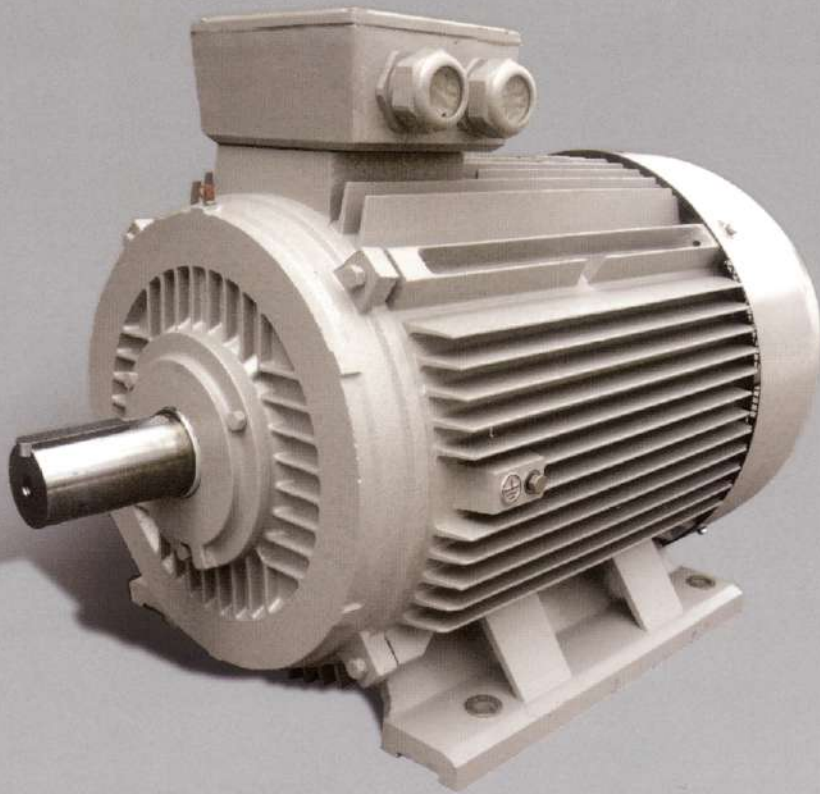


BRANCO MOTORI ELETTRICI



Three Phase Induction Motor
Class F Insulation, IP55 Protection, IEC Standard.



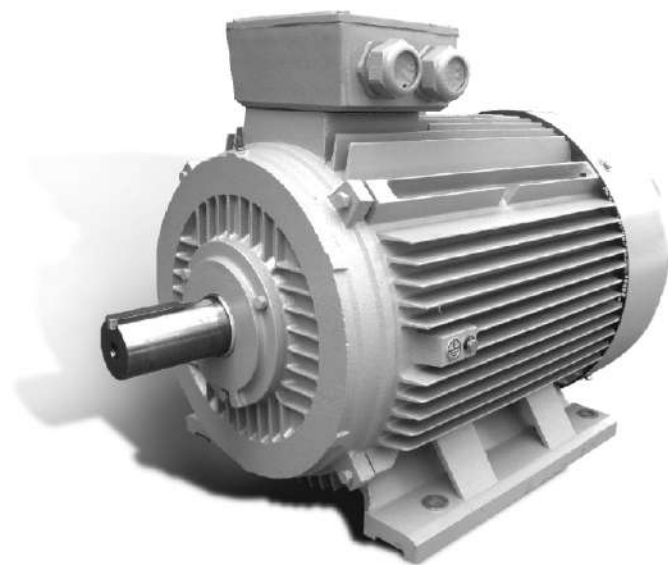
BRANCO
MOTORI ELETTRICI

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BA Aluminium Series



BR Cast Iron Series

Standards and Regulations

The motors comply with the relevant standards and regulations, especially:

Title	IEC	EU CENELEC	D DIN/VDE	I CEI/UNEL	GB BS	F NFC	E UNE
Electrical							
General stipulations for electrical machines	60034-1	EN 60034-1	DIN EN 60034-1	CEI EN 60034-1	4999-1 4999-69	51-200 51-111	UNE EN 60034-1
Rotating electrical machines: methods for determining losses and efficiency using tests	60034-2	HD 53 2	DIN EN 60034-2	CEI EN 60034-2	4999-34	51-112	UNE EN 60034-2
Terminal markings and direction of rotation of rotating electrical machines	60034-8	HD 53 8 S4	DIN VDE 0530-8	CEI 2-8	4999-3	51-118	20113-8-96
Starting performance	60034-12	EN 60034-12	DIN EN 60034-12	CEI EN 60034-12	4999-112		UNE EN 60034-12
Standard voltages	60038	HD 472 S1	DIN IEC 60038	CEI 8-6			
Insulating materials	60085		DIN IEC 60085	CEI 15-26			
Mechanical							
Dimensions and output ratings	60072			UNEL 13113			
Mounting dimensions and relationship frame sizes-output ratings, IM B3	60072	HD 231	DIN 42673-1	UNEL 13113	4999-10 51-110	51-105 51-104	20106-1/26 1980
Mounting dimensions and relationship frame sizes-output ratings, IM B5	60072	HD 231	DIN 42677-1	UNEL 13117		20106-2-74	
Mounting dimensions and relationship frame sizes-output ratings, IM B14	60072	HD 231	DIN 42677-1	UNEL 13118	4999-10 51-110	51-105 51-104	20106-2-IC-80
Cylindrical shaft ends for electric motors	60072	HD 231	DIN 784-3	UNEL 13502	4999-10	51-111	
Degrees of protection	60034-5	EN 60034-5	DIN IEC60034-5	CEI EN 60034-5	4999-20	EN60034-5	20111-5
Methods of cooling	60034-6	EN 60034-6	DIN EN 60034-6	CEI EN 60034-6	4999-21		EN 60034-6
Mounting arrangements	60034-7	EN 60034-7	DIN EN 60034-7	CEI EN 60034-7	4999-22	51-117	EN 60034-7
Noise limits	60034-9	EN 60034-9	DIN EN 60034-9	CEI EN 60034-9	4999-51	51-119	EN 60034-9
Mechanical vibration	60034-14	EN60034-14	DIN EN 60034-14	CEI EN 60034-14	4999-50	51-111	EN 60034-14
Mounting flanges			DIN 42948	UNEL 13501			
Tolerances of mounting and shaft extensions			DIN 42955	UNEL 13501/ 13502			
Classification of environmental conditions	600721-2-1		DIN IEC 60721-2-1	CEI 75-1			
Mechanical vibration; balancing	ISO 8821		DIN ISO 8821				

Conditions of Installation

The motors are designed for operation at altitudes ≤ 1000 m above sea-level and at ambient temperatures of up to 40° C. Exceptions are indicated on the rating plate.

Permissible temperature rises to various standards

Standard/Regulation	Temperature of coolant °C	Permissible temperature rise in K (measured by resistance method) Temperature class		
		B	F	H
VDE 0530 part 1	40	80	105	125
International IEC 34-1	40	80	105	125
Britain BS 2613	40	80	105	↑ on request ↓
Canada CSA	40	80	105	
USA NEMA and ANSI	40	80	105	
Italy CEI	40	80	105	
Sweden SEN	40	80	105	
Norway NEK	40	80	105	
Belgium NBN	40	80	105	
France NF	40	80	105	
Switzerland SEV	40	80	105	
India IS	40	80	-	
Germanischer Lloyd ¹⁾	45	75	90	
American Bureau of Shipping ¹⁾	50	70	95	
Bureau Veritas ¹⁾	45	70	100	
Norske Veritas ¹⁾	45	70	90 ²⁾	
Lloyds Register ¹⁾	45	70	90	
Registro Italiano Navale ¹⁾	45	70	90	
Korean Register ¹⁾	50	70	90	
China Classification Society ¹⁾	45	75	95	

¹⁾ Classification societies for marine motors

²⁾ Only with special approval



4

Mechanical Design

Mechanical Design

Degrees of protection

Degrees of protection for mechanical machines are designated in accordance with IEC 60034-5 by the letters **IP** and two characteristic numerals.

First numeral: Protection against contact and ingress of foreign bodies

IP	Description
0	No special protection
1	Protection against solid foreign bodies larger than 50 mm (Example: inadvertent contact with the hand)
2	Protection against solid foreign bodies larger than 12 mm (Example: inadvertent contact with the fingers)
3	Protection against solid foreign bodies larger than 2.5 mm (Example: Wires, tools)
4	Protection against solid foreign bodies larger than 1 mm (Example: Wires, bands)
5	Protection against dust (harmful deposits of dust)
6	Complete protection against dust. Is not described for electrical machines to IEC 34-5.

Second numeral: Protection against ingress of water

IP	Description
0	No special protection
1	Protection against vertically falling water drops (condensation)
2	Protection against dropping water when inclined by up to 15°
3	Protection against waterspray at up to 60° from vertical
4	Protection against water splashed from any direction
5	Protection against water projected by a nozzle from any direction
6	Protection against heavy seas or water projected in powerful jets
7	Protection when submerged between 0.15 and 1 m
8	Protection when continuously submerged in water at conditions agreed between the manufacturer and the user.

The motors conform to degree of protection IP 55 to IEC 60034-5. Higher protection on request.

The standard design for horizontal mounting is suitable for indoor and protected outdoor installation, climate group MODERATE (temperature of coolant -20° to $+40^{\circ}$ C)

For unprotected outdoor installation or severe climatic conditions (moisture category wet, climate group WORLDWIDE, extremely dusty site conditions, aggressive industrial atmosphere, danger of storm rain and coastal climate, danger of attack by termites, etc.), as well as vertical mounting, special protective measures are recommended, such as:

- Protective cowl (for vertical *shaft-down* motors)
- For vertical *shaft-up* motors additional bearing seal and flange drainage
- Special paint finish
- Treatment of winding with protective moisture-proof varnish
- Anti-condensation heating (possibly winding heating)
- Condensation drain holes

The special measures to be applied have to be agreed with the factory once the conditions of installation have been settled.

The corresponding conditions of installation have to be clearly indicated in the order.

