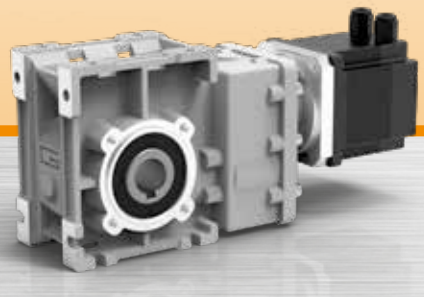
MINI TECNO
small but strong

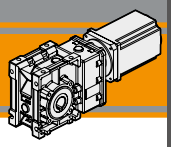
BLCMB

Motoriduttori brushless CC ad assi ortogonali
Brushless DC helical bevel gearmotors



MINI TECNO brand of TRANSTECNO®

BLDC



ENERGY SAVING

Caratteristiche tecniche

Technical features

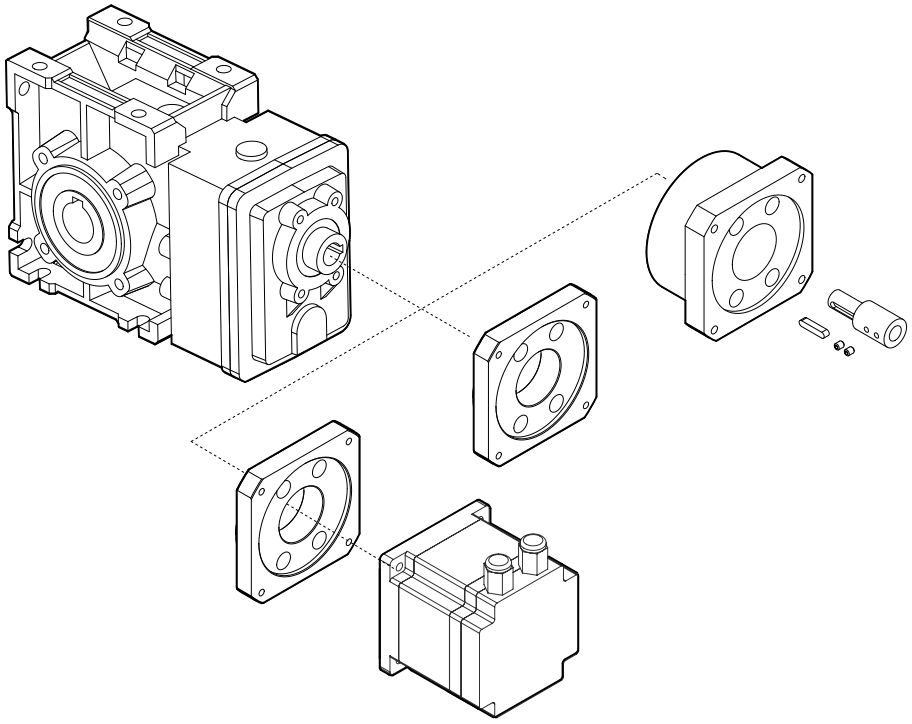
Le caratteristiche principali dei motoriduttori brushless CC ad assi ortogonali della serie BLCMB sono:

- 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

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

- *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 sinthetic oil long life lubrication*
- *Die-cast aluminium housing*
- *Ground-hardened helical gears.*
- *Gearbox only version also available, with either standard input flange or customized flange and coupling*

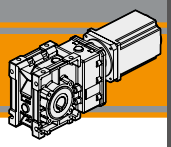
ENERGY SAVING



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*	CB10	**BLS043.240** **BL070.480** **BL140.480**	**24V - 36V** **48V** **48V**



