



ML IEC 3 phase 0.37 - 22 kW
Premium Efficiency

be
think
innovate

GRUNDFOS 

Grundfos motors in a class of their own

Grundfos is one of the world's leading manufacturers of pumps and pumping equipment. Therefore, high-quality electric motors are a natural priority for us. For decades, we have been manufacturing our own motors that match the very high standard of our pumps for applications in building services, industry and water supply.

The Grundfos manufactured ML IEC motors are available in three phase and sizes from 0.37-22 kW, dual nameplated with both 60 and 50 Hz data. The motors have smooth shaft ends and are suitable for the Grundfos CR, TP, MTR, SPK, and CRK pumps.

UL Recognized Component

Grundfos ML IEC motors are extremely reliable, high-efficiency motors, designed and built in accordance with IEC 60034 and IEC 60072-1 / EN50347 standards.

The Grundfos ML IEC motors are recognized under the Component Recognition Program of Underwriters Laboratories Inc. for the United States and Canada.

Energy Independence and Security Act

The Grundfos ML IEC motors comply with the Energy Independence and Security Act (EISA) of 2007 which became effective December 19, 2010.



The ML IEC motors are equipped with a reinforced bearing system with locked bearings at the drive end. This ensures an even uptake of the load in order to maximize the lifetime of the bearings, which are guaranteed for a minimum of 18,000 hours service life. All models are inverter ready, and models from 3 kW and larger have a built-in thermistor arrangement.

The motors are "cool running" motors, i.e. class B temperature rise for class F insulation system. Additional advantages of the ML IEC motors are low noise level, and stainless steel outer screws and bolts. Heavy models are equipped with eyebolts for easy hand-ling. As a standard, all models are fitted with drain holes (closed on delivery). The exterior surfaces of the motors are electro coated for superior corrosion resistance.

Product range

| Standard motor range - 3 phase | | | | |
|--------------------------------|------|-----------------|--------------|-----------------------|
| ML Type Designation | kW | 60 Hz Voltage | Efficiency % | NEMA Efficiency Class |
| ML71AB | 0.37 | 220-255/380-440 | 80.0* | Not Defined |
| ML71BA | 0.55 | 220-255/380-440 | 83.0* | Not Defined |
| ML80AA-H3 | 0.75 | 220-255/380-440 | 77.0 | Pemimum Efficient |
| ML80CA-H3 | 1.1 | 220-255/380-440 | 84.0 | Pemimum Efficient |
| ML90CC-H3 | 1.5 | 220-277/380-480 | 85.5 | Pemimum Efficient |
| ML90FA-H3 | 2.2 | 220-277/380-480 | 86.5 | Pemimum Efficient |
| ML100DA-H3 | 3 | 220-277/380-480 | 87.5 | Pemimum Efficient |
| ML112CA-H3 | 4 | 220-277/380-480 | 88.5 | Pemimum Efficient |
| ML132DA-H3 | 5.5 | 220-277/380-480 | 89.5 | Pemimum Efficient |
| ML132EA-H3 | 7.5 | 220-277/380-480 | 90.2 | Pemimum Efficient |
| ML160BA-H3 | 11 | 220-277/380-480 | 91.0 | Pemimum Efficient |
| ML160BB-H3 | 15 | 220-277/380-480 | 91.0 | Pemimum Efficient |
| ML160BC-H3 | 18.5 | 220-277/380-480 | 91.7 | Pemimum Efficient |
| ML180BA-H3 | 22 | 220-277/380-480 | 91.7 | Pemimum Efficient |
| ML80AA-H3 | 0.75 | 380-440 | 77.0 | Pemimum Efficient |
| ML80CA-H3 | 1.1 | 380-440 | 84.0 | Pemimum Efficient |
| ML90CC-H3 | 1.5 | 380-480 | 85.5 | Pemimum Efficient |
| ML90FA-H3 | 2.2 | 380-480 | 86.5 | Pemimum Efficient |
| ML100DA-H3 | 3 | 380-480 | 87.5 | Pemimum Efficient |
| ML112CA-H3 | 4 | 380-480 | 88.5 | Pemimum Efficient |
| ML132DA-H3 | 5.5 | 380-480 | 89.5 | Pemimum Efficient |
| ML132EA-H3 | 7.5 | 380-480 | 90.2 | Pemimum Efficient |
| ML160BA-H3 | 11 | 380-480 | 91.0 | Pemimum Efficient |
| ML160BB-H3 | 15 | 380-480 | 91.0 | Pemimum Efficient |
| ML160BC-H3 | 18.5 | 380-480 | 91.7 | Pemimum Efficient |
| ML180BA-H3 | 22 | 380-480 | 91.7 | Pemimum Efficient |
| ML71AB | 0.37 | 200-230/346-400 | 80.0* | Not Defined |
| ML71BA | 0.55 | 200-230/346-400 | 83.0* | Not Defined |
| ML80AA-H3 | 0.75 | 200-255/346-440 | 77.0 | Pemimum Efficient |
| ML80CA-H3 | 1.1 | 200-255/346-440 | 84.0 | Pemimum Efficient |
| ML90CC-H3 | 1.5 | 200-255/346-440 | 85.5 | Pemimum Efficient |
| ML90FA-H3 | 2.2 | 200-230/346-400 | 86.5 | Pemimum Efficient |
| ML100DA-H3 | 3.0 | 200-230/346-400 | 87.5 | Pemimum Efficient |
| ML112CA-H3 | 4.0 | 200-230/346-400 | 88.5 | Pemimum Efficient |
| ML132DA-H3 | 5.5 | 200-230/346-400 | 89.5 | Pemimum Efficient |
| ML132EA-H3 | 7.5 | 200-230/346-400 | 90.2 | Pemimum Efficient |
| ML160BA-H3 | 11 | 200-230/346-400 | 91.0 | Pemimum Efficient |
| ML160BB-H3 | 15 | 200-230/346-400 | 91.0 | Pemimum Efficient |
| ML160BC-H3 | 18.5 | 200-230/346-400 | 91.7 | Pemimum Efficient |
| ML180BA-H3 | 22 | 200-230/346-400 | 91.7 | Pemimum Efficient |

