



Electric motors

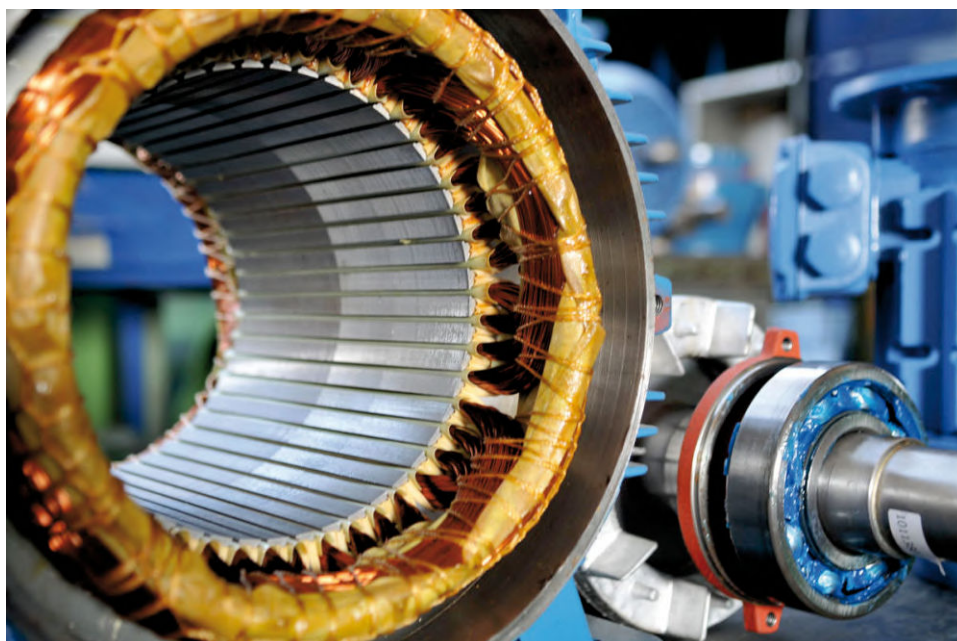
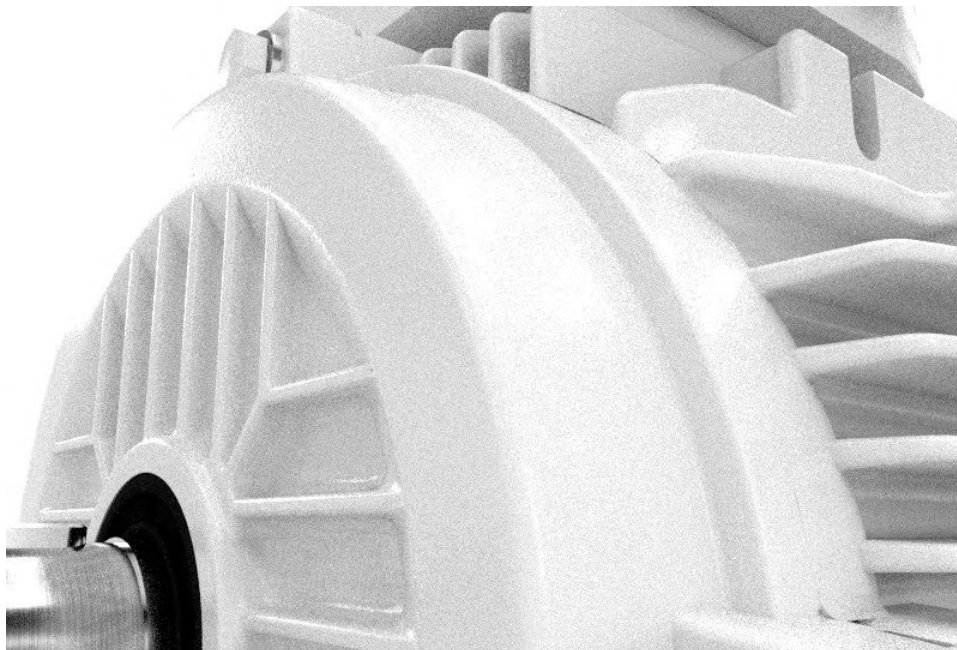
3AL, 3LC Series

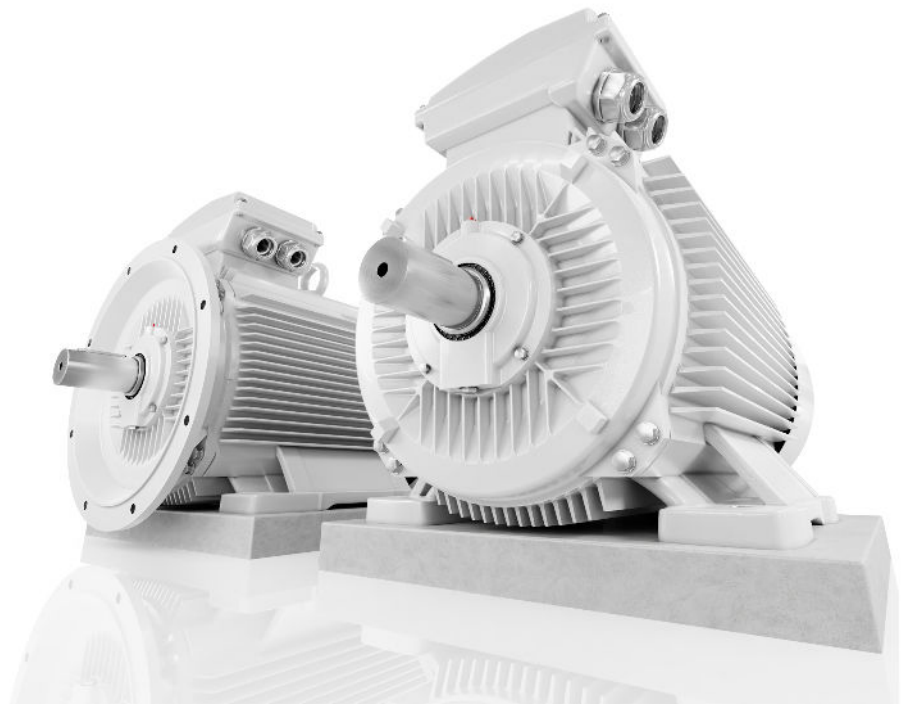
Powerful, efficient and flexible...

Technical catalogue



Low-voltage induction electric motors





AL and **LC** motors
for all types of industry



Quality management and certificates



VYBO Electric is a modern High-tech energy saving company that pays high attention to quality, environment, safety and precision and efficiency of work and energy in production. Therefore, it holds a lot of certificates and quality control systems. **Our priority is quality control.**

Basic certificates include:

ISO9001

The primary task of the ISO 9001 standard is to focus on system management and quality management in the organization. The satisfaction of the customer and the fulfillment of his requirements, which are specified in contracts, orders, or technical drawings, are in the first place. The quality management system is linked to all processes in the company. The standard focuses on the management of human and financial resources, on the stability of infrastructure, including buildings, transport, hardware, software and other communication or information technologies. An important part is also the planning of production and services, the management of the purchasing process, but also the management of non-conforming products.



ISO14001

The main priority of the ISO 14001 standard is to identify and understand the environmental aspects and activities that are related to the entire infrastructure of the company and, based on this, to regulate the environmental impact on the environment.

In its scope, the ISO 14001 standard creates the conditions for determining environmental goals and plans, the fulfillment of which is examined at regular intervals by top management and also by an independent body during internal audits.

This standard is intended for all organizations and companies that consider environmental protection as their primary goal.

The benefit of the standard for society is mainly:

- control over the environmental impact on the environment
- control over produced emissions and waste
- saving material and energy
- prevention of accidents
- compliance of the company's activities with legal requirements
- zero fines for environmental behavior
- creation of a good reputation and prestige of the company



The ISO 45001

Specification (formerly known as OHSAS 18001) is an internationally recognized standard that declares compliance with the principles of a safe enterprise, managing risks at work and protecting the health of workers during work. It does not only concern danger and accidents, but also emphasizes other aspects such as the good condition and mental well-being of the employee.

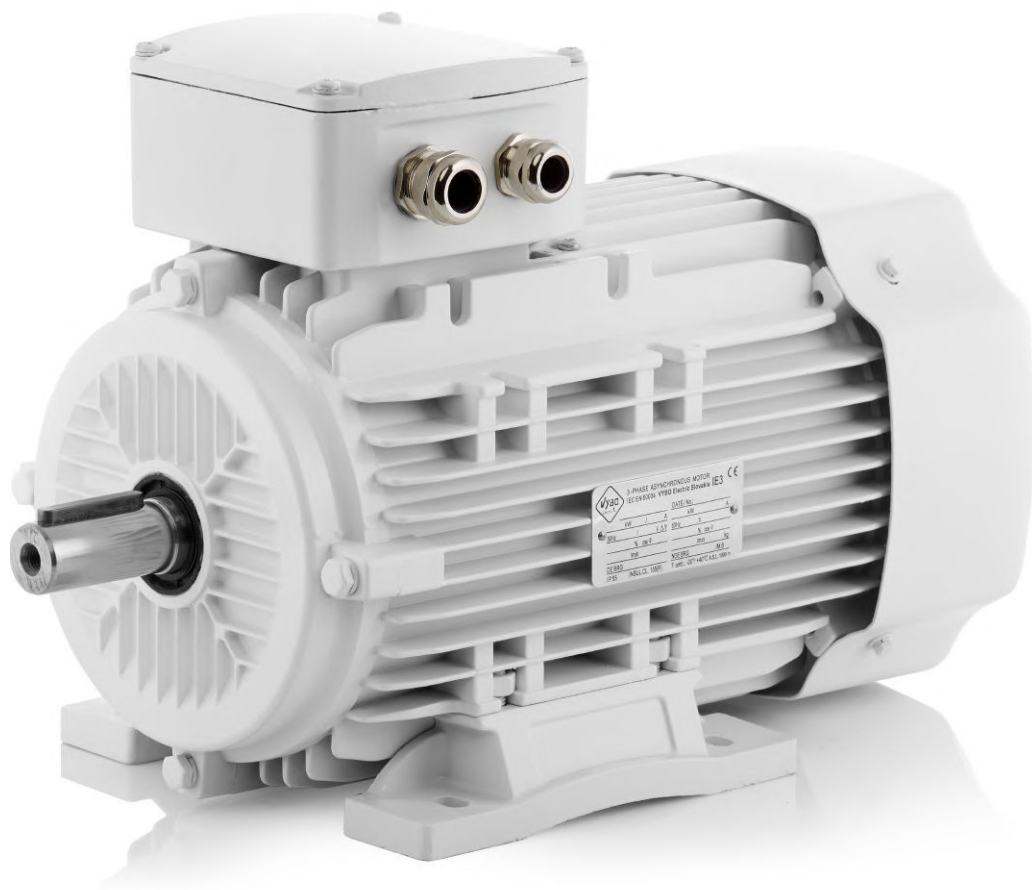
The certificate is held in Slovakia as STN ISO 45001:2019 and is under the title Management systems of safety and health protection at work. Requirements with guidance for use. It replaces the STN OHSAS 18001 standard.



ISO50001

Energy management systems Energy efficiency help organizations save money, save energy resources and also help to prevent climate change. ISO 50001 encourages organizations in all sectors to use energy more efficiently through the development of an energy management system. The international standard ISO 50001: 2011 specifies the requirements for building, maintaining and improving the energy system. It aims to enable organizations to implement a systematic approach that will help achieve lasting improvements in energy efficiency, energy use and consumption.





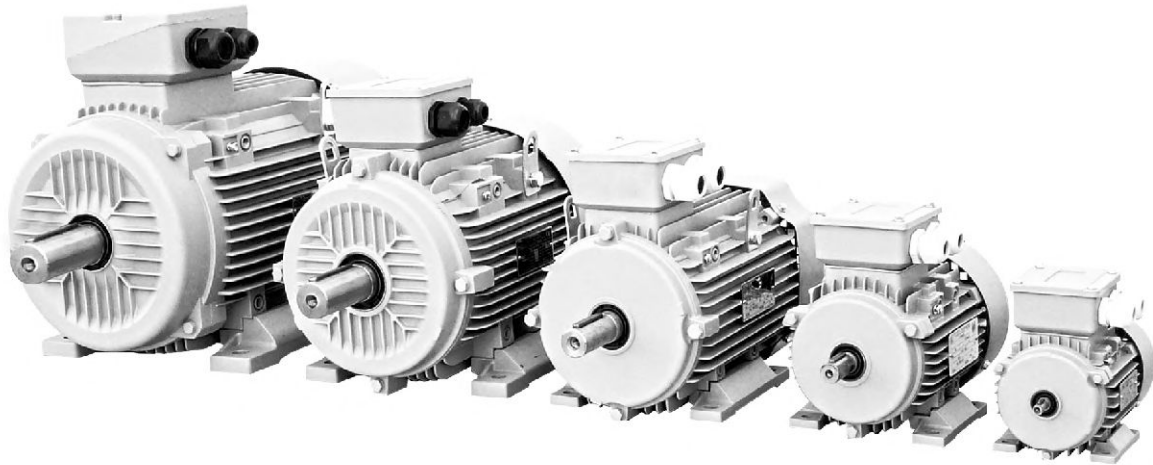
AL Series

Electric motors for standard and heavy duty in an aluminum frame



AL SERIES

Motors in AL version - low-voltage electric motors for general and heavy industry

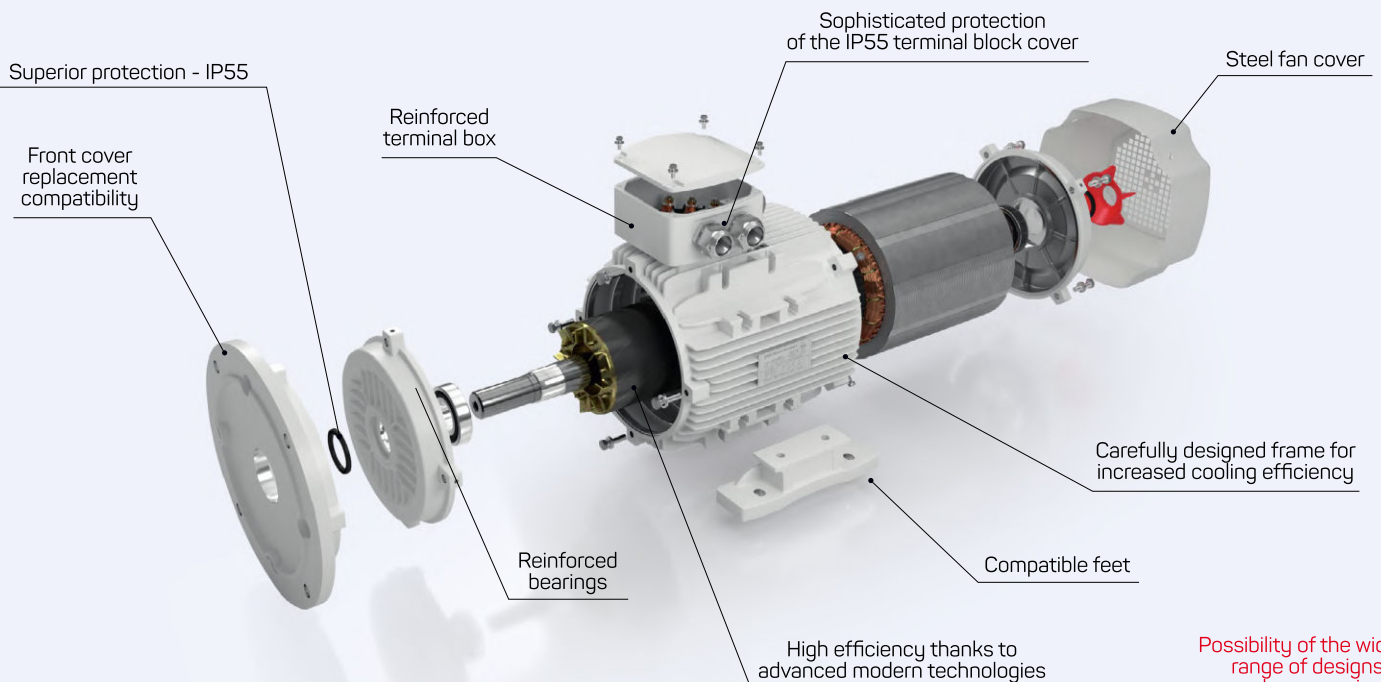


Kinetics AL Class

Types: 1AL, 2AL, 3AL, 4AL
Power from 0,12 to 18,5 kW
Efficiency classes IE1, IE2, IE3, IE4
Reinforced terminal box

Axial heights: 56 and 160 mm
Steel fan cover
Rated frequency 50Hz, 60Hz, 87Hz
Protection IP55, IP56, IP65

Voltage system 230/400/690 V
Cooling IC411
Insulation class F
Compact feet



Possibility of the widest range of designs and accessories

AL SERIES

| | |
|-------------------------------|--|
| Power: | 0.06 - 22 kW |
| Speed: | 3000 / 1500 / 1000 / (750) rpm |
| Frame size: | 56 - 160 |
| Voltage: | 230/400 V, 400/690 V, 500 V |
| Frequency: | 50 / 60 Hz |
| Protection class: | IP55 |
| Efficiency class: | IE1 (Standard efficiency), IE2 (High efficiency), IE3 (Premium efficiency), IE4 (Super premium ef.) |
| Insulation class: | F/B |
| Color: | RAL 7030 (stone grey) |
| Mounting: | IM B3, IM B35, IM B5, IM B14, IM B34 |
| Cooling type: | IC 411 cooling (TENV), IC 416 cooling (TEFV) |
| Temperature: | -20 °C to +40 °C |
| Installation height: | 1000 m above sea level |
| Frame material: | aluminium |
| Direction of rotation: | right/left |





