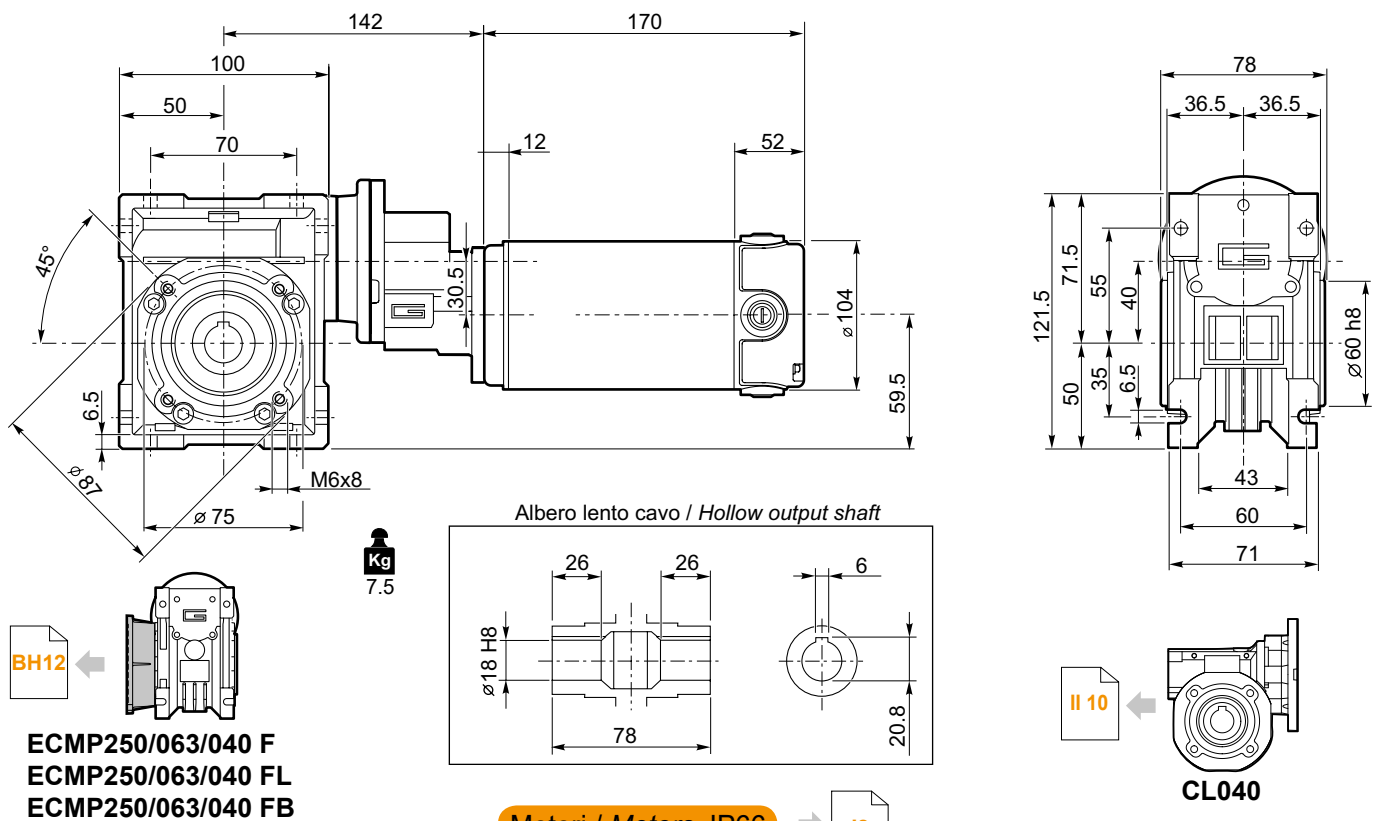


Motori / Motors IP66 → BC6

Freno / Brake → BB23

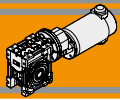
Encoder → BB24

**ECMP250/063/040 U**



Motori / Motors IP66 → I8

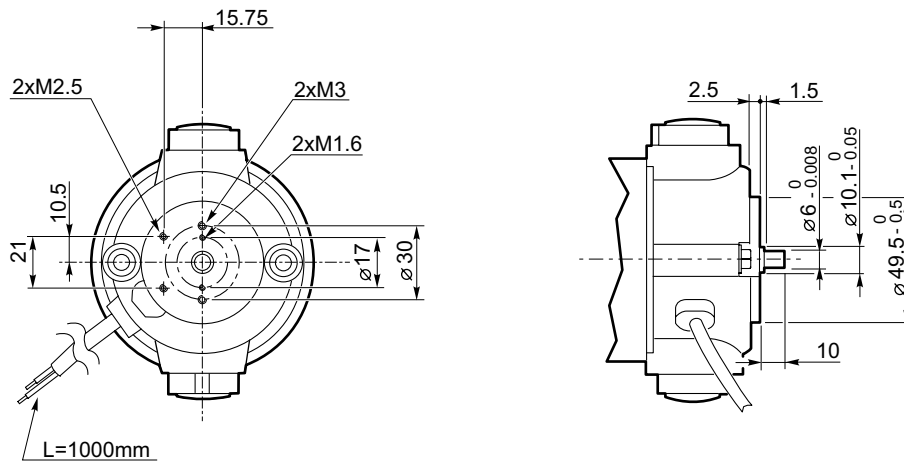
DC



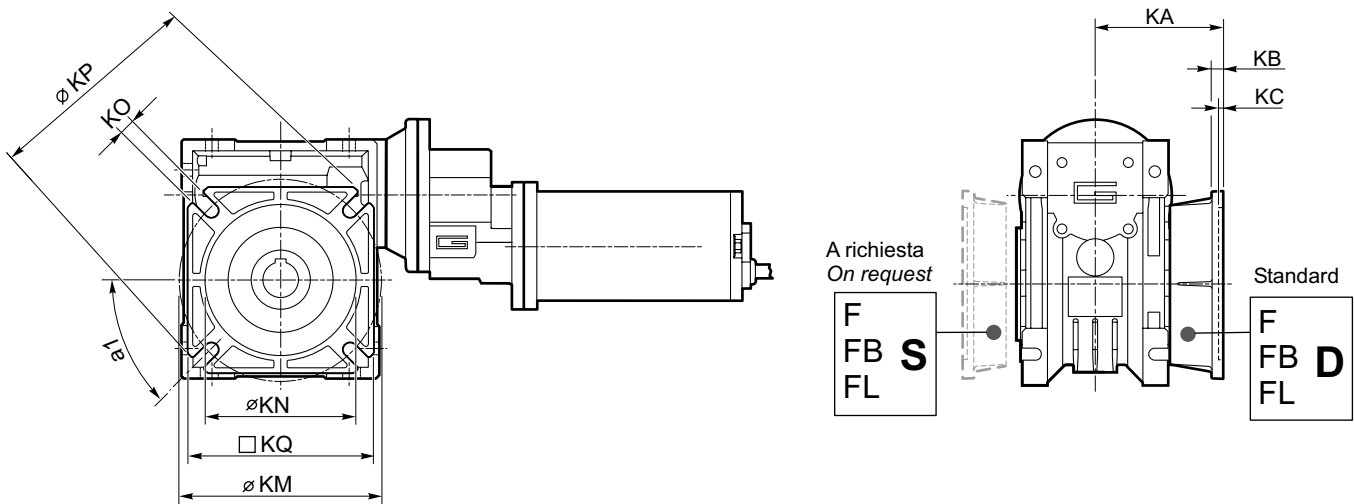
**Dimensioni**

**Dimensions**

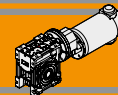
**EC100.24E  
EC180.24E**



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



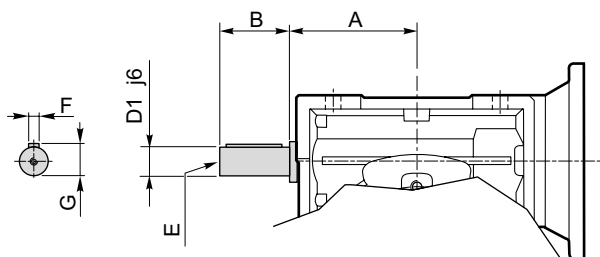
CMP	CMP..F								CMP..FB								CMP..FL								
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
056/030	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
056/040 063/040	45°	67	7.5	4	80-95	60	9(n.4)	110	95	80	8.5	5	115-125	95	9.5(n.4)	140	112	97	7.5	4.5	80-95	60	9(n.4)	110	95
063/050 071/050	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



Opzioni

Options

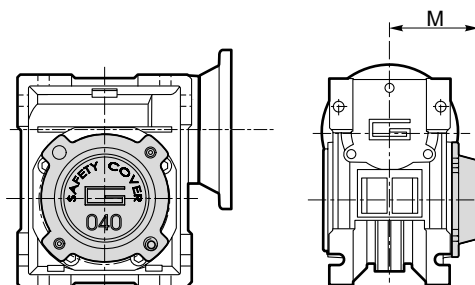
**VS** - Vite sporgente / Extended input shaft



CMP	A	B	D <sub>1</sub> j6	E	F	G
056/030	45	20	9	M4	3	10.2
056/040 063/040	53	23	11	M5	4	12.5

Costruito su richiesta  
Built on request

**SC** - Safety cover



	M
CM 030	47
CM 040	54.5
CM 050	62.5
CM 063	73
CM 070	75
CM 075	79

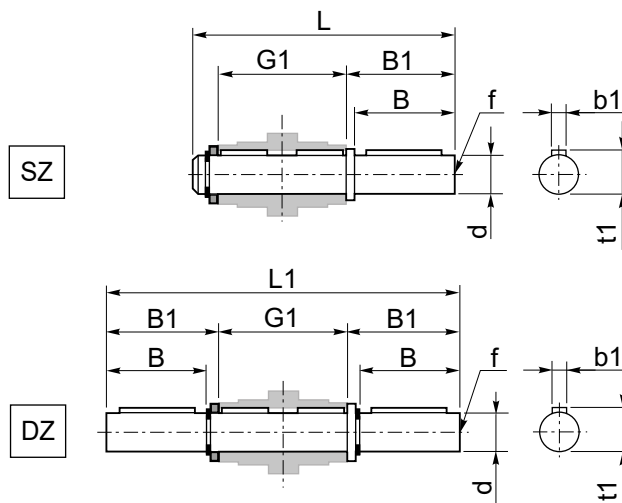
Accessori

Accessories

Albero lento semplice e doppio

CMP	d h7	B	B1	G1	L	L1	f	b1	t1
056/030	14	30	32.5	63	102	128	M6	5	16
056/040 063/040	18	40	43	78	128	164	M6	6	20.5

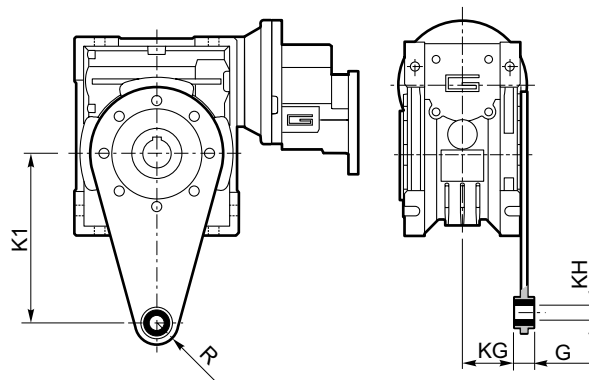
Single and double output shaft



Braccio di reazione

CMP	K1	G	KG	KH	R
056/030	85	14	23	8	15
056/040 063/040	100	14	31	10	18

Torque arm

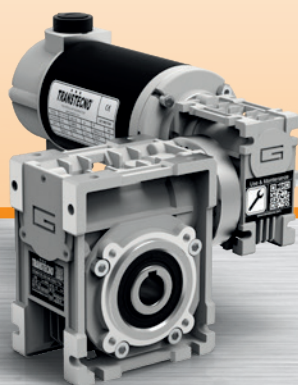




**MINI**  **TECNO**™  
**small** but strong

**ECMM**

Motoriduttori CC a vite senza fine combinati  
DC double reduction wormgearmotors



**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC



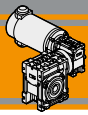




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## Caratteristiche tecniche

## Technical features

I motoriduttori CC a vite senza fine combinati a magneti permanenti in ferrite ECMM hanno le seguenti caratteristiche principali:

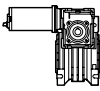
- Alimentazione in bassa tensione 12/24Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 500W S2
- Carcassa dei riduttori in pressofusione di alluminio.
- Lubrificazione permanente con olio sintetico

**ECMM ferrite permanent magnets DC double reduction wormgearmotors range has the following main features:**

- Low voltage power supply 12/24Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 100 up to 800W S2
- Die cast aluminium housing
- Permanent synthetic oil long life lubrication

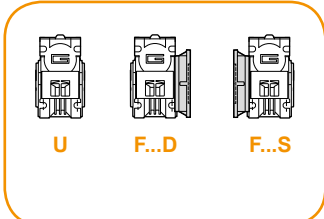
## Designazione

## Classification

MOTORIDUTTORE / GEARMOTOR													
ECMM	100/026/026				U	150	SZDX	BRSX	90	B3	UB1	120	VS1
Tipo Type	Grandezza Size				Versione Version	Rapporto Ratio	Albero di uscita Output shaft	Braccio di reazione Torque arm	Angolo Angle	Pos. di montaggio Mounting position	Esecuzione di montaggio Mounting execution	Versione motore Motor version	Opzioni Options
	070/026/026 070/026/026 (D11) 070/026/026 (D14) 070/026/030 070/026/040	100/026/026 100/026/026 (D11) 100/026/026 (D14)	180/026/040 180/030/040	250/030/040 350/030/040	U F...	vedi tabelle  see tables	SZDX SZSX DZ	BRDX BRSX  *	0° 90° 180° 270°	B3 B8 B6 B7 V5 V6	UB1 UB2 US1 US2 UV1 UV2 UC1 UC2	120 240 24E	VS1 VS2

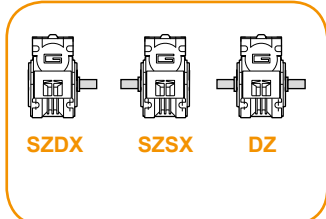
\* NOTA: il braccio di reazione viene fornito smontato.  
NOTE: the torque arm will be supplied not assembled.

Versione Riduttore  
Gearbox Version



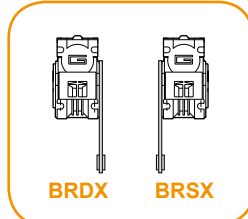
U    F...D    F...S

Albero di uscita  
Output shaft



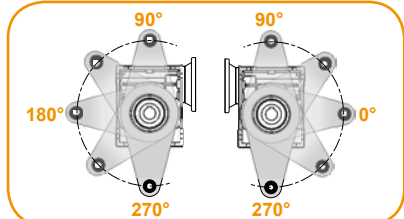
SZDX    SZSX    DZ

Braccio di reazione  
Torque arm



BRDX    BRSX

Angolo  
Angle

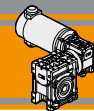


90°    90°  
180°    0°  
270°    270°

## Simbologia

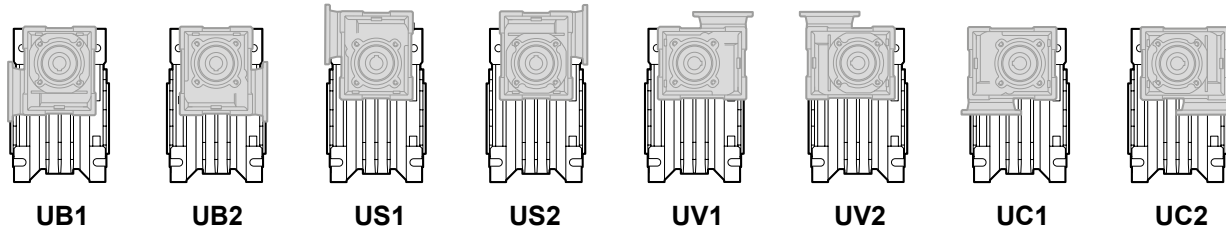
## Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / Input speed	$M_2$ [Nm]	Coppia in uscita in funzione di $P_1$ / Output torque referred to $P_1$
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / Output speed	sf	Fattore di servizio / Service factor
i	Rapporto di riduzione / Ratio	$R_2$ [N]	Carico radiale ammissibile in uscita / Permitted output radial load
$P_1$ [kW]	Potenza in entrata / Input power	$A_2$ [N]	Carico assiale ammissibile in uscita / Permitted output axial load



Esecuzioni di montaggio

Mounting executions



Combinazioni rapporti

Combination ratio

CMM 026/026 - CMM 026/030 - CMM 026/040												
i (i <sub>1</sub> x i <sub>2</sub> )												
	150	225	300	450	600	900	1200	1500	1800	2400	3000	3600
i <sub>1</sub>	10	15	10	15	20	30	40	50	60	60	60	60
i <sub>2</sub>	15	15	30	30	30	30	30	30	30	40	50	60

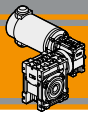
CMM 030/040																
i (i <sub>1</sub> x i <sub>2</sub> )																
	75	100	150	200	250	300	400	500	600	750	900	1200	1500	1800	2400	3000
i <sub>1</sub>	7.5	10	10	10	10	10	10	10	20	25	30	40	50	60	60	60
i <sub>2</sub>	10	10	15	20	25	30	40	50	30	30	30	30	30	30	40	50











Lubrificazione

Lubrication

Tutti i motoriduttori nelle taglie 26, 30, 40 sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

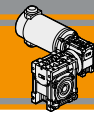
*Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use the gearmotors size 26, 30, 40 in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*

**Dati tecnici per servizio S2****Technical data for S2 duty**

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version							
<b>100</b>							<b>140</b>													
(3000 min <sup>-1</sup> )	<b>20.0</b>	26	1.0	150		ECMM 070/026/026	12E/24E	(3000 min <sup>-1</sup> )	<b>20.0</b>	26	1.0	150		ECMM 100/026/026	120/240/24E					
	<b>13.3</b>	26	1.0	225							<b>13.3</b>	26				1.0	225			
	<b>10.0</b>	27	1.0	300							<b>10.0</b>	27				1.0	300			
	<b>6.7</b>	27	1.0	450							<b>6.7</b>	27				1.0	450			
	<b>5.0</b>	27	1.0	600							<b>5.0</b>	27				1.0	600			
	<b>3.3</b>	27	1.0	900							<b>3.3</b>	27				1.0	900			
	<b>2.5</b>	27	1.0	1200							<b>2.5</b>	27				1.0	1200			
	<b>2.0</b>	27	1.0	1500							<b>2.0</b>	27				1.0	1500			
	<b>1.7</b>	27	1.0	1800							<b>1.7</b>	27				1.0	1800			
	<b>1.3</b>	22	1.0	2400							<b>1.3</b>	22				1.0	2400			
	<b>1.0</b>	20	1.0	3000							<b>1.0</b>	20				1.0	3000			
	<b>0.8</b>	18	1.0	3600							<b>0.8</b>	18				1.0	3600			
	<b>20.0</b>	26	1.5	150					ECMM 070/026/030	12E/24E		<b>20.0</b>				37	1.1	150		ECMM 100/026/030
	<b>13.3</b>	39	1.0	225							<b>13.3</b>	39	1.0	225						
	<b>10.0</b>	40	1.0	300							<b>10.0</b>	40	1.0	300						
	<b>6.7</b>	40	1.0	450							<b>6.7</b>	40	1.0	450						
	<b>5.0</b>	40	1.0	600							<b>5.0</b>	40	1.0	600						
	<b>3.3</b>	40	1.0	900							<b>3.3</b>	40	1.0	900						
	<b>2.5</b>	40	1.0	1200							<b>2.5</b>	40	1.0	1200						
	<b>2.0</b>	40	1.0	1500							<b>2.0</b>	40	1.0	1500						
	<b>1.7</b>	40	1.0	1800							<b>1.7</b>	40	1.0	1800						
	<b>1.3</b>	34	1.0	2400							<b>1.3</b>	34	1.0	2400						
	<b>1.0</b>	30	1.0	3000							<b>1.0</b>	30	1.0	3000						
	<b>0.8</b>	27	1.0	3600							<b>0.8</b>	27	1.0	3600						
	<b>20.0</b>	27	3.2	150		ECMM 070/026/040	12E/24E					<b>20.0</b>	38	2.3	150		ECMM 100/026/040	120/240/24E		
	<b>13.3</b>	40	2.2	225							<b>13.3</b>	55	1.6	225						
	<b>10.0</b>	45	2.0	300							<b>10.0</b>	63	1.4	300						
	<b>6.7</b>	66	1.4	450							<b>6.7</b>	92	1.0	450						
	<b>5.0</b>	85	1.1	600							<b>5.0</b>	90	1.0	600						
	<b>3.3</b>	90	1.0	900							<b>3.3</b>	90	1.0	900						
	<b>2.5</b>	90	1.0	1200							<b>2.5</b>	90	1.0	1200						
	<b>2.0</b>	90	1.0	1500							<b>2.0</b>	90	1.0	1500						
	<b>1.7</b>	90	1.0	1800							<b>1.7</b>	90	1.0	1800						
	<b>1.3</b>	74	1.0	2400							<b>1.3</b>	74	1.0	2400						
	<b>1.0</b>	68	1.0	3000							<b>1.0</b>	68	1.0	3000						
	<b>0.8</b>	62	1.0	3600							<b>0.8</b>	62	1.0	3600						
	<b>40.0</b>	15	5.5	75					ECMM 070/030/040	12E/24E		<b>40.0</b>	21	3.9	75					ECMM 100/030/040
	<b>30.0</b>	20	4.2	100							<b>30.0</b>	28	3.0	100						
	<b>20.0</b>	28	3.2	150							<b>20.0</b>	38	2.3	150						
	<b>15.0</b>	36	2.1	200							<b>15.0</b>	50	1.5	200						
	<b>12.0</b>	43	1.6	250							<b>12.0</b>	59	1.1	250						
	<b>10.0</b>	46	2.0	300							<b>10.0</b>	63	1.4	300						
	<b>7.5</b>	55	1.3	400							<b>7.5</b>	77	1.0	400						
	<b>6.0</b>	63	1.1	500							<b>6.0</b>	87	0.8	500						
	<b>5.0</b>	86	1.0	600							<b>5.0</b>	119	0.8	600						
	<b>4.0</b>	103	0.9	750							<b>4.0</b>	90	1.0	750						
	<b>3.3</b>	118	0.8	900							<b>3.3</b>	90	1.0	900						
	<b>2.5</b>	74	1.0	1200							<b>2.5</b>	74	1.0	1200						
	<b>2.0</b>	90	1.0	1500							<b>2.0</b>	90	1.0	1500						
	<b>1.7</b>	90	1.0	1800				<b>1.7</b>	90	1.0	1800									
	<b>1.3</b>	74	1.0	2400				<b>1.3</b>	74	1.0	2400									
	<b>1.0</b>	68	1.0	3000				<b>1.0</b>	68	1.0	3000									








**Nota:** Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio

**Note:** Please check that the output torque M2 does not exceed the value into the grey areas



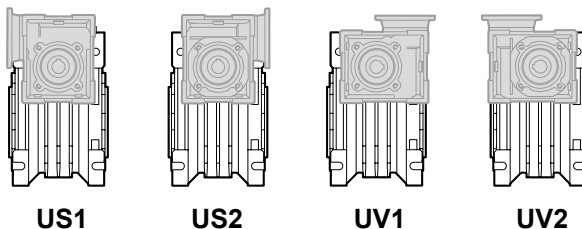
Dati tecnici per servizio S2

Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version						
<b>250</b>							<b>350</b>												
(3000 min <sup>-1</sup> )	20.0	70	1.2	150		ECMM 180/026/040	120/240	(3000 min <sup>-1</sup> )	40.0	55	1.5	75		ECMM 250/030/040	120/240				
	13.3	103	0.8	225															
	10.0	116	0.8	300															
	40.0	40	2.1	75		ECMM 180/030/040	120/240/24E		30.0	72	1.2	100							
	30.0	52	1.6	100															
	20.0	71	1.2	150															
	15.0	92	0.8	200															
	12.0	67	1.0	250															
	10.0	90	1.0	300															
	7.5	74	1.0	400															
	6.0	68	1.0	500															
	5.0	90	1.0	600															
	4.0	90	1.0	750															
	3.3	90	1.0	900															
<b>500</b>							<b>500</b>												
(3000 min <sup>-1</sup> )	40.0	78	1.1	75		ECMM 350/030/040	120/240	(3000 min <sup>-1</sup> )	40.0	78	1.1	75		ECMM 350/030/040	120/240				
	30.0	101	0.8	100															
	20.0	87	1.0	150															

Motori applicabili

Motor adapters

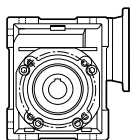
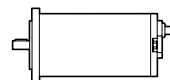


US1

US2

UV1

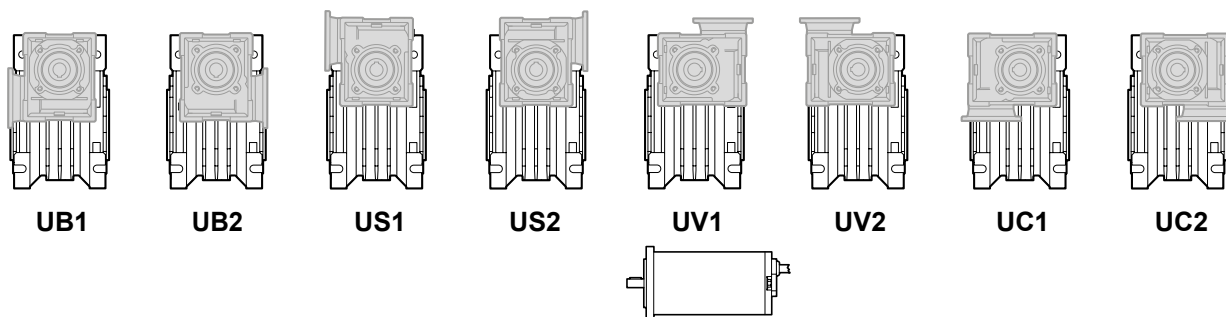
UV2



		EC			
		070.12E 070.24E	100.120 100.240	100.24E	180.120 180.240
<b>CMM</b>	<b>026/026</b>	150 - 3600	150 - 3600	150 - 3600	150 - 3600

150 - 3600

Rapporti di riduzione i  
Ratio i



UB1

UB2

US1

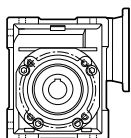
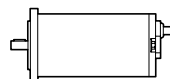
US2

UV1

UV2

UC1

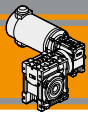
UC2



		EC						
		070.12E 070.24E	100.120 100.240	100.24E	180.120 180.240	180.24E	250.120 250.240	350.120 350.240
<b>CMM</b>	<b>026/030</b>	150 - 3600	150 - 3600	150 - 3600	150 - 3600			
	<b>026/040</b>	150 - 3600	150 - 3600	150 - 3600	150 - 3600			
	<b>030/040</b>	75 - 3000	75 - 3000	75 - 3000	75 - 3000	75 - 1500	75 - 1500	75 - 1500

75 - 1500

Rapporti di riduzione i  
Ratio i



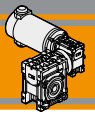
**Dimensioni**

**Dimensions**

CMM..U - CMM..F..																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>h8</sub>	N1	N2
026/026 (D11)	45	70	11	83	22	47.5	50	35	34	26	26	34	42	55	45	22.5	21
026/026			12														
026/026 (D14)			14														
026/030	54	80	14	97	32	47.5	63	40	34	30	26	44	56	65	55	29	21
026/040	70	100	18	121.5	43	47.5	78	50	34	40	26	60	71	75	60	36.5	21
030/040	70	100	18	121.5	43	55	78	50	40	40	30	60	71	75	60	36.5	29

CMM..U - CMM..F..															
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	Kg (*)	
026/026 (D11)	6	—	37	49	49	5	15	21	76	7	—	4	12.8	3.3	
026/026												4	13.8		
026/026 (D14)												5	16.2		
026/030	6.5	75	44	57	49	5.5	22	27	81	M6x10(n.4)	90°	5	16.3	4.1	
026/040	6.5	87	55	71.5	49	6.5	26	35	91.5	M6x8(n.4)	45°	6	20.8	5.2	
030/040	6.5	87	55	71.5	57	6.5	26	35	122	M6x8(n.4)	45°	6	20.8	5.6	

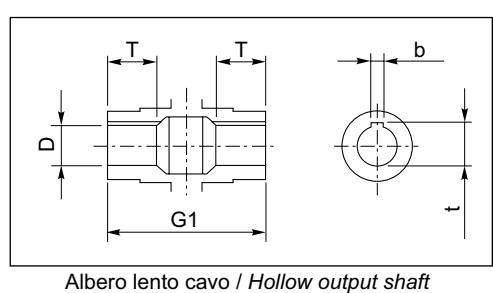
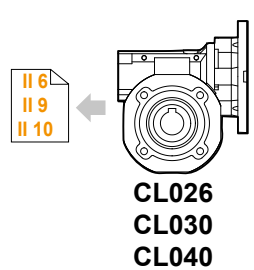
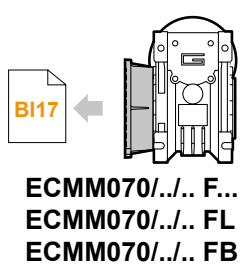
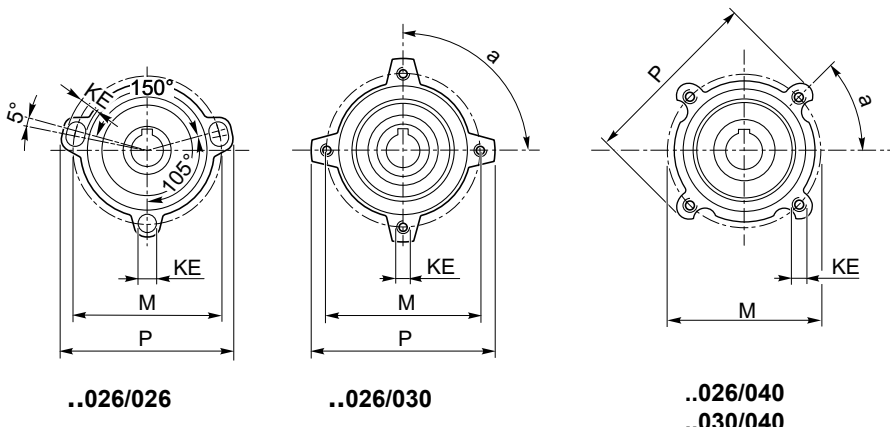
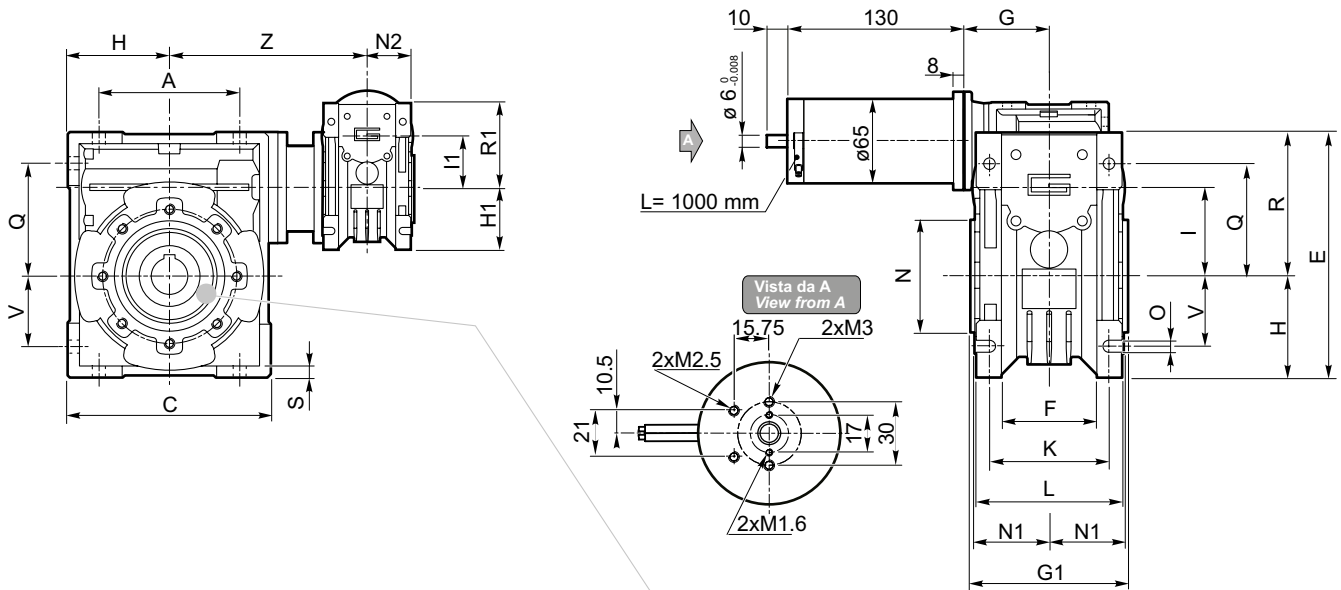
(\*) **Nota:** Il peso in kg si riferisce al motoriduttore ECMM 070 /...  
**Note:** The weight in kg is referred to the gearmotor ECMM 070 /...

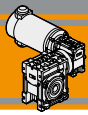


**Dimensioni**

**Dimensions**

**ECMM070/...U**





**Dimensioni**

**Dimensions**

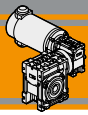
CMM..U - CMM..F...																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>H8</sub>	N1	N2
026/026 (D11)	45	70	11	83	22	47.5	50	35	34	26	26	34	42	55	45	22.5	21
026/026			12														
026/026 (D14)			14														
026/030	54	80	14	97	32	47.5	63	40	34	30	26	44	56	65	55	29	21
026/040	70	100	18	121.5	43	47.5	78	50	34	40	26	60	71	75	60	36.5	21
030/040	70	100	18	121.5	43	55	78	50	40	40	30	60	71	75	60	36.5	29

CMM..U - CMM..F...														
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	Kg (*)
026/026 (D11)	6	—	37	49	49	5	15	21	76	7	—	4	12.8	3.3
026/026												4	13.8	
026/026 (D14)												5	16.2	
026/030	6.5	75	44	57	49	5.5	22	27	81	M6x10(n.4)	90°	5	16.3	5.1
026/040	6.5	87	55	71.5	49	6.5	26	35	91.5	M6x8(n.4)	45°	6	20.8	6.2
030/040	6.5	87	55	71.5	57	6.5	26	35	122	M6x8(n.4)	45°	6	20.8	6.6

(\*) **Nota:** Il peso in kg si riferisce al motoriduttore ECMM 100 /...  
**Note:** The weight in kg is referred to the gearmotor ECMM 100 /...





**Dimensioni****Dimensions**

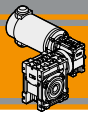
CMM..U - CMM..F - CMM..FB - CMM..FL																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>H8</sub>	N1	N2
<b>026/040</b>	70	100	18	121.5	43	47.5	78	50	34	40	26	60	71	75	60	36.5	21
<b>030/040</b>	70	100	18	121.5	43	55	78	50	40	40	30	60	71	75	60	36.5	29

CMM..U - CMM..F - CMM..FB - CMM..FL														
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	Kg (*)
<b>026/040</b>	6.5	87	55	71.5	49	6.5	26	35	91.5	M6x8(n.4)	45°	6	20.8	6.9
<b>030/040</b>	6.5	87	55	71.5	57	6.5	26	35	122	M6x8(n.4)	45°	6	20.8	7.3

(\*) **Nota:** Il peso in kg si riferisce al motoriduttore ECMM 180 /...

**Note:** The weight in kg is referred to the gearmotor ECMM 180 /...



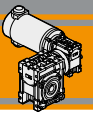
**Dimensioni****Dimensions**

CMM..U - CMM..F - CMM..FB - CMM..FL																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>H8</sub>	N1	N2
030/040	70	100	18	121.5	43	55	78	50	40	40	30	60	71	75	60	36.5	29

CMM..U - CMM..F - CMM..FB - CMM..FL															
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	kg (*)	
030/040	6.5	87	55	71.5	57	6.5	26	35	122	M6x8(n.4)	45°	6	20.8	8.2	

(\*) **Nota:** Il peso in kg si riferisce al motoriduttore ECMM 250 /...

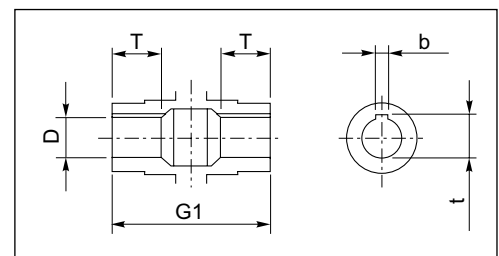
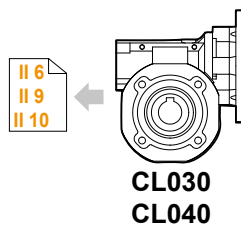
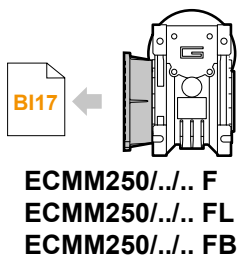
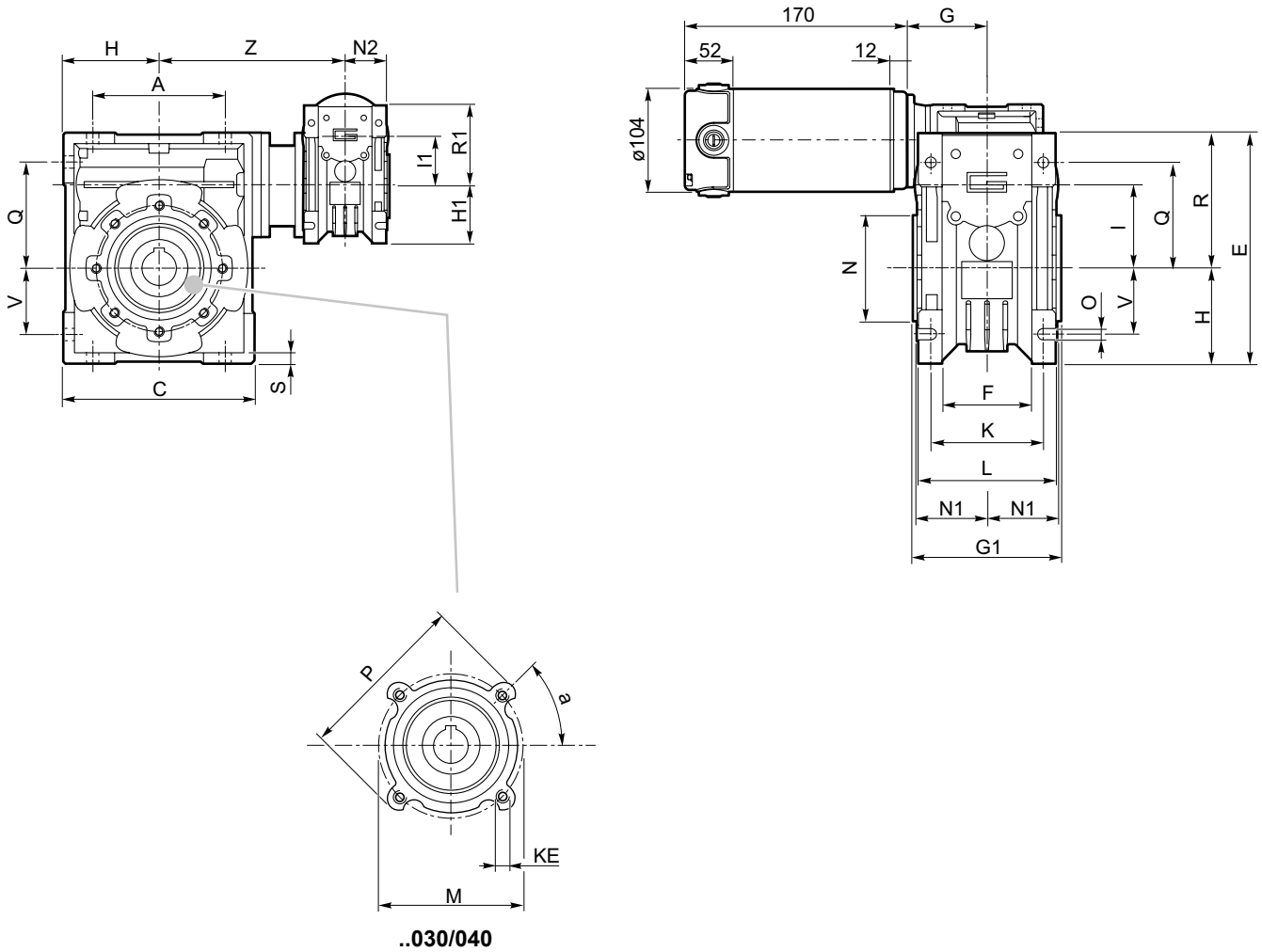
**Note:** The weight in kg is referred to the gearmotor ECMM 250 /...



**Dimensioni**

**Dimensions**

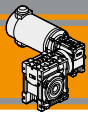
**ECMM250/...U**



Albero lento cavo / Hollow output shaft

Motori / Motors IP66

**BC8**

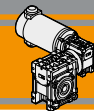
**Dimensioni****Dimensions**

CMM..U - CMM..F - CMM..FB - CMM..FL																	
	A	C	D <sub>H8</sub>	E	F	G	G1	H	H1	I	I1	K	L	M	N <sub>H8</sub>	N1	N2
<b>030/040</b>	70	100	18	121.5	43	55	78	50	40	40	30	60	71	75	60	36.5	29

CMM..U - CMM..F - CMM..FB - CMM..FL														
	O	P	Q	R	R1	S	T	V	Z	KE	a	b	t	Kg (*)
<b>030/040</b>	6.5	87	55	71.5	57	6.5	26	35	122	M6x8(n.4)	45°	6	20.8	9.2

(\*) **Nota:** Il peso in kg si riferisce al motoriduttore ECMM 350 /...

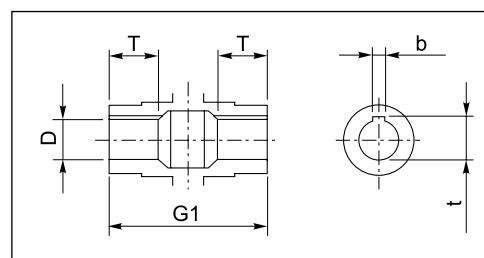
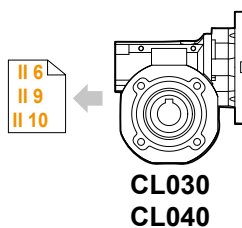
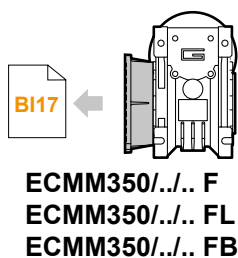
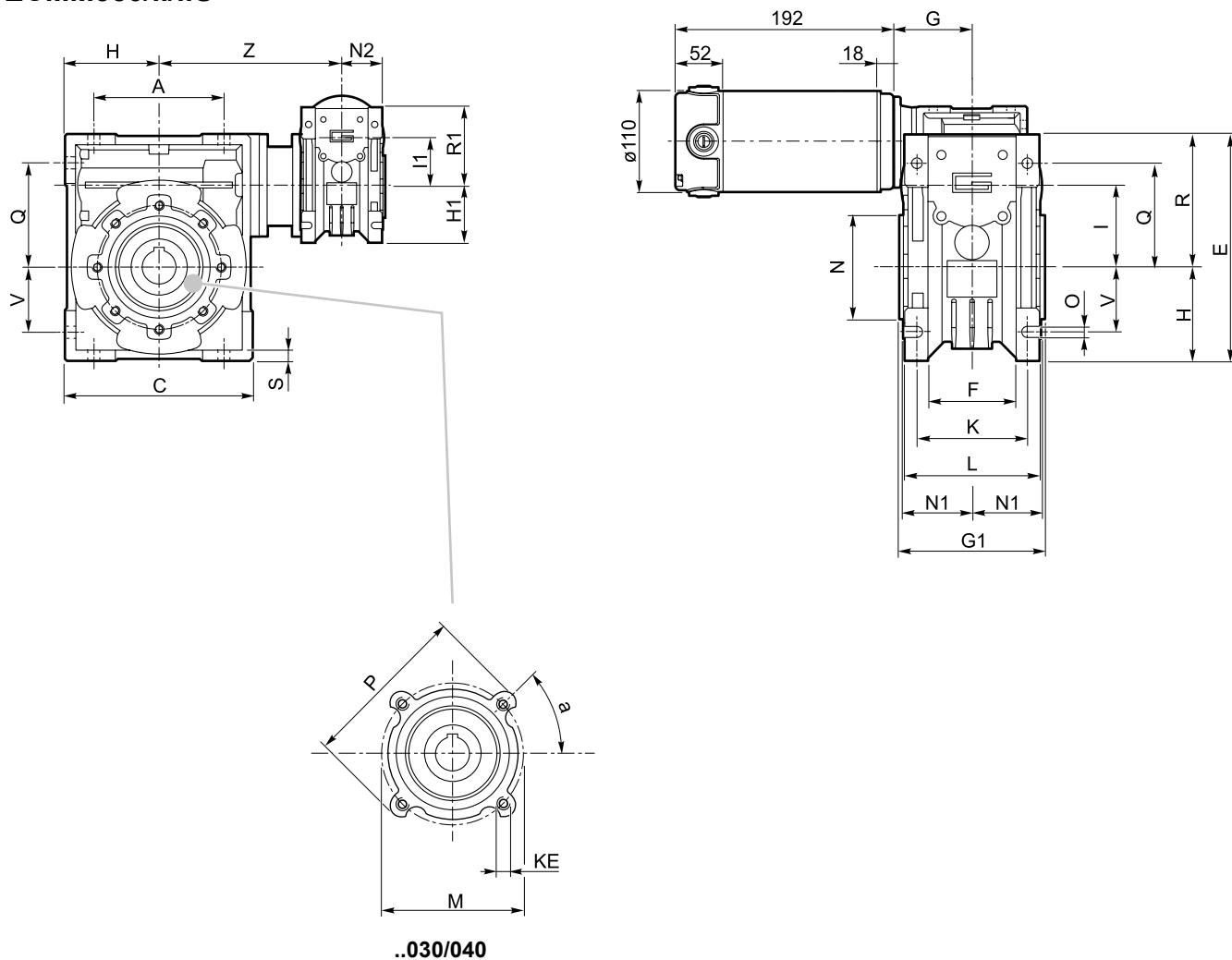
**Note:** The weight in kg is referred to the gearmotor ECMM 350 /...



**Dimensioni**

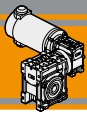
**Dimensions**

**ECMM350/...U**



Albero lento cavo / Hollow output shaft

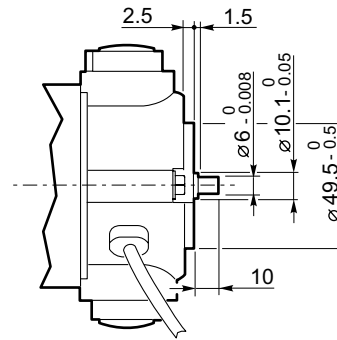
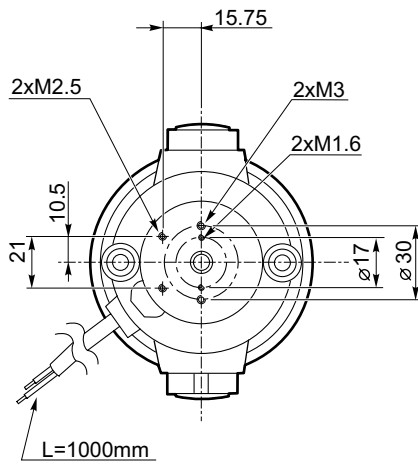




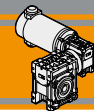
**Dimensioni**

**Dimensions**

**EC100.24E**  
**EC180.24E**



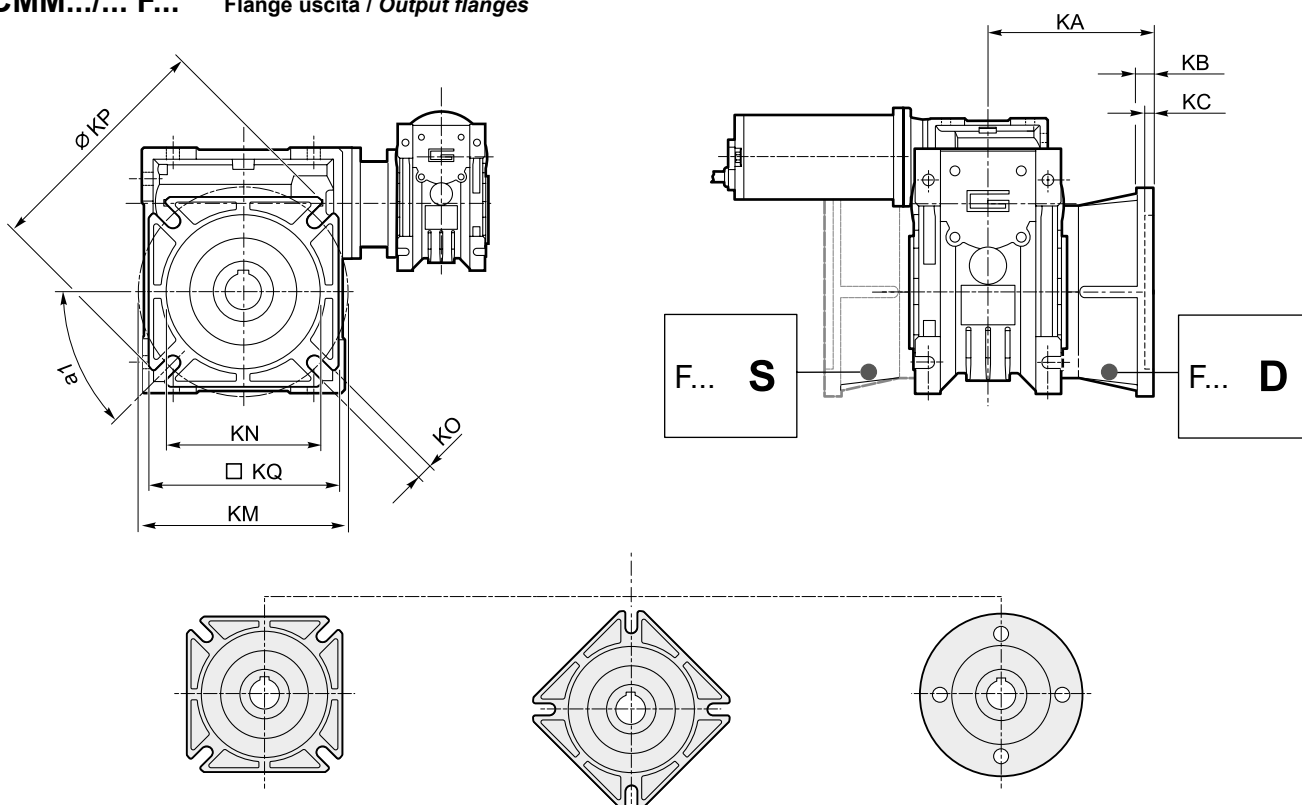




Dimensioni

Dimensions

ECMM.../... F... Flange uscita / Output flanges



- ..ECMM.../.../026.. F
- ..ECMM.../.../026.. F30C
- ..ECMM.../.../026.. F100
- ..ECMM.../.../026.. F28
- ..ECMM.../.../026.. F30SC
- ..ECMM.../.../026.. F30
- ..ECMM.../.../026.. F30S
- ...ECMM.../.../030.. F..
- ..ECMM.../.../040.. F..

