

## **ITALIANO**

### **PRESENTAZIONE**

I nostri prodotti sono costruiti in conformità alle norme CEI e alle vigenti norme europee.

Realizziamo motori a corrente continua in campo avvolto con eccitazione:

serie, composta, parallela, separata e a magneti permanenti.

I motori possono essere forniti con grado di protezione da IP20 a IP56.

L'isolamento del motore di classe F è ottenuto utilizzando filo isolato di classe H. Inoltre il rotore è trattato con vernici e resine epossidiche che ne aumentano la rigidità e la resistenza a temperature fino a 155°C.

Le spazzole sono in elettrografite o metalgrafite a seconda delle caratteristiche del motore. Si trovano in posizione facilmente accessibile per effettuare la manutenzione.

I cuscinetti sono del tipo a sfera a doppio schermo con lubrificante interno. Per applicazioni speciali possono essere forniti con grasso ad alta temperatura e gioco C3.

A richiesta sono disponibili i seguenti accessori:

freni elettromagnetici, teleruttori di avviamento, protezioni termiche e rilevatori di usura, riduttori a vite ed epicicloidali, applicazioni di dinamo o encoder.

**Nel catalogo sono riportati i dati dei motori di uso più comune, ma a richiesta possiamo realizzare motori con caratteristiche diverse in potenza, tensione e numero di giri.**

**Per inviarci una richiesta di costruzione di un motore con caratteristiche non standard compilare nel modo più completo possibile il modulo posto al fondo del presente catalogo.**

## **ENGLISH**

### **PRESENTATION**

*Our products are manufactured complying with IEC and European standards.*

*We made DC motors with the following winding:*

*series wound, compound wound, shunt wound, permanent magnet.*

*Motors can be supplied with enclosures from IP20 up to IP56.*

*Class F motor insulation is achieved by class H insulated wire, in conjunction with rotor winding impregnation by epoxy paints and resins. This guarantees high strength and reliability up to 155°C winding temperature.*

*Graphite electro or graphite metal brushes are used in according to motor characteristic.*

*Ball bearings with double shield and internal lubrication. On request high temperature grease, or C3 tolerance bearings, can be supplied.*

*Available on request:*

*electromagnetic brakes, start contactors, thermal protection and detectable wear sistem, worm and planetary gearboxes, thaco-generator or encoder application.*

***On the catalogue you can find the standard production of our D.C. motors; on request we can make motors with different performances in power, voltage and rpm.***

***For your particular request please fill in the form on the bottom of this catalogue with more datas as possible.***

**CLASSIFICAZIONE MOTORI - MOTOR CLASSIFICATION**

**1000W - 48V - RD - B5/80 - NV - 06 - FMT**

**POTENZA MOTORE**  
*D.C. MOTOR POWER*

**TENSIONE**  
*VOLTAGE*

**TIPO DI ECCITAZIONE - EXCITATION TYPE**  
RA serie 2 morsetti - 2 terminals series  
RC serie 3 morsetti - 3 terminals series  
RD serie 3+1 morsetti - 3+1 terminals series  
RE serie 4 morsetti - 4 terminals series  
NA composta - compound  
PA parallela - shunt  
PB separata - separate  
MP magneti permanenti - permanent magnets  
**Vedi schemi elettrici**  
*See motors connection*

**TIPO FLANGIA - FLANGE TYPE**  
SPEC. = flangia speciale - special flange  
**Vedi tabella pag. 5 per altre flange**  
*For other flange see table page 5*

**TIPO VENTILAZIONE - VENTILATION TYPE**  
**Vedi tabella pag. 6**  
*See table page 6*

**CARATTERISTICHE FRENO - BRAKE PERFORMANCES:**  
00 senza freno - without brake  
06 con freno da - with brake of 5Nm  
08 con freno da - with brake of 10Nm  
10 con freno da - with brake of 20Nm  
12 con freno da - with brake of 40Nm  
14 con freno da - with brake of 75Nm

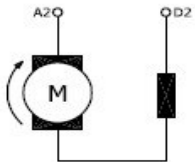
**MODELLO FRENO - BRAKE MODEL:**  
FMT freno modello TELECO - with TELECO brake  
**Vedi tabella freni pag. 7**  
*See brake table page 7*

A richiesta freni marca LENZE - On request LENZE model brakes.

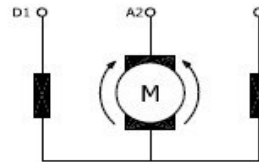
I motori possono essere forniti con morsettiera (vedi pag. 4) - Motors can be supplied with terminals block (see page 4)

**SCHEMI ELETTRICI - MOTOR CONNECTIONS**

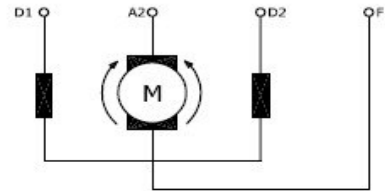
**Motori con eccitazione in serie - series wound motors**



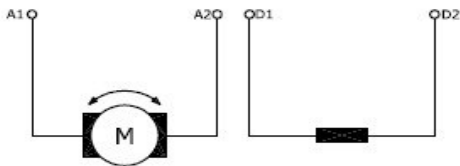
**2 MORSETTI**  
*2 TERMINALS*



**3 MORSETTI**  
*3 TERMINALS*

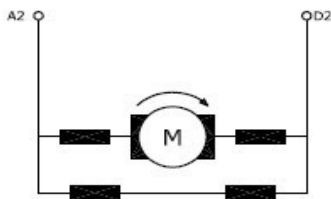


**3+1 MORSETTI**  
*3+1 TERMINALS FOR PLUG BRAKING*



**4 MORSETTI**  
*4 TERMINALS*

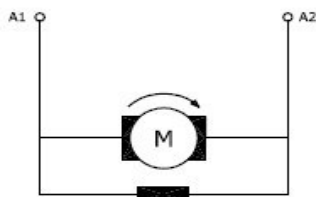
**Motori con eccitazione composta - compound wound motors**



**2 MORSETTI**  
*2 TERMINALS*

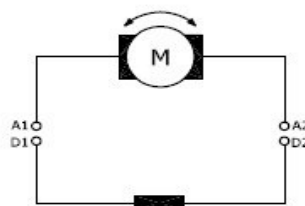
**Motori con eccitazione parallela - shunt wound motors**

**Eccitazione parallelo**  
*Shunt wound*



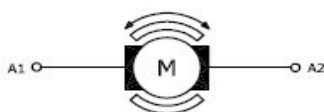
**2 MORSETTI**  
*2 TERMINALS*

**Eccitazione separate**  
*Separately excited*



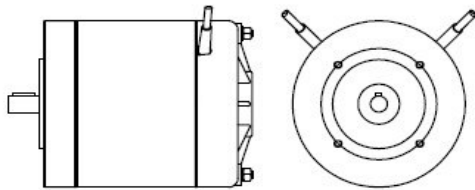
**4 MORSETTI**  
*4 TERMINALS*

**Motori a magneti permanenti - permanent magnet motors**

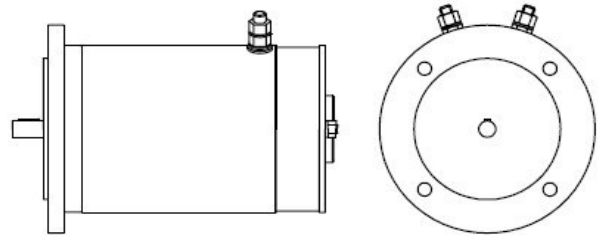


**2 MORSETTI**  
*2 TERMINALS*

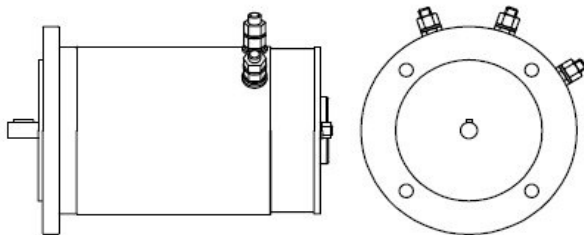
## TIPI DI CONNESSIONE - CONNECTION TYPES



