

**ЕС****ЕС**

Ferrite

# Электродвигатели постоянного тока с постоянными магнитами

## Руководство по эксплуатации

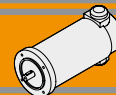


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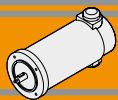
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## Caratteristiche tecniche

Le caratteristiche principali dei motori elettrici CC a magneti permanenti in ferrite EC sono:

- Campo magnetico generato da magneti permanenti in ferrite
- Costruzione tubolare, senza ventilazione
- Disponibili in 6 grandezze: diametro 42, 52, 65, 81, 104, 110 mm
- Alimentazione a bassa tensione, 12 o 24 Vcc
- Potenze disponibili da 30 a 800 W S2
- Elevate coppie di spunto
- Elevate coppie e potenze in dimensioni compatte

### 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 perde le caratteristiche di buon isolante, con pericolo di danneggiamento del motore.

### Servizio

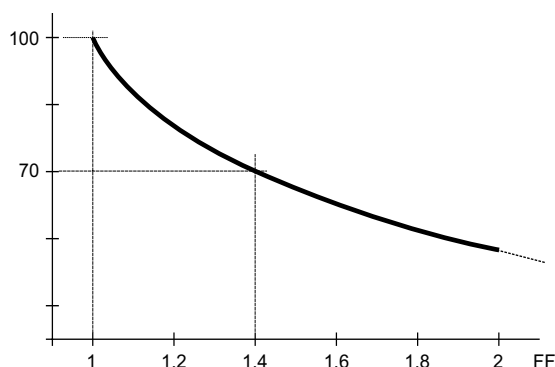
Rappresenta la relazione tra il tempo di lavoro ed il tempo di riposo del motore. Servizio continuo (S1) = funzionamento continuo del motore a pieno carico.

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.

### 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:



## Simbologia

<b>S</b>	—	Servizio / Duty
<b>P<sub>n</sub></b>	[W]	Potenza in uscita / Rated power
<b>P<sub>a</sub></b>	[W]	Potenza assorbita / Absorbed power
<b>M<sub>n</sub></b>	[Nm]	Coppia nominale / Rated torque
<b>V</b>	[V]	Tensione / Voltage
<b>I</b>	[A]	Corrente assorbita / Absorbed current
<b>n<sub>1</sub></b>	[min <sup>-1</sup> ]	Numero giri motore / Motor speed
<b>S<sub>v</sub></b>	[rad/s]	Velocità angolare / Angular speed
<b>P<sub>e</sub></b>	[W]	Potenza elettrica del freno / Brake electric power

The main features of EC ferrite permanent magnets DC electric motors range are:

- Magnetic field generated by permanent ferrite magnets
- Tubular construction, without fan
- Available in 6 sizes: diameter 42, 52, 65, 81, 104, 110 mm
- Low voltage power supply, 12 or 24 Vdc
- Power ratings available from 30 to 800 W S2
- High starting torque
- High torque and output power with compact package

### 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.

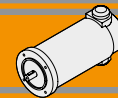
### Form factor

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.

## Symbols

<b>M<sub>Br</sub></b>	[Nm]	Coppia nominale del freno / Brake motor torque
<b>n<sub>1 max</sub></b>	[min <sup>-1</sup> ]	Velocità massima / Max speed
<b>T<sub>r</sub></b>	[ms]	Tempo di inserzione / Engaging time
<b>T<sub>f</sub></b>	[ms]	Tempo di disimpegno / Disengaging time
<b>IC</b>	—	Classe d'isolamento termico / Thermal insulation class
<b>FF</b>	—	Fattore di forma / Form factor
<b>IP</b>	—	Classe di protezione / Protection class
<b>η</b>	—	Rendimento / Efficiency
<b>Kg</b>	—	Peso / Weight



## Grado di protezione IP

## IP enclosures protection indexes

Indica il grado di isolamento meccanico del corpo motore.

1<sup>a</sup> cifra protezione alla penetrazione di corpi solidi.

2<sup>a</sup> cifra protezione contro la penetrazione d'acqua.

Indicates the degree of mechanical insulation of the motor body.

1<sup>st</sup> figure indicating level of protection against the penetration of solid bodies.

2<sup>nd</sup> figure: indicating degree to which the motor is waterproof.

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

## Classe di isolamento termico

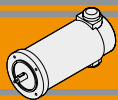
## Insulation class

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

## Tipi di servizio IEC

## IEC duty cycle ratings

<b>S1</b>	<b>Servizio continuo.</b> Funzionamento a carico costante per una durata sufficiente al raggiungimento dell' equilibrio termico.	<b>Continuous duty.</b> The motor works at a constant load for enough time to reach temperature equilibrium
<b>S2</b>	<b>Servizio di durata limitata.</b> 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.	<b>Short time duty.</b> 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.
<b>S3</b>	<b>Servizio periodico intermittente.</b> 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.	<b>Intermittent periodic duty.</b> Sequential, identical run and rest cycles with constant load. Temperature equilibrium is never reached. Starting current has little effect on temperature rise.
<b>S4</b>	<b>Servizio periodico intermittente con avviamento.</b> 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.	<b>Intermittent periodic duty with starting.</b> Sequential identical start, run and rest cycles with constant load. Temperature equilibrium is not reached, but starting current affects temperature rise.
<b>S5</b>	<b>Servizio periodico intermittente con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante, frenatura elettrica e riposo, senza raggiungimento dell'equilibrio termico.	<b>Intermittent periodic duty with electric braking.</b> Sequential, identical cycles of starting, running at constant load, electric braking and rest. Temperature equilibrium is not reached.
<b>S6</b>	<b>Servizio periodico ininterrotto con carico intermittente.</b> Sequenza di cicli di lavoro identici con carico costante e senza carico. Non ci sono periodi di riposo.	<b>Continuous operation with intermittent load.</b> Sequential, identical cycles of running with constant load and running with no load. No rest periods.
<b>S7</b>	<b>Servizio periodico ininterrotto con frenatura elettrica.</b> Sequenza di cicli di funzionamento identici di avviamento, marcia a carico costante e frenatura elettrica, senza periodi di riposo.	<b>Continuous operation with electric braking.</b> Sequential, identical cycles of starting, running at constant load and electric braking. No rest periods.
<b>S8</b>	<b>Servizio periodico ininterrotto con variazioni di carico e di velocità.</b> 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.	<b>Continuous operation with periodic changes in load and speed.</b> Sequential, identical, duty cycles of start, run at constant load and given speed, then run at other constant loads and speeds. No rest periods.



**EC020.120 - EC020.24E**

**Caratteristiche**

**Features**

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 composto grafite-rame
Cavo di alimentazione	Connettori faston (0.8 x 2.8 mm)
Opzioni	Filtro EMC
	Encoder magnetico max. 2 imp/giro, 2 canali Max.

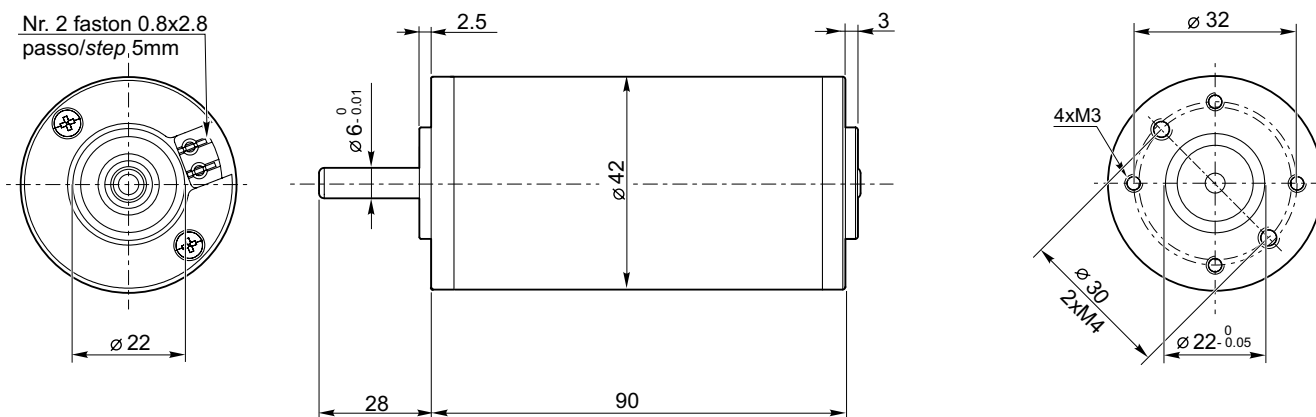
Construction	Tubular, without fan
Size	Ø 42 mm
Power	30 W S2 (20 W S1)
Magnets	2
Bearings	Ball bearing
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 brushes made of graphite/copper composite
Electric cable	Faston terminals (0.8 x 2.8 mm)
Options	EMC filter
	Magnetic encoder max 2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

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	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			

