TRANSTECNO®
the modular gearmotor

NDCM

NDCM

NDCM Alü

Neodymium

Motoriduttori CC a vite senza fine
DC wormgearmotors

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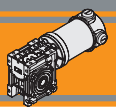

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Caratteristiche tecniche

Technical features

Le caratteristiche principali dei motoriduttori CC a vite senza fine a magneti permanenti in neodimio NDCM sono:

- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder e freno
- Potenze motore disponibili da 160 a 250 W S2
- Magneti in Neodimio
- Carcasse dei riduttori a vite senza fine in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico

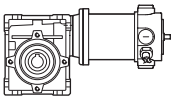
The main features of NDCM neodymium permanent magnets DC wormgearmotors range are:

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

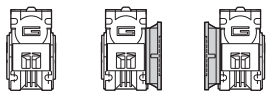
Designazione

Classification

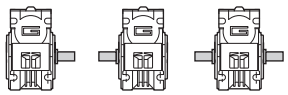
MOTORIDUTTORE / *GEARMOTOR*

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*
NDCM 	**120/026** **120/026 (D11)** **120/026 (D14)** **120/030** **120/040** **180/026** **180/026 (D11)** **180/026 (D14)** **180/030** **180/040**	**U** **F...**	Vedere tabella *See tables*	**SZDX** **SZSX** **DZ**	**BRDX** **BRSX** (*)	**0°** **90°** **180°** **270°**	**120 — 240**	**VS**

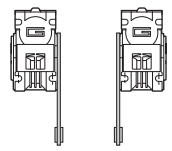
Versione Riduttore *Gearbox Version*



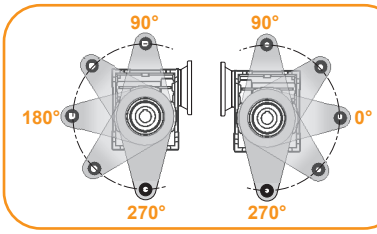
Albero di uscita *Output shaft*



Braccio di reazione (*) *Torque arm*



Angolo *Angle*



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

Simbologia

Symbols

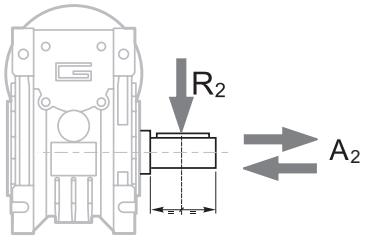
n_1	[min^{-1}]	Velocità in ingresso / *Input speed*	Rd	%	Rendimento dinamico / *Dynamic efficiency*
n_2	[min^{-1}]	Velocità in uscita / *Output speed*	A_2	N]	Carico assiale ammissibile in uscita / *Permitted output axial load*
i		Rapporto di riduzione / *Ratio*	Rs	%	Rendimento statico / *Static efficiency*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

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*

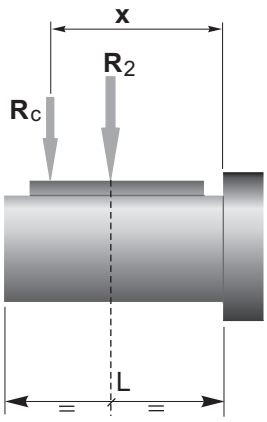


$A_2 = R_2 \times 0.2$

n_2 [min^{-1}]	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 mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

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



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

$$R \leq R_c$$

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

	CM		
	026	030	040
a	56	65	84
b	43	50	64
R_{2MAX}	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		
	β	34° 35'	24° 41'	19° 1'	12° 57'	10° 30'		6° 33'	5° 17'	4° 26'	3°49'		
CM030	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	27° 4'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3° 46'	2° 57'	2° 25'
CM040	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	34° 19'	24° 28'	18° 50'	12° 49'	10° 23'	8° 43'	6° 29'	5° 14'	4° 23'	3°46'	2° 57'	2° 25'

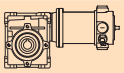
Rendimento — *Efficiency*

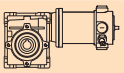
	n_1 [min^{-1}]	Rendimento *Efficiency*	Rapporto / *Ratio*											
			5	**7.5**	**10**	**15**	**20**	**25**	**30**	**40**	**50**	**60**	**80**	**100**
CM026	2800	Rd	89	87	85	83	80		73	68	64	60		
	1400		87	84	83	78	74		66	61	57	53		
	900		84	83	80	75	71		61	57	52	48		
		Rs	72	71	68	61	56		46	41	36	34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

