

# INTECNO

Brushless

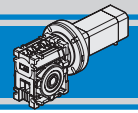
CM

*MICRO Motoriduttori Brushless a Vite senza fine*  
*MICRO Brushless Wormgearmotors*



member of  
**TRANSTECNO**  
group

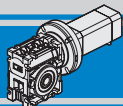




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### Caratteristiche tecniche

### Technical features


Le caratteristiche principali dei motoriduttori a vite senza fine CM con motore brushless sono:

The main features of CM wormgearboxes with brushless motors are:

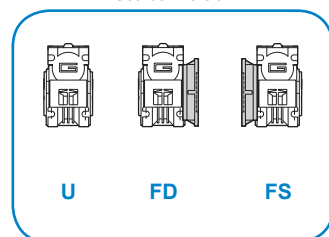
- Alimentazione in bassa tensione 24/36 Vcc
- Possibilità di montaggio encoder
- Coppie motore disponibili da 0,12 a 0,43Nm
- Elettronica di comando integrata IE (opzionale)
- Carcasce dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Low voltage power supply 24/36 Vdc
- Suitable for encoder assembly
- Motor torque ratings available from 0,12 up to 0,43Nm
- Built in electronic drives IE (optional)
- Die-cast aluminium housings
- Permanent synthetic oil long life lubrication

### Designazione

### Classification

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

Versione Riduttore  
Gearbox Version



### Simbologia

### Symbols

Ns	n° stadi / No. stages	Pn	[W]	Potenza nominale / Nominal power
in	rapporto nominale / nominal ratio	V	[V]	Tensione / Voltage
ir	rapporto reale / real ratio	I	[A]	Assorbimento / Current
M <sub>2</sub>	[Nm] coppia in uscita in funzionamento continuativo S1 output torque for continuous operation S1	IC		Classe di isolamento termico / Thermal insulation class
Rd	rendimento dinamico / efficiency	FF		Fattore di forma / Form factor
R <sub>2</sub>	[N] massimo carico radiale al centro dell'albero uscita max. radial load at output shaft centre	Mn	[Nm]	Coppia / Torque
A <sub>2</sub>	[N] massimo carico assiale / max. axial load	n <sub>1</sub>	[Rpm]	Giri / Speed
		IP		Grado di protezione / Enclosure protection
		Kg		Peso / Weight

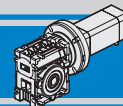
### Lubrificazione

### Lubrication

I riduttori a vite senza fine della serie CM026 e CM030 sono lubrificati a vita con olio sintetico di viscosità 320 e possono essere installati in qualunque posizione di montaggio.

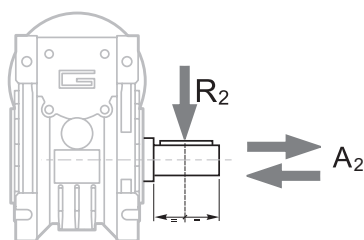
Permanent synthetic oil long-life lubrication allow to use CM026 and CM030 wormgearbox range in all mounting position.

	Quantità di olio (litri) / Oil quantity (litres)					
	B3	B8	B6	B7	V5	V6
CM026	0.015					
CM030	0.03					



**Carichi radiali**

**Radial loads**

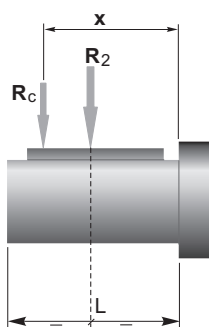


$A_2 = R_2 \times 0.2$

n <sub>2</sub> [min <sup>-1</sup> ]	R <sub>2</sub> [N]	
	CM026	CM030
187	400	674
140	490	743
93	580	851
70	610	936
56	610	1008
47	610	1069
35	610	1179
28	610	1270
23	610	1356
18	610	1471
14	610	1600

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

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



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

$$R \leq R_c$$

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

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

**Dati di dentatura**

**Toothing data**

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

**Rendimento**

**Efficiency**

	n <sub>1</sub> [min <sup>-1</sup> ]	Rendimento Efficiency	Rapporto / Ratio											
			5	7.5	10	15	20	25	30	40	50	60	80	100
CM026	2800	Rd	0.89	0.87	0.85	0.83	0.80		0.73	0.68	0.64	0.60		
		Rs	0.72	0.71	0.68	0.61	0.56		0.46	0.41	0.36	0.34		
CM030	2800	Rd	0.89	0.88	0.86	0.84	0.81	0.78	0.74	0.70	0.65	0.62	0.57	0.52
		Rs	0.72	0.67	0.63	0.55	0.50	0.43	0.39	0.35	0.31	0.27	0.23	0.21