Tolerances

For industrial motors to EN 60034-1, certain tolerances must be allowed on guaranteed values, taking into consideration the necessary tolerances for the manufacture of such motors and the materials used. The standard includes the following remarks:

1. It is not intended that guarantees necessarily have to be given for all or any of the items involved. Quotations including guaranteed values subject to tolerances should say so, and the tolerances should be in accordance with the table.
2. Attention is drawn to the different interpretation of the term guarantee. In some countries a distinction is made between guaranteed values and typical or declared values.
3. Where a tolerance is stated in only one direction, the value is not limited in the other direction.

Values for	Tolerance
Efficiency (η) (by indirect determination)	- 0.15 (1 - η) at $P_N \leq 50$ kW - 0.1 (1 - η) at $P_N > 50$ kW
Power factor ($\cos \varphi$)	$\frac{1 - \cos \varphi}{6}$, minimum 0.02, maximum 0.07
Slip (s) (at rated load and at working temperature)	± 20 % of the guaranteed slip at $P_N \geq 1$ kW ± 30 % of the guaranteed slip at $P_N < 1$ kW
Breakaway starting current (I_A) (in the starting circuit envisaged)	+ 20 % of the guaranteed starting current (no lower limit)
Breakaway torque (M_A)	- 15 % and + 25 % of the guaranteed breakaway torque (+ 25 % may be exceeded by agreement)
Pull-up torque (M_S)	- 15 % of the guaranteed value
Pull-out torque (M_K)	- 10 % of the guaranteed value (after allowing for this tolerance, M_K/M_N not less than 1.6)
Moment of inertia (J)	± 10 % of the guaranteed value

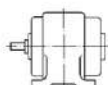
Mounting arrangements

Mounting arrangements for rotating electrical machines are designated according to IEC 60034-7, *Code I* (in brackets *Code II*).

Our motors are available with the mounting arrangements listed below, depending on design and frame size. Motors with aluminium frame are equipped with removable feet that allow easy change of mounting arrangement.

Foot mounting

IM B3 (IM 1001)



IM B6 (IM 1051)



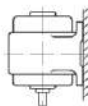
IM B7 (IM 1061)



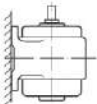
IM B8 (IM 1071)



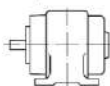
IM V5 (IM 1011)



IM V6 (IM 1031)



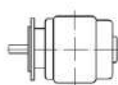
IM B34 (IM 2101)



Flange type C to
DIN 42 948 at
drive end

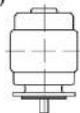
Flange mounting

IM B5 (IM 3001)



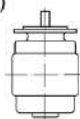
Flange type A to
DIN 42 948 at
drive end

IM V1 (IM 3011)



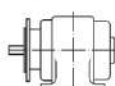
Flange type A to
DIN 42 948 at
drive end

IM V3 (IM 3031)



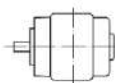
Flange type A to
DIN 42 948 at
drive end

IM B35 (IM 2001)



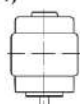
Flange type A to
DIN 42 948 at
drive end

IM B14 (IM 3601)



Flange type C to
DIN 42 948 at
drive end

IM V18 (IM 3611)



Flange type C to
DIN 42 948 at
drive end

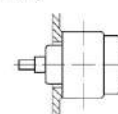
IM V19 (IM 3631)



Flange type C to
DIN 42 948 at
drive end

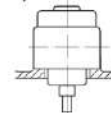
Motors without endshield

IM B9 (IM 9101)



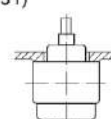
without endshield
and without
ball bearings on
drive end

IM V8 (IM 9111)



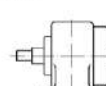
without endshield
and without
ball bearings on
drive end

IM V9 (IM 9131)



without endshield
and without
ball bearings on
drive end

IM B15 (IM 1201)



without endshield
and without
ball bearings on
drive end

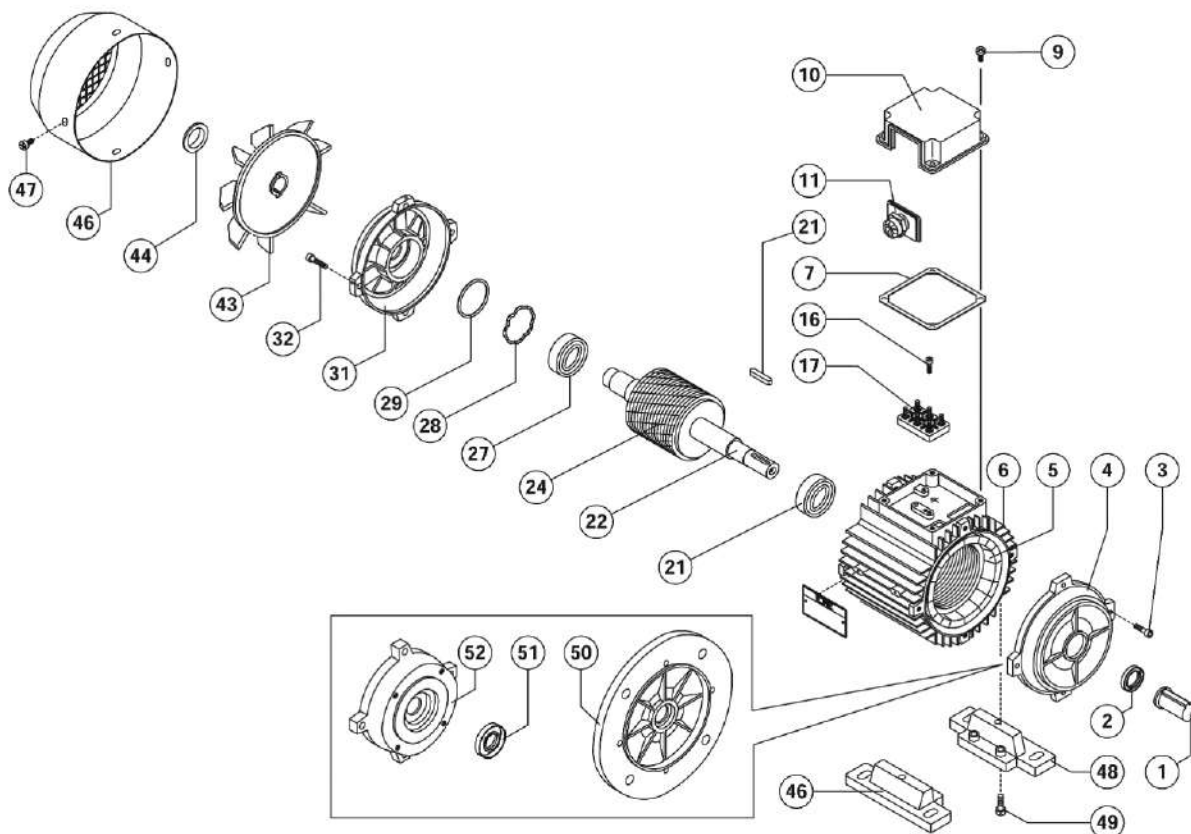
It is essential to state the desired mounting arrangement when ordering, as the constructive design depends partly on the mounting arrangement.

Bearings

Electric Motors Bearing

Frame	BA (Aluminium)		BR (Cast Iron)	
	Drive end	Non-Drive end	Drive end	Non-Drive end
56	6201	6201	—	—
63	6201	6201	—	—
71	6202	6202	—	—
80	6204	6204	6204	6204
90	6205	6205	6205	6205
100	6206	6206	6206	6206
112	6306	6206	6306	6306
132	6308	6308	6308	6308
160	6309	6309	6309	6309
180	—	—	6311	6311
200	—	—	6312	6312
250	—	—	6314	6314
250 (V1)	—	—	6314	7314
280 2P	—	—	6314	6314
280 2P (V1)	—	—	6314	7314
280 4-8P	—	—	6317	6317
280 4-8P (V1)	—	—	6317	7317
315 2P (B3,B35)	—	—	6316	6316
315 2P (V1)	—	—	6316	7316
315 4-10P (B3,B35)	—	—	N319	6316
315 4-10P (V1)	—	—	N319	7316

Spare Parts



Part description

- | | |
|------------------------------------|---|
| 1 Shaft protection | 24 Rotor assembly |
| 2 Drive end dust seal | 27 Non-drive end bearing |
| 3 Drive end endshield fixing screw | 28 Non-drive end pre-load washer |
| 4 Drive end endshield | 29 Non-drive end shim ring |
| 5 Stator | 31 Non-drive end endshield |
| 6 Stator frame | 32 Non-drive end endshield fixing screw |
| 7 Terminal box gasket | 43 Fan |
| 9 Terminal box fixing screw | 44 Fan hose clamp |
| 10 Terminal box | 46 Fan cowl |
| 11 Cable gland | 47 Fan cowl fixing screw |
| 16 Terminal board fixing screw | 48 Feet |
| 17 Terminal board | 49 Feet fixing bolt |
| 21 Drive end bearing | 50 Flange B5 |
| 22 Motor shaft | 51 Seal ring |
| 23 Hub key | 52 Flange B14 |

In enquires and orders for spare parts please state always:

Designation of spare part, motor type, mounting arrangement, motor serial number
(Product No. when available)

Enquires and orders cannot be handled without these data.

11

Electrical Design

Electrical Design

Rated voltage

For the rated voltage of the motors, EN 60 034-1 allows a tolerance of $\pm 5\%$. According to IEC 60038, the mains voltages may have a tolerance of $\pm 10\%$.

Therefore the motors are designed for the following rated voltage ranges (exceptions are shown in the data tables):

Mains voltage to DIN IEC 38	Rated voltage range of motor
230 V $\pm 10\%$	218-242 V $\pm 5\%$
400 V $\pm 10\%$	380-420 V $\pm 5\%$
690 V $\pm 10\%$	655-725 V $\pm 5\%$

Within the rated motor voltage range, the permissible maximum temperature is not exceeded. When the motors are operated at the limits of the voltage tolerance, the permissible overtemperature of the stator winding may be exceeded by 10 K.

