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Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81

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Омск (3812)21-46-40
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Пермь (342)205-81-47
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Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

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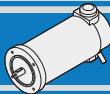
Двигатели постоянного тока INTECNO

*Motori C.C. a Magneti Permanenti
Permanent Magnets D.C. Motors*





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Caratteristiche tecniche

Le caratteristiche principali dei motori della serie EC sono:

- Campo magnetico generato da magneti permanenti
- Costruzione tubolare, senza ventilazione
- Disponibili in 4 grandezze: diametro 42, 52, 65, 81 mm
- Alimentazione a bassa tensione, 12 o 24 Vcc
- Potenze disponibili da 30 a 250 W S2
- Elevate coppie di spunto
- Elevate coppie e potenze in dimensioni compatte

Technical features

The main features of EC motor range are:

- Magnetic field generated by permanent magnets
- Tubular construction, without fan
- Available in 4 sizes: diameter 42, 52, 65, 81 mm
- Low voltage power supply, 12 or 24 Vdc
- Power ratings available from 30 to 250 W S2
- High starting torque
- High torque and output power with compact package

Classe di isolamento termico

Gli avvolgimenti del rotore sono soggetti a surriscaldamento, come pure altre parti del motore. Il grado di isolamento indica la massima temperatura ammissibile oltre la quale l'isolante della matassa e l'isolante di tutte le parti soggette ad elevato riscaldamento perdono le caratteristiche di buon isolante, con pericolo di danneggiamento del motore.

Servizio

Rappresenta la relazione tra il tempo di lavoro ed il tempo di riposo del motore. Servizio continuo (S1) = funzionamento continuo del motore a pieno carico.

Servizio intermittente (S2, S3, etc...) = periodi alternati di lavoro e di riposo tali da raffreddare il motore. Dato un motore, la potenza espressa per servizio continuo è inferiore a quella per servizio intermittente.

Thermal insulation class

The windings of the rotor can overheat just like other parts of the motor too. The degree of insulation indicates the maximum allowable temperature above which the insulation of the windings, as well as that of all the parts which heat up to a high temperature, loses its insulating properties and the motor therefore risks being damaged.

Duty cycle

This represents the relationship between the time the motor operates and the time it remains stationary. Continuous operation (S1) = the motor operates non-stop under full load.

Intermittent operation (S2, S3, etc.) = alternating periods of work and rest so that the motor can cool down. The output power for continuous operation is lower than that for intermittent operation.

Fattore di forma

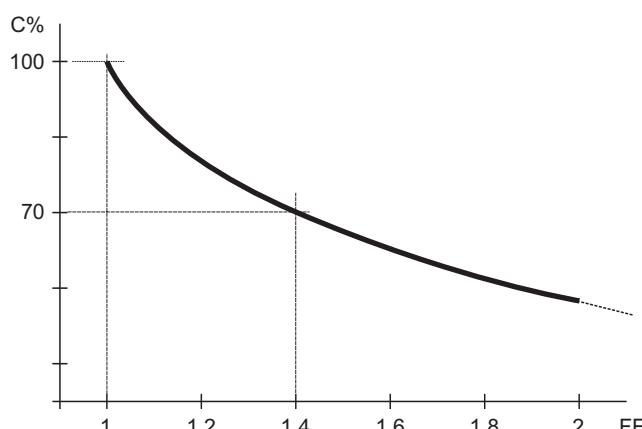
Indica quanta componente spuria alternata è presente nella alimentazione CC del motore. Più alto è il fattore ed inferiore è l'efficienza del motore. Alimentatori ad SCR = F.F 1.40. Alimentazione pura da batteria = FF 1. Alimentazione da transistori (modulazione PWM) = FF 1.05.

Qualitativamente l' andamento della coppia (percentuale) rispetto al fattore di forma è indicato nel grafico seguente:

Form factor

It indicates how much spurious alternating current is present in the D.C. motor power supply. The higher the factor, the lower the motor's efficiency. SCR power supplies = F.F 1.40. Battery supply = FF 1 Transistor supply (PWM modulation) = FF 1.05.

The graph below indicates the torque trend (percentage) in relation to the form factor.





Grado di protezione IP

Indica il grado di isolamento meccanico del corpo motore.

1^a cifra protezione alla penetrazione di corpi solidi.

2^a cifra protezione contro la penetrazione d'acqua.

IP enclosures protection indexes

Indicates the degree of mechanical insulation of the motor body.

1st figure indicating level of protection against the penetration of solid bodies.

2nd figure: indicating degree to which the motor is waterproof.

0	Non protetto / No protection	0	Non protetto / No protection
1	Protetto da corpi solidi superiori a Ø 50 mm. <i>Protected against solid matters (over Ø 50 mm)</i>	1	Protetto contro la caduta verticale di gocce d'acqua. <i>Protected against drops of water falling vertically</i>
2	Protetto da corpi solidi superiori a Ø 12 mm. <i>Protected against solid matters (over Ø 12 mm)</i>	2	Protetto contro la caduta verticale di gocce d'acqua con inclinazione max di 15° <i>Protected against drops of water falling up to 15°</i>
3	Protetto da corpi solidi superiori a Ø 2,5 mm. <i>Protected against solid matters (over Ø 2,5 mm)</i>	3	Protetto contro la pioggia. <i>Rain proof fixture</i>
4	Protetto da corpi solidi superiori a Ø1 mm. <i>Protected against solid matters (over Ø1 mm)</i>	4	Protetto contro gli spruzzi. <i>Splash proof fixture</i>
5	Protetto contro la polvere <i>Dust proof</i>	5	Protetto contro getti d'acqua <i>Water jet proof</i>
6	Totalmente protetto contro la polvere <i>Fully dust proof</i>	6	Protetto dalle ondate <i>Wave proof</i>
7	N.A.	7	Protetto contro immersione <i>Watertight immersion fixture.</i>
8	N.A.	8	Protetto contro immersione/sommersione prolungata <i>Watertight immersion fixture for a long time.</i>

Classe di isolamento termico

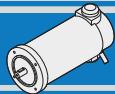
Insulation class

Classe / Class	$\Delta t ^\circ C$ Temp. ambiente: 40°C <i>Ambient temperature: 40°C</i>
A	65°C
B	90°C
F	115°C
H	140°C

Tipi di servizio IEC

IEC duty cycle ratings

S1	Servizio continuo. Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	Continuous duty. The motor works at a constant load for enough time to reach temperature equilibrium
S2	Servizio di durata limitata. Funzionamento a carico costante per una durata inferiore a quella necessaria al raggiungimento dell' equilibrio termico, seguito da un periodo di riposo tale da riportare il motore alla temperatura ambiente.	Short time duty. The motor works at a constant load, but not long enough to reach temperature equilibrium, and the rest periods are long enough for the motor to reach ambient temperature.
S3	Servizio periodico intermittente. Sequenze di cicli identici di marcia e di riposo a carico costante, senza raggiungimento dell' equilibrio termico. La corrente di spunto ha effetti trascurabili sul surriscaldamento del motore.	Intermittent periodic duty. Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.
S4	Servizio periodico intermittente con avviamento. Sequenza di cicli di funzionamento identici di avviamento, marcia e riposo a carico costante, senza raggiungimento dell'equilibrio termico. La corrente di spunto ha effetti sul riscaldamento del motore.	Intermittent periodic duty with starting. Sequential identical start, run and rest cycles with constant load. Temperature equilibrium is not reached, but starting current affects temperature rise.
S5	Servizio periodico intermittente con frenatura elettrica. Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante, frenatura elettrica e riposo, senza raggiungimento dell'equilibrio termico.	Intermittent periodic duty with electric braking. Sequential, identical cycles of starting, running at constant load, electric braking and rest. Temperature equilibrium is not reached.
S6	Servizio periodico ininterrotto con carico intermittente. Sequenza di cicli di lavoro identici con carico costante e senza carico. Non ci sono periodi di riposo.	Continuous operation with intermittent load. Sequential, identical cycles of running with constant load and running with no load. No rest periods.
S7	Servizio periodico ininterrotto con frenatura elettrica. Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante e frenatura elettrica, senza periodi di riposo.	Continuous operation with electric braking. Sequential, identical cycles of starting, running at constant load and electric braking. No rest periods.
S8	Servizio periodico ininterrotto con variazioni di carico e di velocità. Sequenza di cicli identici di avviamento, marcia a carico costante e velocità definita, seguiti da marcia a carico costante differente e velocità differente dalla precedente. Non ci sono periodi di riposo.	Continuous operation with periodic changes in load and speed. Sequential, identical, duty cycles of start, run at constant load and given speed, then run at other constant loads and speeds. No rest periods.



MOTORI C.C. A MAGNETI PERMANENTI

PERMANENT MAGNETS D.C. MOTORS

EC020.120 - EC020.24E

Caratteristiche

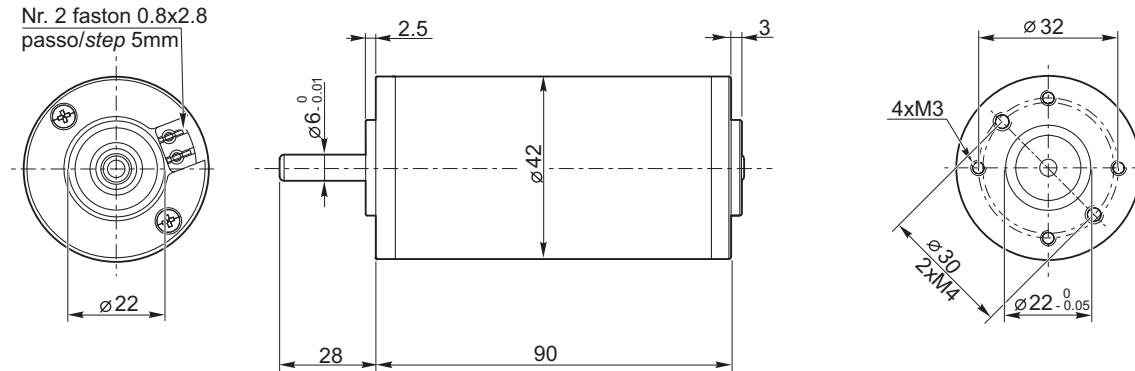
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 42 mm
Potenza	30 W S2 (20 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 di composito grafite-rame
Cavo di alimentazione	Connettori faston (0.8 x 2.8 mm)
Opzioni	Filtro EMC Encoder