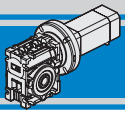
**Reversibilità e irreversibilità**

**Reversibility and irreversibility**

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

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

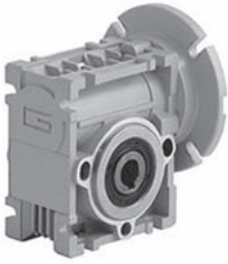
Rd	Reversibilità e irreversibilità dinamica	Dynamic reversibility and irreversibility
> 0.60	Reversibilità dinamica	Dynamic reversibility
0.50 - 0.60	Reversibilità dinamica incerta	Uncertain dynamic reversibility
0.40 - 0.50	Buona irreversibilità dinamica	Good dynamic irreversibility
<0.40	Irreversibilità 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



# MICRO MOTORIDUTTORI BRUSHLESS A VITE SENZA FINE MICRO BRUSHLESS WORMGEARMOTORS

CM026 con motore brushless

CM26 with brushless motor



CM026			BL012.240				BL018.240				BL025.24E			
n <sub>1</sub> =2800 rpm			Coppia nominale Rated torque 24V		Coppia massima Peak torque 24V		Coppia nominale Rated torque 24V		Coppia massima Peak torque 24V		Coppia nominale Rated torque 24V		Coppia massima Peak torque 24V	
ir	M <sub>2</sub> [Nm]	Kg	[Nm]	[rpm]	[Nm]	[rpm]	[Nm]	[rpm]	[Nm]	[rpm]	[Nm]	[rpm]	[Nm]	[rpm]
5	10	0.8	0.56	800	1.11	800	0.82	800	1.65	800	1.11	800	2.23	800
7.5	11		0.82	533	1.63	533	1.21	533	2.41	533	1.63	533	3.26	533
10	11		1.06	400	2.13	400	1.57	400	3.15	400	2.13	400	4.25	400
15	11		1.56	267	3.11	267	2.30	267	4.61	267	3.11	267	6.23	267
20	11		2.00	200	4.00	200	2.96	200	5.92	200	4.00	200	8.00	200
30	12		2.74	133	5.48	133	4.05	133	8.10	133	5.48	133	10.95	133
40	11		3.40	100	6.80	100	5.03	100	10.06	100	6.80	100	13.60	100
50	10		4.00	80	8.00	80	5.92	80	11.84	80	8.00	80	16.00	80
60	9		4.50	67	9.00	67	6.66	67	13.32	67	9.00	67	18.00	67

