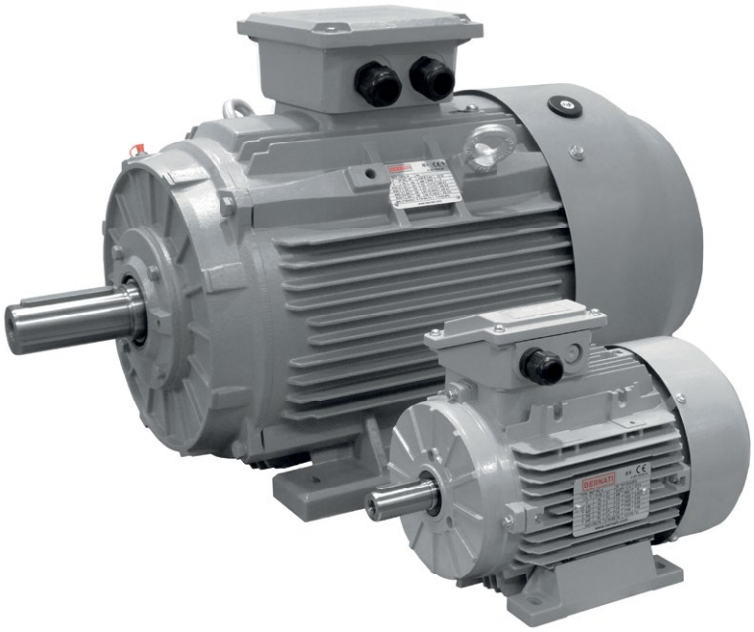
BERNATI

CATALOGO

Motori a bassa tensione per applicazioni generali
Motores de baixa tensão para aplicação geral



v.2024

VERSATILE SOLUTIONS.
IMPROVED.

BERNATI

VERSATILE SOLUTIONS. IMPROVED.

IT

Chi Siamo

BERNATI è parte di un gruppo aziendale costituito nel 1981. Dalla sua fondazione, il gruppo ha concentrato le sue attività nelle componenti di trasmissione ad alta precisione.

Con il nuovo piano strategico preparato per il XXI secolo, abbiamo deciso di dividere le attività del gruppo in 3 dipartimenti:

- Design & Sviluppo
- Produzione & Logistica
- Commerciale

Da quel momento, questa strategia ha compreso dei seri investimenti in impianti moderni, macchinari e tecnologie dello stato dell'arte.

Oggi abbiamo team specializzati e dedicati in Europa ed Asia che gestiscono questi 3 dipartimenti e che si assicurano di fornire ai nostri clienti i prodotti più innovativi e competitivi.

Disclaimer

Il presente catalogo non contiene solamente le informazioni tecniche dei prodotti BERNATI, ma anche le considerazioni tecniche su sistemi di trasmissione di energia e motori a bassa tensione per applicazioni generali.

Infatti, dopo l'introduzione tecnica viene mostrata la gamma di motori elettrici BERNATI, con le rispettive possibili configurazioni, i codici prodotti utilizzati per gli ordini e le schede tecniche di prodotto.

Ulteriori informazioni su altri prodotti BERNATI possono essere reperite su cataloghi separati.

BERNATI si impegna costantemente per mantenere l'accuratezza e la qualità delle informazioni fornite in questo catalogo. Ad ogni modo, non possiamo garantire né assumerci la responsabilità legale per l'accuratezza o la completezza delle informazioni fornite, in particolar modo riguardo a errori di battitura o di stampa.

Le informazioni contenute nel presente catalogo hanno il solo scopo di indicazione generale. Dato che l'applicazione della nostra apparecchiatura può variare in base a circostanze particolari, è necessario richiedere una consulenza professionale su tali circostanze.

EN

Introduction

BERNATI is part of a business group established in 1981. Since its foundation, the group has focused its activities in the production and development of components, transmission and precision industrial equipment.

With a new strategic plan prepared for the 21st century, we decided to divide the group's activities in 3 departments:

- Design & Development
- Production & Logistics
- Commercial

Since then, this strategy has involved serious investments in modern plants, machinery and state of the art technology.

Today we have specialized and dedicated teams in Europe and Asia, running these 3 departments and making sure we offer our customers the most competitive and innovative products.

Legal notice

This catalogue contains not only technical information of BERNATI products, but also technical considerations on power transmission systems and low voltage motors for general application.

Indeed, after the technical introduction we showcase BERNATI's electric motor range, its possible configurations, product codes used for orders, and product datasheets.

Information on other BERNATI products is available in independent catalogues.

BERNATI goes to any extent to ensure the accuracy and quality of the information provided in this catalogue. However, BERNATI cannot guarantee and therefore assumes no legal liability or responsability for the accurancy or completeness of the information provided, especially due to typing or printing errors.

The information contained in this catalogue is for general guidance only. Given that the application of our equipment may vary depending on particular circumstances, you should take appropriate and professional advice for such circumstances.

IT

Introduzione 2
Chi siamo 2
Disclaimer 2
BERNATI - Motori elettrici 4
Specifiche generali 4
Caratteristiche tecnhiche 5
Posizione dei supporti e della morsettiera 5
IP - Grado di protezione 7
Raffreddamento del motore 7
Isolamento e avvolgimento 8
Classi di efficienza 8
Protezione termica 9
Spiegazione del codice prodotto 10
Dischi motore 11
Transporto e stoccaggio 12
Prima di avviare il motore 12
Cassetta collegamenti 13
• Schemi di cablaggio 13
Manutenzione dei motore 13
Cuscinetti 14
• Grandezze/Lubrificazione 14
Calcolo dei carichi radiali a 50 Hz 16
Carichi radial ammessi sui cuscinetti 17
Carichi radiali e assiali ammessi a 50 Hz 18
Alimentazione 26
Influenza dell'altitudine e della temperatura ambiente 26
Sovraccarico 27
Avviamento 27
Vibrazioni 27
Rumore 28
Caratteristiche nominali e tolleranze 29
Serie BMT - Carcassa in alluminio 31
Serie BMT 32
Serie BCT - Carcassa in ghisa 41
Serie BCT 42
Esploso 50
Serie BCL - Gabbia autofrenanti 53
Serie BCL 54
• Principio di funzionamento 54
• Regolazione del traferro 54
• Rilascio manuale con leva 54
• Parti di ricambio 55
Serie BMM/BDM - Monofase 61
Motori monofase 62
Serie BMM 62
Doppio condensatore, motori monofase 64
Serie BDM 64
Possibili malfunzionamenti 68

EN

Introduction 2
About us 2
Legal notice 2
BERNATI - Electric motors 4
General specifications 4
Technical data 5
Mountings and terminal box position 5
IP - Ingress protection 7
Motor cooling 7
Insulation and winding 8
Efficiency classes 8
Thermal protection 9
Explanation of the product code 10
Motor plates 11
Transport and storage 12
Before starting the motor 12
Connecting box 13
• Connecting diagrams 13
Maintenance of motors 13
Bearings 14
• Dimension/Lubrication 14
Calculation of radial loads at 50 Hz 16
Permissible radial loads on bearings 17
Permissible radial and axial loads at 50 Hz 18
Power supply 26
Influence of altitude and ambient temperature 26
Overload 27
Starting 27
Vibration 27
Noise 28
Ratings and tolerances 29
BMT Series - Aluminum frame 31
BMT Series 32
BCT Series - Cast iron frame 41
BCT Series 42
Exploded view 50
BCL Series - Brake motors 53
BCL Series 54
• Operating principle 54
• Adjustment of the air gap 54
• Hand release with lever 54
• Spare parts 55
BMM/BDM Series - Single phase 61
Single phase motors 62
BMM Series 62
Dual capacitor, single phase motors 64
BDM Series 64
Possible failures 68

IT

BERNATI - Motori elettrici

La gamma dei motori BERNATI arriva fino a 200kW.
I motori BERNATI sono progettati e adeguati per qualsiasi applicazione industriale in conformità con le rispettive caratteristiche tecniche.

Le varie gamme hanno una classe di protezione IP55 e una classe di isolamento F. Sono adatti per essere utilizzati con inverter di frequenza, dato che in questi casi la fornitura di ventilazione forzata è opzionale.

La gamma dei motori BERNATI include:

- **BMT** – Motori trifase con carcassa in alluminio
- **BCT** – Motore trifase con carcassa in ghisa
- **BCL** – Motori trifase a gabbia autofrenanti
- **BMM** – Motori monofase con carcassa in alluminio
- **BDM** – Motori monofase con doppio condensatore e carcassa in alluminio

Specifiche generali

- Rotore a gabbia di scoiattolo con costruzione chiusa e ventilazione esterna
- Classe di isolamento: F
- Classe IP: IP55
- Classificazione IEC del ciclo di servizio: S1 – continuo
- Direttiva europea ROHS 2002/95/CE
- Separatore di fase
- Grandezza motore da 56 fino a 315
- Tensioni speciali su richiesta
- Progettazione, costruzione e test in conformità con le seguenti norme internazionali:

EN

BERNATI - Electric motors

BERNATI's range of motors is available as standard up to 200kW. BERNATI motors are designed and adequate for all industrial applications in compliance with their technical characteristics.

The different ranges have ingress protection (IP) class IP55, and insulation class F. They are suitable for use with frequency inverters, as the supply of forced ventilation is an option in these cases.

The BERNATI motor range comprises:

- **BMT** – Three phase motors with aluminum frame
- **BCT** – Three phase motors with cast-iron frame
- **BCL** – Three phase brake motors with aluminum frame
- **BMM** – Single phase motors with aluminum frame
- **BDM** – Single phase motors with double capacitator and aluminum frame

General specifications

- Squirrel-cage rotor motors with enclosed construction and external ventilation
- Insulation class: F
- Ingress protection class: IP55
- IEC Duty cycle rating: S1 – continuous
- European directive ROHS 2002/95/CE
- Phase separator
- Motor frame size from 56 up to 315
- Special voltage on request
- Design, construction and test in compliance with the following international standards:

Electrical	
Rating and performance	**IEC 60034-1**
Terminal markings and direction of rotation	**IEC 60034-8**
Electrical insulation – Thermal classification	**IEC 60085**
Mechanical	
Degrees of protection, IP code	**IEC 60034-5**
Methods of cooling, IC code	**IEC 60034-6**
Construction type classification, mounting arrangements and terminal box position, IM Code	**IEC 60034-7**
Noise limits	**IEC 60034-9**
Mechanical vibration, Measurement, evaluation and limits of vibration severity	**IEC 60034-14**
Dimensions and output	**IEC 60072**

IT

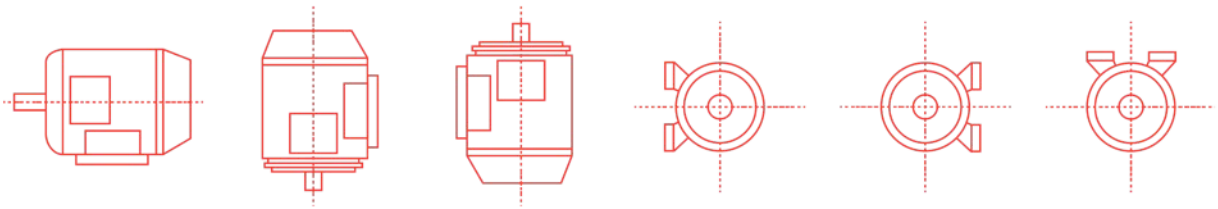
Posizione dei supporti e della morsettiera

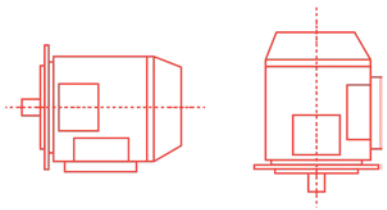
La forma costruttiva e le posizioni di montaggio sono disponibili secondo IEC 60034-7.

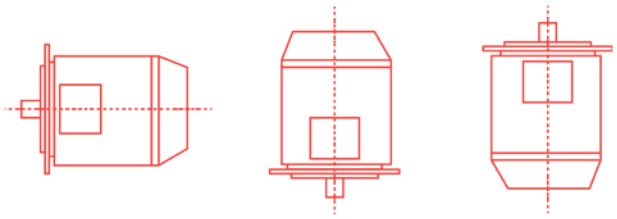
EN

Mountings and terminal box position

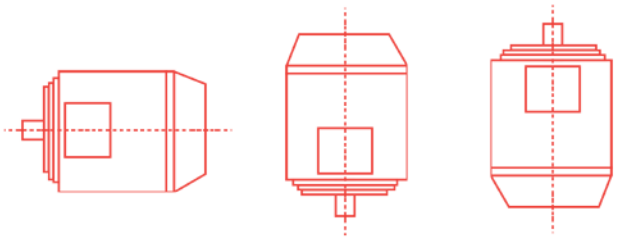
The construction form and mounting positions are available in accordance with IEC 60034-7.

Foot-mounted motor						
						
Code I	IM B3	IM V5 (2)	IM V6 (2)	IM B6 (2)	IM B7 (2)	IM B8 (2)
Code II	IM 1001	IM 1011	IM 1031	IM 1051	IM 1061	IM 1071

Foot-mounted motor, with large flange		
		
Code I	IM B35	IM V15 (2)
Code II	IM 2001	IM 2011

Flange-mounted motor, large flange			
			
Code I	IM B5 (1)	IM V1	IM V3 (2)
Code II	IM 3001	IM 3011	IM 3031

IT EN

Flange-mounted motor, small flange			
			
Code I	IM 14 (3)	IM V18	IM V19
Code II	IM 3601	IM 3611	IM 3631

(1) Standard sizes include frames 56-250. Frame sizes 280-315 available on request.
(2) Standard sizes include frames 56-160. Frame sizes 180-315 available on request.
(3) Standard sizes include frames 56-160.

IT

IP - Grado di protezione

Il grado di protezione IP55 è lo standard dei motori BERNATI. Si tratta di motori completamente chiusi e ventilati, che sono protetti conto la penetrazione della polvere e spruzzi d'acqua provenienti da ogni direzione.

La scatola morsetti può avere un grado di protezione IP55 o IP56.
La ventola esterna è coperta da una copertura della ventola con grado di protezione IP20 (viene evitato il contatto fisico con le dita).

EN

IP - Ingress protection

BERNATI motors have ingress protection IP55 as a standard. These are totally enclosed, fan-cooled motors, which are thus protected against the penetration of dust and water splashes coming from any direction.

The terminal box has an IP55 or IP56 ingress protection rating.
The external fan is covered by a fan cover with an IP20 protection rating (physical contact with fingers is avoided).

Ingress protection	Level of protection regarding human beings and motors parts inside the enclosure	Degree of protection ensured by the motor enclosure
IP	**5 (1)**	**5 (2)**

(1) First digit	(2) Second digit
2 Motors protected against solid objects greater than 12mm	**3** Motors protected against spraying water
4 Motors protected against solid objects greater than 1mm	**4** Motors protected against splashing water
5 Dust-protected motors	**5** Motors protected against water jets
6 Dust-tight motors	**6** Motors protected against heavy seas

Raffreddamento del motore

Il titolo del metodo di raffreddamento del motore è dato dal codice IC, secondo la norma IEC60034-6. I motori in esecuzione standard sono equipaggiati con sistemi di raffreddamento IC411, che includono una ventola bidirezionale.

Su richiesta, è possibile fornire il sistema di raffreddamento IC 416 per tutte le grandezze motore. In tal caso viene inserita una ventola adeguata all'interno della copertura della ventola (adeguatamente rinforzata) in modo da garantire la ventilazione, non tenendo contro della velocità di rotazione.

Motor cooling

The designation of the motor cooling method is given by the IC code, according to IEC60034-6. Motors in standard execution are supplied with IC411 cooling systems, incorporating a bi-directional fan.

All motor sizes can be supplied with IC416 cooling system on request. In this case a proper fan is fitted inside the fan cover (suitably reinforced) in order to ensure ventilation, disregarding the rotation speed.

IT

Isolamento e Avvolgimento

I motori di BERNATI vengono prodotti con classe di isolamento F. Il cavo elettrolitico morbido in rame viene isolato utilizzando uno speciale rivestimento in vernice (doppio smalto). Tale vernice è classificata come classe di isolamento H.

Tutti i materiali di isolamento utilizzati per produrre i motori hanno una classe di isolamento F o H.

Oltre a quanto predetto, i motori BERNATI con classe di efficienza IE3 e IE4 sono dotati di un termistore a coefficiente di temperatura positivo (**PTC**). Infatti, la resistenza aumenta a mano a mano che la temperatura della bobina raggiunge i valori definiti dalla classe di isolamento F. Questa variazione nella resistenza invia un segnale all'unità di controllo del motore.

Classi di efficienza

La norma IEC/EN 60034-30-1:2014 definisce le classi di efficienza per i motori elettrici. Come definito da questa norma, i normali motori elettrici con potenza inferiore a 0,75 kW devono essere conformi ai requisiti della classe di efficienza IE1. I motori elettrici con potenze uguali o superiori a 0,75 kW devono essere conformi almeno ai requisiti IE3, come mostrato nel diagramma in basso.

EN

Insulation and Winding

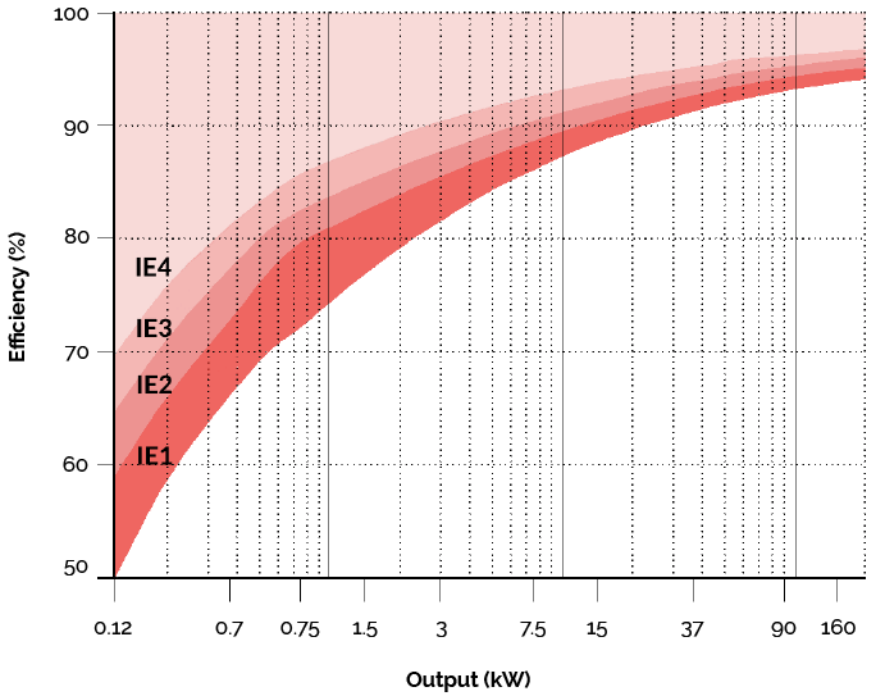
BERNATI's standard motors are manufactured with insulation class F. The soft copper electrolytic wire is insulated by using a special varnish coating (double enamel). Such varnish is classified as H insulation class.

All insulating materials used to produce motors are in F or H insulation class.

In addition to the above mentioned, BERNATI motors IE3 and IE4 efficiency classes come equipped with a positive temperature coefficient (**PTC**) thermistor. Indeed, when resistance increases as coil temperature reaches values defined by the insulation class F, a signal is sent to the motor's control unit in order to protect the motor and increase its operating lifetime.

Efficiency classes

The IEC/EN 60034-30-1:2014 sets the efficiency classes for electric motors. As defined by this standard, regular electric motors with powers under 0,75 kW should comply with IE1 efficiency class requirements. Electric motors with power outputs equal or above 0,75 kW should comply with, at least, IE3 requirements, as shown in the diagram below.



IE efficiency classes for 4 pole motors at 50Hz

IT

Protezione termica

Tutti i motori BERNATI IE3 e IE4 sono dotati di un termistore a coefficiente di temperatura positivo (**PTC**, Positive Temperature Coefficient). Su richiesta, i termistori **PTC** possono essere installati su tutte le altre grandezze nelle quali questa protezione non è già prevista.

La resistenza del **PTC** per la per la temperatura operativa nominale (TK), varierà secondo i seguenti valori:.

- < 250 Ohm da -20°C a TK-20° C
- < 550 Ohm a TK-5°C
- > 1330 Ohm a TK+5°C
- > 4000 Ohm a TK+15°C

In conformità con le norme, il termistore **PTC** installato viene distaccato quando i valori di resistenza si trovano tra 1650 Ohm e 4000 Ohm. Sono installati in serie 3 termistori **PTC**, e sono distaccati da TK-5°C a TK+5°C.

In basso si trova la variazione di resistenza caratteristica in funzione della temperatura dei termistori **PTC**:

EN

Thermal protection

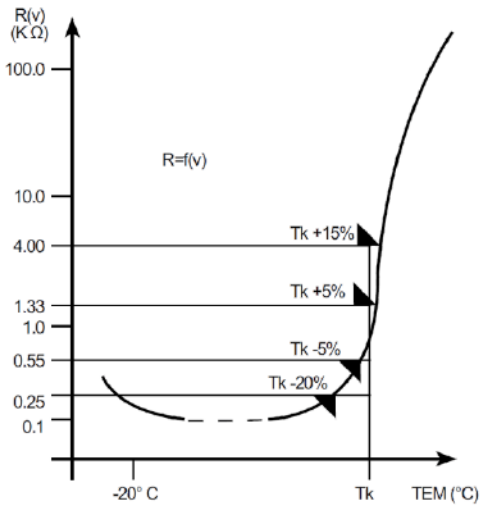
All BERNATI IE3 and IE4 motors possess a positive temperature coefficient thermistor **PTC**. Upon request, the **PTC** thermistors can be installed in all other ranges where this protection is not standard.

Resistance of **PTC**, for nominal operating temperature (TK), will satisfy the following value:

- < 250 Ohm from temperature from -20°C to TK-20°C
- < 550 Ohm at a temperature of TK-5°C
- > 1330 Ohm at a temperature of TK+5°C
- > 4000 Ohm at a temperature of TK+15°C

In line with the standards, **PTC** installed disengaged for resistance value from 1650 Ohm to 4000 Ohm, In our case, installed n. 3 **PTC** in series, disengaged takes in the temperature range fromTK-5°C to TK+5°C.

Below, the characteristic resistance / temperature of the **PTC** thermistors:



I valori di TK relativi alla classe di isolamento sono i seguenti:

Values of TK related with the class of insulation are the following:

Class of insulation	Operating temperature limit of the insulation (°C)	TK (°C)
A	**105**	**95 - 100**
E	**120**	**110 - 115**
B	**130**	**120 - 125**
F	**155**	**145 - 150**
H	**180**	**170 - 175**

IT

Spiegazione del codice prodotto

Al momento dell'ordine, specificare il tipo di motore, la taglia e il codice prodotto secondo l'esempio seguente.

EN

Explanation of the product code

When placing an order, specify motor type, size and product code according to the following example.

Position	1	2	3	4	5	6	7	8	9	10	11	12
	Range	Efficiency class	Output	.	Frame size	Variant	Number of poles	Mounting positions	.	IP rating	Frequency	Voltage
Product code (example)	BMT	1	009	.	05	B	2	34	.	1	1	
	BMT1009.05B234.11											

1 Range	
BMT	3-phase, aluminium frame motor series
BCT	3-phase, cast-iron frame motor series
BCL	3-phase, DC brake aluminium frame motor series
BMM	Single-phase, aluminium frame motor series
BDM	Single-phase, double capacitor motor series
2 Efficiency class	
1	IE1 Standard efficiency
3	IE3 Premium efficiency
4	IE4 Super premium efficiency
0	(not applicable)
3 Power output	
009	0.09 kW
012	0.12 kW
018	0.18 kW
025	0.25 kW
037	0.37 kW
055	0.55 kW
075	0.75 kW
110	1.1 kW
150	1.5 kW
180	1.8 kW
220	2.2 kW
300	3 kW
370	3.7 kW
400	4 kW
550	5.5 kW
750	7.5 kW
920	9.2 kW
110	11 kW
150	15 kW
185	18.5 kW
220	22 kW
300	30 kW
370	37 kW
450	45 kW
550	55 kW
750	75 kW
110	110 kW
132	132 kW
160	160 kW
200	200 kW
4 Full stop "."	
5 Frame size	
05	56
06	63
07	71
08	80
09	90
10	100
11	112
13	132
16	160
18	180
20	200
22	225
25	250
28	280
31	315
6 Variant	
A	0
B	1
C	2
D	3
E	4
A	S
B	S1
C	S2
D	M
E	M1
F	M2
G	M3
H	L
I	L1
J	L2
K	L3
7 Number of poles	
2	2 poles (3000 rpm)
4	4 poles (1500 rpm)
6	6 poles (1000 rpm)
8	8 poles (750 rpm)
8 Mounting positions	
03	B3
05	B5
14	B14
35	B3/B5
34	B3/B14
9 Full stop "."	
10 IP rating	
1	IP55
2	IP56
X	Other IP rating
11 Frequency	
1	50 Hz
2	60 Hz
X	Other frequency
12 Voltage	
" "	Standard voltage
X	Other rated voltage, 690V maximum

IT

Dischi motore

Tutti i motori in esecuzione standard vengono forniti con targhe in alluminio.

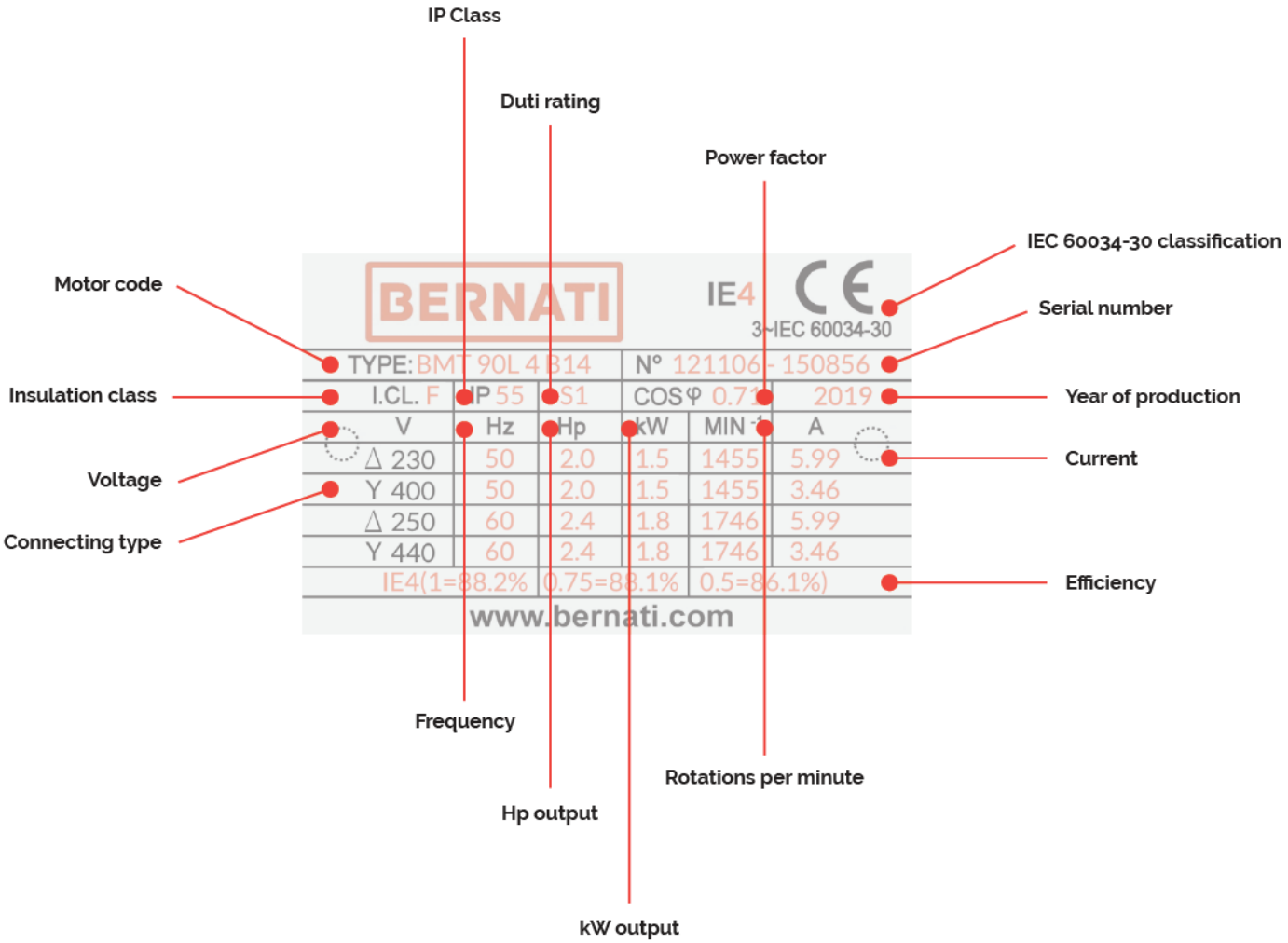
Tutte le targhe contengono i dati distintivi della macchina elettrica secondo le norme di riferimento.