Technical data for S2 duty

P_1 [W]	n_2 [min^{-1}]	M_2 [Nm]	sf	i		Versione motore *Motor version*
160						
(3000 min^{-1})	**600**	2	4.4	5	**120/026**	**120/240**
	400	3	3.3	7.5	**120/026**	
	300	4	2.5	10	**120/026**	
	200	6	1.7	15	**120/026**	
	150	8	1.3	20	**120/026**	
	100	11	1.1	30	**120/026**	
	75	14	0.8	40	**120/026**	
	60	14	0.7	50	**120/026**	
	50	13	0.7	60	**120/026**	
	600	2	5.7	5	**120/030**	**120/240**
	400	3	4.5	7.5	**120/030**	
	300	4	3.7	10	**120/030**	
	200	6	2.5	15	**120/030**	
	150	8	1.7	20	**120/030**	
	120	10	1.5	25	**120/030**	
	100	11	1.6	30	**120/030**	
	75	14	1.1	40	**120/030**	
	60	17	0.9	50	**120/030**	
	50	20	0.7	60	**120/030**	
	38	17	0.7	80	**120/030**	
	30	16	0.7	100	**120/030**	
	150	8	3.7	20	**120/040**	**120/240**
	120	10	2.7	25	**120/040**	
	100	12	3.2	30	**120/040**	
	75	15	2.3	40	**120/040**	
	60	18	1.8	50	**120/040**	
	50	20	1.4	60	**120/040**	
	38	24	1.1	80	**120/040**	
	30	29	0.8	100	**120/040**	

P_1 [W]	n_2 [min^{-1}]	M_2 [Nm]	sf	i		Versione motore *Motor version*
250						
(3000 min^{-1})	**600**	4	2.8	5	**180/026**	**120/240**
	400	5	2.1	7.5	**180/026**	
	300	7	1.6	10	**180/026**	
	200	10	1.1	15	**180/026**	
	150	13	0.9	20	**180/026**	
	100	17	0.7	30	**180/026**	
	75	16	0.7	40	**180/026**	
	60	14	0.7	50	**180/026**	
	50	13	0.7	60	**180/026**	
	600	4	3.7	5	**180/030**	**120/240**
	400	5	2.9	7.5	**180/030**	
	300	7	2.3	10	**180/030**	
	200	10	1.6	15	**180/030**	
	150	13	1.1	20	**180/030**	
	120	16	1.0	25	**180/030**	
	100	18	1.0	30	**180/030**	
	75	22	0.7	40	**180/030**	
	60	21	0.7	50	**180/030**	
	50	20	0.7	60	**180/030**	
	38	17	0.7	80	**180/030**	
	30	16	0.7	100	**180/030**	
	600	4	8.1	5	**180/040**	**120/240**
	400	5	5.8	7.5	**180/040**	
	300	7	4.8	10	**180/040**	
	200	10	3.5	15	**180/040**	
	150	13	2.3	20	**180/040**	
	120	16	1.8	25	**180/040**	
	100	18	2.1	30	**180/040**	
	75	23	1.5	40	**180/040**	
	60	27	1.2	50	**180/040**	
	50	32	0.9	60	**180/040**	
	38	38	0.7	80	**180/040**	
	30	34	0.7	100	**180/040**	

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

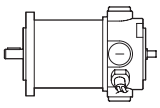
N.B.
Please check that the output torque M2 does not exceed the value in the grey areas

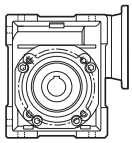
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

