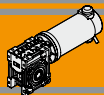


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Caratteristiche tecniche

Technical features

Le caratteristiche principali dei motoriduttori a corrente continua della serie ECM sono:

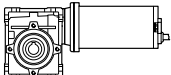
The main features of ECM D.C. gearmotor range are:

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

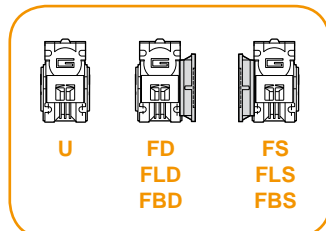
- Low voltage power supply 12/24 Vdc
- Suitable for encoder assembly
- Motor power ratings available from 100 to 800W S2
- Ferrite magnets
- Die-cast aluminum housing
- Permanent synthetic oil long-life lubrication.

Designazione

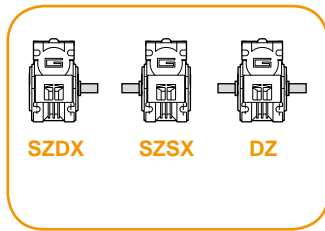
Classification

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
 ECM	070/026 070/030	100/026 100/030 100/040	180/026 180/030 180/040 180/050	250/030 250/040 250/050	350/030 350/040 350/050	600/040 600/050 600/063	U FD FS FLD FLS FBD FBS	Vedere tabella See tables	SZDX SZSX DZ	BRDX BRSX	0° 90° 180° 270°	120 240 24E	VS

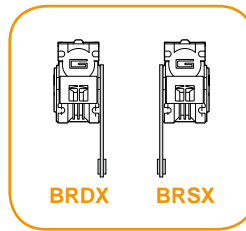
Versione Riduttore
Gearbox Version



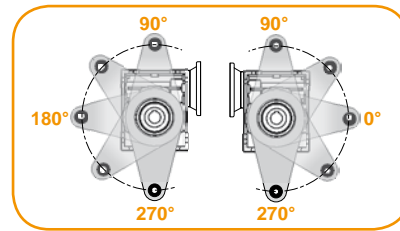
Albero di uscita
Output shaft



Braccio di reazione
Torque arm



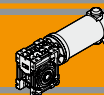
Angolo
Angle



Simbologia

Symbols

n_1	[min ⁻¹]	Velocità in ingresso / Input speed	R_d	%	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	R_s	%	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

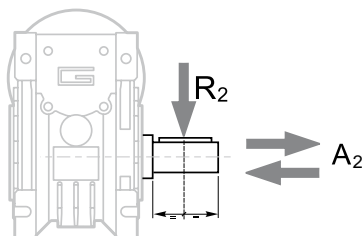
I riduttori a vite senza fine della serie CM sono lubrificati a vita con olio sintetico di viscosità 320 e possono essere installati in qualunque posizione di montaggio.

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

Quantità di olio (litri) / Oil quantity (litres)						
	B3	B8	B6	B7	V5	V6
CM026	0.02					Lubrificazione a vita Life lubrication
CM030	0.03					
CM040	0.07					
CM050	0.10					
CM063	0.25					

Carichi radiali

Radial loads

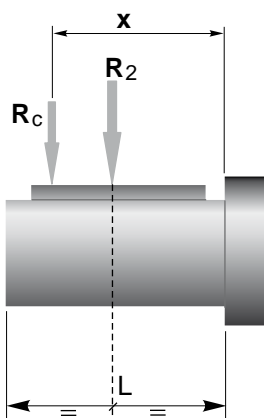


$$A_2 = R_2 \times 0.2$$

n ₂ [min ⁻¹]	R ₂ [N]				
	CM026	CM030	CM040	CM050	CM063
187	400	674	1264	1770	2445
140	490	743	1392	1949	2692
93	580	851	1596	2234	3085
70	610	936	1754	2456	3392
56	610	1008	1890	2646	3654
47	610	1069	2004	2805	3874
35	610	1179	2210	3095	4273
28	610	1270	2381	3334	4603
23	610	1356	2542	3559	4915
18	610	1471	2759	3862	5334
14	610	1600	3000	4200	5800

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:

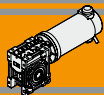


$$R_c = \frac{R_2 \cdot a}{(b + x)} \leq R_{2MAX}$$

$$R \leq R_c$$

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

	CM				
	026	030	040	050	063
a	56	65	84	101	120
b	43	50	64	76	95
R _{2MAX}	610	1600	3000	4200	5800



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'
CM050	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	33° 37'	23° 54'	18° 23'	12° 29'	10° 6'	8° 28'	6° 19'	5° 5'	4° 15'	3° 39'	2° 51'	2° 20'
CM063	Z	6	4	3	2	2	2	1	1	1	1	1	1
	β	34° 23'	24° 31'	18° 53'	12° 50'	10° 24'	8° 44'	6° 30'	5° 14'	4° 23'	3° 47'	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
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
CM050	2800	Rd	91	90	88	86	84	82	78	74	71	68	62	58
	1400		89	87	85	82	79	76	72	67	63	60	54	49
	900		87	85	84	79	75	72	68	62	59	55	48	43
			Rs	73	70	66	59	55	51	44	39	35	32	27
CM063	2800	Rd	91	90	88	86	84	83	79	76	73	70	65	60
	1400		90	88	86	84	81	78	75	70	66	63	57	52
	900		89	86	84	81	78	75	70	65	61	58	52	47
			Rs	73	71	67	60	55	51	45	40	36	33	28

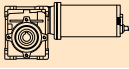
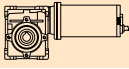


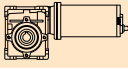
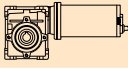
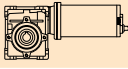
Rendimento teorico del riduttore dopo il rodaggio
Theoretical efficiency of the gearbox after the first running period

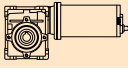
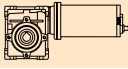


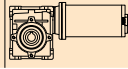
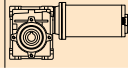
Dati tecnici per servizio S2

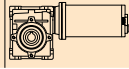
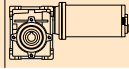
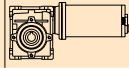
Technical data for S2 duty

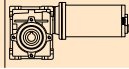
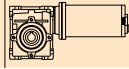
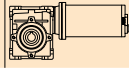
P ₁ [W]	n ₂ [min ⁻¹]	M ₂ [Nm]	sf	i		Versione motore Motor version
100						
(3000 min ⁻¹)	600	1.4	7.1	5.00		ECM070/026 120/240
	400	2.1	5.3	7.50		
	300	2.7	4.1	10.00		
	200	4.0	2.8	15.00		
	150	5.1	2.2	20.00		
	100	7.0	1.7	30.00		
	75	8.7	1.3	40.00		
	60	10	1.0	50.00		
	50	11	0.8	60.00		
	600	1.4	9.2	5.00		
	400	2.1	7.1	7.50		
	300	2.7	5.8	10.00		
	200	4.0	4.0	15.00		
	150	5.2	2.7	20.00		
	120	6.2	2.4	25.00		
	100	7.1	2.5	30.00		
	75	8.9	1.8	40.00		
	60	10	1.4	50.00		
	50	12	1.2	60.00		
	38	15	0.8	80.00		
	30	17	0.7	100.00		

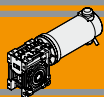
P ₁ [W]	n ₂ [min ⁻¹]	M ₂ [Nm]	sf	i		Versione motore Motor version
140						
(3000 min ⁻¹)	600	2.0	5.0	5.00		ECM100/026 120/240/24E
	400	2.9	3.8	7.50		
	300	3.8	2.9	10.00		
	200	5.5	2.0	15.00		
	150	7.1	1.5	20.00		
	100	10	1.2	30.00		
	75	12	0.9	40.00		
	60	14	0.7	50.00		
	50	13	0.7	60.00		
	200	5.6	2.8	15.00		
	150	7.2	1.9	20.00		
	120	8.7	1.7	25.00		
	100	10	1.8	30.00		
	75	12	1.3	40.00		
	60	14	1.0	50.00		
	50	17	0.8	60.00		
	38	20	0.6	80.00		
	30	16	0.7	100.00		
	100	10	3.7	30.00		ECM100/040
	75	13	2.6	40.00		
	60	15	2.1	50.00		
	50	18	1.6	60.00		
	38	21	1.3	80.00		
	30	25	1.0	100.00		

P ₁ [W]	n ₂ [min ⁻¹]	M ₂ [Nm]	sf	i		Versione motore Motor version
250						
(3000 min ⁻¹)	600	3.5	2.8	5.00		ECM180/026 120/240
	400	5.2	2.1	7.50		
	300	6.8	1.6	10.00		
	200	10	1.1	15.00		
	150	13	0.9	20.00		
	100	17	0.7	30.00		
	75	16	0.7	40.00		
	60	14	0.7	50.00		
	50	13	0.7	60.00		
	600	3.5	3.7	5.00		
	400	5.3	2.9	7.50		
	300	6.8	2.3	10.00		
	200	10	1.6	15.00		
	150	13	1.1	20.00		
	120	16	1.0	25.00		
	100	18	1.0	30.00		
	75	22	0.7	40.00		
	60	21	0.7	50.00		
	50	20	0.7	60.00		
	38	17	0.7	80.00		
	30	16	0.7	100.00		

P ₁ [W]	n ₂ [min ⁻¹]	M ₂ [Nm]	sf	i		Versione motore Motor version
250						
(3000 min ⁻¹)	200	10	3.5	15.00		ECM180/040 120/240/24E
	150	13	2.3	20.00		
	120	16	1.8	25.00		
	100	18	2.1	30.00		
	75	23	1.5	40.00		
	60	27	1.2	50.00		
	50	32	0.9	60.00		
	38	38	0.7	80.00		
	30	34	0.7	100.00		
	75	24	2.5	40.00		
	60	28	2.0	50.00		
	50	32	1.6	60.00		
	38	39	1.2	80.00		
	30	46	0.9	100.00		