Rated frequency

50 Hz motors can also be operated on 60 Hz mains, provided the mains voltage increases proportionally to the frequency. The relative values for starting and breakaway torque remain nearly unchanged and slightly increase for the starting current. The rated speed increases by the factor 1.2 and output by factor 1.15. Should a motor designed for 50 Hz be operated at 60 Hz without the voltage being increased, the rated output of the motor cannot be increased. Under these operating conditions, rated speed increases by factor 1.2. The relative values for starting and breakaway torque are reduced by factor 0.82 and for starting current by factor 0.9.

Rated current

The rated currents listed in the data tables apply to an operating voltage of 400 V. The conversion to other operating voltages, with output and frequency remaining unchanged, is to be made as follows:

Nominal voltage (V)	230	380	400	440	500	660	690
Conversion factor $\times I_N$	1.74	1.05	1.0	0.91	0.80	0.61	0.58

Rated torque

$$\text{Rated torque in Nm} = 9550 \times \frac{\text{Rated voltage in kW}}{\text{Rated speed in min}^{-1}}$$

Output

The outputs stated in this catalogue are for constant load in continuous running duty S1 according to EN 60034-1, based on an ambient temperature of 40° C and installation at altitudes up to 1000 m above sea level.

For severe operating conditions, e.g. high switching rate, long run-up time or electric braking, a thermal reserve is necessary, which could call for higher thermal class or the use of a motor with a higher rating. In these cases we recommend to enquire with detailed information on the operating conditions.

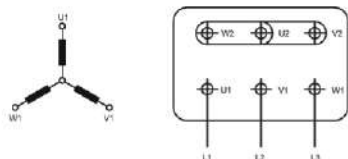
Overload

At operating temperature three-phase motors are capable of withstanding an overload for 15 seconds at 1.5 times the rated torque at rated voltage. This overload is according to EN 60034-1 and will not result in excessive heating.

Utilizing thermal class F, motors can be operated continuously with an overload of 12 %. Nevertheless this is not valid for motors which to catalogue are utilized to thermal class F.

Connection diagrams

Windings of standard three-phase motors can be connected either in star or delta connection.

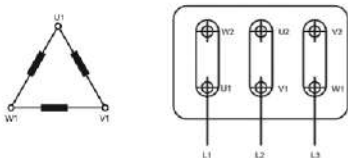


Star connection

A star connection is obtained by connecting W2, U2, V2 terminals to each other and the U1, V1, W1 terminals to the mains. The phase current and voltage are:

$$I_{ph} = I_n ; U_{ph} = U_n / \sqrt{3}$$

where I_n is the line current and U_n the line voltage referred to the star connection.



Delta connection

A delta connection is obtained by connecting the end of a phase to the beginning of the next phase.

The phase current I_{ph} and the phase voltage U_{ph} are:

$$I_{ph} = I_n / \sqrt{3} ; U_{ph} = U_n$$

where I_n and U_n are referred to the delta connection.

Star-delta starting

Star-delta starting allows a peak current reduction, ensuring however that the peak torque obtained is bigger than the resistant torque. Actually, it should be noted that the torque of an induction squirrel-cage motor is directly proportional to the square of the voltage. Motors whose rated voltage with delta connection corresponds to the mains voltage, can be started with the star-delta method.

All motors can be supplied with windings designed for star-delta starting (for example: 400 V Δ / 690 V Y).

15

Aluminium Motor

**BA Series
3000 min⁻¹ (2 Poles)**



ALUMINIUM
Three - Phase Squirrel Cage Motors
380V - 415V 50Hz
Protection IP55

Motor Type	Output kW	Full Load Speed min ⁻¹	Starting Current Ratio I _s / I _A	Rated Current			Efficiency			Power Factor			Full load Torque (Mn) Nm	Breakaway Torque Ratio M _A / M _N	Pull Up Torque Ratio M _U / M _N	Moment of Inertia kgm ²	Noise Level dB(A)	Weight kg
				380V	400V	415V	100%FL	75%FL	50%FL	100%FL	75%FL	50%FL						
				I _A			η			cos φ								
BA 561-2	0.09	2670	6	0.37	0.35	0.34	57.0	55.4	53.2	0.65	0.63	0.54	0.33	2.2	2.4	1.03×10 ⁻⁴	58	2.8
BA 562-2	0.12	2730	6	0.43	0.40	0.39	62.0	63.8	60.8	0.69	0.62	0.52	0.42	2.2	2.4	1.37×10 ⁻⁴	58	3.2
BA 631-2	0.18	2710	6	0.58	0.55	0.53	63.0	66.7	65.1	0.75	0.73	0.61	0.64	2.2	2.4	1.61×10 ⁻⁴	61	4.0
BA 632-2	0.25	2710	6	0.75	0.71	0.69	65.0	69.5	68.7	0.78	0.72	0.62	0.89	2.2	2.4	1.89×10 ⁻⁴	61	4.4
BA 711-2	0.37	2730	6	1.02	0.97	0.93	70.0	71.6	71.5	0.79	0.74	0.63	1.32	2.2	2.4	4.25×10 ⁻⁴	64	5.6
BA 712-2	0.55	2760	6	1.49	1.42	1.36	71.0	74.2	74.0	0.79	0.73	0.63	1.95	2.2	2.4	5.1×10 ⁻⁴	64	6.1
BA 801-2	0.75	2770	6	1.86	1.77	1.70	73.0	74.7	74.1	0.84	0.78	0.69	2.62	2.2	2.4	8.05×10 ⁻⁴	67	9.1
BA 802-2	1.1	2770	6	2.64	2.51	2.42	76.2	77.4	76.2	0.83	0.75	0.65	3.78	2.2	2.4	9.71×10 ⁻⁴	67	10.2
BA 90S-2	1.5	2840	6	3.46	3.28	3.16	78.5	78.7	79.3	0.84	0.77	0.66	5.36	2.2	2.4	1.52×10 ⁻³	72	12.0
BA 90L1-2	2.2	2840	6	4.85	4.61	4.45	81.0	81.7	81.5	0.85	0.79	0.69	7.52	2.2	2.4	2.0×10 ⁻³	72	15.0
BA 100L1-2	3	2840	7	6.34	6.03	5.81	82.6	82.6	83.1	0.87	0.85	0.79	10.4	2.2	2.3	4.0×10 ⁻³	76	22.3
BA 112M-2	4	2880	7.5	8.30	7.88	7.60	84.2	84.7	83.7	0.87	0.83	0.75	13.3	2.2	2.3	7.16×10 ⁻³	77	26.7
BA 132S1-2	5.5	2900	7.5	11.08	10.53	10.15	85.7	86.3	85.5	0.88	0.87	0.82	18.2	2	2.2	1.45×10 ⁻²	80	38.5
BA 132S2-2	7.5	2920	7.5	14.88	14.14	13.63	87.0	88.2	88.1	0.88	0.89	0.84	24.9	2	2.2	1.64×10 ⁻²	80	42.2
BA 132M1-2	9.2	2930	7.5	17.85	17.25	16.34	88.0	87.2	86.7	0.89	0.89	0.85	30.5	2	2.2	1.96×10 ⁻²	81	51.4
BA 160M1-2	11	2940	7.5	21.01	19.96	19.23	88.4	87.5	85.9	0.90	0.84	0.79	35.7	2	2.2	4.98×10 ⁻²	86	75.0
BA 160M2-2	15	2940	7.5	28.01	26.61	25.62	89.4	88.9	87.9	0.91	0.88	0.84	49	2	2.2	6.23×10 ⁻²	86	88.0
BA 160L-2	18.5	2940	7.5	34.32	32.60	31.43	90.0	89.9	88.7	0.91	0.85	0.81	60.2	2	2.2	7.49×10 ⁻²	86	99.0

BA Series 1500 min⁻¹ (4 Poles)