	CM..F						CM..F28						CM..F30						CM..F30S <sup>(1)</sup>															
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	
026 (D11)	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	
026																																		
026 (D14)																																		

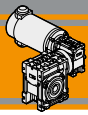
(1): F30S eseguita con F30 e distanziale di spessore 2 mm / F30S made with F30 and spacer with 2mm thickness

	CM..F30C						CM..F30SC <sup>(2)</sup>						CM..F100												
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC *	KM	KN <sub>H7</sub>	KO	KP	KQ
026 (D11)	-	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	-
026																									
026 (D14)																									

(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 <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	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

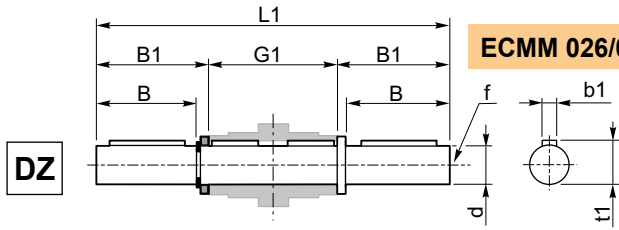


**Accessori**

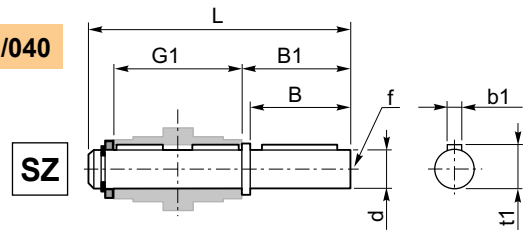
**Accessories**

**Albero lento semplice e doppio**

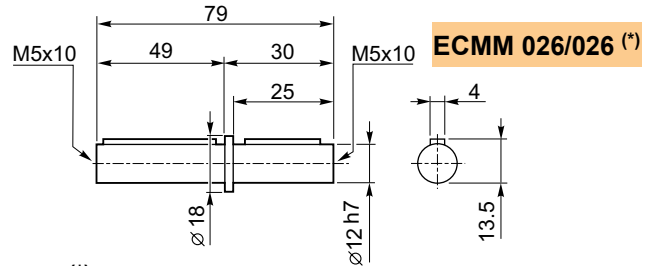
**Single and double output shaft**



**ECMM 026/030 - ECMM 030/040**



ECMM	d <sub>h7</sub>	B	B1	G1	L	L1	f	b1	t1
026/030	14	30	32.5	63	102	128	M6	5	16
026/040 030/040	18	40	43	78	128	164	M6	6	20.5



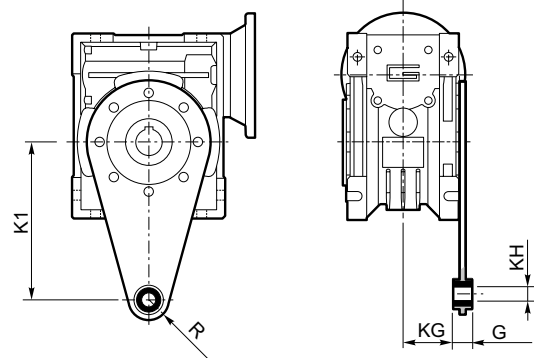
**ECMM 026/026 (\*)**

(\*)  
**Nota:** disponibile solo per cavo uscita Ø12  
**Note:** available for output hollow shaft Ø12 only

**Braccio di reazione**

**Torque arm**

ECMM	K1	G	KG	KH	R
026/030	85	14	23	8	15
026/040 030/040	100	14	31	10	18

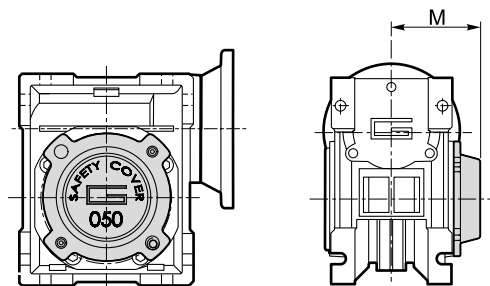
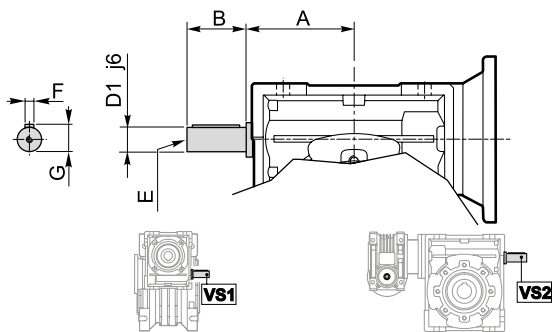


**Opzioni**

**Options**

**VS1 - VS2 - Vite sporgente / Extended input shaft**

**SC - Safety cover**



CMM	VS1						VS2					
	A	B	D <sub>1</sub> j6	E	F	G	A	B	D <sub>1</sub> j6	E	F	G
026/030	—	—	—	—	—	—	45	20	9	M4	3	10.2
026/040	—	—	—	—	—	—	53	23	11	M5	4	12.5
030/040	45	20	9	M4	3	10.2	53	23	11	M5	4	12.5

M	CM	
	30	40
	47	54.5

Costruito su richiesta  
Built on request

**MINI**  **TECNO**™  
**small** but strong

**NDP**  
**ECP**

Motoriduttori CC epicicloidali  
DC planetary gearmotors

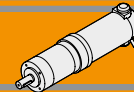


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC





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## Caratteristiche tecniche

## Technical features

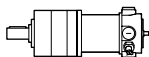
I motoriduttori CC epicicloidali a magneti permanenti in neodimio **NDP** e in ferrite **ECP** hanno le seguenti caratteristiche principali:


**NDP** neodymium permanent magnets and **ECP** ferrite permanent magnets DC planetary gearmotors range has the following main features:

- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 100 a 500W S2
- Entrata ed uscita coassiali
- Design compatto
- Lubrificazione permanente a grasso
- Possono essere installati in qualunque posizione di montaggio.
- Low voltage power supply 12/24 Vdc
- Suitable for encoder and brake assembly
- Motor power ratings available from 100 up to 500W S2
- In-line input and output
- Compact design
- Permanent grease oil long-life lubrication
- Can be intalled in all mounting position.

## Designazione

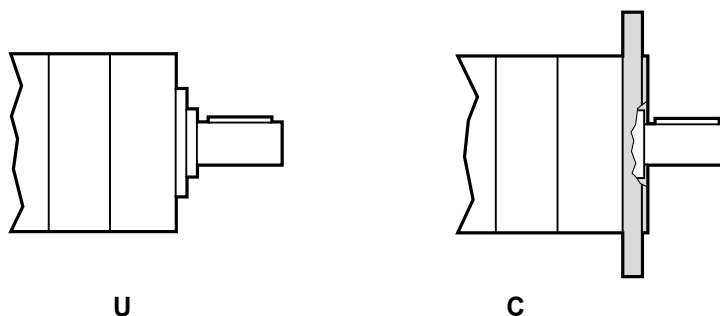
## Classification

MOTORIDUTTORE / GEARMOTOR								
NDP	120/62		2	C	90	34.97	120	BR
Tipo Type	Grandezza Size		Stadi riduttore Gearbox stages	Versione riduttore Gearbox Version	Flangia uscita Output flange	Rapporto Ratio	Versione Motore Motor Version	Opzioni Options
NDP 	120/52 120/62	180/52 180/62	1 2 3	U C	80 90 105 120	Vedere tabella See tables	120 240	BR BRL

MOTORIDUTTORE / GEARMOTOR														
ECP	070/62							2	C	90	34.97	120	BR	
Tipo Type	Grandezza Size							Stadi riduttore Gearbox stages	Versione riduttore Gearbox Version	Flangia Uscita Output flange	Rapporto Ratio	Versione Motore Motor Version	Opzioni Options	
ECP 	020/42	035/42 035/52	050/42 050/52	070/52 070/62	100/52 100/62	180/52 180/62	250/62	350/62	1 2 3	U C	80 90 105 120	Vedere tabella See tables	120 240 24E	BR BRL

## Versioni

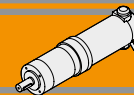
## Versions



## Simbologia

## Symbols

$n_1$ [min <sup>-1</sup> ]	Velocità in ingresso / Input speed	sf	Fattore di servizio / Service factor
$n_2$ [min <sup>-1</sup> ]	Velocità in uscita / Output speed	Rd %	Rendimento dinamico / Dynamic efficiency
i	Rapporto di riduzione / Ratio	A <sub>2</sub> [N]	Carico assiale ammissibile in uscita / Permitted output axial load
P <sub>1</sub> [kW]	Potenza in entrata / Input power	R <sub>2</sub> [N]	Carico radiale ammissibile in uscita / Permitted output radial load
M <sub>2</sub> [Nm]	Coppia in uscita in funzione di P <sub>1</sub> / Output torque referred to P <sub>1</sub>		



**Lubrificazione**

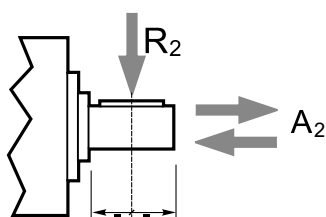
**Lubrication**

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.*

**Carichi radiali**

**Radial loads**



Numero di stadi Stages number	Carichi Radiali $R_2$ [N] / Radial Load $R_2$ [N]		
	P42	P52	P62
1	160	200	240
2	230	320	360
3	300	450	520

Numero di stadi Stages number	Carichi Assiali $A_2$ [N] / Axial Load $A_2$ [N]		
	P42	P52	P62
1	50	60	70
2	80	100	100
3	110	150	150

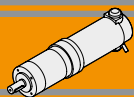
**Rapporti**

**Ratios**

Numero di stadi Stages number	Per tutte le grandezze di riduttori della serie P For all gearbox sizes of P range	
	Rapporti / Ratios	
1	3.70	
	4.28	
	5.18	
2	6.75	
	13.73	
	15.88	
	18.36	
	19.20	
	22.20	
	25.01	
	26.85	
	28.93	
	34.97	
3	45.56	
	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 P42, P52, P62.**  
*Preferred ratios for P42, P52, P62.*

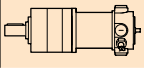
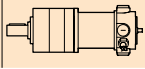
Disponibile a 4 stadi con rapporti fino a 2076  
*Available 4 stages with ratio up to 2076*



### Dati tecnici per servizio S2

### NDP

### Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	
<b>160</b>							<b>160</b>							
(3000 min <sup>-1</sup> )	<b>811</b>	2	2.6	3.70	<b>NDP120/521</b>	<b>120/240</b>	(3000 min <sup>-1</sup> )	<b>59</b>	18	2.8	50.89	<b>NDP120/623</b>	<b>120/240</b>	
	<b>701</b>	2	2.3	4.28			<b>51</b>	21	2.4	58.85				
	<b>579</b>	2	1.9	5.18			<b>44</b>	24	2.1	68.06				
	<b>444</b>	3	1.5	6.75			<b>42</b>	25	2.0	71.16				
	<b>218</b>	5	2.3	13.73			<b>NDP120/522</b>	<b>120/240</b>	<b>38</b>	28	1.8			78.71
	<b>189</b>	6	2.0	15.88					<b>32</b>	33	1.5			92.70
	<b>163</b>	7	1.7	18.36					<b>32</b>	34	1.5			95.17
	<b>156</b>	7	1.6	19.20					<b>30</b>	36	1.4			99.50
	<b>135</b>	8	1.4	22.20					<b>28</b>	38	1.3			107.20
	<b>120</b>	10	1.3	25.01					<b>26</b>	41	1.2			115.07
	<b>112</b>	10	1.2	26.85	<b>24</b>	44			1.1	123.97				
	<b>104</b>	11	1.1	28.93	<b>23</b>	46			1.1	129.62				
	<b>86</b>	13	0.9	34.97	<b>22</b>	50			1.0	139.13				
	<b>66</b>	17	0.7	45.56	<b>20</b>	54			0.9	149.90				
	<b>59</b>	18	1.4	50.89	<b>NDP120/523</b>	<b>120/240</b>	<b>18</b>	60	0.8	168.84				
	<b>51</b>	21	1.2	58.85			<b>17</b>	65	0.8	181.24				
	<b>44</b>	24	1.0	68.06			<b>15</b>	70	0.7	195.26				
	<b>42</b>	25	1.0	71.16			<b>13</b>	71	0.7	236.09				
	<b>38</b>	28	0.9	78.71			<b>9.8</b>	71	0.7	307.54				
	<b>32</b>	33	0.8	92.70										
	<b>32</b>	34	0.7	95.17										
	<b>30</b>	36	0.7	99.50										
	<b>28</b>	36	0.7	107.20										
	<b>26</b>	36	0.7	115.07										
	<b>24</b>	36	0.7	123.97										
	<b>23</b>	36	0.7	129.62										
	<b>22</b>	36	0.7	139.13										
	<b>20</b>	36	0.7	149.90										
	<b>18</b>	36	0.7	168.84										
	<b>17</b>	36	0.7	181.24										
	<b>15</b>	36	0.7	195.26										
	<b>13</b>	36	0.7	236.09										
	<b>9.8</b>	36	0.7	307.54										
	<b>579</b>	2	3.8	5.18	<b>NDP120/621</b>	<b>120/240</b>								
	<b>444</b>	3	2.9	6.75										
	<b>218</b>	5	4.8	13.73	<b>NDP120/622</b>	<b>120/240</b>								
	<b>189</b>	6	4.1	15.88										
	<b>163</b>	7	3.6	18.36										
	<b>156</b>	7	3.4	19.20										
	<b>135</b>	8	2.9	22.20										
	<b>120</b>	10	2.6	25.01										
	<b>112</b>	10	2.4	26.85										
	<b>104</b>	11	2.3	28.93										
	<b>86</b>	13	1.9	34.97										
	<b>66</b>	17	1.4	45.56										

**NOTA**

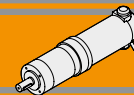
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

**NOTE**

For sf=0.7 check that the duty torque does not exceed the value M2

Motoriduttori preferenziali / Preferred gearmotors

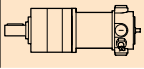
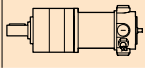




## Dati tecnici per servizio S2

## NDP

## Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	
<b>250</b>							<b>250</b>							
(3000 min <sup>-1</sup> )	<b>59</b>	28	0.9	50.89	<b>NDP180/523</b>	<b>120/240</b>	(3000 min <sup>-1</sup> )	<b>59</b>	28	1.8	50.89	<b>NDP180/623</b>	<b>120/240</b>	
	<b>51</b>	33	0.8	58.85				<b>51</b>	33	1.5	58.85			
	<b>44</b>	36	0.7	68.06				<b>44</b>	38	1.3	68.06			
	<b>42</b>	36	0.7	71.16				<b>42</b>	40	1.3	71.16			
	<b>38</b>	36	0.7	78.71				<b>38</b>	44	1.1	78.71			
	<b>32</b>	36	0.7	92.70				<b>32</b>	52	1.0	92.70			
	<b>32</b>	36	0.7	95.17				<b>32</b>	53	0.9	95.17			
	<b>30</b>	36	0.7	99.50				<b>30</b>	56	0.9	99.50			
	<b>28</b>	36	0.7	107.20				<b>28</b>	60	0.8	107.20			
	<b>26</b>	36	0.7	115.07				<b>26</b>	64	0.8	115.07			
	<b>24</b>	36	0.7	123.97				<b>24</b>	69	0.7	123.97			
	<b>23</b>	36	0.7	129.62				<b>23</b>	71	0.7	129.62			
	<b>22</b>	36	0.7	139.13				<b>22</b>	71	0.7	139.13			
	<b>20</b>	36	0.7	149.90				<b>20</b>	71	0.7	149.90			
	<b>18</b>	36	0.7	168.84				<b>18</b>	71	0.7	168.84			
	<b>17</b>	36	0.7	181.24				<b>17</b>	71	0.7	181.24			
	<b>15</b>	36	0.7	195.26				<b>15</b>	71	0.7	195.26			
	<b>13</b>	36	0.7	236.09				<b>13</b>	71	0.7	236.09			
	<b>9.8</b>	36	0.7	307.54				<b>9.8</b>	71	0.7	307.54			
	<b>811</b>	2	3.4	3.70			<b>NDP180/621</b>	<b>120/240</b>						
	<b>701</b>	3	2.9	4.28										
	<b>579</b>	3	2.4	5.18										
	<b>444</b>	4	1.9	6.75										
	<b>218</b>	8	3.0	13.73	<b>NDP180/622</b>	<b>120/240</b>								
	<b>189</b>	10	2.6	15.88										
	<b>163</b>	11	2.3	18.36										
	<b>156</b>	12	2.2	19.20										
	<b>135</b>	13	1.9	22.20										
	<b>120</b>	15	1.7	25.01										
	<b>112</b>	16	1.6	26.85										
	<b>104</b>	17	1.4	28.93										
	<b>86</b>	21	1.2	34.97										
	<b>66</b>	27	0.9	45.56										

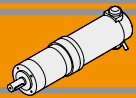
## NOTA

Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

## NOTE

For sf=0.7 check that the duty torque does not exceed the value M2

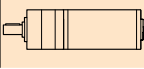
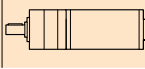

 Motoriduttori preferenziali / Preferred gearmotors



### Dati tecnici per servizio S2

### ECP

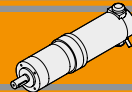
### Technical data for S2 duty

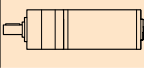
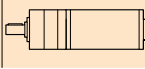
$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	
<b>30</b>							<b>55</b>							
(2850 min <sup>-1</sup> )	<b>770</b>	0.24	12.7	3.70	ECP020/421	120/24E	(2850 min <sup>-1</sup> )	<b>31</b>	12	1.3	95.17	ECP035/423	120/240	
	<b>666</b>	0.27	11.0	4.28										
	<b>550</b>	0.33	9.0	5.18										
	<b>422</b>	0.43	6.9	6.75										
	<b>208</b>	0.82	9.1	13.73			ECP020/422	120/24E	<b>28</b>	14	1.1			107.20
	<b>179</b>	0.95	7.9	15.88										
	<b>155</b>	1.1	6.8	18.36										
	<b>148</b>	1.2	6.5	19.20										
	<b>128</b>	1.3	5.6	22.20										
	<b>114</b>	1.5	5.0	25.01										
	<b>106</b>	1.6	4.7	26.85										
	<b>99</b>	1.7	4.3	28.93										
	<b>81</b>	2.1	3.6	34.97										
	<b>63</b>	2.7	2.7	45.56										
	<b>56</b>	2.8	5.3	50.89	ECP020/423	120/24E	<b>26</b>	14	1.0	115.07				
	<b>48</b>	3.3	4.6	58.85										
	<b>42</b>	3.8	3.9	68.06										
	<b>40</b>	4.0	3.8	71.16										
	<b>36</b>	4.4	3.4	78.71										
	<b>31</b>	5.2	2.9	92.70										
	<b>30</b>	5.3	2.8	95.17										
	<b>29</b>	5.6	2.7	99.50										
	<b>27</b>	6.0	2.5	107.20										
	<b>25</b>	6.4	2.3	115.07										
	<b>23</b>	6.9	2.2	123.97										
	<b>22</b>	7.3	2.1	129.62										
	<b>20</b>	7.8	1.9	139.13										
	<b>19</b>	8.4	1.8	149.90										
	<b>17</b>	9.5	1.6	168.84										
	<b>16</b>	10	1.5	181.24										
	<b>15</b>	11	1.4	195.26										
	<b>12</b>	13	1.1	236.09										
	<b>9.3</b>	17	0.9	307.54										
							<b>811</b>	0.53	7.5	3.70	ECP035/521	120/240		
							<b>701</b>	0.62	6.5	4.28				
							<b>579</b>	0.75	5.4	5.18				
							<b>444</b>	0.97	4.1	6.75				
							<b>218</b>	1.9	6.5	13.73	ECP035/522	120/240		
							<b>189</b>	2.1	5.6	15.88				
							<b>163</b>	2.5	4.8	18.36				
							<b>156</b>	2.6	4.6	19.20				
							<b>135</b>	3.0	4.0	22.20				
							<b>120</b>	3.4	3.6	25.01				
							<b>112</b>	3.6	3.3	26.85				
							<b>104</b>	3.9	3.1	28.93				
							<b>86</b>	4.7	2.5	34.97				
							<b>66</b>	6.2	2.0	45.56				
							<b>59</b>	6.4	3.9	50.89	ECP035/523	120/240		
							<b>44</b>	8.6	2.9	68.06				
							<b>42</b>	9.0	2.8	71.16				
							<b>38</b>	9.9	2.5	78.71				
							<b>32</b>	11.7	2.1	92.70				
							<b>31</b>	12.0	2.1	95.17				
							<b>30</b>	12.5	2.0	99.50				
							<b>28</b>	13.5	1.9	107.20				
							<b>26</b>	14.5	1.7	115.07				
							<b>24</b>	15.6	1.6	123.97				
							<b>23</b>	16.3	1.5	129.62				
							<b>22</b>	17.5	1.4	139.13				
							<b>20</b>	18.9	1.3	149.90				
							<b>18</b>	21.3	1.2	168.84				
							<b>17</b>	22.8	1.1	181.24				
							<b>15</b>	24.6	1.0	195.26				
							<b>13</b>	29.7	0.8	236.09				
							<b>10</b>	35.7	0.7	307.54				
<b>55</b>							<b>70</b>							
(3000 min <sup>-1</sup> )	<b>811</b>	0.53	5.6	3.70	ECP035/421	120/240	(3000 min <sup>-1</sup> )	<b>811</b>	0.65	4.6	3.70	ECP050/421	12E/24E	
	<b>701</b>	0.62	4.9	4.28										
	<b>579</b>	0.75	4.0	5.18										
	<b>444</b>	0.97	3.1	6.75										
	<b>218</b>	1.9	4.0	13.73	ECP035/422	120/240	<b>701</b>	0.75	4.0	4.28				
	<b>189</b>	2.1	3.5	15.88										
	<b>163</b>	2.5	3.0	18.36										
	<b>156</b>	2.6	2.9	19.20										
	<b>135</b>	3.0	2.5	22.20										
	<b>120</b>	3.4	2.2	25.01										
	<b>112</b>	3.6	2.1	26.85										
	<b>104</b>	3.9	1.9	28.93										
	<b>86</b>	4.7	1.6	34.97										
	<b>65.8</b>	6.2	1.2	45.56										
	<b>59</b>	6.4	2.3	50.89	ECP035/423	120/240	<b>579</b>	0.91	3.3	5.18				
	<b>51</b>	7.4	2.0	58.85										
	<b>44</b>	8.6	1.7	68.06										
	<b>42</b>	9.0	1.7	71.16										
	<b>38</b>	9.9	1.5	78.71										
	<b>32</b>	12	1.3	92.70										
							<b>444</b>	1.2	2.5	6.75				
							<b>218</b>	2.3	3.3	13.73	ECP050/422	12E/24E		
							<b>189</b>	2.6	2.9	15.88				
							<b>163</b>	3.0	2.5	18.36				
							<b>156</b>	3.2	2.4	19.20				
							<b>135</b>	3.7	2.0	22.20				
							<b>120</b>	4.1	1.8	25.01				
							<b>112</b>	4.4	1.7	26.85				
							<b>104</b>	4.8	1.6	28.93				
							<b>86</b>	5.8	1.3	34.97				
							<b>66</b>	7.5	1.0	45.56				

NOTA  
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

NOTE  
For sf=0.7 check that the duty torque does not exceed the value M2

 Motoriduttori preferenziali / Preferred gearmotors


**Dati tecnici per servizio S2**
**ECP**
**Technical data for S2 duty**

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version					
<b>70</b>							<b>100</b>											
(2850 min <sup>-1</sup> )	<b>59</b>	7.8	1.9	50.89	<b>ECP050/423</b>	<b>12E/24E</b>	(3000 min <sup>-1</sup> )	<b>811</b>	0.92	4.4	<b>3.70</b>	<b>ECP070/521</b>	<b>120/240</b>					
	<b>51</b>	9.1	1.7	58.85					<b>701</b>	1.1	3.8			4.28				
	<b>44</b>	10	1.4	68.06					<b>579</b>	1.3	3.1			5.18				
	<b>42</b>	11	1.4	71.16					<b>444</b>	1.7	2.4			6.75				
	<b>38</b>	12	1.2	78.71														
	<b>32</b>	14	1.1	92.70					<b>218</b>	3.2	3.8			13.73	<b>ECP070/522</b>	<b>120/240</b>		
	<b>31</b>	15	1.0	95.17					<b>189</b>	3.7	3.3			15.88				
	<b>30</b>	15	1.0	99.50					<b>163</b>	4.3	2.8			18.36				
	<b>28</b>	17	0.9	107.20					<b>156</b>	4.5	2.7			19.20				
	<b>26</b>	18	0.8	115.07					<b>135</b>	5.2	2.3			22.20				
	<b>24</b>	19	0.8	123.97					<b>120</b>	5.8	2.1			25.01				
	<b>23</b>	20	0.8	129.62					<b>112</b>	6.2	1.9			26.85				
	<b>22</b>	21	0.7	139.13					<b>104</b>	6.7	1.8			28.93				
	<b>20</b>	21	0.7	149.90					<b>86</b>	8.1	1.5			34.97				
	<b>18</b>	21	0.7	168.84					<b>66</b>	11	1.1			45.56				
	<b>17</b>	21	0.7	181.24														
	<b>15</b>	21	0.7	195.26					<b>59</b>	11	2.3			50.89	<b>ECP070/523</b>	<b>120/240</b>		
	<b>13</b>	21	0.7	236.09					<b>51</b>	13	2.0			58.85				
	<b>9.8</b>	21	0.7	307.54			<b>44</b>	15	1.7	68.06								
							<b>42</b>	15	1.6	71.16								
	<b>163</b>	3.0	4.0	18.36	<b>ECP050/522</b>	<b>12E/24E</b>	<b>38</b>	17	1.5	78.71								
	<b>156</b>	3.2	3.8	19.20					<b>32</b>	20	1.2	92.70						
	<b>135</b>	3.7	3.3	22.20					<b>31</b>	21	1.2	95.17						
	<b>120</b>	4.1	2.9	25.01					<b>30</b>	22	1.2	99.50						
	<b>112</b>	4.4	2.7	26.85					<b>28</b>	23	1.1	107.20						
	<b>104</b>	4.8	2.5	28.93					<b>26</b>	25	1.0	115.07						
	<b>86</b>	5.8	2.1	34.97					<b>24</b>	27	0.9	123.97						
	<b>66</b>	7.5	1.6	45.56					<b>23</b>	28	0.9	129.62						
									<b>22</b>	30	0.8	139.13						
	<b>59</b>	7.8	3.2	50.89			<b>ECP050/523</b>	<b>12E/24E</b>	<b>20</b>	33	0.8	149.90						
	<b>51</b>	9.1	2.8	58.85					<b>18</b>	36	0.7	168.84						
	<b>44</b>	10	2.4	68.06					<b>17</b>	36	0.7	181.24						
	<b>42</b>	11	2.3	71.16					<b>15</b>	36	0.7	195.26						
	<b>38</b>	12	2.1	78.71					<b>13</b>	36	0.7	236.09						
	<b>32</b>	14	1.8	92.70					<b>9.8</b>	36	0.7	307.54						
	<b>31</b>	15	1.7	95.17														
	<b>30</b>	15	1.6	99.50					<b>120.0</b>	5.8	4.3	25.01	<b>ECP070/622</b>	<b>120/240</b>				
	<b>28</b>	17	1.5	107.20					<b>112</b>	6.2	4.0	26.85						
	<b>26</b>	18	1.4	115.07					<b>104</b>	6.7	3.7	28.93						
	<b>24</b>	19	1.3	123.97					<b>86</b>	8.1	3.1	34.97						
	<b>23</b>	20	1.3	129.62					<b>66</b>	11	2.4	45.56						
	<b>22</b>	21	1.2	139.13														
	<b>20</b>	23	1.1	149.90					<b>59</b>	11	4.5	50.89	<b>ECP070/623</b>	<b>120/240</b>				
	<b>18</b>	26	1.0	168.84					<b>51</b>	13	3.9	58.85						
	<b>17</b>	28	0.9	181.24					<b>44</b>	15	3.4	68.06						
	<b>15</b>	30	0.8	195.26					<b>42</b>	15	3.2	71.16						
	<b>13</b>	36	0.7	236.09					<b>38</b>	17	2.9	78.71						
	<b>9.8</b>	36	0.7	307.54			<b>32</b>	20	2.5	92.70								
							<b>31</b>	21	2.4	95.17								
							<b>30</b>	22	2.3	99.50								
							<b>28</b>	23	2.1	107.20								
							<b>26</b>	25	2.0	115.07								
							<b>24</b>	27	1.9	123.97								
							<b>23</b>	28	1.8	129.62								
							<b>22</b>	30	1.7	139.13								
							<b>20</b>	33	1.5	149.90								
							<b>18</b>	37	1.4	168.84								
							<b>17</b>	39	1.3	181.24								
							<b>15</b>	42	1.2	195.26								
							<b>13</b>	51	1.0	236.09								
							<b>9.8</b>	67	0.7	307.54								

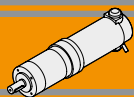
**NOTA**

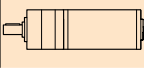
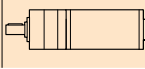
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

**NOTE**

For sf=0.7 check that the duty torque does not exceed the value M2


**Motoriduttori preferenziali / Preferred gearmotors**

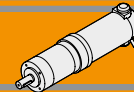
**ECP**
**Motoriduttori CC epicicloidali**  
**DC planetary gearmotors**
**Dati tecnici per servizio S2****ECP****Technical data for S2 duty**

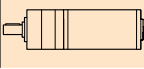
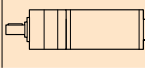
$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version			
<b>140</b>							<b>140</b>									
(3000 min <sup>-1</sup> )	<b>811</b>	1.3	3.1	3.70	<b>ECP100/521</b>	<b>120/240/24E</b>	(3000 min <sup>-1</sup> )	<b>59</b>	15	3.3	50.89	<b>ECP100/623</b>	<b>120/240/24E</b>			
	<b>701</b>	1.5	2.7	4.28				<b>51</b>	18	2.8	58.85					
	<b>579</b>	1.8	2.2	5.18				<b>44</b>	20	2.4	68.06					
	<b>444</b>	2.3	1.7	6.75				<b>42</b>	21	2.3	71.16					
	<b>218</b>	4.4	2.7	13.73	<b>ECP100/522</b>	<b>120/240/24E</b>		<b>38</b>	24	2.1	78.71					
	<b>189</b>	5.1	2.3	15.88				<b>32</b>	28	1.8	92.70					
	<b>163</b>	5.9	2.0	18.36				<b>31</b>	29	1.7	95.17					
	<b>156</b>	6.2	1.9	19.20				<b>30</b>	30	1.7	99.50					
	<b>135</b>	7.2	1.7	22.20	<b>ECP100/523</b>	<b>120/240/24E</b>		<b>28</b>	32	1.5	107.20					
	<b>120</b>	8.1	1.5	25.01				<b>26</b>	35	1.4	115.07					
	<b>112</b>	8.7	1.4	26.85				<b>24</b>	37	1.3	123.97					
	<b>104</b>	9.3	1.3	28.93				<b>23</b>	39	1.3	129.62					
	<b>86</b>	11	1.1	34.97				<b>22</b>	42	1.2	139.13					
	<b>66</b>	15	0.8	45.56				<b>20</b>	45	1.1	149.90					
								<b>18</b>	51	1.0	168.84					
								<b>17</b>	55	0.9	181.24					
								<b>15</b>	59	0.9	195.26					
								<b>13</b>	71	0.7	236.09					
								<b>9.8</b>	71	0.7	307.54					
	<b>59</b>	15	1.6	50.89			<b>ECP180/521</b>	<b>120/240</b>	<b>250</b>							
	<b>51</b>	18	1.4	58.85					(3000 min <sup>-1</sup> )	<b>811</b>	2.4	1.7	3.70			
	<b>44</b>	20	1.2	68.06						<b>701</b>	2.7	1.5	4.28			
	<b>42</b>	21	1.2	71.16						<b>579</b>	3.3	1.2	5.18			
	<b>38</b>	24	1.1	78.71						<b>444</b>	4.3	0.9	6.75			
	<b>32</b>	28	0.9	92.70												
	<b>31</b>	29	0.9	95.17		<b>218</b>			8.2	1.5	13.73	<b>ECP180/522</b>	<b>120/240</b>			
	<b>30</b>	30	0.8	99.50		<b>189</b>			9.5	1.3	15.88					
	<b>28</b>	32	0.8	107.20		<b>163</b>			11	1.1	18.36					
	<b>26</b>	35	0.7	115.07		<b>156</b>			12	1.0	19.20					
	<b>24</b>	36	0.7	123.97		<b>135</b>			13	0.9	22.20					
	<b>23</b>	36	0.7	129.62		<b>120</b>			15	0.8	25.01					
	<b>22</b>	36	0.7	139.13		<b>112</b>			16	0.7	26.85					
	<b>20</b>	36	0.7	149.90		<b>104</b>			17	0.7	28.93					
	<b>18</b>	36	0.7	168.84		<b>86</b>			17	0.7	34.97					
	<b>17</b>	36	0.7	181.24		<b>66</b>			17	0.7	45.56					
	<b>15</b>	36	0.7	195.26												
	<b>13</b>	36	0.7	236.09												
	<b>9.8</b>	36	0.7	307.54												
	<b>444</b>	2.3	3.4	6.75	<b>ECP100/621</b>	<b>120/240/24E</b>										
	<b>156</b>	6.2	4.0	19.20	<b>ECP100/622</b>	<b>120/240/24E</b>										
	<b>135</b>	7.2	3.5	22.20				<b>59</b>	28	0.9	50.89	<b>ECP180/523</b>	<b>120/240</b>			
	<b>120</b>	8.1	3.1	25.01				<b>51</b>	33	0.8	58.85					
	<b>112</b>	8.7	2.9	26.85				<b>44</b>	36	0.7	68.06					
	<b>104</b>	9.3	2.7	28.93				<b>42</b>	36	0.7	71.16					
	<b>86</b>	11	2.2	34.97				<b>38</b>	36	0.7	78.71					
	<b>66</b>	15	1.7	45.56		<b>32</b>	36	0.7	92.70							
						<b>31</b>	36	0.7	95.17							
						<b>30</b>	36	0.7	99.50							
						<b>28</b>	36	0.7	107.20							
						<b>26</b>	36	0.7	115.07							
						<b>24</b>	36	0.7	123.97							
						<b>23</b>	36	0.7	129.62							
						<b>22</b>	36	0.7	139.13							
						<b>20</b>	36	0.7	149.90							
						<b>18</b>	36	0.7	168.84							
						<b>17</b>	36	0.7	181.24							
						<b>15</b>	36	0.7	195.26							
						<b>13</b>	36	0.7	236.09							
						<b>9.8</b>	36	0.7	307.54							

NOTA  
Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

NOTE  
For sf=0.7 check that the duty torque does not exceed the value M2

 Motoriduttori preferenziali / Preferred gearmotors


**Dati tecnici per servizio S2**
**ECP**
**Technical data for S2 duty**

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version					
<b>250</b>							<b>350</b>											
(3000 min <sup>-1</sup> )	<b>811</b>	2.4	3.4	3.70	<b>ECP180/621</b>	<b>120/240/24E</b>	(3000 min <sup>-1</sup> )	<b>59</b>	39.9	1.3	50.89	<b>ECP250/623</b>	<b>120/240</b>					
	<b>701</b>	2.7	2.9	4.28					<b>51</b>	46.1	1.1			58.85				
	<b>579</b>	3.3	2.4	5.18					<b>44</b>	53.4	0.9			68.06				
	<b>444</b>	4.3	1.9	6.75					<b>42</b>	55.8	0.9			71.16				
	<b>218</b>	8.2	3.0	13.73			<b>ECP180/622</b>	<b>120/240/24E</b>	<b>38</b>	61.7	0.8			78.71				
	<b>189</b>	9.5	2.6	15.88							<b>32</b>			72.7	0.7	92.70		
	<b>163</b>	11	2.3	18.36							<b>32</b>			74.6	0.7	95.17		
	<b>156</b>	12	2.2	19.20							<b>30</b>			71.0	0.7	99.50		
	<b>135</b>	13	1.9	22.20							<b>28</b>			71.0	0.7	107.20		
	<b>120</b>	15	1.7	25.01							<b>26</b>			71.0	0.7	115.07		
	<b>112</b>	16	1.6	26.85					<b>24</b>	71.0	0.7	123.97						
	<b>104</b>	17	1.4	28.93					<b>23</b>	71.0	0.7	129.62						
	<b>86</b>	21	1.2	34.97					<b>22</b>	71.0	0.7	139.13						
	<b>66</b>	27	0.9	45.56					<b>20</b>	71.0	0.7	149.90						
	<b>59</b>	28	1.8	50.89	<b>ECP180/623</b>	<b>120/240/24E</b>	<b>18</b>	71.0	0.7	168.84								
	<b>51</b>	33	1.5	58.85					<b>17</b>	71.0	0.7	181.24						
	<b>44</b>	38	1.3	68.06					<b>15</b>	71.0	0.7	195.26						
	<b>42</b>	40	1.3	71.16					<b>13</b>	71.0	0.7	236.09						
	<b>38</b>	44	1.1	78.71					<b>9.8</b>	71.0	0.7	307.54						
	<b>32</b>	52	1.0	92.70														
	<b>31</b>	53	0.9	95.17														
	<b>30</b>	56	0.9	99.50														
	<b>28</b>	60	0.8	107.20														
	<b>26</b>	64	0.8	115.07														
	<b>24</b>	69	0.7	123.97														
	<b>23</b>	71	0.7	129.62														
	<b>22</b>	71	0.7	139.13														
	<b>20</b>	71	0.7	149.90														
	<b>18</b>	71	0.7	168.84														
	<b>17</b>	71	0.7	181.24														
	<b>15</b>	71	0.7	195.26														
	<b>13</b>	71	0.7	236.09														
	<b>9.8</b>	71	0.7	307.54														
<b>350</b>							<b>500</b>											
(3000 min <sup>-1</sup> )	<b>811</b>	3.3	2.4	3.70	<b>ECP250/621</b>	<b>120/240</b>	(3000 min <sup>-1</sup> )	<b>811</b>	4.6	1.7	3.70	<b>ECP350/621</b>	<b>120/240</b>					
	<b>701</b>	3.8	2.1	4.28					<b>701</b>	5.4	1.5			4.28				
	<b>579</b>	4.6	1.7	5.18					<b>579</b>	6.5	1.2			5.18				
	<b>444</b>	6.0	1.3	6.75					<b>444</b>	8.5	0.9			6.75				
	<b>218</b>	11.5	2.2	13.73	<b>ECP250/622</b>	<b>120/240</b>	<b>218</b>	16	1.5	13.73	<b>ECP350/622</b>	<b>120/240</b>						
	<b>189</b>	13.3	1.9	15.88					<b>189</b>	19			1.3	15.88				
	<b>163</b>	15.4	1.6	18.36					<b>163</b>	22			1.2	18.36				
	<b>156</b>	16.1	1.6	19.20					<b>156</b>	23			1.1	19.20				
	<b>135</b>	18.6	1.3	22.20					<b>135</b>	26			1.0	22.20				
	<b>120</b>	21.0	1.2	25.01					<b>120</b>	29			0.8	25.01				
	<b>112</b>	22.6	1.1	26.85					<b>112</b>	32			0.8	26.85				
	<b>104</b>	24.3	1.0	28.93					<b>104</b>	34			0.7	28.93				
	<b>86</b>	29.4	0.9	34.97					<b>86</b>	36			0.7	34.97				
	<b>66</b>	38.3	0.7	45.56					<b>66</b>	36			0.7	45.56				
	<b>59</b>	56	0.9	50.89	<b>ECP350/623</b>	<b>120/240</b>	<b>59</b>	56	0.9	50.89								
	<b>51</b>	65	0.8	58.85					<b>51</b>	65	0.8	58.85						
	<b>44</b>	71	0.7	68.06					<b>44</b>	71	0.7	68.06						
	<b>42</b>	71	0.7	71.16					<b>42</b>	71	0.7	71.16						
	<b>38</b>	71	0.7	78.71					<b>38</b>	71	0.7	78.71						
	<b>32</b>	71	0.7	92.70					<b>32</b>	71	0.7	92.70						
	<b>31</b>	71	0.7	95.17					<b>31</b>	71	0.7	95.17						
	<b>30</b>	71	0.7	99.50					<b>30</b>	71	0.7	99.50						
	<b>28</b>	71	0.7	107.20					<b>28</b>	71	0.7	107.20						
	<b>26</b>	71	0.7	115.07					<b>26</b>	71	0.7	115.07						
	<b>24</b>	71	0.7	123.97			<b>24</b>	71	0.7	123.97								
	<b>23</b>	71	0.7	129.62			<b>23</b>	71	0.7	129.62								
	<b>22</b>	71	0.7	139.13			<b>22</b>	71	0.7	139.13								
	<b>20</b>	71	0.7	149.90			<b>20</b>	71	0.7	149.90								
	<b>18</b>	71	0.7	168.84			<b>18</b>	71	0.7	168.84								
	<b>17</b>	71	0.7	181.24			<b>17</b>	71	0.7	181.24								
	<b>15</b>	71	0.7	195.26			<b>15</b>	71	0.7	195.26								
	<b>13</b>	71	0.7	236.09			<b>13</b>	71	0.7	236.09								
	<b>9.8</b>	71	0.7	307.54			<b>9.8</b>	71	0.7	307.54								

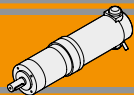
**NOTA**

Per sf=0.7 verificare che la coppia utilizzata non ecceda il valore M2 indicato.