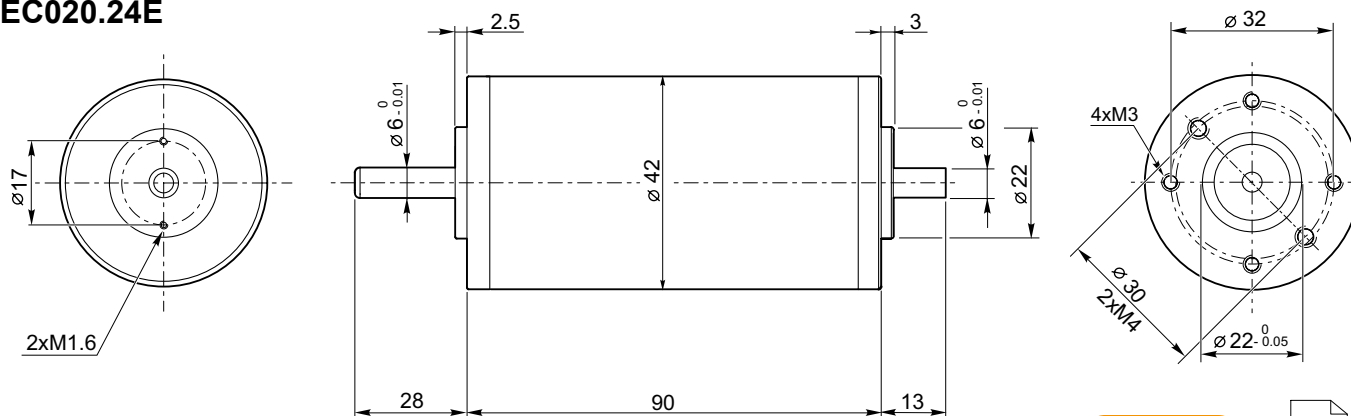
**Dimensioni**

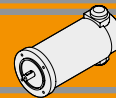
**Dimensions**

**EC020.120**



**EC020.24E**



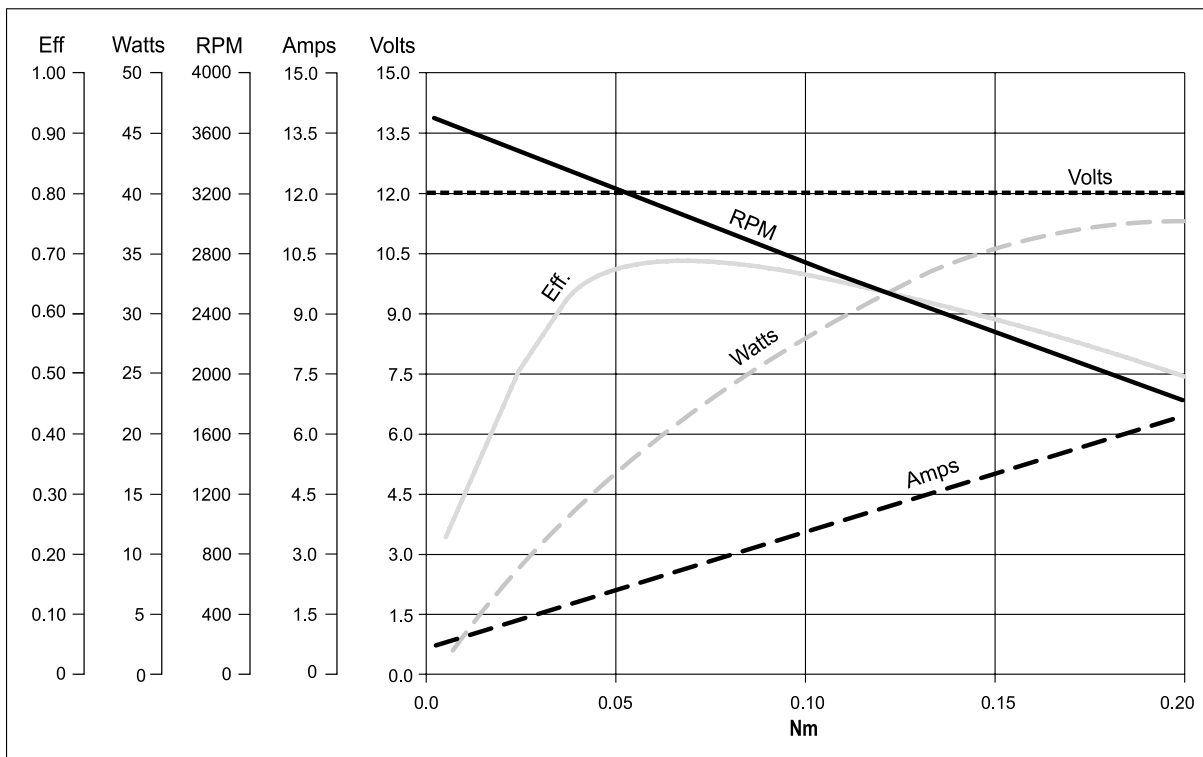


**EC020.120 - EC020.24E**

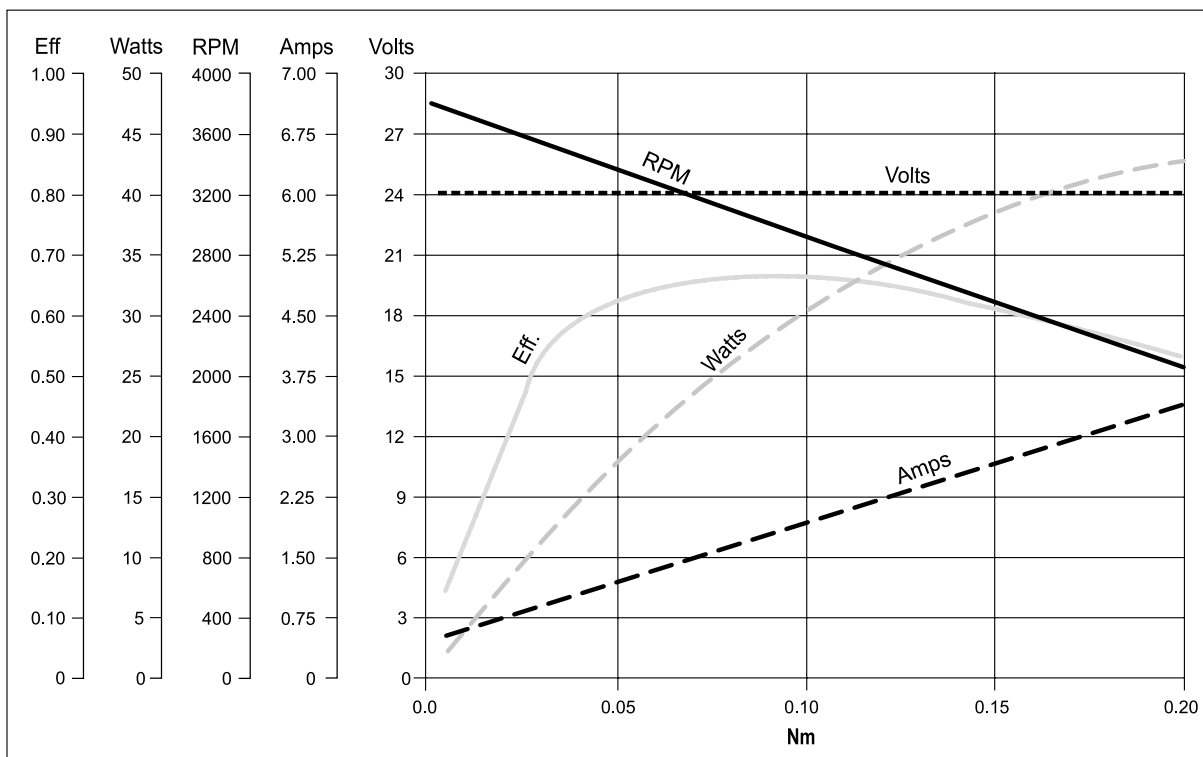
Prestazioni

Performances

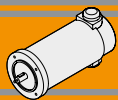
**EC020.120**



**EC020.24E**



EC



**EC035.120 - EC035.240**

**Caratteristiche**

**Features**

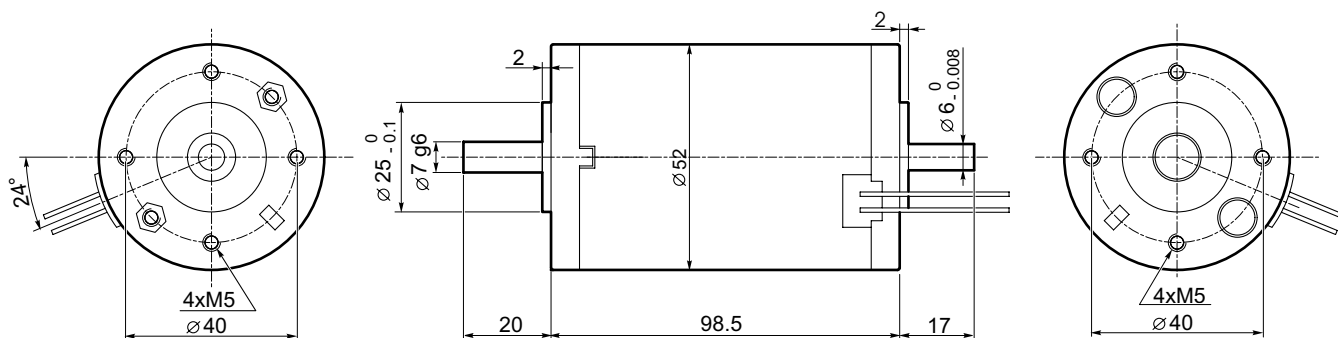
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 52 mm
Potenza	55 W S2 (35 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 200 mm
Opzioni	Encoder magnetico max. 1 imp/giro, max.2 canali

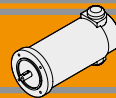
Construction	Tubular, without fan
Size	Ø 52 mm
Power	55 W S2 (35 W S1)
Magnets	2
Bearings	Ball bearings
Mounting holes	4
Power supply	Low voltage, 12 or 24 Vdc
Brushes	2 inside brushes made of graphite/copper composite
Electric cable	Length: 200 mm
Options	Magnetic encoder max 1 ppr, Max. 2 channels

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC035.120	S1	35	12	5.2	F	1	0.11	3000	20	0.8
	S2 9'	55		8.0			0.18			
EC035.240	S1	35	24	2.6	F	1	0.11		20	0.8
	S2 9'	55		4.0			0.18			

**Dimensioni**

**Dimensions**



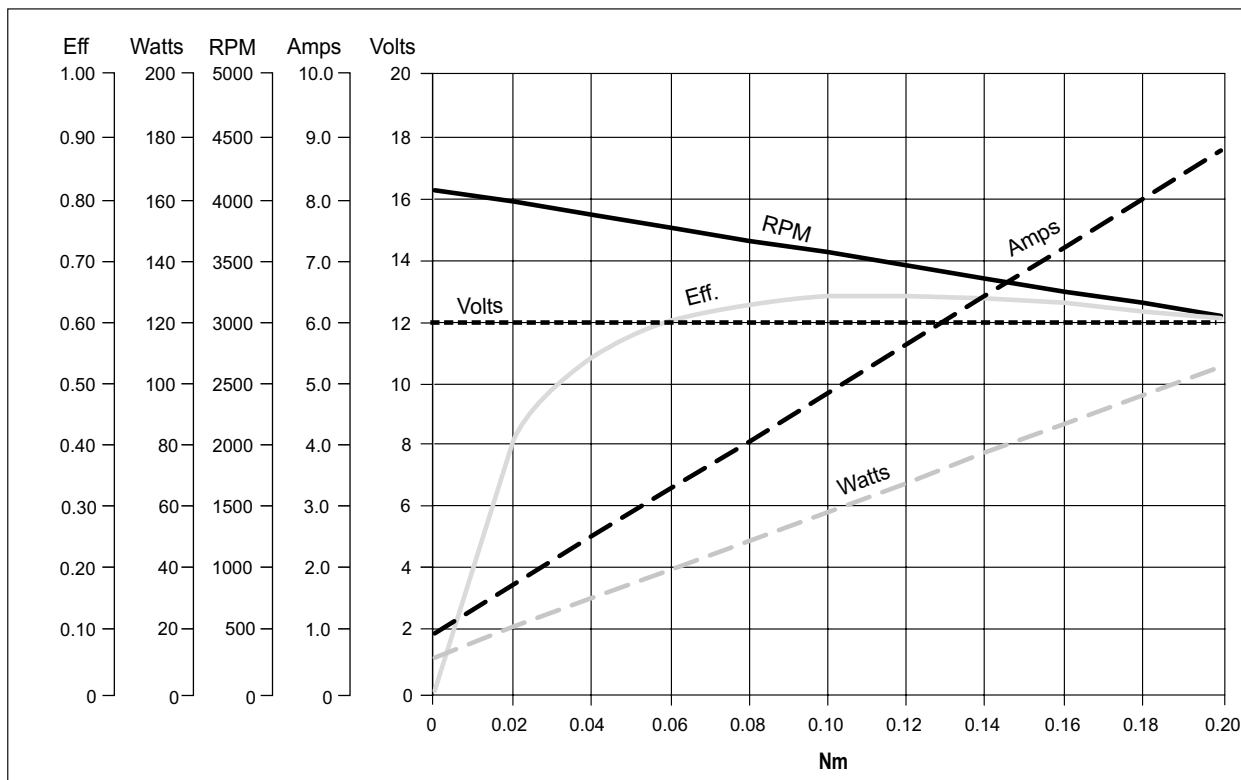


**EC035.120 - EC035.240**

Prestazioni

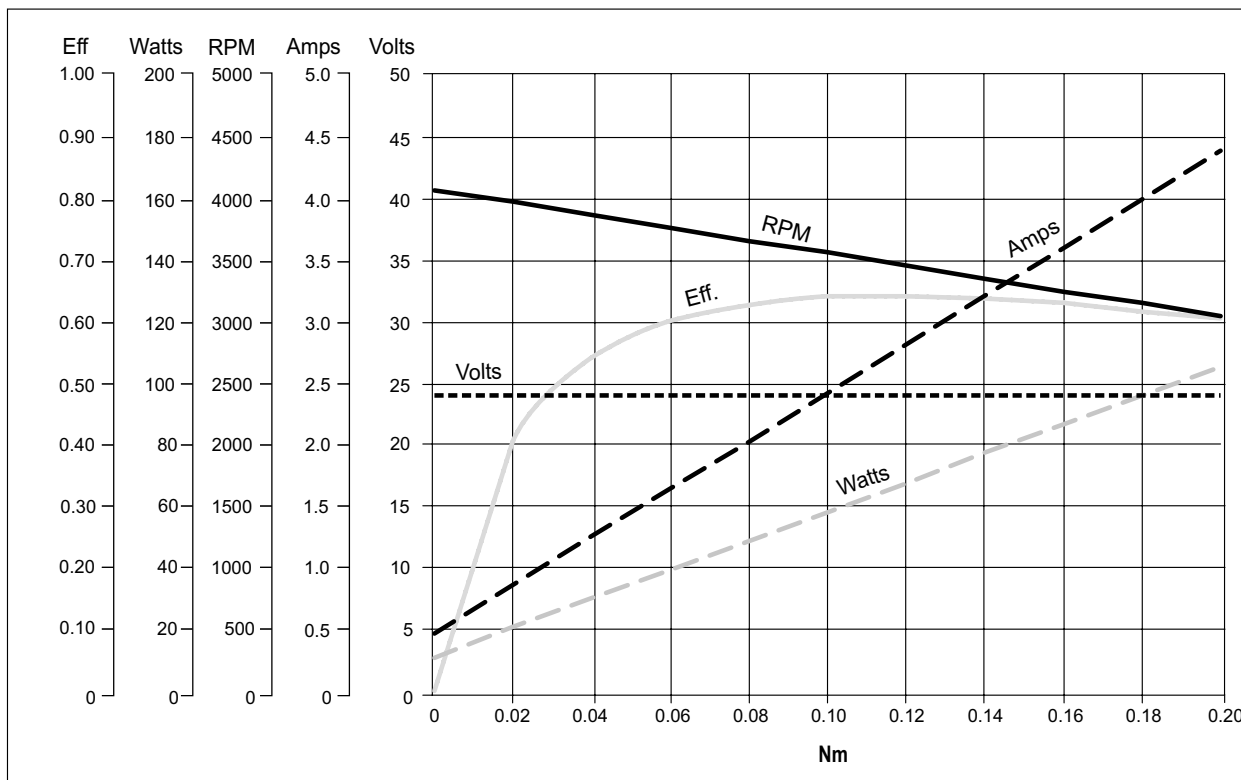
Performances

**EC035.120**

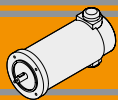


EC

**EC035.240**







**EC050.12E - EC050.24E**

**Caratteristiche**

**Features**

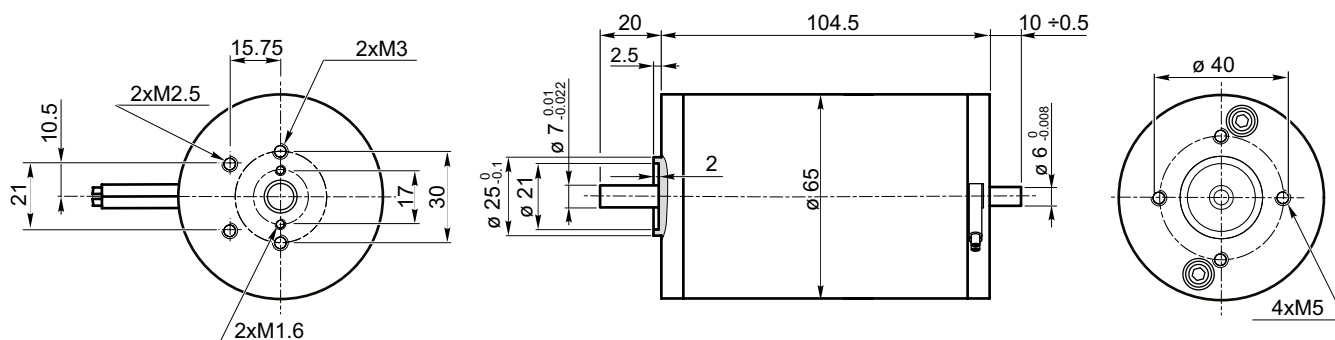
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	70 W S2 (50 W S1)
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 200 mm
Bisporgenza	Standard