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

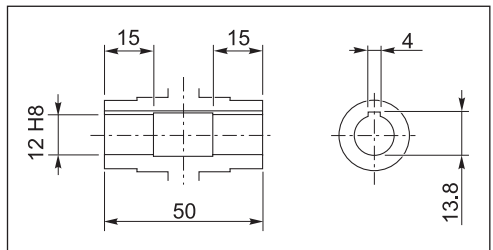
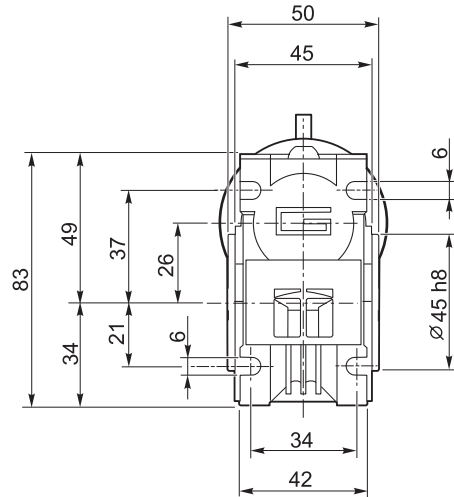
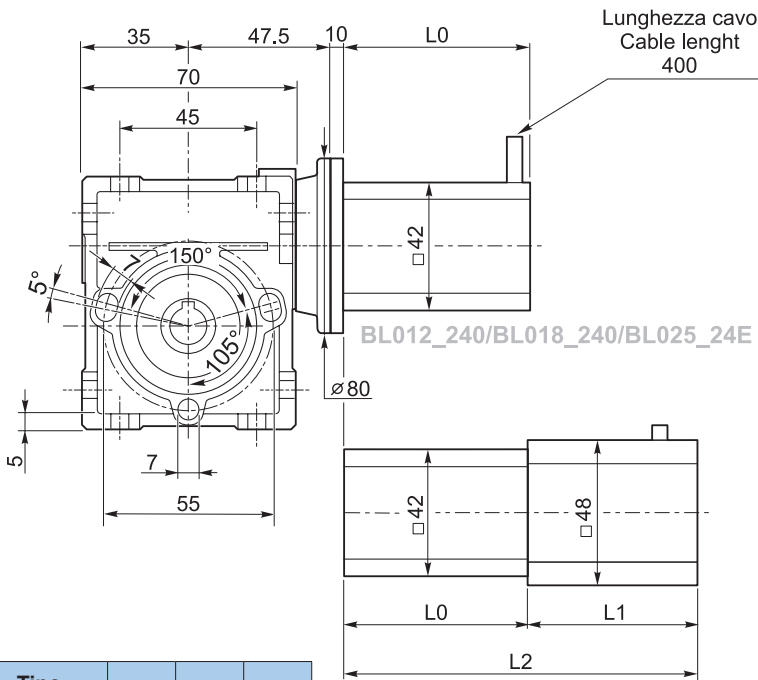
N.B.: boxes in grey indicate that maximum torque withstood by gear reducer for service in S1 is exceeded.

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [V]	Numero di giri Rated speed [rpm]	Coppia nominale Rated torque [Nm]	Potenza nominale Rated power [W]
BL012.240	8	3	24	4000	0.125	52.5
BL018.240	8	3	24	4000	0.185	77.5
BL025.24E	8	3	24	4000	0.25	105

Tipo Type	Coppia massima Peak torque [Nm]	Corrente nominale Rated current [A]	Resistenza Resistance [ohm]	Induttanza Inductance [mH]	Corrente massima Peak current [A]	Peso Weight [kg]
BL012.240	0.25	3.5	0.8	1.2	7.0	0.45
BL018.240	0.37	5.0	0.55	0.8	10.0	0.65
BL025.24E	0.5	7.0	0.3	0.5	21	0.8

Azionamenti  
Drives

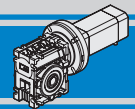


Albero lento cavo / Hollow output shaft

Tipo Type	L0	L1	L2
BL012.240	61	-	-
BL012.240-IE	61	44	105
BL018.240	80.30	-	-
BL018.240-IE	81	56	137
BL025.240	100.3	-	-

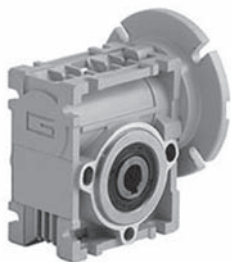
Encoder

Solo per BL025.24E  
Only for BL025.24E



**CM030 con motore brushless**

**CM30 with brushless motor**



CM030			BL032.240				BL043.240			
n <sub>1</sub> =2800 rpm			Coppia nominale Rated torque 24V		Coppia massima Peak torque 24V		Coppia nominale Rated torque 24V		Coppia massima Peak torque 24V	
ir	M <sub>2</sub> [Nm]	Kg	[ Nm ]	[ rpm ]	[ Nm ]	[ rpm ]	[ Nm ]	[ rpm ]	[ Nm ]	[ rpm ]
5	13	1.2	1.42	600	2.84	600	1.91	600	3.82	600
7.5	15		2.11	400	4.22	400	2.84	400	5.67	400
10	16		2.75	300	5.50	300	3.70	300	7.39	300
15	16		4.03	200	8.06	200	5.42	200	10.83	200
20	14		5.18	150	10.36	150	6.96	150	13.92	150
25	15		6.24	120	12.48	120	8.39	120	16.77	120
30	18		7.10	100	14.20	100	9.54	100	19.08	100
40	16		8.96	75	17.92	75	12.04	75	24.08	75
50	15		10.4	60	20.80	60	13.98	60	27.95	60
60	14		11.90	50	23.80	50	15.99	50	31.98	50
80	12		14.59	38	29.18	38	19.61	38	39.21	38
100	11		16.64	30	33.28	30	22.36	30	44.72	30

