



ELECTRIC DRIVES

FOR EVERY DEMAND



Technical Catalog **VEMoEM-Series**

W8WR

ODM-Series

W8WR

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The products contained in this catalogue are also part of the interactive catalogue. Further information about VEM companies and products are available at www.vem-group.com. The electronic catalogue (eKAT) assists you in selecting and configuring VEM products and allows you to print data sheets and enquiries, as well as display true-to-scale and dimensioned drawings of the products or export them in various 2D and 3D formats. In addition to general information about VEM, catalogues, spare parts lists, operating and maintenance instructions, test certificates and circuit diagrams can also be accessed directly in the programme.

Note:

We strive to continuously improve our products. Designs, technical data and illustrations are subject to change. They are only binding once they have been confirmed in writing by the supplier.

Electric machines from VEM are appreciated by millions of users worldwide, and the name VEM is respected as a seal of quality. Large and special machines, as well as standard motors and special drives, are operating reliably in all branches of industry. Plants of all kinds are equipped with motors, generators and drive solutions for the full range of voltages. These products have been demonstrating their strengths for decades, even when exposed to some of the most extreme operating conditions – whether the dust and heat of a rolling mill, explosive atmospheres in the chemical industry, or damp, salt-laden air on the deck of a ship. VEM products comply with all applicable standards and regulations.

Our quality management system is certified and monitored in accordance with ISO 9001:2008 by DNV GL Business

assurance, Essen, as well as by IBExU Institut für Sicherheitstechnik GmbH, Notified Body no. 0637, as per Article 10(1) of Directive 94/9/EC (new: Directive 2014/34/EU).

The expertise accumulated by our calculation and design departments enables us to tailor our machines to the individual needs of the user. Our designers also work closely with partners from science and research. This cooperation yields products which represent the latest state of the art on the market and thus define the yardstick for coming product generations. At the same time, our companies look back over more than a hundred years of tradition and experience in the manufacturing of electric machines. We supplied hydro-power generators for the first pumped-storage power plants in Germany, for example, and also developed the world's first standard motor series.

From standard motors to special drives - in use the world over

When you choose our quality products, you can be sure that all challenging aspects such as energy savings and environmentally aware manufacturing have been taken into account. In other words, we supply cost-optimised drive

solutions for all individual industrial applications. Our flexibility, the availability of our products and our high delivery reliability support you in your worldwide investment projects.

Fast and flexible – more than just standard products

With a broad spectrum of low-voltage electric machines, VEM offers versatile, efficient and modular products and system solutions for every branch. In project business, in particular, we supply machines meeting the highest engineering standards to users all over the world.

Our products are characterised by extraordinary reliability, a long service life, effectiveness and environment-friendly operation based on the highest levels of motor efficiency. Extensive modification options promote the universal applicability of VEM drives and permit use in an ever wider

range of situations, whether in metallurgy, the chemical industry or conveying and transportation systems. Modern manufacturing and comprehensive know-how guarantee fast and reliable deliveries of high-quality drives. Our product range embraces standard and special motors, modern three-phase drives with integrated frequency converter, roller table motors, brake motors, three-phase motors for marine applications, explosion-protected motors, fire gas motors, energy-saving motors, built-in motors, permanent magnet synchronous motors and generators for outputs up to 710 kW.

Industry-wide drive solutions made by VEM – innovative performance for your worldwide installations

Whether as fan or conveyor drives, variable-speed drives for pumps, drive solutions in power generation or compressor drives with outputs of several megawatts, our drives offer convincing product and service quality. Under the trademark VEM, we supply German brand-name products which have earned themselves a considerable share of the worldwide market.

Electric drives are today used throughout industry in the most diverse variants. With their specific properties, they determine the efficiency of countless production processes. The VEM range of three-phase asynchronous motors for low voltages satisfies all customer demands relating to application versatility, improved operating data, environmental compatibility and maximum operating reliability. To this end, VEM motors promise:

- high motor efficiency as the basis for energy-efficient performance
- versions with efficiency classifications IE2, IE3 and IE4 in accordance with IEC/EN 60034-30-1
- universal applications and reduced stock levels thanks to IP 55 protection as standard (higher degree of protection up to IP 66 upon request)
- options for terminal box arrangements on the left, top or right

- enhanced service life, reliability and thermal overload capacity to thermal class 155 (F) with thermal reserves as standard (thermal class 180 (H) available as a special version)
- environment-friendly operation based on a low-noise ventilation system
- compliance with East European standards
- free choice between a classic IEC/DIN series and a progressive series based on the mounting dimensions and motor sizes of IEC 60072 (motors without IE classification only)
- facility to incorporate components such as encoders, tachogenerators, brakes, speed monitors or forced ventilation units to solve the customer's individual control tasks

Committed to the environment

Protection and preservation of the environment for the present and all future generations – VEM is fully committed to this responsibility. Together with plant manufacturers, we have been working for many years to promote the use of energy-optimised motors and drive systems, and to maximise energy savings.

Already through its endorsement of the Voluntary Agreement signed between CEMEP and the European Union, as well as support for the EU "Motor Challenge Programme", VEM documented its clear position with regard to the energy efficiency of its products. This process has been continued purposefully with implementation of Council Directive 2009/125/EC "establishing a framework for the setting of ecodesign requirements for energy-related products", and is clearly exemplified in conversion of the product range to electric motors with efficiency classifications IE2, IE3 and IE4.

Energy-saving motors from VEM fit into practically every drive concept and are characterised by their significantly reduced power losses compared to previous standard motors.

For many types of the new IE3 series W41R, it has also been possible to pack this increased efficiency into a much smaller housing by using die-cast copper rotors.

Assuming at least 8 hours of operation, energy-saving motors of the efficiency classes IE2, IE3 and IE4 recoup their investment in less than a year. In addition to the specifications contained in standards regarding energy parameters, material-related issues are similarly taken into account, meaning that all critical and proscribed substances (REACH regulations) have been banished from further developments of our motor series. It is a fundamental goal to minimise environmental impacts and to spare natural resources in all phases of the product life cycle.

Sustainability is more than just a buzzword for VEM – it is an inherent component of our corporate philosophy. To achieve more transparent accountability for the environmental policies at the individual locations, the VEM companies are certified to DIN EN ISO 14001 and ISO 50001.

Partners for our worldwide customers

Wherever our customers need electric machines, we are at hand as a partner and offer every necessary support at all phases of a project. It is not important whether you are doing business in Europe, the Middle East, Asia or America. As the VEM market share increases also outside Germany, we are expanding our sales network with a combination of own subsidiary companies and strategic alliances. Already today, our

customers can address their questions to competent and experienced local partners all over the world. Alongside VEM subsidiaries in Finland, Austria, Singapore and Russia, we have established a dense network of sales and service contacts with agents and representatives in more than 40 countries.

Over the past few years, the worldwide developments relating to energy-saving motors have produced a multitude of country-specific regulations, laws and standards, which makes it difficult to properly compare individual products. The new IEC/EN standard 60034-30 is thus intended to establish a global common basis. In Europe, the standard supersedes the previous “Voluntary Agreement of CEMEP”. Its scope has at the same time been extended to cover an output range from 0.75 kW to 375 kW, not only for 2- and 4-pole motors, but now also to 6-pole versions. When IEC/EN 60034-30-1 came into force, it broadened

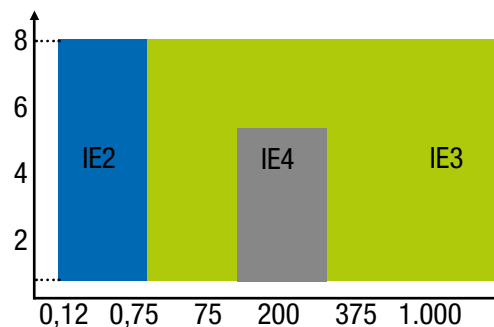
the scope of applicability yet again. It currently applies across an output range from 0.12 kW to 1000 kW, and now includes 8-pole motors in the classification. Following the convention used to designate degree of protection (IP = International Protection), the efficiency classes are indicated by the letters IE, standing for International Efficiency:

- IE1** Standard Efficiency
- IE2** High Efficiency
- IE3** Premium Efficiency
- IE4** Super Premium Efficiency

Efficiency determination

Parallel to the introduction of the new efficiency classes, the standard describing methods for the determination of efficiency has also been amended. In accordance with IEC/EN 60034-2-1, the additional losses are no longer simply assumed to be 0.5 % of the power input, but instead determined in the manner of IEEE 112. The losses determined in this way vary with the motor power and lie between 3.5 % (low power) and 0.5 % of the power input. Consequently, the nominal efficiency may be reduced, even though no actual changes have been made to the motors themselves.

The new limit values have been adapted to this method. IEC/EN 60034-2-1 replaced the previously used IEC/EN 60034-2 with effect from November 2010. As a formal conversion of test results to the new measuring method is not possible, the new stipulations are being introduced in stages. IE-classified motors are always assessed according to IEC/EN 60034-2-1. In the case of motors without classification, the efficiency specifications are in part still based on IEC/EN 60034-2 (indicated accordingly in the present catalogue).



| Applies to | Major exemptions from this efficiency requirements |
|---|---|
| 3-phase induction motors: <ul style="list-style-type: none"> • rated for operation on 50 Hz, 60 Hz or 50/60 Hz supplies and • rated for continuous duty i.e. duty class S1, S3 ≥ 80%, S6 ≥ 80% • pole numbers: 2-, 4-, 6- and 8-poles • Motors for explosive atmospheres¹⁾ Ex ec, Ex tb, Ex tc, Ex db, Ex db eb and Ex dc • brake motors • Totally Enclosed Air Over (TEAO) motors | <ul style="list-style-type: none"> • Mining Motors¹⁾ • Totally Enclosed Non-Ventilated (TENV) motors |
| „to note“ IE4 for 3-phase will become mandatory only for 2-, 4- and 6-poles single speed motors between 75 to 200 kW which are not brake motors, Ex eb increased safety motors or other explosion-protected motors | |

| Does not applies to |
|--|
| <ul style="list-style-type: none"> • Motors with brushes, commutators, slip ring or other electrical connections to the rotor, often described as multi-speed motors • High-Voltage motors (define > 1,000 V) |

¹⁾ Group I Mining motors as defined in Annex I, point of Directive 2014/34/EU

Design

The table shows the standard designs. Other designs are available on request. The design is specified on the rating plate in accordance with Code I, DIN EN 60034-7. Standard motors in sizes 56-200, which are ordered in the basic design, can also be operated in the following designs:

IMB3 in IMB5, IM B7, IM B8 und IM V6

IM B35 in IM2051, IM 2061, IM 2071, und IM V36

IM B34 in IM2151, IM 2161, IM 2171 und IM 2131

IM B5 in IM V3

IM B14 in IM V19

Motors of type IM V5, IM V1 or IM V18 can be optionally equipped with a protective cover to prevent small parts from falling

in. For types with the shaft end facing upwards, the user must prevent small parts from falling into the fan cover by means of a suitable cover (see also standard IEC/EN 60079-0). The cooling airflow must not be impeded by the cover. From size 225 upwards, consultation is required for types IM V5, IM V6, IM B6, IM B7 and IM B8. Types IM B5 and IM V3 are not available in sizes 315L and above. To facilitate connection to the mains, the terminal box can be rotated by 90 degrees for all designs (exception: motors with connection boxes 630 and 1000, inclined – here, rotation is only guaranteed by 180 degrees).

| Basic design | | Secondary forms | | | |
|-------------------|-------------------|-------------------|-----------------|-----------------|-----------------|
| IM B3 IM 1001 | IM V5 IM 1011 | IM V6 IM1031 | IM V6 IM1031 | IM B7 IM1061 | IM B8 IM1071 |
| | | | | | |
| IM B35 IM 2001 | IM V15 IM 2011 | IM V36 IM 2031 | IM 2051 | IM 2061 | IM 2071 |
| | | | | | |
| IM B34 IM2101 | IM 2111 | IM 2131 | IM 2151 | IM 2161 | IM 2171 |
| | | | | | |
| IM B5 IM 3001 | IM V1 IM 3011 | IM V3 IM 3031 | | | |
| | | | | | |
| IM B14 IM 3601 | IM V18 IM 3611 | IM V19 IM 3631 | | | |
| | | | | | |



Brief

The W8WR Series is a (super-)premium efficiency three-phase asynchronous induction motor series developed. This product line has been globally promoted. The series meets the IEC60034 efficiency level up to IE4. The installation size conforms to the IEC standard, allowing customers to switch quickly. The W8WR Series motor has the characteristics of (super-)premium efficiency, low noise, low vibration, stable

stable operation, exquisite appearance, safety and reliability, and convenient maintenance. The series is mainly used in equipment such as fans, water pumps, compressors, construction machinery, etc. It is suitable for various fields such as architecture, tunnel engineering, industrial automation, water treatment, mining and agriculture, etc..

Standard and qualifications

The W8WR-series meet the IEC international standards and can also be provided to comply with specific

regulations in other countries. Please refer to the table below for the standards that VEM products are based on.

| Titel | DIN / DE / EN | IEC standard | GB standard |
|---|-----------------|--------------------|-------------------------|
| General regulations for rotating electrical machines | DIN EN 60034-1 | IEC 6034-1 | GB 755-2019 |
| Noise for rotating electrical machines | - | IEC 60034-9 | GB 100069.1 |
| AC induction motors for general use with standardized dimensions and power | DIN EN 50347 | IEC 60072 | GB/T 4772.1-1999 Part 1 |
| Starting performance of single-speed three-phase cage induction motors for voltages up to and including 660 V | DIN EN 60034-12 | IEC 60034-12 | JB/T 8158-1999 |
| Terminal markings and direction of rotation for rotating electrical machines | DIN VDE 0530 | IEC 60034-8 Part 8 | GB 1971-2006 |
| Designation for type of construction, installation and terminal box position | DIN EN 60034-7 | IEC 60034-7 | GB/T997-2008 |
| IEC standard voltages | DIN IEC 60038 | IEC 60038 | - |
| Cooling methods for rotating electrical machines | DIN EN 60034-6 | IEC 60034-6 | GB/T 993-1993 |
| Mechanical vibrations of rotating electrical machines | DIN EN 60034-14 | IEC 60034-14 | GB 10068-2020 |
| Degrees of protection for rotating electrical machines | DIN EN 60034-5 | IEC 60034-5 | GB/T 4942.1-2016 |

Product characteristics

Please refer to the table below for the standard data and options of the SSWE(A) Series.

| Item | Electrical characteristic | |
|------------------------|---|---|
| | Standard | Options |
| Frame size | 80 ~ 355 | |
| Output power range | 0.75 kW ~ 315 kW | |
| Pole | 2, 4, 6, 8 | |
| Rated speed | 3000/ 1500/ 1000 r.p.m. | |
| Rated voltage | 230/ 400V // 400/ 690V | 220/380 V, 380/660 V, 230/400 V, 400/690V, or be customized according to customer requirements |
| Frequency | 50 Hz | 60Hz or be designed as variable frequency. The frequency can be customized according to customer requirements. |
| Efficiency | IE3/ IE4 (IEC60034-30-1:2020) | |
| Protection class | IP55 | IP56, IP65, IP66 |
| Insulation class | F | H |
| Temperature rise class | B (ΔT 80K) | |
| Duty | S1 | S2, S3 |
| Cooling method | IC411 | IC416 |
| Ambient temperature | -20 ~ 40°C | The motor can be customized to adapt to low-temperature or high-temperature working conditions. |
| Altitude | ≤ 1000m | The motor can be customized to operate at high altitude. |
| Mounting arrangement | B3, B35 and V1 for FS80-FS355 B5 for FS80-FS280 B34, B14 and V18 for FS80-FS132 | |

Ambient temperatures and high altitudes

Standard motors are designed for operation at maximum ambient temperature of 40°C and at a maximum altitude of 1000 meters above sea level. If a motor is operated at higher ambient temperatures or altitude, it should be de-rated. Please refer to below chart of factor kHT for different site altitudes and/or coolant temperature.

Factor kHT for different site altitude and/or coolant temperature

| Site altitude above sea level | Site altitude above sea level coolant temperature | | | | | |
|-------------------------------|---|---------------|-------|-------|-------|-------|
| | < 30 °C | 30 °C ~ 40 °C | 45 °C | 50 °C | 55 °C | 60 °C |
| 1000m | 1.07 | 1.00 | 0.96 | 0.92 | 0.87 | 0.82 |
| 1500m | 1.04 | 0.97 | 0.93 | 0.89 | 0.84 | 0.79 |
| 2000m | 1.00 | 0.94 | 0.90 | 0.86 | 0.82 | 0.77 |
| 2500m | 0.96 | 0.90 | 0.86 | 0.83 | 0.78 | 0.74 |
| 3000m | 0.92 | 0.86 | 0.82 | 0.79 | 0.75 | 0.70 |
| 3500m | 0.88 | 0.82 | 0.79 | 0.75 | 0.71 | 0.67 |
| 4000m | 0.82 | 0.77 | 0.74 | 0.71 | 0.67 | 0.63 |

Insulation

The W8WR-Series adopts class F insulation with temperature rise, which is the common requirement among industry today and gives our motors a 25°C safety margin. The application of B-class temperature rise and F-class insulation in motors can enhance their reliability, safety, and voltage withstand capability. It helps prolong the motor's service life and ensures its normal operation.

Thermal class 130 (B)

- Nominal ambient temperature 40°C
- Max permissible temperature rise 80K
- Hot spot temperature margin 10K

Thermal class 155 (F)

- Nominal ambient temperature 40°C
- Max permissible temperature rise 105K
- Hot spot temperature margin 10K

Thermal class 180 (H)

- Nominal ambient temperature 40°C
- Max permissible temperature rise 125K
- Hot spot temperature margin 10K

Motor frame

From FS80 to FS180, the motor frame is made of aluminum. From FS200 to FS355, the motor frame is made of cast iron.