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 <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC050.12E	S1	50	12	6.5	F	1	0.16	3000	20	1.2
	S2 30'	70		9.0			0.22			
EC050.24E	S1	50	24	3.2			0.16			
	S2 30'	70		4.5			0.22			

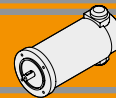
**Dimensioni**

**Dimensions**



Freno / Brake → [H23](#)

Encoder → [H24](#)

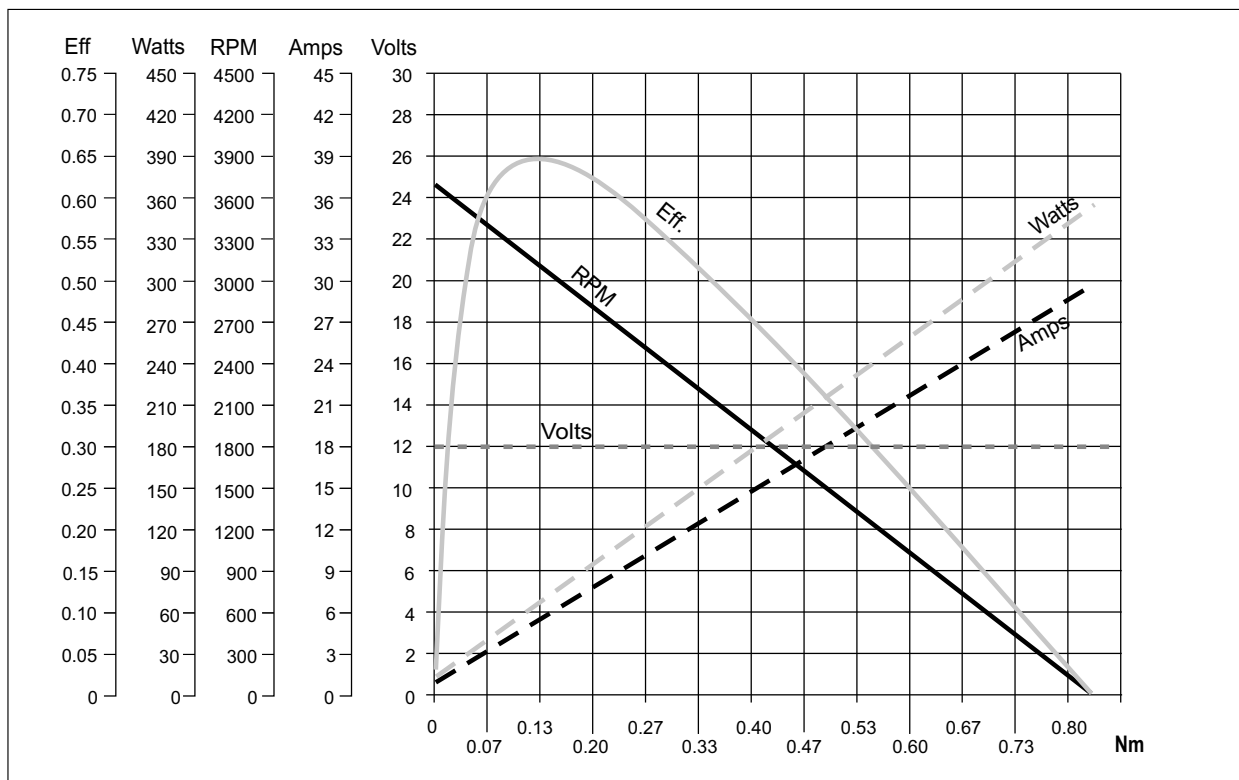


**EC050.12E - EC050.24E**

Prestazioni

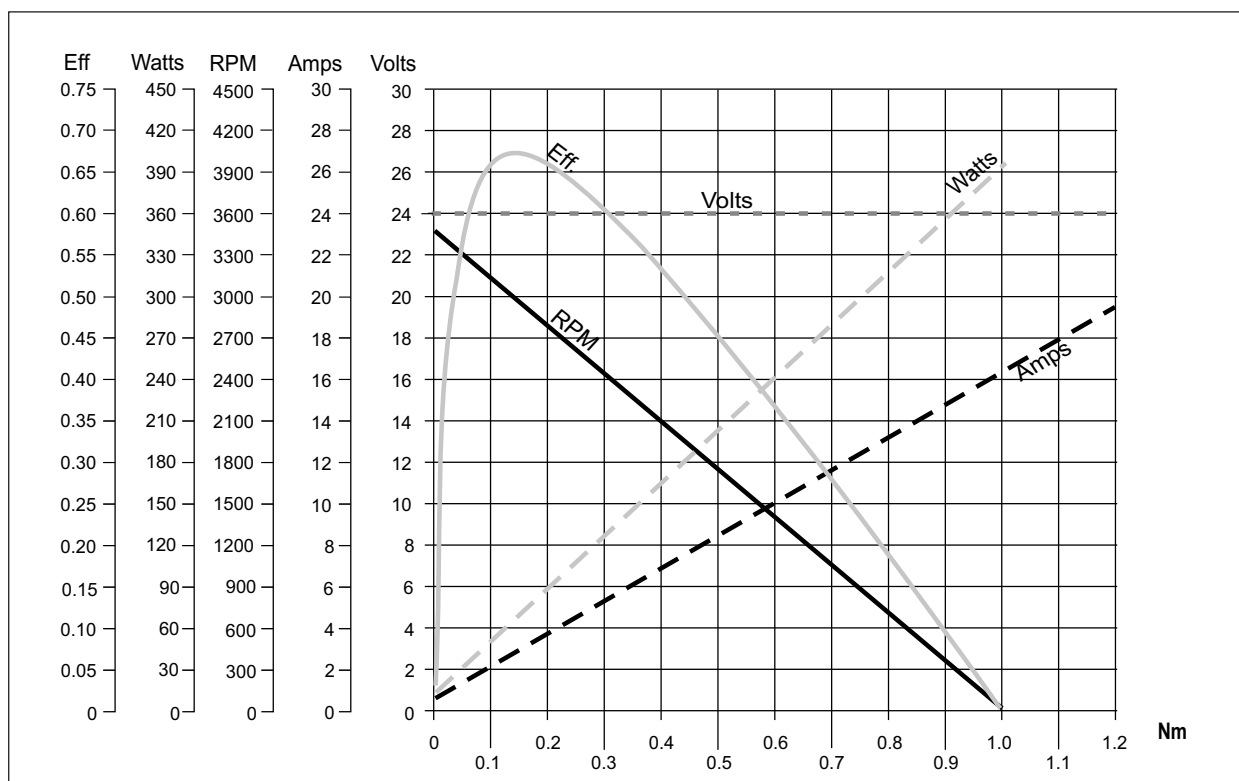
Performances

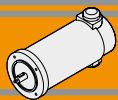
**EC050.12E**



EC

**EC050.24E**





**EC070.12E - EC070.24E**

**Caratteristiche**

**Features**

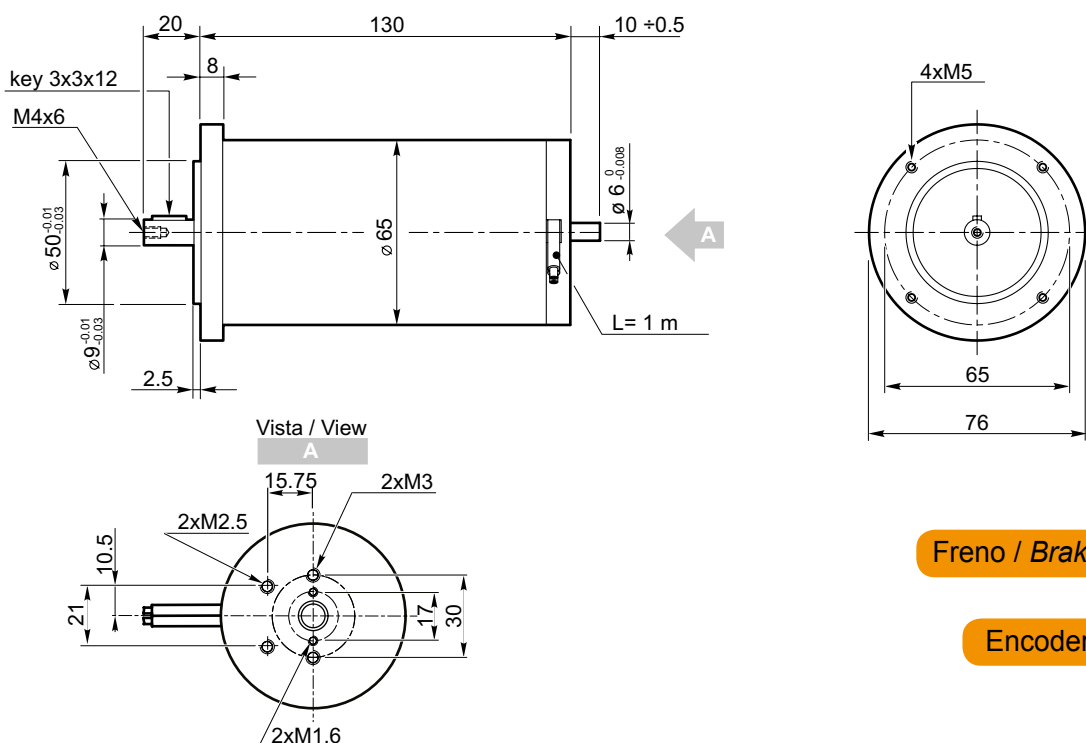
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 65 mm
Potenza	100 W S2
Magneti	2
Supporti	Cuscinetti a sfera
Fori di montaggio	4
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 2 interne di composto grafite-rame
Cavo di alimentazione	Lunghezza: 1000 mm

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

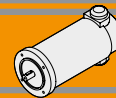
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC070.12E	S1	70	12	8.4	F	1	0.22	3000	20	1.7
	S2 30'	100		11.8			0.31			
EC070.24E	S1	70	24	4.2			0.22			
	S2 30'	100		5.9			0.31			