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

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

Tipo Type	Numero di poli Number of poles	Numero di fasi Number of phase	Tensione Rated voltage [ V ]	Numero di giri Rated speed [ rpm ]	Coppia nominale Rated torque [ Nm ]	Potenza nominale Rated power [ W ]
BL032.240	4	3	24	3000	0.32	100
BL043.240	4	3	24	3000	0.43	130

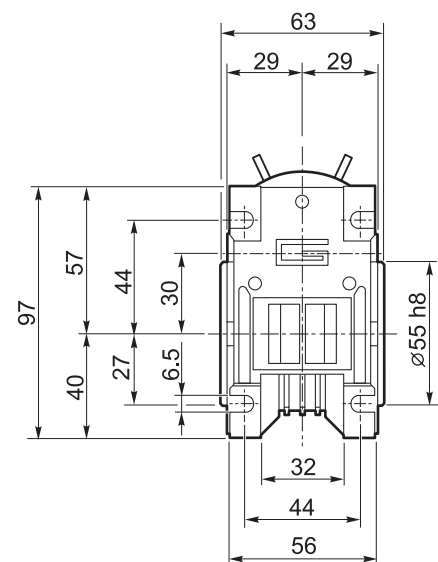
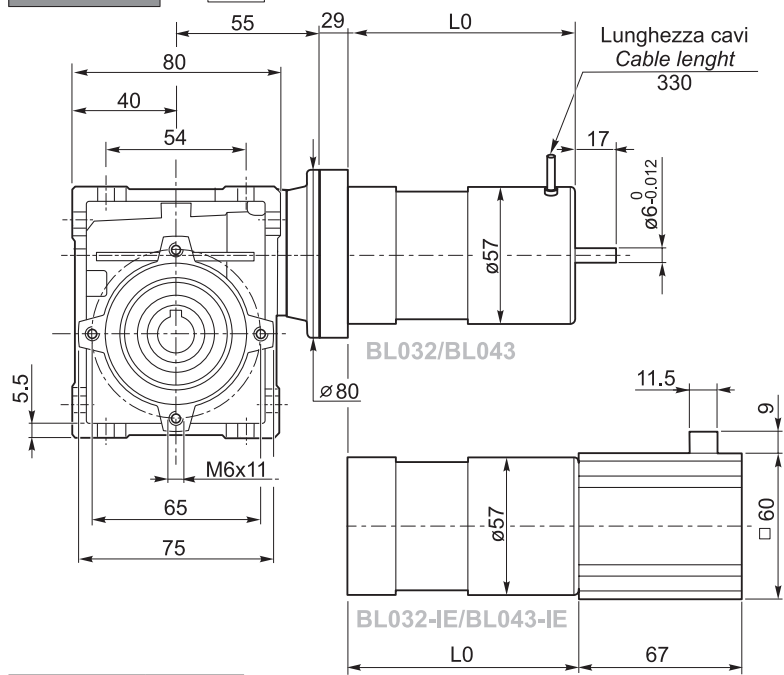
  

Tipo Type	Coppia massima Peak torque [ Nm ]	Corrente nominale Rated current [ A ]	Resistenza Resistance [ ohm ]	Induttanza Inductance [ mH ]	Corrente massima Peak current [ A ]	Peso Weight [ kg ]
BL032.240	0.64	5.0	0.45	1.4	10.0	1.0
BL043.240	0.86	6	0.35	1.0	12.0	1.25

Nota: è possibile alimentare i motori a 36V  
Vedere dati coppia/giri a pag. D14 - D16

Note: Motors can be driven at 36V  
Torque/speed motor data at pag. D14 - D16

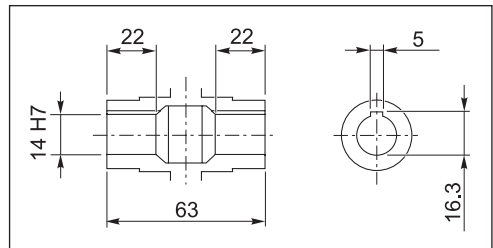
Azionamenti  
Drives



Tipo Type	L0
BL032.240	95
BL032.240-IE	95
BL043.240	115
BL043.240-IE	115

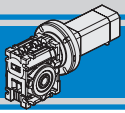
Encoder

Per il montaggio encoder serve flangia AS 294  
Encoder assembling needs flange AS 294



