

W20 General Purpose

Three-Phase
Electric Motor
Technical Catalogue

Industrial Motors

Commercial &
Appliance Motors

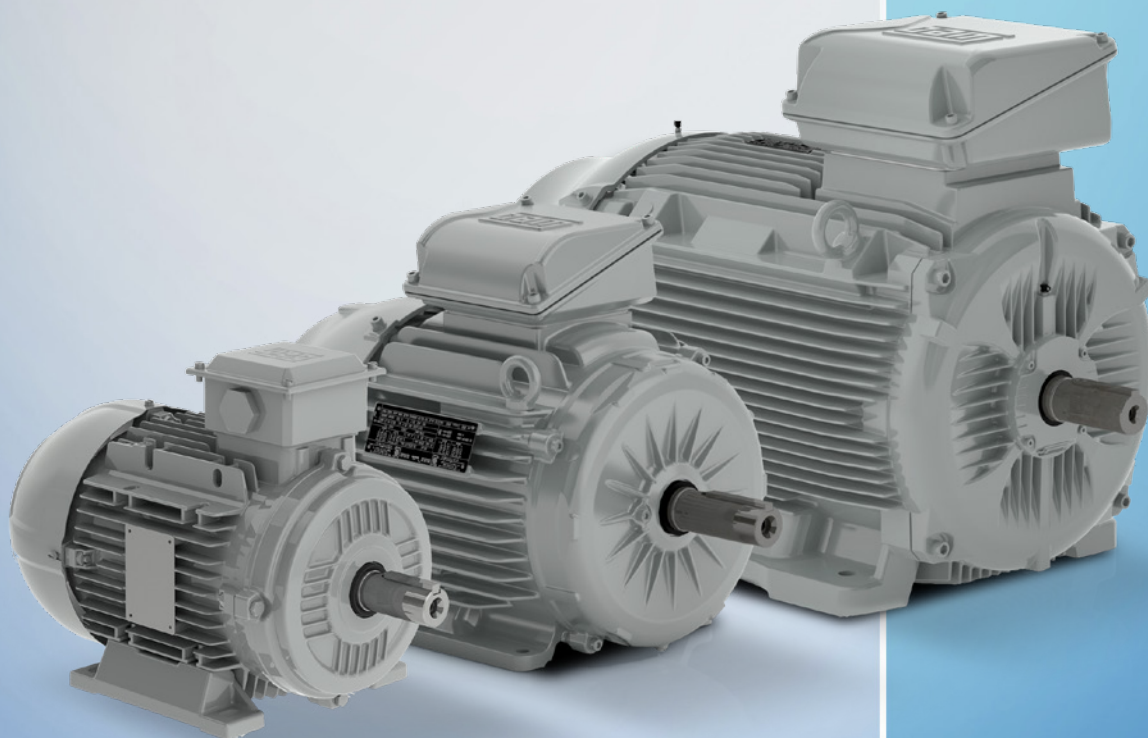
Automation

Digital &
Systems

Energy

Transmission &
Distribution

Coatings



Driving efficiency and sustainability



1. Construction Features

| Frame | | IEC56 | W63 | W71 | 71 | 80 | 90S/L | 100L | 112M | 132 |
|-----------------------------|---------------------------|--------------------------|---------|-------------------------------------------|----|-----------------------------------------------------|-------------|---------------------|-----------|-----------|
| Mechanical Features | | | | | | | | | | |
| Marking/logos on nameplate: | IE3 | CE / UKCA / EAC | | | | CE / UKCA / UL | | | | |
| | IE2/IE1 | EAC | | | | EAC / MASC | | | | |
| Mounting | | B3T | | | | | | | | |
| Frame | Material | Aluminum | | | | | | | | |
| Degree of protection | | IP55 | | | | | | | | |
| Grounding | | Box interior | | | | Single grounding | | | | |
| Cooling type | | TEFC (IC411) | | | | | | | | |
| Fan | Material | Plastic | | | | | | | | |
| Fan cover | Material | Plastic | | | | Steel | | | | |
| Drain plug | | Plastic | | Automatic T-labyrinth drain plug | | Automatic Rubber Drain Plug | | | | |
| Rolling bearings | Locking | Without | | DE locked | | Without | | | | |
| | Drive end side | 6201-ZZ | 6202-ZZ | Short frame 6203-ZZ Long frame 6204-ZZ | | 6204-ZZ | 6205-ZZ | 6206-ZZ | 6207-ZZ | 6208-ZZ |
| | Non drive end side | 6201-ZZ | | 6202-ZZ | | 6203-ZZ | 6204-ZZ | 6205-ZZ | 6206-ZZ | 6207-ZZ |
| DE Bearing sealing | | V-ring | | | | | | | | |
| NDE Bearing sealing | | Without sealing | | | | | | | | |
| Joints sealing | | Without sealing | | | | | | | | |
| Lubrication | Grease type | Mobil Polyrex EM | | | | | | | | |
| | Grease fitting | Not applicable | | | | | | | | |
| Terminal block | | BMC-6PINS | | | | | | | | |
| Terminal box | Material | Plastic | | Aluminum | | Steel plate | | | | |
| Capacitor | Three-phase | NA | | | | | | | | |
| Leads inlet | Main | *1 hole ø22,4 (to/ M20") | | **Knockout (able to M20 or M25) | | 2 X M20x1,5 | 2 X M25x1,5 | 2 X M25x1,5 | 2xM32x1,5 | 2xM32x1,5 |
| | Main Plug | Flat plastic plug frame | | Knock out | | Threaded plastic for transport and storage purposes | | | | |
| Shaft | Material | SAE 1040/45 | | | | | | | | |
| | Thread Hole | M3 | M4 | M5 | M5 | M6 | M8 | M10 | M12 | |
| Key | | Type A | | | | | | | | |
| Vibration | | Grade A | | | | | | | | |
| Vibration Sensor | | NONE | | | | | | | | |
| Nameplate | Material | Sticker | | | | Stainless Steel AISI 304 | | | | |
| Painting | Type | Without painting | | | | 201A | | | | |
| | Color | No Finishing Paint | | | | RAL 7042 | | | | |
| Packaging | | Europallet | | | | Cardboard box | | | | |
| Bearing life | | 20.000h | | | | | | | | |
| Frame | | IEC56 | W63 | W71 | 71 | 80 | 90S/L | 100L | 112M | 132 |
| Electrical Features | | | | | | | | | | |
| Design | Three-phase | N | | | | | | | | |
| Voltage | Three-phase 50Hz and 60Hz | 230/400V - 6 cables | | | | | | 400/690V - 6 cables | | |
| Winding | Impregnation | Dip and Bake | | | | | | | | |
| Insulation class | IE1 | F(F) | | | | | | | | |
| | IE2 and IE3 | F(B) | | | | | | | | |
| Space heaters | | Not applicable | | | | | | | | |
| Service factor | | 1 | | | | | | | | |
| Ambient temperature | Maximum | +40°C | | | | | | | | |
| | Minimum | -20°C | | | | | | | | |
| Starting method | | Direct | | | | | | | | |
| Rotor | | Injected aluminum | | | | | | | | |
| Thermal protector (Winding) | | NONE | | | | | | | | |

* Cable gland size M20 or NPT1/2".