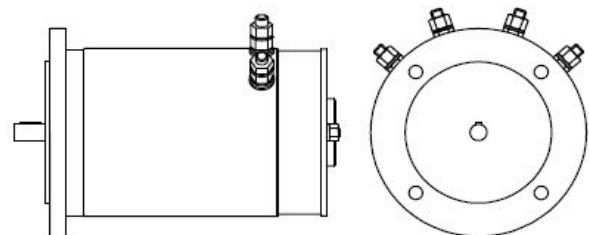
**CON CAVI**  
*WITH CABLES*



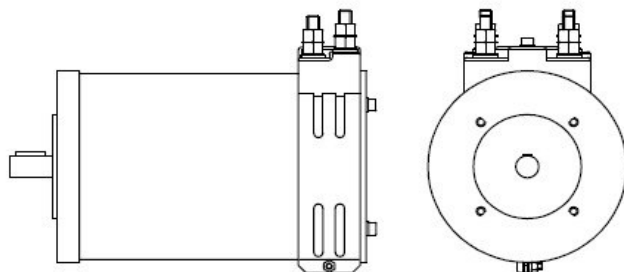
**A 2 MORSETTI**  
*WITH 2 TERMINALS*



**A 3 MORSETTI**  
*WITH 3 TERMINALS*



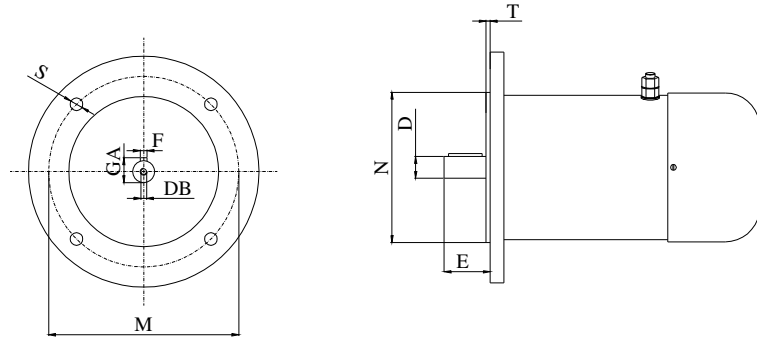
**A 4 MORSETTI**  
*WITH 4 TERMINALS*



**CON MORSETTIERA**  
*WITH TERMINALS BLOCK*

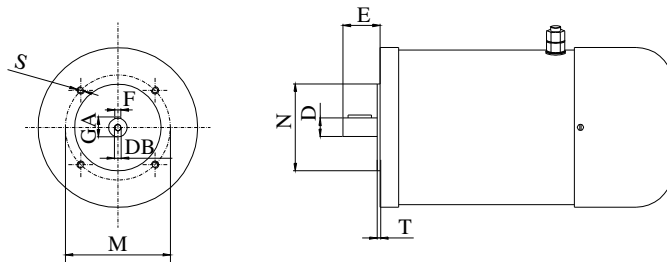
## FLANGE - FLANGES

**BN\_B5**



	FLANGIA/FLANGE					ALBERO/SHAFT				
	N	M	T	S		D	DB	E	GA	F
<b>BN 63</b>	95	115	3	9		11	M4	23	12.5	4
<b>BN 71</b>	110	130	3.5	9		14	M5	30	16	5
<b>BN 80</b>	130	165	3.5	11		19	M6	40	21.5	6
<b>BN 90</b>	130	165	3.5	11		24	M8	50	27	8
<b>BN 100</b>	180	215	4	14		28	M10	60	31	8
<b>BN 132</b>	230	265	4	14		38	M12	80	41	10

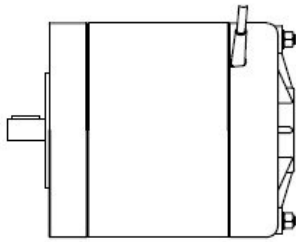
**BN\_B14**



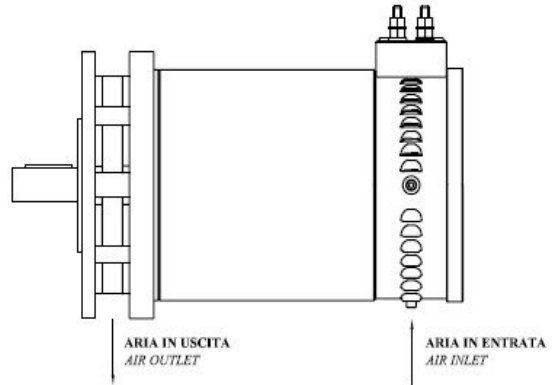
	FLANGIA/FLANGE					ALBERO/SHAFT				
	N	M	T	S		D	DB	E	GA	F
<b>BN 63</b>	60	75	2.5	M5		11	M4	23	12.5	4
<b>BN 71</b>	70	85	2.5	M6		14	M5	30	16	5
<b>BN 80</b>	80	100	3	M6 (*)		19	M6	40	21.5	6
<b>BN 90</b>	95	115	3	M8		24	M8	50	27	8
<b>BN 100</b>	110	130	3.5	M8		28	M10	60	31	8
<b>BN 132</b>	130	165	4.0	M10		38	M12	80	41	10

(\*) per i motori  $\varnothing 151$  vengono utilizzati fori M8.

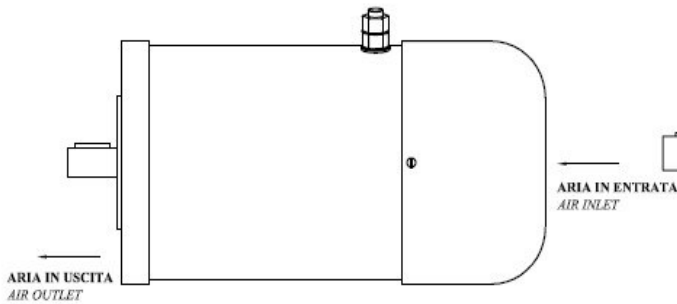
**TIPI DI VENTILAZIONE - VENTILATION TYPES**



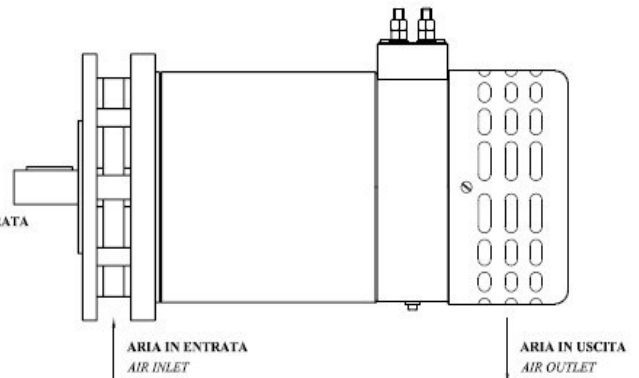
**NV** = NON VENTILATO  
*WITHOUT VENTILATION*



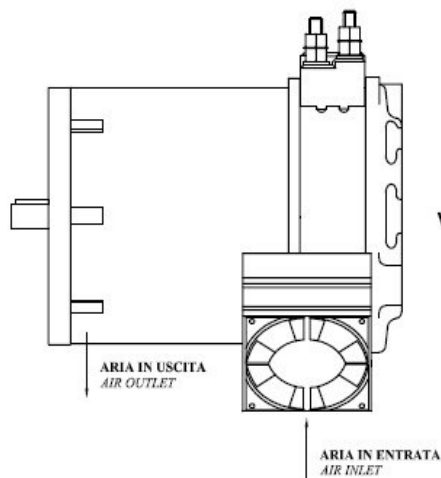
**VI** = VENTILAZIONE INTERNA  
*INTERNAL VENTILATION*