Motori applicabili

IEC Motor adapters



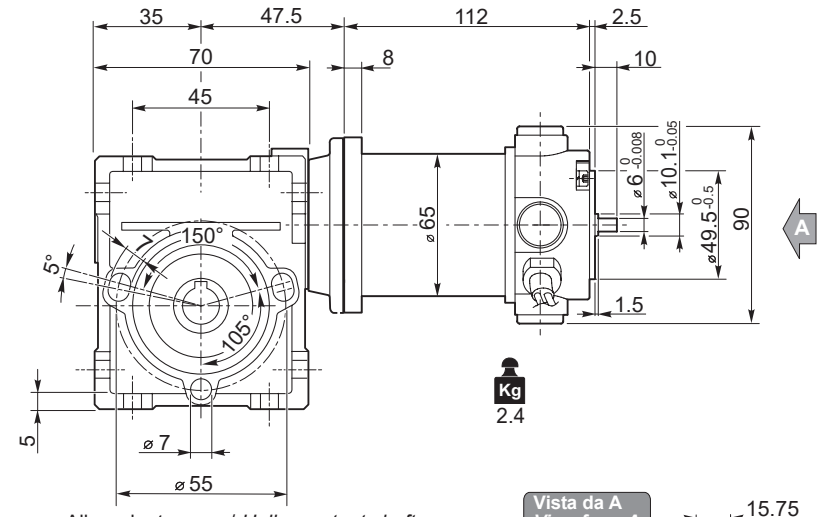


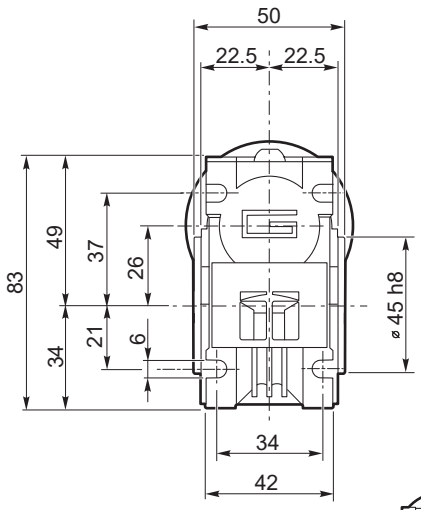
		ND	
		120.120 120.240	**180.120 180.240**
CM	**026**	5 - 60	5 - 60
	030	5 - 100	5 - 100
	040	5 - 100	5 - 100

5-100 Rapporti di riduzione i
Ratio i

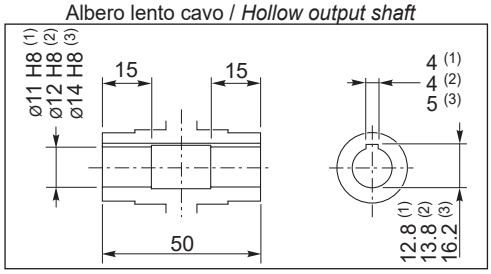
Dimensioni | ***Dimensions***

NDCM120/026 U



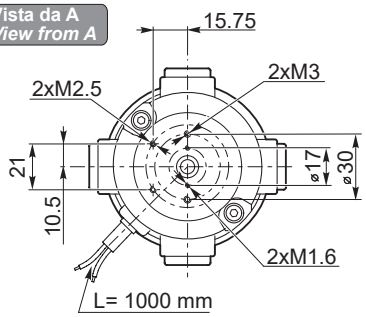


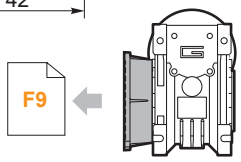
Albero lento cavo / *Hollow output shaft*



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

Vista da A / *View from A*



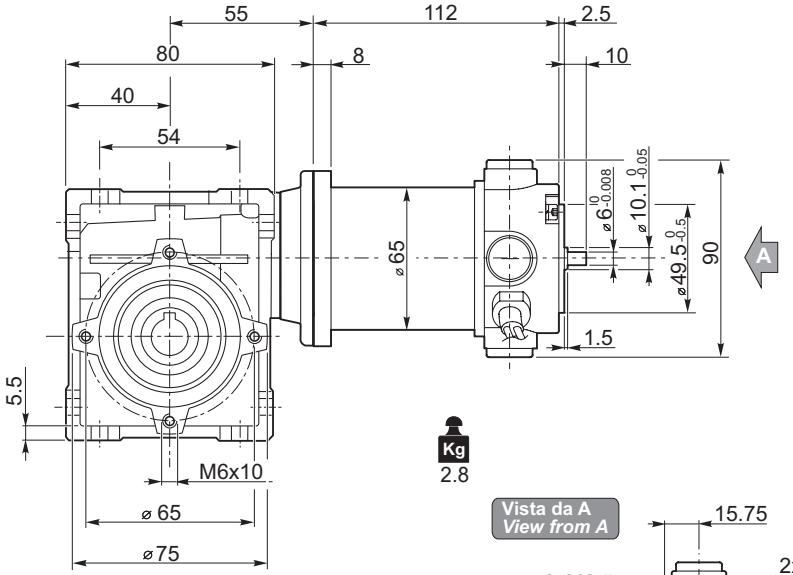


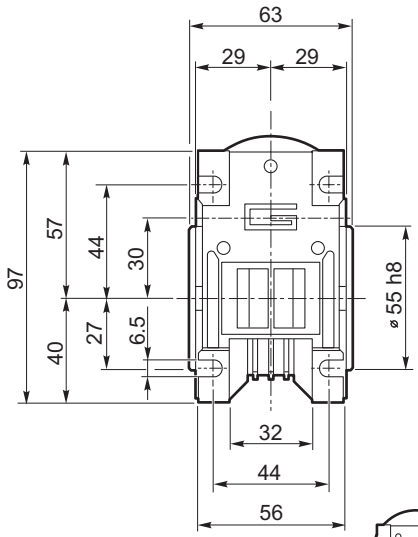
NDCM120/026 F...

