TRANSTECNO®
the modular gearmotor

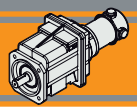
NDCMG

NDCMG

NDCMG Alü

Neodymium

Motoriduttori CC ad ingranaggi cilindrici
DC helical in-line gearmotors



ENERGY SAVING

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

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Caratteristiche tecniche

Le caratteristiche principali dei motoriduttori CC ad ingranaggi cilindrici a magneti permanenti in neodimio NDCMG sono:

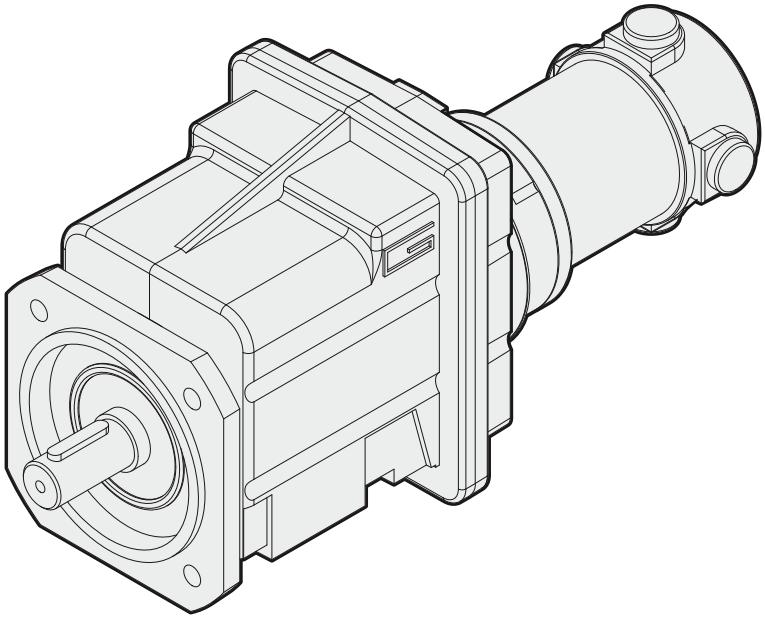
- Alimentazione in bassa tensione 12/24 Vcc
- Possibilità di montaggio encoder
- Potenze motore disponibili da 160 a 250W S2
- Magneti in Neodimio
- Carcasse dei riduttori in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Ingranaggi sempre rettificati

Technical features

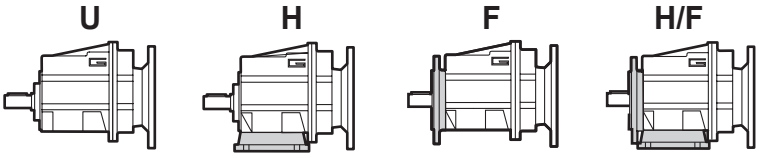
The main features of NDCMG neodymium permanent magnets DC helical in-line gearmotors range are:

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

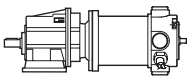
ENERGY SAVING



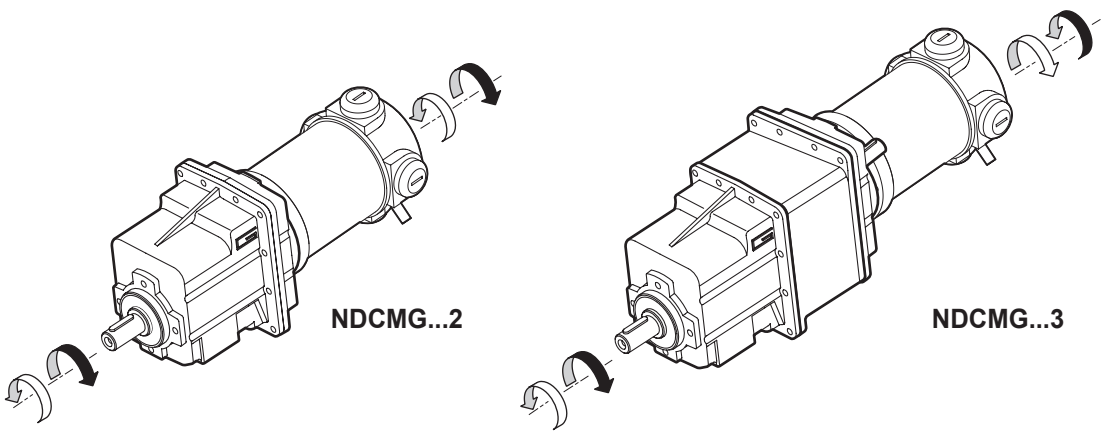
Designazione — *Classification*



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** **120/012** **120/013** **120/022** **120/023** **120/033** **120/043** **180/002** **180/012** **180/013** **180/022** **180/023** **180/033** **180/043**	**U...** **H...** **F...** **H.../F...**	vedi tabelle *see tables*	vedi tabelle *see tables*	**120** **240**

Sensi di rotazione — *Direction of rotation*



Lubrificazione — *Lubrication*

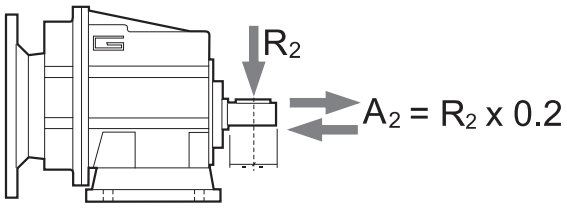
Tutti i riduttori nelle taglie 002 sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