EN

Motor plates

All motors in standard execution are supplied with aluminium rating plates.

All rating plates contain distinctive data of the electric machine according to the reference standards.



IT

Trasporto e Stoccaggio

I motori devono essere trasportati su una superficie piatta adeguata, in posizione orizzontale, evitando impatti. Quando vengono trasportati da gru o altri apparecchi di sollevamento, dovrebbero essere sollevati o abbassati molto lentamente, senza urti o scossoni. Durante lo stoccaggio e il trasporto, i motori devono essere tenuti in un ambiente freddo e secco e al riparo dalla pioggia, in modo da evitare che si formi umidità nell'avvolgimento. I motori non devono essere stoccati in aree potenzialmente esposte a gas corrosivo.

Prima di avviare il motore

1. Verifica della resistenza dell'isolamento:
Prima di mettere il motore in funzionamento e/o dopo lunghi periodi di inattività o stoccaggio, la resistenza dell'isolamento tra gli avvolgimenti e tra questi e il cavo della messa a terra deve essere verificata con un Megahometro. Il valore di resistenza deve essere maggiore di 5 MΩ a una temperatura ambientale di 25°C. Se non fosse possibile ottenere questo valore, significa che l'avvolgimento è umido e deve essere asciugato da una società idonea.

2. Collegamento elettrico:
Collegare il motore secondo tutte le norme di sicurezza. Controllare se i dati sulla targhetta sono conformi alle specifiche di circuito a cui il motore verrà collegato. Collegare il motore seguendo gli schemi di cablaggio presenti su questo manuale.

3. Protezione del motore:
I motori devono essere protetti da cortocircuiti, dall'operare in sovraccarico o in monofase. Per fare ciò, installare un interruttore calibrato adatto, fornito con un relè temperatura e calibrato per la corrente nominale. Su richiesta, in caso di carichi particolarmente pesanti, per assicurare un funzionamento sicuro, i sensori di temperatura possono essere installati sugli avvolgimenti.

4. Verifica dell'ambiente:
I motori devono avere intorno abbastanza spazio per assicurare la ventilazione e la dissipazione del calore.

5. Verifica della messa a terra:
La carcassa del motore deve essere collegata a terra per garantire la sicurezza.

6. Condizioni di rotazione del motore:
Prima di avviare il motore, verificare manualmente se l'albero del motore ruota liberamente in entrambe le direzioni, senza alcun rumore che possa indicare una qualsiasi interferenza tra lo statore-rotore o nei cuscinetti. Quando si avvia il motore, assicurasi che gli elementi di trasmissione siano correttamente installati e allineati, specialmente quando viene accoppiato direttamente alla macchina da azionare.

7. Collegamento elettrico:
Prima di avviare il motore, controllare accuratamente i cablaggi. Il motore può essere avviato solo quando i cablaggi rispettano lo schema di cablaggio fornito sulla scatola morsetti. I motori possono funzionare indifferentemente in entrambe le direzioni di rotazione. Se i morsetti U1, V1 e W1 sono collegati alle reti e se la sequenza di connessione delle fasi della rete è 1, 2, 3, il motore gira in senso orario (osservandolo dal lato accoppiamento). La direzione della rotazione può essere invertita cambiando una coppia qualsiasi dei tre cavi che sono connessi al motore.

EN

Transport and Storage

The motors must be transported in proper flat surface, in the horizontal position, avoiding impacts. When transported by cranes or other lifting devices, they should be lifted or lowered very slowly without bumps or jolts. During storage and transport, motors must be kept in a cool and dry environment and safe from rain in order to avoid humidity in the windings. Motors should not be stored in areas with potentially corrosive gas.

Before starting the motor

1. Insulation resistance verification:
Before putting the motor into operation and/or after long periods of inactivity or storage, the insulation resistance between the windings and between these and the earth cable must be verified with a Megohmmeter. The resistance value must be higher than 5 MΩ at 25°C ambient temperature. If this value cannot be obtained, the winding is damp and must be dried by a suitable company.

2. Electric connection:
Connect the motor in accordance with all safety standards. Check if the data on the nameplate is in accordance with the circuit features to which the motor will be connected. Connect the motor following the wiring diagrams present on this manual.

3. Motor protection:
Motors must be protected against short circuits, operating in overload or in single-phase. In order to do so, install a suitably sized switch, provided with a temperature relay and calibrated for the rated current. In case of particularly heavy duties, in order to ensure safe operation, temperature sensors may be installed in the windings, upon request.

4. Environment verification:
Motors should have enough space around them to ensure ventilation and heat dissipation.

5. Verification of ground connection:
The frame of the motor should be grounded to ensure safety.

6. Motor rotating conditions:
Before starting the motor, manually verify if the motor's shaft rotates freely to either side, without any noise which might indicate any interference between stator-rotor or in the bearings. When starting the motor, ensure that the transmission elements are correctly installed and aligned, particularly when coupled directly to the driven machine.

7. Electrical Connection:
Before starting the motor, carefully verify the wiring connections. The motor can be started only when the wiring connections are in accordance with the wiring diagram given on the terminal box. Standard motors may run in both rotation directions indifferently. If terminals U1 V1 W1 are connected to the mains and if the connecting phase sequence of the mains is 1,2,3, the motor runs clockwise (seen from the driving end). The rotation direction can by reversed by exchanging any two of the three leads which are connected to the motor.

IT

Cassetta collegamenti

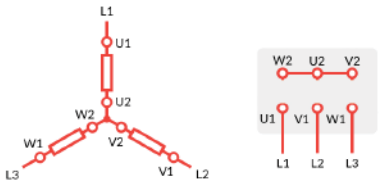
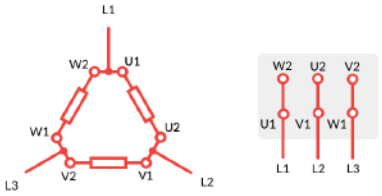
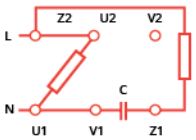
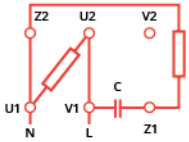
La morsettiera dei motori BERNATI è normalmente dotata di sei morsetti.
Pertanto, in caso di motori con connessione a triangolo, è possibile effettuare l'avviamento stella-triangolo (se questo è consentito dalle caratteristiche della macchina azionata).
La morsettiera è realizzata con materiale non igroscopico e antimuffa.
La cassetta collegamenti ha un grado di protezione IP55 o IP56, presumendo che il cablaggio dell'alimentazione sia realizzato a dovere.
La scatola morsetti è in genere posizionata sopra ai motori e l'uscita dei cavi può essere aperta su ogni lato della scatola. Su richiesta, la scatola morsetti può anche essere posizionata sul lato destro o sinistro del motore, osservando la macchina dal lato dell'albero.
Il morsetto della messa a terra si trova all'interno della scatola morsetti. Un altro morsetto della messa a terra si trova all'esterno della scatola morsetti, direttamente sulla carcassa motore.

EN

Connecting box

The terminal block for BERNATI motors is normally provided with six terminals.
Therefore, in case of motors with delta connection, it is possible to perform the start-delta starting (if this is allowed by the features of the driven machine).
The terminal block is made with non hygroscopic and anti-mould material.
The connection box has IP55 or IP56 protection degree, provided that the supply cable connections are properly made.
The terminal box is normally positioned on the top of the motors and the cable exit can be made in each side of the box. Upon request the terminal box can also be positioned on the right or on the left of the motor, as seen from the shaft.
The grounding terminal is located inside the terminal box. Another grounding terminal is located outside the terminal box, directly on the motor frame.

Connecting diagrams

3 Phase Motors		Single Phase Motors	
Star	**Delta**	**Forward**	**Reverse**
			

Manutenzione dei motori

Qualsiasi intervento sui motori deve essere eseguito da personale qualificato e effettuato quando l'apparecchiatura è scollegata dall'alimentazione.

1. Pulizia giornaliera:
Quando in uso, il motore deve essere sempre mantenuto pulito. Non si deve permettere che gocce d'acqua, detriti o altri elementi entrino all'interno della carcassa dei motori.

2. Controllo del consumo di corrente:
Quando il motore è in funzione, va controllato che il consumo sia sempre al disotto del valore nominale indicato nella targhetta.

3. Rumori durante il funzionamento:
Durante il funzionamento, non si dovrebbero verificare rumori ciclici o casuali. Qualora vi fossero dei rumori, il motore deve essere fermato e potrà essere rimesso in funzione solo dopo l'eliminazione dei detti rumori.

4. Temperatura:
Quando il motore è in funzione, la temperatura dei cuscinetti del motore deve essere inferiore a 95°C.

Manutenzione

IPer garantire il corretto funzionamento del motore nel tempo, devono essere svolti interventi di manutenzione a intervalli regolari. Il periodo di tempo tra ogni intervento di manutenzione non deve essere superiore a un anno.

Maintenance of motors

Any intervention on the motors should be performed by qualified personnel and executed with the equipment disconnected from the power supply.

1. Daily cleaning:
When in use, the motor should always be kept clean. No water drops, debris or other elements should be allowed to get into the interior of motors.

2. Checking the current consumption:
While the motor is in operation, we should check that the consumption is always below the rated value indicated in the nameplate.

3. Noises during operation:
During operation, there should not be any cyclic or random noises. If they exist, the motor should be stopped and it could only be put back into operation after the elimination of the noises.

4. Temperature:
Of the motor bearings should be inferior to 95°C when the motor is operating.

Overhaul

In order to ensure proper operation of the motor over time, maintenance operations should be carried out at regular intervals. The time period between each maintenance operation must not be more than a year.

IT

Cuscinetti:

Grandezze/Lubrificazione

I motori BERNATI hanno cuscinetti a sfera (radiali o angolari) o cuscinetti a rulli.

Le grandezze da 56 a 250 hanno dei cuscinetti lubrificati sigillati con abbastanza grasso per l'intera vita utile del cuscinetto (indicativamente 20.000 di funzionamento a condizioni normali).
Le grandezze da 180 a 315 hanno dei cuscinetti a sfera (radiali o angolari), lubrificati a grasso con lubrificatori su entrambi i lati.

Si raccomando l'uso di grassi a base di litio, tipo 2, secondo gli intervalli per la lubrificazione descritti nella tabella in basso.
Le forme e le dimensioni delle coperture esterne permettono al grasso espulso di accumularsi (10-12 lubrificazioni) e sono dotate di tappo di scarico.

Va notato che gli intervalli per la lubrificazione dipendono dall'ambiente di funzionamento. In condizioni di funzionamento con alte temperature, inquinamento, umidità, con carichi elevati sui cuscinetti o con livelli di vibrazione eccessivi, si raccomanda di accorciare gli intervalli di lubrificazione.

EN

Bearings:

Dimensions/Lubrication

BERNATI motors have ball cage bearings (radial or angular) or roller bearings.

Sizes 56 to 250 have sealed lubricated bearings with enough grease to the ball bearings useful life (approx. 20.000 hours of functioning in normal conditions).
Sizes 180 to 315 have ball cage bearings (radial or angular), grease lubricated with lubricators in both sides.

We recommend the use of lithium greases, type 2, according with the lubrication intervals described in the table bellow.
The forms and dimensions of the external covers allow expelled grease to accumulate (10-12 lubrications) and are supplied with a drain plug.

It should be noted that these lubrication intervals depends on the motor operational environment. In operating conditions with high temperatures, pollution, humidity, with higher loads in the bearings or with excessive vibration levels, we recommend the lubrication intervals to be shortened.

Standard execution bearing									
Range	Motor frame size	Poles	Drive end	Non drive end	Bearings lifetime & Relubrication				
					Quantity	3000 rpm	1500 rpm	1000 rpm	750 rpm
BMT	56	2-8	6201 2RZ C3	6201 2RZ C3	20 000 h Lubricated for Life				
	63	2-8	6201 2RZ C3	6201 2RZ C3					
	71	2-8	6202 2RZ C3	6202 2RZ C3					
	80	2-8	6204 2RZ C3	6204 2RZ C3					
	90	2-8	6205 2RZ C3	6205 2RZ C3					
	100	2-8	6206 2RZ C3	6206 2RZ C3					
	112	2-8	6306 2RZ C3	6206 2RZ C3					
	132	2-8	6308 2RZ C3	6208 2RZ C3					
	160	2-8	6309 2RZ C3	6209 2RZ C3					
BCT	80	2-8	6204 2RZ C3	6204 2RZ C3	20 000 h Lubricated for Life				
	90	2-8	6205 2RZ C3	6205 2RZ C3					
	100	2-8	6206 2RZ C3	6206 2RZ C3					
	112	2-8	6306 2RZ C3	6306 2RZ C3					
	132	2-8	6308 2RZ C3	6308 2RZ C3					
	160	2-8	6309 C3	6309 C3					
	180	2-6	6311 C3	6311 C3	18	2150	3750	5150	-
		8				-	-	-	6180
	200	2-6	6312 C3	6312 C3	20	2000	3500	5000	-
		8				-	-	-	5950
	225	2-6	6313 C3	6313 C3	25	1750	3250	4400	-
		8				-	-	-	5250
	250	2-6	6314 C3	6314 C3	28	1500	3000	3750	-
		8				-	-	-	4500
	280	2	6316 C3	6316 C3	28	1500	-	-	-
		4-6			37	-	2500	3500	-
		8				-	-	-	4200
	315	2	6317 C3	6317 C3	37	1250	-	-	-
		4-6	NU319	6319 C3	45	-	1150	1750	-
		8				-	-	-	2100

IT EN

Standard execution bearing									
Range	Motor frame size	Poles	Drive end	Non drive end	Bearings lifetime & Relubrication				
					Quantity	3000 rpm	1500 rpm	1000 rpm	750 rpm
BMM/ BDM	56	2-6	6201 2RZ C3	6201 2RZ C3	20 000 h Lubricated for Life				
	63	2-6	6201 2RZ C3	6201 2RZ C3					
	71	2-6	6202 2RZ C3	6202 2RZ C3					
	80	2-6	6204 2RZ C3	6204 2RZ C3					
	90	2-6	6205 2RZ C3	6205 2RZ C3					
	100	2-6	6206 2RZ C3	6206 2RZ C3					
	112	2-6	6306 2RZ C3	6206 2RZ C3					
BCL	63	2-6	6201 2RZ C3	6201 2RZ C3	20 000 h Lubricated for Life				
	71	2-6	6202 2RZ C3	6202 2RZ C3					
	80	2-6	6204 2RZ C3	6204 2RZ C3					
	90	2-6	6205 2RZ C3	6205 2RZ C3					
	100	2-6	6206 2RZ C3	6206 2RZ C3					
	112	2-6	6306 2RZ C3	6206 2RZ C3					

IT

Calcolo dei carichi radiali a 50Hz
IM B3

I valori dei carichi assiali vengono forniti per entrambi i carichi applicati all'estremità dell'albero (Xmax) e in corrispondenza del mozzo dell'albero (X0).
I carichi radiali possono essere applicati in modo lineare, variando con il cambio del punto di applicazione, pertanto per i carichi posizionati a una distanza X dalla battuta dell'albero (X0), il carico massimo che può essere applicato viene fornito dalla seguente espressione:

$$Fra_X = \frac{C_{x0} - C_{x\max}}{X\max} \times X + C_{x\max}$$

Fra = Carico radiale ammesso al punto X
Cxo = Carico radiale ammesso al punto X0
Cxmax = Carico radiale ammesso al punto Xmax
Xmax = Estremità dell'albero
X = Distanza dal punto di applicazione del carico radiale alla battuta dell'albero

Per verificare che la trazione del nastro non superi il valore massimo consentito, può essere utilizzata la seguente formula:

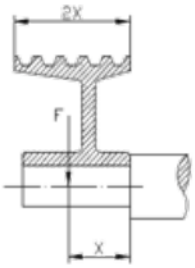
$$F = \frac{19100 \times P \times K}{n \times D}$$

F = Forza radiale in N
P = Potenza trasmessa in kW
n = Numero di rivoluzioni per minuto
D = Diametro della puleggia in metri
K = 2 per puleggia piatta con tenditore
K = 2.25 per pulegge con nastro "V"
K = 2.5÷3 per nastri piatti senza tenditore, o per carichi pesanti con qualsiasi tipo di puleggia.

EN

Calculation of radial loads at 50HZ
IM B3

The radial loads values are given both for loads applied to the shaft extension (Xmax) and in correspondence to the face on the shaft hub (X0).
Radial loads that can be applied linearly, change with the change of the application point, therefore for loads placed at a distance X from the shaft face (X0), the maximum load that can be applied is given by the following expression:



Fra = Permitted radial load at point X
Cxo = Permitted radial load at point X0
Cxmax = Permitted radial load at point Xmax
Xmax = Shaft extension
X = Distance from the application point of the radial load to the shaft face

To verify that the belt pull does not exceed the maximum value allowed the following formula can be used:

F = Newton radial force
P = Power transmitted in kW
n = Number of revs. per minute
D = Pulley diameter in meters
K = 2 for flat pulley with tension roller
K = 2.25 for sheaves with "V" belt
K = 2.5÷3 for flat belts without tension roller, or for heavy duty with any type of pulley

IT

Carichi radiali ammessi sui cuscinetti

La durata di base teorica a fatica dei cuscinetti è calcolata secondo quanto previsto dalla norma ISO R 281-1.

La durata è calcolata nell'ipotesi che i motori operino in condizioni ambientali normali, senza vibrazioni anomale, senza carichi assiali o radiali oltre quelli indicati nelle tabelle successive e con temperature operative dei cuscinetti comprese tra -30°C e +85°C.

La durata così calcolata viene definita durata di base (L10h) espressa in ore di funzionamento.

Il 50% dei cuscinetti raggiunge una durata pari a cinque volte la durata di base risultante dal calcolo.

Nelle tabelle seguenti sono indicati i massimi carichi assiali e radiali ammessi per una durata di base (L10h), calcolata secondo quanto previsto dalle norme ISO, pari a 20.000 e 40.000 ore di funzionamento.

La prossima sezione introduce il calcolo dei carichi radiali quando questi non vengono applicati simmetricamente sull'albero motore.

EN

Permissible radial laods on bearings

The theoretical basic fatigue life for bearings is calculated according to the ISO R 281-1 Standard.

Life is calculated assuming that motors are running under normal ambient conditions, without abnormal vibrations, axial or radial loads beyond the ones mentioned in the following tables and in operating temperatures of the bearings between –30 and +85 °C.

Life calculated this way is called basic life (L10h), expressed in hours of operation.

50% of bearings reaches a life equal to five times more the basic life resulting from the calculation.

The next tables show the maximum permitted axial and radial loads for a basic life (L10h), calculated according to the provisions of the ISO Standards, equal to 20.000 and 40.000 hours of operation.

The next section introduces the calculus of radial loads when these are not symmetrically applied on the motor shaft.

IT

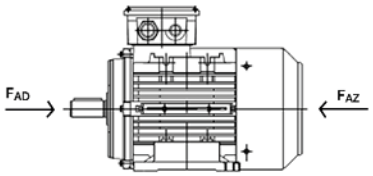
Carichi radiali e assiali ammessi a 50Hz
IM B3

EN

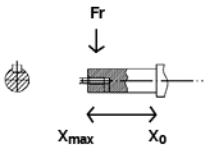
Permissible radial and axial loads at 50Hz
IM B3

Motor size	Poles	Shaft lenght (mm)	Ball bearings				Mounting IM B3			
			Max. radial forces		Max. radial forces		Max. axial forces		Max. axial forces	
			L10=20000 hours		L10=40000 hours		L10h=20000 hours		L10h=40000 hours	
			Fx_0	Fx_{max}	Fx_0	Fx_{max}	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)
BMT 56	2	20	351.1	303.6	278.0	240.5	261.0	261.0	192.6	192.6
	4	20	442.0	382.2	350.0	302.7	354.7	354.7	260.4	260.4
BMT 63	2	23	352.6	304.1	279.0	240.6	260.3	260.3	192.0	192.0
	4	23	443.3	382.3	350.6	302.3	353.4	353.4	259.2	259.2
	6	23	507.6	437.7	401.5	346.2	423.5	423.5	310.0	310.0
BMT 71	2	30	391.9	330.5	309.6	261.1	282.5	282.5	208.0	208.0
	4	30	492.4	415.3	388.7	327.8	383.3	383.3	280.8	280.8
	6	30	563.1	474.9	444.4	374.7	459.2	459.2	336.3	336.3
	8	30	622.9	525.3	492.2	415.1	518.6	518.6	383.2	383.2
BMT 80	2	40	657.9	538.3	519.6	425.1	464.9	464.9	339.8	339.8
	4	40	828.8	678.1	654.5	535.5	629.5	629.5	463.1	463.1
	6	40	949.3	776.7	749.7	613.4	752.7	752.7	551.7	551.7
	8	40	1048.8	858.1	829.2	678.4	858.6	858.6	629.6	629.6
BMT 90S	2	50	720.1	571.0	568.4	450.7	494.6	494.6	361.6	361.6
	4	50	910.2	721.8	719.1	570.3	670.7	670.7	494.1	494.1
	6	50	1041.0	825.5	822.3	652.0	801.3	801.3	587.4	587.4
	8	50	1147.7	910.1	907.0	719.2	912.6	912.6	669.0	669.0
BMT 90L	2	50	721.7	586.3	567.8	461.3	490.0	490.0	357.5	357.5
	4	50	911.0	740.1	717.1	582.6	663.9	663.9	487.6	487.6
	6	50	1042.8	847.2	820.8	666.8	793.6	793.6	580.2	580.2
	8	50	1154.9	938.2	910.5	739.7	906.7	906.7	663.6	663.6
BMT 100L	2	60	1007.5	808.7	791.9	635.6	669.7	669.7	489.2	489.2
	4	60	1266.7	1016.7	995.0	798.6	904.9	904.9	663.5	663.5
	6	60	1464.8	1175.7	1153.8	926.0	1093.1	1093.1	802.8	802.8
	8	60	1613.1	1294.7	1270.8	1020.0	1239.9	1239.9	907.9	907.9
BMT 112M	2	60	1396.9	1130.8	1098.8	889.5	664.7	944.6	484.8	689.1
	4	60	1760.2	1425.0	1384.8	1121.0	899.8	1278.3	658.8	938.5
	6	60	2030.7	1643.9	1600.9	1296.0	1087.6	1536.9	797.9	1124.9
	8	60	2251.7	1822.8	1778.6	1439.8	1242.6	1757.7	910.4	1288.0
BMT 132S	2	80	2129.9	1668.2	1679.9	1315.7	1003.9	1415.9	756.5	1036.4
	4	80	2684.1	2102.2	2117.0	1658.1	1359.2	1918.0	997.6	1409.5
	6	80	3085.2	2416.3	2436.1	1907.9	1636.6	2304.7	1202.8	1684.8
	8	80	3398.6	2661.7	2684.1	2102.2	1857.2	2615.0	1359.2	1918.0
BMT 132M	2	80	2112.4	1697.2	1656.6	1331.0	982.4	1394.1	737.0	1016.9
	4	80	2665.1	2141.3	2090.0	1679.9	1331.9	1888.7	972.1	1383.6
	6	80	3061.3	2459.5	2104.0	1931.4	1601.0	2270.3	1171.3	1664.2
	8	80	3425.1	2751.9	2701.6	2170.6	1847.9	2605.6	1350.6	1909.4
BMT 160M	2	110	2687.3	2088.3	2111.1	1640.6	1024.2	1797.7	768.2	1313.9
	4	110	3403.7	2645.0	2677.7	2080.8	1405.7	2442.8	1019.6	1792.9
	6	110	3914.5	3042.0	3083.5	2396.2	1683.1	2939.2	1231.5	2159.5
	8	110	4320.0	3357.1	3405.3	2646.2	1920.2	3338.9	1406.5	2443.6
BMT 160L	2	110	2682.8	2133.7	2099.3	1669.7	1006.3	1779.1	751.0	1335.9
	4	110	3349.3	2663.9	2614.3	2079.2	1356.6	2392.2	974.6	1745.8
	6	110	3925.0	3121.7	3083.5	2452.5	1662.9	2918.1	1212.4	2140.0
	8	110	4340.3	3452.0	3414.1	2715.4	1901.7	3319.9	1389.4	2426.0

B3



SHAFT



IT

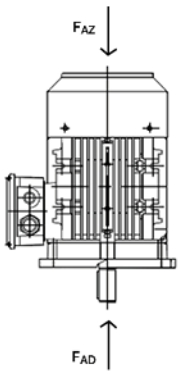
Carichi radiali e assiali ammessi a 50Hz
IM V1

EN

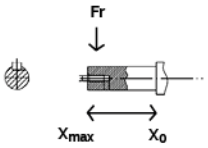
Permissible radial and axial loads at 50Hz
IM V1