Construction	Tubular, without fan
Size	Ø 42 mm
Power	30 W S2 (20 W S1)
Magnets	2
Bearings	Ball bearing
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 brushes made of graphite/copper composite
Electric cable	Faston terminals (0.8 x 2.8 mm)
Options	EMC filter Encoder

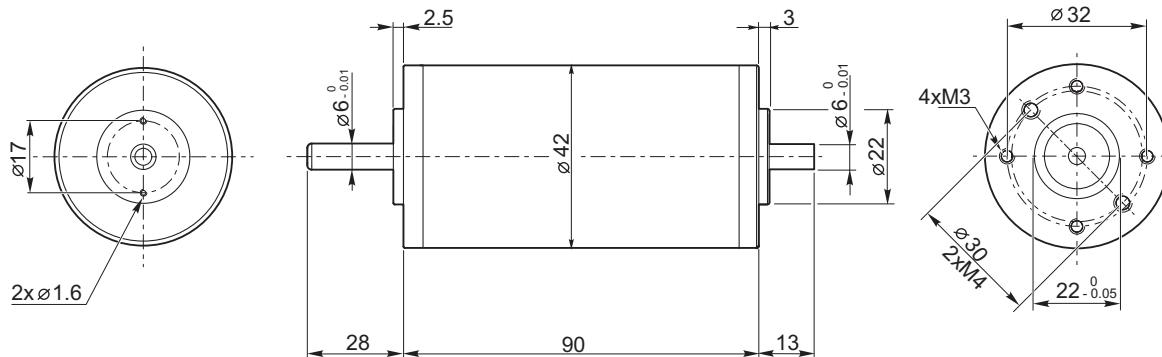
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC020.120	S1	20	12	2.6	B	1	0.06	2850	20	0.4
	S2 6'	30		3.5			0.08			
EC020.24E	S1	20	24	1.4			0.06			
	S2 6'	30		1.9			0.08			

Dimensioni

EC020.120



EC020.24E





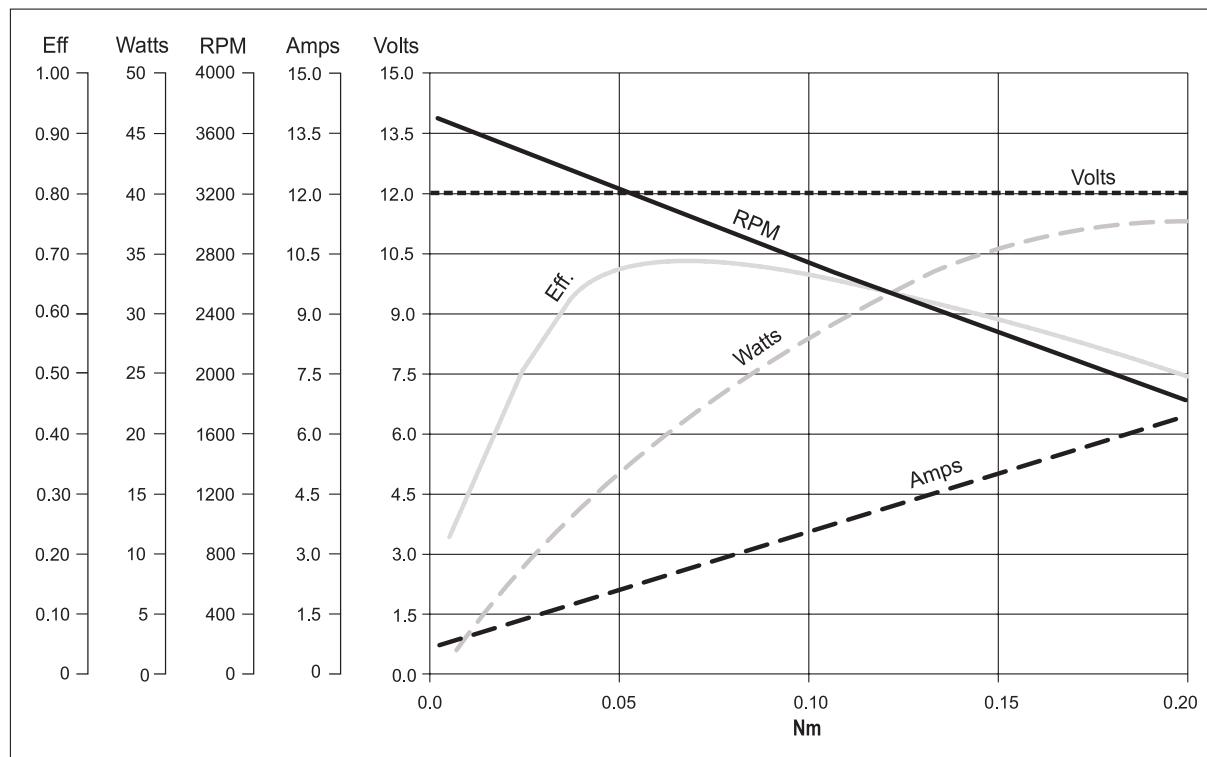
EC020.120 - EC020.24E

Prestazioni

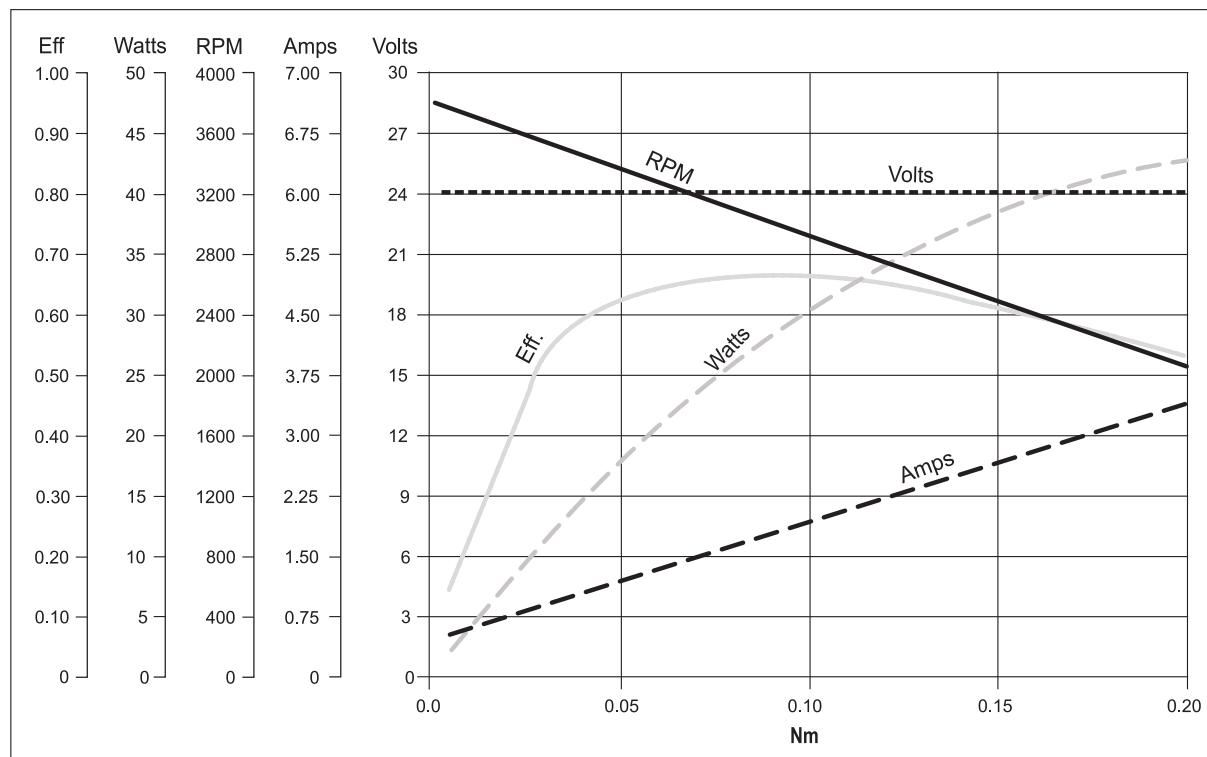
Performances

DC

EC020.120



EC020.24E





MOTORI C.C. A MAGNETI PERMANENTI

PERMANENT MAGNETS D.C. MOTORS

EC030.240 - EC030.24E

Caratteristiche

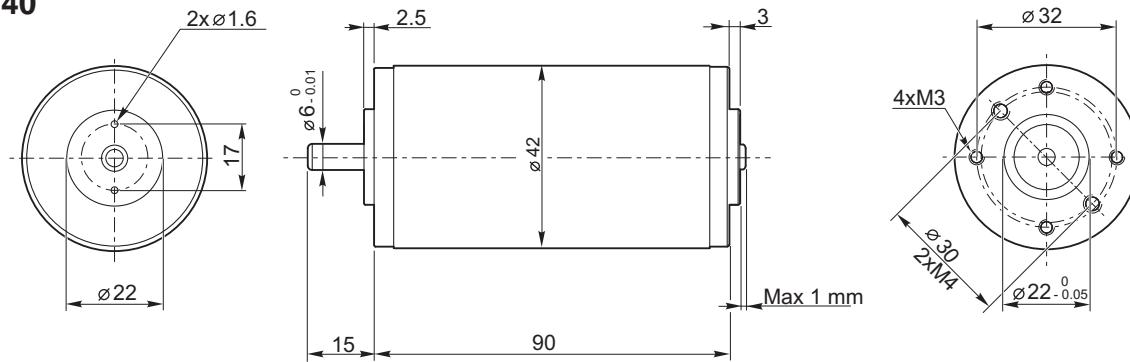
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 42 mm
Potenza	50 W S2 (30 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	6
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 di composito grafite-rame
Cavo di alimentazione	2 cavi. Rosso e nero, 280 mm
Opzioni	Filtro EMC Encoder

Construction	Tubular, without fan
Size	Ø 42 mm
Power	50 W S2 (30 W S1)
Magnets	2
Bearings	Ball bearing
Mounting holes	6
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 brushes made of graphite/copper composite
Electric cable	2 leads, Red and Black, 280 mm long
Options	EMC filter Encoder

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC030.240	S1	30	24	2	B	1	0.10	3500	20	0.53
EC030.24E	S2 6'	50		3.5			0.16			