Simbologia — *Symbols*

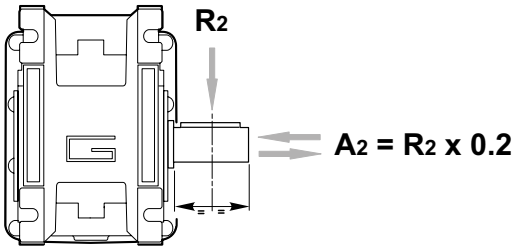
Ns		n° stadi / *No. stages*
ir		rapporto reale / *real ratio*
M_2	[Nm]	coppia in uscita *output torque*
A_2	[N]	Carico assiale ammissibile in uscita Permitted output *axial load*
R_2	[N]	Carico radiale ammissibile in uscita *Permitted output radial load*
Pn_1	[kW]	Potenza nominale in entrata *Nominal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

Lubrificazione e temperaura — *Lubrication and temperature*

I motoriduttori 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 lubrification (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.

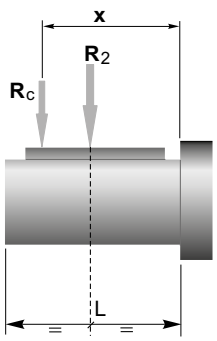
Carichi radiali — *Radial loads*



n_2 [min^{-1}]	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 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_{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

CMB402 con motore brushless

CMB402 with brushless motor

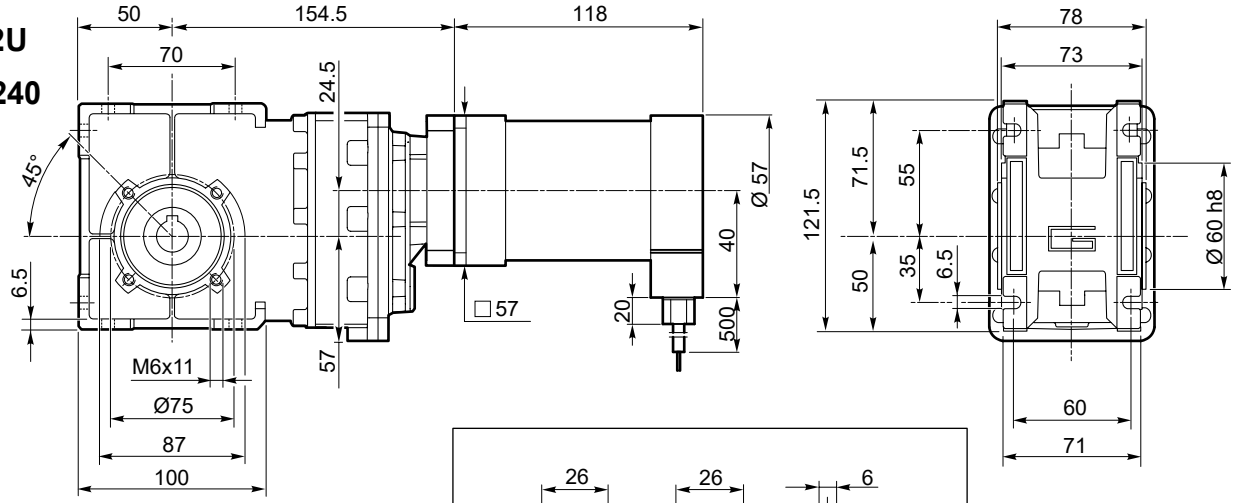
CMB402	BLS043.240												
	24V							36V					
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf			M_2 [Nm]	sf		M_2 [Nm]	sf	
6.2	49	2.5	18.4	486	2.5	12.5		65	2.5	18.4	648	2.5	11.1	
7.5	40	3.0	15.2	400	3.0	10.3		53	3.0	15.2	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	3000	17	9.7	6.5	167	9.7	3.9	4000
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	

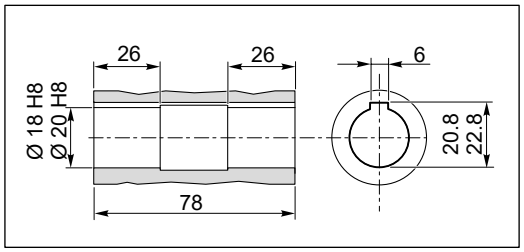
Tipo *Type*	Numero di poli *Number of poles*	Numero di fasi *Number of phase*	Tensione *Rated voltage [V]*	Numero di giri *Rated speed* [rpm]	Coppia nominale *Rated torque* [Nm]	Potenza nominale *Rated power* [W]
BLS043.240	4	3	36	4000	0.43	180
			24	3000		130