**VE1** = VENTILAZIONE ESTERNA TIPO 1  
*TYPE 1 EXTERNAL VENTILATION*

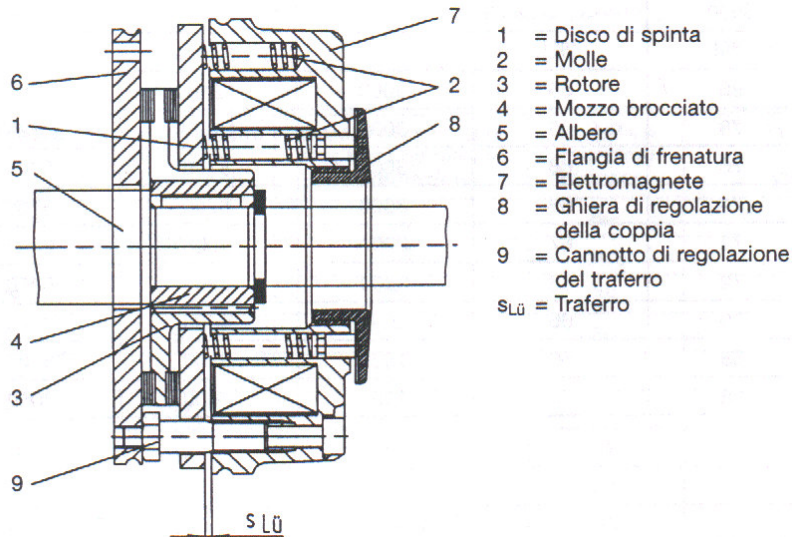


**VE2** = VENTILAZIONE ESTERNA TIPO 2  
*TYPE 2 EXTERNAL VENTILATION*



**VF** = VENTILAZIONE FORZATA ESTERNA  
*FORCED EXTERNAL VENTILATION*

**FRENI ELETTROMAGNETICI - ELECTROMAGNETIC BRAKES**



- 1 = Disco di spinta
- 2 = Molle
- 3 = Rotore
- 4 = Mozzo brocciato
- 5 = Albero
- 6 = Flangia di frenatura
- 7 = Elettromagnete
- 8 = Ghiera di regolazione della coppia
- 9 = Cannotto di regolazione del traferro
- s<sub>Lo</sub> = Traferro

- 1 = pressure disk
- 2 = springs
- 3 = brake disk
- 4 = hub
- 5 = shaft

- 6 = braking flange
- 7 = electromagnete
- 8 = ring nut
- 9 = air gap regulation pin
- s<sub>Lo</sub> = air gap

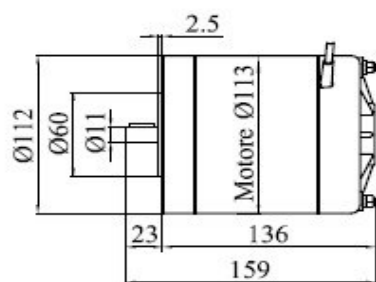
**A richiesta i motori possono essere forniti con freni elettromagnetici di marca LENZE o TELECO. Nel catalogo sono illustrati i motori con freno TELECO (sigla FMT); i freni LENZE (sigla FML) sono disponibili come optional.**

*On request, D.C. motors with LENZE or TELECO electromagnetic brake are available. The catalogue shows D.C. motors with TELECO brake (FMT type); optional LENZE brake (FML type) are available.*

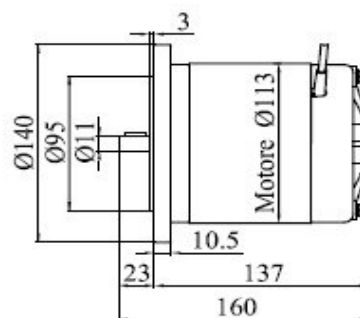
	MODELLO/TYPER		<b>06</b>	<b>08</b>	<b>10</b>	<b>12</b>	<b>14</b>
<b>TELECO</b>	<b>Coppia/Torque</b>	Nm	5	10	20	40	75
<b>LENZE</b>	<b>Coppia/Torque</b>	Nm	4	8	16	32	60

# Ø113mm 250W

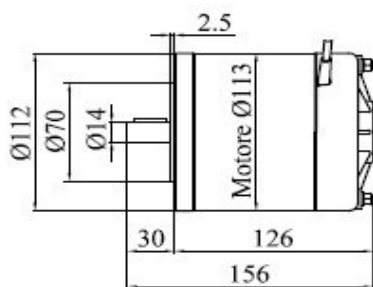
## B14 BN63 - NV



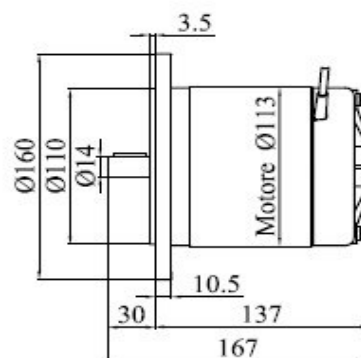
## B5 BN63 - NV



## B14 BN71 - NV



## B5 BN71 - NV



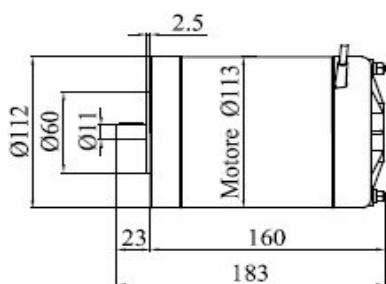
## 250W MAGNETI PERMANENTI – PERMANENT MAGNETS

Tensione Voltage	Giri Round	Coppia Torque
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
12	2800	0.9
24	2800	0.9
36	2800	0.9
48	2800	0.9

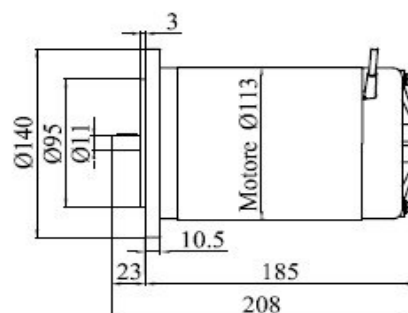


# Ø113mm 400W

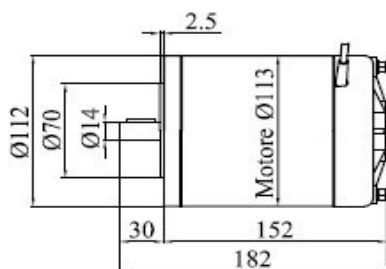
## B14 BN63 - NV



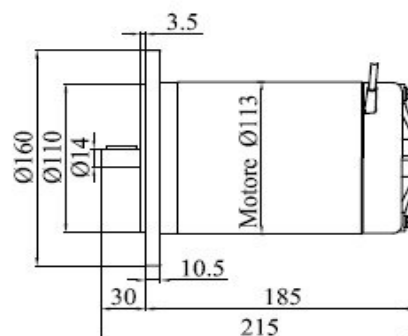
## B5 BN63 - NV



## B14 BN71 - NV



## B5 BN71 - NV

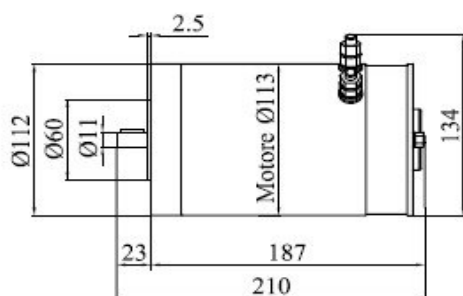


## 400W MAGNETI PERMANENTI – PERMANENT MAGNETS

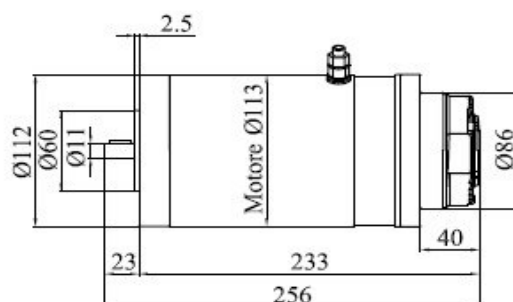
Tensione Voltage	Giri Round	Coppia Torque
V	Rpm	Nm
12	1600	2.4
24	1600	2.4
36	1600	2.4
48	1600	2.4