LC Series

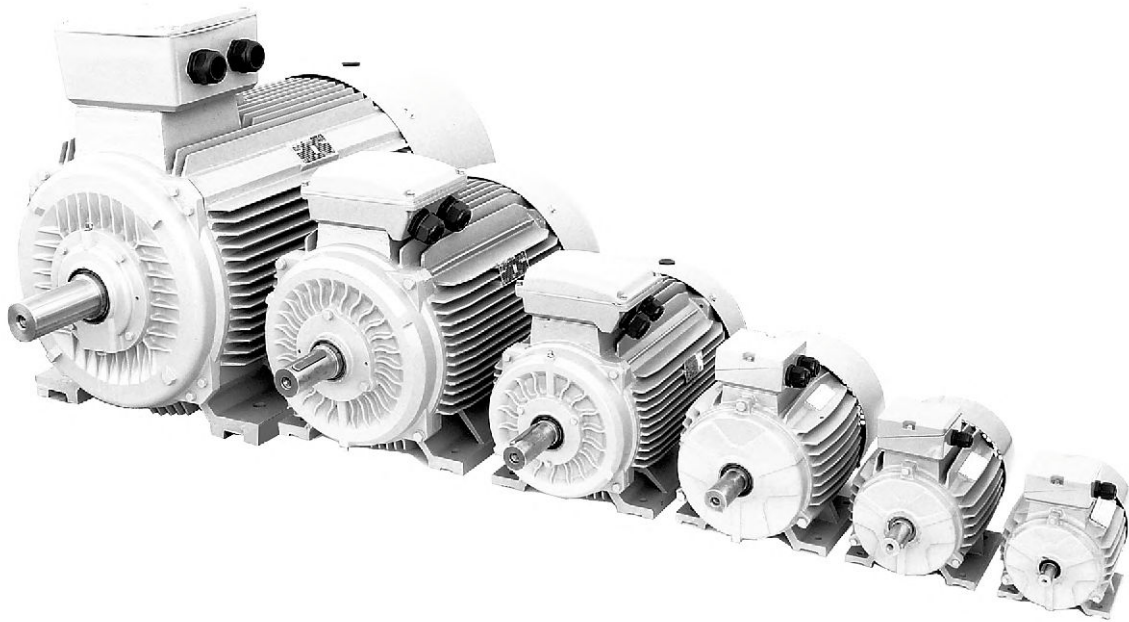
Electric motors for standard and heavy duty in a cast iron frame



SOLUTIONS FOR INDUSTRY

LC SERIES

Electric motors in LC version - performance in robustness



Kinetics LC Class

Cast iron frame
Top motors with high overload capacity
Heavy industrial processes
Full range of optional accessories
Power from 0,12 kW to 1000 kW
Efficiency classes IE1, IE2, IE3, IE4

Axial heights: 1LP, 2LP, 3LP - 71 to 160 mm
1LC, 2LC, 3LC - 180 to 355 mm
4LD - 355 - 450 mm
Nominal frequency 50 Hz, 60 Hz, 87 Hz
Protection IP 54, 55, 56, 65, 66
Voltage system 230/400V, 500V, 400/690V

Cooling IC411, (IC511 special)
Insulation classes F, H
Bearing relubrication system
Thermal protection - PTC thermistors
Steel fan cover
Reinforced terminal block cover

High protection against dust and water up to IP66

Design compatibility

Full range of optional accessories

Reinforced bearings

Maximum security of the terminal box

Reinforced terminal box

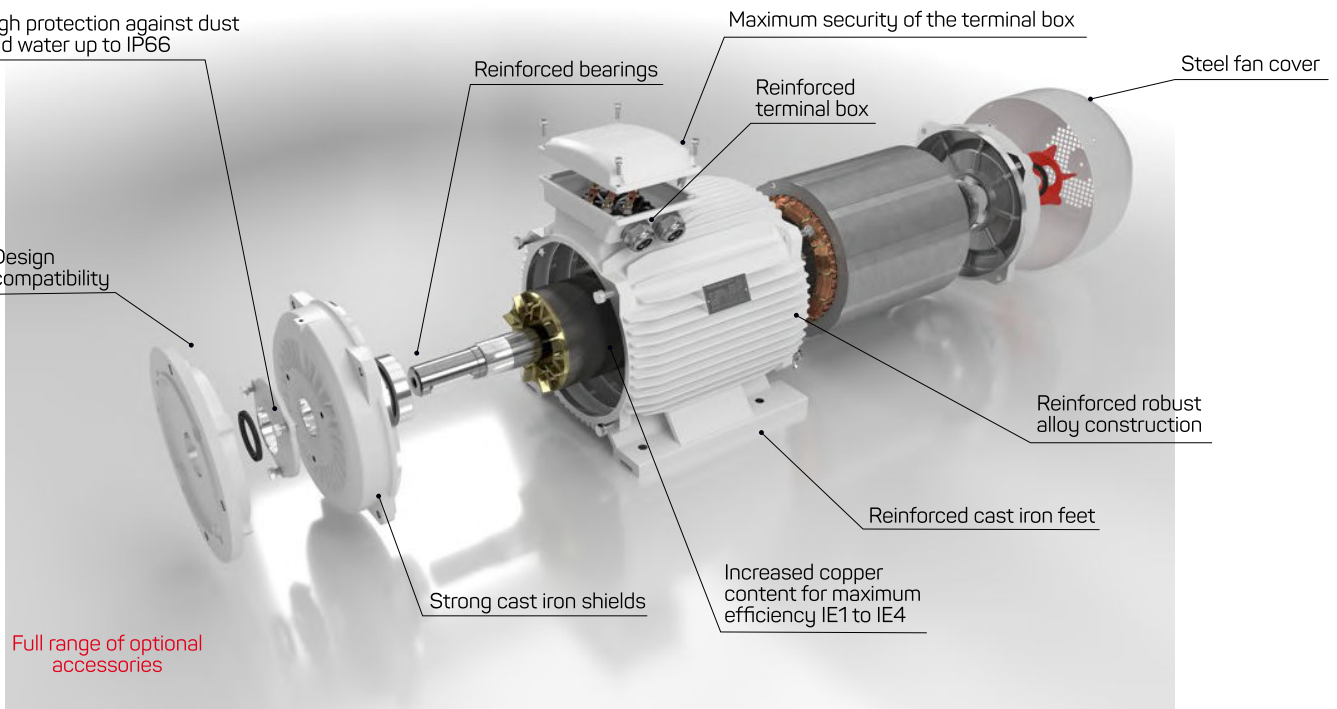
Steel fan cover

Reinforced robust alloy construction

Reinforced cast iron feet

Strong cast iron shields

Increased copper content for maximum efficiency IE1 to IE4



LC SERIES

| | |
|-------------------------------|--|
| Power: | 15 - 400 kW |
| Speed: | 3000 / 1500 / 1000 / (750) rpm |
| Frame size: | 160 - 355 |
| Voltage: | 230/400 V, 400/690 V, 500 V |
| Frequency: | 50 / 60 Hz |
| Protection class: | IP55 |
| Efficiency class: | IE1 (Standard efficiency), IE2 (High efficiency), IE3 (Premium efficiency), IE4 (Super premium ef.) |
| Insulation class: | F/B |
| Color: | RAL 7030 (stone gray) |
| Mounting: | IM B3, IM B35, IM B5, IM B14, IM B34 |
| Cooling type: | IC 411 cooling (TENV), IC 416 cooling (TEFV) |
| Temperature: | -20 °C to +40 °C |
| Installation height: | 1000 m above sea level |
| Frame material: | cast iron |
| Direction of rotation: | right/left |



Bearing size

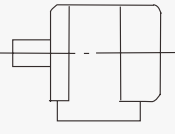
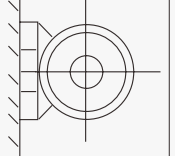
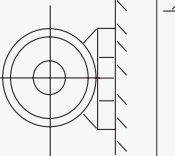
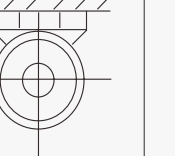
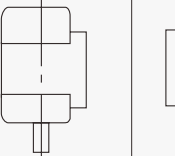
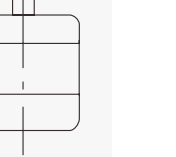
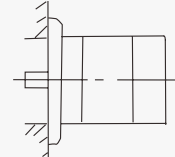
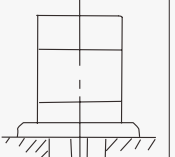
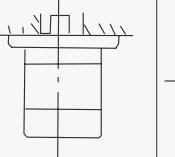
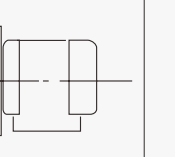
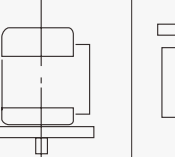
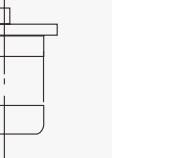
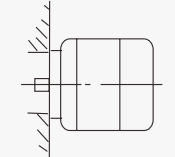
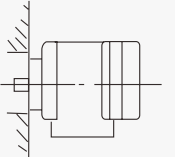
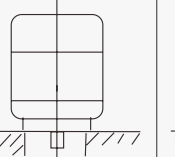
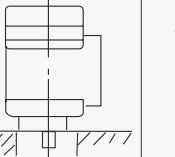
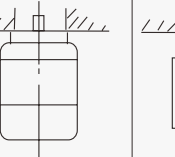
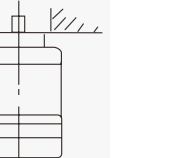
| Frame size | Poles | Drive end | Non drive END |
|------------|-------|--------------------|---------------|
| | | International type | |
| 80 | 2-4 | 62042 RZ | 62042RZ |
| 90 | 2-6 | 62052 RZ | 62052 RZ |
| 100 | 2-6 | 62062 RZ | 62062 RZ |
| 112 | 2-6 | 63062 RZ | 63062 RZ |
| 132 | 2-6 | 63082 RZ | 63082 RZ |
| 160 | 2-6 | 63092 ZC3 | 63092ZC3 |
| 180 | 2-6 | 6311C3 | 6311C3 |
| 200 | 2-6 | 6312C3 | 6312C3 |
| 225 | 2-6 | 6313C3 | 63 3C3 |
| 250 | 2-6 | 6314C3 | 6314C3 |
| 280 | 2 | 6314C3 | 6314C3 |
| | 4-6 | 6317C3 | 6317C3 |
| 315 | 2 | 6317C3 | 6317C3 |
| | 4-6 | NU319C3 | 6319C3 |
| 355 | 2 | 6319C3 | 6319C3 |
| | 4-6 | NU322C3 | NU322C3 |

Main data for terminal box

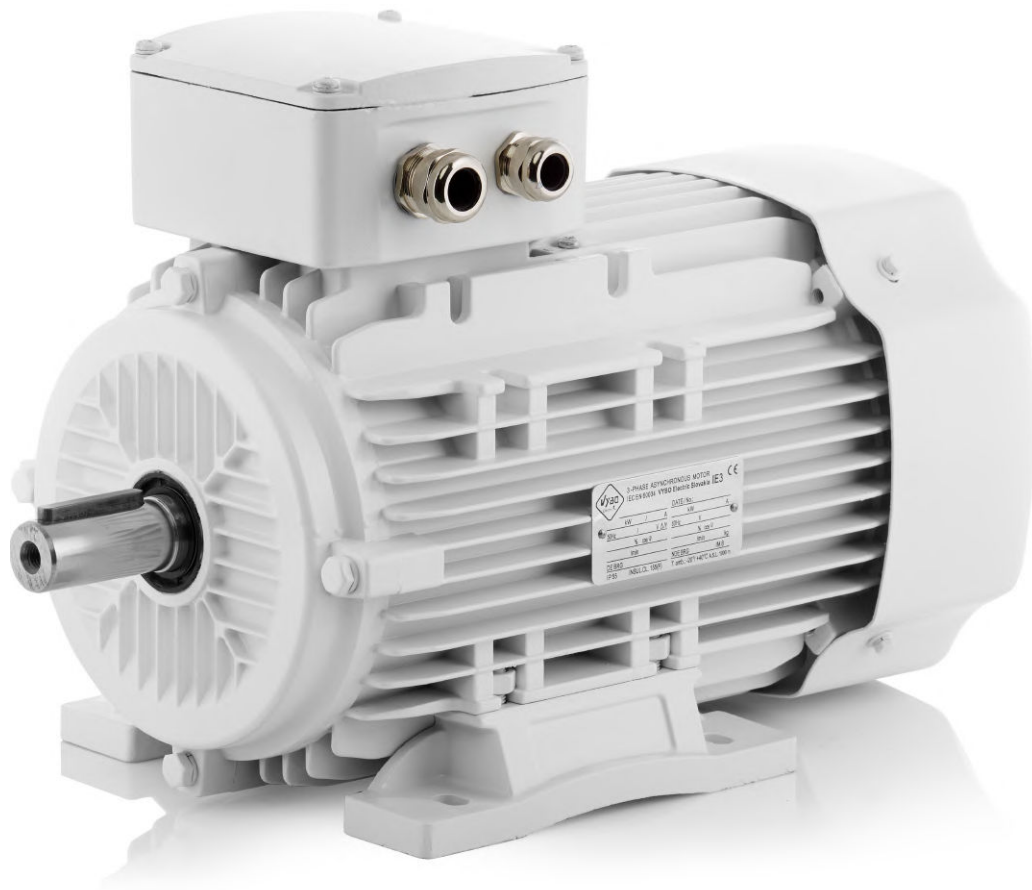
| Classified number | Frame size | Max. F. Amps | Entry hole size |
|-------------------|------------|--------------|-----------------|
| 1 | H80 | 2,6 | 2xM20x1,5 |
| 2 | H90-100 | 6,8 | 2xM25x1,5 |
| 3 | H112-132 | 15,4 | 2xM32x1,5 |
| 4 | H160-180 | 42,5 | 2xM40x1,5 |
| 5 | H200-225 | 84,2 | 2xM50x1,5 |
| 6 | H250-280 | 166,6 | 2xM63x1,5 |
| 7 | H315 | 358 | 2xM63x1,5 |
| 8 | H355 | 546 | 2xM63x1,5 |



The mounting arrangements of the motors comply with IEC34-7 recommendation. There are four basic arrangements shown as the following tables and figures.

| | | | | | | |
|-----------------------------------|---|---|---|--|---|---|
| Fundamental arrangement | B3 | | | | | |
| Mounting arrangement | B3 | B6 | B7 | B8 | V5 | V6 |
| Diagram |  |  |  |  |  |  |
| Range of Manufacture (frame size) | 80-355 | 80-160 | | | | |
| Fundamental arrangement | B5 | | | B35 | | |
| Mounting arrangement | B5 | V1 | V3 | B35 | V15 | V36 |
| Diagram |  |  |  |  |  |  |
| Range of Manufacture (frame size) | 80-280 | 80-355 | 80-160 | 80-355 | 80-160 | |
| Fundamental arrangement | B14 | | | | | |
| Mounting arrangement | B14 | B34 | V18 | V58 | V19 | V69 |
| Diagram |  |  |  |  |  |  |
| Range of Manufacture (frame size) | 80-132 | | | | | |