**Dimensioni**

**Dimensions**



- Freno / Brake** → **H23**
- Encoder** → **H24**

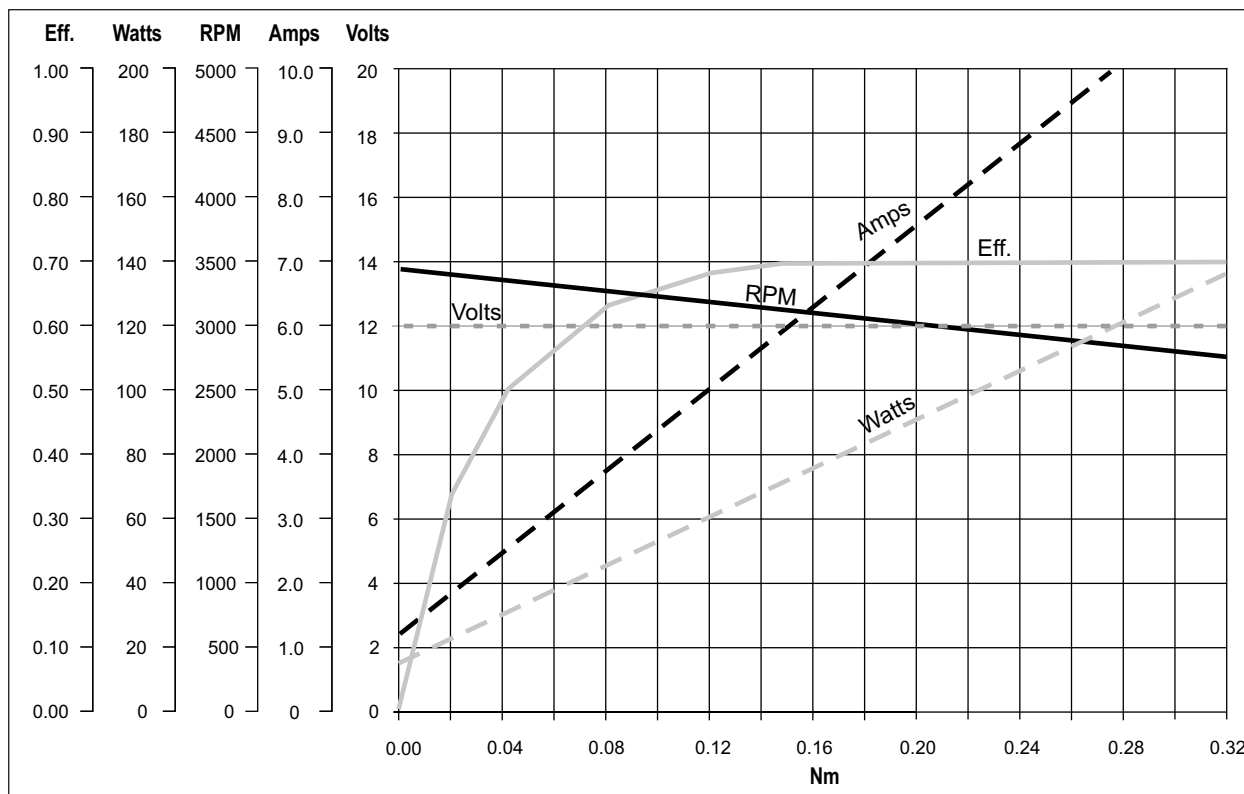


**EC070.12E - EC070.24E**

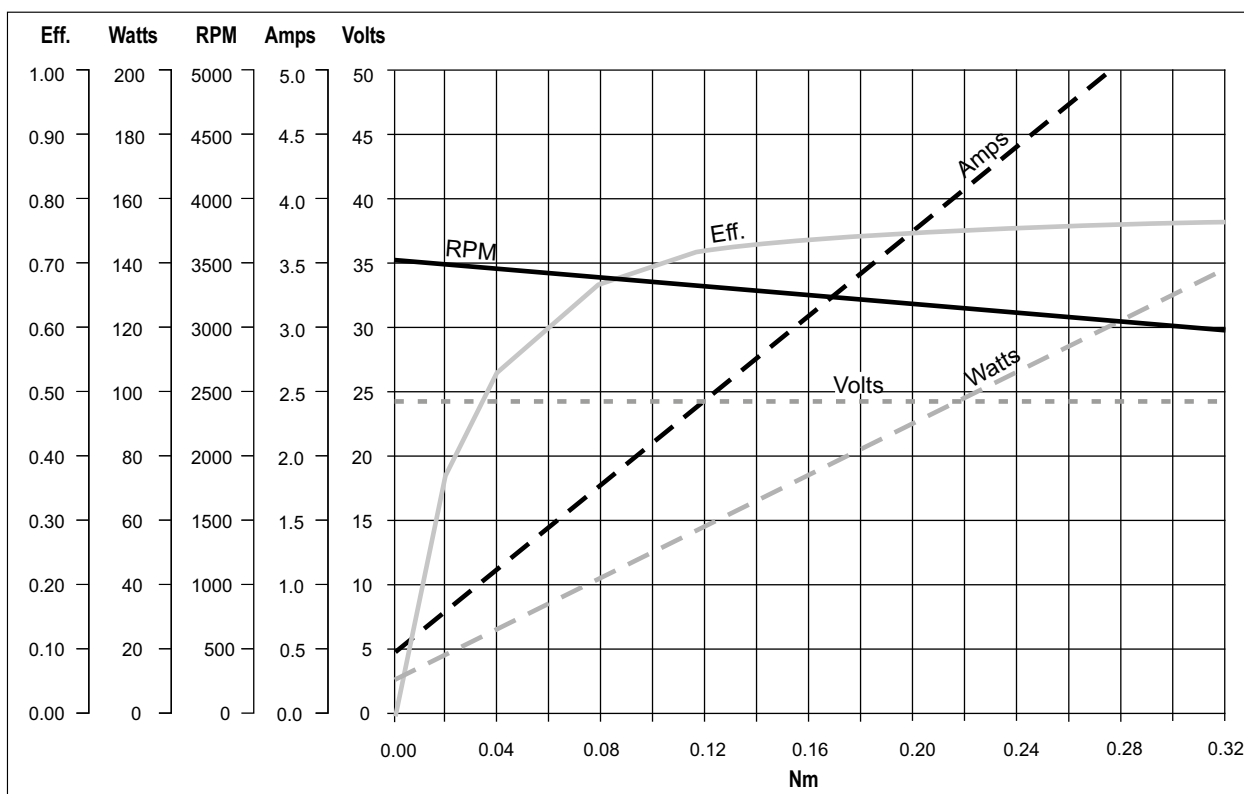
Prestazioni

Performances

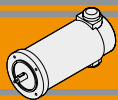
**EC070.12E**



**EC070.24E**



EC



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

**Caratteristiche**

**Features**

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

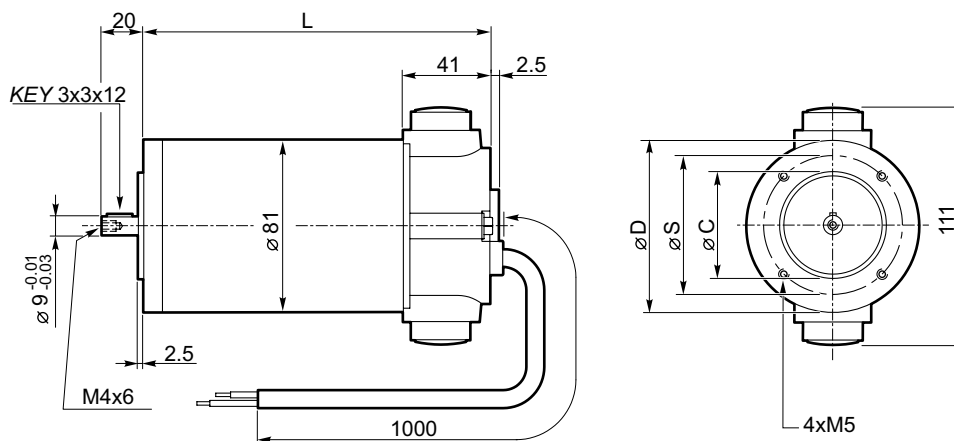
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC100.120	S1	100	12	12	F	1	0.31	3000	40	2.7
	S2 25'	140		16.8			0.43			
EC100.240	S1	100	24	6			0.31			
	S2 25'	140		8.4			0.43			
EC100.24E	S1	100	24	6			0.31		20	
	S2 25'	140		8.4			0.43			

**Dimensioni**

**Dimensions**

**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

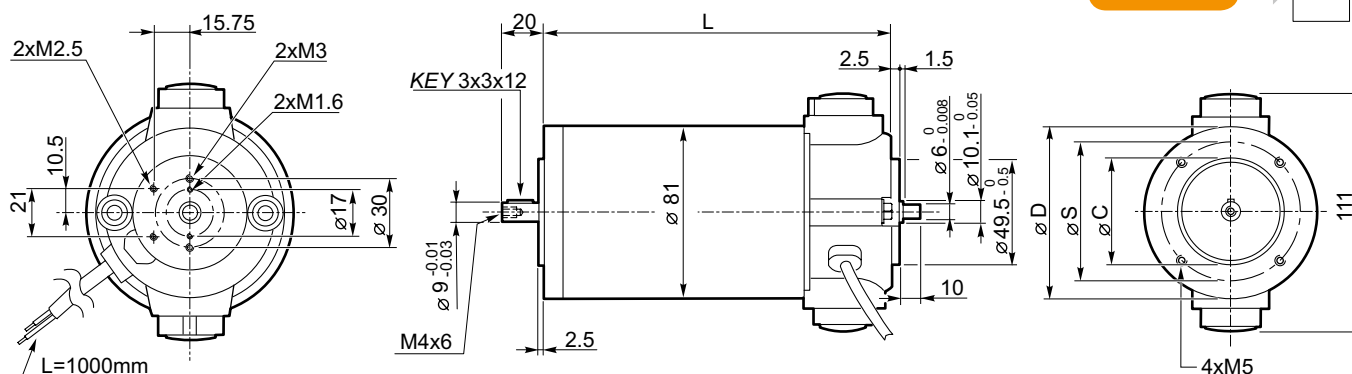


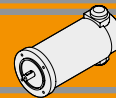
\* Usare boccola 9/11  
\* Use sleeve 9/11

Freno / Brake → H23

Encoder → H24

**EC100.24E**



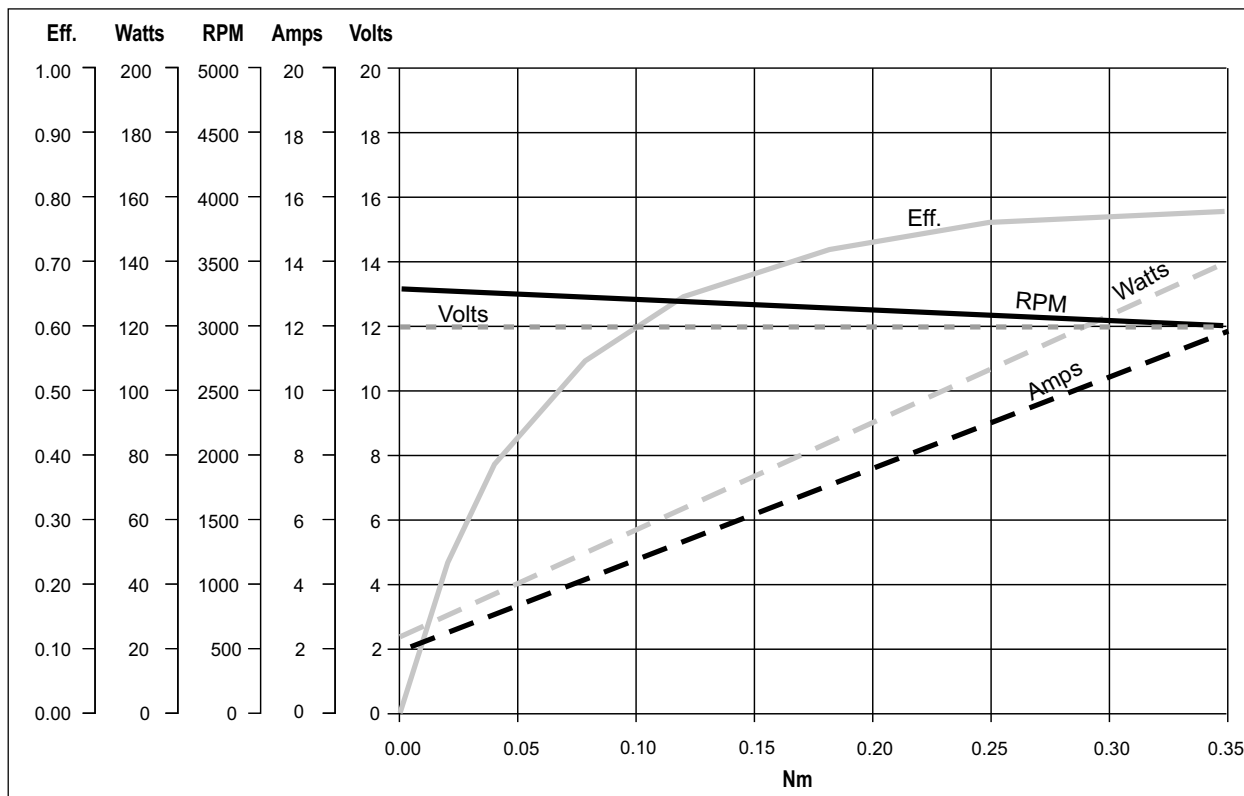


**EC100.120 - EC100.240 - EC100.24E**

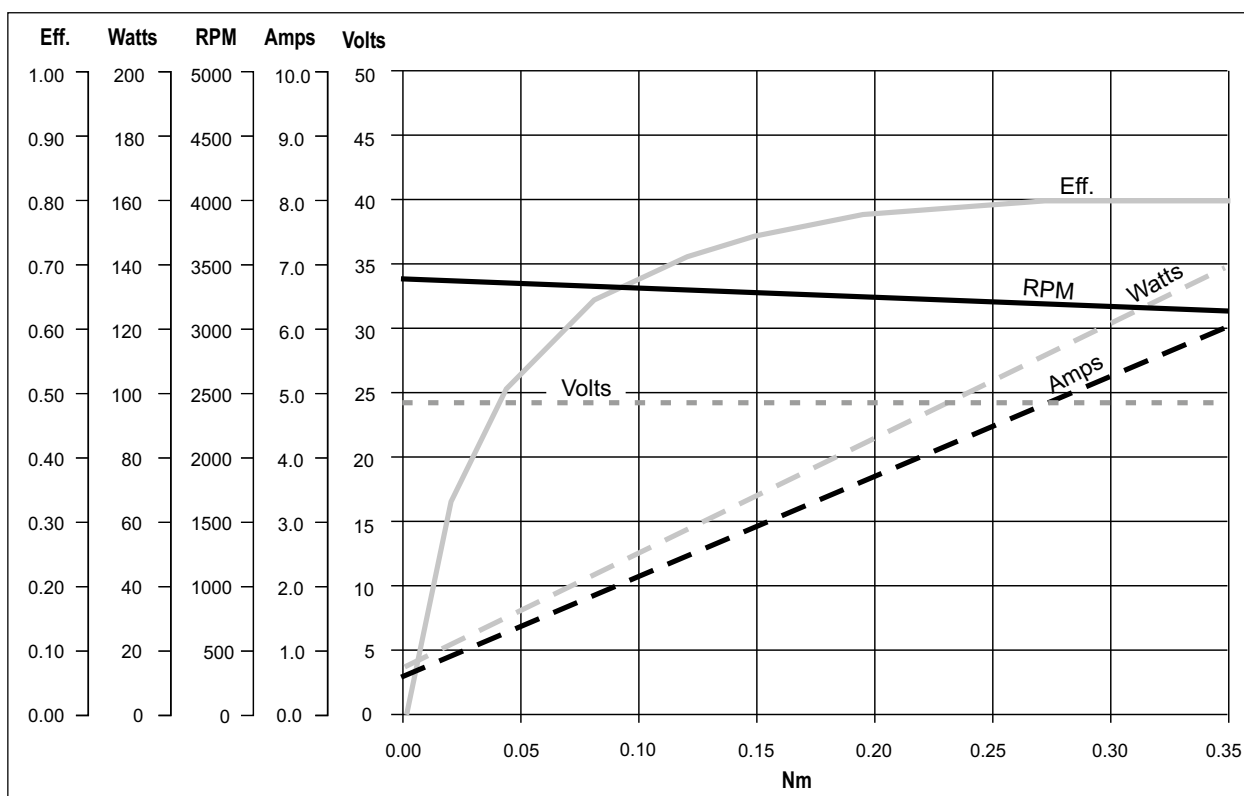
Prestazioni

Performances

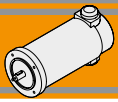
**EC100.120**



**EC100.240 - EC100.24E**



EC



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

**Caratteristiche**

**Features**

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 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 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