Aluminum frame



Cast iron frame

Terminal box

According to the IEC 60034 standard, the terminal box is installed on the top of the drive end. The terminal box is fixed to the motor frame using 4 cross screws or hex screws, all of which complying with the DIN standard. One of the screws is made of brass, while the other three are made of galvanized steel with a

grade of 8.8. An earth terminal must be placed inside the terminal box. The terminal box can be rotated horizontally by 90°, allowing the outgoing wires to be drawn from various directions. The auxiliary terminal box is optional. The dimensions of the cable entry and of the terminal box are listed in the right table:

| Frame size | Terminal box | | |
|------------|------------------|----------------------------|-------------------------|
| | Cable entry (mm) | Auxiliary cable entry (mm) | Overall dimensions (mm) |
| 80 | 2-M25x1.5 | - | 115x115x51 |
| 90 | 2-M25x1.5 | - | 115x115x51 |
| 100 | 2-M25x1.5 | 1-M20x1.5 | 115x115x51 |
| 112 | 2-M25x1.5 | 1-M20x1.5 | 115x115x51 |
| 132 | 2-M32x1.5 | 1-M20x1.5 | 138x138x57 |
| 160 | 2-M40x1.5 | 2-M20x1.5 | 200x160x80 |
| 180 | 2-M40x1.5 | 2-M20x1.5 | 200x160x80 |
| 200 | 2-M50x1.5 | 2-M20x1.5 | 250x200x92 |
| 225 | 2-M50x1.5 | 2-M20x1.5 | 250x200x92 |
| 250 | 2-M63x1.5 | 2-M20x1.5 | 340x210x106 |
| 280 | 2-M63x1.5 | 2-M20x1.5 | 340x210x106 |
| 315 | 2-M63x1.5 | 2-M20x1.5 | 413x258x165 |
| 355 | 2-M72x2 | 2-M20x1.5 | 465x340x225 |

Bearing

The W8WR-Series adopts single-row deep-groove ball bearings to standard motors. For some types of FS315-FS355 motors, NU roller bearings or angular contact ball bearings are recommended. The types are listed in the table below. All motors are equipped as standard with an axially locked bearing. General at D-end.

| Frame size | DE bearing | | NDE bearing | |
|------------|------------|-----------------|-------------|----------------------|
| | 2-pole | 4 pole & 6 pole | 2 pole | 4 pole & 6 pole |
| 80 | 6204 2Z/C3 | 6204 2Z/C3 | 6203 2Z/C3 | 6203 2Z/C3 |
| 90 | 6205 2Z/C3 | 6205 2Z/C3 | 6204 2Z/C3 | 6204 2Z/C3 |
| 100 | 6303 2Z/C3 | 6306 2Z/C3 | 6205 2Z/C3 | 6205 2Z/C3 |
| 112 | 6306 2Z/C3 | 6306 2Z/C3 | 6205 2Z/C3 | 6205 2Z/C3 |
| 132 | 6208 2Z/C3 | 6208 2Z/C3 | 6206 2Z/C3 | 6206 2Z/C3 |
| 160 | 6209 2Z/C3 | 6209 2Z/C3 | 6209 2Z/C3 | 6209 2Z/C3 |
| 180 | 6211 C3 | 6311 C3 | 6211 C3 | 6211 C3 |
| 200 | 6212 C3 | 6312 C3 | 6212 C3 | 6212 C3 |
| 225 | 6312 C3 | 6313 C3 | 6312 C3 | 6312 C3 |
| 250 | 6313 C3 | 6314 C3 | 6313 C3 | 6313 C3 |
| 280 | 6314 C3 | 6317 C3 | 6314 C3 | 6314 C3 |
| 315 | 6317 C3 | NU319 | 6317 C3 | 6319 C3 / 7319B (V1) |
| 355 | 6319 C3 | NU322 | 6319 C3 | 6322 C3 / 7322B (V1) |

Lubrication

For frame sizes below 180, the bearings are non-serviceable bearings which do not need regreasing. Please refer to the table below for bearing regreasing intervals in hours and grease volumes at the ambient temperature of 40 ° C.

| Frame size | Amount of grease (g) | 2 pole | | 4 pole | | 6 pole | |
|------------|----------------------|-----------|------|-----------|------|-----------|------|
| | | B3 B5 B35 | V1 | B3 B5 B35 | V1 | B3 B5 B35 | V1 |
| 180 | 30 | 3400 | 1700 | 7000 | 3500 | 9000 | 4500 |
| 200 | 40 | 3000 | 1500 | 6400 | 3200 | 8400 | 4200 |
| 225 | 50 | 2400 | 1200 | 6200 | 3100 | 8200 | 4100 |
| 250 | 60 | 2200 | 1100 | 6000 | 3000 | 7600 | 3800 |
| 280 | 35 | 2200 | 1100 | - | - | - | - |
| | 70 | - | - | 4800 | 2400 | 6400 | 3200 |
| 315 | 35 | 1400 | 700 | - | - | - | - |
| | 90 | - | - | 4200 | 2100 | 6200 | 3100 |
| 355 | 35 | 100 | 500 | - | - | - | - |
| | 120 | - | - | 3000 | 1500 | 5000 | 2500 |

The table below presents the standard types of bearing oil seals per motor size.

| Frame size | Oil seal | |
|------------|--------------|--------------|
| | DE | NDE |
| 80 | TC20x30x7 | TC17x36x5 |
| 90 | TC25x37x7 | TC20x36x5 |
| 100 | TC30x42x7 | TC25x41x6 |
| 112 | TC30x42x7 | TC25x41x6 |
| 132 | TC40x58x7 | TC30x46x7 |
| 160 | TC45x60x7 | TC45x60x7 |
| 180 | TC55x70x8 | TC55x70x8 |
| 160 | TC45x60x7 | TC45x60x7 |
| 180 | TC55x70x8 | TC55x70x8 |
| 200 | TC60x80x12 | TC60x80x12 |
| 225-2P | TC60x80x12 | TC60x80x12 |
| 225-4P, 6P | TC65x90x12 | TC60x8x12 |
| 250-2P | TC65x90x12 | TC65x90x12 |
| 250-4P, 6P | TC70x90x12 | TC65x90x12 |
| 280-2P | TC70x90x12 | TC70x90x12 |
| 280-4P, 6P | TC85x100x12 | TC70x90x12 |
| 315-2P | TC85x110x10 | TC85x110x10 |
| 315-4P, 6P | TC95x120x10 | TC95x120x10 |
| 355-2P | TC95x120x10 | TC95x120x10 |
| 355-4P, 6P | TC110x135x10 | TC110x135x10 |

Drain holes

The standard design includes the use of a drain hole to allow for the drainage of condensate water. The motor protection rating meets IP55.

The drain hole can be located either on the stator frame (for FS160 and above) or on the side of the end shield/flange (for FS80 to FS132), ensuring it is positioned at the lowest point of the motor.

Detachable feet

The W8WR-Series motors provide maximum flexibility to customers. All FS80-FS250 motors feature detachable feet that allow for flexible mounting and terminal box location. This design reduces customer modification time and can reduce motor stock.

Surface treatment

The motor parts are all painted, including the interior of the fan cover and the grooves of the B5/B14 flanges. The mounting surfaces of the shaft and flange are not painted but protected with anti-rust oil. The painting process and thickness make the motor suitable for ISO12944 C2 classification.

Vibration

VEM motor meets the requirements of class A vibration based on IEC60034-14 standard.



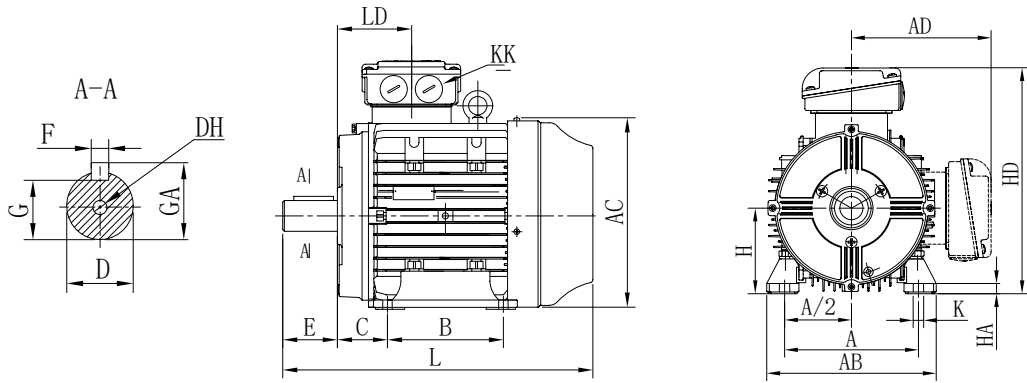
W8WR-Series Premium efficiency aluminum motors IE3

| Ranged Output. | | IEC frame | Rated speed (rpm) | Full load current I _n (A) | | Efficiency η% | | | 0.Power Factor (Cos φ) | | | Locked rotor current I _L /I _n | Locked rotor troque T _L /T _n | Break-down torque T _b /T _n | Sound LP dB(A) | Moment og Inertia J(kg.m ²) | Weight (kg) |
|--------------------------------|-----|-----------|-------------------|--------------------------------------|------|----------------|------|------|------------------------|------|------|---|--|--|----------------|---|-------------|
| kW | HP | | | 3810V | 400V | % of full load | | | | | | | | | | | |
| | | | | | | 100 | 75 | 50 | 100 | 75 | 50 | | | | | | |
| 3000 r.p.m. (2 pole) 50 Hz | | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 80M1 | 2855 | 1.77 | 1.68 | 80.7 | 81.1 | 79.4 | 0.80 | 0.74 | 0.62 | 6.8 | 3.3 | 3.7 | 66 | 0.001 | 11 |
| 1.1 | 1.5 | 80M2 | 2855 | 2.53 | 2.40 | 82.7 | 82.9 | 80.9 | 0.80 | 0.73 | 0.60 | 7.5 | 3.5 | 3.8 | 66 | 0.001 | 12 |
| 1.5 | 2 | 90S | 2900 | 3.08 | 2.92 | 84.2 | 84.6 | 83.5 | 0.88 | 0.85 | 0.79 | 8.6 | 2.2 | 2.9 | 67 | 0.002 | 17 |
| 2.2 | 3 | 90L | 2900 | 4.37 | 4.15 | 85.9 | 86.6 | 85.1 | 0.89 | 0.87 | 0.81 | 8.3 | 2.4 | 2.9 | 67 | 0.003 | 19 |
| 3 | 4 | 100L | 2910 | 5.88 | 5.59 | 87.1 | 87.3 | 85.9 | 0.89 | 0.87 | 0.81 | 10.0 | 2.8 | 3.4 | 68 | 0.005 | 26 |
| 4 | 5.5 | 112M | 2910 | 7.84 | 7.45 | 88.1 | 88.4 | 87.6 | 0.88 | 0.86 | 0.80 | 9.0 | 2.3 | 3.1 | 68 | 0.013 | 29 |
| 5.5 | 7.5 | 132S1 | 2925 | 10.5 | 10.0 | 89.2 | 89.7 | 88.7 | 0.89 | 0.86 | 0.81 | 8.6 | 2.1 | 3.3 | 69 | 0.024 | 42 |
| 7.5 | 10 | 132S2 | 2925 | 14.1 | 13.4 | 90.1 | 90.6 | 89.7 | 0.90 | 0.88 | 0.82 | 9.5 | 2.4 | 3.4 | 69 | 0.025 | 48 |
| 11 | 15 | 160M1 | 2950 | 20.8 | 19.3 | 91.2 | 91.3 | 90.3 | 0.89 | 0.86 | 0.80 | 8.7 | 2.4 | 3.3 | 70 | 0.056 | 97* |
| 15 | 20 | 160M2 | 2950 | 27.9 | 26.5 | 91.9 | 91.8 | 90.8 | 0.89 | 0.87 | 0.82 | 8.8 | 2.6 | 3.3 | 70 | 0.064 | 107* |
| 18.5 | 25 | 160L | 2590 | 34.2 | 32.5 | 92.4 | 92.5 | 91.6 | 0.89 | 0.87 | 0.82 | 8.9 | 2.8 | 3.4 | 72 | 0.073 | 124* |
| 22 | 30 | 180M | 2955 | 40.1 | 38.1 | 92.7 | 92.6 | 91.5 | 0.90 | 0.88 | 0.84 | 9.4 | 2.6 | 3.9 | 72 | 0.105 | 145* |
| 1.500 r.p.m. (4 pole) 50 Hz | | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 80M2 | 1425 | 1.89 | 1.80 | 82.5 | 82.6 | 80.0 | 0.73 | 0.65 | 0.52 | 7.3 | 3.3 | 3.5 | 64 | 0.005 | 16 |
| 1.10 | 1.5 | 90S | 1440 | 2.55 | 2.42 | 84.1 | 84.4 | 82.9 | 0.78 | 0.72 | 0.62 | 7.0 | 2.2 | 2.7 | 64 | 0.006 | 17 |
| 1.50 | 2 | 90L | 1440 | 3.38 | 3.21 | 85.3 | 85.5 | 83.8 | 0.79 | 0.73 | 0.63 | 7.5 | 2.4 | 2.7 | 65 | 0.007 | 19 |
| 2.20 | 3 | 100L1 | 1445 | 4.76 | 4.52 | 86.7 | 87.1 | 86.1 | 0.81 | 0.76 | 0.66 | 9.0 | 2.6 | 2.9 | 66 | 0.008 | 28 |
| 3.00 | 4 | 100L2 | 1445 | 6.42 | 6.10 | 87.7 | 88.2 | 87.1 | 0.81 | 0.76 | 0.66 | 9.2 | 2.7 | 2.9 | 66 | 0.009 | 34 |
| 4.00 | 5.5 | 112M | 1450 | 8.47 | 8.05 | 88.6 | 89.3 | 88.1 | 0.81 | 0.77 | 0.67 | 8.3 | 2.8 | 2.8 | 67 | 0.018 | 36 |
| 5.50 | 7.5 | 132S | 1460 | 11.5 | 10.9 | 89.6 | 89.7 | 88.3 | 0.81 | 0.76 | 0.66 | 9.0 | 2.6 | 3.0 | 68 | 0.037 | 54 |
| 7.50 | 10 | 132M | 1460 | 15.4 | 14.6 | 90.4 | 90.5 | 89.3 | 0.82 | 0.77 | 0.68 | 8.9 | 2.8 | 3.0 | 68 | 0.045 | 63 |
| 11.0 | 15 | 160M | 1470 | 21.5 | 20.4 | 91.4 | 91.5 | 90.5 | 0.85 | 0.81 | 0.73 | 8.6 | 2.6 | 3.1 | 68 | 0.105 | 100* |
| 15.0 | 20 | 160L | 1470 | 29.1 | 27.3 | 92.1 | 92.2 | 91.5 | 0.86 | 0.82 | 0.73 | 9.0 | 3.0 | 3.3 | 68 | 0.115 | 117* |
| 18.5 | 25 | 180M | 1475 | 35.7 | 33.5 | 92.6 | 92.7 | 91.5 | 0.86 | 0.82 | 0.73 | 9.0 | 2.5 | 3.0 | 73 | 0.166 | 152* |
| 22.0 | 30 | 180L | 1475 | 42.3 | 33.7 | 93.0 | 93.1 | 91.7 | 0.86 | 0.82 | 0.73 | 9.2 | 2.8 | 3.2 | 73 | 0.188 | 171* |
| 1.000 r.p.m. (6 pole) 50 Hz6.0 | | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 90S | 950 | 2.09 | 1.99 | 78.9 | 78.8 | 75.9 | 0.96 | 0.61 | 0.49 | 4.5 | 1.6 | 2.4 | 52 | 0.005 | 16 |
| 1.1 | 1.5 | 90L | 950 | 2.95 | 2.80 | 81.0 | 81.4 | 79.4 | 0.70 | 0.64 | 0.50 | 5.0 | 1.6 | 2.4 | 52 | 0.006 | 20 |
| 1.5 | 2 | 100L | 955 | 3.93 | 3.75 | 82.5 | 82.3 | 79.9 | 0.70 | 0.64 | 0.53 | 6.0 | 1.5 | 2.2 | 54 | 0.008 | 29 |
| 2.2 | 3 | 112M | 960 | 5.43 | 5.16 | 84.3 | 85.1 | 83.6 | 0.73 | 0.67 | 0.55 | 9.2 | 2.2 | 2.5 | 54 | 0.015 | 31 |
| 3 | 4 | 132S | 970 | 7.20 | 6.84 | 85.6 | 85.8 | 84.4 | 0.74 | 0.68 | 0.57 | 6.8 | 2.0 | 2.5 | 56 | 0.035 | 47 |
| 4 | 5.5 | 132M1 | 970 | 9.21 | 8.75 | 86.8 | 86.9 | 85.4 | 0.76 | 0.70 | 0.59 | 6.8 | 2.1 | 2.5 | 56 | 0.05 | 57 |
| 5.5 | 7.5 | 132M2 | 970 | 12.5 | 11.9 | 88.0 | 88.1 | 86.8 | 0.76 | 0.71 | 0.60 | 7.2 | 2.2 | 2.4 | 57 | 0.06 | 63 |
| 7.5 | 10 | 160M | 975 | 16.8 | 15.4 | 89.1 | 89.3 | 88.2 | 0.79 | 0.72 | 0.60 | 7.5 | 2.4 | 2.4 | 59 | 0.13 | 97* |
| 11 | 15 | 160L | 975 | 24.4 | 22.3 | 90.3 | 90.6 | 89.4 | 0.79 | 0.72 | 0.60 | 7.8 | 2.9 | 2.7 | 59 | 0.24 | 117* |
| 15 | 20 | 180L | 980 | 31.6 | 30.1 | 91.3 | 91.1 | 89.7 | 0.79 | 0.73 | 0.61 | 8.7 | 2.9 | 3.3 | 60 | 0.35 | 152* |