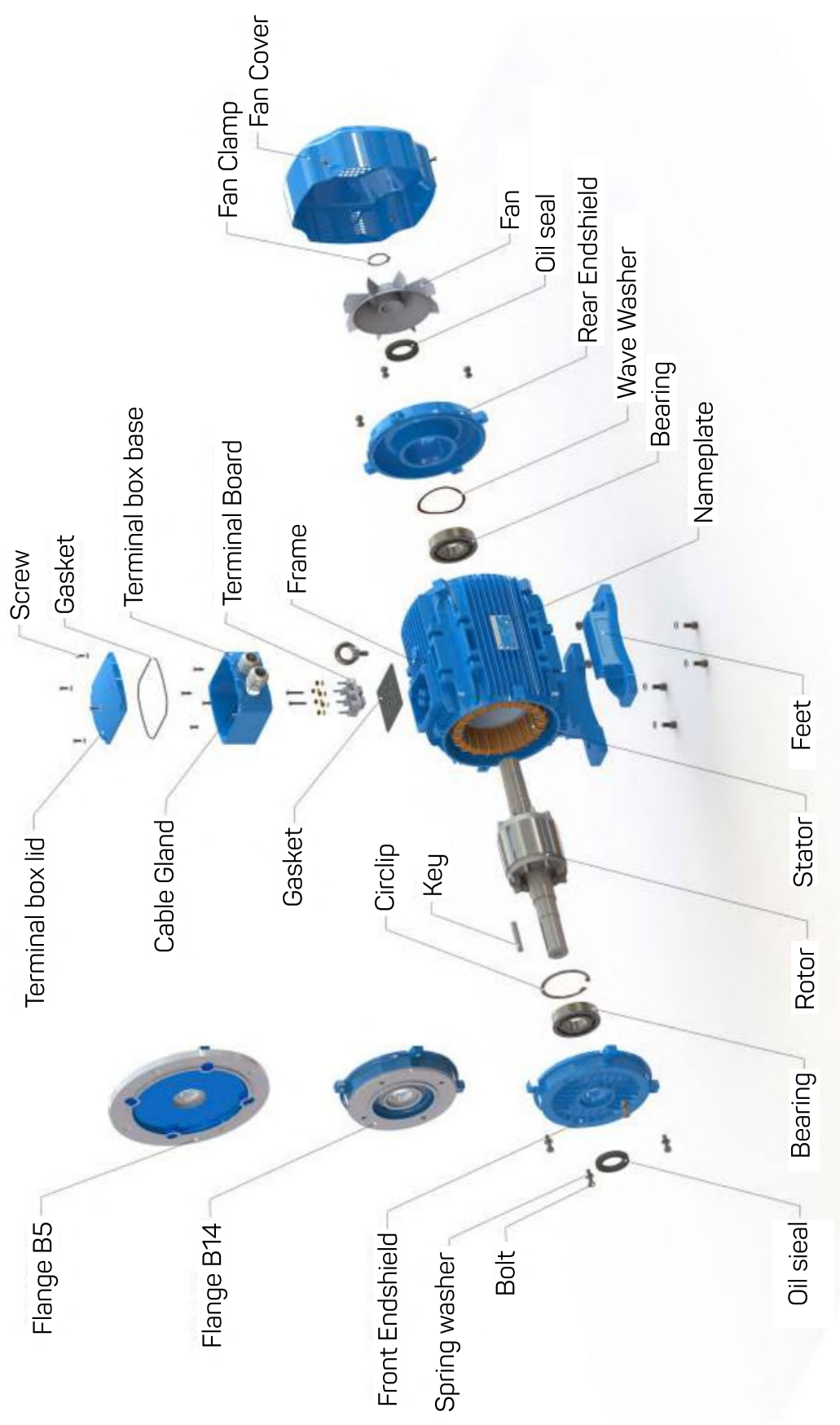




3AL Series

Electric motors for standard and heavy duty in an aluminium frame





Technical data 3AL

| Frame reference and size | | Rated power | Full load current at rated voltage | | | Full load speed in revolutions per minute | Direct on line starting torque ratio | Direct on line pull out torque ratio | Direct on line starting current ratio | Efficiency | Power factor | Noise | Weight | Rotor inertia |
|--------------------------------|-------------|-------------|------------------------------------|-------|-------|---|--------------------------------------|--------------------------------------|---------------------------------------|------------|---------------|----------|--------|-------------------|
| | | Power | Amps (A) | | | Speed | LRT | BDT | LRA | η | Power factor | Noise | Weight | J |
| NO. | Type | kW | 380V | 400V | 415V | r/min | RLT | RLT | RLA | (%) | (cos ϕ) | LwdB (A) | kg | kg·m ² |
| 2 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3AL-56-2 | 0,12 | 0,38 | 0,37 | 0,35 | 2700 | 2,2 | 2,1 | 5,2 | 60,8 | 0,78 | 57 | 4 | 0,00023 |
| 2 | 3AL-63M1-2 | 0,18 | 0,52 | 0,49 | 0,48 | 2720 | 2,3 | 2,3 | 5,5 | 65,9 | 0,8 | 61 | 4,5 | 0,00031 |
| 3 | 3AL-63M2-2 | 0,25 | 0,67 | 0,64 | 0,62 | 2720 | 2,3 | 2,3 | 5,5 | 69,7 | 0,81 | 61 | 4,7 | 0,0006 |
| 4 | 3AL-71M1-2 | 0,37 | 0,94 | 0,89 | 0,86 | 2755 | 2,2 | 2,3 | 6,1 | 73,8 | 0,81 | 64 | 6 | 0,00075 |
| 5 | 3AL-71M2-2 | 0,55 | 1,31 | 1,24 | 1,2 | 2790 | 2,3 | 2,3 | 6,1 | 77,8 | 0,82 | 64 | 6,3 | 0,0009 |
| 6 | 3AL-80M1-2 | 0,75 | 1,7 | 1,62 | 1,56 | 2845 | 2,3 | 2,2 | 6,1 | 80,7 | 0,83 | 67 | 9,5 | 0,0012 |
| 7 | 3AL-80M2-2 | 1,1 | 2,41 | 2,29 | 2,2 | 2835 | 2,3 | 2,2 | 6,9 | 82,7 | 0,84 | 67 | 10,5 | 0,0014 |
| 8 | 3AL-90S-2 | 1,5 | 3,22 | 3,06 | 2,95 | 2850 | 2,3 | 2,2 | 7 | 84,2 | 0,84 | 72 | 16 | 0,0029 |
| 9 | 3AL-90L-2 | 2,2 | 4,58 | 4,35 | 4,19 | 2855 | 2,3 | 2,2 | 7 | 85,9 | 0,85 | 72 | 20 | 0,0055 |
| 10 | 3AL-100L-2 | 3 | 6,02 | 5,71 | 5,51 | 2860 | 2,3 | 2,2 | 7,5 | 87,1 | 0,87 | 76 | 26 | 0,0109 |
| 11 | 3AL-112M-2 | 4 | 7,84 | 7,45 | 7,18 | 2880 | 2,3 | 2,2 | 7,5 | 88,1 | 0,88 | 77 | 33,5 | 0,0126 |
| 12 | 3AL-132S1-2 | 5,5 | 10,65 | 10,11 | 9,75 | 2900 | 2,3 | 2,2 | 7,5 | 89,2 | 0,88 | 80 | 45 | 0,0377 |
| 13 | 3AL-132S2-2 | 7,5 | 14,37 | 13,65 | 13,16 | 2900 | 2,3 | 2,2 | 7,5 | 90,1 | 0,88 | 80 | 51 | 0,0499 |
| 14 | 3AL-160M1-2 | 11 | 20,59 | 19,56 | 18,85 | 2930 | 2,3 | 2,2 | 7,5 | 91,2 | 0,89 | 86 | 103 | 0,055 |
| 15 | 3AL-160M2-2 | 15 | 27,86 | 26,47 | 25,51 | 2930 | 2,3 | 2,2 | 7,5 | 91,9 | 0,89 | 86 | 112,5 | 0,075 |
| 16 | 3AL-160L-2 | 18,5 | 33,8 | 32,11 | 30,95 | 2930 | 2,3 | 2,2 | 7,5 | 92,4 | 0,9 | 86 | 130 | 0,124 |
| 4 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3AL-63M1-4 | 0,12 | 0,39 | 0,37 | 0,36 | 1310 | 2,2 | 2,1 | 4,4 | 64,8 | 0,72 | 52 | 4,5 | 0,0005 |
| 2 | 3AL-63M2-4 | 0,18 | 0,54 | 0,51 | 0,49 | 1310 | 2,2 | 2,1 | 4,4 | 69,9 | 0,73 | 52 | 4,7 | 0,0006 |
| 3 | 3AL-71M1-4 | 0,25 | 0,7 | 0,66 | 0,64 | 1340 | 2,2 | 2,1 | 5,2 | 73,5 | 0,74 | 55 | 6 | 0,0008 |
| 4 | 3AL-71M2-4 | 0,37 | 0,97 | 0,92 | 0,89 | 1340 | 2,2 | 2,1 | 5,2 | 77,3 | 0,75 | 55 | 6,3 | 0,0013 |
| 5 | 3AL-80M1-4 | 0,55 | 1,38 | 1,31 | 1,26 | 1390 | 2,3 | 2,4 | 5,2 | 80,8 | 0,75 | 58 | 12 | 0,0018 |
| 6 | 3AL-80M2-4 | 0,75 | 1,82 | 1,73 | 1,66 | 1390 | 2,3 | 2,3 | 6 | 82,5 | 0,76 | 58 | 12,5 | 0,0021 |
| 7 | 3AL-90S-4 | 1,1 | 2,58 | 2,45 | 2,36 | 1390 | 2,3 | 2,3 | 6 | 84,1 | 0,77 | 61 | 15,5 | 0,0023 |
| 8 | 3AL-90L-4 | 1,5 | 3,43 | 3,25 | 3,14 | 1400 | 2,3 | 2,3 | 6 | 85,3 | 0,78 | 61 | 19 | 0,0027 |
| 9 | 3AL-100L1-4 | 2,2 | 4,76 | 4,52 | 4,36 | 1420 | 2,3 | 2,3 | 7 | 86,7 | 0,81 | 64 | 27,5 | 0,0054 |
| 10 | 3AL-100L2-4 | 3 | 6,34 | 6,02 | 5,8 | 1420 | 2,3 | 2,3 | 7 | 87,7 | 0,82 | 64 | 32 | 0,0067 |
| 11 | 3AL-112M-4 | 4 | 8,37 | 7,95 | 7,66 | 1435 | 2,3 | 2,3 | 7 | 88,6 | 0,82 | 65 | 39 | 0,0095 |
| 12 | 3AL-132S-4 | 5,5 | 11,24 | 10,68 | 10,29 | 1440 | 2,3 | 2,3 | 7 | 89,6 | 0,83 | 71 | 55,5 | 0,0214 |
| 13 | 3AL-132M-4 | 7,5 | 15,01 | 14,26 | 13,74 | 1450 | 2,3 | 2,3 | 7 | 90,4 | 0,84 | 71 | 65 | 0,0296 |
| 14 | 3AL-160M-4 | 11 | 21,51 | 20,44 | 19,7 | 1460 | 2,3 | 2,3 | 7 | 91,4 | 0,85 | 75 | 107,5 | 0,0747 |
| 15 | 3AL-160L-4 | 15 | 29,11 | 27,66 | 26,66 | 1460 | 2,3 | 2,3 | 7 | 92,1 | 0,85 | 75 | 125 | 0,0918 |

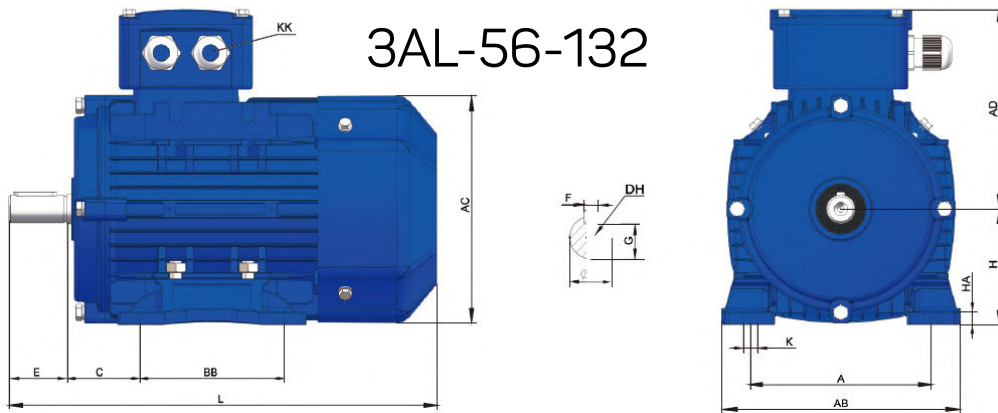
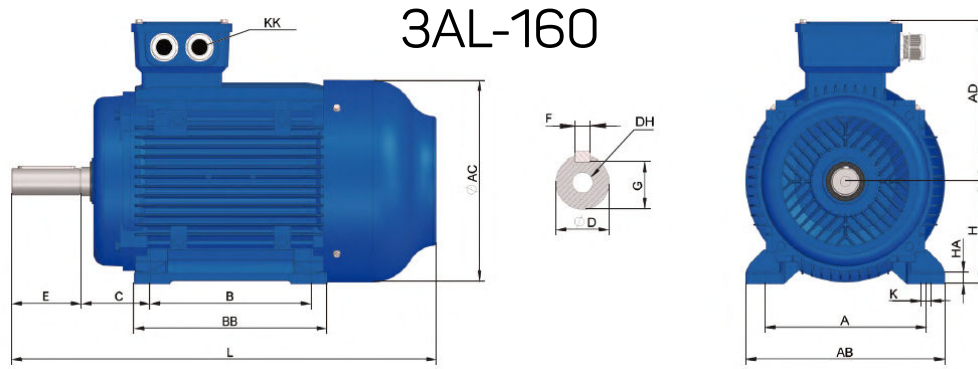


Technical data 3AL

| NO. | Frame reference and size | Rated power | Full load current at rated voltage | | | Full load speed in revolutions per minute | Direct on line starting torque ratio | Direct on line pull out torque ratio | Direct on line starting current ratio | Efficiency | Power factor | Noise | Weight | Rotor inertia |
|--------------------------------|--------------------------|-------------|------------------------------------|-------|-------|---|--------------------------------------|--------------------------------------|---------------------------------------|---------------|--------------|-------|--------|---------------|
| | | | LRT | BDT | LRA | | η | (cos ϕ) | LwdB (A) | | | | | |
| Type | Power | Amps (A) | | | Speed | RLT | RLT | RLA | (%) | (cos ϕ) | LwdB (A) | kg | J | |
| 6 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3AL-71M1-6 | 0,18 | 0,65 | 0,62 | 0,59 | 870 | 2 | 1,9 | 4 | 63,9 | 0,66 | 52 | 6 | 0,0011 |
| 2 | 3AL-71M2-6 | 0,25 | 0,81 | 0,77 | 0,75 | 870 | 2 | 1,9 | 4 | 68,6 | 0,68 | 52 | 6,3 | 0,0014 |
| 3 | 3AL-80M1-6 | 0,37 | 1,09 | 1,04 | 1 | 880 | 2 | 1,9 | 4,7 | 73,5 | 0,7 | 54 | 13 | 0,0016 |
| 4 | 3AL-80M2-6 | 0,55 | 1,5 | 1,43 | 1,38 | 880 | 2,1 | 1,9 | 4,7 | 77,2 | 0,72 | 54 | 14 | 0,0019 |
| 5 | 3AL-90S-6 | 0,75 | 2,01 | 1,91 | 1,84 | 905 | 2,1 | 2 | 5,3 | 78,9 | 0,72 | 57 | 16 | 0,0029 |
| 6 | 3AL-90L-6 | 1,1 | 2,83 | 2,69 | 2,59 | 905 | 2,1 | 2 | 5,5 | 81 | 0,73 | 57 | 20,5 | 0,0035 |
| 7 | 3AL-100L-6 | 1,5 | 3,63 | 3,45 | 3,33 | 920 | 2,1 | 2 | 5,5 | 82,5 | 0,76 | 61 | 26,5 | 0,0069 |
| 8 | 3AL-112M-6 | 2,2 | 5,22 | 4,96 | 4,78 | 935 | 2,1 | 2 | 6,5 | 84,3 | 0,76 | 65 | 32,5 | 0,014 |
| 9 | 3AL-132S-6 | 3 | 7,01 | 6,66 | 6,42 | 960 | 2,1 | 2,1 | 6,5 | 85,6 | 0,76 | 69 | 45 | 0,0286 |
| 10 | 3AL-132M1-6 | 4 | 9,21 | 8,75 | 8,44 | 960 | 2,1 | 2,1 | 6,5 | 86,8 | 0,76 | 69 | 56,5 | 0,0357 |
| 11 | 3AL-132M2-6 | 5,5 | 12,33 | 11,72 | 11,29 | 960 | 2,1 | 2,1 | 6,5 | 88 | 0,77 | 69 | 63 | 0,0449 |
| 12 | 3AL-160M-6 | 7,5 | 16,4 | 15,58 | 15,01 | 970 | 2,1 | 2 | 6,5 | 89,1 | 0,78 | 73 | 102,5 | 0,081 |
| 13 | 3AL-160L-6 | 11 | 23,43 | 22,26 | 21,45 | 970 | 2,1 | 2 | 6,5 | 90,3 | 0,79 | 73 | 116 | 0,0116 |
| 8 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3AL-80M1-8 | 0,18 | 0,76 | 0,73 | 0,7 | 645 | 1,9 | 1,8 | 3,3 | 58,7 | 0,61 | 52 | 11,5 | 0,0025 |
| 2 | 3AL-80M2-8 | 0,25 | 0,97 | 0,92 | 0,89 | 645 | 1,9 | 1,8 | 3,3 | 64,1 | 0,61 | 52 | 12,6 | 0,003 |
| 3 | 3AL-90S-8 | 0,37 | 1,33 | 1,26 | 1,22 | 675 | 1,9 | 1,8 | 4 | 69,3 | 0,61 | 56 | 15 | 0,0051 |
| 4 | 3AL-90L-8 | 0,55 | 1,88 | 1,78 | 1,72 | 680 | 2 | 1,8 | 4 | 73 | 0,61 | 56 | 17,2 | 0,0065 |
| 5 | 3AL-100L1-8 | 0,75 | 2,27 | 2,15 | 2,08 | 680 | 2 | 1,8 | 4 | 75 | 0,67 | 59 | 26,5 | 0,0095 |
| 6 | 3AL-100L2-8 | 1,1 | 3,12 | 2,96 | 2,85 | 680 | 2 | 1,8 | 5 | 77,7 | 0,69 | 59 | 29 | 0,011 |
| 7 | 3AL-112M-8 | 1,5 | 4,09 | 3,88 | 3,74 | 690 | 2 | 1,8 | 5 | 79,7 | 0,7 | 61 | 32,5 | 0,0245 |
| 8 | 3AL-132S-8 | 2,2 | 5,75 | 5,46 | 5,26 | 710 | 2 | 1,8 | 6 | 81,9 | 0,71 | 64 | 46 | 0,0314 |
| 9 | 3AL-132M-8 | 3 | 7,48 | 7,1 | 6,85 | 710 | 2 | 1,8 | 6 | 83,5 | 0,73 | 64 | 52 | 0,0395 |
| 10 | 3AL-160M1-8 | 4 | 9,82 | 9,33 | 8,99 | 720 | 2 | 1,9 | 6 | 84,8 | 0,73 | 68 | 89 | 0,0753 |
| 11 | 3AL-160M2-8 | 5,5 | 13,1 | 12,45 | 12 | 720 | 2 | 2 | 6,5 | 86,2 | 0,74 | 68 | 103 | 0,0931 |



Mounting data for 3AL

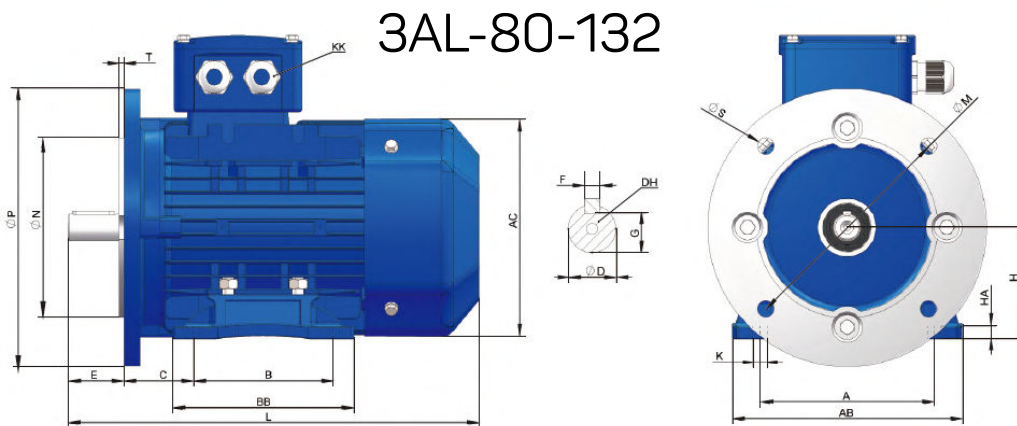
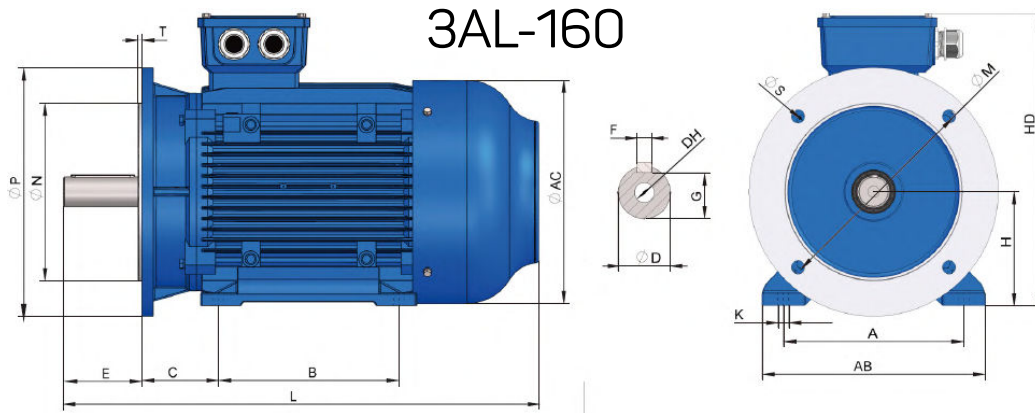