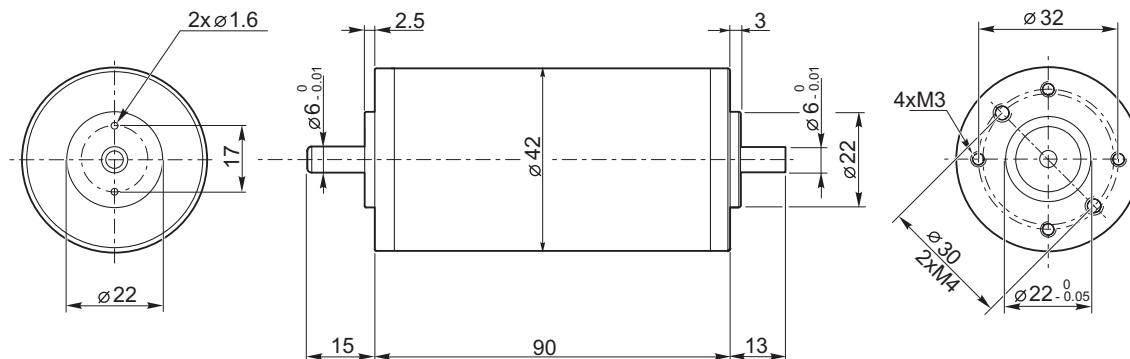
Dimensioni

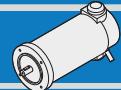
EC030.240



Dimensions

EC030.24E





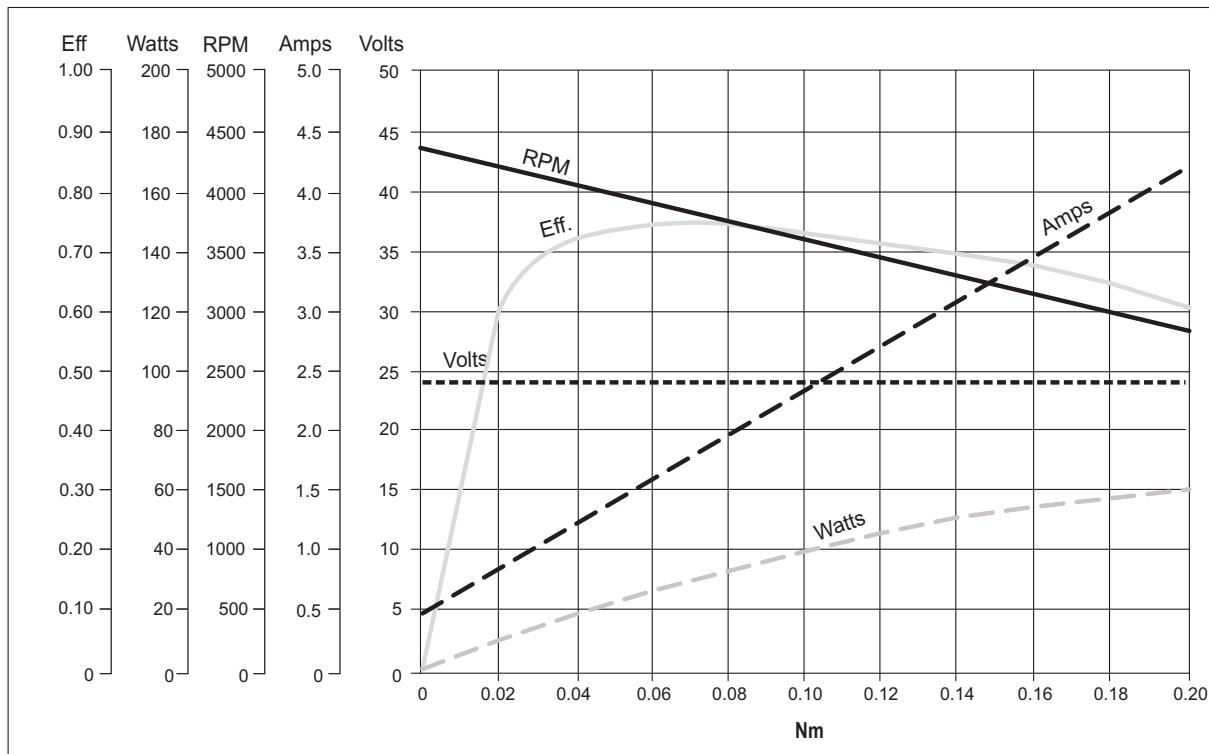
EC030.240 - EC030.24E

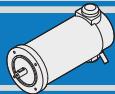
Prestazioni

Performances

DC

EC030.240 - EC030.24E





MOTORI C.C. A MAGNETI PERMANENTI
PERMANENT MAGNETS D.C. MOTORS

EC035.120 - EC035.240

Caratteristiche

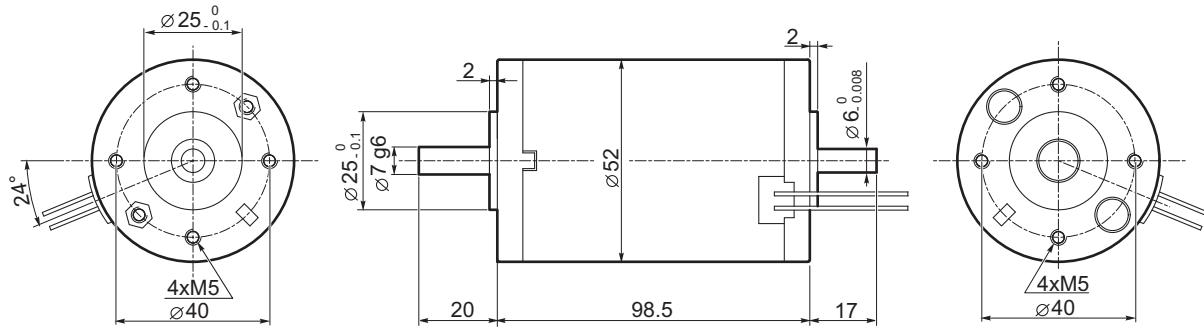
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 52 mm
Potenza	55 W S2 (35 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composito grafite-rame
Cavo di alimentazione	Lunghezza: 200 mm
Opzioni	Encoder

Construction	Tubular, without fan
Size	Ø 52 mm
Power	55 W S2 (35 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 200 mm
Options	Encoder

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC035.120	S1	35	12	5.2	F	1	0.11	3000	44	0.8
	S2 9'	55		8.0			0.18			
EC035.240	S1	35	24	2.6	F	1	0.11	44	0.8	0.8
	S2 9'	55		4.0			0.18			