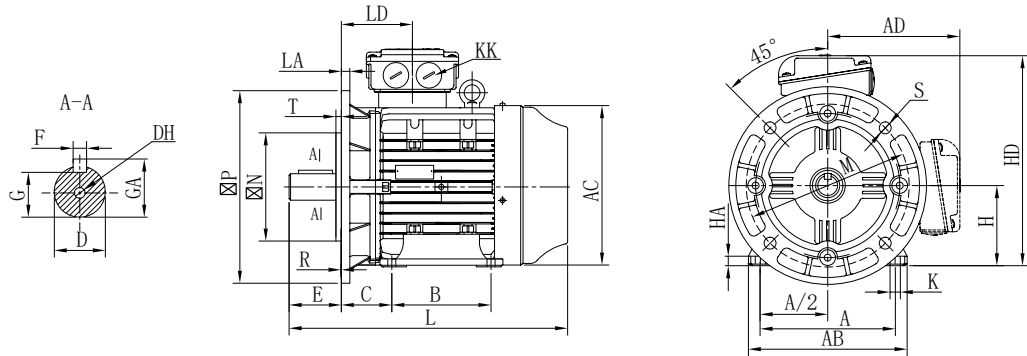
* maximum weight of the motor

Mounting and overall dimensions

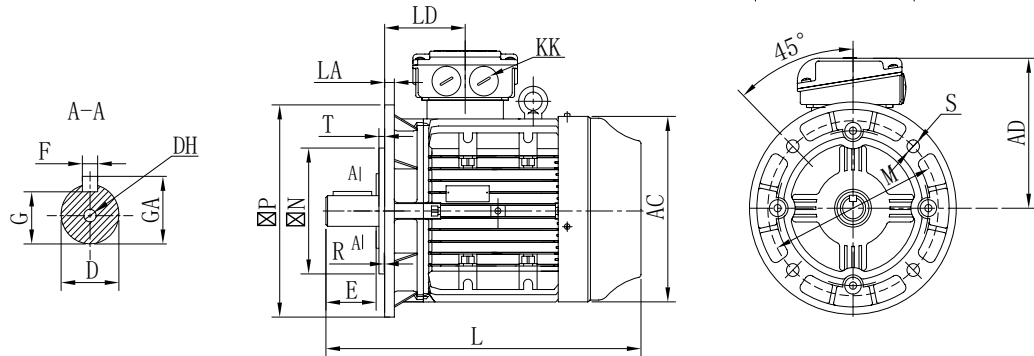
B3



B35



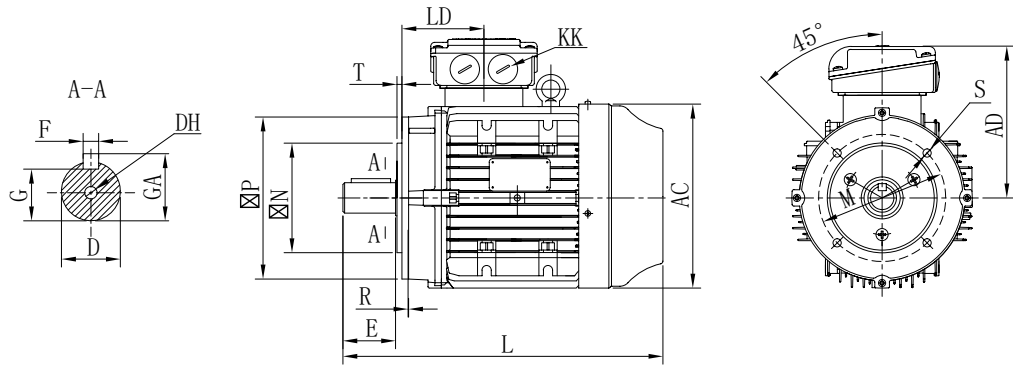
B5



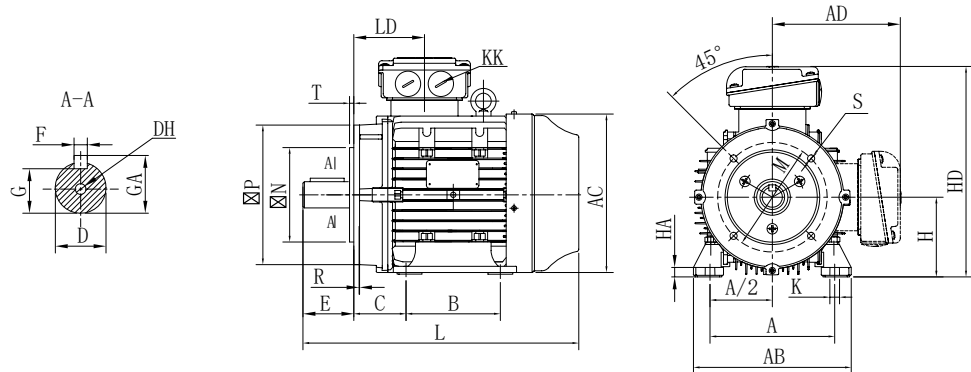
| Frame Size | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|----------------------|--------------------------------------|-------|-----|-----|----|--------|-----|----|------|-----|---------|---------|-----|-----|-----|-------|---------|-----|-----|-----|-----|-----|------|-----|-----|----|-----|
| | A | A/2 | B | C | D | DH | E | F | G | H | K | KK | M | N | P | R | S | T | AB | AC | AD | HD | GA | LA | LD | HA | L |
| 80M-2 | 125 | 62.5 | 100 | 50 | 19 | M6x16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20x1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 154 | 157 | 124 | 204 | 21.5 | 9.5 | 75 | 10 | 295 |
| 80M2-4 | 125 | 62.5 | 100 | 50 | 19 | M6x16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20x1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 154 | 157 | 124 | 204 | 21.5 | 9.5 | 75 | 10 | 330 |
| 90S | 140 | 70 | 100 | 56 | 24 | M8x20 | 50 | 8 | 20.0 | 90 | 4-Φ10 | M25x1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 180 | 175 | 143 | 233 | 27 | 10 | 87 | 10 | 324 |
| 90L | 140 | 70 | 125 | 56 | 24 | M8x20 | 50 | 8 | 20.0 | 90 | 4-Φ10 | M25x1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 180 | 175 | 143 | 233 | 27 | 10 | 87 | 12 | 349 |
| 100L1-4 100L 2, 6 | 160 | 80 | 140 | 63 | 28 | M10x22 | 60 | 8 | 24.0 | 100 | 4-Φ12 | M25x1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4.0 | 200 | 199 | 159 | 259 | 31 | 12 | 78 | 12 | 373 |
| 100L2-4 | 160 | 80 | 140 | 63 | 28 | M10x22 | 60 | 8 | 24.0 | 100 | 4-Φ12 | M25x1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4.0 | 200 | 199 | 159 | 259 | 31 | 12 | 78 | 12 | 418 |
| 112M | 190 | 95 | 140 | 70 | 28 | M10x22 | 60 | 8 | 24.0 | 112 | 4-Φ12 | M25x1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4.0 | 230 | 222 | 169 | 281 | 31 | 12 | 85 | 12 | 380 |
| 132S | 216 | 108 | 140 | 89 | 38 | M12x28 | 80 | 10 | 33.0 | 132 | 4-Φ12 | M32x1.5 | 265 | 230 | 300 | 0±2 | 4-Φ14.5 | 4.0 | 264 | 260 | 193 | 325 | 41 | 14 | 129 | 15 | 475 |
| 132M | 216 | 108 | 178 | 89 | 38 | M12x28 | 80 | 10 | 33.0 | 132 | 4-Φ12 | M32x1.5 | 265 | 230 | 300 | 0±2 | 4-Φ14.5 | 4.0 | 264 | 260 | 193 | 325 | 41 | 14 | 129 | 15 | 513 |
| 160M | 254 | 127 | 210 | 108 | 42 | M16x36 | 110 | 12 | 37.0 | 160 | 4-Φ14.5 | M40x1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 314 | 314 | 237 | 397 | 45 | 15 | 154 | 22 | 612 |
| 160L | 254 | 127 | 254 | 108 | 42 | M16x36 | 110 | 12 | 37.0 | 160 | 4-Φ14.5 | M40x1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 314 | 314 | 237 | 397 | 45 | 15 | 154 | 22 | 656 |
| 180M | 279 | 139.5 | 241 | 121 | 48 | M16x36 | 110 | 14 | 42.5 | 180 | 4-Φ14.5 | M40x1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 317 | 355 | 255 | 435 | 51.5 | 15 | 159 | 25 | 685 |
| 180L | 279 | 139.5 | 279 | 121 | 48 | M16x36 | 110 | 14 | 42.5 | 180 | 4-Φ14.5 | M40x1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5.0 | 317 | 355 | 255 | 435 | 51.5 | 15 | 159 | 25 | 723 |

Mounting and overall dimensions

B14



B34



| Frame Size | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--------------------------------------|------|-----|----|----|--------|----|----|------|-----|-------|---------|-----|-----|-----|-------|-------|-----|-----|-----|-----|-----|------|-----|----|-----|
| | A | A/2 | B | C | D | DH | E | F | G | H | K | KK | M | N | P | R | S | T | AB | AC | AD | HD | GA | LD | HA | L |
| 80M-2 | 125 | 62.5 | 100 | 50 | 19 | M6x16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20x1.5 | 100 | 80 | 120 | 0±1.5 | 4-M6 | 3 | 154 | 157 | 124 | 204 | 21.5 | 75 | 10 | 295 |
| 80M2-4 | 125 | 62.5 | 100 | 50 | 19 | M6x16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20x1.5 | 100 | 80 | 120 | 0±1.5 | 4-M6 | 3 | 154 | 157 | 124 | 204 | 21.5 | 75 | 10 | 330 |
| 90S | 140 | 70 | 100 | 56 | 24 | M8x20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25x1.5 | 115 | 95 | 140 | 0±1.5 | 4-M8 | 3 | 180 | 175 | 143 | 233 | 27 | 87 | 10 | 324 |
| 90L | 140 | 70 | 125 | 56 | 24 | M8x20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25x1.5 | 115 | 95 | 140 | 0±2 | 4-M8 | 3 | 180 | 175 | 143 | 233 | 27 | 87 | 10 | 349 |
| 100L1-4 100L2,6 | 160 | 80 | 140 | 63 | 28 | M10x22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25x1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 199 | 159 | 259 | 31 | 78 | 12 | 373 |
| 100L2-4 | 160 | 80 | 140 | 63 | 28 | M10x22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25x1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 199 | 159 | 259 | 31 | 78 | 12 | 418 |
| 112M | 190 | 95 | 140 | 70 | 28 | M10x22 | 60 | 8 | 24 | 112 | 4-Φ12 | M25x1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 222 | 169 | 281 | 31 | 85 | 12 | 380 |
| 132S | 216 | 108 | 140 | 89 | 38 | M10x22 | 80 | 10 | 33 | 132 | 4-Φ12 | M32x1.5 | 165 | 130 | 200 | 0±2 | 4-M10 | 3.5 | 264 | 260 | 193 | 325 | 41 | 129 | 15 | 475 |
| 132M | 216 | 108 | 178 | 89 | 38 | M12x28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32x1.5 | 165 | 130 | 200 | 0±2 | 4-M10 | 3.5 | 264 | 260 | 193 | 325 | 41 | 129 | 15 | 513 |

| Frame size | Driving end | | Non-driving end | |
|------------|-------------|-----------------|-----------------|-----------------|
| | 2-pole | 4 pole ~ 6 pole | 2 pole | 4 pole ~ 6 pole |
| 80 | 6204-2Z/ C3 | 6204-2Z/ C3 | 6203-2Z/ C3 | 6203-2Z/ C3 |
| 90 | 6205-2Z/ C3 | 6205-2Z/ C3 | 6204-2Z/ C3 | 6204-2Z/ C3 |
| 100 | 6306-2Z/ C3 | 6306-2Z/ C3 | 6205-2Z/ C3 | 6205-2Z/ C3 |
| 112 | 6306-2Z/ C3 | 6306-2Z/ C3 | 6205-2Z/ C3 | 6205-2Z/ C3 |
| 132 | 6208-2Z/ C3 | 6208-2Z/ C3 | 6206-2Z/ C3 | 6206-2Z/ C3 |
| 160 | 6209-2Z/ C3 | 6209-2Z/ C3 | 6209-2Z/ C3 | 6209-2Z/ C3 |
| 180 | 6211/ C3 | 6311/ C3 | 6211/ C3 | 6211/ C3 |

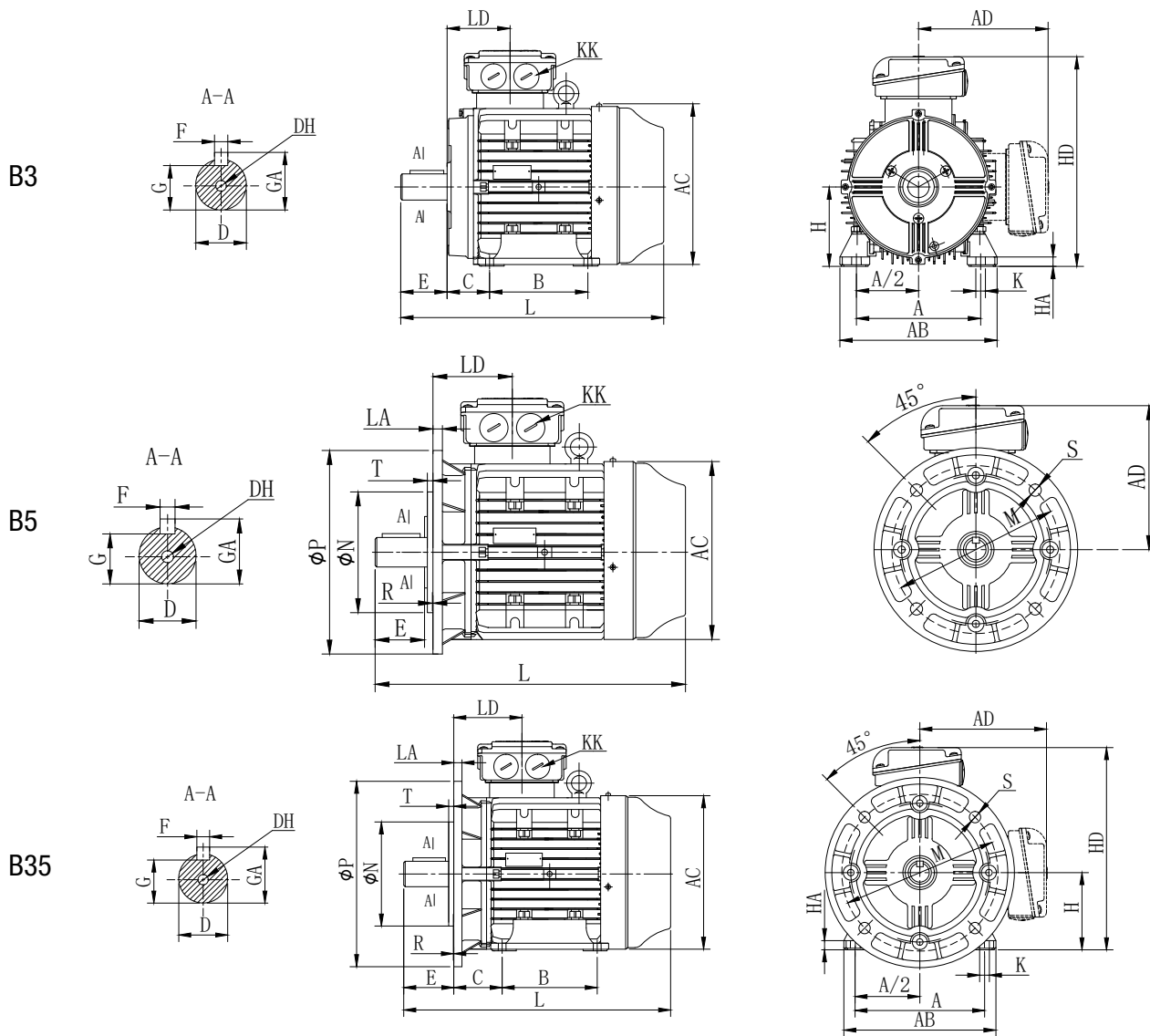
7 Technical specifications - Aluminum motors IE4