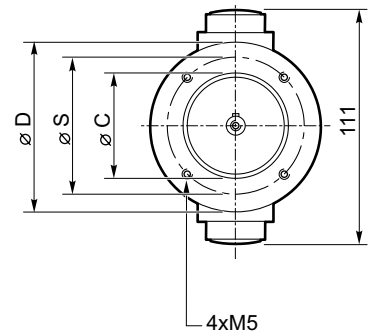
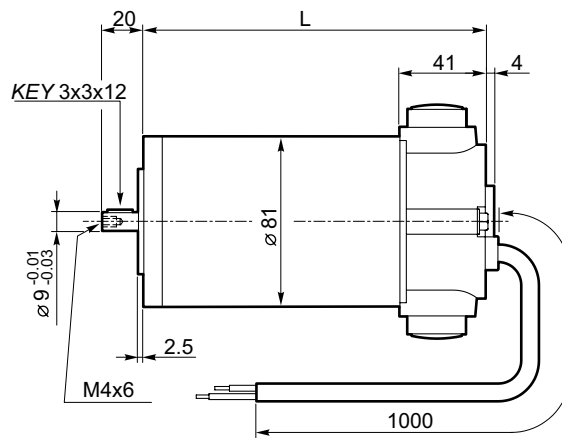
Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC180.120	S1	180	12	21.5	F	1	0.57	3000	40	3.4
	S2 25'	250		30			0.8			
EC180.240	S1	180	24	10.8			0.57			
	S2 25'	250		15			0.8			
EC180.24E	S1	180		10.8			0.57		20	
	S2 25'	250		15			0.8			

**Dimensioni**

**Dimensions**

**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

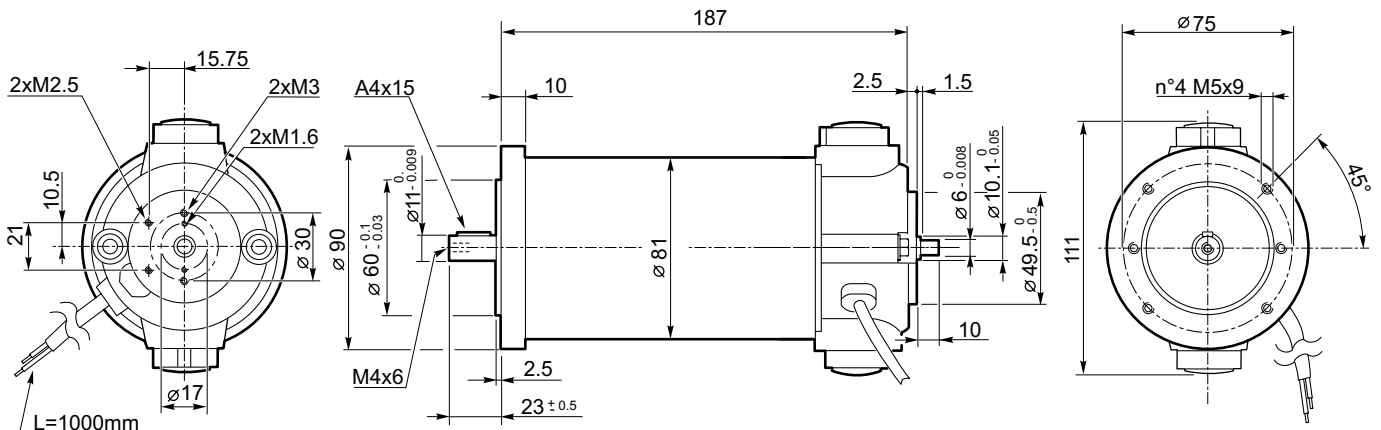


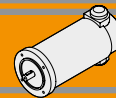
\* Usare boccola 9/11  
\* Use sleeve 9/11

Freno / Brake → H23

Encoder → H24

**EC180.24E**



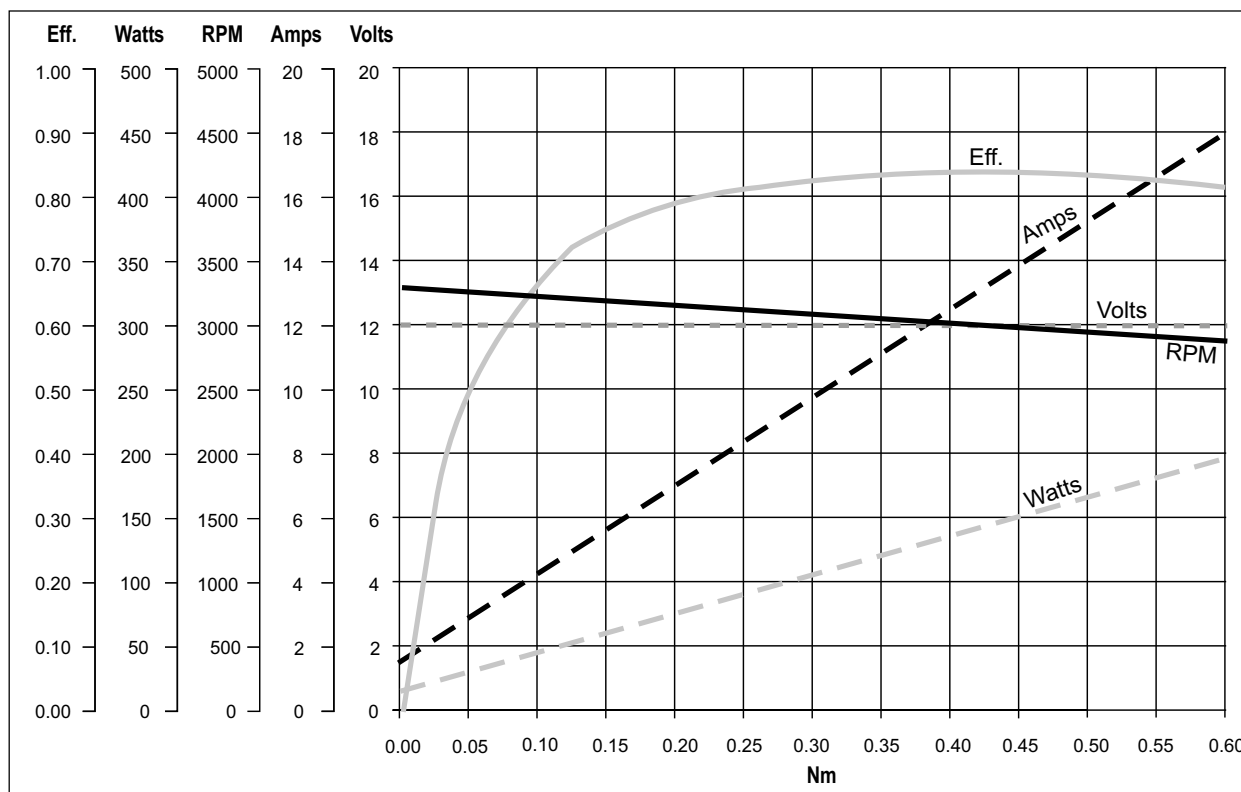


**EC180.120 - EC180.240 - EC180.24E**

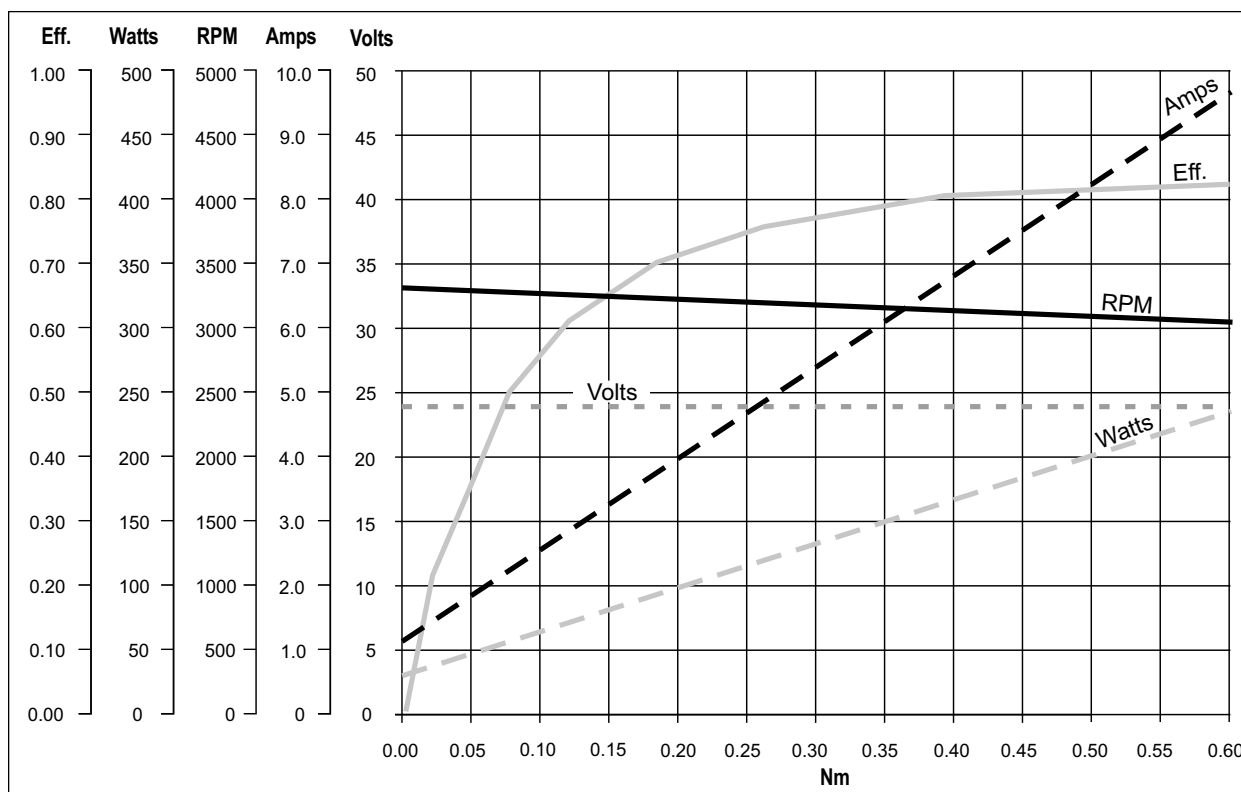
Prestazioni

Performances

**EC180.120**

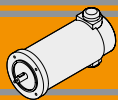


**EC180.240 - EC180.24E**



EC





**EC250.120 - EC250.240**

**Caratteristiche**

**Features**

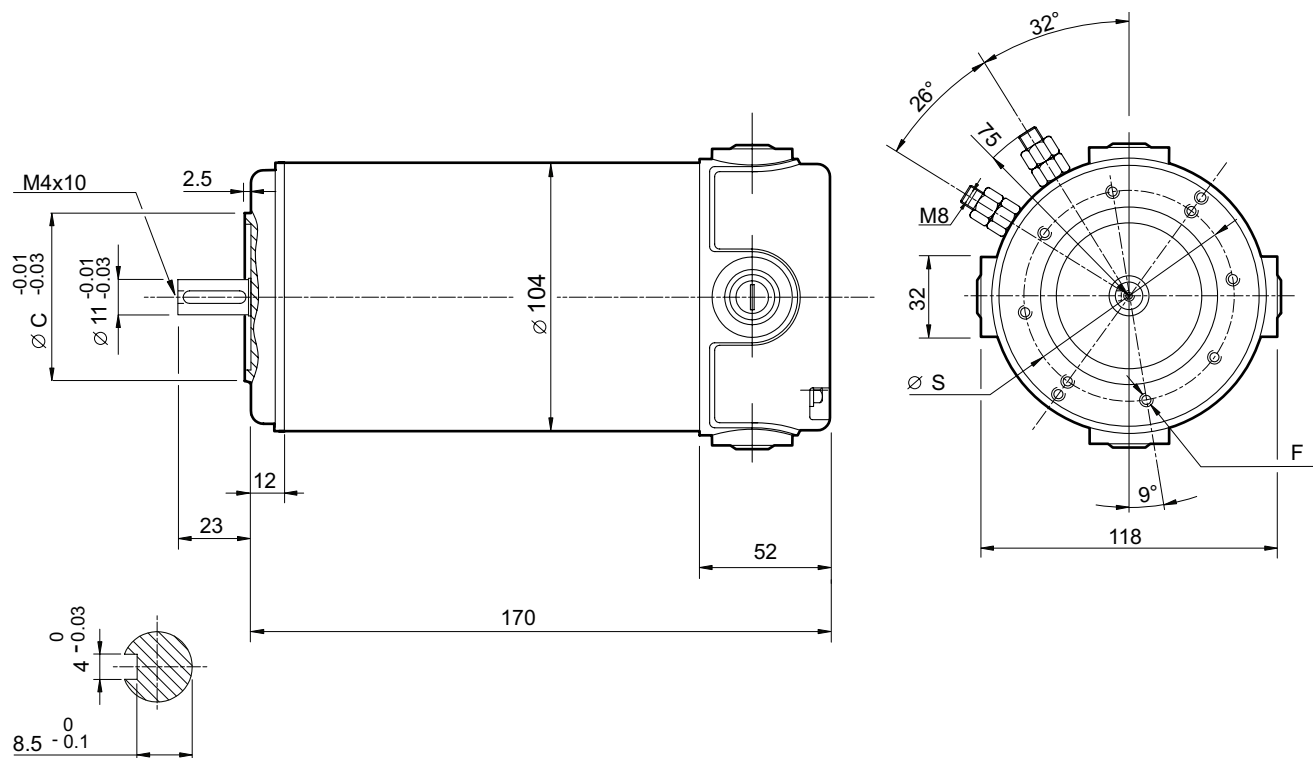
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 104 mm
Potenza	350 W S2 (250 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Dimensione spazzole	LxPxH = 18.9 x 9.5 x 16.7 mm
Terminali	2 con doppio dado di fissaggio