# Ø113mm 500W

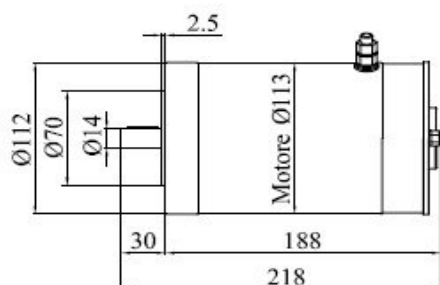
**B14 BN63 - NV**



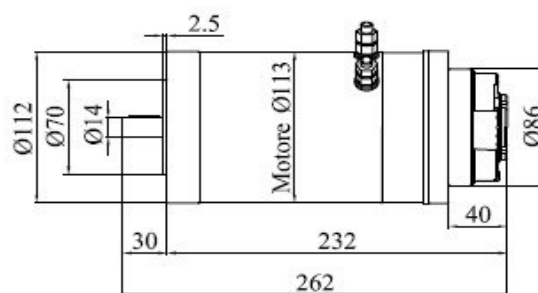
**B14 BN63 - NV - FMT**



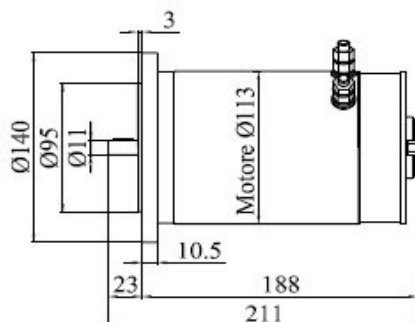
**B14 BN71 - NV**



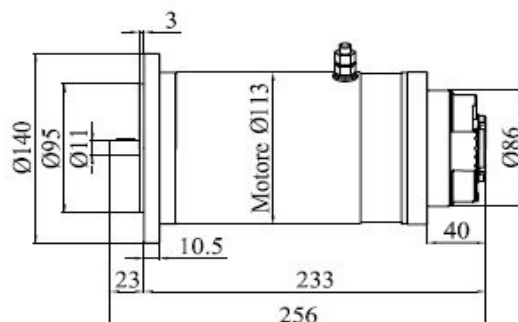
**B14 BN71 - NV - FMT**



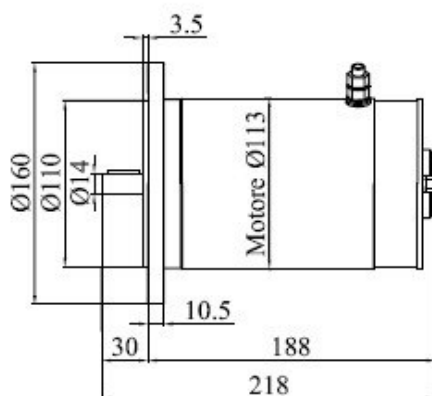
**B5 BN63 - NV**



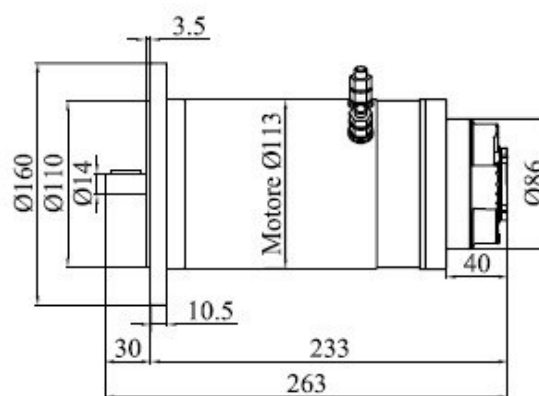
**B5 BN63 - NV - FMT**



### B5 BN71 - NV



### B5 BN71 - NV - FMT



## 500W ECCITAZIONE IN SERIE – SERIES EXCITATION

Tensione Voltage	Giri Round	Coppia Torque
V	Rpm/min	Nm
12	2500	1.9
24	2850	1.7
36	2800	1.7
48	2800	1.7

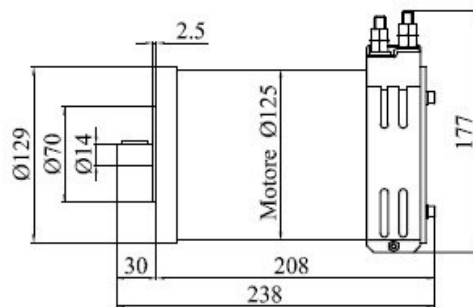
A richiesta i motori possono essere disponibili con eccitazione separata, composta o parallela.  
On request motors are available with separate, compound or shunt excitation.

## 500W MAGNETI PERMANENTI – PERMANENT MAGNETS

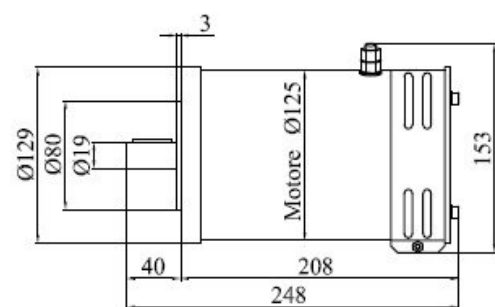
Tensione Voltage	Giri Round	Coppia Torque
V	Rpm	Nm
12	2500	1.9
24	2850	1.7
36	2800	1.7
48	2800	1.7