**NOTE**

For sf=0.7 check that the duty torque does not exceed the value M2


**Motoriduttori preferenziali / Preferred gearmotors**



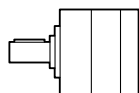
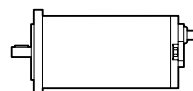
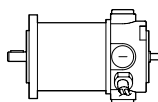
NDP  
ECP

# Motoriduttori CC epicicloidali DC planetary gearmotors



Motori applicabili

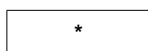
Motor adapters



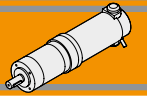
		ND		EC								
		120.120 120.240	180.120 180.240	020.120 020.24E	035.120 035.240	050.12E 050.24E	070.120 070.240	100.120 100.240 100.24E	180.120 180.240	180.24E	250.120 250.240	350.120 350.240
P	42						*	*	*			
	52											
	62											



Combinazioni preferenziali / Preferred combinations



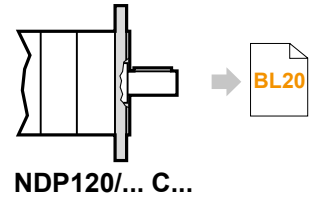
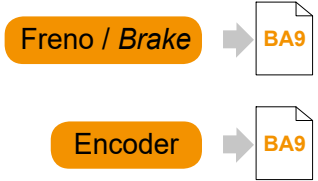
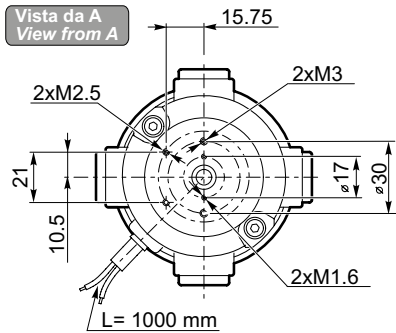
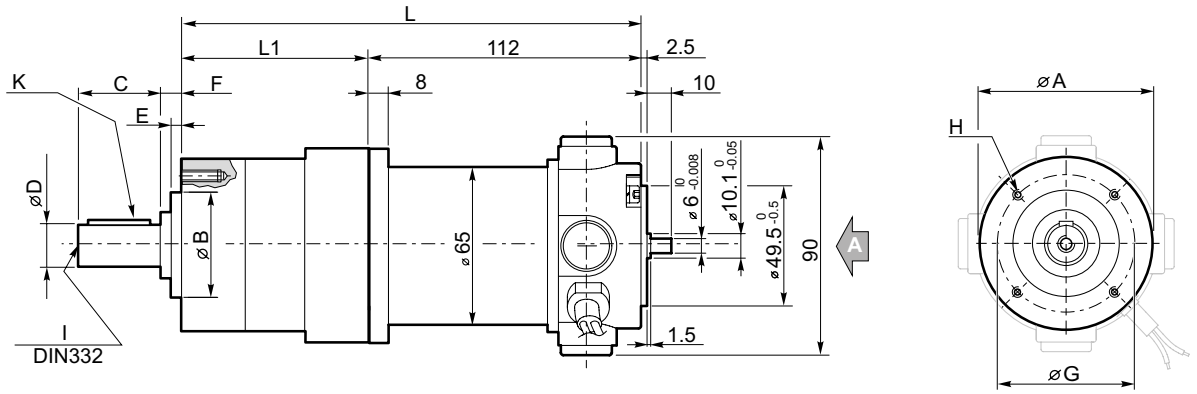
Contattare il nostro servizio tecnico / Please contact our technical department



Dimensioni

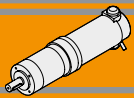
Dimensions

NDP120/... U



Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions											
		L1	L	A	B	C	D	E	F	G	H	I	K
NDP120/52...	1	74	186	52	32 h8	20.8	12 h7	3	4.2	40	M5x10	M4x10	4x4x16
	2	88	200										
	3	102	214										
NDP120/62...	1	74	186	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	90	202										
	3	106	218										

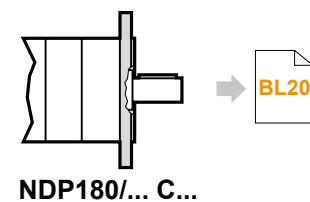
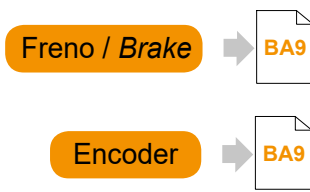
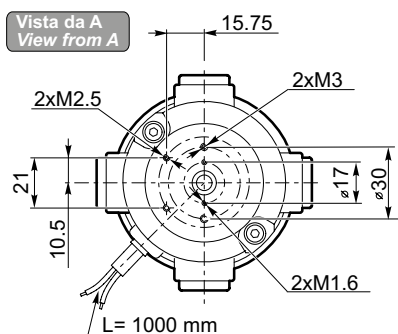
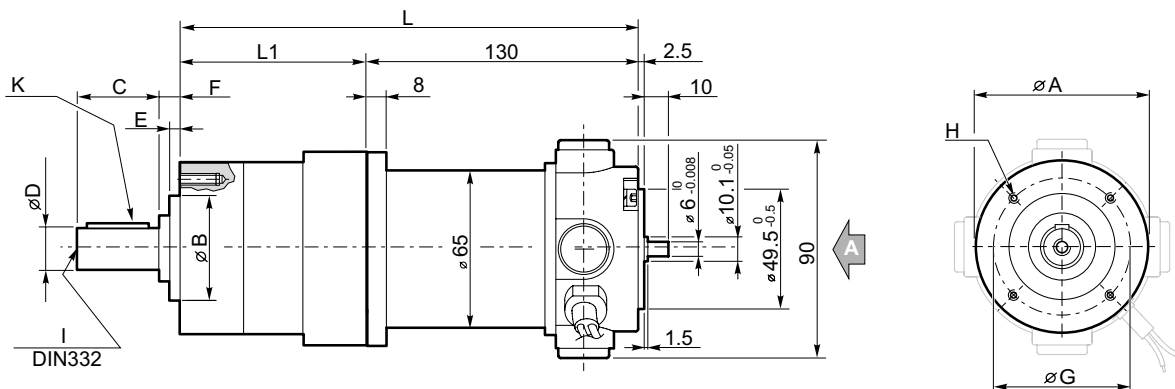
DC



**Dimensioni**

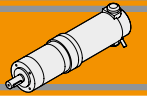
**Dimensions**

**NDP180/... U**



Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions											
		L1	L	A	B	C	D	E	F	G	H	I	K
NDP180/52	1	74	204	52	32 h8	20.8	12 h7	3	4.2	40	M5x10	M4x10	4x4x16
	2	88	218										
	3	102	232										
NDP180/62	1	74	204	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	90	220										
	3	106	236										

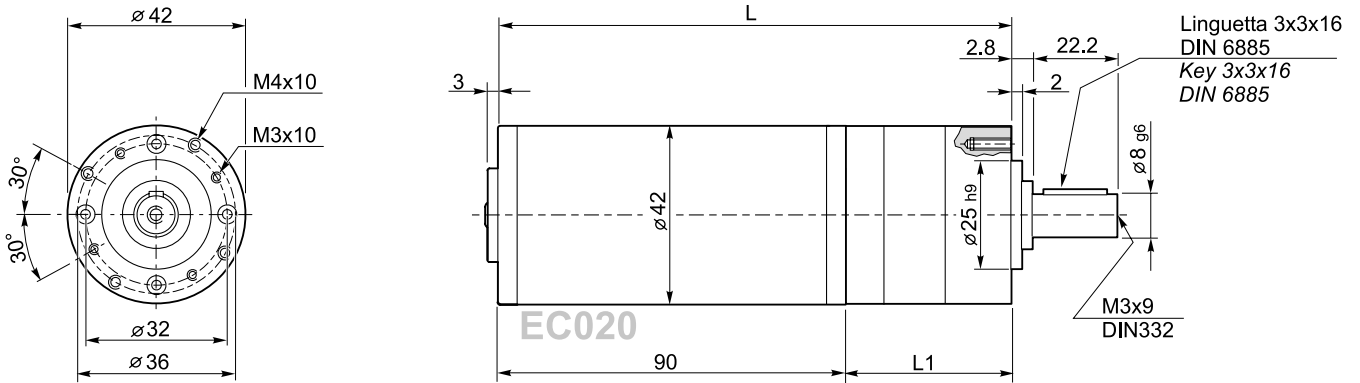




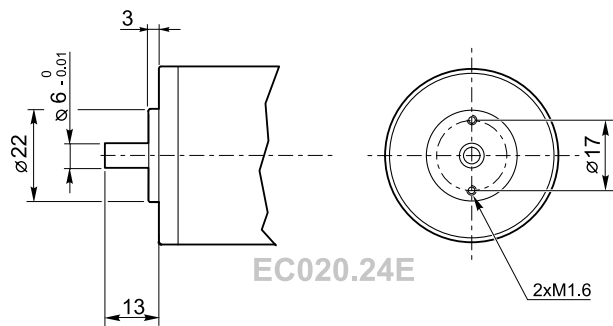
Dimensioni

Dimensions

ECP020/42... U

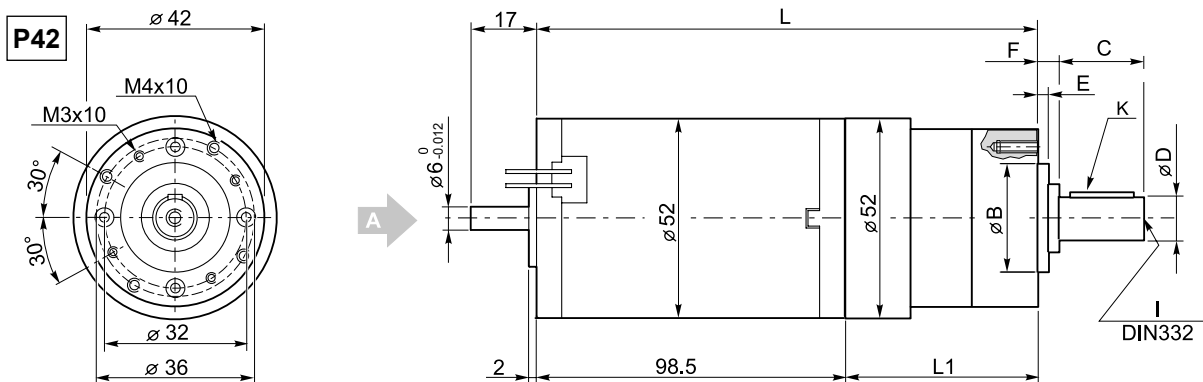


Encoder BB24

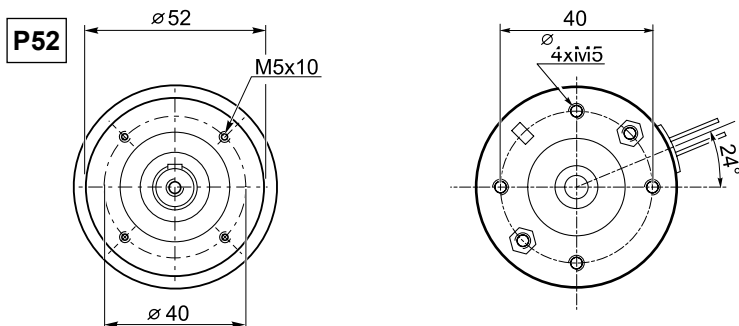


	Numero di stadi / Stages number		
ECP020/42...	1	2	3
L1	60	73	86
L	150	163	176

ECP035/... U

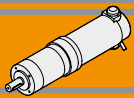


Vista / View  
A



Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions								
		L1	L	B	C	D	E	F	I	K
ECP035/42...	1	60	158.5	25 h9	22.2	8 g6	2	2.8	M3x9	3x3x16
	2	73	171.5							
	3	86	184.5							
ECP035/52...	1	72.5	175.5	32 h8	20.8	12 h7	3	4.2	M4x10	4x4x16
	2	86.5	189.5							
	3	100.5	203.5							

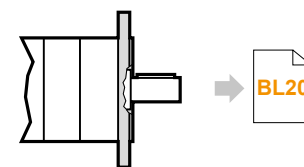
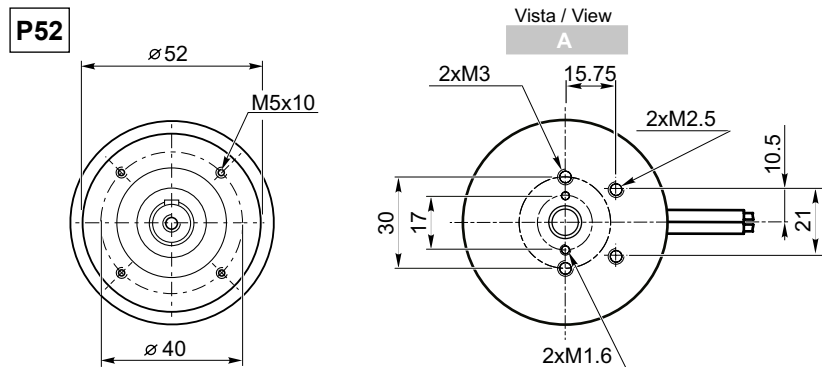
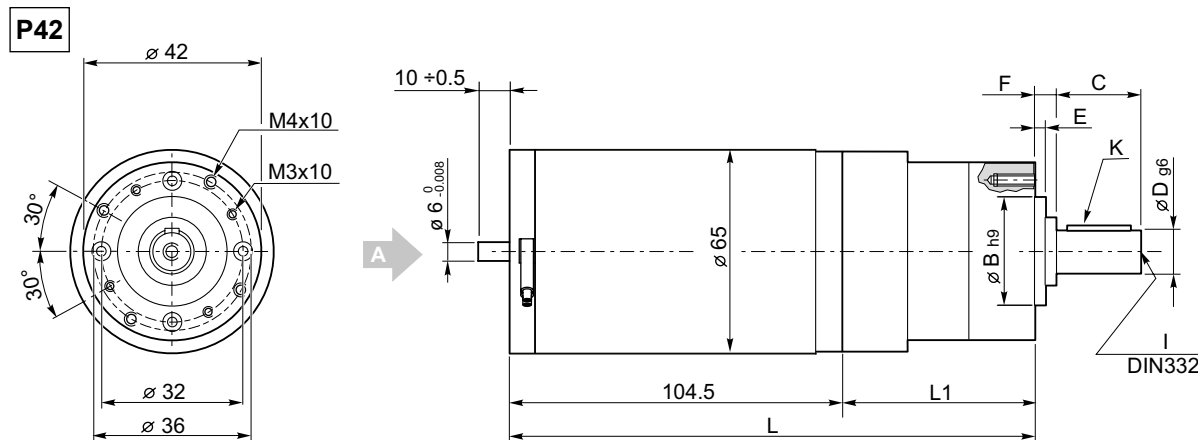
DC



**Dimensioni**

**Dimensions**

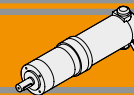
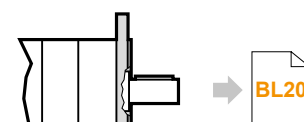
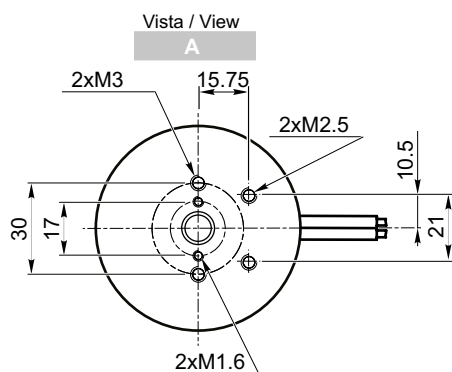
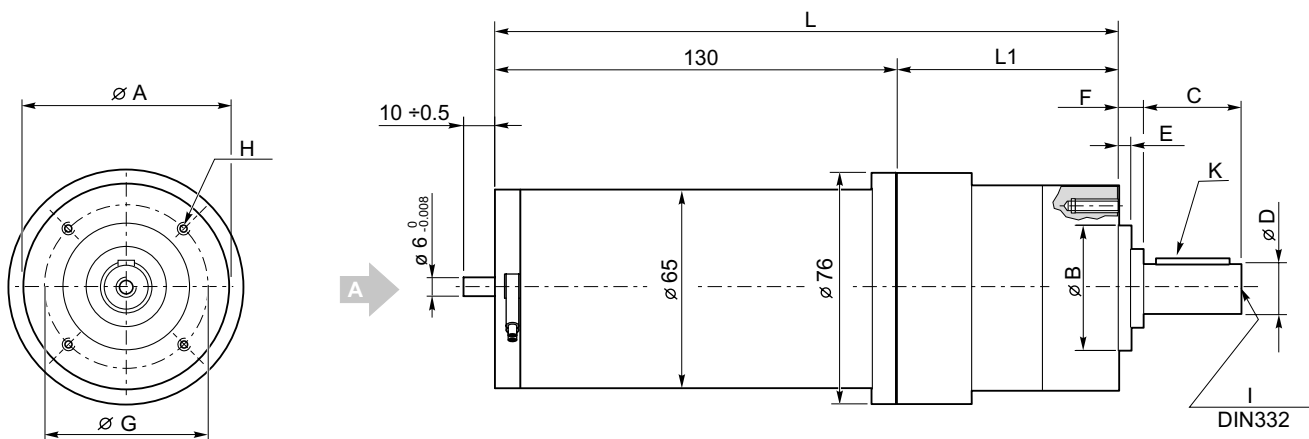
**ECP050/... U**



**ECP050/... C...**

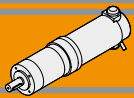


Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions								
		L1	L	B	C	D	E	F	I	K
ECP050/42...	1	60	164.5	25 h9	22.2	8 g6	2	2.8	M3x9	3x3x16
	2	73	177.5							
	3	86	190.5							
ECP050/52...	1	72.5	177	32 h8	20.8	12 h7	3	4.2	M4x10	4x4x16
	2	86.5	191							
	3	100.5	205							


**Dimensioni**
**Dimensions**
**ECP070/... U**

**ECP070/... C...**

- Motori / Motors IP66** → [BC2](#)
- Freno / Brake** → [BB23](#)
- Encoder** → [BB24](#)

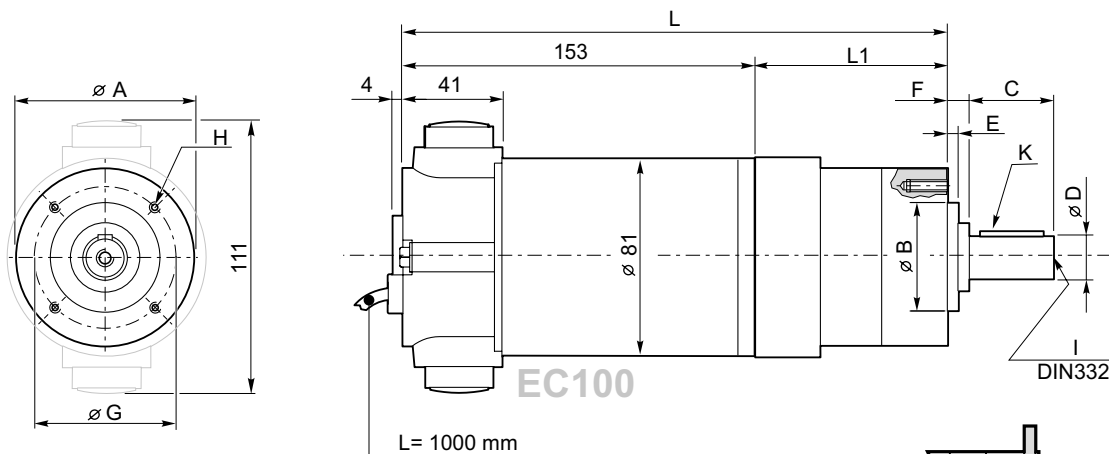
Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions											
		L1	L	A	B	C	D	E	F	G	H	I	K
ECP070/52...	1	74	204	52	32 h8	20.8	12 h7	3	4.2	40	M5x10	M4x10	4x4x16
	2	88	218										
	3	102	232										
ECP070/62...	1	74	204	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	90	220										
	3	106	236										



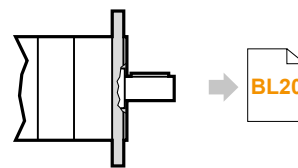
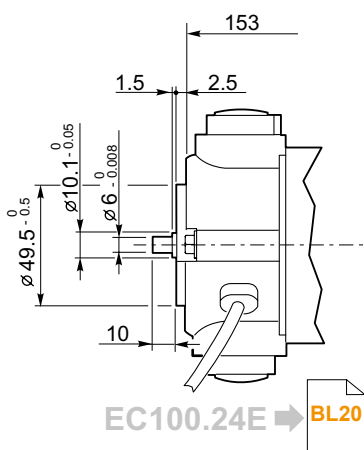
**Dimensioni**

**Dimensions**

**ECP100/... U... 120/140**



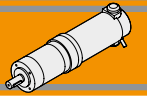
**ECP100/... U... 24E**



ECP100/... C...



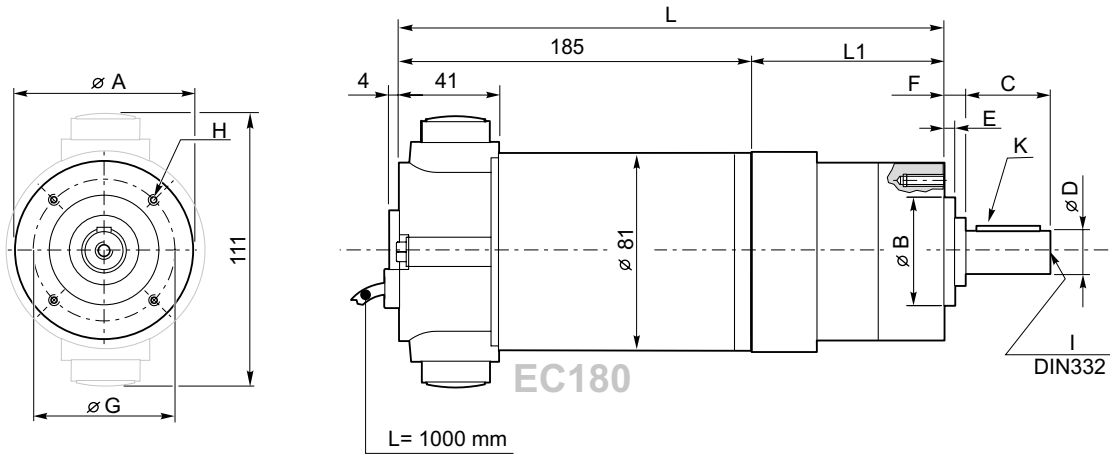
Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions											
		L1	L	A	B	C	D	E	F	G	H	I	K
ECP100/52...	1	74	227	52	32 h8	20.8	12 h7	3	4.2	40	M5x10	M4x10	4x4x16
	2	88	241										
	3	102	255										
ECP100/62...	1	74	227	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	90	243										
	3	106	259										



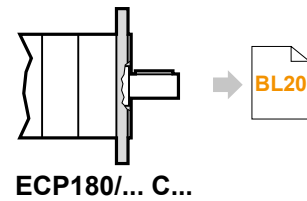
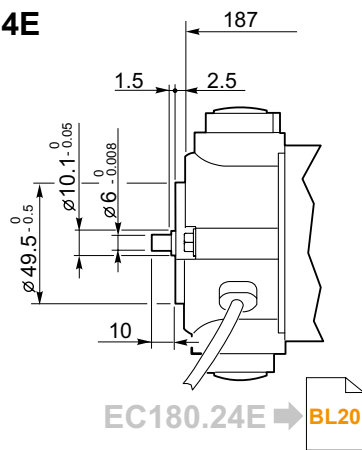
**Dimensioni**

**Dimensions**

**ECP180/... U... 120/240**



**ECP180/62.. U... 24E**

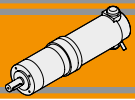


**Motori / Motors IP66** → **BC6**

**Freno / Brake** → **BB23**

**Encoder** → **BB24**

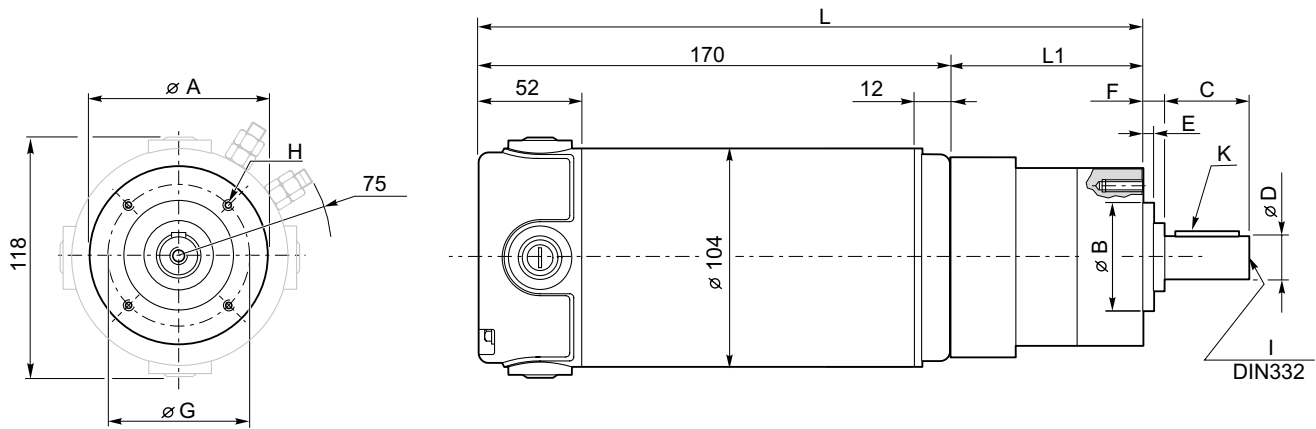
Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions													
		EC180		EC180.24E		EC180 - EC180.24E									
		L1	L	L1	L	A	B	C	D	E	F	G	H	I	K
ECP180/52...	1	74	259			52	32 h8	20.8	12 h7	3	4.2	40	M5x10	M4x10	4x4x16
	2	88	273												
	3	102	287												
ECP180/62...	1	74	259	76	263	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	90	275	92	279										
	3	106	291	108	295										



### Dimensioni

### Dimensions

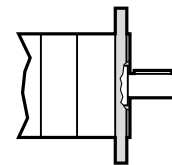
### ECP250/... U



Motori / Motors IP66



BC8

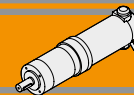


ECP250/... C...



BL20

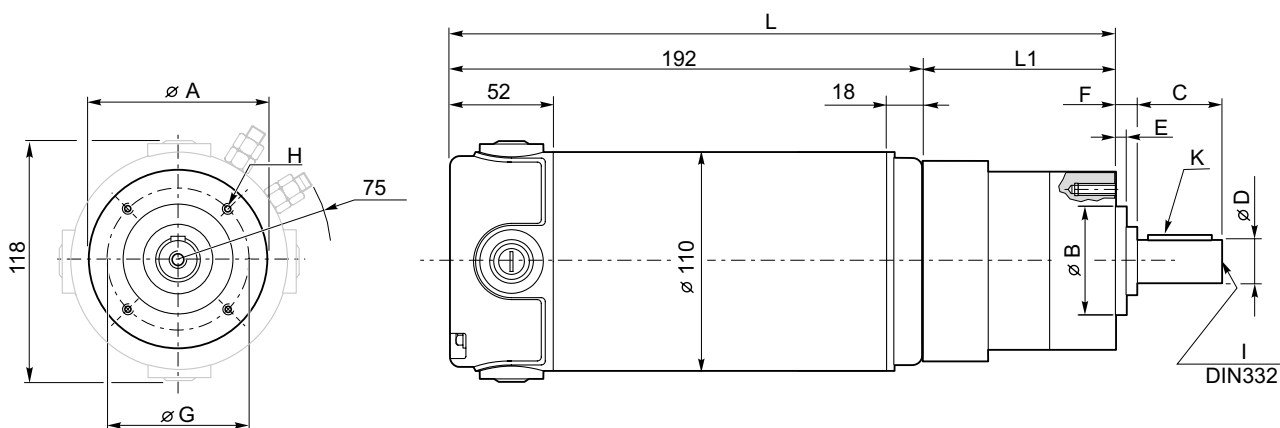
Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions											
		L1	L	A	B	C	D	E	F	G	H	I	K
ECP250/62...	1	76	246	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	92	262										
	3	108	278										



Dimensioni

Dimensions

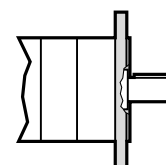
ECP350/... U



Motori / Motors IP66

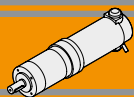


Freno / Brake



ECP350/... C...

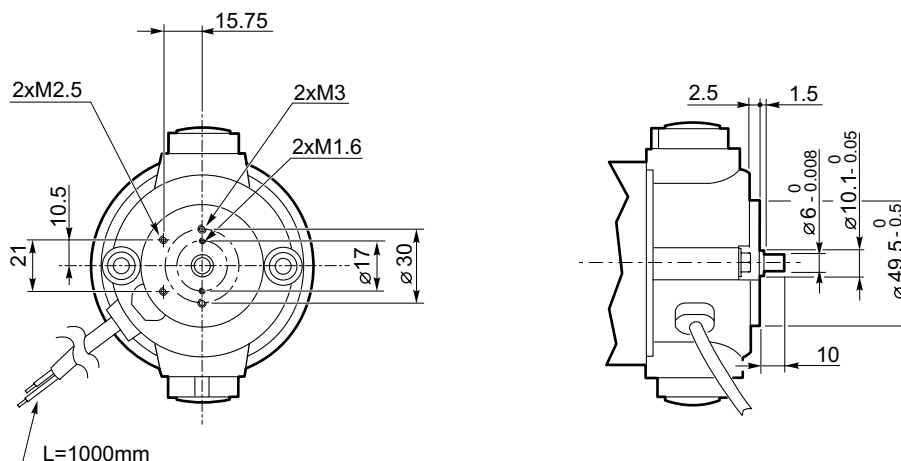
Tipo Type	Numero di stadi Stages number	Dimensioni / Dimensions											
		L1	L	A	B	C	D	E	F	G	H	I	K
ECP350/62...	1	76	268	62	40 j7	30	14 h7	5	9	52	M5x10	M5x12	5x5x18
	2	92	284										
	3	108	300										



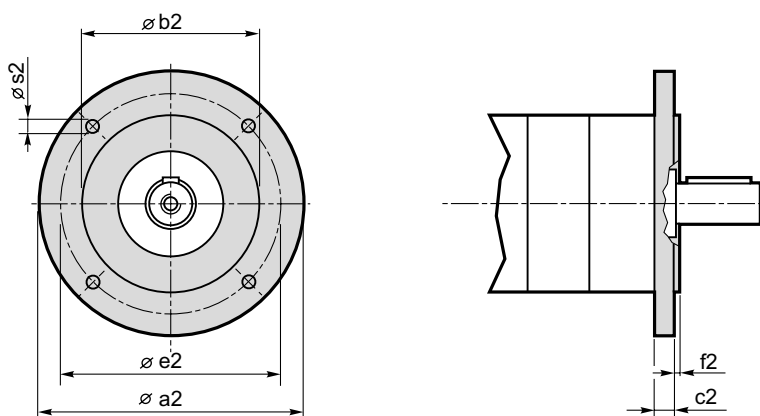
Dimensioni

Dimensions

ECP100.24E  
ECP180.24E



NDP.../... C... - ECP.../... C... Flange uscita / Output flanges



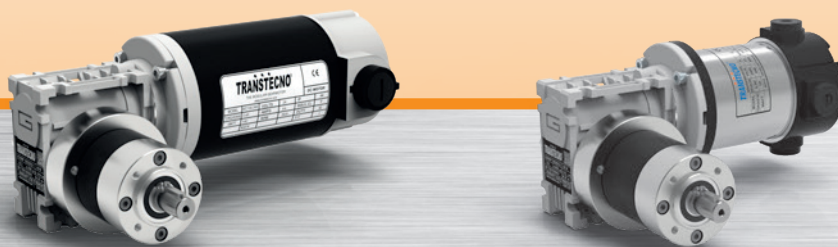
Dimensioni / Dimensions							
P	a2	b2	c2	e2	f2	s2	Flangia uscita Output flange
52	80	50 j7	9	65	2.5	M5	C80
	90	60 j7	9	75	2.5	5.5	C90
	105	70 j7	9	85	2.5	6.5	C105
	120	80 j7	9	100	3.0	6.5	C120
62	80	50 j7	9	65	2.5	M5	C80
	90	60 j7	9	75	2.5	5.5	C90
	105	70 j7	9	85	2.5	6.5	C105
	120	80 j7	9	100	3.0	6.5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



**MINI**  **TECNO**™  
**small** but strong

**NDWMP**  
**ECWMP**

Motoriduttori CC combinati  
DC double reduction gearmotors

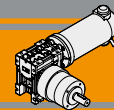


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



DC

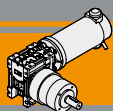




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Rapporti	<i>Ratios</i>	<b>BM3</b>
Dati tecnici	<i>Technical data</i>	<b>BM4</b>
Dimensioni	<i>Dimensions</i>	<b>BM6</b>

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**Caratteristiche tecniche**

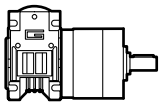
**Technical features**

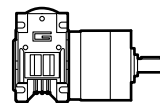
L'accoppiamento di un riduttore a vite senza fine con un riduttore epicicloidale consente di ottenere elevati rapporti di riduzione ( $i_{max} = 1/18452$ ) e di disporre di un gruppo autolubrificato compatto, silenzioso e con un'elevata affidabilità.

The coupling of a wormgearbox to a planetary gearbox allows to obtain high reduction ratios ( $i_{max} = 1/18452$ ) and to get a compact, silent, self lubricated with high reliability group.

**Designazione**

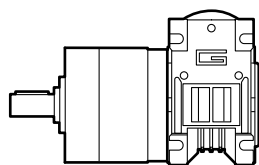
**Classification**

MOTORIDUTTORE / GEARMOTOR								
NDWMP	120/026/52		2	CD	90	405	240	BR
Tipo Type	Grandezza Size		Numero stadi epicicloidale Planetary stages number	Versione Riduttore Gearbox Version	Flangia Uscita Output flange	Rapporto Ratio	Versione Motore Motor Version	Opzioni Options
	<b>120/026/52</b>  <b>120/026/62</b>	<b>180/026/62</b>	<b>1</b>	<b>US</b>	<b>80</b>	Vedere tabella See tables	<b>120</b> <b>240</b>	<b>BR</b> <b>BRL</b>
			<b>2</b>	<b>UD</b>	<b>90</b>			
			<b>3</b>	<b>CS</b>	<b>105</b>			
				<b>CD</b>	<b>120</b>			

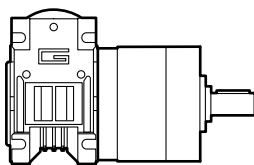
MOTORIDUTTORE / GEARMOTOR									
ECWMP	070/026/52			2	CD	90	405	240	BR
Tipo Type	Grandezza Size			Numero stadi epicicloidale Planetary stages number	Versione Riduttore Gearbox Version	Flangia Uscita Output flange	Rapporto Ratio	Versione Motore Motor Version	Opzioni Options
	<b>070/026/52</b> <b>070/026/62</b>	<b>100/026/52</b> <b>100/026/62</b>	<b>180/026/62</b>	<b>1</b>	<b>US</b>	<b>80</b>	Vedere tabella See tables	<b>120</b> <b>240</b> <b>24E</b>	<b>BR</b> <b>BRL</b>
				<b>2</b>	<b>UD</b>	<b>90</b>			
				<b>3</b>	<b>CS</b>	<b>105</b>			
					<b>CD</b>	<b>120</b>			

**Versioni**

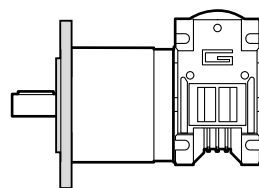
**Versions**



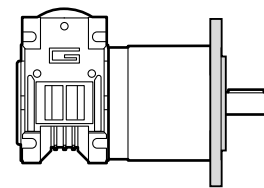
**US**



**UD**



**CS**

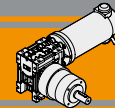


**CD**

**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*
- $P_1$  [kW] Potenza in entrata / *Input power*
- $M_n$  [Nm] Coppia nominale in uscita del riduttore / *Maximum output torque of the gearbox*
- $M_2$  [Nm] Coppia in uscita in funzione di  $P_1$  / *Output torque referred to  $P_1$*
- $sf$  Fattore di servizio / *Service factor*
- Rd % Rendimento dinamico / *Dynamic efficiency*
- $A_2$  [N] Carico assiale ammissibile in uscita / *Permitted output axial load*
- $R_2$  [N] Carico radiale ammissibile in uscita / *Permitted output radial load*



### Lubrificazione

### Lubrication

I riduttori a vite senza fine della serie CM sono lubrificati a vita con olio sintetico di viscosità 320 e possono essere installati in qualunque posizione di montaggio.

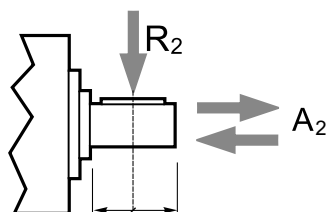
*Permanent synthetic oil long-life lubrication allow to use CM wormgearbox range in all mounting position.*

I riduttori epicicloidali sono lubrificati in modo permanente, non richiedono quindi ulteriore manutenzione. Questo gli consente di essere installati praticamente ovunque.

*Planetary gearboxes are life-time lubricated with grease, therefore they are maintenance free. They can be installed in any location.*

### Carichi radiali

### Radial loads



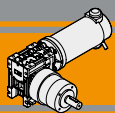
Numero di stadi Stages number	Carichi Radiali $R_2$ [N] Radial Load $R_2$ [N]		
	P52	P62	P81
1	200	240	400
2	320	360	600
3	450	520	1000

Numero di stadi Stages number	Carichi Assiali $A_2$ [N] Axial Load $A_2$ [N]		
	P52	P62	P81
1	60	70	80
2	100	100	120
3	150	150	200

### Rapporti

### Ratios

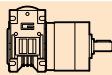
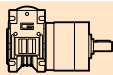
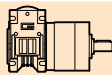
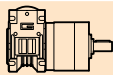
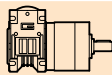
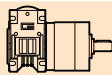
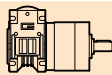
Motoriduttore Gearmotor	Numero stadi epicicloidale Planetary stages number	Rapporto epicicloidale Planetary ratio	Rapporto vite senza fine Wormgearbox ratio	Rapporto finale Total ratio	
.../026/052 .../026/062	1	6.75	10	67.5	
			15	101.3	
			20	135	
			30	202.5	
			40	270	
			50	337.5	
	2	25.01	10	250.1	
			15	375.15	
			20	500.2	
			30	750.3	
			40	1000.4	
			50	1250.5	
		45.56		60	2734



### Dati tecnici per servizio S2

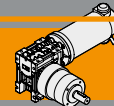
### NDWMP

### Technical data for S2 duty

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version	$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		Versione motore Motor version					
<b>160</b>							<b>250</b>											
(3000 min <sup>-1</sup> )	<b>44.4</b>	22.8	1.1	67.5		120/026/521	(3000 min <sup>-1</sup> )	<b>44.4</b>	25.0	1.0	67.5		180/026/521	120/240				
	<b>29.6</b>	25.0	1.0	101.3					<b>44.4</b>	25.0	1.0				67.5		<b>180/026/521</b>	120/240
	<b>22.2</b>	25.0	1.0	135					<b>44.4</b>	35.7	1.1				67.5		<b>180/026/621</b>	120/240
	<b>14.8</b>	25.0	1.0	202.5					<b>29.6</b>	40.0	1.0				101.3			
	<b>11.1</b>	25.0	1.0	270														
	<b>8.9</b>	25.0	1.0	337.5														
	<b>7.4</b>	25.0	1.0	405														
	<b>12.0</b>	25.0	1.0	250.1		120/026/522												
	<b>8.0</b>	25.0	1.0	375.15														
	<b>6.0</b>	25.0	1.0	500.2														
	<b>4.0</b>	25.0	1.0	750.3														
	<b>3.0</b>	25.0	1.0	1000.4														
	<b>2.4</b>	25.0	1.0	1250.5														
	<b>2.0</b>	25.0	1.0	1500.6														
	<b>1.1</b>	25.0	1.0	2734														
	<b>44.4</b>	23	1.7	67.5		120/026/621												
	<b>29.6</b>	34	1.2	101.3														
	<b>22.2</b>	40	1.0	135.0														
	<b>14.8</b>	40	1.0	202.5														
	<b>11.1</b>	40	1.0	270.0														
	<b>8.9</b>	40	1.0	337.5														
	<b>7.4</b>	40	1.0	405.0														
	<b>12.0</b>	50.0	1.0	250.1		120/026/622												
	<b>8.0</b>	50.0	1.0	375.15														
	<b>6.0</b>	50.0	1.0	500.2														
	<b>4.0</b>	50.0	1.0	750.3														
	<b>3.0</b>	50.0	1.0	1000.4														
	<b>2.4</b>	50.0	1.0	1250.5														
	<b>2.0</b>	50.0	1.0	1500.6														
	<b>1.1</b>	50.0	1.0	2734														

**Nota:** Verificare sempre che la coppia  $M_2$  utilizzata non ecceda il valore indicato nelle caselle in grigio

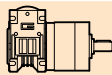
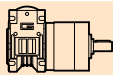
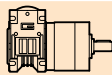
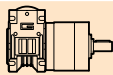
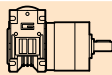
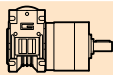
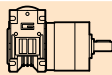
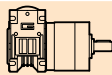
**Note:** Please check that the output torque  $M_2$  does not exceed the value into the grey areas



Dati tecnici per servizio S2

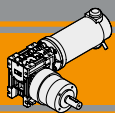
**ECWMP**

Technical data for S2 duty

P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version	P <sub>1</sub> [W]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		Versione motore Motor version				
<b>100</b>							<b>140</b>										
(3000 min <sup>-1</sup> )	<b>44.4</b>	14	1.8	67.5		070/026/521	120/240	(3000 min <sup>-1</sup> )	<b>44.4</b>	20	1.3	67.5		100/026/521	120/240/24E		
	<b>29.6</b>	21	1.2	101.3					<b>29.6</b>	25	1.0	101.3					
	<b>22.2</b>	25	1.0	135.0													
	<b>14.8</b>	25	1.0	202.5													
	<b>11.1</b>	25	1.0	270.0													
	<b>8.9</b>	25	1.0	337.5													
	<b>7.4</b>	25	1.0	405													
	<b>12.0</b>	25.0	1.0	250.1					070/026/522	120/240	<b>250</b>						
	<b>8.0</b>	25.0	1.0	375.15	(3000 min <sup>-1</sup> )	<b>44.4</b>	25.0				1.0	67.5		180/026/521	120/240		
	<b>6.0</b>	25.0	1.0	500.2													
	<b>4.0</b>	25.0	1.0	750.3													
	<b>3.0</b>	25.0	1.0	1000.4													
	<b>2.4</b>	25.0	1.0	1250.5													
	<b>2.0</b>	25.0	1.0	1500.6													
	<b>1.1</b>	25.0	1.0	2734													
	<b>44.4</b>	14.3	2.8	67.5		070/026/621	120/240										
	<b>29.6</b>	20.1	2.0	101.3													
	<b>22.2</b>	25.4	1.6	135													
	<b>14.8</b>	34.0	1.2	202.5													
	<b>11.1</b>	40.0	1.0	270													
	<b>8.9</b>	40.0	1.0	337.5													
	<b>7.4</b>	40.0	1.0	405													
	<b>12.0</b>	50.0	1.0	250.1					070/026/622	120/240							
	<b>8.0</b>	50.0	1.0	375.15													
	<b>6.0</b>	50.0	1.0	500.2													
	<b>4.0</b>	50.0	1.0	750.3													
	<b>3.0</b>	50.0	1.0	1000.4													
	<b>2.4</b>	50.0	1.0	1250.5													
	<b>2.0</b>	50.0	1.0	1500.6													
	<b>1.1</b>	50.0	1.0	2734													

**Nota:** Verificare sempre che la coppia M<sub>2</sub> utilizzata non ecceda il valore indicato nelle caselle in grigio

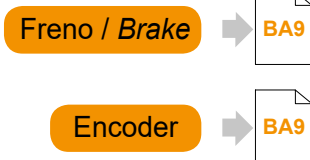
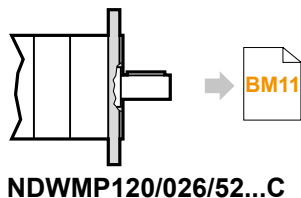
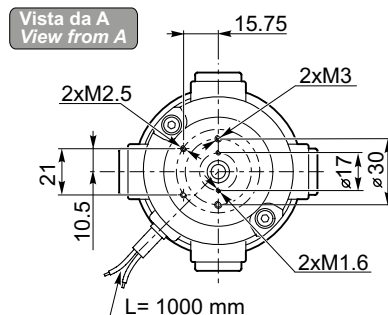
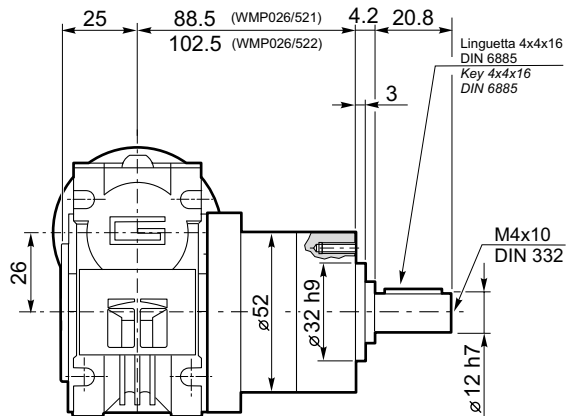
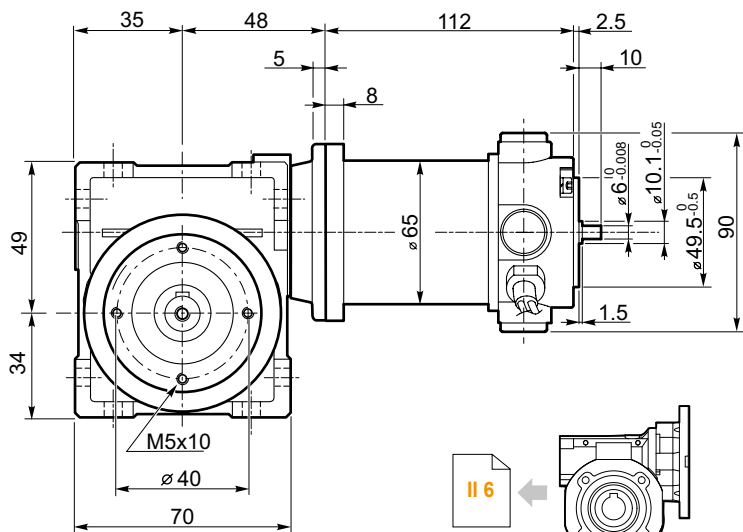
**Note:** Please check that the output torque M<sub>2</sub> does not exceed the value into the grey areas



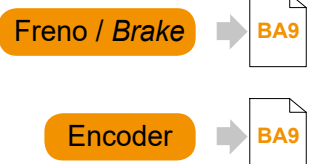
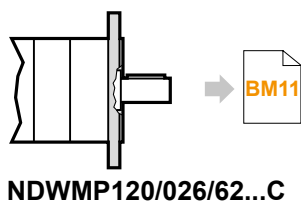
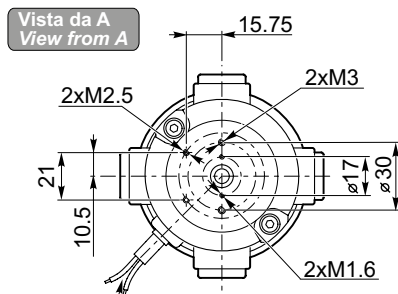
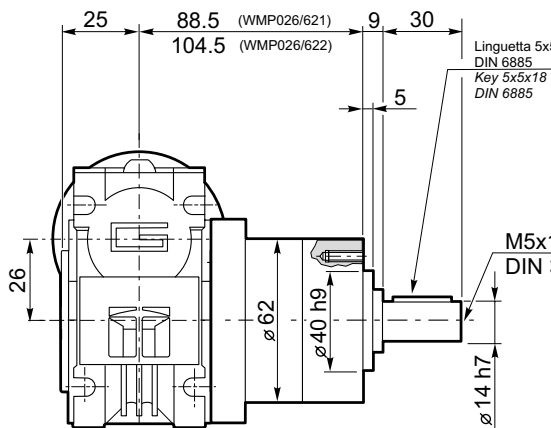
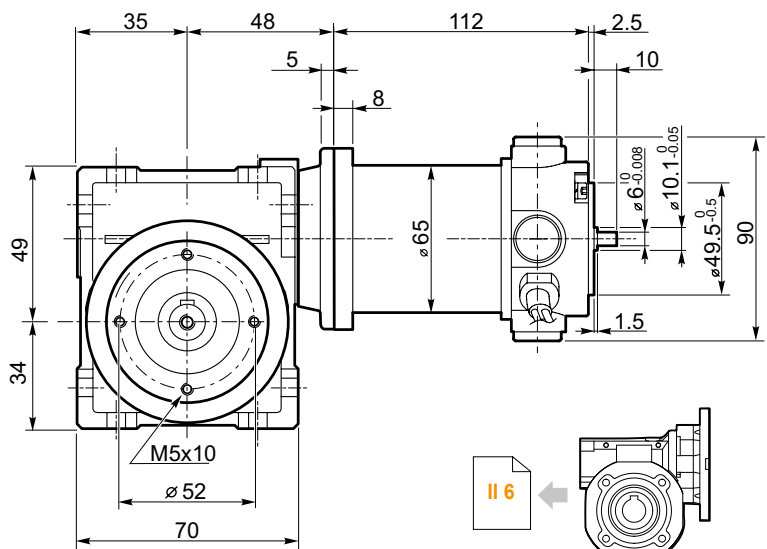
Dimensioni

Dimensions

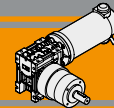
NDWMP120/026/52...U



NDWMP120/026/62...U



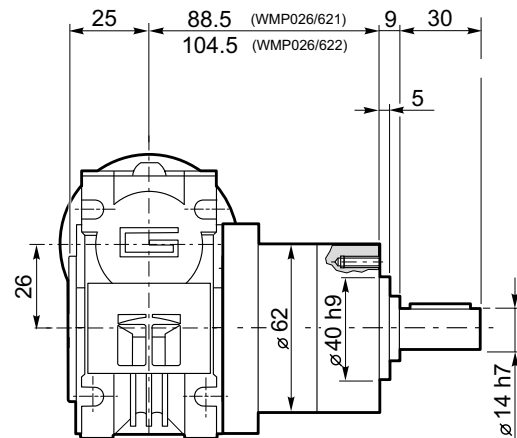
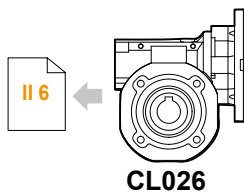
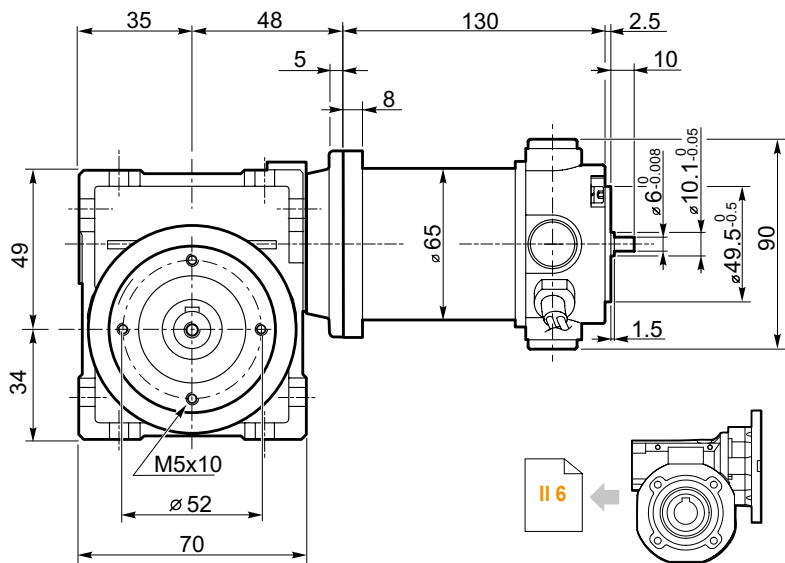




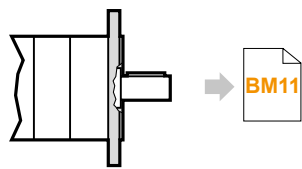
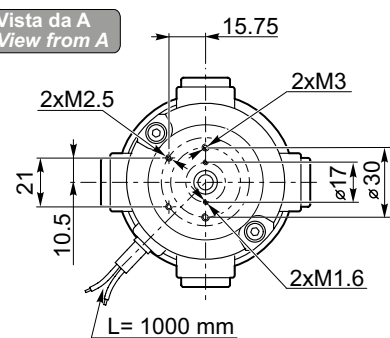
**Dimensioni**

**Dimensions**

**NDWMP180/026/62...U**

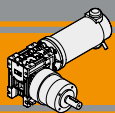


Vista da A  
View from A



**NDWMP180/026/62...C**

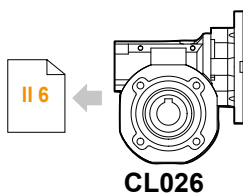
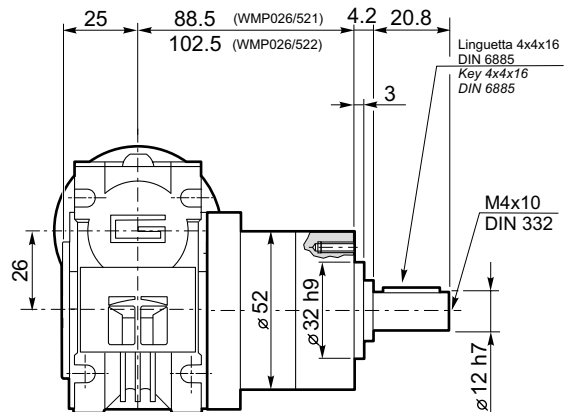
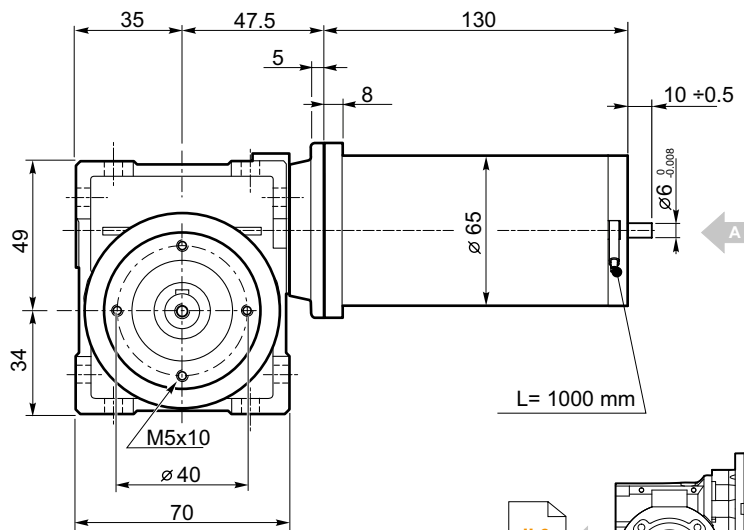