Permanent synthetic oil long-life lubrication (viscosity grade 320) makes it possible to use sizes 002 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^{-1}]	Velocità in ingresso / *Input speed*
n_2	[min^{-1}]	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*

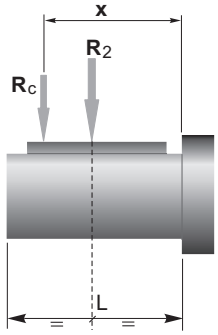
Carichi radiali — *Radial loads*



n_2 [min^{-1}]	R_2 [N]				
	CMG 00	CMG 01	CMG 02	CMG 03	CMG 04
700	416	764	1529	1987	2379
600	437	805	1609	2092	2504
500	465	855	1710	2223	2661
400	501	921	1842	2395	2866
250	586	1077	2154	2801	3353
180	653	1323	2554	3321	3897
150	748	1406	2714	3529	4244
120	806	1631	3467	3801	4572
100	958	1842	3684	4507	5234
80	1032	1984	3969	5042	5991
60	1136	2184	4368	5549	6594
40	1300	2500	5000	6500	8000
10	1300	2500	5000	6500	8000

Quando il carico radiale risultante non è applicato sulla 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 00	CMG 01	CMG 02	CMG 03	CMG 04
a	73	104	117	132	150
b	53	84	92	102	115
R_{2MAX}	1300	2500	5000	6500	8000

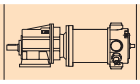
$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

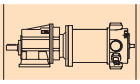
$$R \leq R_c$$

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

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})	**596**	2.5	12.6	5.03	**120/002**	120/240
	492	3.0	10.4	6.10		
	401	3.7	8.5	7.49		
	334	4.4	8.9	8.99		
	295	5.0	7.9	10.16		
	249	5.9	6.6	12.07		
	224	6.6	8.4	13.40		
	198	7.4	7.4	15.14		
	165	8.9	6.2	18.17		
	139	11	5.2	21.58		
	128	12	4.8	23.51		
	120	12	4.5	25.10		
	111	13	4.2	27.08		
	92	16	3.5	32.49		
	71	21	2.7	42.04		
	67	22	2.5	44.89		
	61	24	2.3	48.86		
	54	27	2.0	55.10		
	85	17	5.4	35.47	**120/012**	120/240
	65	22	4.2	45.89		
	61	24	3.9	49.00		
	56	26	3.6	53.33		
	50	29	3.2	60.15		
	47	30	3.1	63.22	**120/013**	120/240
	40	36	2.6	75.08		
	34	43	2.2	89.17		
	27	54	1.7	113.05		
	22	64	1.5	134.27		
	17	83	1.1	173.72		
	15	97	1.0	202.16		
	11	125	0.8	261.57		
	10	134	0.7	304.00		
	7.6	134	0.7	393.33		
	6.8	134	0.7	443.59		
	33	43	3.6	90.29	**120/023**	120/240
	26	55	2.8	114.46		
	22	65	2.4	135.95		
	17	84	1.9	175.89		
	15	98	1.6	204.69		
	11	127	1.2	264.84		
	10	147	1.1	307.80		
	7.5	191	0.8	398.25		
	6.7	215	0.7	449.14		
	17	83	2.8	174.26	**120/033**	120/240
	13	108	2.2	225.47		
	11	125	1.9	262.05		
	9.2	156	1.5	325.79		
	7.9	181	1.3	378.64		
	7.0	204	1.1	427.03		
	11	125	3.1	262.05	**120/043**	120/240
	9.2	156	2.5	325.79		
	7.9	181	2.2	378.64		
	7.0	204	1.9	427.03		

P_1 [W]	n_2 [min^{-1}]	M_2 [Nm]	sf	i		Versione motore *Motor version*
250						
(3000 min^{-1})	**596**	3.8	8.1	5.03	**180/002**	120/240
	492	4.7	6.7	6.10		
	401	5.7	5.4	7.49		
	334	6.9	5.7	8.99		
	295	7.8	5.0	10.16		
	249	9.2	4.2	12.07		
	224	10	5.4	13.40		
	198	12	4.8	15.14		
	165	14	4.0	18.17		
	139	17	3.3	21.58		
	128	18	3.1	23.51		
	120	19	2.9	25.10		
	111	21	2.7	27.08		
	92	25	2.2	32.49		
	71	32	1.7	42.04		
	67	34	1.6	44.89		
	61	37	1.5	48.86		
	127	18	5.2	23.56	**180/012**	120/240
	101	23	4.2	29.56		
	85	27	3.5	35.47		
	65	35	2.7	45.89		
	61	37	2.5	49.00		
	56	41	2.3	53.33		
	50	46	2.0	60.15		
	47	47	2.0	63.22	**180/013**	120/240
	40	56	1.7	75.08		
	34	67	1.4	89.17		
	27	85	1.1	113.05		
	22	100	0.9	134.27		
	17	130	0.7	173.72		
	15	134	0.7	202.16		
	11	134	0.7	261.57		
	10	134	0.7	304.00		
	7.6	134	0.7	393.33		
	6.8	134	0.7	443.59		
	65	35	4.4	46.46	**180/022**	120/240
	60	38	4.1	49.61		
	56	41	3.8	54.00		
	49	47	3.4	60.90		

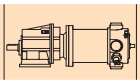
N.B.
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio
N.B.
Please check that the output torque M2 does not exceed the value in the grey areas

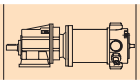
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