BRANCO™



ALUMINIUM

Three - Phase Squirrel Cage Motors
380V - 415V 50Hz
Protection IP55

Motor Type	Output kW	Full Load Speed min ⁻¹	Starting Current Ratio I_s / I_A	Rated Current			Efficiency			Power Factor			Full load Torque (Mn) Nm	Breakaway Torque Ratio M_A / M_N	Pull Up Torque Ratio M_U / M_N	Moment of Inertia kgm ²	Noise Level dB(A)	Weight kg
				380V	400V	415V	100%FL	75%FL	50%FL	100%FL	75%FL	50%FL						
				I_A			η			$\cos\phi$								
BA 561-4	0.06	1320	6	0.32	0.3	0.29	48.5	46.13	41.36	0.59	0.52	0.45	0.43	2.3	2.4	2.2×10 ⁻⁴	50	3
BA 562-4	0.09	1320	6	0.45	0.43	0.41	50	48.39	43.35	0.61	0.42	0.49	0.65	2.3	2.4	2.69×10 ⁻⁴	50	3.3
BA 631-4	0.12	1350	6	0.5	0.47	0.46	57	55.55	52.33	0.64	0.53	0.46	0.85	2.2	2.4	3.10×10 ⁻⁴	52	3.9
BA 632-4	0.18	1350	6	0.71	0.68	0.65	59	60.98	59.16	0.65	0.6	0.48	1.32	2.2	2.4	3.71×10 ⁻⁴	52	4.3
BA 711-4	0.25	1350	6	0.88	0.84	0.81	60	60.48	56.34	0.72	0.66	0.53	1.8	2.2	2.4	7.48×10 ⁻⁴	55	5.4
BA 712-4	0.37	1370	6	1.17	1.11	1.07	65	65.96	64.71	0.74	0.7	0.58	2.73	2.2	2.4	9.55×10 ⁻⁴	55	6.2
BA 801-4	0.55	1370	6	1.66	1.58	1.52	67	70.41	72	0.75	0.77	0.62	4.07	2.2	2.4	1.41×10 ⁻³	58	9
BA 802-4	0.75	1380	6	2.03	1.93	1.86	72	73.85	73.23	0.78	0.71	0.6	5.34	2.2	2.4	1.69×10 ⁻³	58	10
BA 90S-4	1.1	1400	6	2.78	2.64	2.54	76.2	78.07	78.8	0.79	0.73	0.63	7.67	2.2	2.4	2.63×10 ⁻³	61	12.1
BA 90L-4	1.5	1400	6	3.63	3.45	3.32	78.5	80.31	80.83	0.8	0.65	0.74	10.4	2.2	2.4	4.69×10 ⁻³	61	14.6
BA 100L1-4	2.2	1420	7	5.09	4.84	4.66	81	80.87	80.95	0.81	0.74	0.65	15.2	2.2	2.3	7.23×10 ⁻³	64	21
BA 100L2-4	3	1420	7	6.81	6.47	6.24	82.6	82.36	82.37	0.81	0.76	0.67	20.5	2.2	2.3	9.24×10 ⁻³	64	24.7
BA 112M-4	4	1430	7	8.7	8.26	7.96	84.2	84.31	83.82	0.83	0.77	0.68	26.9	2.2	2.2	1.47×10 ⁻²	65	30.5
BA 132S-4	5.5	1450	7	11.61	11.03	10.63	85.7	88.02	88.39	0.84	0.82	0.75	36.7	2.2	2.2	2.91×10 ⁻²	71	40.4
BA 132M-4	7.5	1450	7	15.41	14.64	14.11	87	88.77	89	0.85	0.84	0.77	49.9	2.2	2.2	3.91×10 ⁻²	71	49.6
BA 132L-4	9.2	1460	7.5	18.79	17.85	17.21	87.5	89.29	89.43	0.85	0.83	0.77	61	2.2	2.2	4.65×10 ⁻²	74	56.6
BA 132L-4	10	1460	7.5	20.31	19.3	18.6	88	89.99	89.96	0.85	0.81	0.74	72.6	2.2	2.2	5.40×10 ⁻²	74	58.6
BA 160M-4	11	1460	7	21.73	20.64	19.9	88.4	89.19	89.15	0.87	0.81	0.75	72.5	2.2	2.2	9.26×10 ⁻²	75	78
BA 160L-4	15	1460	7.5	29.63	28.15	27.13	89.4	89.75	89.43	0.87	0.83	0.78	98.6	2.2	2.2	1.29×10 ⁻¹	75	98

**BA Series
1000 min⁻¹ (6 Pole)**



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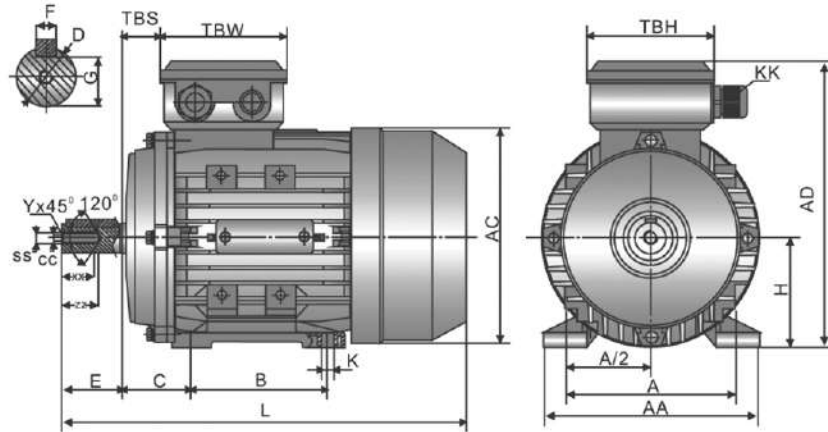
**Three - Phase Squirrel Cage Motors
380V - 415V 50Hz
Protection IP55**

Motor Type	Output kW	Full Load Speed min ⁻¹	Starting Current Ratio I_s / I_A	Rated Current			Efficiency			Power Factor			Full load Torque (Mn) Nm	Breakaway Torque Ratio M_A / M_N	Pull Up Torque Ratio M_U / M_N	Moment of Inertia kgm ²	Noise Level dB(A)	Weight kg
				380V	400V	415V	100%FL	75%FL	50%FL	100%FL	75%FL	50%FL						
				I_A			η			$\cos \phi$								
BA 631-6	0.09	840	3.5	0.53	0.51	0.49	42	40.6	36.64	0.61	0.57	0.49	1.04	2	2	-	50	4.2
BA 632-6	0.12	850	3.5	0.65	0.62	0.6	45	46.71	41.56	0.62	0.53	0.46	1.32	2	2	-	50	4.8
BA 711-6	0.18	880	4	0.74	0.7	0.68	56	55.56	51.04	0.66	0.55	0.46	1.9	1.6	1.7	1.2×10 ⁻³	52	6
BA 712-6	0.25	900	4	0.92	0.87	0.84	59	60.42	59.35	0.7	0.63	0.52	2.77	2.1	2.2	1.35×10 ⁻³	52	6.5
BA 801-6	0.37	900	4	1.3	1.23	1.19	62	66.92	65.49	0.7	0.63	0.52	3.97	1.9	1.9	1.94×10 ⁻³	56	8.2
BA 802-6	0.55	900	4	1.73	1.65	1.59	67	70.35	69.52	0.72	0.65	0.54	5.88	2	2.3	2.63×10 ⁻³	56	9.9
BA 90S-6	0.75	920	5.5	2.29	2.18	2.1	69	72.06	72.21	0.72	0.68	0.58	8.02	2.2	2.2	3.76×10 ⁻³	59	11.7
BA 90L-6	1.1	925	5.5	3.18	3.02	2.91	72	75.62	75.97	0.73	0.67	0.56	11.9	2.2	2.2	5.04×10 ⁻³	59	15.1
BA 100L-6	1.5	945	6	4.05	3.85	3.71	74	81.71	82.49	0.76	0.67	0.56	15.6	2.2	2.2	8.84×10 ⁻³	61	19.1
BA 112M-6	2.2	955	6	5.64	5.36	5.16	78	81.1	81.96	0.76	0.74	0.64	20.2	2.2	2.2	1.64×10 ⁻²	64	25.4
BA 132S-6	3	960	6.5	7.59	7.21	6.95	79	84.09	83.71	0.76	0.75	0.66	30	2	2	3.54×10 ⁻²	64	36.1
BA 132M1-6	4	960	6.5	9.93	9.44	9.1	80.5	85.57	85.23	0.76	0.73	0.64	39.8	2	2	4.41×10 ⁻²	68	45
BA 132M2-6	5.5	960	6.5	13.08	12.42	11.97	83	86.15	85.76	0.77	0.73	0.64	54.8	2	2	5.81×10 ⁻²	68	55.5
BA 160M-6	7.5	960	6.5	16.56	15.73	15.17	86	-	-	0.8	-	-	-	2	2.2	-	68	72
BA 160L-6	11	680	6.5	24.18	22.97	22.14	87.5	-	-	0.79	-	-	-	2	2.2	-	73	92

Dimensions
Three - Phase Motors
BA Series
ALUMINIUM

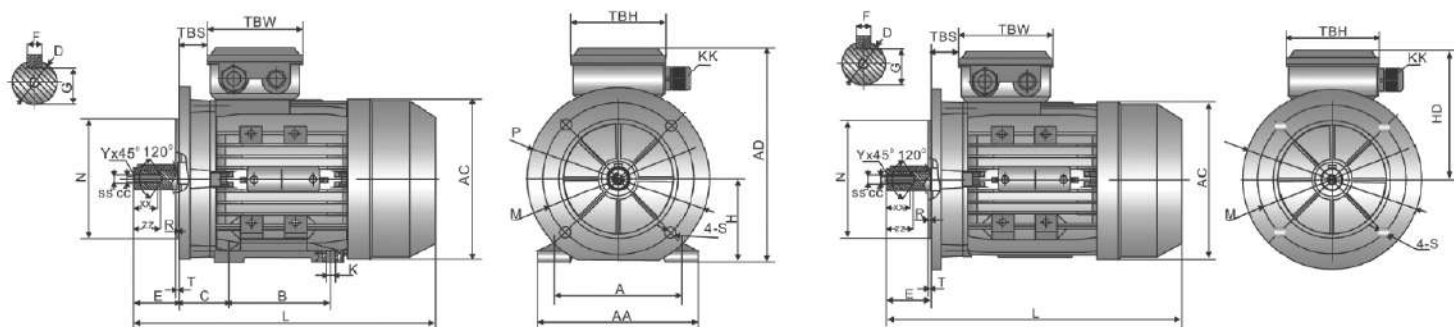
Mounting
IM B3

BRANCO™



Overall & Installation Dimensions

FRAME	H	A	B	C	D	E	F	G	K	AA	AD	AC	L	KK	TBS	TBW	TBH	SS	XX	ZZ	CC	Y
56	56	90	71	36	9	20	3	7.2	5.8X8.8	110	156/151	120	195	1-M16X1.5	14/21	88/73	88/73	M3	8	12	2.5	0.5
63	63	100	80	40	11	23	4	8.5	7X10	120	173/165	130	215	1-M16X1.5	14/21	94/80	94/80	M4	10	15	3.3	0.8
71	71	112	90	45	14	30	5	11	7X10	132	188/180	145	240	1-M20X1.5	20/27	94/80	94/80	M5	12	18	4.2	0.8
80	80	125	100	50	19	40	6	15.5	10X13	160	217	165	290	1-M20X1.5	27	105	105	M6	16	22	5	1
90S	90	140	100	56	24	50	8	20	10X13	175	235	185	310	1-M20X1.5	30	105	105	M8	20	25	6.8	1
90L	90	140	125	56	24	50	8	20	10X13	175	235	185	335/365	1-M20X1.5	30	105	105	M8	20	25	6.8	1
100L	100	160	140	63	28	60	8	24	12X16	196	252	205	368	1-M20X1.5	26	105	105	M10	22	28	8.5	1.5
112	112	190	140	70	28	60	8	24	12X16	220	292	230	395	2-M25X1.5	32	112	119	M10	22	28	8.5	1.5
132S	132	216	140	89	38	80	10	33	12X16	252	325	270	436	2-M25X1.5	38	112	119	M12	28	34	10.2	1.5
132M/L	132	216	178	89	38	80	10	33	12X16	252	325	270	474/500	2-M25X1.5	38	112	119	M12	28	34	10.2	1.5
160M/L	160	254	210/254	108	42	110	12	37	15X19	290	390	320	640	2-M32X1.5	64	143	146	M16	35	42	14.2	2



