

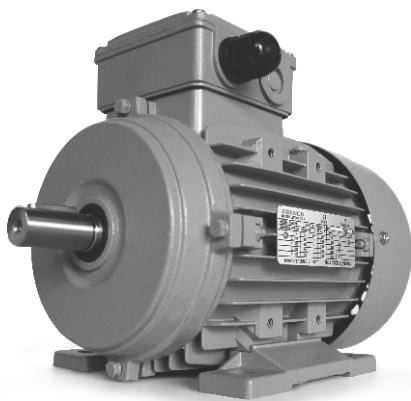
# BRANCO



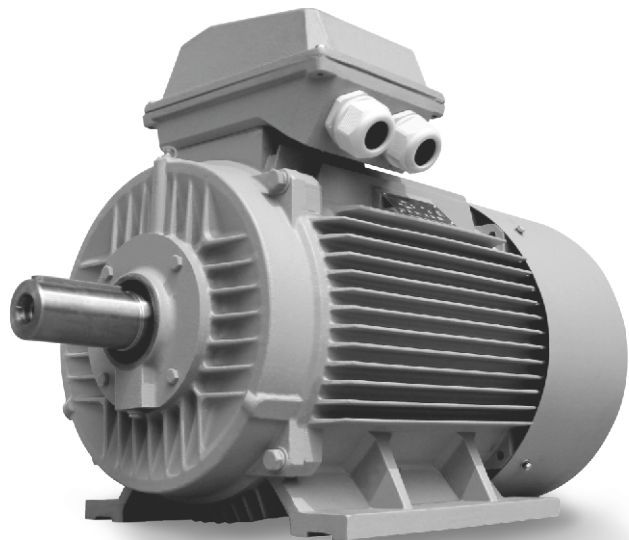
- Three Phase Induction Motor
- Class F Insulation, IP55 Protection, IEC Standard.



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**BA Aluminium Series**



**BR Cast Iron Series**

## Standards and Regulations

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

| <b>Title</b>                                                                            | <b>IEC</b> | <b>EU</b>      | <b>D</b>          | <b>I</b>             | <b>GB</b>         | <b>F</b>         | <b>F</b>           |
|-----------------------------------------------------------------------------------------|------------|----------------|-------------------|----------------------|-------------------|------------------|--------------------|
| <b>Electrical</b>                                                                       |            | <b>CENELEC</b> | <b>DIN/VDE</b>    | <b>CEI/UNEL</b>      | <b>BS</b>         | <b>NFC</b>       | <b>UNE</b>         |
| General stipulations for electrical machines                                            | 60034-1    | EN 60034-1     | DIN EN 60034-1    | CEI EN 60034-1       | 4999-1<br>4999-69 | 51-200<br>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            |                   |                  |                    |
| <b>Mechanical</b>                                                                       |            |                |                   |                      |                   |                  |                    |
| 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<br>51-110 | 51-105<br>51-104 | 20106-1/26<br>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<br>51-110 | 51-105<br>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/<br>13502 |                   |                  |                    |
| Classification of environmental conditions                                              | 600721-2   |                | 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  $\leq 1000$  m above sea-level and at ambient temperatures of up to 40° C. Exceptions are indicated on the rating plate.

| Standard/Regulation                        | Temperature<br>of coolant<br>°C | B  | Permissible temperature rise in K<br>(measured by resistance method) |                         |
|--------------------------------------------|---------------------------------|----|----------------------------------------------------------------------|-------------------------|
|                                            |                                 |    | Temperature class<br>F                                               | H                       |
| VDE 0530 part 1                            | 40                              | 80 | 105                                                                  | 125                     |
| International IEC 34-1                     | 40                              | 80 | 105                                                                  | 125                     |
| Britain BS 2613                            | 40                              | 80 | 105                                                                  | ↑<br>on<br>request<br>↓ |
| 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 <sup>1)</sup>           | 45                              | 75 | 90                                                                   |                         |
| American Bureau of Shipping <sup>1)</sup>  | 50                              | 70 | 95                                                                   |                         |
| Bureau Veritas <sup>1)</sup>               | 45                              | 70 | 100                                                                  |                         |
| Norske Veritas <sup>1)</sup>               | 45                              | 70 | 90 <sup>2)</sup>                                                     |                         |
| Lloyds Register <sup>1)</sup>              | 45                              | 70 | 90                                                                   |                         |
| Registro Italiano Navale <sup>1)</sup>     | 45                              | 70 | 90                                                                   |                         |
| Korean Register <sup>1)</sup>              | 50                              | 70 | 90                                                                   |                         |
| China Classification Society <sup>1)</sup> | 45                              | 75 | 95                                                                   |                         |

1) Classification societies for marine motors

2) Only with special approval

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° 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 ( $\eta$ )<br>(by indirect determination)                        | - 0.15 (1 - $\eta$ ) at $P_N \leq 150$ kW<br>- 0.1 (1 - $\eta$ ) at $P_N > 150$ kW                        |
| Power factor ( $\cos \varphi$ )                                             | $\frac{1 - \cos \varphi}{6}$ , minimum 0.02, maximum 0.07                                                 |
| Slip (s)<br>(at rated load and at working temperature)                      | $\pm 20$ % of the guaranteed slip at $P_N \leq 1$ kW<br>$\pm 30$ % of the guaranteed slip at $P_N > 1$ kW |
| Breakaway starting current ( $I_A$ )<br>(in the starting circuit envisaged) | + 20 % of the guaranteed starting current<br>(no lower limit)                                             |
| Breakaway torque ( $M_A$ )                                                  | - 15 % and + 25 % of the guaranteed breakaway torque<br>(+ 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<br>(after allowing for this tolerance, $M_K/M_N$ not less than 1.6)        |
| Moment of inertia (J)                                                       | $\pm 10$ % of the guaranteed value                                                                        |

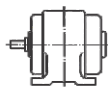
## Mounting Arrangements

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)



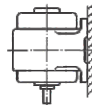
IM B7 (IM 1061)



IM B8 (IM 1071)



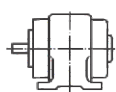
IM V5 (IM 1011)



IM V6 (IM 1031)



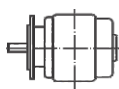
IM B34 (IM 2101)



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)



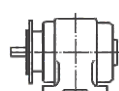
Flange type A to  
DIN 42 948 at  
drive end

IM V3 (IM 3031)



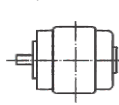
Flange type A to  
DIN 42 948 at  
drive end

IM B35 (IM 2001)



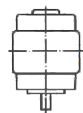
Flange type A to  
DIN 42 948 at  
drive end

IM B14 (IM 3601)



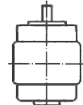
Flange type C to  
DIN 42 948 at  
drive end

IM V18 (IM 3611)



Flange type C to  
DIN 42 948 at  
drive end

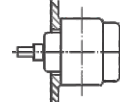
IM V19 (IM 3631)



Flange type C to  
DIN 42 948 at  
drive end

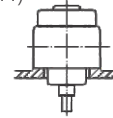
### Motors without endshield

IM B9 (IM 9101)



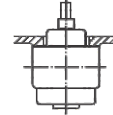
without endshield  
and without  
ball bearings on  
drive end

IM V8 (IM 9111)



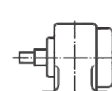
without endshield  
and without  
ball bearings on  
drive end

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

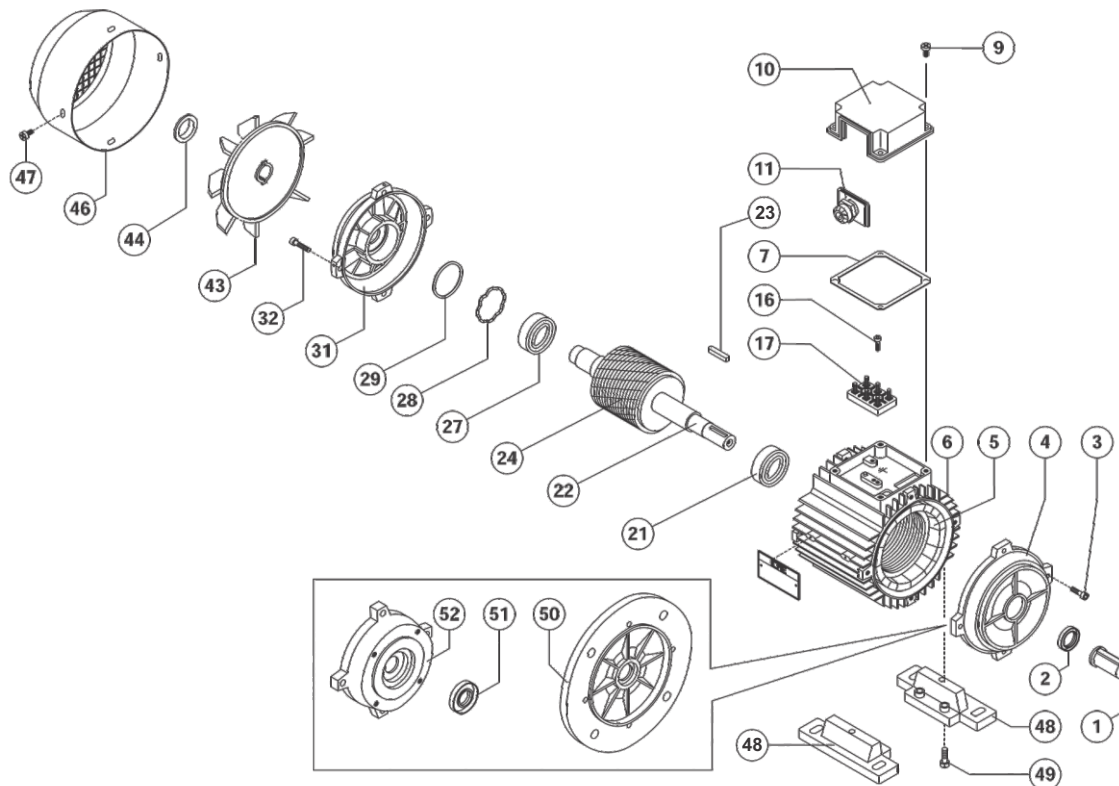
### BA Aluminium Motor Bearing Size

| Frame | BA ( Aluminium ) |               |
|-------|------------------|---------------|
|       | Drive end        | Non-Drive end |
| 56    | 6201ZZ           | 6201ZZ        |
| 63    | 6201ZZ           | 6201ZZ        |
| 71    | 6202ZZ           | 6202ZZ        |
| 80    | 6204ZZ           | 6204ZZ        |
| 90    | 6205ZZ           | 6205ZZ        |
| 100   | 6206ZZ           | 6206ZZ        |
| 112   | 6306ZZ           | 6206ZZ        |
| 132   | 6308ZZ           | 6208ZZ        |
| 160   | 6309ZZ           | 6309ZZ        |

### BR Cast Iron Motor Bearing Size

| Frame Size | Poles   | Drive end  |           | Non-Drive end |           |
|------------|---------|------------|-----------|---------------|-----------|
|            |         | Horizontal | Vertical  | Horizontal    | Vertical  |
| 80         | 2 to 8  | 6204ZZ-C3  | 6204ZZ-C3 | 6204ZZ-C3     | 6204ZZ-C3 |
| 90         | 2 to 8  | 6205ZZ-C3  | 6205ZZ-C3 | 6205ZZ-C3     | 6205ZZ-C3 |
| 100        | 2 to 8  | 6206ZZ-C3  | 6206ZZ-C3 | 6206ZZ-C3     | 6206ZZ-C3 |
| 112        | 2 to 8  | 6306ZZ-C3  | 6306ZZ-C3 | 6206ZZ-C3     | 6206ZZ-C3 |
| 132        | 2 to 8  | 6308ZZ-C3  | 6308ZZ-C3 | 6208ZZ-C3     | 6208ZZ-C3 |
| 160        | 2 to 8  | 6309-C3    | 6309-C3   | 6209-C3       | 6209-C3   |
| 180        | 2 to 8  | 6311-C3    | 6311-C3   | 6311-C3       | 6311-C3   |
| 200        | 2 to 8  | 6312-C3    | 6312-C3   | 6312-C3       | 6312-C3   |
| 225        | 2 to 8  | 6313-C3    | 6313-C3   | 6313-C3       | 6313-C3   |
| 250        | 2 to 8  | 6314-C3    | 6314-C3   | 6314-C3       | 6314-C3   |
| 280        | 2       | 6314-C3    | 6314-C3   | 6314-C3       | 6314-C3   |
|            | 4 to 8  | 6317-C3    | 6317-C3   | 6317-C3       | 6317-C3   |
| 315        | 2       | 6317-C3    | 6317-C3   | 6317-C3       | 7317B     |
|            | 4 to 10 | NU319      | 6319-C3   | 6319-C3       | 7319B     |
| 355        | 2       | 6319-C3    | 6319-C3   | 6319-C3       | 7319B     |
|            | 4 to 10 | NU322      | 6322-C3   | 6322-C3       | 7322B     |

## 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.

## Electrical Design

### Rated voltage

For the rated voltage of the motors, EN 60034-1 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  | <b>400</b> | 440  | 500  | 660  | 690  |
| Conversion factor x I <sub>n</sub> | 1.74 | 1.05 | <b>1.0</b> | 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.

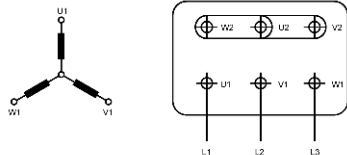
For severe operating conditions, e.g. high switching rate, long run-up time or electric braking, a thermal reserve is necessary, which could call for higher thermal class or the use of a motor with a higher rating. In these cases we recommend to enquire with detailed information on the operating conditions.

## Overload

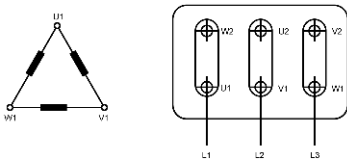
At operating temperature three-phase motors are capable of withstanding an overload for 15 seconds at 1.5 times the rated torque at rated voltage. This overload is according to EN 60034-1 and will not result in excessive heating.

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



Star connection



Delta connection

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  $V_n$  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:

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

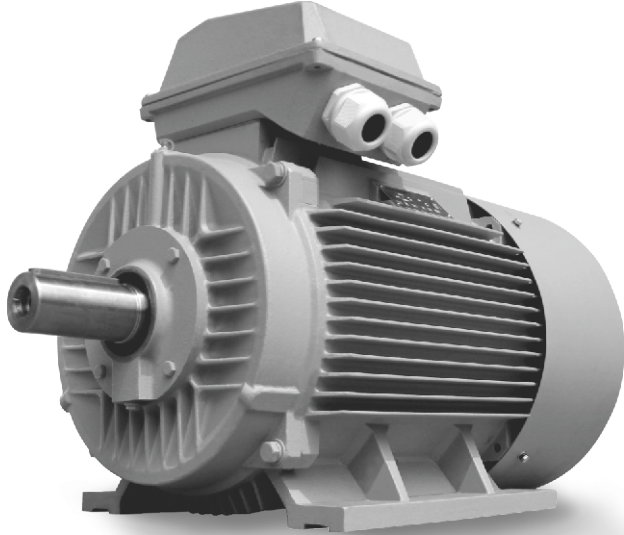
where  $I_n$  and  $U_n$  are referred to the delta connection.