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*
250						
(3000 min^{-1})	**47**	48	3.3	64.01	**180/023**	120/240
	39	57	2.7	76.02		
	33	68	2.3	90.29		
	26	86	1.8	114.46		
	22	102	1.5	135.95		
	17	132	1.2	175.89		
	15	153	1.0	204.69		
	11	198	0.8	264.84		
	10	223	0.7	307.80		
	7.5	223	0.7	398.25		
	6.7	223	0.7	449.14		

P_1 [W]	n_2 [min^{-1}]	M_2 [Nm]	sf	i		Versione motore *Motor version*
250						
(3000 min^{-1})	**41**	54	4.3	72.83	**180/033**	120/240
	31	73	3.2	97.45		
	26	87	2.7	115.74		
	21	105	2.2	140.81		
	17	130	1.8	174.26		
	13	169	1.4	225.47		
	11	196	1.2	262.05		
	9.2	244	1.0	325.79		
	7.9	283	0.8	378.64		
	7.0	319	0.7	427.03		
	21	105	3.7	140.81	**180/043**	120/240
	17	130	3.0	174.26		
	13	169	2.3	225.47		
	11	196	2.0	262.05		
	9.2	244	1.6	325.79		
	7.9	283	1.4	378.64		
	7.0	319	1.2	427.03		

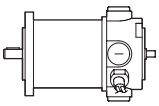
N.B.
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio
N.B.
Please check that the output torque M2 does not exceed the value in the grey areas

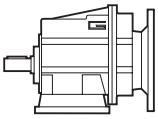
NOTA: per servizio continuo o altamente intermittente, contattare il servizio tecnico

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

Motori applicabili

IEC Motor adapters





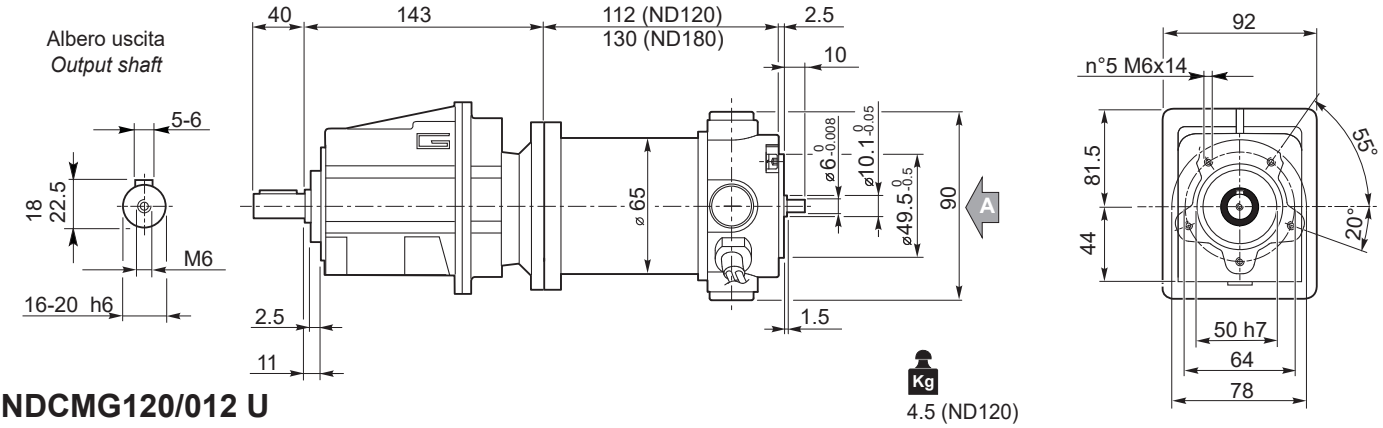
		ND	
		120.120 120.240	**180.120 180.240**
CMG	**002**	5.03 - 55.10	
	012	3.82 - 60.15	
	013	63.22 - 443.59	
	022	3.66 - 60.9	
	023	64.01 - 449.14	
	033	72.83 - 427.03	
	043	72.83 - 427.03	