Freno / *Brake* → B9

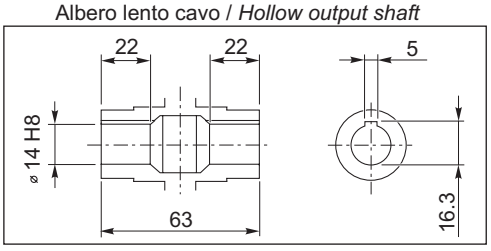
Encoder → B9

NDCM120/030 U

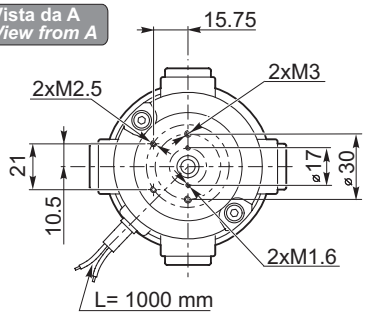


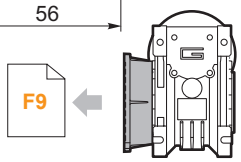


Albero lento cavo / *Hollow output shaft*



Vista da A / *View from A*





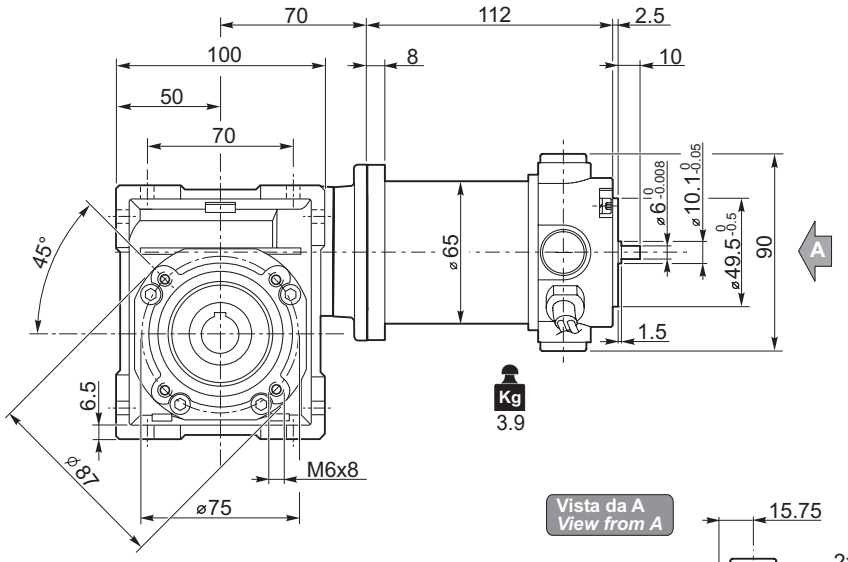
NDCM120/030 F

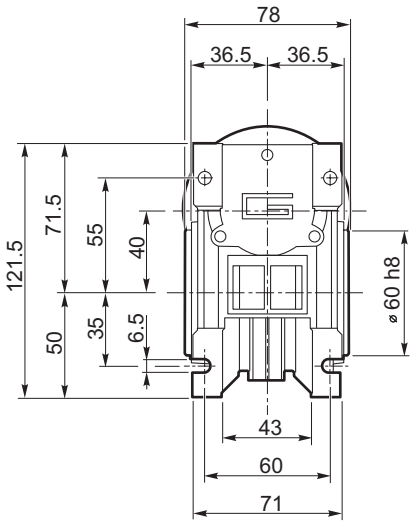
Freno / *Brake* → B9

Encoder → B9

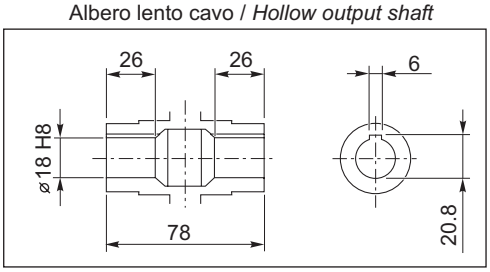
Dimensioni — *Dimensions*

NDCM120/040 U

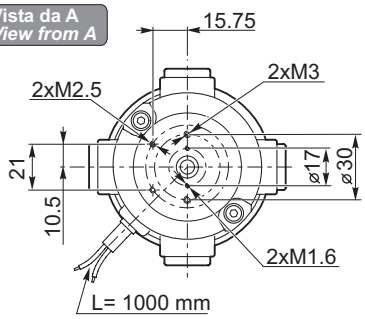


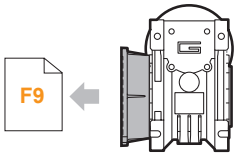


Albero lento cavo / *Hollow output shaft*



Vista da A / *View from A*





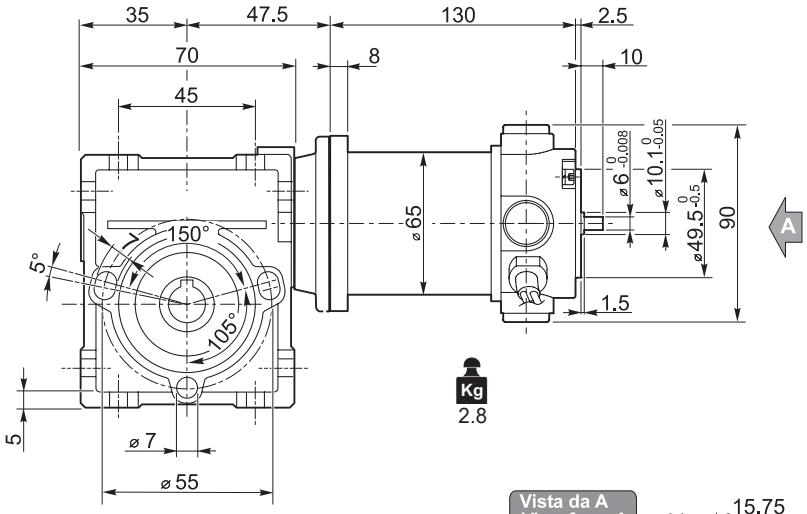
NDCM120/040 F
NDCM120/040 FB
NDCM120/040 FL