Frame with feet and end-shield without flange (IM B3)

| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | AB | AC | AD | HD | L | DH* |
|------------|-------|-----|------|-----|-----|----|-----|----|------|-----|-----|-----|-----|-----|-----|-----|--------|
| 56 | 2468 | 90 | 45 | 71 | 36 | 9 | 20 | 3 | 7,2 | 56 | 5,8 | 115 | 110 | 110 | 156 | 199 | M4X12 |
| 63 | 2468 | 100 | 50 | 80 | 40 | 11 | 23 | 4 | 8,5 | 63 | 7 | 137 | 123 | 111 | 174 | 221 | M4X12 |
| 71 | 2468 | 112 | 56 | 90 | 45 | 14 | 30 | 5 | 11 | 71 | 7 | 133 | 137 | 127 | 198 | 247 | M5X12 |
| 80M | 2468 | 125 | 62,5 | 100 | 50 | 19 | 40 | 6 | 15,5 | 80 | 10 | 165 | 158 | 140 | 220 | 295 | M6X16 |
| 90S | 2468 | 140 | 70 | 100 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 180 | 177 | 160 | 255 | 353 | M8X19 |
| 90L | 2468 | 140 | 70 | 125 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 180 | 177 | 160 | 255 | 373 | M8X19 |
| 100L | 2468 | 160 | 80 | 140 | 63 | 28 | 60 | 8 | 24 | 100 | 12 | 205 | 198 | 172 | 270 | 433 | M10X22 |
| 112M | 2468 | 190 | 95 | 140 | 70 | 28 | 60 | 8 | 24 | 112 | 12 | 226 | 235 | 193 | 300 | 461 | M10X22 |
| 132S | 2468 | 216 | 108 | 140 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 262 | 293 | 225 | 349 | 499 | M12X28 |
| 132M | 2468 | 216 | 108 | 178 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 262 | 293 | 225 | 349 | 521 | M12X28 |
| 160M | 2468 | 254 | 127 | 210 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 320 | 315 | 255 | 420 | 660 | M16X36 |
| 160L | 2468 | 254 | 127 | 254 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 320 | 315 | 255 | 420 | 730 | M16X36 |



Mounting data for 3AL

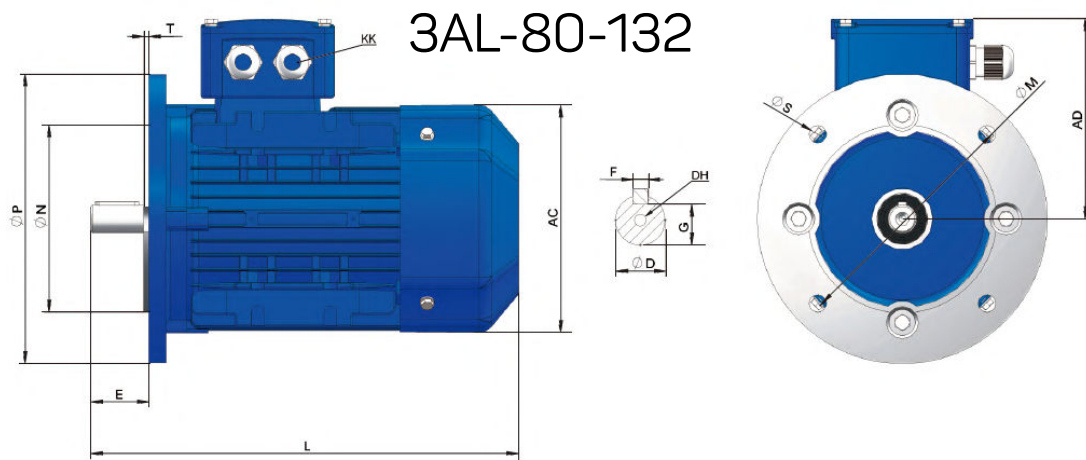
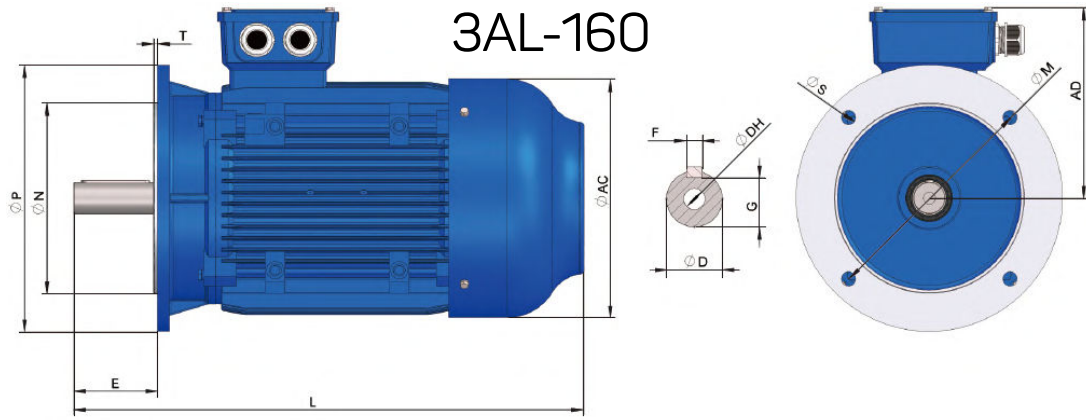


Frame with feet and end-shield with flange (IM B35)

| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | M | N | P | S | T | Flange holes | AB | AC | AD | HD | L | DH* |
|------------|---------|-----|-------|-----|-----|----|-----|----|------|-----|-----|-----|-----|-----|----|-----|--------------|-----|-----|-----|-----|-----|--------|
| 56 | 2 4 6 8 | 90 | 45 | 71 | 36 | 9 | 20 | 3 | 7,2 | 56 | 5,8 | 100 | 80 | 120 | 7 | 3 | 4 | 115 | 110 | 100 | 156 | 199 | M4X12 |
| 63 | 2 4 6 8 | 100 | 50 | 80 | 40 | 11 | 23 | 4 | 8,5 | 63 | 7 | 115 | 95 | 140 | 10 | 3 | 4 | 137 | 123 | 111 | 174 | 221 | M4X12 |
| 71 | 2 4 6 8 | 112 | 56 | 90 | 45 | 14 | 30 | 5 | 11 | 71 | 7 | 130 | 110 | 160 | 10 | 3,5 | 4 | 133 | 137 | 127 | 198 | 247 | M5X12 |
| 80M | 2 4 6 8 | 125 | 62,5 | 100 | 50 | 19 | 40 | 6 | 15,5 | 80 | 10 | 165 | 130 | 200 | 12 | 3,5 | 4 | 165 | 158 | 140 | 220 | 295 | M6X16 |
| 90S | 2 4 6 8 | 140 | 70 | 100 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 165 | 130 | 200 | 12 | 3,5 | 4 | 180 | 177 | 160 | 255 | 353 | M8X19 |
| 90L | 2 4 6 8 | 140 | 70,0 | 125 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 165 | 130 | 200 | 12 | 3,5 | 4 | 180 | 177 | 160 | 255 | 373 | M8X19 |
| 100L | 2 4 6 8 | 160 | 80,0 | 140 | 63 | 28 | 60 | 8 | 24 | 100 | 12 | 215 | 180 | 250 | 15 | 4 | 4 | 205 | 198 | 172 | 270 | 433 | M10X22 |
| 112M | 2 4 6 8 | 190 | 95,0 | 140 | 70 | 28 | 60 | 8 | 24 | 112 | 12 | 215 | 180 | 250 | 15 | 4 | 4 | 226 | 235 | 193 | 300 | 461 | M10X22 |
| 132S | 2 4 6 8 | 216 | 108,0 | 140 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 265 | 230 | 300 | 15 | 4 | 4 | 262 | 293 | 225 | 349 | 499 | M12X28 |
| 132M | 2 4 6 8 | 216 | 108 | 178 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 265 | 230 | 300 | 15 | 4 | 4 | 262 | 293 | 225 | 349 | 521 | M12X28 |
| 160M | 2 4 6 8 | 254 | 127 | 210 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 19 | 5 | 4 | 320 | 315 | 255 | 420 | 660 | M16X36 |
| 160L | 2 4 6 8 | 254 | 127 | 254 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 19 | 5 | 4 | 320 | 315 | 255 | 420 | 730 | M16X36 |



Mounting data for 3AL



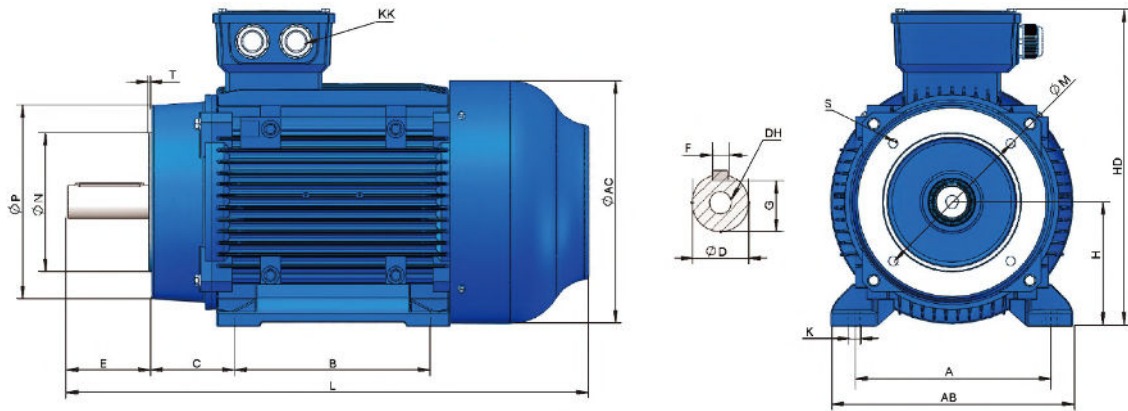
Frame without feet and end-shield with flange (IM B5)

| Frame size | Poles | D | E | F | G | M | N | P | S | T | Flange holes | AC | AD | L | DH* |
|------------|---------|----|-----|----|------|-----|-----|-----|----|-----|--------------|-----|-----|-----|--------|
| 56 | 2 4 6 8 | 9 | 20 | 3 | 7,2 | 100 | 80 | 120 | 7 | 3 | 4 | 110 | 100 | 199 | M4X12 |
| 63 | 2 4 6 8 | 11 | 23 | 4 | 8,5 | 115 | 95 | 140 | 10 | 3 | 4 | 120 | 111 | 221 | M4X12 |
| 71 | 2 4 6 8 | 14 | 30 | 5 | 11 | 130 | 110 | 160 | 10 | 3,5 | 4 | 137 | 127 | 247 | M4X12 |
| 80M | 2 4 6 8 | 19 | 40 | 6 | 15,5 | 165 | 130 | 200 | 12 | 3,5 | 4 | 158 | 140 | 295 | M6X16 |
| 90S | 2 4 6 8 | 24 | 50 | 8 | 20 | 165 | 130 | 200 | 12 | 3,5 | 4 | 177 | 160 | 353 | M8X19 |
| 90L | 2 4 6 8 | 24 | 50 | 8 | 20 | 165 | 130 | 200 | 12 | 3,5 | 4 | 177 | 160 | 373 | M8X19 |
| 100L | 2 4 6 8 | 28 | 60 | 8 | 24 | 215 | 180 | 250 | 15 | 4 | 4 | 198 | 172 | 433 | M10X22 |
| 112M | 2 4 6 8 | 28 | 60 | 8 | 24 | 215 | 180 | 250 | 15 | 4 | 4 | 235 | 193 | 461 | M10X22 |
| 132S | 2 4 6 8 | 38 | 80 | 10 | 33 | 265 | 230 | 300 | 15 | 4 | 4 | 293 | 225 | 499 | M12X28 |
| 132M | 2 4 6 8 | 38 | 80 | 10 | 33 | 265 | 230 | 300 | 15 | 4 | 4 | 293 | 225 | 521 | M12X28 |
| 160M | 2 4 6 8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 19 | 5 | 4 | 315 | 255 | 730 | M16X36 |
| 160L | 2 4 6 8 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 19 | 5 | 4 | 315 | 255 | 740 | M16X36 |



Mounting data for 3AL

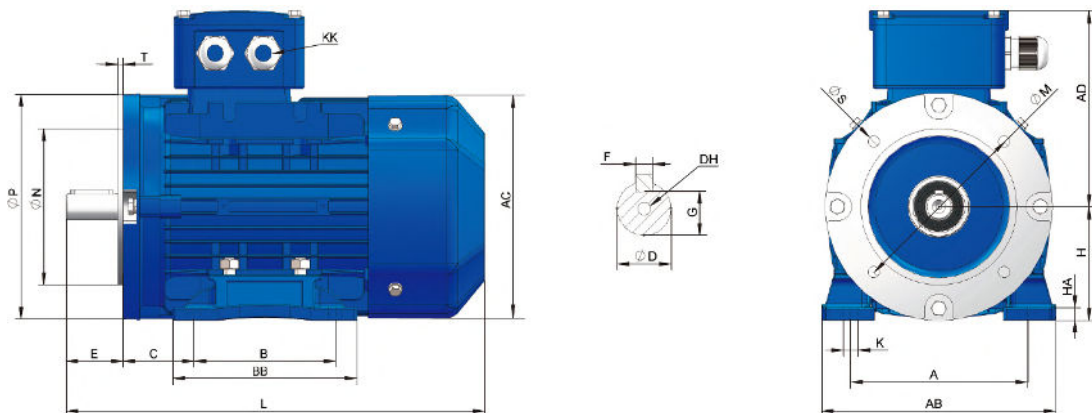
3AL-160



Frame with feet and end-shield with flange (IM B34)

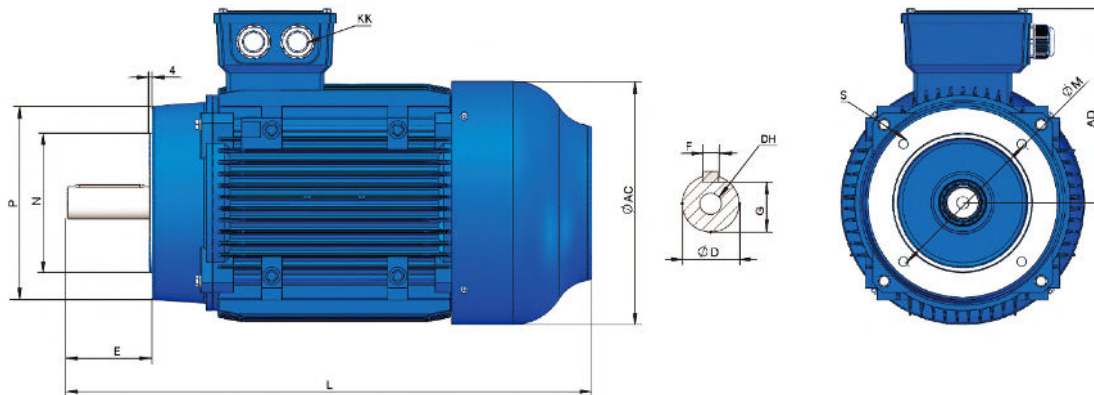
| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | M | N | P | S | T | Flange holes | AB | AC | AD | HD | L | DH* |
|------------|-------|-----|------|-----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|--------------|-----|-----|-----|-----|-----|--------|
| 56 | 2468 | 90 | 45 | 71 | 36 | 9 | 20 | 3 | 7,2 | 56 | 5,8 | 65 | 50 | 80 | M5 | 3 | 4 | 115 | 110 | 100 | 156 | 199 | M4X12 |
| 63 | 2468 | 100 | 50 | 80 | 40 | 11 | 23 | 4 | 8,5 | 63 | 7 | 75 | 60 | 90 | M5 | 3 | 4 | 137 | 123 | 111 | 174 | 221 | M4X12 |
| 71 | 2468 | 112 | 56 | 90 | 45 | 14 | 30 | 5 | 11 | 71 | 7 | 85 | 70 | 105 | M5 | 3,5 | 4 | 133 | 137 | 127 | 198 | 247 | M5X12 |
| 80M | 2468 | 125 | 62,5 | 100 | 50 | 19 | 40 | 6 | 16 | 80 | 10 | 100 | 80 | 120 | M6 | 3 | 4 | 165 | 158 | 140 | 220 | 295 | M6X16 |
| 90S | 2468 | 140 | 70 | 100 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 115 | 95 | 140 | M6 | 3 | 4 | 180 | 177 | 160 | 255 | 353 | M8X19 |
| 90L | 2468 | 140 | 70 | 125 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 115 | 95 | 140 | M6 | 3 | 4 | 180 | 177 | 160 | 255 | 373 | M8X19 |
| 100L | 2468 | 160 | 80 | 140 | 63 | 28 | 60 | 8 | 24 | 100 | 12 | 130 | 110 | 160 | M8 | 3,5 | 4 | 205 | 198 | 172 | 270 | 433 | M10X22 |
| 112M | 2468 | 190 | 95 | 140 | 70 | 28 | 60 | 8 | 24 | 112 | 12 | 130 | 110 | 160 | M8 | 3,5 | 4 | 226 | 235 | 193 | 193 | 461 | M10X22 |
| 132S | 2468 | 216 | 108 | 140 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 165 | 130 | 200 | M10 | 3,5 | 4 | 262 | 293 | 225 | 225 | 499 | M12X28 |
| 132M | 2468 | 216 | 108 | 178 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 165 | 130 | 200 | M10 | 3,5 | 4 | 262 | 293 | 225 | 225 | 521 | M12X28 |
| 160M | 2468 | 254 | 127 | 210 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 215 | 180 | 250 | M12 | 4 | 4 | 314 | 314 | 255 | 415 | 632 | M16X36 |
| 160L | 2468 | 254 | 127 | 254 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 215 | 180 | 250 | M12 | 4 | 4 | 314 | 314 | 255 | 415 | 677 | M16X36 |