*Efficiency not defined by NEMA standards.

Premium Efficient Motors

The Grundfos ML IEC motors comply with the NEMA Premium Efficient standards. The Grundfos ML IEC motors also comply with the IE3 efficiency class per IEC 60034-30.

Environment Friendly

Premium efficiency motors mean reduced energy consumption and consequently, reduced harmful influence on the environment. Obviously, reduced energy consumption also means reduced operating costs, which is a vital consideration for modern industry.

Bearings

The ML IEC motors are equipped with a reinforced bearing system with locked bearings at the drive end, either a deep-groove ball bearing or an angular-contact bearing depending on the motor model. This ensures an even uptake of the load in order to maximize the lifetime of the bearings, which are guaranteed for a minimum of 18,000 hours service life. At the non-drive end, the motors are fitted with bearings with axial clearance in order to meet production tolerances while allowing for thermal expansion during motor operation. This ensures trouble-free operation and long life.

Grundfos uses only high-quality bearings from the world's leading manufacturers. These include:

- SKF AB (Sweden)
- NSK Corporation (Japan)
- NTN Bearing Corporation (Japan)
- FAG Kugelfischer AG & Co KG (Germany)
- INA Schaeffler KG (Germany)

These manufacturers all comply with international standards, which means that replacement bearings are readily available throughout the world and the bearings are fully interchangeable regardless of make.

Bearing size overview

| ML type Designation | kW | Bearing sizes | |
|---------------------|------|---------------|---------------|
| | | Drive end | Non-Drive end |
| ML71AB | 0.37 | 6204.2Z.C3 | 6201.2Z.C3 |
| ML71BA | 0.55 | | |
| ML80AA-H3 | 0.75 | 6304.2Z.C3 | |
| ML80CA-H3 | 1.1 | | |
| ML90CC-H3 | 1.5 | 6305.2Z.C4 | 6205.2Z.C3 |
| ML90FA-H3 | 2.2 | | |
| ML100DA-H3 | 3 | 6306.2Z.C4 | 6206.2Z.C3 |
| ML112CA-H3 | 4 | 7306BE.2CS | |
| ML132DA-H3 | 5.5 | 7308BE.2CS | |
| ML132EA-H3 | 7.5 | 7309BE | 6309.C4 |
| ML160BA-H3 | 11 | | |
| ML160BB-H3 | 15 | | |
| ML160BC-H3 | 18.5 | 7310BE | 6310.C4 |
| ML180BA-H3 | 22 | | |