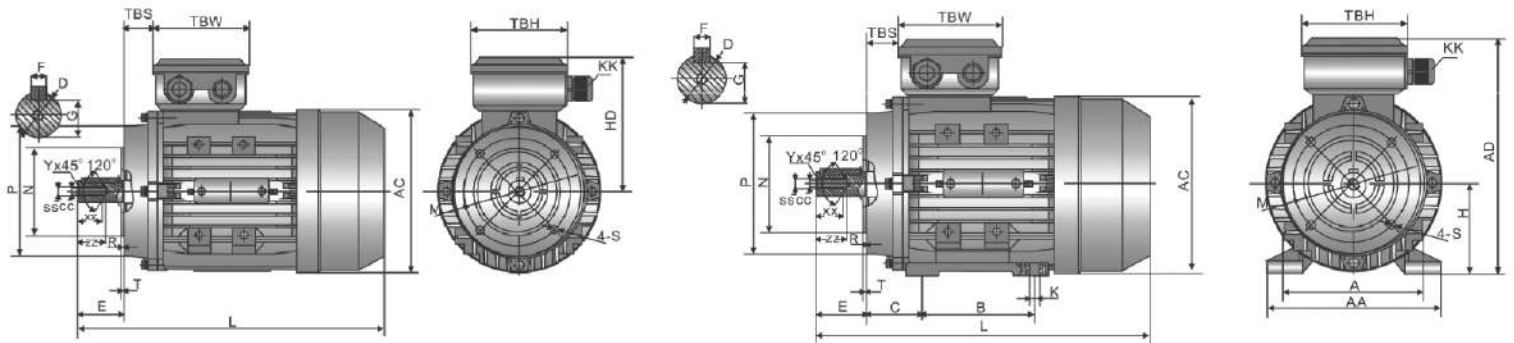
Overall & Installation Dimensions

FRAME	M	N	P	T	S	D	E	F	G	KK	AC	HD	L	TBS	TBW	TBH	SS	XX	ZZ	CC	Y	H	A	B	C	K	AA	AD
58	100	80	120	3.0	7	9	20	3	7.2	1-M16X1.5	120	100/95	195	14/21	88/73	88/73	M3	8	12	2.5	0.5	56	90	71	36	5.8x5.8	110	156/151
63	115	95	140	3.0	10	11	23	4	8.5	1-M16X1.5	130	110/102	215	14/21	94/80	94/80	M4	10	15	3.3	0.8	63	100	80	40	7x10	120	173/165
71	130	110	160	3.5	10	14	30	5	11	1-M20X1.5	145	117/109	240	20/27	94/80	94/80	M5	12	18	4.2	0.8	71	112	90	45	7x10	132	188/180
80	165	130	200	3.5	12	19	40	6	15.5	1-M20X1.5	165	137	290	27	105	105	M6	16	22	5	1	80	125	100	50	10x13	160	217
90S	165	130	200	3.5	12	24	50	8	20	1-M20X1.5	185	145	310	30	105	105	M8	20	25	6.8	1	90	140	100	56	10x13	175	235
90L1/L2	465	130	200	3.5	12	24	50	8	20	1-M20X1.5	185	145	335/365	30	105	105	M8	20	25	6.8	1	90	140	125	56	10x13	175	235
100	215	180	250	4.0	15	28	60	8	24	1-M20X1.5	205	152	368	26	105	105	M10	22	28	8.5	1.5	100	160	140	63	10x13	196	252
112	215	180	250	4.0	15	28	60	8	24	2-M25X1.5	230	180	395	32	112	119	M10	22	28	8.5	1.5	112	190	140	70	12x16	220	292
132S	265	230	300	4.0	15	38	80	10	33	2-M25X1.5	270	193	436	38	112	119	M12	28	34	10.2	1.5	132	216	140	89	12x16	252	325
132M/L	265	230	300	4.0	15	38	80	10	33	2-M25X1.5	270	193	474/500	38	112	119	M12	28	34	10.2	1.5	132	216	178	89	12x16	252	325
160M/L	300	250	350	5.0	19	42	110	12	37	2-M32X1.5	320	230	640	64	143	146	M16	35	42	14.2	2	160	254	210/254	108	15x19	290	390

**Dimensions
Three - Phase Motors
BA Series**

**Mounting
IM B14, IM B34**

BRANCO™



Overall & Installation Dimensions

FRAME	N	M	P	T	S	D	E	F	G	KK	AC	HD	L	TBS	TBW	TBH	SS	XX	ZZ	CC	Y	H	A	B	C	K	AD	AA
56	50	65	80	2.5	M5	9	20	3	7.2	1-M16X1.5	120	100/95	195	14/21	88/73	88/73	M3	8	12	2.5	0.5	56	90	71	36	5.8X5.8	156/151	110
63	60	75	90	2.5	M5	11	23	4	8.5	1-M16X1.5	130	110/102	215	14/21	94/80	94/80	M4	10	15	3.3	0.8	63	100	80	40	7X10	173/165	120
71	70	85	105	2.5	M6	14	30	5	11	1-M20X1.5	145	117/109	240	20/27	94/80	94/80	M5	12	18	4.2	0.8	71	112	90	45	7X10	188/180	132
80	80	100	120	3.0	M6	19	40	6	15.5	1-M20X1.5	165	137	290	27	105	105	M6	16	22	5	1	80	125	100	50	10X13	217	160
90S	95	115	140	3.0	M8	24	50	8	20	1-M20X1.5	185	145	310	30	105	105	M8	20	25	6.8	1	90	140	100	56	10X13	235	175
90L1/L2	95	115	140	3.0	M8	24	50	8	20	1-M20X1.5	185	145	335/365	30	105	105	M8	20	25	6.8	1	90	140	125	56	10X13	235	175
100	110	130	160	3.5	M8	28	60	8	24	1-M25X1.5	205	152	368	26	105	105	M10	22	28	8.5	1.5	100	160	140	63	10X13	252	196
112	110	130	160	3.5	M8	28	60	8	24	2-M25X1.5	230	180	395	32	112	119	M10	22	28	8.5	1.5	112	190	140	70	12X16	292	220
132S	130	165	200	3.5	M10	38	80	10	33	2-M25X1.5	270	193	436	38	112	119	M12	28	34	10.2	1.5	132	216	140	89	12X16	325	252
132M/L	130	165	200	3.5	M10	38	80	10	33	2-M32X1.5	270	193	475/500	38	112	119	M12	28	34	10.2	1.5	132	216	178	89	12X16	325	252

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Cast Iron Motor

BR Series 3000 min⁻¹ (2 Poles)

BRANCO™



CAST IRON

Three - Phase Squirrel Cage Motors
380V - 415V 50Hz
Protection IP55

Motor Type	Output kW	Full Load Speed min ⁻¹	Starting Current Ratio I _s / I _A	Rated Current			Efficiency			Power Factor			TFL Nm	TST TFL	TPU TFL	TM TFL	Moment of Inertia kgm ²	Noise Level dB(A)	Weight kg			
				380V	400V	415V	100%FL	75%FL	50%FL	100%FL	75%FL	50%FL								cosφ		
				I _A			η			cosφ												
BR 801-2	0.75	2838	5.4	1.79	1.70	1.63	75.1	74.4	71.9	0.85	0.81	0.68	2.5	2.3	1.9	2.6	0.0008	60	16			
BR 802-2	1.1	2843	5.5	2.53	2.41	2.32	78.6	78.3	75.6	0.84	0.81	0.68	3.7	2.3	2.3	2.6	0.0009	60	17			
BR 90S-2	1.5	2848	6.0	3.32	3.16	3.04	79.8	79.1	77.0	0.86	0.82	0.71	5.0	2.5	2.2	3.1	0.0012	61	22			
BR 90L-2	2.2	2849	6.0	4.73	4.49	4.33	82.2	81.8	80.4	0.86	0.82	0.72	7.4	3.0	2.5	3.1	0.0014	68	25			
BR 100L-2	3	2861	6.8	6.15	5.84	5.63	83.3	82.7	81.4	0.89	0.85	0.75	10.0	2.9	2.6	3.3	0.0039	70	33			
BR 112M1-2	4	2872	6.9	7.78	7.39	7.12	84.9	85.5	84.7	0.92	0.88	0.82	13.3	2.6	2.2	2.9	0.0055	73	43			
BR 132S1-2	5.5	2900	7.2	10.7	10.1	9.75	87.5	86.0	84.0	0.91	0.88	0.81	18.1	2.5	2.1	3.3	0.0109	82	64			
BR 132S2-2	7.5	2915	6.9	14.5	13.8	13.3	87.8	87.2	85.0	0.90	0.86	0.81	24.6	2.6	2.3	3.2	0.013	82	70			
BR 160M1-2	11	2933	6.8	20.6	19.5	18.8	90.3	88.8	87.7	0.90	0.86	0.82	35.8	2.5	2.2	3.5	0.039	82	117			
BR 160M2-2	15	2934	7.1	27.8	26.4	25.5	91.0	91.0	90.1	0.90	0.87	0.84	48.8	2.4	2.1	3.3	0.045	82	125			
BR 160L-2	18.5	2929	6.8	34.1	32.4	31.2	91.7	90.8	89.9	0.90	0.87	0.82	60.4	2.5	2.0	3.2	0.055	84	147			
BR 180M-2	22	2945	7.4	41.0	38.9	37.5	90.6	90.1	88.1	0.90	0.87	0.82	71.4	2.6	1.7	3.1	0.076	84	180			
BR 200L1-2	30	2950	6.6	55.7	52.9	51.0	92.0	91.6	88.5	0.89	0.88	0.83	97.2	2.2	2.1	2.8	0.124	86	240			
BR 200L2-2	37	2956	7.0	66.9	63.6	61.3	92.3	91.9	89.7	0.91	0.88	0.84	119.6	2.4	1.9	2.7	0.139	88	255			
BR 225M-2	45	2960	6.9	81.7	77.6	74.8	93.0	92.4	89.9	0.90	0.89	0.85	145.3	2.5	2.2	3.0	0.233	89	342			
BR 250M1-2	55	2963	7.2	101	95.7	92.3	93.2	92.9	90.1	0.89	0.89	0.82	177.4	2.4	1.8	2.8	0.312	90	444			
BR 280S-2	75	2966	6.8	134	127	122	94.0	93.0	91.0	0.91	0.88	0.83	241.6	2.2	1.7	3.4	0.597	90	544			
BR 280M1-2	90	2967	6.9	160	152	146	94.2	93.8	92.5	0.91	0.89	0.86	289.9	2.3	2.2	3.2	0.675	86	606			
BR 315S-2	110	2974	6.1	192	182	176	94.5	93.8	92.4	0.92	0.89	0.84	353.4	2.4	2.1	2.8	1.18	90	980			
BR 315M-2	132	2978	7.0	230	218	210	94.9	94.7	93.3	0.92	0.90	0.87	423.3	2.3	1.9	2.7	1.55	90	1080			
BR 315L1-2	160	2980	7.0	276	262	253	95.6	95.1	93.9	0.92	0.91	0.88	513.0	2.5	1.8	2.7	1.76	90	1160			
BR 315L2-2	200	2982	6.9	346	329	317	95.4	94.9	94.0	0.92	0.91	0.89	640.5	2.8	1.9	2.8	2.02	88	1190			
BR 355M-2	250	2984	6.8	428	407	392	95.3	94.6	92.7	0.93	0.92	0.89	800.5	1.7	1.6	2.6	3.56	93	1758			
BR 355L-2	315	2987	6.3	537	510	492	95.8	95.2	94.1	0.93	0.93	0.90	1007.6	1.7	1.5	2.9	4.1	88	1848			