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

Azionamenti *Drives* → CF2

CMB402U + BLS043.240



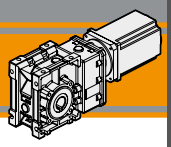


Albero lento cavo / *Hollow output shaft*

Kg 4.7

CB9 → **CMB402..F**
CMB402..FL
CMB402..FB

CB8 → **CMB402..AS...**



CMB402 con motore brushless

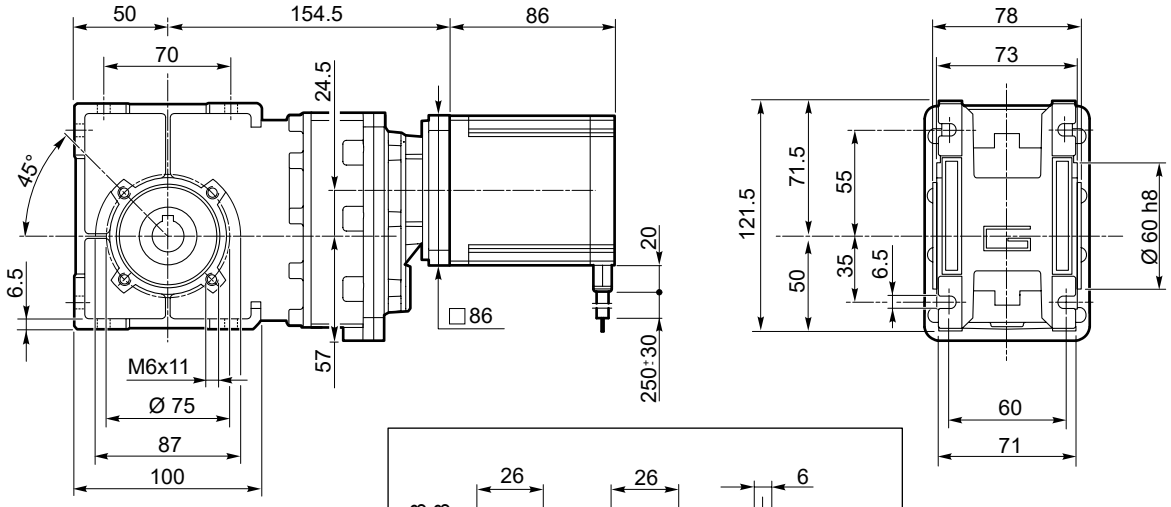
CMB402 with brushless motor

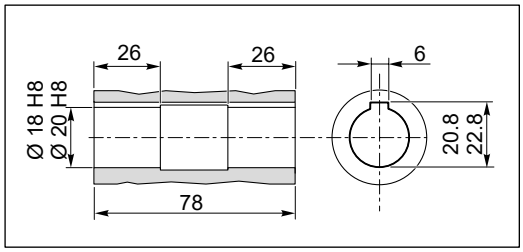
CMB402	BL070.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.2	49	4.1	11.3	486	4.1	7.7	3000
7.5	40	4.9	9.3	400	4.9	6.3	
9.2	33	6.1	7.6	326	6.1	5.2	
11.8	25	7.8	6.6	254	7.8	4.5	
12.5	24	8.2	6.3	240	8.2	4.3	
14.8	20	9.8	5.3	202	9.8	3.6	
17.6	17	12	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* → CF5

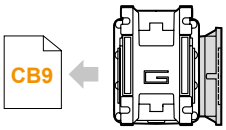
CMB402U + BL070.480





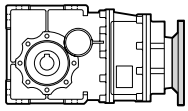
Albero lento cavo / *Hollow output shaft*

Kg 5.5



CB9

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



CB8

CMB402..AS...