# Ø125mm 800W

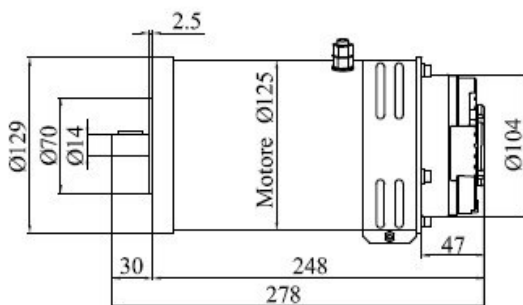
**B14 BN71 - NV**



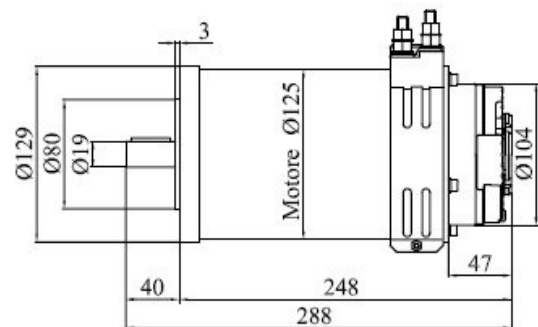
**B14 BN80 - NV**



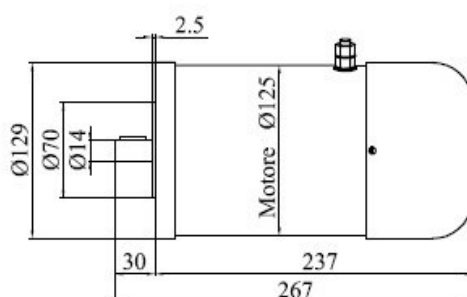
**B14 BN71 - NV - FMT**



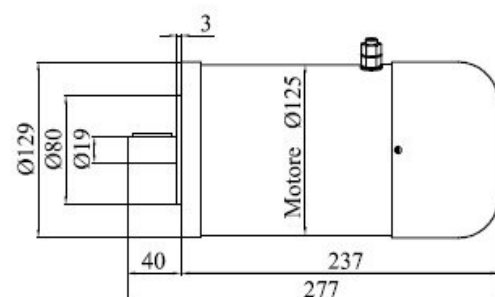
**B14 BN80 - NV - FMT**



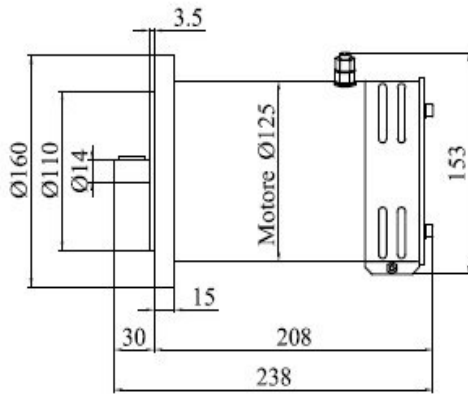
**B14 BN71 - VE1**



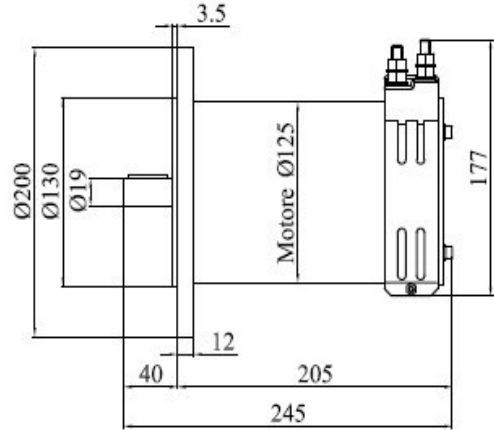
**B14 BN80 - VE1**



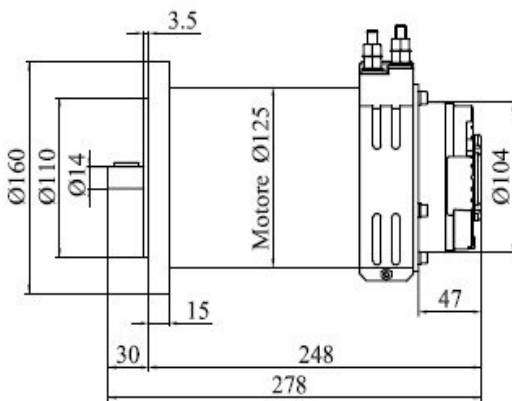
**B5 BN71 - NV**



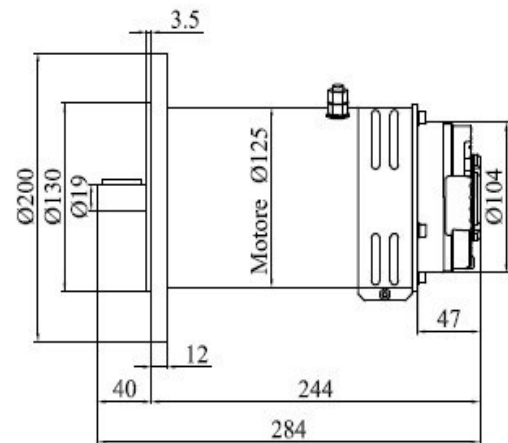
**B5 BN80 - NV**



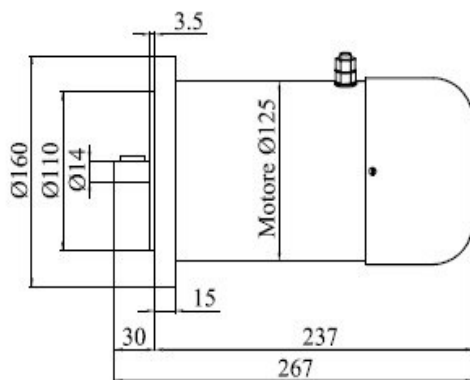
**B5 BN71 - NV - FMT**



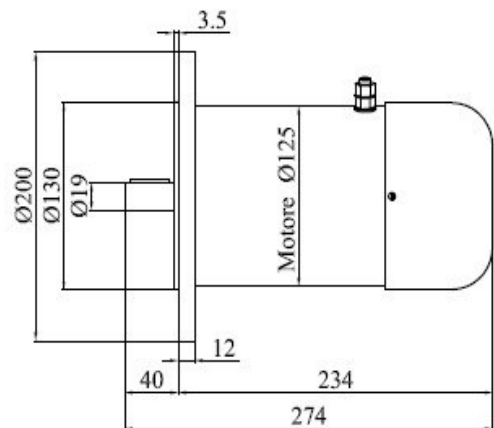
**B5 BN80 - NV - FMT**



**B5 BN71 - VE1**



**B5 BN80 - VE1**



## **800W** ECCITAZIONE IN SERIE – *SERIES EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm/min</i>	<i>Nm</i>
12	2500	3.1
24	3000	2.5
36	3300	2.3
48	3100	2.5

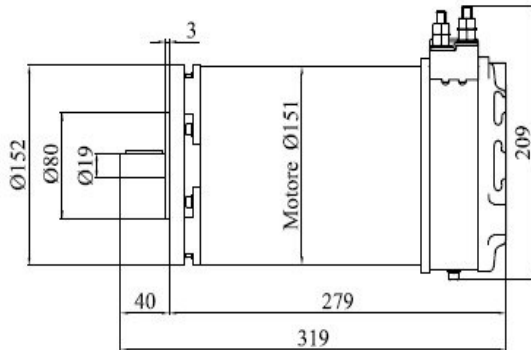
**A richiesta i motori possono essere disponibili con eccitazione separata, composta o parallela.**  
*On request motors are available with separate, compound or shunt excitation.*

## **800W** MAGNETI PERMANENTI – *PERMANENT MAGNETS*

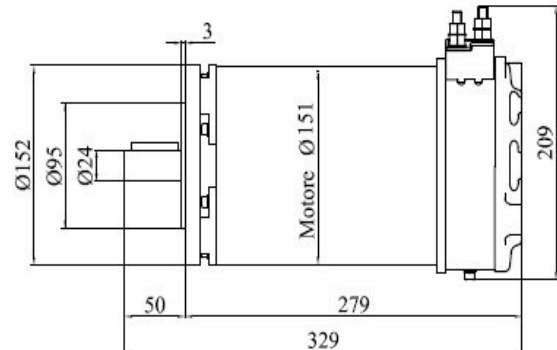
<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
12	2500	3.1
24	3000	2.5
36	2500	3.1
48	2800	2.7