Sound pressure/Motor data

In electric motors, the cooling fan is normally the main source of noise. Because high-efficiency motors have reduced power consumption, less cooling air is needed to maintain the motor temperature. This allows for a smaller cooling fan, which in turn produces less noise.

Sound pressure levels

Grundfos complies with the following rules relating to sound pressure:

- The sound power is measured according to EN ISO 3743-2.
- The sound power is converted to a mean sound pressure at 3.3 feet (1 m) distance from the test object by means of EN ISO 11203 – method Q2.
- The values for both 50 and 60 Hz have a tolerance of 3 dB[A] according to EN ISO 4871, which is not added to the values in these tables.

| ML Type Designation | kW | Sound Pressure Level dB[A] *Lpa at 3.3 feet distance 50 Hz | Sound Pressure Level dB[A] *Lpa at 3.3 feet distance 60 Hz |
|---------------------|------|--|--|
| ML71AB | 0.37 | 50.4 | 53.5 |
| ML71BA | 0.55 | 49.0 | 53.0 |
| ML80AA-H3 | 0.75 | 48.8 | 53.7 |
| ML80CA-H3 | 1.1 | 48.6 | 53.5 |
| ML90CC-H3 | 1.5 | 54.2 | 58.6 |
| ML90FA-H3 | 2.2 | 55.5 | 59.8 |
| ML100DA-H3 | 3 | 55.3 | 59.8 |
| ML112CA-H3 | 4 | 58.7 | 63.6 |
| ML132DA-H3 | 5.5 | 58.8 | 63.6 |
| ML132EA-H3 | 7.5 | 60.3 | 65.1 |
| ML160BA-H3 | 11 | 60.5 | 65.1 |
| ML160BB-H3 | 15 | 60.6 | 65.2 |
| ML160BC-H3 | 18.5 | 60.7 | 65.3 |
| ML180BA-H3 | 22 | 64.4 | 69.1 |

*Reference: 20 micro pascal, airborne

Motor Data

| ML type designation | kW | flange | Ship Wt. (lbs) | Ambient temperature | | Moment of Inertia (with fan) | IP class | Enclosure class |
|---------------------|------|---------|----------------|---------------------|------|------------------------------|----------|-----------------|
| | | | | Max. | Min. | | | |
| ML71AB | 0.37 | B14/V18 | 13 | 40 | -30 | 0.00049 | 55 | TEFC |
| ML71BA | 0.55 | B14/V18 | 13 | 40 | -30 | 0.00055 | 55 | TEFC |
| ML80AA-H3 | 0.75 | B14/V18 | 17 | 60 | -30 | 0.00080 | 55 | TEFC |
| ML80CA-H3 | 1.1 | B14/V18 | 28 | 60 | -30 | 0.00082 | 55 | TEFC |
| ML90CC-H3 | 1.5 | B14/V18 | 37 | 60 | -30 | 0.00240 | 55 | TEFC |
| ML90FA-H3 | 2.2 | B14/V18 | 46 | 60 | -30 | 0.00310 | 55 | TEFC |
| ML100DA-H3 | 3 | B14/V18 | 51 | 60 | -30 | 0.00373 | 55 | TEFC |
| ML112CA-H3 | 4 | B14/V18 | 81 | 60 | -30 | 0.00880 | 55 | TEFC |
| ML132DA-H3 | 5.5 | B5/V1 | 96 | 60 | -30 | 0.00970 | 55 | TEFC |
| ML132EA-H3 | 7.5 | B5/V1 | 119 | 60 | -30 | 0.01200 | 55 | TEFC |
| ML160BA-H3 | 11 | B5/V1 | 196 | 60 | -30 | 0.03900 | 55 | TEFC |
| ML160BB-H3 | 15 | B5/V1 | 223 | 60 | -30 | 0.04900 | 55 | TEFC |
| ML160BC-H3 | 18.5 | B5/V1 | 251 | 60 | -30 | 0.05800 | 55 | TEFC |
| ML180BA-H3 | 22 | B5/V1 | 282 | 60 | -30 | 0.06500 | 55 | TEFC |