W8WR-Series Super Premium efficiency aluminum motors IE4

| Output | | IEC frame | Rated speed (r.p.m.) | Full load current $I_{(A)}$ | Efficiency η | | | Power Factor (Cos φ) | | | Rated rotor current I_L/I_N | Rated rotor torque T_L/T_n | Break-down torque T_b/T_n | Sound LP dB(A) | Moment of Inertia J(kgm ²) | Weight (kg) |
|-------------------------|-----|-----------|----------------------|-----------------------------|-------------------|------|------|-------------------------------|------|------|-------------------------------|------------------------------|-----------------------------|----------------|--|-------------|
| kW | HP | | | | % of full load | | | | | | | | | | | |
| | | | | | 400V | 100 | 75 | 50 | 100 | 75 | | | | | | |
| 3000 rpm (2 pole) 50 Hz | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 80M1 | 2870 | 1.65 | 83.5 | 84.6 | 83.1 | 0.78 | 0.70 | 0.57 | 7.3 | 4.6 | 3.9 | 62 | 0.001 | 10 |
| 1.1 | 1.5 | 80M2 | 2875 | 2.47 | 85.2 | 85.3 | 83.7 | 0.75 | 0.67 | 0.53 | 8.3 | 4.8 | 4.2 | 62 | 0.001 | 12 |
| 1.5 | 2 | 90S | 2905 | 2.85 | 86.5 | 87.3 | 87.3 | 0.88 | 0.83 | 0.73 | 8.8 | 3.1 | 3.7 | 67 | 0.002 | 16 |
| 2.2 | 3 | 90L | 2895 | 4.11 | 88.0 | 89.1 | 88.9 | 0.88 | 0.83 | 0.72 | 9.5 | 3.3 | 3.7 | 67 | 0.003 | 19 |
| 3 | 4 | 100L | 2910 | 5.56 | 89.1 | 88.9 | 87.5 | 0.87 | 0.82 | 0.72 | 11.4 | 5.1 | 4.6 | 74 | 0.005 | 27 |
| 4 | 5.5 | 112M | 2915 | 7.37 | 90.0 | 89.9 | 88.0 | 0.87 | 0.83 | 0.74 | 9.2 | 3.0 | 3.6 | 77 | 0.014 | 30 |
| 5.5 | 7.5 | 132S1 | 2930 | 9.80 | 90.9 | 90.7 | 89.9 | 0.89 | 0.85 | 0.76 | 9.6 | 3.2 | 3.8 | 79 | 0.028 | 42 |
| 7.5 | 10 | 132S2 | 2930 | 13.2 | 91.7 | 91.2 | 90.5 | 0.89 | 0.86 | 0.77 | 10.1 | 3.2 | 3.9 | 79 | 0.028 | 45 |
| 1500 rpm (4 pole) 50 Hz | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 80M2 | 1445 | 1.80 | 85.7 | 84.5 | 81.5 | 0.70 | 0.61 | 0.47 | 7.9 | 5.0 | 4.3 | 56 | 0.005 | 15 |
| 1.1 | 1.5 | 90S | 1445 | 2.39 | 87.2 | 87.5 | 85.3 | 0.76 | 0.68 | 0.55 | 7.6 | 3.8 | 3.8 | 59 | 0.007 | 18 |
| 1.5 | 2 | 90L | 1445 | 3.24 | 88.2 | 88.5 | 86.5 | 0.76 | 0.68 | 0.54 | 7.7 | 3.0 | 3.5 | 59 | 0.008 | 21 |
| 2.2 | 3 | 100L1 | 1455 | 4.61 | 89.5 | 88.2 | 86.6 | 0.77 | 0.69 | 0.55 | 9.8 | 4.1 | 4.1 | 64 | 0.009 | 27 |
| 3 | 4 | 100L2 | 1455 | 6.20 | 90.4 | 89.6 | 88.3 | 0.77 | 0.69 | 0.55 | 10.5 | 4.1 | 4.4 | 64 | 0.010 | 33 |
| 4 | 5.5 | 112M | 1445 | 8.15 | 91.1 | 90.4 | 90.0 | 0.78 | 0.71 | 0.59 | 8.5 | 3.7 | 3.6 | 65 | 0.019 | 36 |
| 5.5 | 7.5 | 132S | 1465 | 10.8 | 91.9 | 91.2 | 90.0 | 0.80 | 0.73 | 0.60 | 9.3 | 3.2 | 3.3 | 71 | 0.042 | 57 |
| 7.5 | 10 | 132M | 1465 | 14.8 | 92.6 | 92.0 | 91.0 | 0.79 | 0.73 | 0.60 | 10.5 | 3.6 | 4.0 | 71 | 0.051 | 67 |
| 1000 rpm (6 pole) 50 Hz | | | | | | | | | | | | | | | | |
| 0.75 | 1 | 90S | 955 | 1.87 | 82.7 | 82.1 | 78.3 | 0.70 | 0.62 | 0.50 | 4.2 | 2.0 | 2.5 | 57 | 0.005 | 13 |
| 1.1 | 1.5 | 90L | 955 | 2.65 | 84.5 | 84.1 | 77.6 | 0.71 | 0.63 | 0.51 | 4.1 | 2.0 | 2.5 | 57 | 0.007 | 15 |
| 1.5 | 2 | 100L | 960 | 3.60 | 85.9 | 85.8 | 83.0 | 0.70 | 0.65 | 0.55 | 4.7 | 2.0 | 2.6 | 61 | 0.008 | 20 |
| 2.2 | 3 | 112M | 960 | 4.78 | 87.4 | 87.4 | 85.0 | 0.76 | 0.68 | 0.60 | 5.0 | 2.0 | 2.3 | 65 | 0.009 | 24 |
| 3 | 4 | 132S | 975 | 6.52 | 88.6 | 88.6 | 87.1 | 0.75 | 0.68 | 0.58 | 7.1 | 2.5 | 2.5 | 69 | 0.010 | 32 |
| 4 | 5.5 | 132M1 | 975 | 8.60 | 89.5 | 89.3 | 88.0 | 0.75 | 0.70 | 0.58 | 7.5 | 2.8 | 3.1 | 69 | 0.019 | 42 |
| 5.5 | 7.5 | 132M2 | 975 | 11.5 | 90.5 | 90.6 | 89.9 | 0.76 | 0.72 | 0.60 | 7.5 | 3.0 | 3.1 | 69 | 0.042 | 50 |

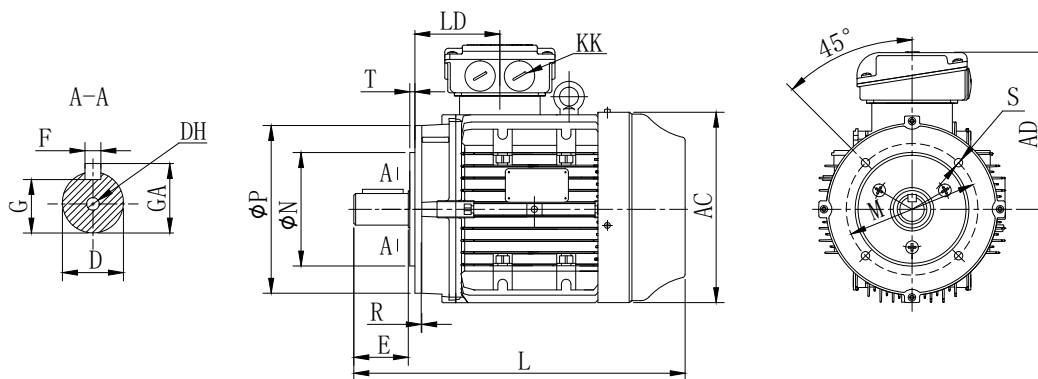
Mounting and overall dimensions



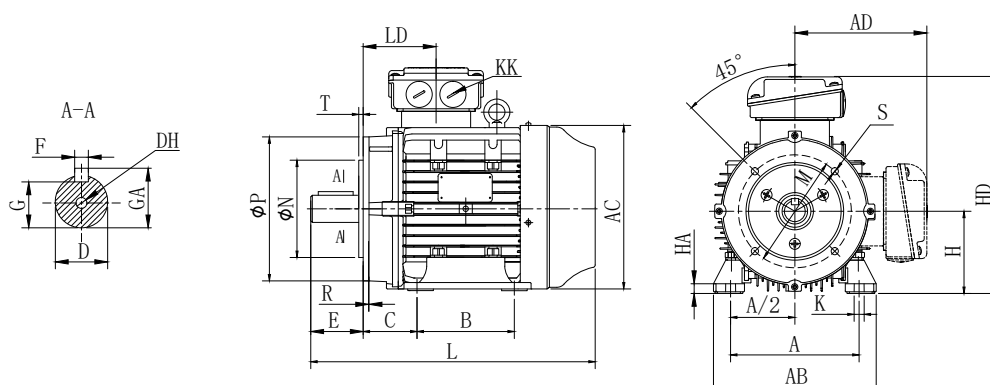
| Frame Size | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|--------------------------------------|------|-----|----|----|----------|----|----|------|-----|-------|---------|-----|-----|-----|-------|-------|-----|-----|-----|-----|-----|------|-----|----|-----|
| | A | A/2 | B | C | D | DH | E | F | G | H | K | KK | M | N | P | R | S | T | AB | AC | AD | HD | GA | LD | HA | L |
| 80M-2 | 125 | 62.5 | 100 | 50 | 19 | M6 X 16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20x1.5 | 100 | 80 | 120 | 0±1.5 | 4-M6 | 3 | 154 | 157 | 124 | 204 | 21.5 | 75 | 10 | 296 |
| 80M2-4 | 125 | 62.5 | 100 | 50 | 19 | M6 X 16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20x1.5 | 100 | 80 | 120 | 0±1.5 | 4-M6 | 3 | 154 | 157 | 124 | 204 | 21.5 | 75 | 10 | 331 |
| 90S | 140 | 70 | 100 | 56 | 24 | M8 X 20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25x1.5 | 115 | 95 | 140 | 0±1.5 | 4-M8 | 3 | 180 | 175 | 143 | 233 | 27 | 87 | 10 | 324 |
| 90L | 140 | 70 | 125 | 56 | 24 | M8 X 20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25x1.5 | 115 | 95 | 140 | 0±1.5 | 4-M8 | 3 | 180 | 175 | 143 | 233 | 27 | 87 | 10 | 349 |
| 100L1-4 100L-2.6 | 160 | 80 | 140 | 63 | 28 | M10 X 22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25x1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 199 | 159 | 259 | 31 | 78 | 12 | 375 |
| 100L2-4 | 160 | 80 | 140 | 63 | 28 | M10 X 22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25x1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 200 | 199 | 159 | 259 | 31 | 78 | 12 | 418 |
| 112M | 190 | 95 | 140 | 70 | 28 | M10 X 22 | 60 | 8 | 24 | 112 | 4-Φ12 | M25x1.5 | 130 | 110 | 160 | 0±2 | 4-M8 | 3.5 | 230 | 222 | 169 | 281 | 31 | 85 | 12 | 381 |
| 132S | 216 | 108 | 140 | 89 | 38 | M12 X 28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32x1.5 | 165 | 130 | 200 | 0±2 | 4-M10 | 3.5 | 264 | 260 | 193 | 325 | 41 | 129 | 15 | 475 |
| 132M | 216 | 108 | 178 | 89 | 38 | M12 X 28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32x1.5 | 165 | 130 | 200 | 0±2 | 4-M10 | 3.5 | 264 | 260 | 193 | 325 | 41 | 129 | 15 | 513 |

Mounting and overall dimensions

B14



B34



| Frame Size | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------|--------------------------------------|-------|-----|-----|----|--------|-----|----|------|-----|---------|---------|-----|-----|-----|-------|---------|-----|-----|-----|-----|-----|------|-----|-----|----|-----|
| | A | A/2 | B | C | D | DH | E | F | G | H | K | KK | M | N | P | R | S | T | AB | AC | AD | HD | GA | LA | LD | HA | L |
| 80M-2 | 125 | 62.5 | 100 | 50 | 19 | M6X16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20X1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 154 | 157 | 124 | 204 | 21.5 | 9.5 | 75 | 10 | 296 |
| 80M2-4 | 125 | 62.5 | 100 | 50 | 19 | M6X16 | 40 | 6 | 15.5 | 80 | 4-Φ10 | M20X1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 154 | 157 | 124 | 204 | 21.5 | 9.5 | 75 | 10 | 331 |
| 90S | 140 | 70 | 100 | 56 | 24 | M6X20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25X1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 180 | 175 | 143 | 233 | 27 | 10 | 87 | 10 | 324 |
| 90L | 140 | 70 | 125 | 56 | 24 | M6X20 | 50 | 8 | 20 | 90 | 4-Φ10 | M25X1.5 | 165 | 130 | 200 | 0±1.5 | 4-Φ12 | 3.5 | 180 | 175 | 143 | 233 | 27 | 10 | 87 | 10 | 349 |
| 100L1-4 100L-2.6 | 160 | 80 | 140 | 63 | 28 | M10X22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25X1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4 | 200 | 199 | 159 | 259 | 31 | 12 | 78 | 12 | 374 |
| 100L2-4 | 160 | 80 | 140 | 63 | 28 | M10X22 | 60 | 8 | 24 | 100 | 4-Φ12 | M25X1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4 | 200 | 199 | 159 | 259 | 31 | 12 | 78 | 12 | 418 |
| 112M | 190 | 95 | 140 | 70 | 28 | M10X22 | 60 | 8 | 24 | 112 | 4-Φ12 | M25X1.5 | 215 | 180 | 250 | 0±2 | 4-Φ14.5 | 4 | 230 | 222 | 169 | 281 | 31 | 12 | 85 | 12 | 381 |
| 132S | 216 | 108 | 140 | 89 | 38 | M12X28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32X1.5 | 265 | 230 | 300 | 0±2 | 4-Φ14.5 | 4 | 264 | 260 | 193 | 325 | 41 | 14 | 129 | 15 | 475 |
| 132M | 216 | 108 | 178 | 89 | 38 | M12X28 | 80 | 10 | 33 | 132 | 4-Φ12 | M32X1.5 | 265 | 230 | 300 | 0±2 | 4-Φ14.5 | 4 | 264 | 260 | 193 | 325 | 41 | 14 | 129 | 15 | 513 |
| 160M | 254 | 127 | 210 | 108 | 42 | M16X36 | 110 | 12 | 37 | 160 | 4-Φ14.5 | M40X1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5 | 314 | 314 | 237 | 397 | 45 | 15 | 154 | 22 | 612 |
| 160L | 254 | 127 | 254 | 108 | 42 | M16X36 | 110 | 12 | 37 | 160 | 4-Φ14.5 | M40X1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5 | 314 | 314 | 237 | 397 | 45 | 15 | 154 | 22 | 656 |
| 180M | 279 | 139.5 | 241 | 121 | 48 | M16X36 | 110 | 14 | 42.5 | 180 | 4-Φ14.5 | M40X1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5 | 347 | 355 | 255 | 435 | 51.5 | 15 | 159 | 25 | 685 |
| 180L | 279 | 139.5 | 279 | 121 | 48 | M16X36 | 110 | 14 | 42.5 | 180 | 4-Φ14.5 | M40X1.5 | 300 | 250 | 350 | 0±3 | 4-Φ18.5 | 5 | 347 | 355 | 255 | 435 | 51.5 | 15 | 159 | 25 | 723 |



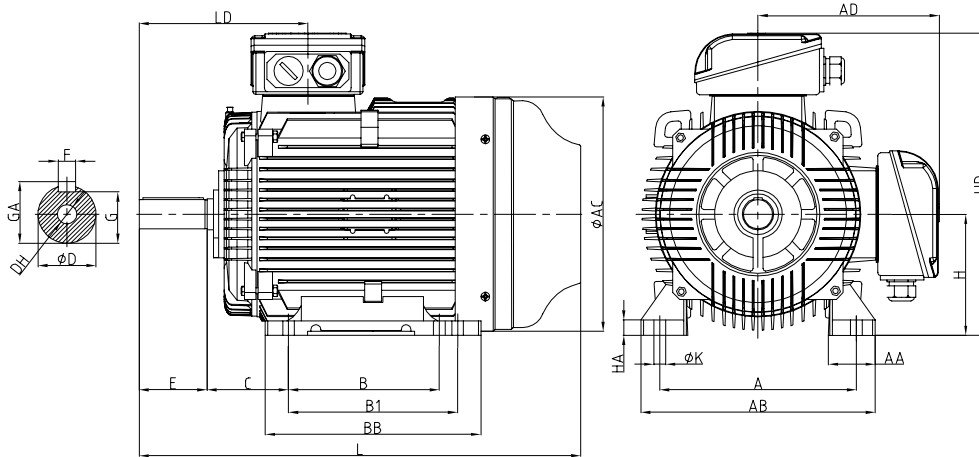
W8WR-Series Premium efficiency cast iron motors motor IE3