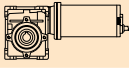
P ₁ [W]	n ₂ [min ⁻¹]	M ₂ [Nm]	sf	i		Versione motore Motor version
350						
(3000 min ⁻¹)	600	5.0	2.6	5		ECM250/030 120/240
	400	7.4	2.0	7.5		
	300	10	1.7	10		
	200	14	1.1	15		
	150	18	0.8	20		
	120	22	0.7	25		
	100	25	0.7	30		
	75	22	0.7	40		
	60	21	0.7	50		
	200	14	2.5	15		
	150	18	1.7	20		
	120	22	1.3	25		
	100	26	1.5	30		
	75	33	1.0	40		
	60	38	0.8	50		
	50	44	0.7	60		
	37.5	38	0.7	80		
	30	35	0.7	100		
	150	19	2.9	20		ECM250/050 120/240
	120	23	2.2	25		
	100	26	2.6	30		
	75	33	1.8	40		
	60	40	1.4	50		
	50	45	1.1	60		
	37.5	55	0.8	80		
	30	65	0.7	100		

P ₁ [W]	n ₂ [min ⁻¹]	M ₂ [Nm]	sf	i		Versione motore Motor version
500						
(3000 min ⁻¹)	600	7.1	1.8	5.00		ECM350/030 120/240
	400	11	1.4	7.50		
	300	14	1.2	10.00		
	200	20	0.8	15.00		
	150	20	0.7	20.00		
	120	21	0.7	25.00		
	100	26	0.7	30.00		
	75	23	0.7	40.00		
	60	21	0.7	50.00		
	600	7.2	4.0	5.00		
	400	11	2.9	7.50		
	300	14	2.4	10.00		
	200	20	1.7	15.00		
	150	26	1.2	20.00		
	120	32	0.9	25.00		
	100	37	1.0	30.00		
	75	46	0.7	40.00		
	60	46	0.7	50.00		
	50	41	0.7	60.00		
	38	39	0.7	80.00		
	30	34	0.7	100.00		
	200	21	3.0	15.00		ECM350/050 120/240
	150	27	2.1	20.00		
	120	33	1.6	25.00		
	100	37	1.8	30.00		
	75	47	1.3	40.00		
	60	57	1.0	50.00		
	50	65	0.8	60.00		
	38	66	0.7	80.00		
	30	61	0.7	100.00		



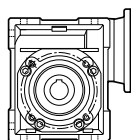
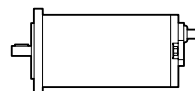
Dati tecnici per servizio S2

Technical data for S2 duty

P_1 [W]	n_2 [min ⁻¹]	M_2 [Nm]	sf	i		Versione motore Motor version
800						
(3000 min ⁻¹)	600	11	2.5	5.00	ECM600/040	120/240
	400	17	1.8	7.50		
	300	22	1.5	10.00		
	200	32	1.1	15.00		
	150	42	0.7	20.00		
	120	40	0.7	25.00		
	100	54	0.7	30.00		
	75	49	0.7	40.00		
	600	11	4.9	5.00	ECM600/050	120/240
	400	17	3.3	7.50		
	300	22	2.7	10.00		
	200	33	1.9	15.00		
	150	43	1.3	20.00		
	120	52	1.0	25.00		
	100	60	1.1	30.00		
	75	75	0.8	40.00		
	60	81	0.7	50.00		
	50	74	0.7	60.00		
	38	66	0.7	80.00		
	200	33	3.5	15.00	ECM600/063	120/240
	150	43	2.4	20.00		
	120	53	1.8	25.00		
	100	60	2.1	30.00		
	75	77	1.4	40.00		
	60	93	1.1	50.00		
	50	107	0.9	60.00		
	38	132	0.7	80.00		
	30	114	0.7	100.00		

Motori applicabili

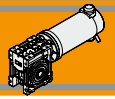
IEC Motor adapters



		EC						
		070.120 070.240	100.120 100.240 100.24E	180.120 180.240	180.24E	250.120 250.240	350.120 350.240	600.120 600.240
CM	026	5-60	5-60	5-60				
	030	5-100	5-100	5-100	5-50	5-50	5-50	
	040		5-100	5-100	5-100	5-100	5-100	5-40
	050			40-100	5-100	5-100	15-100	5-80
	063							5-100