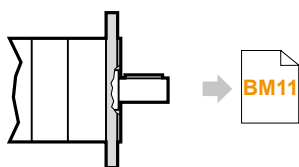
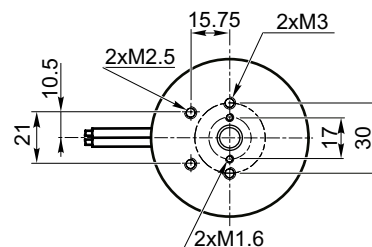
### Dimensioni

### Dimensions

#### ECWMP070/026/52...U



Vista / View A



ECWMP070/026/52...C

Motors / Motors IP66 →



BC2

Brake / Freno →



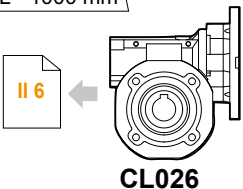
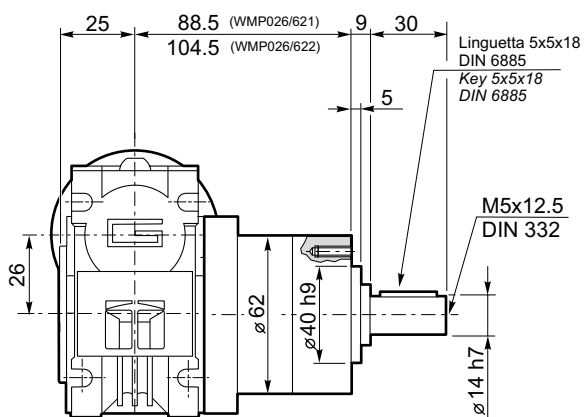
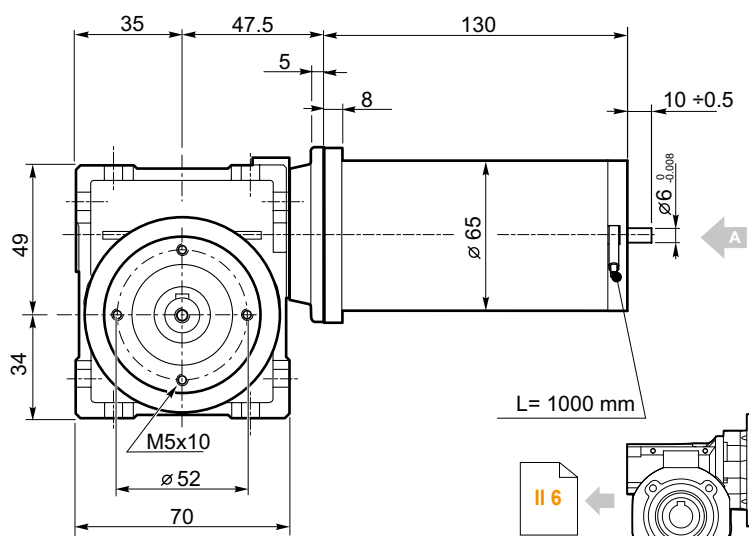
BB23

Encoder →

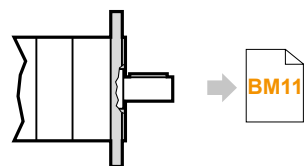
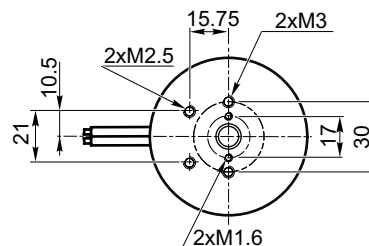


BB24

#### ECWMP070/026/62...U



Vista / View A



ECWMP070/026/62...C

Motors / Motors IP66 →



BC2

Brake / Freno →

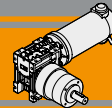


BB23

Encoder →



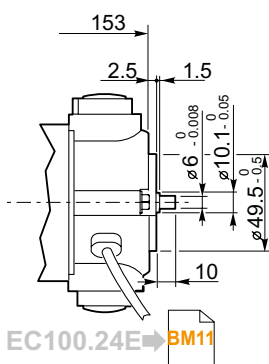
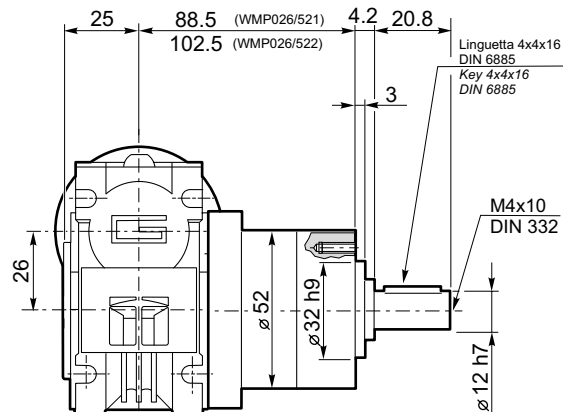
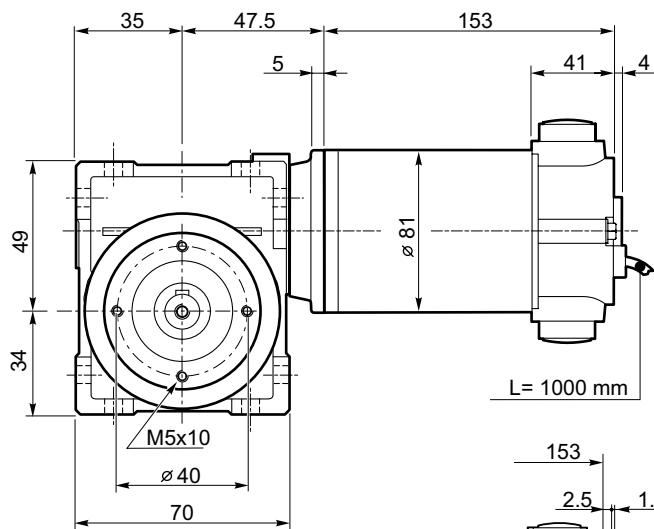
BB24



Dimensioni

Dimensions

**ECWMP100/026/52...U**



Motori / Motors IP66

BC4

Freno / Brake

BB23

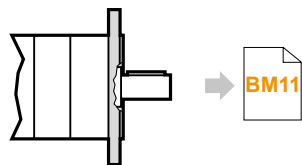
Encoder

BB24

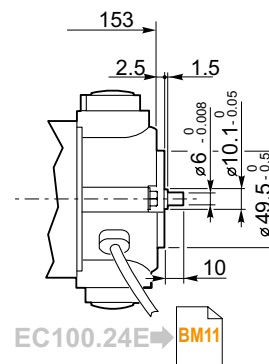
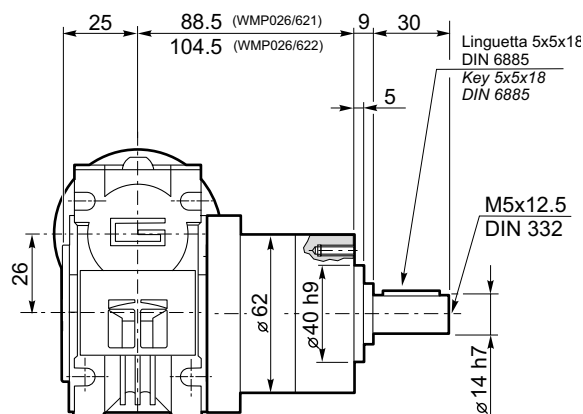
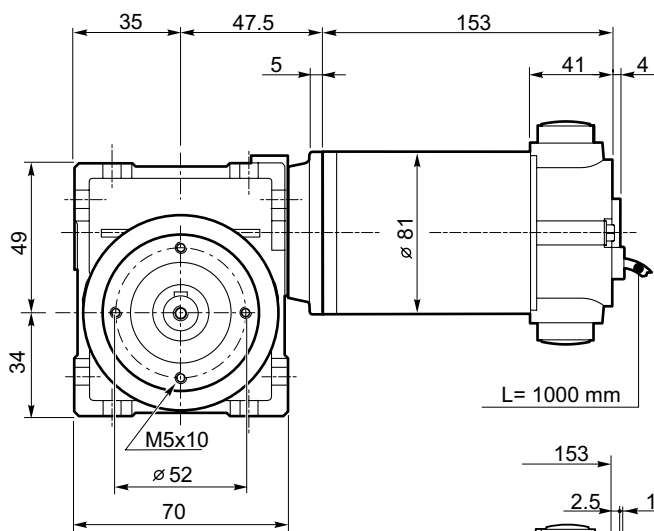
II 6

CL026

ECWMP100/026/52...C



**ECWMP100/026/62...U**



Motori / Motors IP66

BC4

Freno / Brake

BB23

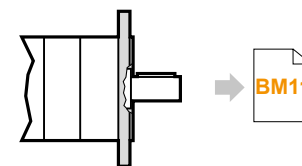
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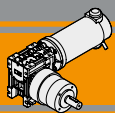
BB24

II 6

CL026

ECWMP100/026/62...C

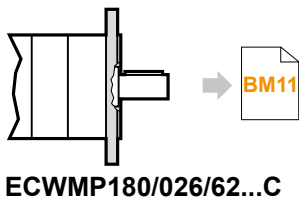
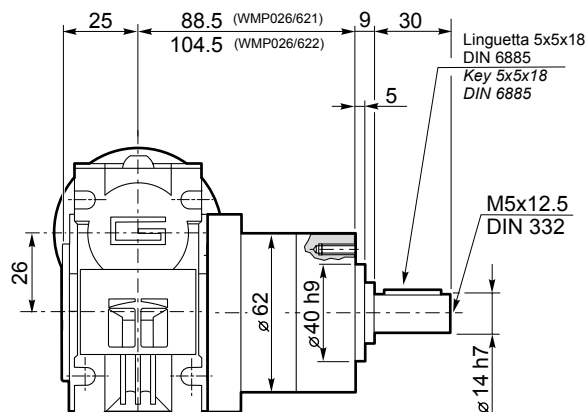
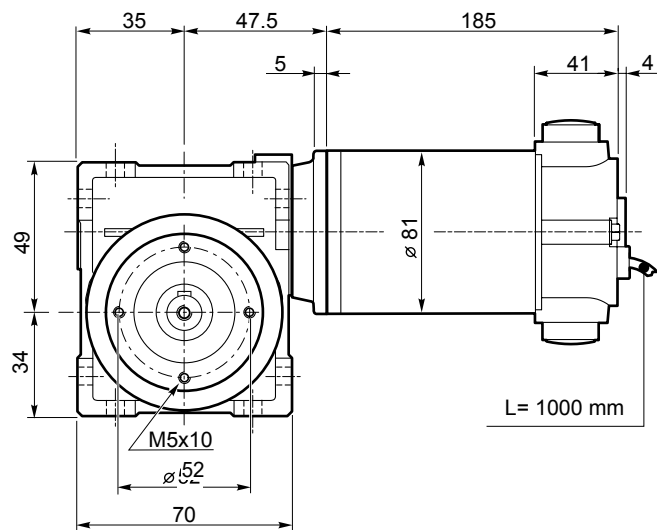




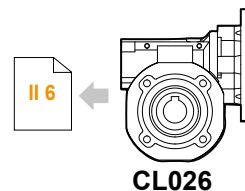
### Dimensioni

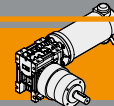
### Dimensions

#### ECWMP180/026/62...U



- Motori / Motors IP66** → **BC6**
- Freno / Brake** → **BB23**
- Encoder** → **BB24**

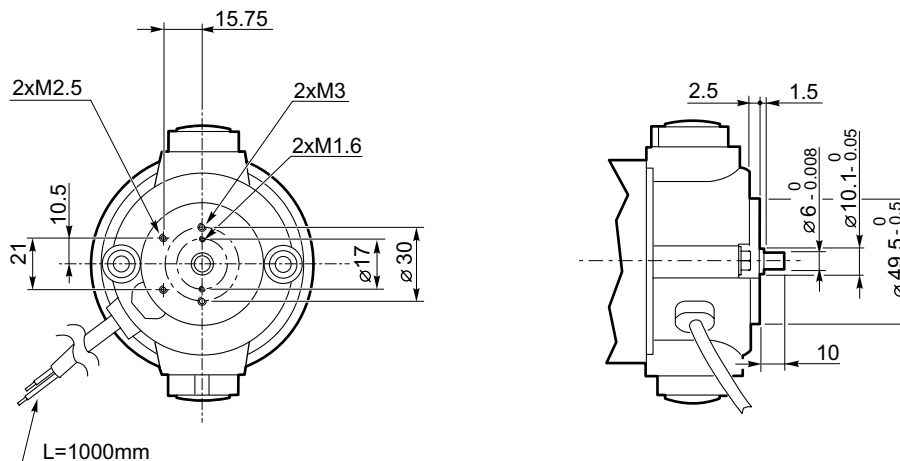




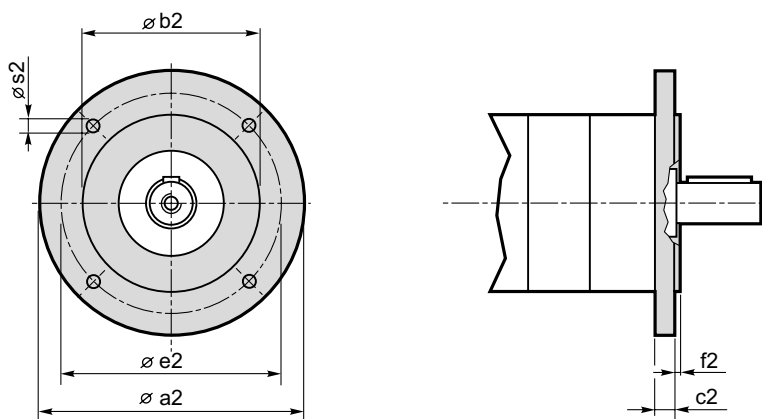
Dimensioni

Dimensions

ECWMP100.24E  
ECWMP180.24E



NDWMP.../.../... C... - ECWMP.../.../... C... Flange uscita / Output flanges



Dimensioni / Dimensions							
P	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

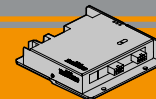


Azionamenti per motori CC  
DC motor controls





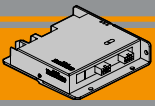




	<b>Indice</b>	<b>Index</b>	Pag. Page
<b>PLN19-8</b>	Schema dei collegamenti	<i>Main connection diagram</i>	<b>BN2</b>
	Caratteristiche tecniche	<i>Technical features</i>	<b>BN2</b>
	Dimensioni	<i>Dimensions</i>	<b>BN3</b>
	Opzioni	<i>Options</i>	<b>BN3</b>
<b>PLN20 PLN40</b>	Schema dei collegamenti	<i>Main connection diagram</i>	<b>BN4</b>
	Caratteristiche tecniche	<i>Technical features</i>	<b>BN5</b>
	Dotazioni	<i>Equipment</i>	<b>BN5</b>
	Manuale	<i>User manual</i>	<b>BN5</b>
	Dimensioni	<i>Dimensions</i>	<b>BN6</b>
	GUIDA alla selezione dell'azionamento	<i>Drive selection GUIDE</i>	<b>BN7</b>
	Note	<i>Note</i>	<b>BN8</b>

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](http://www.transtecno.com)**

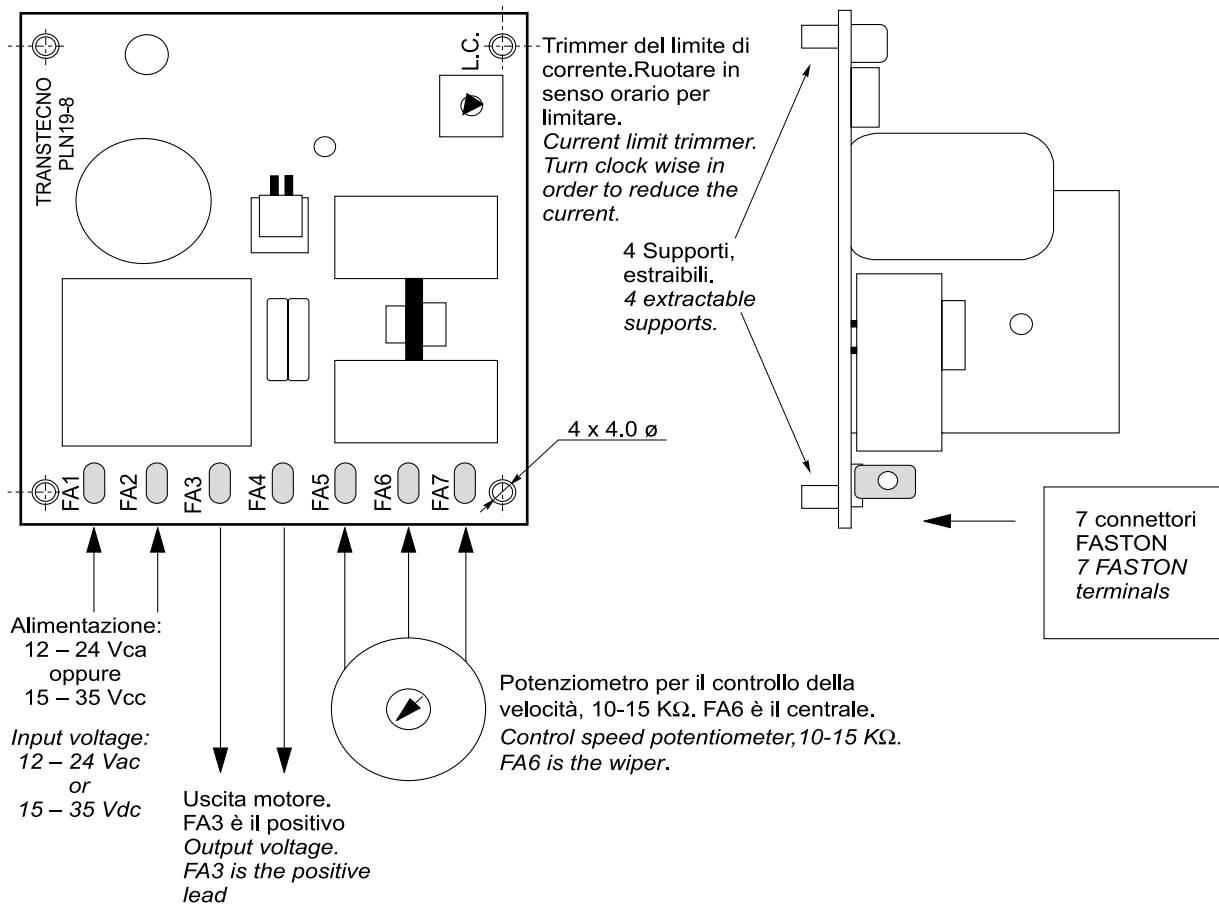
*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)*



### AZIONAMENTO UNIDIREZIONALE PWM PER LA REGOLAZIONE DI VELOCITA' DEI MOTORI A CORRENTE CONTINUA A BASSA TENSIONE

### LOW VOLTAGE SINGLE DIRECTION PWM DC MOTORS CONTROL

#### SCHEMA DEI COLLEGAMENTI - MAIN CONNECTION DIAGRAM



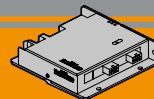
**Attenzione:** se si scollega il potenziometro con la scheda alimentata, il motore ruota alla velocità nominale.

**Warning:** if speed pot is disconnected when the board is powered, the motor runs at its maximum speed.

#### Caratteristiche tecniche

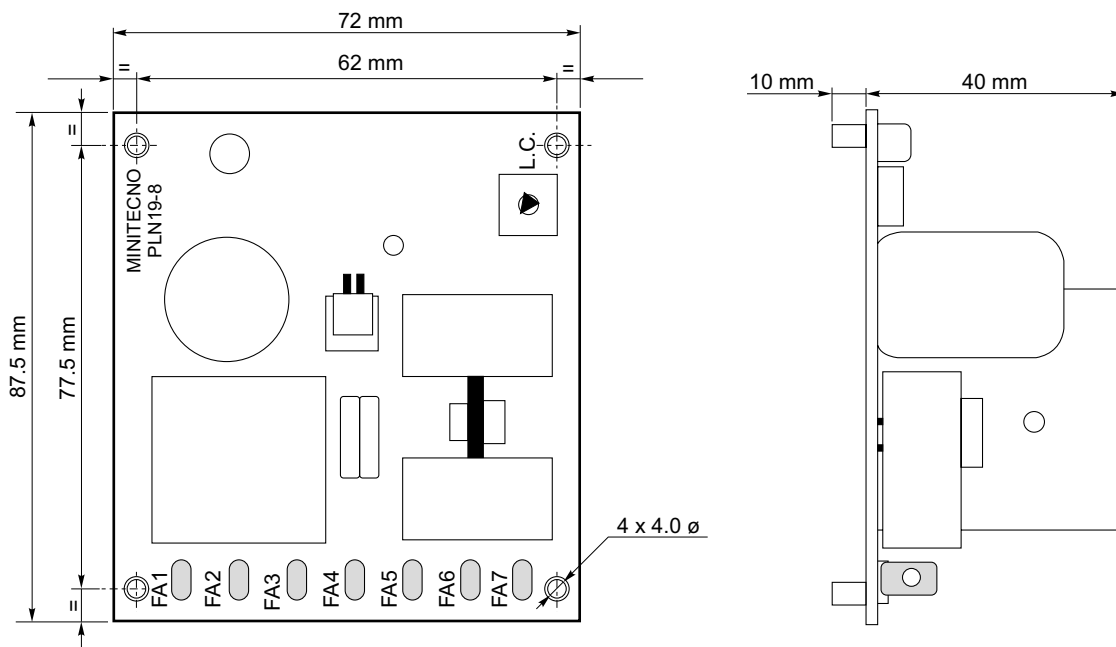
#### Technical features

- Alimentazione ai terminali FA1 e FA2:  
12 - 24 Vca oppure 15 - 35 Vcc.
- Regolazione della velocità mediante potenziometro 10-15 KΩ.
- Trimmer di Limitazione della corrente, per adattare la scheda anche a motori di piccole potenze. Per limitare l'erogazione di corrente, ruotare in senso orario il trimmer.
- Uscita motore ai terminali FA3 e FA4, regolabile da 0 a Vcc MAX che è proporzionale alla tensione di ingresso. Con 35 Vcc di alimentazione, l'uscita MAX è circa 30 Vcc.
- Corrente di uscita (\*): Massima corrente ammessa: 8 A in ambiente ventilato, servizio continuo.
- Peso: 0.120 Kg.
- Line voltage at terminals FA1 and FA2:  
12 - 24 Vac or 15 - 35 Vdc.
- The speed of the drive is to be controlled by potentiometer, 10-15 KΩ.
- Current Limit trimmer, in order to suit the board for small motors. In order to limit the current, turn clock wise the trimmer.
- Output voltage from terminals FA3 and FA4, from 0 up to Vdc MAX which is proportional to the input voltage. With 35 Vdc input voltage, the max output voltage is about 30 Vdc.
- Output current (\*): Maximum output current allowed: 8 A in a ventilated environment, continuous duty.
- Weight: 0.120 Kg.



Dimensioni

Dimensions



Opzioni

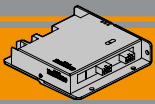
Options

1. Potenzimetro 10 kΩ
2. Supporto per montaggio su guida DIN

1. Speed potentiometer 10 kΩ
2. DIN mounting support

(\*) il valore massimo di corrente motore deve essere utilizzato in **ambiente ventilato**. In ambienti non ventilati e per temperatura ambiente di 45 °C, ridurre la corrente motore massima a 4 A; servizio continuo.

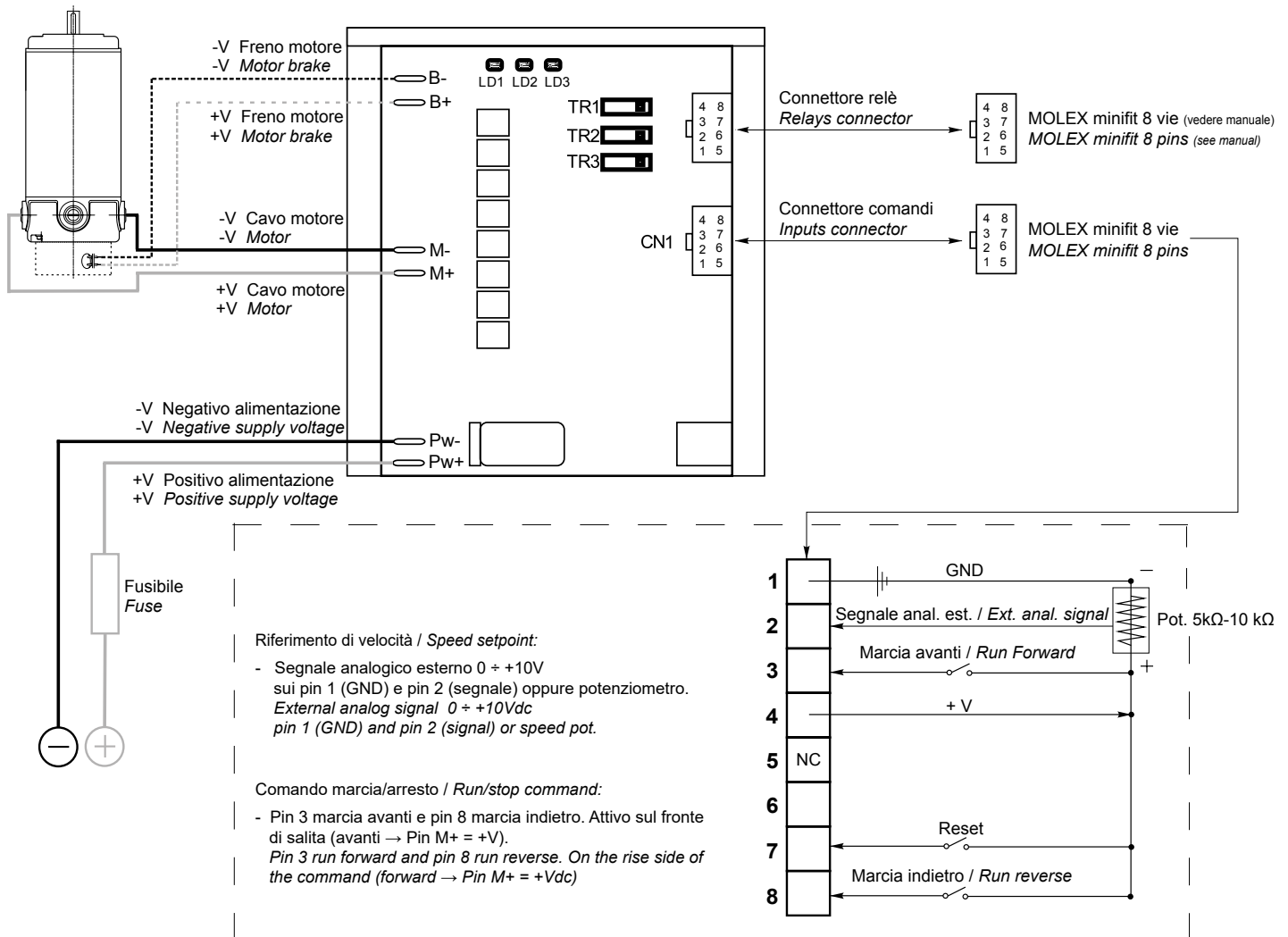
(\*) *the maximum output current value must be used in a ventilated environment. Derate the maximum output current down to 4 A if the environment is not ventilated and the temperature is about 45 °C; continuous duty.*



## AZIONAMENTO BIDIREZIONALE PWM PER LA REGOLAZIONE DI VELOCITA' DEI MOTORI A CORRENTE CONTINUA A BASSA TENSIONE

## LOW VOLTAGE BIDIRECTIONAL PWM DC MOTORS CONTROL

### SCHEMA DEI COLLEGAMENTI - MAIN CONNECTION DIAGRAM



#### Fusibile:

150-200% della corrente motore. Max 3 volte la corrente nominale della scheda, con intervento entro pochi secondi.

#### Fuse:

150-200 % rated motor current. Max 3 times rated current of the drive (trip time in few seconds).

#### Trimmer multigiro:

TR1: Accelerazione: selezione da 0.5 a 10 sec.

TR2: Limite di corrente: riduce il limite di corrente nominale da 100% a circa 30% (corrente di picco 3 volte la corrente selezionata).

TR3: Decelerazione: selezione da 0.5 a 10 sec.

#### Multiturn trimmers:

TR1: Acceleration time: from 0.5 to 10 sec.

TR2: Current limitation: rated current limited from 100% to about 30% (peak current 3 times the selected limited current).

TR3: Deceleration time: from 0.5 to 10 sec.

#### LED:

LD1: Visualizza lo stato di funzionamento con limite di corrente attivo (il motore assorbe più della corrente selezionata e l'azionamento opera in limitazione).

LD2: Stato dell'azionamento: lampeggio veloce e continuo = funzionamento normale, lampeggio lento e codificato = presenza di un allarme

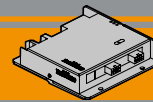
LD3: Segnalazione presenza alimentazione.

#### LED:

LD1: ON when the drive runs under current limitation (motor requires more than the rated current and drive supplies only limited current).

LD2: Status: quick continuous flash = drive ok, slow coded flash = fault).

LD3: Power ON



**Caratteristiche tecniche**

**Technical features**

- Scheda bidirezionale a transistor a ricircolo di corrente.
  - Selezionabili i seguenti parametri (mediante trimmer):
    - rampa di accelerazione: 0.5 - 10 sec
    - rampa di decelerazione: 0.5 - 10 sec
    - limite corrente 100%-30% circa
  - Temperatura di lavoro: 0°C / +40°C (allarme sotto zero)
  - Diagnostica tramite LED
  - Frequenza di commutazione: 16kHz
  - Dotata di coperchio
  - Velocità regolabile con potenziometro 5-10 kΩ o con segnale 0-10 Vcc
  - Limitazione della corrente regolabile
  - Sensore termico di protezione
- *Transistor bidirectional drive with regenerative current system.*
  - *Following settings can be adjusted (by built in trimmers):*
    - *acceleration ramp: 0.5 - 10 sec*
    - *deceleration ramp: 0.5 - 10 sec*
    - *current limit 100% - about 30%*
  - *Room temperature: 0°C / +40°C (alarm below zero)*
  - *LED for system diagnosis*
  - *Switching frequency: 16kHz*
  - *Covered*
  - *5-10 kΩ Speed pot. or 0-10 Vdc external signal for speed regulation*
  - *Variable current limit*
  - *Thermal sensor for protection*

Modello Model number	Tensione di alimentazione DC input voltage [Vdc]	Tensione di uscita Motor voltage [Vdc]*	Corrente di uscita nominale DC load current [A]	Corrente di picco motore Maximum load current [A]**	Campo di alimentazione Power supply range [Vdc]
<b>PLN20</b>	12 ÷ 24	0 ÷ Vin	20	60 (4 sec)	10 ÷ 30
<b>PLN40</b>	12 ÷ 24	0 ÷ Vin	40	120 (1 sec)	10 ÷ 30

\* L'azionamento riduce la tensione nominale di 1-2 Vcc. Il fenomeno è normale e fisiologico. Se serve ottenere 24 ÷ 12 Vcc in uscita sotto ogni condizione di carico, si suggerisce di sovralimentare di un paio di volt.

\*\* Un timer impone il limite con un andamento temporale iperbolico, cioè quanta più corrente eroga e tanto meno è il tempo per il quale ciò è ammesso, prima che appunto la scheda vada in limitazione. Alla corrente di picco (x 3 volte quella nominale) la scheda funziona per pochi secondi.

\* *The drive reduces the rated voltage of 1-2 Vdc. This is normal and physiological. If 24 ÷ 12 VDC output is required under all load conditions, it is advisable to supercharge a couple of volts.*

\*\* *A timer imposes a limit with a temporary hyperbolic performance, which means the more current is requested, the less time is permitted with this current before the drive is limited. When the current reaches its peak (3 times the rated value) the drive will work for a few seconds.*

**Dotazioni**

**Equipment**

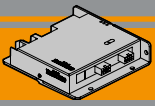
	PLN20 PLN40
Trimmer di selezione ACCEL, DECEL e LIMITE di CORRENTE / <i>Selection Trimmer ACCEL, DECEL, CURRENT LIMIT</i>	■
2 contatti: marcia avanti e marcia indietro / <i>2 contacts : forward and reverse</i>	■
Riferimento di velocità / <i>Speed setpoint reference</i>	■
3 LEDs di segnalazione / <i>3 LEDs signals</i>	■
Segnale di comando di eventuale freno negativo di stazionamento / <i>Command signal for possible negative electromagnetic brake</i>	■
Predisposizione per montaggio a libro e a zoccolo / <i>Arranged for 2 different ways of mounting</i>	■
Memorizzazione e segnalazione degli allarmi / <i>Memory storage and report of alarm</i>	■
2 ingressi digitali ausiliari / <i>2 auxiliary digital inputs</i>	■#
1 relè segnalazione allarmi / <i>Alarm output relays</i>	■

# uno impegnato dal reset / *one comitted by reset*



Per approfondimenti si raccomanda di scaricare il manuale d'uso dal nostro sito [www.transtecno.com](http://www.transtecno.com) alla pagina dei prodotti.

Please, download the user manual for more information from our web site [www.transtecno.com](http://www.transtecno.com) from the product page.



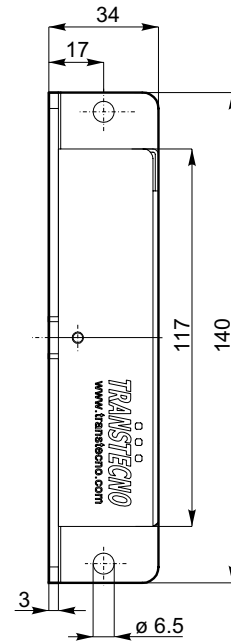
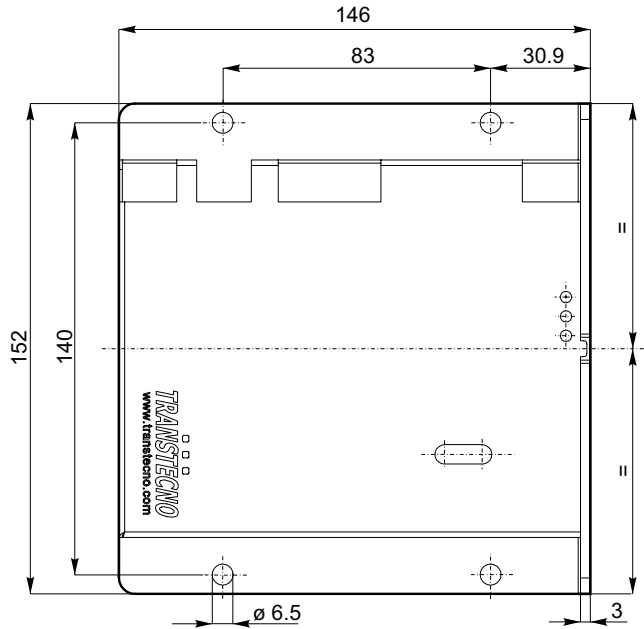
**AZIONAMENTO BIDIREZIONALE PWM PER LA  
REGOLAZIONE DI VELOCITA' DEI MOTORI A  
CORRENTE CONTINUA A BASSA TENSIONE**

**LOW VOLTAGE BIDIRECTIONAL  
PWM DC MOTORS CONTROL**

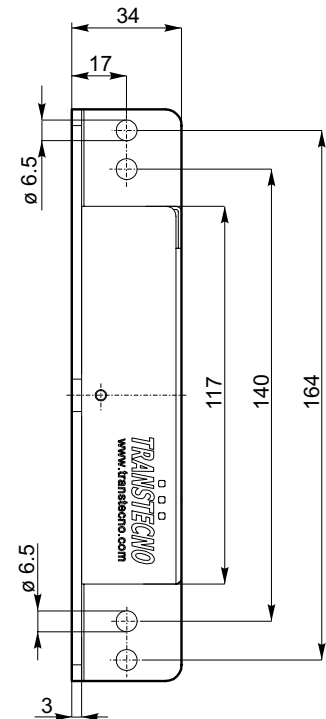
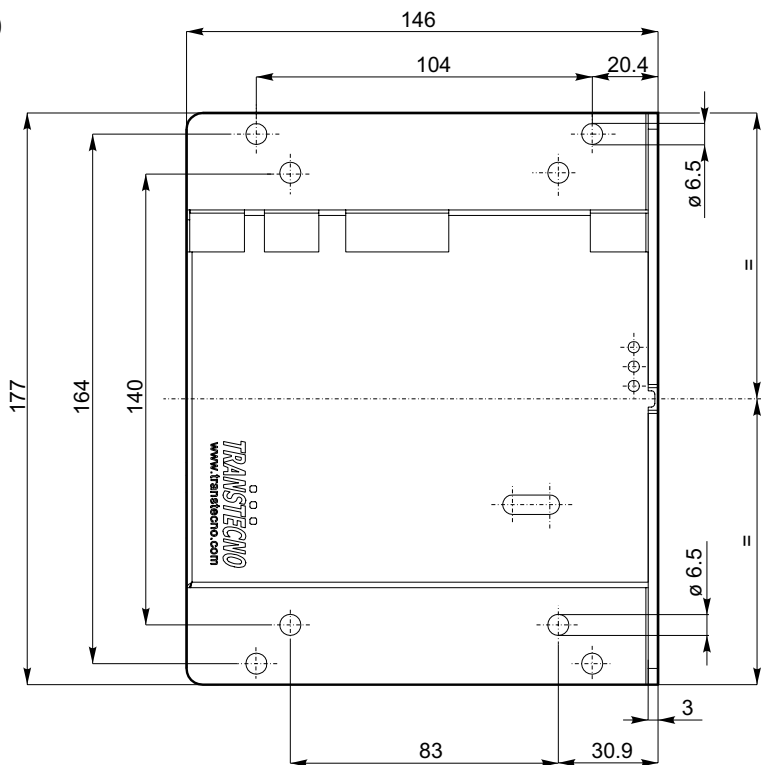
## Dimensioni

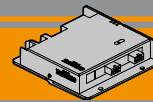
## Dimensions

**PLN20**



**PLN40**





GUIDA alla selezione dell'azionamento

Drive selection GUIDE

Corrente di uso del motore ≤ Corrente nominale dell'azionamento

Real motor current ≤ Rated current of the drive

Attenzione: la reale corrente assorbita dal motore può essere diversa da quella indicata in targhetta.

Warning: the real absorbed current by the motor can be different from the one written on the nameplate.

PLN19-8 = max 6 A

PLN19-8 = max 6 A

PLN20 = max 22 A

PLN20 = max 22 A

PLN40 = max 44 A

PLN40 = max 44 A

Vedere sotto la tabella per esemplificazioni

See the table below for quick reference

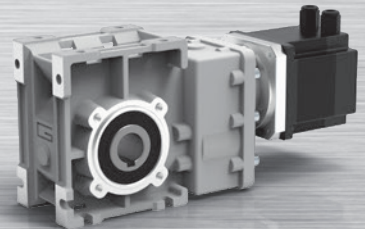
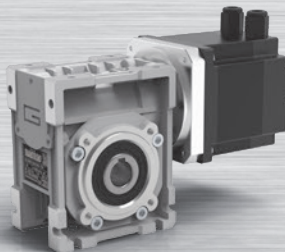
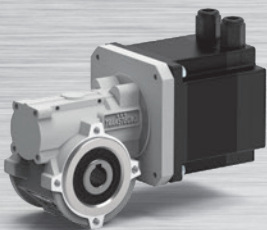
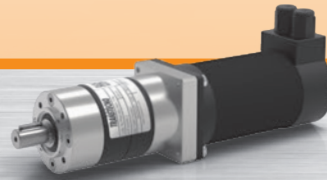
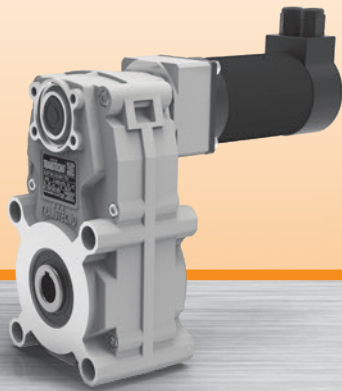
Codice motore Motor code	Corrente motore Motor current <b>S1</b>	Scheda-Drive (servizio motore-motor duty) <b>S1</b>	Corrente motore Motor current <b>S2</b>	Scheda-Drive (servizio motore-motor duty) <b>S2</b>
<b>EC020.120</b>	3.2	PLN19-8 – PLN20	4	PLN19-8 – PLN20
<b>EC020.240</b>	1.5	PLN19-8 – PLN20	2	PLN19-8 - PLN20
<b>EC035.120</b>	5.2	PLN19-8 – PLN20	8	PLN20
<b>EC035.240</b>	2.6	PLN19-8 - PLN20	4	PLN19-8 - PLN20
<b>EC050.120</b>	6.8	PLN20	9.4	PLN20
<b>EC050.240</b>	3.4	PLN19-8 - PLN20	4.7	PLN19-8 - PLN20
<b>EC070.120</b>	8.4	PLN20	11.8	PLN20
<b>EC070.240</b>	4.2	PLN19-8 - PLN20	5.9	PLN19-8 - PLN20
<b>EC100.120</b>	12	PLN20	16.8	PLN20
<b>EC100.240</b>	6	PLN19-8 - PLN20	8.4	PLN20
<b>EC100.24E</b>	6	PLN19-8 - PLN20	8.4	PLN20
<b>ND100.120</b>	13.9	PLN20	19	PLN20
<b>ND100.240</b>	6.9	PLN20	9.0	PLN20
<b>EC180.120</b>	21.5	PLN20	30	PLN40
<b>EC180.240</b>	10.8	PLN20	15	PLN20
<b>EC180.24E</b>	10.8	PLN20	15	PLN20
<b>ND180.120</b>	20	PLN20	30	PLN40
<b>ND180.240</b>	10	PLN20	14	PLN20
<b>EC250.120</b>	30	PLN40	39	PLN40
<b>EC250.240</b>	15	PLN20	19.5	PLN20
<b>EC350.240</b>	21	PLN20	29.4	PLN40
<b>EC350.240BR</b>				
<b>EC600.240</b>	35.5	PLN40	47	PLN40
<b>EC600.240BR</b>				





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Motoriduttori BLDC  
BLDC gearmotors








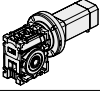

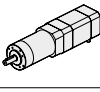




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**TRANSTECNO**®



BLDC



	Indice	Index	Pag. Page
 	<b>C-A</b> Motori brushless CC BL	Brushless DC motors BL	C-A1
 	<b>C-B</b> Motoriduttori brushless CC ad assi ortogonali BLCMB	Brushless DC helical bevel gearmotors BLCMB	C-B1
 	<b>C-C</b> Motoriduttori brushless CC pendolari BLFT	Brushless DC helical parallel gearmotors BLFT	C-C1
 	<b>C-D</b> Motoriduttori brushless CC a vite senza fine BLCM	Brushless DC wormgearmotors BLCM	C-D1
 	<b>C-E</b> Motoriduttori brushless CC epicicloidali BLP	Brushless DC planetary gearmotors BLP	C-E1
 	<b>C-F</b> Azionamenti per motori brushless CC BLD	Brushless DC motor controls BLD	C-F1

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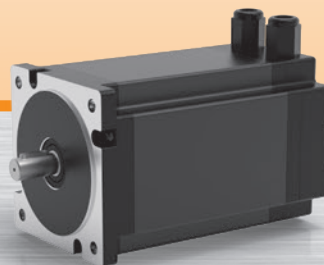
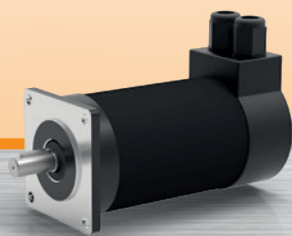


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**BL**



Motori brushless CC  
Brushless DC motors

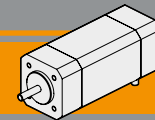


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**BLDC**

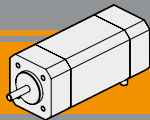




	<b>Indice</b>	<b>Index</b>	Pag. Page
	Caratteristiche tecniche	<i>Technical features</i>	<b>CA2</b>
	Grado di protezione IP	<i>IP enclosures protection indexes</i>	<b>CA2</b>
	Classe di isolamento termico	<i>Insulation class</i>	<b>CA2</b>
	Tipi di servizio IEC	<i>IEC duty cycle ratings</i>	<b>CA2</b>
	Legenda / Glossario dei grafici	<i>Key / Diagram Glossary</i>	<b>CA3</b>
	Formule utili	<i>Useful formulas</i>	<b>CA3</b>
<b>BLS022.240</b>	Specifiche costruttive	<i>General features</i>	<b>CA4</b>
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	Dimensioni	<i>Dimensions</i>	<b>CA5</b>
	Diagramma dei collegamenti	<i>Connection diagram</i>	<b>CA5</b>
<b>BLS043.240</b>	Specifiche costruttive	<i>General features</i>	<b>CA6</b>
	Prestazioni	<i>Performances</i>	<b>CA6</b>
	Dimensioni	<i>Dimensions</i>	<b>CA7</b>
	Diagramma dei collegamenti	<i>Connection diagram</i>	<b>CA7</b>
<b>BL070.480</b>	Specifiche costruttive	<i>General features</i>	<b>CA8</b>
	Prestazioni	<i>Performances</i>	<b>CA8</b>
	Dimensioni	<i>Dimensions</i>	<b>CA9</b>
	Diagramma dei collegamenti	<i>Connection diagram</i>	<b>CA9</b>
<b>BL140.480</b>	Specifiche costruttive	<i>General features</i>	<b>CA10</b>
	Prestazioni	<i>Performances</i>	<b>CA10</b>
	Dimensioni	<i>Dimensions</i>	<b>CA11</b>
	Diagramma dei collegamenti	<i>Connection diagram</i>	<b>CA11</b>
<b>BL210.480</b>	Specifiche costruttive	<i>General features</i>	<b>CA12</b>
	Prestazioni	<i>Performances</i>	<b>CA12</b>
	Dimensioni	<i>Dimensions</i>	<b>CA13</b>
	Diagramma dei collegamenti	<i>Connection diagram</i>	<b>CA13</b>

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**Caratteristiche tecniche**

**Technical features**

I motori brushless CC della serie BL vengono realizzati in 5 taglie con coppie da 0.22 Nm a 2.1 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
- 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.

Tutti i motori sono realizzati con grado di protezione IP55.

*Brushless DC motors from the BL range are available in 5 sizes with torque from 0.22 Nm to 2.1 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*

*BL motors have a compact design and thanks to low inertia they have high performances and are a low cost solution already including Hall sensors, as opposed to an encoder or resolver.*

*The 3 phase windings of the motor have a low voltage of 24/36/48 V and so these motors are safer to use when a machine operator has direct contact with them.*

*IP55 protection index for all the motors.*

**Grado di protezione IP**

**IP enclosures protection indexes**

Indica il grado di isolamento meccanico del corpo motore.

1<sup>a</sup> cifra protezione alla penetrazione di corpi solidi.

2<sup>a</sup> cifra protezione contro la penetrazione d'acqua.