Albero lento cavo / Hollow output shaft

Brushless  
CM

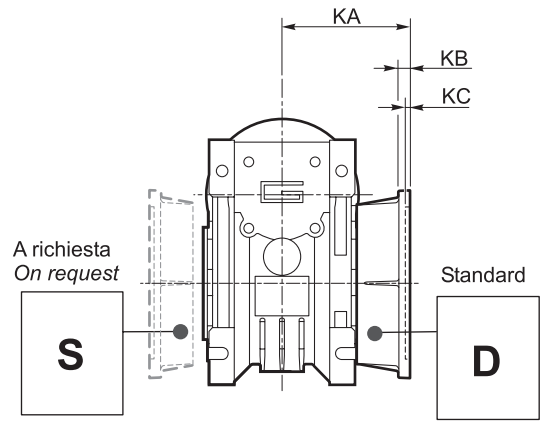
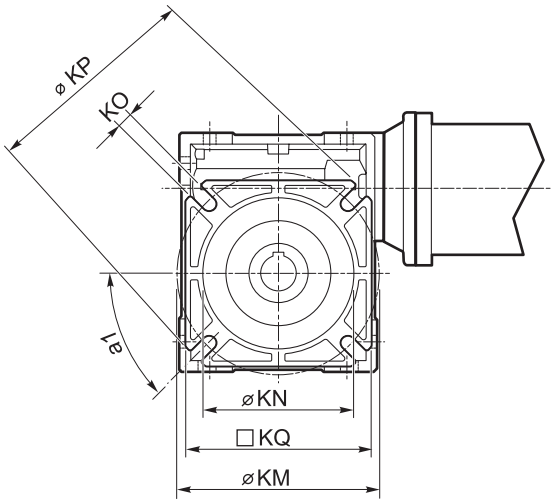


**MICRO MOTORIDUTTORI BRUSHLESS A VITE SENZA FINE**  
**MICRO BRUSHLESS WORMGEARMOTORS**

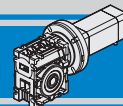
**Dimensioni**

**Dimensions**

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



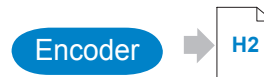
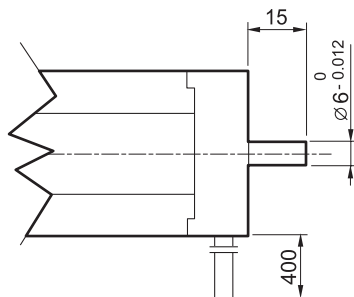
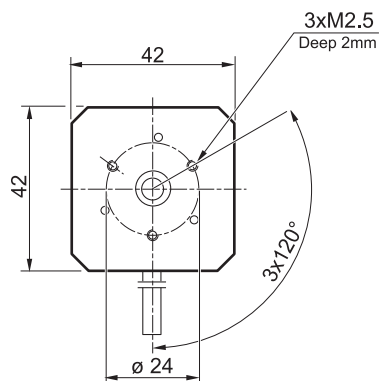
CM	CM..F								
	a1	KA	KB	KC	KM	KN <sub>H8</sub>	KO	KP	KQ
<b>026</b>	45°	45	6	4.5	55-69	40	6.5(n.4)	75	70
<b>030</b>	45°	54.5	6	4	68	50	6.5(n.4)	80	70



**Dimensioni montaggio encoder**

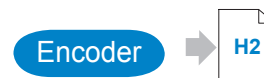
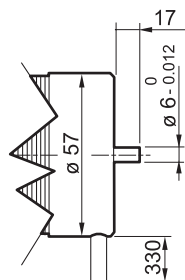
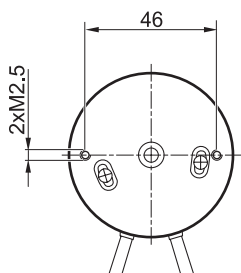
**Encoder assembling dimensions**