Motor size	Poles	Shaft lenght (mm)	Ball bearings				Mounting IM V1			
			Max. radial forces		Max. radial forces		Max. axial forces		Max. axial forces	
			L10=20000 hours		L10=40000 hours		L10h=20000 hours		L10h=40000 hours	
			Fx_0	Fx_{max}	Fx_0	Fx_{max}	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)
BMT 56	2	20	351.1	303.6	278.0	240.5	269.3	255.9	200.8	187.5
	4	20	442.0	382.2	350.0	302.7	366.3	347.9	271.8	253.4
BMT 63	2	23	352.6	304.1	279.0	240.6	272.1	253.1	203.6	184.6
	4	23	443.3	382.3	350.6	302.3	371.3	343.0	276.7	248.5
	6	23	507.6	437.7	401.5	346.2	443.5	411.9	329.7	298.2
BMT 71	2	30	391.9	330.5	309.6	261.1	302.4	270.2	227.6	195.4
	4	30	492.4	415.3	388.7	327.8	412.6	365.8	309.7	262.9
	6	30	563.1	474.9	444.4	374.7	494.9	438.6	371.5	315.1
	8	30	622.9	525.3	492.2	415.1	548.6	501.0	413.1	365.4
BMT 80	2	40	657.9	538.3	519.6	425.1	497.6	439.5	375.0	317.0
	4	40	828.8	678.1	654.5	535.5	675.3	601.9	506.3	431.9
	6	40	949.3	776.7	749.7	613.4	804.2	722.6	602.3	520.6
	8	40	1048.8	858.1	829.2	678.4	904.1	832.3	674.5	602.7
BMT 90S	2	50	720.1	571.0	568.4	450.7	536.2	468.3	402.5	334.6
	4	50	910.2	721.8	719.1	570.3	715.3	643.4	538.3	466.3
	6	50	1041.0	825.5	822.3	652.0	855.6	769.0	640.8	554.3
	8	50	1147.7	910.1	907.0	719.2	967.3	880.7	722.7	636.1
BMT 90L	2	50	721.7	586.3	567.8	461.3	556.5	448.1	422.8	314.4
	4	50	911.0	740.1	717.1	582.6	743.9	641.8	566.8	437.7
	6	50	1042.8	847.2	820.8	666.8	886.3	738.4	671.5	523.6
	8	50	1154.9	938.2	910.5	739.7	989.6	858.4	745.0	613.8
BMT 100L	2	60	1007.5	808.7	791.9	635.6	772.1	604.7	589.6	422.3
	4	60	1266.7	1016.7	995.0	798.6	1043.5	820.7	799.8	577.0
	6	60	1464.8	1175.7	1153.8	926.0	1209.5	1019.8	914.3	724.6
	8	60	1613.1	1294.7	1270.8	1020.0	1368.9	1164.0	1034.5	829.7
BMT 112M	2	60	1396.9	1130.8	1098.8	889.5	794.3	862.7	611.8	604.9
	4	60	1760.2	1425.0	1384.8	1121.0	1064.8	1177.4	821.1	835.9
	6	60	2030.7	1643.9	1600.9	1296.0	1231.6	1449.5	936.4	1035.4
	8	60	2251.7	1822.8	1778.6	1439.8	1358.5	1689.9	1024.2	1218.1
BMT 132S	2	80	2129.9	1668.2	1679.9	1315.7	1143.8	1327.0	872.2	944.8
	4	80	2684.1	2102.2	2117.0	1658.1	1536.2	1808.6	1172.4	1298.4
	6	80	3085.2	2416.3	2436.1	1907.9	1806.1	2197.1	1369.9	1580.2
	8	80	3398.6	2661.7	2684.1	2102.2	2036.8	2509.1	1536.1	1808.8
BMT 132M	2	80	2112.4	1697.2	1656.6	1331.0	1241.5	1229.2	969.9	847.1
	4	80	2665.1	2141.3	2090.0	1679.9	1652.5	1692.3	1288.7	1182.1
	6	80	3061.3	2459.5	2104.0	1931.4	1944.3	2058.9	1508.1	1442.0
	8	80	3425.1	2751.9	2701.6	2170.6	2073.2	2472.6	1572.5	1772.3
BMT 160M	2	110	2687.3	2088.3	2111.1	1640.6	1312.2	1613.1	1054.0	1123.9
	4	110	3403.7	2645.0	2677.7	2080.8	1714.6	2247.9	1333.9	1591.4
	6	110	3914.5	3042.0	3083.5	2396.2	1999.6	2747.2	1544.7	1962.1
	8	110	4320.0	3357.1	3405.3	2646.2	2239.3	3149.0	1711.1	2251.4
BMT 160L	2	110	2682.8	2133.7	2099.3	1669.7	1396.8	1528.5	1138.5	1039.4
	4	110	3349.3	2663.9	2614.3	2079.2	1929.2	2033.3	1548.5	1376.8
	6	110	3925.0	3121.7	3083.5	2452.5	2084.7	2662.0	1629.8	1877.0
	8	110	4340.3	3452.0	3414.1	2715.4	2313.8	3074.5	1785.7	2176.8

V1



SHAFT



IT

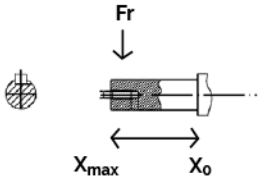
Carichi radiali e assiali ammessi a 50Hz
IM B3

EN

Permissible radial and axial loads at 50Hz
IM B3

Motor size	Poles	Shaft lenght (mm)	Ball bearings				Roller bearings			
			L10=20000 hours		L10=40000 hours		L10=20000 hours		L10=40000 hours	
			X_0	X_{max}	X_0	X_{max}	X_0	X_{max}	X_0	X_{max}
BCT 80	2	40	660	540	520	420	-	-	-	-
	4		830	680	650	630	-	-	-	-
	6		950	760	750	610	-	-	-	-
	8		1050	860	830	680	-	-	-	-
BCT 90	2	50	720	570	570	450	-	-	-	-
	4		910	720	720	570	-	-	-	-
	6		1040	820	820	650	-	-	-	-
	8		1050	910	900	710	-	-	-	-
BCT 100	2	60	100	800	790	630	-	-	-	-
	4		1200	1000	990	800	-	-	-	-
	6		1460	1180	1150	930	-	-	-	-
	8		1600	1300	1270	1020	-	-	-	-
BCT 112	2	60	1400	130	1100	890	-	-	-	-
	4		1760	1420	1380	1120	-	-	-	-
	6		2030	1640	1600	1300	-	-	-	-
	8		2250	1820	1800	1440	-	-	-	-
BCT 132	2	80	2130	1660	1600	1300	-	-	-	-
	4		2600	2100	2100	1660	-	-	-	-
	6		3080	2400	2400	1900	-	-	-	-
	8		3400	2600	2680	2100	-	-	-	-
BCT 160	2	110	2680	2130	2100	1670	5900	4200	4800	4200
	4		3350	2660	2610	2080	6800	4200	5800	4200
	6		3900	3100	3050	2450	8200	4200	6800	4200
	8		4300	3360	3400	2650	8600	4200	7500	4200
BCT 180	2	110	3800	3050	3100	2400	7700	5300	6700	5300
	4		4100	3380	3450	2820	8500	5300	7200	5300
	6		4300	3450	3500	2880	8800	5300	7400	5300
	8		4500	3600	3650	2950	9200	5300	8200	5300
BCT 200	2	110	5000	4180	4200	3500	10200	8600	8900	7300
	4		5400	4500	4430	3680	11600	9500	9800	8200
	6		5800	4880	4750	4000	12500	9500	10600	8800
	8		6300	5200	5240	4370	13000	9500	11000	9300
BCT 225S	2	110	6410	5400	5400	4500	13300	10700	11500	9700
	4	140	7300	5900	6100	4900	15300	10200	13200	10200
	6		7600	6200	6300	5100	16400	10200	14000	10200
	8		8500	6800	7100	5700	17800	10200	15200	10200

SHAFT



IT

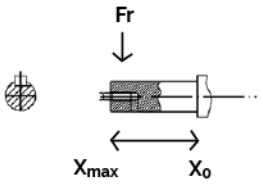
Carichi radiali e assiali ammessi a 50Hz
IM B3

EN

Permissible radial and axial loads at 50Hz
IM B3

Motor size	Poles	Shaft lenght (mm)	Ball bearings				Roller bearings			
			L10=20000 hours		L10=40000 hours		L10=20000 hours		L10=40000 hours	
			X_0	X_{max}	X_0	X_{max}	X_0	X_{max}	X_0	X_{max}
BCT 225M	2	110	6100	5100	5100	4300	13000	10600	11200	9500
	4	140	7000	5700	5800	4700	15100	10200	12800	10200
	6		7100	5750	5850	4700	16000	10200	13400	10200
	8		8000	6400	6600	5300	17300	10200	14600	10200
BCT 250M	2	140	6800	5500	5600	4600	16300	10800	14000	10800
	4		7400	6000	6000	4900	18000	13800	15300	12000
	6		8200	6600	6600	5400	20200	13800	17200	13800
	8		9500	7700	7800	6300	22600	13800	19200	13800
BCT 280S	2	140	7200	5800	5800	4700	16000	10200	13400	10200
	4		8000	6500	6600	5400	22000	14000	15400	13200
	6		10000	8500	8600	7300	27000	14400	23000	14000
	8		10500	8800	8800	7600	29000	14400	23000	14000
BCT 280M	2	140	7000	5600	5600	4500	15800	10000	13200	10000
	4		7800	6300	6400	5300	21500	14000	15200	13200
	6		9800	8300	8400	7200	26500	14400	22800	14000
	8		10300	8600	8600	7300	28600	14400	23000	14000
BCT 315S	2	140	7500	6100	6000	5000	20500	13600	15000	13000
	4	170	9000	7000	7100	5700	29000	15000	23000	15000
	6		11000	9200	9300	8000	34000	15000	25000	15000
	8		13000	10500	10600	9200	37000	15000	26000	15000
BCT 315M/L	2	140	7400	6000	6000	4900	20300	13600	14800	13000
	4	170	8900	6900	7000	5600	28600	15000	22800	15000
	6		10500	9100	9200	7900	33800	15000	24700	15000
	8		12800	10200	10300	9000	36800	15000	25800	15000

SHAFT



IT

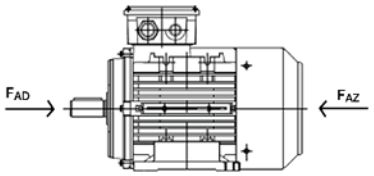
Carichi radiali e assiali ammessi a 50Hz
IM B3 e IM V1

EN

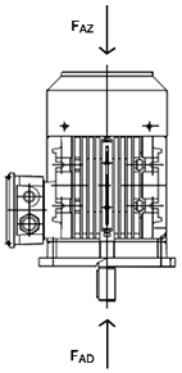
Permissible radial and axial loads at 50Hz
IM B3 and IM V1

Motor size	Poles	Shaft lenght (mm)	Mounting IM B3				Mounting IM V1			
			L10h=20000 hours		L10h=40000 hours		L10h=20000 hours		L10h=40000 hours	
			F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)
BCT 80	2	40	260	420	190	305	270	400	200	288
	4		350	560	250	400	360	530	270	380
	6		450	700	330	500	460	670	345	480
	8		550	830	400	600	560	800	420	570
BCT 90	2	50	370	430	270	310	380	400	285	280
	4		510	590	370	430	530	550	400	395
	6		630	710	460	510	640	670	460	480
	8		760	880	555	620	780	820	580	590
BCT 100	2	60	370	590	270	430	380	550	280	400
	4		500	810	365	590	520	750	390	540
	6		650	1020	475	450	680	950	510	680
	8		780	1190	570	860	810	1120	600	800
BCT 112	2	60	540	1140	395	830	560	1080	420	770
	4		730	1550	530	1120	760	1470	570	1000
	6		960	1940	700	1400	990	1860	740	1300
	8		1070	2150	780	1500	1100	2050	820	1400
BCT 132	2	80	720	1320	520	960	760	1210	570	870
	4		990	1810	720	1300	1030	1660	770	1200
	6		1220	2200	890	1600	1270	2050	950	1500
	8		1370	2450	1000	1780	1440	2250	1000	1600
BCT 160	2	110	1600	2600	2100	2100	2900	2392	2300	1900
	4		3200	3200	2600	2600	3500	2900	2800	2300
	6		3500	3500	2800	2800	3800	3200	3000	2500
	8		4000	4000	3200	3200	4400	3700	3500	3000
BCT 180	2	110	3200	3200	2560	2560	3500	3000	2800	2400
	4		3600	3600	2880	2880	4000	3300	3200	2600
	6		4100	4100	3280	3280	4500	3700	3600	3000
	8		4200	4200	3360	3360	4600	3800	3650	3000
BCT 200	2	110	3600	3600	2880	2880	4000	3300	3200	2600
	4		4400	4400	3520	3520	4800	4000	3800	3200
	6		5000	5000	4000	4000	5500	4600	4400	3600
	8		6000	6000	4800	4800	6600	5500	5300	4400
BCT 225S	2	110	4000	4000	3200	3200	4400	3700	3500	3000
	4	140	5000	5000	4000	4000	5500	4600	4400	3700
	6		5500	5500	4400	4400	6000	5000	4800	4000
	8		6200	6200	4960	4960	6800	5700	5400	4500

B3



V1



IT

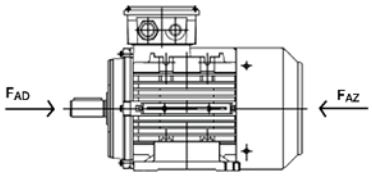
Carichi radiali e assiali ammessi a 50Hz
IM B3 e IM V1

EN

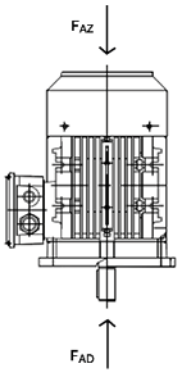
Permissible radial and axial loads at 50Hz
IM B3 and IM V1

Motor size	Poles	Shaft lenght (mm)	Mounting IM B3				Mounting IM V1			
			L10h=20000 hours		L10h=40000 hours		L10h=20000 hours		L10h=40000 hours	
			F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)
BCT 225M	2	110	3900	3900	3120	3120	4300	3600	3400	2900
	4	140	4900	4900	3920	3920	5400	4500	4300	3600
	6		5300	5300	4240	4240	5800	4900	4600	3900
	8		6000	6000	4800	4800	6600	5500	5300	4400
BCT 250M	2	140	4300	4300	3400	3400	4800	4000	3800	3200
	4		5500	5500	4400	4400	6000	5000	4800	4000
	6		6000	6000	4800	4800	6600	5500	5200	4400
	8		6900	6900	5500	5500	8600	6300	6800	5000
BCT 280S	2	140	4200	4200	3350	3350	4600	3800	3700	3000
	4		6000	6000	4800	4800	6600	5500	5300	4400
	6		7200	7200	5700	5700	7900	6600	6300	5300
	8		8000	8000	6400	6400	8800	7300	7000	5800
BCT 280M	2	140	4100	4100	3200	3200	4500	3700	3600	3000
	4		5900	5900	4700	4700	6500	5400	5200	4300
	6		7050	7050	5600	5600	7700	6500	6200	5100
	8		7800	7800	6200	6200	8500	7200	6800	5700
BCT 315S	2	140	6100	4200	4800	2850	7900	2600	6600	1300
	4	170	8400	6400	6400	4500	10400	4800	8400	2900
	6		9800	7800	7500	5500	12200	5650	9800	3300
	8		11000	9000	8400	6300	14000	7200	11300	4500
BCT 315M/L	2	140	6000	4100	4700	2800	7800	2500	6400	1200
	4	170	8200	6200	6200	4400	10200	4700	8200	2800
	6		9400	7400	7100	5100	12200	5500	9600	3200
	8		10400	8500	7900	5600	13600	7000	11000	4400

B3



V1



IT

Carichi radiali e assiali ammessi a 50Hz
IM B3

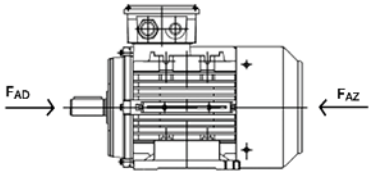
EN

Permissible radial and axial loads at 50Hz
IM B3

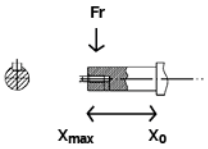
Valid for motors type **BMM**, **BDM** and **BCL**

Motor size	Poles	Shaft lenght (mm)	Ball bearings				Mounting IM B3			
			Max. radial forces		Max. radial forces		Max. axial forces		Max. axial forces	
			L10=20000 hours		L10=40000 hours		L10h=20000 hours		L10h=40000 hours	
			F_{X0}	F_{Xmax}	F_{X0}	F_{Xmax}	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)
56	2	20	353.8	305.7	280.2	242.1	261.0	261.0	192.6	192.6
	4	20	445.5	384.8	352.7	304.7	354.7	354.7	260.4	260.4
63	2	23	352.0	302.9	278.5	239.7	260.3	260.3	192.0	192.0
	4	23	442.5	380.8	349.9	301.1	353.4	353.4	259.2	259.2
	6	23	506.7	436.1	400.7	344.9	423.5	423.5	310.0	310.0
71	2	30	397.6	334.0	314.4	264.1	283.3	283.3	208.7	208.7
	4	30	500.2	420.2	395.3	332.1	384.6	384.6	282.0	282.0
	6	30	571.8	480.3	451.8	379.5	460.8	460.8	337.8	337.8
	8	30	631.7	530.6	499.6	419.6	520.1	520.1	384.3	384.3
80	2	40	663.9	545.9	524.2	431.0	464.7	464.7	339.6	339.6
	4	40	836.1	687.5	660.1	542.7	629.0	629.0	462.9	462.9
	6	40	957.4	787.2	755.9	621.5	752.0	752.0	551.1	551.1
	8	40	1052.8	865.6	831.0	683.3	854.8	854.8	626.2	626.2
90S	2	50	726.9	574.8	574.2	454.0	495.4	495.4	362.4	362.4
	4	50	919.1	726.8	726.6	574.6	671.9	671.9	495.3	495.3
	6	50	1048.8	829.4	828.5	655.2	801.5	801.5	587.5	587.5
	8	50	1156.3	914.4	913.8	722.7	912.8	912.8	669.1	669.1
90L	2	50	732.6	593.9	577.7	468.3	493.1	493.1	360.3	360.3
	4	50	925.9	750.5	730.7	592.3	668.6	668.6	492.1	492.1
	6	50	1057.4	857.1	834.0	676.0	798.0	798.0	584.3	584.3
	8	50	1166.4	945.5	920.5	746.1	909.1	909.1	665.8	665.8
100L	2	60	1012.5	805.5	797.4	634.4	673.3	673.3	492.5	492.5
	4	60	1276.1	1015.2	1005.0	799.6	912.3	912.3	669.6	669.6
	6	60	1458.0	1159.9	1147.7	913.1	1091.3	1091.3	801.1	801.1
	8	60	1621.8	1290.1	1280.1	1018.4	1247.1	1247.1	914.4	914.4
112M	2	60	1401.5	1131.5	1104.6	891.8	669.6	949.5	489.1	693.5
	4	60	1767.0	1426.7	1392.9	1124.6	907.8	1285.4	665.3	945.2
	6	60	2018.7	1629.8	1590.4	1284.1	1085.1	1534.4	795.6	1122.6
	8	60	2241.4	1809.7	1770.1	1429.1	1241.5	1756.6	909.4	1287.0
132S	2	80	2092.6	1597.3	1650.4	1259.8	1003.8	1415.8	756.4	1036.3
	4	80	2635.5	2011.7	2078.3	1586.4	1358.2	1917.0	996.7	1408.6
	6	80	3025.7	2309.6	2388.0	1822.8	1633.5	2301.5	1199.9	1681.9
	8	80	3340.3	2549.7	2638.3	2013.9	1857.8	2615.6	1359.7	1918.5
132M	2	80	2110.4	1661.4	1660.8	1307.5	995.5	1407.4	749.0	1028.8
	4	80	2658.4	2092.8	2092.1	1649.6	1347.4	1906.2	986.6	1398.3
	6	80	3036.1	2390.1	2387.8	1879.7	1610.0	2279.5	1179.8	1672.2
	8	80	3377.4	2658.8	2663.8	2097.0	1847.5	2605.1	1350.2	1909.0
132L	2	80	2108.4	1688.8	1654.8	1325.5	985.4	1397.2	739.8	1019.6
	4	80	2650.8	2123.3	2079.4	1665.6	1331.3	1888.0	971.5	1383.0
	6	80	3038.6	2433.9	2384.4	1909.9	1596.8	2266.0	1167.4	1660.2
	8	80	3407.6	2729.5	2687.6	2152.8	1847.5	2605.1	1350.2	1909.0
160M	2	110	2737.7	2156.9	2150.9	1694.6	1798.2	1798.2	1314.3	1314.3
	4	110	3458.5	2724.8	2719.1	2142.3	2438.7	2438.7	1789.1	1789.1
	6	110	3970.1	3127.8	3123.7	2461.0	2930.2	2930.2	2151.2	2151.2
	8	110	4383.0	3453.2	3451.5	2719.2	3329.7	3329.7	2435.1	2435.1
160L	2	110	2715.9	2139.7	2129.1	1677.4	1787.6	1787.6	1304.6	1304.6
	4	110	3382.3	2664.8	2643.0	2082.3	2399.2	2399.2	1752.2	1752.2
	6	110	3871.2	3049.9	3024.8	2383.1	2876.2	2876.2	2101.4	2101.4
	8	110	4338.0	3417.7	3406.5	2683.8	3304.4	3304.4	2411.7	2411.7

B3



SHAFT



BERNATI

IT

Carichi radiali e assiali ammessi a 50Hz
IM V1

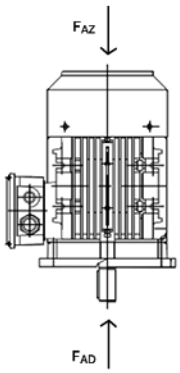
EN

Permissible radial and axial loads at 50Hz
IM V1

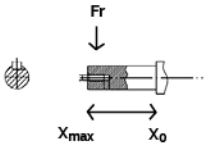
Valid for motors type **BMM**, **BDM** and **BCL**

Motor size	Poles	Shaft lenght (mm)	Ball bearings				Mounting IM V1			
			Max. radial forces		Max. radial forces		Max. axial forces		Max. axial forces	
			L10=20000 hours		L10=40000 hours		L10h=20000 hours		L10h=40000 hours	
			Fx_0	Fx_{max}	Fx_0	Fx_{max}	F_{AD}(N)	F_{AZ}(N)	F_{AD}(N)	F_{AZ}(N)
56	2	20	353.8	305.7	280.2	242.1	269.3	255.9	200.8	187.5
	4	20	445.5	384.8	352.7	304.7	366.3	347.9	271.8	253.4
63	2	23	352.0	302.9	278.5	239.7	272.1	253.1	203.6	184.6
	4	23	442.5	380.8	349.9	301.1	371.3	343.0	276.7	248.5
	6	23	506.7	436.1	400.7	344.9	443.5	411.9	329.7	298.2
71	2	30	397.6	334.0	314.4	264.1	299.2	273.4	224.5	198.6
	4	30	500.2	420.2	395.3	332.1	407.3	371.1	304.4	268.2
	6	30	571.8	480.3	451.8	379.5	489.1	444.4	365.7	320.9
	8	30	631.7	530.6	499.6	419.6	544.3	505.3	408.7	369.7
80	2	40	663.9	545.9	524.2	431.0	498.5	438.7	375.9	316.1
	4	40	836.1	687.5	660.1	542.7	677.0	600.2	507.0	430.2
	6	40	957.4	787.2	755.9	621.5	806.7	720.1	604.8	518.1
	8	40	1052.8	865.6	831.0	683.3	918.1	818.4	688.5	588.7
90S	2	50	726.9	574.8	574.2	454.0	532.6	472.0	398.9	338.3
	4	50	919.1	726.8	726.6	574.6	710.3	648.4	533.2	471.4
	6	50	1048.8	829.4	828.5	655.2	855.0	769.7	640.2	554.9
	8	50	1156.3	914.4	913.8	722.7	966.7	881.4	722.0	636.7
90L	2	50	732.6	593.9	577.7	468.3	542.7	461.8	409.0	328.1
	4	50	925.9	750.5	730.7	592.3	724.2	634.6	547.1	457.5
	6	50	1057.4	857.1	834.0	676.0	869.0	755.6	654.2	540.9
	8	50	1166.4	945.5	920.5	746.1	980.7	867.3	736.0	622.7
100L	2	60	1012.5	805.5	797.4	634.4	755.6	621.2	573.1	438.7
	4	60	1276.1	1015.2	1005.0	799.6	1015.9	848.3	772.2	604.8
	6	60	1458.0	1159.9	1147.7	913.1	1216.7	1012.5	921.6	717.3
	8	60	1621.8	1290.1	1280.1	1018.4	1341.3	1191.6	1007.0	857.2
112M	2	60	1401.5	1131.5	1104.6	891.8	772.5	884.6	590.0	626.8
	4	60	1767.0	1426.7	1392.9	1124.6	1035.2	1207.0	791.5	865.5
	6	60	2018.7	1629.8	1590.4	1284.1	1241.7	1439.5	946.5	1025.3
	8	60	2241.4	1809.7	1770.1	1429.1	1362.7	1685.7	1028.4	1213.9
132S	2	80	2092.6	1597.3	1650.4	1259.8	1144.1	1326.7	872.5	944.5
	4	80	2635.5	2011.7	2078.3	1586.4	1540.2	1804.6	1176.4	1294.4
	6	80	3025.7	2309.6	2388.0	1822.8	1818.7	2184.5	1382.5	1567.5
	8	80	3340.3	2549.7	2638.3	2013.9	2034.5	2511.3	1533.8	1811.0
132M	2	80	2110.4	1661.4	1660.8	1307.5	1181.7	1289.0	910.1	906.9
	4	80	2658.4	2092.8	2092.1	1649.6	1586.2	1758.6	1222.4	1248.3
	6	80	3036.1	2390.1	2387.8	1879.7	1907.1	2096.1	1470.9	1479.1
	8	80	3377.4	2658.8	2663.8	2097.0	2075.0	2470.8	1574.3	1770.5
132L	2	80	2108.4	1688.8	1654.8	1325.5	1227.7	1243.1	956.1	860.9
	4	80	2650.8	2123.3	2079.4	1665.6	1655.3	1689.6	1291.4	1179.3
	6	80	3038.6	2433.9	2384.4	1909.9	1961.5	2041.7	1525.3	1424.8
	8	80	3407.6	2729.5	2687.6	2152.8	2075.0	2470.8	1574.3	1770.5
160M	2	110	2737.7	2156.9	2150.9	1694.6	2085.7	1615.1	1596.5	1125.9
	4	110	3458.5	2724.8	2719.1	2142.3	2783.1	2230.5	2126.7	1574.1
	6	110	3970.1	3127.8	3123.7	2461.0	3294.4	2710.9	2509.3	1925.8
	8	110	4383.0	3453.2	3451.5	2719.2	3696.2	3112.8	2798.5	2215.1
160L	2	110	2715.9	2139.7	2129.1	1677.4	2133.8	1567.0	1644.6	1077.8
	4	110	3382.3	2664.8	2643.0	2082.3	2950.8	2062.9	2294.3	1406.4
	6	110	3871.2	3049.9	3024.8	2383.1	3512.3	2493.0	2727.2	1707.9
	8	110	4338.0	3417.7	3406.5	2683.8	3795.2	3013.8	2897.6	2116.1

V1



SHAFT



IT

Alimentazione

I motori BERNATI sono conformi ai requisiti della norma IEC 60034-30. La tensione più bassa si ottiene con un collegamento a triangolo e la tensione massima si ottiene con un collegamento a stella. Ovviamente l'avviamento stella-triangolo è possibile solo con un'alimentazione che corrisponda alla tensione che può essere ottenuta con la connessione a triangolo.