**BR Series
1500 min⁻¹ (4 Poles)**



CAST IRON

**Three - Phase Squirrel Cage Motors
380V - 415V 50Hz
Protection IP55**

Motor Type	Output kW	Full Load Speed min ⁻¹	Starting Current Ratio I _s / I _a	Rated Current			Efficiency			Power Factor			TFL Nm	TST TFL	TPU TFL	TM TFL	Moment of Inertia kgm ²	Noise Level dB(A)	Weight kg
				380V	400V	415V	100%FL	75%FL	50%FL	100%FL	75%FL	50%FL							
				I _a			η			cosφ									
BR 801-4	0.55	1405	4.6	1.53	1.46	1.40	72.7	72.2	70.2	0.75	0.67	0.55	3.7	2.5	2.2	2.8	0.002	54	15
BR 802-4	0.75	1415	4.6	2.07	1.96	1.89	72.6	72.3	70.5	0.76	0.66	0.55	5.1	2.3	2.1	2.7	0.002	57	16
BR 90S-4	1.1	1406	4.2	2.73	2.60	2.50	76.5	76.1	74.9	0.80	0.69	0.55	7.5	2.4	2.2	3.2	0.0021	60	22
BR 90L-4	1.5	1410	4.6	3.64	3.46	3.33	79.2	78.8	77.1	0.79	0.71	0.59	10.2	2.5	2.3	2.4	0.003	58	25
BR 100L1-4	2.2	1408	5.2	4.97	4.72	4.55	81.1	80.8	79.7	0.83	0.73	0.6	14.9	2.6	2.0	3.0	0.007	61	33
BR 100L2-4	3	1416	5.6	6.69	6.36	6.13	83.0	82.6	81.2	0.82	0.76	0.64	20.2	2.4	2.1	3.0	0.007	63	37
BR 112M-4	4	1438	5.8	8.57	8.15	7.85	84.4	83.9	81.8	0.84	0.77	0.68	26.6	2.8	2.3	3.2	0.0095	67	43
BR 132S-4	5.5	1455	6.5	11.6	11.0	10.6	86.6	86.1	84.8	0.83	0.77	0.68	36.1	2.2	2.1	3.1	0.0214	66	70
BR 132M-4	7.5	1448	6.8	15.1	14.3	13.8	88.4	87.3	85.3	0.86	0.81	0.72	49.5	2.6	2.3	3.2	0.0296	66	78
BR 160M-4	11	1460	6.8	22.3	21.2	20.4	89.1	88.1	87.1	0.84	0.82	0.76	72.0	2.5	2.0	2.9	0.075	69	123
BR 160L-4	15	1462	7.2	29.7	28.2	27.2	90.3	89.3	88.0	0.85	0.82	0.75	98.0	2.5	2.1	3.2	0.092	68	144
BR 180M-4	18.5	1466	6.9	35.4	33.6	32.4	90.3	89.7	88.2	0.88	0.84	0.74	120.6	2.2	2.0	3.0	0.139	72	182
BR 180L-4	22	1472	6.9	41.6	39.5	38.1	91.3	90.8	88.6	0.88	0.85	0.76	142.8	2.3	1.9	3.3	0.158	74	190
BR 200L-4	30	1475	6.3	55.6	52.8	50.9	92.3	91.5	88.8	0.89	0.86	0.81	194.3	2.2	1.8	2.9	0.262	77	270
BR 225S-4	37	1480	7.2	68.3	64.9	62.6	92.8	91.8	90.0	0.89	0.87	0.78	238.9	2.5	1.6	2.8	0.406	80	318
BR 225M-4	45	1472	6.5	82.8	78.7	75.9	92.8	92.1	90.0	0.89	0.86	0.8	292.1	2.3	1.8	3.2	0.469	80	351
BR 250M-4	55	1479	6.3	102	97.0	93.5	93.0	92.3	90.1	0.88	0.85	0.79	355.3	2.4	1.9	2.9	0.66	81	468
BR 280S-4	75	1485	5.8	135	128	124	93.9	93.2	91.5	0.90	0.89	0.85	482.6	2.2	1.8	3.1	1.12	83	532
BR 280M-4	90	1486	6.2	163	155	149	94.3	93.9	91.7	0.89	0.88	0.82	578.7	2.3	1.7	3.2	1.46	83	667
BR 315S-4	110	1483	5.8	197	187	180	95.3	94.8	92.8	0.89	0.89	0.87	708.7	2.2	1.8	2.8	3.11	85	1000
BR 315M-4	132	1487	6.8	238	226	218	95.6	94.9	93.6	0.88	0.88	0.83	848.2	1.9	1.7	3.2	3.29	88	1100
BR 315L1-4	160	1491	6.4	285	271	262	95.6	95.0	93.9	0.89	0.86	0.81	1025.4	2.3	1.6	3.2	3.79	88	1160
BR 315L2-4	200	1488	5.6	356	338	326	95.8	95.0	94.0	0.89	0.87	0.78	1284.3	2.2	1.8	2.8	4.49	87	1270
BR 355M-4	250	1485	6.1	432	410	395	95.5	94.7	93.2	0.90	0.89	0.87	1608.6	2.4	1.8	2.9	5.67	90	1698
BR 355L-4	315	1489	5.9	544	517	498	95.6	95.5	94.3	0.92	0.89	0.87	2021.4	2.2	1.6	3.3	6.66	90	1848

BR Series 1000 min⁻¹ (6 Poles)

BRANCO™



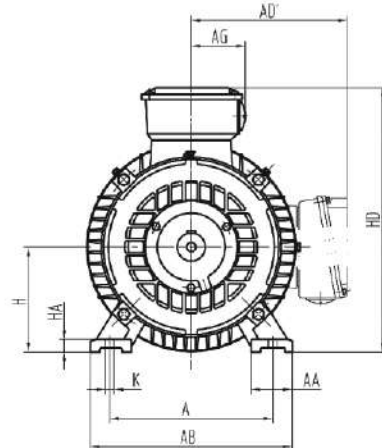
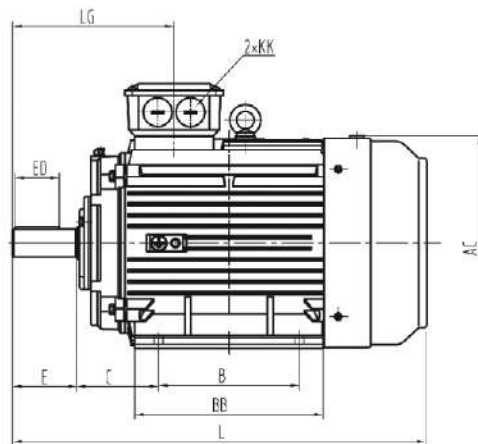
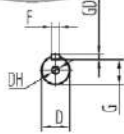
CAST IRON