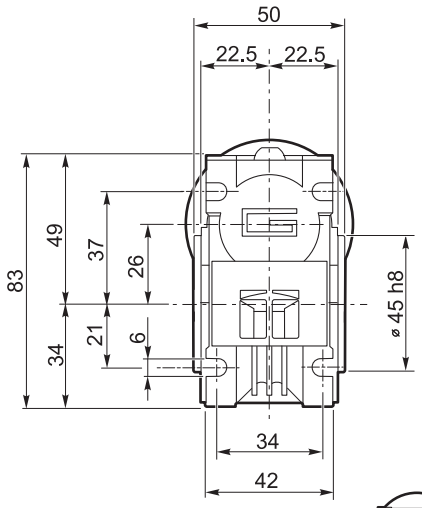
Freno / *Brake* → B9

Encoder → B9

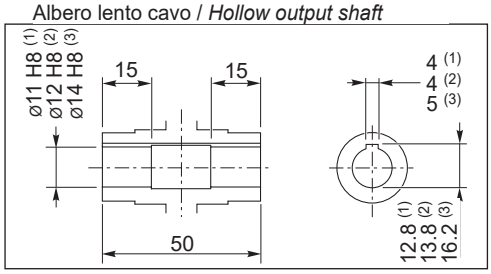
Dimensioni *Dimensions*

NDCM180/026 U

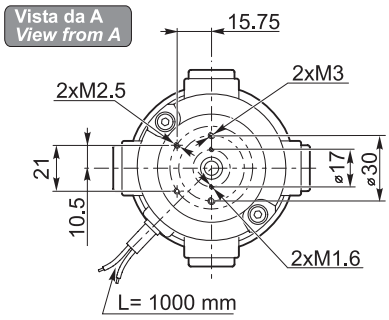


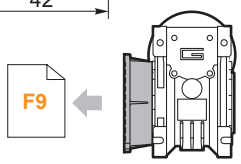


Albero lento cavo / *Hollow output shaft*



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



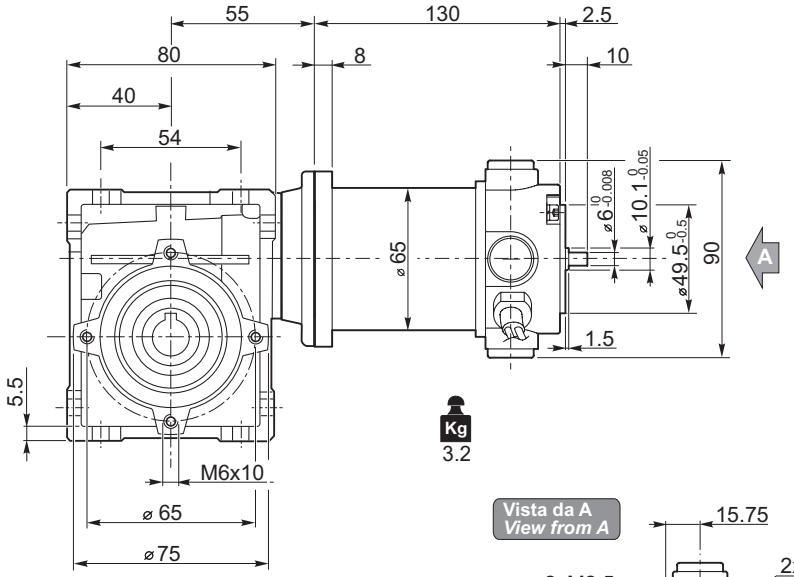


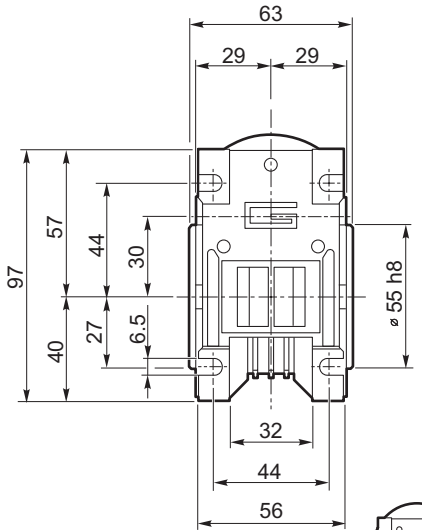
NDCM180/026 F...