**Cable gland size M25 or NPT3/4".

| Frame | | 160M | 160L | 180M | 180L | 200M/L | W225S/M | 225S/M | 250S/M | W280S/M | W315S/M | 315S/M | 315L (**) | 355M/L (**) | | |
|-----------------------------|---------------------------|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------------------------------------|---------------|---------------|---------------|-------------------------------------------------------------------------------------------------------------|---------------|-------------|------|--|
| Mechanical Features | | | | | | | | | | | | | | | | |
| Marking/logos on nameplate: | | CE (according EU regulation), UKCA (according UK regulation), EAC, UL and MASC | | | | | | | | | | | | | | |
| Certification | | EAC/MASC | | | | | | | | | | | | | | |
| Mounting | | B3T | | | | | | | | | | | | | | |
| Frame | Material | FC-200 Cast Iron | | | | | | | | | | | | | | |
| Degree of protection | | IP55 | | | | | | | | | | | | | | |
| Grounding | | Single Grounding | | | | | | Double Grounding | | | | | | | | |
| Cooling method | | Totally enclosed fan cooled (IC411) | | | | | | | | | | | | | | |
| Fan | Material | 2P (IE1/IE2/IE3/IE4) | | | | | | | | | | | | | | |
| | | 4P | | | | | | | | | | | | | | |
| Fan cover | | Polymeric (Plastic) | | | | | | FC-200 Cast Iron | | | | | | | | |
| Endshields | | FC-200 Cast Iron | | | | | | | | | | | | | | |
| Drain plug | | Automatic T-labyrinth drain plug | | | | | | | | | | | | | | |
| Rolling bearings | Shielded/ Clearance (DE) | 2P | | ZZ-C3 | | | | | | C3 | | | | | | |
| | Shielded/ Clearance (NDE) | 4P | | ZZ-C3 | | | | | | C3 | | | | | | |
| | Shielded/ Clearance (NDE) | 2P | | ZZ-C3 | | | | | | C3 | | | | | | |
| | Shielded/ Clearance (NDE) | 4P | | ZZ-C3 | | | | | | C3 | | | | | | |
| | Locking | | DE bearing locked with inner bearing cap and fitted with wave washer in the NDE bearing | | | | | | | | | DE bearing locked with inner and outer bearing cap and fitted with helical spring washer in the NDE bearing | | | | |
| | Bearing life (h) | | 20000h | | | | | | | | | | | | | |
| Drive end side | 2P | 6209 | 6209 | 6211 | 6211 | 6212 | 6214 | 6214 | 6214 | 6214 | 6314 | 6314 | 6314 | 6314 | 6314 | |
| | 4P | | | | | | | | | | 6316 | 6319 | 6319 | 6319 | 6322 | |
| Non drive end side | 2P | 6209 | 6209 | 6209 | 6209 | 6209 | 6209 | 6212 | 6212 | 6212 | 6314 | 6314 | 6314 | 6314 | | |
| | 4P | | | | | | | | | | 6314 | 6316 | 6316 | 6319 | | |
| Bearing sealing | Drive end side | V'ring | | | | | | WSeal | | | | | | | | |
| | Non drive end side | V'ring | | | | | | WSeal | | | | | | | | |
| Joints sealing | | None | | | | | | | | | | | | | | |
| Lubrication | Grease type | Mobil Polyrex EM | | | | | | | | | | | | | | |
| Grease fitting | 2P | None | | | | | | With grease fittings in DE and NDE bearings | | | | | | | | |
| | 4P | None | | | | | | With grease fittings in DE and NDE bearings | | | | | | | | |
| Terminal block | | BMC 6 pins | | | | | | | | | | | | | | |
| Terminal box | Material | FC-200 Cast Iron | | | | | | | | | | | | | | |
| Additional terminal box | | None | | | | | | | | | | | | | | |
| Leads inlet | Main | Size | 2 x M40 x 1.5 | 2 x M40 x 1.5 | 2 x M40 x 1.5 | 2 x M40 x 1.5 | 2 x M50 x 1.5 | 2 x M50 x 1.5 | 2 x M50 x 1.5 | 2 x M63 x 1.5 | 2 x M63 x 1.5 | 2 x M63 x 1.5 | 2 x M63 x 1.5 | 2 x M80 x 2 | | |
| | Lateral hole | Size | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | M20 x 1.5 | | |
| | Additional | Size | - | - | - | - | - | - | - | - | - | - | - | - | | |
| Plug | | Plastic plug for transport and storage purposes | | | | | | | | | | | | | | |
| Shaft | Material | SAE 1040/45 | | | | | | | | | | | SAE 4140 | | | |
| | DE threaded hole | 2P | M16 | M16 | M16 | M16 | M20 | M20 | M20 | M20 | M20 | M20 | M20 | M20 | M20 | |
| Key | | Fitted with "A" type | | | | | | Fitted with "B" type | | | | | | | | |
| Vibration level | | Grade A | | | | | | | | | | | | | | |
| Balancing | | With 1/2 key | | | | | | | | | | | | | | |
| Nameplate | Material | Stainless Steel AISI 304 | | | | | | | | | | | | | | |
| Painting | Type | 203A | | | | | | | | | | | | | | |
| | Color | Matte Gray RAL 7042 [Brightness: 15 to 30 GU (gloss units)] | | | | | | | | | | | | | | |
| | Tropicalized | None | | | | | | | | | | | | | | |
| Packaging | | Crate | | | | | | | | | | | | | | |
| Frame | | 160M | 160L | 180M | 180L | 200M/L | W225S/M | 225S/M | 250S/M | W280S/M | W315S/M | 315S/M | 315L (**) | 355M/L (**) | | |
| Electrical Features | | | | | | | | | | | | | | | | |
| Desing | | N | | | | | | | | | | | | | | |
| Voltage | 50Hz | 400/690//460V w/ 6 leads | | | | | | | | | | | | | | |
| | 60Hz | 400/690V w/ 6 leads | | | | | | | | | | | | | | |
| Winding | Impregnation | Dip and Bake | | | | | | Continuous Resin Flow | | | | | | | | |
| Insulation class | IE1 | F (DT 105K) | | | | | | | | | | | | | | |
| | IE2, IE3 and IE4 | F (DT 80K) | | | | | | | | | | | | | | |
| Service factor | | 1 | | | | | | | | | | | | | | |
| Thermal protector | | PTC Thermistor - 155°C (1 per phase) | | | | | | | | | | | | | | |
| Space heaters | | None | | | | | | | | | | | | | | |
| Flying leads | | None | | | | | | | | | | | | | | |
| Ambient temperature | Maximum | +40°C | | | | | | | | | | | | | | |
| | Minium | -20°C | | | | | | | | | | | | | | |
| Insulated bearing hub | | None | | | | | | | | | | | | | | |

* IE4 available for outputs from 75kW on.