Funzionamento a 60Hz

I motori Bernati sono progettati per funzionare con variazioni di tensione di circa il 10% e con variazioni di frequenza di circa il 5%, con una variazione combinata massima del 10% e un aumento di temperatura secondo le norme IEC.

EN

Power supply

BERNATI motors are in compliance with the requirements of the IEC 60034-30 standard. The lowest voltage is attained with a delta connection and the highest voltage is obtained via a star connection. Obviously, the star-delta starting is only possible on a power supply corresponding to the voltage that can be obtained with the delta connection.

Operation at 60Hz

BERNATI motors are prepared to operate with voltage variations of around 10% and frequency variations of around 5%, with a maximum combined variation of 10% and temperature rising in compliance with IEC Standards.

Synch, speed		
Poles	50 Hz (RPM)	60 Hz (RPM)
2	3000	3600
4	1500	1800
6	1000	1200
8	750	900

Voltage and frequency		
Phases	≤ 3kW	≥ 4kW
3~	Δ 220-240V 50Hz Δ 250-280V 60Hz	Δ 380-415V 50Hz Δ 440-480V 60Hz
	Y 380-415V 50Hz Y 440-480V 60Hz	Y 660-690V 50Hz
1~	220-230V 50Hz	-

Influenza dell'altitudine e della temperatura ambiente

Le schede e i dati tecnici presenti in questo catalogo fanno riferimento a una temperatura ambiente di 40°C e un altitudine fino a 1000 metri sopra il livello del mare.
In diverse condizioni ambientali le potenze nominali variano e vengono ottenute applicando i fattori indicati nella tabella in basso, mantenendo l'aumento di temperatura previsto per la classe di isolamento.

Influence of altitude and ambient temperature

The tables and technical data in this catalogue refer to an ambient temperature of 40°C and an altitude up to 1.000 meters above sea level.
In different environmental conditions output ratings vary and are obtained applying the factors mentioned in the table bellow, maintaining the temperature rise foreseen for the insulation class.

Altitude	Ambient temperature (°C)					
	30°C	30°C - 40°C	45°C	50°C	55°C	60°C
≤1000m	1.17	1.12	1.09	1.06	1.03	1
1500m	1.15	1.10	1.07	1.04	1.01	0.97
2000m	1.13	1.07	1.04	1.01	0.98	0.95
3000m	1.08	1.02	0.99	0.96	0.93	0.89
4000m	1.04	0.97	0.94	0.91	0.87	0.84

IT

Sovraccarico

In condizioni di funzionamento in sovraccarico, i valori di temperatura potrebbero aumentare fino a 10° oltre i limiti della classe di isolamento. Tuttavia, questi valori sono compresi nei limiti della classe di isolamento F per il menzionato sovraccarico.
I motori a servizio continuo (S1) possono resistere ai sovraccarichi descritti nella tabella in basso.

EN

Overload

In overload operation conditions, temperature values may rise as much as 10° over the insulation class limits. Still, these values are within the limits of the F insulation class for the mentioned overload. Continuous duty motors (S1) can withstand the overload described in the table below.

Overload	Duration (Min.)	Interval (Min.)
10%	10	15
20%	6	15
30%	4	15
40%	3	15
50%	2	15

Avviamento

I motori BERNATI possono essere avviati con:

- collegamento diretto
- Stella - Triangolo
- un autotrasformatore
- un inverter
- un soft-starter **(1)**

(1) Una volta avviato il motore, il soft-starter deve essere bypassato. Se non fosse possibile, è necessario utilizzare un motore con avvolgimento con isolamento rinforzato.

Starting

BERNATI motors can be started with:

- direct connection
- Star – Delta
- an autotransformer
- an inverter
- a soft-starter **(1)**

(1) Once the motor has started, the soft-starter must be bypassed. If not, it is necessary to use a motor with insulation-reinforced winding.

Vibrazioni

I motori BERNATI sono dinamicamente equilibrati con una mezza linguetta applicata all'estremità dell'albero secondo la norma IEC 60034-14 a un livello di gravità di vibrazioni B in esecuzione standard.

La seguente tabella mostra i massimi gradi di vibrazione per le varie grandezze.

Per una serie di fattori possono verificarsi delle vibrazioni maggiori sui motori, come in caso di fondamenta non adeguate o reazioni causate dal carico azionato.
In tali casi deve essere controllato ogni singolo elemento dell'installazione.

Vibration

BERNATI motors are dynamically balanced with a half key applied to the shaft extension in compliance with the IEC 60034-14 standard to vibration severity grade B in standard execution.

The following table shows the maximum vibration grades for the different frame sizes.

Larger vibrations may occur on motors due to various factors, such as unsuitable foundations or reactions caused by the driven load.
In such cases every element of the installation must be verified.

Vibration grade	Mounting	Frame size 56 ≤ H < 132			Frame size 132 ≤ H < 280			Frame size > 280		
		µm	m/sec2	mm/s	µm	m/sec2	mm/s	µm	m/sec2	mm/s
A	Free suspension	25	1.60	2.50	35	2.20	3.50	45	2.80	4.40
	Rigid mounting	21	1.30	2.00	29	1.80	2.80	37	2.30	3.60
B	Free suspension	11	0.70	1.10	18	1.10	1.70	29	1.80	2.80
	Rigid mounting	-	-	-	14	0.90	1.40	24	1.50	2.4

IT

Rumore

Le tabelle tecniche contengono i valori di rumorosità, misurati a un metro di distanza. I livelli di rumore vengono misurati in condizioni senza carico e hanno una tolleranza di 3 dB(A).

EN

Noise

The technical tables contains the noise values, measured at a one meter distance. Sound levels are measured in no-load conditions and have tolerances of 3 dB(A).

Frame size	A-sound pressure level (LpA) A-sound power level (LwA) db (A)							
	2 Poles		4 Poles		6 Poles		8 Poles	
	LpA	LwA	LpA	LwA	LpA	LwA	LpA	LwA
56	69	78	63	72	58	67	54	63
63	75	84	67	76	61	70	58	67
71	75	84	67	76	61	70	58	67
80	75	84	70	79	63	72	61	70
90	75	85	70	80	66	76	66	76
100	77	87	70	80	66	76	66	76
112	78	88	73	83	66	76	66	76
132	69	78	63	72	58	67	54	63
160	75	84	67	76	61	70	58	67
180	75	84	67	76	61	70	58	67
200	75	84	70	79	63	72	61	70
225	75	85	70	80	66	76	66	76
250	77	87	70	80	66	76	66	76
280	78	88	73	83	66	76	66	76
315	80	90	77	87	73	83	69	79
355	86	97	84	96	82	94	79	91

IT

Caratteristiche nominali e tolleranze

Le potenze e i dati indicati nelle tabelle tecniche sono relativi al servizio continuo (S1) a una temperatura ambiente di 40°C, altitudine massima di 1000 metri s.l.m., con un'alimentazione di 3x400V-50Hz.

Le caratteristiche di funzionamento sono garantite con le tolleranze definite dalle norme CEI EN 60034-1 e dalle raccomandazioni IEC 60034-1, indicate nella tabella.

EN

Ratings and tolerances

Power and data mentioned in the Technical Data Tables are for continuous duty (S1) at an ambient temperature of 40° C, max. altitude 1000 above sea level, with power a supply of 3x400V-50Hz.

The operating characteristics are guaranteed with the tolerances defined by the CEI EN 60034-1 Standards and the IEC 60034-1 recommendations, mentioned in the table.

	Efficienza Efficiency	**Fattore di potenza** Power factor	**Corrente di spunto** Locked rotor current	**Coppia di spunto** Locked rotor torque	**Coppia massima** Pull-out torque	**Livello di rumorosità** Noise level
P_N (kW) ≤ 50	-15% of (1-η)	1/6 (1-cos φ)	-20% of guaranteed value	-15% +25% of guaranteed value	-10% of guaranteed value	3dB (A)
P_N (kW) > 50	-10% of (1-η)					

	Scorrimento Slip
P_N (kW) < 1	±30% of guaranteed value
P_N (kW) ≥ 1	±20% of guaranteed value

IT Serie BMT - Carcassa in alluminio

EN BMT Series - Aluminum frame

IT

Dimensioni di ingombro

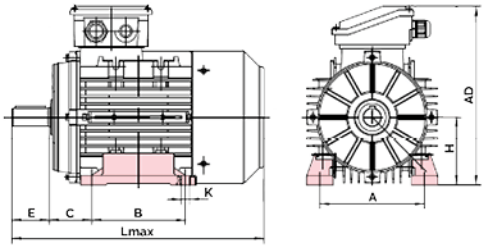
Serie BMT – Carcassa in alluminio
Classe di rendimento – IE1, IE3 & IE4
2, 4, 6 & 8 poli

EN

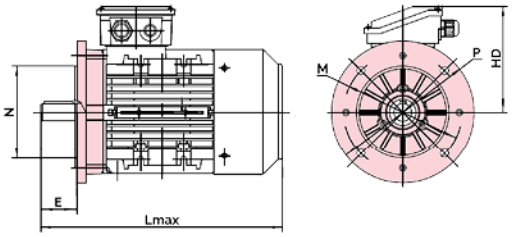
Mounting dimensions

BMT Series – Aluminium frame
Efficiency rating – IE1, IE3 & IE4
2, 4, 6 & 8 poles

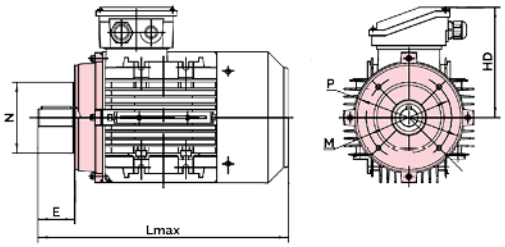
B3



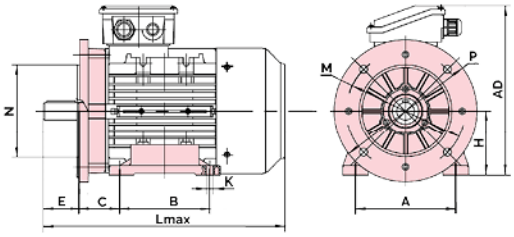
B5



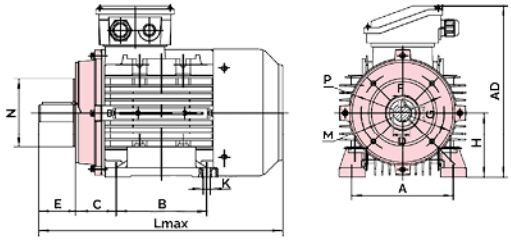
B14



B3/B5



B3/B14



SHAFT

Three phase, aluminum frame motors

Frame size								B3						B5				B14			
	Poles	D	G	F	E	Lmax	HD	H	A	B	C	AD	K	M	N	P	S	M	N	P	S
56	2-8	9	7.2	3	20	195	95	56	90	71	36	151	6*9	100	80	120	7	65	50	80	M5
63	2-8	11	8.5	4	23	215	107	63	100	80	40	170	7*10	115	95	140	10	75	60	90	M5
71	2-8	14	11	5	30	245	115	71	112	90	45	186	7*10	130	110	160	10	85	70	105	M6
80	2-8	19	15.5	6	40	277	134	80	125	100	50	214	10*15	165	130	200	12	100	80	120	M6
90 S	2-8	24	20	8	50	313	145	90	140	100	56	235	10*15	165	130	200	12	115	95	140	M8
90 L	2-8	24	20	8	50	338	145	90	140	125	56	235	10*15	165	130	200	12	115	95	140	M8
100	2-8	28	24	8	60	376	160	100	160	140	63	260	12*16	215	180	250	15	130	110	160	M8
112	2-8	28	24	8	60	397	171	112	190	140	70	283	12*16	215	180	250	15	130	110	160	M8
132 S	2-8	28	33	10	80	460	191	132	216	140	89	323	12*16	265	230	300	15	165	130	200	M10
132 M	2-8	38	33	10	80	498	191	132	216	178	89	323	12*16	265	230	300	15	165	130	200	M10
160 M	2-8	38	37	12	110	616	231	160	254	210	108	391	15*21	300	250	350	19	215	180	250	M12
160 L	2-8	42	37	12	110	660	231	160	254	254	108	391	15*21	300	250	350	19	215	180	250	M12

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE1 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
3000 r/min = 2 poles			400 V 50 Hz												
0.09	BMT 561-2	2800	55.60	49.60	39.20	0.67	0.35	3.50	0.30	2.40	2.60	0.00010	3	58	BMT1009.05B2**.11
0.12	BMT 562-2	2840	65.60	61.80	53.20	0.71	0.37	4.30	0.40	2.30	2.60	0.00013	3	58	BMT1012.05C2**.11
0.18	BMT 563-2	2780	66.50	64.20	56.80	0.77	0.51	4.10	0.60	2.30	2.50	0.00014	4	61	BMT1012.05D2**.11
0.18	BMT 631-2	2840	66.50	64.30	56.50	0.75	0.52	4.70	0.60	2.00	2.50	0.00015	4	61	BMT1018.06B2**.11
0.25	BMT 632-2	2840	69.80	66.20	56.80	0.78	0.66	5.20	0.80	2.50	2.70	0.00017	4	61	BMT1025.06C2**.11
0.37	BMT 633-2	2840	69.80	65.60	61.20	0.78	0.98	5.10	1.20	2.00	2.40	0.00020	5	62	BMT1037.06D2**.11
0.37	BMT 711-2	2840	71.50	70.90	65.80	0.82	0.91	5.10	1.20	2.00	2.20	0.00031	5	64	BMT1037.07B2**.11
0.55	BMT 712-2	2850	73.20	73.40	69.10	0.82	1.32	5.10	1.80	1.80	2.30	0.00038	6	64	BMT1055.07C2**.11
0.75	BMT 713-2	2840	77.10	77.50	74.80	0.84	1.67	6.00	2.50	2.60	2.60	0.00048	7	65	BMT1075.07D2**.11
0.75	BMT 801-2	2860	72.20	74.00	68.90	0.81	1.78	5.70	2.50	2.10	2.50	0.00090	8	67	BMT1075.08B2**.11
1.10	BMT 802-2	2870	79.00	78.80	75.40	0.83	2.42	6.50	3.70	2.60	2.80	0.00112	10	67	BMT1110.08C2**.11
1.50	BMT 803-2	2870	81.00	81.10	78.50	0.83	3.22	6.80	5.00	2.70	3.00	0.00135	11	70	BMT1150.08D2**.11
1.50	BMT 90S-2	2880	80.00	79.80	76.70	0.83	3.26	6.60	5.00	2.30	2.80	0.00186	12	72	BMT1150.09A2**.11
2.20	BMT 90L1-2	2880	83.50	84.00	82.20	0.84	4.53	7.10	7.30	2.60	2.70	0.00231	15	72	BMT1220.09I2**.11
3.00	BMT 90L2-2	2900	86.00	86.50	85.20	0.85	5.92	8.10	9.90	2.90	3.00	0.00297	17	74	BMT1300.09J2**.11
3.00	BMT 100L1-2	2900	83.00	82.70	80.00	0.84	6.21	7.70	9.90	2.70	3.20	0.00378	20	76	BMT1300.10I2**.11
4.00	BMT 100L2-2	2890	84.50	84.40	82.10	0.83	8.23	8.10	13.20	3.10	3.60	0.00466	23	77	BMT1400.10J2**.11
4.00	BMT 112M1-2	2910	85.00	85.00	83.60	0.87	7.81	9.20	13.10	2.80	3.60	0.00631	26	77	BMT1400.11E2**.11
5.50	BMT 112M2-2	2900	86.50	87.00	86.00	0.88	10.43	9.80	18.10	3.00	3.80	0.00780	31	78	BMT1550.11F2**.11
5.50	BMT 132S1-2	2890	84.40	85.10	84.40	0.87	10.81	7.80	18.20	2.13	2.90	0.01206	38	80	BMT1550.13B2**.11
7.50	BMT 112M3-2	2910	88.00	88.00	86.40	0.87	14.14	10.30	24.60	3.80	4.20	0.00983	37	80	BMT1750.11G2**.11
7.50	BMT 132S2-2	2890	88.00	88.70	88.00	0.87	14.14	8.20	24.80	2.70	3.20	0.01521	45	80	BMT1750.13CE**.11
9.20	BMT 132M1-2	2910	88.00	88.10	86.50	0.90	16.77	9.70	30.20	3.10	3.80	0.01783	51	81	BMT1920.13E2**.11
11.00	BMT 132M2-2	2920	89.00	89.00	87.30	0.89	20.04	10.70	36.00	3.30	4.00	0.02036	57	83	BMT1110.13F2**.11
11.00	BMT 160M1-2	2940	90.00	90.00	88.60	0.84	21.00	7.90	35.70	2.60	3.10	0.04438	72	86	BMT1110.16E2**.11
15.00	BMT 132M3-2	2940	91.00	90.70	89.10	0.86	27.67	14.00	48.70	4.00	4.50	0.02856	73	86	BMT1150.13G2**.11
15.00	BMT 160M2-2	2950	90.30	90.10	88.50	0.85	28.21	8.50	48.60	2.60	2.90	0.05580	82	86	BMT1150.16F2**.11
18.50	BMT 160L1-2	2950	91.00	91.20	89.70	0.85	34.52	9.40	59.90	2.80	3.50	0.06559	94	86	BMT1185.16I2**.11
22.00	BMT 160L2-2	2950	91.30	91.40	91.00	0.86	40.44	9.40	71.20	3.40	3.20	0.07702	105	91	BMT1220.16J2**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE1 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST} / I_N	T_N Nm	T_{ST} / T_N	T_{max} / T_N	kg*m2	kg	dBA	
1500 r/min = 4 poles			**400 V 50 Hz**												
0.09	BMT 562-4	1400	56.20	51.70	43.10	0.59	0.39	3.10	0.60	2.30	2.50	0.00024	3	50	BMT1009.05C4**.11
0.12	BMT 563-4	1390	58.50	54.30	45.30	0.61	0.49	3.20	0.80	2.70	2.80	0.00026	4	52	BMT1012.05D4**.11
0.12	BMT 631-4	1395	60.10	56.70	48.40	0.65	0.44	3.50	0.80	2.10	2.30	0.00027	4	52	BMT1012.06B4**.11
0.18	BMT 632-4	1350	64.70	64.90	60.30	0.72	0.56	3.50	1.30	2.20	2.30	0.00034	4	52	BMT1018.06C4**.11
0.25	BMT 633-4	1360	68.50	68.80	65.10	0.74	0.71	3.90	1.80	2.10	2.30	0.00041	5	54	BMT1025.06D4**.11
0.25	BMT 711-4	1390	69.00	67.90	62.40	0.68	0.77	4.10	1.70	2.20	2.30	0.00056	5	55	BMT1025.07B4**.11
0.37	BMT 712-4	1385	70.00	70.50	66.20	0.75	1.02	4.30	2.60	2.00	2.20	0.00071	6	55	BMT1037.07C4**.11
0.55	BMT 713-4	1390	74.00	75.30	72.60	0.77	1.39	4.70	3.80	2.20	2.30	0.00092	7	57	BMT1055.07D4**.11
0.55	BMT 801-4	1420	73.00	72.20	67.10	0.75	1.45	4.80	3.70	2.00	2.30	0.00145	8	57	BMT1055.08B4**.11
0.75	BMT 802-4	1410	76.50	77.80	75.40	0.76	1.86	4.80	5.10	2.10	2.30	0.00169	10	58	BMT1075.08C4**.11
1.10	BMT 803-4	1390	77.50	79.00	77.40	0.76	2.70	5.00	7.60	2.30	2.40	0.00217	11	61	BMT1110.08D4**.11
1.10	BMT 90S-4	1400	78.00	79.00	76.60	0.76	2.68	5.50	7.50	2.50	2.70	0.00268	12	61	BMT1110.09A4**.11
1.50	BMT 90L1-4	1410	81.00	82.00	80.50	0.78	3.43	6.20	10.20	2.90	3.00	0.00352	15	61	BMT1150.09I4**.11
2.20	BMT 90L2-4	1420	83.00	83.90	82.50	0.80	4.78	6.70	14.80	3.20	3.10	0.00469	18	64	BMT1220.09J4**.11
2.20	BMT 100L1-4	1430	80.90	80.80	77.80	0.76	5.16	6.30	14.70	2.20	2.70	0.00678	20	64	BMT1220.10I4**.11
3.00	BMT 100L2-4	1430	84.50	85.40	84.40	0.82	6.25	6.70	20.00	2.50	2.80	0.00642	23	64	BMT1300.10J4**.11
4.00	BMT 100L3-4	1430	84.00	84.00	81.40	0.78	8.81	7.10	26.70	3.00	3.50	0.01073	28	65	BMT1400.10K4**.11
4.00	BMT 112M1-4	1440	85.50	85.60	83.70	0.78	8.66	7.80	26.50	2.30	3.30	0.01323	30	65	BMT1400.11E4**.11
5.50	BMT 112M2-4	1450	86.50	86.80	85.40	0.77	11.92	7.90	36.20	2.60	3.50	0.01684	36	71	BMT1550.11F4**.11
5.50	BMT 132S-4	1450	86.00	86.40	84.80	0.82	11.26	7.10	36.20	1.80	2.90	0.02801	42	71	BMT1550.13A4**.11
7.50	BMT 132M1-4	1450	87.50	87.60	85.90	0.8	15.47	8.40	49.40	2.40	2.70	0.03714	53	71	BMT1750.13E4**.11
9.20	BMT 132M2-4	1450	88.50	87.70	87.30	0.81	18.52	8.90	60.60	3.10	3.40	0.04360	55	74	BMT1920.13F4**.11
11.00	BMT 132M3-4	1450	89.40	89.70	88.50	0.81	21.93	9.50	72.50	3.10	2.80	0.05134	64	75	BMT1100.13G4**.11
11.00	BMT 160M-4	1460	89.00	89.20	87.80	0.8	22.30	6.80	72.00	2.30	2.80	0.08025	78	75	BMT1100.16D4**.11
15.00	BMT 160L1-4	1460	90.50	91.00	90.30	0.82	29.18	6.80	98.10	2.10	2.10	0.10564	96	75	BMT1150.16I4**.11
18.50	BMT 160L2-4	1460	90.90	91.40	91.10	0.83	35.39	7.60	121.00	2.40	2.50	0.12762	104	78	BMT1118.16J4**.11
22.00	BMT 160L3-4	1460	91.40	91.60	91.00	0.82	42.37	9.00	143.90	2.60	2.90	0.14960	119	80	BMT1220.16K4**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