CMB402 con motore brushless — *CMB402 with brushless motor*

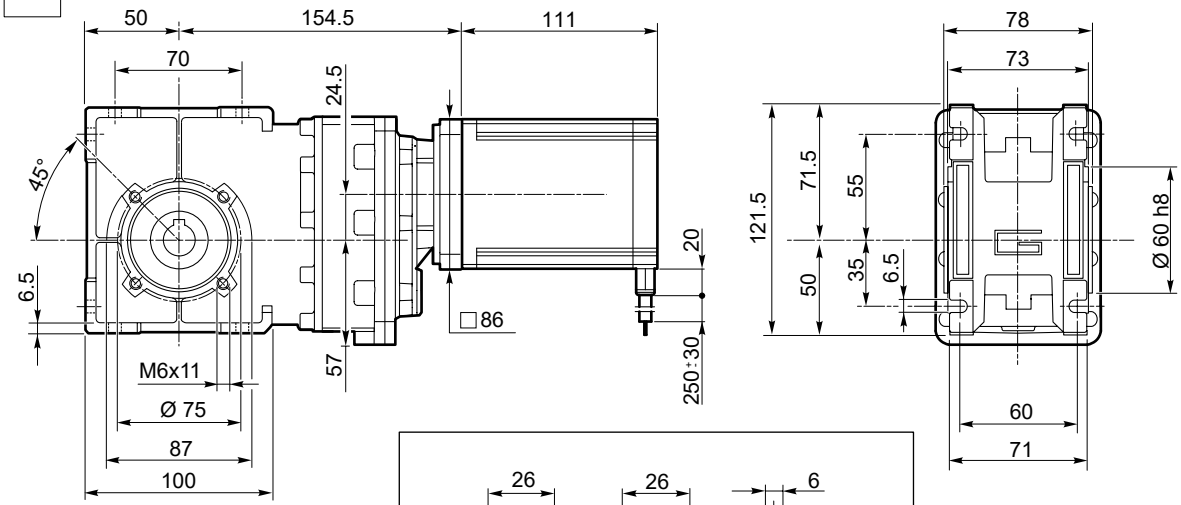
CMB402	BL140.480						
	48V						
ir	n_{2MIN} [rpm]			n_{2MAX} [rpm]			n_{1MAX} [rpm]
		M_2 [Nm]	sf		M_2 [Nm]	sf	
6.2	49	8.1	5.7	486	8.1	3.8	3000
7.5	40	9.9	4.7	400	9.9	3.2	
9.2	33	12.1	3.8	326	12.1	2.6	
11.8	25	15.6	3.3	254	15.6	2.3	
12.5	24	16.4	3.1	240	16.4	2.1	
14.8	20	19.5	2.7	202	19.5	1.8	
17.6	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	

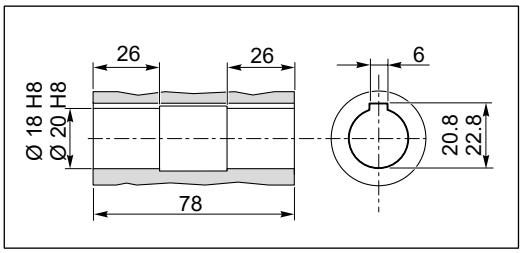
Attenzione: superamento della coppia nominale supportata dal riduttore per servizio S1. Contattare il ns. servizio tecnico
Attention: rated torque withstood by gear reducer for service in S1 is exceeded. Please. contact our technical office.