** Air baffle required for output power equal or above the below table (only for TEFC / TEBC / TFVE / TFVF):

2. Electrical Data

2.1. WEG General Purpose - Super Premium Efficiency - 50 Hz - IE4 ⁽¹⁾

| Output | | Frame | Full Load Torque (Nm) | Locked Rotor Current I _L /I _n | Locked Rotor Torque T _L /T _n | Break-down Torque T _b /T _n | Inertia J (kgm ²) | Allowable locked rotor time (s) | | Rated speed (rpm) | 400 V | | | | | | Full load current I _n (A) |
|-----------------|-----|---------------------|-----------------------|-----------------------------------------------------|----------------------------------------------------|--------------------------------------------------|-------------------------------|---------------------------------|------|-------------------|----------------|------|------|--------------|------|------|--------------------------------------|
| | | | | | | | | Hot | Cold | | % of full load | | | Power Factor | | | |
| | | | | | | | | | | | Efficiency | | | Power Factor | | | |
| kW | HP | | | | | | | | | | 50 | 75 | 100 | 50 | 75 | 100 | |
| II Poles | | | | | | | | | | | | | | | | | |
| 75 | 100 | W280S/M | 242,0 | 8,3 | 3,2 | 3,4 | 0,4570 | 32 | 70 | 2965 | 93,9 | 94,7 | 95,6 | 0,76 | 0,84 | 0,87 | 130,0 |
| 90 | 125 | W280S/M | 290,0 | 8,4 | 3,4 | 3,4 | 0,5410 | 27 | 59 | 2970 | 94,2 | 95,0 | 95,8 | 0,78 | 0,85 | 0,88 | 154,0 |
| 110 | 150 | W315S/M | 353,0 | 7,4 | 2,4 | 3 | 1,3800 | 29 | 64 | 2976 | 94,5 | 95,3 | 96,0 | 0,79 | 0,85 | 0,88 | 188,0 |
| 132 | 175 | 315S/M | 423,0 | 7,3 | 2,1 | 2,9 | 1,8800 | 39 | 86 | 2984 | 94,6 | 95,6 | 96,2 | 0,77 | 0,85 | 0,88 | 225,0 |
| 160 | 220 | 315S/M | 513,0 | 7,0 | 2,1 | 2,7 | 2,2400 | 37 | 81 | 2983 | 95,1 | 95,8 | 96,3 | 0,80 | 0,87 | 0,88 | 273,0 |
| 200 | 270 | 315S/M | 640,0 | 8,5 | 2,4 | 3,3 | 2,7700 | 23 | 51 | 2986 | 95,0 | 95,9 | 96,5 | 0,78 | 0,85 | 0,88 | 340,0 |
| 250 | 340 | 315L | 800,0 | 8,8 | 2,9 | 3,2 | 3,5900 | 18 | 40 | 2986 | 95,1 | 96,1 | 96,5 | 0,79 | 0,86 | 0,89 | 420,0 |
| 315 | 430 | 355M/L ² | 1008,0 | 7,6 | 2,4 | 2,4 | 5,2500 | 31 | 68 | 2985 | 95,4 | 96,0 | 96,5 | 0,82 | 0,87 | 0,89 | 529,0 |
| 355 | 480 | 355M/L ² | 1135,0 | 8,7 | 2,7 | 3 | 6,0100 | 23 | 51 | 2988 | 95,3 | 96,0 | 96,5 | 0,81 | 0,87 | 0,89 | 597,0 |
| IV Poles | | | | | | | | | | | | | | | | | |
| 75 | 100 | W280S/M | 483,0 | 8,0 | 3,4 | 3,5 | 1,0800 | 31 | 68 | 1485 | 95,0 | 95,6 | 96,0 | 0,69 | 0,79 | 0,83 | 136 |
| 90 | 125 | W280S/M | 579,0 | 7,9 | 3,5 | 3,5 | 1,2100 | 27 | 59 | 1484 | 95,1 | 95,7 | 96,1 | 0,69 | 0,79 | 0,83 | 163 |
| 110 | 150 | W315S/M | 706,0 | 7,5 | 2,7 | 3 | 2,6000 | 23 | 51 | 1488 | 95,2 | 95,9 | 96,3 | 0,67 | 0,77 | 0,82 | 201 |
| 132 | 175 | W315S/M | 848,0 | 7,9 | 3 | 3,2 | 3,1300 | 17 | 37 | 1488 | 95,3 | 95,9 | 96,4 | 0,66 | 0,76 | 0,82 | 241 |
| 160 | 220 | 315S/M | 1025,0 | 7,8 | 3 | 3 | 4,2200 | 33 | 73 | 1492 | 95,5 | 96,2 | 96,6 | 0,73 | 0,82 | 0,86 | 278 |
| 200 | 270 | 315S/M | 1282,0 | 7,7 | 3 | 2,8 | 5,3300 | 29 | 64 | 1491 | 95,8 | 96,4 | 96,7 | 0,76 | 0,84 | 0,87 | 343 |
| 250 | 340 | 315L | 1604,0 | 6,8 | 2,6 | 2,6 | 5,6400 | 26 | 57 | 1489 | 96,1 | 96,6 | 96,7 | 0,77 | 0,84 | 0,87 | 429 |
| 315 | 430 | 315L ² | 2020,0 | 7,9 | 3,1 | 2,8 | 6,8500 | 18 | 40 | 1490 | 96,0 | 96,5 | 96,7 | 0,74 | 0,83 | 0,86 | 547 |
| 355 | 480 | 355M/L ² | 2273,0 | 7,5 | 2,9 | 2,9 | 11,5000 | 20 | 44 | 1492 | 95,3 | 96,2 | 96,7 | 0,72 | 0,80 | 0,84 | 631 |

Note:

(1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.

(2) Fitted with air deflector in the drive end side.

* 6 poles and 8 poles motors under request.