*Indicates the degree of mechanical insulation of the motor body. 1<sup>st</sup> figure indicating level of protection against the penetration of solid bodies.*

*2<sup>nd</sup> figure: indicating degree to which the motor is waterproof.*

<b>5</b>	Protetto contro la polvere <i>Dust proof</i>	<b>5</b>	Protetto contro i getti d'acqua <i>Water jet proof</i>
----------	-------------------------------------------------	----------	-----------------------------------------------------------

**Classe di isolamento termico**

**Insulation class**

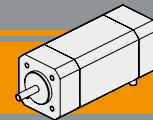
Classe / Class	Δ t °C Temp. ambiente: 40°C <i>Ambient temperature: 40°C</i>
<b>B</b>	90°C
<b>F</b>	115°C
<b>H</b>	140°C

**Tipi di servizio IEC**

**IEC duty cycle ratings**

<b>S1</b>	<b>Servizio continuo.</b> Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	<b>Continuous duty.</b> <i>The motor works at a constant load for enough time to reach temperature equilibrium</i>
<b>S2</b>	<b>Servizio di durata limitata.</b> 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.	<b>Short time duty.</b> <i>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.</i>
<b>S3</b>	<b>Servizio periodico intermittente.</b> 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.	<b>Intermittent periodic duty.</b> <i>Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.</i>



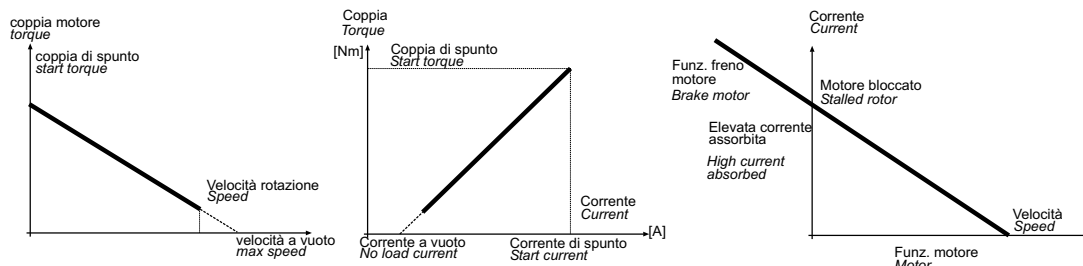


**Legenda / Glossario dei grafici**

**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.

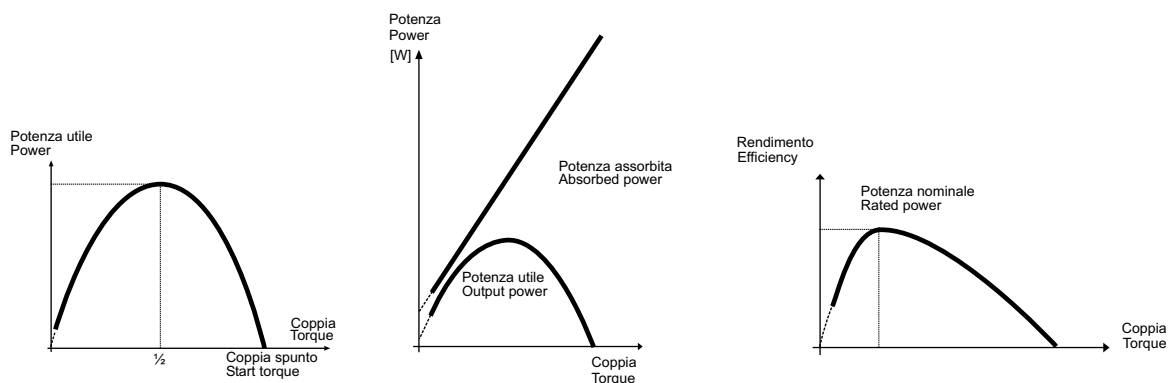


La potenza utile (potenza all' albero) si ricava dalla formula:

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

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**

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

$$P_a = V \cdot I$$

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

$$P_n = M_n \cdot S_v$$

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

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

$$P_a = V \cdot I$$

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

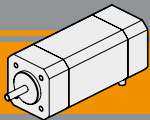
$$P_n = M_n \cdot S_v$$

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

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

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

<b>S</b>	—	Servizio	<i>Duty</i>
<b>P<sub>n</sub></b>	[W]	Potenza in uscita	<i>Rated power</i>
<b>P<sub>a</sub></b>	[W]	Potenza assorbita	<i>Absorbed power</i>
<b>M<sub>n</sub></b>	[Nm]	Coppia nominale	<i>Rated torque</i>
<b>V</b>	[V]	Tensione	<i>Voltage</i>
<b>I</b>	[A]	Corrente assorbita	<i>Absorbed current</i>
<b>n<sub>1</sub></b>	[min <sup>-1</sup> ]	Numero giri motore	<i>Motor speed</i>
<b>S<sub>v</sub></b>	[rad/s]	Velocità angolare	<i>Angular speed</i>
<b>IC</b>	—	Classe d'isolamento termico	<i>Thermal insulation class</i>
<b>FF</b>	—	Fattore di forma	<i>Form factor</i>
<b>IP</b>	—	Classe di protezione	<i>protection class</i>
<b>η</b>	—	Rendimento	<i>Efficiency</i>
<b>Kg</b>	—	Massa	<i>Mass</i>



**BLS022.240**

**Specifiche costruttive**

**General features**

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

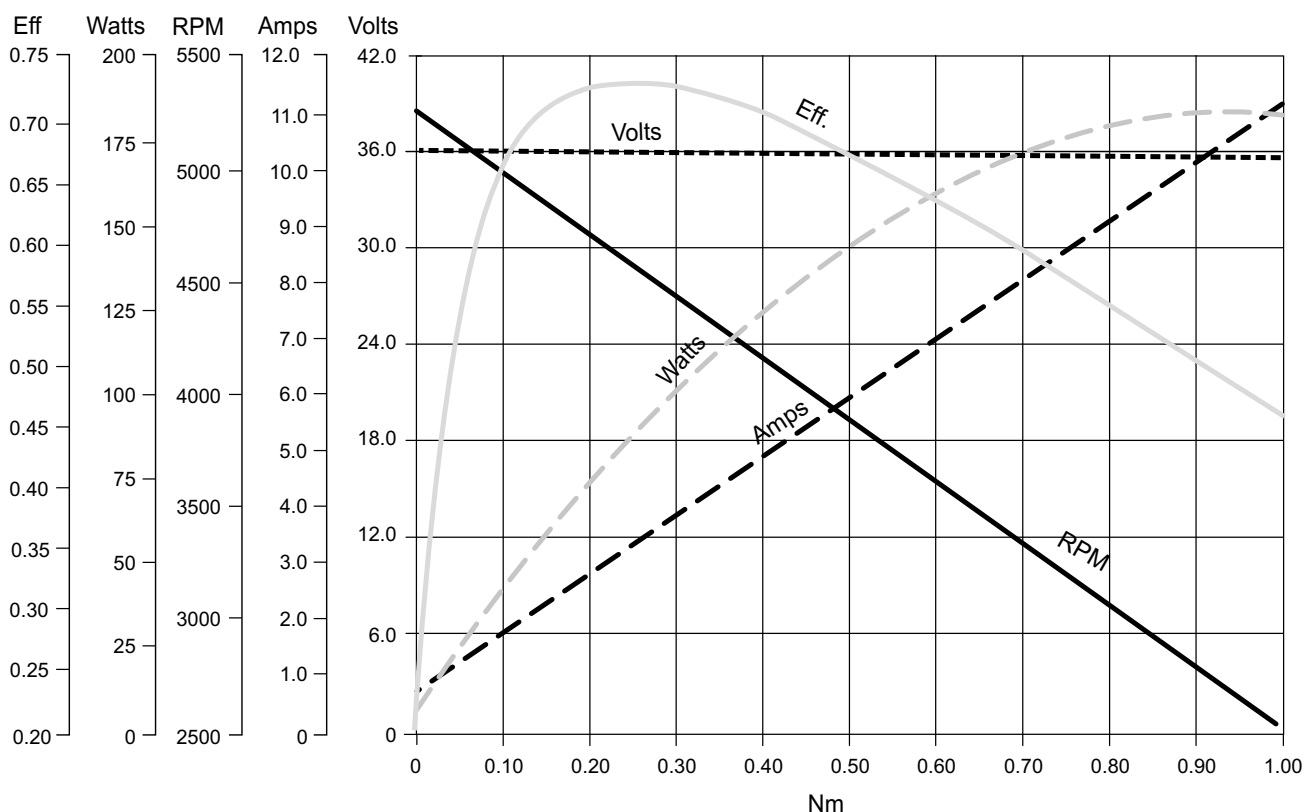
<b>Max forza radiale</b> <i>Max radial force</i>	75N @ 20 mm dalla flangia <i>75N @ 20 mm from flange</i>
<b>Max forza assiale</b> <i>Max axial force</i>	15N
<b>Classe di isolamento termico</b> <i>Insulation class</i>	Classe B <i>Class B</i>
<b>Isolamento dielettrico</b> <i>Dielectric strength</i>	500Vcc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

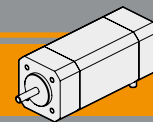
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale	Velocità nominale	Coppia nominale	Potenza nominale	Coppia di picco	Corrente nominale	Corrente di picco	Resistenza fase-fase	Induttanza fase-fase	Costante di coppia	Costante FCEM	Inerzia rotore	Peso
			<i>Rated voltage</i>	<i>Rated speed</i>	<i>Rated torque</i>	<i>Rated power</i>	<i>Peak torque</i>	<i>Rated current</i>	<i>Peak current</i>	<i>Line to line resistance</i>	<i>Line to line inductance</i>	<i>Torque constant</i>	<i>Back EMF</i>	<i>Rotor inertia</i>	<i>Weight</i>
			[V]	[min <sup>-1</sup> ]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm <sup>2</sup> ]	[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
BLS022.240	4	3	24	3000	0.22	70	0.66	3.7	11.2	0.64	3.1	0.06	6.28	119	0.72

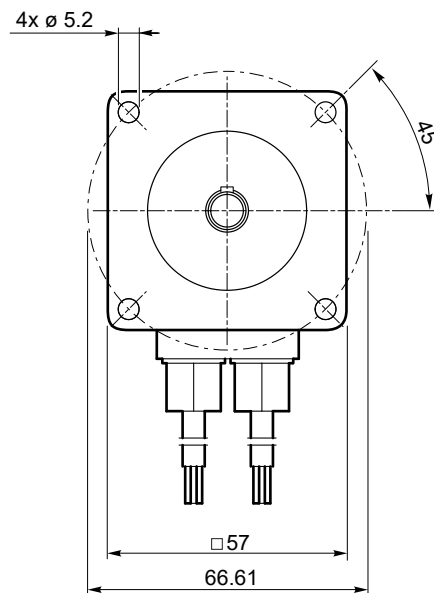
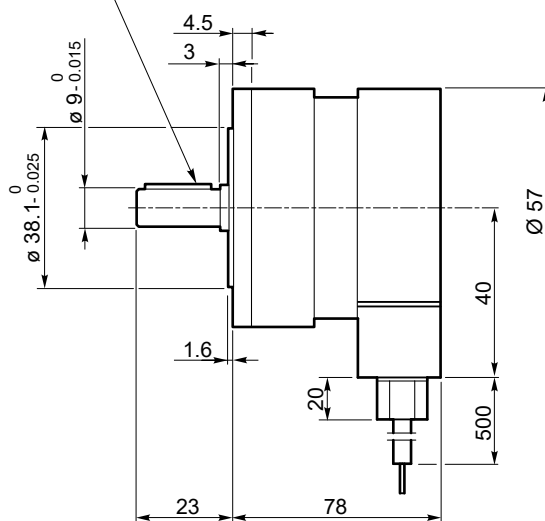


**Prestazioni**

**Performances**




**BLS022.240**
**Dimensioni**
**Dimensions**
**BLS022.240**

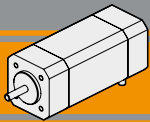
 Linguetta 3x3x16  
 DIN 6885  
 Key 3x3x16  
 DIN 6885

**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 Supply voltage for Hall sensors, + 5 Vdc
Nero (piccolo) Black (small)	Comune per i segnali di HALL Ground for HALL sensors



**BLS043.240**

**Specifiche costruttive**

**General features**

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

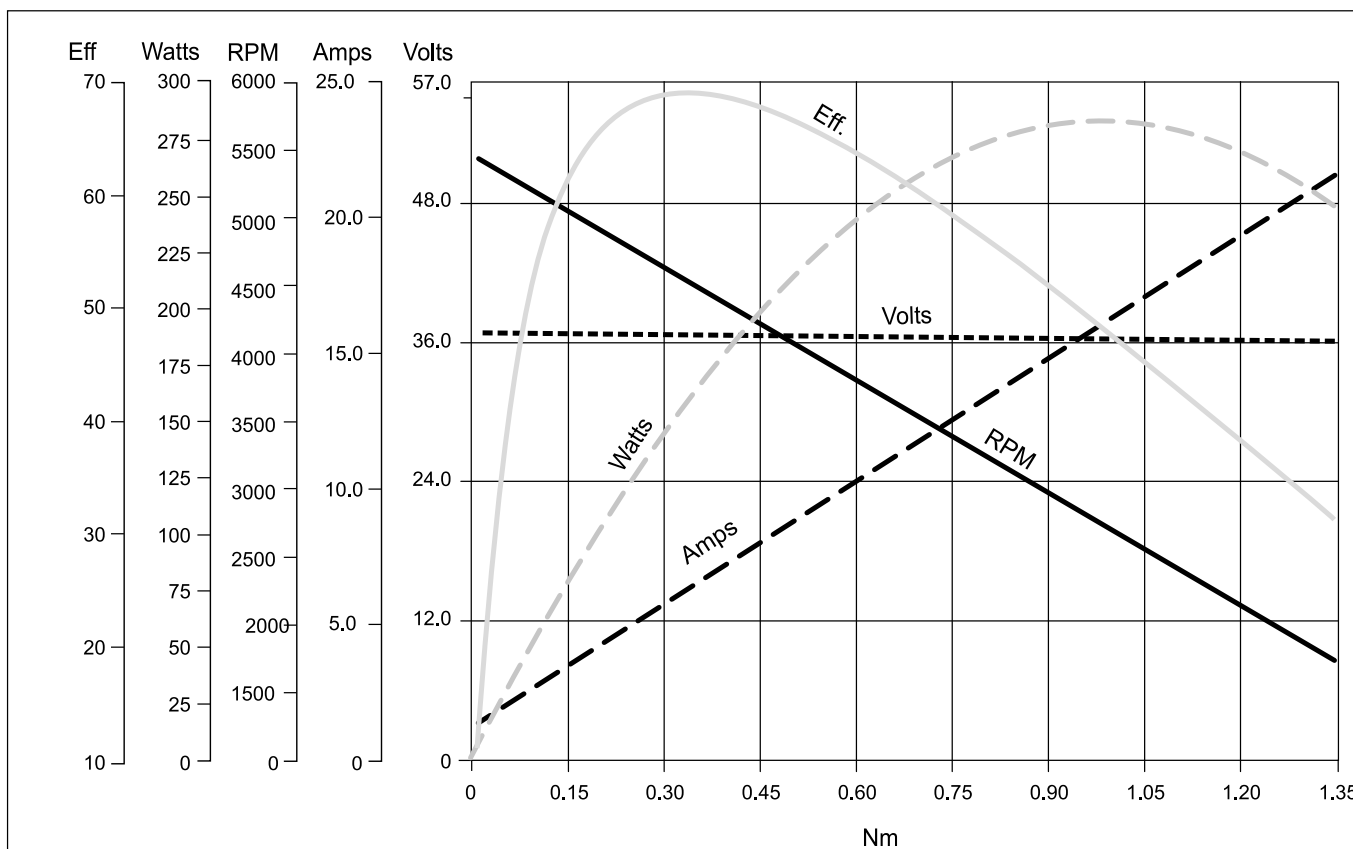
<b>Max forza radiale</b> <i>Max radial force</i>	75N @ 20 mm dalla flangia <i>75N @ 20 mm from flange</i>
<b>Max forza assiale</b> <i>Max axial force</i>	15N
<b>Classe di isolamento termico</b> <i>Insulation class</i>	Classe B <i>Class B</i>
<b>Isolamento dielettrico</b> <i>Dielectric strength</i>	500Vcc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

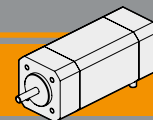
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale	Velocità nominale	Coppia nominale	Potenza nominale	Coppia di picco	Corrente nominale	Corrente di picco	Resistenza fase-fase	Induttanza fase-fase	Costante di coppia	Costante FCEM	Inerzia rotore	Peso
			<i>Rated voltage</i>	<i>Rated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

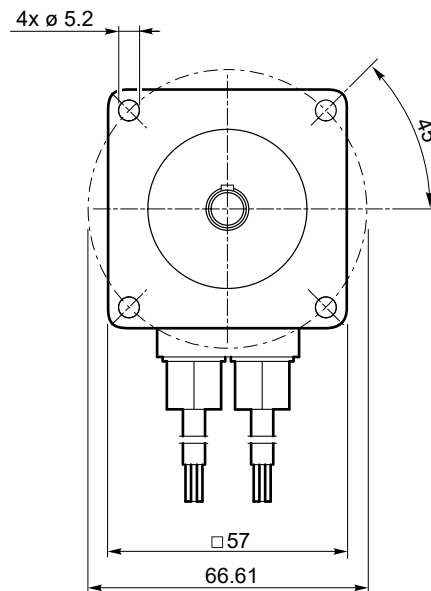
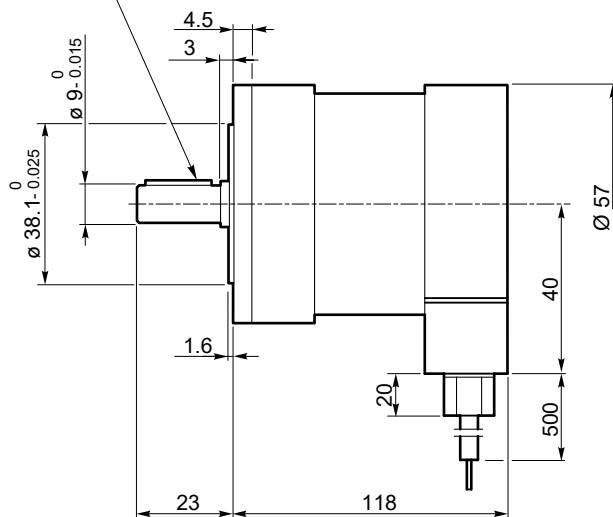


**Prestazioni**

**Performances**




**BLS043.240**
**Dimensioni**
**Dimensions**
**BLS043.240**

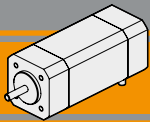
 Linguetta 3x3x16  
 DIN 6885  
 Key 3x3x16  
 DIN 6885

**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 Supply voltage for Hall sensors, + 5 Vdc
Nero (piccolo) Black (small)	Comune per i segnali di HALL Ground for HALL sensors



**BL070.480**

**Specifiche costruttive**

**General features**

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

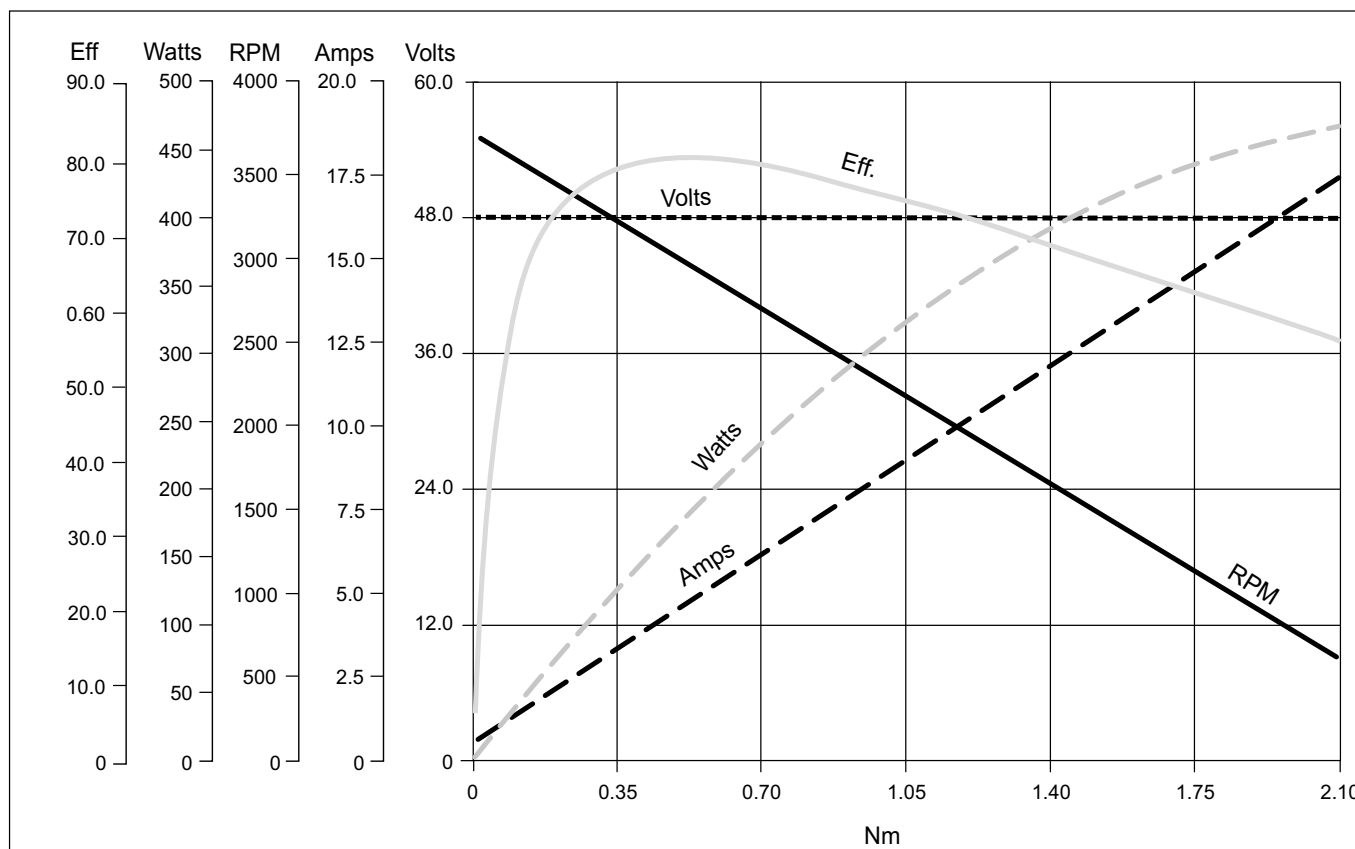
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale	Velocità nominale	Coppia nominale	Potenza nominale	Coppia di picco	Corrente nominale	Corrente di picco	Resistenza fase-fase	Induttanza fase-fase	Costante di coppia	Costante FCEM	Inerzia rotore	Peso
			<i>Rated voltage</i>	<i>Rated speed</i>	<i>Rated torque</i>	<i>Rated power</i>	<i>Peak torque</i>	<i>Rated current</i>	<i>Peak current</i>	<i>Line to line resistance</i>	<i>Line to line inductance</i>	<i>Torque constant</i>	<i>Back EMF</i>	<i>Rotor inertia</i>	<i>Weight</i>
			[V]	[min <sup>-1</sup> ]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm <sup>2</sup> ]	[kg]
BL070.480	8	3	48	3000	0.7	220	2.1	6.5	20	0.34	1.0	0.107	9	800	2.1

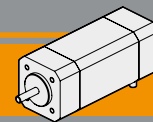
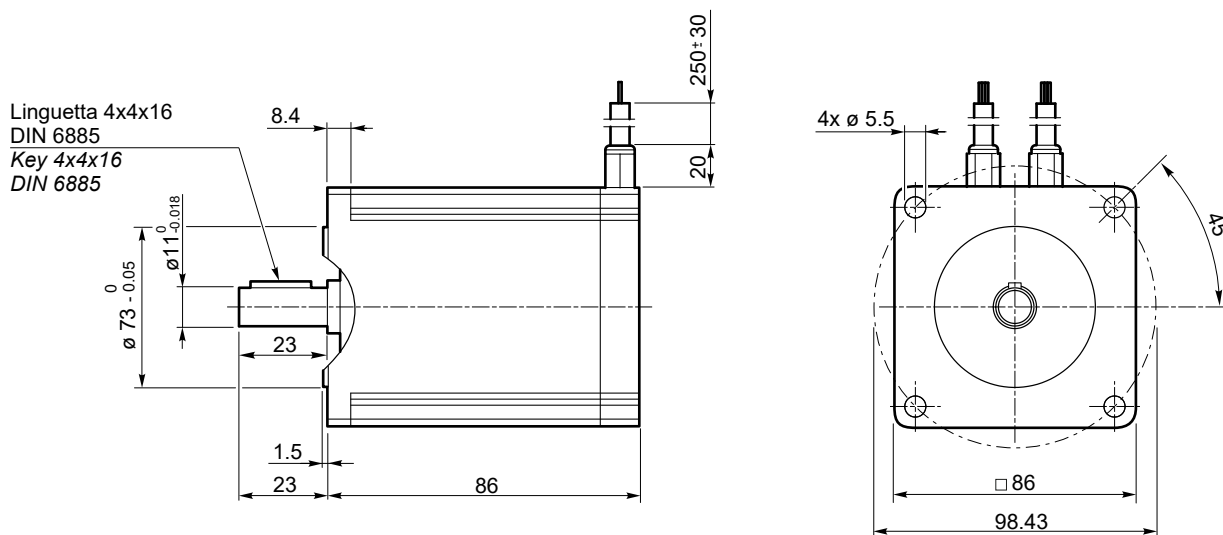
Azionamenti  
*Drives*



**Prestazioni**

**Performances**



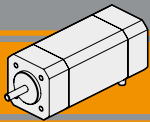

**BL070.480**
**Dimensioni**
**Dimensions**
**BL070.480**

**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

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

**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



**BL140.480**

**Specifiche costruttive**

**General features**

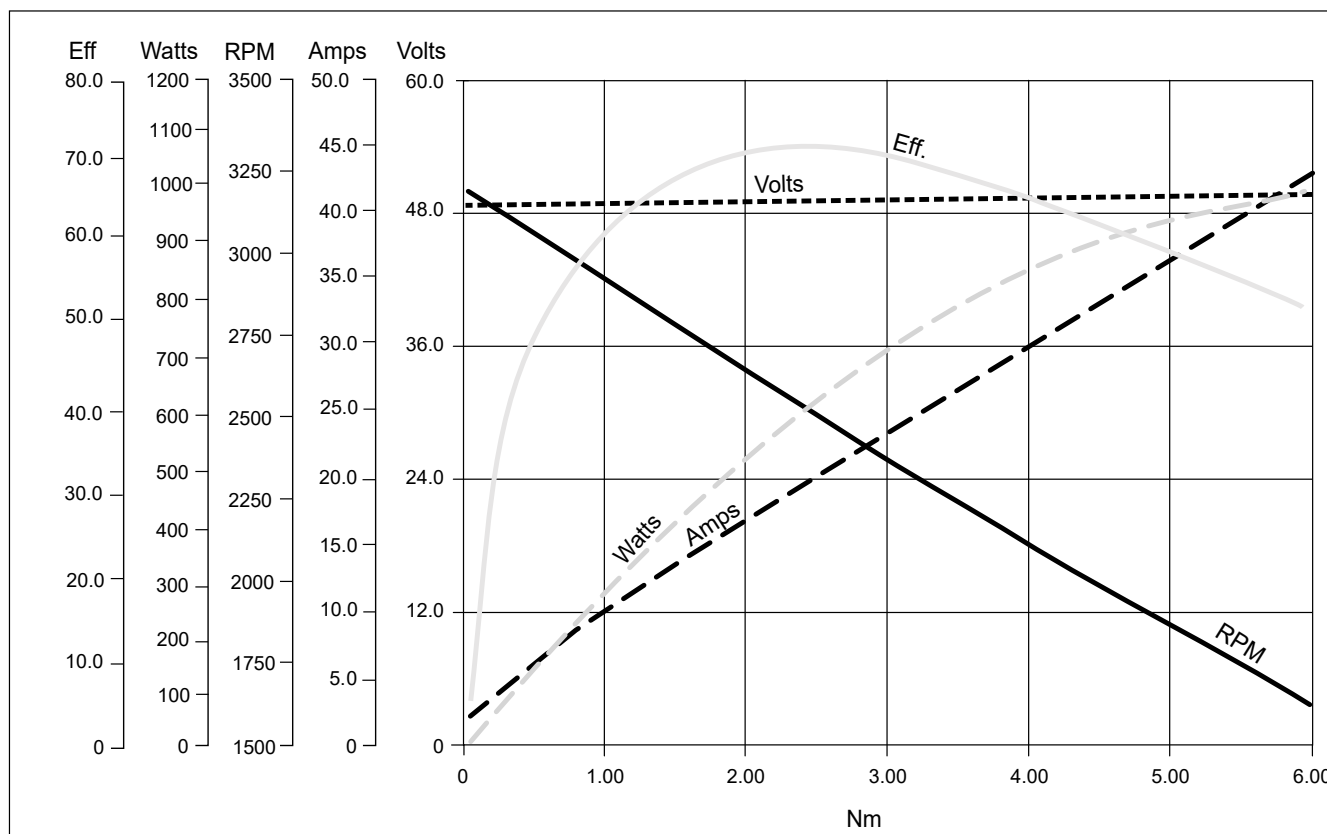
<b>Tipologia di avvolgimento</b> <i>Winding type</i>	Stella <i>Star</i>	<b>Max forza radiale</b> <i>Max radial force</i>	220N @ 20 mm dalla flangia <i>220N @ 20 mm from flange</i>
<b>Angolo sensori Hall</b> <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	<b>Max forza assiale</b> <i>Max axial force</i>	60N
<b>Gioco radiale</b> <i>Radial play</i>	0.02 mm @ 450g	<b>Classe di isolamento termico</b> <i>Insulation class</i>	Classe B <i>Class B</i>
<b>Gioco assiale</b> <i>End play</i>	0.08 mm @ 450g	<b>Isolamento dielettrico</b> <i>Dielectric strength</i>	500Vcc x 1 minuto <i>500 Vdc 1 minute</i>
<b>Scentratura albero</b> <i>Shaft run out</i>	0.05 mm	<b>Resistenza isolamento</b> <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	Velocità nominale	Coppia nominale	Potenza nominale	Coppia di picco	Corrente nominale	Corrente di picco	Resistenza fase-fase	Induttanza fase-fase	Costante di coppia	Costante FCEM	Inerzia rotore	Peso
			<i>Rated voltage</i>	<i>Rated speed</i>	<i>Rated torque</i>	<i>Rated power</i>	<i>Peak torque</i>	<i>Rated current</i>	<i>Peak current</i>	<i>Line to line resistance</i>	<i>Line to line inductance</i>	<i>Torque constant</i>	<i>Back EMF</i>	<i>Rotor inertia</i>	<i>Weight</i>
			[V]	[min <sup>-1</sup> ]	[Nm]	[W]	[Nm]	[A]	[A]	[Ω]	[mH]	[Nm/A]	[V/kRPM]	[gcm <sup>2</sup> ]	[kg]
BL140.480	8	3	48	3000	1.4	440	4.2	13	37	0.16	0.5	0.113	9.4	1600	3.15

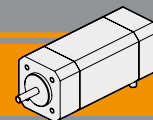
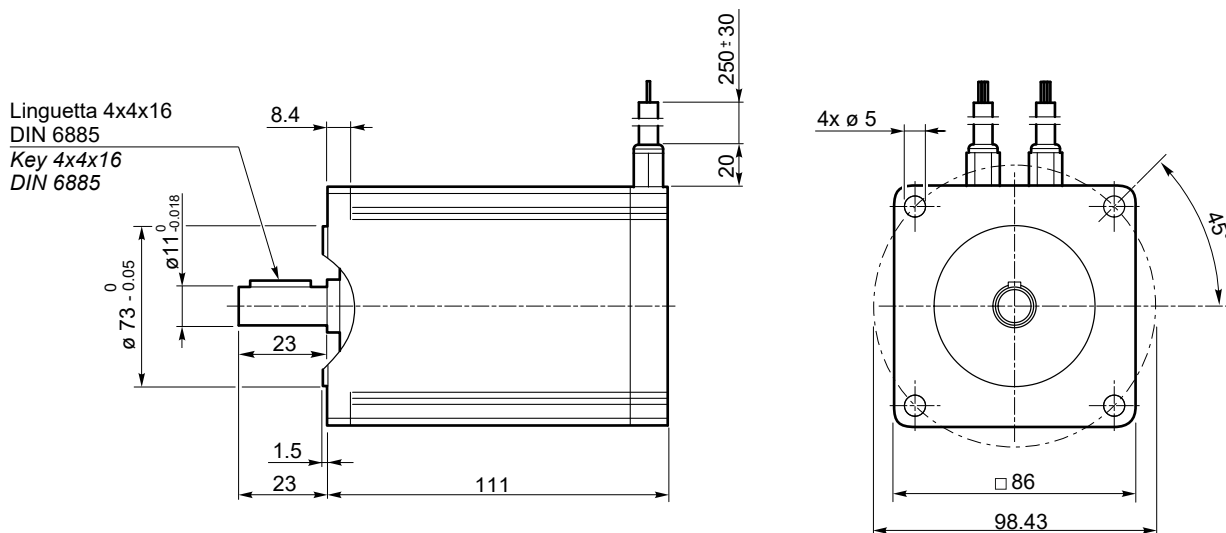


**Prestazioni**

**Performances**





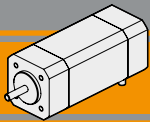

**BL140.480**
**Dimensioni**
**Dimensions**
**BL140.480**

**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

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

**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



**BL210.480**

**Specifiche costruttive**

**General features**

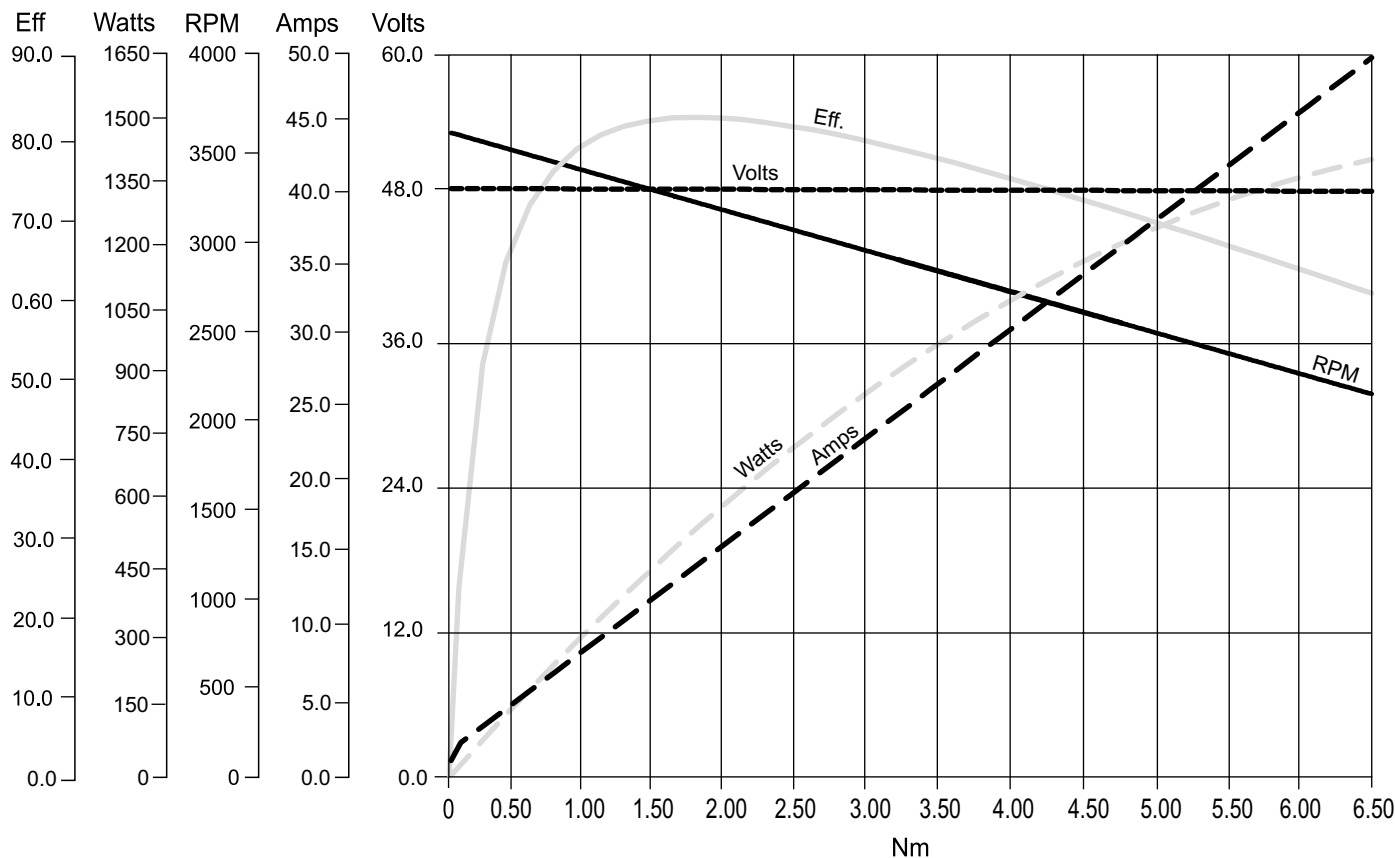
<b>Tipologia di avvolgimento</b> <i>Winding type</i>	Stella <i>Star</i>	<b>Max forza radiale</b> <i>Max radial force</i>	220N @ 20 mm dalla flangia <i>220N @ 20 mm from flange</i>
<b>Angolo sensori Hall</b> <i>HALL effect angle</i>	120 gradi elettrici <i>120 degree electrical angle</i>	<b>Max forza assiale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

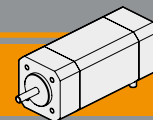
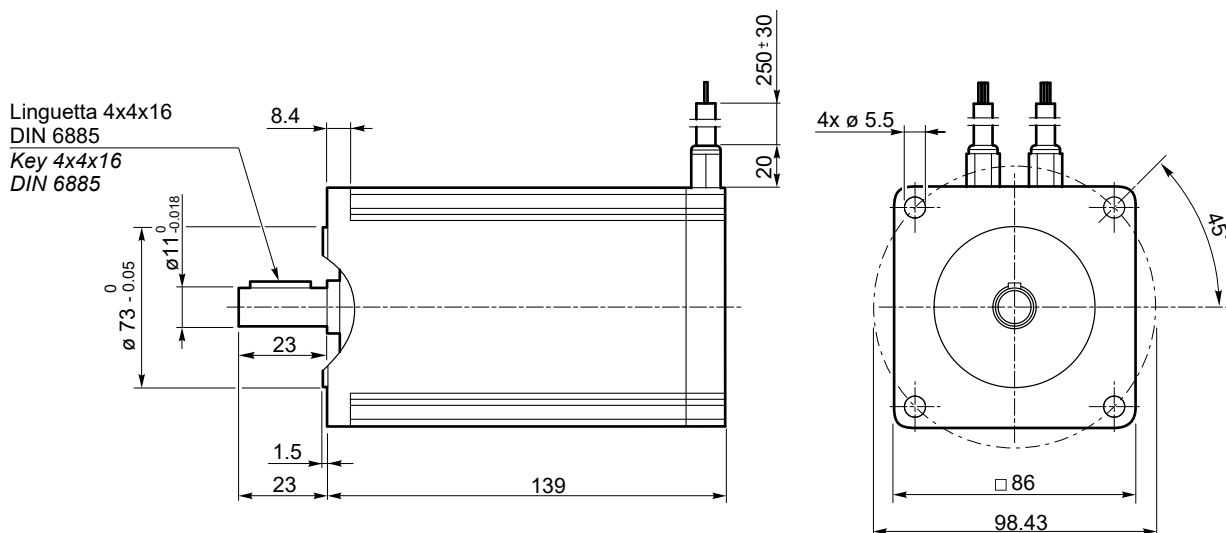
Modello <i>Model</i>	Poli <i>Poles</i>	Fasi <i>Phases</i>	Tensione nominale	Velocità nominale	Coppia nominale	Potenza nominale	Coppia di picco	Corrente nominale	Corrente di picco	Resistenza fase-fase	Induttanza fase-fase	Costante di coppia	Costante FCEM	Inerzia rotore	Peso
			<i>Rated voltage</i>	<i>Rated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



**Prestazioni**

**Performances**




**BL210.480**
**Dimensioni**
**Dimensions**
**BL210.480**

**Diagramma dei collegamenti**
**Connection diagram**

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

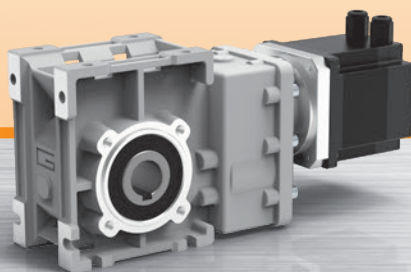
Cavi di segnale Signal leads	Descrizione Description
<b>Blue</b>	HALL fase U U phase HALL
<b>Verde Green</b>	HALL fase V V phase HALL
<b>Bianco White</b>	HALL fase W W phase HALL
<b>Rosso (piccolo) Red (small)</b>	Alimentazione HALL + 5Vcc Supply voltage for Hall sensors, + 5 Vdc
<b>Nero (piccolo) Black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

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

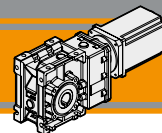
**Note:** Pls, follow strictly the above connection diagrams, danger for the motor and the electric control



Motoriduttori brushless CC ad assi ortogonali  
Brushless DC helical bevel gearmotors



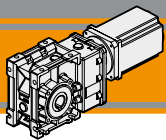




<b>Indice</b>	<b>Index</b>	<b>Pag. Page</b>
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Designazione	<i>Classification</i>	<b>CB2</b>
Simbologia	<i>Symbols</i>	<b>CB3</b>
Lubrificazione e temperatura	<i>Lubrication and temperature</i>	<b>CB3</b>
Carichi radiali	<i>Radial loads</i>	<b>CB3</b>
CMB402 con motore brushless BLS043.240	<i>CMB402 with BLS043.240 brushless motor</i>	<b>CB4</b>
CMB402 con motore brushless BL070.480	<i>CMB402 with BL070.480 brushless motor</i>	<b>CB5</b>
CMB402 con motore brushless BL140.480	<i>CMB402 with BL140.480 brushless motor</i>	<b>CB6</b>
Dati tecnici	<i>Technical data</i>	<b>CB7</b>
Dimensioni CMB con flange motore AS	<i>CMB dimensions with motor flanges AS</i>	<b>CB8</b>
Flange uscita	<i>Output flange</i>	<b>CB9</b>
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### Caratteristiche tecniche

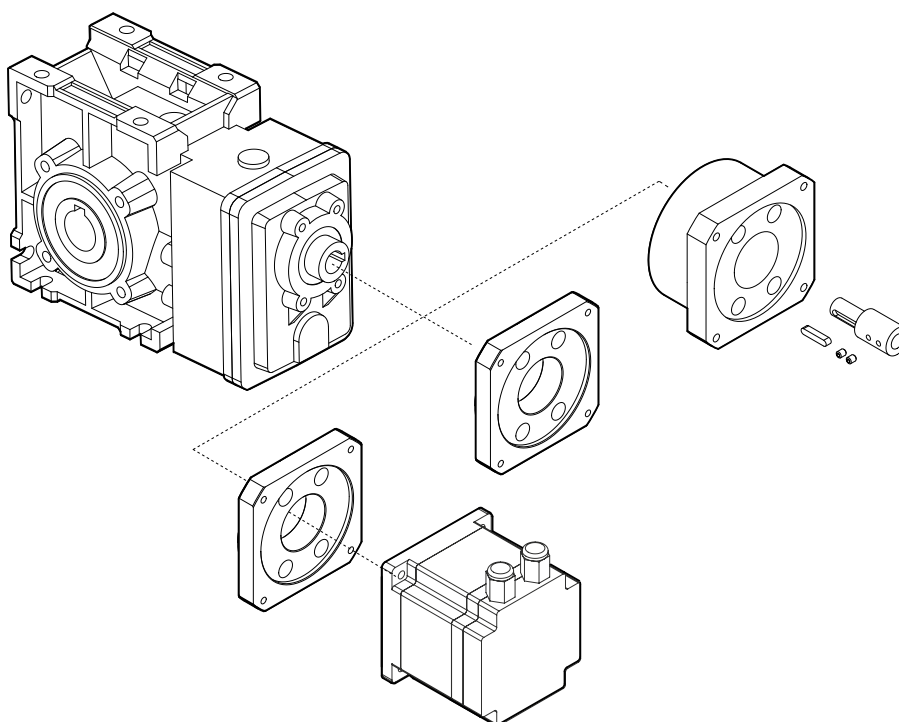
### Technical features

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

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

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore Brushless CC con grado di protezione IP55
- Coppie motori disponibili da 0.43 Nm a 1.4 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

- Low voltage power supply 24/36/48 Vdc
- Brushless DC motor in IP55 protection Standard
- Motor torque ratings available from 0.43 Nm up to 1.4 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

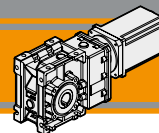


### Designazione

### Classification

RIDUTTORE / GEARBOX					MOTORE / MOTOR	
CMB	402	U	9.2	020	BL070.480	48V
Tipo Type	Grandezza Size	Versione riduttore Gearbox version	Rapporto Ratio	Albero di uscita Output shaft	Tipo Type	Tensione Voltage
CMB	402	U FD FS FLD FLS FBD FBS	Vedere tabelle See tables		BLS043.240 BL070.480 BL140.480	24V - 36V 48V 48V





## Simbologia

## Symbols

Ns	n° stadi / No. stages	Mn <sub>2</sub>	[Nm]	Coppia nominale in uscita in funzione di Pn1 <i>Nominal output torque referred to Pn1</i>
ir	rapporto reale / real ratio	n <sub>1MAX</sub>	[Rpm]	Velocità max entrata / Max input speed
M <sub>2</sub>	[Nm]	V	[V]	Tensione / Voltage
A <sub>2</sub>	[N]	n <sub>2</sub>	[Rpm]	Velocità in uscita / Output Speed
R <sub>2</sub>	[N]	IP		Grado di protezione / Enclosure protection
Pn <sub>1</sub>	[kW]	Kg		Peso / Weight
		sf		Fattore di servizio / Service Factor

## Lubrificazione e temperatura

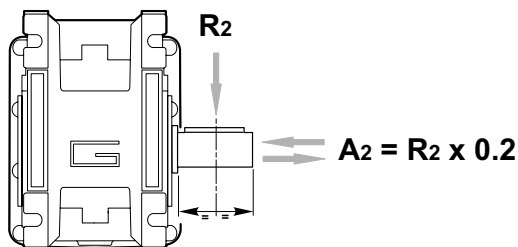
## Lubrication and temperature

I motoriduttori BLCMB 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 BLCMB 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

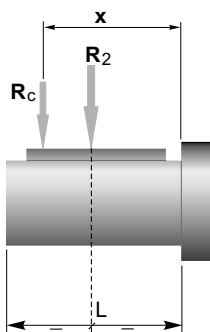
## Radial loads



n <sub>2</sub> [min <sup>-1</sup> ]	R <sub>2</sub> [N]
	CMB 402
400	905
300	996
200	1141
170	1204
140	1414
100	1582
90	1638
60	2047
40	2524
30	2778
20	3180
15	3500
10	3500