5.03 - 55.10 Rapporti di riduzione i *Ratio i*

Dimensioni *Dimensions*

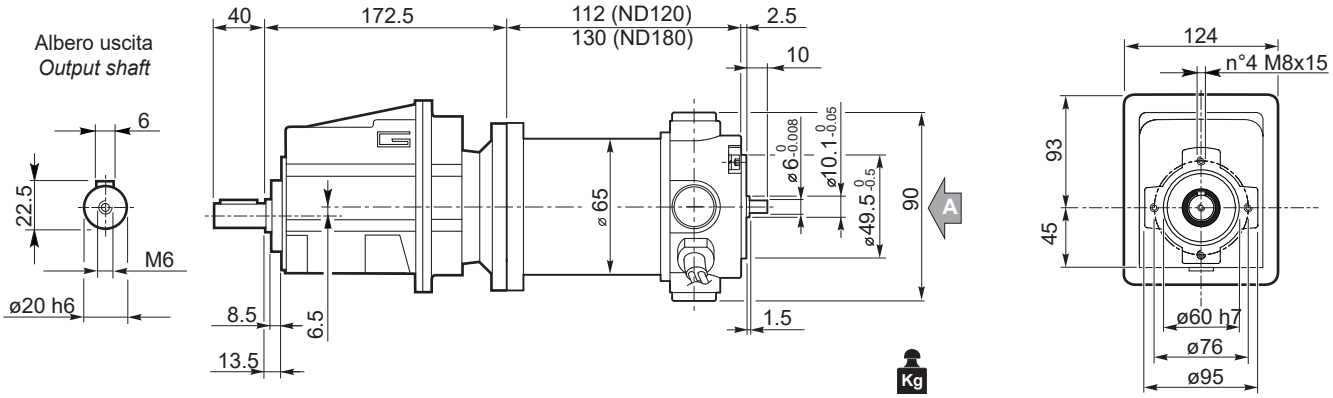
NDCMG..U

NDCMG120/002 U
NDCMG180/002 U



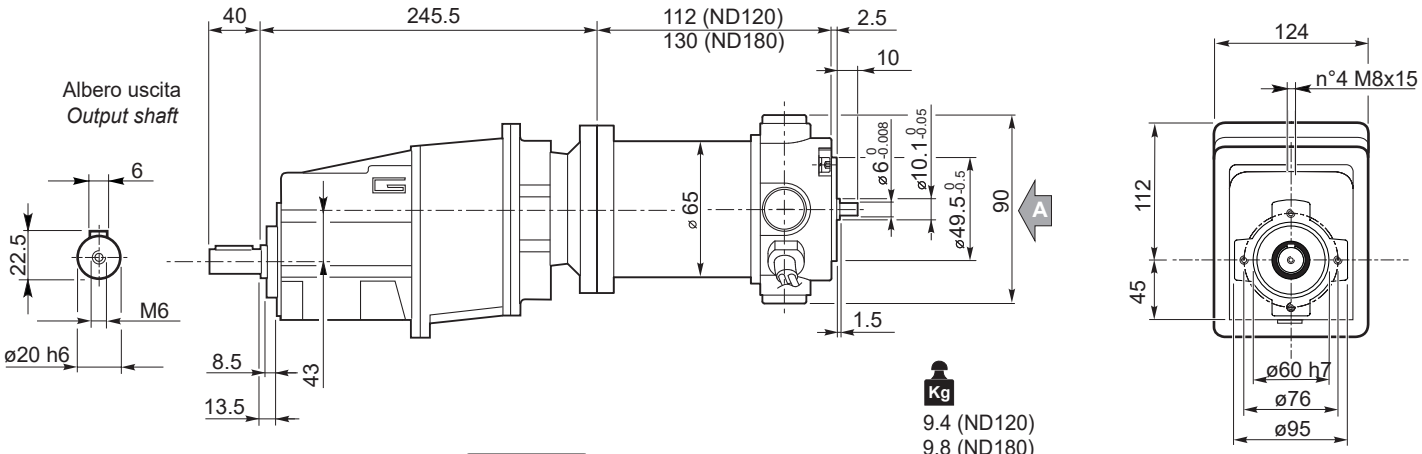
Kg
4.5 (ND120)
4.9 (ND180)

NDCMG120/012 U
NDCMG180/012 U



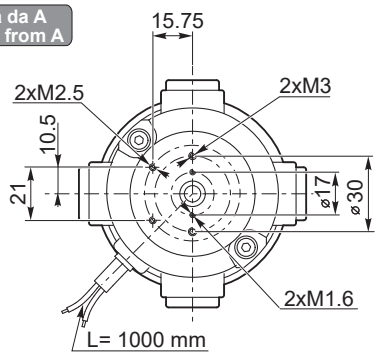
Kg
6.9 (ND120)
7.3 (ND180)

NDCMG120/013 U
NDCMG180/013 U



Kg
9.4 (ND120)
9.8 (ND180)

Vista da A
View from A



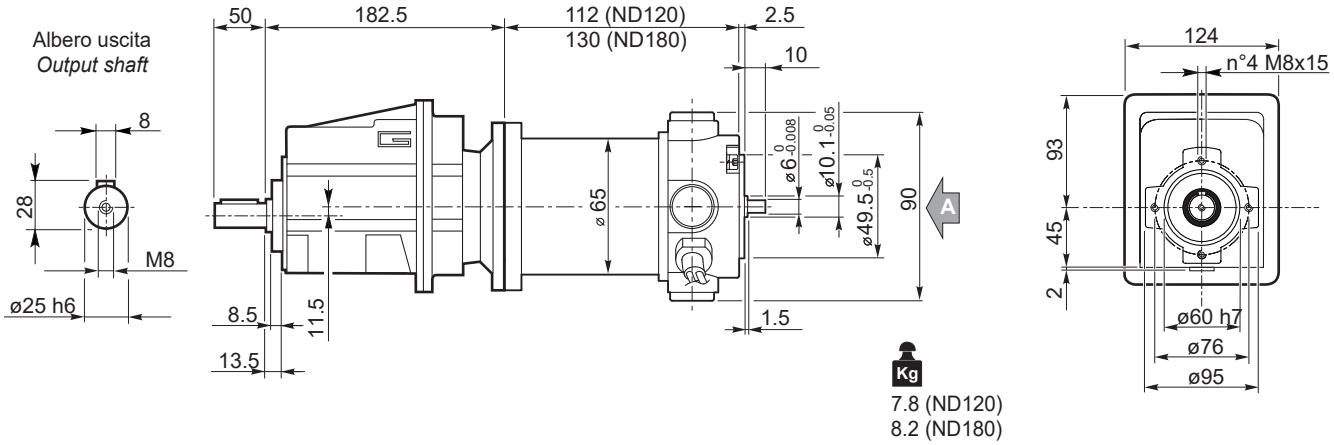
NDCMG...H C10
NDCMG...F C11
NDCMG...H/F C12