Electrical data

2-pole motors 60 Hz, 230/460 V

| ML Type Designation | KW | 60 HZ VOLTAGE | Full Load Current | Power Factor | NEMA | Speed | Full Load | Locked | Locked | Break-down |
|---------------------|------|-----------------|---------------------|--------------|------------|-----------|-----------|---------------|--------------|------------|
| | | | | (Cos Phi) | Efficiency | | Torque | Rotor Current | Rotor Torque | Torque |
| | | | | | | | NM | % | % | % |
| ML71AB | 0.37 | 220-255/380-440 | 1.50-1.44/0.87-0.83 | 0.85-0.76 | 80.0* | 3410-3470 | 1.04-1.04 | 550-650 | 260-350 | 300-400 |
| ML71BA | 0.55 | 220-255/380-440 | 2.15-2.05/1.25-1.20 | 0.85-0.76 | 83.0* | 3390-3460 | 1.54-1.54 | 500-600 | 290-390 | 320-430 |
| ML80AA-H3 | 0.75 | 220-255/380-440 | 2.95-2.75/1.70-1.60 | 0.86-0.77 | 77.0 | 3410-3470 | 2.10-2.10 | 600-740 | 280-380 | 330-440 |
| ML80CA-H3 | 1.1 | 220-255/380-440 | 4.15-4.00/2.40-2.30 | 0.88-0.80 | 84.0 | 3420-3470 | 3.10-3.05 | 430-500 | 240-310 | 280-380 |
| ML90CC-H3 | 1.5 | 220-277/380-480 | 5.35-4.70/3.10-2.70 | 0.90-0.81 | 85.5 | 3470-3530 | 4.10-4.10 | 780-1050 | 270-430 | 330-530 |
| ML90FA-H3 | 2.2 | 220-277/380-480 | 7.70-6.35/4.45-3.70 | 0.91-0.85 | 86.5 | 3470-3530 | 6.00-6.00 | 780-1100 | 280-450 | 330-530 |
| ML100DA-H3 | 3.0 | 220-277/380-480 | 10.8-9.35/6.20-5.40 | 0.91-0.84 | 87.5 | 3480-3530 | 8.25-8.10 | 860-1100 | 280-450 | 370-540 |
| ML112CA-H3 | 4.0 | 220-277/380-480 | 13.6-11.8/7.80-6.80 | 0.91-0.82 | 88.5 | 3510-3540 | 10.8-10.8 | 1000-1470 | 330-530 | 420-670 |
| ML132DA-H3 | 5.5 | 220-277/380-480 | 18.4-16.2/10.6-9.30 | 0.90-0.80 | 89.5 | 3510-3550 | 15.0-15.0 | 1020-1480 | 320-530 | 400-660 |
| ML132EA-H3 | 7.5 | 220-277/380-480 | 24.6-20.8/14.2-12.0 | 0.90-0.82 | 90.2 | 3490-3530 | 20.6-20.6 | 680-1050 | 200-310 | 240-370 |
| ML160BA-H3 | 11 | 220-277/380-480 | 36.0-30.0/20.8-17.2 | 0.89-0.83 | 91.0 | 3520-3550 | 30.0-30.0 | 580-890 | 220-350 | 240-390 |
| ML160BB-H3 | 15 | 220-277/380-480 | 48.5-39.0/28.0-22.4 | 0.90-0.86 | 91.0 | 3520-3550 | 40.5-40.5 | 580-890 | 200-330 | 230-370 |
| ML160BC-H3 | 18.5 | 220-277/380-480 | 59.5-48.5/34.5-28.0 | 0.89-0.84 | 91.7 | 3520-3560 | 50.0-50.0 | 670-1100 | 140-260 | 280-490 |
| ML180BA-H3 | 22 | 220-277/380-480 | 69.5-56.5/40.0-32.5 | 0.91-0.91 | 91.7 | 3520-3560 | 59.5-59.5 | 650-1040 | 210-340 | 250-390 |