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

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

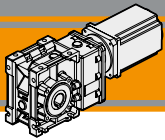


	CMB 402
a	86
b	66
R <sub>2MAX</sub>	3500

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

$$R \leq R_c$$

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

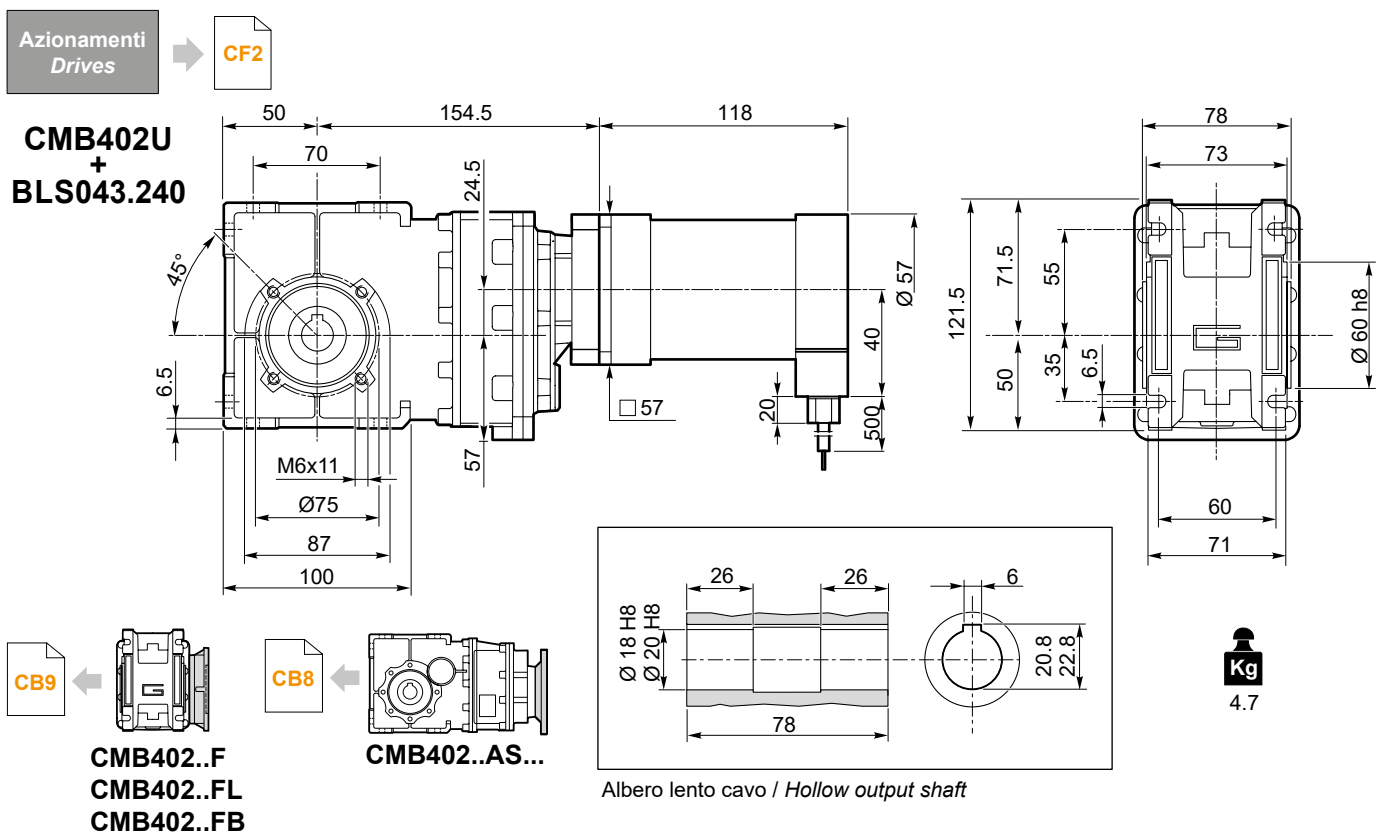


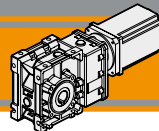
**CMB402 con motore brushless**

**CMB402 with brushless motor**

CMB402	BLS043.240													
	24V						36V							
	ir	n <sub>2</sub> MIN [ rpm ]			n <sub>2</sub> MAX [ rpm ]			n <sub>1</sub> MAX [ rpm ]	n <sub>2</sub> MIN [ rpm ]			n <sub>2</sub> MAX [ rpm ]		n <sub>1</sub> MAX [ rpm ]
M <sub>2</sub> [Nm]		sf		M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]		sf		M <sub>2</sub> [Nm]	sf		
6.2	49	2.5	18.4	486	2.5	12.5	3000	65	2.5	18.4	648	2.5	11.1	4000
7.5	40	3.0	15.2	400	3.0	10.3		53	3.0	15.2	534	3.0	9.1	
9.2	33	3.7	12.4	326	3.7	8.4		43	3.7	12.4	435	3.7	7.4	
11.8	25	4.8	10.8	254	4.8	7.3		34	4.8	10.8	338	4.8	6.5	
12.5	24	5.0	10.3	240	5.0	7.0		32	5.0	10.3	320	5.0	6.2	
14.8	20	6.0	8.6	202	6.0	5.9		27	6.0	8.6	270	6.0	5.2	
17.6	17	7.1	7.3	170	7.1	4.9		23	7.1	7.3	227	7.1	4.4	
18.6	16	7.5	8.4	161	7.5	5.7		22	7.5	8.4	215	7.5	5.0	
22.3	13	9.0	7.0	134	9.0	4.8		18	9.0	7.0	179	9.0	4.2	
23.9	13	9.7	6.5	125	9.7	4.4		17	9.7	6.5	167	9.7	3.9	
28.9	10	12	6.4	104	12	4.3		14	12	6.4	138	12	3.8	
30.8	9.7	12	6.0	97	12	4.1		13	12	6.0	130	12	3.6	
33.6	8.9	14	5.5	89	14	3.7		12	14	5.5	119	14	3.3	
35.6	8.4	14	5.2	84	14	3.5		11	14	5.2	112	14	3.1	
42.8	7.0	17	4.3	70	17	2.9		9.4	17	4.3	94	17	2.6	
55.3	5.4	22	3.3	54	22	2.3		7.2	22	3.3	72	22	2.0	
59.1	5.1	24	3.1	51	24	2.1		6.8	24	3.1	68	24	1.9	
64.3	4.7	26	2.9	47	26	2.0		6.2	26	2.9	62	26	1.7	
72.5	4.1	29	2.6	41	29	1.7		5.5	29	2.6	55	29	1.5	

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	0.35	1	12.0	1.25

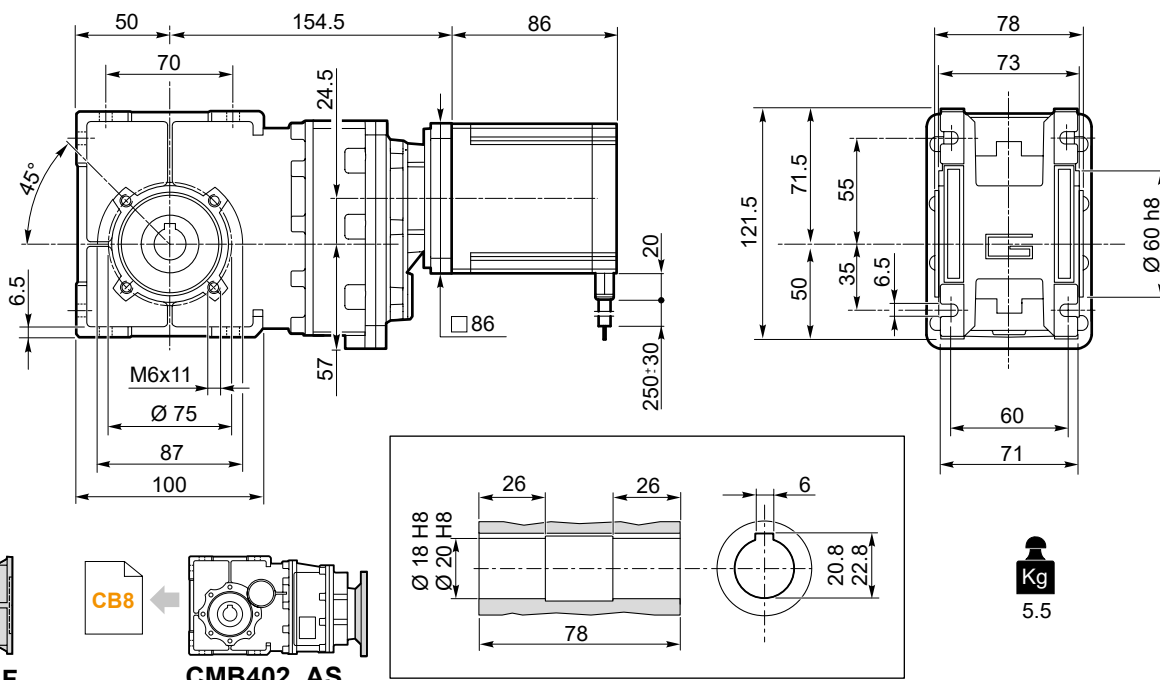
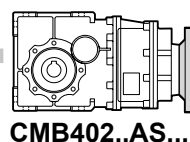



**CMB402 con motore brushless**
**CMB402 with brushless motor**

CMB402	BL070.480					
	48V					
	ir	n <sub>2MIN</sub> [ rpm ]		n <sub>2MAX</sub> [ rpm ]		n <sub>1MAX</sub> [ rpm ]
M <sub>2</sub> [Nm]		sf	M <sub>2</sub> [Nm]	sf		
6.2	49	4.1	11.3	486	4.1	7.7
7.5	40	4.9	9.3	400	4.9	6.3
9.2	33	6.1	7.6	326	6.1	5.2
11.8	25	7.8	6.6	254	7.8	4.5
12.5	24	8.2	6.3	240	8.2	4.3
14.8	20	9.8	5.3	202	9.8	3.6
17.6	17	12	4.5	170	12	3.0
18.6	16	12	5.2	161	12	3.5
22.3	13	15	4.3	134	15	2.9
23.9	13	16	4.0	125	16	2.7
28.9	10	19	3.9	104	19	2.7
30.8	9.7	20	3.7	97	20	2.5
33.6	8.9	22	3.4	89	22	2.3
35.6	8.4	23	3.2	84	23	2.2
42.8	7.0	28	2.7	70	28	1.8
55.3	5.4	36	2.1	54	36	1.4
59.1	5.1	39	1.9	51	39	1.3
64.3	4.7	42	1.8	47	42	1.2
72.5	4.1	48	1.6	41	48	1.1

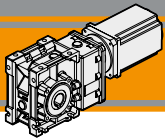
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [ V ]	Numero di giri Rated speed [ rpm ]	Coppia nominale Rated torque [ Nm ]	Potenza nominale Rated power [ W ]
BL070.480	8	3	48	3000	0.70	220
Tipo Type	Coppia massima Peak torque [ Nm ]	Corrente nominale Rated current [ A ]	Resistenza Resistance [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BL070.480	1.4	6.5	0.34	1.0	13.0	2.1

 Azionamenti  
Drives

**CMB402U  
+  
BL070.480**

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

**CMB402..AS...**

Albero lento cavo / Hollow output shaft

5.5



**CMB402 con motore brushless**

**CMB402 with brushless motor**

CMB402	BL140.480						3000
	48V						
	ir	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]		
M <sub>2</sub> [Nm]		sf		M <sub>2</sub> [Nm]	sf	n <sub>1MAX</sub> [ rpm ]	
6.2	49	8.1	5.7	486	8.1	3.8	
7.5	40	9.9	4.7	400	9.9	3.2	
9.2	33	12.1	3.8	326	12.1	2.6	
11.8	25	15.6	3.3	254	15.6	2.3	
12.5	24	16.4	3.1	240	16.4	2.1	
14.8	20	19.5	2.7	202	19.5	1.8	
17.6	17	23	2.2	170	23	1.5	
18.6	16	24	2.6	161	24	1.8	
22.3	13	29	2.2	134	29	1.5	
23.9	13	31	2.0	125	31	1.4	
28.9	10	38	2.0	104	38	1.3	
30.8	9.7	41	1.8	97	41	1.2	
33.6	8.9	44	1.7	89	44	1.1	
35.6	8.4	47	1.6	84	47	1.1	
42.8	7.0	56	1.3	70	56	0.9	
55.3	5.4	73	1.0	54	72	0.7	
59.1	5.1	78	1.0	51	72	0.7	
64.3	4.7	85	0.9	47	72	0.7	
72.5	4.1	95	0.8	41	72	0.7	

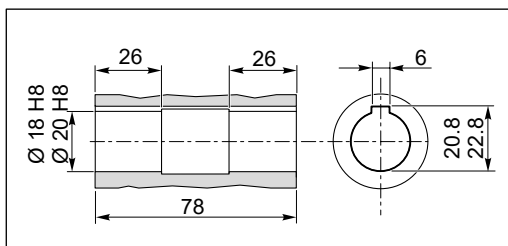
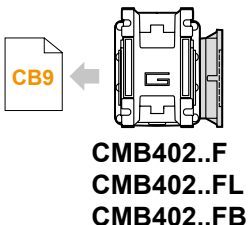
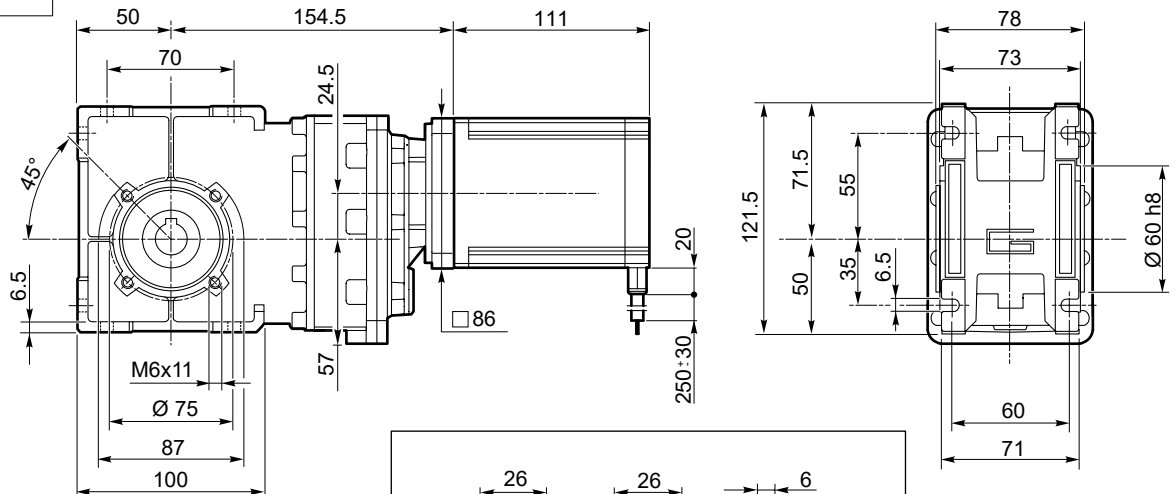
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico  
 Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please. contact our technical office.

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 [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BL140.480	2.8	13.0	0.16	0.5	26	3.15

Azionamenti Drives

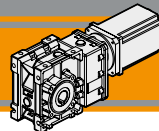
CF5

**CMB402U + BL140.480**



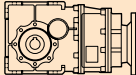
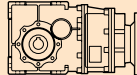
Albero lento cavo / Hollow output shaft

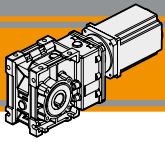
**Kg**  
6.5



**Dati tecnici**

**Technical data**

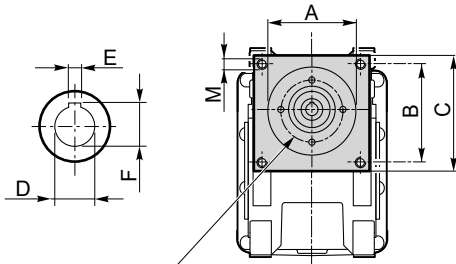
	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$		$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$
<b>CMB 402</b>					<b>CMB 402</b>				
$n_1 = 1400$ rpm	<b>227</b>	40	1.0	6.18	$n_1 = 3000$ rpm	<b>486</b>	31.2	1.65	6.18
	<b>187</b>	40	0.83	7.49		<b>400</b>	31.2	1.36	7.49
	<b>152</b>	40	0.68	9.2		<b>326</b>	31.2	1.11	9.20
	<b>118</b>	45	0.59	11.83		<b>254</b>	35.1	0.97	11.83
	<b>112</b>	45	0.56	12.48		<b>240</b>	35.1	0.92	12.48
	<b>94.4</b>	45	0.47	14.83		<b>202</b>	35.1	0.77	14.83
	<b>79.4</b>	45	0.40	17.63		<b>170</b>	35.1	0.65	17.63
	<b>75.3</b>	55	0.46	18.6		<b>161</b>	42.9	0.75	18.60
	<b>62.7</b>	55	0.38	22.33		<b>134</b>	42.9	0.63	22.33
	<b>58.6</b>	55	0.36	23.91		<b>126</b>	42.9	0.59	23.91
	<b>48.5</b>	65	0.35	28.89		<b>104</b>	50.7	0.57	28.89
	<b>45.4</b>	65	0.33	30.84		<b>97.3</b>	50.7	0.54	30.84
	<b>41.7</b>	65	0.30	33.57		<b>89.4</b>	50.7	0.49	33.57
	<b>39.3</b>	65	0.28	35.63		<b>84.2</b>	50.7	0.47	35.63
	<b>32.7</b>	65	0.24	42.75		<b>70.2</b>	50.7	0.39	42.75
	<b>25.3</b>	65	0.18	55.31		<b>54.2</b>	50.7	0.30	55.31
	<b>23.7</b>	65	0.17	59.06		<b>50.8</b>	50.7	0.28	59.06
	<b>21.8</b>	65	0.16	64.29		<b>46.7</b>	50.7	0.26	64.29
	<b>19.3</b>	65	0.14	72.50		<b>41.4</b>	50.7	0.23	72.50



## Dimensioni CMB con flange motore AS

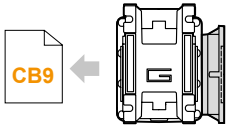
## CMB dimensions with motor flanges AS

### CMB402 - U - AS...

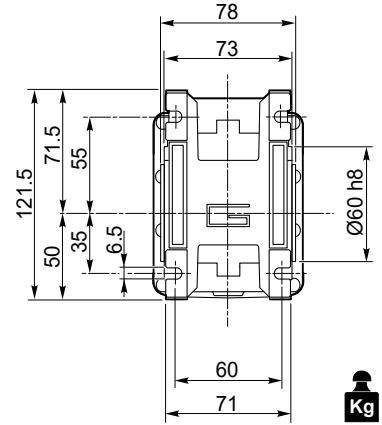
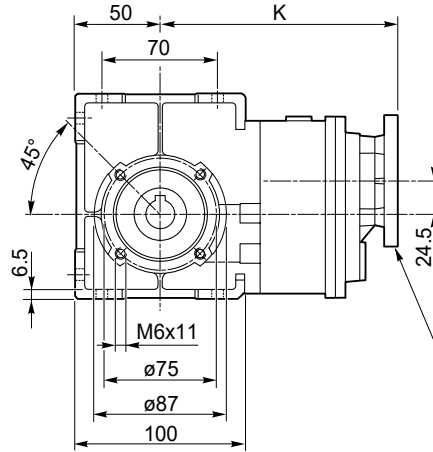


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

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



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

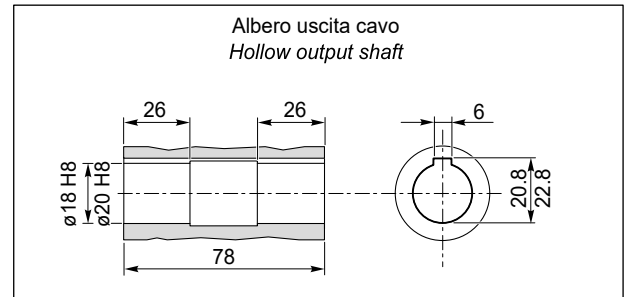


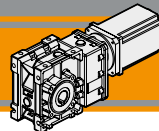
3.4

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
AS392	38.1	47.1	64	M5	154.5	9	3	10.5
						11	4	12.8
						14	5	16.3
AS384	73	69.6	86	M5	154.5	9	3	10.5
						11	4	12.8
						14	5	16.3
...	...	...	...	...	...	...	...	...

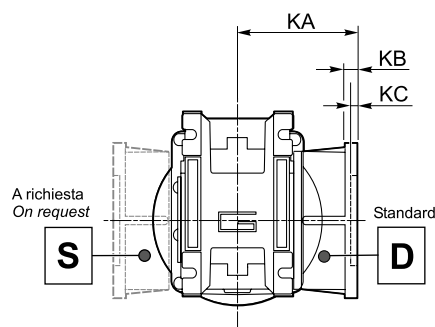
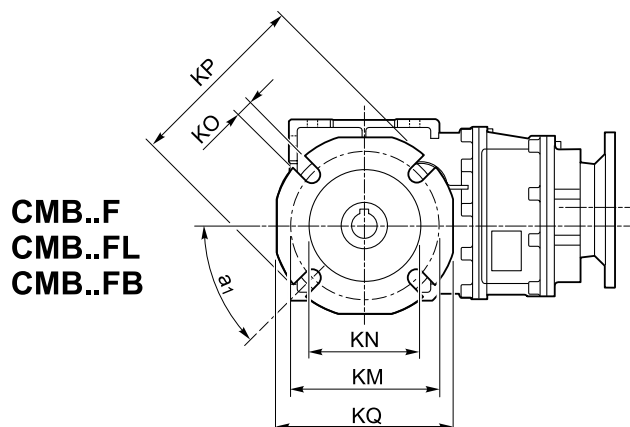


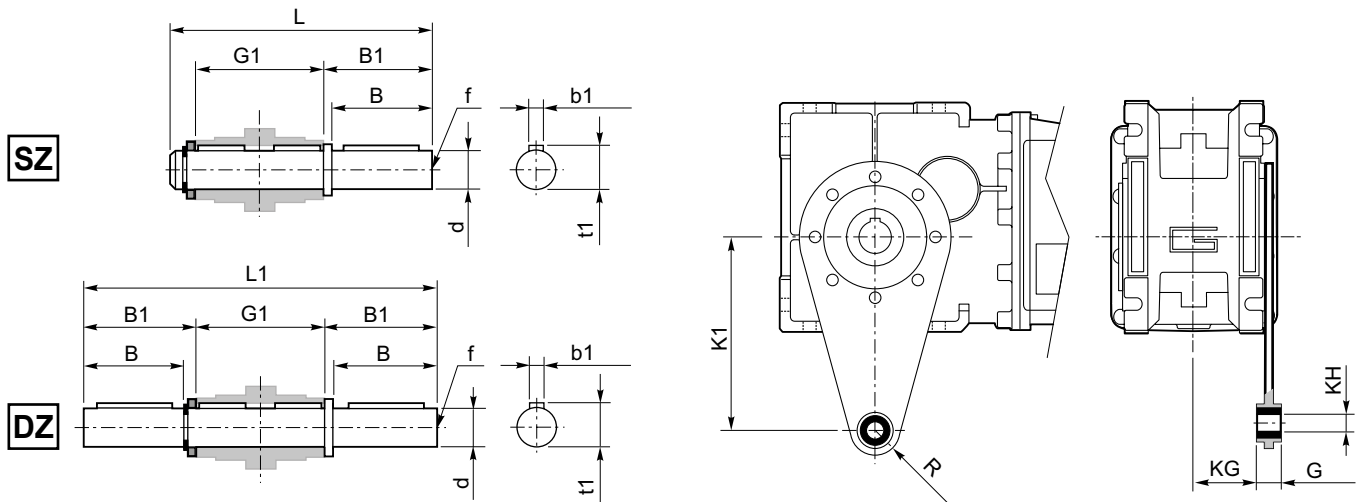
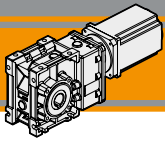


Flange uscita

Output flange

Flange uscita / Output flanges																											
CMB	F									FL									FB								
	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ	a <sub>1</sub>	KA	KB	KC	KM	KN H8	KO	KP	KQ
<b>402</b>	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





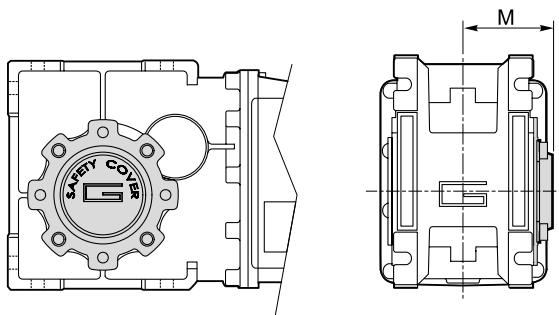
Albero lento / Output shaft

CMB	d h7	B	B1	G1	L	L1	f	b1	t1
402	18	40	43	78	128	164	M6	6	20.5

Braccio di reazione / Torque arm

CMB	K1	G	KG	KH	R
402	100	14	31	10	18

**SC - Safety cover**



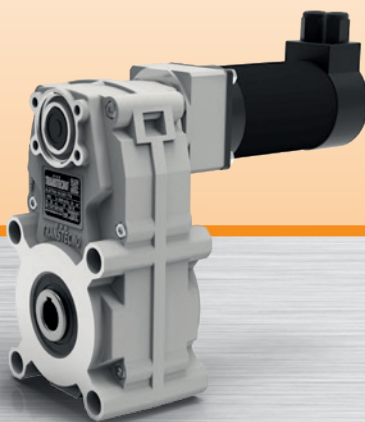
CMB	M
402	54.5



**MINI**  **TECNO**™  
**small** but strong

**BLFT**

Motoriduttori brushless CC pendolari  
Brushless DC helical parallel gearmotors

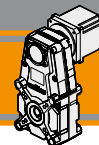


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



**BLDC**

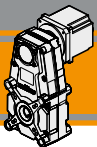




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Designazione	<i>Classification</i>	<b>CC3</b>
Simbologia	<i>Symbols</i>	<b>CC3</b>
Lubrificazione e temperatura	<i>Lubrication and temperature</i>	<b>CC3</b>
FT105 con motore brushless BLS022.240	<i>FT105 with BLS022.240 brushless motor</i>	<b>CC4</b>
FT105 con motore brushless BLS043.240	<i>FT105 with BLS043.240 brushless motor</i>	<b>CC5</b>
Dati tecnici	<i>Technical data</i>	<b>CC6</b>
Dimensioni FT con flange motore AS	<i>FT dimensions with motor flanges AS</i>	<b>CC6</b>

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](http://www.transtecno.com)**

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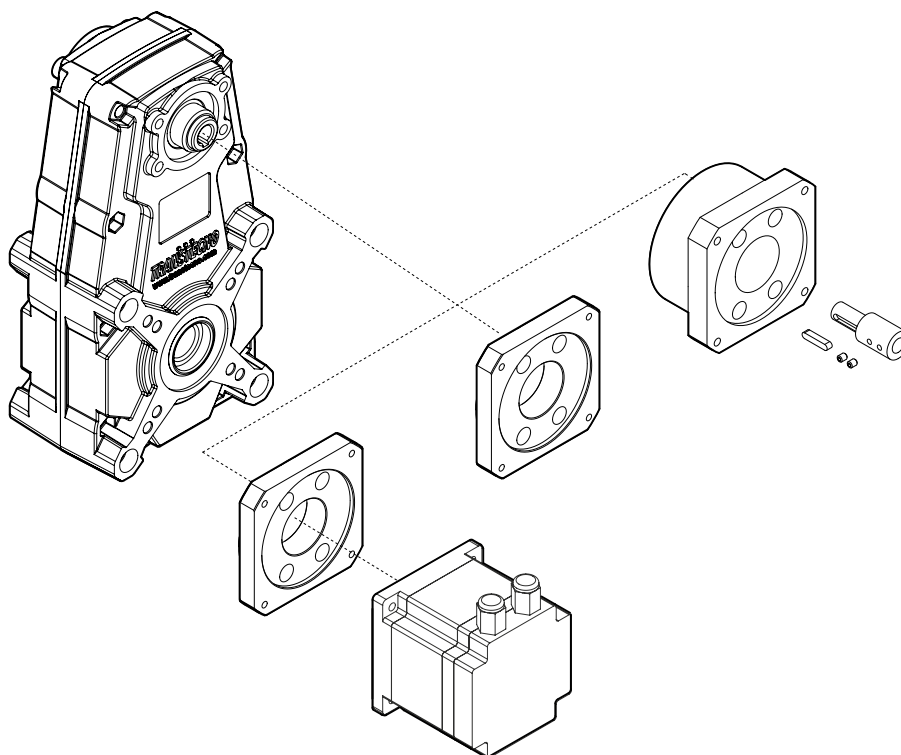
**Caratteristiche tecniche****Technical features**

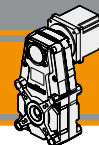
Le caratteristiche principali dei motoriduttori brushless CC pendolari della serie BLFT sono:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore Brushless CC con grado di protezione IP55
- Coppie motori disponibili da 0.22 Nm a 0.43 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 BLFT brushless DC helical parallel gearmotors range are:*

- *Low voltage power supply 24/36/48 Vdc*
- *Brushless DC motor in IP55 protection Standard*
- *Motor torque ratings available from 0.22 Nm up to 0.43 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	105	U	46	020	BL043.240	24V
Tipo Type	Grandezza Size	Versione riduttore Gearbox version	Rapporto Ratio	Albero di uscita Output shaft	Tipo Type	Tensione Voltage
FT	105	U	Vedere tabelle See tables	Vedere tabelle See tables	BLS022.240 BLS043.240	24V - 36V 24V - 36V

**Simbologia**

**Symbols**

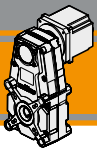
Ns	n° stadi / No. stages	Mn <sub>2</sub>	[Nm]	Coppia nominale in uscita in funzione di Pn1 Nominal output torque referred to Pn1
ir	rapporto reale / real ratio	n <sub>1MAX</sub>	[Rpm]	Velocità max entrata / Max input speed
M <sub>2</sub>	[Nm] coppia in uscita output torque	V	[V]	Tensione / Voltage
A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

**Lubrificazione e temperatura**

**Lubrication and temperature**

I motoriduttori BLFT 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 BLFT gearmotors.  
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).  
For temperature outside this range please contact our technical dept.*



**FT105 con motore brushless**

**FT105 with brushless motor**

FT105		BLS022.240													
		24V							36V						
		ir	Ns	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]	
M <sub>2</sub> [Nm]	sf			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf			M <sub>2</sub> [Nm]	sf			
20.6	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
33.3		9.0	6.9	8.3	90	6.9	5.7		12.0	6.9	8.3	120	6.9	5.0	
44.4		6.8	9.2	8.1	68	9.2	5.5		9.0	9.2	8.1	90	9.2	4.9	
54.9		5.5	11	6.6	55	11	4.5		7.3	11	6.6	73	11	4.0	
71.8		4.2	15	5.0	42	15	3.4		5.6	15	5.0	56	15	3.0	
77.1		3.9	16	4.7	39	16	3.2		5.2	16	4.7	52	16	2.8	
88.9		3.4	18	4.1	34	18	2.8		4.5	18	4.1	45	18	2.4	
124.8		2.4	26	2.9	24	26	2.0		3.2	26	2.9	32	26	1.7	
181.4		1.7	38	2.0	17	38	1.4		2.2	38	2.0	22	38	1.2	
224.3		1.3	46	1.6	13	46	1.1		1.8	46	1.6	18	46	1.0	
315.1		1.0	65	1.1	10	65	0.8		1.3	65	1.1	13	64	0.7	
368.2		0.8	75	1.0	8.1	72	0.7		1.1	75	1.0	11	64	0.7	
535.0	0.6	105	0.7	5.6	72	0.7	0.7	105	0.7	7.5	64	0.7			
661.8	0.5	105	0.7	4.5	72	0.7	0.6	105	0.7	6.0	64	0.7			
929.4	0.3	105	0.7	3.2	72	0.7	0.4	105	0.7	4.3	64	0.7			

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 [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

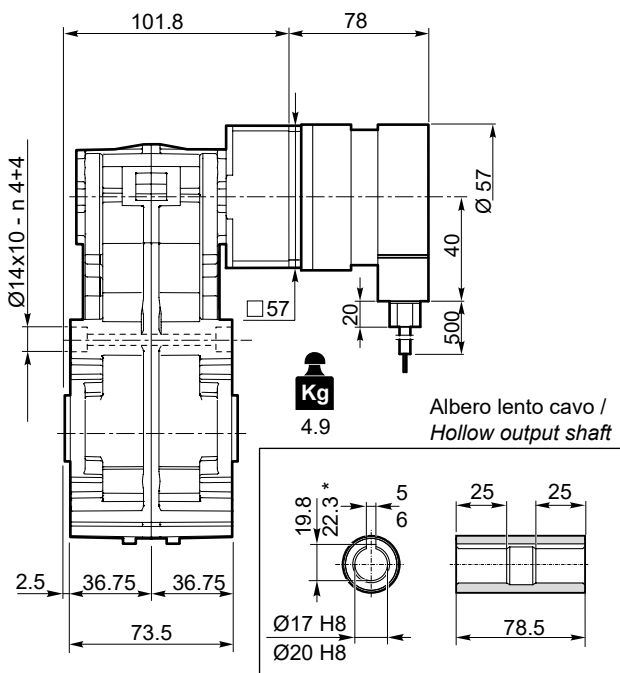
Azionamenti Drives

CF2

FT105U + BLS022.240

CC6

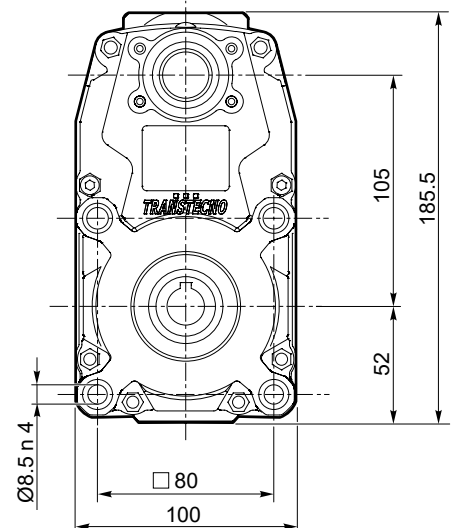
FT105.. AS...

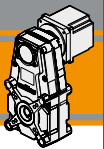


Albero lento cavo / Hollow output shaft

**Kg**  
4.9

\*Sede linguetta ribassata /  
\*Special keyway





FT105 con motore brushless

FT105 with brushless motor

FT105		BLS043.240													
		24V							36V						
		n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]				n <sub>1MAX</sub> [ rpm ]	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]		
ir	Ns	M <sub>2</sub> [Nm]	sf	M <sub>2</sub> [Nm]	sf	M <sub>2</sub> [Nm]	M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf	M <sub>2</sub> [Nm]	sf	M <sub>2</sub> [Nm]	sf
20.6	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
33.3		9.0	13	4.3	90	13	2.9		12.0	13	4.3	120	13	2.6	
44.4		6.8	18	4.2	68	18	2.8		9.0	18	4.2	90	18	2.5	
54.9		5.5	22	3.4	55	22	2.3		7.3	22	3.4	73	22	2.0	
71.8		4.2	29	2.6	42	29	1.7		5.6	29	2.6	56	29	1.5	
77.1		3.9	31	2.4	39	31	1.6		5.2	31	2.4	52	31	1.4	
88.9		3.4	36	2.1	34	36	1.4		4.5	36	2.1	45	36	1.2	
124.8		2.4	50	1.5	24	50	1.0		3.2	50	1.5	32	50	0.9	
181.4		1.7	73	1.0	17	72	0.7		2.2	73	1.0	22	64	0.7	
224.3		1.3	91	0.8	13	72	0.7		1.8	91	0.8	18	64	0.7	
315.1		1.0	105	0.7	10	72	0.7		1.3	105	0.7	13	64	0.7	
368.2		4	0.8	105	0.7	8.1	72		0.7	1.1	105	0.7	11	64	
535.0	0.6		105	0.7	5.6	72	0.7	0.7	105	0.7	7.5	64	0.7		
661.8	0.5		105	0.7	4.5	72	0.7	0.6	105	0.7	6.0	64	0.7		
929.4	0.3		105	0.7	3.2	72	0.7	0.4	105	0.7	4.3	64	0.7		

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 [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BLS043.240	0.86	6	0.35	1	12.0	1.25

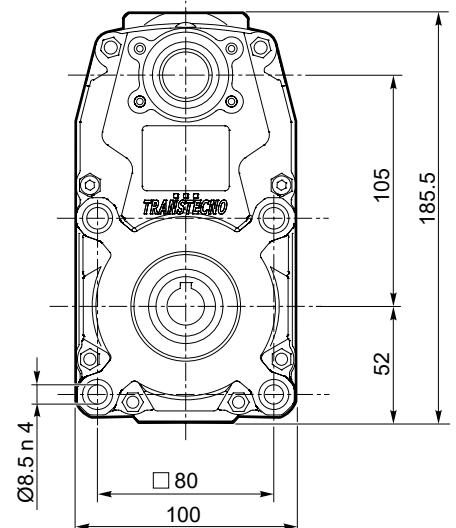
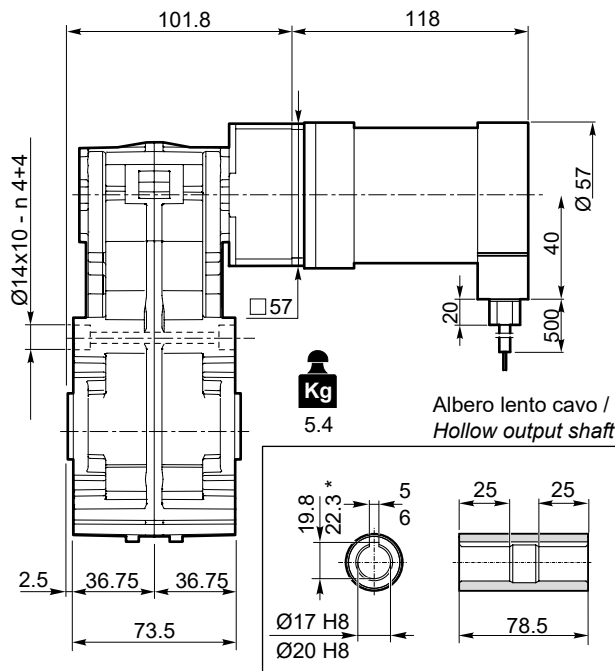
Azionamenti Drives



FT105U + BLS043.240



FT105.. AS...





\*Sede linguetta ribassata /  
\*Special keyway



### Dati tecnici

### Technical data

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	
<b>FT105</b>					
<b>FT105/3</b>	$n_1 = 1400$ rpm	68	40	0.30	20.57
		42	50	0.23	33.32
		32		0.23	44.36
		26		0.18	54.87
		20		0.14	71.84
		18		0.13	77.07
		16	65	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	
<b>FT105/4</b>		3.8	65	0.028	368.19
		2.6		0.019	534.98
		2.1		0.015	661.76
		1.5		0.011	929.40

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	
<b>FT105</b>					
<b>FT105/3</b>	$n_1 = 3000$ rpm	146	31	0.51	20.57
		90	39	0.39	33.32
		68		0.38	44.36
		55		0.31	54.87
		42		0.24	71.84
		39		0.22	77.07
		34	51	0.19	88.87
		24		0.14	124.81
		17		0.09	181.35
		13		0.08	224.32
<b>FT105/4</b>		10		0.05	315.05
		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	

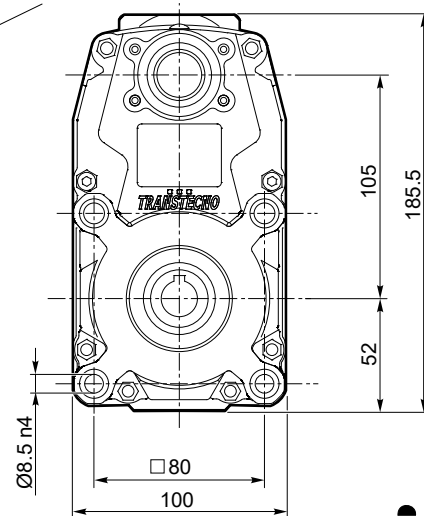
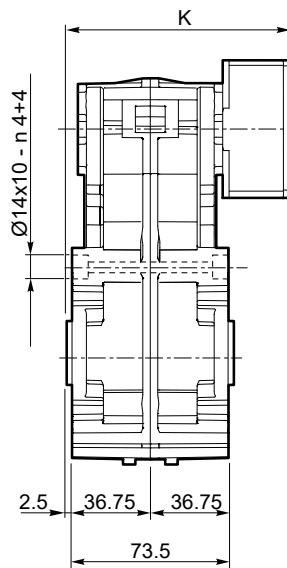
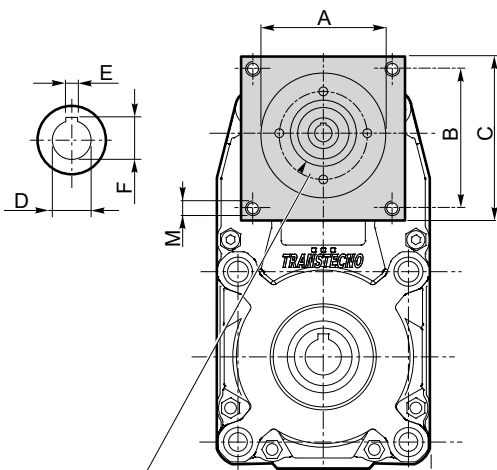
### Dimensioni FT con flange motore AS

### FT dimensions with motor flanges AS

#### FT105 - U - AS...

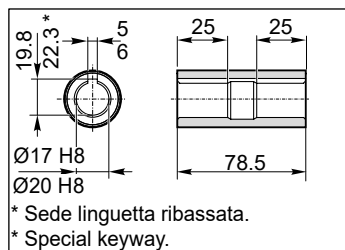
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

Flange's thickness may vary depending on motor shaft's length.



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

Connection with sleeve or coupling depending on motor shaft's diameter.



\* Sede linguetta ribassata.  
\* Special keyway.

Albero lento cavo / Hollow output shaft

**Kg**  
4.2

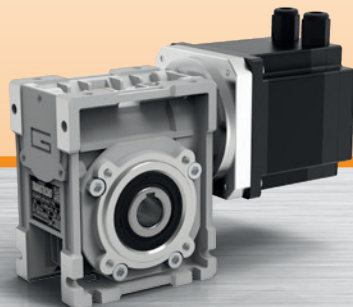
Dimensioni / Dimensions								
AS	A	B	C	M	K	D	E	F
AS416	38.1	47.1	56.6	M5	101.8	9	3	10.4
...	...	...	...	...	...	...	...	...



**MINI**  **TECNO**™  
**small** but strong

**BLCM**

Motoriduttori brushless CC a vite senza fine  
Brushless DC wormgearmotors

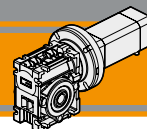


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



**BLDC**

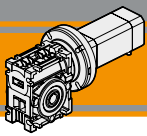




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CM030 con motore brushless BL 070.480	<i>CM030 with brushless motor BL 070.480</i>	<b>CD7</b>
CM040 con motore brushless BLS 043.240	<i>CM040 with brushless motor BLS 043.240</i>	<b>CD8</b>
CM040 con motore brushless BL 070.480	<i>CM040 with brushless motor BL 070.480</i>	<b>CD9</b>
CM040 con motore brushless BL 140.480	<i>CM040 with brushless motor BL 140.480</i>	<b>CD9</b>
CM040 con motore brushless BL 210.480	<i>CM040 with brushless motor BL 210.480</i>	<b>CD9</b>
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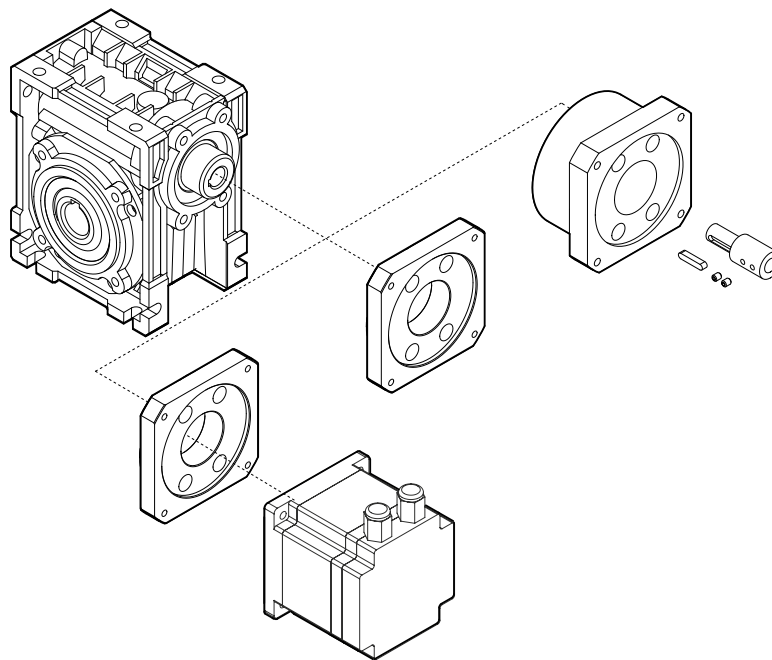
### Caratteristiche tecniche

### Technical features

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

The main features of BLCM brushless DC wormgearmotors range are:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore Brushless CC con grado di protezione IP55
- Coppie motore disponibili da 0.22 a 2.1 Nm
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Disponibili anche nella versione con solo riduttore, sia con flangia di entrata standard che con flangia e manicotto dedicati
- Low voltage power supply 24/36/48 Vdc
- Brushless DC motor in IP55 protection Standard
- Motor torque ratings available from 0.22 up to 2.1 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

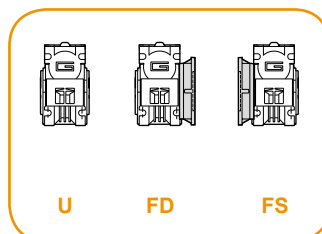


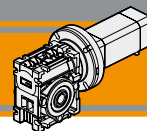
### Designazione

### Classification

RIDUTTORE / GEARBOX				MOTORE / MOTOR	
CM	030	20	U	BL070.480	48V
Tipo Type	Grandezza Size	Rapporto in Ratio in	Versione Version	Tipo Type	Tensione Voltage
CM	026 026 (11) 026 (14) 030 040	Vedere tabelle See tables	U F FL FB	BLS022.240 BLS043.240 BL070.480 BL140.480 BL210.480	24V-36V 24V-36V 48V 48V 48V

Versione Riduttore  
Gearbox Version





**Simbologia**

**Symbols**

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

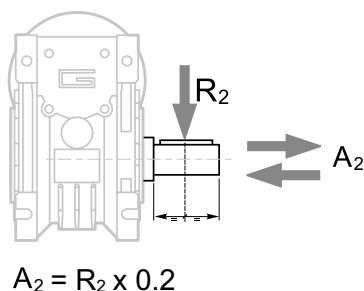
Ambient temperature 0 ÷ 40 °C (in the absence of freezing and condensation).

Per temperature diverse, contattare nostro UT.

For temperature outside this range please contact our technical dept.

**Carichi radiali**

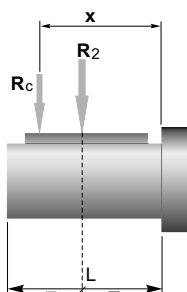
**Radial loads**



n <sub>2</sub> [min <sup>-1</sup> ]	R <sub>2</sub> [N]		
	CM026	CM030	CM040
187	400	674	1264
140	490	743	1392
93	480	851	1596
70	610	936	1754
56	610	1008	1890
47	610	1069	2004
35	610	1179	2210
28	610	1270	2381
23	610	1356	2542
18	610	1471	2759
14	610	1600	3000

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

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

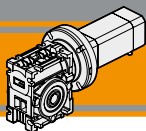


	CM		
	026	030	040
a	56	65	84
b	43	50	64
R <sub>2MAX</sub>	610	1600	3000

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

$$R \leq R_c$$

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

**Dati di dentatura****Toothing data**

	Dati della coppia vite-corona Worm wheel data	Rapporto / Ratio											
		5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	Z	6	4	3	2	2		1	1	1	1		
	$\beta$	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
	$\beta$	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
	$\beta$	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'

**Rendimento****Efficiency**

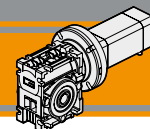
	$n_1$ [min <sup>-1</sup> ]	Rendimento Efficiency	Rapporto / Ratio											
			5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	2800	Rd	89	87	85	83	80		73	68	64	60		
		Rs	72	71	68	61	56	46	41	36	34			
CM030	2800	Rd	89	88	86	84	81	78	74	70	65	62	57	52
		Rs	72	67	63	55	50	43	39	35	31	27	23	21
CM040	2800	Rd	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

**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



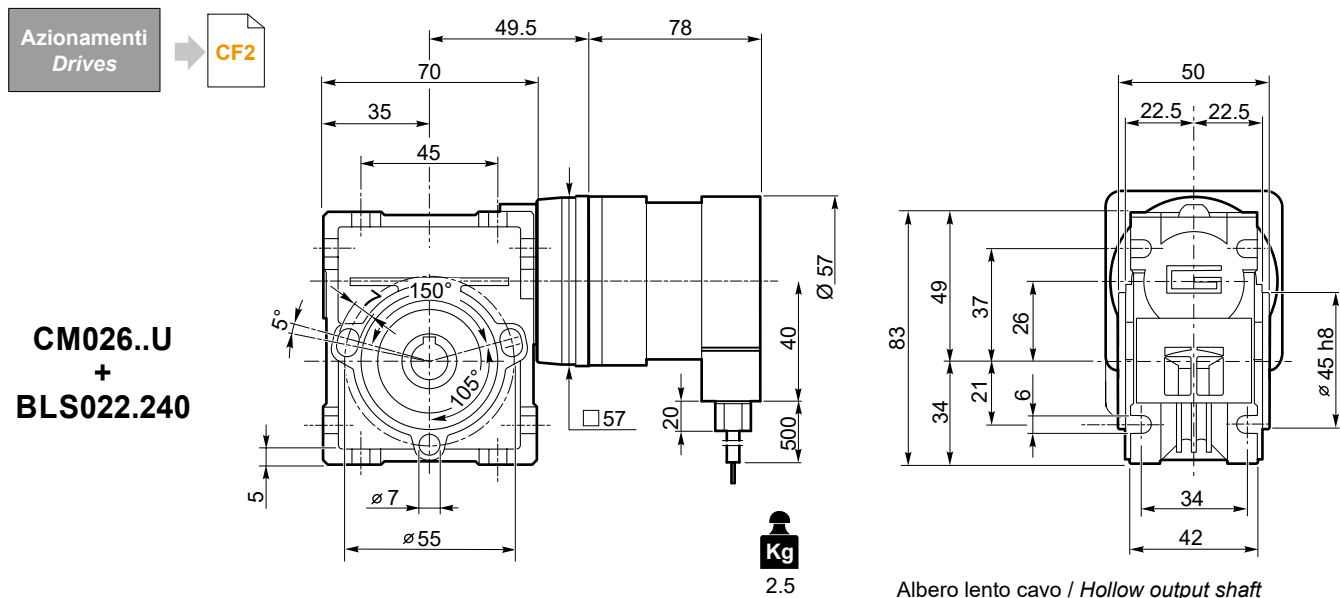
CM026 con motore brushless

CM026 with brushless motor

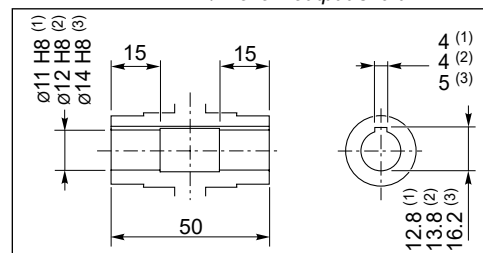
CM026	BLS022.240													
	24V						36V							
	n <sub>2</sub> MIN		n <sub>2</sub> MAX		n <sub>1</sub> MAX [ rpm ]	n <sub>2</sub> MIN		n <sub>2</sub> MAX		n <sub>1</sub> MAX [ rpm ]				
M <sub>2</sub>	sf	M <sub>2</sub>	sf	M <sub>2</sub>		sf	M <sub>2</sub>	sf						
5	60	0.9	27	600	1.0	10	3000	80	0.9	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	

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.