5-100

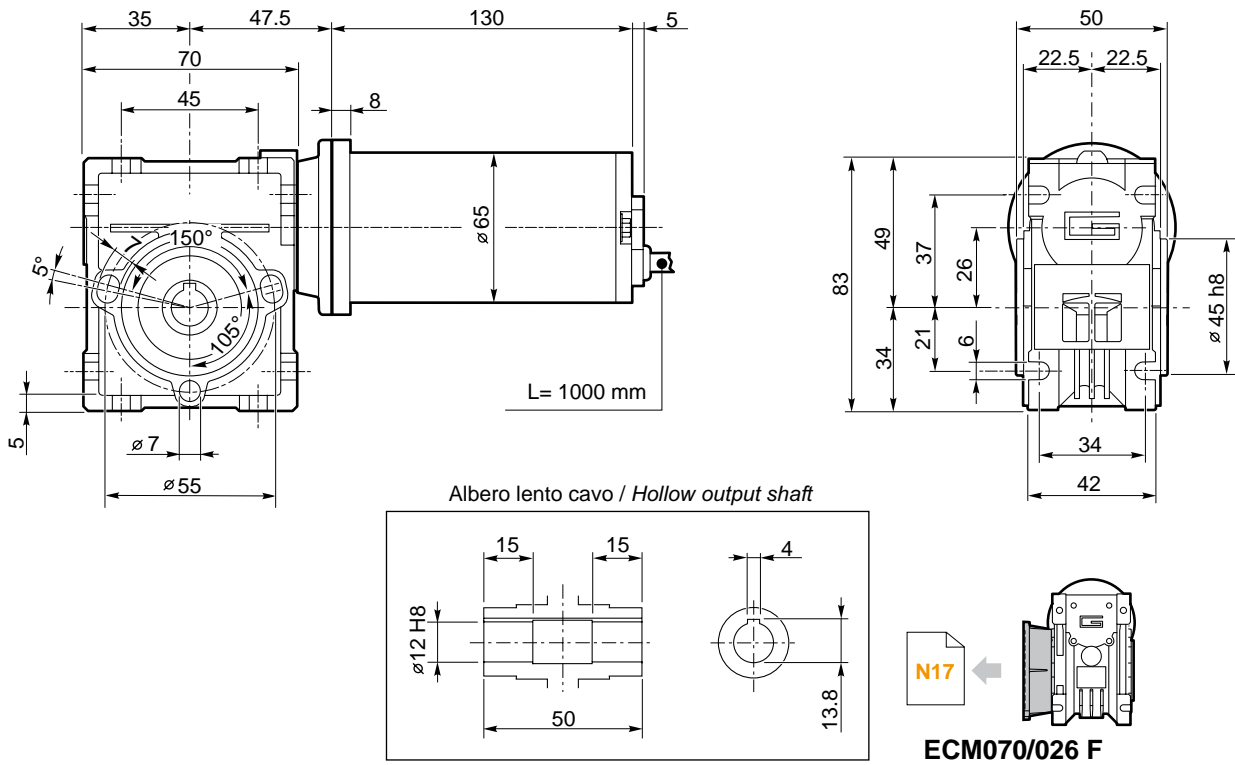
Rapporti di riduzione i
Ratio i



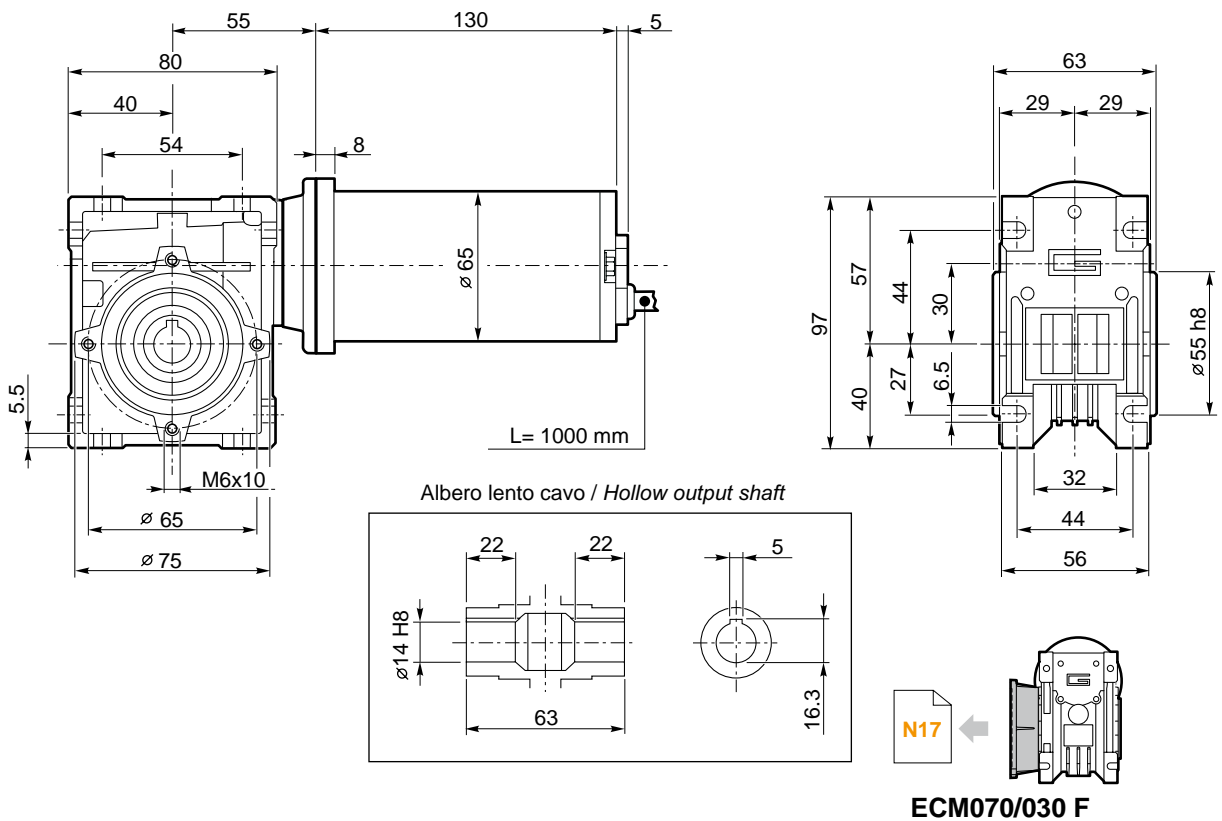
Dimensioni

Dimensions

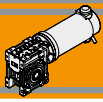
ECM070/026 U



ECM070/030 U



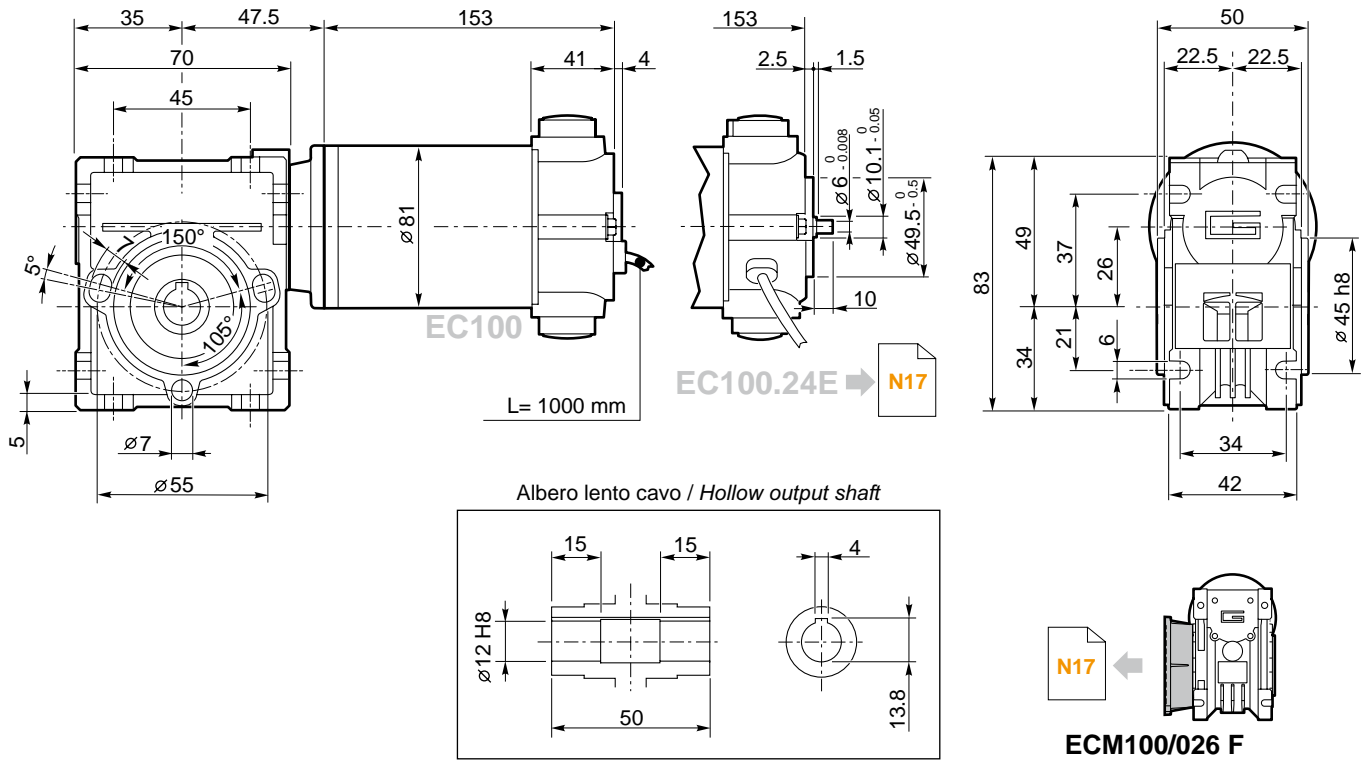
ECM



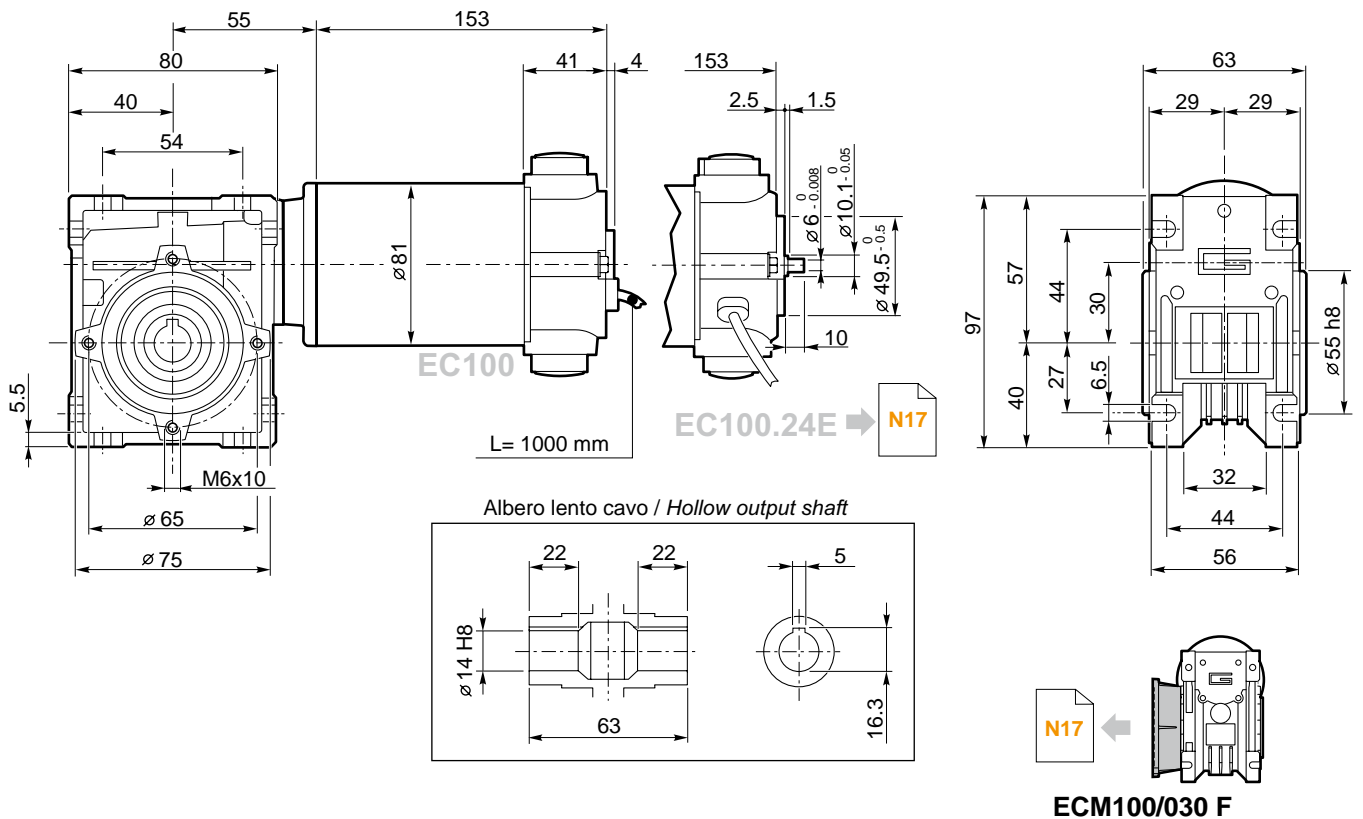
Dimensioni

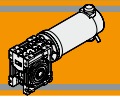
Dimensions

ECM100/026 U



ECM100/030 U

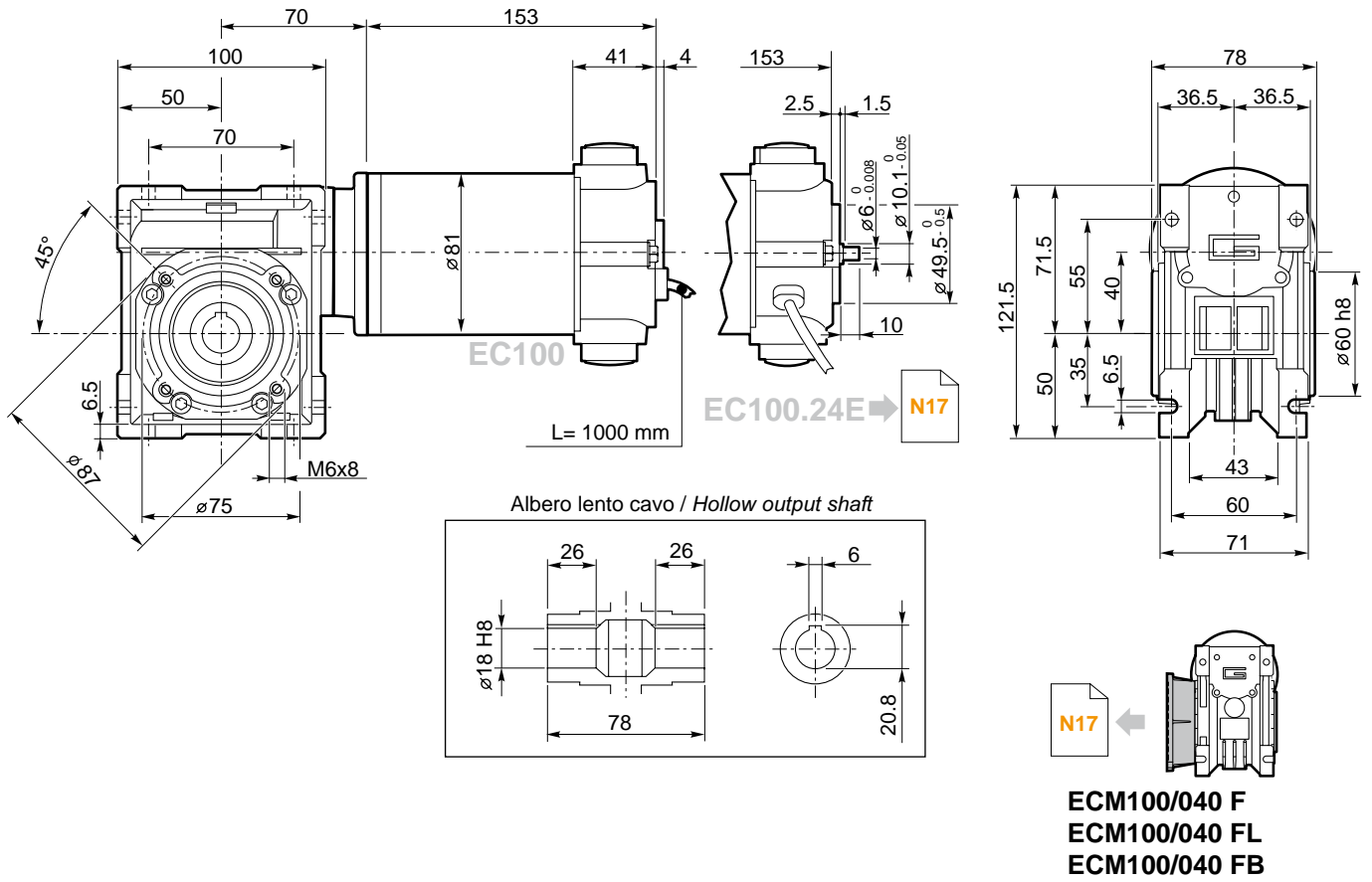