BERNATI

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE1 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
1000 r/min = 6 poles			**400 V 50 Hz**												
0.09	BMT 631-6	870	51.10	49.20	42.50	0.63	0.40	2.60	1.00	1.80	2.00	0.00042	4	50	BMT1009.06B6**.11
0.12	BMT 632-6	850	51.60	51.20	43.10	0.67	0.50	2.70	1.40	1.80	2.00	0.00052	5	50	BMT1012.06C6**.11
0.18	BMT 633-6	850	54.00	52.00	47.60	0.66	0.73	3.00	2.00	2.00	2.10	0.00060	5	52	BMT1018.06D6**.11
0.18	BMT 711-6	890	56.60	54.40	46.30	0.67	0.69	3.10	1.90	1.90	2.20	0.00084	6	52	BMT1018.07B6**.11
0.25	BMT 712-6	910	61.60	59.70	52.20	0.66	0.89	3.40	2.60	2.10	2.30	0.00096	6	52	BMT1025.07C6**.11
0.37	BMT 713-6	900	66.30	65.50	59.70	0.66	1.22	3.70	3.90	2.40	2.50	0.00115	7	54	BMT1037.07D6**.11
0.37	BMT 801-6	910	61.00	58.60	50.70	0.66	1.33	3.20	3.90	1.90	2.20	0.00160	8	56	BMT1037.08B6**.11
0.55	BMT 802-6	910	65.50	65.00	58.50	0.65	1.86	3.80	5.80	1.90	2.30	0.00204	9	56	BMT1055.08C6**.11
0.75	BMT 803-6	910	70.50	70.50	65.30	0.69	2.23	3.90	7.90	1.90	2.20	0.00263	11	58	BMT1075.08D6**.11
0.75	BMT 90S-6	940	71.50	70.90	65.80	0.68	2.23	4.10	7.60	1.80	2.20	0.00327	12	59	BMT1075.09A6**.11
1.10	BMT 90L-6	930	73.50	73.40	69.00	0.66	3.27	4.10	11.30	1.90	2.30	0.00428	14	59	BMT1110.09H6**.11
1.50	BMT 100L-6	940	77.00	77.90	75.30	0.69	4.08	4.50	15.20	1.70	2.20	0.00754	19	61	BMT1150.10H6**.11
1.50	BMT 90L2-6	930	75.00	75.80	73.90	0.69	4.18	4.80	15.40	2.20	2.50	0.00549	16	61	BMT1150.09J6**.11
2.20	BMT 100L2-6	940	79.50	81.00	79.80	0.75	5.33	5.00	22.40	1.90	2.30	0.00993	23	64	BMT1220.10J6**.11
2.20	BMT 112M1-6	945	79.30	79.50	76.50	0.69	5.80	4.80	22.20	1.90	2.30	0.01395	25	64	BMT1220.11E6**.11
3.00	BMT 112M2-6	950	81.00	81.40	79.10	0.69	7.75	4.80	30.20	1.60	2.10	0.01768	29	64	BMT1300.11F6**.11
3.00	BMT 132S-6	960	82.50	83.30	85.50	0.72	7.29	5.60	29.80	1.70	2.20	0.03046	36	64	BMT1300.13A6**.11
4.00	BMT 132M1-6	965	84.50	85.10	83.60	0.73	9.36	5.90	39.60	2.00	2.60	0.03725	42	68	BMT1400.13E6**.11
5.50	BMT 132M2-6	950	85.50	86.40	85.50	0.72	12.9	5.80	55.30	2.10	2.40	0.04897	51	68	BMT1550.13F6**.11
7.50	BMT 132M3-6	965	87.00	87.30	85.80	0.75	16.59	7.30	74.20	2.70	2.90	0.06236	63	68	BMT1750.13G6**.11
7.50	BMT 160M-6	965	87.00	87.80	87.10	0.75	16.59	6.70	74.20	2.40	2.90	0.08623	71	68	BMT1750.16D6**.11
11.00	BMT 160L1-6	965	87.00	88.20	87.90	0.77	23.70	6.20	108.90	2.40	2.10	0.11687	89	73	BMT1110.16I6**.11
15.00	BMT 160L2-6	970	89.00	88.20	87.90	0.78	31.19	7.70	147.70	2.60	2.60	0.15485	108	79	BMT1150.16J6**.11
750 r/min = 8 poles			**400 V 50 Hz**												
0.09	BMT 711-8	680	38.20	28.80	24.10	0.59	0.58	2.30	1.30	1.80	2.20	0.00072	6	50	BMT1009.07B8**.11
0.12	BMT 712-8	690	42.30	36.60	27.70	0.60	0.68	2.50	1.70	1.80	2.20	0.00084	6	50	BMT1012.07C8**.11
0.18	BMT 801-8	690	55.00	51.50	43.40	0.58	0.81	3.00	2.50	2.20	2.40	0.00202	8	52	BMT1018.08B8**.11
0.25	BMT 802-8	690	58.50	55.50	47.90	0.58	1.06	3.10	3.50	2.30	2.40	0.00232	9	52	BMT1025.08C8**.11
0.37	BMT 803-8	700	67.00	62.50	58.30	0.59	1.35	3.50	5.10	2.00	2.50	0.00262	10	56	BMT1037.08D8**.11
0.37	BMT 90S-8	710	64.00	61.10	53.70	0.58	1.41	3.20	5.00	1.70	2.20	0.00327	11	56	BMT1037.09A8**.11
0.55	BMT 90L-8	705	65.00	62.60	55.60	0.58	2.11	3.40	7.50	1.90	2.30	0.00428	14	56	BMT1055.09H8**.11
0.75	BMT 90L2-8	700	69.00	67.50	61.80	0.61	2.57	3.50	10.20	1.80	2.10	0.00488	16	59	BMT1075.09J8**.11
0.75	BMT 100L1-8	685	68.50	68.00	62.70	0.65	2.43	3.60	10.50	1.90	1.80	0.00635	18	59	BMT1075.10I8**.11
1.10	BMT 100L2-8	690	72.00	72.50	68.60	0.66	3.34	4.20	15.20	1.80	2.40	0.00834	20	59	BMT1110.10J8**.11
1.50	BMT 112M-8	700	76.00	76.50	73.40	0.66	4.32	2.30	20.50	1.80	1.80	0.01395	25	61	BMT1150.11D8**.11
2.20	BMT 132S-8	715	79.30	79.00	76.00	0.69	5.83	2.40	29.40	1.90	1.70	0.03213	40	64	BMT1220.13A8**.11
3.00	BMT 132M-8	715	81.00	81.60	79.60	0.70	7.64	2.50	40.10	2.00	1.80	0.04060	47	64	BMT1300.13D8**.11
4.00	BMT 160M1-8	715	82.30	82.60	80.70	0.70	10.06	2.30	53.40	1.80	1.60	0.07104	60	68	BMT1400.16E8**.11
5.50	BMT 160M2-8	710	83.50	84.40	83.10	0.70	13.58	2.40	74.00	1.90	1.80	0.08623	69	68	BMT1550.16F8**.11
7.50	BMT 160L-8	715	85.50	86.00	84.50	0.70	18.09	2.80	100.20	2.50	2.00	0.11308	85	68	BMT1750.16H8**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE3 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST} / I_N	T_N Nm	T_{ST} / T_N	T_{max} / T_N	kg*m2	kg	dBA	
3000 r/min = 2 poles			400 V 50 Hz												
0.18	BMT 631-2	2850	65.90	63.50	56.20	0.75	0.53	4.70	0.60	2.00	2.50	0.00023	4	61	BMT3018.06B2**.11
0.25	BMT 632-2	2840	69.70	68.40	62.50	0.78	0.66	5.20	0.84	2.50	2.70	0.00026	4	61	BMT3025.06C2**.11
0.37	BMT 711-2	2860	73.80	72.40	66.50	0.76	0.95	5.60	1.24	2.50	2.80	0.00037	5	64	BMT3037.07B2**.11
0.55	BMT 712-2	2860	77.80	63.50	56.20	0.80	1.28	6.50	1.84	3.10	3.10	0.00050	6	64	BMT3055.07C2**.11
0.75	BMT 713-2	2870	80.70	80.80	78.20	0.82	1.64	7.10	2.50	3.00	3.20	0.00061	7	65	BMT3075.07D2**.11
0.75	BMT 801-2	2890	80.70	80.30	77.20	0.81	1.66	7.40	2.48	3.10	3.20	0.00097	9	67	BMT3075.08B2**.11
1.10	BMT 802-2	2900	82.70	82.50	79.90	082	2.34	7.80	3.62	3.20	3.20	0.00128	11	67	BMT3110.08C2**.11
1.50	BMT 803-2	2910	84.20	83.90	81.50	0.81	3.17	9.60	4.92	4.00	4.00	0.00165	13	70	BMT3150.08D2**.11
1.50	BMT 90S-2	2900	84.20	83.80	81.40	0.82	3.14	8.30	4.94	3.50	3.70	0.00219	14	72	BMT3150.09A2**.11
2.20	BMT 90L1-2	2910	85.90	86.10	84.70	0.84	4.40	9.00	7.22	3.30	3.70	0.00264	16	72	BMT3220.09I2**.11
3.00	BMT 90L2-2	2910	87.10	87.10	84.20	0.80	6.21	9.60	9.85	4.00	4.10	0.00341	19	74	BMT3300.09J2**.11
3.00	BMT 100L1-2	2910	87.10	87.50	86.30	0.89	5.59	9.40	9.85	3.20	3.60	0.00484	24	76	BMT3300.10I2**.11
4.00	BMT 100L2-2	2910	88.10	88.80	88.10	0.92	7.12	9.10	13.13	2.80	3.30	0.00591	28	77	BMT3400.10J2**.11
4.00	BMT 112M1-2	2920	88.10	88.20	87.00	0.91	7.20	10.50	13.08	3.40	3.90	0.00751	30	77	BMT3400.11E2**.11
5.50	BMT 112M2-2	2920	89.20	89.60	89.10	0.91	9.78	11.90	17.99	3.30	4.20	0.00925	36	78	BMT3550.11F2**.11
5.50	BMT 132S1-2	2930	89.20	89.40	88.20	0.89	10.00	10.00	17.93	3.20	4.00	0.01521	43	80	BMT3550.13B2**.11
7.50	BMT 112M3-2	2920	90.10	91.00	90.00	0.92	13.06	11.40	24.53	3.50	3.80	0.01129	40	80	BMT3750.11G2**.11
7.50	BMT 132S2-2	2930	90.10	90.90	90.70	0.92	13.06	10.10	24.45	2.60	4.60	0.01900	52	80	BMT3750.13C2**.11
9.20	BMT 132M1-2	2930	90.60	91.20	90.50	0.91	16.11	11.60	29.99	3.20	4.20	0.02162	58	81	BMT3920.13E2**.11
11.00	BMT 132M2-2	2930	91.20	91.50	91.20	0.92	18.92	12.20	35.85	3.60	4.10	0.02414	64	83	BMT3110.13F2**.11
11.00	BMT 160M1-2	2960	91.20	91.00	89.60	0.88	19.78	10.30	35.49	3.20	4.00	0.05961	86	86	BMT3110.16E2**.11
15.00	BMT 132M3-2	2940	91.90	92.10	91.20	0.90	26.18	14.40	48.72	4.90	4.90	0.02856	75	86	BMT3150.13G2**.11
15.00	BMT 160M2-2	2960	91.20	91.50	89.90	0.89	26.47	11.40	48.40	3.90	4.20	0.07675	104	86	BMT3550.16F2**.11
18.50	BMT 160L1-2	2950	92.40	92.80	91.80	0.91	31.76	9.10	59.89	3.00	3.00	0.09225	121	86	BMT3185.16I2**.11
22.00	BMT 160L2-2	2960	92.70	92.80	92.50	0.91	37.64	12.70	70.98	3.80	4.00	0.10749	132	88	BMT3220.16J2**.11

IT EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE3 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
1500 r/min = 4 poles			**400 V 50 Hz**												
0.12	BMT 631-4	1360	64.80	63.70	57.60	0.70	0.38	3.50	0.84	2.20	2.30	0.00031	4	52	BMT3012.06B4**.11
0.18	BMT 632-4	1400	69.90	69.60	65.40	0.70	0.53	4.10	1.23	2.20	2.50	0.00040	5	52	BMT3018.06C4**.11
0.25	BMT 633-4	1395	75.00	75.10	71.50	0.69	0.70	4.70	1.71	2.90	3.00	0.00052	5	55	BMT3025.06D4**.11
0.25	BMT 711-4	1410	73.50	73.10	69.00	0.69	0.71	4.50	1.69	2.30	2.50	0.00072	6	55	BMT3025.07B4**.11
0.37	BMT 712-4	1420	77.30	77.10	73.60	0.68	1.02	5.20	2.49	2.80	3.00	0.00097	7	55	BMT3037.07C4**.11
0.55	BMT 801-4	1440	80.80	79.90	76.00	0.64	1.54	6.20	3.65	3.10	3.30	0.00169	10	57	BMT3055.08B4**.11
0.75	BMT 802-4	1440	82.50	82.50	80.10	0.69	1.90	6.30	4.97	3.10	3.10	0.00228	12	58	BMT3075.08C4**.11
1.10	BMT 803-4	1430	84.10	84.90	83.70	0.74	2.55	6.60	7.35	3.00	3.10	0.00300	14	61	BMT3110.08D4**.11
1.10	BMT 90S-4	1440	84.10	84.10	81.80	0.74	2.55	7.70	7.30	3.70	3.80	0.00384	15	61	BMT3110.09A4**.11
1.50	BMT 90L1-4	1440	85.30	85.30	83.10	0.73	3.48	8.10	9.95	4.10	4.10	0.00469	18	61	BMT3150.09I4**.11
2.20	BMT 100L1-4	1450	86.70	87.20	86.20	0.82	4.47	8.00	14.49	2.90	3.50	0.00875	24	64	BMT3220.10I4**.11
3.00	BMT 100L2-4	1450	87.70	88.00	86.90	0.78	6.33	8.10	19.76	3.30	3.40	0.01106	28	64	BMT3300.10J4**.11
4.00	BMT 112M1-4	1450	88.60	88.80	88.20	0.82	7.95	8.60	26.34	3.10	3.70	0.01529	34	65	BMT3400.11E4**.11
5.50	BMT 112M2-4	1450	89.60	89.90	89.10	0.80	11.08	9.10	36.22	3.80	3.70	0.04876	39	71	BMT3550.11F4**.11
5.50	BMT 132S-4	1460	89.60	89.80	89.40	0.84	10.55	9.00	35.98	2.30	3.50	0.03446	47	71	BMT3550.13A4**.11
7.50	BMT 132M1-4	1460	90.40	90.90	90.30	0.84	14.26	8.90	49.06	2.60	3.40	0.04360	57	71	BMT3750.13E4**.11
9.20	BMT 132M2-4	1460	90.80	91.30	90.70	0.82	17.84	10.00	60.18	3.20	3.60	0.05134	60	74	BMT3920.13F4**.11
11.00	BMT 132M3-4	1460	91.40	92.00	91.60	0.84	20.68	10.50	71.95	3.50	3.70	0.06037	67	75	BMT3110.13G4**.11
11.00	BMT 160M-4	1470	91.40	91.70	89.80	0.83	20.93	7.60	71.46	2.60	2.80	0.10537	89	75	BMT3110.16D4**.11
15.00	BMT 160L1-4	1470	92.10	92.30	91.30	0.85	27.66	9.20	97.45	3.00	3.00	0.13704	111	75	BMT3150.16I4**.11
1000 r/min = 6 poles			**400 V 50 Hz**												
0.18	BMT 711-6	930	63.90	61.00	53.40	0.62	0.66	3.50	1.85	2.40	2.60	0.00079	5	52	BMT3018.07B6**.11
0.25	BMT 712-6	920	68.60	67.20	61.20	0.65	0.81	3.70	2.60	2.20	2.50	0.00102	6	52	BMT3025.07C6**.11
0.37	BMT 801-6	930	73.50	73.80	70.50	0.68	1.07	4.10	3.80	2.20	2.50	0.00219	9	56	BMT3037.08B6**.11
0.55	BMT 802-6	930	77.20	78.10	75.70	0.71	1.45	4.30	5.65	2.30	2.40	0.00293	11	56	BMT3055.08C6**.11
0.75	BMT 803-6	935	78.90	78.20	74.40	0.63	2.18	4.90	7.66	2.80	3.10	0.00323	13	59	BMT3075.08D6**.11
0.75	BMT 90S-6	950	78.90	80.10	78.10	0.67	2.05	4.70	7.54	2.30	2.60	0.00407	14	59	BMT3075.09A6**.11
1.10	BMT 90L-6	950	81.00	81.10	78.40	0.67	2.93	5.20	11.06	2.70	2.90	0.00549	16	59	BMT3110.09H6**.11
1.50	BMT 90-L2	950	82.50	82.70	80.50	0.67	3.92	5.60	15.08	2.90	3.00	0.00689	21	61	BMT3150.09J6**.11
1.50	BMT 100L-6	955	82.50	83.00	81.80	0.70	3.75	5.50	15.00	2.40	2.90	0.00914	22	61	BMT3150.10H6**.11
2.20	BMT 100L2-6	955	84.30	85.10	83.90	0.72	5.23	6.20	22.00	2.50	3.00	0.01273	28	64	BMT3220.10J6**.11
2.20	BMT 112M-6	965	84.30	84.50	83.20	0.68	5.54	5.50	21.77	2.00	2.50	0.01768	27	64	BMT3220.11D6**.11
3.00	BMT 112M2-6	965	85.60	86.20	84.80	0.69	7.33	6.30	29.69	2.50	2.90	0.02140	33	64	BMT3300.11F6**.11
3.00	BMT 132S-6	965	85.60	86.00	85.10	0.74	6.84	6.00	29.69	2.00	2.70	0.03380	39	64	BMT3300.13A6**.11
4.00	BMT 132M1-6	970	86.80	87.10	86.20	0.74	8.99	6.80	39.38	2.30	3.00	0.04395	48	68	BMT3400.13E6**.11
5.50	BMT 132M2-6	975	88.00	88.30	87.10	0.71	12.71	7.40	53.87	2.90	3.50	0.05399	56	68	BMT3550.13F6**.11
7.50	BMT 132M3-6	970	89.10	89.60	88.60	0.72	16.87	8.30	73.84	3.30	3.20	0.07072	68	68	BMT3750.13G6**.11
7.50	BMT 160M-6	975	89.10	89.50	88.50	0.76	15.99	7.30	73.46	2.20	2.90	0.10901	80	68	BMT3750.16D6**.11
11.00	BMT 160L-6	975	90.30	90.80	89.80	0.78	22.54	8.40	107.74	2.70	2.90	0.15485	105	73	BMT3110.16H6**.11

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE4 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m²	kg	dBA	
3000 r/min = 2 poles			**400 V 50 Hz**												
0.18	BMT 631-2	2870	70.80	68.80	63.60	0.80	0.50	5.50	0.60	2.60	2.90	0.00025	4	61	BMT4018.06B2**.11
0.25	BMT 632-2	2880	74.30	73.10	68.70	0.80	0.60	6.30	0.90	2.70	3.20	0.00030	5	61	BMT4025.06C2**.11
0.37	BMT 711-2	2890	78.10	77.30	73.40	0.80	0.90	6.70	1.30	2.80	3.30	0.00042	6	64	BMT4037.07B2**.11
0.55	BMT 712-2	2890	81.50	81.10	77.90	0.80	1.20	6.80	1.90	2.90	3.50	0.00057	7	64	BMT4055.07C2**.11
0.75	BMT 801-2	2900	83.50	83.60	81.50	0.80	1.60	8.80	2.60	3.70	3.90	0.00112	10	67	BMT4075.08B2**.11
1.10	BMT 802-2	2910	85.20	85.20	83.30	0.80	2.30	10.00	3.80	4.00	4.20	0.00151	12	67	BMT4110.08C2**.11
1.50	BMT 90S-2	2910	86.50	86.50	84.60	080	3.10	9.60	5.10	3.60	2.80	0.00230	15	72	BMT4150.09A2**.11
2.20	BMT 90L-2	2900	88.00	88.20	86.90	0.80	4.40	10.50	7.60	4.00	4.20	0.00309	19	72	BMT4220.09H2**.11
3.00	BMT 100L-2	2910	89.10	89.40	88.40	0.90	5.40	11.00	10.30	3.70	2.90	0.00594	28	76	BMT4300.10H2**.11
4.00	BMT 112M-2	2920	90.00	90.40	89.70	0.90	7.10	10.50	13.60	3.50	2.60	0.00927	35	77	BMT4400.11D2**.11
5.50	BMT 132S1-2	2940	90.90	90.90	89.50	0.90	9.90	10.50	18.60	3.40	2.30	0.01773	49	80	BMT4550.13B2**.11
7.50	BMT 132S2-2	2940	91.70	91.70	90.70	0.90	13.30	10.00	25.40	3.80	2.30	0.02288	59	80	BMT4650.13C2**.11
11.00	BMT 160M1-2	2950	92.60	93.20	92.10	0.90	18.80	10.00	37.10	3.50	2.50	0.06913	95	86	BMT4110.16E2**.11
15.00	BMT 160M2-2	2960	93.30	93.80	92.80	0.90	25.20	10.00	50.40	3.60	2.50	0.09035	116	86	BMT4150.16F2**.11
18.50	BMT 160L-2	2960	93.70	94.20	93.10	0.90	30.60	10.30	62.20	3.80	2.50	0.10749	136	86	BMT4185.16H2**.11
1500 r/min = 4 poles			**400 V 50 Hz**												
0.12	BMT 631-4	1400	69.80	68.20	66.50	0.70	0.40	4.00	0.90	2.30	2.70	0.00034	4	52	BMT4012.06B4**.11
0.18	BMT 632-4	1400	74.70	74.10	69.70	0.70	0.50	4.30	1.30	2.60	2.80	0.00043	5	52	BMT4018.06C4**.11
0.25	BMT 711-4	1430	77.90	77.00	72.90	0.70	0.70	5.60	1.70	3.00	3.40	0.00084	7	55	BMT4025.07B4**.11
0.37	BMT 712-4	1430	81.10	80.50	77.20	0.70	1.00	6.20	2.60	3.40	3.60	0.00119	8	55	BMT4037.07C4**.11
0.55	BMT 801-4	1440	83.90	83.30	80.60	0.70	1.40	6.80	3.80	3.40	3.70	0.00205	11	57	BMT4055.08B4**.11
0.75	BMT 802-4	1450	85.70	85.30	82.80	0.70	2.00	7.30	5.20	3.70	4.00	0.00265	13	58	BMT4075.08C4**.11
1.10	BMT 90S-4x	1435	87.20	87.10	84.40	0.70	2.60	8.20	7.60	4.80	3.80	0.00469	18	61	BMT4110.09A4**.11
1.50	BMT 90L-4x	1455	88.20	88.10	86.10	0.70	3.50	9.20	10.30	4.80	3.80	0.00570	22	61	BMT4150.09J4**.11
2.20	BMT 100L1-4	1460	89.50	89.60	88.20	0.80	4.70	9.50	15.00	3.50	3.00	0.01044	26	64	BMT4220.10I4**.11
3.00	BMT 100L2-4x	1460	90.40	89.70	88.10	0.80	6.40	9.50	20.50	3.80	3.40	0.01307	33	64	BMT4300.10J4**.11
4.00	BMT 112M-4x	1460	91.10	91.00	90.00	0.80	8.10	9.80	27.30	4.00	3.00	0.01944	41	65	BMT4400.11G4**.11
5.50	BMT 132S-4	1470	91.90	92.20	91.50	0.80	10.90	10.00	37.20	3.40	2.10	0.04360	56	71	BMT4550.13A4**.11
7.50	BMT 132M-4	1470	92.60	92.80	92.20	0.80	13.90	10.20	50.80	4.40	2.20	0.05521	74	71	BMT4750.13D4**.11
11.00	BMT 160M-4	1475	93.30	93.50	92.80	0.80	20.70	9.10	74.20	2.80	2.20	0.12762	100	75	BMT4110.16D4**.11
15.00	BMT 160L-4	1475	93.90	94.10	93.70	0.80	27.90	9.20	101.20	3.20	2.20	0.16530	126	75	BMT4150.16H4**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE4 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m²	kg	dBA	
1000 r/min = 6 poles			**400 V 50 Hz**												
0.18	BMT 711-6	940	70.10	66.80	60.20	0.60	0.60	4.10	1.90	2.70	2.30	0.00102	6	52	BMT4018.07B6**.11
0.25	BMT 712-6	940	74.10	71.50	65.30	0.60	0.80	4.50	2.70	2.80	2.40	0.00125	7	52	BMT4025.07C6**.11
0.37	BMT 801-6	950	78.00	76.70	72.20	0.60	1.10	4.80	3.90	2.70	3.10	0.00263	11	56	BMT4037.08B6**.11
0.55	BMT 802-6x	950	80.90	80.00	76.30	0.60	1.60	5.30	5.80	3.20	3.50	0.00368	14	56	BMT4055.16F6**.11
0.75	BMT 90S-6x	960	82.70	81.60	77.70	0.60	2.10	5.70	7.80	2.80	2.40	0.00468	16	59	BMT4075.09A6**.11
1.10	BMT 90L-6x	960	84.50	83.50	80.50	0.70	2.90	5.90	11.40	3.10	2.50	0.00650	20	59	BMT4110.09J6**.11
1.50	BMT 100L-6	965	85.90	86.20	84.50	0.70	3.50	6.50	15.50	2.70	1.90	0.01276	28	61	BMT4150.10H6**.11
2.20	BMT 112M-6	970	87.40	87.20	85.40	0.70	5.00	7.50	22.60	3.00	2.60	0.02289	35	64	BMT4220.11D6**.11
3.00	BMT 132S-6	975	88.60	88.70	87.40	0.70	6.90	7.10	30.60	2.50	1.90	0.04385	47	64	BMT4300.13A6**.11
4.00	BMT 132M1-6	975	89.50	89.80	88.80	0.70	8.70	8.00	40.80	2.80	1.80	0.05399	55	68	BMT4400.13E6**.11
5.50	BMT 132M2-6	975	90.50	90.70	89.70	0.80	11.70	8.20	56.10	3.30	1.80	0.07072	68	68	BMT4550.13F6**.11
7.50	BMT 160M-6	980	91.30	91.50	90.30	0.80	15.40	8.50	76.20	3.30	1.80	0.12827	92	68	BMT4750.16D6**.11
11.00	BMT 160L-6	980	92.30	92.60	91.20	0.80	22.30	8.50	111.70	3.40	1.80	0.18523	120	73	BMT4110.16H6**.11
750 r/min = 8 poles			**400 V 50 Hz**												
0.12	BMT 712-8	690	62.30	59.80	52.60	0.60	0.50	2.90	1.70	2.20	2.30	0.00133	8	50	BMT4012.07C8**.11
0.18	BMT 801-8	710	67.20	64.10	56.80	0.50	0.70	3.40	2.50	2.30	2.70	0.00232	10	52	BMT4018.08B8**.11
0.25	BMT 802-8	710	70.80	67.90	61.00	0.50	1.10	3.70	3.50	2.70	3.10	0.00308	12	52	BMT4025.08C8**.11
0.37	BMT 90S-8	715	74.30	71.90	65.70	0.50	1.40	3.90	5.20	2.50	2.20	0.00407	14	56	BMT4037.09A8**.11
0.55	BMT 90L-8	710	77.00	75.40	70.10	0.50	2.00	4.00	7.70	2.50	2.20	0.00550	18	56	BMT4055.09H8**.11
0.75	BMT 100L1-8	710	78.40	77.90	74.40	0.60	2.20	4.30	10.50	2.10	2.10	0.00834	21	59	BMT4075.10I8**.11
1.10	BMT 100L2-8	710	80.80	80.70	78.10	0.60	3.10	4.50	15.40	2.30	1.80	0.01156	26	59	BMT4110.10J8**.11
1.50	BMT 112M-8	715	82.60	82.30	79.50	0.60	4.20	5.10	20.90	2.50	2.30	0.02140	33	61	BMT4150.11D8**.11
2.10	BMT 132S-8	725	84.50	85.50	82.50	0.60	5.90	5.60	30.20	2.30	2.00	0.04887	50	64	BMT4220.13A8**.11
3.00	BMT 132M-8	725	85.90	86.00	84.20	0.70	7.50	6.30	41.20	2.50	2.10	0.06236	61	64	BMT4300.13D8**.11
4.00	BMT 160M1-8	725	87.10	87.50	86.30	0.70	9.60	5.60	54.90	2.20	1.70	0.10142	76	68	BMT4400.16E8**.11
5.50	BMT 160M2-8	725	88.30	88.70	87.80	0.70	12.80	6.10	75.50	2.50	1.80	0.13559	94	68	BMT4550.16F8**.11
7.50	BMT 160L-8	725	89.30	89.70	89.00	0.70	17.10	6.60	102.90	2.50	1.60	0.17763	116	68	BMT4750.16H8**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

Serie BCT - Carcassa in ghisa

EN

BCT Series - Cast iron frame

IT

Dimensioni di ingombro

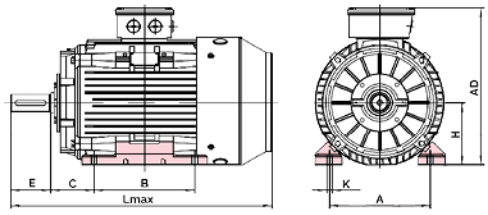
Serie BCT – Carcassa in ghisa
Classe di rendimento – IE3 & IE4
2, 4, 6 & 8 poli