Freno / *Brake* B9

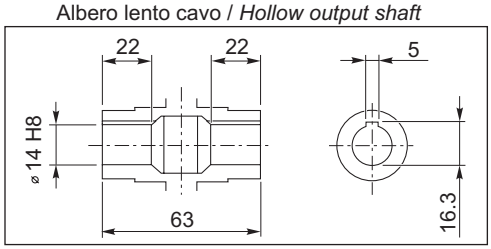
Encoder B9

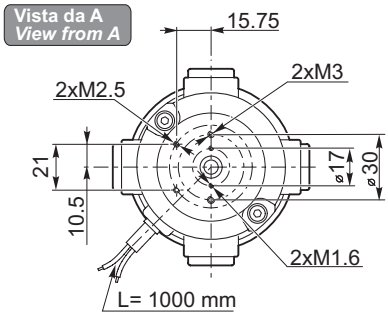
NDCM180/030 U

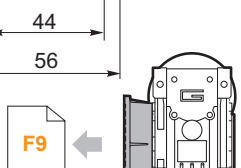




Albero lento cavo / *Hollow output shaft*







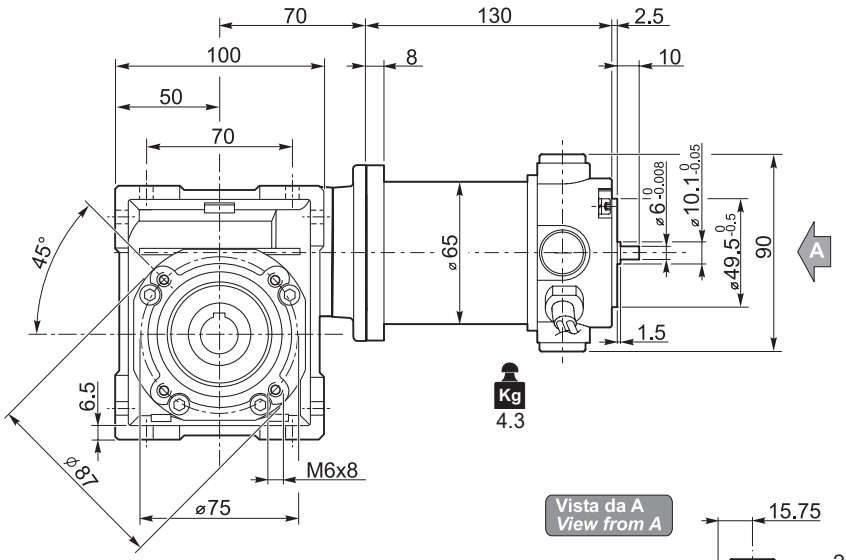
NDCM180/030 F

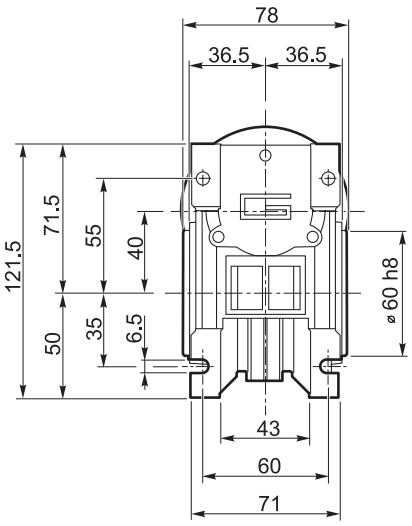
Freno / *Brake* B9

Encoder B9

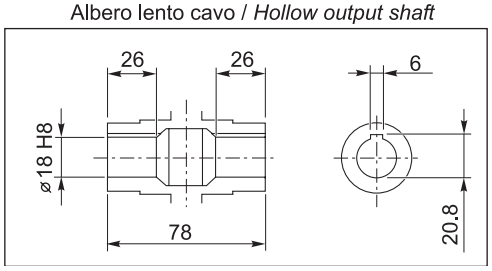
Dimensioni *Dimensions*

NDCM180/040 U

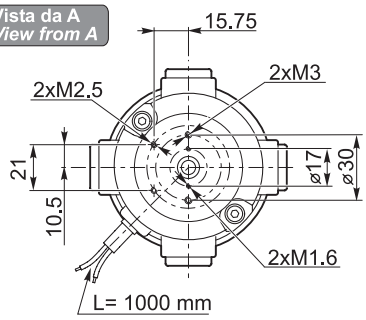




Albero lento cavo / *Hollow output shaft*



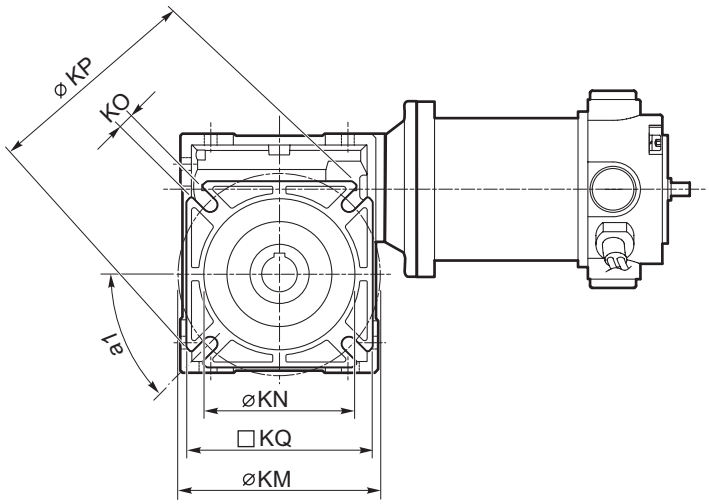
Vista da A / *View from A*

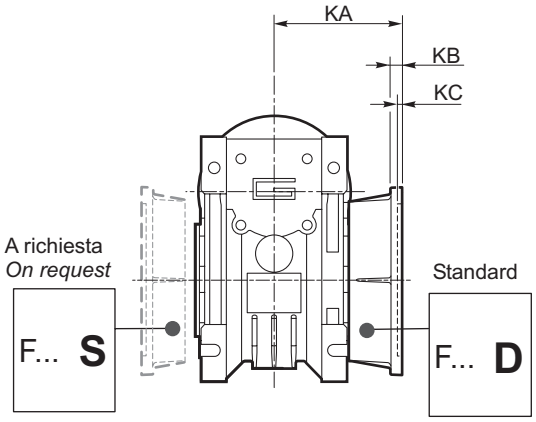


Freno / *Brake* → B9

Encoder → B9