2.2. WEG General Purpose - Premium Efficiency - 50 Hz - IE3⁽¹⁾

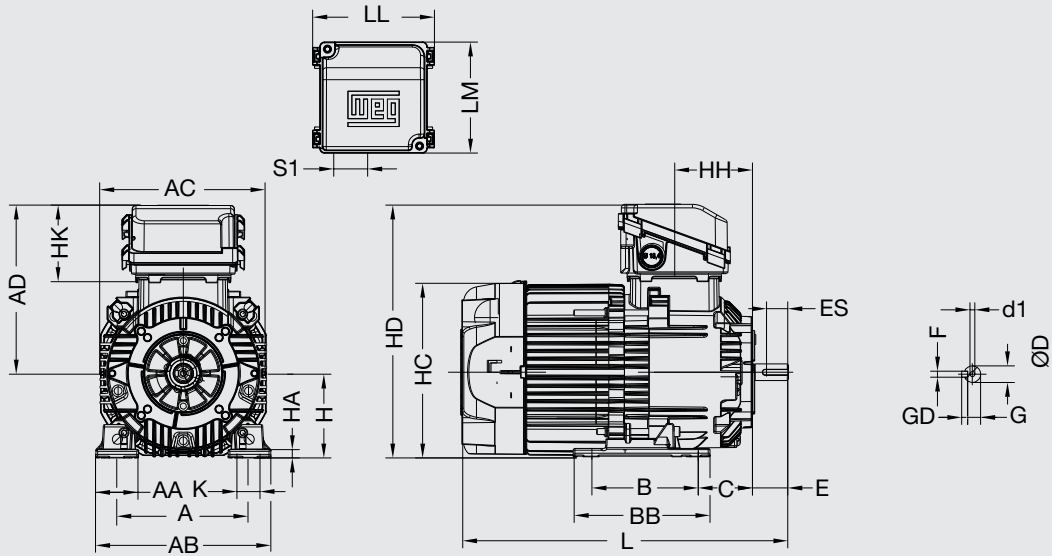
| Output | | Frame | Full Load Torque (Nm) | Locked Rotor Current I _L /I _N | Locked Rotor Torque T _L /T _N | Break-down Torque T _b /T _N | Inertia J (kgm ²) | Allowable locked rotor time (s) | | Rated speed (rpm) | 400 V | | | | | | Full load current I _N (A) | |
|----------|------|---------------------|-----------------------|-----------------------------------------------------|----------------------------------------------------|--------------------------------------------------|-------------------------------|---------------------------------|------|-------------------|----------------|------|------|--------------|------|------|--------------------------------------|--|
| | | | | | | | | | | | % of full load | | | | | | | |
| | | | | | | | | | | | Efficiency | | | Power Factor | | | | |
| kW | HP | | | | | | | Hot | Cold | | 50 | 75 | 100 | 50 | 75 | 100 | | |
| II Poles | | | | | | | | | | | | | | | | | | |
| 0,12 | 0,16 | W63 | 0,39 | 4,6 | 4,1 | 4,8 | 0,0002 | 22 | 40 | 2913 | 46,0 | 55,0 | 60,8 | 0,39 | 0,48 | 0,52 | 0,54 | |
| 0,18 | 0,25 | W63 | 0,59 | 4,2 | 2,6 | 3,0 | 0,0002 | 22 | 39 | 2864 | 52,8 | 61,4 | 65,9 | 0,47 | 0,60 | 0,70 | 0,56 | |
| 0,25 | 0,33 | W63 | 0,84 | 4,2 | 2,4 | 2,7 | 0,0002 | 20 | 37 | 2830 | 65,0 | 69,5 | 69,7 | 0,52 | 0,67 | 0,77 | 0,67 | |
| 0,37 | 0,5 | W71 | 1,27 | 4,3 | 2,4 | 2,3 | 0,0003 | 16 | 29 | 2780 | 68,0 | 72,5 | 73,8 | 0,57 | 0,73 | 0,82 | 0,88 | |
| 0,55 | 0,75 | W71 | 1,90 | 4,6 | 3,5 | 3,0 | 0,0003 | 21 | 38 | 2765 | 74,0 | 77,3 | 77,8 | 0,57 | 0,71 | 0,81 | 1,26 | |
| 0,75 | 1 | 80 | 2,50 | 7,5 | 3,3 | 3,4 | 0,0007 | 25 | 45 | 2870 | 80,0 | 82,0 | 81,0 | 0,61 | 0,74 | 0,82 | 1,63 | |
| 1,1 | 1,5 | 80 | 3,71 | 7,4 | 3,6 | 3,6 | 0,0009 | 23 | 41 | 2830 | 81,0 | 83,5 | 83,5 | 0,63 | 0,76 | 0,82 | 2,32 | |
| 1,5 | 2 | 90S/L | 4,94 | 8,0 | 2,6 | 3,5 | 0,0019 | 15 | 27 | 2900 | 83,0 | 84,2 | 84,2 | 0,64 | 0,75 | 0,82 | 3,14 | |
| 2,2 | 3 | 90S/L | 7,32 | 7,5 | 3,4 | 3,5 | 0,0025 | 12 | 22 | 2870 | 86,0 | 86,5 | 86,3 | 0,65 | 0,77 | 0,83 | 4,43 | |
| 3 | 4 | 100L | 9,90 | 7,9 | 2,5 | 3,3 | 0,0064 | 9 | 16 | 2905 | 85,0 | 86,5 | 87,1 | 0,65 | 0,78 | 0,85 | 5,85 | |
| 4 | 5,5 | 112M | 13,14 | 7,7 | 2,5 | 3,5 | 0,0080 | 14 | 25 | 2900 | 87,0 | 88,0 | 88,3 | 0,69 | 0,80 | 0,86 | 7,60 | |
| 5,5 | 7,5 | S132S | 17,85 | 7,9 | 2,3 | 3,4 | 0,0215 | 14 | 25 | 2945 | 86,4 | 88,5 | 89,2 | 0,68 | 0,79 | 0,85 | 10,50 | |
| 7,5 | 10 | 132S | 24,32 | 8,8 | 2,8 | 3,9 | 0,0251 | 10 | 18 | 2950 | 87,0 | 89,0 | 90,1 | 0,63 | 0,76 | 0,83 | 14,50 | |
| 11 | 15 | 160M | 35,6 | 7,2 | 2,4 | 3,5 | 0,0410 | 16 | 35 | 2950 | 89,8 | 90,8 | 91,2 | 0,69 | 0,79 | 0,85 | 20,5 | |
| 15 | 20 | 160M | 48,7 | 7,8 | 2,7 | 3,6 | 0,0510 | 12 | 26 | 2945 | 90,8 | 91,8 | 91,9 | 0,70 | 0,81 | 0,86 | 27,4 | |
| 18,5 | 25 | 160L | 59,9 | 8,7 | 3,8 | 4,1 | 0,0630 | 9 | 20 | 2950 | 91,1 | 92,2 | 92,4 | 0,68 | 0,79 | 0,85 | 34,0 | |
| 22 | 30 | 180M | 71,0 | 7,8 | 2,2 | 3,4 | 0,0920 | 11 | 24 | 2960 | 91,3 | 92,4 | 92,7 | 0,71 | 0,81 | 0,86 | 39,8 | |
| 30 | 40 | 200M/L | 96,8 | 6,9 | 2,8 | 3,2 | 0,1610 | 17 | 37 | 2960 | 92,0 | 93,2 | 93,3 | 0,71 | 0,81 | 0,85 | 54,6 | |
| 37 | 50 | 200M/L | 119 | 7,2 | 3,7 | 3,3 | 0,1860 | 14 | 31 | 2960 | 92,5 | 93,4 | 93,7 | 0,72 | 0,82 | 0,86 | 66,3 | |
| 45 | 60 | 225S/M | 145 | 7,8 | 2,9 | 3,3 | 0,2600 | 15 | 33 | 2965 | 92,1 | 93,3 | 94,0 | 0,71 | 0,80 | 0,85 | 81,3 | |
| 55 | 75 | 250S/M | 177 | 7,7 | 2,9 | 3,2 | 0,3380 | 18 | 40 | 2965 | 92,6 | 93,6 | 94,3 | 0,73 | 0,82 | 0,85 | 99,0 | |
| 75 | 100 | W280S/M | 242 | 7,6 | 2,9 | 2,9 | 0,5080 | 15 | 33 | 2963 | 93,7 | 94,3 | 94,7 | 0,81 | 0,87 | 0,89 | 128 | |
| 90 | 125 | W280S/M | 291 | 7,6 | 3 | 3,1 | 0,4570 | 21 | 46 | 2960 | 93,9 | 94,6 | 95,0 | 0,77 | 0,84 | 0,87 | 157 | |
| 110 | 150 | W315S/M | 353 | 6,9 | 2 | 2,8 | 1,1100 | 27 | 59 | 2975 | 94,0 | 95,0 | 95,2 | 0,80 | 0,85 | 0,88 | 190 | |
| 132 | 175 | W315S/M | 424 | 7,9 | 2,2 | 2,9 | 1,4200 | 22 | 48 | 2977 | 94,4 | 95,2 | 95,4 | 0,80 | 0,86 | 0,88 | 227 | |
| 160 | 220 | 315S/M | 513 | 7,0 | 1,9 | 2,7 | 1,9500 | 33 | 73 | 2982 | 94,3 | 95,3 | 95,6 | 0,76 | 0,84 | 0,87 | 278 | |