Dimensioni

Dimensions





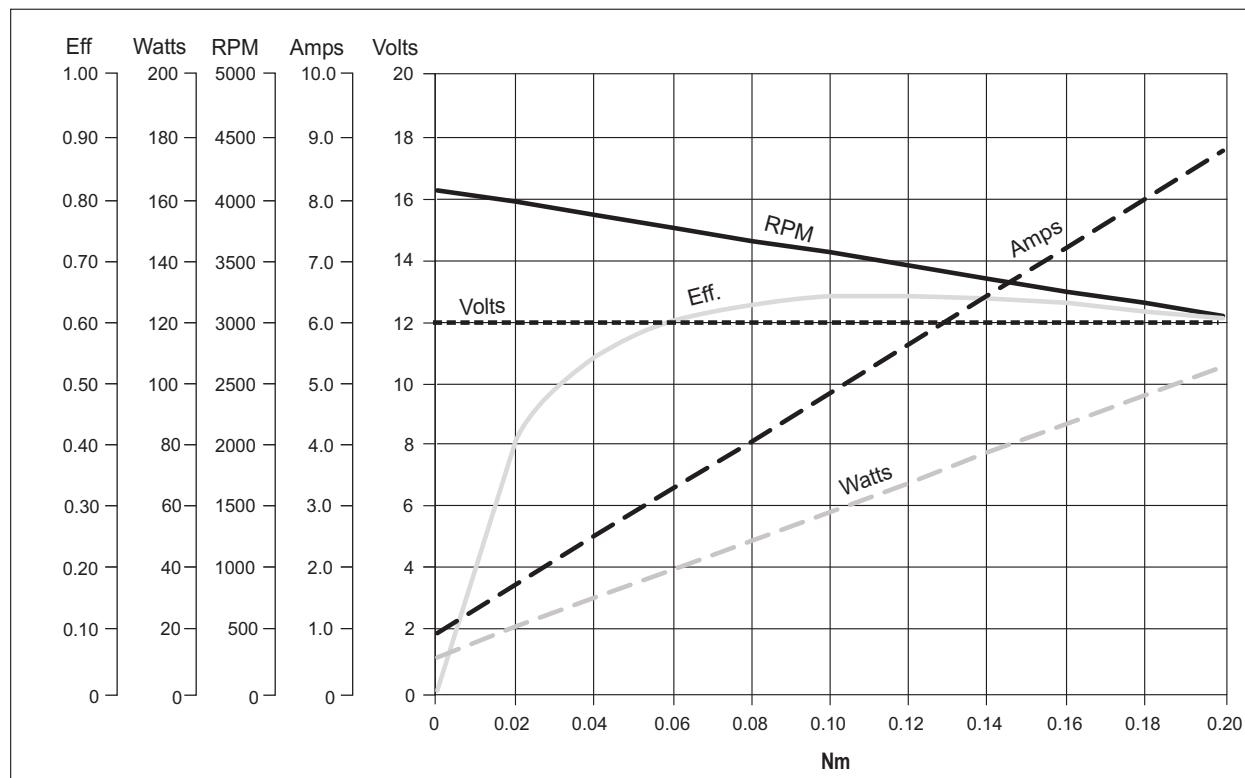
EC035.120 - EC035.240

Prestazioni

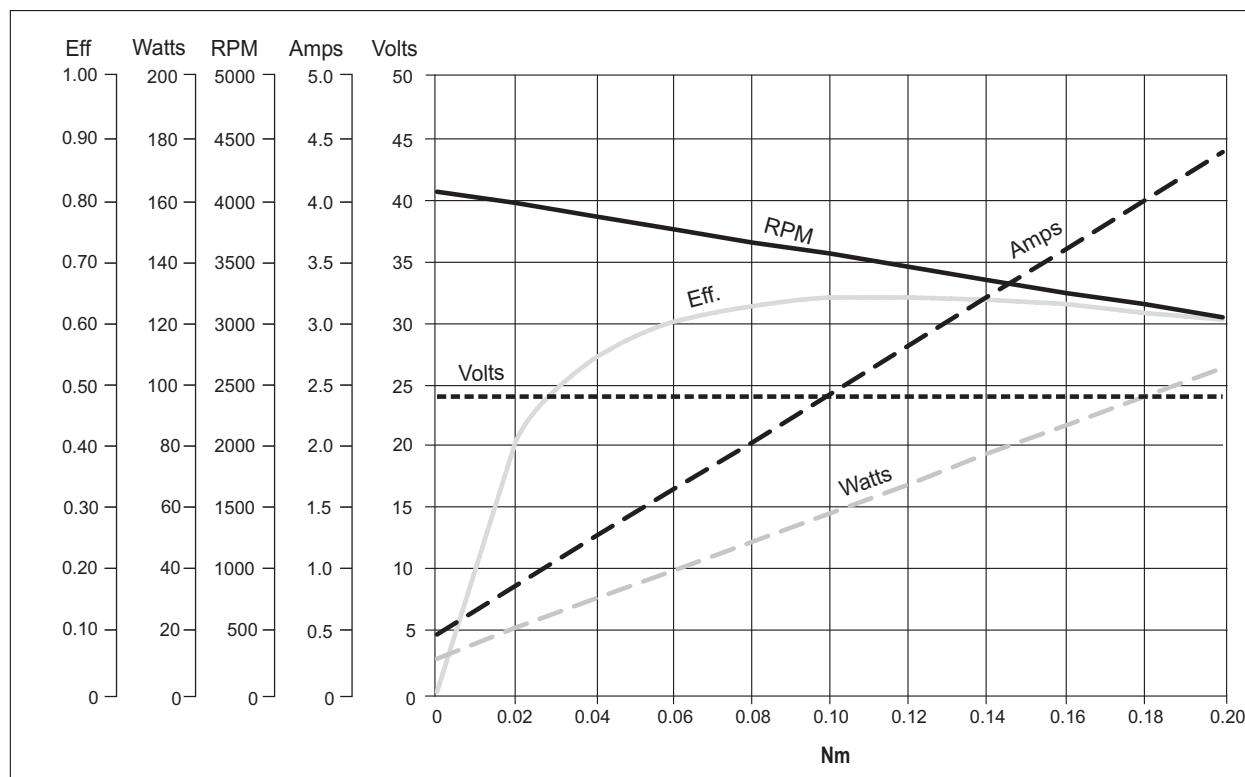
Performances

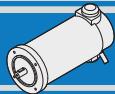
DC

EC035.120



EC035.240





MOTORI C.C. A MAGNETI PERMANENTI
PERMANENT MAGNETS D.C. MOTORS

EC050.12E - EC050.24E

Caratteristiche

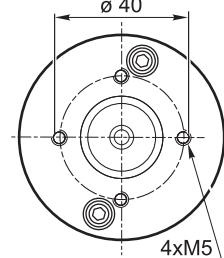
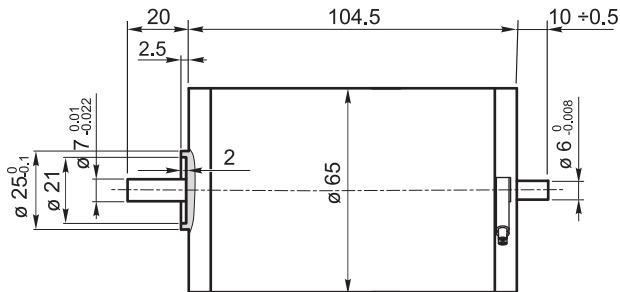
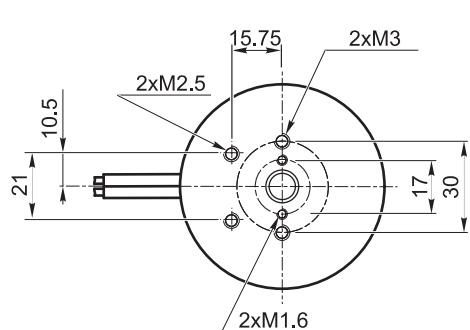
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	70 W S2 (50 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composito grafite-rame
Cavo di alimentazione	Lunghezza: 200 mm
Bisporgenza	Standard

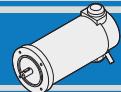
Construction	Tubular, without fan
Size	Ø 65 mm
Power	70 W S2 (50 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 200 mm
Rear Shaft	Standard

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC050.12E	S1	50	12	6.5	F	1	0.16	3000	44	1.2
	S2 15'	70		9.0			0.22			
EC050.24E	S1	50	24	3.2			0.16			
	S2 15'	70		4.5			0.22			

Dimensioni

Dimensions





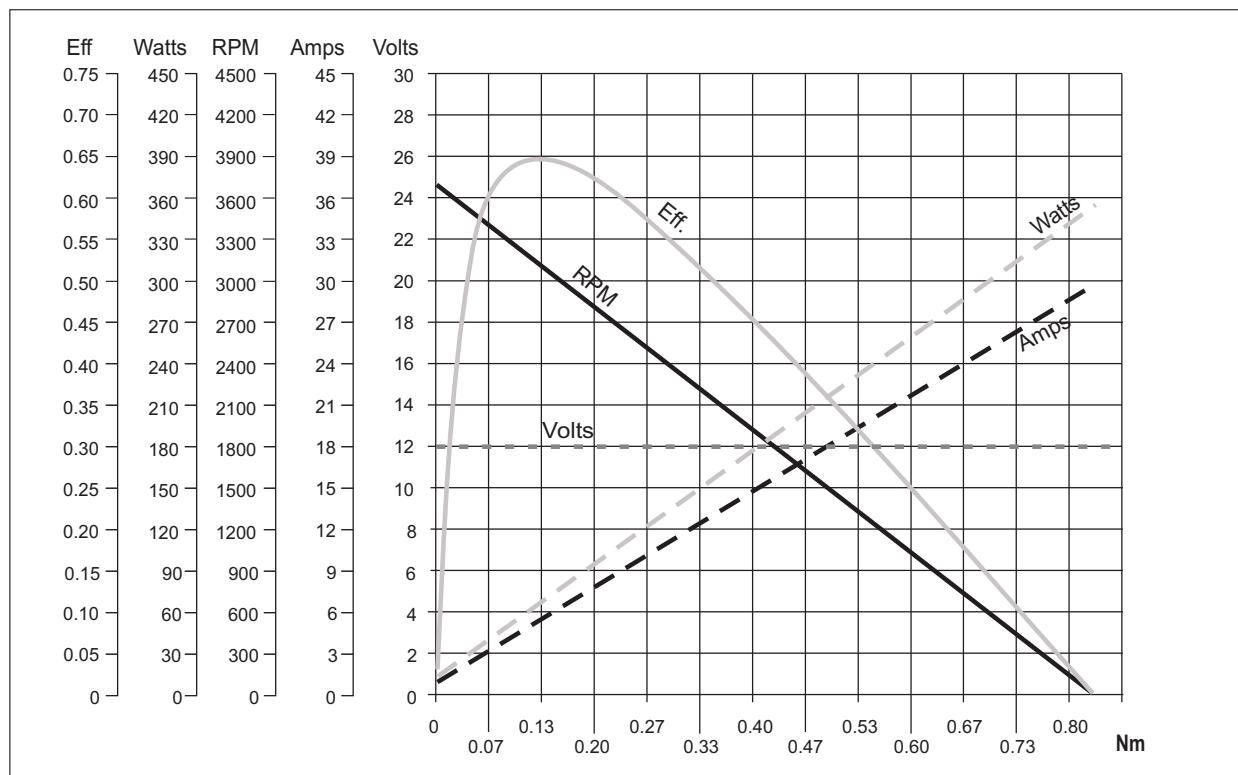
EC050.12E - EC050.24E

Prestazioni

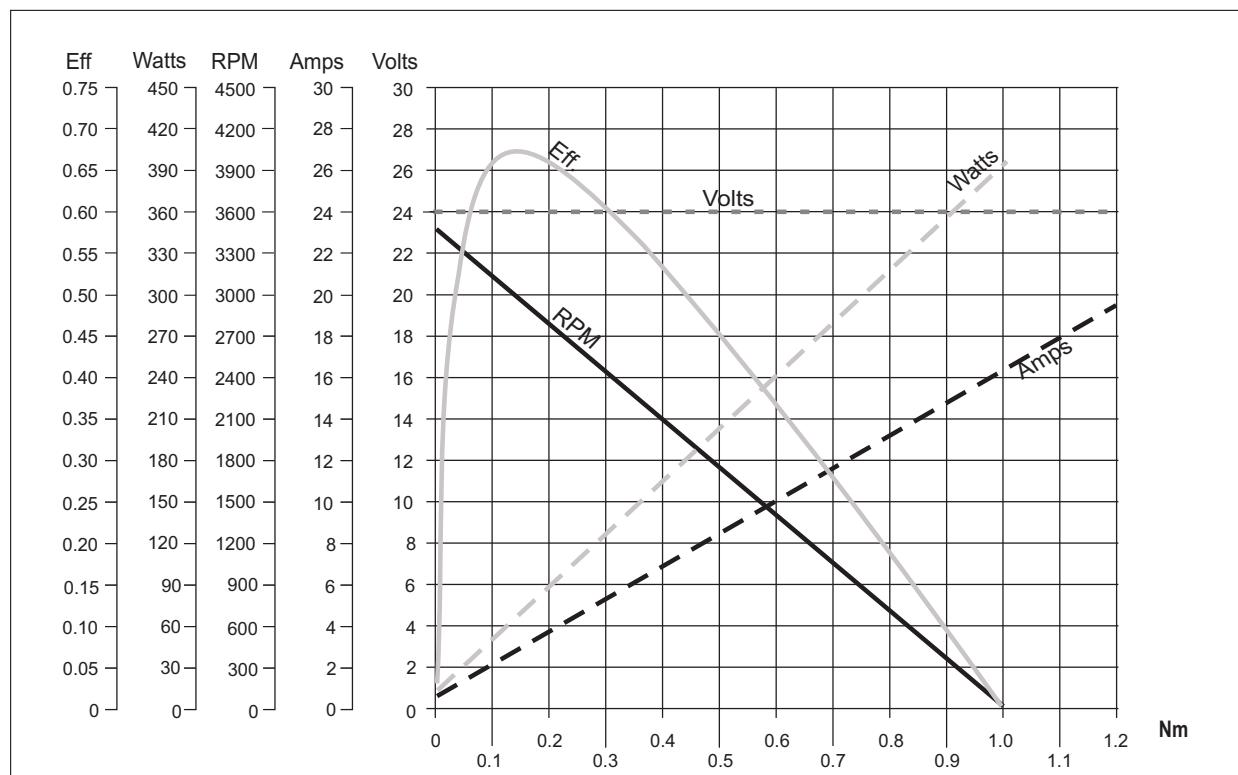
Performances

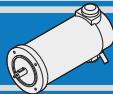
DC

EC050.12E



EC050.24E





MOTORI C.C. A MAGNETI PERMANENTI

PERMANENT MAGNETS D.C. MOTORS

EC070.120 - EC070.240

Caratteristiche

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	100 W S2
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 1000 mm