Dimensioni

Dimensions

ECM100/040 U

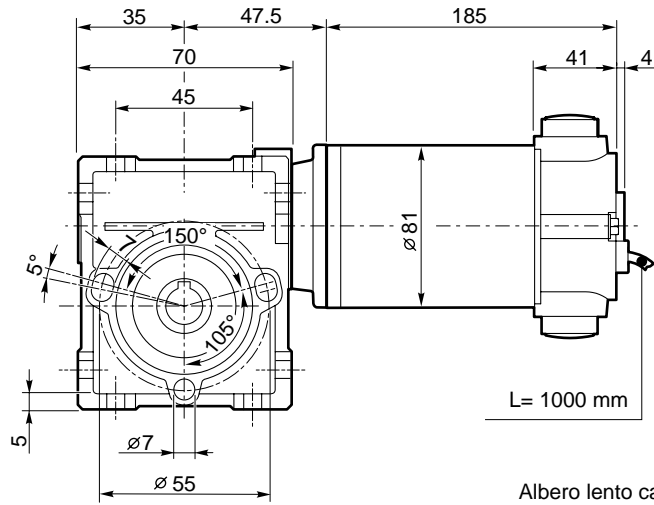




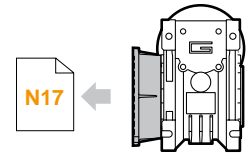
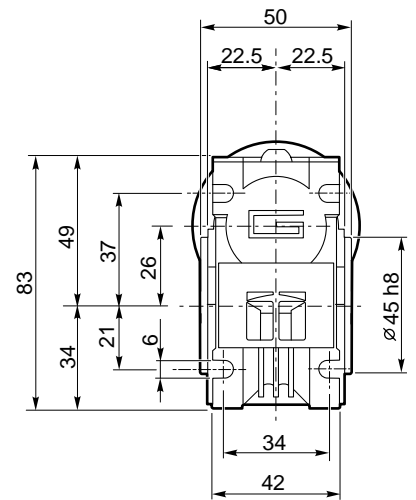
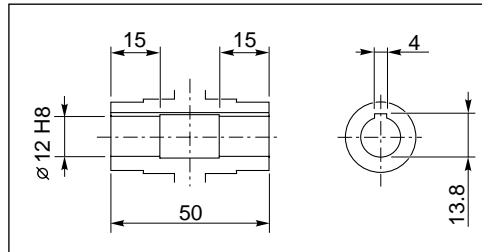
Dimensioni

Dimensions

ECM180/026 U

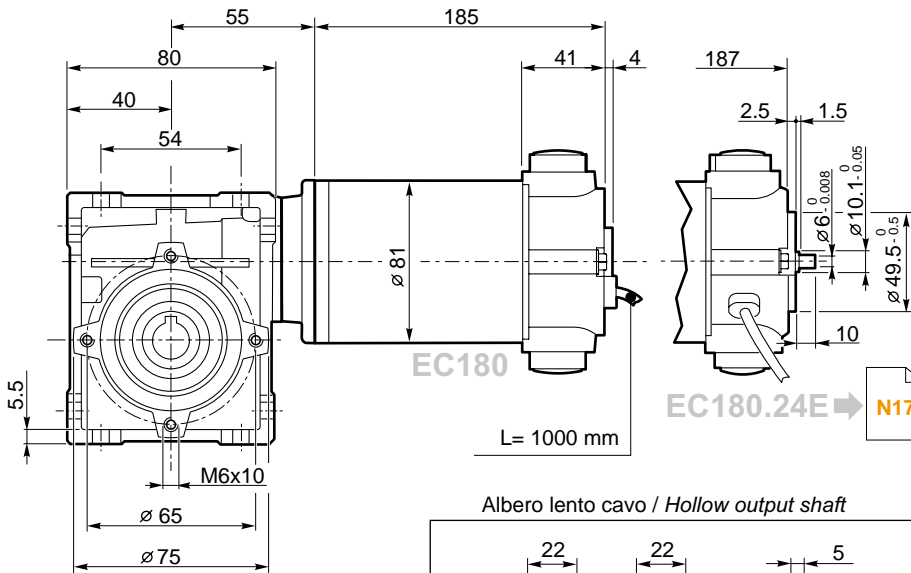


Albero lento cavo / Hollow output shaft

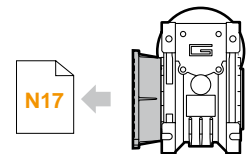
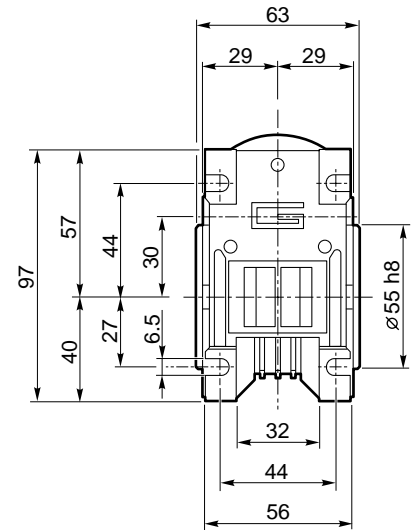
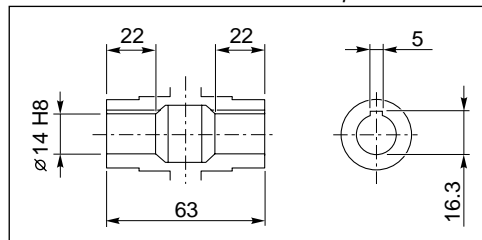