3AL-80-132



Mounting data for 3AL

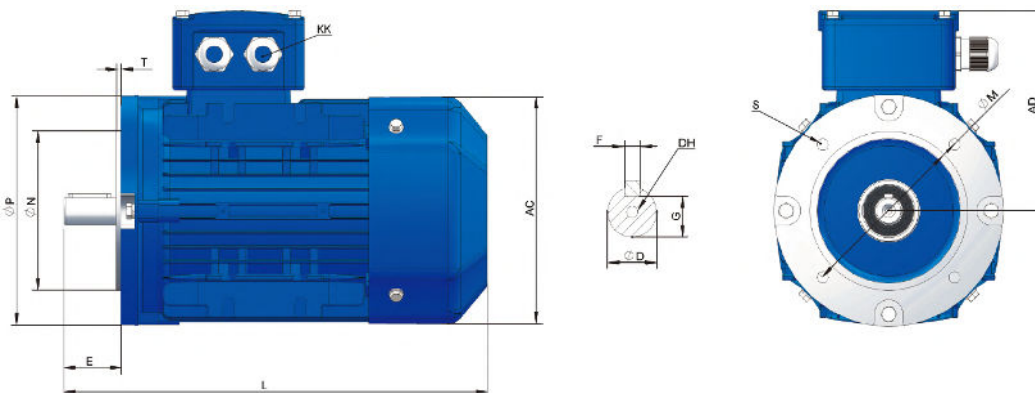
3AL-160

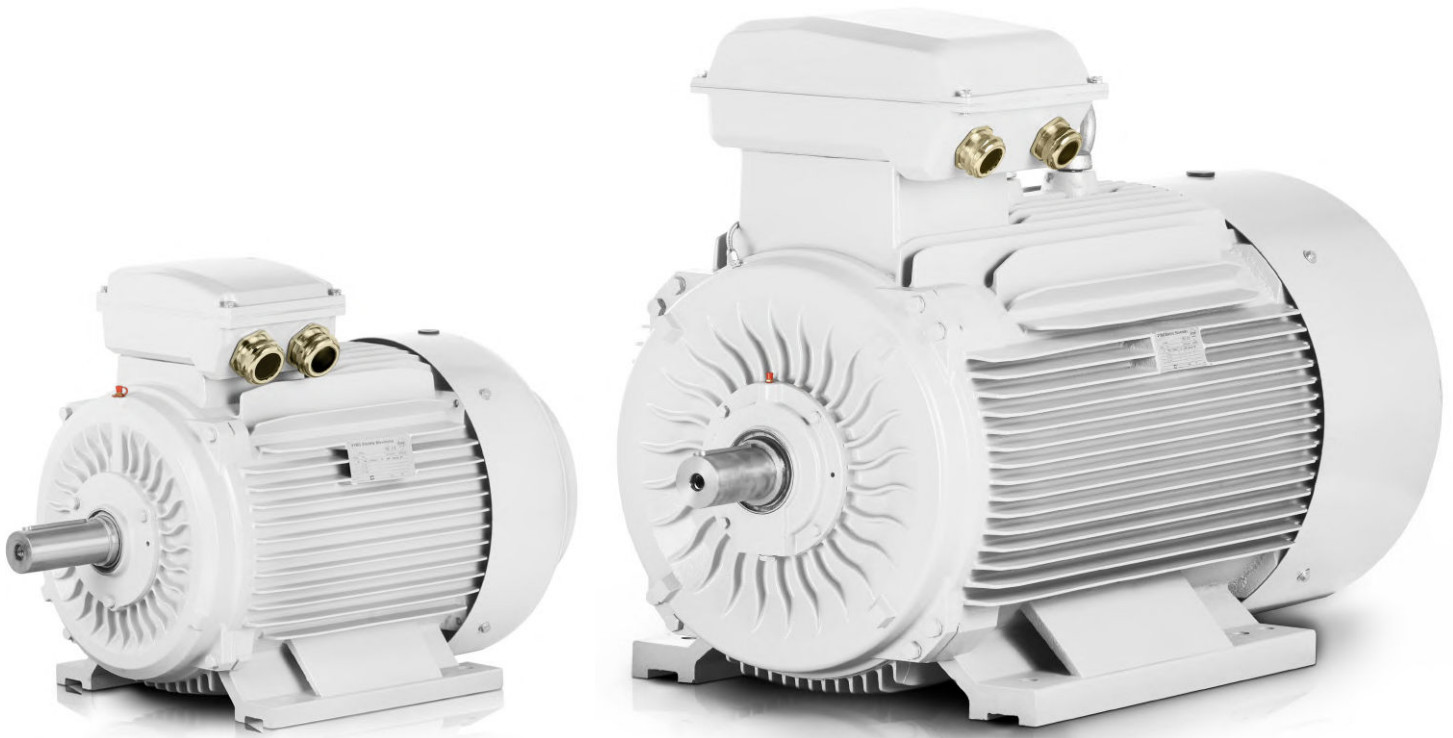


Frame with feet and end-shield with flange (IM B14)

| Frame size | AC | AD | D | DH | E | F | KK | | L | B14A | | | | | B14B | | | | |
|------------|-----|-----|----|--------|-----|----|-----------|----------|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|
| | | | | | | | Metric | PG | | M | N | P | S | T | M | N | P | S | T |
| 56 | 110 | 100 | 9 | M4X12 | 20 | 3 | 2-M20X1,5 | 2-PG13,5 | 199 | 65 | 50 | 80 | M5 | 2,5 | 85 | 70 | 105 | M6 | 2,5 |
| 63 | 120 | 109 | 11 | M4X12 | 23 | 4 | 2-M20X1,5 | 2-PG13,5 | 221 | 75 | 60 | 90 | M5 | 2,5 | 100 | 80 | 120 | M6 | 2,5 |
| 71 | 137 | 127 | 14 | M5X12 | 30 | 5 | 2-M20X1,5 | 2-PG13,5 | 247 | 85 | 70 | 105 | M6 | 2,5 | 115 | 95 | 140 | M8 | 3 |
| 80M | 156 | 138 | 19 | M6X16 | 40 | 6 | 2-M25X1,5 | 2-PG16 | 295 | 100 | 80 | 120 | M6 | 3 | 130 | 110 | 160 | M8 | 3,5 |
| 90S | 177 | 152 | 24 | M8X19 | 50 | 8 | 2-M25X1,5 | 2-PG16 | 353 | 115 | 95 | 140 | M8 | 3 | 130 | 110 | 160 | M8 | 3,5 |
| 90L | 177 | 152 | 24 | M8X19 | 50 | 8 | 2-M25X1,5 | 2-PG16 | 373 | 115 | 95 | 140 | M8 | 3 | 130 | 110 | 160 | M8 | 3,5 |
| 100L | 197 | 160 | 28 | M10X22 | 60 | 8 | 2-M32X1,5 | 2-PG16 | 433 | 130 | 110 | 160 | M8 | 3,5 | 165 | 130 | 200 | M10 | 3,5 |
| 112M | 218 | 181 | 28 | M10X22 | 60 | 8 | 2-M32X1,5 | 2-PG16 | 461 | 130 | 110 | 160 | M8 | 3,5 | 165 | 130 | 200 | M10 | 3,5 |
| 132S | 258 | 212 | 38 | M12X28 | 80 | 10 | 2-M32X1,5 | 2-PG16 | 499 | 165 | 130 | 200 | M10 | 3,5 | 215 | 180 | 250 | M12 | 4 |
| 132M | 258 | 212 | 38 | M12X28 | 80 | 10 | 2-M32X1,5 | 2-PG16 | 521 | 165 | 130 | 200 | M10 | 3,5 | 215 | 180 | 250 | M12 | 4 |
| 160M | 314 | 255 | 42 | M16X36 | 110 | 12 | 2-M40X1,5 | 2-PG16 | 632 | 215 | 180 | 250 | M12 | 4 | 265 | 230 | 300 | M16 | 5 |
| 160L | 314 | 255 | 42 | M16X36 | 110 | 12 | 2-M40X1,5 | 2-PG16 | 677 | 215 | 180 | 250 | M12 | 4 | 265 | 230 | 300 | M16 | 5 |

3AL-80-132



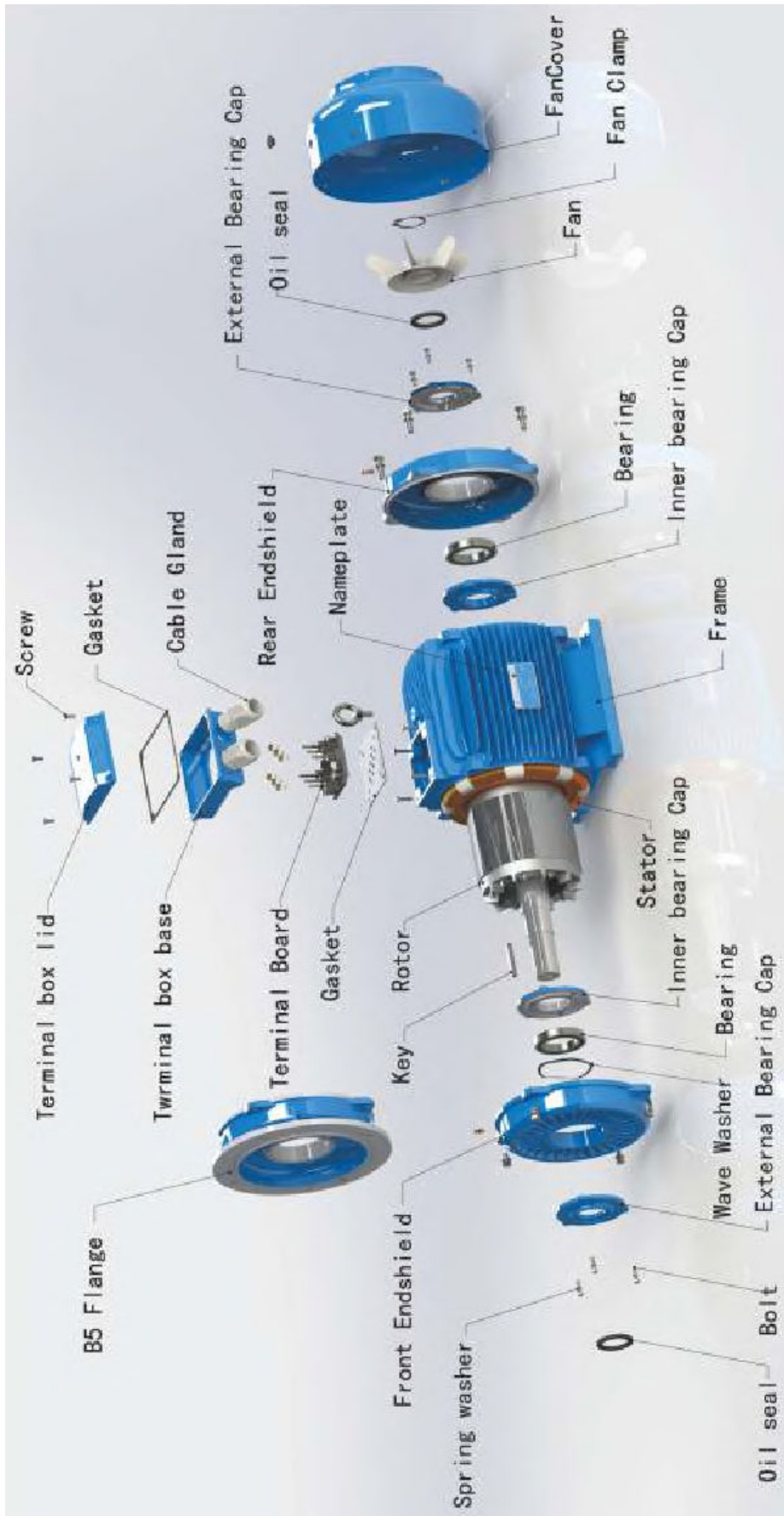


3LC Series

Electric motors for standard and heavy duty in a cast iron frame



SOLUTIONS FOR INDUSTRY



Technical data 3LC

| NO. | Frame reference and size | Rated power kW | Full load current at rated voltage Amps (A) | | | Full load speed in revolutions per minute r/min | Direct on line starting torque ratio | | Direct on line pull out torque ratio | Direct on line starting current ratio | Efficiency η (%) | Power factor ($\cos\phi$) | Noise LwdB (A) | Weight kg | Rotor inertia kg*m ² |
|--------------------------------|--------------------------|-------------------|--|--------|--------|--|--------------------------------------|------------|--------------------------------------|---------------------------------------|--------------------------|--------------------------------|-------------------|--------------|------------------------------------|
| | | | 380V | 400V | 415V | | LRT RLT | BDT RLT | | | | | | | |
| 2 poles electric motors | | | | | | | | | | | | | | | |
| 1 | 3LC-80M1-2 | 0,75 | 1,72 | 1,64 | 1,58 | 2890 | 2,3 | 2,3 | 7 | 80,7 | 0,82 | 62 | 23 | 0,00109 | |
| 2 | 3LC-80M2-2 | 1,1 | 2,43 | 2,31 | 2,23 | 2890 | 2,2 | 2,3 | 7,3 | 82,7 | 0,83 | 62 | 24 | 0,00142 | |
| 3 | 3LC-90S-2 | 1,5 | 3,22 | 3,06 | 2,95 | 2890 | 2,2 | 2,3 | 7,6 | 84,2 | 0,84 | 67 | 26 | 0,00217 | |
| 4 | 3LC-90L-2 | 2,2 | 4,58 | 4,35 | 4,19 | 2890 | 2,2 | 2,3 | 7,6 | 85,9 | 0,85 | 67 | 31 | 0,00283 | |
| 5 | 3LC-100L-2 | 3 | 6,02 | 5,71 | 5,51 | 2895 | 2,2 | 2,3 | 7,8 | 87,1 | 0,87 | 74 | 39 | 0,00457 | |
| 6 | 3LC-112 M-2 | 4 | 7,84 | 7,45 | 7,18 | 2910 | 2,2 | 2,3 | 8,3 | 88,1 | 0,88 | 77 | 61 | 0,00631 | |
| 7 | 3LC-132S1-2 | 5,5 | 10,65 | 10,11 | 9,75 | 2940 | 2 | 2,3 | 8,3 | 89,2 | 0,88 | 79 | 73 | 0,01392 | |
| 8 | 3LC-132S2-2 | 7,5 | 14,37 | 13,65 | 13,16 | 2940 | 2 | 2,3 | 7,9 | 90,1 | 0,88 | 79 | 79 | 0,01643 | |
| 9 | 3LC-160M1-2 | 11 | 20,59 | 19,56 | 18,85 | 2950 | 2 | 2,3 | 8,1 | 91,2 | 0,89 | 81 | 126 | 0,054 | |
| 10 | 3LC-160M2-2 | 15 | 27,86 | 26,47 | 25,51 | 2950 | 2 | 2,3 | 8,1 | 91,9 | 0,89 | 81 | 136 | 0,0618 | |
| 11 | 3LC-160L-2 | 18,5 | 34,18 | 32,47 | 31,30 | 2950 | 2 | 2,3 | 8,2 | 92,4 | 0,89 | 81 | 161 | 0,0716 | |
| 12 | 3LC-180M-2 | 22 | 40,52 | 38,49 | 37,1 | 2960 | 2 | 2,3 | 8,2 | 92,7 | 0,89 | 83 | 202 | 0,0892 | |
| 13 | 3LC-200L1-2 | 30 | 54,89 | 52,15 | 50,26 | 2970 | 2 | 2,3 | 7,6 | 93,3 | 0,89 | 84 | 259 | 0,18 | |
| 14 | 3LC-200L2-2 | 37 | 67,41 | 64,04 | 61,73 | 2970 | 2 | 2,3 | 7,6 | 93,7 | 0,89 | 84 | 276 | 0,19 | |
| 15 | 3LC-225M-2 | 45 | 80,82 | 76,78 | 74 | 2970 | 2 | 2,3 | 7,7 | 94 | 0,9 | 86 | 359 | 0,3335 | |
| 16 | 3LC-250M-2 | 55 | 98,46 | 93,54 | 90,16 | 2980 | 2 | 2,3 | 7,7 | 94,3 | 0,9 | 89 | 394 | 0,4638 | |
| 17 | 3LC-280S-2 | 75 | 133,70 | 127,02 | 122,43 | 2980 | 1,8 | 2,3 | 7,1 | 94,7 | 0,9 | 91 | 537 | 1,0889 | |
| 18 | 3LC-280M-2 | 90 | 159,94 | 151,94 | 146,45 | 2980 | 1,8 | 2,3 | 7,1 | 95 | 0,9 | 91 | 583 | 1,1487 | |
| 19 | 3LC-315S-2 | 110 | 195,07 | 185,31 | 178,61 | 2980 | 1,8 | 2,3 | 7,1 | 95,2 | 0,9 | 92 | 861 | 1,495 | |
| 20 | 3LC-315M-2 | 132 | 233,59 | 221,91 | 213,89 | 2980 | 1,8 | 2,3 | 7,14 | 95,4 | 0,9 | 92 | 948 | 2,111 | |
| 21 | 3LC-315L1-2 | 160 | 279,44 | 265,47 | 255,87 | 2980 | 1,8 | 2,3 | 7,2 | 95,6 | 0,91 | 92 | 1020 | 2,394 | |
| 22 | 3LC-315L2-2 | 200 | 348,57 | 331,14 | 319,17 | 2980 | 1,8 | 2,3 | 7,2 | 95,8 | 0,91 | 92 | 1112 | 2,654 | |
| 23 | 3LC-355M-2 | 250 | 435,71 | 413,93 | 398,97 | 2980 | 1,6 | 2,2 | 7,2 | 95,8 | 0,91 | 100 | 1650 | 3,345 | |
| 24 | 3LC-355L-2 | 315 | 549 | 521,55 | 502,70 | 2980 | 1,6 | 2,2 | 7,2 | 95,8 | 0,91 | 100 | 1843 | 3,903 | |