Freno / *Brake* B9
Encoder B9

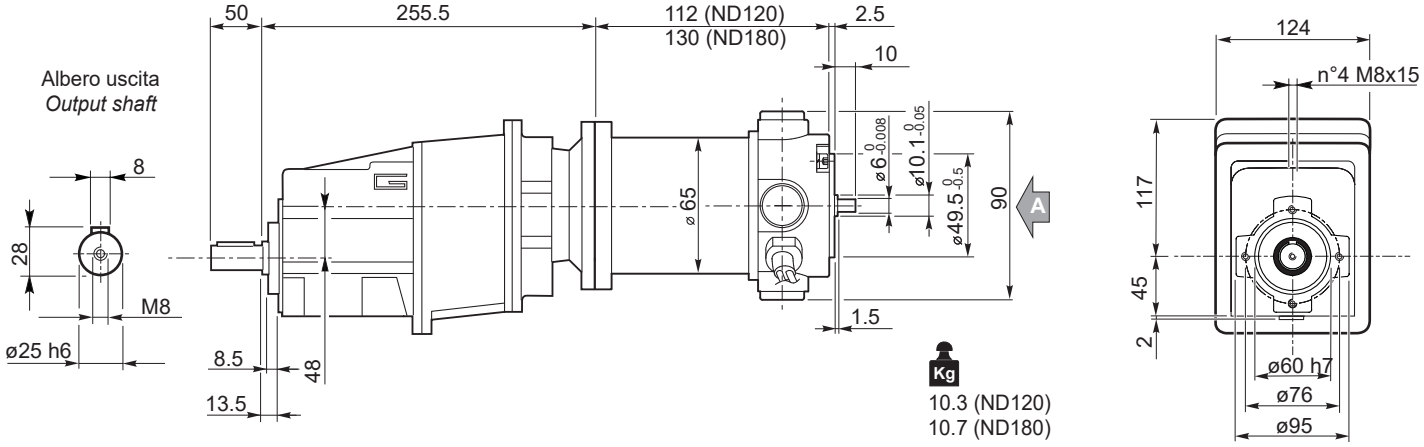
Dimensioni ***Dimensions***

NDCMG..U

NDCMG120/022 U
NDCMG180/022 U



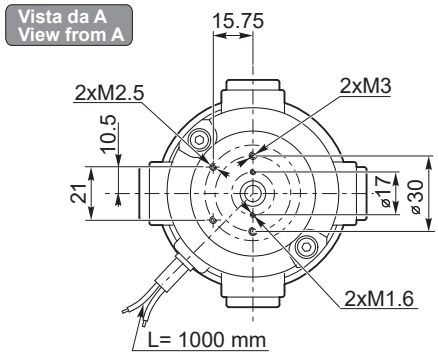
NDCMG120/023U
NDCMG180/023 U



NDCMG...H → C10

NDCMG...F → C11

NDCMG...H/F → C12



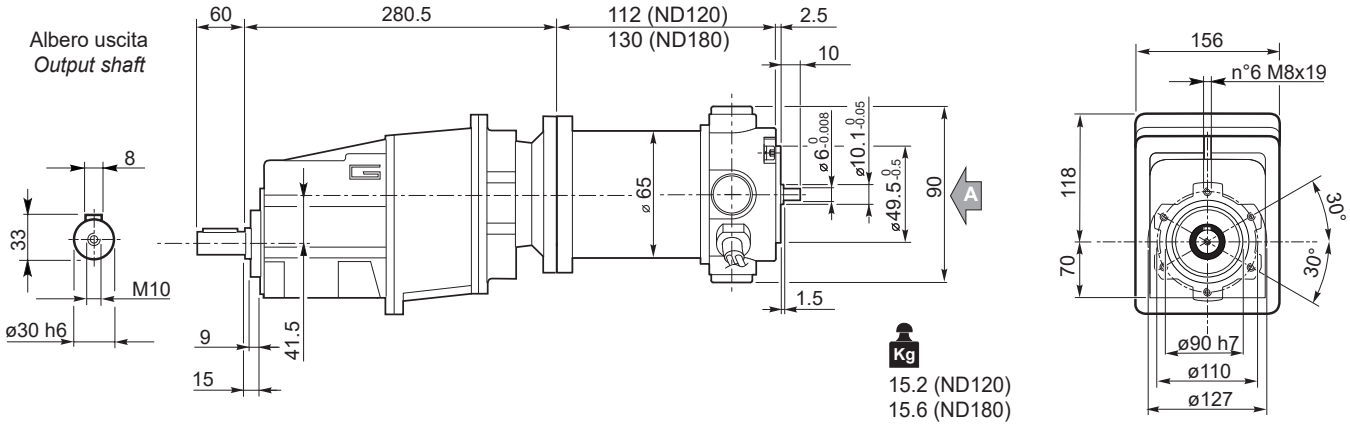
Freno / *Brake* → B9

Encoder → B9

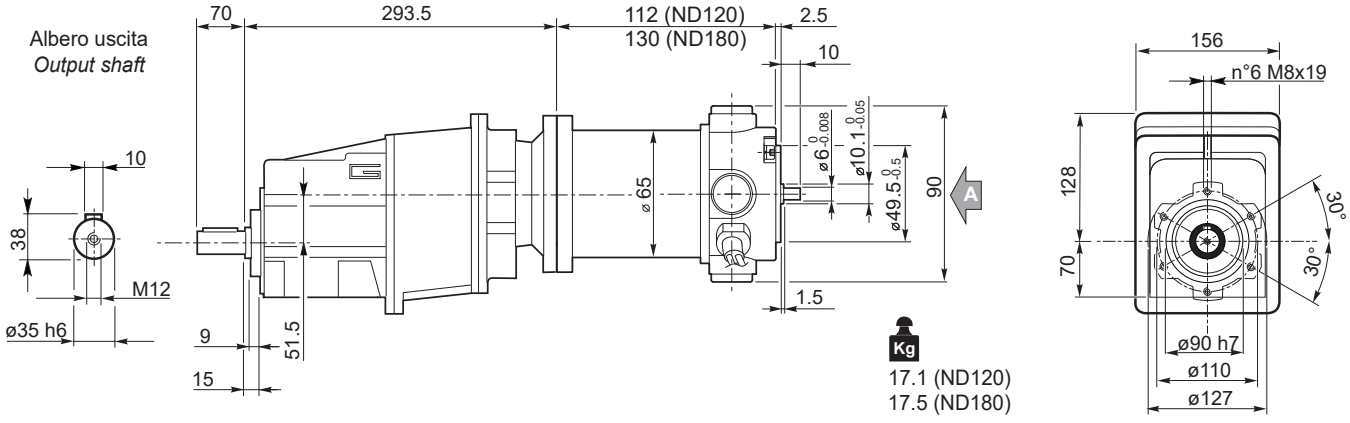