EN

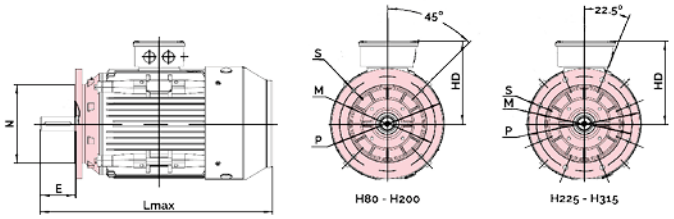
Mounting dimensions

BCT Series – Cast iron frame
Efficiency rating – IE3 & IE4
2, 4, 6 & 8 poles

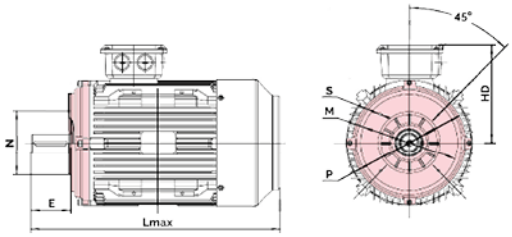
B3



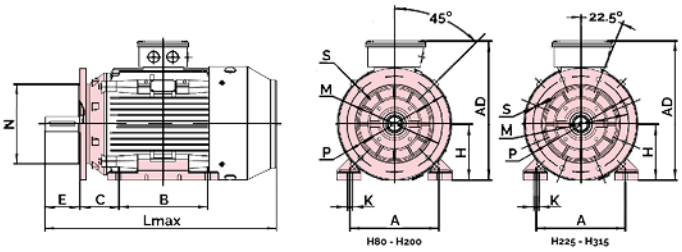
B5



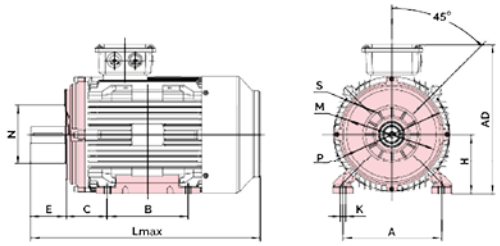
B14



B3/B5



B3/B14



SHAFT

IT

EN

Three phase, cast iron frame motors

Frame size								B3						B5				B14			
	Poles	D	G	F	E	Lmax	HD	H	A	B	C	AD	K	M	N	P	S	M	N	P	S
80	2-8	19	15.50	6	40	290	134	80	125	100	50	214	9	165	130	200	4*12	100	80	120	M6
90 S	2-8	24	20	8	50	320	141	90	140	100	56	231	10	165	130	200	4*12	115	95	140	M8
90 L	2-8	24	20	8	50	345	141	90	140	125	56	231	10	165	130	200	4*12	115	95	140	M8
100	2-8	28	24	8	60	385	151	100	160	140	63	252	12	215	180	250	4*15	130	110	160	M8
112	2-8	28	24	8	60	405	180	112	190	140	70	292	12	215	180	250	4*15	130	110	160	M8
132 S	2-8	38	33	10	80	467	200	132	216	140	89	332	12	265	230	300	4*15	165	130	200	M10
132 M	2-8	38	33	10	80	505	200	132	216	178	89	332	12	265	230	300	4*15	165	130	200	M10
160 M	2-8	42	37	12	110	605	244	160	254	210	108	404	15	300	250	350	4*19	215	180	250	M12
160 L	2-8	42	37	12	110	650	244	160	254	254	108	404	15	300	250	350	4*19	215	180	250	M12
180 M	2-8	48	42.50	14	110	687	265	180	279	241	121	445	15	300	250	350	4*19	-	-	-	-
180 L	2-8	48	42.50	14	110	725	265	180	279	279	121	445	15	300	250	350	4*19	-	-	-	-
200	2-8	55	49	16	110	769	300	200	318	305	133	500	19	350	300	400	4*19	-	-	-	-
225 S	4-8	60	53	18	140	810	333	225	356	286	149	558	19	400	350	450	8*19	-	-	-	-
225 M	2	55	49	16	110	805	333	225	356	311	149	558	19	400	350	450	8*19	-	-	-	-
225 M	4-8	60	53	18	140	835	333	225	356	311	149	558	19	400	350	450	8*19	-	-	-	-
250 M	2	60	53	18	140	915	366	250	406	349	168	616	24	500	450	550	8*19	-	-	-	-
250 M	4-8	65	58	18	140	915	366	250	406	349	168	616	24	500	450	550	8*19	-	-	-	-
280 S	2	65	58	18	140	984	395	280	457	386	190	675	24	500	450	550	8*19	-	-	-	-
280 S	4-8	75	67.50	20	140	984	395	280	457	368	190	675	24	500	450	550	8*19	-	-	-	-
280 M	2	65	58	18	140	1035	395	280	457	419	190	675	24	500	450	550	8*19	-	-	-	-
280 M	4-8	75	67.50	20	140	1035	395	280	457	419	190	675	24	500	450	550	8*19	-	-	-	-
315 S	2	65	58	18	140	1205	510	315	508	406	216	825	28	600	550	660	8*24	-	-	-	-
315 S	4-8	80	71	22	170	1235	510	315	508	406	216	825	28	600	550	660	8*24	-	-	-	-
315 M	2	65	58	18	140	1355	510	315	508	457	216	825	28	600	550	660	8*24	-	-	-	-
315 M	4-8	80	71	22	170	1355	510	315	508	457	216	825	28	600	550	660	8*24	-	-	-	-
315 L	2	65	58	18	140	1355	510	315	508	508	216	825	28	600	550	660	8*24	-	-	-	-
315 L	4-8	80	71	22	170	1355	510	315	508	508	216	825	28	600	550	660	8*24	-	-	-	-

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE3 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
3000 r/min = 2 poles			**400 V 50 Hz**												
0.75	BCT 80l-2	2880	80.70	81.00	76.20	0.80	1.70	7.50	2.50	2.50	2.80	0.00093	15	67	BCT3075.08B2**.11
1.10	BCT 80Z-2	2880	82.70	83.50	81.60	0.80	2.40	8.00	3.70	2.50	2.80	0.00128	17	67	BCT3110.08C2**.11
1.50	BCT 90S-2	2880	84.20	84.90	84.00	0.80	3.10	8.50	5.00	2.50	2.80	0.00224	22	72	BCT3150.09A2**.11
2.20	BCT 90L-2	2880	85.90	86.40	84.70	0.80	4.50	8.60	7.30	2.50	2.80	0.00279	25	72	BCT3220.09H2**.11
3.00	BCT 100L-2	2900	87.10	88.50	86.80	0.90	5.70	9.50	9.90	2.50	2.80	0.00496	36	76	BCT3300.10H2**.11
4.00	BCT 112M-2	2910	88.10	88.50	87.10	0.90	7.30	10.50	13.10	2.50	2.80	0.00744	45	77	BCT3400.11D2**.11
5.50	BCT 132S1-2	2910	89.20	90.20	88.60	0.90	10.10	10.00	18.10	2.50	3.00	0.01468	63	80	BCT3550.13B2**.11
7.50	BCT 132S2-2	2920	90.10	90.80	89.30	0.90	13.50	10.00	24.50	2.50	3.00	0.01903	70	80	BCT3750.13C2**.11
9.20	BCT 132M1-2	2920	90.60	91.20	89.50	0.90	16.50	10.00	30.10	2.50	3.00	0.02048	77	80	BCT3920.13E2**.11
11.00	BCT 160M1-2	2930	91.20	93.80	93.00	0.90	19.30	9.50	35.90	2.50	3.00	0.05178	118	86	BCT3110.16E2**.11
15.00	BCT 160M2-2	2940	91.90	93.10	92.90	0.90	26.20	10.00	48.70	2.50	3.00	0.06206	128	86	BCT3150.16F2**.11
18.50	BCT 160L-2	2940	92.40	93.50	93.30	0.90	31.80	9.50	60.10	2.50	3.00	0.07669	144	86	BCT3185.16H2**.11
22.00	BCT 180M-2	2945	92.70	94.10	93.60	0.90	38.50	9.00	71.30	2.50	3.00	0.09665	183	89	BCT3220.18D2**.11
30.00	BCT 200L1-2	2945	93.30	93.80	93.20	0.90	52.20	8.50	97.30	2.50	2.50	0.17351	247	92	BCT3300.20I2**.11
37.00	BCT 200L2-2	2945	93.70	94.40	94.20	0.90	64.00	8.50	120.00	2.50	2.50	0.20008	268	92	BCT3370.20J2**.11
45.00	BCT 225M-2	2950	94.00	94.60	94.10	0.90	75.90	8.50	145.70	2.50	2.50	0.34366	369	92	BCT3450.22D2**.11
55.00	BCT 250M-2	2960	94.30	94.50	93.10	0.90	93.50	10.00	177.50	2.50	2.60	0.44434	428	93	BCT3550.25D2**.11
75.00	BCT 280S-2	2960	94.70	94.90	93.70	0.90	125.60	10.00	242.00	2.50	2.60	0.82911	587	94	BCT3750.28A2**.11
90.00	BCT 280M-2	2960	95.00	95.20	94.30	0.90	150.30	10.00	290.40	2.50	2.60	0.98168	655	94	BCT3900.28D2**.11
110.00	BCT 315S-2	2960	95.20	95.50	94.60	0.90	185.30	7.00	355.90	2.00	2.30	1.70352	980	96	BCT3110.31A2**.11
132.00	BCT 315M-2	2960	95.40	95.50	94.70	0.90	221.90	7.00	425.90	2.00	2.30	1.93860	1100	96	BCT3132.31D2**.11
160.00	BCT 315L1-2	2960	95.80	95.80	94.50	0.90	267.90	7.00	516.20	2.00	2.30	2.19758	1155	99	BCT3160.31I2**.11
200.00	BCT 315L2-2	2960	95.80	96.00	94.70	0.90	334.80	7.00	645.30	2.00	2.30	2.55368	1260	99	BCT3200.31J2**.11
1500 r/min = 4 poles			**400 V 50 Hz**												
0.75	BCT 80Z-4	1420	82.50	82.80	80.60	0.70	1.90	6.30	5.10	2.80	2.80	0.00155	18	58	BCT3075.08C4**.11
1.10	BCT 90S-4	1430	84.10	84.60	83.20	0.70	2.60	6.80	7.40	2.80	2.80	0.00372	23	61	BCT3110.09A4**.11
1.50	BCT 90L-4	1430	85.30	86.10	85.20	0.70	3.60	7.30	10.00	2.80	3.00	0.00469	26	61	BCT3150.09H4**.11
2.20	BCT 100L1-4	1430	86.70	87.80	85.20	0.80	4.50	8.00	14.70	2.80	3.00	0.00922	36	64	BCT3220.10I4**.11
3.00	BCT 100L2-4	1435	87.70	88.00	85.90	0.80	6.30	8.20	20.00	2.50	3.00	0.01195	39	64	BCT3300.10J4**.11
4.00	BCT 112M-4	1440	88.60	88.90	87.50	0.80	8.00	8.60	26.50	2.50	3.00	0.01545	47	65	BCT3400.11D4**.11
5.50	BCT 132S-4	1440	89.60	90.90	88.90	0.80	10.70	9.00	36.50	2.50	3.00	0.03397	68	71	BCT3550.13A4**.11
7.50	BCT 132M-4	1440	90.40	91.30	91.20	0.90	14.10	9.00	49.70	2.50	3.00	0.04412	79	71	BCT3750.13D4**.11
9.20	BCT 132M2-4	1440	90.90	91.80	90.50	0.90	17.20	9.00	61.00	2.50	3.00	0.04700	88	71	BCT3920.13F4**.11
11.00	BCT 160M-4	1450	91.40	92.20	91.70	0.80	20.70	10.00	72.50	2.50	3.00	0.10355	127	75	BCT3110.16D4**.11
15.00	BCT 160L-4	1450	92.10	92.90	92.20	0.90	27.30	8.50	98.80	2.50	2.80	0.13750	160	75	BCT3150.16H4**.11
18.50	BCT 180M-4	1460	92.60	93.60	93.00	0.90	33.50	9.00	121.00	2.50	3.00	0.15530	169	76	BCT3185.18D4**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE3 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
1000 r/min = 4 poles			**400 V 50 Hz**												
22.00	BCT 180L-4	1460	93.00	93.70	92.90	0.90	39.30	10.00	143.90	2.50	3.00	0.19433	196	76	BCT3220.18H4**.11
30.00	BCT 200L-4	1470	93.60	93.70	93.20	0.80	57.10	9.00	194.90	2.50	2.80	0.29441	252	79	BCT3300.20H4**.11
37.00	BCT 225S-4	1470	93.90	95.20	94.30	0.90	65.40	9.20	240.40	2.50	2.50	0.57838	325	81	BCT3370.22A4**.11
45.00	BCT 225M-4	1470	94.20	95.20	94.50	0.90	79.30	9.00	292.40	2.50	2.50	0.65309	353	81	BCT3450.22D4**.11
55.00	BCT 250M-4	1470	94.60	95.20	94.50	0.90	95.40	8.50	357.30	2.50	2.50	0.76504	427	83	BCT3550.25D4**.11
75.00	BCT 280S-4	1480	95.00	95.10	94.80	0.90	131.00	10.00	484.00	2.50	2.80	1.99603	673	86	BCT3750.28A4**.11
90.00	BCT 280M-4	1480	95.20	95.10	95.00	0.90	160.50	10.00	580.70	2.50	2.80	2.18345	692	86	BCT3900.28D4**.11
110.00	BCT 315S-4	1480	95.40	95.70	94.60	0.90	189.10	9.00	709.80	2.20	2.60	3.71808	1027	93	BCT3110.31A4**.11
132.00	BCT 315M-4	1480	95.60	95.80	95.00	0.90	226.50	9.00	851.80	2.20	2.60	4.29667	1155	93	BCT3132.31D4**.11
160.00	BCT 315L1-4	1480	95.80	96.00	95.10	0.90	273.90	9.00	1032.40	2.20	2.60	5.10990	1240	97	BCT3160.31I4**.11
200.00	BCT 315L2-4	1480	96.00	96.20	95.30	0.90	337.90	9.00	1290.50	2.20	2.60	6.17334	1400	97	BCT3200.31J4**.11
1000 r/min = 6 poles			**400 V 50 Hz**												
0.75	BCT 90S-6	935	78.90	79.60	72.20	0.70	2.10	5.00	7.70	2.00	2.20	0.00435	22	57	BCT3075.09A6**.11
1.10	BCT 90L-6	940	81.00	81.50	80.20	0.70	3.00	5.20	11.20	2.30	2.20	0.00611	26	57	BCT3110.09H6**.11
1.50	BCT 100L-6	940	82.50	83.00	81.60	0.70	3.60	5.20	15.20	2.00	2.20	0.00972	34	61	BCT3150.10H6**.11
2.20	BCT 112M-6	940	84.30	85.00	83.20	0.70	5.40	6.20	22.40	2.00	2.20	0.01637	40	65	BCT3220.11D6**.11
3.00	BCT 132S-6	940	85.60	86.10	84.50	0.70	6.80	6.00	30.50	2.00	2.20	0.03223	59	69	BCT3300.13A6**.11
4.00	BCT 132M1-6	950	86.80	87.60	85.20	0.70	9.00	7.00	40.20	2.00	2.50	0.04338	76	69	BCT3400.13E6**.11
5.50	BCT 132M2-6	950	88.00	88.80	86.90	0.70	12.70	7.50	55.30	2.30	2.50	0.05443	76	69	BCT3550.13F6**.11
7.50	BCT 160M-6	960	89.10	90.30	88.00	0.80	16.20	7.50	74.60	2.30	2.80	0.08726	112	73	BCT3750.16D6**.11
11.00	BCT 160L-6	960	90.30	91.20	88.50	0.80	23.10	8.50	109.40	2.50	2.80	0.13544	134	73	BCT3110.13H6**.11
15.00	BCT 180L-6	960	91.20	92.00	90.30	0.80	30.10	8.00	149.20	2.50	2.80	0.27973	185	73	BCT3150.18H6**.11
18.50	BCT 200L1-6	970	91.70	92.30	90.60	0.80	36.40	9.50	182.10	2.50	2.80	0.38345	231	76	BCT3185.20I6**.11
22.00	BCT 200L2-6	970	92.20	93.00	91.30	0.80	42.50	10.00	216.60	2.50	2.80	0.44941	249	76	BCT3220.20J6**.11
30.00	BCT 225M-6	975	92.90	93.80	90.90	0.90	53.00	7.00	293.90	1.80	2.20	0.67058	339	76	BCT3300.22D6**.11
37.00	BCT 250M-6	975	93.30	94.00	91.80	0.90	67.30	7.00	362.40	1.80	2.00	0.99243	399	78	BCT3370.25D6**.11
45.00	BCT 280S-6	980	93.70	94.60	92.70	0.80	83.50	10.00	438.50	2.50	2.80	2.20274	551	80	BCT3450.28A6**.11
55.00	BCT 280M1-6	980	94.10	95.00	93.40	0.90	99.30	10.00	536.00	2.50	2.80	2.57302	624	80	BCT3550.28E6**.11
75.00	BCT 315S-6	980	94.60	94.80	93.20	0.80	139.60	7.50	730.90	2.00	2.30	3.80317	860	85	BCT3750.31A6**.11
90.00	BCT 315M-6	980	94.90	95.00	93.40	0.80	166.90	7.50	877.00	2.00	2.30	4.45274	970	85	BCT3900.31D6**.11
110.00	BCT 315L1-6	980	95.10	95.40	94.00	0.80	203.60	7.50	1071.90	2.00	2.30	5.53956	1070	85	BCT3110.31I6**.11
132.00	BCT 315L2-6	980	95.40	95.70	94.20	0.80	243.60	7.50	1286.30	2.00	2.30	6.62638	1196	85	BCT3132.31J6**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE4 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
3000 r/min = 2 poles			**400 V 50 Hz**												
0.75	BCT 801-2	2920	83.50	83.70	82.00	0.80	1.60	8.50	2.50	2.20	2.30	0.00138	16	62	BCT4075.08B2**.11
1.10	BCT 802-2	2920	85.20	85.40	84.50	0.80	2.30	8.50	3.60	2.20	2.30	0.00179	17	62	BCT4110.08C2**.11
1.50	BCT 90S-2	2940	86.50	86.70	86.40	0.90	2.90	9.00	4.90	2.20	2.30	0.00264	23	67	BCT4150.09A2**.11
2.20	BCT 90L-2	2940	88.00	88.30	87.80	0.90	4.20	9.00	7.20	2.20	2.30	0.00358	26	67	BCT4220.09H2**.11
3.00	BCT 100L-2	2945	89.10	89.30	88.90	0.90	5.60	9.50	9.70	2.20	2.30	0.00576	36	74	BCT4300.10H2**.11
4.00	BCT 112M-2	2945	90.00	90.20	89.80	0.90	7.30	9.50	13.00	2.20	2.30	0.00973	50	77	BCT4400.11D2**.11
5.50	BCT 132S1-2	2950	90.90	91.20	90.70	0.90	9.90	9.50	17.80	2.00	2.30	0.02840	67	79	BCT4550.13B2**.11
7.50	BCT 132S2-2	2950	91.70	92.00	91.50	0.90	13.30	9.50	24.30	2.00	2.30	0.03488	72	79	BCT4750.13C2**.11
11.00	BCT 160M1-2	2960	92.60	92.80	92.50	0.90	19.30	9.50	35.50	2.00	2.30	0.06951	129	81	BCT4110.16E2**.11
15.00	BCT 160M2-2	2960	93.30	93.50	93.10	0.90	26.10	9.50	48.40	2.00	2.30	0.08476	155	81	BCT4150.16F2**.11
18.50	BCT 160L-2	2965	93.70	93.90	93.60	0.90	32.00	9.50	59.60	2.00	2.30	0.10246	176	81	BCT4185.16H2**.11
22.00	BCT 180M-2	2965	94.00	94.20	93.80	0.90	38.00	9.50	70.90	2.00	2.30	0.16327	220	83	BCT4220.18D2**.11
30.00	BCT 200L1-2	2970	94.50	94.70	94.30	0.90	51.50	9.00	96.50	2.00	2.30	0.26694	278	84	BCT4300.20I2**.11
37.00	BCT 200L2-2	2970	94.80	95.00	94.70	0.90	63.30	9.00	119.00	2.00	2.30	0.30313	292	84	BCT4370.20I2**.11
45.00	BCT 225M-2	2975	95.00	95.20	94.00	0.90	76.80	9.00	144.50	2.00	2.30	0.39333	387	86	BCT4450.22D2**.11
55.00	BCT 250L-2	2980	95.30	95.50	94.30	0.90	93.60	9.00	176.30	2.00	2.30	1.04004	531	89	BCT4550.25D2**.11
75.00	BCT 280S-2	2980	95.60	95.80	95.00	0.90	127.20	8.50	240.50	1.80	2.30	1.26700	625	91	BCT4750.28A2**.11
90.00	BCT 280M-2	2980	95.80	95.90	95.20	0.90	152.40	8.50	288.60	1.80	2.30	1.49469	700	91	BCT4900.28D2**.11
110.00	BCT 315S-2	2980	96.00	96.10	95.60	0.90	185.80	8.50	352.70	1.80	2.30	2.03578	1110	92	BCT4110.31A2**.11
132.00	BCT 315M-2	2980	96.20	96.20	95.70	0.90	222.50	8.50	423.20	1.80	2.30	2.35199	1228	92	BCT4132.31D2**.11
160.00	BCT 315L1-2	2980	96.30	96.30	95.80	0.90	269.50	8.50	513.00	1.80	2.20	2.72022	1321	92	BCT4160.31I2**.11
200.00	BCT 315L2-2	2980	96.50	96.50	96.00	0.90	336.10	8.50	641.20	1.80	2.20	3.27257	1450	92	BCT4200.31J2**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE4 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m²	kg	dBA	
1500 r/min = 4 poles			400 V 50 Hz												
0.75	BCT 802-4	1435	85.70	85.90	83.90	0.70	1.70	8.50	5.00	2.30	2.30	0.00301	19	56	BCT4075.08C4**.11
1.10	BCT 90S-4	1445	87.20	87.40	85.70	0.80	2.40	8.50	7.30	2.30	2.30	0.00487	25	59	BCT4110.09A4**.11
1.50	BCT 90L-4	1445	88.20	88.40	87.10	0.80	3.20	9.00	9.90	2.30	2.30	0.00646	31	59	BCT4150.09H4**.11
2.20	BCT 100L1-4	1450	89.50	89.70	88.40	0.80	4.50	9.00	14.50	2.30	2.30	0.01323	39	64	BCT4220.10I4**.11
3.00	BCT 100L2-4	1450	90.40	90.60	90.00	0.80	6.00	9.50	19.80	2.30	2.30	0.01830	45	64	BCT4300.10J4**.11
4.00	BCT 112M-4	1465	91.10	91.30	90.90	0.80	7.90	9.50	26.10	2.30	2.30	0.02362	61	65	BCT4400.11D4**.11
5.50	BCT 132S-4	1470	91.90	92.10	91.50	0.80	10.80	9.50	35.80	2.00	2.30	0.06267	75	71	BCT4550.13A4**.11
7.50	BCT 132M-4	1470	92.60	92.80	92.00	0.80	14.40	9.50	48.80	2.00	2.30	0.07155	83	71	BCT4750.13D4**.11
11.00	BCT 160M-4	1475	93.30	93.50	92.80	0.80	20.50	9.50	71.30	2.00	2.30	0.14433	160	73	BCT4110.16D4**.11
15.00	BCT 160L-4	1475	93.90	94.10	92.80	0.80	27.50	9.50	97.20	2.00	2.30	0.18375	179	73	BCT4150.16H4**.11
18.50	BCT 180M-4	1475	94.20	94.40	93.60	0.90	33.40	9.50	119.80	2.00	2.30	0.26556	218	76	BCT4185.18D4**.11
22.00	BCT 180L-4	1475	94.50	94.70	93.80	0.90	39.50	9.50	142.50	2.00	2.30	0.30277	249	76	BCT4220.18H4**.11
30.00	BCT 200L-4	1480	94.90	95.20	94.00	0.90	53.70	9.00	193.70	2.00	2.30	0.56573	295	76	BCT4300.20H4**.11
37.00	BCT 225S-4	1480	95.20	95.40	94.60	0.90	66.00	9.00	238.90	2.00	2.30	0.79379	403	78	BCT4370.22A4**.11
45.00	BCT 225M-4	1480	95.40	95.60	95.00	0.90	80.10	9.00	290.50	2.00	2.30	0.86948	425	78	BCT4450.22D4**.11
55.00	BCT 250M-4	1480	95.70	95.90	95.30	0.90	96.50	9.00	355.00	2.00	2.30	1.43506	550	79	BCT4550.25D4**.11
75.00	BCT 280S-4	1485	96.00	96.10	95.40	0.90	129.60	8.50	482.50	2.00	2.30	2.14904	644	80	BCT4750.28A4**.11
90.00	BCT 280M-4	1485	96.10	96.10	95.80	0.90	153.60	8.50	579.00	2.00	2.30	2.37746	714	80	BCT4900.28D4**.11
110.00	BCT 315S-4	1485	96.30	96.30	95.90	0.90	185.30	8.50	707.70	1.80	2.20	3.94264	1130	88	BCT4110.31A4**.11
132.00	BCT 315M-4	1485	96.40	96.40	96.20	0.90	222.10	8.50	849.30	1.80	2.20	4.47125	1260	88	BCT4132.31D4**.11
160.00	BCT 315L1-4	1485	96.60	96.60	96.30	0.90	265.60	8.50	1029.40	1.80	2.20	5.26738	1377	88	BCT4160.31I4**.11
200.00	BCT 315L2-4	1485	96.70	96.70	96.30	0.90	331.70	8.50	1286.80	1.80	2.20	6.29098	1558	88	BCT4200.31J4**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE4 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST} / I_N	T_N Nm	T_{ST} / T_N	T_{max} / T_N	kg*m²	kg	dBA	
1000 r/min = 6 poles			**400 V 50 Hz**												
0.75	BCT 90S-6	940	82.70	82.90	83.00	0.70	1.90	7.50	7.60	2.10	2.10	0.00611	30	57	BCT4075.09A6**.11
1.10	BCT 90L-6	940	84.50	84.80	84.40	0.70	2.70	7.50	11.20	2.10	2.10	0.00884	34	57	BCT4110.09H6**.11
1.50	BCT 100L-6	950	85.90	86.30	85.80	0.70	3.60	7.50	15.10	2.10	2.10	0.01702	39	61	BCT4150.10H6**.11
2.20	BCT 112M-6	950	87.40	87.80	87.20	0.70	5.10	7.50	22.10	2.00	2.10	0.03044	45	65	BCT4220.11D6**.11
3.00	BCT 132S-6	970	88.60	88.90	88.60	0.70	6.90	7.50	29.60	2.20	2.10	0.04918	65	69	BCT4300.13A6**.11
4.00	BCT 132M1-6	970	89.50	89.90	89.40	0.70	9.00	8.00	39.40	2.20	2.10	0.06058	67	69	BCT4400.13E6**.11
5.50	BCT 132M2-6	970	90.50	90.70	90.40	0.70	12.20	8.00	54.20	2.00	2.10	0.08599	72	69	BCT4550.13F6**.11
7.50	BCT 160M-6	970	91.30	91.50	91.20	0.80	15.60	8.00	73.90	2.00	2.10	0.14890	145	73	BCT4750.16D6**.11
11.00	BCT 160L-6	975	92.30	92.50	92.20	0.80	22.30	8.50	107.80	2.00	2.10	0.22041	185	73	BCT4110.16H6**.11
15.00	BCT 180L-6	975	92.90	93.20	92.80	0.80	29.10	8.50	147.00	2.00	2.10	0.36321	226	73	BCT4150.18H6**.11
18.50	BCT 200L1-6	975	93.40	93.60	93.30	0.80	35.70	8.50	181.30	2.00	2.10	0.46741	246	73	BCT4185.20I6**.11
22.00	BCT 200L2-6	975	93.70	93.90	93.60	0.80	41.80	8.50	215.60	2.00	2.10	0.56825	271	73	BCT4220.20J6**.11
30.00	BCT 225M-6	980	94.20	94.40	94.00	0.80	56.10	8.30	292.50	2.00	2.10	0.93804	351	74	BCT4300.22D6**.11
37.00	BCT 250M-6	980	94.50	94.70	94.30	0.80	68.10	8.30	360.70	2.00	2.10	1.63284	430	76	BCT4370.25D6**.11
45.00	BCT 280S-6	985	94.80	95.00	94.70	0.80	82.60	8.50	436.50	2.00	2.00	2.33569	533	78	BCT4450.28A6**.11
55.00	BCT 280M1-6	985	95.10	95.30	95.00	0.80	99.40	8.50	533.50	2.00	2.00	2.70272	610	78	BCT4550.28E6**.11
75.00	BCT 315S-6	990	95.40	95.60	95.30	0.80	135.10	8.00	723.80	1.60	2.00	4.41427	1020	83	BCT4750.31A6**.11
90.00	BCT 315M-6	990	95.60	95.80	95.40	0.90	159.90	8.00	868.60	1.60	2.00	5.25737	1212	83	BCT4900.31D6**.11
110.00	BCT 315L1-6	990	95.80	96.00	95.60	0.90	195.00	8.00	1061.60	1.60	2.00	6.30902	1277	83	BCT4110.31I6**.11
132.00	BCT 315L2-6	990	96.00	96.20	95.90	0.90	230.80	8.00	1273.90	1.60	2.00	7.51090	1400	83	BCT4132.31J6**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT EN