Construction	Tubular, without fan
Size	Ø 65 mm
Power	100 W S2
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 1000 mm

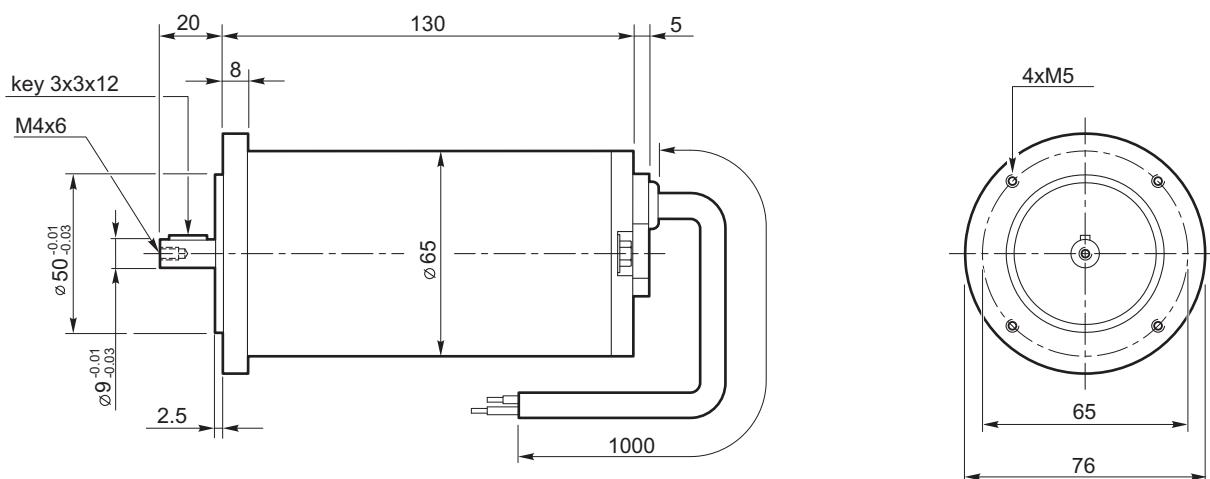
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC070.120	S2 20'	100	12	11.8	F	1	0.31	3000	44	1.7
EC070.240	S2 20'	100	24	5.9			0.31			

Nota: Per servizio continuativo contattare il Servizio Tecnico.

Note: For continous duty please contact our Technical Service.

Dimensioni

Dimensions





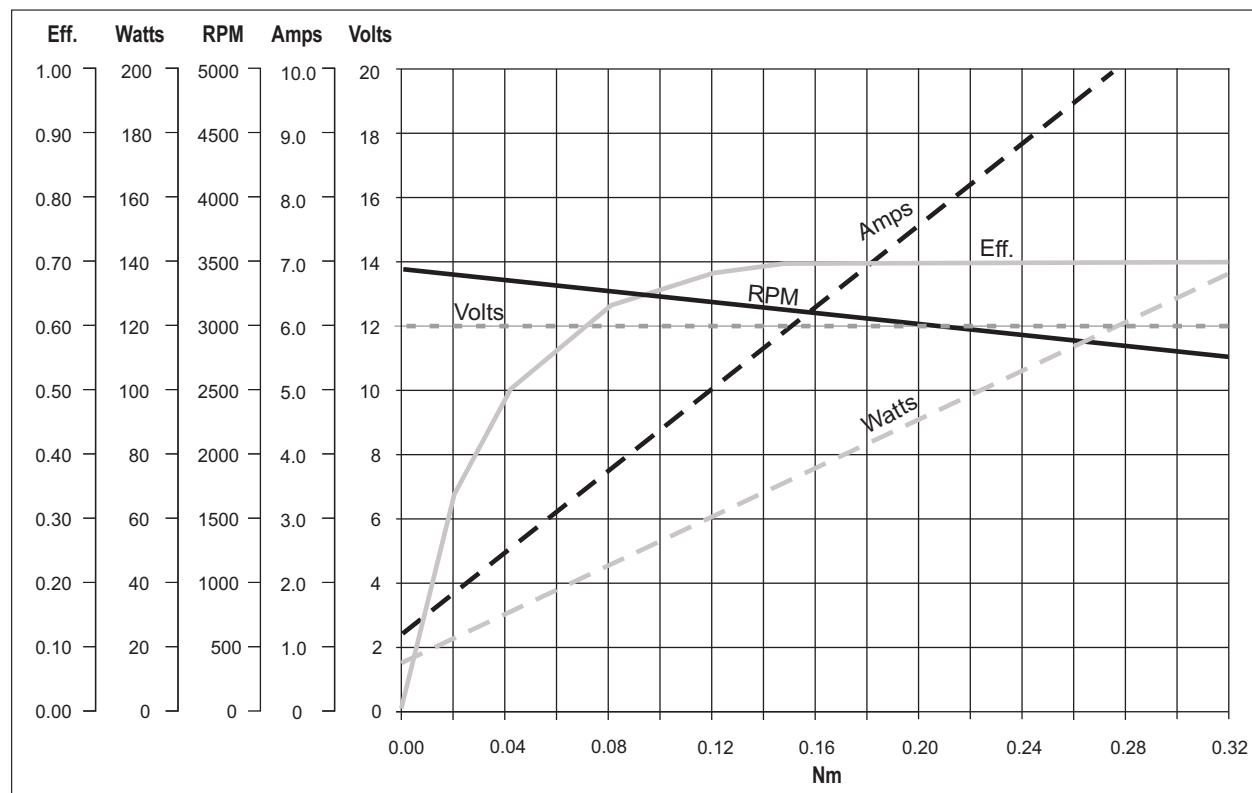
EC070.120 - EC070.240

Prestazioni

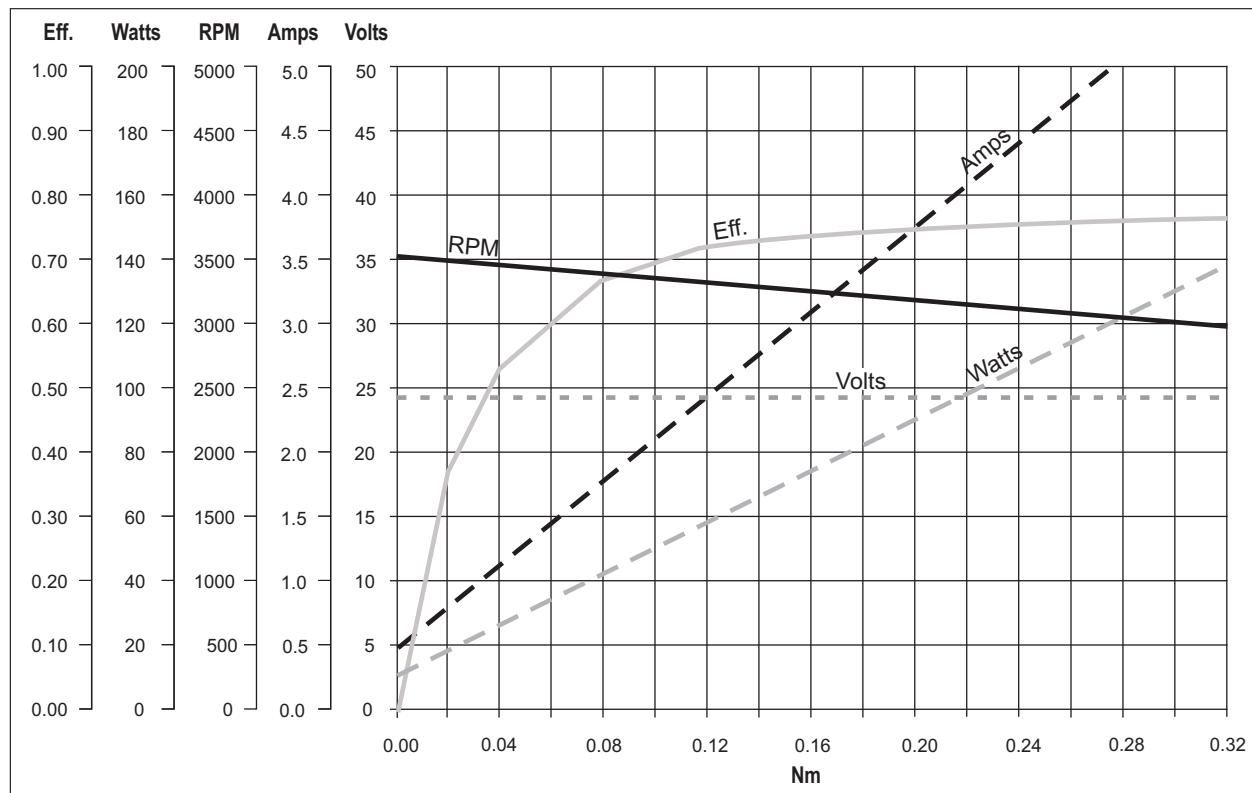
Performances

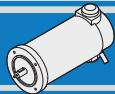
DC

EC070.120



EC070.240





MOTORI C.C. A MAGNETI PERMANENTI PERMANENT MAGNETS D.C. MOTORS

EC100.120 - EC100.240 - EC100.24E

Caratteristiche

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 80 mm
Potenza	140 W S2 (100 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 di composto grafite-rame
Dimensione spazzole	LxPxH = 17.1 x 6.5 x 16.7 mm
Cavo di alimentazione	Lunghezza: 1000 mm
Bisporgenza	Standard solo EC100.24E

Construction	Tubular, without fan
Size	Ø 80 mm
Power	140 W S2 (100 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Brushes size	LxWxH = 17.1 x 6.5 x 16.7 mm
Electric cable	Length: 1000 mm
Rear shaft	Standard only EC100.24E