### 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  $\Delta$  / 690 V Y).

## CAST IRON IE2 Efficiency Motor



### BR Series

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

**SPEED 3000RPM 2-POLE 50HZ**

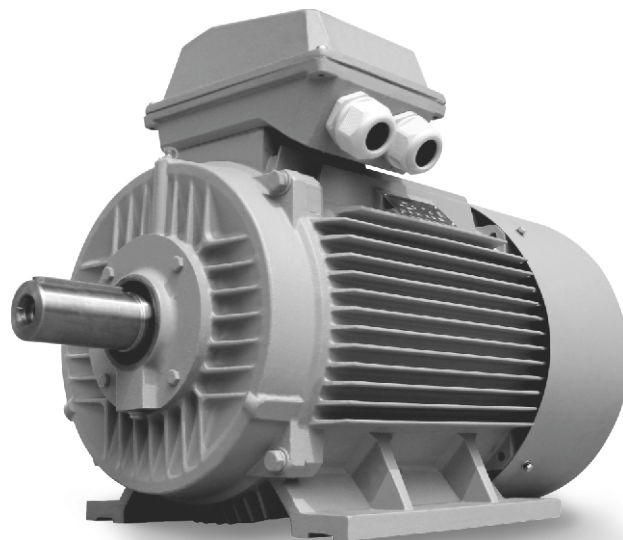
| Type           | Rated Output |     | Rated Speed rpm | Efficiency $\eta\%$ (IE2) | Efficiency at 75% load | Efficiency at 50% load | Power factor COS $\phi$ | Rated current A |      |      | Rated Torque Nm | Ts/Tn | Tmax/Tn | Is/In | Weight kg |
|----------------|--------------|-----|-----------------|---------------------------|------------------------|------------------------|-------------------------|-----------------|------|------|-----------------|-------|---------|-------|-----------|
|                | Kw           | HP  |                 |                           |                        |                        |                         | 380             | 400  | 415  |                 |       |         |       |           |
| BRE2B1-801-2   | 0.75         | 1   | 2875            | 77.4                      | 77.7                   | 75.5                   | 0.83                    | 1.77            | 1.68 | 1.62 | 2.49            | 2.3   | 2.3     | 6.8   | 16.0      |
| BRE2B1-802-2   | 1.1          | 1.5 | 2875            | 79.6                      | 79.9                   | 77.6                   | 0.84                    | 2.50            | 2.37 | 2.29 | 3.65            | 2.3   | 2.3     | 7.3   | 17.0      |
| BRE2B1-90S-2   | 1.5          | 2   | 2890            | 81.3                      | 81.6                   | 79.7                   | 0.84                    | 3.32            | 3.16 | 3.04 | 4.96            | 2.3   | 2.3     | 7.6   | 20.3      |
| BRE2B1-90L-2   | 2.2          | 3   | 2890            | 83.2                      | 83.5                   | 81.5                   | 0.85                    | 4.72            | 4.48 | 4.32 | 7.27            | 2.3   | 2.3     | 7.8   | 23.2      |
| BRE2B1-100L-2  | 3            | 4   | 2891            | 84.6                      | 84.9                   | 82.9                   | 0.87                    | 6.17            | 5.86 | 5.65 | 9.91            | 2.3   | 2.3     | 8.1   | 33.0      |
| BRE2B1-112M-2  | 4            | 5.5 | 2914            | 85.8                      | 86.1                   | 84.1                   | 0.88                    | 8.04            | 7.64 | 7.36 | 13.11           | 2.3   | 2.3     | 8.3   | 41.1      |
| BRE2B1-132S1-2 | 5.5          | 7.5 | 2937            | 87.0                      | 87.3                   | 85.3                   | 0.86                    | 11.2            | 10.6 | 10.2 | 17.88           | 2.2   | 2.3     | 8.0   | 55.5      |
| BRE2B1-132S2-2 | 7.5          | 10  | 2940            | 88.1                      | 88.5                   | 86.3                   | 0.88                    | 14.6            | 13.9 | 13.4 | 24.36           | 2.2   | 2.3     | 7.8   | 61.7      |
| BRE2B1-160M1-2 | 11           | 15  | 2930            | 89.4                      | 89.8                   | 87.6                   | 0.89                    | 21.0            | 19.9 | 19.2 | 35.85           | 2.2   | 2.3     | 7.9   | 116.5     |
| BRE2B1-160M2-2 | 15           | 20  | 2930            | 90.3                      | 90.7                   | 88.5                   | 0.89                    | 28.4            | 26.9 | 26.0 | 48.89           | 2.2   | 2.3     | 8.0   | 125.2     |
| BRE2B1-160L-2  | 18.5         | 25  | 2937            | 90.9                      | 91.3                   | 89.1                   | 0.89                    | 34.7            | 33.0 | 31.8 | 60.15           | 2.2   | 2.3     | 8.1   | 144.8     |
| BRE2B1-180M-2  | 22           | 30  | 2940            | 91.3                      | 91.7                   | 89.5                   | 0.88                    | 41.6            | 39.5 | 38.1 | 71.46           | 2.2   | 2.3     | 8.2   | 185       |
| BRE2B1-200L1-2 | 30           | 40  | 2950            | 92.0                      | 92.4                   | 90.2                   | 0.88                    | 56.2            | 53.4 | 51.5 | 97.12           | 2.2   | 2.3     | 7.5   | 235       |
| BRE2B1-200L2-2 | 37           | 50  | 2950            | 92.5                      | 92.9                   | 90.7                   | 0.89                    | 68.2            | 64.8 | 62.5 | 119.78          | 2.2   | 2.3     | 7.5   | 252       |
| BRE2B1-225M-2  | 45           | 60  | 2960            | 92.9                      | 93.3                   | 91.0                   | 0.89                    | 82.5            | 78.4 | 75.6 | 145.19          | 2.2   | 2.3     | 7.6   | 325       |
| BRE2B1-250M-2  | 55           | 75  | 2965            | 93.2                      | 93.6                   | 91.3                   | 0.90                    | 99.5            | 94.5 | 91.1 | 177.15          | 2.2   | 2.3     | 7.6   | 423       |
| BRE2B1-280S-2  | 75           | 100 | 2970            | 93.8                      | 94.2                   | 91.9                   | 0.90                    | 135             | 128  | 123  | 241.16          | 2.0   | 2.3     | 6.9   | 538       |
| BRE2B1-280M-2  | 90           | 125 | 2970            | 94.1                      | 94.5                   | 92.2                   | 0.91                    | 160             | 152  | 146  | 289.39          | 2.0   | 2.3     | 7.0   | 605       |
| BRE2B1-315S-2  | 110          | 150 | 2975            | 94.3                      | 94.7                   | 92.4                   | 0.91                    | 194             | 185  | 178  | 353.11          | 2.0   | 2.2     | 7.1   | 956       |
| BRE2B1-315M-2  | 132          | 180 | 2975            | 94.6                      | 95.0                   | 92.7                   | 0.91                    | 233             | 221  | 213  | 423.73          | 2.0   | 2.2     | 7.1   | 1071      |
| BRE2B1-315L1-2 | 160          | 200 | 2975            | 94.8                      | 95.2                   | 92.9                   | 0.92                    | 278             | 265  | 255  | 513.61          | 2.0   | 2.2     | 7.1   | 1134      |
| BRE2B1-315L2-2 | 200          | 270 | 2975            | 95.0                      | 95.4                   | 93.1                   | 0.92                    | 348             | 330  | 318  | 642.02          | 2.0   | 2.2     | 7.1   | 1269      |
| BRE2B1-355M-2  | 250          | 340 | 2980            | 95.0                      | 95.4                   | 93.1                   | 0.92                    | 434             | 412  | 398  | 801.17          | 2.0   | 2.2     | 7.1   | 1597      |
| BRE2B1-355L-2  | 315          | 430 | 2980            | 95.0                      | 95.4                   | 93.1                   | 0.92                    | 547             | 520  | 501  | 1009.48         | 2.0   | 2.2     | 7.1   | 1702      |

## CAST IRON IE2 Efficiency Motor

### BR Series

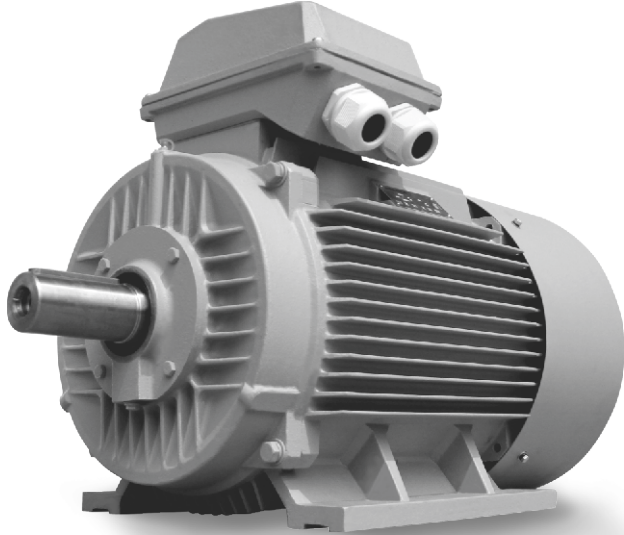
Three-Phase Squirrel Cage Motors  
380-415V  
Protection IP55

**SPEED 1500RPM 4-POLE 50HZ**



| Type           | Rated Output |     | Rated Speed rpm | Efficiency $\eta\%$ (IE2) | Efficiency at 75% load | Efficiency at 50% load | Power factor COS $\phi$ | Rated current A |      |      | Rated Torque Nm | Ts/Tn | Tmax/Tn | Is/In | Weight kg |
|----------------|--------------|-----|-----------------|---------------------------|------------------------|------------------------|-------------------------|-----------------|------|------|-----------------|-------|---------|-------|-----------|
|                | Kw           | HP  |                 |                           |                        |                        |                         | 380             | 400  | 415  |                 |       |         |       |           |
| BRE2B1-802-4   | 0.75         | 1   | 1400            | 79.6                      | 79.9                   | 78.0                   | 0.76                    | 1.88            | 1.78 | 1.72 | 5.12            | 2.3   | 2.3     | 6.3   | 15.4      |
| BRE2B1-90S-4   | 1.1          | 1.5 | 1440            | 81.4                      | 81.7                   | 79.8                   | 0.77                    | 2.66            | 2.53 | 2.44 | 7.3             | 2.3   | 2.3     | 6.5   | 20.5      |
| BRE2B1-90L-4   | 1.5          | 2   | 1445            | 82.8                      | 83.1                   | 81.1                   | 0.77                    | 3.57            | 3.39 | 3.27 | 9.91            | 2.3   | 2.3     | 6.6   | 24.6      |
| BRE2B1-100L1-4 | 2.2          | 3   | 1440            | 84.3                      | 84.6                   | 82.6                   | 0.81                    | 4.88            | 4.64 | 4.47 | 14.6            | 2.3   | 2.3     | 6.9   | 34.6      |
| BRE2B1-100L2-4 | 3            | 4   | 1440            | 85.5                      | 85.8                   | 83.8                   | 0.82                    | 6.50            | 6.18 | 5.95 | 19.9            | 2.3   | 2.3     | 7.5   | 39.2      |
| BRE2B1-112M-4  | 4            | 5.5 | 1445            | 86.6                      | 86.9                   | 84.9                   | 0.82                    | 8.55            | 8.12 | 7.83 | 26.4            | 2.3   | 2.3     | 7.6   | 51.5      |
| BRE2B1-132S-4  | 5.5          | 7.5 | 1455            | 87.7                      | 88.0                   | 85.9                   | 0.83                    | 11.5            | 10.9 | 10.5 | 36.1            | 2.0   | 2.3     | 7.7   | 62.8      |
| BRE2B1-132M-4  | 7.5          | 10  | 1455            | 88.7                      | 89.0                   | 86.9                   | 0.84                    | 15.3            | 14.5 | 14.0 | 49.2            | 2.0   | 2.3     | 7.5   | 76.3      |
| BRE2B1-160M-4  | 11           | 15  | 1460            | 89.8                      | 90.1                   | 88.0                   | 0.84                    | 22.1            | 21.0 | 20.3 | 71.9            | 2.2   | 2.3     | 7.4   | 115       |
| BRE2B1-160L-4  | 15           | 20  | 1460            | 90.6                      | 90.9                   | 88.8                   | 0.85                    | 29.6            | 28.1 | 27.1 | 98.1            | 2.2   | 2.3     | 7.5   | 140       |
| BRE2B1-180M-4  | 18.5         | 25  | 1470            | 91.2                      | 91.5                   | 89.4                   | 0.86                    | 35.8            | 34.0 | 32.8 | 120.2           | 2.2   | 2.3     | 7.5   | 173       |
| BRE2B1-180L-4  | 22           | 30  | 1470            | 91.6                      | 91.9                   | 89.8                   | 0.86                    | 42.3            | 40.2 | 38.8 | 142.9           | 2.2   | 2.3     | 7.7   | 199       |
| BRE2B1-200L-4  | 30           | 40  | 1470            | 92.3                      | 92.6                   | 90.5                   | 0.86                    | 57.3            | 54.4 | 52.5 | 194.9           | 2.2   | 2.3     | 7.8   | 252       |
| BRE2B1-225S-4  | 37           | 50  | 1480            | 92.7                      | 93.0                   | 90.8                   | 0.87                    | 69.7            | 66.2 | 63.8 | 238.8           | 2.2   | 2.3     | 7.2   | 310       |
| BRE2B1-225M-4  | 45           | 60  | 1480            | 93.1                      | 93.4                   | 91.2                   | 0.87                    | 84.3            | 80.1 | 77.2 | 290.4           | 2.2   | 2.3     | 7.3   | 331       |
| BRE2B1-250M-4  | 55           | 75  | 1480            | 93.5                      | 93.8                   | 91.6                   | 0.87                    | 103             | 97.5 | 94.0 | 354.9           | 2.2   | 2.3     | 7.4   | 419       |
| BRE2B1-280S-4  | 75           | 100 | 1480            | 94.0                      | 94.3                   | 92.1                   | 0.87                    | 139             | 132  | 127  | 484             | 2.2   | 2.3     | 7.4   | 540       |
| BRE2B1-280M-4  | 90           | 125 | 1480            | 94.2                      | 94.5                   | 92.3                   | 0.87                    | 167             | 158  | 153  | 580.7           | 2.2   | 2.3     | 6.7   | 610       |
| BRE2B1-315S-4  | 110          | 150 | 1485            | 94.5                      | 94.8                   | 92.6                   | 0.88                    | 201             | 191  | 184  | 707.4           | 2.2   | 2.2     | 6.9   | 980       |
| BRE2B1-315M-4  | 132          | 180 | 1485            | 94.7                      | 95.0                   | 92.8                   | 0.88                    | 240             | 228  | 220  | 848.9           | 2.2   | 2.2     | 6.9   | 1085      |
| BRE2B1-315L1-4 | 160          | 200 | 1485            | 94.9                      | 95.2                   | 93.0                   | 0.89                    | 288             | 273  | 263  | 1029            | 2.2   | 2.2     | 6.9   | 1120      |
| BRE2B1-315L2-4 | 200          | 270 | 1485            | 95.1                      | 95.4                   | 93.2                   | 0.89                    | 359             | 341  | 328  | 1286            | 2.2   | 2.2     | 6.9   | 1269      |
| BRE2B1-355M-4  | 250          | 340 | 1490            | 95.1                      | 95.4                   | 93.2                   | 0.90                    | 443             | 421  | 406  | 1602            | 2.2   | 2.2     | 6.9   | 1670      |
| BRE2B1-355L-4  | 315          | 430 | 1490            | 95.1                      | 95.4                   | 93.2                   | 0.90                    | 559             | 531  | 511  | 2019            | 2.2   | 2.2     | 6.9   | 1870      |