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



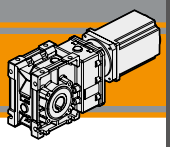


Albero lento cavo / *Hollow output shaft*

Kg 6.5

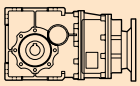
CB9 → **CMB402..F**
CMB402..FL
CMB402..FB

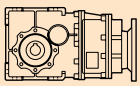
CB8 → **CMB402..AS...**



Dati tecnici

Technical data

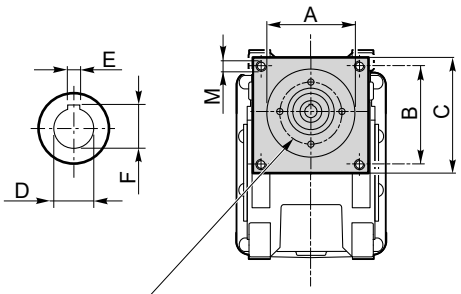
	n_2 [min^{-1}]	Mn_2 [Nm]	Pn_1 [kW]	i
CMB 402				
n1 = 1400 rpm	**227**	40	1.0	6.18
	187	40	0.83	7.49
	152	40	0.68	9.2
	118	45	0.59	11.83
	112	45	0.56	12.48
	94.4	45	0.47	14.83
	79.4	45	0.40	17.63
	75.3	55	0.46	18.6
	62.7	55	0.38	22.33
	58.6	55	0.36	23.91
	48.5	65	0.35	28.89
	45.4	65	0.33	30.84
	41.7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

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

Dimensioni CMB con flange motore AS

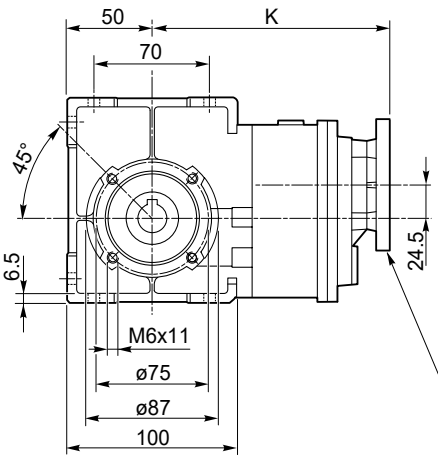
CMB dimensions with motor flanges AS

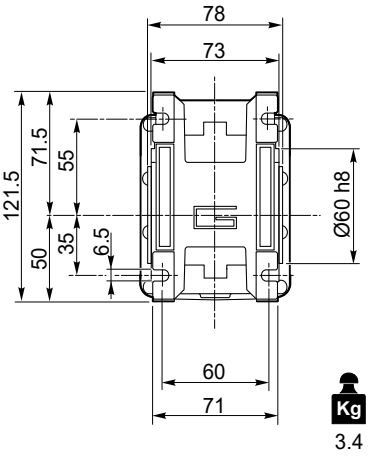
CMB402 - U - AS...



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

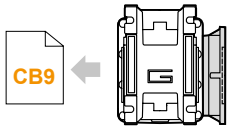
Connection with sleeve or coupling depending on motorshaft's diameter.





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

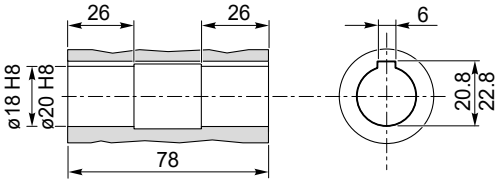
Flange's thickness may vary depending on motorshaft's lenght.