| Rated output | | IEC frame | Rated speed (rpm) | Full load current I _n (A) | | Efficiency η % | | | Power Factor (Cos φ) | | | Rated rotor current I _L /I _N | Rated rotor torque T _L /T _n | Break-down torque T _b /T _n | Sound LP dB(A) | Moment og Inertia J(kgm ²) | Weight (kg) |
|----------------------------|-----|-----------|-------------------|--------------------------------------|------|----------------|------|------|----------------------|------|------|--|---|--|----------------|--|-------------|
| kW | HP | | | 380V | 400V | 100 | 75 | 50 | 100 | 75 | 50 | | | | | | |
| 3000 r.p.m. (2 pole) 50 Hz | | | | | | | | | | | | | | | | | |
| 11 | 15 | 160M | 2935 | 20.6 | 19.6 | 91.2 | 91.2 | 90.2 | 0.89 | 0.86 | 0.79 | 8.0 | 2.5 | 3.0 | 68 | 0.054 | 120 |
| 15 | 20 | 160M | 2935 | 27.9 | 26.5 | 91.9 | 92.1 | 91.3 | 0.89 | 0.86 | 0.79 | 8.0 | 2.5 | 3.0 | 68 | 0.066 | 130 |
| 18.5 | 25 | 160L | 2940 | 34.2 | 32.5 | 92.4 | 92.5 | 91.8 | 0.89 | 0.87 | 0.81 | 8.0 | 2.5 | 3.0 | 68 | 0.083 | 150 |
| 22 | 30 | 180M | 2950 | 40.1 | 38.1 | 92.7 | 92.8 | 92.0 | 0.90 | 0.87 | 0.80 | 8.2 | 2.6 | 3.2 | 70 | 0.108 | 185 |
| 30 | 40 | 200L | 2950 | 54.3 | 51.6 | 93.3 | 93.3 | 92.5 | 0.90 | 0.87 | 0.80 | 7.6 | 2.3 | 3.4 | 73 | 0.178 | 245 |
| 37 | 50 | 200L | 2950 | 66.7 | 63.3 | 93.7 | 93.8 | 93.1 | 0.90 | 0.88 | 0.81 | 8.5 | 2.5 | 3.0 | 73 | 0.22 | 275 |
| 45 | 60 | 225M | 2965 | 79.9 | 75.9 | 94.0 | 94.0 | 93.3 | 0.91 | 0.89 | 0.83 | 8.5 | 2.8 | 3.3 | 75 | 0.328 | 345 |
| 55 | 75 | 250S/M | 2970 | 99.6 | 94.6 | 94.3 | 93.9 | 92.6 | 0.89 | 0.86 | 0.79 | 8.0 | 2.6 | 3.2 | 78 | 0.451 | 450 |
| 75 | 100 | 280S | 2975 | 134 | 127 | 94.7 | 94.6 | 93.7 | 0.90 | 0.88 | 0.83 | 7.5 | 2.2 | 2.8 | 79 | 0.777 | 540 |
| 90 | 125 | 280M | 2980 | 160 | 152 | 95.0 | 94.9 | 94.1 | 0.90 | 0.89 | 0.84 | 7.5 | 2.2 | 2.8 | 79 | 0.874 | 575 |
| 110 | 150 | 315S | 2975 | 195 | 185 | 95.2 | 94.7 | 93.3 | 0.90 | 0.88 | 0.82 | 7.5 | 2.2 | 3.2 | 80 | 1.861 | 1010 |
| 132 | 175 | 315M | 2975 | 234 | 222 | 95.4 | 95.0 | 93.7 | 0.90 | 0.88 | 0.83 | 7.5 | 2.2 | 3.3 | 80 | 2.109 | 1070 |
| 160 | 215 | 315M/L | 2980 | 283 | 268 | 95.6 | 95.2 | 94.1 | 0.90 | 0.88 | 0.83 | 8.0 | 2.5 | 3.2 | 82 | 2.419 | 1210 |
| 200 | 270 | 315M/L | 2980 | 352 | 335 | 95.8 | 95.4 | 94.3 | 0.90 | 0.88 | 0.83 | 8.0 | 2.5 | 3.3 | 82 | 2.667 | 1285 |
| 250 | 335 | 355M/L | 2985 | 436 | 414 | 95.8 | 95.4 | 94.3 | 0.91 | 0.91 | 0.88 | 7.5 | 1.9 | 2.6 | 83 | 4.028 | 1798 |
| 280 | 375 | 355M/L | 2985 | 488 | 464 | 95.8 | 95.4 | 94.2 | 0.91 | 0.91 | 0.87 | 7.5 | 1.8 | 2.6 | 83 | 4.01 | 1885 |
| 315 | 420 | 355M/L | 2985 | 549 | 522 | 95.8 | 95.5 | 94.4 | 0.91 | 0.91 | 0.88 | 7.5 | 1.8 | 2.5 | 83 | 4.728 | 1960 |
| 1500 r.p.m. (4 pole) 50 Hz | | | | | | | | | | | | | | | | | |
| 11 | 15 | 160M | 1460 | 21.5 | 20.4 | 91.4 | 91.7 | 91.1 | 0.85 | 0.80 | 0.69 | 7.5 | 2.5 | 2.7 | 60 | 0.105 | 124 |
| 15 | 20 | 160L | 1460 | 28.8 | 27.3 | 92.1 | 92.4 | 91.9 | 0.86 | 0.82 | 0.73 | 7.8 | 2.5 | 2.8 | 60 | 0.112 | 145 |
| 18.5 | 25 | 180M | 1470 | 35.3 | 33.5 | 92.6 | 93.0 | 92.6 | 0.86 | 0.82 | 0.73 | 8.0 | 2.5 | 3.0 | 65 | 0.166 | 195 |
| 22 | 30 | 180L | 1470 | 41.8 | 39.7 | 93.0 | 93.3 | 92.9 | 0.86 | 0.80 | 0.69 | 8.3 | 2.5 | 3.2 | 65 | 0.187 | 215 |
| 30 | 40 | 200L | 1470 | 56.0 | 53.2 | 93.6 | 93.8 | 93.4 | 0.87 | 0.87 | 0.74 | 8.0 | 2.4 | 3.1 | 68 | 0.302 | 265 |
| 37 | 50 | 225S | 1480 | 68.8 | 65.4 | 93.9 | 94.1 | 93.6 | 0.87 | 0.84 | 0.76 | 7.5 | 2.3 | 2.9 | 68 | 0.538 | 320 |
| 45 | 60 | 225M | 1480 | 84.4 | 80.2 | 94.2 | 94.3 | 93.8 | 0.86 | 0.83 | 0.75 | 7.8 | 2.6 | 3.0 | 68 | 0.635 | 350 |
| 55 | 75 | 250S/M | 1480 | 102 | 96.5 | 94.6 | 94.7 | 94.1 | 0.87 | 0.84 | 0.76 | 7.5 | 2.3 | 2.6 | 69 | 0.785 | 457 |
| 75 | 100 | 280S | 1485 | 139 | 133 | 95.0 | 95.0 | 94.2 | 0.86 | 0.83 | 0.77 | 7.2 | 2.2 | 2.5 | 70 | 1.552 | 590 |
| 90 | 125 | 280M | 1485 | 165 | 157 | 95.2 | 95.2 | 94.6 | 0.87 | 0.85 | 0.78 | 7.2 | 2.2 | 2.5 | 70 | 1.865 | 654 |
| 110 | 150 | 315S | 1485 | 199 | 189 | 95.4 | 94.9 | 93.6 | 0.88 | 0.86 | 0.79 | 7.2 | 2.3 | 2.9 | 74 | 3.48 | 1060 |
| 132 | 175 | 315M | 1485 | 238 | 226 | 95.6 | 95.2 | 94.1 | 0.88 | 0.87 | 0.83 | 7.2 | 2.2 | 2.8 | 74 | 3.678 | 1120 |
| 160 | 215 | 315M/L | 1485 | 285 | 271 | 95.8 | 95.6 | 94.8 | 0.89 | 0.87 | 0.81 | 7.2 | 2.2 | 2.8 | 74 | 4.472 | 1200 |
| 200 | 270 | 315M/L | 1485 | 356 | 338 | 96.0 | 95.8 | 94.9 | 0.89 | 0.87 | 0.82 | 7.0 | 2.1 | 2.6 | 76 | 4.856 | 1295 |
| 250 | 335 | 355M/L | 1490 | 445 | 422 | 96.0 | 95.7 | 94.7 | 0.89 | 0.88 | 0.84 | 7.0 | 2.1 | 2.3 | 79 | 7.364 | 1820 |
| 280 | 375 | 355M/L | 1490 | 498 | 473 | 96.0 | 95.7 | 94.9 | 0.89 | 0.89 | 0.86 | 6.9 | 2.1 | 2.3 | 80 | 8.014 | 1870 |
| 315 | 420 | 355M/L | 1490 | 560 | 532 | 96.0 | 95.7 | 94.9 | 0.89 | 0.89 | 0.86 | 6.9 | 2.1 | 2.4 | 80 | 9.1 | 2000 |

| Rated output | | IEC frame | Rated speed (rpm) | Full load current I _n (A) | | Efficiency η % | | | Power Factor (Cos φ) | | | Rated rotor current I _L /I _N | Rated rotor torque T _L /T _n | Break-down torque T _b /T _n | Sound LP dB(A) | Moment og Inertia J(kgm ²) | Weight (kg) |
|----------------------------|-----|-----------|-------------------|--------------------------------------|------|----------------|------|------|----------------------|------|------|--|---|--|----------------|--|-------------|
| | | | | | | % of full load | | | | | | | | | | | |
| kW | HP | | | 380V | 400V | 100 | 75 | 50 | 100 | 75 | 50 | | | | | | |
| 1000 r.p.m. (6 pole) 50 Hz | | | | | | | | | | | | | | | | | |
| 7.5 | 10 | 160M | 970 | 16.6 | 15.8 | 89.1 | 89.5 | 88.6 | 0.77 | 0.70 | 0.57 | 7.0 | 2.5 | 2.7 | 56 | 0.121 | 115 |
| 11 | 15 | 160L | 970 | 24.0 | 22.8 | 90.3 | 90.4 | 89.2 | 0.77 | 0.69 | 0.55 | 7.0 | 2.5 | 2.8 | 56 | 0.145 | 136 |
| 15 | 20 | 180L | 975 | 31.6 | 30.1 | 91.2 | 91.3 | 90.1 | 0.79 | 0.72 | 0.60 | 7.5 | 2.4 | 3.0 | 56 | 0.229 | 197 |
| 18.5 | 25 | 200L | 980 | 38.8 | 36.9 | 91.7 | 91.9 | 91.0 | 0.79 | 0.73 | 0.60 | 7.5 | 2.5 | 2.9 | 59 | 0.342 | 226 |
| 22 | 30 | 200L | 980 | 45.3 | 43.1 | 92.2 | 92.3 | 91.4 | 0.80 | 0.72 | 0.59 | 7.4 | 2.5 | 3.0 | 59 | 0.386 | 246 |
| 30 | 40 | 225M | 980 | 58.4 | 55.5 | 92.9 | 93.2 | 92.7 | 0.84 | 0.81 | 0.76 | 7.0 | 2.0 | 2.3 | 61 | 0.625 | 314 |
| 37 | 50 | 250S/M | 980 | 71.7 | 68.1 | 93.3 | 93.3 | 92.5 | 0.84 | 0.80 | 0.71 | 7.3 | 2.2 | 2.5 | 61 | 0.985 | 440 |
| 45 | 60 | 280S | 985 | 85.8 | 81.6 | 93.7 | 93.8 | 93.1 | 0.85 | 0.82 | 0.74 | 7.3 | 2.3 | 2.7 | 66 | 1.733 | 520 |
| 55 | 75 | 280M | 985 | 104 | 99.3 | 94.1 | 94.1 | 93.4 | 0.85 | 0.82 | 0.74 | 7.5 | 2.3 | 2.8 | 66 | 1.965 | 565 |
| 75 | 100 | 315S | 985 | 143 | 136 | 94.6 | 94.4 | 93.5 | 0.84 | 0.80 | 0.70 | 6.7 | 2.0 | 2.2 | 70 | 3.723 | 970 |
| 90 | 125 | 315M | 985 | 172 | 163 | 94.9 | 94.7 | 93.8 | 0.84 | 0.80 | 0.71 | 6.7 | 2.0 | 2.2 | 70 | 4.526 | 1065 |
| 110 | 150 | 315M/L | 985 | 207 | 196 | 95.1 | 95.0 | 94.3 | 0.85 | 0.82 | 0.73 | 6.8 | 2.0 | 2.2 | 70 | 5.157 | 1135 |
| 132 | 175 | 315M/L | 985 | 250 | 238 | 95.4 | 95.2 | 94.2 | 0.84 | 0.81 | 0.72 | 6.8 | 2.0 | 2.2 | 70 | 5.685 | 1200 |
| 160 | 215 | 355M/L | 990 | 299 | 284 | 95.6 | 95.4 | 94.6 | 0.85 | 0.82 | 0.76 | 6.8 | 1.9 | 2.0 | 75 | 9.57 | 1755 |
| 200 | 270 | 355M/L | 990 | 373 | 355 | 95.8 | 95.5 | 94.5 | 0.85 | 0.82 | 0.76 | 6.8 | 1.9 | 2.0 | 75 | 11.1 | 1890 |
| 250 | 335 | 355M/L | 990 | 466 | 443 | 95.8 | 95.6 | 94.8 | 0.85 | 0.82 | 0.79 | 6.8 | 1.9 | 2.0 | 75 | 11.8 | 2120 |
| 280 | 375 | 355M/L | 990 | 522 | 496 | 95.8 | 95.6 | 94.8 | 0.85 | 0.83 | 0.78 | 6.8 | 1.9 | 2.0 | 75 | 12.9 | 2080 |
| 750 r.p.m. (8 pole) 50 Hz | | | | | | | | | | | | | | | | | |
| 4 | 5.5 | 160M | 725 | 9.86 | 9.37 | 85.6 | 85.2 | 83.1 | 0.72 | 0.66 | 0.56 | 6.0 | 2.1 | 2.2 | 53 | 0.089 | 103 |
| 5.5 | 7.5 | 160M | 730 | 13.2 | 12.5 | 87.0 | 87.1 | 85.2 | 0.73 | 0.67 | 0.56 | 6.0 | 2.1 | 2.2 | 53 | 0.099 | 114 |
| 7.5 | 10 | 160L | 730 | 17.7 | 16.8 | 88.2 | 88.1 | 86.3 | 0.73 | 0.67 | 0.56 | 6.0 | 2.0 | 2.2 | 53 | 0.102 | 136 |
| 11 | 15 | 180L | 730 | 25.6 | 24.3 | 89.6 | 89.3 | 87.8 | 0.73 | 0.68 | 0.56 | 6.6 | 2.0 | 2.3 | 53 | 0.228 | 193 |
| 15 | 20 | 200L | 735 | 34.0 | 32.3 | 90.6 | 90.3 | 89.1 | 0.73 | 0.68 | 0.57 | 6.6 | 2.0 | 2.3 | 55 | 0.395 | 246 |
| 18.5 | 25 | 225S | 735 | 41.1 | 39.0 | 91.2 | 91.3 | 89.7 | 0.75 | 0.69 | 0.58 | 6.6 | 1.9 | 2.0 | 55 | 0.603 | 288 |
| 22 | 30 | 225M | 735 | 48.6 | 46.2 | 91.7 | 91.8 | 89.8 | 0.75 | 0.69 | 0.58 | 6.6 | 1.9 | 2.0 | 55 | 0.698 | 310 |
| 30 | 40 | 250S/M | 735 | 64.0 | 60.8 | 92.5 | 92.6 | 91.1 | 0.77 | 0.71 | 0.60 | 6.6 | 1.9 | 2.0 | 58 | 0.983 | 395 |
| 37 | 50 | 280S | 735 | 77.5 | 73.6 | 93.0 | 92.8 | 91.2 | 0.78 | 0.72 | 0.63 | 6.6 | 1.9 | 2.2 | 58 | 1.857 | 515 |
| 45 | 60 | 280M | 735 | 93.9 | 89.2 | 93.4 | 93.1 | 91.7 | 0.78 | 0.73 | 0.63 | 6.6 | 1.9 | 2.2 | 58 | 1.998 | 570 |
| 55 | 75 | 315S | 740 | 112 | 106 | 93.8 | 93.4 | 92.2 | 0.80 | 0.75 | 0.65 | 6.6 | 1.8 | 2.0 | 63 | 4.959 | 965 |
| 75 | 100 | 315M | 740 | 151 | 143 | 94.3 | 93.8 | 92.6 | 0.80 | 0.75 | 0.65 | 6.6 | 1.8 | 2.0 | 63 | 5.825 | 1030 |
| 90 | 125 | 315M/L | 740 | 179 | 170 | 94.6 | 94.1 | 92.8 | 0.81 | 0.75 | 0.65 | 6.6 | 1.8 | 2.0 | 63 | 6.753 | 1120 |
| 110 | 150 | 315M/L | 740 | 218 | 207 | 94.9 | 94.4 | 93.1 | 0.81 | 0.75 | 0.65 | 6.4 | 1.8 | 2.0 | 63 | 7.352 | 1205 |
| 132 | 175 | 355M/L | 745 | 257 | 244 | 95.1 | 94.7 | 93.2 | 0.82 | 0.78 | 0.68 | 6.4 | 1.8 | 2.0 | 70 | 12.94 | 1865 |
| 160 | 215 | 355M/L | 745 | 311 | 295 | 95.4 | 95.0 | 93.5 | 0.82 | 0.78 | 0.68 | 6.4 | 1.8 | 2.0 | 70 | 13.32 | 1965 |
| 200 | 270 | 355M/L | 745 | 387 | 368 | 95.6 | 95.3 | 93.6 | 0.82 | 0.78 | 0.68 | 6.4 | 1.8 | 2.0 | 70 | 14.9 | 2130 |

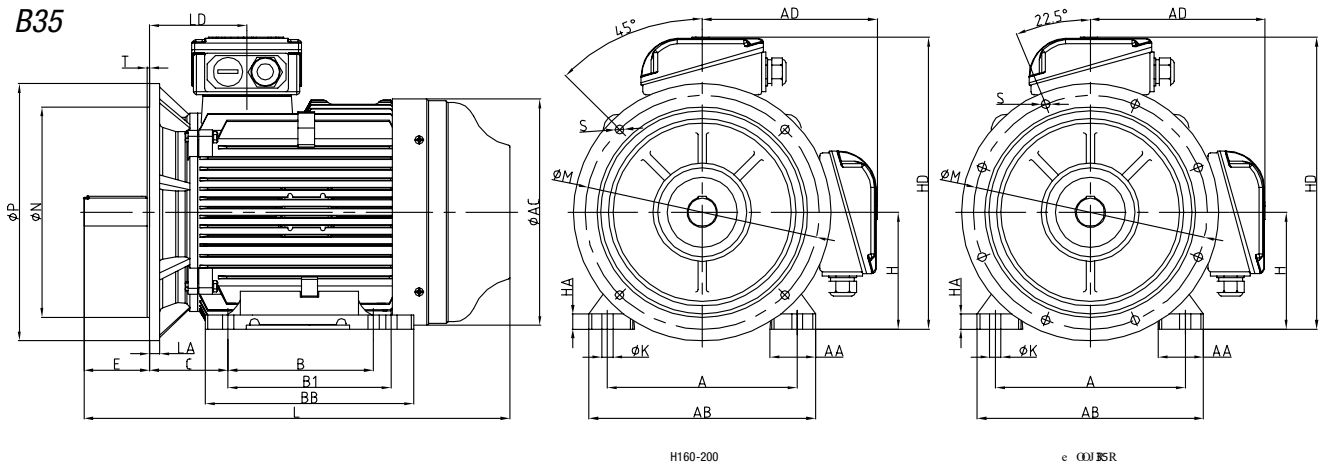
Mouting and overall dimensions

B3



| Frame size | Poles | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | | | | | | |
|------------|-------|--------------------------------------|-----|-----|-----|----|-----|----|------|-----|----|--------|------|-----|-----|-----|-----|----|-----|-----|-----|------|
| | | A | B | B1 | C | D | E | F | G | H | K | DH | GA | AA | AB | AC | AD | HA | HD | BB | LD | L |
| 160M | 2~8 | 254 | 210 | / | 108 | 42 | 110 | 12 | 37 | 160 | 15 | M16x36 | 45 | 64 | 315 | 314 | 241 | 20 | 401 | 260 | 256 | 610 |
| 160L | 2~8 | 254 | 254 | / | 108 | 42 | 110 | 12 | 37 | 160 | 15 | M16x36 | 45 | 64 | 315 | 314 | 241 | 20 | 401 | 304 | 256 | 654 |
| 180M | 2.4 | 279 | 241 | / | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | M16x36 | 51.5 | 68 | 351 | 355 | 262 | 22 | 442 | 311 | 271 | 684 |
| 180L | 4.6.8 | 279 | 279 | / | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | M16x36 | 51.5 | 68 | 351 | 355 | 262 | 22 | 442 | 349 | 271 | 722 |
| 200L | 2~8 | 318 | 305 | / | 133 | 55 | 110 | 16 | 49 | 200 | 19 | M20x42 | 59 | 75 | 388 | 397 | 344 | 25 | 544 | 369 | 296 | 774 |
| 225S | 4.8 | 356 | 286 | / | 149 | 60 | 140 | 18 | 53 | 225 | 19 | M20x42 | 64 | 75 | 430 | 445 | 368 | 29 | 593 | 361 | 329 | 822 |
| 225M | 2 | 356 | 311 | / | 149 | 55 | 110 | 16 | 49 | 225 | 19 | M20x42 | 59 | 75 | 430 | 445 | 368 | 29 | 593 | 386 | 299 | 816 |
| | 4~8 | 356 | 311 | / | 149 | 60 | 140 | 18 | 53 | 225 | 19 | M20x42 | 64 | 75 | 430 | 445 | 368 | 29 | 593 | 386 | 329 | 847 |
| 250S/M | 2 | 406 | 311 | 349 | 168 | 60 | 140 | 18 | 53 | 250 | 24 | M20x42 | 64 | 80 | 484 | 484 | 374 | 32 | 624 | 445 | 348 | 911 |
| | 4~8 | 406 | 311 | 349 | 168 | 65 | 140 | 18 | 58 | 250 | 24 | M20x42 | 69 | 80 | 484 | 484 | 374 | 32 | 624 | 445 | 348 | 911 |
| 280S | 2 | 457 | 368 | / | 190 | 65 | 140 | 18 | 58 | 280 | 24 | M20x42 | 69 | 85 | 542 | 546 | 403 | 35 | 683 | 485 | 357 | 965 |
| | 4~8 | 457 | 368 | / | 190 | 75 | 140 | 20 | 67.5 | 280 | 24 | M20x42 | 79.5 | 85 | 542 | 546 | 403 | 35 | 683 | 485 | 357 | 965 |
| 280M | 2 | 457 | 419 | / | 190 | 65 | 140 | 18 | 58 | 280 | 24 | M20x42 | 69 | 85 | 542 | 546 | 403 | 35 | 683 | 536 | 357 | 1016 |
| | 4~8 | 457 | 419 | / | 190 | 75 | 140 | 20 | 67.5 | 280 | 24 | M20x42 | 79.5 | 85 | 542 | 546 | 403 | 35 | 683 | 536 | 357 | 1016 |
| 315S | 2 | 508 | 406 | / | 216 | 65 | 140 | 18 | 58 | 315 | 28 | M20x46 | 69 | 120 | 628 | 620 | 493 | 45 | 808 | 570 | 397 | 1201 |
| | 4~8 | 508 | 406 | / | 216 | 80 | 170 | 22 | 71 | 315 | 28 | M20x46 | 85 | 120 | 628 | 620 | 493 | 45 | 808 | 570 | 427 | 1231 |
| 315M/L | 2 | 508 | 457 | 508 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | M20x46 | 69 | 120 | 628 | 620 | 493 | 45 | 808 | 680 | 397 | 1311 |
| | 4~8 | 508 | 457 | 508 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | M20x46 | 85 | 120 | 628 | 620 | 493 | 45 | 808 | 680 | 427 | 1341 |
| 355M | 2 | 610 | 560 | 630 | 254 | 75 | 140 | 20 | 67.5 | 355 | 28 | M20x46 | 79.5 | 120 | 726 | 698 | 593 | 52 | 948 | 750 | 425 | 1501 |
| | 4~8 | 610 | 560 | 630 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | M24x56 | 100 | 120 | 726 | 698 | 593 | 52 | 948 | 750 | 455 | 1531 |