ECM180/026 F

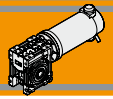
ECM180/030 U



Albero lento cavo / Hollow output shaft



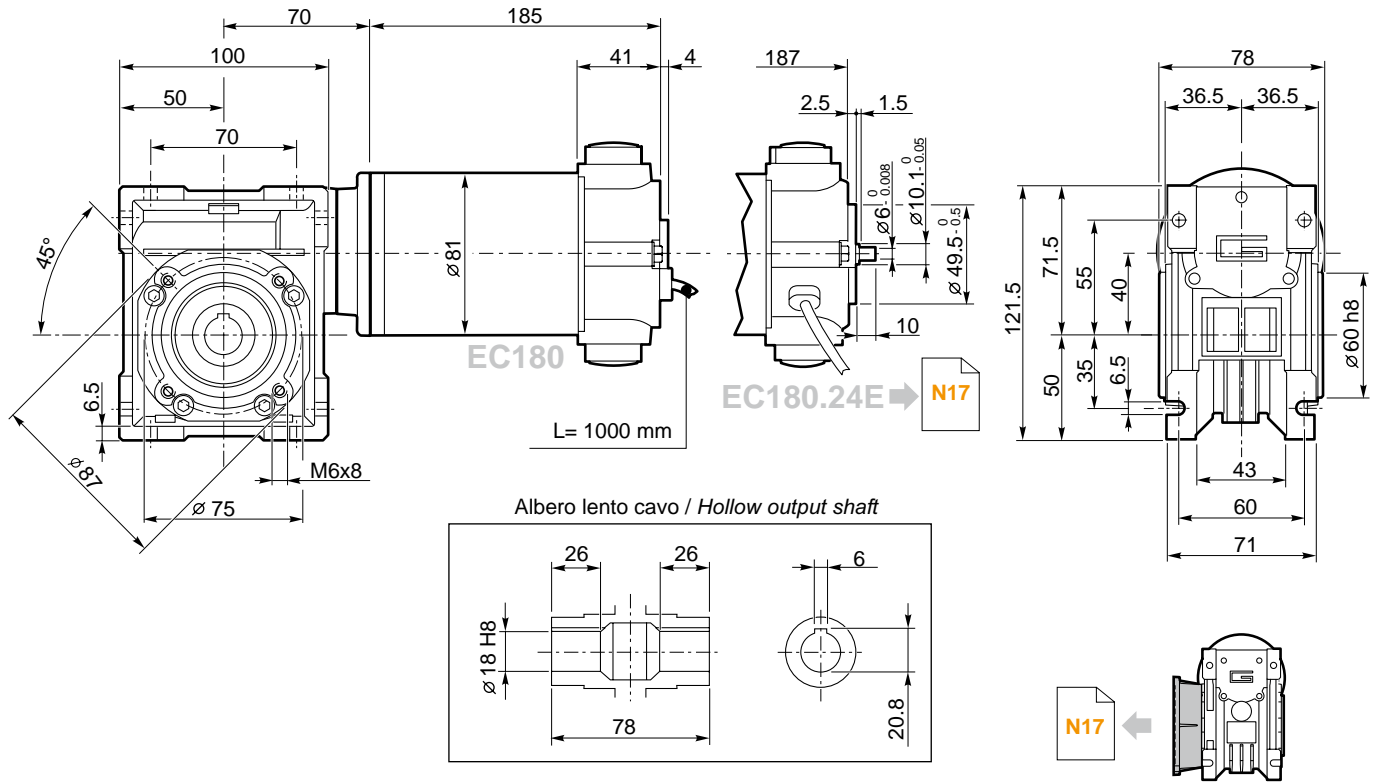
ECM180/030 F



Dimensioni

Dimensions

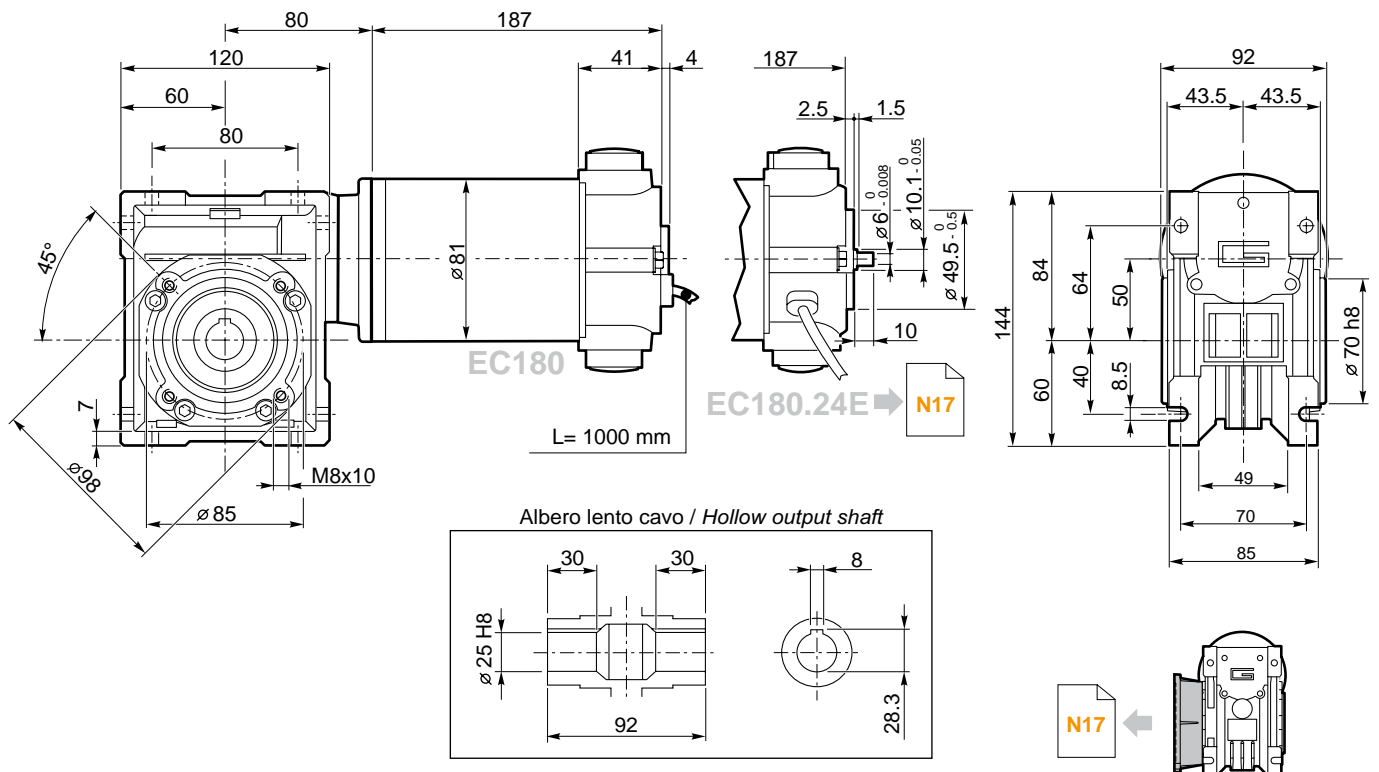
ECM180/040 U



Albero lento cavo / Hollow output shaft

ECM180/040 F
ECM180/040 FL
ECM180/040 FB

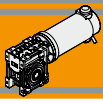
ECM180/050 U



Albero lento cavo / Hollow output shaft

ECM180/050 F
ECM180/050 FL
ECM180/050 FB

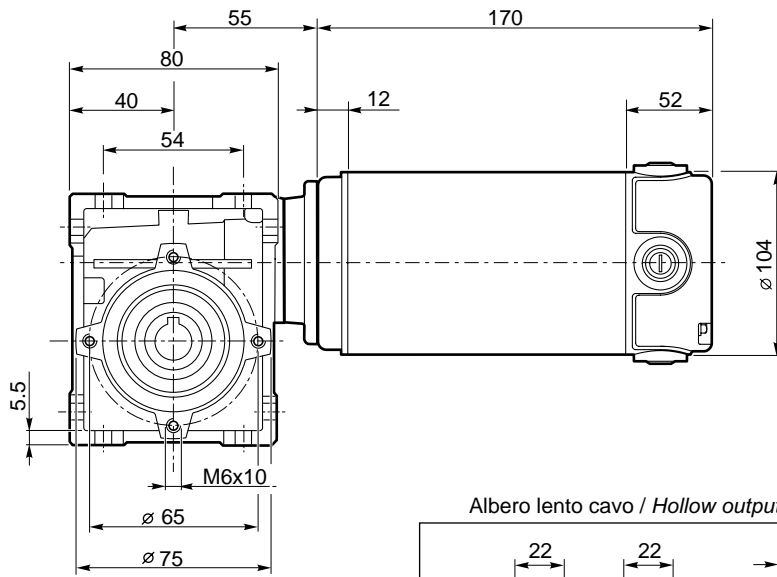
ECM



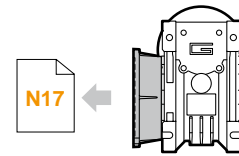
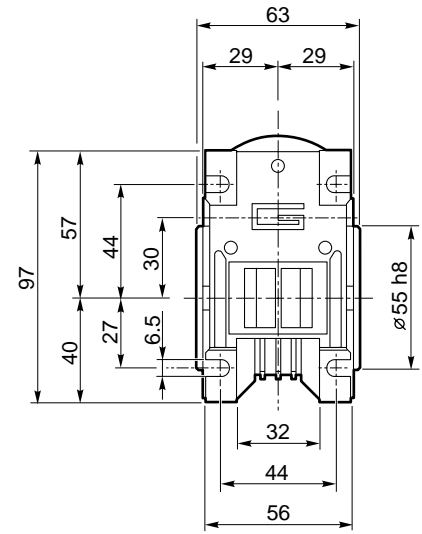
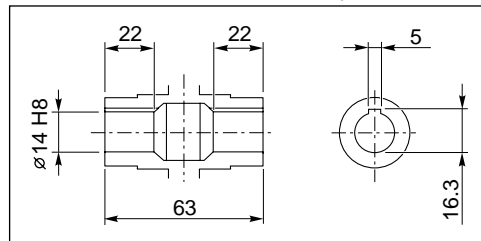
Dimensioni

Dimensions

ECM250/030 U

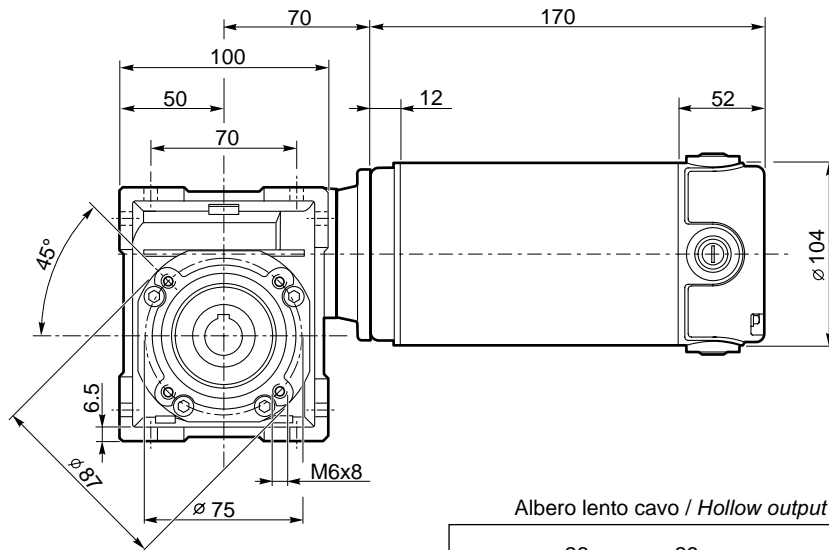


Albero lento cavo / Hollow output shaft

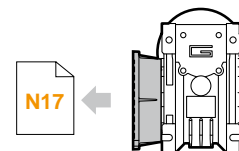
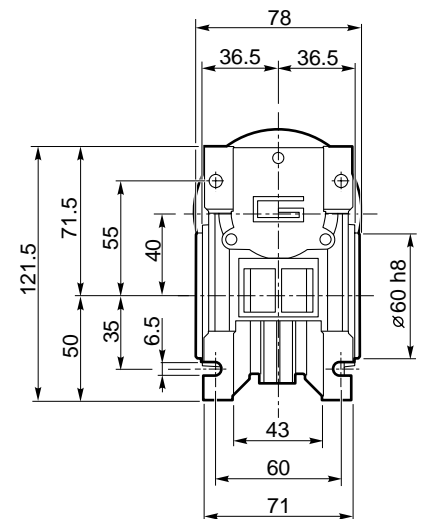
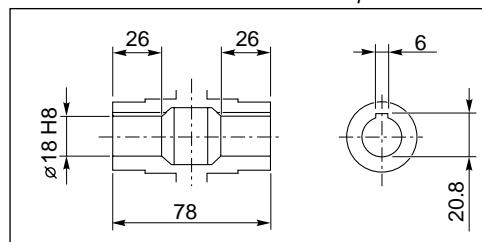