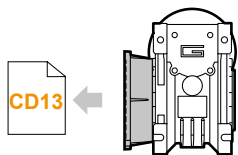
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [ V ]	Numero di giri Rated speed [ rpm ]	Coppia nominale Rated torque [ Nm ]	Potenza nominale Rated power [ W ]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo Type	Coppia massima Peak torque [ Nm ]	Corrente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



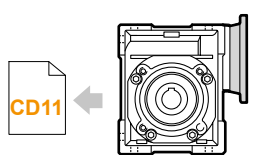
Albero lento cavo / Hollow output shaft



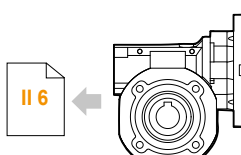
- (1): BLCM 026 (D11)
- (2): BLCM 026
- (3): BLCM 026 (D14)



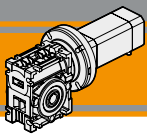
CM026.. F



CM026.. AS...



CL026



**CM030 con motore brushless**

**CM030 with brushless motor**

CM030	BLS043.240													
	24V						36V							
	n <sub>2</sub> MIN		sf		n <sub>2</sub> MAX		n <sub>1</sub> MAX [ rpm ]	n <sub>2</sub> MIN		n <sub>2</sub> MAX		n <sub>1</sub> MAX [ rpm ]		
M <sub>2</sub>		M <sub>2</sub>		M <sub>2</sub>		M <sub>2</sub>			M <sub>2</sub>					
5	60	1.7	20	600	1.9	6.8	3000	80	1.7	20	800	1.9	6.8	4000
7.5	40	2.5	14	400	2.8	5.3		53	2.5	14	533	2.8	5.3	
10	30	3.2	12	300	3.7	4.3		40	3.2	12	400	3.7	4.3	
15	20	4.4	8.6	200	5.4	3.0		26	4.4	8.6	267	5.4	3.0	
20	15	5.5	5.8	150	7.0	2.0		20	5.5	5.8	200	7.0	2.0	
25	12	6.5	4.8	120	8.4	1.8		16	6.5	4.8	160	8.4	1.8	
30	10	7.1	5.5	100	9.5	1.9		13	7.1	5.5	133	9.5	1.9	
40	7.5	8.4	3.9	75	12	1.3		10	8.4	3.9	100	12	1.3	
50	6.0	9.7	3.0	60	14	1.1		8	9.7	3.0	80	14	1.1	
60	5.0	11	2.5	50	16	0.9		6.6	11	2.5	67	16	0.9	
80	3.7	12	1.8	38	17	0.7		5	12	1.8	50	17	0.7	
100	3.0	14	1.4	30	16	0.7		4	14	1.4	40	16	0.7	

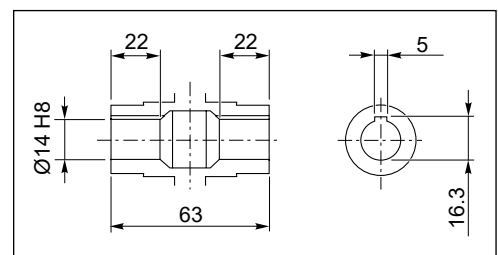
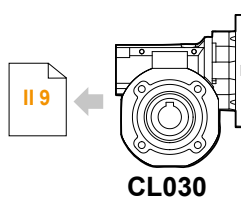
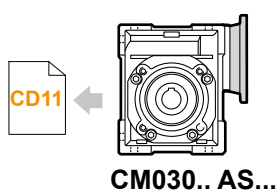
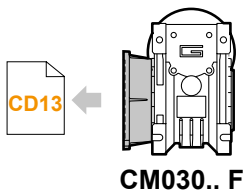
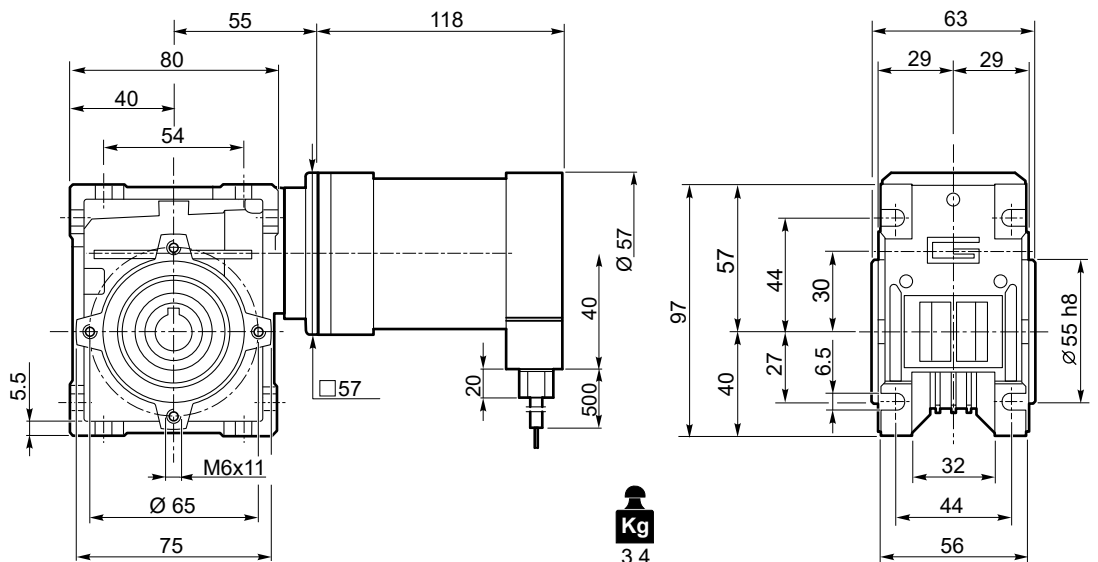
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico  
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

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
	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	0.35	1.0	12.0	1.25

Azionamenti Drives

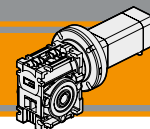


CM030..U  
+  
BLS043.240



Albero lento cavo / Hollow output shaft





CM030 con motore brushless

CM030 with brushless motor

CM030	BL070.480						
	48V						
ir	n <sub>2</sub> MIN			n <sub>2</sub> MAX			n <sub>1</sub> MAX [ rpm ]
		M <sub>2</sub>	sf		M <sub>2</sub>	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	

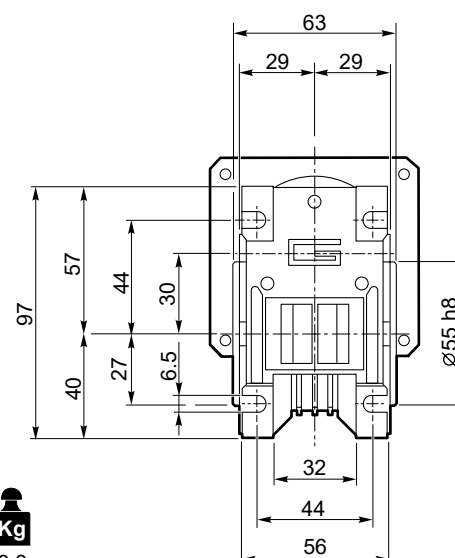
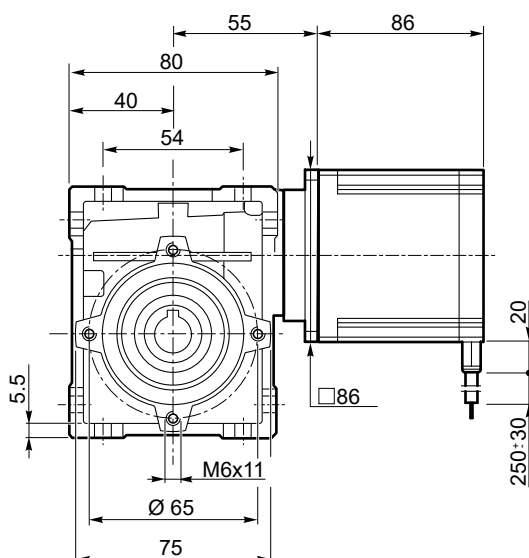
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico  
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please, contact our technical office.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [ V ]	Numero di giri Rated speed [ rpm ]	Coppia nominale Rated torque [ Nm ]	Potenza nominale Rated power [ W ]
BL070.480	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 ]
BL070.480	1.4	6.5	0.34	1.0	13	2.1

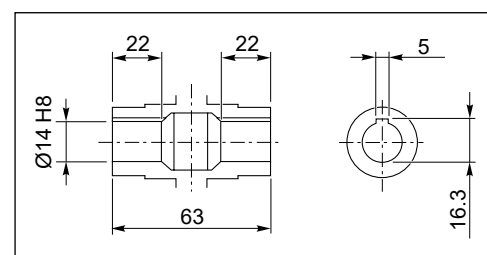
Azionamenti Drives



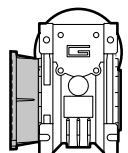
CM030..U  
+  
BL070.480



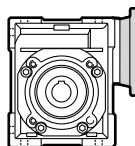
**Kg**  
3.3



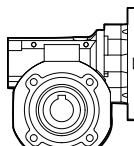
Albero lento cavo / Hollow output shaft



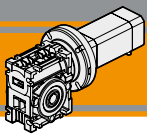
CM030.. F



CM030.. AS...



CL030

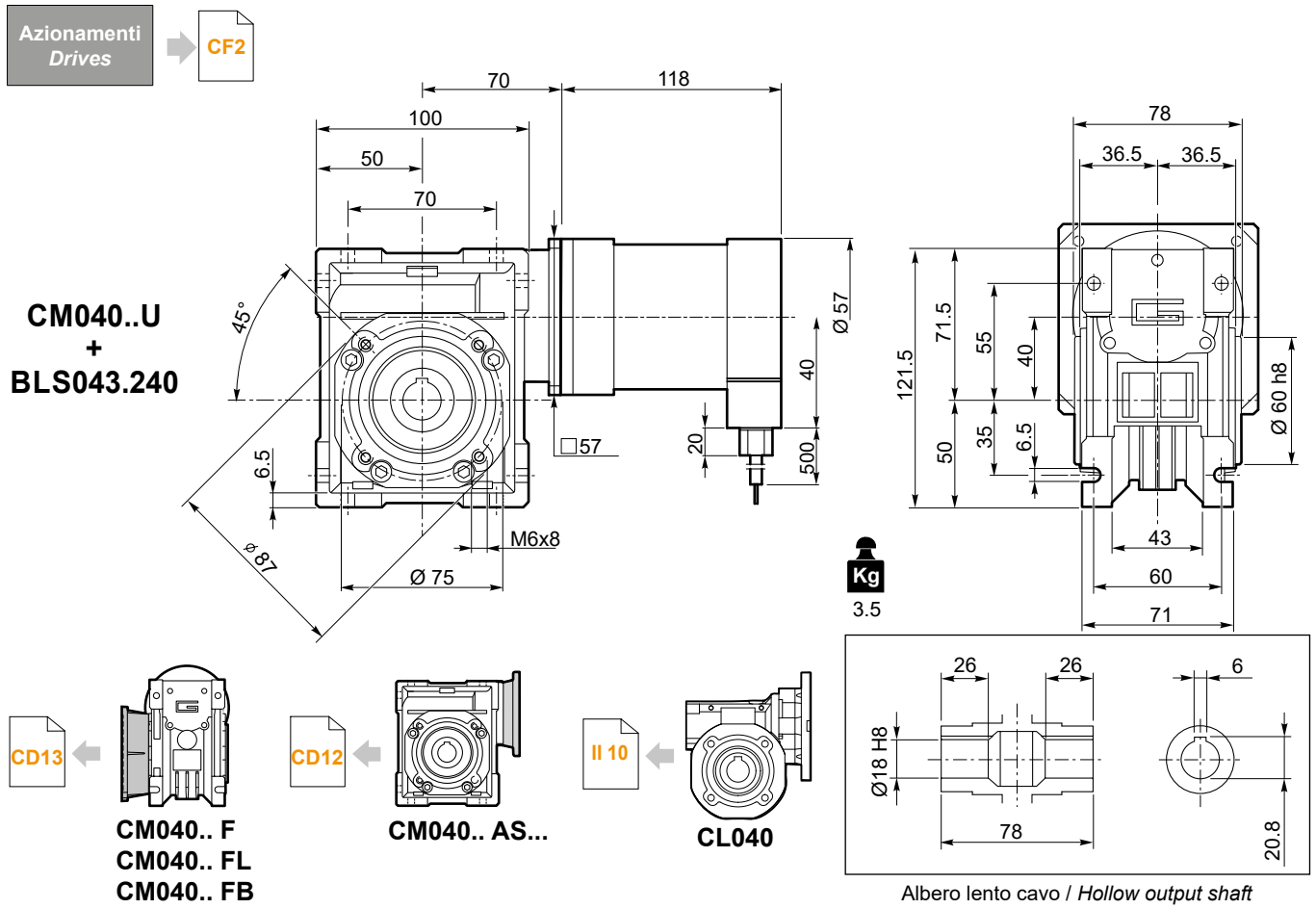


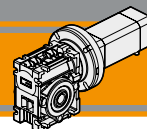
CM040 con motore brushless

CM040 with brushless motor

CM040	BLS043.240											
	24V						36V					
	n <sub>2</sub> MIN		sf	n <sub>2</sub> MAX		n <sub>1</sub> MAX [rpm]	n <sub>2</sub> MIN		sf	n <sub>2</sub> MAX		n <sub>1</sub> MAX [rpm]
M <sub>2</sub>		M <sub>2</sub>			M <sub>2</sub>			M <sub>2</sub>				
5	60	1.8	35	600	2.0	14	80	1.8	35	800	2.0	14
7.5	40	2.6	26	400	2.9	11	53	2.6	26	533	2.9	11
10	30	3.4	20	300	3.7	8.9	40	3.4	20	400	3.7	8.9
15	20	4.6	15	200	5.4	6.5	26	4.6	15	267	5.4	6.5
20	15	5.8	10	150	7.2	4.3	20	5.8	10	200	7.2	4.3
25	12	6.9	7.8	120	8.6	3.2	16	6.9	7.8	160	8.6	3.2
30	10	7.9	9.4	100	10	3.8	13	7.9	9.4	133	10	3.8
40	7.5	9.6	6.8	75	13	2.6	10	9.6	6.8	100	13	2.6
50	6.0	12	5.5	60	15	2.1	8	12	5.5	80	15	2.1
60	5.0	12	4.7	50	17	1.7	6.6	12	4.7	67	17	1.7
80	3.7	14	3.6	38	21	1.3	5	14	3.6	50	21	1.3
100	3.0	16	2.8	30	24	1.0	4	16	2.8	40	24	1.0

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	0.35	1.0	12.0	1.25





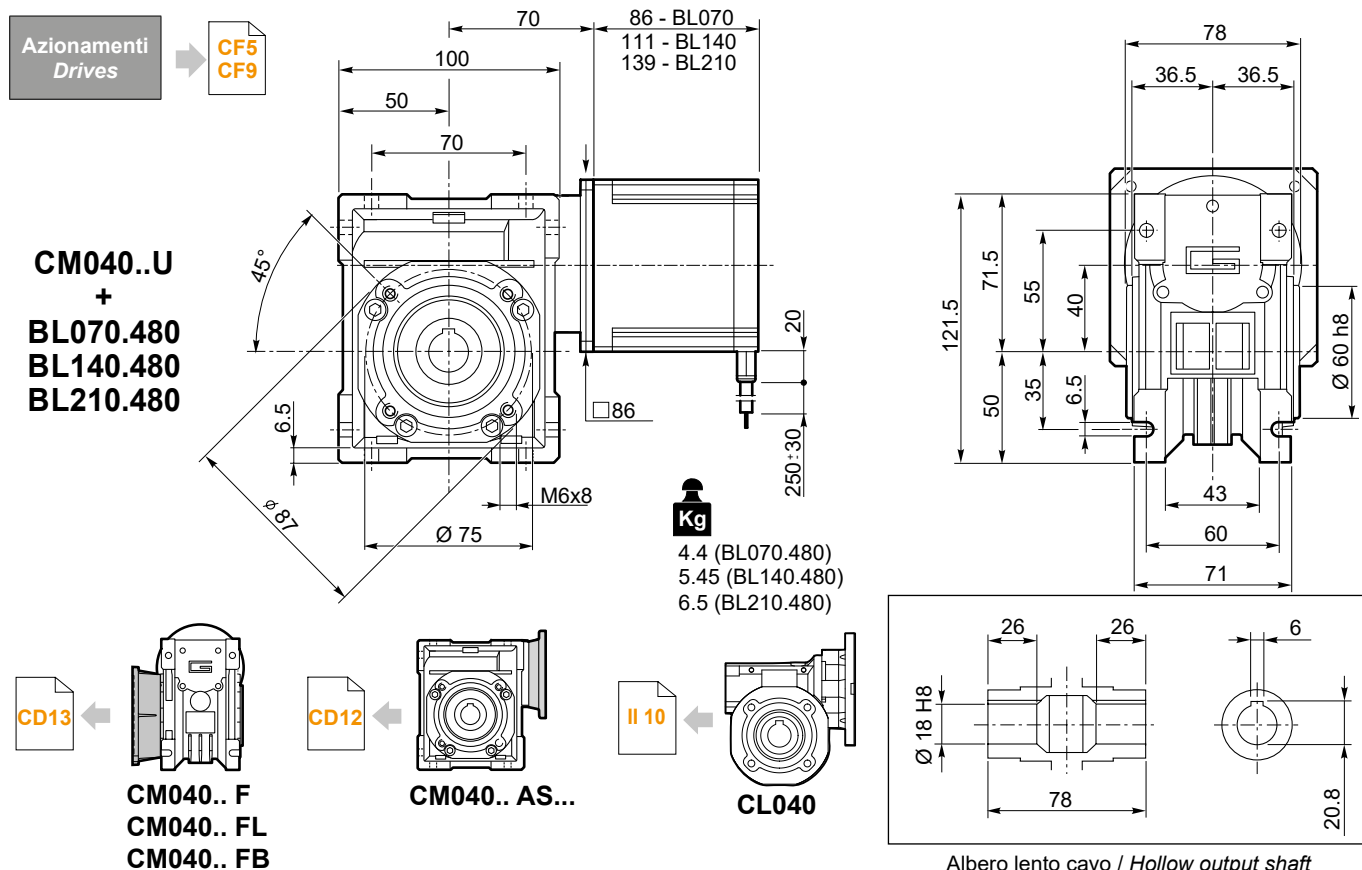
CM040 con motore brushless

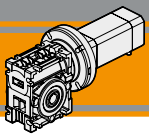
CM040 with brushless motor


CM040	BL070.480							BL140.480							BL210.480						
	48V							48V							48V						
	n <sub>2</sub> MIN		n <sub>2</sub> MAX		n <sub>1</sub> MAX [rpm]	n <sub>2</sub> MIN		n <sub>2</sub> MAX		n <sub>1</sub> MAX [rpm]	n <sub>2</sub> MIN		n <sub>2</sub> MAX		n <sub>1</sub> MAX [rpm]						
M <sub>2</sub>	sf	M <sub>2</sub>	sf	M <sub>2</sub>		sf	M <sub>2</sub>	sf	M <sub>2</sub>		sf	M <sub>2</sub>	sf								
5	60	2.9	25	600	3.2	9.2	3000	60	5.8	13	600	6.3	4.6	3000	60	8.6	8.5	600	9.4	3.1	3000
7.5	40	4.2	18	400	4.7	6.6		40	8.4	9.0	400	9.3	3.3		40	12	6.1	400	14	2.2	
10	30	5.3	14	300	6.1	5.4		30	11	7.1	300	12	2.7		30	16	4.7	300	18	1.8	
15	20	7.4	11	200	8.8	3.9		20	15	5.1	200	18	2.0		20	22	3.6	200	27	1.3	
20	15	9.5	7.1	150	12	2.6		15	19	3.6	150	23	1.3		15	29	2.3	150	35	0.9	
25	12	11	5.4	120	14	2.0		12	22	2.8	120	28	1.0		12	34	1.8	120	42	0.7	
30	10	12	6.7	100	16	2.3		10	24	3.4	100	32	1.2		10	37	2.2	100	49	0.8	
40	7.5	15	4.5	75	20	1.6		8	29	2.4	75	41	0.8		7.5	45	1.5	75	52	0.7	
50	6.0	17	3.7	60	24	1.3		6	33	1.9	60	46	0.7		6.0	50	1.2	60	41	0.7	
60	5.0	19	3.0	50	28	1.0		5	37	1.5	50	41	0.7		5.0	57	1.0	50	36	0.7	
80	3.7	22	2.2	38	34	0.8	4	43	1.2	38	39	0.7	3.7	66	0.7	38	43	0.7			
100	3.0	24	1.8	30	33	0.7	3	47	1.0	30	34	0.7	3.0	63	0.7	30	34	0.7			


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

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL070.480	8	3	48	3000	0.7	220
BL140.480	8	3	48	3000	1.4	440
BL210.480	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]
BL070.480	1.4	6.5	0.34	1.0	13	2.1
BL140.480	2.8	13.0	0.16	0.5	26	3.15
BL210.480	4.2	18.7	0.115	0.31	37	4.2



**Dati tecnici****Technical data**

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$
-----------------------------------------------------------------------------------	-------------------------------	----------------	----------------	-----

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$
-----------------------------------------------------------------------------------	-------------------------------	----------------	----------------	-----

**CM026**

$n_1 = 1400 \text{ rpm}$	$n_2$	$Mn_2$	$Pn_1$	$i$
	<b>280</b>	13	0.44	5
	<b>187</b>	14	0.33	7,5
	<b>140</b>	14	0.25	10
	<b>93</b>	14	0.18	15
	<b>70</b>	14	0.14	20
	<b>47</b>	15	0.11	30
	<b>35</b>	14	0.08	40
	<b>28</b>	13	0.07	50
	<b>23</b>	12	0.06	60

**CM026**

$n_1 = 3000 \text{ rpm}$	$n_2$	$Mn_2$	$Pn_1$	$i$
	<b>600</b>	10	0.71	5
	<b>400</b>	11	0.53	7,5
	<b>300</b>	11	0.41	10
	<b>200</b>	11	0.28	15
	<b>150</b>	11	0.22	20
	<b>100</b>	12	0.17	30
	<b>75</b>	11	0.13	40
	<b>60</b>	10	0.10	50
	<b>50</b>	9	0.08	60

**CM030**

$n_1 = 1400 \text{ rpm}$	$n_2$	$Mn_2$	$Pn_1$	$i$
	<b>280</b>	18	0.61	5
	<b>187</b>	20	0.46	7,5
	<b>140</b>	21	0.37	10
	<b>93</b>	21	0.26	15
	<b>70</b>	19	0.19	20
	<b>56</b>	20	0.16	25
	<b>47</b>	22	0.16	30
	<b>35</b>	20	0.12	40
	<b>28</b>	19	0.10	50
	<b>23</b>	17	0.08	60
	<b>18</b>	15	0.06	80
	<b>14</b>	14	0.05	100

**CM030**

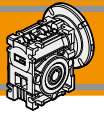
$n_1 = 3000 \text{ rpm}$	$n_2$	$Mn_2$	$Pn_1$	$i$
	<b>600</b>	13	0.92	5
	<b>400</b>	15	0.71	7,5
	<b>300</b>	16	0.58	10
	<b>200</b>	16	0.40	15
	<b>150</b>	14	0.27	20
	<b>120</b>	15	0.24	25
	<b>100</b>	18	0.25	30
	<b>75</b>	16	0.18	40
	<b>60</b>	15	0.14	50
	<b>50</b>	14	0.12	60
	<b>37.5</b>	12	0.08	80
	<b>30</b>	11	0.07	100

**CM040**

$n_1 = 1400 \text{ rpm}$	$n_2$	$Mn_2$	$Pn_1$	$i$
	<b>280</b>	41	1.37	5
	<b>187</b>	44	1.00	7,5
	<b>140</b>	45	0.79	10
	<b>93</b>	45	0.54	15
	<b>70</b>	40	0.38	20
	<b>56</b>	38	0.30	25
	<b>47</b>	48	0.34	30
	<b>35</b>	42	0.24	40
	<b>28</b>	39	0.19	50
	<b>23</b>	36	0.15	60
	<b>18</b>	33	0.12	80
	<b>14</b>	31	0.10	100

**CM040**

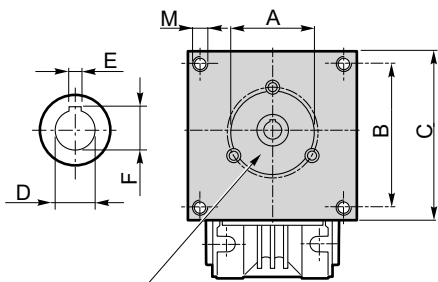
$n_1 = 3000 \text{ rpm}$	$n_2$	$Mn_2$	$Pn_1$	$i$
	<b>600</b>	29	2.02	5
	<b>400</b>	31	1.46	7,5
	<b>300</b>	33	1.19	10
	<b>200</b>	35	0.87	15
	<b>150</b>	31	0.59	20
	<b>120</b>	28	0.44	25
	<b>100</b>	38	0.52	30
	<b>75</b>	34	0.37	40
	<b>60</b>	32	0.29	50
	<b>50</b>	29	0.23	60
	<b>37.5</b>	27	0.18	80
	<b>30</b>	24	0.13	100



**Dimensioni CM con flange motore AS**

**CM dimensions with motor flanges AS**

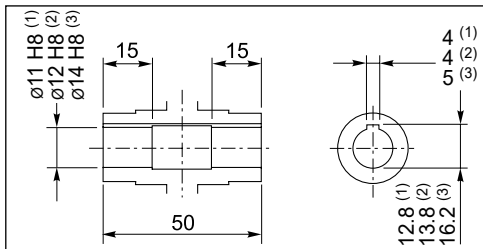
**CM026 - U - AS...**



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

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

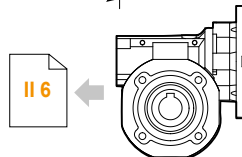
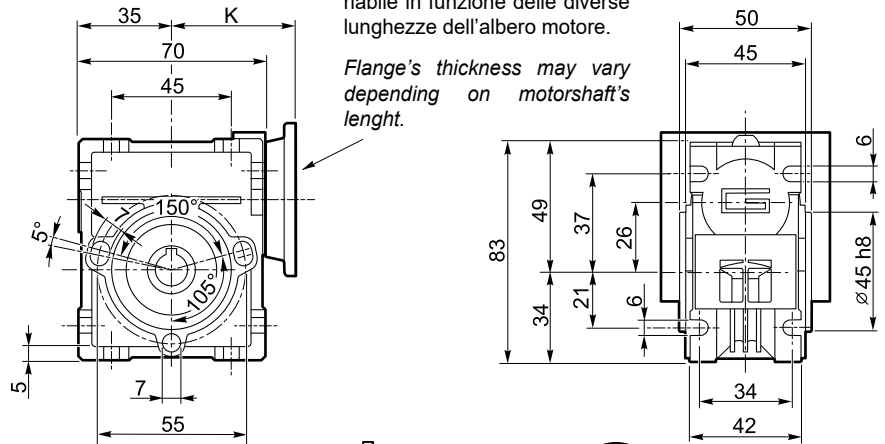
Albero lento cavo / Hollow output shaft



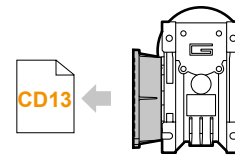
- (1): BLCM 026 (D11)
- (2): BLCM 026
- (3): BLCM 026 (D14)

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

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



CL026

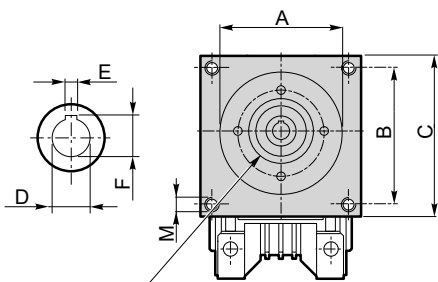


CM026.. F

**Kg**  
0.8

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...**

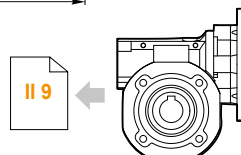
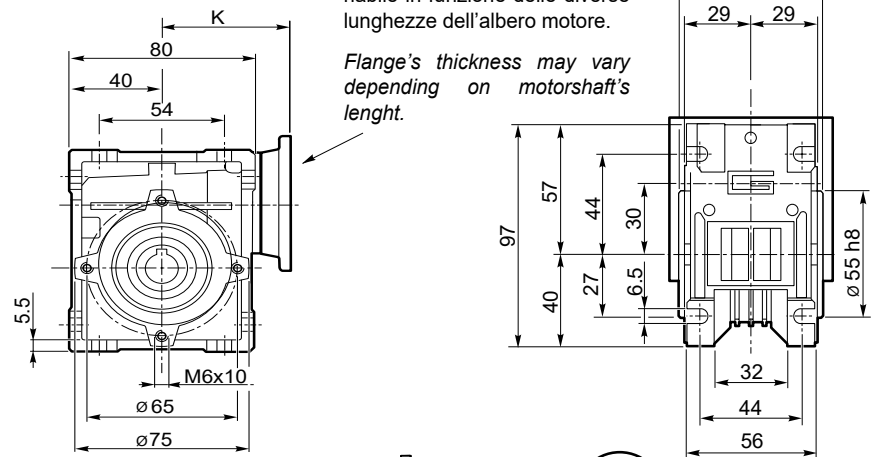


Connessione con boccola o giunto in funzione del diametro dell'albero motore.

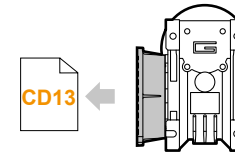
Connection with sleeve or coupling depending on motorshaft's diameter.

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

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

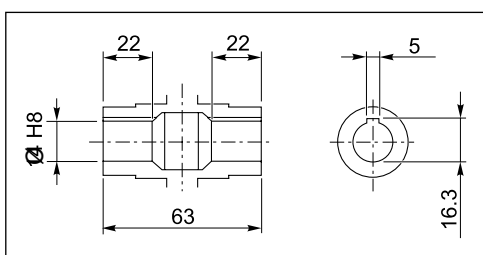


CL030



CM030.. F

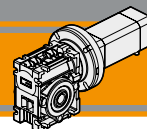
**Kg**  
1.2



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

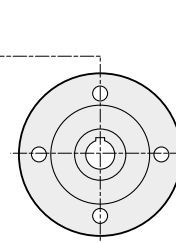
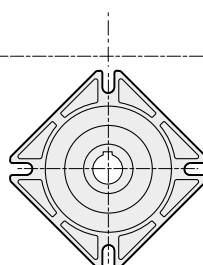
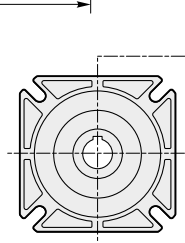
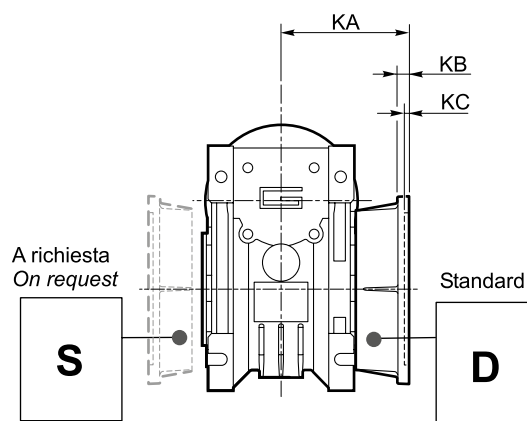
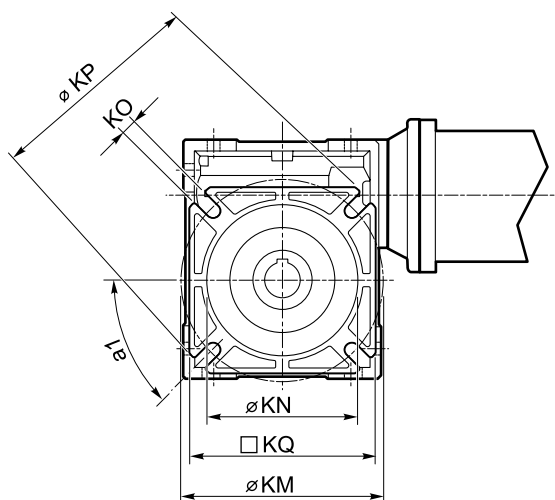




**Dimensioni flange uscita**

**Output flange dimensions**

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



**..CM026 ../.. F**  
**..CM026 ../.. F28**  
**..CM026 ../.. F30**  
**..CM026 ../.. F30S**  
**..CM030 ../.. F..**  
**..CM040 ../.. F..**

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

**..CM026 ../.. F100**

	CM..F						CM..F28						CM..F30						CM..F30S <sup>(1)</sup>														
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
<b>026 (D11)</b>	45°	45	6	4.5	55-69	40	6.5	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
<b>026 (D14)</b>							6.5 (n.4)																										

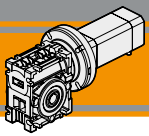
(1): F30S eseguita con F30 e distanziale di spessore 2 mm / F30S made with F30 and spacer with 2mm thickness

	CM..F30C						CM..F30SC <sup>(2)</sup>						CM..F100												
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC *	KM	KN <sub>H7</sub>	KO	KP	KQ
<b>026 (D11)</b>	-	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	-
<b>026 (D14)</b>																									

(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 <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
<b>030</b>	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<b>040</b>	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

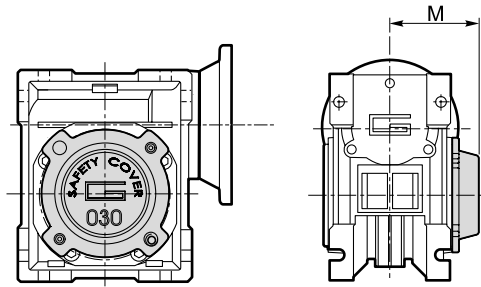
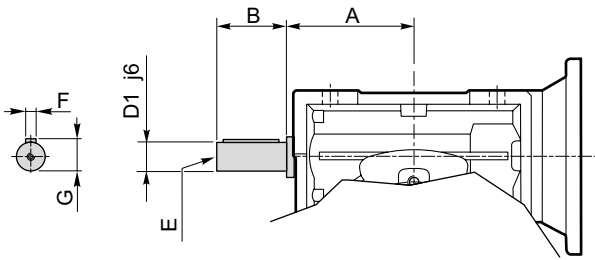


**Opzioni**

**Options**

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

**SC - Safety cover**



	A	B	D <sub>1</sub> j6	E	F	G
CM 030	45	20	9	M4	3	10.2
CM 040	53	23	11	M5	4	12.5

	M
CM 030	47
CM 040	54.5

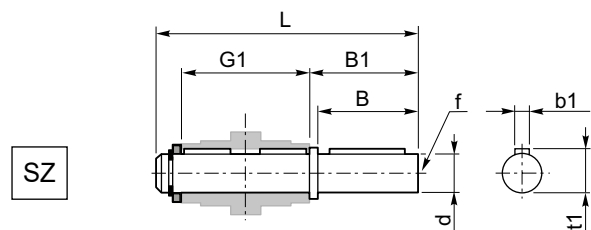
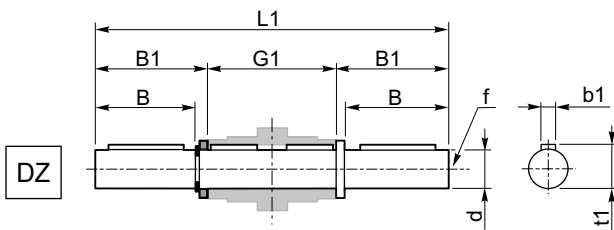
Costruito su richiesta  
Built on request

**Accessori**

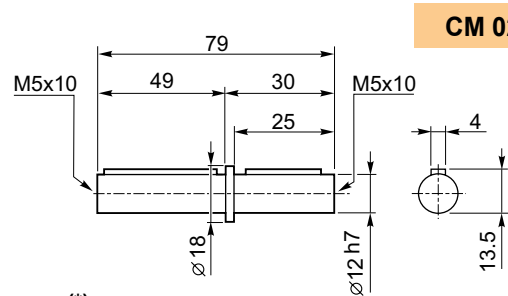
**Accessories**

**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



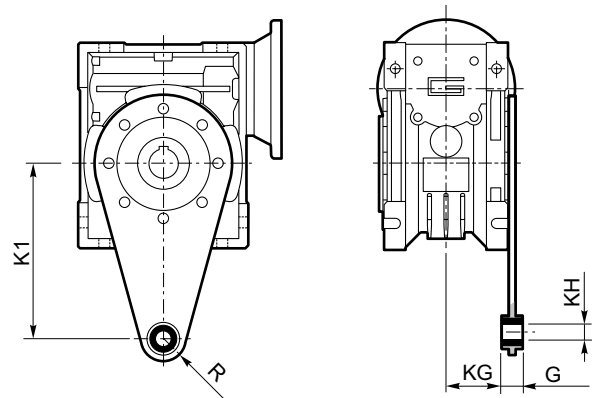
**CM 026 (\*)**

(\*)  
Nota: disponibile solo per cavo uscita Ø12  
Note: available for output hollow shaft Ø12 only

**Braccio di reazione**

**Torque arm**

	K1	G	KG	KH	R
CM 030	85	14	23	8	15
CM 040	100	14	31	10	18

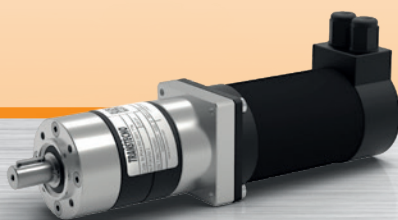




**MINI**  **TECNO**™  
**small** but strong

**BLP**

Motoriduttori brushless CC epicicloidali  
Brushless DC planetary gearmotors

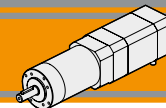


**MINI**  **TECNO**™ brand of  
**TRANSTECNO**®



**BLDC**

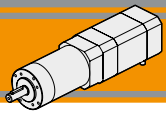




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Designazione	<i>Classification</i>	<b>CE2</b>
Simbologia	<i>Symbols</i>	<b>CE2</b>
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Carichi radiali	<i>Radial loads</i>	<b>CE3</b>
Rapporti	<i>Ratios</i>	<b>CE3</b>
P52 con motore brushless BLS 022.240	<i>P52 with brushless motor BLS 022.240</i>	<b>CE4</b>
P52 con motore brushless BLS 043.240	<i>P52 with brushless motor BLS 043.240</i>	<b>CE6</b>
P62 con motore brushless BL 070.480	<i>P62 with brushless motor BL 070.480</i>	<b>CE8</b>
P62 con motore brushless BL 140.480	<i>P62 with brushless motor BL 140.480</i>	<b>CE8</b>
Dati tecnici	<i>Technical data</i>	<b>CE10</b>
Dimensioni P con flange motore AS	<i>P dimensions with motor flanges AS</i>	<b>CE11</b>
Flange uscita	<i>Output flange</i>	<b>CE12</b>

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## Caratteristiche tecniche

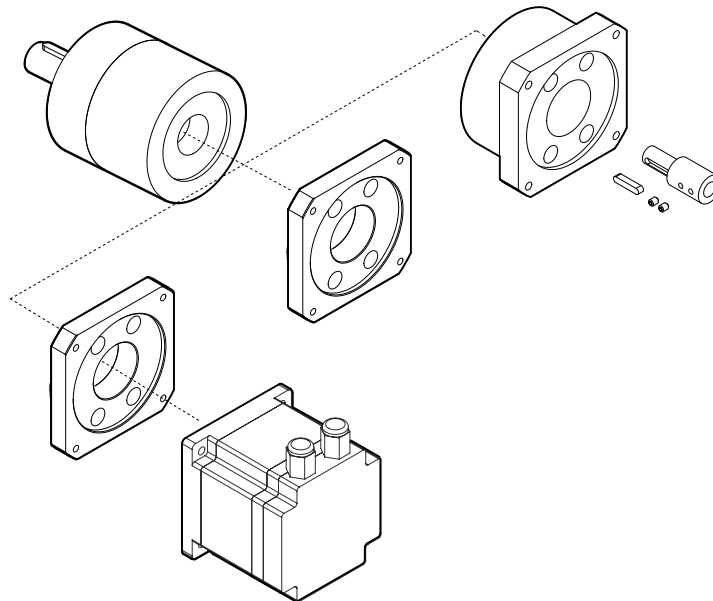
## Technical features

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

The main features of brushless DC planetary gearmotors BLP range are:

- Alimentazione in bassa tensione 24/36/48 Vcc
- Motore Brushless CC con grado di protezione IP55
- Coppie motori disponibili da 0.22 Nm a 1.4 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

- Low voltage power supply 24/36/48 Vdc
- Brushless DC motor in IP55 protection Standard
- Motor torque ratings available from 0.22 Nm up to 1.4 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

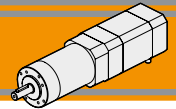
RIDUTTORE / GEARBOX			
P	52	2	46
Tipo Type	Grandezza Size	Stadi riduttore Gearbox stages	Rapporto in Ratio in
P	52 62	1 2 3	Vedere tabelle See tables

MOTORE / MOTOR	
BL070.480	48V
Tipo Type	Tensione Voltage
BLS022.240	24V-36V
BLS043.240	24V-36V
BL070.480	48V
BL140.480	48V

## Simbologia

## Symbols

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



**Lubrificazione e temperatura**

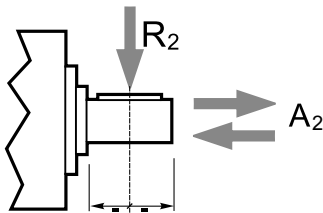
**Lubrication and temperature**

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

**Carichi radiali**

**Radial loads**



Ns	Carichi Radiali R <sub>2</sub> [N] / Radial Load R <sub>2</sub> [N]	
	P52	P62
1	200	240
2	320	360
3	450	520

Ns	Carichi Assiali A <sub>2</sub> [N] / Axial Load A <sub>2</sub> [N]	
	P52	P62
1	60	70
2	100	100
3	150	150

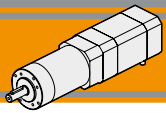
**Rapporti**

**Ratios**

Ns	P 52 / 62		Rd	P 52	P62
	in	ir		kg	kg
1	<b>4</b>	<b>3.7</b>	0.8	0.7	0.8
	4	4.28			
	5	5.18			
	<b>7</b>	<b>6.75</b>			
2	<b>14</b>	<b>13.73</b>	0.75	0.9	1.2
	16	15.88			
	18	18.36			
	19	19.2			
	22	22.2			
	<b>25</b>	<b>25.01</b>			
	27	26.85			
	29	28.93			
	35	34.97			
	<b>46</b>	<b>45.56</b>			
3	51	50.89	0.7	1.1	1.6
	59	58.85			
	<b>68</b>	<b>68.06</b>			
	71	71.16			
	79	78.71			
	<b>93</b>	<b>92.7</b>			
	95	95.17			
	100	99.5			
	107	107.2			
	115	115.07			
	124	123.97			
	130	129.62			
	139	139.13			
	150	149.9			
	<b>169</b>	<b>168.84</b>			
	181	181.24			
195	195.26				
236	236.09				
<b>308</b>	<b>307.54</b>				
4	a richiesta	on request			

**Rapporti preferenziali**  
Preferred ratios

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



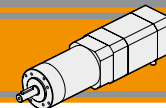
**P52 con motore brushless**

**P52 with brushless motor**

P52			BLS022.240														
			24V						36V								
Ns	ir	in	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]	
			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf			
1	<b>3.7</b>	<b>4</b>	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		
	<b>6.75</b>	<b>7</b>	44	1.2	4.9	444	1.2	3.3		59	1.2	4.9	593	1.2	3.0		
2	<b>13.73</b>	<b>14</b>	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		
	<b>25.01</b>	<b>25</b>	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		
	<b>45.6</b>	<b>46</b>	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
<b>68.1</b>		<b>68</b>	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		
<b>92.7</b>		<b>93</b>	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			
<b>168.84</b>		<b>169</b>	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				
<b>307.54</b>	<b>308</b>	1.0	47	0.8	9.8	36	0.7	1.3	47	0.8	13	31	0.7				

**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.*



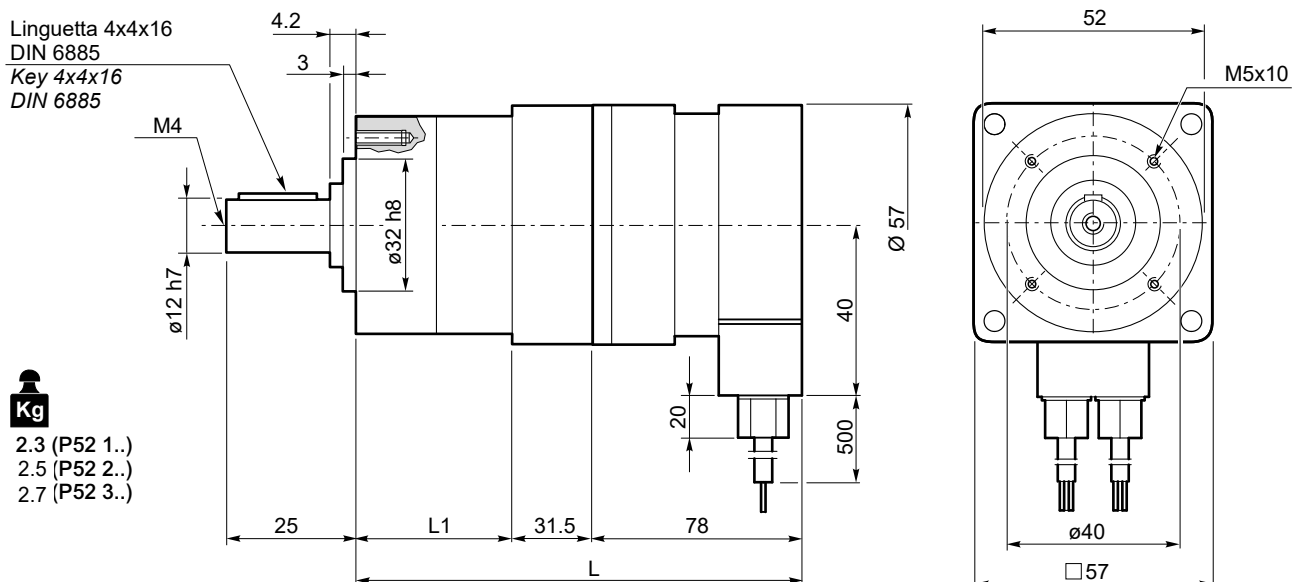
**P52 con motore brushless**

**P52 with 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 ]
BLS022.240	4	3	36	4000	0.22	92
			24	3000		70
Tipo Type	Coppia massima Peak torque [ Nm ]	Corrente nominale Rated current [ A ]	Resistenza Resistance [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BLS022.240	0.44	3.7	0.64	3.1	7.4	0.72

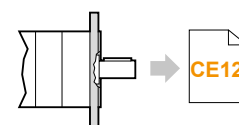


**P52..  
+  
BLS022.240**

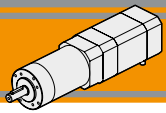


**Kg**  
2.3 (P52 1..)  
2.5 (P52 2..)  
2.7 (P52 3..)

P52	BLS022.240		
	Ns	L1	L
	1	46	155.5
	2	60	169.5
	3	74	183.5



**P52.. AS...**



**P52 con motore brushless**

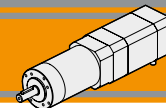
**P52 with brushless motor**

P52			BLS043.240													
			24V						36V							
Ns	ir	in	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]
			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf		
1	<b>3.7</b>	<b>4</b>	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	
	<b>6.75</b>	<b>7</b>	44	2.3	2.5	444	2.3	1.7		59	2.3	2.5	593	2.3	1.5	
2	<b>13.73</b>	<b>14</b>	22	4.4	3.9	218	4.4	2.6	3000	29	4.4	3.9	291	4.4	2.3	4000
	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	
	<b>25.01</b>	<b>25</b>	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	
	<b>45.6</b>	<b>46</b>	6.6	15	1.2	66	14.7	0.8		8.8	15	1.2	88	15	0.7	
	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	
3	<b>68.1</b>	<b>68</b>	4.4	20	1.8	44	20	1.2	3000	5.9	20	1.8	59	20	1.1	4000
	71.2	71	4.2	21	1.7	42	21	1.2		5.6	21	1.7	56	21	1.0	
	78.7	79	3.8	24	1.6	38	24	1.1		5.1	24	1.6	51	24	0.9	
	<b>92.7</b>	<b>93</b>	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	
	<b>168.84</b>	<b>169</b>	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	
<b>307.54</b>	<b>308</b>	1.0	53	0.7	9.8	36	0.7	1.3	53	0.7	13	31	0.7			