## CAST IRON IE2 Efficiency Motor



### BR Series

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

**SPEED 1000RPM 6-POLE 50HZ**

| Type           | Rated Output |     | Rated Speed rpm | Efficiency $\eta\%$ (IE2) | Efficiency at 75% load | Efficiency at 50% load | Power factor COS $\phi$ | Rated current A |      |      | Rated Torque Nm | Ts/Tn | Tmax/Tn | Is/In | Weight kg |
|----------------|--------------|-----|-----------------|---------------------------|------------------------|------------------------|-------------------------|-----------------|------|------|-----------------|-------|---------|-------|-----------|
|                | Kw           | HP  |                 |                           |                        |                        |                         | 380             | 400  | 415  |                 |       |         |       |           |
| BRE2B1-90S-6   | 0.75         | 1   | 934             | 75.9                      | 76.1                   | 74.4                   | 0.72                    | 2.08            | 1.98 | 1.90 | 7.67            | 2.1   | 2.1     | 5.8   | 23.3      |
| BRE2B1-90L-6   | 1.1          | 1.5 | 945             | 78.1                      | 78.3                   | 76.5                   | 0.72                    | 2.97            | 2.82 | 2.72 | 11.1            | 2.1   | 2.1     | 5.9   | 26.6      |
| BRE2B1-100L-6  | 1.5          | 2   | 945             | 79.8                      | 80.0                   | 78.2                   | 0.75                    | 3.80            | 3.61 | 3.48 | 15.2            | 2.1   | 2.1     | 6.0   | 36.2      |
| BRE2B1-112M-6  | 2.2          | 3   | 960             | 81.8                      | 82.0                   | 80.2                   | 0.76                    | 5.37            | 5.10 | 4.92 | 21.9            | 2.1   | 2.1     | 6.0   | 51.2      |
| BRE2B1-132S-6  | 3            | 4   | 964             | 83.3                      | 83.5                   | 81.6                   | 0.76                    | 7.19            | 6.83 | 6.58 | 29.7            | 2.0   | 2.1     | 6.2   | 56.1      |
| BRE2B1-132M1-6 | 4            | 5.5 | 965             | 84.6                      | 84.9                   | 82.9                   | 0.76                    | 9.43            | 8.96 | 8.63 | 39.6            | 2.0   | 2.1     | 6.8   | 71.4      |
| BRE2B1-132M2-6 | 5.5          | 7.5 | 965             | 86.0                      | 86.3                   | 84.3                   | 0.77                    | 12.6            | 12.0 | 11.5 | 54.4            | 2.0   | 2.1     | 7.1   | 73.7      |
| BRE2B1-160M-6  | 7.5          | 10  | 970             | 87.2                      | 87.5                   | 85.5                   | 0.78                    | 16.7            | 15.9 | 15.3 | 73.8            | 2.1   | 2.1     | 6.7   | 109       |
| BRE2B1-160L-6  | 11           | 15  | 970             | 88.7                      | 89.0                   | 86.9                   | 0.78                    | 24.8            | 23.5 | 22.7 | 108.3           | 2.1   | 2.1     | 6.9   | 132       |
| BRE2B1-180L-6  | 15           | 20  | 975             | 89.7                      | 90.0                   | 87.9                   | 0.81                    | 31.4            | 29.8 | 28.7 | 146.9           | 2.0   | 2.1     | 7.2   | 191       |
| BRE2B1-200L1-6 | 18.5         | 25  | 980             | 90.4                      | 90.7                   | 88.6                   | 0.81                    | 38.3            | 36.4 | 35.1 | 180.3           | 2.1   | 2.1     | 7.2   | 235       |
| BRE2B1-200L2-6 | 22           | 30  | 980             | 90.9                      | 91.2                   | 89.1                   | 0.83                    | 44.3            | 42.0 | 40.5 | 214.4           | 2.1   | 2.1     | 7.3   | 245       |
| BRE2B1-225M-6  | 30           | 40  | 980             | 91.7                      | 92.1                   | 89.9                   | 0.84                    | 59.2            | 56.2 | 54.2 | 292.3           | 2.0   | 2.1     | 7.1   | 289       |
| BRE2B1-250M-6  | 37           | 50  | 980             | 92.2                      | 92.5                   | 90.4                   | 0.86                    | 70.8            | 67.3 | 64.8 | 360.6           | 2.1   | 2.1     | 7.1   | 365       |
| BRE2B1-280S-6  | 45           | 60  | 980             | 92.7                      | 93.0                   | 90.8                   | 0.86                    | 85.8            | 81.5 | 78.5 | 438.5           | 2.1   | 2.0     | 7.2   | 501       |
| BRE2B1-280M-6  | 55           | 75  | 980             | 93.1                      | 93.4                   | 91.2                   | 0.86                    | 104             | 99.2 | 95.6 | 536             | 2.1   | 2.0     | 7.2   | 548       |
| BRE2B1-315S-6  | 75           | 100 | 985             | 93.7                      | 94.0                   | 91.8                   | 0.86                    | 141             | 134  | 129  | 727.2           | 2.0   | 2.0     | 6.7   | 799       |
| BRE2B1-315M-6  | 90           | 125 | 985             | 94.0                      | 94.3                   | 92.1                   | 0.86                    | 169             | 160  | 155  | 872.6           | 2.0   | 2.0     | 6.7   | 868       |
| BRE2B1-315L1-6 | 110          | 150 | 985             | 94.3                      | 94.6                   | 92.5                   | 0.86                    | 206             | 196  | 189  | 1066            | 2.0   | 2.0     | 6.7   | 1051      |
| BRE2B1-315L2-6 | 132          | 180 | 985             | 94.6                      | 94.9                   | 92.7                   | 0.87                    | 243             | 231  | 223  | 1280            | 2.0   | 2.0     | 6.7   | 1135      |
| BRE2B1-355M1-6 | 160          | 200 | 990             | 94.8                      | 95.1                   | 92.9                   | 0.88                    | 291             | 277  | 267  | 1543            | 2.0   | 2.0     | 6.7   | 1589      |
| BRE2B1-355M2-6 | 200          | 270 | 990             | 95.0                      | 95.3                   | 93.1                   | 0.88                    | 363             | 345  | 333  | 1929            | 2.0   | 2.0     | 6.7   | 1752      |
| BRE2B1-355L-6  | 250          | 340 | 990             | 95.0                      | 95.2                   | 93.1                   | 0.88                    | 454             | 432  | 416  | 2412            | 2.0   | 2.0     | 6.7   | 1990      |

## CAST IRON

### IE1 Efficiency Motor

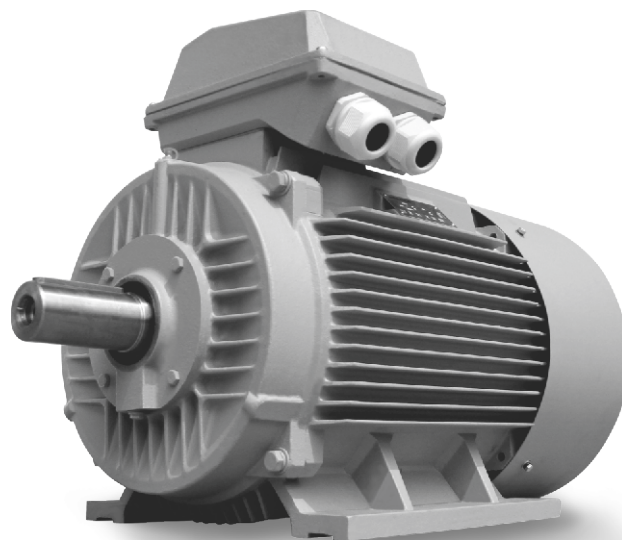
## BR Series

Three-Phase Squirrel Cage Motors

380-415V

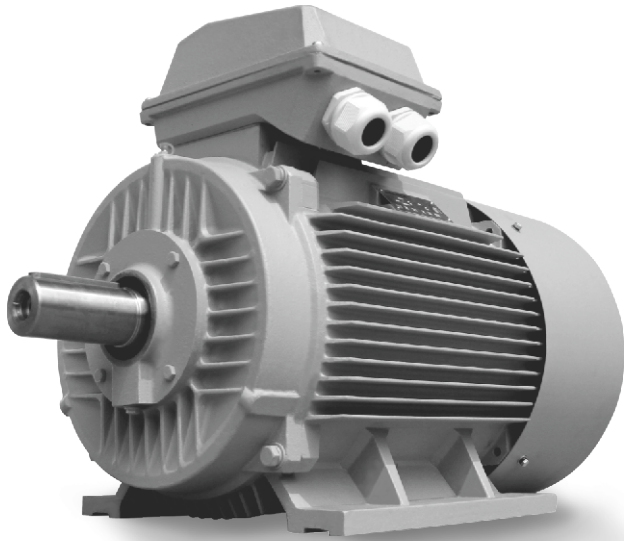
Protection IP55

### SPEED 3000RPM 2-POLE 50HZ



| Type           | Rated Output |     | Rated Speed rpm | Efficiency $\eta\%$ (IE1) | Power factor COS $\phi$ | Rated current A |      |      | Rated Torque Nm | Ts/Tn | Tmax/Tn | Is/In | Weight kg |
|----------------|--------------|-----|-----------------|---------------------------|-------------------------|-----------------|------|------|-----------------|-------|---------|-------|-----------|
|                | Kw           | HP  |                 |                           |                         | 380             | 400  | 415  |                 |       |         |       |           |
| BRE1B1-801-2   | 0.75         | 1   | 2840            | 72.1                      | 0.83                    | 1.9             | 1.8  | 1.74 | 2.52            | 2.3   | 2.4     | 6.1   | 13.1      |
| BRE1B1-802-2   | 1.1          | 1.5 | 2840            | 75.0                      | 0.84                    | 2.65            | 2.51 | 2.42 | 3.7             | 2.4   | 2.4     | 6.3   | 14.3      |
| BRE1B1-90S-2   | 1.5          | 2   | 2840            | 77.2                      | 0.84                    | 3.51            | 3.33 | 3.21 | 5.04            | 2.3   | 2.3     | 6.5   | 18.5      |
| BRE1B1-90L-2   | 2.2          | 3   | 2840            | 79.7                      | 0.85                    | 4.93            | 4.68 | 4.51 | 7.4             | 2.4   | 2.5     | 6.8   | 21.8      |
| BRE1B1-100L-2  | 3            | 4   | 2860            | 81.5                      | 0.87                    | 6.41            | 6.09 | 5.87 | 10              | 2.4   | 2.4     | 6.9   | 29.5      |
| BRE1B1-112M-2  | 4            | 5.5 | 2880            | 83.1                      | 0.88                    | 8.29            | 7.88 | 7.59 | 13.26           | 2.3   | 2.4     | 7.0   | 35.6      |
| BRE1B1-132S1-2 | 5.5          | 7.5 | 2900            | 84.7                      | 0.88                    | 11.2            | 10.6 | 10.3 | 18.11           | 2.2   | 2.3     | 7.2   | 56.5      |
| BRE1B1-132S2-2 | 7.5          | 10  | 2900            | 86.0                      | 0.88                    | 15.0            | 14.3 | 13.8 | 24.7            | 2.3   | 2.4     | 6.9   | 44.1      |
| BRE1B1-160M1-2 | 11           | 15  | 2930            | 87.6                      | 0.89                    | 21.4            | 20.3 | 19.6 | 35.85           | 2.2   | 2.3     | 6.8   | 102       |
| BRE1B1-160M2-2 | 15           | 20  | 2930            | 88.7                      | 0.89                    | 28.8            | 27.4 | 26.4 | 48.89           | 2.3   | 2.3     | 7.0   | 112       |
| BRE1B1-160L-2  | 18.5         | 25  | 2930            | 89.3                      | 0.90                    | 34.9            | 33.2 | 32.0 | 60.3            | 2.4   | 2.5     | 7.0   | 124       |
| BRE1B1-180M-2  | 22           | 30  | 2940            | 89.9                      | 0.90                    | 41.2            | 39.2 | 37.7 | 71.46           | 2.3   | 2.3     | 6.9   | 160       |
| BRE1B1-200L1-2 | 30           | 40  | 2950            | 90.7                      | 0.90                    | 55.8            | 53.0 | 51.1 | 97.12           | 2.2   | 2.3     | 7.1   | 210       |
| BRE1B1-200L2-2 | 37           | 50  | 2950            | 91.2                      | 0.90                    | 68.4            | 65.0 | 62.6 | 119.8           | 2.3   | 2.4     | 7.1   | 222       |
| BRE1B1-225M-2  | 45           | 60  | 2960            | 91.7                      | 0.90                    | 82.7            | 78.5 | 75.7 | 145.2           | 2.3   | 2.5     | 6.8   | 270       |
| BRE1B1-250M-2  | 55           | 75  | 2965            | 92.1                      | 0.90                    | 101             | 95.7 | 92.2 | 177.2           | 2.1   | 2.2     | 6.8   | 355       |
| BRE1B1-280S-2  | 75           | 100 | 2970            | 92.7                      | 0.90                    | 137             | 130  | 125  | 241.2           | 2.3   | 2.3     | 7.1   | 482       |
| BRE1B1-280M-2  | 90           | 125 | 2970            | 93.0                      | 0.91                    | 161             | 153  | 147  | 289.4           | 2.2   | 2.4     | 7.1   | 552       |
| BRE1B1-315S-2  | 110          | 150 | 2975            | 93.3                      | 0.91                    | 197             | 187  | 180  | 353.1           | 2.2   | 2.3     | 7.1   | 875       |
| BRE1B1-315M-2  | 132          | 180 | 2975            | 93.5                      | 0.91                    | 235             | 224  | 216  | 423.7           | 2.3   | 2.4     | 6.9   | 960       |
| BRE1B1-315L1-2 | 160          | 200 | 2975            | 93.8                      | 0.92                    | 281             | 267  | 258  | 513.6           | 2.2   | 2.3     | 7.0   | 1001      |
| BRE1B1-315L2-2 | 200          | 270 | 2975            | 94.0                      | 0.92                    | 351             | 333  | 321  | 642             | 2.2   | 2.3     | 7.0   | 1080      |
| BRE1B1-355M-2  | 250          | 340 | 2980            | 94.0                      | 0.92                    | 438             | 416  | 401  | 801.2           | 2.2   | 2.3     | 7.0   | 1850      |
| BRE1B1-355L-2  | 315          | 430 | 2980            | 94.0                      | 0.92                    | 552             | 524  | 505  | 1009            | 2.2   | 2.3     | 7.0   | 2200      |