| 200 | 270 | 315S/M | 641 | 7,1 | 2,1 | 2,6 | 2,6900 | 31 | 68 | 2981 | 95,4 | 95,8 | 95,8 | 0,83 | 0,88 | 0,90 | 335 | |
| 250 | 340 | 315L | 801 | 7,5 | 2,1 | 2,4 | 3,4200 | 23 | 51 | 2981 | 95,0 | 95,8 | 95,8 | 0,82 | 0,86 | 0,89 | 423 | |
| 315 | 430 | 355M/L ² | 1008 | 7,9 | 2,5 | 2,5 | 5,1500 | 30 | 66 | 2985 | 95,5 | 95,8 | 95,8 | 0,84 | 0,89 | 0,90 | 527 | |
| 355 | 480 | 355M/L ² | 1135 | 8,7 | 2,7 | 3 | 6,0100 | 24 | 53 | 2988 | 95,3 | 95,8 | 95,8 | 0,81 | 0,87 | 0,89 | 601 | |
| IV Poles | | | | | | | | | | | | | | | | | | |
| 0,12 | 0,16 | W63 | 0,80 | 4,4 | 3,2 | 3,1 | 0,0005 | 35 | 62 | 1425 | 52,0 | 59,4 | 64,8 | 0,42 | 0,53 | 0,62 | 0,43 | |
| 0,18 | 0,25 | W63 | 1,23 | 4,2 | 2,5 | 2,3 | 0,0006 | 33 | 60 | 1395 | 62,2 | 66,4 | 69,9 | 0,52 | 0,65 | 0,75 | 0,49 | |
| 0,25 | 0,33 | W71 | 1,72 | 5,0 | 3,7 | 3,1 | 0,0006 | 33 | 59 | 1385 | 65,0 | 70,0 | 73,5 | 0,45 | 0,58 | 0,68 | 0,72 | |
| 0,37 | 0,5 | 71 | 0,25 | 6,0 | 2,2 | 2,8 | 0,0027 | 22 | 40 | 1445 | 70,9 | 75,1 | 77,3 | 0,51 | 0,65 | 0,77 | 0,90 | |
| 0,55 | 0,75 | 80 | 3,64 | 6,5 | 2,3 | 2,7 | 0,0025 | 25 | 45 | 1440 | 77,0 | 79,0 | 80,8 | 0,58 | 0,72 | 0,79 | 1,24 | |
| 0,75 | 1 | 80 | 4,99 | 6,2 | 2,4 | 2,8 | 0,0032 | 23 | 41 | 1435 | 80,0 | 82,0 | 82,5 | 0,61 | 0,74 | 0,81 | 1,62 | |
| 1,1 | 1,5 | 90S/L | 7,22 | 7,6 | 2,5 | 3,3 | 0,0054 | 15 | 27 | 1455 | 83,0 | 84,5 | 84,8 | 0,57 | 0,70 | 0,78 | 2,40 | |
| 1,5 | 2 | 90S/L | 9,90 | 7,4 | 2,6 | 3,0 | 0,0065 | 13 | 23 | 1445 | 84,0 | 85,0 | 85,5 | 0,58 | 0,72 | 0,79 | 3,21 | |
| 2,2 | 3 | 100L | 14,61 | 7,6 | 2,5 | 3,0 | 0,0089 | 16 | 29 | 1435 | 85,0 | 86,5 | 86,7 | 0,55 | 0,68 | 0,78 | 4,70 | |
| 3 | 4 | L100L | 19,91 | 7,8 | 3,5 | 3,7 | 0,0119 | 15 | 27 | 1440 | 87,0 | 88,0 | 88,0 | 0,58 | 0,71 | 0,78 | 6,31 | |
| 4 | 5,5 | 112M | 26,38 | 7,0 | 2,3 | 3,1 | 0,0181 | 15 | 27 | 1450 | 88,7 | 89,1 | 89,1 | 0,60 | 0,72 | 0,79 | 8,20 | |
| 5,5 | 7,5 | S132S | 35,90 | 8,5 | 2,4 | 3,4 | 0,0528 | 15 | 27 | 1465 | 90,0 | 90,7 | 90,7 | 0,67 | 0,79 | 0,85 | 10,30 | |
| 7,5 | 10 | 132M | 48,95 | 8,5 | 2,5 | 3,4 | 0,0641 | 13 | 23 | 1465 | 87,5 | 90,0 | 90,6 | 0,67 | 0,78 | 0,84 | 14,20 | |
| 15 | 20 | 160L | 97,2 | 7,1 | 2,6 | 3,4 | 0,1470 | 13 | 29 | 1475 | 91,3 | 92,0 | 92,1 | 0,67 | 0,78 | 0,84 | 28,0 | |
| 18,5 | 25 | 180M | 120 | 6,7 | 2,6 | 3,2 | 0,1740 | 14 | 31 | 1475 | 92,0 | 92,5 | 92,6 | 0,67 | 0,78 | 0,83 | 34,7 | |
| 22 | 30 | 180L | 143 | 7,5 | 3,5 | 3,7 | 0,2090 | 13 | 29 | 1475 | 91,9 | 92,8 | 93,0 | 0,63 | 0,75 | 0,82 | 41,6 | |
| 30 | 40 | 200M/L | 194 | 7,2 | 2,6 | 3,4 | 0,3070 | 13 | 29 | 1480 | 93,2 | 93,6 | 93,6 | 0,68 | 0,79 | 0,84 | 55,1 | |
| 37 | 50 | 225S/M | 238 | 7,1 | 2,5 | 3,3 | 0,4670 | 24 | 53 | 1485 | 92,6 | 93,6 | 93,9 | 0,67 | 0,77 | 0,82 | 69,4 | |
| 45 | 60 | 225S/M | 291 | 7,3 | 3 | 3,3 | 0,5410 | 22 | 48 | 1480 | 93,0 | 94,0 | 94,2 | 0,68 | 0,78 | 0,83 | 83,1 | |
| 55 | 75 | 250S/M | 354 | 7,6 | 2,9 | 3,2 | 0,7760 | 17 | 37 | 1485 | 93,6 | 94,3 | 94,6 | 0,68 | 0,78 | 0,83 | 101 | |
| 75 | 100 | W280S/M | 483 | 7,9 | 2,9 | 3 | 1,1500 | 13 | 29 | 1483 | 94,4 | 95,0 | 95,0 | 0,71 | 0,80 | 0,83 | 137 | |
| 90 | 125 | W280S/M | 579 | 7,8 | 3,3 | 3,5 | 1,0500 | 23 | 51 | 1484 | 94,3 | 95,1 | 95,2 | 0,67 | 0,77 | 0,82 | 166 | |
| 110 | 150 | W315S/M | 707 | 6,7 | 2,3 | 2,8 | 2,1400 | 20 | 44 | 1486 | 94,8 | 95,4 | 95,4 | 0,68 | 0,77 | 0,82 | 203 | |
| 132 | 175 | W315S/M | 848 | 7,5 | 2,6 | 3 | 2,6700 | 16 | 35 | 1487 | 95,0 | 95,6 | 95,6 | 0,67 | 0,77 | 0,82 | 243 | |
| 160 | 220 | 315S/M | 1026 | 7,1 | 2,6 | 2,7 | 3,3300 | 25 | 55 | 1490 | 94,7 | 95,5 | 95,8 | 0,72 | 0,81 | 0,84 | 287 | |
| 200 | 270 | 315S/M | 1283 | 7,7 | 2,7 | 2,8 | 4,3300 | 25 | 55 | 1490 | 95,3 | 96,0 | 96,0 | 0,74 | 0,82 | 0,86 | 350 | |
| 250 | 340 | 315L | 1603 | 7,4 | 2,8 | 2,6 | 5,3000 | 22 | 48 | 1490 | 95,8 | 96,0 | 96,0 | 0,74 | 0,83 | 0,86 | 437 | |
| 315 | 430 | 315L ² | 2020 | 8,3 | 3,1 | 2,8 | 6,8500 | 18 | 40 | 1490 | 95,9 | 96,0 | 96,0 | 0,74 | 0,82 | 0,86 | 551 | |
| 355 | 480 | 355M/L ² | 2275 | 7,1 | 2,3 | 2,3 | 10,6000 | 25 | 55 | 1491 | 95,3 | 96,0 | 96,0 | 0,71 | 0,80 | 0,84 | 635 | |