Construction	Tubular, without fan
Size	Ø 104 mm
Power	350 W S2 (250 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 inside brushes made of graphite/copper composite
Brushes size	LxPxH = 18.9 x 9.5 x 16.7 mm
Leads terminals	2, with double nut

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC250.120	S1	250	12	30	F	1	0.8	3000	40	4.15
	S2 25'	350		38.5			1.12			
EC250.240	S1	250	24	15			0.8			
	S2 25'	350		20.5			1.12			

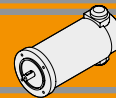
**Dimensioni**

**Dimensions**



	63 B14	71 B14*
S	75	85
C (-0.03 / -0.01)	60	70
F	8 - M5	8 - M6

\* Usare boccola 11/14  
\* Use sleeve 11/14

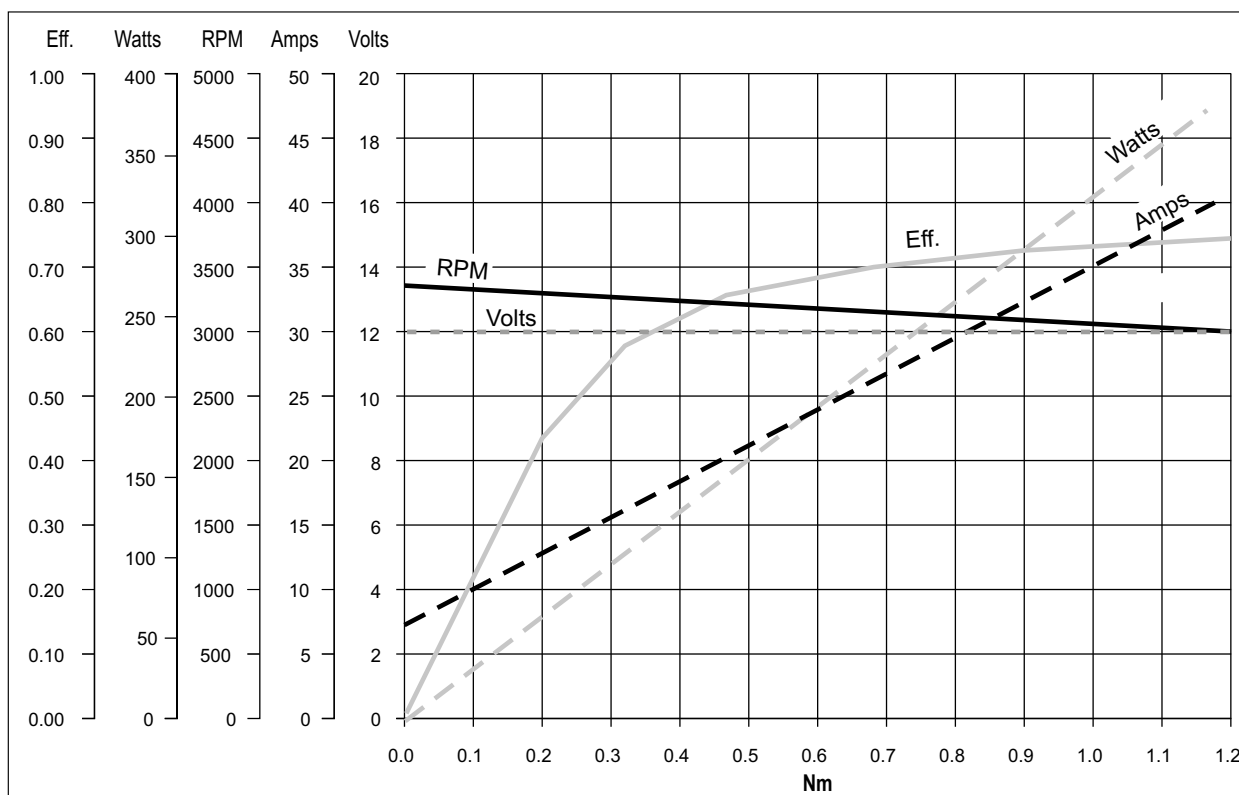


**EC250.120 - EC250.240**

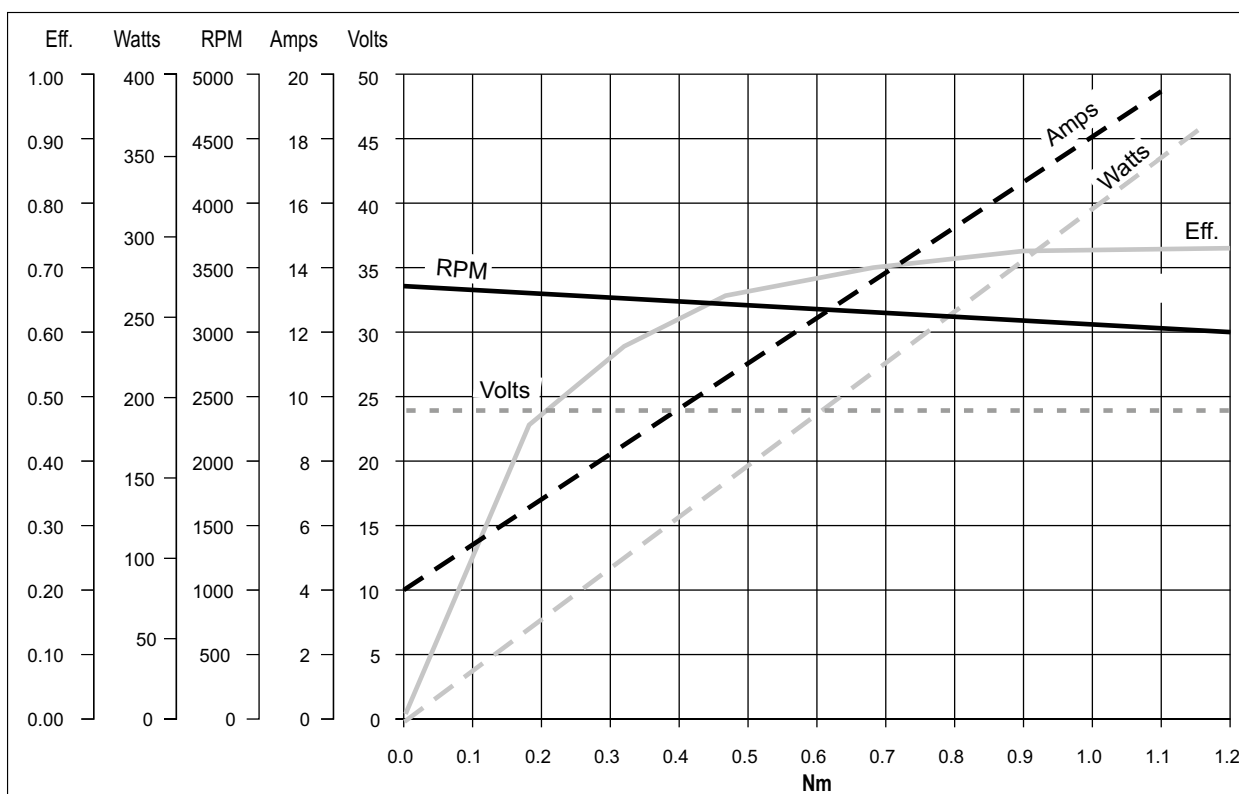
Prestazioni

Performances

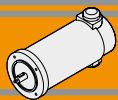
**EC250.120**



**EC250.240**



EC



**EC350.120 - EC350.240**

**Caratteristiche**

**Features**

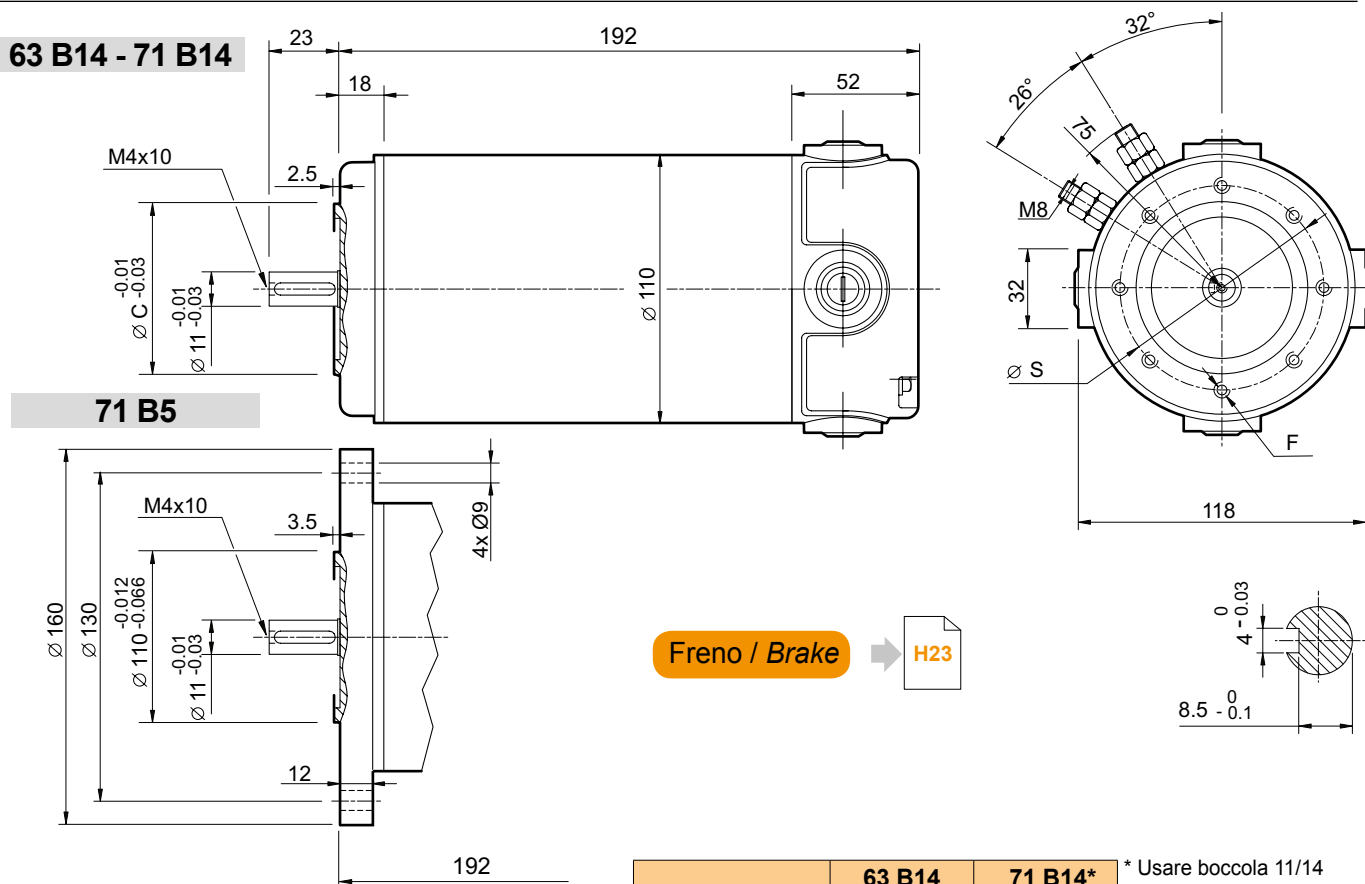
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 110 mm
Potenza	500 W S2 (350 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Dimensione spazzole	LxPxH = 18.9 x 9.5 x 16.7 mm
Terminali	2 con dadi di fissaggio
Freno	Elettromagnetico