## CAST IRON IE1 Efficiency Motor



### BR Series

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

**SPEED 1500RPM 4-POLE 50HZ**

| Type           | Rated Output |      | Rated Speed rpm | Efficiency $\eta\%$ (IE1) | Power factor COS $\phi$ | Rated current A |      |      | Rated Torque Nm | Ts/Tn | Tmax/Tn | Is/In | Weight kg |
|----------------|--------------|------|-----------------|---------------------------|-------------------------|-----------------|------|------|-----------------|-------|---------|-------|-----------|
|                | Kw           | HP   |                 |                           |                         | 380             | 400  | 415  |                 |       |         |       |           |
| BRE1B1-631-4   | 0.12         | 0.17 | 1310            | 57.0                      | 0.72                    | 0.44            | 0.42 | 0.41 | 0.84            | 2.1   | 2.2     | 4.4   | 8.5       |
| BRE1B1-632-4   | 0.18         | 0.25 | 1310            | 60.0                      | 0.73                    | 0.62            | 0.59 | 0.57 | 1.26            | 2.1   | 2.2     | 4.4   | 8.9       |
| BRE1B1-711-4   | 0.25         | 0.37 | 1330            | 65.0                      | 0.74                    | 0.79            | 0.75 | 0.72 | 1.73            | 2.1   | 2.2     | 5.2   | 11.2      |
| BRE1B1-712-4   | 0.37         | 0.5  | 1330            | 67.0                      | 0.75                    | 1.12            | 1.06 | 1.02 | 2.54            | 2.1   | 2.2     | 5.2   | 11.8      |
| BRE1B1-801-4   | 0.55         | 0.75 | 1390            | 71.1                      | 0.75                    | 1.57            | 1.49 | 1.43 | 3.78            | 2.4   | 2.3     | 5.2   | 13.8      |
| BRE1B1-802-4   | 0.75         | 1    | 1390            | 72.1                      | 0.76                    | 2.08            | 1.97 | 1.90 | 5.15            | 2.3   | 2.3     | 6.1   | 14.5      |
| BRE1B1-90S-4   | 1.1          | 1.5  | 1390            | 75.0                      | 0.77                    | 2.89            | 2.74 | 2.64 | 7.56            | 2.3   | 2.4     | 6.3   | 17.3      |
| BRE1B1-90L-4   | 1.5          | 2    | 1390            | 77.2                      | 0.79                    | 3.73            | 3.55 | 3.42 | 10.31           | 2.4   | 2.4     | 6.1   | 23        |
| BRE1B1-100L1-4 | 2.2          | 3    | 1390            | 79.7                      | 0.81                    | 5.17            | 4.91 | 4.74 | 15.12           | 2.3   | 2.4     | 6.5   | 30.3      |
| BRE1B1-100L2-4 | 3            | 4    | 1410            | 81.5                      | 0.82                    | 6.81            | 6.47 | 6.24 | 20.32           | 2.5   | 2.5     | 6.5   | 31.5      |
| BRE1B1-112M-4  | 4            | 5.5  | 1410            | 83.1                      | 0.82                    | 8.91            | 8.46 | 8.16 | 27.09           | 2.4   | 2.4     | 7.0   | 38        |
| BRE1B1-132S-4  | 5.5          | 7.5  | 1435            | 84.7                      | 0.83                    | 11.9            | 11.3 | 10.9 | 36.6            | 2.3   | 2.4     | 7.0   | 61.5      |
| BRE1B1-132M-4  | 7.5          | 10   | 1440            | 86.0                      | 0.84                    | 15.7            | 15.0 | 14.4 | 49.74           | 2.3   | 2.3     | 7.0   | 70.5      |
| BRE1B1-160M-4  | 11           | 15   | 1440            | 87.6                      | 0.84                    | 22.7            | 21.6 | 20.8 | 72.95           | 2.2   | 2.3     | 6.5   | 115       |
| BRE1B1-160L-4  | 15           | 20   | 1460            | 88.7                      | 0.85                    | 30.2            | 28.7 | 27.6 | 98.12           | 2.2   | 2.2     | 7.2   | 128       |
| BRE1B1-180M-4  | 18.5         | 25   | 1460            | 89.3                      | 0.86                    | 36.4            | 34.5 | 33.3 | 121             | 2.2   | 2.3     | 7.5   | 160       |
| BRE1B1-180L-4  | 22           | 30   | 1470            | 89.9                      | 0.86                    | 43.1            | 41.0 | 39.5 | 142.9           | 2.2   | 2.3     | 7.2   | 177       |
| BRE1B1-200L-4  | 30           | 40   | 1470            | 90.7                      | 0.86                    | 58.4            | 55.5 | 53.4 | 194.9           | 2.3   | 2.4     | 7.1   | 238       |
| BRE1B1-225S-4  | 37           | 50   | 1470            | 91.2                      | 0.87                    | 70.8            | 67.2 | 64.8 | 240.4           | 2.2   | 2.2     | 7.1   | 250       |
| BRE1B1-225M-4  | 45           | 60   | 1475            | 91.7                      | 0.87                    | 85.7            | 81.4 | 78.5 | 291.4           | 2.3   | 2.3     | 6.9   | 270       |
| BRE1B1-250M-4  | 55           | 75   | 1475            | 92.1                      | 0.87                    | 104             | 98.9 | 95.3 | 356.1           | 2.1   | 2.2     | 6.8   | 387       |
| BRE1B1-280S-4  | 75           | 100  | 1480            | 92.7                      | 0.87                    | 141             | 134  | 129  | 484             | 2.2   | 2.2     | 7.5   | 498       |
| BRE1B1-280M-4  | 90           | 125  | 1480            | 93.0                      | 0.87                    | 169             | 160  | 154  | 580.7           | 2.1   | 2.2     | 7.2   | 550       |
| BRE1B1-315S-4  | 110          | 150  | 1480            | 93.3                      | 0.88                    | 203             | 193  | 186  | 709.8           | 2.2   | 2.2     | 6.9   | 801       |
| BRE1B1-315M-4  | 132          | 180  | 1480            | 93.5                      | 0.88                    | 243             | 231  | 223  | 851.8           | 2.1   | 2.2     | 6.9   | 895       |
| BRE1B1-315L1-4 | 160          | 200  | 1480            | 93.8                      | 0.89                    | 291             | 276  | 266  | 1032            | 2.1   | 2.2     | 6.7   | 957       |
| BRE1B1-315L2-4 | 200          | 270  | 1480            | 94.0                      | 0.89                    | 363             | 345  | 332  | 1291            | 2.1   | 2.2     | 6.9   | 1002      |
| BRE1B1-355M-4  | 250          | 340  | 1490            | 94.0                      | 0.90                    | 449             | 426  | 411  | 1602            | 2.2   | 2.2     | 6.9   | 1660      |
| BRE1B1-355L-4  | 315          | 430  | 1490            | 94.0                      | 0.90                    | 565             | 537  | 517  | 2019            | 2.1   | 2.2     | 6.9   | 1850      |

## CAST IRON

### IE1 Efficiency Motor

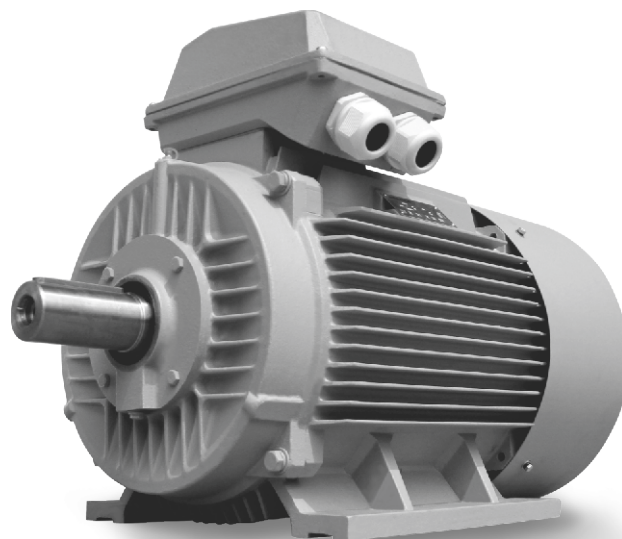
## BR Series

Three-Phase Squirrel Cage Motors

380-415V

Protection IP55

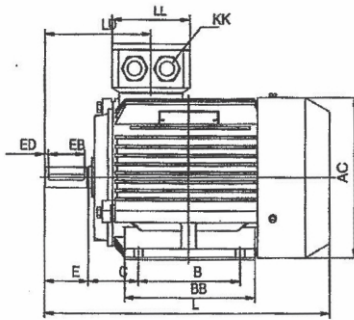
### SPEED 1000RPM 6-POLE 50HZ



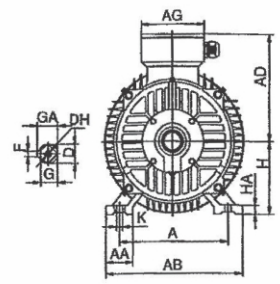
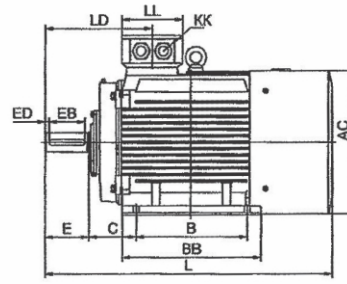
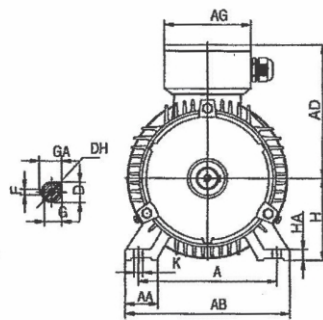
| Type           | Rated Output |      | Rated Speed rpm | Efficiency $\eta\%$ (IE1) | Power factor COS $\phi$ | Rated current A |      |      | Rated Torque Nm | Ts/Tn | Tmax/Tn | Is/In | Weight kg |
|----------------|--------------|------|-----------------|---------------------------|-------------------------|-----------------|------|------|-----------------|-------|---------|-------|-----------|
|                | Kw           | HP   |                 |                           |                         | 380             | 400  | 415  |                 |       |         |       |           |
| BRE1B1-711-6   | 0.18         | 0.25 | 850             | 56.0                      | 0.66                    | 0.74            | 0.7  | 0.68 | 1.91            | 1.9   | 2.0     | 4.4   | 9         |
| BRE1B1-712-6   | 0.25         | 0.37 | 850             | 59.0                      | 0.68                    | 0.95            | 0.9  | 0.87 | 2.65            | 1.9   | 2.0     | 4     | 9.5       |
| BRE1B1-801-6   | 0.37         | 0.5  | 885             | 62.0                      | 0.7                     | 1.3             | 1.23 | 1.19 | 3.93            | 1.9   | 2.0     | 4.7   | 12.3      |
| BRE1B1-802-6   | 0.55         | 0.75 | 885             | 65.0                      | 0.72                    | 1.78            | 1.69 | 1.63 | 5.84            | 1.9   | 2.1     | 4.7   | 13.5      |
| BRE1B1-90S-6   | 0.75         | 1    | 910             | 70.0                      | 0.72                    | 2.26            | 2.15 | 2.07 | 7.87            | 2.1   | 2.1     | 5.5   | 17.5      |
| BRE1B1-90L-6   | 1.1          | 1.5  | 910             | 72.9                      | 0.73                    | 3.14            | 2.98 | 2.87 | 11.54           | 2.0   | 2.1     | 5.5   | 20        |
| BRE1B1-100L-6  | 1.5          | 2    | 920             | 75.2                      | 0.75                    | 4.04            | 3.83 | 3.70 | 15.57           | 2.0   | 2.0     | 6.0   | 29        |
| BRE1B1-112M-6  | 2.2          | 3    | 935             | 77.7                      | 0.76                    | 5.65            | 5.36 | 5.17 | 22.47           | 2.2   | 2.2     | 6.0   | 38        |
| BRE1B1-132S-6  | 3            | 4    | 960             | 79.7                      | 0.76                    | 7.52            | 7.14 | 6.88 | 29.84           | 2.0   | 2.1     | 6.5   | 59        |
| BRE1B1-132M1-6 | 4            | 5.5  | 960             | 81.4                      | 0.76                    | 9.80            | 9.31 | 8.97 | 39.79           | 2.0   | 2.1     | 6.5   | 68        |
| BRE1B1-132M2-6 | 5.5          | 7.5  | 960             | 83.1                      | 0.77                    | 13.1            | 12.4 | 12.0 | 54.71           | 2.2   | 2.2     | 6.5   | 77        |
| BRE1B1-160M-6  | 7.5          | 10   | 970             | 84.7                      | 0.77                    | 17.4            | 16.6 | 16.0 | 73.84           | 2.0   | 2.1     | 6.7   | 105       |
| BRE1B1-160L-6  | 11           | 15   | 970             | 86.4                      | 0.78                    | 22.2            | 21.1 | 20.3 | 108.3           | 2.2   | 2.3     | 6.7   | 140       |
| BRE1B1-180L-6  | 15           | 20   | 970             | 87.7                      | 0.81                    | 32.0            | 30.4 | 29.3 | 147.7           | 2.1   | 2.2     | 6.7   | 170       |
| BRE1B1-200L1-6 | 18.5         | 25   | 980             | 88.6                      | 0.81                    | 39.1            | 37.2 | 35.8 | 180.3           | 2.2   | 2.2     | 6.7   | 191       |
| BRE1B1-200L2-6 | 22           | 30   | 980             | 89.2                      | 0.83                    | 45.1            | 42.8 | 41.3 | 214.4           | 2.1   | 2.2     | 6.7   | 218       |
| BRE1B1-225M-6  | 30           | 40   | 980             | 90.2                      | 0.84                    | 60.1            | 57.1 | 55.0 | 292.3           | 2.1   | 2.1     | 7.0   | 255       |
| BRE1B1-250M-6  | 37           | 50   | 980             | 90.8                      | 0.86                    | 71.9            | 68.3 | 65.8 | 360.6           | 2.1   | 2.2     | 7.0   | 358       |
| BRE1B1-280S-6  | 45           | 60   | 980             | 91.4                      | 0.86                    | 86.8            | 82.5 | 79.5 | 438.5           | 2.0   | 2.1     | 7.0   | 475       |
| BRE1B1-280M-6  | 55           | 75   | 980             | 91.9                      | 0.86                    | 106             | 100  | 96.7 | 536             | 2.1   | 2.2     | 7.0   | 520       |
| BRE1B1-315S-6  | 75           | 100  | 985             | 92.6                      | 0.86                    | 143             | 136  | 131  | 727.2           | 2.1   | 2.2     | 7.0   | 742       |
| BRE1B1-315M-6  | 90           | 125  | 985             | 92.9                      | 0.86                    | 171             | 162  | 156  | 872.6           | 2.0   | 2.1     | 6.7   | 815       |
| BRE1B1-315L1-6 | 110          | 150  | 985             | 93.3                      | 0.86                    | 208             | 197  | 190  | 1066            | 2.0   | 2.1     | 6.7   | 898       |
| BRE1B1-315L2-6 | 132          | 180  | 985             | 93.5                      | 0.87                    | 246             | 234  | 226  | 1280            | 2.0   | 2.1     | 6.7   | 947       |
| BRE1B1-355M1-6 | 160          | 200  | 985             | 93.8                      | 0.88                    | 295             | 280  | 270  | 1551            | 1.9   | 2.0     | 6.7   | 1500      |
| BRE1B1-355M2-6 | 200          | 270  | 985             | 94.0                      | 0.88                    | 367             | 349  | 336  | 1939            | 1.9   | 2.0     | 6.7   | 1500      |
| BRE1B1-355L-6  | 250          | 340  | 985             | 94.0                      | 0.88                    | 459             | 436  | 420  | 2424            | 1.9   | 2.0     | 6.7   | 1650      |