**BL025.24E**



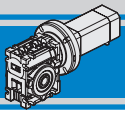
Per il montaggio encoder serve flangia AS 305  
 Encoder assembling needs flange AS 305

**BL032.240/BL043.240**



Per il montaggio encoder serve flangia AS 294  
 Encoder assembling needs flange AS 294



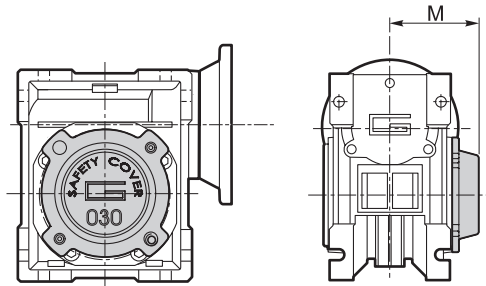
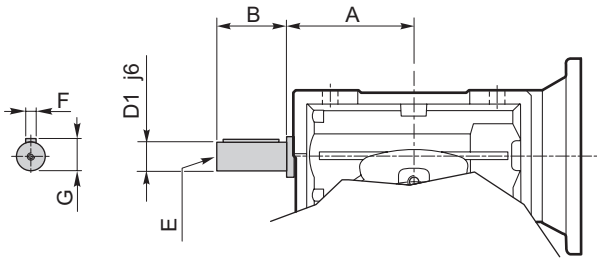


**Opzioni**

**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

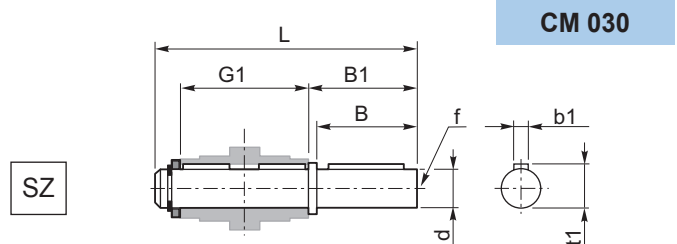
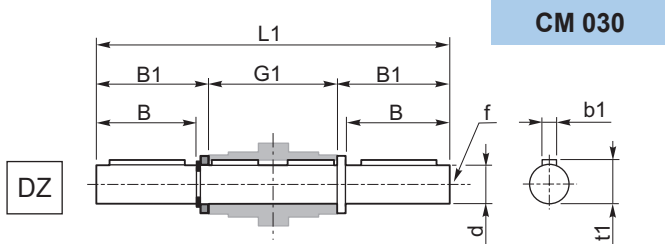
	M
CM 030	47

**Accessori**

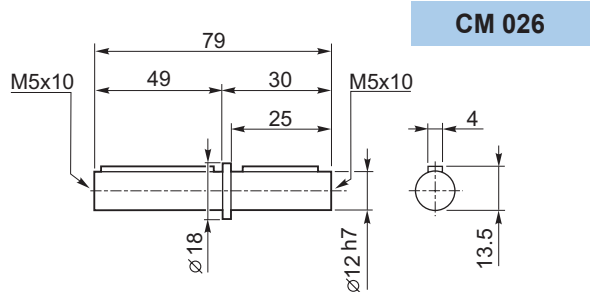
**Accessories**

**Albero lento**

**Output shaft**



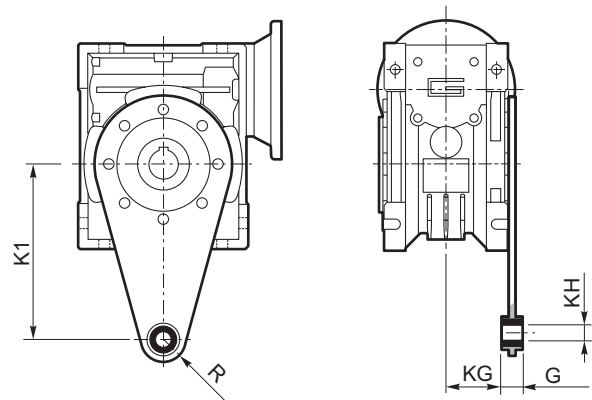
	d h7	B	B1	G1	L	L1	f	b1	t1
CM 030	14	30	32.5	63	102	128	M6	5	16



**Braccio di reazione**

**Torque arm**

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







# INTECNO

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