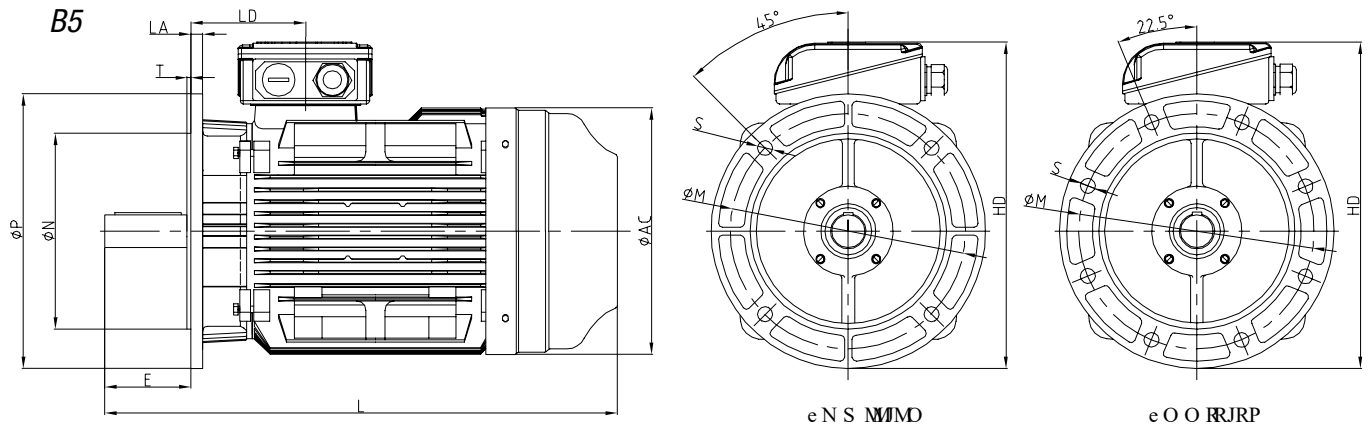
Mouting and overall dimensions



| Frame size | Poles | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | | | | | | | | | | | |
|------------|-------|--------------------------------------|-----|-----|-----|----|-----|----|------|-----|----|-----|-----|-----|-------|---|--------|------|-----|-----|-----|----|-----|-----|-----|----|------|
| | | A | B | B1 | C | D | E | F | G | H | K | M | N | P | S | T | DH | GA | AA | AB | AC | HA | HD | BB | LD | LA | L |
| 160M | 2-8 | 254 | 210 | / | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 64 | 315 | 314 | 20 | 401 | 260 | 256 | 15 | 610 |
| 160L | 2-8 | 254 | 254 | / | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 64 | 315 | 314 | 20 | 401 | 304 | 256 | 15 | 654 |
| 180M | 2.4 | 279 | 241 | / | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 68 | 351 | 355 | 22 | 442 | 311 | 271 | 15 | 684 |
| 180L | 4.6.8 | 279 | 279 | / | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 68 | 351 | 355 | 22 | 442 | 349 | 271 | 15 | 722 |
| 200L | 2-8 | 318 | 305 | / | 133 | 55 | 110 | 16 | 49 | 200 | 19 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 70 | 388 | 397 | 25 | 544 | 369 | 296 | 17 | 774 |
| 225S | 4.8 | 356 | 286 | / | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 79 | 430 | 445 | 29 | 593 | 361 | 329 | 20 | 822 |
| 225M | 2 | 356 | 311 | 349 | 149 | 55 | 110 | 16 | 49 | 225 | 19 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 59 | 79 | 430 | 445 | 29 | 593 | 386 | 299 | 20 | 816 |
| | 4-8 | 356 | 311 | 349 | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 79 | 430 | 445 | 29 | 593 | 386 | 329 | 20 | 847 |
| 250S/M | 2 | 406 | 311 | / | 168 | 60 | 140 | 18 | 53 | 250 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 64 | 97 | 484 | 484 | 32 | 624 | 445 | 348 | 22 | 911 |
| | 4-8 | 406 | 311 | / | 168 | 65 | 140 | 18 | 58 | 250 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 97 | 484 | 484 | 32 | 624 | 445 | 348 | 22 | 911 |
| 280S | 2 | 457 | 368 | / | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 85 | 542 | 546 | 35 | 683 | 485 | 357 | 22 | 965 |
| | 4-8 | 457 | 368 | / | 190 | 75 | 140 | 20 | 67.5 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 85 | 542 | 546 | 35 | 683 | 485 | 357 | 22 | 965 |
| 280M | 2 | 457 | 419 | / | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 85 | 542 | 546 | 35 | 683 | 536 | 357 | 22 | 1016 |
| | 4-8 | 457 | 419 | / | 190 | 75 | 140 | 20 | 67.5 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 85 | 542 | 546 | 35 | 683 | 536 | 357 | 22 | 1016 |
| 315S | 2 | 508 | 406 | / | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 120 | 628 | 620 | 45 | 808 | 570 | 397 | 22 | 1201 |
| | 4-8 | 508 | 406 | / | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 120 | 628 | 620 | 45 | 808 | 570 | 427 | 22 | 1231 |
| 315ML | 2 | 508 | 457 | 508 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 120 | 628 | 620 | 45 | 808 | 680 | 397 | 22 | 1311 |
| | 4-8 | 508 | 457 | 508 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 120 | 628 | 620 | 45 | 808 | 680 | 427 | 22 | 1341 |
| 355M | 2 | 610 | 560 | 630 | 254 | 75 | 140 | 20 | 67.5 | 355 | 28 | 740 | 680 | 800 | 8-Φ24 | 6 | M20x46 | 79.5 | 116 | 726 | 698 | 52 | 948 | 750 | 425 | 25 | 1501 |
| | 4-8 | 610 | 560 | 630 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | 740 | 680 | 800 | 8-Φ24 | 6 | M24x56 | 100 | 116 | 726 | 698 | 52 | 948 | 750 | 455 | 25 | 1531 |

R=0 distance from frange to shaft shoulder

Mounting and overall dimensions

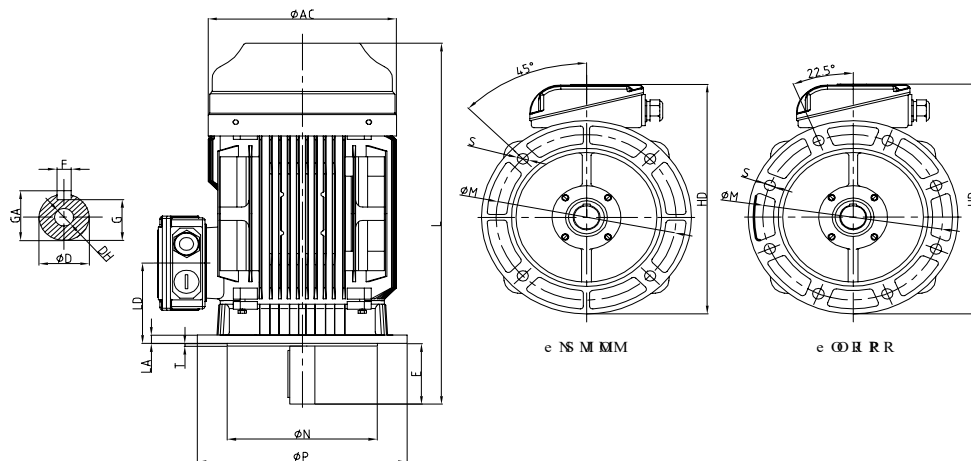


| Frame size | Poles | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | |
|------------|-------|--------------------------------------|-----|----|------|-----|-----|-----|-------|---|--------|------|-----|-----|----|-----|------|
| | | D | E | F | G | M | N | P | S | T | DH | GA | AC | HD | LA | LD | L |
| 160M | 2~8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 416 | 15 | 146 | 610 |
| 160L | 2~8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 416 | 15 | 146 | 654 |
| 180M | 2.4 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 355 | 437 | 15 | 161 | 684 |
| 180L | 4.6.8 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 355 | 437 | 15 | 161 | 722 |
| 200L | 2~8 | 55 | 110 | 16 | 49 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 397 | 544 | 17 | 186 | 774 |
| 225S | 4.8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 445 | 593 | 20 | 189 | 822 |
| 225M | 2 | 55 | 110 | 16 | 49 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 59 | 445 | 593 | 20 | 189 | 816 |
| | 4~8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 445 | 593 | 20 | 189 | 847 |
| 250S/M | 2 | 60 | 140 | 18 | 53 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 64 | 484 | 649 | 22 | 208 | 911 |
| | 4~8 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 484 | 649 | 22 | 208 | 911 |
| 280S | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 546 | 678 | 22 | 217 | 965 |
| | 4~8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 546 | 678 | 22 | 217 | 965 |
| 280M | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 546 | 678 | 22 | 217 | 1016 |
| | 4~8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 546 | 678 | 22 | 217 | 1016 |

R=0 distance from flange to shaft shoulder

Mounting and overall dimensions

V1



| Frame size | Poles | Mounting and overall dimensions (mm) | | | | | | | | | | | | | | | |
|------------|-------|--------------------------------------|-----|----|------|-----|-----|-----|-------|---|--------|------|-----|-----|----|-----|------|
| | | D | E | F | G | M | N | P | S | T | DH | GA | AC | HD | LA | LD | L |
| 160M | 2-8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 416 | 15 | 146 | 610 |
| 160L | 2-8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 416 | 15 | 146 | 654 |
| 180M | 2.4 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 355 | 437 | 15 | 161 | 684 |
| 180L | 4.6.8 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 355 | 437 | 15 | 161 | 722 |
| 200L | 2-8 | 55 | 110 | 16 | 49 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 397 | 544 | 17 | 186 | 774 |
| 225S | 4.8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 664 | 445 | 593 | 20 | 189 | 822 |
| 225M | 2 | 55 | 110 | 16 | 49 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 59 | 445 | 593 | 20 | 189 | 816 |
| | 4-8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 445 | 593 | 20 | 189 | 847 |
| 250S/M | 2 | 60 | 140 | 18 | 53 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 64 | 484 | 649 | 22 | 208 | 911 |
| | 4-8 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 484 | 649 | 22 | 208 | 911 |
| 280S | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 546 | 678 | 22 | 217 | 965 |
| | 4-8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 546 | 678 | 22 | 217 | 965 |
| 280M | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 546 | 678 | 22 | 217 | 1016 |
| | 4-8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 546 | 678 | 22 | 217 | 1016 |
| 315S | 2 | 65 | 140 | 18 | 58 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 620 | 823 | 22 | 257 | 1201 |
| | 4-8 | 80 | 170 | 22 | 71 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 620 | 823 | 22 | 257 | 1231 |
| 315M/L | 2 | 65 | 140 | 18 | 58 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 620 | 823 | 22 | 257 | 1311 |
| | 4-8 | 80 | 170 | 22 | 71 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 620 | 823 | 22 | 257 | 1341 |
| 355M | 2 | 75 | 140 | 20 | 67.5 | 740 | 680 | 800 | 8-Φ24 | 6 | M20x46 | 79.5 | 698 | 993 | 25 | 285 | 1501 |
| | 4-8 | 95 | 170 | 25 | 86 | 740 | 680 | 800 | 8-Φ24 | 6 | M24x24 | 100 | 698 | 993 | 25 | 285 | 1531 |