## CAST IRON Dimensions

### Foot Mounting IM B3 #80-355



FR#80-132



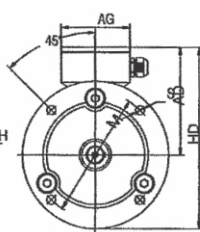
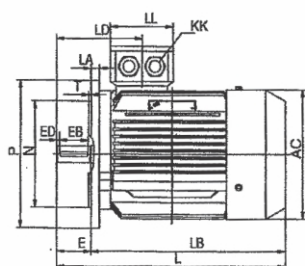
FR#160-355

| Type | Pole     | A   | AA  | AB  | AC    | AD  | AG  | B   | BB  | C   | D  | DH     | E   | EB  | ED  | F  | G    | GA   | H   | HA | K       | KK        | L    | LD    | LL  |
|------|----------|-----|-----|-----|-------|-----|-----|-----|-----|-----|----|--------|-----|-----|-----|----|------|------|-----|----|---------|-----------|------|-------|-----|
| 80   | 2,4,6,8  | 125 | 34  | 160 | 155.4 | 131 | 94  | 100 | 130 | 50  | 19 | M6X16  | 40  | 30  | 5   | 6  | 15.5 | 21.5 | 80  | 10 | 4-φ10   | 1-M25X1.5 | 284  | 112   | 94  |
| 90S  | 2,4,6,8  | 140 | 36  | 176 | 175.4 | 148 | 102 | 100 | 130 | 56  | 24 | M8X19  | 50  | 40  | 5   | 8  | 20   | 27   | 90  | 12 | 4-φ10   | 1-M25X1.5 | 308  | 130   | 102 |
| 90L  | 2,4,6,8  | 140 | 36  | 176 | 175.4 | 148 | 102 | 125 | 155 | 56  | 24 | M8X19  | 50  | 40  | 5   | 8  | 20   | 27   | 90  | 12 | 4-φ10   | 1-M25X1.5 | 333  | 130   | 102 |
| 100L | 2,4,6,8  | 160 | 40  | 200 | 195.4 | 162 | 102 | 140 | 176 | 63  | 28 | M10X22 | 60  | 50  | 5   | 8  | 24   | 31   | 100 | 14 | 4-φ12   | 1-M32X1.5 | 380  | 139   | 102 |
| 112M | 2,4,6,8  | 190 | 45  | 226 | 219.4 | 183 | 118 | 140 | 180 | 70  | 28 | M10X22 | 60  | 50  | 5   | 8  | 24   | 31   | 112 | 15 | 4-φ12   | 2-M32X1.5 | 394  | 147   | 110 |
| 132S | 2,4,6,8  | 216 | 55  | 262 | 258.4 | 203 | 118 | 140 | 200 | 89  | 38 | M12X28 | 80  | 65  | 7.5 | 10 | 33   | 41   | 132 | 18 | 4-φ12   | 2-M32X1.5 | 470  | 172   | 110 |
| 132M | 4,6,8    | 216 | 55  | 262 | 258.4 | 203 | 118 | 178 | 238 | 89  | 38 | M12X28 | 80  | 65  | 7.5 | 10 | 33   | 41   | 132 | 18 | 4-φ12   | 2-M32X1.5 | 508  | 172   | 110 |
| 160M | 2,4,6,8  | 254 | 65  | 314 | 314   | 251 | 162 | 210 | 260 | 108 | 42 | M16X36 | 110 | 90  | 10  | 12 | 37   | 45   | 160 | 20 | 4-φ14.5 | 2-M40X1.5 | 608  | 256   | 152 |
| 160L | 2,4,6,8  | 254 | 65  | 314 | 314   | 251 | 162 | 254 | 304 | 108 | 42 | M16X36 | 110 | 90  | 10  | 12 | 37   | 45   | 160 | 20 | 4-φ14.5 | 2-M40X1.5 | 652  | 256   | 152 |
| 180M | 2,4,8    | 279 | 70  | 349 | 355   | 267 | 162 | 241 | 311 | 121 | 48 | M16X36 | 110 | 90  | 10  | 14 | 42.5 | 51.5 | 180 | 22 | 4-φ14.5 | 2-M40X1.5 | 688  | 271   | 152 |
| 180L | 4,6,8    | 279 | 70  | 349 | 355   | 267 | 162 | 279 | 349 | 121 | 48 | M16X36 | 110 | 90  | 10  | 14 | 42.5 | 51.5 | 180 | 22 | 4-φ14.5 | 2-M40X1.5 | 726  | 271   | 152 |
| 200L | 2,4,6,8  | 318 | 70  | 388 | 397   | 299 | 210 | 305 | 369 | 133 | 55 | M20X42 | 110 | 100 | 5   | 16 | 49   | 59   | 200 | 25 | 4-φ16.5 | 2-M50X1.5 | 771  | 296   | 190 |
| 225S | 4,8      | 356 | 75  | 431 | 446   | 322 | 210 | 286 | 368 | 149 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 225 | 28 | 4-φ18.5 | 2-M50X1.5 | 824  | 329   | 190 |
| 225M | 2        | 356 | 75  | 431 | 446   | 322 | 210 | 311 | 393 | 149 | 55 | M20X42 | 110 | 100 | 5   | 16 | 49   | 59   | 225 | 28 | 4-φ18.5 | 2-M50X1.5 | 819  | 299   | 190 |
| 225M | 4,6,8    | 356 | 75  | 431 | 446   | 322 | 210 | 311 | 393 | 149 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 225 | 28 | 4-φ18.5 | 2-M50X1.5 | 849  | 329   | 190 |
| 250M | 2        | 406 | 80  | 484 | 485   | 358 | 248 | 349 | 445 | 168 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 250 | 30 | 4-φ24   | 2-M63X1.5 | 910  | 347   | 218 |
| 250M | 4,6,8    | 406 | 80  | 484 | 485   | 358 | 248 | 349 | 445 | 168 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 250 | 30 | 4-φ24   | 2-M63X1.5 | 910  | 347   | 218 |
| 280S | 2        | 457 | 85  | 542 | 547   | 387 | 248 | 368 | 485 | 190 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 280 | 35 | 4-φ24   | 2-M63X1.5 | 982  | 355.5 | 218 |
| 280S | 4,6,8    | 457 | 85  | 542 | 547   | 387 | 248 | 368 | 485 | 190 | 75 | M20X42 | 140 | 125 | 7.5 | 20 | 67.5 | 79.5 | 280 | 35 | 4-φ24   | 2-M63X1.5 | 982  | 355.5 | 218 |
| 280M | 2        | 457 | 85  | 542 | 547   | 387 | 248 | 419 | 536 | 190 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 280 | 35 | 4-φ24   | 2-M63X1.5 | 1033 | 355.5 | 218 |
| 280M | 4,6,8    | 457 | 85  | 542 | 547   | 387 | 248 | 419 | 536 | 190 | 75 | M20X42 | 140 | 125 | 7.5 | 20 | 67.5 | 79.5 | 280 | 35 | 4-φ24   | 2-M63X1.5 | 1033 | 355.5 | 218 |
| 315S | 2        | 508 | 120 | 628 | 620   | 527 | 320 | 406 | 570 | 216 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1178 | 397   | 280 |
| 315S | 4,6,8,10 | 508 | 120 | 628 | 620   | 527 | 320 | 406 | 570 | 216 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1208 | 427   | 280 |
| 315M | 2        | 508 | 120 | 628 | 620   | 527 | 320 | 457 | 680 | 216 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1288 | 397   | 280 |
| 315M | 4,6,8,10 | 508 | 120 | 628 | 620   | 527 | 320 | 457 | 680 | 216 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1318 | 427   | 280 |
| 315L | 2        | 508 | 120 | 628 | 620   | 527 | 320 | 508 | 680 | 216 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1288 | 397   | 280 |
| 315L | 4,6,8,10 | 508 | 120 | 628 | 620   | 527 | 320 | 508 | 680 | 216 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1318 | 427   | 280 |
| 355M | 2        | 610 | 116 | 726 | 698   | 642 | 380 | 560 | 750 | 254 | 75 | M20X50 | 140 | 130 | 5   | 20 | 67.5 | 79.5 | 355 | 52 | 5-φ28   | 2-M63X1.5 | 1486 | 414   | 330 |
| 355M | 4,6,8,10 | 610 | 116 | 726 | 698   | 642 | 380 | 560 | 750 | 254 | 95 | M24X50 | 170 | 160 | 5   | 25 | 86   | 100  | 355 | 52 | 6-φ28   | 2-M63X1.5 | 1516 | 444   | 330 |
| 355L | 2        | 610 | 116 | 726 | 698   | 642 | 380 | 630 | 750 | 254 | 75 | M20X50 | 140 | 130 | 5   | 20 | 67.5 | 79.5 | 355 | 52 | 6-φ28   | 2-M63X1.5 | 1486 | 414   | 330 |
| 355L | 4,6,8,10 | 610 | 116 | 726 | 698   | 642 | 380 | 630 | 750 | 254 | 95 | M24X50 | 170 | 160 | 5   | 25 | 86   | 100  | 355 | 52 | 6-φ28   | 2-M63X1.5 | 1516 | 444   | 330 |

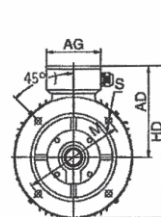
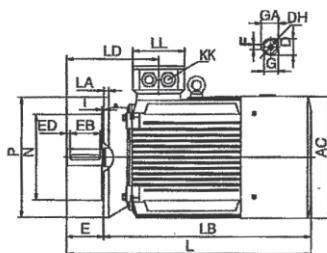
## CAST IRON

### Dimension

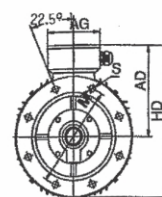
#### Flange Mounting IM B5 #80-355



FR#80-132



FR#160-200

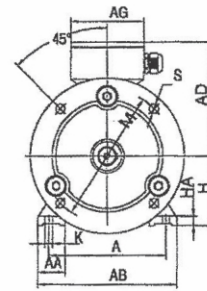
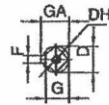
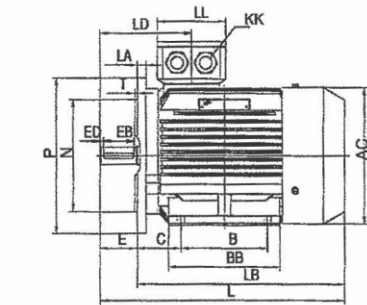


FR#225-355

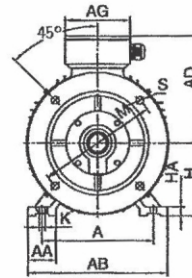
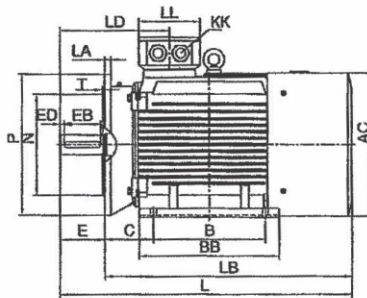
| Type | Pole     | AC    | AD  | AG  | D  | DH     | E   | EB  | ED  | F  | G    | GA   | HD    | KK        | L    | LA | LB   | LD    | LL  | M   | N   | P   | S    | T   |
|------|----------|-------|-----|-----|----|--------|-----|-----|-----|----|------|------|-------|-----------|------|----|------|-------|-----|-----|-----|-----|------|-----|
| 80   | 2,4,6,8  | 155.4 | 131 | 94  | 19 | M6X16  | 40  | 30  | 5   | 6  | 15.5 | 21.5 | 231   | 1-M25X1.5 | 284  | 12 | 244  | 112   | 94  | 165 | 130 | 200 | 12   | 3.5 |
| 90S  | 2,4,6,8  | 175.4 | 148 | 102 | 24 | M8X19  | 50  | 40  | 5   | 8  | 20   | 27   | 248   | 1-M25X1.5 | 308  | 12 | 258  | 130   | 102 | 165 | 130 | 200 | 12   | 3.5 |
| 90L  | 2,4,6,8  | 175.4 | 148 | 102 | 24 | M8X19  | 50  | 40  | 5   | 8  | 20   | 27   | 248   | 1-M25X1.5 | 333  | 12 | 283  | 130   | 102 | 165 | 130 | 200 | 12   | 3.5 |
| 100L | 2,4,5,8  | 195.4 | 162 | 102 | 28 | M10X22 | 60  | 50  | 5   | 8  | 24   | 31   | 287   | 1-M32X1.5 | 380  | 13 | 320  | 139   | 102 | 215 | 180 | 250 | 14.5 | 4   |
| 112M | 2,4,6,8  | 219.4 | 190 | 118 | 28 | M10X22 | 60  | 50  | 5   | 8  | 24   | 31   | 308   | 2-M32X1.5 | 452  | 14 | 334  | 147   | 110 | 215 | 180 | 250 | 14.5 | 4   |
| 132S | 2,4,6,8  | 258.4 | 203 | 118 | 38 | M12X28 | 80  | 65  | 7.5 | 10 | 33   | 41   | 353   | 2-M32X1.5 | 470  | 14 | 390  | 172   | 110 | 265 | 230 | 300 | 14.5 | 4   |
| 132M | 4,6,8    | 258.4 | 203 | 118 | 38 | M12X28 | 80  | 65  | 7.5 | 10 | 33   | 41   | 353   | 2-M32X1.5 | 508  | 14 | 428  | 172   | 110 | 265 | 230 | 300 | 14.5 | 4   |
| 160M | 2,4,6,8  | 314   | 251 | 162 | 42 | M16X36 | 110 | 90  | 10  | 12 | 37   | 45   | 426   | 2-M40X1.5 | 608  | 15 | 498  | 256   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 160L | 2,4,6,8  | 314   | 251 | 162 | 42 | M16X36 | 110 | 90  | 10  | 12 | 37   | 45   | 426   | 2-M40X1.5 | 652  | 15 | 542  | 256   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 180M | 2,4,8    | 355   | 267 | 162 | 48 | M16X36 | 110 | 90  | 10  | 14 | 42.5 | 51.5 | 444.5 | 2-M40X1.5 | 688  | 15 | 578  | 271   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 180L | 4,6,8    | 355   | 267 | 162 | 48 | M16X36 | 110 | 90  | 10  | 14 | 42.5 | 51.5 | 444.5 | 2-M40X1.5 | 726  | 15 | 616  | 271   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 200L | 2,4,6,8  | 397   | 299 | 210 | 55 | M20X42 | 110 | 100 | 5   | 16 | 49   | 59   | 499   | 2-M50X1.5 | 779  | 17 | 661  | 296   | 190 | 350 | 300 | 400 | 18.5 | 5   |
| 225S | 4,8      | 446   | 322 | 210 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 547   | 2-M50X1.5 | 824  | 20 | 684  | 329   | 190 | 400 | 350 | 450 | 18.5 | 5   |
| 225M | 2        | 446   | 322 | 210 | 55 | M20X42 | 110 | 100 | 5   | 16 | 49   | 59   | 547   | 2-M50X1.5 | 819  | 20 | 709  | 299   | 190 | 400 | 350 | 450 | 18.5 | 5   |
| 225M | 4,6,8    | 446   | 322 | 210 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 547   | 2-M50X1.5 | 849  | 20 | 709  | 329   | 190 | 400 | 350 | 450 | 18.5 | 5   |
| 250M | 2        | 485   | 358 | 248 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 633   | 2-M63X1.5 | 910  | 22 | 770  | 347   | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 250M | 4,6,8    | 485   | 358 | 248 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 633   | 2-M63X1.5 | 910  | 22 | 770  | 347   | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280S | 2        | 547   | 387 | 248 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 662   | 2-M63X1.5 | 982  | 22 | 842  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280S | 4,6,8    | 547   | 387 | 248 | 75 | M20X42 | 140 | 125 | 7.5 | 20 | 67.5 | 79.5 | 662   | 2-M63X1.5 | 982  | 22 | 842  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280M | 2        | 547   | 387 | 248 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 662   | 2-M63X1.5 | 1033 | 22 | 893  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280M | 4,6,8    | 547   | 387 | 248 | 75 | M20X42 | 140 | 125 | 7.5 | 20 | 67.5 | 79.5 | 662   | 2-M63X1.5 | 1033 | 22 | 893  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 315S | 2        | 620   | 527 | 320 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 857   | 2-M63X1.5 | 1194 | 22 | 1038 | 397   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315S | 4,6,8,10 | 620   | 527 | 320 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 857   | 2-M63X1.5 | 1224 | 22 | 1038 | 427   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315M | 2        | 620   | 527 | 320 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 857   | 2-M63X1.5 | 1304 | 22 | 1148 | 397   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315M | 4,6,8,10 | 620   | 527 | 320 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 857   | 2-M63X1.5 | 1334 | 22 | 1148 | 427   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315L | 2        | 620   | 527 | 320 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 857   | 2-M63X1.5 | 1304 | 22 | 1148 | 397   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315L | 4,6,8,10 | 620   | 527 | 320 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 857   | 2-M63X1.5 | 1334 | 22 | 1148 | 427   | 280 | 600 | 550 | 660 | 24   | 6   |
| 355M | 2        | 698   | 642 | 380 | 75 | M20X50 | 140 | 130 | 5   | 20 | 67.5 | 79.5 | 1042  | 2-M63X1.5 | 1486 | 25 | 1346 | 414   | 330 | 740 | 680 | 800 | 24   | 6   |
| 355M | 4,6,8,10 | 698   | 642 | 380 | 95 | M24X50 | 170 | 160 | 5   | 25 | 86   | 100  | 1042  | 2-M63X1.5 | 1516 | 25 | 1346 | 444   | 330 | 740 | 680 | 800 | 24   | 6   |
| 355L | 2        | 698   | 642 | 380 | 75 | M20X50 | 140 | 130 | 5   | 20 | 67.5 | 79.5 | 1042  | 2-M63X1.5 | 1486 | 25 | 1346 | 414   | 330 | 740 | 680 | 800 | 24   | 6   |
| 355L | 4,6,8,10 | 698   | 642 | 380 | 95 | M24X50 | 170 | 160 | 5   | 25 | 86   | 100  | 1042  | 2-M63X1.5 | 1516 | 25 | 1346 | 444   | 330 | 740 | 680 | 800 | 24   | 6   |