ECM250/030 F

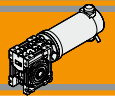
ECM250/040 U



Albero lento cavo / Hollow output shaft



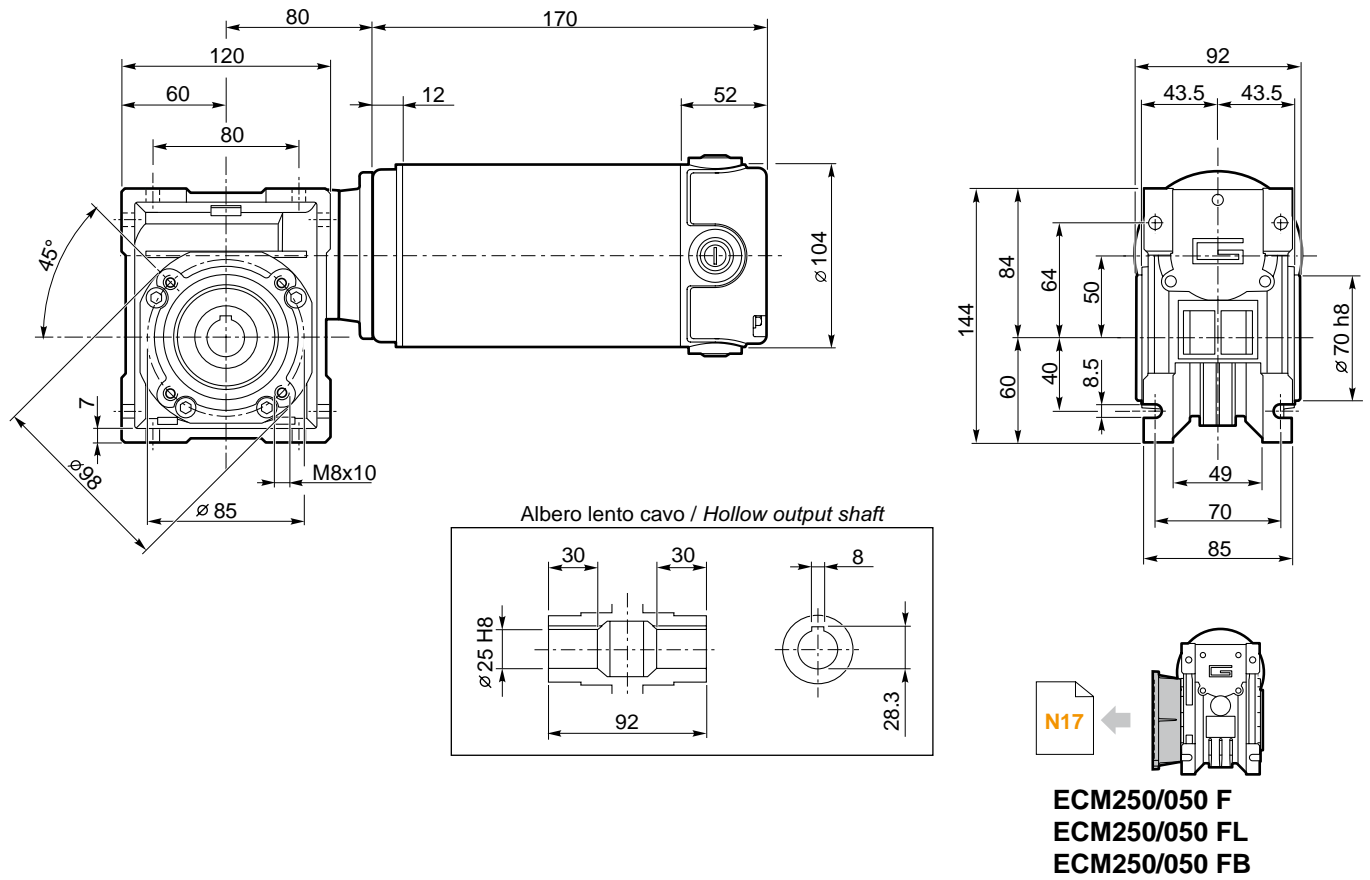
ECM250/040 F
ECM250/040 FL
ECM250/040 FB

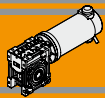


Dimensioni

Dimensions

ECM250/050 U

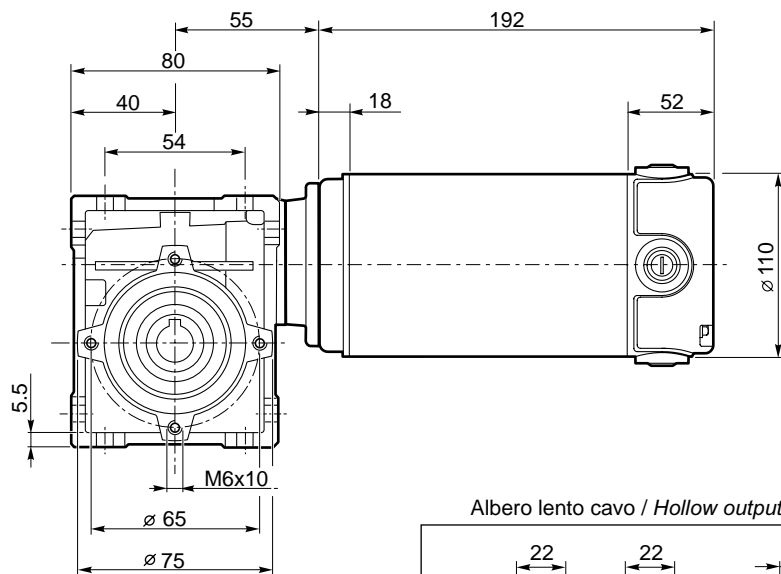




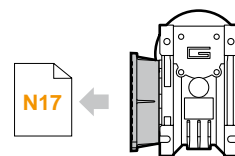
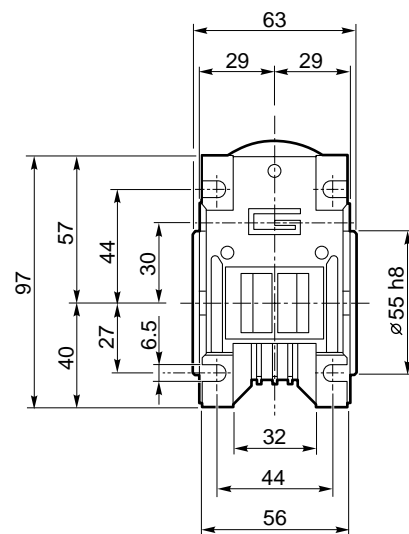
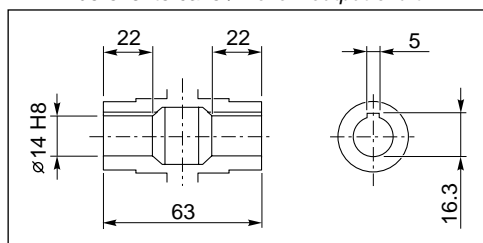
Dimensioni

Dimensions

ECM350/030 U

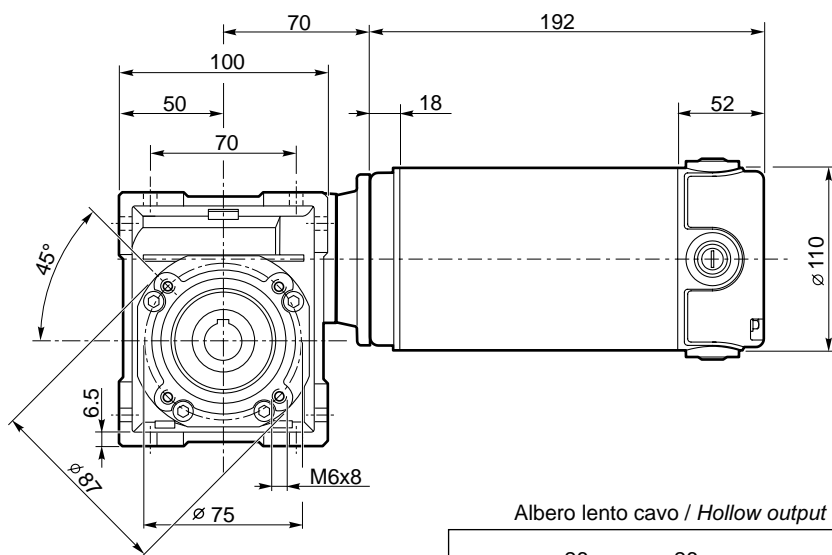


Albero lento cavo / Hollow output shaft

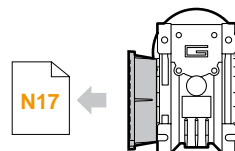
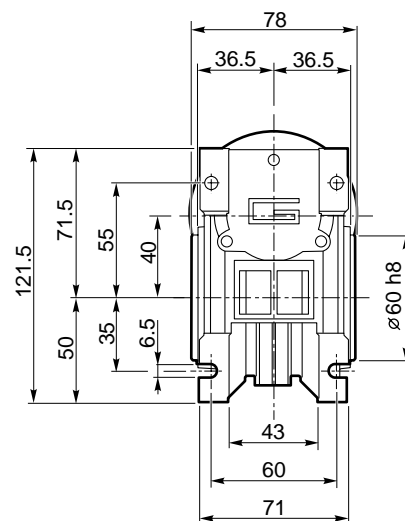
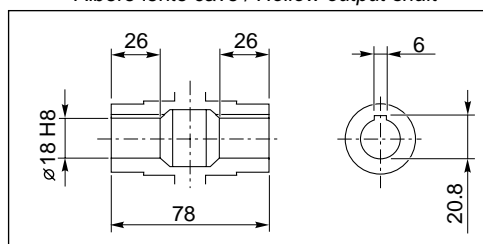


ECM350/030 F

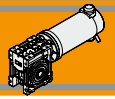
ECM350/040 U



Albero lento cavo / Hollow output shaft



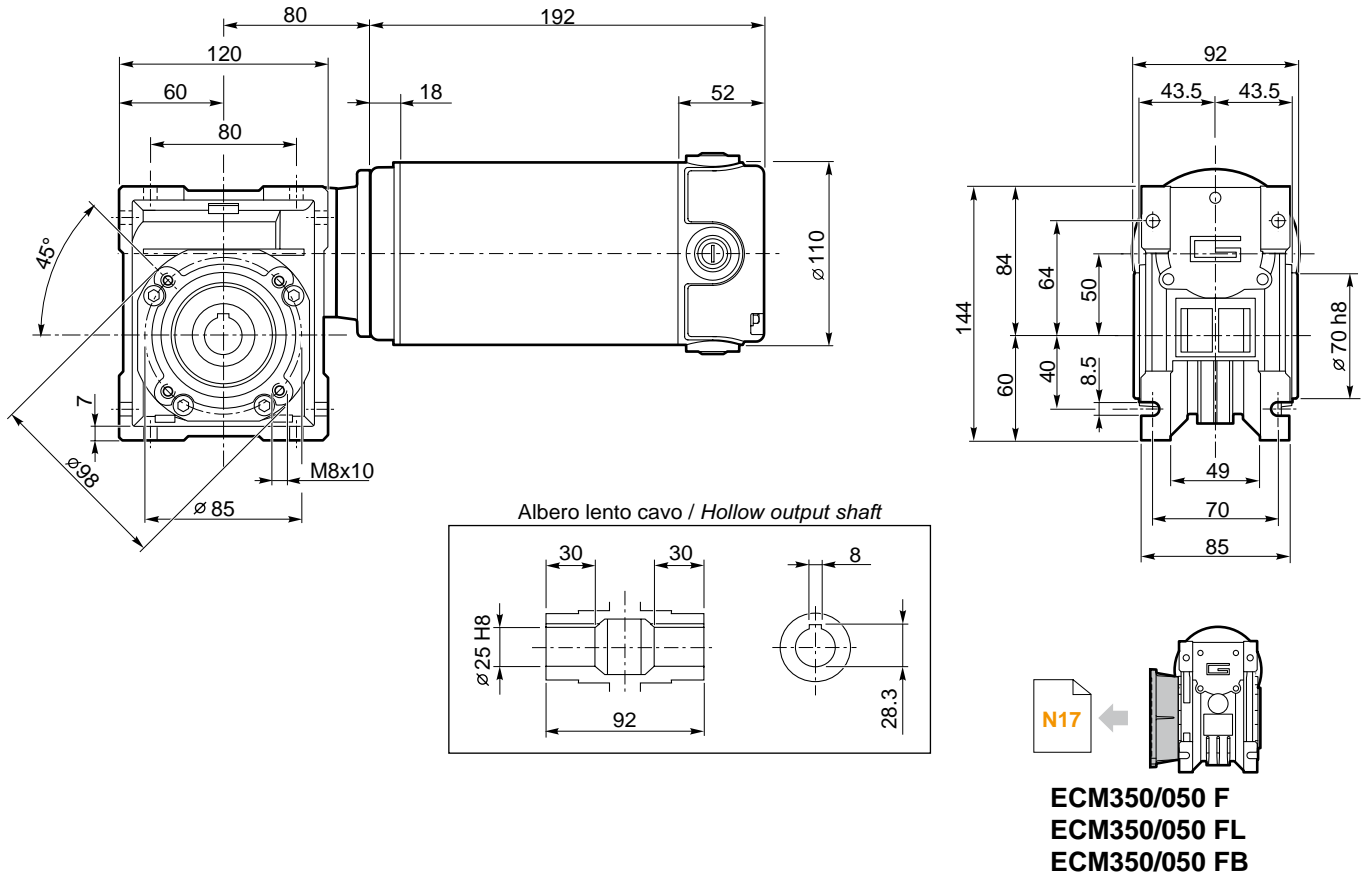
ECM350/040 F
ECM350/040 FL
ECM350/040 FB