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



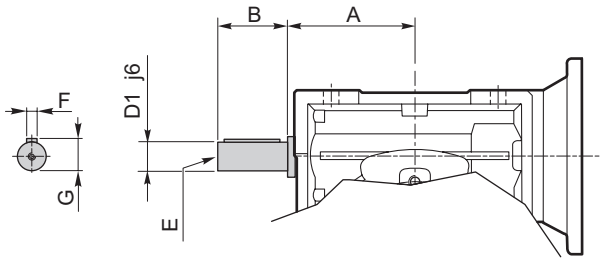


		CM..F								CM..F28								CM..F30							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
026 (D11) 026 026 (D14)	45°	45	6	4.5	55-69	40	6.5(n.4)	75	70	44	6.5	5	56-64	40	6.5	70	60	48	6.5	5	68	50	6.5	80	70

		CM..F								CM..FB								CM..FL							
	a1	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ	KA	KB	KC	KM	KN H8	KO	KP	KQ
030	45°	54.5	6	4	68	50	6.5(n.4)	80	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
040	45°	67	7.5	4.5	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	10(n.4)	110	95

Opzioni / *Options*

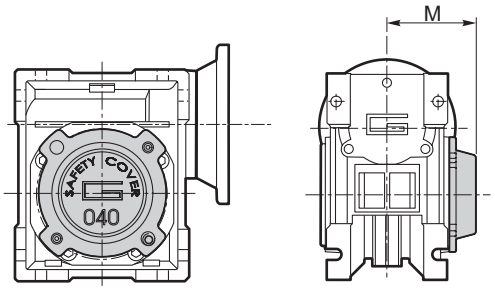