# Ø151mm 1000 ÷ 2000W

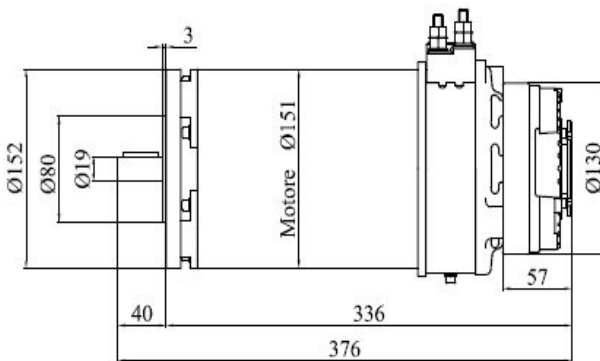
**B14 BN80 - NV**



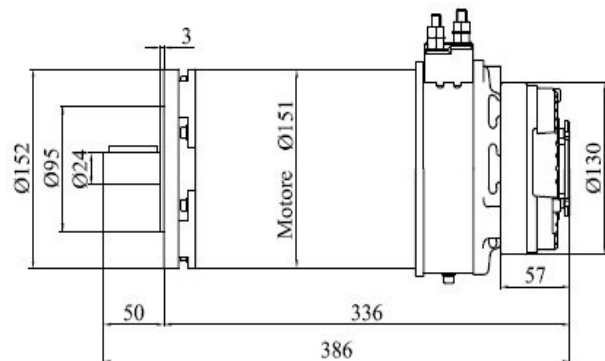
**B14 BN90 - NV**



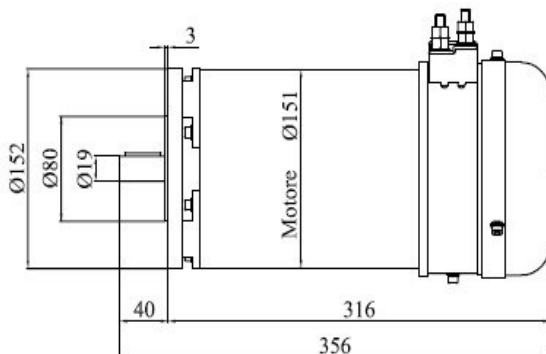
**B14 BN80 - NV - FMT**



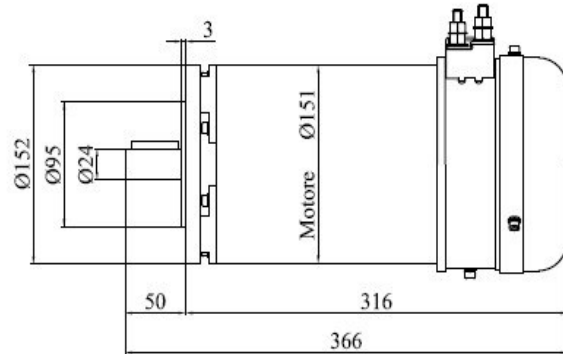
**B14 BN90 - NV - FMT**



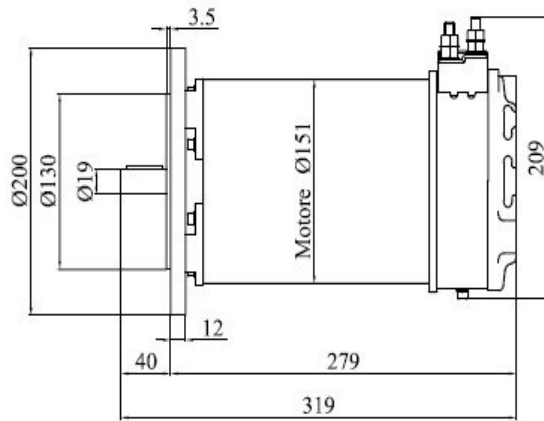
**B14 BN80 - VE1**



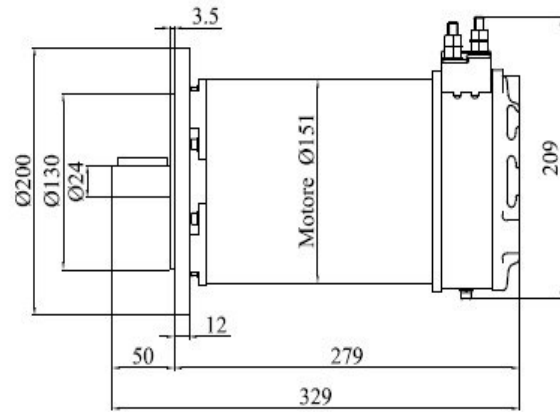
**B14 BN90 - VE1**



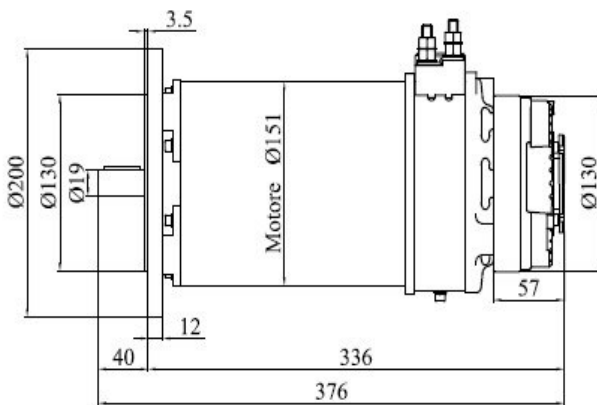
**B5 BN80 - NV**



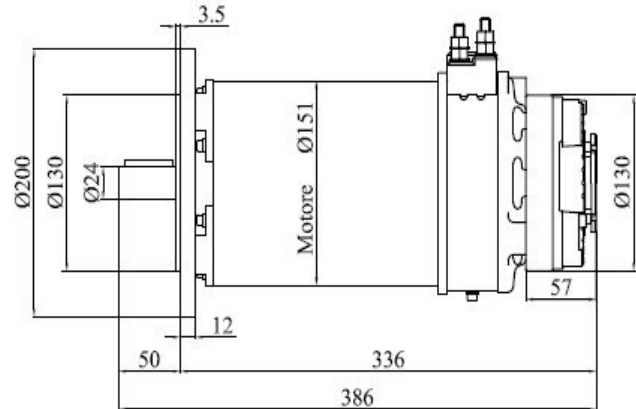
**B5 BN90 - NV**



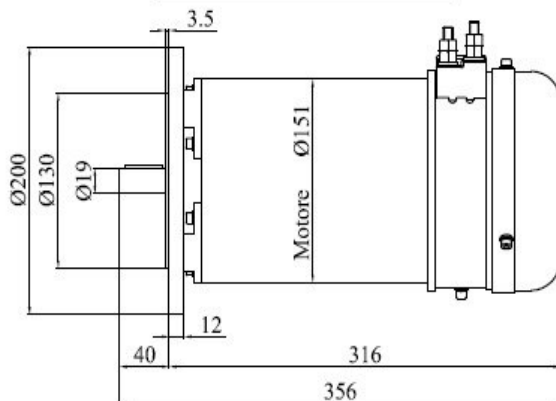
**B5 BN80 - NV - FMT**



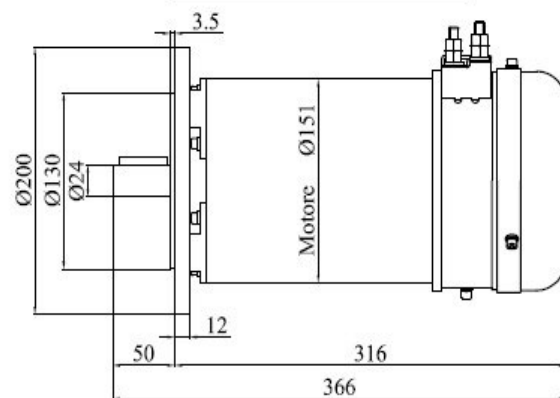
**B5 BN90 - NV - FMT**



**B5 BN80 - VE1**



**B5 BN90 - VE1**





## **1000W** ECCITAZIONE IN SERIE – *SERIES EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm/min</i>	<i>Nm</i>
12	1500	6.4
24	1400	6.8
36	1500	6.4
48	1800	6.8

## **2000W** ECCITAZIONE IN SERIE – *SERIES EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
24	2000	9.5
36	1800	10.6
48	2000	9.5

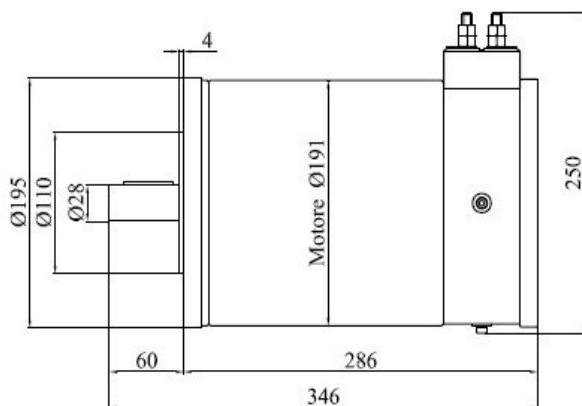
**A richiesta i motori possono essere disponibili con eccitazione separata, composta o parallela.**  
*On request motors are available with separate, compound or shunt excitation.*

## **1000W** MAGNETI PERMANENTI – *PERMANENT MAGNETS*

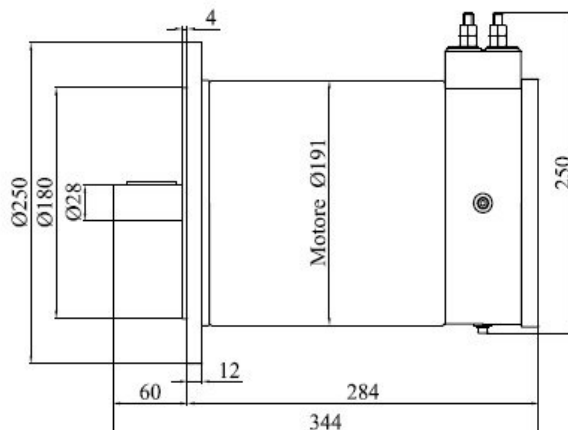
<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
12	1500	6.4
24	1400	6.8
36	1500	6.4
48	1800	6.8