**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.*





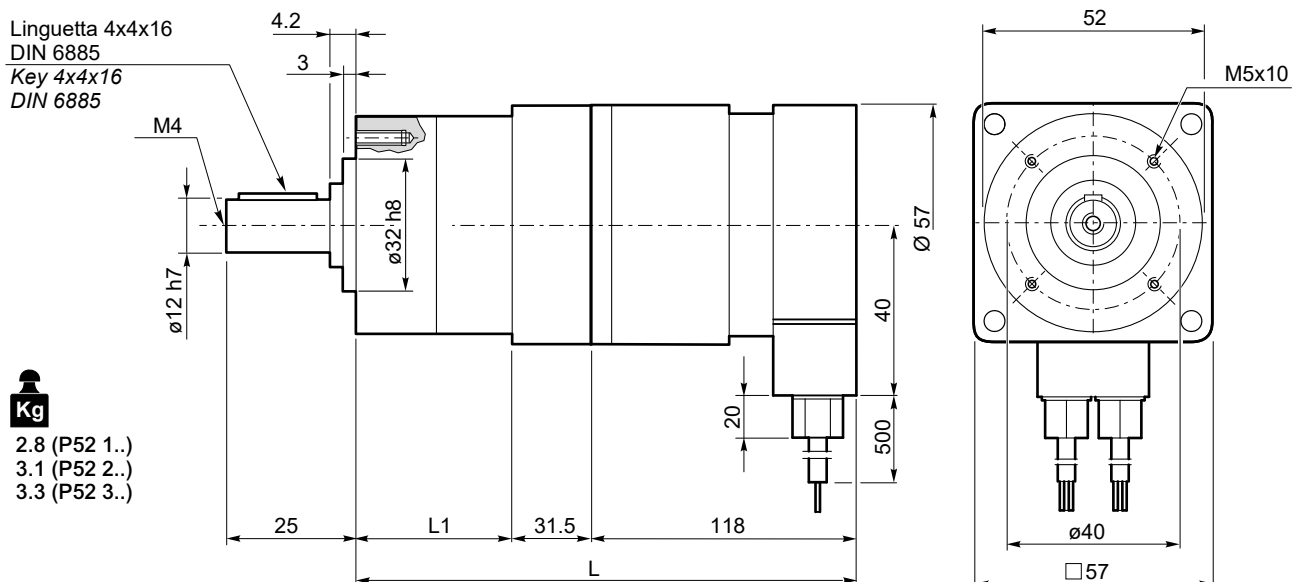
**P52 con motore brushless**

**P52 with brushless motor**

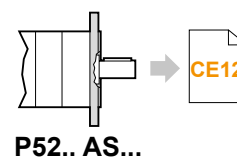
Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [ V ]	Numero di giri Rated speed [ rpm ]	Coppia nominale Rated torque [ Nm ]	Potenza nominale Rated power [ W ]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130
Tipo Type	Coppia massima Peak torque [ Nm ]	Corrente nominale Rated current [ A ]	Resistenza Resistance [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BL043.240	0.86	6	0.35	1	12.0	1.25

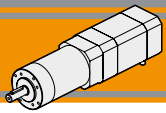


**P52..  
+  
BLS043.240**



P52	BLS043.240		
	Ns	L1	L
	1	46	195.5
	2	60	209.5
3	74	223.5	





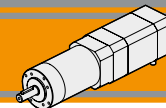
**P62 con motore brushless**

**P62 with brushless motor**

P62			BL070.480						BL140.480							
			48V						48V							
Ns	ir	in	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]	n <sub>2MIN</sub> [ rpm ]			n <sub>2MAX</sub> [ rpm ]			n <sub>1MAX</sub> [ rpm ]
			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf			M <sub>2</sub> [Nm]	sf		M <sub>2</sub> [Nm]	sf		
1	<b>3.7</b>	<b>4</b>	81	2.1	5.6	811	2.1	3.8	3000	81	4.1	2.8	811	4.1	1.9	3000
	4.28	4	70	2.4	4.8	701	2.4	3.3		70	4.8	2.4	701	4.8	1.6	
	5.18	5	58	2.9	4.0	579	2.9	2.7		58	5.8	2.0	579	5.8	1.3	
	<b>6.75</b>	<b>7</b>	44	3.8	3.0	444	3.8	2.1		44	7.6	1.5	444	7.6	1.0	
2	<b>13.73</b>	<b>14</b>	22	7.2	5.1	218	7.2	3.5	3000	22	14.4	2.6	218	14.4	1.7	3000
	15.88	16	19	8.3	4.4	189	8.3	3.0		19	16.7	2.2	189	16.7	1.5	
	18.36	18	16	9.6	3.8	163	9.6	2.6		16	19.3	1.9	163	19.3	1.3	
	19.2	19	16	10	3.7	156	10	2.5		16	20	1.8	156	20	1.2	
	22.2	22	14	12	3.2	135	12	2.1		14	23	1.6	135	23	1.1	
	<b>25.01</b>	<b>25</b>	12	13	2.8	120	13	1.9		12	26	1.4	120	26	1.0	
	26.9	27	11	14	2.6	112	14	1.8		11	28	1.3	112	28	0.9	
	28.9	29	10	15	2.4	104	15	1.6		10	30	1.2	104	30	0.8	
	35.0	35	8.6	18	2.0	86	18	1.4		8.6	37	1.0	86	36	0.7	
	<b>45.6</b>	<b>46</b>	6.6	24	1.5	66	24	1.0		6.6	48	0.8	66	36	0.7	
3	50.9	51	5.9	25	3.0	59	25	2.0	3000	5.9	50	1.5	59	50	1.0	3000
	58.9	59	5.1	29	2.6	51	29	1.7		5.1	58	1.3	51	58	0.9	
	<b>68.1</b>	<b>68</b>	4.4	33	2.2	44	33	1.5		4.4	67	1.1	44	67	0.7	
	71.2	71	4.2	35	2.1	42	35	1.4		4.2	70	1.1	42	70	0.7	
	78.7	79	3.8	39	1.9	38	39	1.3		3.8	77	1.0	38	71	0.7	
	<b>92.7</b>	<b>93</b>	3.2	45	1.6	32	45	1.1		3.2	91	0.8	32	71	0.7	
	95.2	95	3.2	47	1.6	32	47	1.1		3.2	93	0.8	32	71	0.7	
	99.5	100	3.0	49	1.5	30	49	1.0		3.0	98	0.8	30	71	0.7	
	107.2	107	2.8	53	1.4	28	53	1.0		2.8	105	0.7	28	71	0.7	
	115.07	115	2.6	56	1.3	26	56	0.9		2.6	105	0.7	26	71	0.7	
	123.97	124	2.4	61	1.2	24	61	0.8		2.4	105	0.7	24	71	0.7	
	129.62	130	2.3	64	1.2	23	64	0.8		2.3	105	0.7	23	71	0.7	
	139.13	139	2.2	68	1.1	22	68	0.7		2.2	105	0.7	22	71	0.7	
	149.9	150	2.0	73	1.0	20	71	0.7		2.0	105	0.7	20	71	0.7	
<b>168.84</b>	<b>169</b>	1.8	83	0.9	18	71	0.7	1.8	105	0.7	18	71	0.7			
181.24	181	1.7	89	0.8	17	71	0.7	1.7	105	0.7	17	71	0.7			
195.26	195	1.5	96	0.8	15	71	0.7	1.5	105	0.7	15	71	0.7			
236.09	236	1.3	105	0.7	13	71	0.7	1.3	105	0.7	13	71	0.7			
<b>307.54</b>	<b>308</b>	1.0	105	0.7	9.8	71	0.7	1.0	105	0.7	9.8	71	0.7			

**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.*



**P62 con motore brushless**

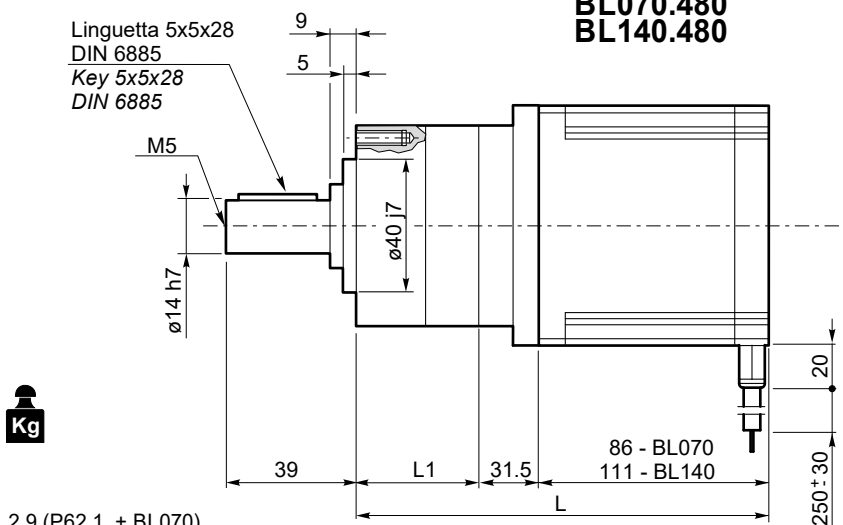
**P62 with brushless motor**

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 ]
BL070.480	8	3	48	3000	0.70	220
BL140.480	8	3	48	3000	1.4	440
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 ]
BL070.480	1.4	6.5	0.34	1.0	13.0	2.1
BL140.480	2.8	13.0	0.16	0.5	26	3.15

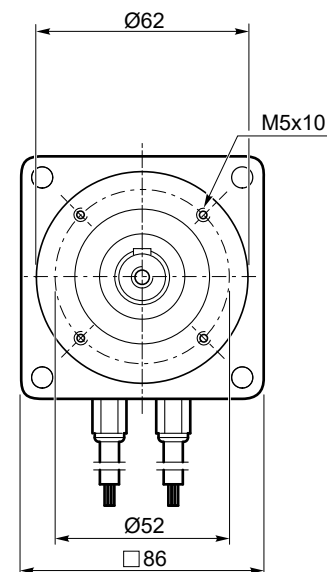
Azionamenti  
Drives



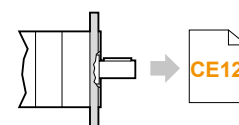
**P62..  
+  
BL070.480  
BL140.480**



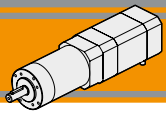
- 2.9 (P62 1..+ BL070)
- 3.3 (P62 2..+BL070)
- 3.7 (P62 3..+BL070)
- 3.9 (P62 1..+BL140)
- 4.3 (P62 2..+BL140)
- 4.7 (P62 3..+BL140)



P62	Ns	L1	BL 070.480	BL 140.480
			L	L
	1	46	163.5	188.5
	2	62	179.5	204.5
	3	78	195.5	220.5



**P62.. AS...**



**Dati tecnici**

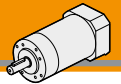
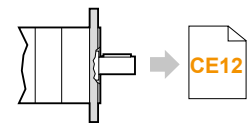
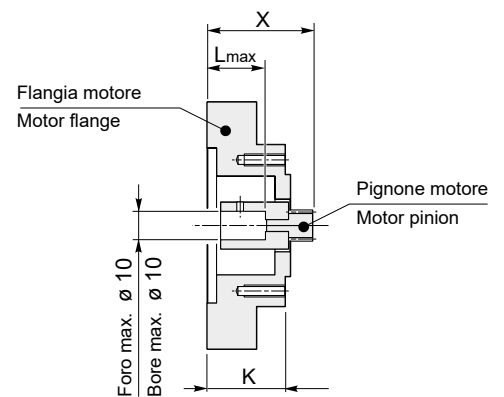
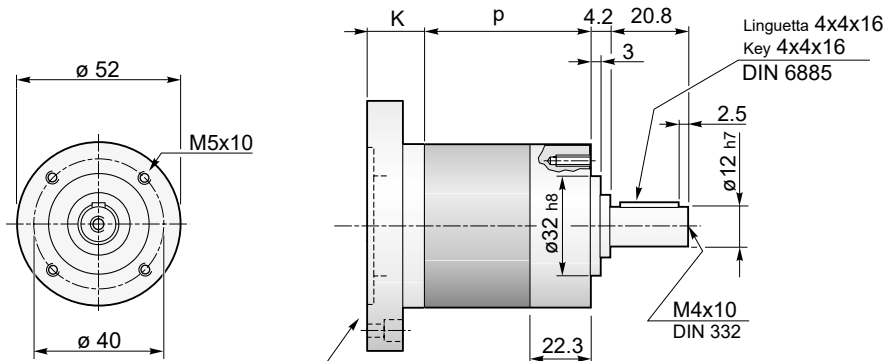
$n_1 = 3000$  rpm

**Technical data**

Ns	ir	in	P52			P62		
			R <sub>d</sub>	M <sub>n2</sub> [Nm]	R <sub>2</sub> [N]	R <sub>d</sub>	M <sub>n2</sub> [Nm]	R <sub>2</sub> [N]
1	3.70	4	0.80	4	200	0.80	8	240
	4.28	4						
	5.18	5						
	6.75	7						
2	13.73	14	0.75	12	320	0.75	25	360
	15.88	16						
	18.36	18						
	19.20	19						
	22.20	22						
	25.01	25						
	26.85	27						
	28.93	29						
	34.97	35						
	45.56	46						
3	50.89	51	0.70	25	450	0.70	50	520
	58.85	59						
	68.06	68						
	71.16	71						
	78.71	79						
	92.70	93						
	95.17	95						
	99.50	100						
	107.20	107						
	115.07	115						
	123.97	124						
	129.62	130						
	139.13	139						
	149.90	150						
	168.84	169						
181.24	181							
195.26	195							
236.09	236							
307.54	308							

**Rapporti preferenziali per le taglie P52 e P62.**  
*Preferred ratios for sizes P52 e P62.*

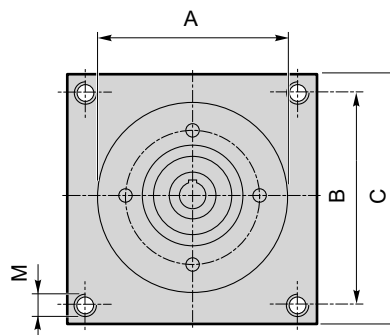
Disponibili 4 stadi con rapporti fino a 2076 / Available 4 stages with ratio up to 2076


**Dimensioni P con flange motore AS**
**P dimensions with motor flanges AS**
**P52 - U - AS...**

**P52.. C...**

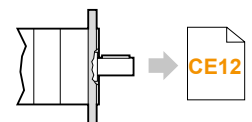
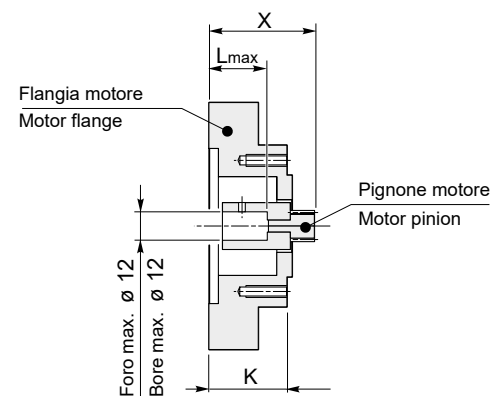
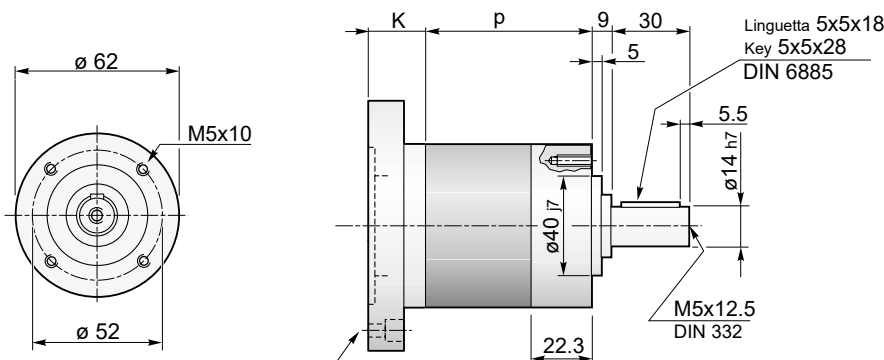
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

Dimensioni / Dimensions							
AS	A	B	C	M	K	L <sub>max</sub>	X
AS394	38.1	47.1	57	M5	31.5	23	41.5
...	...	...	...	...	...	...	...



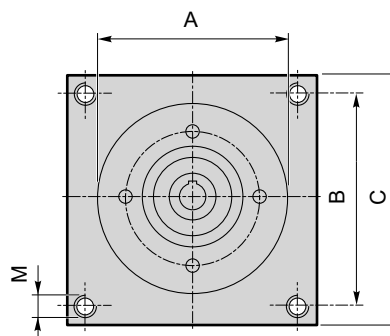
		Lunghezza riduttore Gearbox length	
		P	
P52...	1	46	0.7
	2	60	0.9
	3	74	1.1

**P62 - U - AS...**

**P62.. C...**

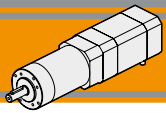
Lo spessore della flangia è variabile in funzione delle diverse lunghezze dell'albero motore.

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

Dimensioni / Dimensions							
AS	A	B	C	M	K	L <sub>max</sub>	X
AS389	73	69.6	86	M5	31.5	23	44.3
...	...	...	...	...	...	...	...



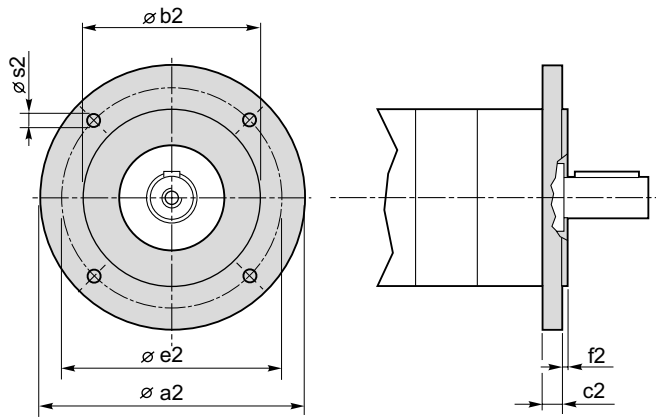
		Lunghezza riduttore Gearbox length	
		P	
P62...	1	46	0.8
	2	62	1.2
	3	78	1.6



**Dimensioni flange uscita**

**Output flange dimensions**

**P.. C..**



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

Azionamenti per motori brushless CC  
Brushless DC motor controls









	<b>Indice</b>	<b>Index</b>	Pag. Page
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<b>BLD07-IT</b>	<b>AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC</b>	<b>4Q DRIVE FOR DC BRUSHLESS MOTORS</b>	
	Caratteristiche tecniche	<i>Technical features</i>	<b>CF2</b>
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	Collegamenti	<i>Connections</i>	<b>CF3</b>
<b>BLD15</b>	<b>AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC</b>	<b>4Q DRIVE FOR DC BRUSHLESS MOTORS</b>	
	Caratteristiche tecniche	<i>Technical features</i>	<b>CF5</b>
	Dimensioni	<i>Dimensions</i>	<b>CF6</b>
	Collegamenti	<i>Connections</i>	<b>CF7</b>
<b>BLDCXL65 - 20</b>	<b>AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC</b>	<b>4Q DRIVE FOR DC BRUSHLESS MOTORS</b>	
	Caratteristiche standard	<i>Standard characteristic</i>	<b>CF9</b>
	Dati tecnici principali	<i>Specifications</i>	<b>CF9</b>
	Dimensioni	<i>Dimensions</i>	<b>CF10</b>
	Collegamenti per motore Brushless serie BL	<i>Connections for Brushless motor BL series</i>	<b>CF10</b>

**SELEZIONE AZIONAMENTO**
**DRIVE SELECTION**
**Selezione azionamento per motore brushless**
**Brushless motor drive selection guide**

Motori applicabili <i>Suitable motors</i>	Scheda / <i>Type</i>	Corrente Nominale / <i>Rated Current</i> (A)	Corrente di Picco / <i>Peak Current</i> (A)
<b>BLS022.240</b>	BLD07-IT	7	14
<b>BLS043.240</b>	BLD07-IT	7	14
<b>BL070.480</b>	BLD15	15	30
<b>BL140.480</b>	BLD15	15	30
<b>BL210.480</b>	BLDCXL65 - 20	20	40

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](http://www.transtecno.com)**

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**BLD07-IT****AZIONAMENTO 4Q  
PER MOTORI BRUSHLESS CC****4Q DRIVE  
FOR DC 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
  - 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
  - Digital feedback
  - PWM frequency
  - Operative temperature
  - Analog inputs range
  - Acceleration ramp adjustable (by dip switch)
  - Current max regulation
  - Speed change regulation (by external or internal pot)
- 4/8 poles
  - Hall sensors
  - 20 KHz
  - 0/+40°C
  - 0/+10Vdc
  - 0.1/1.0sec
  - external 10KΩ

MODELLO / MODEL		BLD07-IT
Tensione nominale motore <i>Motor DC Voltage</i>	(Vdc)	24 - 36
Tensione di alimentazione min / max <i>Supply DC Voltage Range min / max</i>	(Vdc)	20-40
Corrente nominale <i>Rated Current</i>	(A)	7
Corrente di picco (1) <i>Peak Current</i>	(A)	14
Potenza nominale (2) <i>Rated Power</i>	(W)	230
Potenza di picco (3) <i>Peak Power</i>	(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*



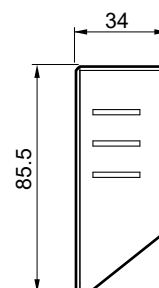
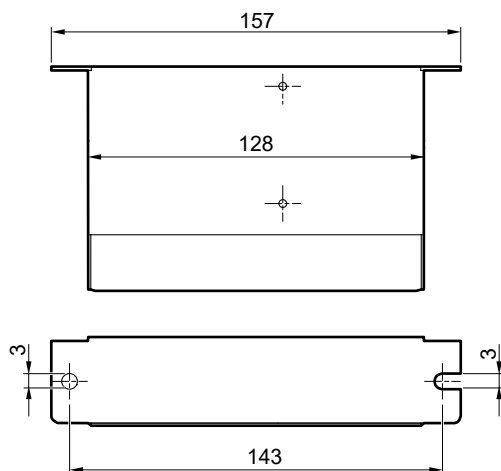
**BLD07-IT**

**AZIONAMENTO 4Q  
PER MOTORI BRUSHLESS CC**

**4Q DRIVE  
FOR DC BRUSHLESS MOTORS**

**Dimensioni**

**Dimensions**



**Collegamenti**

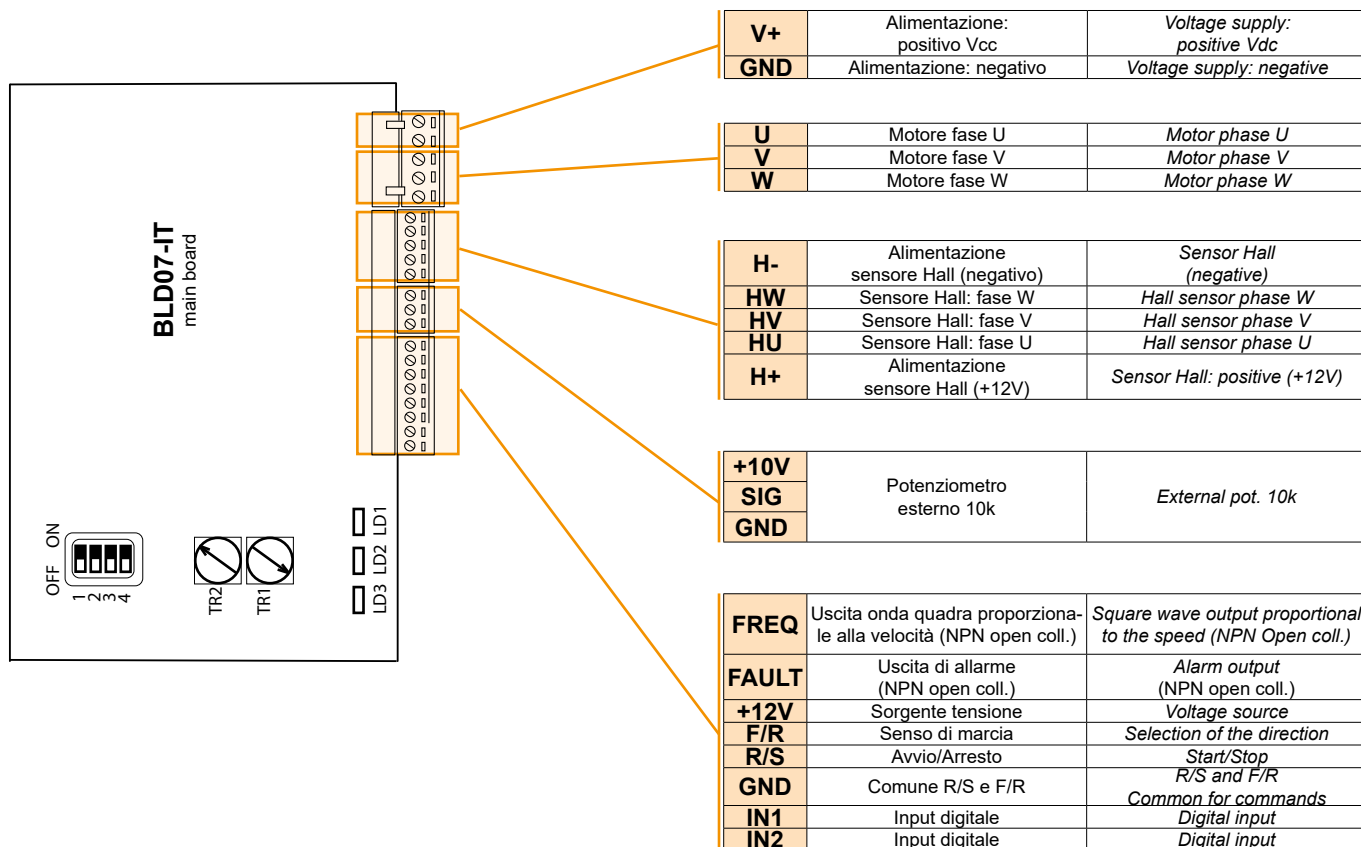
**Connections**

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.





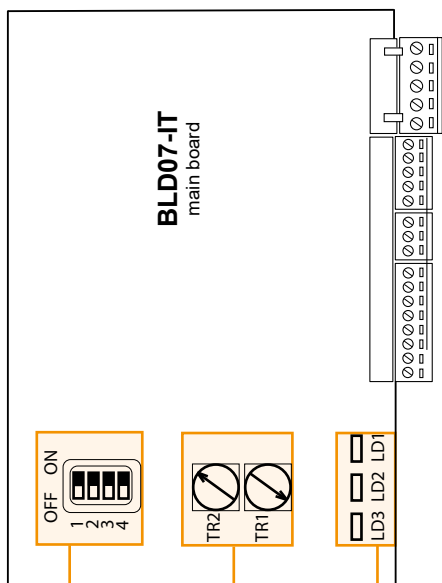
### BLD07-IT

**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		
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 sec)	Fast Acceleration (about 0.1 sec)
	ON = Rampe lente (1.0 sec)	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 la versione di maggiore potenza della BLD07-IT realizzato su una nuova PCB, dove sono state implementate nuove caratteristiche e funzionalità. Il risultato è quello di avere un drive più versatile e all'avanguardia, che può essere customizzato e opzionalmente può essere gestito in coppia oppure comandato in via bus di campo, ModBus RTU RS485 oppure CANOpen DS301.

The BLD15 drive is the most powerful version of the BLD07-IT built on a new PCB, new features and functionality have been implemented. The result is that of having a more versatile and avant-garde drive, which can be customized, the possibility of having the drive in a torque version or controlled via fieldbus, Modbus RTU RS485 or CANOpen DS301.

**Caratteristiche standard**

**Standard features**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>● Azionamento bidirezionale rigenerativo</li> <li>● Alimentazione singola CC</li> <li>● 3 Leds per la diagnostica (stato ed allarmi)</li> <li>● Protetto per corto circuito, min/max tensione, mancanza celle di Hall</li> <li>● Protezione termica motore Ixt</li> <li>● Connettori estraibili (segnali e potenza)</li> <li>● Comando di velocità analogico 0 +10Vcc e PWM</li> <li>● 4 Ingressi digitali – optoisolati</li> <li>● 2 Uscite NPN - allarmi e frequenza di lavoro</li> <li>● Regolazione rampa di accelerazione</li> <li>● Versione TORQUE control</li> <li>● Versione ModBus RTU RS485</li> <li>● Versione CANOpen DS301</li> </ul> | <ul style="list-style-type: none"> <li>● Bidirectional regenerative operation</li> <li>● Single supply DC voltage</li> <li>● 3 diagnostic Leds (State and Alarms)</li> <li>● Protections for: Over/Under voltage, Over current, Hall missing</li> <li>● Ixt motor current protection</li> <li>● Power and signals extractable connectors</li> <li>● Analog speed command 0 + 10Vdc and PWM</li> <li>● 4 Digital inputs – optoisolated</li> <li>● 2 NPN - fault drive and running frequency</li> <li>● Acceleration adjustment</li> <li>● TORQUE control version</li> <li>● ModBus RTU RS485 version</li> <li>● CANOpen DS301 version</li> </ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Dati tecnici principali**

**Specifications**

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>● Idoneo per motori BLDC trifase 4/8 poli</li> <li>● Retroazione digitale sensori di Hall</li> <li>● Frequenza PWM 20 KHz</li> <li>● Temperatura operativa 0/+40°C</li> <li>● Ingresso analogico 0/+10Vcc</li> <li>● Rampa accelerazione regolabile (tramite dip switch) 0.1/1.0sec</li> <li>● Regolazione corrente max</li> <li>● Regolazione della velocità (potenziometro esterno o interno) esterno 10KΩ</li> </ul> | <ul style="list-style-type: none"> <li>● Suitable for 3ph BLDC motors 4/8 poles</li> <li>● Digital feedback Hall sensors</li> <li>● PWM frequency 20 KHz</li> <li>● Operative temperature 0/+40°C</li> <li>● Analog inputs range 0/+10Vdc</li> <li>● Acceleration ramp adjustable (by dip switch) 0.1/1.0sec</li> <li>● Current max regulation</li> <li>● Speed change regulation (by external or internal pot) external 10KΩ</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

MODELLO / MODEL		BLD15
Tensione nominale motore <i>Motor DC Voltage</i>	(Vdc)	24 - 36 - 48
Tensione di alimentazione min / max <i>Supply DC Voltage Range min / max</i>	(Vdc)	20-65
Corrente nominale <i>Rated Current</i>	(A)	15
Corrente di picco (1) <i>Peak Current</i>	(A)	30
Potenza nominale (2) <i>Rated Power</i>	(W)	650
Potenza di picco (3) <i>Peak Power</i>	(W)	1300

(1) La corrente di picco viene erogata per un tempo di circa 2 secondi  
(1) *Peak current (A<sub>dc</sub>) 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*



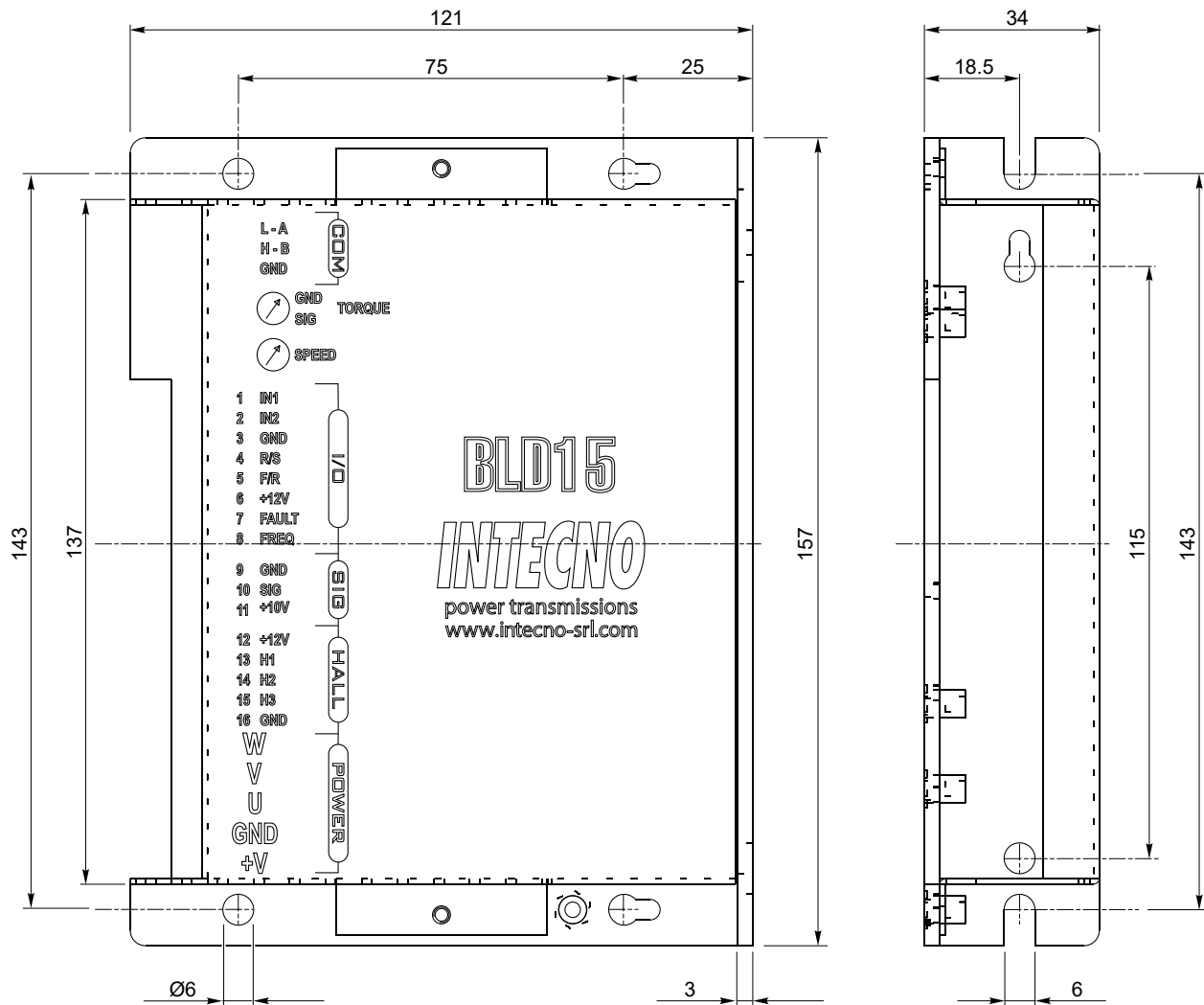
### BLD15

**AZIONAMENTO 4Q  
PER MOTORI BRUSHLESS CC**

**4Q DRIVE  
FOR DC BRUSHLESS MOTORS**

**Dimensioni**

**Dimensions**





**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 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.

**Versione TORQUE**

- connettore estraibile a 2 morsetti

**Versione ModBus/CANOpen**

- connettore estraibile a 3 morsetti

The BLD15 drive is equipped with:

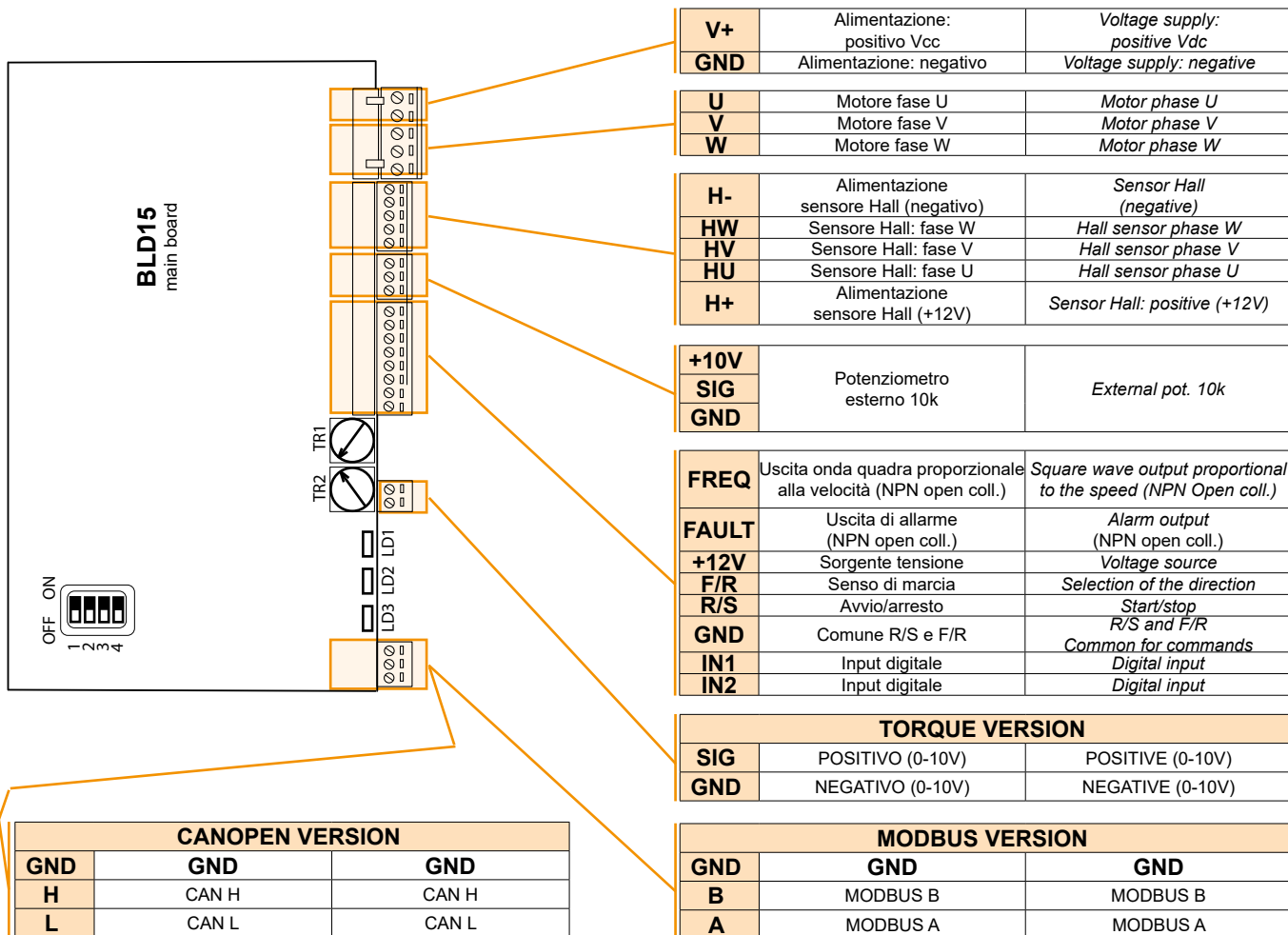
- removable connector with 5 terminals for the power part;
- 3 removable connectors, for a total of 16 terminals, for the management of the input and output signal.

**TORQUE Version**

- removable connector with 2 terminals

**ModBus/CANOpen Version**

- removable connector with 3 terminals





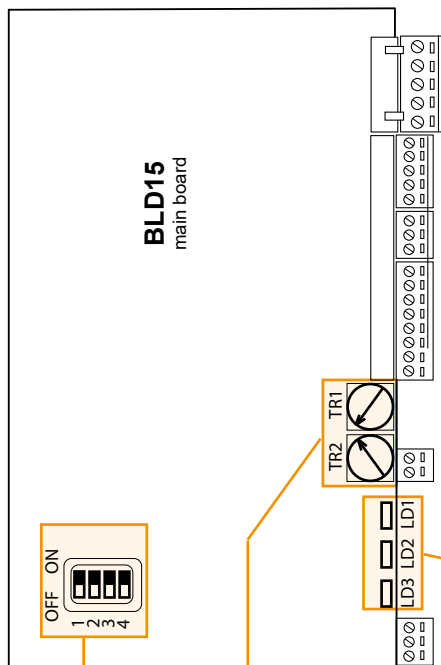
## BLD15

**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		
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)

(\*) 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





**BLDCXL65 - 20**

**AZIONAMENTO 4Q  
PER MOTORI BRUSHLESS CC**

**4Q DRIVE  
FOR DC BRUSHLESS MOTORS**

**Caratteristiche standard**

**Standard characteristic**

- **Convertitore trifase a quattro quadranti per motori Brushless**
- Alimentazione singola DC
- 5 Leds per la diagnostica (stato ed allarmi)
- Protetto per corto circuito, min/max tensione, sovratemperatura, mancanza celle di hall.
- Protezione termica motore Ixt
- Connettori estraibili 16 vie (segnali) e 5 vie (potenza)
- 1 Comando di velocità differenziale analogico +/-10V
- 1 Comando di coppia analogico +/-10V per realizzare avvitatori, svolgitori, macchine test, ecc
- Feedback da sensori di HALL
- 1 Uscita NPN segnalazione allarme azionamento
- 4 trimmers di regolazione (velocità, offset, guadagni).

- **Four quadrant regenerative operation for Brushless motor**
- **Single supply DC voltage**
- **5 diagnostic Leds (State and Alarms)**
- **Protections for: Over/Under voltage, max. temperature, Over current**
- **Ixt motor current**
- **Power and signals extractable connectors (16 ways and 5 ways)**
- **1 Differential velocity input +/-10V**
- **1 Torque mode (demand current) input +/-10V**
- **Feedback by HALL sensors**
- **NPN Fault drive output**
- **Four Potentiometer adjustments (Speed, offset, gain, derivative)**

**Dati tecnici principali**

**Specifications**

- Tensione d'uscita massima 0,9 Vcc ingresso
- Frequenza PWM 20Khz
- Temperatura operativa 0/+45°C
- Ingressi analogici +/-10Vdc
- Monitor di corrente +/- 8Vdc=I di picco
- Alimentazione d'uscita encoder +5Vcc @130 mA
- Alimentazioni d'uscita ausiliarie +/-10Vcc @ 4mA
- Frequenza massima encoder 300Khz
- Livello logico ingresso encoder  $\geq +2,8V/+24V$  min/max
- Segnale (Start) di abilitazione +9V/+30Vcc max
- Banda passante (anello corrente) 2KHz
- Banda passante (anello di vel.) 150Hz
- Induttanza minima motore 400uH
- Grado inquinamento 2° o migliore

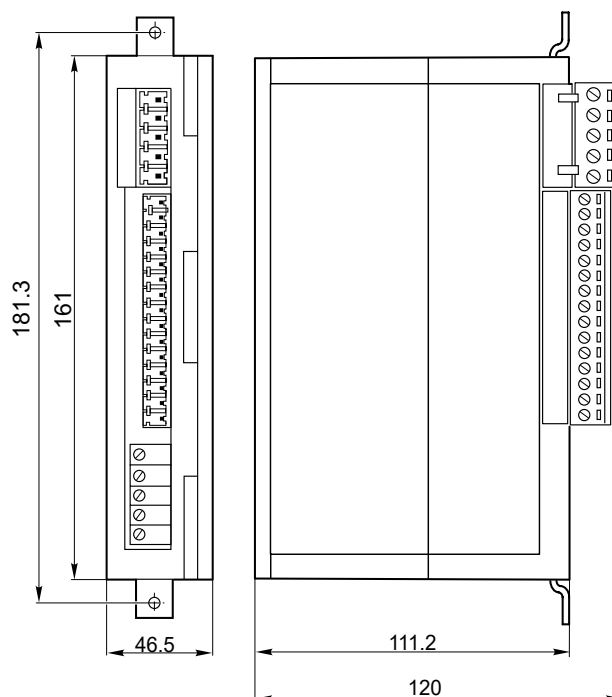
- **Output voltage 0,9 Vdc Input**
- **PWM frequency 20Khz**
- **Operative temperature 0/+45°C**
- **Analog inputs range +/-10Vdc**
- **Current monitor +/- 8Vdc (At peak curr.)**
- **Encoder power supply +5Vdc @130mA**
- **Ausiliary power supply +/-10Vdc @ 4mA**
- **Maximum encoder frequency 300Khz**
- **Logic level encoder inputs  $\geq +2,8V/+24V$  min/max**
- **Start signal (Input range) +9V/+30Vdc**
- **Current loop bandwidth 2KHz**
- **Velocity loop bandwidth 150Hz**
- **Minimum motor inductance 400uH**
- **Polution degree 2° or better**

**Dimensioni**

**Dimensions**

MODELLO / MODEL		65 - 20
Tensione nominale DC Voltage Supply	(V)	48
Tensione min / max DC Voltage Range	(V)	19 - 84
Corrente nominale Rated Current	(A)	20
Corrente di picco (1) Peak Current	(A)	40
Potenza nominale (2) Rated Power	(W)	1160
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*





### BLDCXL65 - 20

#### AZIONAMENTO 4Q PER MOTORI BRUSHLESS CC

#### 4Q DRIVE FOR DC BRUSHLESS MOTORS

##### Collegamenti per motori brushless serie BL

##### Connections for brushless motors BL series

###### Fili di potenza:

- Blu grosso - fase motore U: pin U
- Marrone grosso - fase motore V: pin V
- Nero grosso - fase motore W: pin W

###### Power wires:

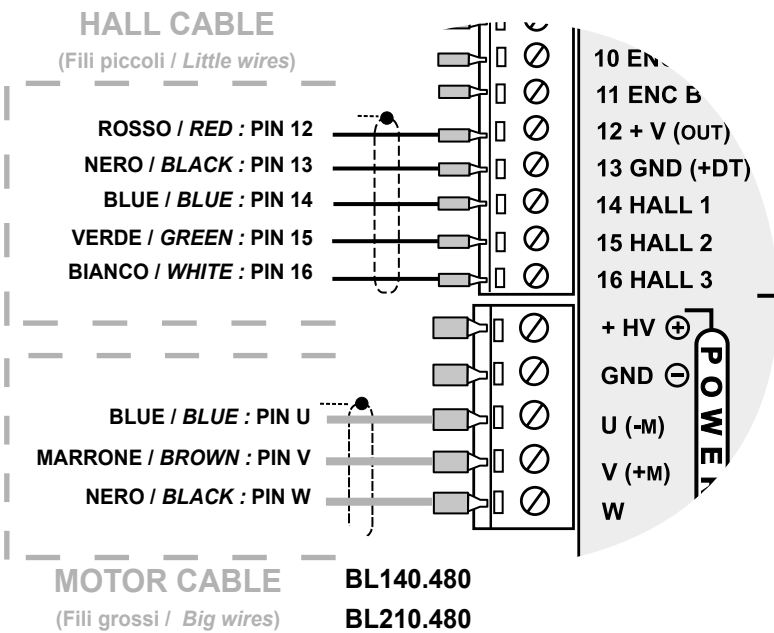
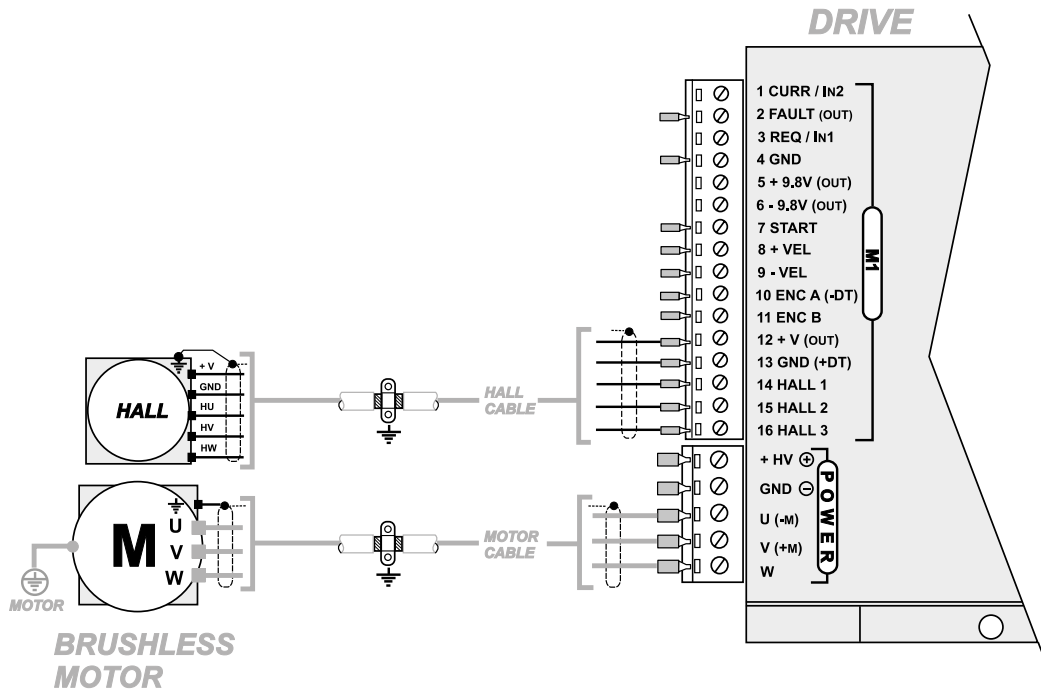
- Blue big - phase motor U: pin U
- Brown big - phase motor V: pin V
- Black big - phase motor W: pin W

###### Fili di segnale:

- Rosso piccolo (+Vcc): pin 12
- Nero piccolo (GND): pin 13
- Blue (hall U): pin 14
- Verde (hall V): pin 15
- Bianco (hall W): pin 16

###### Fili di segnale:

- Red small (+Vcc): pin 12
- Black small (GND): pin 13
- Blue (hall U): pin 14
- Green (hall V): pin 15
- White (hall W): pin 16



BL140.480

BL210.480



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