## CAST IRON Dimensions

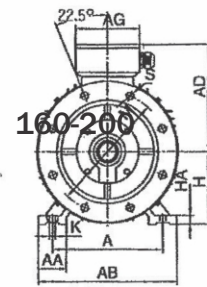
### Foot Flange Mounting IM B35 #80-355



FR#80-132



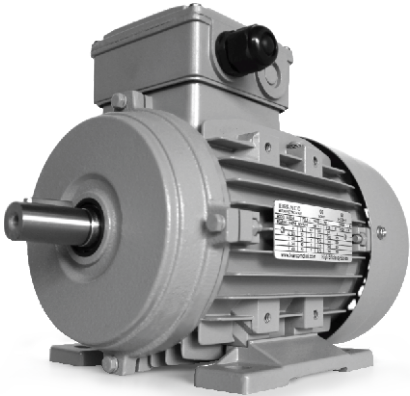
FR#160-200



FR#225-355

| Type | Pole     | A   | AA  | AB  | AC    | AD  | AG  | B   | BB  | C   | D  | DH     | E   | EB  | ED  | F  | G    | GA   | H   | HA | K       | KK        | L    | LA | LB   | LD    | LL  | M   | N   | P   | S    | T   |
|------|----------|-----|-----|-----|-------|-----|-----|-----|-----|-----|----|--------|-----|-----|-----|----|------|------|-----|----|---------|-----------|------|----|------|-------|-----|-----|-----|-----|------|-----|
| 80   | 2,4,6,8  | 125 | 34  | 160 | 155.4 | 131 | 94  | 100 | 130 | 50  | 19 | M6X16  | 40  | 30  | 5   | 6  | 15.5 | 21.5 | 80  | 10 | 4-φ10   | 1-M25X1.5 | 284  | 12 | 244  | 112   | 94  | 165 | 130 | 200 | 12   | 3.5 |
| 90S  | 2,4,6,8  | 140 | 36  | 176 | 175.4 | 148 | 102 | 100 | 130 | 56  | 24 | M8X19  | 50  | 40  | 5   | 8  | 20   | 27   | 90  | 12 | 4-φ10   | 1-M25X1.5 | 308  | 12 | 258  | 130   | 102 | 165 | 130 | 200 | 12   | 3.5 |
| 90L  | 2,4,6,8  | 140 | 36  | 176 | 175.4 | 148 | 102 | 125 | 155 | 56  | 24 | M8X19  | 50  | 40  | 5   | 8  | 20   | 27   | 90  | 12 | 4-φ10   | 1-M25X1.5 | 333  | 12 | 283  | 130   | 102 | 165 | 130 | 200 | 12   | 3.5 |
| 100L | 2,4,5,8  | 160 | 40  | 200 | 195.4 | 162 | 102 | 140 | 176 | 63  | 28 | M10X22 | 60  | 50  | 5   | 8  | 24   | 31   | 100 | 14 | 4-φ12   | 1-M32X1.5 | 380  | 13 | 320  | 139   | 102 | 215 | 180 | 250 | 14.5 | 4   |
| 112M | 2,4,6,8  | 190 | 50  | 240 | 219.4 | 190 | 118 | 140 | 225 | 70  | 28 | M10X22 | 60  | 50  | 5   | 8  | 24   | 31   | 112 | 15 | 4-φ12   | 2-M32X1.5 | 452  | 14 | 334  | 147   | 110 | 215 | 180 | 250 | 14.5 | 4   |
| 132S | 2,4,6,8  | 216 | 55  | 262 | 258.4 | 203 | 118 | 140 | 200 | 89  | 38 | M12X28 | 80  | 65  | 7.5 | 10 | 33   | 41   | 132 | 18 | 4-φ12   | 2-M32X1.5 | 470  | 14 | 390  | 172   | 110 | 265 | 230 | 300 | 14.5 | 4   |
| 132M | 4,6,8    | 216 | 55  | 262 | 258.4 | 203 | 118 | 178 | 238 | 89  | 38 | M12X28 | 80  | 65  | 7.5 | 10 | 33   | 41   | 132 | 18 | 4-φ12   | 2-M32X1.5 | 508  | 14 | 428  | 172   | 110 | 265 | 230 | 300 | 14.5 | 4   |
| 160M | 2,4,6,8  | 254 | 65  | 314 | 314   | 251 | 162 | 210 | 260 | 108 | 42 | M16X36 | 110 | 90  | 10  | 12 | 37   | 45   | 160 | 20 | 4-φ14.5 | 2-M40X1.5 | 608  | 15 | 498  | 256   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 160L | 2,4,6,8  | 254 | 65  | 314 | 314   | 251 | 162 | 254 | 304 | 108 | 42 | M16X36 | 110 | 90  | 10  | 12 | 37   | 45   | 160 | 20 | 4-φ14.5 | 2-M40X1.5 | 652  | 15 | 542  | 256   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 180M | 2,4,8    | 279 | 70  | 349 | 355   | 267 | 162 | 241 | 311 | 121 | 48 | M16X36 | 110 | 90  | 10  | 14 | 42.5 | 51.5 | 180 | 22 | 4-φ14.5 | 2-M40X1.5 | 688  | 15 | 578  | 271   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 180L | 4,6,8    | 279 | 70  | 349 | 355   | 267 | 162 | 279 | 349 | 121 | 48 | M16X36 | 110 | 90  | 10  | 14 | 42.5 | 51.5 | 180 | 22 | 4-φ14.5 | 2-M40X1.5 | 726  | 15 | 616  | 271   | 152 | 300 | 250 | 350 | 18.5 | 5   |
| 200L | 2,4,6,8  | 318 | 70  | 388 | 397   | 299 | 210 | 305 | 369 | 133 | 55 | M20X42 | 110 | 100 | 5   | 16 | 49   | 59   | 200 | 25 | 4-φ16.5 | 2-M50X1.5 | 779  | 17 | 661  | 296   | 190 | 350 | 300 | 400 | 18.5 | 5   |
| 225S | 4,8      | 356 | 75  | 431 | 446   | 322 | 210 | 286 | 368 | 149 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 225 | 28 | 4-φ18.5 | 2-M50X1.5 | 824  | 20 | 684  | 329   | 190 | 400 | 350 | 450 | 18.5 | 5   |
| 225M | 2        | 356 | 75  | 431 | 446   | 322 | 210 | 311 | 393 | 149 | 55 | M20X42 | 110 | 100 | 5   | 16 | 49   | 59   | 225 | 28 | 4-φ18.5 | 2-M50X1.5 | 819  | 20 | 709  | 299   | 190 | 400 | 350 | 450 | 18.5 | 5   |
| 225M | 4,6,8    | 356 | 75  | 431 | 446   | 322 | 210 | 311 | 393 | 149 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 225 | 28 | 4-φ18.5 | 2-M50X1.5 | 849  | 20 | 709  | 329   | 190 | 400 | 350 | 450 | 18.5 | 5   |
| 250M | 2        | 406 | 80  | 484 | 485   | 358 | 248 | 349 | 445 | 168 | 60 | M20X42 | 140 | 125 | 7.5 | 18 | 53   | 64   | 250 | 30 | 4-φ24   | 2-M63X1.5 | 910  | 22 | 770  | 347   | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 250M | 4,6,8    | 406 | 80  | 484 | 485   | 358 | 248 | 349 | 445 | 168 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 250 | 30 | 4-φ24   | 2-M63X1.5 | 910  | 22 | 770  | 347   | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280S | 2        | 457 | 85  | 542 | 547   | 387 | 248 | 368 | 485 | 190 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 280 | 35 | 4-φ24   | 2-M63X1.5 | 982  | 22 | 842  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280S | 4,6,8    | 457 | 85  | 542 | 547   | 387 | 248 | 368 | 485 | 190 | 75 | M20X42 | 140 | 125 | 7.5 | 20 | 67.5 | 79.5 | 280 | 35 | 4-φ24   | 2-M63X1.5 | 982  | 22 | 842  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280M | 2        | 457 | 85  | 542 | 547   | 387 | 248 | 419 | 536 | 190 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 280 | 35 | 4-φ24   | 2-M63X1.5 | 1033 | 22 | 893  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 280M | 4,6,8    | 457 | 85  | 542 | 547   | 387 | 248 | 419 | 536 | 190 | 75 | M20X42 | 140 | 125 | 7.5 | 20 | 67.5 | 79.5 | 280 | 35 | 4-φ24   | 2-M63X1.5 | 1033 | 22 | 893  | 355.5 | 218 | 500 | 450 | 550 | 18.5 | 5   |
| 315S | 2        | 508 | 120 | 628 | 620   | 527 | 320 | 406 | 570 | 216 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1194 | 22 | 1038 | 397   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315S | 4,6,8,10 | 508 | 120 | 628 | 620   | 527 | 320 | 406 | 570 | 216 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1224 | 22 | 1038 | 427   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315M | 2        | 508 | 120 | 628 | 620   | 527 | 320 | 457 | 680 | 216 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1304 | 22 | 1148 | 397   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315M | 4,6,8,10 | 508 | 120 | 628 | 620   | 527 | 320 | 457 | 680 | 216 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1334 | 22 | 1148 | 427   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315L | 2        | 508 | 120 | 628 | 620   | 527 | 320 | 508 | 680 | 216 | 65 | M20X42 | 140 | 125 | 7.5 | 18 | 58   | 69   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1304 | 22 | 1148 | 397   | 280 | 600 | 550 | 660 | 24   | 6   |
| 315L | 4,6,8,10 | 508 | 120 | 628 | 620   | 527 | 320 | 508 | 680 | 216 | 80 | M20X42 | 170 | 160 | 5   | 22 | 71   | 85   | 315 | 45 | 4-φ28   | 2-M63X1.5 | 1334 | 22 | 1148 | 427   | 280 | 600 | 550 | 660 | 24   | 6   |
| 355M | 2        | 610 | 116 | 726 | 698   | 642 | 380 | 560 | 750 | 254 | 75 | M20X50 | 140 | 130 | 5   | 20 | 67.5 | 79.5 | 355 | 52 | 5-φ28   | 2-M63X1.5 | 1486 | 25 | 1346 | 414   | 330 | 740 | 680 | 800 | 24   | 6   |
| 355M | 4,6,8,10 | 610 | 116 | 726 | 698   | 642 | 380 | 560 | 750 | 254 | 95 | M24X50 | 170 | 160 | 5   | 25 | 86   | 100  | 355 | 52 | 6-φ28   | 2-M63X1.5 | 1516 | 25 | 1346 | 444   | 330 | 740 | 680 | 800 | 24   | 6   |
| 355L | 2        | 610 | 116 | 726 | 698   | 642 | 380 | 630 | 750 | 254 | 75 | M20X50 | 140 | 130 | 5   | 20 | 67.5 | 79.5 | 355 | 52 | 6-φ28   | 2-M63X1.5 | 1486 | 25 | 1346 | 414   | 330 | 740 | 680 | 800 | 24   | 6   |
| 355L | 4,6,8,10 | 610 | 116 | 726 | 698   | 642 | 380 | 630 | 750 | 254 | 95 | M24X50 | 170 | 160 | 5   | 25 | 86   | 100  | 355 | 52 | 6-φ28   | 2-M63X1.5 | 1516 | 25 | 1346 | 444   | 330 | 740 | 680 | 800 | 24   | 6   |