# Ø191mm 3000 ÷ 5000W

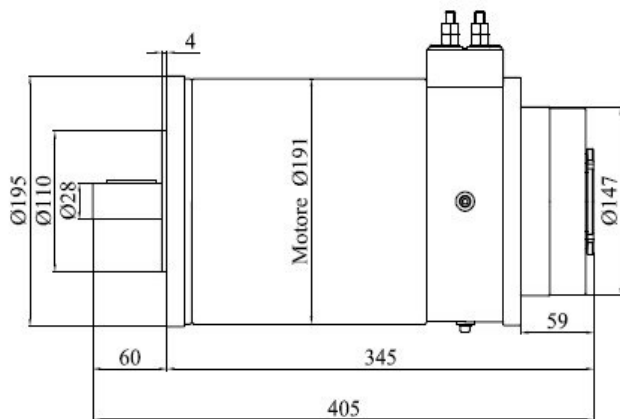
**B14 BN100 - NV**



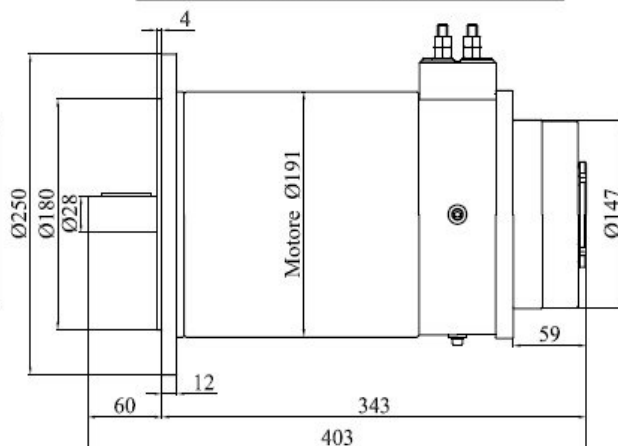
**B5 BN100 - NV**



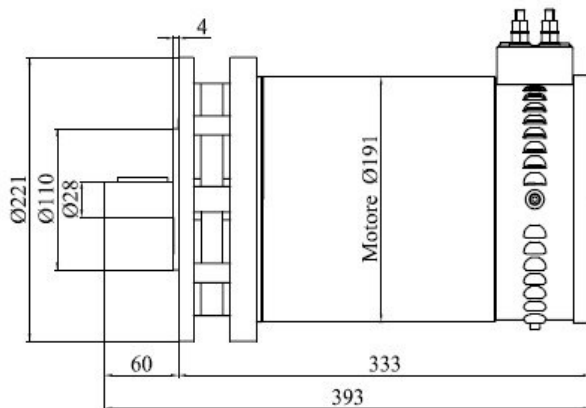
**B14 BN100 - NV - FMT**



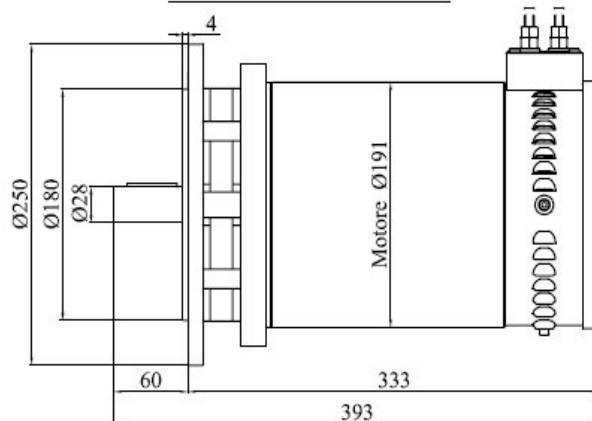
**B5 BN100 - NV - FMT**



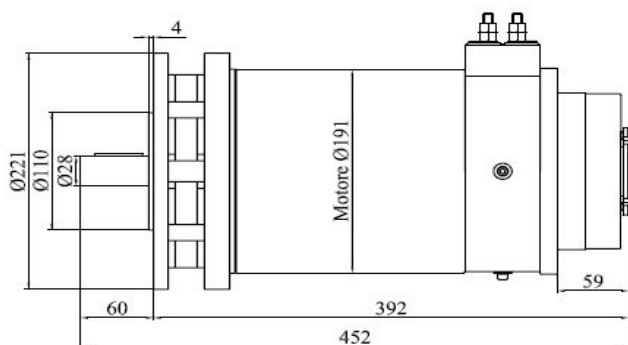
**B14 BN100 - VI**



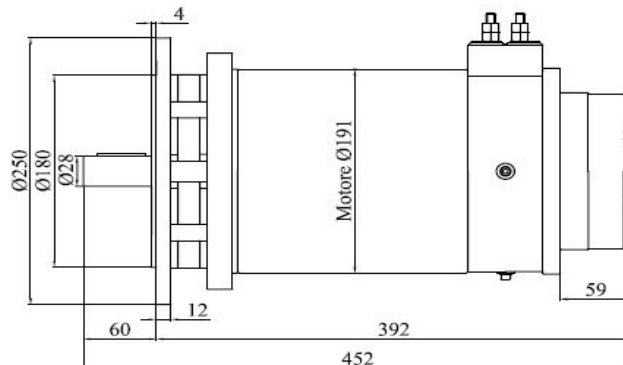
**B5 BN100 - VI**



**B14 BN100 - VI - FMT**



**B5 BN100 - VI - FMT**



### 3000W ECCITAZIONE IN SERIE – SERIES EXCITATION

Tensione <i>Voltage</i>	Giri <i>Round</i>	Coppia <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
24	1800	15.9
36	2000	14.3
48	2000	14.3

### 4000W ECCITAZIONE IN SERIE – SERIES EXCITATION

Tensione <i>Voltage</i>	Giri <i>Round</i>	Coppia <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
24	2500	15.3
36	1900	20.1
48	2300	16.6

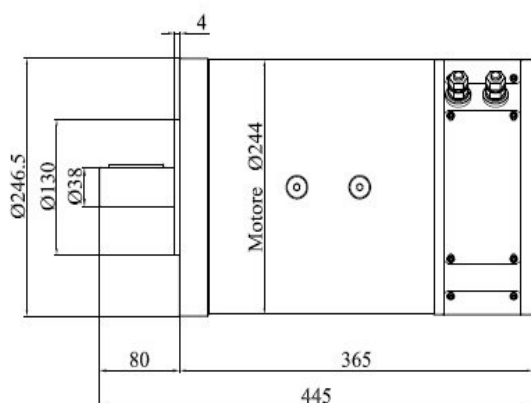
### 5000W ECCITAZIONE IN SERIE – SERIES EXCITATION

Tensione <i>Voltage</i>	Giri <i>Round</i>	Coppia <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
24	2000	23.9
36	2000	23.9
48	2100	22.7

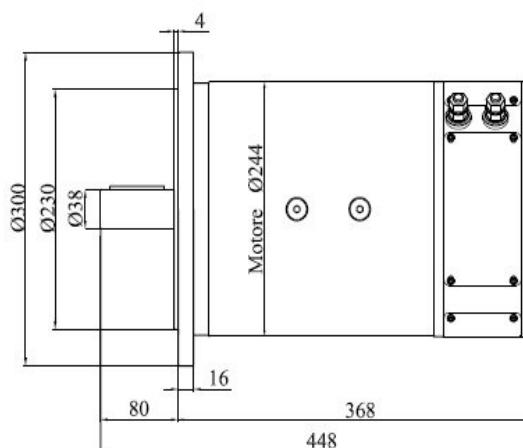
**A richiesta i motori possono essere disponibili con eccitazione separata, composta o parallela.**  
*On request motors are available with separate, compound or shunt excitation.*