Three - Phase Squirrel Cage Motors
380V - 415V 50Hz
Protection IP55

Motor Type	Output kW	Full Load Speed min ⁻¹	Starting Current Ratio I _s / I _a	Rated Current			Efficiency			Power Factor			TFL Nm	TST TFL	TPU TFL	TM TFL	Moment of Inertia kgm ²	Noise Level dB(A)	Weight kg
				380V	400V	415V	100%FL	75%FL	50%FL	100%FL	75%FL	50%FL							
				I _a			η			cos φ									
BR 801-6	0.37	916	3.3	1.26	1.20	1.16	63.5	63.4	56.2	0.70	0.63	0.50	3.9	1.9	1.7	2	0.002	46	17
BR 802-6	0.55	915	3.2	1.67	1.59	1.53	69.3	69.0	67.3	0.72	0.62	0.53	5.7	2.1	1.8	2.4	0.003	50	18
BR 90S-6	0.75	922	3.4	2.23	2.12	2.04	71.8	71.4	68.3	0.71	0.64	0.55	7.8	2.5	2.2	2.6	0.003	53	22
BR 90L-6	1.1	923	3.5	3.13	2.97	2.86	73.1	72.7	70.6	0.73	0.66	0.52	11.4	2.4	2.1	2.6	0.004	58	25
BR 100L-6	1.5	924	4.3	4.07	3.87	3.73	76.2	75.3	72.8	0.74	0.66	0.55	15.5	2.2	2.0	3.0	0.007	62	33
BR 112M-6	2.2	932	4.4	5.55	5.27	5.08	78.2	77.7	75.6	0.77	0.74	0.60	22.6	2.3	1.8	2.6	0.014	65	42
BR 132S-6	3	966	5.4	7.24	6.88	6.63	81.7	81.2	78.2	0.77	0.68	0.55	29.7	2.0	1.6	2.9	0.029	66	63
BR 132M1-6	4	968	5.5	9.32	8.85	8.53	83.6	83.2	80.8	0.78	0.69	0.58	39.5	2.3	1.9	3.2	0.036	66	72
BR 132M2-6	5.5	970	6.2	12.7	12.0	11.6	85.0	84.2	81.9	0.78	0.69	0.56	54.2	2.3	1.9	2.5	0.045	65	81
BR 160M-6	7.5	969	5.3	16.6	15.8	15.2	87.8	87.3	84.8	0.78	0.75	0.69	74.0	2.1	1.8	2.7	0.088	71	119
BR 160L-6	11	970	5.6	23.9	22.7	21.9	88.7	88.2	86.3	0.79	0.77	0.68	108.4	2.2	1.7	2.5	0.116	72	147
BR 180L-6	15	970	5.7	30.9	29.3	28.2	88.9	88.3	86.2	0.83	0.79	0.65	147.8	2.3	1.6	2.4	0.207	69	195
BR 200L1-6	18.5	976	5.8	37.5	35.6	34.3	90.3	90.1	87.5	0.83	0.80	0.71	181.1	2.2	1.8	2.6	0.315	73	240
BR 200L2-6	22	976	5.8	43.1	40.9	39.4	90.2	89.8	87.6	0.86	0.83	0.74	215.4	2.1	1.7	2.6	0.36	73	250
BR 225M-6	30	979	5.5	59.1	56.1	54.1	91.9	91.4	88.5	0.84	0.82	0.76	292.8	2.3	1.6	2.7	0.547	70	344
BR 250M-6	37	982	6.2	69.4	65.9	63.5	92.1	91.8	89.2	0.88	0.83	0.77	360.0	2.0	1.9	3.0	0.834	76	443
BR 280S-6	45	986	6.3	84.9	80.7	77.6	92.5	92.2	89.4	0.87	0.84	0.77	436.1	2.5	1.9	3.3	1.39	72	536
BR 280M-6	55	988	6.0	102	97.4	93.9	93.0	92.2	90.1	0.88	0.88	0.83	531.9	2.1	1.7	2.9	1.65	75	595
BR 315S-6	75	985	6.5	140	133	128	94.4	94.3	92.4	0.86	0.84	0.80	727.5	2.2	1.8	2.3	4.11	79	990
BR 315M-6	90	990	6.3	167	159	153	94.9	94.5	92.6	0.86	0.84	0.77	868.6	2.1	1.9	2.6	4.28	80	1080
BR 315L1-6	110	989	6.2	205	195	187	94.9	94.6	92.7	0.86	0.85	0.82	1062.7	2.3	1.8	3.2	5.45	80	1150
BR 315L2-6	132	991	6.3	243	231	222	95.0	94.7	92.6	0.87	0.87	0.81	1272.7	2.1	1.5	2.5	6.12	82	1210
BR 355ML-6	160	990	6.3	291	276	266	95.2	94.8	92.9	0.88	0.88	0.84	1544.2	2.0	1.4	2.5	8.85	87	1598
BR 355M2-6	200	991	6.1	356	338	326	96.1	95.6	93.5	0.89	0.86	0.82	1928.4	2.0	1.6	2.6	9.55	86	1698
BR 355L-6	250	991	6.2	438	416	401	96.3	95.8	93.6	0.90	0.87	0.83	2410.4	1.9	1.6	2.3	10.3	88	1798

**Mounting
IM B3**

**Dimensions
Three - Phase Motors
BR Series
CAST IRON**

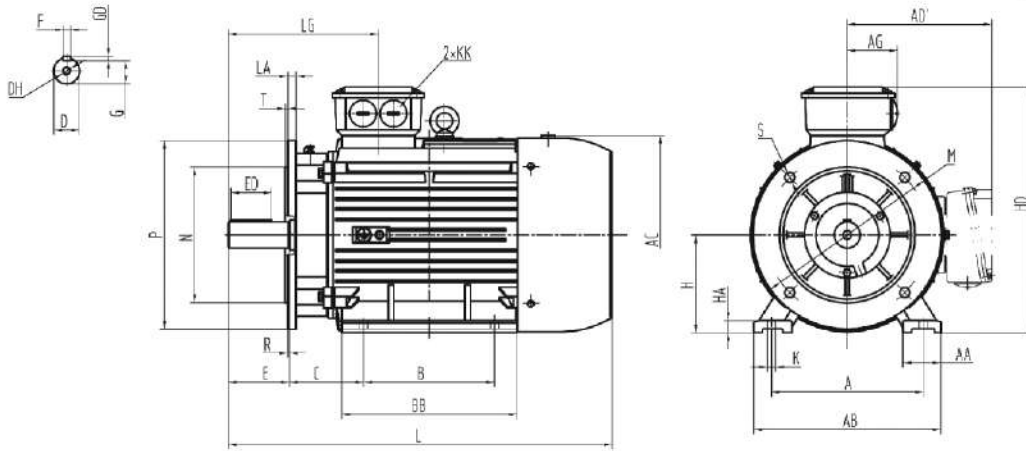


Motor Type	A	AA	AB	AC	AD	B	BB	C	D	E	ED	F	G	GD	H	HA	HD	K	KK	L	LG	AG
BR 80	125	34	160	175	140	100	130	50	19	40	25	6	15.5	6	80	10	230	10	M25X1.5	295	140	51
BR 90S	140	36	180	190	150	100	135	56	24	50	40	8	20	7	90	12.5	260	10	M25X1.5	320	124	60
BR 90L	140	36	180	190	150	125	160	56	24	50	40	8	20	7	90	12.5	260	10	M25X1.5	345	124	60
BR 100	160	40	200	215	160	140	182	63	28	60	45	8	24	7	100	14	270	12	M32X1.5	385	140	75
BR 112	190	45	230	236	185	140	195	70	28	60	45	8	24	7	112	14	210	12	M32X1.5	415	145	75
BR 132S	216	52	265	275	205	140	208	89	38	80	63	10	33	8	132	16	350	12	M32X1.5	490	169	75
BR 132M	216	52	265	275	205	178	245	89	38	80	63	10	33	8	132	16	350	12	M32X1.5	520	169	75
BR 160M	254	65	320	330	250	210	260	108	42	110	90	12	37	8	160	19	425	14.5	M40X1.5	610	270	95
BR 160L	254	65	320	330	250	254	305	108	42	110	90	12	37	8	160	19	425	14.5	M40X1.5	655	270	95
BR 180M	279	74	350	380	270	241	297	121	48	110	90	14	42.5	9	180	22	460	14.5	M40X1.5	680	277	95
BR 180L	279	74	350	380	270	279	335	121	48	110	90	14	42.5	9	180	22	460	14.5	M40X1.5	720	277	95
BR 200	318	75	395	420	325	305	370	133	55	110	90	16	49	10	200	25	505	18.5	M50X1.5	775	300	120
BR 225S(4-8P)	356	75	436	465	335	286	355	149	60	140	110	18	53	11	225	28	560	18.5	M50X1.5	825	340	120
BR 225M(2P)	356	75	436	465	335	311	380	149	55	110	90	16	49	10	225	28	560	18.5	M50X1.5	850	310	120
BR 225M(4-8P)	356	75	436	465	335	311	380	149	60	140	110	18	53	11	225	28	560	18.5	M50X1.5	850	340	120
BR 250M(2P)	406	88	495	520	370	349	440	168	60	140	110	18	53	11	250	33	620	24	M63X1.5	925	353	160
BR 250M(4-8P)	406	88	495	520	370	349	440	168	65	140	110	18	58	11	250	33	620	24	M63X1.5	925	353	160
BR 280S(2P)	457	109	550	570	370	368	535	190	65	140	110	18	58	11	280	35	685	24	M63X1.5	1000	350	160
BR 280S(4-8P)	457	109	550	570	370	368	535	190	75	140	110	20	67.5	12	280	35	685	24	M63X1.5	1010	350	160
BR 280M(2P)	457	109	550	570	370	419	535	190	65	140	110	18	58	11	280	35	685	24	M63X1.5	1000	350	160
BR 280M(4-8P)	457	109	550	570	370	419	535	190	75	140	110	20	67.5	12	280	35	685	24	M63X1.5	1010	350	160
BR 315S(2P)	508	120	635	650	495	406	515	216	65	140	110	18	58	11	315	45	820	28	M63X1.5	1160	387	195
BR 315M(2P)	508	120	635	650	495	457	625	216	65	140	110	18	58	11	315	45	820	28	M63X1.5	1270	387	195
BR 315L(2P)	508	120	635	650	495	508	625	216	65	140	110	18	58	11	315	45	820	28	M63X1.5	1270	387	195
BR 315S(4-10P)	508	120	635	650	495	406	515	216	80	170	140	22	71	14	315	45	820	28	M63X1.5	1190	417	195
BR 315M(4-10P)	508	120	635	650	495	457	625	216	80	170	140	22	71	14	315	45	820	28	M63X1.5	1300	417	195
BR 315L(4-10P)	508	120	635	650	495	508	625	216	80	170	140	22	71	14	315	45	820	28	M63X1.5	1300	417	195