Dimensioni ***Dimensions***

NDCMG..U

NDCMG120/033 U
NDCMG180/033 U



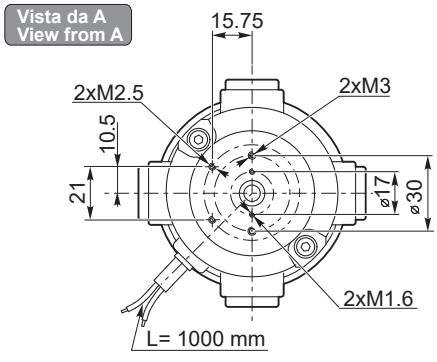
NDCMG120/043 U
NDCMG180/043 U



NDCMG...H → C10

NDCMG...F → C11

NDCMG...H/F → C12



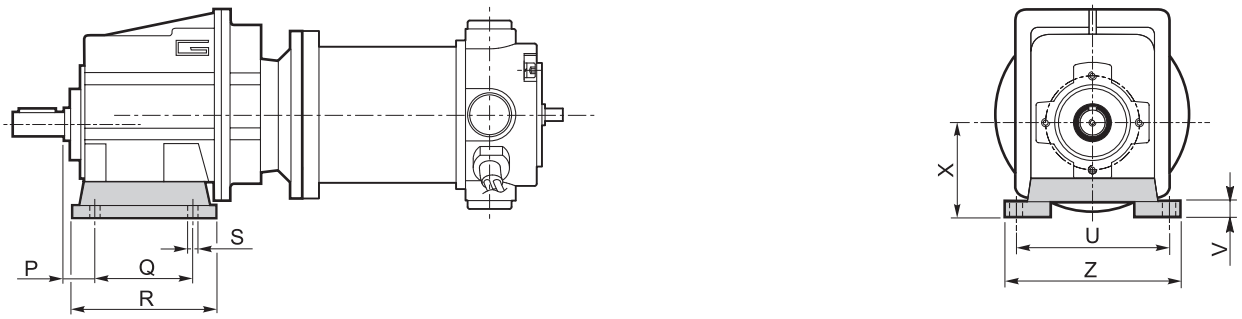
Freno / *Brake* → B9

Encoder → B9

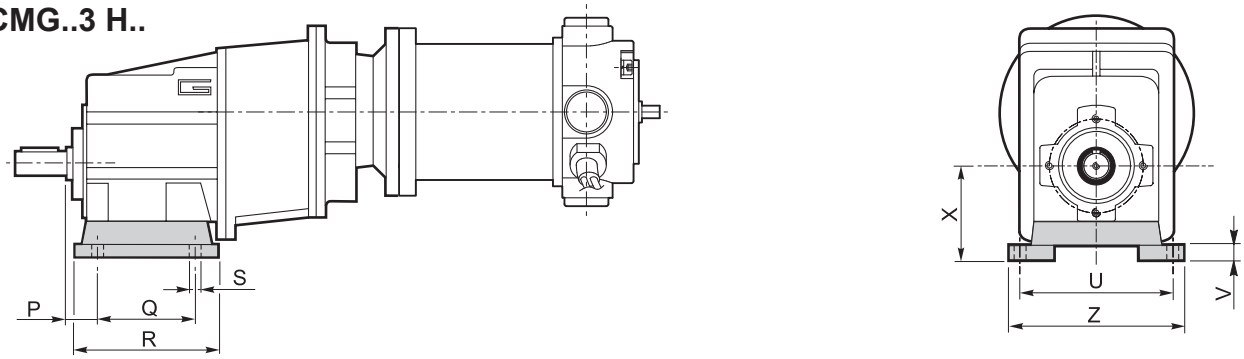
Dimensioni ***Dimensions***

NDCMG..H

NDCMG..2 H..



NDCMG..3 H..