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC100.120	S1	100	12	12	F	1	0.31	3000	44	2.7
	S2 25'	140		16.8			0.43			
EC100.240	S1	100	24	6	F	1	0.31	3000	44	2.7
	S2 25'	140		8.4			0.43			
EC100.24E	S1	100		6			0.31			
	S2 25'	140		8.4			0.43			

Dimensioni

EC100.120

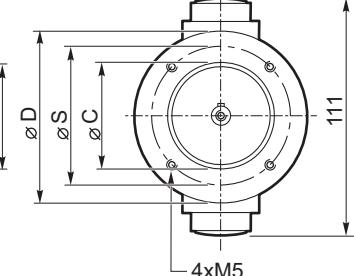
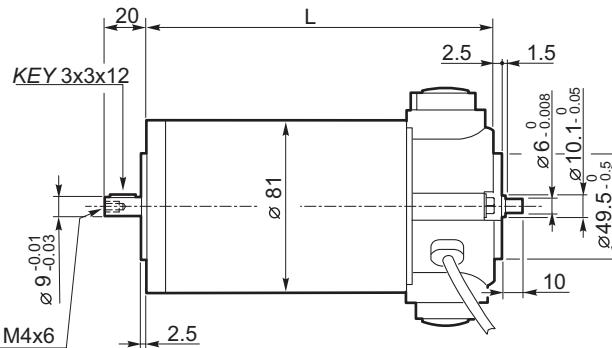
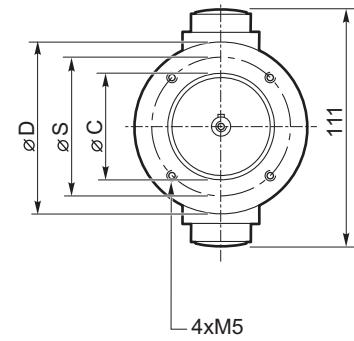
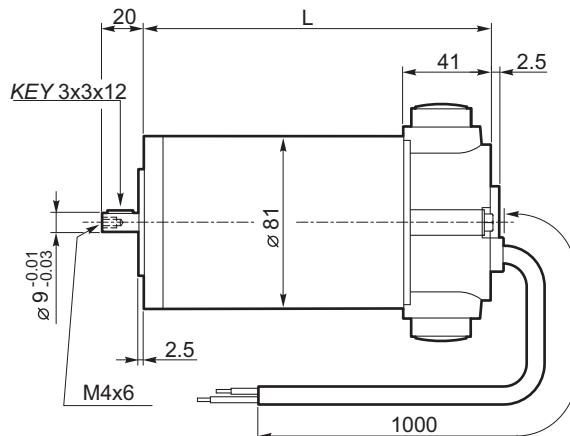
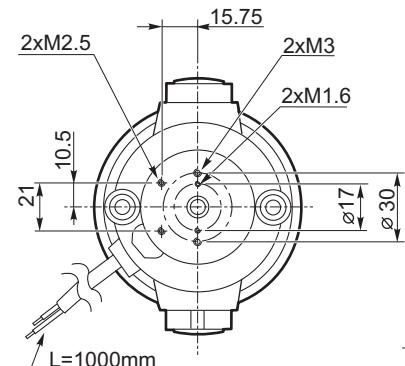
EC100.240

56 B14	
L	153
D	80
S	65
C (-0.03 / -0.01)	50
63B14*	
L	155
D	90
S	75
C (-0.03 / -0.01)	60

* Usare boccola 9/11

* Use sleeve 9/11

EC100.24E





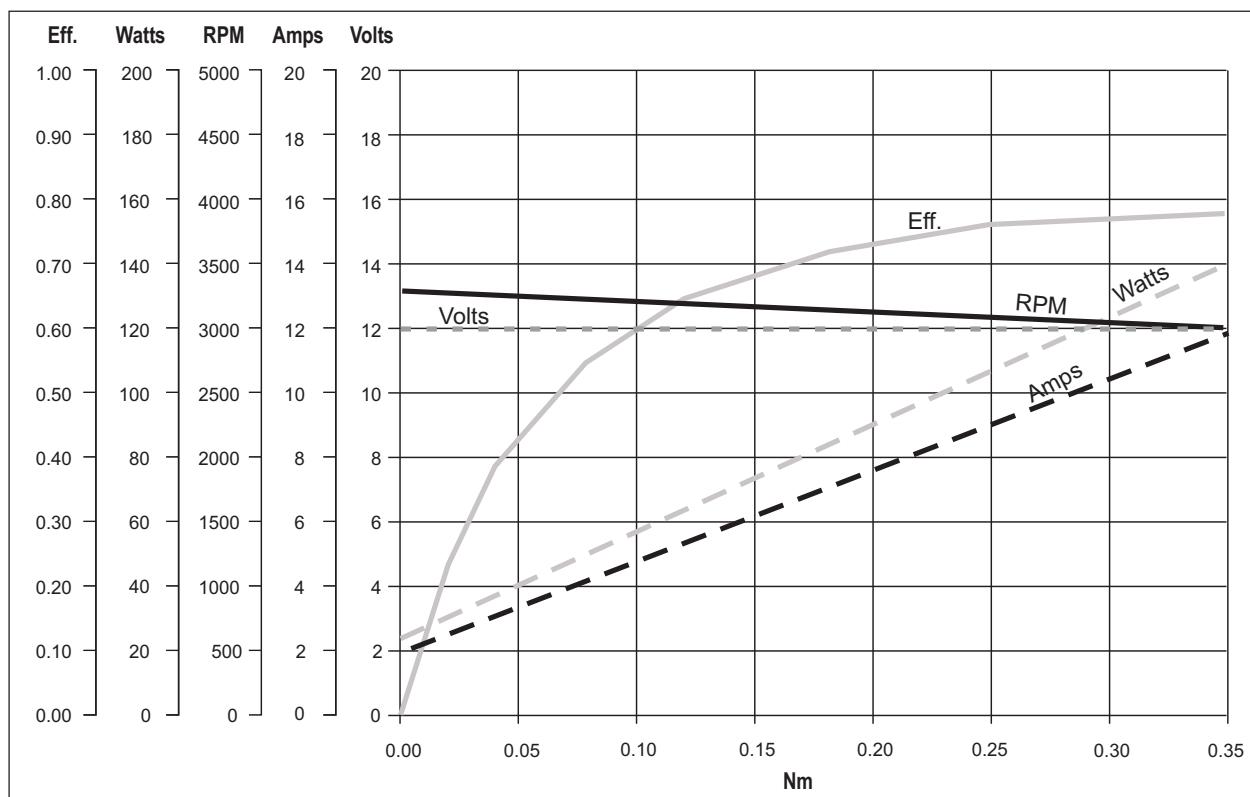
EC100.120 - EC100.240 - EC100.24E

Prestazioni

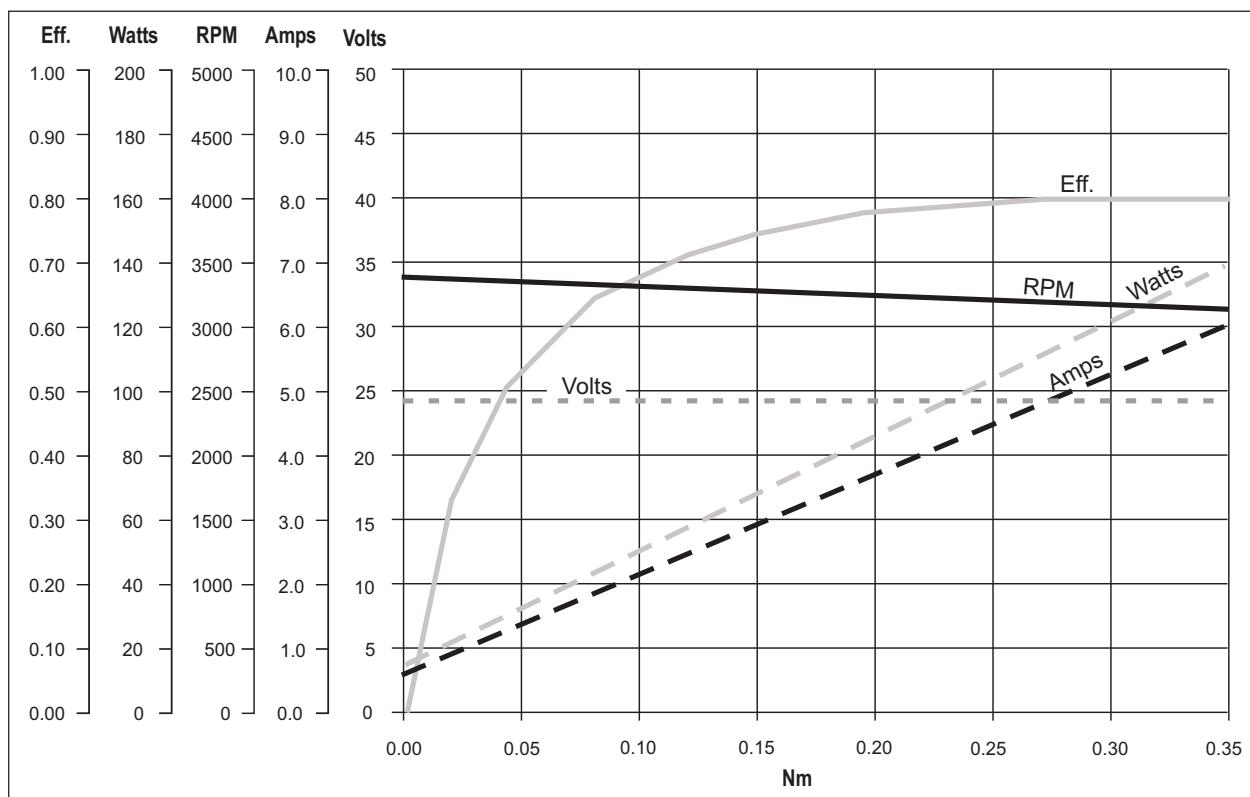
Performances

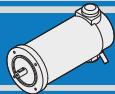
DC

EC100.120



EC100.240 - EC100.24E





MOTORI C.C. A MAGNETI PERMANENTI PERMANENT MAGNETS D.C. MOTORS

EC180.120 - EC180.240 - EC180.24E

Caratteristiche

Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 80 mm
Potenza	250 W S2 (180 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vdc
Spazzole	N° 2 di composito grafite-rame
Dimensione spazzole	LxPxH = 17.1 x 6.5 x 16.7 mm
Cavo di alimentazione	Lunghezza: 1000 mm
Bisporgenza	Standard solo EC180.24E