IP55 - IC 411 - Insulation class F, temperature rise class B

IE4 efficiency class

According to IEC 60034 - 30 - 1; 2014

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m²	kg	dBA	
750 r/min = 8 poles			**400 V 50 Hz**												
0.75	BCT 100L1-8	700	78.40	78.60	79.00	0.70	2.10	7.00	10.20	2.00	2.00	0.00996	29	59	BCT4075.10I8**.11
1.10	BCT 100L2-8	700	80.80	81.00	80.60	0.70	2.90	7.00	15.00	2.00	2.00	0.01510	34	59	BCT4110.10J8**.11
1.50	BCT 112M1-8	710	82.60	82.80	82.40	0.70	3.80	7.00	29.20	2.00	2.00	0.02234	39	61	BCT4150.11E8**.11
2.20	BCT 132S-8	715	84.50	84.70	84.30	0.70	5.40	7.50	29.40	1.80	2.00	0.04918	56	64	BCT4220.13A8**.11
3.00	BCT 132M-8	715	85.90	86.20	85.60	0.70	7.20	7.80	40.10	1.80	2.00	0.06340	64	64	BCT4300.13D8**.11
4.00	BCT 160M1-8	725	87.10	87.30	86.90	0.70	9.30	7.90	52.70	1.80	2.00	0.09102	117	68	BCT4400.16E8**.11
5.50	BCT 160M2-8	730	88.30	88.50	88.20	0.70	12.50	8.10	72.00	1.80	2.00	0.11773	138	68	BCT4550.16F8**.11
7.50	BCT 160L-8	730	89.30	89.50	89.00	0.70	16.40	7.80	98.20	1.80	2.00	0.17143	161	68	BCT4750.16H8**.11
11.00	BCT 180L-8	735	90.40	90.60	90.00	0.70	23.70	7.90	143.00	1.80	2.00	0.28947	188	70	BCT4110.18H8**.11
15.00	BCT 200L-8	735	91.20	91.40	91.00	0.80	31.70	8.00	195.00	1.80	2.00	0.41699	220	73	BCT4150.20H8**.11
18.50	BCT 225S-8	735	91.70	91.90	91.40	0.80	38.80	8.10	240.50	1.80	2.00	0.69823	294	73	BCT4185.22A8**.11
22.00	BCT 225M-8	740	92.10	92.30	92.00	0.80	45.40	8.30	284.00	1.80	2.00	0.82939	319	73	BCT4220.22D8**.11
30.00	BCT 250M-8	740	92.70	92.90	92.60	0.80	60.70	7.90	387.30	1.80	2.00	1.39327	383	75	BCT4300.25D8**.11
37.00	BCT 280S-8	740	93.10	93.30	93.00	0.80	73.50	7.90	477.70	1.80	2.00	2.15503	516	76	BCT4370.28A8**.11
45.00	BCT 280M1-8	740	93.40	93.60	93.30	0.80	89.20	7.90	581.00	1.80	2.00	2.64250	575	76	BCT4450.28E8**.11
55.00	BCT 315S-8	740	93.70	93.90	93.40	0.80	105.90	8.20	710.00	1.60	2.00	4.17929	900	82	BCT4550.31A8**.11
75.00	BCT 315M-8	740	94.20	94.50	94.00	0.80	143.70	7.60	968.30	1.60	2.00	5.60325	1068	82	BCT4750.31D8**.11
90.00	BCT 315L1-8	740	94.40	94.60	94.20	0.80	169.90	7.70	1162.00	1.60	2.00	6.65932	1158	82	BCT4900.31I8**.11
110.00	BCT 315L2-8	740	94.70	94.90	94.50	0.80	207.00	7.70	1410.70	1.60	2.00	8.33079	1316	82	BCT4110.31J8**.11

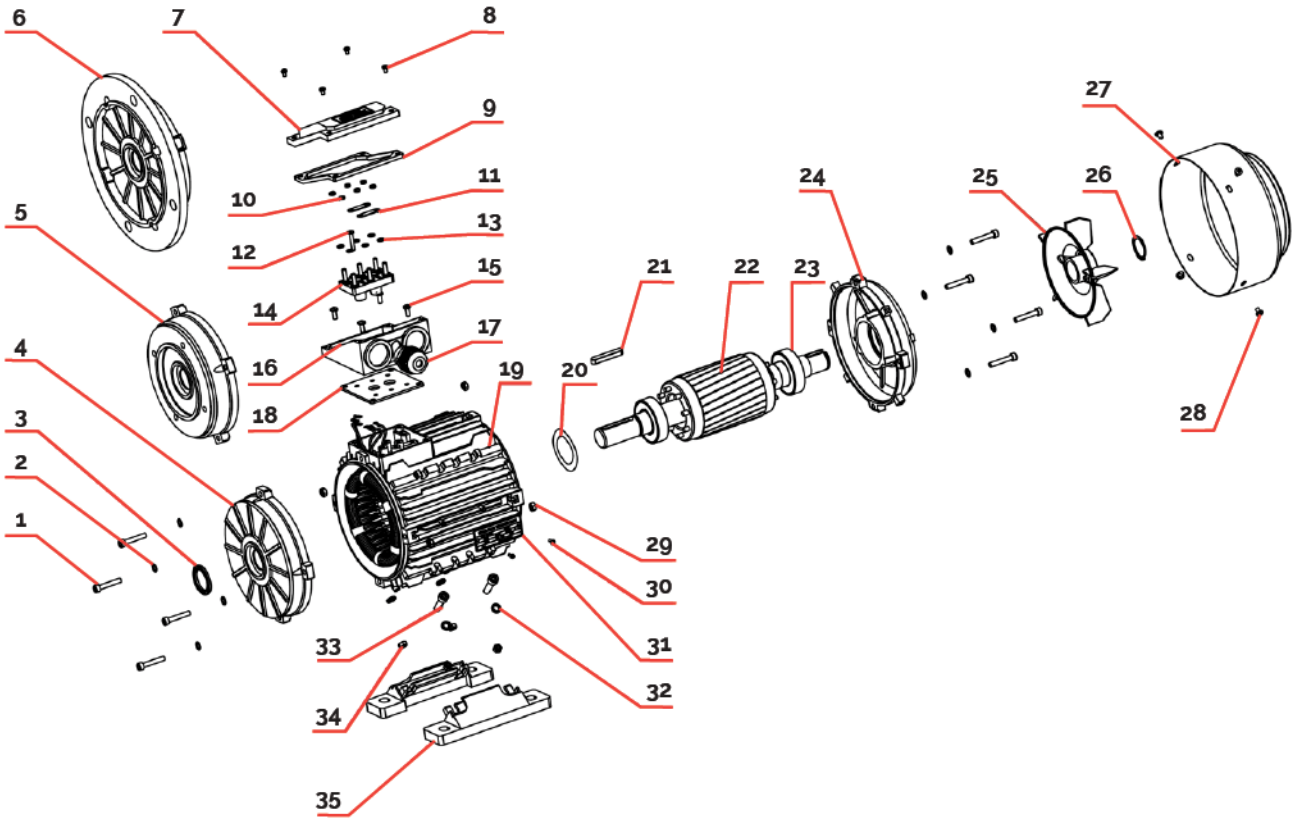
Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

Esploso

EN

Exploded view



IT

Esploso

1. Viti
2. Rondella
3. Paraolio
4. Scudo lato frontale
5. Flangia B14
6. Flangia B5
7. Copertura scatola morsetti
8. Viti di fissaggio scatola morsetti
9. Guarnizione superiore della scatola morsetti
10. Dado di fissaggio della morsettiera
11. Deviatore
12. Perno morsettiera
13. Rondella morsettiera
14. Morsettiera
15. Viti di fissaggio scatola morsetti
16. Scatola morsetti
17. Bocchettone pressacavo
18. Guarnizione inferiore della scatola morsetti
19. Carcassa
20. Molla di precarico
21. Linguetta
22. Rotore
23. Cuscinetti
24. Scudo lato posteriore
25. Ventola di raffreddamento
26. Anello di sicurezza della ventola
27. Copertura della ventola
28. Rondella di fissaggio della copertura della ventola
29. Viti di fissaggio della copertura della ventola
30. Dado di fissaggio della copertura della ventola
31. Rivetto
32. Targhetta
33. Dado di fissaggio piede
34. Viti di fissaggio piede
35. Piedi

EN

Exploded view

1. Screws
2. Washer
3. Oil seal
4. Front end shield
5. B14 Flange
6. B5 Flange
7. Terminal box cover
8. Terminal box fixing screws
9. Terminal box upper gasket
10. Terminal board fixing nut
11. Shunt
12. Terminal pin
13. Terminal washer
14. Terminal board
15. Terminal box fixing screws
16. Terminal box
17. Cable gland
18. Terminal box bottom gasket
19. Frame
20. Preload washer
21. Key
22. Rotor
23. Bearing
24. Backend shield
25. Cooling fan
26. Fan circlip
27. Fan cover
28. Fan cover fixing washer
29. Fan cover fixing screws
30. Fan cover fixing nut
31. Rivet
32. Nameplate
33. Foot fixing nut
34. Foot fixing screws
35. Feet

IT Serie BCL - Gabbia autofrenanti

EN BCL Series - Brake motors

IT

Serie BCL – Motori con freno CC, carcassa in alluminio
2, 4 & 6 poli

La gamma BCL è il risultato dell'accoppiamento di un motore asincrono trifase e un'unità di frenaggio CC elettromagnetica. Grazie alla loro affidabilità e sicurezza, così come il loro breve tempo di frenaggio (tempo di partenza e arresto= 5~80 millisecondi) sono adatti per una grande varietà di applicazioni, come:

- Frenaggio di carichi o coppie sull'albero motore
- Frenaggio di masse rotanti per ridurre i tempi persie
- Operazioni di frenaggio per aumentare la precisione di arresto
- Frenaggio di parti di macchine, secondo le regole sulla sicurezza

Principio di funzionamento

Il freno CC è alimentato tramite un circuito elettrico con ponte di diodi (raddrizzatore) posizionato all'interno della scatola morsetti. Quando si alimenta l'elettromagnete (5), l'elemento mobile (4) viene attratto ad esso, caricando così le molle di frenatura della coppia (9) e permettendo al disco (2), dotato di guarnizione di frizione e montato sul mozzo scanalato (6) per girare solidalmente l'albero motore (1) per mezzo di una linguetta (7). Interrompendo l'alimentazione, l'ancora mobile (4), spinto dalle molle di frenatura della coppia (9), esercita pressione sulla superficie di frizione del disco (2), facendolo così fermare.

Regolazione del traferro

Il traferro (11) è la distanza tra l'elettromagnete (5) e l'ancora mobile (9). Il traferro deve essere controllato regolarmente, poiché tende ad aumentare per via dell'attrito della guarnizione (2). Non agire sul regolatore del freno (3) dopo aver allentato le viti (8) per portare il traferro al valore richiesto. Agire sulla ghiera (10) che agisce sulle molle di frenatura della coppia (9) per regolare la coppia di frenata.
Si prega di contattare il nostro reparto tecnico per informazioni sulla regolazione del traferro.

EN

BCL Series – DC brake motors, aluminum frame
2, 4 & 6 poles

The BCL range results from coupling an asynchronous three-phase motor and an electromagnetic DC brake unit. Due to their reliability and operating safety, as well as their quick braking time (connection & disconnection time = 5~80 milliseconds) they are suitable for a great variety of applications, such as:

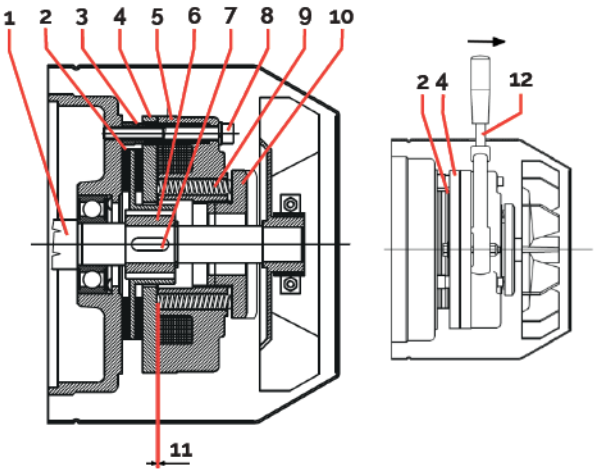
- Braking of loads or torques on the driving shaft
- Braking of rotating masses to reduce any lost-time
- Braking operations to increase the set-up precision
- Braking of machine parts, according to safely rules

Operating principle

The DC brake is fed by means of an electronic circuit with diode bridge (rectifier) located inside the terminal box. When feeding the electromagnet (5), the movable element (4) is attracted towards it, thus loading the braking torque springs (9) and allowing the disc (2), equipped with friction packing and fitted ont he groove hub (6) to turn solitary the motor shaft (1) by means of a key (7). By interrupting the feeding, the movable anchor (4), pushed by the braking torque springs (9), exerts a pressure upon the friction surface of the disc (2), thus causing its stopping.

Adjustment of the air gap

The air gap (11) is the distance between the electromagnet (5) and the movable anchor (9). The air gap has to be regularly checked, since due to the wear of the packing (2) it tends to increase. Act no the brake adjuster (3) after having unloosen the screws (8) to bring the air gap to the required value. Act on the ring nut (10) which acts on the braking torque springs (9) to adjust the braking torque.
Please contact our technical department for information on the air gap adjustment values.



Rilascio manuale con leva

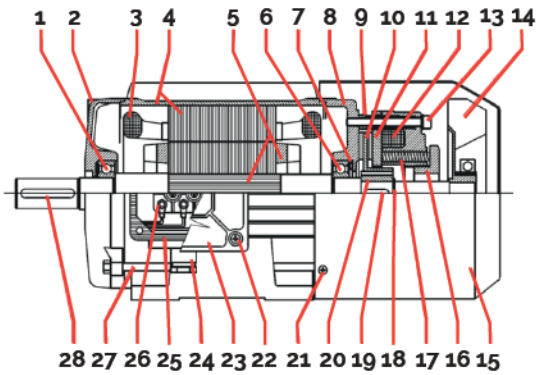
Su richiesta, è possibile fornire un rilascio manuale con leva.
In caso di blackout, agire sulla leva (12) connessa con l'ancora mobile (4) esclude la pressione della molla e separa l'ancora mobile dalla guarnizione del disco di frizione (2), permettendo all'albero di girare.

Hand release with lever

Upon request, a hand release with lever can be supplied.
In case of a current cut-off, acting on the lever (12) which is connected to the movable anchor (4) overrides the spring pressure and detaches the movable anchor from the disc friction packing (2), allowing the shaft to turn.

IT

Serie BCL – Motori con freno CC, carcassa in alluminio
2, 4 & 6 poli



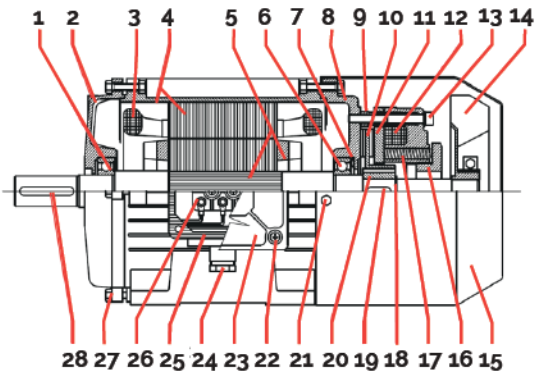
Grandezza BCL 63~160, montaggio B3

Parti di ricambio

1. Cuscinetto frontale
2. Copertura frontale
3. Avvolgimento
4. Carcassa con gabbia dello statore
5. Albero con rotore
6. Cuscinetto posteriore
7. Molla
8. Copertura posteriore
9. Boccola di regolazione
10. Disco freno
11. Ancora mobile
12. Bobina elettromagnete con diodo
13. Viti di fissaggio del freno
14. Ventola di raffreddamento
15. Copriventola
16. Ghiera
17. Molla
18. Anello Seeger
19. Linguetta lato freno
20. Pignone dentato
21. Vite di fissaggio del copriventola
22. Vite di fissaggio scatola morsetti
23. Scatola morsetti
24. Passacavo
25. Guarnizione
26. Morsettiera
27. Tirante
28. Linguetta lato accoppiamento

EN

BCL Series – DC brake motors, aluminum frame
2, 4 & 6 poles



BCL frame size 63~160, B3 mounting

Spare parts

1. Front bearing
2. Front cover
3. Winding
4. Frame with stator cage
5. Shaft with rotor
6. Rear bearing
7. Spring
8. Rear cover
9. Adjusting bush
10. Brake disk
11. Moving anchor
12. Electromagnet coil with diode
13. Fixing screws for brake
14. Cooling fan
15. Fan hood
16. Ring nut
17. Spring
18. Seeger ring
19. Key brake side
20. Toothed pinion
21. Fixing screw for fan hood
22. Fixing screw for terminal box
23. Terminal box
24. Cable-holder
25. Packing
26. Terminal block
27. Tie bolt
28. Coupling side key

	Frame size	Brake type	Brake torque (speed 100r/min) (Nm)	Brake rated power (20°C) (W)	Delay time when power on (ms)	Brake time (ms)	Pick in time when power off (ms)
Brake data	56~71	06	4	20	15	30	40
	80	08	8	25	15	32	50
	90	10	16	30	25	45	69
	100	12	32	40	26	56	108
	112	14	60	50	27	57	190
	132	16	80	55	30	60	200
	160	18	150	85	35	78	260

IT

Dimensioni di ingombro

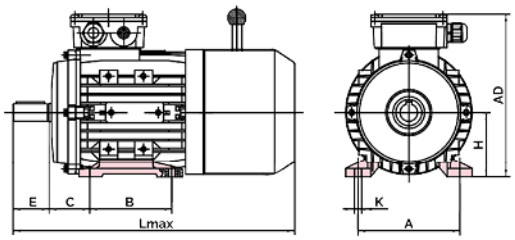
Serie BCL – Motori con freno CC, carcassa in alluminio
2, 4 & 6 poli

EN

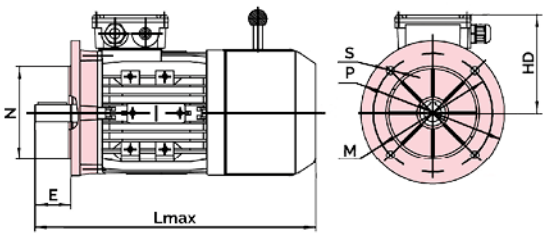
Mounting dimensions

BCL Series – DC brake motors, aluminum frame
2, 4 & 6 poles

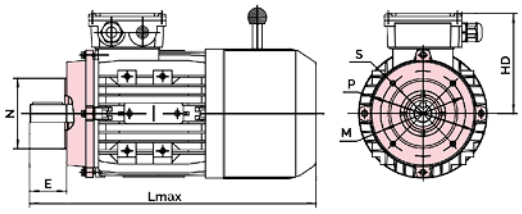
B3



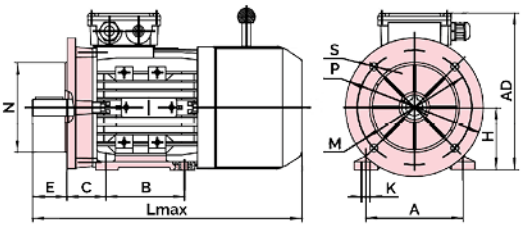
B5



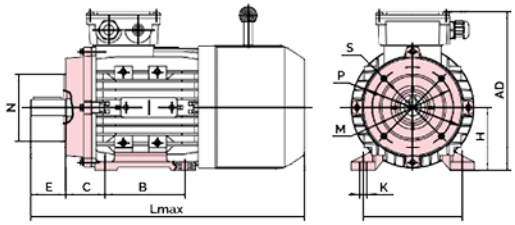
B14



B3/B5



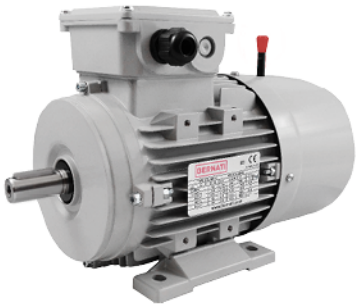
B3/B14



SHAFT

IT

EN



Three phase, DC brake motors

Frame size								B3						B5				B14			
	Poles	D	G	F	E	Lmax	HD	H	A	B	C	AD	K	M	N	P	S	M	N	P	S
63	2-6	11	8.50	4	23	265	106	63	100	80	40	169	7*10	115	95	140	10	75	60	90	M5
71**	2-6	14	11	5	30	287	113	71	112	90	45	184	7*10	130	110	160	10	85	70	105	M6
71**	2-6	14	11	5	30	301	113	71	112	90	45	184	7*10	130	110	160	10	85	70	105	M6
80	2-6	19	15.50	6	40	340	131	80	125	100	50	211	10*13	165	130	200	12	100	80	120	M6
90 S	2-6	24	20	8	50	356	138	90	140	100	56	228	10*13	165	130	200	12	115	95	140	M8
90 L1	2-6	24	20	8	50	381	381	90	140	125	56	228	10*13	165	130	200	12	115	95	140	M8
90 L2	2-6	24	20	8	50	411	381	90	140	125	56	228	10*13	165	130	200	12	115	95	140	M8
100**	2-6	28	24	8	60	434	148	100	160	140	63	248	12*15	215	180	250	15	130	110	160	M8
100**	2-6	28	24	8	60	452	148	100	160	140	63	248	12*15	215	180	250	15	130	110	160	M8
112	2-6	28	24	8	60	465	166	112	190	140	70	278	12*15	215	180	250	15	130	110	160	M8
132 S	2-6	38	33	10	80	518	184	132	216	140	89	316	12*15	265	230	300	15	165	130	200	M10
132 M	2-6	38	33	10	80	556	184	132	216	178	89	316	12*15	265	230	300	15	165	130	200	M10
132 L	2-6	38	33	10	80	582	184	132	216	178	89	316	12*15	265	230	300	15	165	130	200	M10
160 M	2-6	42	37	12	110	701	222	160	254	210	108	282	15*19	300	250	350	19	215	180	250	M12
160 L	2-6	42	37	12	110	701	222	160	254	254	108	282	15*19	300	250	350	19	215	180	250	M12

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque		Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST} / I_N	T_{ST} / T_N	T_{max} / T_N	kg	dBA	
3000 r/min = 2 poles			400 V 50 Hz										
0.18	BCL 631-2	2780	66.50	64.20	56.80	0.80	0.50	4.10	2.30	2.50	5	61	BCL0018.06B2**.11
0.25	BCL 632-2	2780	69.80	68.80	62.80	0.80	0.70	4.30	2.60	2.50	5	61	BCL0018.06C2**.11
0.37	BCL 633-2	2750	71.40	71.20	65.90	0.80	1.10	4.70	2.80	2.60	6	62	BCL0037.06D2**.11
0.37	BCL 711-2	2830	71.30	70.40	65.20	0.80	0.90	5.90	2.80	2.90	7	64	BCL0037.07B2**.11
0.55	BCL 712-2	2815	71.60	71.00	66.10	0.80	1.40	6.00	2.70	2.70	7	64	BCL0055.07C2**.11
0.75	BCL 713-2	2820	73.80	73.90	70.30	0.80	1.80	6.60	3.00	3.00	8	65	BCL0075.07D2**.11
0.75	BCL 801-2	2830	75.20	75.60	72.20	0.80	1.70	6.20	3.00	2.80	11	67	BCL0075.08B2**.11
1.10	BCL 802-2	2840	79.00	79.80	77.70	0.80	2.40	6.10	2.60	3.10	12	67	BCL0110.08C2**.11
1.50	BCL 803-2	2820	81.20	82.50	81.30	0.90	3.10	7.20	3.20	3.00	13	70	BCL0150.08D2**.11
1.50	BCL 90S-2	2850	80.80	81.20	78.90	0.90	3.20	7.70	2.80	3.30	15	72	BCL0150.09A2**.11
2.20	BCL 90L1-2	2860	82.90	83.40	81.40	0.90	4.50	8.80	3.70	3.90	18	72	BCL0220.09I2**.11
3.00	BCL 90L2-2	2830	82.40	83.50	82.30	0.90	6.10	8.00	4.40	4.20	21	74	BCL0300.09J2**.11
3.00	BCL 100L1-2	2875	83.90	84.50	83.00	0.90	6.00	8.10	2.80	3.20	27	76	BCL0300.10I2**.11
4.00	BCL 100L2-2	2870	85.50	86.50	85.80	0.90	7.60	8.80	3.20	3.40	29	77	BCL0400.10J2**.11
4.00	BCL 112M-2	2870	85.60	87.00	86.80	0.90	7.30	8.10	2.60	2.90	33	77	BCL0400.11D2**.11
5.50	BCL 112L-2	2890	87.10	88.00	87.60	0.90	9.90	9.40	3.10	3.30	36	78	BCL0550.11H2**.11
5.50	BCL 132S1-2	2900	86.60	87.40	86.50	0.90	10.20	7.90	2.30	3.10	47	80	BCL0550.13B2**.11
7.50	BCL 132S2-2	2900	88.00	88.80	88.30	0.90	13.50	8.50	2.40	3.30	51	80	BCL0750.13C2**.11
9.20	BCL 132M1-2	2930	88.00	88.00	86.40	0.90	17.00	7.50	2.00	2.20	60	81	BCL0920.13E2**.11
11.00	BCL 132M2-2	2930	88.40	88.60	87.50	0.90	20.00	7.50	2.00	2.20	69	83	BCL0110.13F2**.11
11.00	BCL 160M1-2	2920	88.80	89.40	88.60	0.90	20.00	7.10	2.60	3.00	92	86	BCL0110.16E2**.11
15.00	BCL 160M2-2	2910	89.10	90.00	89.90	0.90	27.10	6.40	2.20	2.80	105	86	BCL0150.16F2**.11
18.50	BCL 160L-2	2930	90.30	90.90	90.30	0.90	32.60	8.40	2.90	3.10	116	86	BCL0185.16H2**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