Technical data 3LC

| NO. | Frame reference and size | Rated power | Full load current at rated voltage | | | Full load speed in revolutions per minute | Direct on line starting torque ratio | Direct on line pull out torque ratio | Direct on line starting current ratio | Efficiency | Power factor | Noise | Weight | Rotor inertia |
|--------------------------------|--------------------------|-------------|------------------------------------|----------|--------|---|--------------------------------------|--------------------------------------|---------------------------------------|------------|---------------|----------|--------|-------------------|
| | | | Power | Amps (A) | | | | | | | | | | |
| | Type | kW | 380V | 400V | 415V | r/min | RLT | RLT | RLA | (%) | (cos ϕ) | LwdB (A) | kg | kg*m ² |
| 4 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3LC-80M-4 | 0,75 | 1,75 | 1,64 | 1,69 | 1430 | 2,3 | 2,3 | 6,6 | 82,50 | 0,75 | 56 | 25 | 0,00270 |
| 2 | 3LC-90S-4 | 1,1 | 2,48 | 2,31 | 2,39 | 1440 | 2,3 | 2,3 | 6,8 | 84,10 | 0,76 | 59 | 26 | 0,00327 |
| 3 | 3LC-90L-4 | 1,5 | 3,30 | 3,06 | 3,18 | 1440 | 2,3 | 2,3 | 7 | 85,30 | 0,77 | 59 | 29 | 0,00414 |
| 4 | 3LC-100L1-4 | 2,2 | 4,52 | 4,35 | 4,36 | 1455 | 2,3 | 2,3 | 7,6 | 86,70 | 0,81 | 64 | 40 | 0,00837 |
| 5 | 3LC-100L2-4 | 3 | 6,02 | 5,71 | 5,80 | 1455 | 2,3 | 2,3 | 7,6 | 87,70 | 0,82 | 64 | 45 | 0,01012 |
| 6 | 3LC-112M-4 | 4 | 7,95 | 7,45 | 7,66 | 1460 | 2,2 | 2,3 | 7,8 | 88,60 | 0,82 | 65 | 61 | 0,01392 |
| 7 | 3LC-132-4 | 5,5 | 10,68 | 10,11 | 10,29 | 1470 | 2 | 2,3 | 7,9 | 89,60 | 0,83 | 71 | 84 | 0,03100 |
| 8 | 3LC-132M-4 | 7,5 | 14,26 | 13,65 | 13,74 | 1470 | 2 | 2,3 | 7,5 | 90,40 | 0,84 | 71 | 94 | 0,03982 |
| 9 | 3LC-160M-4 | 11 | 20,44 | 19,56 | 19,70 | 1470 | 2 | 2,3 | 7,7 | 91,40 | 0,85 | 73 | 136 | 0,0852 |
| 10 | 3LC-160L-4 | 15 | 27,34 | 26,47 | 26,35 | 1470 | 2,2 | 2,3 | 7,8 | 92,10 | 0,86 | 73 | 160 | 0,1116 |
| 11 | 3LC-180M-4 | 18,5 | 33,53 | 32,47 | 32,32 | 1475 | 2 | 2,3 | 7,8 | 92,60 | 0,86 | 76 | 195 | 0,1679 |
| 12 | 3LC-180L-4 | 22 | 39,70 | 38,49 | 38,27 | 1480 | 2 | 2,3 | 7,8 | 93,00 | 0,86 | 76 | 220 | 0,2065 |
| 13 | 3LC-200L-4 | 30 | 53,79 | 52,15 | 51,85 | 1485 | 2 | 2,3 | 7,8 | 93,60 | 0,86 | 76 | 278 | 0,3147 |
| 14 | 3LC-225S-4 | 37 | 66,13 | 64,04 | 63,74 | 1485 | 2 | 2,3 | 7,4 | 93,90 | 0,86 | 78 | 343 | 0,5224 |
| 15 | 3LC-225M-4 | 45 | 80,18 | 76,78 | 77,28 | 1485 | 2 | 2,3 | 7,4 | 94,20 | 0,86 | 78 | 373 | 0,6118 |
| 16 | 3LC-250M-4 | 55 | 97,58 | 93,54 | 94,05 | 1485 | 2 | 2,3 | 7,4 | 94,60 | 0,86 | 79 | 433 | 0,8294 |
| 17 | 3LC-280S-4 | 75 | 129,49 | 127,02 | 124,81 | 1485 | 2 | 2,3 | 6,9 | 95,00 | 0,88 | 80 | 600 | 2,1199 |
| 18 | 3LC-280M-4 | 90 | 155,07 | 151,94 | 149,46 | 1485 | 2 | 2,3 | 6,9 | 95,20 | 0,88 | 80 | 683 | 2,5634 |
| 19 | 3LC-315S-4 | 110 | 187,00 | 185,31 | 180,24 | 1485 | 2 | 2,2 | 7 | 95,40 | 0,89 | 88 | 922 | 3,6260 |
| 20 | 3LC-315M-4 | 132 | 223,93 | 221,91 | 215,84 | 1485 | 2 | 2,2 | 7 | 95,60 | 0,89 | 88 | 1020 | 4,2100 |
| 21 | 3LC-315L1-4 | 160 | 270,87 | 265,47 | 261,08 | 1485 | 2 | 2,2 | 7,1 | 95,80 | 0,89 | 88 | 1120 | 4,6050 |
| 22 | 3LC-315L2-4 | 200 | 334,12 | 331,14 | 322,05 | 1485 | 2 | 2,2 | 7,1 | 96,00 | 0,90 | 88 | 1194 | 5,2740 |
| 23 | 3LC-355M-4 | 250 | 417,66 | 413,93 | 402,56 | 1490 | 2 | 2,2 | 7,1 | 96,00 | 0,90 | 95 | 1630 | 7,2480 |
| 24 | 3LC-355L-4 | 315 | 526,25 | 521,55 | 507,23 | 1490 | 2 | 2,2 | 7,1 | 96,00 | 0,90 | 95 | 1780 | 9,1430 |



Technical data 3LC

| NO. | Frame reference and size | Rated power | Full load current at rated voltage | | | Full load speed in revolutions per minute | Direct on line starting torque ratio | Direct on line pull out torque ratio | Direct on line starting current ratio | Efficiency | Power factor | Noise | Weight | Rotor inertia |
|--------------------------------|--------------------------|-------------|------------------------------------|--------|--------|---|--------------------------------------|--------------------------------------|---------------------------------------|---------------|--------------|--------|-------------------|---------------|
| | | | LRT | BDT | LRA | | | | | | | | | |
| Type | Power | Amps (A) | | | Speed | LRT | BDT | RLA | η | Power factor | Noise | Weight | | |
| | kW | 380V | 400V | 415V | r/min | RLT | RLT | RLA | (%) | (cos Φ) | LwdB (A) | kg | kg*m ² | |
| 6 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3LC-80M 1-6 | 0,37 | 1,1 | 1 | 1 | 880 | 1,9 | 2 | 4,7 | 73,5 | 0,7 | 54 | 17,5 | 0,00181 |
| 2 | 3LC-80M2-6 | 0,55 | 1,5 | 1,4 | 1,4 | 880 | 1,9 | 2,1 | 4,7 | 77,2 | 0,72 | 54 | 18,5 | 0,00215 |
| 3 | 3LC-90S-6 | 0,75 | 2 | 1,9 | 1,9 | 905 | 2 | 2,1 | 6 | 78,9 | 0,71 | 57 | 25,5 | 0,00414 |
| 4 | 3LC-90L-6 | 1,1 | 2,8 | 2,7 | 2,6 | 905 | 2 | 2,1 | 6 | 81 | 0,73 | 57 | 31 | 0,00576 |
| 5 | 3LC-100L-6 | 1,5 | 3,8 | 3,6 | 3,5 | 920 | 2 | 2,1 | 6,5 | 82,5 | 0,73 | 61 | 39 | 0,01164 |
| 6 | 3LC-112M-6 | 2,2 | 5,4 | 5,1 | 4,9 | 935 | 2 | 2,1 | 6,6 | 84,3 | 0,74 | 65 | 49 | 0,01643 |
| 7 | 3LC-132S-6 | 3 | 7,2 | 6,8 | 6,6 | 960 | 2 | 2,1 | 6,8 | 85,6 | 0,74 | 69 | 65 | 0,03459 |
| 8 | 3LC-132M1-6 | 4 | 9,5 | 9 | 8,7 | 960 | 2 | 2,1 | 6,8 | 86,8 | 0,74 | 69 | 74 | 0,04286 |
| 9 | 3LC-132M2-6 | 5,5 | 12,7 | 12 | 11,6 | 960 | 2 | 2,1 | 7 | 88 | 0,75 | 69 | 81,5 | 0,05374 |
| 10 | 3LC-160M-6 | 7,5 | 16,2 | 15,4 | 14,8 | 970 | 2 | 2,1 | 7 | 89,1 | 0,79 | 73 | 124 | 0,10643 |
| 11 | 3LC-160L-6 | 11 | 23,1 | 22 | 21,2 | 970 | 2 | 2,1 | 7,2 | 90,3 | 0,8 | 73 | 160 | 0,14027 |
| 12 | 3LC-180L-6 | 15 | 30,9 | 29,3 | 28,2 | 970 | 2 | 2,1 | 7,3 | 91,2 | 0,81 | 73 | 211 | 0,25043 |
| 13 | 3LC-200L1-6 | 18,5 | 37,8 | 36 | 34,7 | 980 | 2 | 2,1 | 7,3 | 91,7 | 0,81 | 73 | 260 | 0,36989 |
| 14 | 3LC-200L2-6 | 22 | 44,8 | 42,5 | 41 | 980 | 2 | 2,1 | 7,4 | 92,2 | 0,81 | 74 | 282 | 0,42070 |
| 15 | 3LC-225M-6 | 30 | 59,1 | 56,2 | 54,1 | 980 | 2 | 2,1 | 6,9 | 92,9 | 0,83 | 76 | 392 | 0,62360 |
| 16 | 3LC-250M-6 | 37 | 71,7 | 68,1 | 65,7 | 980 | 2 | 2,1 | 7,1 | 93,3 | 0,84 | 78 | 416 | 0,96853 |
| 17 | 3LC-280S-6 | 45 | 85,8 | 81,6 | 78,6 | 980 | 2 | 2 | 7,3 | 93,7 | 0,85 | 78 | 522 | 1,91187 |
| 18 | 3LC-280M-6 | 55 | 103,3 | 98,1 | 94,6 | 980 | 2 | 2 | 7,3 | 94,1 | 0,86 | 83 | 585 | 2,341 |
| 19 | 3LC-315S-6 | 75 | 143,4 | 136,2 | 131,3 | 985 | 2 | 2 | 6,6 | 94,6 | 0,84 | 83 | 791 | 4,58265 |
| 20 | 3LC-315M-6 | 90 | 169,5 | 161 | 155,2 | 985 | 2 | 2 | 6,7 | 94,9 | 0,85 | 83 | 901 | 5,32970 |
| 21 | 3LC-315L1-6 | 110 | 206,8 | 196,4 | 189,3 | 985 | 2 | 2 | 6,7 | 95,1 | 0,85 | 83 | 1009 | 6,07675 |
| 22 | 3LC-315L2-6 | 132 | 244,5 | 232,2 | 223,8 | 985 | 1,8 | 2 | 6,8 | 95,4 | 0,86 | 85 | 1102 | 6,82380 |
| 23 | 3LC-355M1-6 | 160 | 295,7 | 280,9 | 270,7 | 990 | 1,8 | 2 | 6,8 | 95,6 | 0,86 | 85 | 1492 | 10,59250 |
| 24 | 3LC-355M2-6 | 200 | 364,60 | 346,40 | 333,80 | 990 | 1,6 | 2 | 6,8 | 95,80 | 0,87 | 85 | 1630 | 11,59600 |

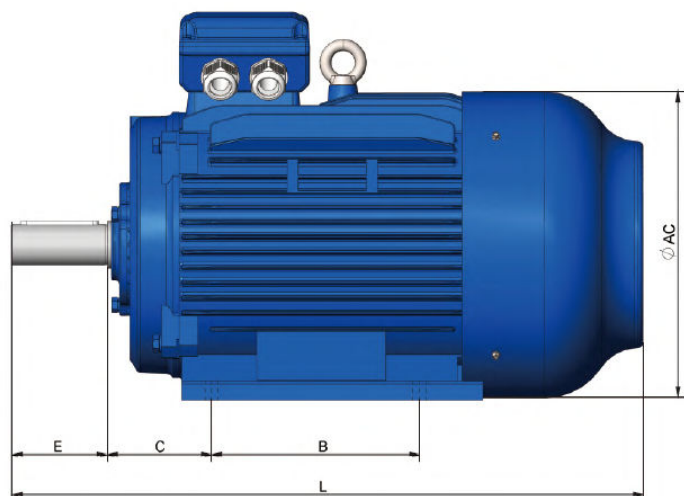


Technical data 3LC

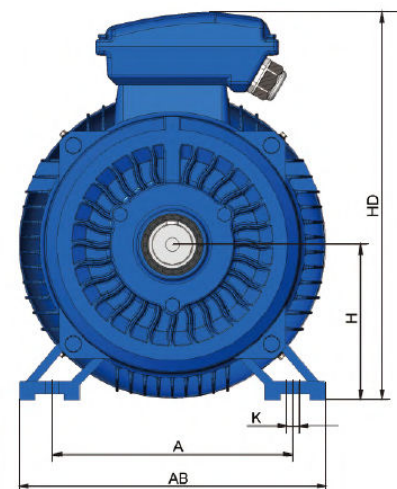
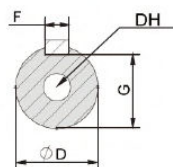
| NO. | Type | Full load current at rated voltage | | | Full load speed in revolutions per minute | Direct on line starting torque ratio | Direct on line pull out torque ratio | Direct on line starting current ratio | Efficiency | Power factor | Noise | Weight | Rotor inertia | |
|--------------------------------|-------------|------------------------------------|----------|-------|---|--------------------------------------|--------------------------------------|---------------------------------------|------------|--------------|---------------|----------|---------------|-------------------|
| | | Rated power | Amps (A) | | | | | | | | | | | |
| | | Power | Amps (A) | | | Speed | LRT | BDT | LRA | η | Power factor | Noise | Weight | |
| | | kW | 380V | 400V | 415V | r/min | RLT | RLT | RLA | (%) | (cos Φ) | LwdB (A) | kg | kg·m ² |
| 8 poles electric motors | | | | | | | | | | | | | | |
| 1 | 3LC-80M1-8 | 0,18 | 0,8 | 0,7 | 0,7 | 646 | 1,8 | 1,9 | 3,3 | 58,7 | 0,61 | 52 | 17,25 | 0,00283 |
| 2 | 3LC-80M2-8 | 0,25 | 1 | 0,9 | 0,9 | 645 | 1,8 | 1,9 | 3,3 | 64,1 | 0,61 | 52 | 18,5 | 0,00339 |
| 3 | 3LC-90S-8 | 0,37 | 1,3 | 1,3 | 1,2 | 675 | 1,8 | 1,9 | 4 | 69,3 | 0,61 | 56 | 23 | 0,00576 |
| 4 | 3LC-90L-8 | 0,55 | 1,9 | 1,8 | 1,7 | 680 | 1,8 | 2 | 4 | 73 | 0,61 | 56 | 26,5 | 0,00735 |
| 5 | 3LC-100L1-8 | 0,75 | 2,3 | 2,2 | 2,1 | 680 | 1,8 | 2 | 4 | 75 | 0,67 | 59 | 33,5 | 0,01017 |
| 6 | 3LC-100L2-8 | 1,1 | 3,1 | 3 | 2,9 | 680 | 1,8 | 2 | 5 | 77,7 | 0,69 | 59 | 35,6 | 0,01243 |
| 7 | 3LC-112M-8 | 1,5 | 4,1 | 3,9 | 3,7 | 690 | 1,8 | 2 | 5 | 79,7 | 0,7 | 61 | 47,5 | 0,02769 |
| 8 | 3LC-132S-8 | 2,2 | 5,7 | 5,5 | 5,3 | 710 | 1,8 | 2 | 6 | 81,9 | 0,71 | 64 | 70,5 | 0,03548 |
| 9 | 3LC-132M-8 | 3 | 7,5 | 7,1 | 6,8 | 710 | 1,8 | 2 | 6 | 83,5 | 0,73 | 64 | 85 | 0,04464 |
| 10 | 3LC-160M1-8 | 4 | 9,8 | 9,3 | 9 | 720 | 1,9 | 2 | 6 | 84,8 | 0,73 | 68 | 120 | 0,08509 |
| 11 | 3LC-160M2-8 | 5,5 | 13 | 12,4 | 12 | 720 | 1,9 | 2 | 6 | 86,2 | 0,74 | 68 | 134 | 0,1052 |
| 12 | 3LC-160L-8 | 7,5 | 17,4 | 16,5 | 15,9 | 720 | 1,9 | 2 | 6 | 87,3 | 0,75 | 68 | 160 | 0,1424 |
| 13 | 3LC-180L-8 | 11 | 25,2 | 23,9 | 23 | 730 | 2 | 2 | 6,5 | 88,6 | 0,75 | 70 | 212 | 0,2294 |
| 14 | 3LC-200L-8 | 15 | 33,5 | 31,8 | 30,6 | 730 | 2 | 2 | 6,6 | 89,6 | 0,76 | 73 | 271,5 | 0,3831 |
| 15 | 3LC-225S-8 | 18,5 | 41 | 39 | 37,6 | 730 | 1,9 | 2 | 6,6 | 90,1 | 0,76 | 73 | 315 | 0,5548 |
| 16 | 3LC-225M-8 | 22 | 47,3 | 44,9 | 43,3 | 730 | 1,9 | 2 | 6,6 | 90,6 | 0,78 | 73 | 334 | 0,6181 |
| 17 | 3LC-250M-8 | 30 | 63,2 | 60 | 57,9 | 735 | 1,9 | 2 | 6,5 | 91,3 | 0,79 | 75 | 426 | 0,9424 |
| 18 | 3LC-280S-8 | 37 | 77,5 | 73,6 | 71 | 740 | 1,9 | 2 | 6,6 | 91,8 | 0,79 | 76 | 561 | 1,8645 |
| 19 | 3LC-280M-8 | 45 | 93,9 | 89,2 | 86 | 740 | 1,9 | 2 | 6,6 | 92,2 | 0,79 | 76 | 648 | 2,1809 |
| 20 | 3LC-315S-8 | 55 | 111,5 | 106 | 102,1 | 735 | 1,8 | 2 | 6,6 | 92,5 | 0,81 | 82 | 980 | 5,4127 |
| 21 | 3LC-315M-8 | 75 | 151,1 | 143,6 | 138,4 | 735 | 1,8 | 2 | 6,2 | 93,1 | 0,81 | 82 | 1073 | 6,3054 |
| 22 | 3LC-315L1-8 | 90 | 178,5 | 169,6 | 163,5 | 735 | 1,8 | 2 | 6,4 | 93,4 | 0,82 | 82 | 1182 | 7,1981 |
| 23 | 3LC-315L2-8 | 110 | 217,5 | 206,6 | 199,2 | 735 | 1,8 | 2 | 6,4 | 93,7 | 0,82 | 82 | 1285 | 8,1699 |
| 24 | 3LC-355M1-8 | 132 | 260,2 | 247,2 | 238,3 | 740 | 1,8 | 2 | 6,4 | 94 | 0,82 | 90 | 2300 | 8,927 |
| 25 | 3LC-355M2-8 | 160 | 314,4 | 298,7 | 287,9 | 740 | 1,8 | 2 | 6,4 | 94,3 | 0,82 | 90 | 2473 | 11,639 |
| 26 | 3LC-355L-8 | 200 | 387 | 367,7 | 354,4 | 740 | 1,8 | 2 | 6,4 | 94,6 | 0,83 | 90 | 2588 | 13,899 |