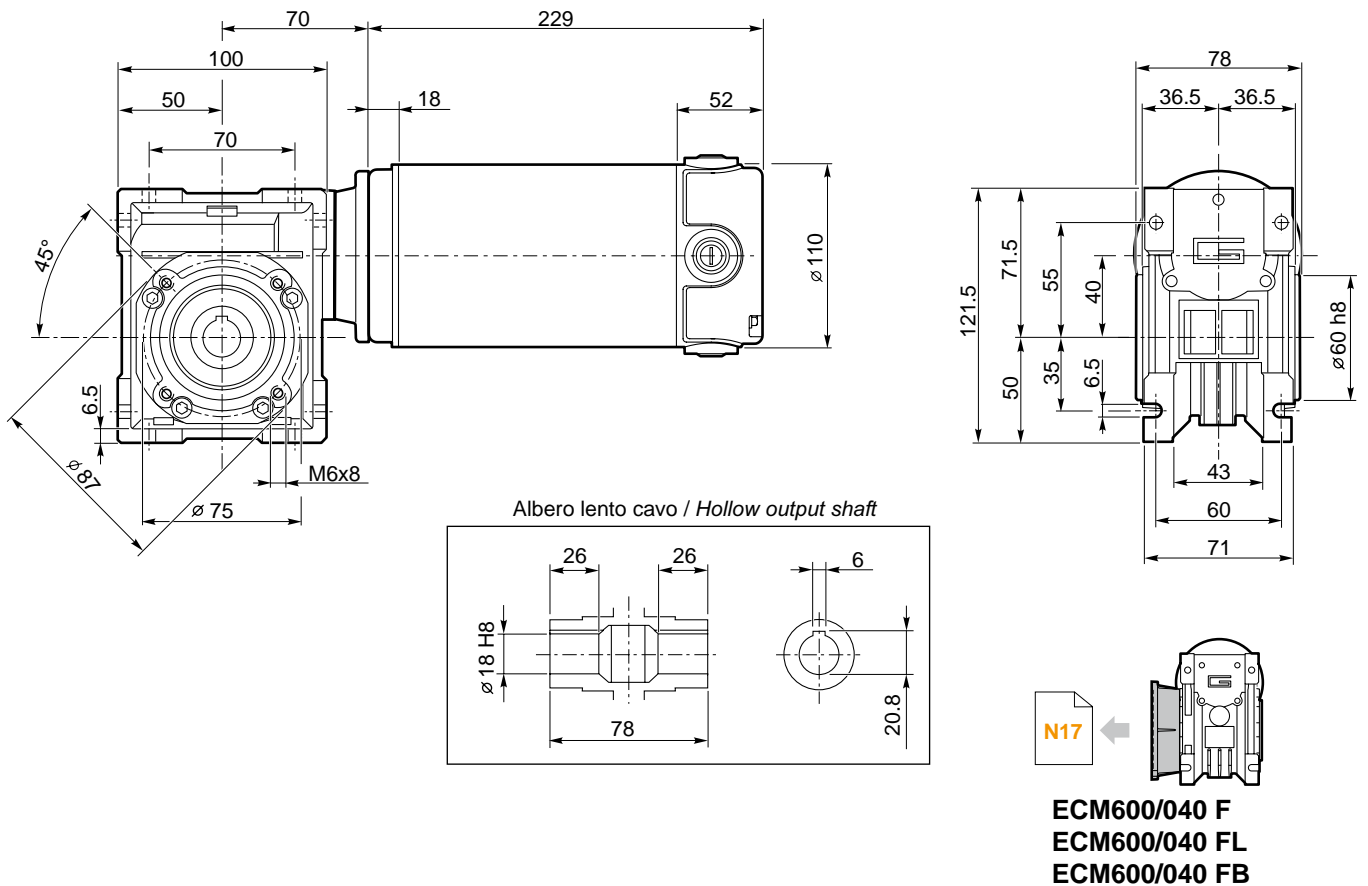
Dimensioni

Dimensions

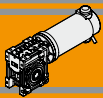
ECM350/050 U



ECM600/040 U



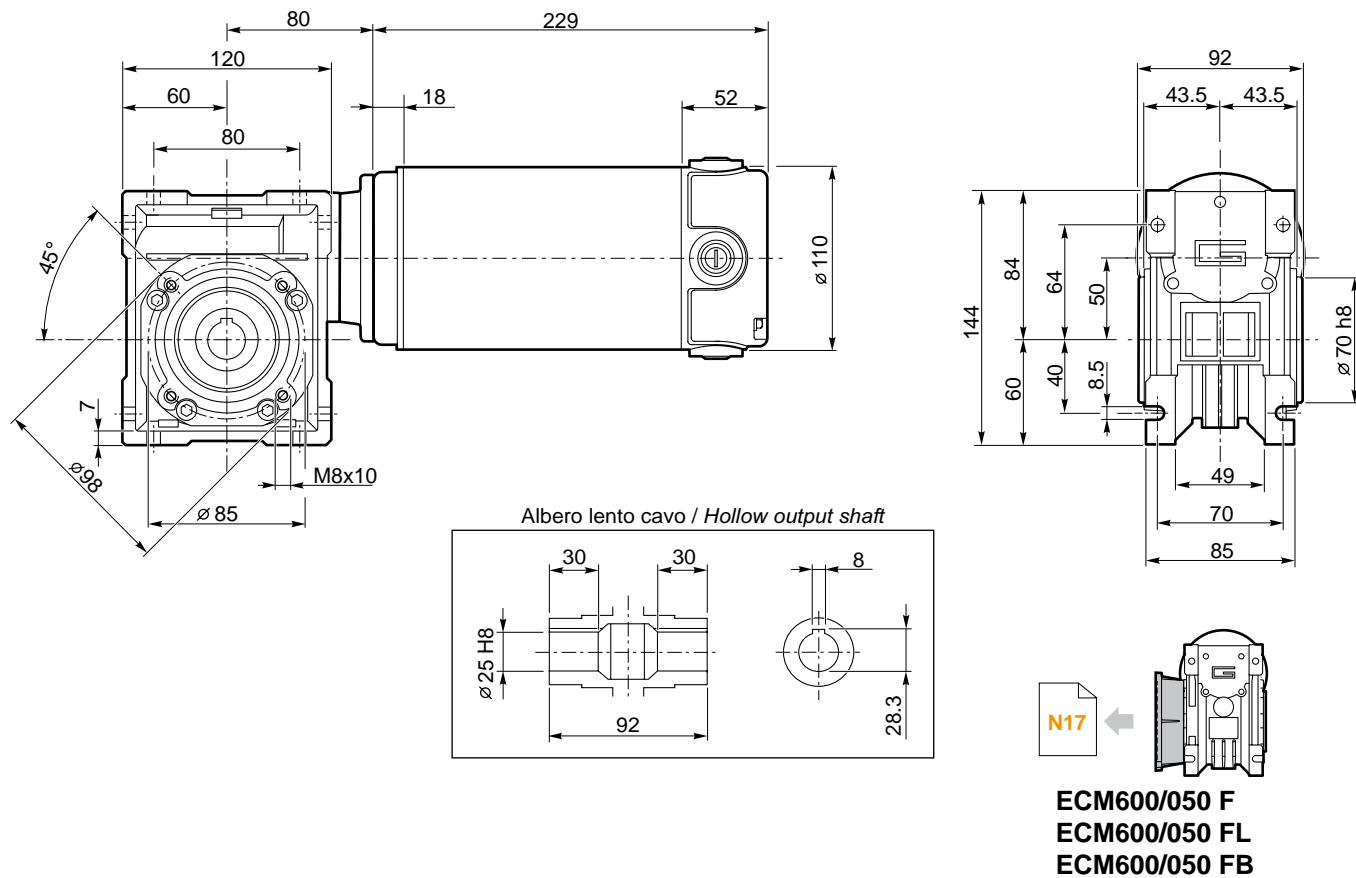
ECM



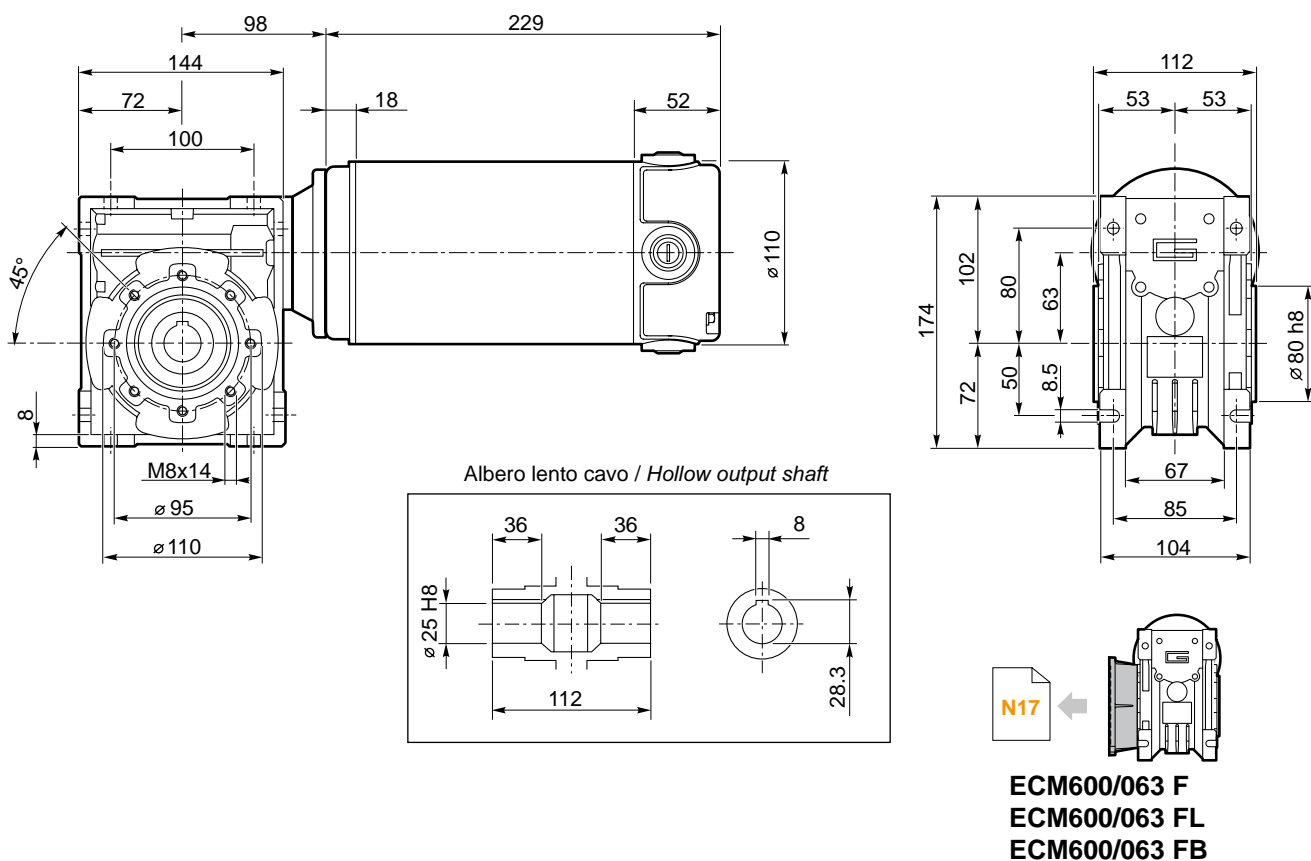
Dimensioni

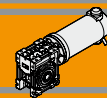
Dimensions

ECM600/050 U



ECM600/063 U

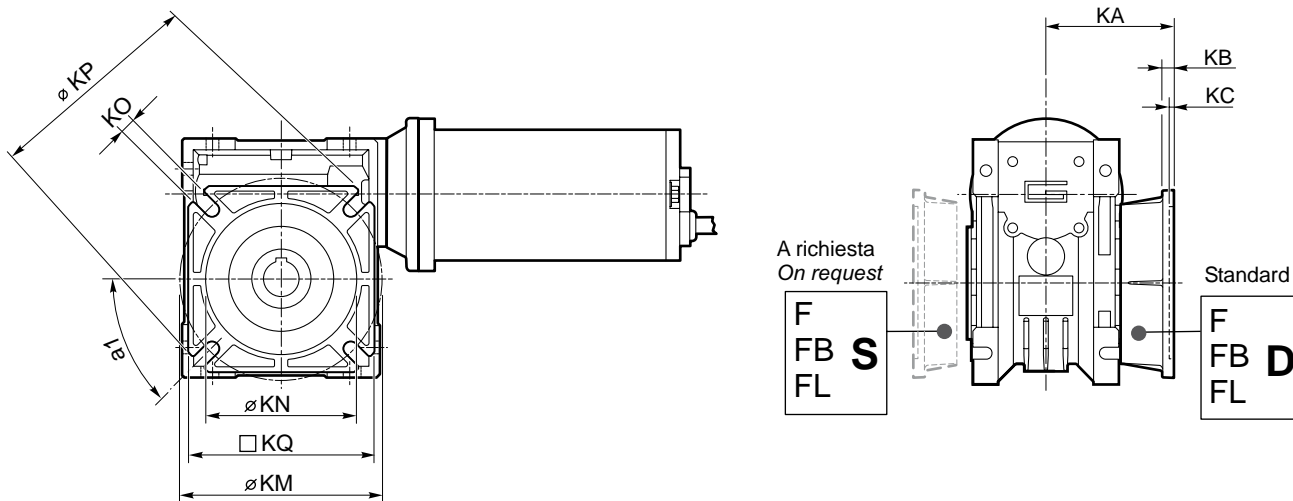




Dimensioni

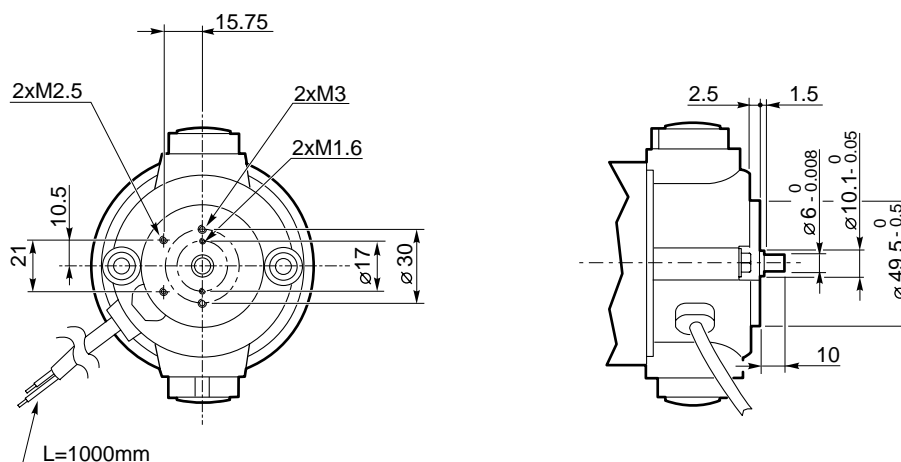
Dimensions

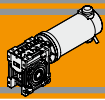
ECM.../... F... Flange uscita / Output flanges



CM	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
026	45°	45	6	4.5	55-69	40	6.5(n.4)	75	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
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
063	45°	82	10	6	150-160	115	11(n.4)	180	142	98	10	5	165-180	130	11(n.4)	200	160	112	10	6	150-160	115	11(n.4)	180	142