R=0 distance from frange to shaft shoulder

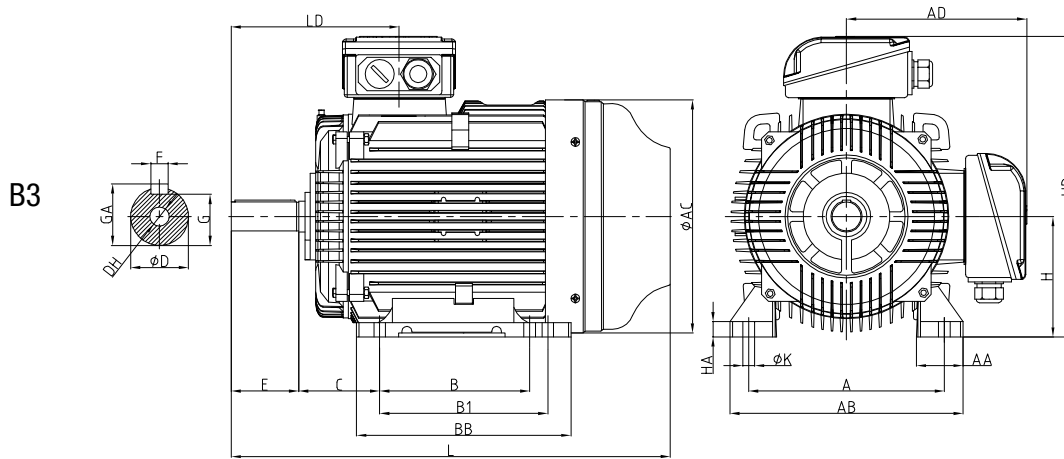


W8WR-Series - Super Premium efficiency cast iron motors IE4

| Output kW | | IEC frame | Rated speed (rpm) | Full load current I _n (A) 400V | Efficiency η % | | | Power factor Cosφ | | | Rated rotor current I _r /I _n | Rated rotor torque T _r /T _n | Break-down torque T _b /T _n | Sound LP dB(A) | Moment of inertia J(kgm ²) | Weight (kg) |
|-------------------------|-----|-----------|-------------------|---|----------------|------|------|-------------------|------|------|--|---|--|----------------|--|-------------|
| kW | HP | | | | % of full load | | | | | | | | | | | |
| | | | | | 100 | 75 | 50 | 100 | 75 | 50 | | | | | | |
| 3000 rpm (2 pole) 50 Hz | | | | | | | | | | | | | | | | |
| 11 | 15 | 160M | 2945 | 19.50 | 92.6 | 92.5 | 91.0 | 0.88 | 0.83 | 0.72 | 7.8 | 2.2 | 3.7 | 69 | 0.066 | 132 |
| 15 | 20 | 160M | 2945 | 26.40 | 93.3 | 93.1 | 92.0 | 0.88 | 0.83 | 0.72 | 8.2 | 2.2 | 3.8 | 69 | 0.068 | 150 |
| 18.5 | 20 | 160L | 2945 | 32.00 | 93.7 | 93.5 | 92.0 | 0.89 | 0.84 | 0.72 | 8.1 | 2.2 | 3.8 | 69 | 0.076 | 175 |
| 22 | 30 | 180M/L | 2955 | 38.40 | 94.0 | 93.8 | 92.5 | 0.88 | 0.83 | 0.72 | 8.0 | 2.5 | 3.2 | 70 | 0.173 | 220 |
| 30 | 40 | 200L1 | 2970 | 51.50 | 94.5 | 94.1 | 92.8 | 0.89 | 0.84 | 0.74 | 8.0 | 2.6 | 3.2 | 73 | 0.193 | 285 |
| 37 | 50 | 200L2 | 2980 | 63.30 | 94.8 | 94.6 | 93.0 | 0.90 | 0.85 | 0.74 | 7.8 | 2.8 | 3.5 | 73 | 0.203 | 315 |
| 45 | 60 | 225M | 2980 | 75.9 | 95.0 | 94.8 | 93.0 | 0.89 | 0.86 | 0.74 | 8.9 | 2.5 | 3.5 | 75 | 0.411 | 357 |
| 55 | 75 | 250S/M | 2980 | 93.9 | 95.3 | 95.1 | 94.1 | 0.89 | 0.85 | 0.73 | 8.2 | 2.3 | 3.5 | 78 | 0.435 | 518 |
| 75 | 100 | 280S | 2980 | 127.0 | 95.6 | 95.2 | 94.3 | 0.90 | 0.86 | 0.75 | 7.8 | 2.3 | 3.2 | 79 | 0.743 | 590 |
| 90 | 125 | 280M | 2980 | 151.0 | 95.8 | 95.5 | 94.8 | 0.90 | 0.86 | 0.76 | 7.6 | 2.5 | 3.2 | 79 | 0.823 | 685 |
| 110 | 150 | 315S | 2980 | 184.0 | 96.0 | 95.8 | 95 | 0.90 | 0.85 | 0.76 | 7.6 | 2.3 | 3.6 | 80 | 1.64 | 1078 |
| 132 | 175 | 315M | 2980 | 220.0 | 96.2 | 96.0 | 95 | 0.90 | 0.87 | 0.76 | 7.7 | 2.3 | 3.5 | 80 | 1.78 | 1138 |
| 160 | 215 | 315M/L | 2980 | 266 | 96.3 | 96.1 | 95.1 | 0.90 | 0.87 | 0.76 | 7.6 | 2.4 | 3.5 | 82 | 1.97 | 1278 |
| 200 | 270 | 315M/L | 2980 | 332 | 96.5 | 96.3 | 95.4 | 0.90 | 0.87 | 0.76 | 8.1 | 2.3 | 3.3 | 83 | 2.31 | 1419 |
| 250 | 335 | 355M/L | 2980 | 415 | 96.5 | 96.2 | 95.3 | 0.90 | 0.87 | 0.76 | 8.2 | 2.3 | 3.5 | 83 | 3.9 | 1914 |
| 315 | 420 | 355M/L | 2980 | 524 | 96.5 | 96.2 | 95.3 | 0.90 | 0.87 | 0.77 | 8.9 | 2.8 | 3.8 | 83 | 4.01 | 2132 |
| 1500 rpm (4 pole) 50 Hz | | | | | | | | | | | | | | | | |
| 11 | 15 | 160M | 2945 | 19.50 | 92.6 | 92.5 | 91.0 | 0.88 | 0.83 | 0.72 | 7.8 | 2.2 | 3.7 | 69 | 0.066 | 132 |
| 15 | 20 | 160M | 2945 | 26.40 | 93.3 | 93.1 | 92.0 | 0.88 | 0.83 | 0.72 | 8.2 | 2.2 | 3.8 | 69 | 0.068 | 150 |
| 18,5 | 20 | 160L | 2945 | 32.00 | 93.7 | 93.5 | 92.0 | 0.89 | 0.84 | 0.72 | 8.1 | 2.2 | 3.8 | 69 | 0.076 | 175 |
| 22 | 30 | 180M/L | 2955 | 38.40 | 94.0 | 93.8 | 92.5 | 0.88 | 0.83 | 0.72 | 8.0 | 2.5 | 3.2 | 70 | 0.173 | 220 |
| 30 | 40 | 200L1 | 2970 | 51.50 | 94.5 | 94.1 | 92.8 | 0.89 | 0.84 | 0.74 | 8.0 | 2.6 | 3.2 | 73 | 0.193 | 285 |
| 37 | 50 | 200L2 | 2980 | 63.30 | 94.8 | 94.6 | 93.0 | 0.90 | 0.85 | 0.74 | 7.8 | 2.8 | 3.5 | 73 | 0.203 | 315 |
| 45 | 60 | 225M | 2980 | 75.9 | 95.0 | 94.8 | 93.0 | 0.89 | 0.86 | 0.74 | 8.9 | 2.5 | 3.5 | 75 | 0.411 | 357 |
| 55 | 75 | 250S/M | 2980 | 93.9 | 95.3 | 95.1 | 94.1 | 0.89 | 0.85 | 0.73 | 8.2 | 2.3 | 3.5 | 78 | 0.435 | 518 |
| 75 | 100 | 280S | 2980 | 127.0 | 95.6 | 95.2 | 94.3 | 0.90 | 0.86 | 0.75 | 7.8 | 2.3 | 3.2 | 79 | 0.743 | 590 |
| 90 | 125 | 280M | 2980 | 151.0 | 95.8 | 95.5 | 94.8 | 0.90 | 0.86 | 0.76 | 7.6 | 2.5 | 3.2 | 79 | 0.823 | 685 |
| 110 | 150 | 315S | 2980 | 184.0 | 96.0 | 95.8 | 95 | 0.90 | 0.85 | 0.76 | 7.6 | 2.3 | 3.6 | 80 | 1.64 | 1078 |
| 132 | 175 | 315M | 2980 | 220.0 | 96.2 | 96.0 | 95 | 0.90 | 0.87 | 0.76 | 7.7 | 2.3 | 3.5 | 80 | 1.78 | 1138 |
| 160 | 215 | 315M/L | 2980 | 266 | 96.3 | 96.1 | 95.1 | 0.90 | 0.87 | 0.76 | 7.6 | 2.4 | 3.5 | 82 | 1.97 | 1278 |
| 200 | 270 | 315M/L | 2980 | 332 | 96.5 | 96.3 | 95.4 | 0.90 | 0.87 | 0.76 | 8.1 | 2.3 | 3.3 | 83 | 2.31 | 1419 |
| 250 | 335 | 355M/L | 2980 | 415 | 96.5 | 96.2 | 95.3 | 0.90 | 0.87 | 0.76 | 8.2 | 2.3 | 3.5 | 83 | 3.9 | 1914 |
| 315 | 420 | 355M/L | 2980 | 524 | 96.5 | 96.2 | 95.3 | 0.90 | 0.87 | 0.77 | 8.9 | 2.8 | 3.8 | 83 | 4.01 | 2132 |

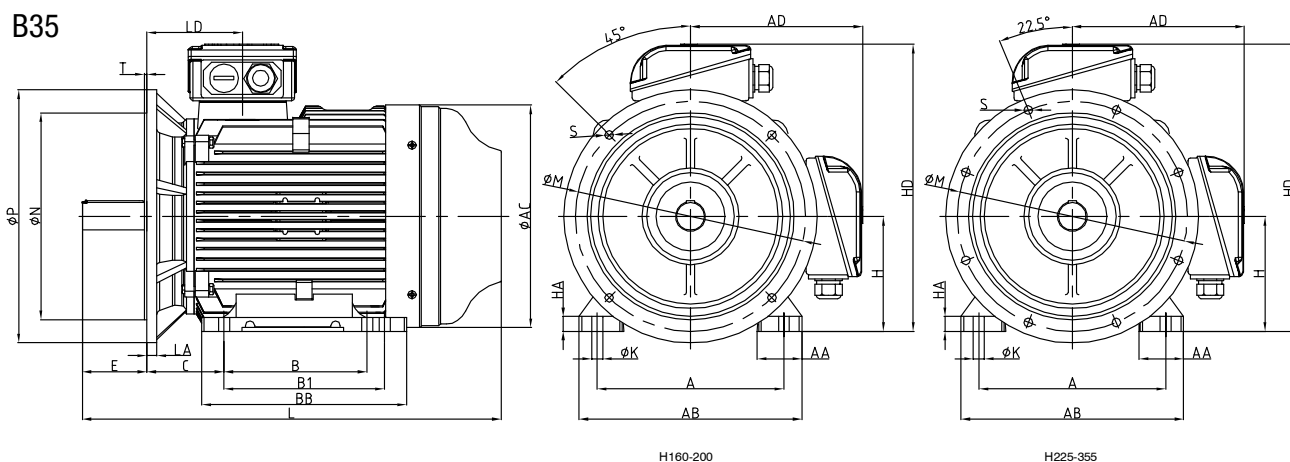
| Output kW | | IEC frame | Rated speed (r.p.m.) | Full load current I _N (A) 400V | Efficiency η% | | | Power factor Cosφ | | | Rated rotor current I/In | Rated rotor torque T _r /T _n | Break-down torque T _b /T _n | Sound LP dB(A) | Moment of inertia J(kgm ²) | Weight (kg) |
|-------------------------|-----|-----------|----------------------|---|----------------|------|------|-------------------|------|------|--------------------------|---|--|----------------|--|-------------|
| kW | HP | | | | % of full load | | | | | | | | | | | |
| | | | | | 100 | 75 | 50 | 100 | 75 | 50 | | | | | | |
| 1000 rpm (6 pole) 50 Hz | | | | | | | | | | | | | | | | |
| 7.5 | 10 | 160M | 970 | 15.8 | 91.3 | 91.0 | 90.2 | 0.75 | 0.69 | 0.60 | 7.0 | 2.5 | 2.8 | 56 | 0.1 | 138 |
| 11 | 15 | 160L | 975 | 22.9 | 92.3 | 92.2 | 91.1 | 0.75 | 0.67 | 0.59 | 7.0 | 3.0 | 3.1 | 56 | 0.16 | 162 |
| 15 | 20 | 180L | 980 | 29.9 | 92.9 | 92.7 | 90.7 | 0.78 | 0.70 | 0.61 | 8.5 | 3.0 | 3.4 | 59 | 0.37 | 239 |
| 18.5 | 25 | 200L1 | 980 | 35.7 | 93.4 | 93.0 | 92.1 | 0.80 | 0.73 | 0.64 | 7.4 | 2.8 | 2.9 | 59 | 0.38 | 280 |
| 22 | 30 | 200L2 | 980 | 42.2 | 93.7 | 93.4 | 92.9 | 0.82 | 0.73 | 0.63 | 7.0 | 2.5 | 2.6 | 59 | 0.44 | 300 |
| 30 | 40 | 225M | 985 | 56.1 | 94.2 | 93.9 | 93.3 | 0.84 | 0.76 | 0.63 | 7.0 | 2.2 | 2.3 | 59 | 0.73 | 359 |
| 37 | 50 | 250S/M | 980 | 67.3 | 94.5 | 94.0 | 93.5 | 0.84 | 0.76 | 0.66 | 8.0 | 2.8 | 3.4 | 60 | 0.11 | 500 |
| 45 | 60 | 250S | 980 | 81.6 | 94.8 | 94.8 | 93.4 | 0.84 | 0.78 | 0.68 | 8.0 | 2.8 | 3.3 | 60 | 1.75 | 586 |
| 55 | 75 | 280M | 980 | 99.4 | 95.1 | 94.9 | 93.6 | 0.84 | 0.79 | 0.71 | 7.0 | 2.0 | 3.2 | 68 | 1.99 | 631 |
| 75 | 100 | 315S | 980 | 137 | 95.4 | 95.3 | 94.3 | 0.83 | 0.78 | 0.73 | 7.0 | 2.0 | 2.6 | 69 | 3.68 | 1170 |
| 90 | 125 | 315M | 990 | 162 | 95.6 | 95.6 | 94.7 | 0.84 | 0.80 | 0.72 | 7.0 | 2.0 | 2.6 | 70 | 4.95 | 1197 |
| 110 | 150 | 315M/L | 990 | 200 | 95.8 | 95.4 | 94.5 | 0.83 | 0.8 | 0.74 | 7.0 | 2.0 | 2.6 | 70 | 5.76 | 1420 |
| 132 | 175 | 315M/L | 990 | 239 | 96 | 95.6 | 94.8 | 0.83 | 0.81 | 0.75 | 7.0 | 2.0 | 2.6 | 70 | 5.79 | 1420 |
| 160 | 215 | 355M/L | 990 | 279 | 96.2 | 96 | 94.9 | 0.86 | 0.83 | 0.78 | 7.0 | 2.3 | 2.5 | 70 | 9.96 | 1980 |
| 200 | 270 | 355M/L | 995 | 353 | 96.3 | 96.3 | 96 | 0.85 | 0.82 | 0.80 | 7.3 | 2.0 | 2.4 | 70 | 11.5 | 2033 |
| 250 | 335 | 355M/L | 995 | 440 | 96.5 | 96.6 | 96.2 | 0.85 | 0.83 | 0.81 | 7.0 | 2.0 | 2.4 | 75 | 12.6 | 2234 |

Mouting and overall dimensions



B3 Mounting and overall dimensions

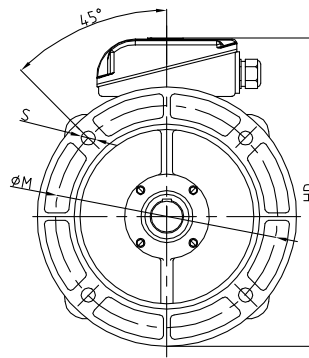
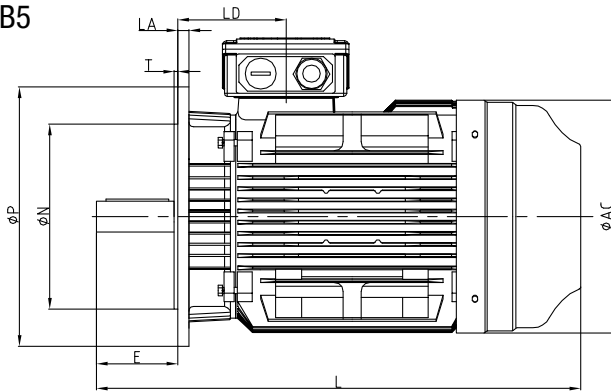
| Frame size | Poles | Mounting dimensions (mm) | | | | | | | | | | Overall dimensions (mm) | | | | | | | | | | |
|------------|-------|--------------------------|-----|-----|-----|----|-----|----|------|-----|----|-------------------------|-------|-----|-----|-----|------|----|-----|-----|-----|------|
| | | A | B | B1 | C | D | E | F | G | H | K | DH | GA | AA | AB | AC | AD | HA | HD | BB | LD | L |
| 160M | 2~8 | 254 | 210 | - | 108 | 42 | 110 | 12 | 37,0 | 160 | 15 | M16x36 | 45,0 | 64 | 315 | 314 | 241 | 20 | 401 | 260 | 256 | 630 |
| 160L | 2 | 254 | 254 | - | 108 | 42 | 110 | 12 | 37,0 | 160 | 15 | M16x36 | 45,0 | 64 | 315 | 314 | 241 | 20 | 401 | 304 | 256 | 674 |
| 160L | 4~8 | 254 | 254 | - | 108 | 42 | 110 | 12 | 37,0 | 160 | 15 | M16x36 | 45,0 | 64 | 315 | 314 | 241 | 20 | 401 | 304 | 256 | 674 |
| 180M/L | 2~4 | 279 | 241 | 279 | 121 | 48 | 110 | 14 | 42,5 | 180 | 15 | M16x36 | 51,5 | 68 | 351 | 355 | 262 | 22 | 442 | 349 | 271 | 722 |
| 180L/M | 4~8 | 279 | 241 | 279 | 121 | 48 | 110 | 14 | 42,5 | 180 | 15 | M16x36 | 51,5 | 668 | 351 | 355 | 262 | 22 | 442 | 349 | 271 | 752 |
| 200L | 2 | 279 | 305 | - | 133 | 55 | 110 | 16 | 49,0 | 200 | 19 | M20x42 | 59,0 | 70 | 388 | 397 | 344 | 25 | 544 | 369 | 296 | 804 |
| 200L | 4~8 | 279 | 305 | - | 133 | 55 | 110 | 16 | 49,0 | 200 | 19 | M20x42 | 59,0 | 70 | 388 | 397 | 344 | 25 | 544 | 369 | 296 | 804 |
| 225S | 4~8 | 318 | 286 | - | 149 | 60 | 140 | 18 | 53,0 | 225 | 19 | M20x42 | 64,0 | 79 | 430 | 445 | 368 | 29 | 593 | 361 | 329 | 852 |
| 225M | 2 | 356 | 311 | - | 149 | 55 | 110 | 16 | 49,0 | 225 | 19 | M20x42 | 59,0 | 79 | 430 | 445 | 368 | 29 | 593 | 386 | 299 | 846 |
| | 4~8 | 356 | 311 | - | 149 | 60 | 140 | 18 | 53,0 | 225 | 19 | M20x42 | 64,0 | 79 | 430 | 445 | 368 | 29 | 593 | 386 | 329 | 877 |
| 250S/M | 2 | 406 | 311 | 349 | 168 | 60 | 140 | 18 | 53,0 | 250 | 24 | M20x42 | 64,0 | 97 | 484 | 484 | 374 | 32 | 624 | 445 | 348 | 911 |
| | 4~8 | 406 | 311 | 349 | 168 | 65 | 140 | 18 | 58,0 | 250 | 24 | M20x42 | 69,0 | 97 | 484 | 484 | 374 | 32 | 624 | 445 | 348 | 911 |
| 280S | 2 | 457 | 368 | - | 190 | 65 | 140 | 18 | 58,0 | 280 | 24 | M20x42 | 69,0 | 85 | 542 | 546 | 403 | 35 | 683 | 485 | 357 | 965 |
| | 4~8 | 457 | 368 | - | 190 | 75 | 140 | 20 | 67,5 | 280 | 24 | M20x42 | 49,5 | 85 | 542 | 546 | 4003 | 35 | 683 | 485 | 357 | 965 |
| 280M | 2 | 457 | 419 | - | 190 | 65 | 140 | 18 | 58,0 | 280 | 24 | M20x42 | 69,0 | 85 | 542 | 546 | 403 | 35 | 683 | 536 | 357 | 1016 |
| | 4~8 | 457 | 419 | - | 190 | 75 | 140 | 20 | 67,5 | 280 | 24 | M20x42 | 79,5 | 85 | 542 | 546 | 403 | 35 | 683 | 536 | 357 | 1016 |
| 315S | 2 | 508 | 406 | - | 216 | 65 | 140 | 18 | 58,0 | 315 | 28 | M20x46 | 69,0 | 120 | 628 | 620 | 493 | 45 | 808 | 570 | 397 | 1201 |
| | 4~8 | 508 | 406 | - | 216 | 80 | 170 | 22 | 71,0 | 315 | 28 | M20x46 | 85,0 | 120 | 628 | 620 | 493 | 45 | 808 | 570 | 427 | 1231 |
| 315M/L | 2 | 508 | 457 | 508 | 216 | 65 | 140 | 18 | 58,0 | 315 | 28 | M20x46 | 69,0 | 120 | 628 | 620 | 493 | 45 | 808 | 680 | 397 | 1311 |
| | 4~8 | 508 | 457 | 508 | 216 | 80 | 170 | 22 | 71,0 | 315 | 28 | M20x46 | 85,0 | 120 | 628 | 620 | 493 | 45 | 808 | 680 | 427 | 1341 |
| 355M/L | 2 | 610 | 560 | 254 | 254 | 75 | 140 | 20 | 67,5 | 355 | 28 | M20x46 | 79,5 | 120 | 726 | 698 | 593 | 45 | 948 | 750 | 425 | 1501 |
| | 4~8 | 610 | 560 | 254 | 254 | 95 | 170 | 25 | 86,0 | 355 | 28 | M24x56 | 100,0 | 116 | 726 | 698 | 593 | 52 | 948 | 750 | 455 | 1531 |