Versione **H** / ***H** Version*

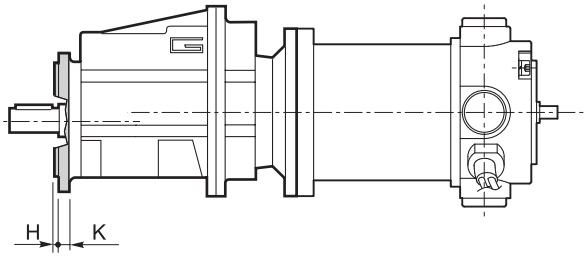
CMG	P	Q	R	S	U	V	X	Z	Piede / *Foot*	
									Tipo / *Type*	Peso / *Weight* [kg]
002	**18**	**60**	**80**	**9**	**100**	**10**	**60**	**120**	**H60**	**0.2**
	18	80	104	9	110 - 120	10	75	145	H75	0.3
	18	50 - 87	110	9	110	10	85	135	H85	0.4
012 013	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**
	18	80	118	9	110	12	75	140	**H75**	1.0
	25	85	120	9	120	12	80	140	**H80**	1.1
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2
	25	130	154	9	110	12	90	135	**H90**	1.5
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7
022 023	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**
	18	80	118	9	110	12	75	140	**H75**	1.0
	25	85	120	9	120	12	80	140	**H80**	1.1
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2
	25	130	154	9	110	12	90	135	**H90**	1.5
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7
033	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**
	30	100	150	11	150	14	110	185	**H110**	1.9
	18	70			160					
	30	165	195	14	135	14	115	170	**H115**	2.2
	35	110	160	14	170	14	120	210	**H120**	2.6
043	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**
	30	100	150	11	150	14	110	185	**H110**	1.9
	18	70			160					
	30	165	195	14	135	14	115	170	**H115**	2.2
	35	110	160	14	170	14	120	210	**H120**	2.6

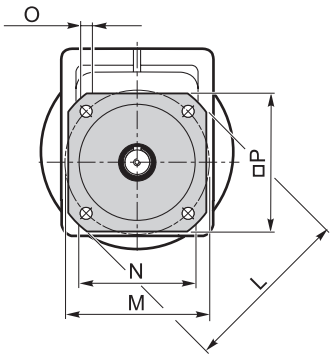
Preferenziale / *Preferred*

Dimensioni ***Dimensions***

NDCMG..F

NDCMG..2 F..





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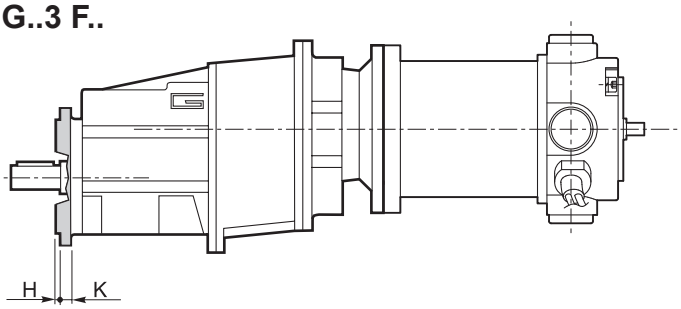
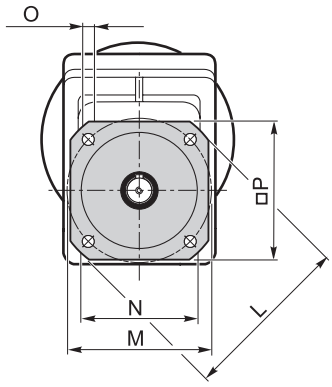




Versione **F** / ***F** Version*									
CMG	**H**	**K**	**L**	**M**	**N** f7	**O**	**P**	**Flangia / *Flange***	
								Tipo / *Type*	Peso / *Weight* [kg]
002	3.5	7	105	85	70	6.5	90	**F105**	0.1
	3.5	8	120	100	80	7	100	**F120**	0.2
	3.5	8	140	115	95	9	115	**F140**	0.2
012 013	3	9	120	100	80	9	106	**F120**	0.5
	3.5	9	140	115	95	9	115	**F140**	0.8
	3.5	9	160	130	110	9	126	**F160**	1.1
	3.5	11	200	165	130	11	165	**F200**	1.8
022 023	3	9	120	100	80	9	106	**F120**	0.5
	3.5	9	140	115	95	9	115	**F140**	0.8
	3.5	9	160	130	110	9	126	**F160**	1.1
	3.5	11	200	165	130	11	165	**F200**	1.8
033	3.5	11	160	130	110	9	140	**F160**	1.0
	3.5	11	200	165	130	11	165	**F200**	1.8
	4	13	250	215	180	14	215	**F250**	2.9
043	3.5	11	160	130	110	9	140	**F160**	1.0
	3.5	11	200	165	130	11	165	**F200**	1.8
	4	13	250	215	180	14	215	**F250**	2.9