EC100.24E
EC180.24E

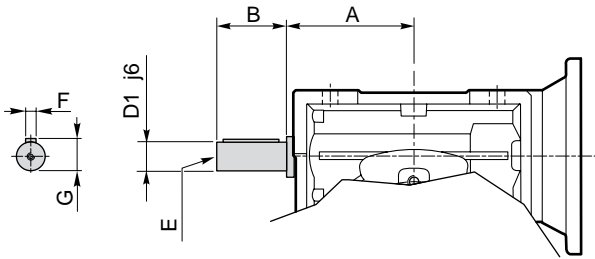




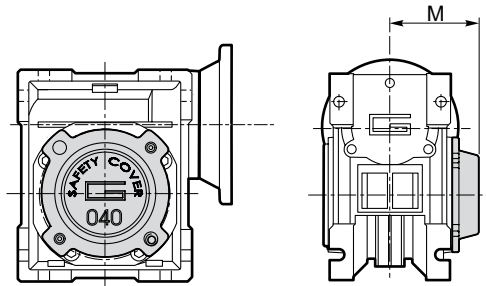
Opzioni

Options

VS - Vite sporgente / Extended input shaft



SC - Safety cover



	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
CM 050	64	30	14	M6	5	16
CM 063	75	40	19	M6	6	21.5

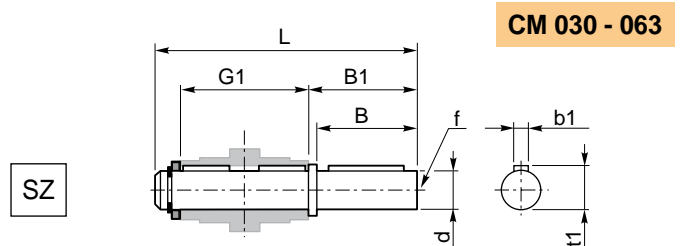
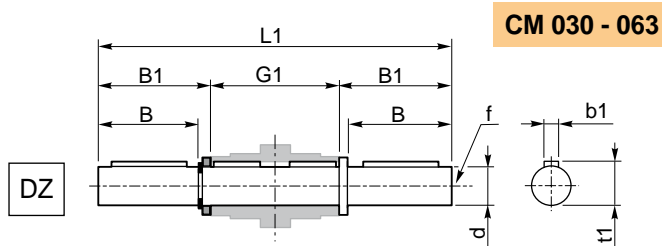
	M
CM 030	47
CM 040	54.5
CM 050	62.5
CM 063	73

Accessori

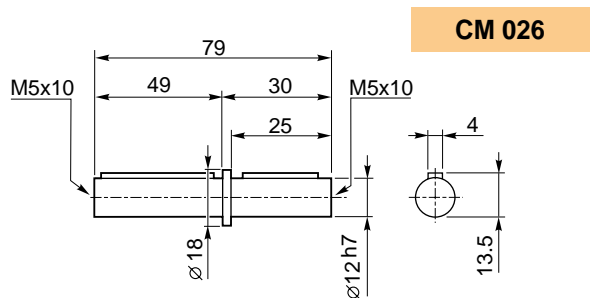
Accessories

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 050	25	50	53.5	92	153	199	M10	8	28
CM 063	25	50	53.5	112	173	219	M10	8	28



Braccio di reazione

Torque arm

	K1	G	KG	KH	R
CM 030	85	14	23	8	15
CM 040	100	14	31	10	18
CM 050	100	14	38	10	18
CM 063	150	14	47.5	10	18