Mouting data for 3LC



80-355



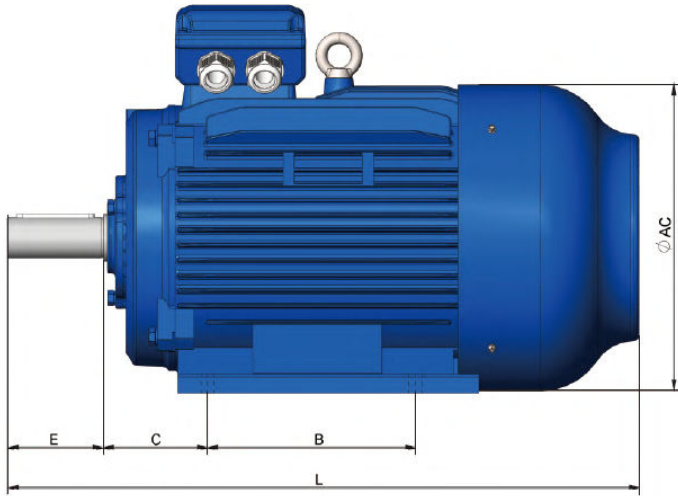
80-355

Frame with feet and end-shield without flange (IM B3)

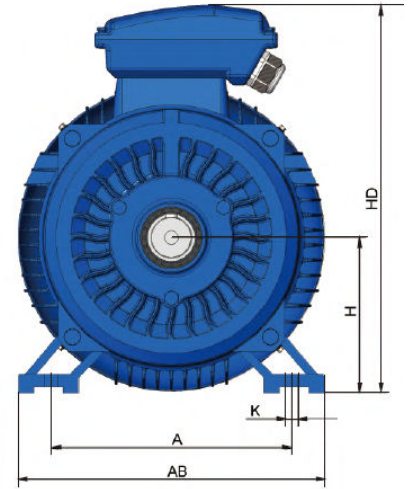
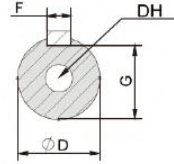
| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | AB | AC | AD | HD | L | DH* |
|------------|-------|-----|-------|-----|-----|----|-----|----|------|-----|----|-----|-----|-----|-----|-----|--------|
| 80M | 2 4 6 | 125 | 62,5 | 100 | 50 | 19 | 40 | 6 | 15,5 | 80 | 10 | 165 | 158 | 140 | 220 | 300 | M6X16 |
| 90S | 2 4 6 | 140 | 70 | 100 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 180 | 177 | 160 | 255 | 350 | M8X19 |
| 90L | 2 4 6 | 140 | 70 | 125 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 180 | 177 | 160 | 255 | 385 | M8X19 |
| 100L | 2 4 6 | 160 | 80 | 140 | 63 | 28 | 60 | 8 | 24 | 100 | 12 | 205 | 198 | 172 | 270 | 400 | M10X22 |
| 112M | 2 4 6 | 190 | 95 | 140 | 70 | 28 | 60 | 8 | 24 | 112 | 12 | 226 | 235 | 193 | 300 | 425 | M10X22 |
| 132S | 2 4 6 | 216 | 108 | 140 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 262 | 293 | 225 | 349 | 502 | M12X28 |
| 132M | 2 4 6 | 216 | 108 | 178 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 262 | 293 | 225 | 349 | 533 | M12X28 |
| 160M | 2 4 6 | 254 | 127 | 210 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 320 | 315 | 255 | 420 | 660 | M16X36 |
| 160L | 2 4 6 | 254 | 127 | 254 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 320 | 315 | 255 | 420 | 730 | M16X36 |
| 180M | 2 4 6 | 279 | 139,5 | 241 | 121 | 48 | 110 | 14 | 42,5 | 180 | 15 | 355 | 355 | 280 | 455 | 740 | M16X36 |
| 180L | 2 4 6 | 279 | 139,5 | 279 | 121 | 48 | 110 | 14 | 42,5 | 180 | 15 | 355 | 355 | 280 | 455 | 810 | M16X36 |
| 200L | 2 4 6 | 318 | 159 | 305 | 133 | 55 | 110 | 16 | 49 | 200 | 19 | 395 | 397 | 305 | 505 | 852 | M20X42 |
| 225S | 4 | 356 | 178 | 286 | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 435 | 445 | 335 | 560 | 874 | M20X42 |



Mounting data for 3LC



80-355



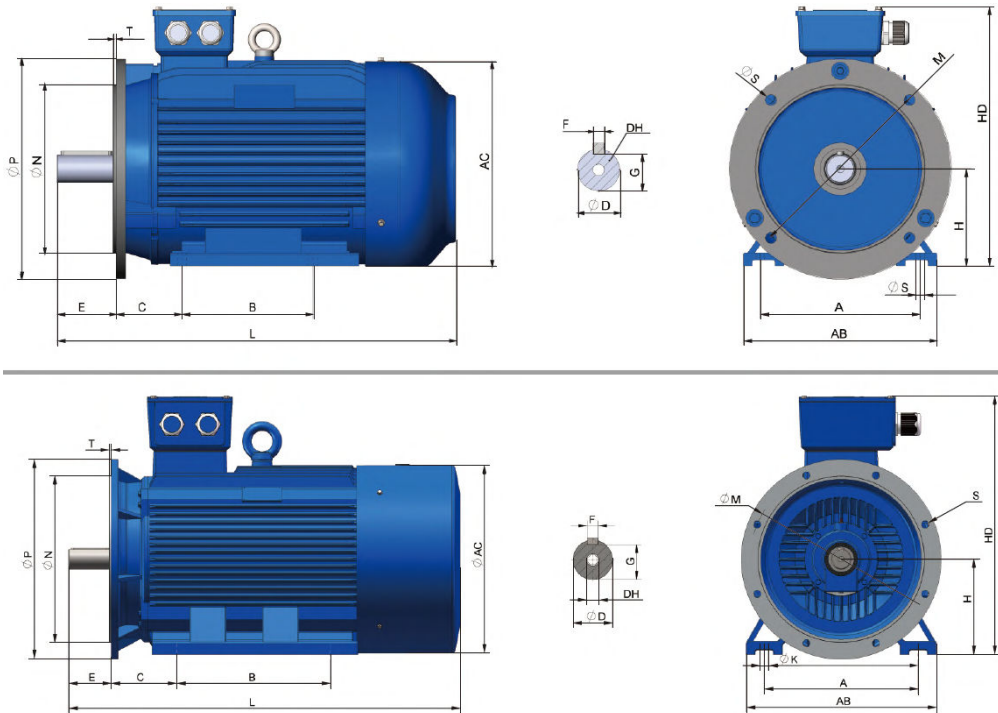
80-355

Frame with feet and end-shield without flange (IM B3)

| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | AB | AC | AD | HD | L | DH* |
|------------|-------|-----|-------|-----|-----|----|-----|----|------|-----|----|-----|-----|-----|------|------|--------|
| 225M | 2 | 356 | 178 | 311 | 149 | 55 | 110 | 16 | 49 | 225 | 19 | 435 | 445 | 335 | 560 | 890 | M20X42 |
| | 4 6 | 356 | 178 | 311 | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 435 | 445 | 335 | 560 | 915 | M20X42 |
| 250M | 2 | 406 | 203 | 349 | 168 | 60 | 140 | 18 | 53 | 250 | 24 | 490 | 485 | 370 | 615 | 985 | M20X42 |
| | 4 6 | 406 | 203 | 349 | 168 | 65 | 140 | 18 | 58 | 250 | 24 | 490 | 485 | 370 | 615 | 985 | M20X42 |
| 280S | 2 | 457 | 228,5 | 368 | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 550 | 547 | 410 | 680 | 1045 | M20X42 |
| | 4 6 | 457 | 228,5 | 368 | 190 | 75 | 140 | 20 | 67,5 | 280 | 24 | 550 | 547 | 410 | 680 | 1045 | M20X42 |
| 280M | 2 | 457 | 228,5 | 419 | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 550 | 547 | 410 | 680 | 1095 | M20X42 |
| | 4 6 | 457 | 228,5 | 419 | 190 | 75 | 140 | 20 | 67,5 | 280 | 24 | 550 | 547 | 410 | 680 | 1095 | M20X42 |
| 315S | 2 | 508 | 254 | 406 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 635 | 620 | 530 | 845 | 1185 | M20X42 |
| | 4 6 | 508 | 254 | 406 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 635 | 620 | 530 | 845 | 1220 | M20X42 |
| 315M | 2 | 508 | 254 | 457 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 635 | 620 | 530 | 845 | 1290 | M20X42 |
| | 4 6 | 508 | 254 | 457 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 635 | 620 | 530 | 845 | 1325 | M20X42 |
| 315L | 2 | 508 | 254 | 508 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 635 | 620 | 530 | 845 | 1290 | M20X42 |
| | 4 6 | 508 | 254 | 508 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 635 | 620 | 530 | 845 | 1325 | M20X42 |
| 355M | 2 | 610 | 305 | 560 | 254 | 75 | 140 | 20 | 67,5 | 355 | 28 | 730 | 698 | 655 | 1010 | 1500 | M20X42 |
| | 4 6 | 610 | 305 | 560 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | 730 | 698 | 655 | 1010 | 1530 | M20X42 |
| 355L | 2 | 610 | 305 | 630 | 254 | 75 | 140 | 20 | 67,5 | 355 | 28 | 730 | 698 | 655 | 1010 | 1500 | M20X42 |
| | 4 6 | 610 | 305 | 630 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | 730 | 698 | 655 | 1010 | 1530 | M20X42 |



Mounting data for 3LC

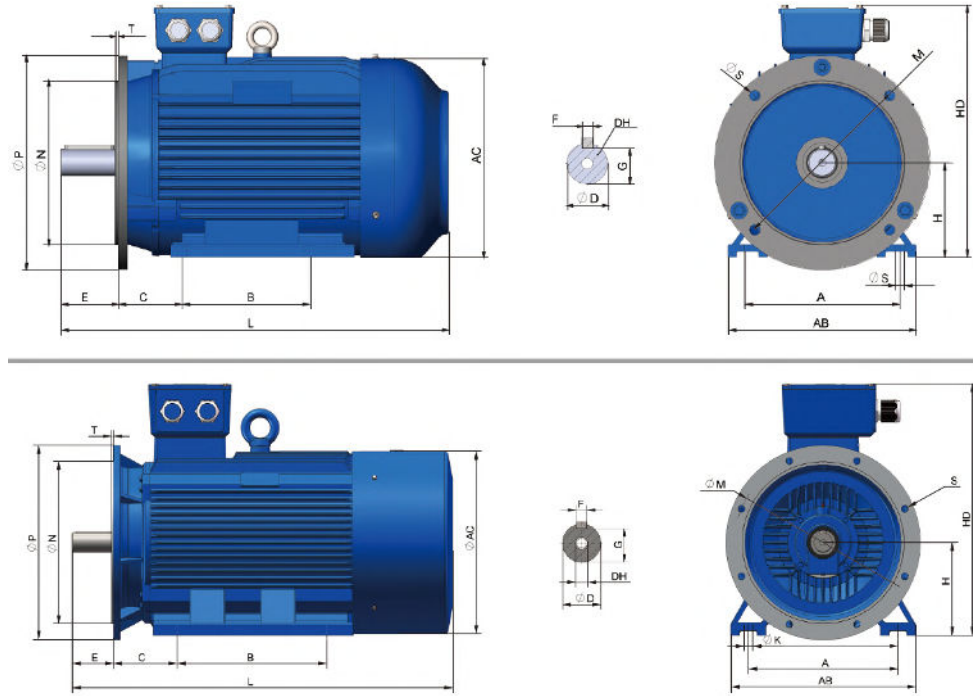


Frame with feet and end-shield with flange (IM B35)

| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | M | N | P | S | T | Flange holes | AB | AC | AD | HD | L | DH |
|------------|-------|-----|-------|-----|-----|----|-----|----|------|-----|----|-----|-----|-----|----|-----|--------------|-----|-----|-----|-----|-----|--------|
| 80M | 2 4 6 | 125 | 62,5 | 100 | 50 | 19 | 40 | 6 | 15,5 | 80 | 10 | 165 | 130 | 200 | 12 | 3,5 | 4 | 165 | 158 | 140 | 220 | 300 | M6X16 |
| 90S | 2 4 6 | 140 | 70 | 100 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 165 | 130 | 200 | 12 | 3,5 | 4 | 180 | 177 | 160 | 255 | 350 | M8X19 |
| 90L | 2 4 6 | 140 | 70 | 125 | 56 | 24 | 50 | 8 | 20 | 90 | 10 | 165 | 130 | 200 | 12 | 3,5 | 4 | 180 | 177 | 160 | 255 | 385 | M8X19 |
| 100L | 2 4 6 | 160 | 80 | 140 | 63 | 28 | 60 | 8 | 24 | 100 | 12 | 215 | 180 | 250 | 15 | 4 | 4 | 205 | 198 | 172 | 270 | 400 | M10X22 |
| 112M | 2 4 6 | 190 | 95 | 140 | 70 | 28 | 60 | 8 | 24 | 112 | 12 | 215 | 180 | 250 | 15 | 4 | 4 | 226 | 235 | 193 | 300 | 425 | M10X22 |
| 132S | 2 4 6 | 216 | 108 | 140 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 265 | 230 | 300 | 15 | 4 | 4 | 262 | 293 | 225 | 349 | 502 | M12X28 |
| 132M | 2 4 6 | 216 | 108 | 178 | 89 | 38 | 80 | 10 | 33 | 132 | 12 | 265 | 230 | 300 | 15 | 4 | 4 | 262 | 293 | 225 | 349 | 533 | M12X28 |
| 160M | 2 4 6 | 254 | 127 | 210 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 19 | 5 | 4 | 320 | 315 | 255 | 420 | 660 | M16X36 |
| 160L | 2 4 6 | 254 | 127 | 254 | 108 | 42 | 110 | 12 | 37 | 160 | 15 | 300 | 250 | 350 | 19 | 5 | 4 | 320 | 315 | 255 | 420 | 730 | M16X36 |
| 180M | 2 4 6 | 279 | 139,5 | 241 | 121 | 48 | 110 | 14 | 42,5 | 180 | 15 | 300 | 250 | 350 | 19 | 5 | 4 | 355 | 355 | 280 | 455 | 740 | M16X36 |
| 180L | 2 4 6 | 279 | 139,5 | 279 | 121 | 48 | 110 | 14 | 42,5 | 180 | 15 | 300 | 250 | 350 | 19 | 5 | 4 | 355 | 355 | 280 | 455 | 810 | M16X36 |
| 200L | 2 4 6 | 318 | 159 | 305 | 133 | 55 | 110 | 16 | 49 | 200 | 19 | 350 | 300 | 400 | 19 | 5 | 4 | 395 | 397 | 305 | 505 | 852 | M20X42 |
| 225S | 4 | 356 | 178 | 286 | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 19 | 5 | 8 | 435 | 445 | 335 | 560 | 874 | M20X42 |