ALUMINIUM  
IE1 Efficiency Motor

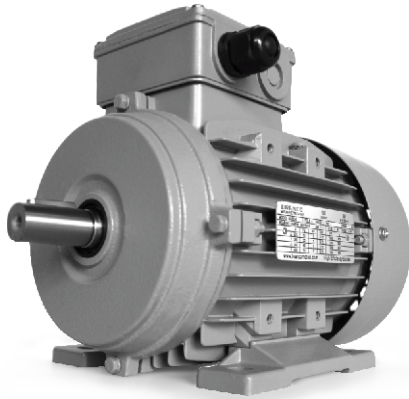


BA Series  
Three-Phase Squirrel Cage Motors  
380-415V  
IP55 Protection

SPEED 3000 RPM 2-POLE 50HZ

| Model            | Power<br>kW | Current (A) |      |      | Current (A) |      |      | Current (A) |      |      | Speed<br>r.p.m | eff<br>% | Power<br>factor<br>Cos φ | Tst/Tn<br>(Times) | Tmax/Tn<br>(Times) | Tmin/Tn<br>(Times) | Ist/In<br>(Times) | Noise<br>dB(A) | WT<br>(Kg) |
|------------------|-------------|-------------|------|------|-------------|------|------|-------------|------|------|----------------|----------|--------------------------|-------------------|--------------------|--------------------|-------------------|----------------|------------|
|                  |             | 220V        | 380V | 660V | 230V        | 400V | 690V | 240V        | 415V | 720V |                |          |                          |                   |                    |                    |                   |                |            |
| BA E1 B2 561-2   | 0.09        | 0.66        | 0.38 | 0.22 | 0.62        | 0.36 | 0.21 | 0.60        | 0.35 | 0.20 | 2710           | 53       | 0.72                     | 2.2               | 2.3                | 2                  | 4                 | 58             | 2.60       |
| BA E1 B2 562-2   | 0.12        | 0.73        | 0.42 | 0.24 | 0.69        | 0.40 | 0.23 | 0.67        | 0.39 | 0.22 | 2700           | 61       | 0.72                     | 2.2               | 2.3                | 2                  | 4                 | 58             | 3.00       |
| BA E1 B2 563-2   | 0.18        | 1.00        | 0.58 | 0.33 | 0.95        | 0.55 | 0.32 | 0.92        | 0.53 | 0.31 | 2710           | 63       | 0.75                     | 2.2               | 2.4                | 1.6                | 6                 | 61             | 4.00       |
| BA E1 B2 631-2   | 0.18        | 1.00        | 0.58 | 0.33 | 0.95        | 0.55 | 0.32 | 0.92        | 0.53 | 0.31 | 2710           | 63       | 0.75                     | 2.2               | 2.4                | 1.6                | 6                 | 61             | 4.00       |
| BA E1 B2 632-2   | 0.25        | 1.29        | 0.75 | 0.43 | 1.23        | 0.71 | 0.41 | 1.19        | 0.69 | 0.40 | 2710           | 66       | 0.78                     | 2.2               | 2.4                | 1.6                | 6                 | 61             | 4.20       |
| BA E1 B2 633-2   | 0.37        | 1.92        | 1.11 | 0.64 | 1.82        | 1.05 | 0.61 | 1.76        | 1.02 | 0.59 | 2710           | 65       | 0.78                     | 2.2               | 2.4                | 1.6                | 6                 | 62             | 4.70       |
| BA E1 B2 711-2   | 0.37        | 1.76        | 1.02 | 0.59 | 1.67        | 0.97 | 0.56 | 1.61        | 0.93 | 0.54 | 2730           | 70       | 0.79                     | 2.2               | 2.4                | 1.6                | 6                 | 64             | 5.20       |
| BA E1 B2 712-2   | 0.55        | 2.57        | 1.49 | 0.86 | 2.45        | 1.42 | 0.82 | 2.36        | 1.36 | 0.79 | 2760           | 71       | 0.79                     | 2.2               | 2.4                | 1.6                | 6                 | 64             | 6.00       |
| BA E1 B2 713-2   | 0.75        | 3.33        | 1.93 | 0.11 | 3.18        | 1.83 | 1.06 | 3.06        | 1.77 | 1.02 | 2730           | 72       | 0.82                     | 2.2               | 2.4                | 1.5                | 6                 | 65             | 7.00       |
| BA E1 B2 801-2   | 0.75        | 3.21        | 1.83 | 1.07 | 3.06        | 1.77 | 1.02 | 2.94        | 1.70 | 0.98 | 2770           | 73       | 0.84                     | 2.2               | 2.4                | 1.5                | 6                 | 67             | 8.70       |
| BA E1 B2 802-2   | 1.1         | 4.56        | 2.64 | 1.52 | 4.35        | 2.51 | 1.45 | 4.18        | 2.42 | 1.39 | 2770           | 76.2     | 0.83                     | 2.2               | 2.4                | 1.5                | 6                 | 67             | 10.00      |
| BA E1 B2 803-2   | 1.5         | 6.04        | 3.50 | 2.01 | 5.87        | 3.32 | 1.92 | 5.54        | 3.20 | 1.85 | 2800           | 78.5     | 0.83                     | 2.2               | 2.4                | 1.5                | 6                 | 70             | 11.20      |
| BA E1 B2 90S-2   | 1.5         | 5.97        | 3.46 | 1.99 | 5.76        | 3.28 | 1.90 | 5.47        | 3.16 | 1.82 | 2840           | 78.5     | 0.84                     | 2.2               | 2.4                | 1.5                | 6                 | 72             | 12.00      |
| BA E1 B2 90L1-2  | 2.2         | 8.39        | 4.85 | 2.80 | 8.0         | 4.61 | 2.66 | 7.69        | 4.45 | 2.56 | 2840           | 81       | 0.85                     | 2.2               | 2.4                | 1.4                | 6                 | 72             | 14.50      |
| BA E1 B2 90L2-2  | 3           | 11.1        | 6.42 | 3.69 | 10.6        | 6.10 | 3.52 | 10.2        | 5.88 | 3.39 | 2840           | 82.6     | 0.86                     | 2.2               | 2.4                | 1.4                | 6                 | 74             | 15.00      |
| BA E1 B2 100L1-2 | 3           | 11.0        | 6.34 | 3.65 | 10.4        | 6.03 | 3.48 | 10.0        | 5.81 | 3.35 | 2840           | 82.6     | 0.87                     | 2.2               | 2.3                | 1.4                | 7                 | 76             | 20.00      |
| BA E1 B2 100L2-2 | 4           | 14.3        | 8.30 | 4.78 | 13.7        | 7.88 | 4.55 | 13.1        | 7.60 | 4.38 | 2850           | 84.2     | 0.87                     | 2.2               | 2.3                | 1.4                | 7.5               | 77             | 24.00      |
| BA E1 B2 112M-2  | 4           | 14.3        | 8.30 | 4.78 | 13.7        | 7.88 | 4.55 | 13.1        | 7.60 | 4.38 | 2880           | 84.2     | 0.87                     | 2.2               | 2.3                | 1.4                | 7.5               | 77             | 26.00      |
| BA E1 B2 112L-2  | 5.5         | 19.1        | 11.1 | 6.38 | 18.2        | 10.5 | 6.08 | 17.5        | 10.1 | 5.85 | 2880           | 85.7     | 0.88                     | 2.2               | 2.3                | 1.2                | 7.5               | 78             | 29.30      |
| BA E1 B2 132S1-2 | 5.5         | 19.1        | 11.1 | 6.38 | 18.2        | 10.5 | 6.08 | 17.5        | 10.1 | 5.85 | 2900           | 85.7     | 0.88                     | 2                 | 2.2                | 1.2                | 7.5               | 80             | 38.40      |
| BA E1 B2 132S2-2 | 7.5         | 25.7        | 14.9 | 8.57 | 24.5        | 14.1 | 8.16 | 23.6        | 13.6 | 7.86 | 2920           | 87       | 0.88                     | 2                 | 2.2                | 1.2                | 7.5               | 80             | 41.30      |
| BA E1 B2 132M1-2 | 9.2         | 30.8        | 17.8 | 10.3 | 29.9        | 17.3 | 9.96 | 28.3        | 16.3 | 9.42 | 2930           | 88       | 0.89                     | 2                 | 2.2                | 1.2                | 7.5               | 81             | 48.20      |
| BA E1 B2 132M2-2 | 11          | 36.3        | 21.0 | 12.1 | 34.6        | 20.0 | 11.5 | 33.3        | 19.2 | 11.1 | 2930           | 88.4     | 0.9                      | 2                 | 2.2                | 1.2                | 7.5               | 83             | 52.50      |
| BA E1 B2 160M1-2 | 11          | 36.3        | 21.0 | 12.1 | 34.6        | 20.0 | 11.5 | 33.3        | 19.2 | 11.1 | 2940           | 88.4     | 0.9                      | 2                 | 2.2                | 1.2                | 7.5               | 86             | 76.00      |
| BA E1 B2 160M2-2 | 15          | 48.4        | 28.0 | 16.1 | 46.1        | 26.6 | 15.4 | 44.4        | 25.7 | 14.8 | 2940           | 89.4     | 0.91                     | 2                 | 2.2                | 1.2                | 7.5               | 86             | 77.50      |
| BA E1 B2 160L-2  | 18.5        | 59.3        | 28.0 | 19.8 | 56.5        | 32.6 | 18.8 | 54.3        | 31.4 | 18.1 | 2940           | 90       | 0.91                     | 2                 | 2.2                | 1.1                | 7.5               | 86             | 92.00      |

## ALUMINIUM IE1 Efficiency Motor



### BA Series

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

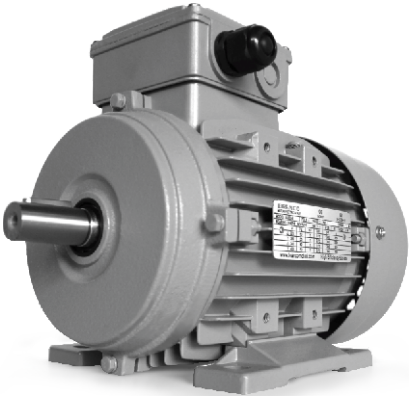
**SPEED 1500 RPM 4-POLE 50HZ**

| Model     | Power<br>kW | Current (A) |      |      | Current (A) |      |      | Current (A) |      |      | Speed<br>r.p.m | eff<br>% | Power<br>factor<br>Cos φ | Tst/Tn<br>(Times) | Tmax/Tn<br>(Times) | Tmin/Tn<br>(Times) | Ist/In<br>(Times) | Noise<br>dB(A) | WT<br>(Kg) |
|-----------|-------------|-------------|------|------|-------------|------|------|-------------|------|------|----------------|----------|--------------------------|-------------------|--------------------|--------------------|-------------------|----------------|------------|
|           |             | 220V        | 380V | 660V | 230V        | 400V | 690V | 240V        | 415V | 720V |                |          |                          |                   |                    |                    |                   |                |            |
| BA561-4   | 0.06        | 0.64        | 0.37 | 0.21 | 0.61        | 0.35 | 0.20 | 0.58        | 0.34 | 0.19 | 1360           | 50       | 0.56                     | 2.2               | 2.4                | 2                  | 4                 | 50             | 2.90       |
| BA562-4   | 0.09        | 0.82        | 0.47 | 0.24 | 0.78        | 0.45 | 0.26 | 0.75        | 0.43 | 0.25 | 1360           | 52       | 0.59                     | 2.2               | 2.4                | 2                  | 4                 | 50             | 3.20       |
| BA631-4   | 0.12        | 1.00        | 0.58 | 0.33 | 0.95        | 0.55 | 0.32 | 0.92        | 0.53 | 0.31 | 1360           | 52       | 0.64                     | 2.2               | 2.4                | 2                  | 4                 | 52             | 3.70       |
| BA632-4   | 0.18        | 1.28        | 0.74 | 0.43 | 1.21        | 0.70 | 0.40 | 1.17        | 0.67 | 0.39 | 1310           | 57       | 0.65                     | 2.2               | 2.4                | 2                  | 4                 | 52             | 4.20       |
| BA633-4   | 0.25        | 1.66        | 0.96 | 0.55 | 1.58        | 0.91 | 0.53 | 1.52        | 0.88 | 0.51 | 1340           | 60       | 0.66                     | 2.2               | 2.2                | 2                  | 4                 | 54             | 5.00       |
| BA711-4   | 0.25        | 1.52        | 0.88 | 0.51 | 1.45        | 0.84 | 0.48 | 1.39        | 0.81 | 0.46 | 1350           | 60       | 0.72                     | 2.2               | 2.4                | 1.7                | 6                 | 55             | 5.00       |
| BA712-4   | 0.37        | 2.02        | 1.17 | 0.67 | 1.92        | 1.11 | 0.64 | 1.85        | 1.07 | 0.62 | 1370           | 65       | 0.74                     | 2.2               | 2.4                | 1.7                | 6                 | 55             | 5.80       |
| BA713-4   | 0.55        | 2.92        | 1.69 | 0.97 | 2.78        | 1.60 | 0.93 | 2.67        | 1.55 | 0.89 | 1380           | 66       | 0.75                     | 2.2               | 2.4                | 1.7                | 6                 | 57             | 6.50       |
| BA801-4   | 0.55        | 2.67        | 1.66 | 0.96 | 2.74        | 1.58 | 0.91 | 2.63        | 1.52 | 0.88 | 1370           | 67       | 0.75                     | 2.3               | 2.4                | 1.7                | 6                 | 58             | 8.10       |
| BA802-4   | 0.75        | 3.50        | 2.03 | 1.17 | 3.34        | 1.93 | 1.11 | 3.21        | 1.86 | 1.07 | 1380           | 72       | 0.78                     | 2.3               | 2.4                | 1.6                | 6                 | 58             | 9.10       |
| BA803-4   | 1.1         | 4.86        | 2.81 | 1.62 | 4.63        | 2.67 | 1.54 | 4.45        | 2.57 | 1.48 | 1390           | 76.2     | 0.78                     | 2.2               | 2.4                | 1.6                | 6                 | 60             | 11.00      |
| BA90S-4   | 1.1         | 4.80        | 2.78 | 1.60 | 4.57        | 2.64 | 1.52 | 4.40        | 2.54 | 1.47 | 1400           | 76.2     | 0.79                     | 2.2               | 2.4                | 1.6                | 6                 | 61             | 11.70      |
| BA90L1-4  | 1.5         | 6.27        | 3.63 | 2.09 | 5.97        | 3.45 | 1.99 | 5.75        | 3.32 | 1.92 | 1400           | 78.5     | 0.8                      | 2.2               | 2.4                | 1.6                | 6                 | 61             | 14.40      |
| BA90L2-4  | 2.2         | 8.91        | 5.16 | 2.97 | 8.45        | 4.90 | 2.83 | 8.17        | 4.72 | 2.72 | 1400           | 81       | 0.8                      | 2.2               | 2.4                | 1.5                | 7                 | 63             | 17.60      |
| BA100L1-4 | 2.2         | 8.80        | 5.09 | 2.93 | 8.38        | 4.84 | 2.79 | 8.07        | 4.66 | 2.69 | 1420           | 81       | 0.81                     | 2.2               | 2.3                | 1.5                | 7                 | 64             | 19.20      |
| BA100L2-4 | 3           | 11.8        | 6.81 | 3.92 | 11.2        | 6.47 | 3.74 | 10.8        | 6.24 | 3.60 | 1420           | 82.6     | 0.81                     | 2.2               | 2.3                | 1.5                | 7                 | 64             | 22.50      |
| BA100L3-4 | 4           | 15.2        | 8.80 | 5.07 | 14.2        | 8.36 | 4.83 | 13.9        | 8.06 | 4.65 | 1430           | 84.2     | 0.82                     | 2.2               | 2.3                | 1.5                | 7                 | 65             | 27.30      |
| BA112M-4  | 4           | 15.0        | 8.70 | 5.01 | 14.3        | 8.26 | 4.77 | 13.8        | 7.96 | 4.59 | 1430           | 84.2     | 0.83                     | 2.2               | 2.2                | 1.5                | 7                 | 65             | 29.00      |
| BA112L-4  | 5.5         | 20.3        | 11.7 | 6.76 | 19.3        | 11.2 | 6.44 | 18.6        | 10.8 | 6.20 | 1440           | 85.7     | 0.83                     | 2.2               | 2.2                | 1.4                | 7                 | 68             | 35.70      |
| BA132S-4  | 5.5         | 20.1        | 11.6 | 6.68 | 19.1        | 11.0 | 6.37 | 18.4        | 10.6 | 6.13 | 1450           | 85.7     | 0.84                     | 2.2               | 2.2                | 1.4                | 7                 | 71             | 39.00      |
| BA132M-4  | 7.5         | 26.6        | 15.4 | 8.87 | 25.4        | 14.6 | 8.45 | 24.4        | 14.1 | 8.13 | 1450           | 87       | 0.85                     | 2.2               | 2.2                | 1.4                | 7                 | 71             | 48.60      |
| BA132L1-4 | 9.2         | 32.5        | 18.8 | 10.8 | 30.9        | 17.9 | 10.3 | 29.8        | 17.2 | 9.9  | 1460           | 87.5     | 0.85                     | 2.2               | 2.2                | 1.4                | 7.5               | 74             | 56.50      |
| BA132L2-4 | 11          | 38.0        | 22.0 | 12.7 | 36.2        | 20.9 | 12.1 | 34.8        | 20.1 | 11.6 | 1460           | 88.4     | 0.86                     | 2.2               | 2.2                | 1.4                | 7.5               | 74             | 64.00      |
| BA160M-4  | 11          | 37.5        | 21.7 | 12.5 | 35.8        | 20.6 | 11.9 | 34.4        | 19.9 | 11.5 | 1460           | 88.4     | 0.87                     | 2.2               | 2.2                | 1.4                | 7                 | 75             | 73.00      |
| BA160L1-4 | 15          | 51.2        | 29.6 | 17.1 | 48.8        | 28.2 | 16.3 | 46.9        | 27.1 | 15.6 | 1460           | 88.4     | 0.87                     | 2.2               | 2.2                | 1.4                | 7.5               | 75             | 88.50      |
| BA160L2-4 | 18.5        | 63.1        | 36.5 | 21.0 | 60.1        | 34.7 | 20.0 | 57.9        | 33.5 | 19.3 | 1460           | 90.5     | 0.85                     | 2.2               | 2.2                | 1.4                | 7.5               | 78             | 97.50      |