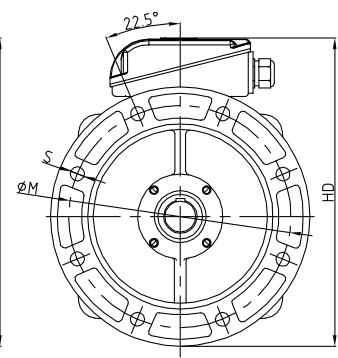
| B35 Mounting and overall dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|-------|--------------------------|-----|-----|-----|----|-----|----|------|-----|----|-----|-----|-----|-------|-------------------------|--------|------|-----|-----|-----|-----|----|-----|-----|-----|------|
| Frame size | Poles | Mounting dimensions (mm) | | | | | | | | | | | | | | Overall dimensions (mm) | | | | | | | | | | | |
| | | A | B | B1 | C | D | E | F | G | H | K | M | N | P | S | T | DH | GA | AA | AB | AC | AD | HA | HD | BB | LD | L |
| 160M | 2~8 | 254 | 210 | - | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 64 | 315 | 314 | 241 | 20 | 401 | 260 | 256 | 630 |
| 160L | 2 | 254 | 254 | - | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 64 | 315 | 314 | 241 | 20 | 401 | 304 | 256 | 674 |
| 160L | 4~8 | 254 | 254 | - | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 64 | 315 | 314 | 241 | 20 | 401 | 304 | 256 | 674 |
| 180M/L | 2~4 | 279 | 241 | 279 | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 68 | 351 | 355 | 262 | 22 | 442 | 349 | 271 | 722 |
| 180L/M | 4~8 | 279 | 241 | 279 | 121 | 48 | 110 | 14 | 42.5 | 180 | 15 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 68 | 351 | 355 | 262 | 22 | 442 | 349 | 271 | 752 |
| 200L | 2 | 318 | 305 | - | 133 | 55 | 110 | 16 | 49 | 200 | 19 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 70 | 388 | 397 | 344 | 25 | 544 | 369 | 296 | 804 |
| 200L | 4~8 | 318 | 305 | - | 133 | 55 | 110 | 16 | 49 | 200 | 19 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 70 | 388 | 397 | 344 | 25 | 544 | 369 | 296 | 804 |
| 225S | 4~8 | 356 | 286 | - | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 79 | 430 | 445 | 368 | 29 | 593 | 361 | 329 | 852 |
| 225M | 2 | 356 | 311 | - | 149 | 55 | 110 | 16 | 49 | 225 | 19 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 59 | 79 | 430 | 445 | 368 | 29 | 593 | 386 | 299 | 846 |
| | 4~8 | 356 | 311 | - | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 59 | 79 | 430 | 445 | 368 | 29 | 593 | 386 | 329 | 877 |
| 250S/M | 2 | 406 | 311 | 349 | 168 | 60 | 140 | 18 | 53 | 250 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 64 | 97 | 484 | 484 | 374 | 32 | 624 | 455 | 348 | 911 |
| | 4~8 | 406 | 311 | 349 | 168 | 65 | 140 | 18 | 58 | 250 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 64 | 97 | 484 | 484 | 374 | 32 | 624 | 455 | 348 | 911 |
| 280S | 2 | 457 | 368 | - | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 85 | 542 | 546 | 403 | 35 | 683 | 485 | 357 | 965 |
| | 4~8 | 457 | 368 | - | 190 | 75 | 140 | 20 | 67.5 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 85 | 542 | 546 | 403 | 35 | 683 | 485 | 357 | 965 |
| 280M | 2 | 457 | 419 | - | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 85 | 542 | 546 | 403 | 35 | 683 | 536 | 357 | 1016 |
| | 4~8 | 457 | 419 | - | 190 | 75 | 140 | 20 | 67.5 | 280 | 24 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 85 | 542 | 546 | 403 | 35 | 683 | 536 | 357 | 1016 |
| 315S | 2 | 508 | 406 | - | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 120 | 628 | 620 | 493 | 45 | 808 | 570 | 397 | 1201 |
| | 4~8 | 508 | 406 | - | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 120 | 628 | 620 | 493 | 45 | 808 | 570 | 427 | 1231 |
| 315ML | 2 | 508 | 457 | 508 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 120 | 628 | 620 | 493 | 45 | 808 | 680 | 397 | 1311 |
| | 4~8 | 508 | 457 | 508 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 120 | 628 | 620 | 493 | 45 | 808 | 680 | 425 | 1341 |
| 355ML | 2 | 610 | 500 | 254 | 254 | 75 | 140 | 20 | 67.5 | 355 | 28 | 740 | 680 | 800 | 8-Φ24 | 6 | M20x46 | 79.5 | 120 | 726 | 698 | 593 | 52 | 948 | 750 | 425 | 1501 |
| | 4~8 | 610 | 560 | 254 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | 740 | 680 | 800 | 8-Φ24 | 6 | M20x46 | 100 | 116 | 726 | 698 | 593 | 52 | 948 | 750 | 455 | 1531 |

Note: R=0 distance from flange to shaft shoulder

B5



H160-200

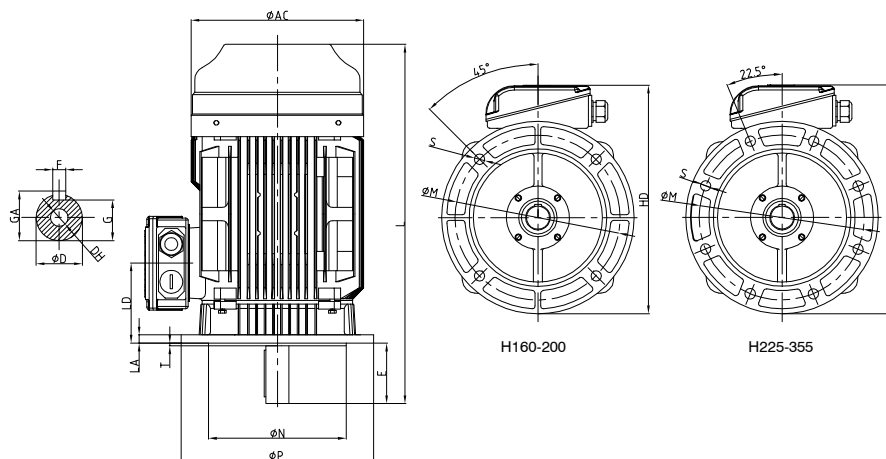


H225-355

| Frame size | Poles | Mounting dimensions (mm) | | | | | | | | | Overall dimensions (mm) | | | | | | |
|------------|-------|--------------------------|-----|----|------|-----|-----|-----|--------------|---|-------------------------|------|-----|-----|----|-----|------|
| | | D | E | F | G | M | N | P | S | T | DH | GA | AC | HD | LA | LD | L |
| 160M | 2~8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4- $\Phi 19$ | 5 | M16x36 | 45 | 314 | 401 | 15 | 256 | 630 |
| 160L | 2 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4- $\Phi 19$ | 5 | M16x36 | 45 | 314 | 401 | 15 | 256 | 674 |
| 160L | 4~8 | 42 | 110 | 12 | 37 | 300 | 250 | 50 | 4- $\Phi 19$ | 5 | M16x36 | 45 | 314 | 401 | 15 | 271 | 674 |
| 180M | 2~4 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4- $\Phi 19$ | 5 | M16x36 | 51.5 | 355 | 442 | 15 | 271 | 722 |
| 180L | 4~8 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4- $\Phi 19$ | 5 | M16x36 | 51.5 | 355 | 442 | 15 | 296 | 752 |
| 200L | 2 | 55 | 110 | 16 | 49 | 350 | 300 | 400 | 4- $\Phi 19$ | 5 | M20x42 | 59 | 397 | 544 | 17 | 296 | 804 |
| 200L | 4~8 | 55 | 140 | 16 | 49 | 350 | 300 | 400 | 4- $\Phi 19$ | 5 | M20x42 | 59 | 397 | 544 | 17 | 329 | 804 |
| 225S | 4~8 | 60 | 110 | 18 | 53 | 400 | 350 | 450 | 8- $\Phi 19$ | 5 | M20x42 | 664 | 445 | 593 | 20 | 329 | 852 |
| 225M | 2 | 55 | 140 | 16 | 49 | 400 | 350 | 450 | 8- $\Phi 19$ | 5 | M20x42 | 59 | 445 | 593 | 20 | 299 | 846 |
| | 4~8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8- $\Phi 19$ | 5 | M20x42 | 64 | 445 | 593 | 20 | 329 | 877 |
| 250S/M | 2 | 60 | 140 | 18 | 53 | 500 | 450 | 550 | 8- $\Phi 19$ | 5 | M20x42 | 64 | 484 | 624 | 22 | 348 | 911 |
| | 4~8 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8- $\Phi 19$ | 5 | M20x42 | 69 | 484 | 624 | 22 | 348 | 911 |
| 280S | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8- $\Phi 19$ | 5 | M20x42 | 69 | 546 | 683 | 22 | 357 | 965 |
| | 4~8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8- $\Phi 19$ | 5 | M20x42 | 79.5 | 546 | 683 | 22 | 357 | 965 |
| 280M | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8- $\Phi 19$ | 5 | M20x42 | 69 | 546 | 683 | 22 | 357 | 1016 |
| | 4~8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8- $\Phi 19$ | 5 | M20x42 | 79.5 | 546 | 683 | 22 | 357 | 1016 |
| 315S | 2 | 65 | 140 | 18 | 58 | 600 | 550 | 660 | 8- $\Phi 24$ | 6 | M20x46 | 69 | 620 | 808 | 22 | 397 | 1201 |
| | 4~8 | 80 | 170 | 22 | 71 | 600 | 550 | 660 | 8- $\Phi 24$ | 6 | M20x46 | 85 | 620 | 808 | 22 | 427 | 1231 |
| 315M/L | 2 | 65 | 140 | 18 | 58 | 600 | 550 | 660 | 8- $\Phi 24$ | 6 | M20x46 | 69 | 620 | 808 | 22 | 397 | 1311 |
| | 4~8 | 80 | 170 | 22 | 71 | 600 | 550 | 660 | 8- $\Phi 24$ | 6 | M20x46 | 85 | 620 | 808 | 22 | 427 | 1341 |
| 355M/L | 2 | 75 | 140 | 20 | 67.5 | 740 | 680 | 800 | 8- $\Phi 24$ | 6 | M20x46 | 79.5 | 698 | 948 | 25 | 425 | 1501 |
| | 4~8 | 95 | 170 | 25 | 86 | 740 | 680 | 800 | 8- $\Phi 24$ | 6 | M20x56 | 100 | 698 | 948 | 25 | 455 | 1531 |

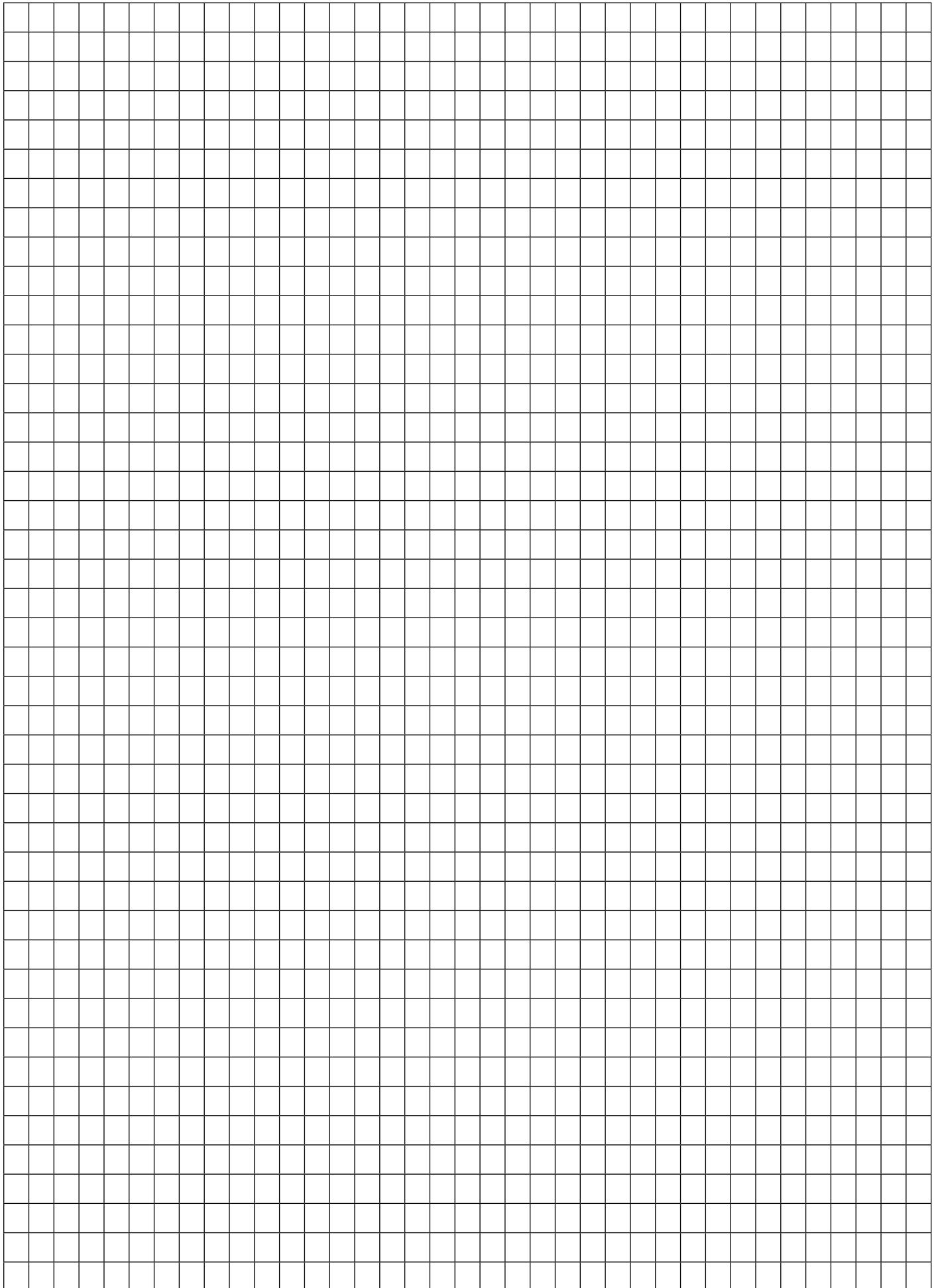
Note: R=0 distance from flange to shaft shoulder

V1



| Frame size | Poles | Mounting dimensions (mm) | | | | | | | | | Overall dimensions (mm) | | | | | | |
|------------|-------|--------------------------|-----|----|------|-----|-----|-----|-------|---|-------------------------|------|-----|-----|----|-----|------|
| | | D | E | F | G | M | N | P | S | T | DH | GA | AC | HD | LA | LD | L |
| 160M | 2-8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 401 | 15 | 256 | 630 |
| 160L | 2 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 401 | 15 | 256 | 674 |
| 160L | 4-8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 45 | 314 | 401 | 15 | 256 | 674 |
| 180M | 2-4 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 355 | 442 | 15 | 271 | 722 |
| 180L | 4-8 | 48 | 110 | 14 | 42.5 | 300 | 250 | 350 | 4-Φ19 | 5 | M16x36 | 51.5 | 355 | 442 | 15 | 271 | 752 |
| 200L | 2 | 55 | 110 | 16 | 49 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 397 | 544 | 17 | 296 | 804 |
| 200L | 4-8 | 55 | 110 | 16 | 49 | 350 | 300 | 400 | 4-Φ19 | 5 | M20x42 | 59 | 397 | 544 | 17 | 296 | 804 |
| 225S | 4-8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 445 | 593 | 20 | 329 | 852 |
| 225M | 2 | | 110 | 16 | 49 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 59 | 445 | 593 | 20 | 299 | 846 |
| | 4-8 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 8-Φ19 | 5 | M20x42 | 64 | 445 | 593 | 20 | 329 | 877 |
| 250S/M | 2 | 60 | 140 | 18 | 53 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 64 | 484 | 624 | 22 | 348 | 911 |
| | 4-8 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 484 | 624 | 22 | 348 | 911 |
| 280S | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 546 | 683 | 22 | 357 | 965 |
| | 4-8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 546 | 683 | 22 | 357 | 965 |
| 280M | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 69 | 546 | 683 | 22 | 357 | 1016 |
| | 4-8 | 75 | 140 | 20 | 67.5 | 500 | 450 | 550 | 8-Φ19 | 5 | M20x42 | 79.5 | 546 | 683 | 22 | 357 | 1016 |
| 315S | 2 | 65 | 140 | 18 | 58 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 620 | 808 | 22 | 397 | 1201 |
| | 4-8 | 80 | 170 | 22 | 71 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 620 | 808 | 22 | 427 | 1231 |
| 315M/L | 2 | 65 | 140 | 18 | 58 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 69 | 620 | 808 | 22 | 397 | 1311 |
| | 4-8 | 80 | 170 | 22 | 71 | 600 | 550 | 660 | 8-Φ24 | 6 | M20x46 | 85 | 620 | 808 | 22 | 427 | 1341 |
| 355M/L | 2 | 75 | 140 | 20 | 67.5 | 740 | 680 | 800 | 8-Φ24 | 6 | M20x46 | 79.5 | 698 | 948 | 25 | 425 | 1501 |
| | 4-8 | 95 | 170 | 25 | 86 | 740 | 680 | 800 | 8-Φ24 | 6 | M20x46 | 100 | 698 | 948 | 25 | 455 | 1351 |

Note: R=0 distance from flange to shaft shoulder





ELECTRIC DRIVES

FOR EVERY DEMAND

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