Construction	Tubular, without fan
Size	Ø 110 mm
Power	500 W S2 (350 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 brushes made of graphite/copper composite
Brushes size	LxPxH = 18.9 x 9.5 x 16.7 mm
Leads terminals	2, with double nut
Brake	Electromagnetic

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC350.120	S1	350	12	42	F	1	1.12	3000	40	5.1
	S2 30'	500		58.8			1.57			
EC350.240	S1	350	24	21			1.12		40	5.3
	S2 30'	500		29.4			1.57			

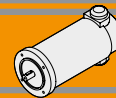
**Dimensioni**

**Dimensions**



	63 B14	71 B14*
S	75	85
C (-0.03 / -0.01)	60	70
F	8 - M5	8 - M6

\* Usare boccola 11/14  
\* Use sleeve 11/14

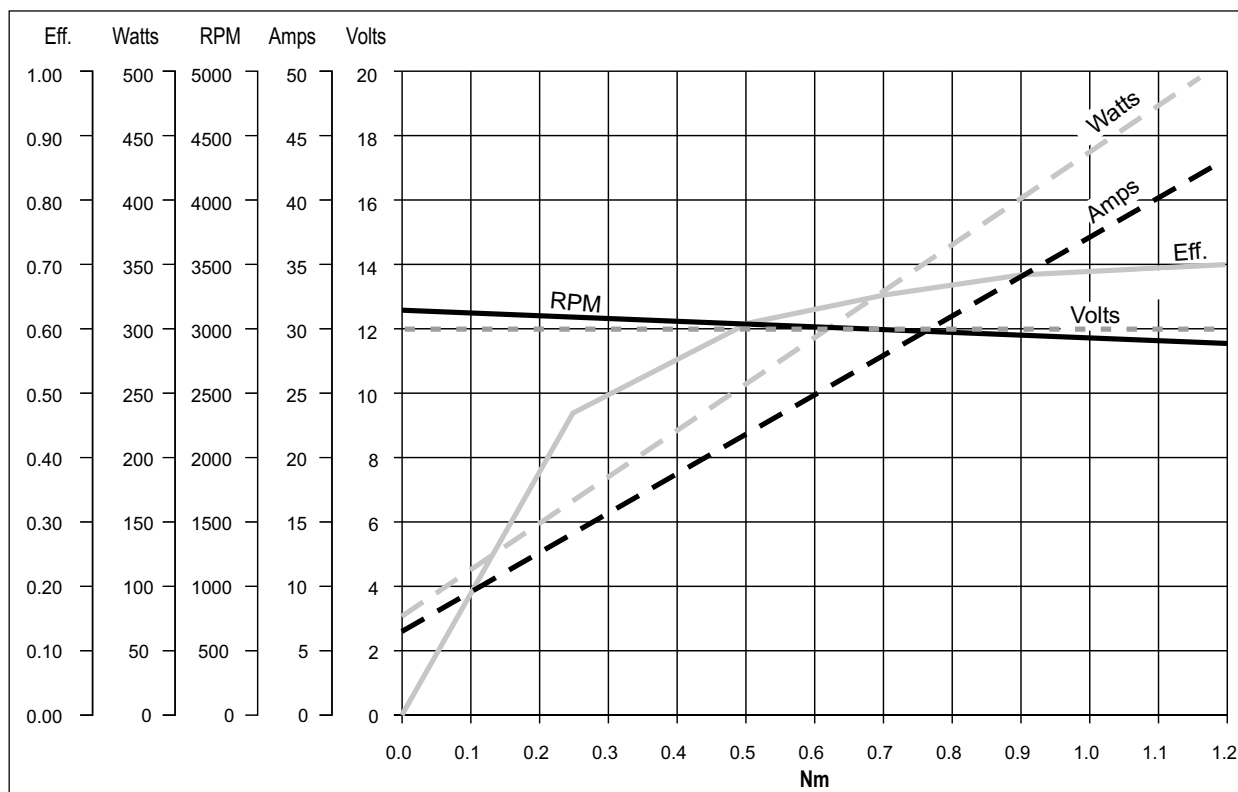


**EC350.120 - EC350.240**

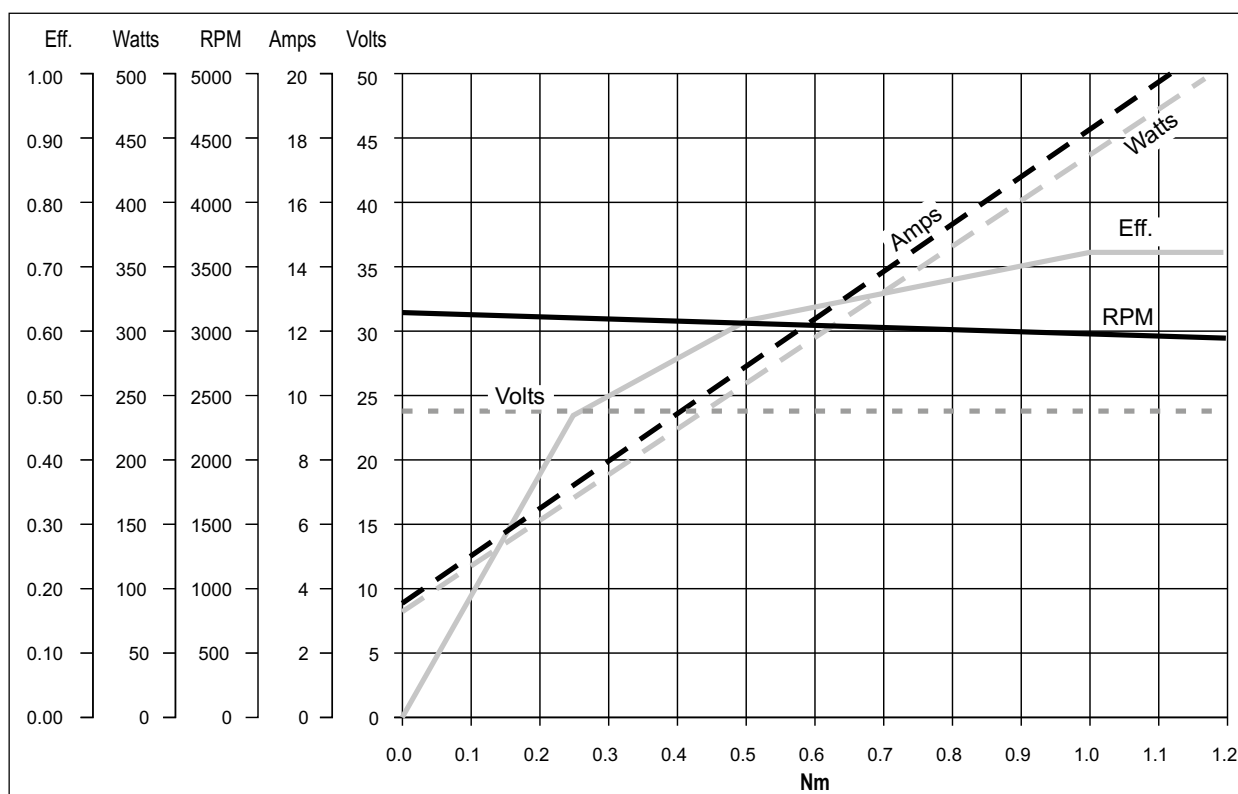
Prestazioni

Performances

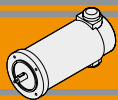
**EC350.120**



**EC350.240**



EC



**EC600.120 - EC600.240**

**Caratteristiche**

**Features**

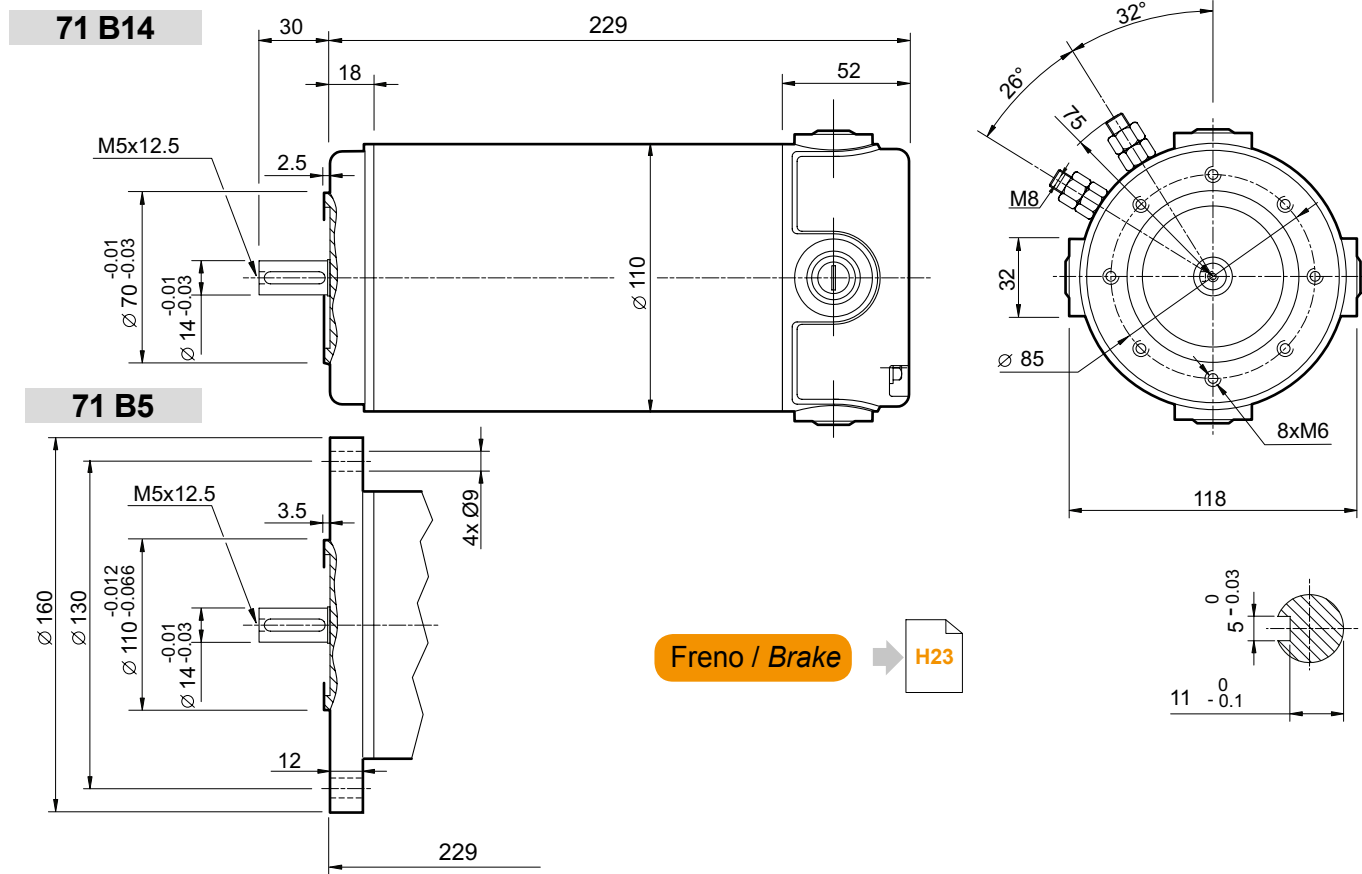
Costruzione	Tubolare, senza ventilazione
Grandezza	Ø 110 mm
Potenza	800 W S2 (600 W S1)
Magneti	4
Supporti	Cuscinetti a sfera
Fori di montaggio	8
Alimentazione	Bassa tensione, 12 o 24 Vcc
Spazzole	N° 4 di composto grafite-rame
Dimensione spazzole	LxPxH = 18.9 x 9.5 x 16.7 mm
Terminali	2 con doppio dado di fissaggio
Freno	Elettromagnetico

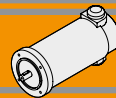
Construction	Tubular, without fan
Size	Ø 110 mm
Power	800 W S2 (600 W S1)
Magnets	4
Bearings	Ball bearings
Mounting holes	8
Power supply	Low voltage, 12 or 24 Vdc
Brushes	4 brushes made of graphite/copper composite
Brushes size	LxPxH = 18.9 x 9.5 x 16.7 mm
Leads terminals	2, with double nut
Brake	Electromagnetic

Tipo Type	S	Pn [W]	V [V]	I [A]	IC	FF	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]	IP	Kg
EC600.120	S1	600	12	71	F	1	1.91	3000	40	6.6
	S2 30'	800		94.4			2.54			
EC600.240	S1	600	24	35.5			1.91		40	7.1
	S2 30'	800		47.2			2.54			