Construction	Tubular, without fan
Size	Ø 80 mm
Power	250 W S2 (180 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Brushes size	LxPxH = 17.1 x 6.5 x 16.7 mm
Electric cable	Length: 1000 mm
Rear shaft	Standard only EC180.24E

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n ₁ [min ⁻¹]	IP	Kg
EC180.120	S1	180	12	21.5	F	1	0.57	3000	IP44	3.4
	S2 25'	250		30			0.8			
EC180.240	S1	180	24	10.8	F	1	0.57	3000	IP44	3.4
	S2 25'	250		15			0.8			
EC180.24E	S1	180		10.8			0.57			
	S2 25'	250		15			0.8			

Dimensioni

EC180.120

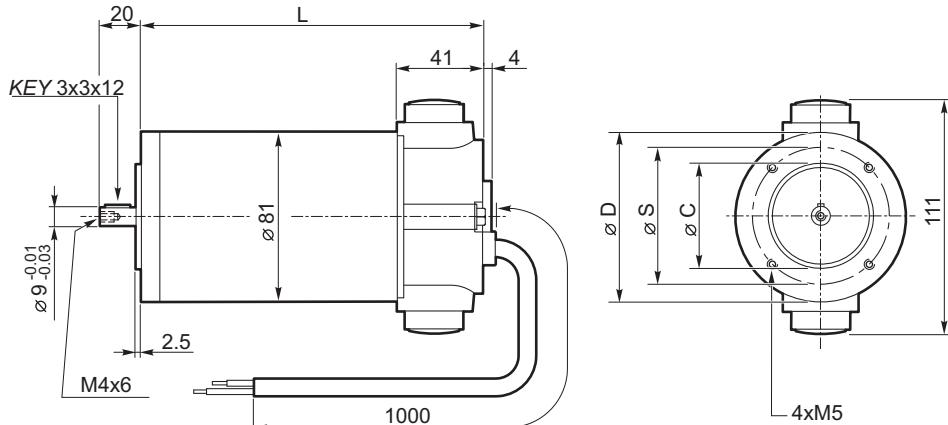
EC180.240

56 B14	
L	185
D	80
S	65
C (-0.03 / -0.01)	50
63B14*	
L	187
D	90
S	75
C (-0.03 / -0.01)	60

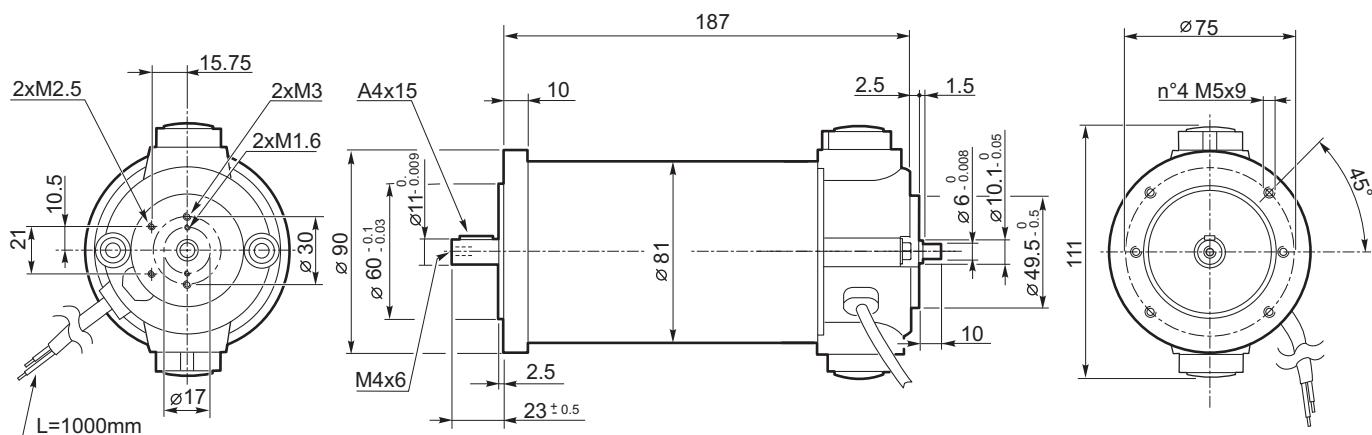
* Usare boccola 9/11

* Use sleeve 9/11

Dimensions



EC180.24E





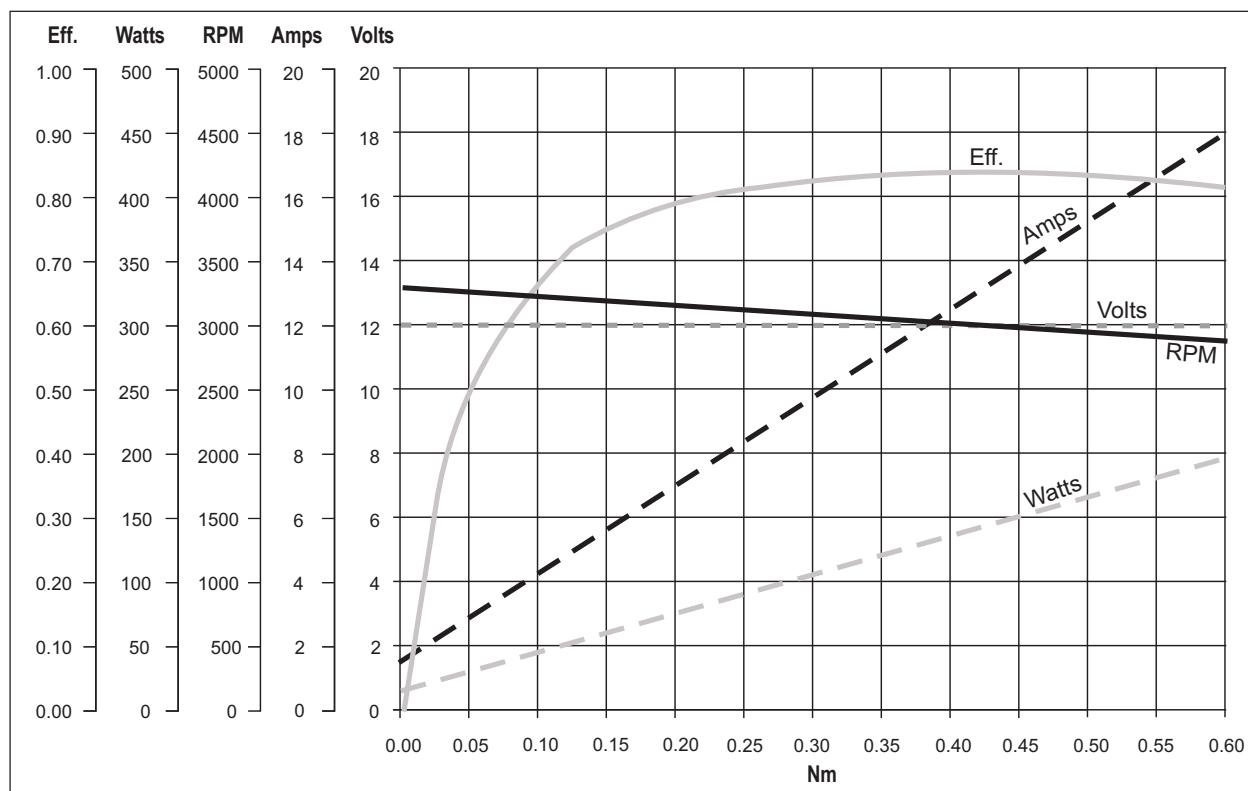
EC180.120 - EC180.240 - EC180.24E

Prestazioni

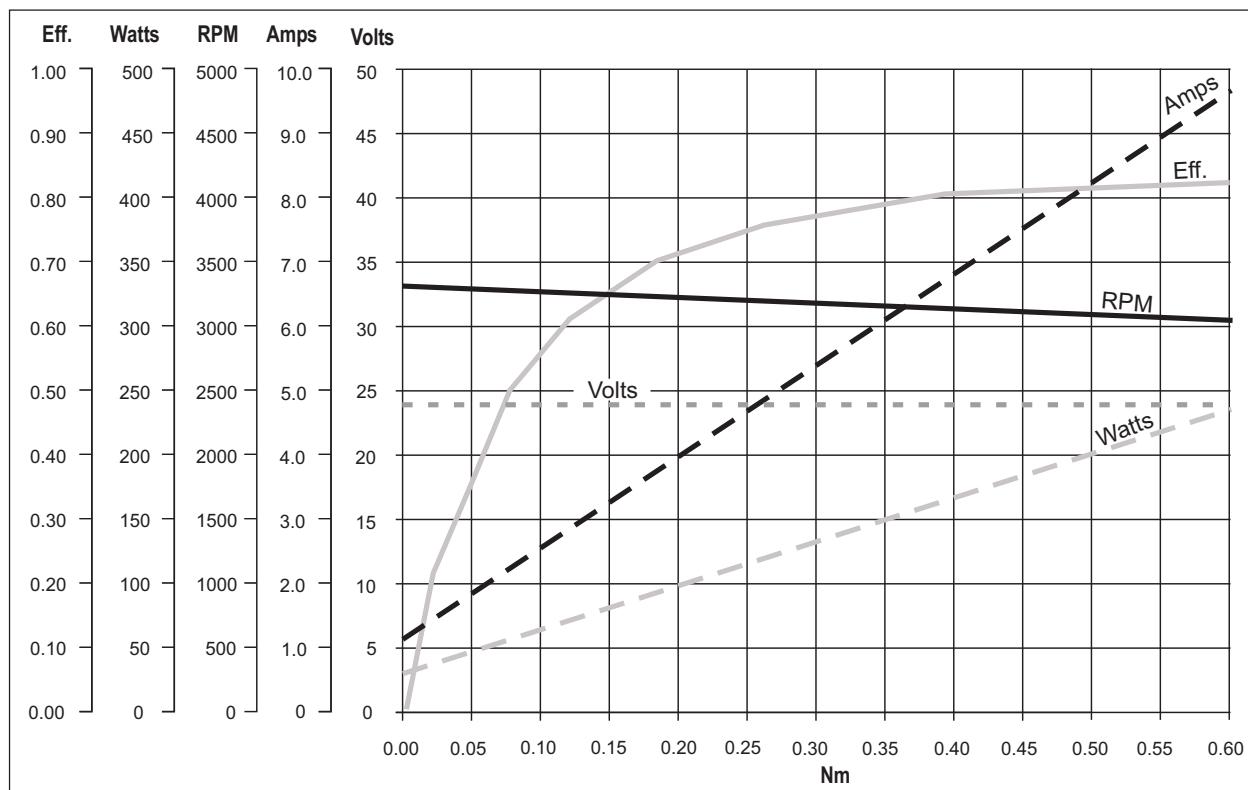
Performances

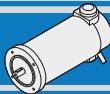
DC

EC180.120



EC180.240 - EC180.24E



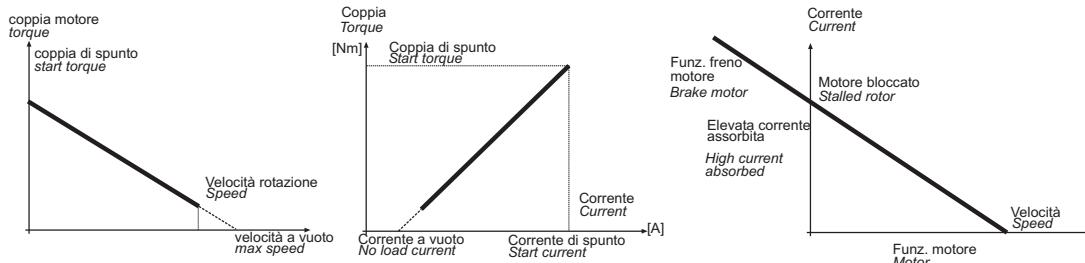


MOTORI C.C. A MAGNETI PERMANENTI

PERMANENT MAGNETS D.C. MOTORS

Legenda / Glossario dei grafici

Dato un motore in C.C., la velocità di rotazione è funzione lineare della coppia; così pure la corrente assorbita è una funzione lineare della coppia. Velocità e corrente variano in maniera sensibile al variare del carico.



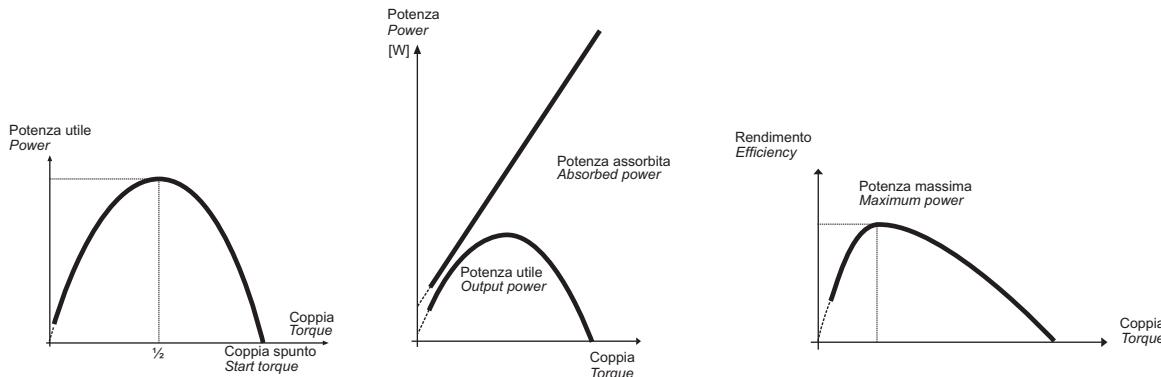
La potenza utile (potenza all' albero) si ricava dalla formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$

With a D.C. motor, the rotational speed is a linear function of the torque. In the same way, the absorbed current is also a linear function of the torque. Speed and current change a lot against applied torque.

The output power is calculated using the formula:

$$P_n [W] = M_n \cdot S = \frac{2\pi}{60} \cdot n_1 \cdot M_n$$



Poiché la tensione di alimentazione è costante mentre la corrente è linearmente crescente al crescere della coppia, l'andamento della potenza assorbita è un retta crescente. Dal rapporto tra la potenza meccanica e la potenza assorbita si ottiene il grafico dell'efficienza.