Dimensions
Three - Phase Motors
BR Series
CAST IRON

Mounting
IM B35

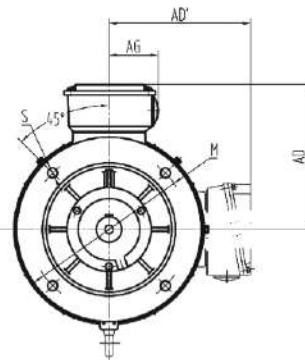
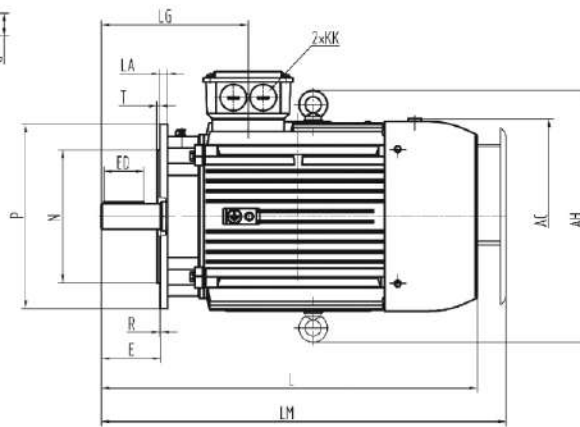
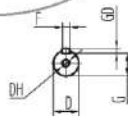
BRANCO™



Motor Type	A	AA	AB	AC	AD	B	BB	C	D	E	ED	F	G	GD	H	HA	HD	K	KK	L	LG	AG	M	N	P	S	T
BR 80	125	34	160	175	140	100	130	50	19	40	25	6	15.5	6	80	10	230	10	M25X1.5	295	140	51	165	130	200	12	3.5
BR 90S	140	36	180	190	150	100	135	56	24	50	40	8	20	7	90	12.5	260	10	M25X1.5	320	124	60	165	130	200	12	3.5
BR 90L	140	36	180	190	150	125	160	56	24	50	40	8	20	7	90	12.5	260	10	M25X1.5	345	124	60	165	130	200	12	3.5
BR 100	160	40	200	215	160	140	182	63	28	60	45	8	24	7	100	14	270	12	M32X1.5	385	140	75	215	180	250	14.5	4
BR 112	190	45	230	236	185	140	195	70	28	60	45	8	24	7	112	14	210	12	M32X1.5	415	145	75	215	180	250	14.5	4
BR 132S	216	52	265	275	205	140	208	89	38	80	63	10	33	8	132	16	350	12	M32X1.5	490	169	75	265	230	300	14.5	4
BR 132M	216	52	265	275	205	178	245	89	38	80	63	10	33	8	132	16	350	12	M32X1.5	520	169	75	265	230	300	14.5	4
BR 160M	254	65	320	330	250	210	260	108	42	110	90	12	37	8	160	19	425	14.5	M40X1.5	610	270	95	300	250	350	18.5	5
BR 160L	254	65	320	330	250	254	305	108	42	110	90	12	37	8	160	19	425	14.5	M40X1.5	655	270	95	300	250	350	18.5	5
BR 180M	279	74	350	380	270	241	297	121	48	110	90	14	42.5	9	180	22	460	14.5	M40X1.5	680	277	95	300	250	350	18.5	5
BR 180L	279	74	350	380	270	279	335	121	48	110	90	14	42.5	9	180	22	460	14.5	M40X1.5	720	277	95	300	250	350	18.5	5
BR 200	318	75	395	420	325	305	370	133	55	110	90	16	49	10	200	25	505	18.5	M50X1.5	775	300	120	350	300	400	18.5	5
BR 225S(4-8P)	356	75	436	465	335	286	355	149	60	140	110	18	53	11	225	28	560	18.5	M50X1.5	825	340	120	400	350	450	18.5	5
BR 225M(2P)	356	75	436	465	335	311	380	149	55	110	90	16	49	10	225	28	560	18.5	M50X1.5	850	310	120	400	350	450	18.5	5
BR 225M(4-8P)	356	75	436	465	335	311	380	149	60	140	110	18	53	11	225	28	560	18.5	M50X1.5	850	340	120	400	350	450	18.5	5
BR 250M(2P)	406	88	495	520	370	349	440	168	60	140	110	18	53	11	250	33	620	24	M63X1.5	925	353	160	500	450	550	18.5	5
BR 250M(4-8P)	406	88	495	520	370	349	440	168	65	140	110	18	58	11	250	33	620	24	M63X1.5	925	353	160	500	450	550	18.5	5
BR 280S(2P)	457	109	550	570	370	368	535	190	65	140	110	18	58	11	280	35	685	24	M63X1.5	1000	350	160	500	450	550	18.5	5
BR 280S(4-8P)	457	109	550	570	370	368	535	190	75	140	110	20	67.5	12	280	35	685	24	M63X1.5	1010	350	160	500	450	550	18.5	5
BR 280M(2P)	457	109	550	570	370	419	535	190	65	140	110	18	58	11	280	35	685	24	M63X1.5	1000	350	160	500	450	550	18.5	5
BR 280M(4-8P)	457	109	550	570	370	419	535	190	75	140	110	20	67.5	12	280	35	685	24	M63X1.5	1010	350	160	500	450	550	18.5	5
BR 315S(2P)	508	120	635	650	495	406	515	216	65	140	110	18	58	11	315	45	820	28	M63X1.5	1160	387	195	600	550	660	24	6
BR 315M(2P)	508	120	635	650	495	457	625	216	65	140	110	18	58	11	315	45	820	28	M63X1.5	1270	387	195	600	550	660	24	6
BR 315L(2P)	508	120	635	650	495	508	625	216	65	140	110	18	58	11	315	45	820	28	M63X1.5	1270	387	195	600	550	660	24	6
BR 315S(4-10P)	508	120	635	650	495	406	515	216	80	170	140	22	71	14	315	45	820	28	M63X1.5	1190	417	195	600	550	660	24	6
BR 315M(4-10P)	508	120	635	650	495	457	625	216	80	170	140	22	71	14	315	45	820	28	M63X1.5	1300	417	195	600	550	660	24	6
BR 315L(4-10P)	508	120	635	650	495	508	625	216	80	170	140	22	71	14	315	45	820	28	M63X1.5	1300	417	195	600	550	660	24	6

**Mounting
IM B5**

**Dimensions
Three - Phase Motors
BR Series
CAST IRON**



Motor Type	AC	AD	AH	D	E	ED	F	G	GD	KK	L	LA	LG	LM	M	N	P	S	T
BR 80	175	140	-	19	40	25	6	15.5	6	M25X1.5	295	10	140	-	165	130	200	12	3.5
BR 90S	190	150	-	24	50	40	8	20	7	M25X1.5	320	12	124	-	165	130	200	12	3.5
BR 90L	190	150	-	24	50	40	8	20	7	M25X1.5	345	12	124	-	165	130	200	12	3.5
BR 100	215	160	290	28	60	45	8	24	7	M32X1.5	385	12	140	-	215	180	250	14.5	4
BR 112	236	185	310	28	60	45	8	24	7	M32X1.5	415	12	145	-	215	180	250	14.5	4
BR 132S	275	205	360	38	80	63	10	33	8	M32X1.5	490	13	169	-	265	230	300	14.5	4
BR 132M	275	205	360	38	80	63	10	33	8	M32X1.5	520	13	169	-	265	230	300	14.5	4
BR 160M	330	250	450	42	110	90	12	37	8	M40X1.5	610	15	270	655	300	250	350	18.5	5
BR 160L	330	250	450	42	110	90	12	37	8	M40X1.5	655	15	270	710	300	250	350	18.5	5
BR 180M	380	270	480	48	110	90	14	42.5	9	M40X1.5	680	15	277	735	300	250	350	18.5	5
BR 180L	380	270	480	48	110	90	14	42.5	9	M40X1.5	720	15	277	775	300	250	350	18.5	5
BR 200	420	325	530	55	110	90	16	49	10	M50X1.5	775	17	300	840	350	300	400	18.5	5
BR 225S(4-8P)	465	335	580	60	140	110	18	53	11	M50X1.5	852	20	340	890	400	350	450	18.5	5
BR 225M(2P)	465	335	580	55	110	90	16	49	10	M50X1.5	850	20	310	895	400	350	450	18.5	5
BR 225M(4-8P)	465	335	580	60	140	110	18	53	11	M50X1.5	850	20	340	920	400	350	450	18.5	5
BR 250M(2P)	520	370	625	60	140	110	18	53	11	M63X1.5	925	20	353	1005	500	450	550	18.5	5
BR 250M(4-8P)	520	370	625	65	140	110	18	58	11	M63X1.5	925	20	353	1005	500	450	550	18.5	5
BR 280S(2P)	570	370	700	65	140	110	18	58	11	M63X1.5	1000	22	350	1085	500	450	550	18.5	5
BR 280S(4-8P)	570	370	700	75	140	110	20	67.5	12	M63X1.5	1010	22	350	1090	500	450	550	18.5	5
BR 280M(2P)	570	370	700	65	140	110	18	58	11	M63X1.5	1000	22	350	1090	500	450	550	18.5	5
BR 280M(4-8P)	570	370	700	75	140	110	20	67.5	12	M63X1.5	1010	22	350	1090	500	450	550	18.5	5
BR 315S(2P)	650	495	870	65	140	110	18	58	11	M63X1.5	1160	24	387	1288	600	550	660	24	6
BR 315M(2P)	650	495	870	65	140	110	18	58	11	M63X1.5	1270	24	387	1368	600	550	660	24	6
BR 315L(2P)	650	495	870	65	140	110	18	58	11	M63X1.5	1270	24	387	1368	600	550	660	24	6
BR 315S(4-10P)	650	495	870	80	170	140	22	71	14	M63X1.5	1190	24	417	1398	600	550	660	24	6
BR 315M(4-10P)	650	495	870	80	170	140	22	71	14	M63X1.5	1300	24	417	1398	600	550	660	24	6
BR 315L(4-10P)	650	495	870	80	170	140	22	71	14	M63X1.5	1300	24	417	1398	600	550	660	24	6

Product Ranges

- Three Phase IEC Low Voltage motors
- Two Speed Motors
- Inverter Duty Motors
- AC / DC Brake Motors
- Single Phase Motors
- High Efficiency EFFI Motors
- Smoke Spill Motors, Class H Insulation
- High Voltage Motors
- Slip Ring (Wound Rotor) Motors