**Dimensioni**

**Dimensions**



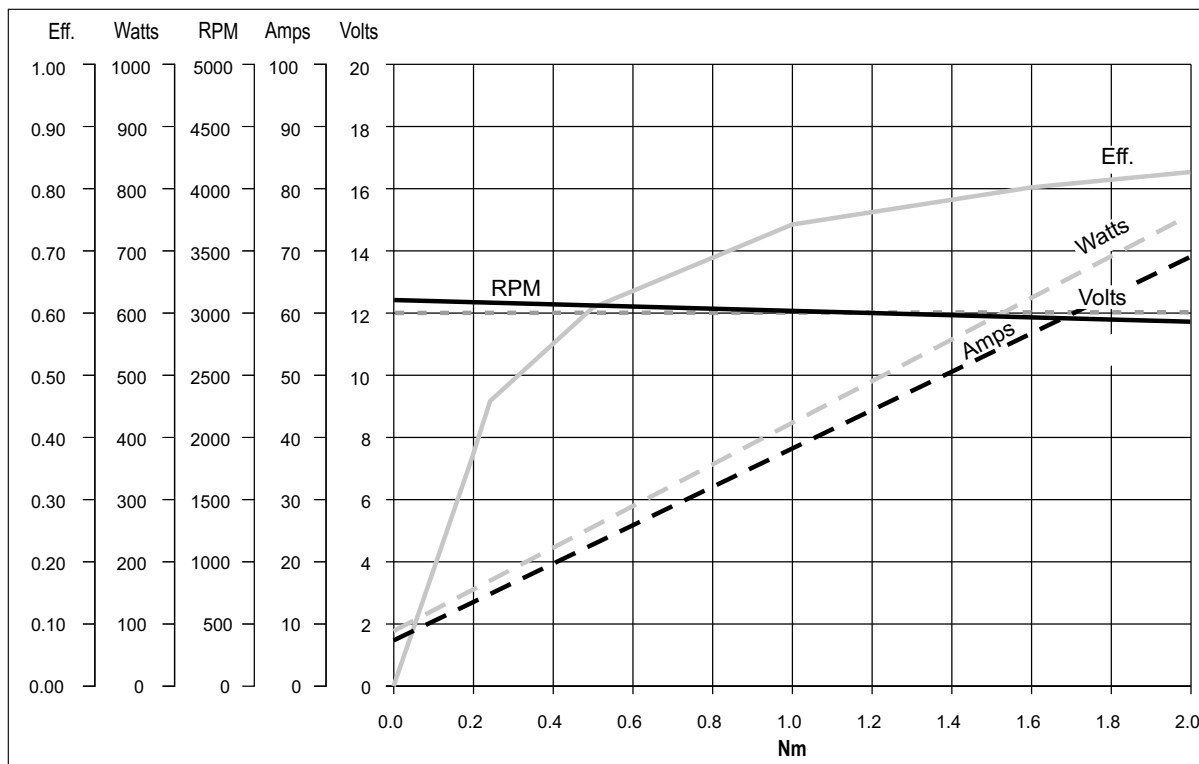


**EC600.120 - EC600.240**

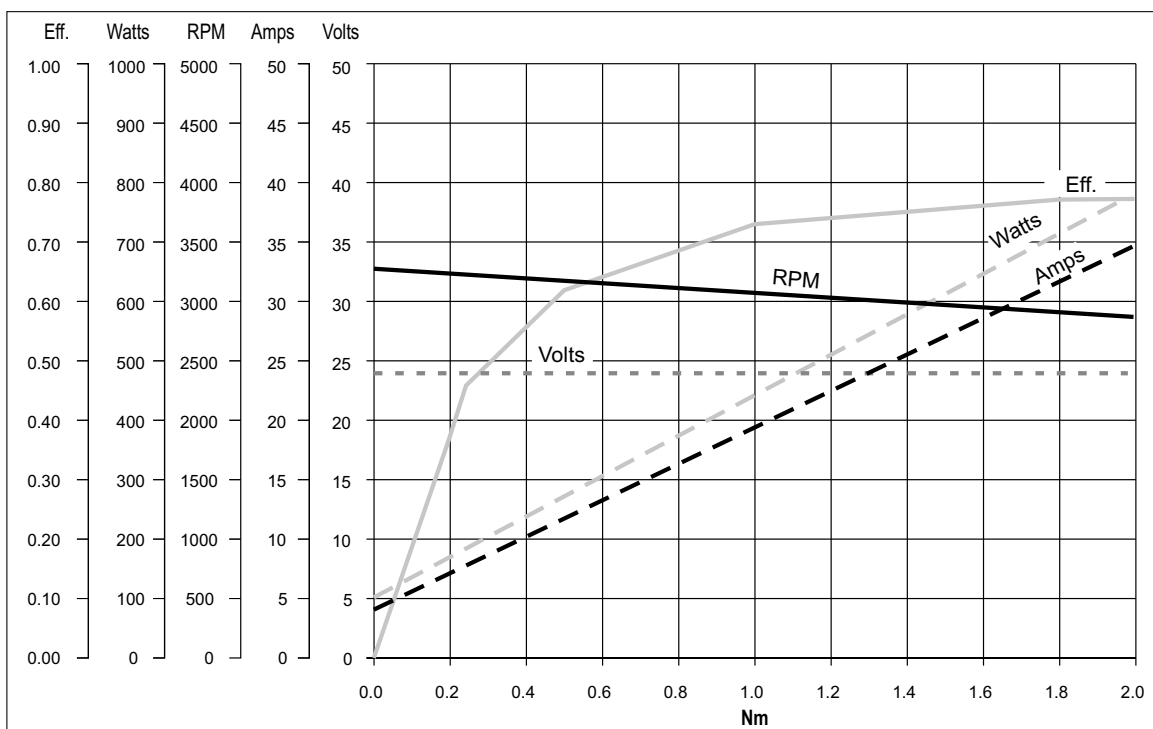
Prestazioni

Performances

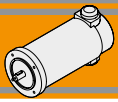
**EC600.120**



**EC600.240**



EC

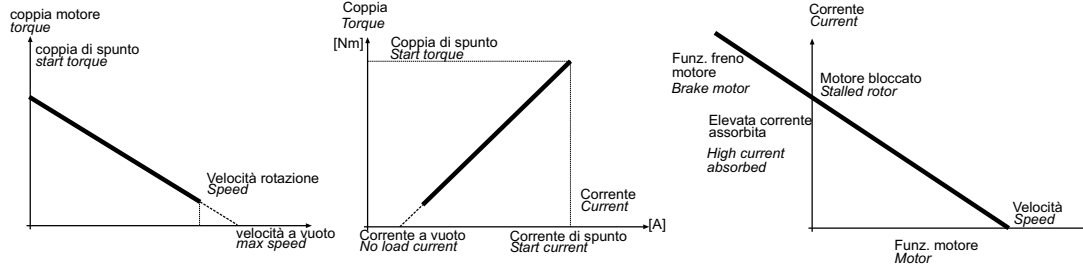


**Legenda / Glossario dei grafici**

**Key / Diagram Glossary**

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.

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.

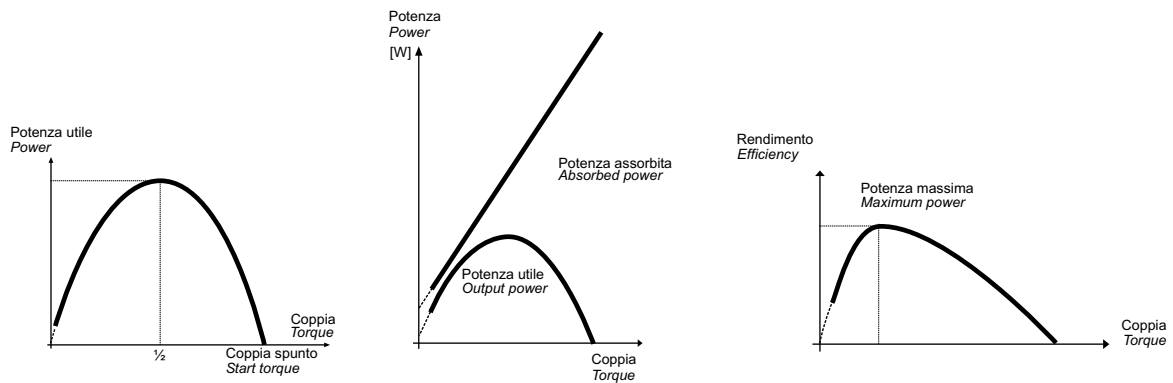


La potenza utile (potenza all' albero) si ricava dalla formula:

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

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**

**Useful formulas**

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

$$P_n = V \cdot I \cdot \eta$$

$$P_n = M_n \cdot S_v$$

$$S_v = \frac{n_1}{9.55}$$

$$[HP] \cdot 746 = [W].$$

Esempio 2 HP = circa 1500 W.

$$\eta = \frac{P_n}{P_a}$$

$$P_a = V \cdot I$$

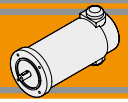
$$P_n = V \cdot I \cdot \eta$$

$$P_n = M_n \cdot S_v$$

$$S_v = \frac{n_1}{9.55}$$

$$[HP] \cdot 746 = [W].$$

Example 2 HP = approx. 1500 W.



Freno

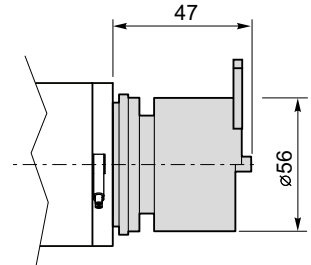
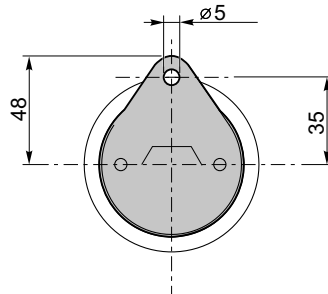
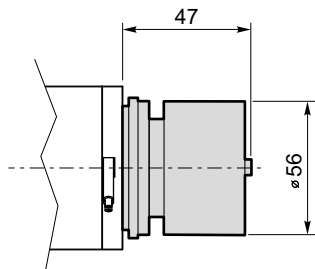
Brake

Freno / Brake

Freno con leva di sblocco/ Brake with hand release

EC050...BR  
EC070...BR

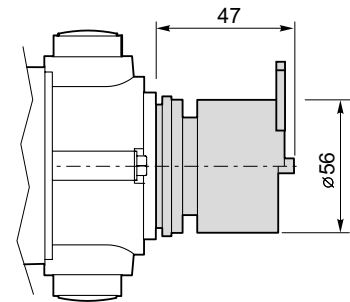
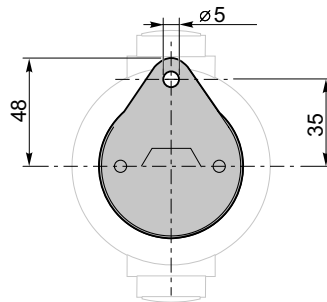
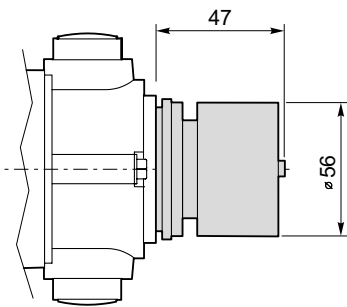
EC050...BRL  
EC070...BRL



	Pn [W]	V [V]	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]
Caratteristiche del freno / Break features	14	12 24	2	3000

EC100.24E BR  
EC180.24E BR

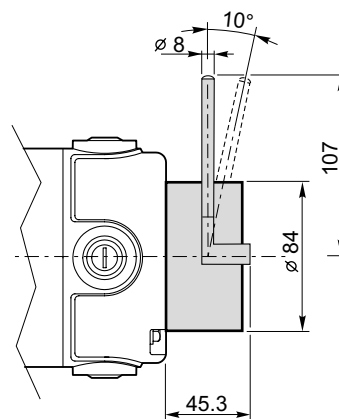
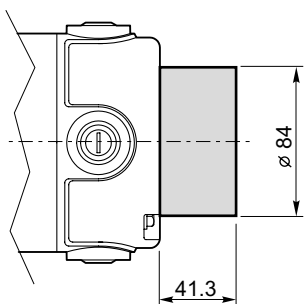
EC100.24E BRL  
EC180.24E BRL



	Pn [W]	V [V]	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]
Caratteristiche del freno / Break features	14	12 24	2	3000

EC350...BR  
EC600...BR

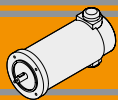
EC350...BRL  
EC600...BRL



	Pn [W]	V [V]	Mn [Nm]	n <sub>1</sub> [min <sup>-1</sup> ]
Caratteristiche del freno / Break features	25	12 24	5	3000

EC





Encoder

Encoder

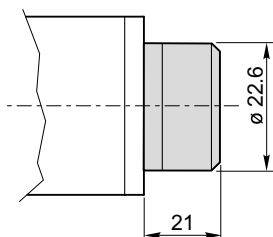
**EC020.24E ME22**

**EC050.12E ME22**

**EC050.24E ME22**

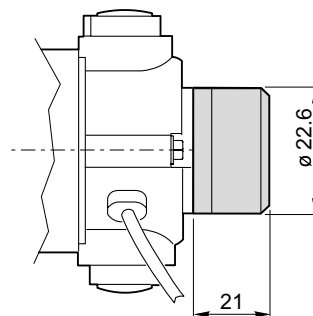
**EC070.12E ME22**

**EC070.24E ME22**



**EC100.24E ME22**

**EC180.24E ME22**



Risoluzione Encoder (CPR) / Encoder Resolution (CPR)	Numero di canali / Number of channels	Tensione d'alimentazione / Power supply
001	2	5 VdC - TTL
100		
300		

Архангельск (8182)63-90-72  
Астана (7172)727-132  
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  
Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41

Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Новосибирск (383)227-86-73  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Пермь (342)205-81-47  
Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78

Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Тверь (4822)63-31-35  
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  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Ярославль (4852)69-52-93

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