Mounting data for 3LC

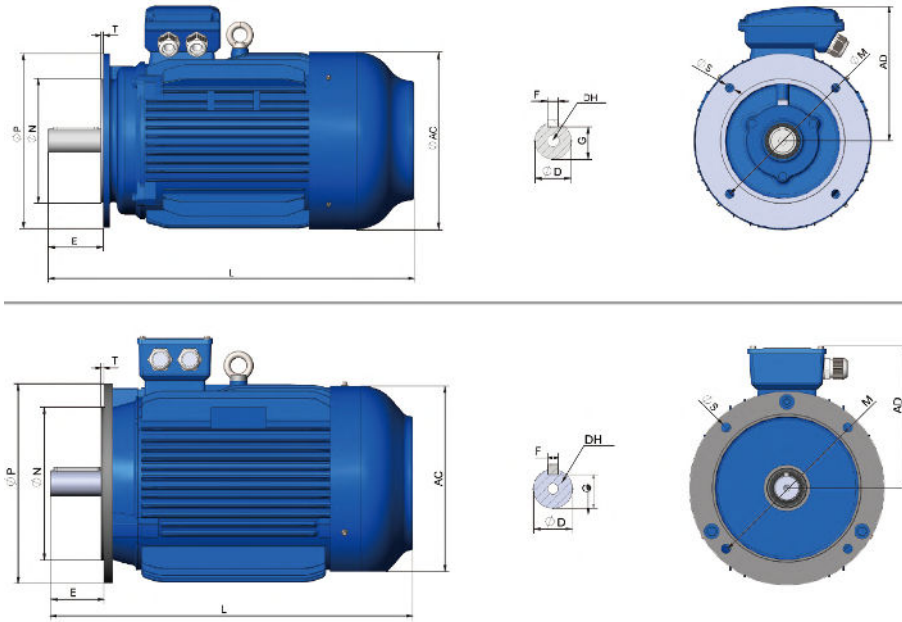


Frame with feet and end-shield with flange (IM B35)

| Frame size | Poles | A | A/2 | B | C | D | E | F | G | H | K | M | N | P | S | T | Flange holes | AB | AC | AD | HD | L | DH |
|------------|-------|-----|-------|-----|-----|----|-----|----|------|-----|----|-----|-----|-----|----|---|--------------|-----|-----|-----|------|------|--------|
| 225S | 4 | 356 | 178 | 286 | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 19 | 5 | 8 | 435 | 445 | 335 | 560 | 874 | M20X42 |
| 225M | 2 | 356 | 178 | 311 | 149 | 55 | 110 | 16 | 49 | 225 | 19 | 400 | 350 | 450 | 19 | 5 | 8 | 435 | 445 | 335 | 560 | 890 | M20X42 |
| | 4 6 | 356 | 178 | 311 | 149 | 60 | 140 | 18 | 53 | 225 | 19 | 400 | 350 | 450 | 19 | 5 | 8 | 435 | 445 | 335 | 560 | 915 | M20X42 |
| 250M | 2 | 406 | 203 | 349 | 168 | 60 | 140 | 18 | 53 | 250 | 24 | 500 | 450 | 550 | 19 | 5 | 8 | 490 | 485 | 370 | 615 | 985 | M20X42 |
| | 4 6 | 406 | 203 | 349 | 168 | 65 | 140 | 18 | 58 | 250 | 24 | 500 | 450 | 550 | 19 | 5 | 8 | 490 | 485 | 370 | 615 | 985 | M20X42 |
| 280S | 2 | 457 | 228,5 | 368 | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 500 | 450 | 550 | 19 | 5 | 8 | 550 | 547 | 410 | 680 | 1045 | M20X42 |
| | 4 6 | 457 | 228,5 | 368 | 190 | 75 | 140 | 20 | 67,5 | 280 | 24 | 500 | 450 | 550 | 19 | 5 | 8 | 550 | 547 | 410 | 680 | 1045 | M20X42 |
| 280M | 2 | 457 | 228,5 | 419 | 190 | 65 | 140 | 18 | 58 | 280 | 24 | 500 | 450 | 550 | 19 | 5 | 8 | 550 | 547 | 410 | 680 | 1095 | M20X42 |
| | 4 6 | 457 | 228,5 | 419 | 190 | 75 | 140 | 20 | 67,5 | 280 | 24 | 500 | 450 | 550 | 19 | 5 | 8 | 550 | 547 | 410 | 680 | 1095 | M20X42 |
| 315S | 2 | 508 | 254 | 406 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 24 | 6 | 8 | 635 | 620 | 530 | 845 | 1185 | M20X42 |
| | 4 6 | 508 | 254 | 406 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 24 | 6 | 8 | 635 | 620 | 530 | 845 | 1220 | M20X42 |
| 315M | 2 | 508 | 254 | 457 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 24 | 6 | 8 | 635 | 620 | 530 | 845 | 1290 | M20X42 |
| | 4 6 | 508 | 254 | 457 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 24 | 6 | 8 | 635 | 620 | 530 | 845 | 1325 | M20X42 |
| 315L | 2 | 508 | 254 | 508 | 216 | 65 | 140 | 18 | 58 | 315 | 28 | 600 | 550 | 660 | 24 | 6 | 8 | 635 | 620 | 530 | 845 | 1290 | M20X42 |
| | 4 6 | 508 | 254 | 508 | 216 | 80 | 170 | 22 | 71 | 315 | 28 | 600 | 550 | 660 | 24 | 6 | 8 | 635 | 620 | 530 | 845 | 1325 | M20X42 |
| 355M | 2 | 610 | 305 | 560 | 254 | 75 | 140 | 20 | 67,5 | 355 | 28 | 740 | 680 | 800 | 24 | 6 | 8 | 730 | 698 | 655 | 1010 | 1500 | M20X42 |
| | 4 6 | 610 | 305 | 560 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | 740 | 680 | 800 | 24 | 6 | 8 | 730 | 698 | 655 | 1010 | 1530 | M20X42 |
| 355L | 2 | 610 | 305 | 630 | 254 | 75 | 140 | 20 | 67,5 | 355 | 28 | 740 | 680 | 800 | 24 | 6 | 8 | 730 | 698 | 655 | 1010 | 1500 | M20X42 |
| | 4 6 | 610 | 305 | 630 | 254 | 95 | 170 | 25 | 86 | 355 | 28 | 740 | 680 | 800 | 24 | 6 | 8 | 730 | 698 | 655 | 1010 | 1530 | M20X42 |



Mounting data for 3LC

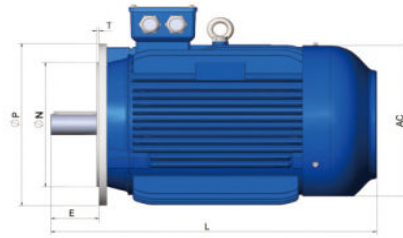


Frame without feet and end-shield with flange (IM B5)

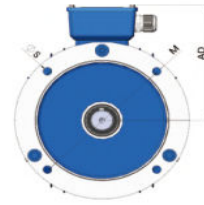
| Frame size | Poles | D | E | F | G | M | N | P | S | T | Flange holes | AC | AD | HD | L | DH* |
|------------|-------|----|-----|----|------|-----|-----|-----|----|-----|--------------|-----|-----|-----|------|--------|
| 80M | 2 4 6 | 19 | 40 | 6 | 15,5 | 165 | 130 | 200 | 12 | 3,5 | 4 | 158 | 140 | 240 | 300 | M6X16 |
| 90S | 2 4 6 | 24 | 50 | 8 | 20 | 165 | 130 | 200 | 12 | 3,5 | 4 | 177 | 160 | 260 | 350 | M8X19 |
| 90L | 2 4 6 | 24 | 50 | 8 | 20 | 165 | 130 | 200 | 12 | 3,5 | 4 | 177 | 160 | 260 | 385 | M8X19 |
| 100L | 2 4 6 | 28 | 60 | 8 | 24 | 215 | 180 | 250 | 15 | 4 | 4 | 198 | 172 | 300 | 425 | M10X22 |
| 112M | 2 4 6 | 28 | 60 | 8 | 24 | 215 | 180 | 250 | 15 | 4 | 4 | 235 | 193 | 315 | 502 | M10X22 |
| 132S | 2 4 6 | 38 | 80 | 10 | 33 | 265 | 230 | 300 | 15 | 4 | 4 | 293 | 225 | 349 | 533 | M12X28 |
| 132M | 2 4 6 | 38 | 80 | 10 | 33 | 265 | 230 | 300 | 15 | 4 | 4 | 293 | 225 | 349 | 660 | M12X28 |
| 160M | 2 4 6 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 19 | 5 | 4 | 315 | 255 | 385 | 730 | M16X36 |
| 160L | 2 4 6 | 42 | 110 | 12 | 37 | 300 | 250 | 350 | 19 | 5 | 4 | 315 | 255 | 385 | 740 | M16X36 |
| 180M | 2 4 6 | 48 | 110 | 14 | 42,5 | 300 | 250 | 350 | 19 | 5 | 4 | 355 | 280 | 430 | 810 | M16X36 |
| 180L | 2 4 6 | 48 | 110 | 14 | 42,5 | 300 | 250 | 350 | 19 | 5 | 4 | 355 | 280 | 430 | 852 | M16X36 |
| 200L | 2 4 6 | 55 | 110 | 16 | 49 | 350 | 300 | 400 | 19 | 5 | 4 | 397 | 305 | 480 | 874 | M20X42 |
| 225S | 4 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 19 | 5 | 8 | 445 | 335 | 535 | 890 | M20X42 |
| 225M | 2 | 55 | 110 | 16 | 49 | 400 | 350 | 450 | 19 | 5 | 8 | 445 | 335 | 535 | 915 | M20X42 |
| | 4 6 | 60 | 140 | 18 | 53 | 400 | 350 | 450 | 19 | 5 | 8 | 445 | 335 | 535 | 985 | M20X42 |
| 250M | 2 | 60 | 140 | 18 | 53 | 500 | 450 | 550 | 19 | 5 | 8 | 485 | 370 | 595 | 985 | M20X42 |
| | 4 6 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 19 | 5 | 8 | 485 | 370 | 595 | 1045 | M20X42 |
| 280S | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 650 | 1045 | M20X42 |
| | 4 6 | 75 | 140 | 20 | 67,5 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 650 | 1095 | M20X42 |
| 280M | 2 | 65 | 140 | 18 | 58 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 650 | 1095 | M20X42 |
| | 4 6 | 75 | 140 | 20 | 67,5 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 650 | 400 | M20X42 |



Mounting data for 3LC



80-132



80-132



160-280



160-280

Frame without feet and end-shield with flange (IM V1)

| Frame size | Poles | D | E | F | M | N | P | S | T | Flange holes | AC | AD | HF | L |
|------------|-------|----|-----|----|-----|-----|-----|----|---|--------------|-----|-----|------|------|
| 160M | 246 | 42 | 110 | 12 | 300 | 250 | 350 | 19 | 5 | 4 | 315 | 255 | 455 | 765 |
| 160L | 246 | 42 | 110 | 12 | 300 | 250 | 350 | 19 | 5 | 4 | 315 | 255 | 455 | 810 |
| 180M | 246 | 48 | 110 | 14 | 300 | 250 | 350 | 19 | 5 | 4 | 355 | 280 | 500 | 870 |
| 180L | 246 | 48 | 110 | 14 | 300 | 250 | 350 | 19 | 5 | 4 | 355 | 280 | 500 | 900 |
| 200L | 246 | 55 | 110 | 16 | 350 | 300 | 400 | 19 | 5 | 4 | 397 | 305 | 550 | 940 |
| 225S | 4 | 60 | 140 | 18 | 400 | 350 | 450 | 19 | 5 | 8 | 445 | 335 | 610 | 965 |
| 225M | 2 | 55 | 110 | 16 | 400 | 350 | 450 | 19 | 5 | 8 | 445 | 335 | 610 | 985 |
| | 46 | 60 | 140 | 18 | 400 | 350 | 450 | 19 | 5 | 8 | 445 | 335 | 610 | 1100 |
| 250M | 2 | 60 | 140 | 18 | 500 | 450 | 550 | 19 | 5 | 8 | 485 | 370 | 650 | 1080 |
| | 46 | 65 | 140 | 18 | 500 | 450 | 550 | 19 | 5 | 8 | 485 | 370 | 650 | 1080 |
| 280S | 2 | 65 | 140 | 18 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 720 | 1160 |
| | 46 | 75 | 140 | 20 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 720 | 1160 |
| 280M | 2 | 65 | 140 | 18 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 720 | 1200 |
| | 46 | 75 | 140 | 20 | 500 | 450 | 550 | 19 | 5 | 8 | 547 | 410 | 900 | 1200 |
| 315S | 2 | 65 | 140 | 18 | 600 | 550 | 660 | 24 | 6 | 8 | 620 | 530 | 900 | 1280 |
| | 46 | 80 | 170 | 22 | 600 | 550 | 660 | 24 | 6 | 8 | 620 | 530 | 900 | 1510 |
| 315M | 2 | 65 | 140 | 18 | 600 | 550 | 660 | 24 | 6 | 8 | 620 | 530 | 900 | 1310 |
| | 46 | 80 | 170 | 22 | 600 | 550 | 660 | 24 | 6 | 8 | 620 | 530 | 900 | 1430 |
| 315L | 2 | 65 | 140 | 18 | 600 | 550 | 660 | 24 | 6 | 8 | 620 | 530 | 900 | 1310 |
| | 46 | 80 | 170 | 22 | 600 | 550 | 660 | 24 | 6 | 8 | 620 | 530 | 900 | 1430 |
| 355M | 2 | 75 | 140 | 20 | 740 | 680 | 800 | 24 | 6 | 8 | 698 | 655 | 1010 | 1640 |
| | 46 | 95 | 170 | 25 | 740 | 680 | 800 | 24 | 6 | 8 | 698 | 655 | 1010 | 1670 |
| 355L | 2 | 75 | 140 | 20 | 740 | 680 | 800 | 24 | 6 | 8 | 698 | 655 | 1010 | 1640 |
| | 46 | 95 | 170 | 25 | 740 | 680 | 800 | 24 | 6 | 8 | 698 | 655 | 1010 | 1670 |





Address

PT. MEGANUSA TRANSMISSION

Jl. Boulevard Barat Raya

Ruko Inkopal blok G-52

Kelapa Gading, Jakarta Utara - Indonesia 14240

Telp : 021-45855955/66

Fax : 021-4507592

Website : www.nusadrive.com



SOLUTIONS FOR INDUSTRY

BUREAU VERITAS
Certification



VYBO Electric a.s.
Radlinského 18, 052 01 Spišská Nová Ves
Slovak Republic

Bureau Veritas Certification Holding SAS – UK Branch certifies that the Management System of the above organisation has been audited and found to be in accordance with the requirements of the management system standards detailed below

ISO 14001: 2015

Scope of certification

MANUFACTURE AND SALE OF ELECTRIC MOTORS, SALES AND DEVELOPMENT OF VARIABLE FREQUENCY DRIVES.

Original cycle start date: 18.05.2022
Expiry date of previous cycle: N/A
Certification Audit date: 31.03.2022
Certification cycle start date: 18.05.2022

Subject to the continued satisfactory operation of the organization's Management System, this certificate expires on: 17.05.2025

Certificate No. SK-U22 055E Version: 1 Issue date: 18.05.2022

Certification body address: 5th Floor, 86 Prescott Street, London E1 8HG, United Kingdom
Local office: Plynárska 7/B, BRATISLAVA 821 09, Slovak Republic



Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation. To check this certificate validity please call: +421 2 2341 4165

Page 1 of 1



Bureau Veritas Certification

Certificate

Awarded to

VYBO Electric a.s.
Radlinského 18, 052 01 Spišská Nová Ves
Slovak Republic

BUREAU VERITAS CERTIFICATION (Z) s.r.o. certifies that the Management System of the above organisation has been assessed and found to be in accordance with the requirements of the management system standard detailed below

Standard

ISO 45001:2018

Scope of supply

MANUFACTURE AND SALE OF ELECTRIC MOTORS, SALES AND DEVELOPMENT OF VARIABLE FREQUENCY DRIVES.

Original Approval Date: 18-05-2022
Expiry date of previous cycle: N/A
Certification Cycle Start Date: 18-05-2022
Certification Cycle End Date: 17-05-2025
Subject to the continued satisfactory operation of the organisation's Management System, this certificate is valid until: 17-05-2025

To check this certificate validity please call: +420 210 090 215

Further clarifications regarding the scope of this certificate and the applicability of the management system requirements may be obtained by consulting the organisation.

Version 1 Issue Date: 18-05-2022
Certificate Number: CZF - 2206117

ISSUING OFFICE ADDRESS: BUREAU VERITAS CERTIFICATION CZ, s.r.o., Obchodní 1, 143 02 Praha 4, Czech Republic

1/1

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



CERTIFICATE

TÜV SÜD Slovakia s.r.o.
Certification Body for Management Systems
Accredited by SNAS
Certificate on accreditation No. Q-011
certifies that



VYBO Electric a.s.
Radlinského 18
SK – 052 01 Spišská Nová Ves
ICO: 45 537 143

has established and applies
a Quality Management System for

**Manufacture and sale of electric motors.
Sales and development of variable frequency drives.**

An audit was performed, Report No. 2264/40/22/Q/AS/C
Proof has been furnished that the requirements
according to

STN EN ISO 9001:2016

are fulfilled. The certificate is valid from 2022-04-14 until 2025-04-13
Certificate Registration No. Q 2264-1

Bratislava, 2022-04-14

TÜV SÜD Slovakia s.r.o.
Certification Body for Management Systems
Member of Group TÜV SÜD
Jaskóva 6, 821 03 Bratislava

F-Q-019/26

Certificate SK22/3701

The management system of

VYBO Electric a.s.
Radlinského 18
052 01 Spišská Nová Ves, Slovakia

has been assessed and certified as meeting the requirements of

EN ISO 50001:2018

For the following activities

**Production & sales of electric motors.
Sales & development of variable frequency drives.**

Further clarifications regarding the scope of this certificate and the applicability of EN ISO 50001:2018 requirements may be obtained by consulting the organisation.

This certificate is valid from 7 April 2022 until 6 April 2025
and remains valid subject to satisfactory surveillance audits.
Recertification audit due a minimum of 60 days
before the expiration date.
Issue 1. Certified with SGS since 7 April 2022

Authorised by

Ing. Róbert Bodnár
Director

SGS Slovakia spol. s r. o.
Kýzucká 14, 040 11 Košice, Slovakia
t +421 55 783 61 11, f +421 55 783 61 20, www.sgs.com

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