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

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

Albero uscita cavo
Hollow output shaft

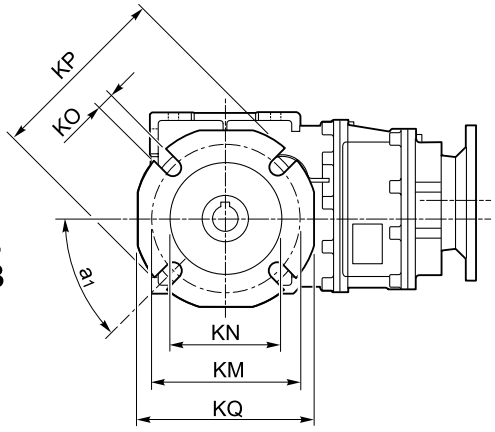


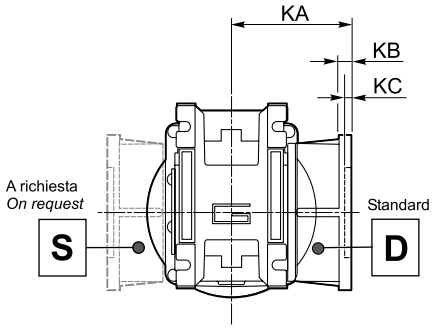
Flange uscita

Output flange

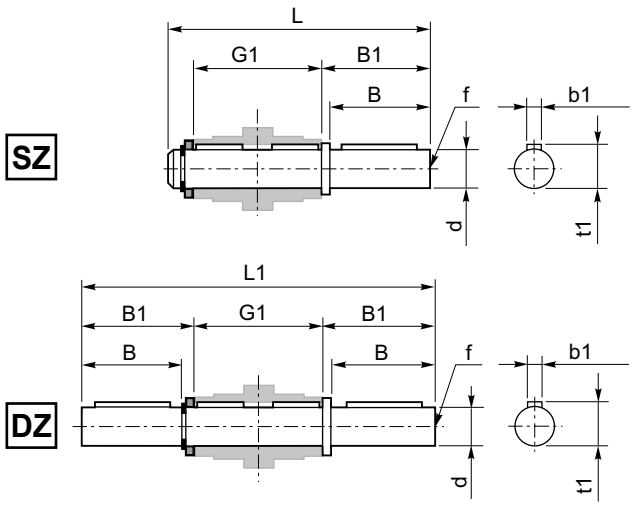
	Flange uscita / *Output flanges*																										
	F									**FL**									**FB**								
CMB	**a_1**	**KA**	**KB**	**KC**	**KM**	**KN** H8	**KO**	**KP**	**KQ**	**a_1**	**KA**	**KB**	**KC**	**KM**	**KN** H8	**KO**	**KP**	**KQ**	**a_1**	**KA**	**KB**	**KC**	**KM**	**KN** H8	**KO**	**KP**	**KQ**
402	45°	67	7.5	4.5	80-95	60	9	110	95	45°	97	7.5	4.5	80-95	60	9	110	95	45°	80	8.5	5	115-125	95	9.5	140	112

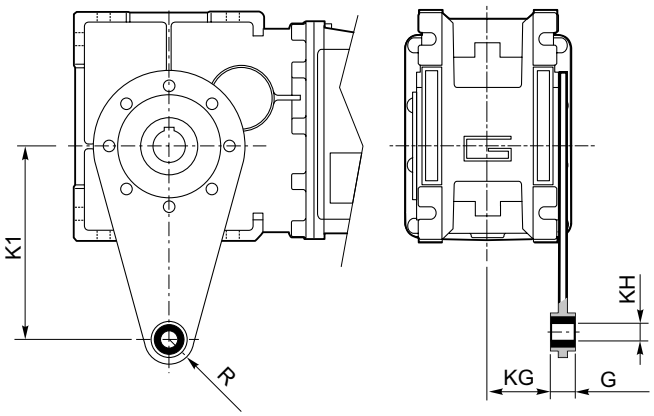
CMB..F
CMB..FL
CMB..FB





Accessori — *Accessories*





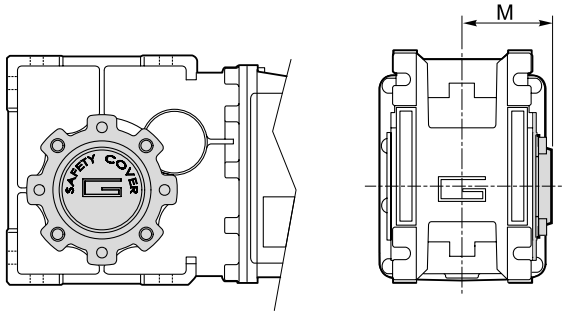
Albero lento / *Output shaft*

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

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