VS - Vite sporgente / *Extended input shaft*



	A	B	D_1 j6	E	F	G
CM 030	45	20	9	M4	3	10.2
CM 040	53	23	11	M5	4	12.5

Costruito su richiesta
Built on request

SC - *Safety cover*

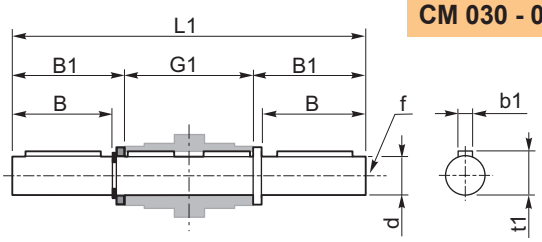


	M
CM 030	47
CM 040	54.5

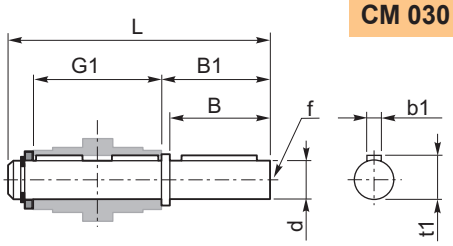
Accessori / *Accessories*

Albero lento / *Output shaft*

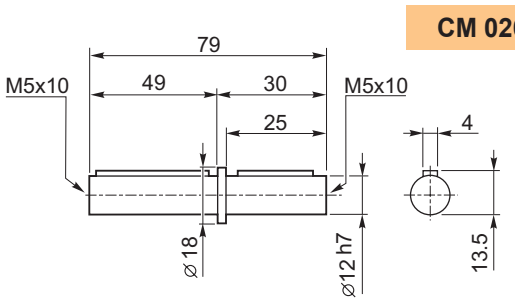
DZ



SZ



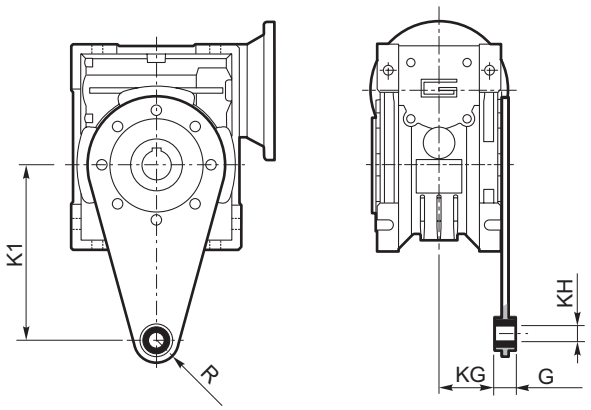
	d h7	B	B1	G1	L	L1	f	b1	t1
CM 030	14	30	32.5	63	102	128	M6	5	16
CM 040	18	40	43	78	128	164	M6	6	20.5



(*)
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



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