Since the supply voltage is constant, whereas the current increases in a linear manner as the torque increases, the absorbed power trend is a straight line going up. Efficiency is shown from the ratio between the output power and the absorbed power.

Formule utili

$$\begin{aligned}\eta &= \frac{P_n}{P_a} \\ P_a &= V \cdot I \\ P_n &= V \cdot I \cdot \eta \\ P_n &= M_n \cdot S_v \\ S_v &= \frac{n_1}{9.55}\end{aligned}$$

$[HP] \cdot 746 = [W]$.
Esempio 2 HP = circa 1500 W.

Useful formulas

$$\begin{aligned}\eta &= \frac{P_n}{P_a} \\ P_a &= V \cdot I \\ P_n &= V \cdot I \cdot \eta \\ P_n &= M_n \cdot S_v \\ S_v &= \frac{n_1}{9.55}\end{aligned}$$

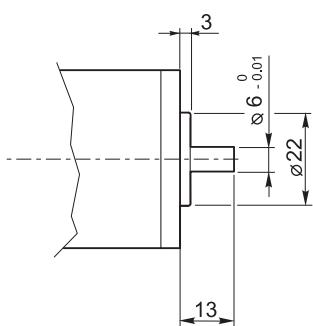
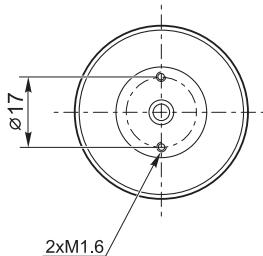
$[HP] \cdot 746 = [W]$.
Example 2 HP = approx. 1500 W.

S	—	Servizio	Duty
Pn	[W]	Potenza in uscita	Rated power
Pa	[W]	Potenza assorbita	Absorbed power
Mn	[Nm]	Coppia nominale	Rated torque
V	[V]	Tensione	Voltage
I	[A]	Corrente assorbita	Absorbed current
n1	[min-1]	Numero giri motore	Motor speed
Sv	[rad/s]	Velocità angolare	Angular speed
IC	—	Classe d'isolamento termico	Thermal insulation class
FF	—	Fattore di forma	Form factor
IP	—	Classe di protezione	Protection class
η	—	Rendimento	Efficiency
Kg	—	Peso	Weight

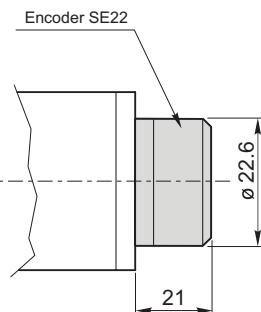


Dimensioni montaggio encoder

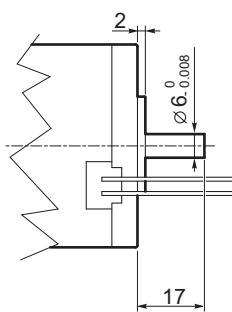
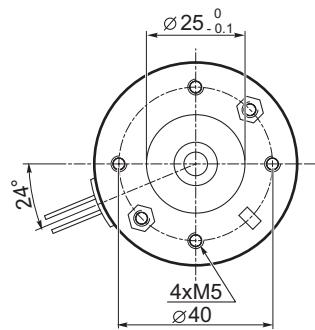
EC020.24E
EC030.24E



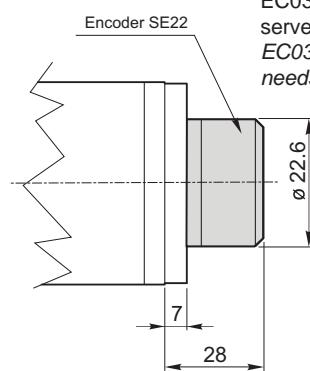
Encoder assembling dimensions



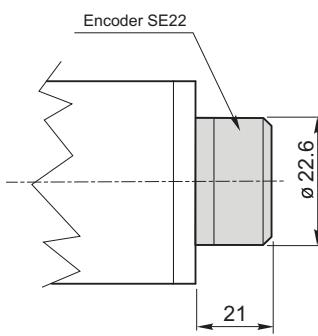
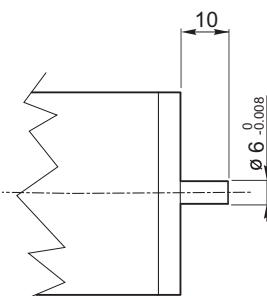
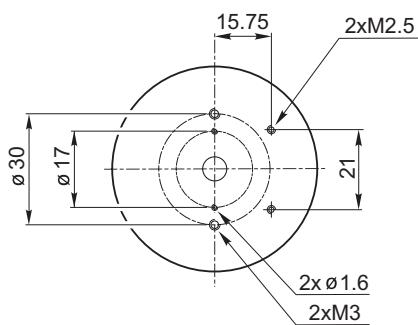
EC035.120
EC035.240



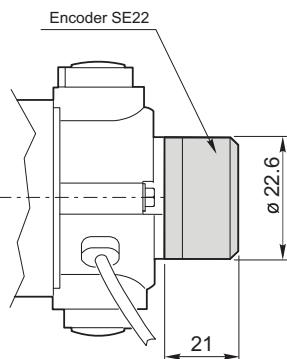
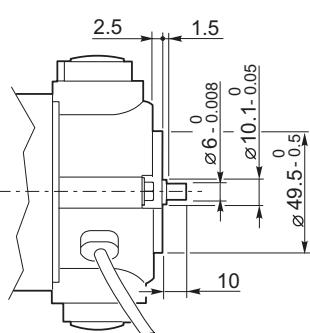
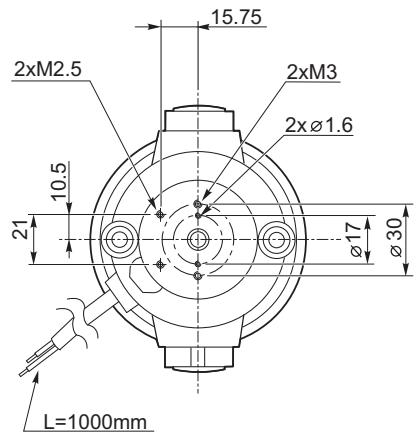
EC035: per montaggio encoder
serve flangia AS204
EC035: encoder assembling
needs flange AS204



EC050.12E
EC050.24E



EC100.24E
EC180.24E



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