Dimensioni — *Dimensions*

Versione **H** / ***H*** Version											Combinazioni possibili H/F *Possible combinations H/F*						
CMG	**P**	**Q**	**R**	**S**	**U**	**V**	**X**	**Z**	**Piede / *Foot*** Tipo *Type*	Peso / *Weight* [kg]	**F105**	**F120**	**F140**	**F160**	**F200**	**F250**	**F300**
002	**18**	**60**	**80**	**9**	**100**	**10**	**60**	**120**	**H60**	**0.2**	•	•	•				
	18	80	104	9	110 - 120	10	75	145	**H75**	0.3	•	•	•				
	18	50 - 87	110	9	110	10	85	135	**H85**	0.4	•	•	•				
012 013	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**		•	•				
	18	80	118	9	110	12	75	140	**H75**	1.0		•	•	•			
	25	85	120	9	120	12	80	140	**H80**	1.1		•	•	•			
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2		•	•	•			
	25	130	154	9	110	12	90	135	**H90**	1.5		•	•	•	•		
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7		•	•	•	•		
022 023	**20**	**85**	**108**	**9**	**115**	**12**	**65**	**139**	**H65**	**0.7**		•	•				
	18	80	118	9	110	12	75	140	**H75**	1.0		•	•	•			
	25	85	120	9	120	12	80	140	**H80**	1.1		•	•	•			
	18	50 - 87	118	9	110	12	85	130	**H85**	1.2		•	•	•			
	25	130	154	9	110	12	90	135	**H90**	1.5		•	•	•	•		
	18	60 - 107.5	135	11	130	12	100	155	**H100**	1.7		•	•	•	•		
033	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**				•	•		
	30	100	150	11	150	14	110	185	**H110**	1.9				•	•		
	18	70			160												
	30	165	195	14	135	14	115	170	**H115**	2.2				•	•	•	
	35	110	160	14	170	14	120	210	**H120**	2.6				•	•	•	
043	**30**	**105**	**136**	**14**	**160**	**14**	**95**	**194**	**H95**	**1.5**				•	•		
	30	100	150	11	150	14	110	185	**H110**	1.9				•	•		
	18	70			160												
	30	165	195	14	135	14	115	170	**H115**	2.2				•	•	•	
	35	110	160	14	170	14	120	210	**H120**	2.6				•	•	•	

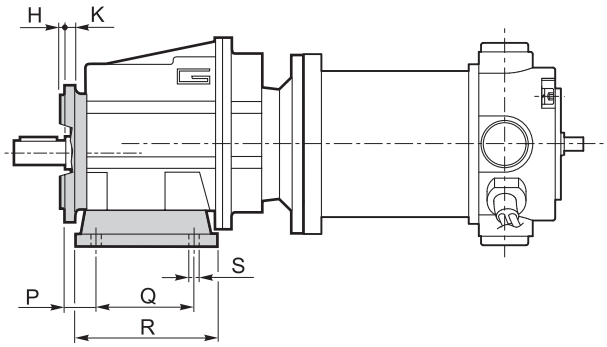
Preferenziale / *Preferred*

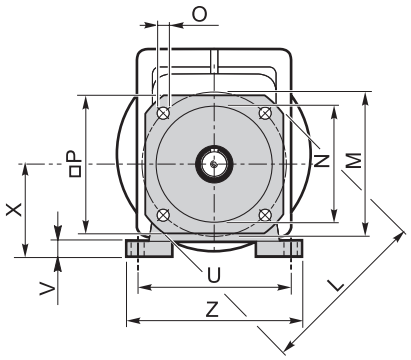
• Combinazioni possibili H/F / *Possible combinations H/F*

Versione **F** / ***F*** *Version*									
CMG	**H**	**K**	**L**	**M**	**N** f7	**O**	**P**	**Flangia / *Flange*** Tipo / *Type*	Peso / *Weight* [kg]
002	3.5	7	105	85	70	6.5	90	**F105**	0.1
	3.5	8	120	100	80	7	100	**F120**	0.2
	3.5	8	140	115	95	9	115	**F140**	0.2
012 013	3	9	120	100	80	9	106	**F120**	0.5
	3.5	9	140	115	95	9	115	**F140**	0.8
	3.5	9	160	130	110	9	126	**F160**	1.1
	3.5	11	200	165	130	11	165	**F200**	1.8
022 023	3	9	120	100	80	9	106	**F120**	0.5
	3.5	9	140	115	95	9	115	**F140**	0.8
	3.5	9	160	130	110	9	126	**F160**	1.1
	3.5	11	200	165	130	11	165	**F200**	1.8
033	3.5	11	160	130	110	9	140	**F160**	1.0
	3.5	11	200	165	130	11	165	**F200**	1.8
	4	13	250	215	150	14	215	**F250**	2.9
043	3.5	11	160	130	110	9	140	**F160**	1.0
	3.5	11	200	165	130	11	165	**F200**	1.8
	4	13	250	215	150	14	215	**F250**	2.9

NDCMG..H../F..

NDCMG..2 H../F..





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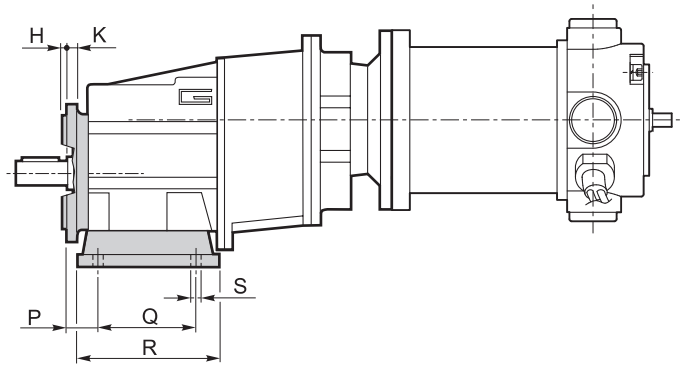

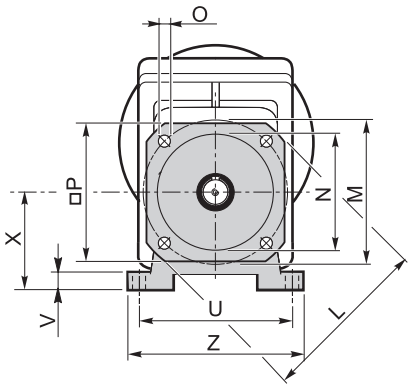

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