# Ø244mm 6000 ÷ 8000W

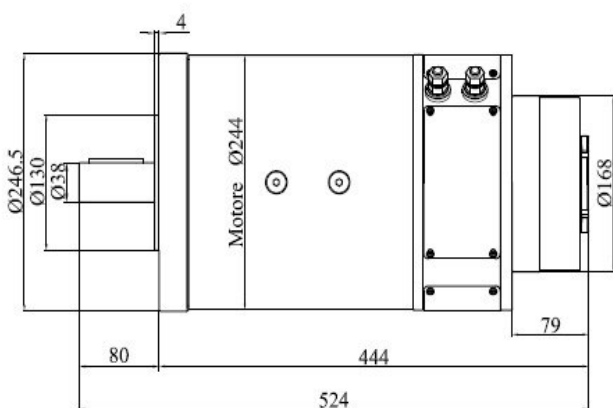
**B14 BN132 - NV - DS**



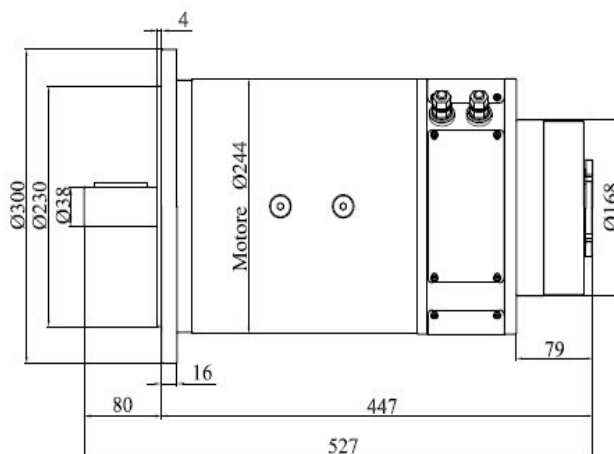
**B5 BN132 - NV - DS**



**B14 BN132 - NV - FMT - DS**



**B5 BN132 - NV - FMT - DS**



## **6000W** ECCITAZIONE IN SERIE – *SERIES EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
48	1800	32.5

## **7000W** ECCITAZIONE IN SERIE – *SERIES EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
48	1700	40

## **8000W** ECCITAZIONE IN SERIE – *SERIES EXCITATION*

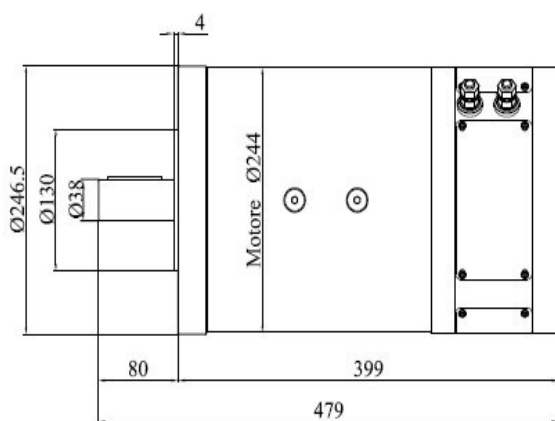
<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
48	1400	50

**I motori sono disponibili anche con voltaggio a 72V e 80V e a richiesta con eccitazione separata, composta o parallela.**

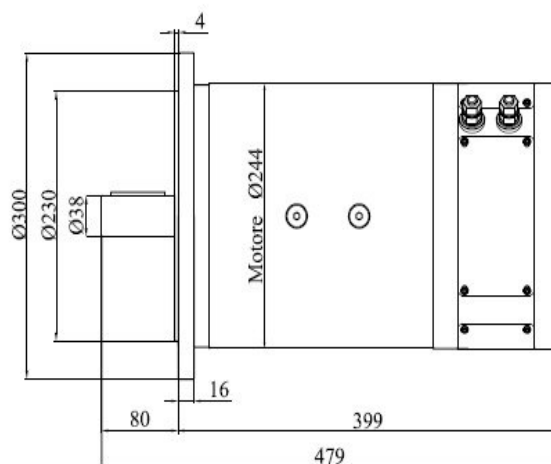
*Motors are available also with voltage to 72V and 80V and on request with separate, compound or shunt excitation.*

# Ø244mm 9000 ÷ 10000W

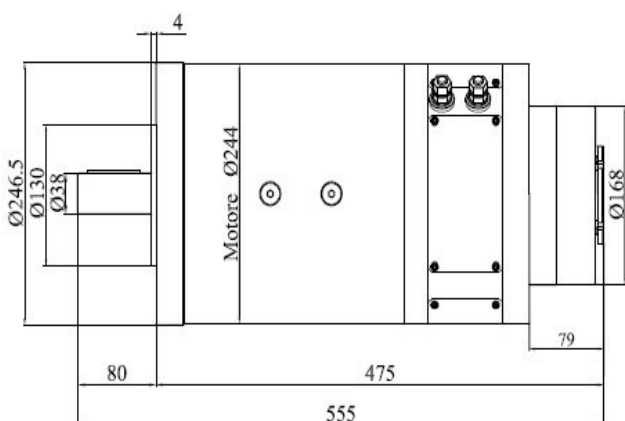
**B14 BN132 - NV - TS**



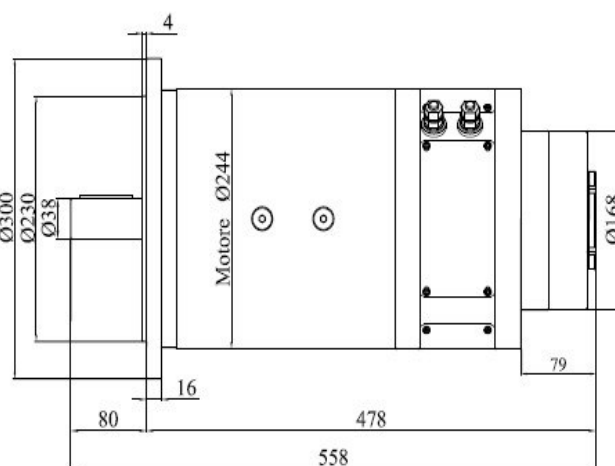
**B5 BN132 - NV - TS**



**B14 BN132 - NV - FMT - TS**



**B5 BN132 - NV - FMT - TS**



## **9000W** ECCITAZIONE SEPARATA – *SEPARATE EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
48	1200	71.3

## **10000W** ECCITAZIONE SERIE – *SERIES EXCITATION*

<b>Tensione</b> <i>Voltage</i>	<b>Giri</b> <i>Round</i>	<b>Coppia</b> <i>Torque</i>
<i>V</i>	<i>Rpm</i>	<i>Nm</i>
80	1000	47

**A richiesta i motori possono essere disponibili con voltaggio a 48V,72V e 80V e con eccitazioni in serie,separata,composta o parallela.**


*On request motors are available with voltage to 48V, 72V and 80V and with series, separate, compound or shunt excitations.*



**metalrota s.r.l.**  
MODENA - ITALY

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URL: www.metalrota.it  
E-mail: info@metalrota.it

**D.C. Motors Request Form**

<b>Customer's Datas</b>	Company Name _____	
Address	_____	
Telephone Number	_____	fax _____
E-mail	_____	
Reference	_____	
<b>Motor Power</b>	_____	
<b>Alimentation Voltage</b>	12V <input type="checkbox"/>	24V <input type="checkbox"/>
	36V <input type="checkbox"/>	48V <input type="checkbox"/>
	72V <input type="checkbox"/>	80V <input type="checkbox"/>
	Other Voltage <input type="text"/>	
<b>Excitation</b>	Series Ex. <input type="checkbox"/>	Separated Ex. <input type="checkbox"/>
	Shunt Ex. <input type="checkbox"/>	Compound Ex. <input type="checkbox"/>
	Permanent Magnets <input type="checkbox"/>	
<b>R.P.M.</b>	_____	
<b>Motor Diameter</b>	_____	
<b>Direction of rotation</b> (Looking the motor head)		
<b>Service</b>	Continuous Service <input type="checkbox"/>	S1 <input type="checkbox"/>
tl= service time (S2)	Short Service <input type="checkbox"/>	tl= _____
tr= rest time	Cyclic Service <input type="checkbox"/>	tl= _____ tr= _____
<b>Protection Degree (IP)</b>	_____	
<b>Flange</b>	B5 <input type="checkbox"/>	_____
	B14 <input type="checkbox"/>	_____
	Other special flange (on request) <input type="checkbox"/>	_____
<b>Connection</b>	Terminals <input type="checkbox"/>	Terminal board <input type="checkbox"/>
<b>Fan</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Kind of Fan</b>	Internal <input type="checkbox"/>	External <input type="checkbox"/>
<b>E/M Brake</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Encoder Shaft</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Tacho Generator</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
<b>Notes:</b>	_____ _____	