ALUMINIUM  
IE1 Efficiency Motor

**BA Series**  
Three-Phase Squirrel Cage Motors  
380-415V  
IP55 Protection

**SPEED 1000 RPM 6-POLE 50HZ**

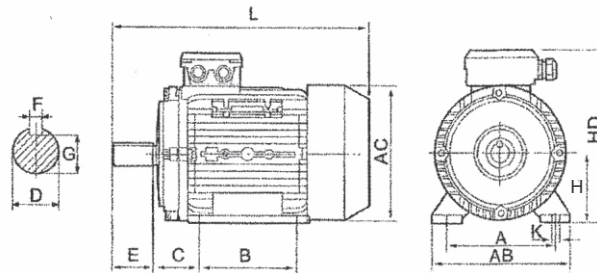


| Model     | Power kW | Current (A) |      |      | Current (A) |      |      | Current (A) |      |      | Speed r.p.m | eff % | Power factor Cos φ | Tst/Tn (Times) | Tmax/Tn (Times) | Tmin/Tn (Times) | Ist/In (Times) | Noise dB(A) | WT (Kg) |
|-----------|----------|-------------|------|------|-------------|------|------|-------------|------|------|-------------|-------|--------------------|----------------|-----------------|-----------------|----------------|-------------|---------|
|           |          | 220V        | 380V | 660V | 230V        | 400V | 690V | 240V        | 415V | 720V |             |       |                    |                |                 |                 |                |             |         |
| BA631-6   | 0.09     | 0.92        | 0.53 | 0.31 | 0.88        | 0.51 | 0.29 | 0.85        | 0.49 | 0.28 | 840         | 42    | 0.61               | 2              | 2               | 1.5             | 3.5            | 50          | 4.20    |
| BA632-6   | 0.12     | 1.13        | 0.65 | 0.38 | 1.08        | 0.62 | 0.36 | 1.03        | 0.60 | 0.34 | 850         | 45    | 0.62               | 2              | 2               | 1.5             | 3.5            | 50          | 4.50    |
| BA711-6   | 0.18     | 1.28        | 0.74 | 0.43 | 1.22        | 0.70 | 0.41 | 1.17        | 0.68 | 0.39 | 860         | 56    | 0.66               | 1.6            | 1.7             | 1.5             | 4              | 52          | 5.60    |
| BA712-6   | 0.25     | 1.59        | 0.92 | 0.53 | 1.51        | 0.87 | 0.50 | 1.46        | 0.84 | 0.49 | 900         | 59    | 0.7                | 2.1            | 2.2             | 1.5             | 4              | 52          | 6.00    |
| BA713-6   | 0.37     | 2.31        | 1.34 | 0.77 | 2.2         | 1.27 | 0.73 | 2.11        | 1.22 | 0.70 | 890         | 61    | 0.69               | 2              | 2.1             | 1.5             | 4              | 54          | 6.80    |
| BA801-6   | 0.37     | 2.24        | 1.30 | 0.75 | 2.13        | 1.23 | 0.71 | 2.05        | 1.19 | 0.68 | 900         | 62    | 0.7                | 1.9            | 1.9             | 1.5             | 4              | 56          | 8.10    |
| BA802-6   | 0.55     | 2.99        | 1.73 | 1.00 | 2.85        | 1.65 | 0.95 | 2.74        | 1.59 | 0.91 | 900         | 67    | 0.72               | 2              | 2.3             | 1.5             | 4              | 56          | 9.60    |
| BA803-6   | 0.75     | 4.02        | 2.33 | 1.34 | 3.83        | 2.21 | 1.28 | 3.69        | 2.13 | 1.23 | 900         | 68    | 0.72               | 2              | 2.3             | 1.5             | 4              | 58          | 10.00   |
| BA90S-6   | 0.75     | 3.96        | 2.29 | 1.32 | 3.77        | 2.18 | 1.26 | 3.63        | 2.10 | 1.21 | 920         | 69    | 0.72               | 2.2            | 2.2             | 1.5             | 5.5            | 59          | 11.30   |
| BA90L1-6  | 1.1      | 5.49        | 3.18 | 1.83 | 5.23        | 3.02 | 1.74 | 5.03        | 2.91 | 1.68 | 925         | 72    | 0.73               | 2.2            | 2.2             | 1.3             | 5.5            | 59          | 14.40   |
| BA90L2-6  | 1.5      | 7.09        | 4.11 | 2.36 | 6.76        | 3.90 | 2.25 | 6.50        | 3.76 | 2.17 | 925         | 74    | 0.75               | 2.2            | 2.2             | 1.3             | 5.5            | 60          | 15.50   |
| BA100L1-6 | 1.5      | 7.00        | 4.05 | 2.33 | 6.67        | 3.85 | 2.22 | 6.42        | 3.71 | 2.14 | 945         | 74    | 0.76               | 2.2            | 2.2             | 1.3             | 6              | 61          | 18.80   |
| BA100L2-6 | 2.2      | 9.87        | 5.71 | 3.29 | 9.40        | 5.43 | 3.13 | 9.04        | 5.23 | 3.01 | 950         | 77    | 0.76               | 2.2            | 2.2             | 1.3             | 6              | 63          | 19.80   |
| BA112M-6  | 2.2      | 9.70        | 5.64 | 3.25 | 9.28        | 5.36 | 3.09 | 8.93        | 5.16 | 2.98 | 955         | 78    | 0.76               | 2.2            | 2.2             | 1.3             | 6              | 64          | 25.00   |
| BA112L-6  | 3        | 12.9        | 7.49 | 4.31 | 12.3        | 7.12 | 4.11 | 11.9        | 6.86 | 3.95 | 950         | 79    | 0.77               | 2.2            | 2.2             | 1.3             | 6              | 64          | 30.00   |
| BA132S-6  | 3        | 13.1        | 7.59 | 4.37 | 12.5        | 7.21 | 4.16 | 12.0        | 6.95 | 4.01 | 960         | 79    | 0.76               | 2              | 2               | 1.3             | 6.5            | 64          | 35.00   |
| BA132M1-6 | 4        | 17.2        | 9.93 | 5.72 | 16.4        | 9.44 | 5.45 | 15.7        | 9.10 | 5.24 | 960         | 80.5  | 0.76               | 2              | 2               | 1.3             | 6.5            | 68          | 47.60   |
| BA132M2-6 | 5.5      | 22.6        | 13.1 | 7.53 | 21.5        | 12.4 | 7.17 | 20.7        | 12.0 | 6.9  | 960         | 83    | 0.77               | 2              | 2               | 1.3             | 6.5            | 68          | 50.70   |
| BA132L 6  | 7.5      | 30.1        | 17.4 | 10.0 | 28.7        | 16.5 | 9.55 | 27.6        | 15.9 | 9.2  | 960         | 85    | 0.77               | 2              | 2               | 1.3             | 6.5            | 68          | 47.60   |
| BA160M-6  | 7.5      | 28.6        | 16.6 | 9.5  | 27.3        | 15.7 | 9.08 | 26.2        | 15.2 | 8.7  | 960         | 86    | 0.8                | 2              | 2.2             | 1.3             | 6.5            | 68          | 70.0    |
| BA160L-6  | 11       | 41.8        | 24.2 | 13.9 | 39.8        | 23.0 | 13.3 | 38.3        | 22.1 | 12.8 | 960         | 87.5  | 0.79               | 2              | 2.2             | 1.2             | 6.5            | 73          | 87.0    |

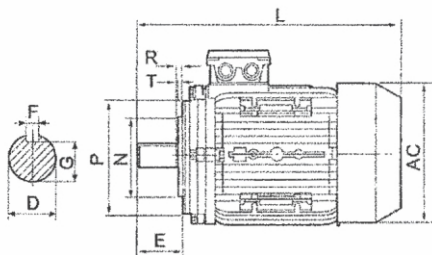
## ALUMINIUM Dimensions

IM B3 #56-180  
IM B5 #56-180  
IM B14 #56-180

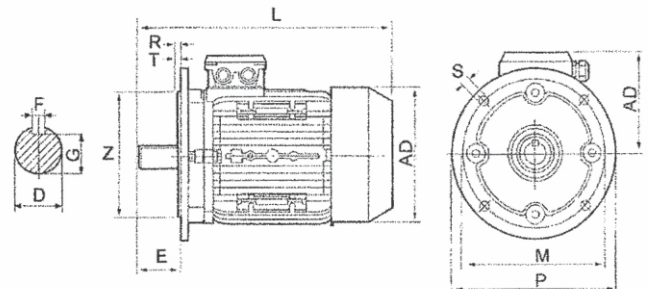
### IMB3



### IMB14



### IMB5



## Outline & Installation Dimensions

| Frame Size | Installation Size (mm) |     |     |    |     |    |      |     |    |     | Installation Size (mm) IMB14 |     |     |     |     | Installation Size (mm) IMB5 |     |    |     |     | Outline Dimension (mm) |     |     |     |  |
|------------|------------------------|-----|-----|----|-----|----|------|-----|----|-----|------------------------------|-----|-----|-----|-----|-----------------------------|-----|----|-----|-----|------------------------|-----|-----|-----|--|
|            | A                      | B   | C   | D  | E   | F  | G    | H   | K  | M   | N                            | P   | S   | T   | M   | N                           | P   | S  | T   | AB  | AC                     | AD  | HD  | L   |  |
| 56         | 90                     | 71  | 36  | 9  | 20  | 3  | 7.2  | 56  | 6  | 65  | 50                           | 80  | M5  | 2.5 | 98  | 80                          | 120 | 7  | 3   | 110 | 120                    | 110 | 155 | 195 |  |
| 63         | 100                    | 80  | 40  | 11 | 23  | 4  | 8.5  | 63  | 7  | 75  | 60                           | 90  | M5  | 2.5 | 115 | 95                          | 140 | 10 | 3   | 130 | 130                    | 115 | 165 | 230 |  |
| 71         | 112                    | 90  | 45  | 14 | 30  | 5  | 11   | 71  | 7  | 85  | 70                           | 105 | M6  | 2.5 | 130 | 110                         | 160 | 10 | 3.5 | 145 | 145                    | 125 | 185 | 255 |  |
| 80         | 125                    | 100 | 50  | 19 | 40  | 6  | 15.5 | 80  | 10 | 100 | 80                           | 120 | M6  | 3   | 165 | 130                         | 200 | 12 | 3.5 | 160 | 165                    | 135 | 215 | 295 |  |
| 90S        | 140                    | 100 | 56  | 24 | 50  | 8  | 20   | 90  | 10 | 115 | 95                           | 140 | M8  | 3   | 165 | 130                         | 200 | 12 | 3.5 | 180 | 185                    | 145 | 235 | 335 |  |
| 90L        | 140                    | 125 | 56  | 24 | 50  | 8  | 20   | 90  | 10 | 115 | 95                           | 140 | M8  | 3   | 165 | 130                         | 200 | 12 | 3.5 | 180 | 185                    | 145 | 235 | 360 |  |
| 100L       | 160                    | 140 | 63  | 28 | 60  | 8  | 24   | 100 | 12 | 130 | 110                          | 160 | M8  | 3.5 | 215 | 180                         | 250 | 15 | 4   | 205 | 215                    | 170 | 255 | 380 |  |
| 112M       | 190                    | 140 | 70  | 28 | 60  | 8  | 24   | 112 | 12 | 130 | 110                          | 160 | M8  | 3.5 | 215 | 180                         | 250 | 15 | 4   | 245 | 240                    | 180 | 285 | 400 |  |
| 132S       | 216                    | 140 | 89  | 38 | 80  | 10 | 33   | 132 | 12 | 165 | 130                          | 200 | M10 | 4.0 | 265 | 230                         | 300 | 15 | 4   | 280 | 275                    | 195 | 325 | 475 |  |
| 132M       | 216                    | 178 | 89  | 38 | 80  | 10 | 33   | 132 | 12 | 165 | 130                          | 200 | M10 | 4.0 | 265 | 230                         | 300 | 15 | 4   | 280 | 275                    | 195 | 325 | 515 |  |
| 160M       | 254                    | 210 | 108 | 42 | 110 | 12 | 37   | 160 | 15 | 215 | 180                          | 250 | M12 | 4.0 | 300 | 250                         | 350 | 15 | 5   | 320 | 330                    | 255 | 420 | 615 |  |
| 160L       | 254                    | 254 | 108 | 42 | 110 | 12 | 37   | 160 | 15 | 215 | 180                          | 250 | M12 | 4.0 | 300 | 250                         | 350 | 15 | 5   | 320 | 330                    | 255 | 420 | 670 |  |
| 180M       | 279                    | 241 | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | 265 | 230                          | 300 | M15 | 4.0 | 300 | 250                         | 350 | 19 | 5   | 355 | 380                    | 280 | 455 | 700 |  |
| 180L       | 279                    | 279 | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | 265 | 230                          | 300 | M15 | 4.0 | 300 | 250                         | 350 | 19 | 5   | 355 | 380                    | 280 | 455 | 740 |  |

## Product Ranges

- Three Phase IEC Low Voltage Motors
- Two Speed Motors
- Inverter Duty Motors
- AC/DC Brake Motors
- Single Phase Motors
- High Efficiency IE2 Motors
- Smoke Spill Motors, Class H Insulation
- High Voltage Motors
- Slip Ring ( Wound Rotor ) Motors