Note:
 (1) Efficiency values are given according to IEC 60034-2-1. They are calculated according to indirect method, with stray load losses determined by measurement.
 (2) Fitted with air deflector in the drive end side.
 * 6 poles and 8 poles motors under request.

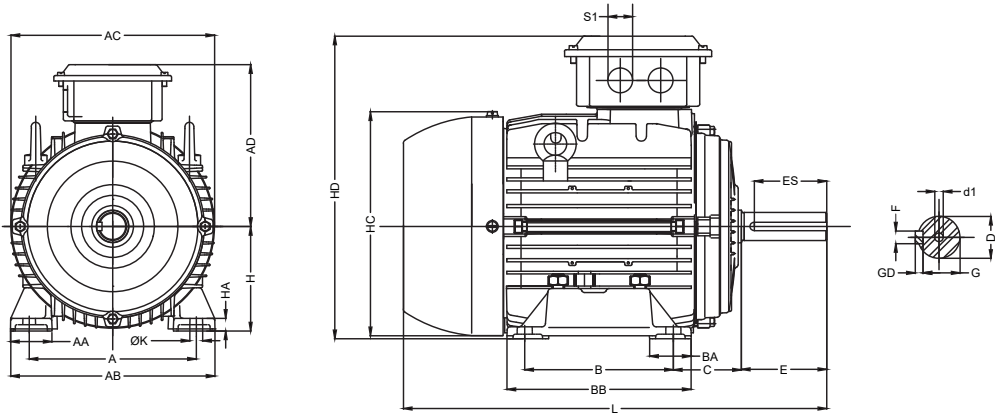
3. Mechanical Data

3.1. Foot Mounted Motors, Terminal Box Top

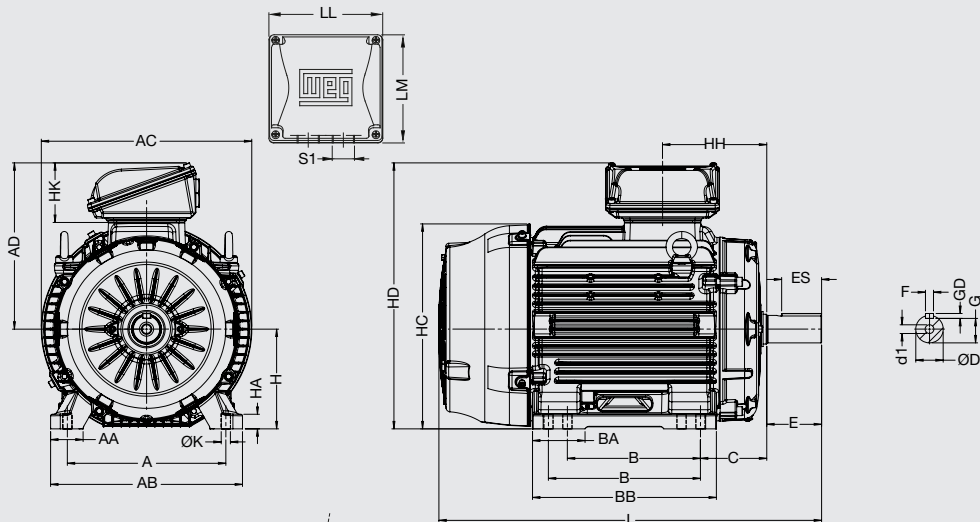
Frames 56 to 71



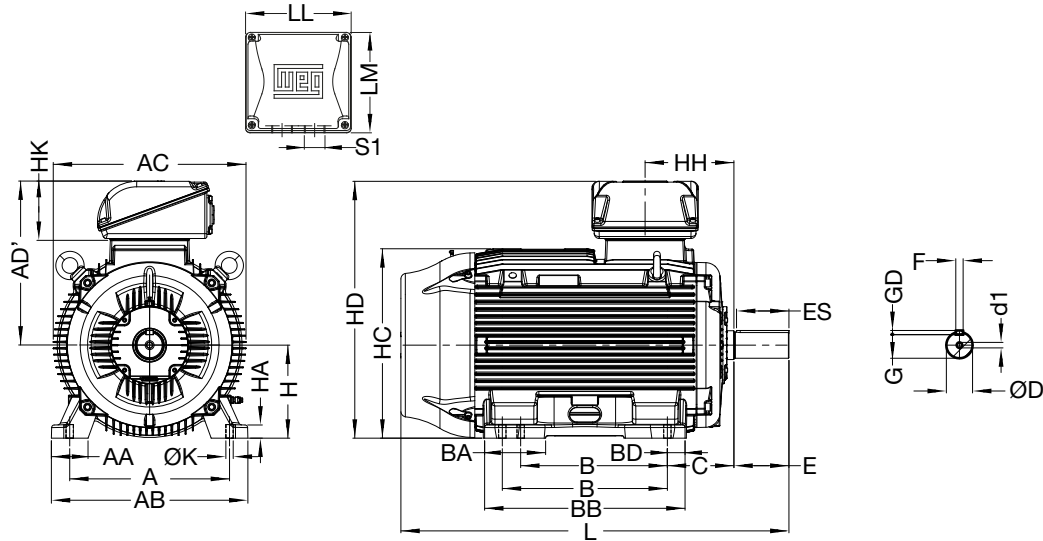
Frames 80 to 132



Frames 160M to W315S/M



Frames 315S/M to 355M/L

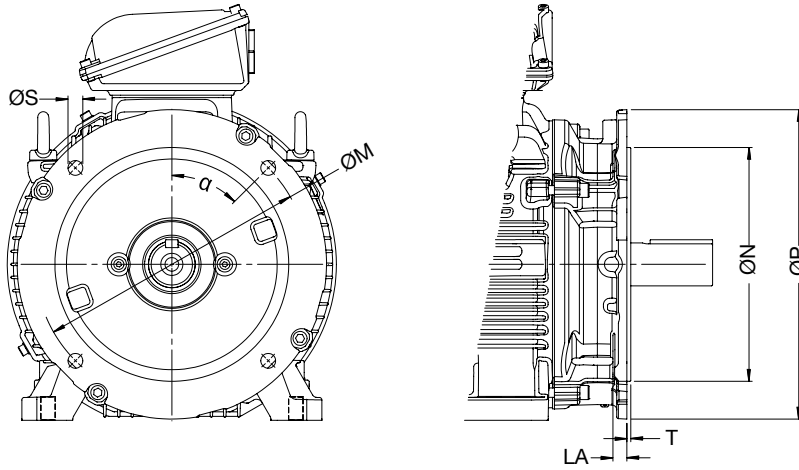


| Frames | A | AA | AB | AC | B | BA | BB | C | E | D | H | HD | HA | K | S1 | d1 | F | GD | G | ES | L |
|----------|-----|-----|-----|---------|---------|------|-----|---------|------|-------|-------|-------|------|-----------|-----------|-------------|-----|-------|------|------|-------------|
| IEC56 | 90 | 26 | 110 | 105 | 71 | 23,3 | 95 | 36 | 20 | 9j6 | 56 | 166,6 | 6,5 | 6,6 | 22,4 | M3 | 3 | 3 | 7,2 | 12 | 207,5/227,5 |
| W63 | 100 | 32 | 120 | | 80 | 30 | 104 | 40 | 23 | 11j6 | 63 | 173,6 | 6,7 | 7 | | M4 | 4 | 4 | 8,5 | 14 | 219,5/239,5 |
| W71 | 112 | 38 | 132 | 140 | 90 | 36 | 117 | 45 | 30 | 14j6 | 71 | 181,6 | 7,5 | 7 | 28,4/22,4 | M4 | 5 | 5 | 11 | 18 | 226,5/246,5 |
| 71 | | 36 | 147 | | | 22 | 115 | | | | | 213 | 7 | | | 274,5/304,5 | | | | | |
| 80 | 125 | 32 | 155 | 159 | 100 | 28 | 124 | 50 | 40 | 19j6 | 80 | 216 | 8 | 10 | 2xM20x1,5 | DM6 | 6 | 6 | 15,5 | 28 | 276/325 |
| 90S/L | 140 | 35 | 170 | 179 | 100 | 49 | 146 | 56 | 50 | 24j6 | 90 | 236 | 9 | 10 | 2xM25x1,5 | DM8 | 8 | 7 | 20 | 36 | 330/360 |
| 100L | 160 | 40 | 196 | 199 | 140 | | | | | | | | | | | 30 | 170 | 63 | 60 | 28j6 | 100 |
| 112M | 190 | 46 | 220 | 222 | 140 | 32 | 170 | 70 | 60 | 28j6 | 112 | 291 | 12 | 12 | 2xM32X1,5 | DM12 | 10 | 8 | 33 | 63 | 393/422 |
| S132S | 216 | 44 | 248 | 270 | 140 | 40 | 170 | 89 | 80 | 38k6 | 132 | 344 | 12 | | | | | | | | 14,5 |