Output kW	Motor type	Speed r/min	Efficiency			Power factor Cos φ	Current		Torque		Weight	Noise	Product code
			100% load	75% load	50% load		I_N (A)	I_{ST} / I_N	T_{ST} / T_N	T_{max} / T_N	kg	dBA	
1500 r/min = 4 poles			**400 V 50 Hz**										
0.12	BCL 631-4	1390	58.50	54.30	45.60	0.60	0.50	3.20	2.70	2.80	5	52	BCL0012.06B4**.11
0.18	BCL 632-4	1365	64.20	62.50	55.90	0.60	0.60	3.60	2.80	2.60	5	52	BCL0018.06C4**.11
0.25	BCL 633-4	1370	68.30	67.50	62.10	0.70	0.80	3.90	2.70	2.70	6	54	BCL0025.06D4**.11
0.25	BCL 711-4	1395	65.10	63.10	55.80	0.70	0.80	4.20	2.00	2.20	6	55	BCL0025.07B4**.11
0.37	BCL 712-4	1390	68.60	68.20	62.90	0.70	1.10	4.60	2.30	2.40	7	55	BCL0037.07C4**.11
0.55	BCL 713-4	1390	71.90	71.60	66.80	0.70	1.50	4.80	2.80	2.80	9	57	BCL0055.07D4**.11
0.55	BCL 801-4	1400	70.90	70.50	65.50	0.70	1.50	4.90	2.30	2.60	11	58	BCL0055.08B4**.11
0.75	BCL 802-4	1390	74.40	76.00	73.90	0.80	1.90	5.40	2.50	2.60	12	58	BCL0075.08C4**.11
1.10	BCL 803-4	1390	74.60	75.70	73.30	0.80	2.70	5.90	2.90	2.90	15	60	BCL0110.08D4**.11
1.10	BCL 90S-4	1400	75.50	76.70	74.40	0.80	2.70	6.00	2.90	2.70	15	61	BCL0110.09A4**.11
1.50	BCL 90L1-4	1410	79.60	80.20	78.00	0.80	3.60	6.90	3.40	3.30	17	61	BCL0150.09I4**.11
2.20	BCL 90L2-4	1410	78.90	79.40	77.00	0.80	5.40	7.20	3.80	2.60	23	63	BCL0220.09J4**.11
2.20	BCL 100L1-4	1420	82.00	83.30	82.30	0.80	4.80	6.30	2.40	2.70	25	64	BCL0220.10I4**.11
3.00	BCL 100L2-4	1430	83.70	84.80	83.80	0.80	6.30	6.80	2.60	3.00	29	64	BCL0300.10J4**.11
4.00	BCL 100L3-4	1430	84.20	85.50	85.30	0.80	8.40	7.00	2.20	2.30	33	65	BCL0400.10K4**.11
4.00	BCL 112M-4	1440	84.70	86.00	85.40	0.80	8.20	7.10	2.50	2.90	37	65	BCL0400.11D4**.11
5.50	BCL 112L-4	1435	85.90	87.10	86.60	0.80	11.20	7.20	2.50	3.00	41	68	BCL0550.11H4**.11
5.50	BCL 132S-4	1445	86.40	87.80	87.70	0.90	10.80	7.50	2.20	2.90	49	71	BCL0550.13A4**.11
7.50	BCL 132M-4	1450	87.60	88.80	88.50	0.90	14.20	8.60	2.10	2.90	58	71	BCL0750.13D4**.11
9.20	BCL 132L1-4	1450	88.60	89.50	89.10	0.90	17.20	8.40	2.80	2.40	65	74	BCL0920.13I4**.11
11.00	BCL 132L2-4	1450	90.10	91.10	91.00	0.90	20.50	8.90	3.00	2.50	67	74	BCL0110.13J4**.11
11.00	BCL 160M-4	1450	87.70	89.60	90.30	0.80	21.80	6.10	2.10	2.30	73	75	BCL0110.16D4**.11
15.00	BCL 160L1-4	1455	88.70	90.00	90.20	0.90	28.50	7.30	2.20	2.50	95	75	BCL0150.16I4**.11
18.50	BCL 160L2-4	1460	90.50	91.00	90.60	0.90	34.70	7.50	2.20	2.20	115	78	BCL0185.16J4**.11
1000 r/min = 6 poles			**400 V 50 Hz**										
0.09	BCL 631-6	890	50.70	47.60	39.80	0.60	0.40	2.90	2.00	2.20	5	50	BCL0009.06B6**.11
0.12	BCL 632-6	895	53.70	50.90	43.20	0.60	0.50	2.80	2.30	2.20	6	50	BCL0012.06C6**.11
0.18	BCL 711-6	905	63.00	61.60	55.40	0.70	0.60	3.50	2.20	2.40	7	52	BCL0018.07B6**.11
0.25	BCL 712-6	885	62.60	62.00	55.80	0.70	0.90	3.20	2.10	2.30	8	52	BCL0025.07C6**.11
0.37	BCL 713-6	890	65.40	64.40	58.20	0.60	1.30	3.40	2.30	2.50	8	54	BCL0037.07D6**.11
0.37	BCL 801-6	920	68.10	67.70	62.20	0.70	1.10	3.70	2.00	2.30	10	56	BCL0037.08B6**.11
0.55	BCL 802-6	920	72.50	73.00	69.30	0.70	1.50	4.30	2.30	2.50	11	56	BCL0055.08C6**.11
0.75	BCL 803-6	910	72.90	74.20	71.30	0.70	2.00	4.10	2.20	2.40	14	58	BCL0075.08D6**.11
0.75	BCL 90S-6	920	72.50	73.30	70.00	0.70	2.10	4.10	1.80	2.20	14	59	BCL0075.09A6**.11
1.10	BCL 90L1-6	910	73.50	75.20	72.90	0.70	3.00	4.20	2.00	2.30	18	59	BCL0110.09I6**.11
1.50	BCL 90L2-6	900	74.70	77.00	75.50	0.70	3.90	4.20	2.10	2.30	18	60	BCL0150.09J6**.11
1.50	BCL 100L1-6	935	78.50	79.90	78.20	0.70	3.70	5.00	2.10	2.40	23	61	BCL0150.10I6**.11
2.20	BCL 100L2-6	950	77.00	78.40	77.80	0.80	5.40	6.00	2.20	2.20	23	63	BCL0220.10J6**.11
2.20	BCL 112M-6	925	79.20	81.80	81.70	0.80	5.10	4.70	1.90	2.30	31	64	BCL0220.11D6**.11
3.00	BCL 112L-6	950	79.00	80.90	80.90	0.80	7.10	6.00	2.20	2.20	31	64	BCL0300.11H6**.11
3.00	BCL 132S-6	955	82.50	84.50	84.30	0.80	6.90	5.30	1.70	2.20	45	64	BCL0300.13A6**.11
4.00	BCL 132M1-6	965	85.20	85.80	84.40	0.80	8.90	6.60	2.30	2.90	54	68	BCL0400.13E6**.11
5.50	BCL 132M2-6	960	85.90	87.20	86.80	0.80	11.80	6.70	2.50	2.70	64	68	BCL0550.13F6**.11
7.50	BCL 132L-6	960	85.00	86.40	86.40	0.80	16.50	6.50	2.00	2.00	69	68	BCL0750.13H6**.11
7.50	BCL 160M-6	970	86.80	87.60	86.70	0.80	16.70	6.10	2.10	2.70	89	68	BCL0750.16D6**.11
11.00	BCL 160L-6	965	87.20	88.60	88.60	0.80	23.40	6.90	2.30	2.40	109	73	BCL0110.16H6**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT Serie BMM/BDM - Monofase

EN BMM/BDM Series - Single phase

IT

Motori monofase

I motori asincroni monofase con condensatore permanente con carcassa in allumino **serie BMM**, con il design più innovativo in assoluto, sono realizzati con materiali di qualità selezionati e in conformità con la norma IEC.

I motori **BMM** hanno una buona performance, un funzionamento sicuro e affidabile, un bell'aspetto e la cui manutenzione è molto economica, essendo a basso rumore, con poche vibrazioni e allo stesso tempo di peso leggero e di semplice costruzione. Il moltiplicatore della coppia di avviamento è 0.3~0.7.
Queste serie di motori sono adatte per le occasioni in cui il requisito di coppia iniziale è basso e a lungo termine (servizio continuo), come le applicazioni elettriche domestiche, pompe, ventilatori e metri di registrazione, ecc.

Dimensioni di ingombro

Serie BMM – Carcassa in alluminio
2, 4 & 6 poli

EN

Single phase motors

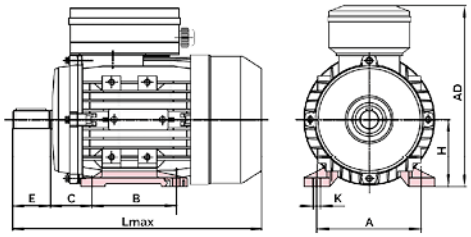
BMM series aluminum housing single-phase capacitor-run asynchronous motors, with latest design in entirety, are made of selected quality materials and conform to the IEC standard.

BMM motors have good performance, safety and reliable operation, nice appearance, and can be maintained very conveniently, while with low noises, little vibration and at the same time of light weight and simple construction. The multiple of starting torque is 0.3~0.7.
These series motors are suitable for the occasion where there requirements of starting torque is low and long –term continuous woking, such as home electric appliances, pumps, fans and recording meters, ect.

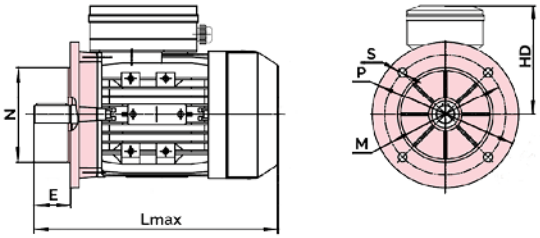
Mounting dimensions

BMM Series – Aluminum frame
2, 4 & 6 poles

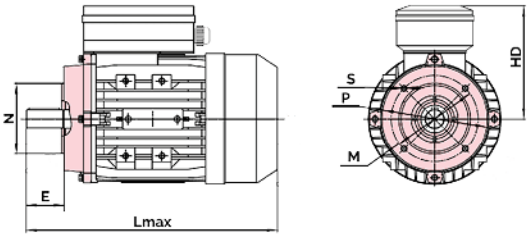
B3



B5



B14



SHAFT

Single phase, aluminum frame motors

Frame size								B3						B5				B14			
	Poles	D	G	F	E	Lmax	HD	H	A	B	C	AD	K	M	N	P	S	M	N	P	S
56	2-6	9	7.20	3	20	193	88	56	90	71	36	144	5.8*8.8	100	80	120	7	65	50	80	M5
63	2-6	11	8.50	4	23	217	118	63	100	80	40	181	7*10	115	95	140	10	75	60	90	M5
71	2-6	14	11	5	30	241	125	71	112	90	45	196	7*10	130	110	160	10	85	70	105	M6
71	2-6	14	11	5	30	255	125	71	112	90	45	196	7*10	130	110	160	10	85	70	105	M6
80	2-6	19	15.50	6	40	290	146	80	125	100	50	226	10*13	165	130	200	12	100	80	120	M6
90 S	2-6	24	20	8	50	310	153	90	140	100	56	243	10*13	165	130	200	12	115	95	140	M8
90 L	2-6	24	20	8	50	335	153	90	140	125	56	243	10*13	165	130	200	12	115	95	140	M8
90 L	2-6	24	20	8	50	365	153	90	140	125	56	243	10*13	165	130	200	12	115	95	140	M8
100 L	2-6	28	24	8	60	369	165	100	160	140	63	265	12*15	215	180	250	15	130	110	160	M8
100 L	2-6	38	24	8	60	387	165	100	160	140	63	265	12*15	215	180	250	15	130	110	160	M8

BERNATI

IT

EN

IP55 - IC 411 - Insulation class F, temperature rise class B

Output kW	Motor type	Speed r/min	Efficiency 100% load	Power factor Cos φ	Current I_N (A)	Current I_{ST}/I_N	Torque T_N Nm	Torque T_{ST}/T_N	Torque T_{max}/T_N	Moment of inertia kg*m²	Weight kg	Noise dBA	Product code
3000 r/min = 2 poles			**230 V 50 Hz**										
0.09	BMM 561-2	2750	51.00	1.00	0.80	2.40	0.30	0.70	1.70	0.00009	3	67	BMM0009.05B2**.11
0.12	BMM 562-2	2800	61.00	1.00	0.90	3.40	0.40	0.70	1.80	0.00012	3	67	BMM0012.05C2**.11
0.18	BMM 631-2	2770	62.00	1.00	1.30	3.20	0.60	0.60	1.80	0.00014	4	70	BMM0018.06B2**.11
0.25	BMM 632-2	2780	68.00	1.00	1.70	3.50	0.90	0.60	1.80	0.00017	5	70	BMM0025.06C2**.11
0.37	BMM 633-2	2780	67.50	1.00	2.50	3.20	1.30	0.50	1.70	0.00022	5	75	BMM0037.06D2**.11
0.55	BMM 634-2	2740	70.00	1.00	3.50	3.20	1.90	0.50	1.60	0.00025	6	75	BMM0055.06E2**.11
0.37	BMM 711-2	2780	68.00	1.00	2.50	3.60	1.30	0.50	1.60	0.00033	6	75	BMM0037.07B2**.11
0.55	BMM 712-2	2800	73.00	1.00	3.50	4.20	1.90	0.50	1.80	0.00036	7	75	BMM0055.07C2**.11
0.75	BMM 713-2	2840	75.50	1.00	4.50	4.50	2.50	0.50	1.80	0.00044	8	75	BMM0075.07D2**.11
0.75	BMM 801-2	2810	73.00	1.00	4.50	4.20	2.60	0.50	1.80	0.00079	9	75	BMM0075.08B2**.11
1.10	BMM 802-2	2810	77.50	1.00	6.30	5.00	3.70	0.50	1.80	0.00117	11	78	BMM0110.08C2**.11
1.50	BMM 803-2	2820	78.50	1.00	8.50	4.50	5.10	0.30	1.70	0.00143	13	80	BMM0150.08D2**.11
1.50	BMM 90S-2	2820	78.00	1.00	8.50	4.50	5.10	0.30	1.70	0.00151	14	80	BMM0150.09A2**.11
2.20	BMM 90L-2	2850	80.00	1.00	12.10	5.10	7.40	0.30	1.80	0.00198	17	80	BMM0220.09H2**.11
3.00	BMM 100L-2	2860	79.00	1.00	16.70	4.50	10.00	0.40	1.80	0.00480	23	83	BMM0300.10H2**.11
1500 r/min = 4 poles			**230 V 50 Hz**										
0.09	BMM 562-4	1390	51.00	1.00	0.80	2.30	0.60	0.70	1.70	0.00024	4	63	BMM0009.05C4**.11
0.12	BMM 631-4	1400	55.00	1.00	1.00	2.50	0.80	0.70	1.80	0.00030	4	65	BMM0012.06B4**.11
0.18	BMM 632-4	1380	59.00	1.00	1.40	2.50	1.30	0.60	1.70	0.00037	5	65	BMM0018.06C4**.11
0.25	BMM 633-4	1380	62.50	1.00	1.80	2.80	1.70	0.60	1.60	0.00045	5	65	BMM0025.06D4**.11
0.25	BMM 711-4	1410	64.50	1.00	1.70	2.90	1.70	0.50	1.60	0.00064	6	65	BMM0025.07B4**.11
0.37	BMM 712-4	1410	67.50	1.00	2.40	3.10	2.50	0.40	1.70	0.00085	7	68	BMM0037.07C4**.11
0.55	BMM 713-4	1385	70.00	1.00	3.50	3.10	3.80	0.50	1.50	0.00105	8	70	BMM0055.07D4**.11
0.55	BMM 801-4	1420	73.00	1.00	3.30	3.80	3.70	0.50	1.80	0.00162	10	70	BMM0055.08B4**.11
0.75	BMM 802-4	1420	74.50	1.00	4.40	3.80	5.00	0.40	1.70	0.00206	10	70	BMM0075.08C4**.11
1.10	BMM 90S-4	1420	77.50	1.00	6.30	3.80	7.40	0.40	1.80	0.00250	13	73	BMM0110.09A4**.11
1.50	BMM 90L-4	1420	79.50	1.00	8.60	4.30	10.10	0.30	1.80	0.00324	16	75	BMM0150.09H4**.11
2.20	BMM 100L1-4	1450	79.00	0.90	13.00	5.00	14.50	0.30	1.80	0.00805	23	78	BMM0220.10I4**.11
3.00	BMM 100L2-4	1450	81.00	1.00	16.80	5.50	19.80	0.30	1.80	0.01085	29	78	BMM0300.10J4**.11
1000 r/min = 6 poles			**230 V 50 Hz**										
0.09	BMM 631-6	900	44.50	1.00	0.90	2.00	1.00	0.40	1.50	0.00055	5	63	BMM0009.06B6**.11
0.12	BMM 632-6	875	47.50	1.00	1.10	2.00	1.30	0.30	1.20	0.00065	6	63	BMM0012.06C6**.11
0.18	BMM 711-6	920	55.50	1.00	1.50	2.20	1.90	0.50	1.50	0.00059	6	68	BMM0018.07B6**.11
0.25	BMM 712-6	930	56.00	1.00	2.00	2.50	2.60	0.50	1.50	0.00115	8	68	BMM0025.07C6**.11
0.37	BMM 801-6	960	66.00	1.00	2.50	3.50	3.70	0.40	1.60	0.00223	9	68	BMM0037.08B6**.11
0.55	BMM 802-6	955	70.50	1.00	3.50	3.50	5.50	0.40	1.60	0.00290	12	70	BMM0055.08C6**.11
0.75	BMM 90S-6	905	67.00	1.00	5.00	2.60	7.90	0.40	1.60	0.00352	14	70	BMM0075.09A6**.11
1.10	BMM 90L-6	940	74.00	1.00	6.60	3.00	11.20	0.40	1.50	0.00496	16	70	BMM0110.09H6**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT

Doppio condensatore, motori monofase

La serie di motori **BDM** di Bernati monta le tecnologie più recenti per i motori asincroni monofase con doppio condensatore, con un design esclusivo e in conformità con le norme IEC.
Questi motori vengono costruiti impiegando materiali scelti, che contribuiscono alla performance, sicurezza e affidabilità riconosciuta alla serie **BDM**. La coppia di avviamento BDM può essere fino a 2,5 volte più alta della coppia corrispondente di un monofase standard.

Questa gamma di motori monofase è idonea per scenari che richiedono coppie d'avviamento più alte. Queste serie di motori sono idonee nel caso in cui il requisito di una coppia d'avviamento sia alto e in sovraccarico, come compressori d'aria, pompe e molte altre piccole macchine.

Dimensioni di ingombro

Serie BDM – Carcassa in alluminio
2, 4 & 6 poli

EN

Dual capacitor, single phase motors

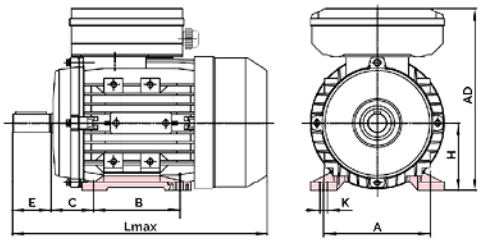
Bernati's **BDM** motor series embody the latest technology for dual capacitor single phase asynchronous motors, with premium design and in compliance with IEC standards.
These motors are built from selected materials, which contribute to the performance, safety and reliability acknowledged to the BDM series. The **BDM**'s starting torque can be up to 2.5 times higher than the corresponding torque of a standard single phase motor.
meters, ect.

This range of single phase motors is suitable for scenarios demanding higher starting torques These series motors are suitable for the occasion where the requirements of big starting torque and high over load, such as air compressors, pumps, and many other small machines.

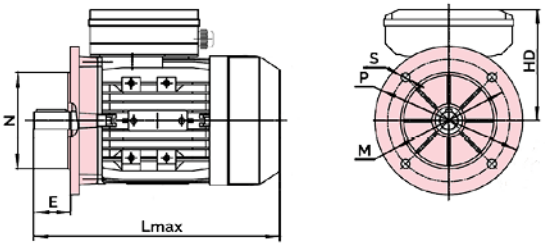
Mounting Dimensions

BDM Series – Aluminum frame
2, 4 & 6 poles

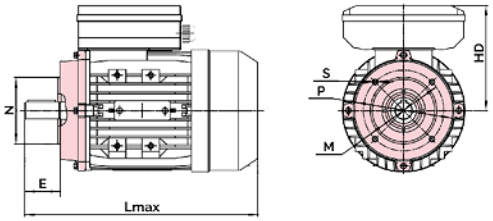
B3



B5



B14



SHAFT

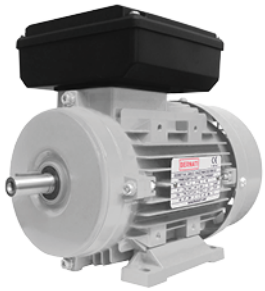
Single phase, dual capacitor, aluminum frame motors

Frame size								B3						B5				B14			
	Poles	D	G	F	E	Lmax	HD	H	A	B	C	AD	K	M	N	P	S	M	N	P	S
63	2-6	11	8.50	4	23	217	116	63	100	80	40	179	7*10	115	95	140	10	75	60	90	M5
71	2-6	14	11	6	30	255	123	71	112	90	45	194	7*10	130	110	160	10	85	70	105	M6
80	2-6	19	15.50	8	40	290	143	80	125	100	50	223	10*13	165	130	200	12	100	80	120	M6
90 S	2-6	24	20	8	50	335	150	90	140	100	56	240	10*13	165	130	200	12	115	95	140	M8
90 L	2-6	24	20	8	50	335	150	90	140	125	56	240	10*13	165	130	200	12	115	95	140	M8
100**	2-6	28	24	8	60	403	171	100	160	140	63	271	12*15	215	180	250	15	130	110	160	M8
100**	2-6	28	24	8	60	421	171	100	160	140	63	271	12*15	215	180	250	15	130	110	160	M8
112 M	2-6	28	24	8	60	431	185	112	160	140	70	297	12*15	215	180	250	15	130	110	160	M8

BERNATI

IT

EN



IP55 - IC 411 - Insulation class F, temperature rise class B

Output kW	Motor type	Speed r/min	Efficiency	Power factor	Current		Torque			Moment of inertia	Weight	Noise	Product code
			100% load	Cos φ	I_N (A)	I_{ST}/I_N	T_N Nm	T_{ST}/T_N	T_{max}/T_N	kg*m2	kg	dBA	
3000 r/min = 2 poles													
0.18	BDM 631-2	2820	62.00	0.90	1.40	4.80	0.60	1.90	1.80	0.00014	4	70	BDM0018.06B2**.11
0.25	BDM 632-2	2800	67.50	0.90	1.70	4.80	0.90	2.30	1.80	0.00017	4	70	BDM0025.06C2**.11
0.37	BDM 711-2	2780	70.50	1.00	2.40	5.20	1.30	2.50	1.60	0.00033	6	75	BDM0037.07B2**.11
0.55	BDM 712-2	2790	74.50	1.00	3.30	6.00	1.90	2.50	1.80	0.00044	7	75	BDM0055.07C2**.11
0.75	BDM 801-2	2840	77.50	1.00	4.30	6.50	2.50	2.50	1.80	0.00078	9	75	BDM0075.08B2**.11
1.10	BDM 802-2	2850	79.50	1.00	6.10	6.50	3.70	2.30	1.80	0.00094	10	78	BDM0110.08C2**.11
1.50	BDM 90S-2	2860	80.00	1.00	8.20	6.60	5.00	2.50	1.80	0.00151	14	80	BDM0150.09A2**.11
2.20	BDM 90L-2	2850	81.00	1.00	11.90	6.40	7.40	2.50	1.80	0.00200	17	80	BDM0220.09H2**.11
3.00	BDM 100L-2	2830	75.00	1.00	17.80	6.00	10.10	2.50	1.60	0.00480	25	83	BDM0300.10H2**.11
3.70	BDM 112M1-2	2900	82.50	1.00	19.90	7.60	12.20	2.50	1.80	0.00717	33	84	BDM0370.11E2**.11
4.00	BDM 112M2-2	2900	83.50	1.00	21.30	7.90	13.20	2.50	1.80	0.00745	34	84	BDM0400.11F2**.11
1500 r/min = 4 poles													
0.12	BDM 631-4	1380	54.50	1.00	1.10	5.50	0.80	2.50	1.70	0.00029	4	65	BDM0012.06B4**.11
0.18	BDM 632-4	1340	60.00	1.00	1.40	4.50	1.30	2.30	1.40	0.00034	5	65	BDM0018.06C4**.11
0.25	BDM 711-4	1415	63.00	1.00	1.80	4.80	1.70	2.50	1.70	0.00060	6	65	BDM0025.07B4**.11
0.37	BDM 712-4	1410	65.50	1.00	2.50	5.00	2.50	2.30	1.60	0.00076	7	68	BDM0037.07C4**.11
0.55	BDM 801-4	1420	71.50	1.00	3.50	5.80	3.70	2.50	1.80	0.00138	10	70	BDM0055.08B4**.11
0.75	BDM 802-4	1420	73.00	1.00	4.60	5.80	5.00	2.50	1.80	0.00166	11	70	BDM0075.08C4**.11
1.10	BDM 90S-4	1420	76.00	1.00	6.60	6.00	7.40	2.50	1.70	0.00251	14	73	BDM0110.09A4**.11
1.50	BDM 90L-4	1420	78.50	1.00	8.60	6.50	10.10	2.50	1.80	0.00325	17	75	BDM0150.09H4**.11
2.20	BDM 100L1-4	1440	80.50	1.00	12.10	6.50	14.60	2.50	1.70	0.00805	23	78	BDM0220.10I4**.11
3.00	BDM 100L2-4	1445	83.00	1.00	16.40	6.70	19.80	2.40	1.80	0.01054	29	78	BDM0300.10J4**.11
3.70	BDM 112M1-4	1430	83.50	1.00	19.70	6.80	24.70	2.40	1.80	0.01361	31	79	BDM0370.11E4**.11
4.00	BDM 112M2-4	1435	83.50	1.00	21.30	6.80	26.60	2.50	1.80	0.01449	33	79	BDM0400.11F4**.11
1000 r/min = 6 poles													
0.18	BDM 711-6	930	60.00	1.00	1.40	5.20	1.90	2.30	1.70	0.00097	6	68	BDM0018.07B6**.11
0.37	BDM 801-6	935	67.00	1.00	2.50	5.20	3.80	2.20	1.60	0.00183	10	68	BDM0037.08B6**.11
0.55	BDM 802-6	935	71.00	1.00	3.50	5.40	5.60	2.20	1.50	0.00237	11	70	BDM0055.08C6**.11
0.75	BDM 90S-6	945	71.00	1.00	4.70	6.80	7.60	2.10	1.50	0.00353	14	70	BDM0075.09A6**.11
1.10	BDM 90L-6	945	74.00	1.00	6.70	6.80	11.10	2.50	1.50	0.00479	17	70	BDM0110.09H6**.11
1.50	BDM 100L-6	960	77.00	1.00	8.70	7.00	14.90	2.30	1.60	0.01078	24	72	BDM0150.10H6**.11
2.20	BDM 112M-6	965	82.00	1.00	12.00	8.30	21.80	2.50	1.70	0.01952	31	75	BDM0220.11D6**.11

Replace [**] with the desired mounting position: B3 – **[03]** | B5 – **[05]** | B14 – **[14]** | B3/B5 – **[35]** | B3/B14 – **[34]**

IT Possibili malfunzionamenti

EN Possible failures

IT

Possibili malfunzionamenti

La tabella seguente presenta alcuni dei possibili guasti che i motori possono avere e le rispettive cause e soluzioni.

EN

Possible failures

The table below presents some of the possible failures that motors may have and the respective causes and measures.

Failure	Possible causes	Measures
Power interrupt	-	Check wiring and correct if needed
Fuse fusing	-	Replace the fuse
Motor protection device has action	-	Check motor protective device. If settings are correct, discharge failure
Motor contactor action, not in the control system failure	-	Check motor contactor control, replace it, if needed
Motor does not start	Motor should be delta connection, but it is on a star connection	Correct wiring way
Motor not starting or starting with difficulty	Voltage or frequency gravely deviates from the rating when starting at least	Try to improve the power supply. Check the power cord section
Direction of rotation error	Motor wiring error	Swapping two phase line
Rumble and current consumption	Damaged winding	Motor must be sent to professional shop repair, or replace it
	Rotor windings touch	
	Conducter short circuit	Short circuit eliminate
	Motor short circuit	Professional shop repair to discharge failure
Fuse fusing or motor protective device immediately action	Connection wires error	Correct connection mode
	Electrical grounding short circuit	Professional shop repair the discharge failure
Motor rotor stucked	Roller bearings failure	Replace roller bearings
	Check for parts between rotor and stator	Disassemble rotor and remove those parts
	Rotor is welded to stator	Professional shop repair the discharge failure or replace the motor