| 132S | | | | | 140 | 32 | 170 | | | | | 339 | | 490/515 | | | | | | | |
| 132M | | | | | 178 | 33 | 210 | | | | | 246 | | 108 | 110 | 42k6 | 160 | 437,5 | 17 | 14,5 | |
| 160M | 254 | 36 | 292 | 358 | 246 | 290 | 180 | 473,5 | 19 | 767,5 | | | | | | | | | | | |
| 160L | 279 | 51 | 329 | 389 | 241 | 325 | 121 | 110 | 48k6 | 180 | 473,5 | 19 | 14,5 | 2xM50x1,5 | DM20 | 16 | 10 | 49 | 125 | 100 | 665 |
| 180M | | | | | 279 | | | | | | | | | | | | | | | | 288 |
| 180L | 318 | 65 | 385 | 414 | 267/305 | 105 | 369 | 133 | 140 | 55m6 | 225 | 622 | 28 | 18,5 | 2xM50x1,5 | DM20 | 16 | 11 | 53 | 125 | 767,5 |
| W225S/M | 356 | 80 | 436 | 488 | 286/311 | 102 | 395 | 149 | 110 | 60m6 | 250 | 667 | 30 | | | | | | | | 24 |
| 225S/M¹ | | | | | 225S/M | 506 | 528 | 331/349 | 135 | 447 | 168 | 140 | 70m6 | 250 | 667 | 30 | 24 | DM20 | 18 | 11 | |
| 250S/M¹ | 406 | 100 | 506 | 528 | 331/349 | 135 | 447 | 168 | 140 | 65m6 | 280 | 697 | 35 | 28 | 2xM63x1,5 | DM20 | 20 | 12 | 67,5 | 125 | 965,5 |
| 250S/M | | | | | | | | | | | | | | | | | | | | | 170 |
| W280S/M¹ | 457 | 557 | 627 | 406/457 | 167 | 561 | 216 | 170 | 85m6 | 315 | 790 | 35 | 48 | 28 | 2xM63x1,5 | DM20 | 18 | 11 | 58 | 160 | 1103/1153 |
| W280S/M | | | | | | | | | | | | | | | | | | | | | |
| W315S/M¹ | 508 | 120 | 630 | 627 | 167 | 561 | 216 | 170 | 85m6 | 315 | 849 | 48 | 28 | 2xM63x1,5 | DM20 | 22 | 14 | 71 | 160 | 125 | 1246 |
| 315S/M¹ | | | | | | | | | | | | | | | | | | | | | |
| 315S/M | 508 | 120 | 630 | 627 | 184 | 626 | 216 | 170 | 85m6 | 315 | 849 | 48 | 28 | 2xM63x1,5 | DM20 | 22 | 14 | 71 | 160 | 125 | 1356 |
| 315L¹ | | | | | | | | | | | | | | | | | | | | | |
| 315L | 610 | 140 | 750 | 736 | 560/630 | 230 | 760 | 254 | 170 | 90m6 | 355 | 981 | 50 | 28 | 2xM80x2,0 | DM24 | 20 | 12 | 67,5 | 125 | 1442 |
| 355M/L¹ | | | | | | | | | | | | | | | | | | | | | |
| 355M/L | 610 | 140 | 750 | 736 | 560/630 | 230 | 760 | 254 | 210 | 100m6 | 355 | 981 | 50 | 28 | 2xM80x2,0 | DM24 | 28 | 16 | 90 | 200 | 1482 |

(**) refers to the total length of the motor using the extended NDE endshield. Please refer to the notes under the electrical performance table for the specific motor specifications.

3.2. Flange Mounted Motors

3.2.1. "FF" Flange

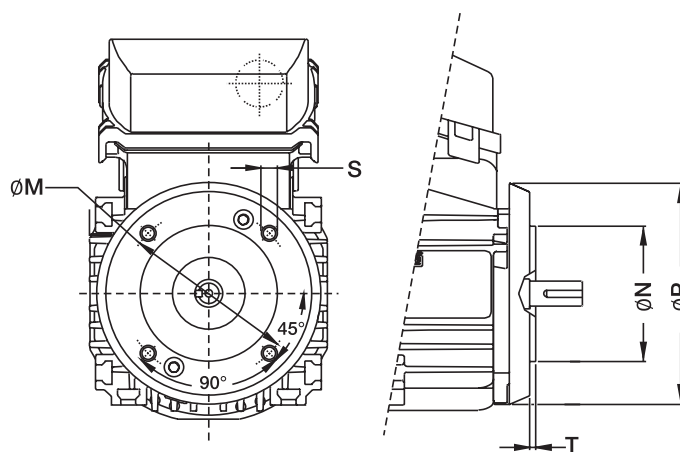


| Frame | Flange | LA | M | N | P | S | T | α | N° of holes |
|--------|--------|----|-----|-----|----------------------|----|-----|-----|-------------|
| W63 | FF-115 | 9 | 115 | 95 | 140 | 10 | 3 | 45° | 4 |
| 71 | FF-130 | 8 | 130 | 110 | 160 | | 3,5 | | |
| W80 | FF-165 | 10 | 165 | 130 | 200 | 12 | 4 | | |
| 90S/L | | | | | | | | | |
| 100L | FF-215 | 11 | 215 | 180 | 250 | 15 | 5 | | |
| 112M | FF-265 | 12 | 265 | 230 | 300 | | | | |
| 132 | FF-300 | 16 | 300 | 250 | 348 | 19 | 6 | | |
| 160 | | | | | | | | | |
| 180 | FF-350 | 18 | 350 | 300 | 398 | 24 | 8 | | |
| 200M/L | FF-400 | | 400 | 350 | 448 | | | | |
| 225S/M | FF-500 | 20 | 500 | 450 | 548 | 24 | 6 | | |
| 250S/M | | | | | | | | | |
| 280S/M | FF-600 | 22 | 600 | 550 | 660/780 ¹ | 6 | 8 | | |
| 315S/M | | 16 | | | | | | | |
| 315L | FF-740 | 22 | 740 | 680 | 800/880 ¹ | 6 | 8 | | |
| 355 | | | | | | | | | |

Notes:

- 1) Only for motors fitted with air deflector in drive end side.
- 2) All dimensions are in mm.
- 3) Tolerance -0,075mm for aluminum flanges and -0,5mm for polymeric

3.2.2. "C-DIN" Flange



| Frame | Flange | M | N | P | S | T | a | N° of holes |
|-------|--------|-----|-----|-----|-----|-----|-----|-------------|
| IEC56 | C-80 | 65 | 50 | 95 | M5 | 2,5 | 45° | 4 |
| W63 | C-90 | 75 | 60 | 98 | | | | |
| W71 | C-105 | 85 | 70 | 108 | M6 | | | |
| 71 | | | | 111 | | | | |
| 80 | C-120 | 100 | 80 | 120 | M8 | 3 | | |
| 90S/L | C-140 | 115 | 95 | 140 | | 3,5 | | |
| 100 | C-160 | 130 | 110 | 160 | | | | |
| 112M | | | | | | | | |
| 132 | C-200 | 165 | 130 | 200 | M10 | 4 | | |
| 160 | C-250 | 215 | 180 | 250 | M12 | | | |

Notes:

- 1) All dimensions are in mm.
- 2) Holes fit for screw
- 3) Tolerance -0,075mm for aluminum flanges and -0,5mm for polymeric.

Flange runout

| Frame | Flange Material | Runout | Maximum (mm) |
|--------------------|-------------------|--------|--------------|
| IEC56, W63 and W71 | Aluminum | Radial | 0,18 |
| | | Axial | 0,11 |
| | Polymeric | Radial | 0,50 |
| | | Axial | 0,90 |
| 71 | Aluminum machined | Radial | 0,1 |
| | | Axial | 0,1 |

Notes:

Other frame sizes follows IEC 60072-1

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Cod: 50130072 | Rev: 03 | Date (m/y): 09/2024.

The values shown are subject to change without prior notice.
The information contained is reference values.