Electrical data

2-pole motors 60 Hz, 200 V

| ML Type Designation | KW | 60 HZ VOLTAGE | Full Load Current | Power Factor | NEMA | Speed | Full Load | Locked | Locked | Break-down |
|---------------------|------|-----------------|---------------------|--------------|------------|-----------|-----------|---------------|--------------|------------|
| | | | | (Cos Phi) | Efficiency | | Torque | Rotor Current | Rotor Torque | Torque |
| | | | | | | | NM | % | % | % |
| ML71AB | 0.37 | 200-230/346-400 | 1.65-1.50/0.96-0.87 | 0.85-0.76 | 80.0* | 3410-3470 | 1.04-1.04 | 550-650 | 260-350 | 300-400 |
| ML71BA | 0.55 | 200-230/346-400 | 2.36-2.14/1.36-1.24 | 0.85-0.76 | 83.0* | 3390-3460 | 1.54-1.54 | 500-600 | 290-390 | 320-430 |
| ML80AA-H3 | 0.75 | 200-255/346-440 | 3.25-3/1.86-1.76 | 0.86-0.77 | 77.0 | 3410-3470 | 2.10-2.10 | 600-740 | 280-380 | 330-440 |
| ML80CA-H3 | 1.1 | 200-255/346-440 | 4.55-4.4/2.65-2.5 | 0.88-0.80 | 84.0 | 3420-3470 | 3.10-3.05 | 430-500 | 240-310 | 280-380 |
| ML90CC-H3 | 1.5 | 200-255/346-440 | 5.85-4.95/3.4-2.85 | 0.90-0.81 | 85.5 | 3470-3530 | 4.10-4.10 | 780-1050 | 270-430 | 330-530 |
| ML90FA-H3 | 2.2 | 200-230/346-400 | 8.45-7.65/4.85-4.45 | 0.91-0.87 | 86.5 | 3470-3530 | 6.00-6.00 | 780-1100 | 280-450 | 330-530 |
| ML100DA-H3 | 3.0 | 200-230/346-400 | 11.8-11/6.80-6.30 | 0.91-0.87 | 87.5 | 3480-3530 | 8.25-8.10 | 860-1100 | 280-450 | 370-540 |
| ML112CA-H3 | 4.0 | 200-230/346-400 | 15.0-13.8/8.55-7.95 | 0.91-0.82 | 88.5 | 3510-3540 | 10.8-10.8 | 1000-1470 | 330-530 | 420-670 |
| ML132DA-H3 | 5.5 | 200-230/346-400 | 20.2-18.8/11.7-10.8 | 0.90-0.85 | 89.5 | 3510-3550 | 15.0-15.0 | 1020-1480 | 320-530 | 400-660 |
| ML132EA-H3 | 7.5 | 200-230/346-400 | 22.2-24.7/15.5-14.3 | 0.90-0.86 | 90.2 | 3490-3530 | 20.6-20.6 | 680-1050 | 200-310 | 240-370 |
| ML160BA-H3 | 11 | 200-230/346-400 | 39.5-35.9/22.8-21 | 0.89-0.86 | 91.0 | 3520-3550 | 30.0-30.0 | 580-890 | 220-350 | 240-390 |
| ML160BB-H3 | 15 | 200-230/346-400 | 53.5-47.6/30.7-28.7 | 0.90-0.88 | 91.0 | 3520-3550 | 40.5-40.5 | 580-890 | 200-330 | 230-370 |
| ML160BC-H3 | 18.5 | 200-230/346-400 | 65-58.6/37.8-34 | 0.89-0.87 | 91.7 | 3520-3560 | 50.0-50.0 | 670-1100 | 140-260 | 280-490 |
| ML180BA-H3 | 22 | 200-230/346-400 | 76-68.5/44-39.5 | 0.91-0.91 | 91.7 | 3520-3560 | 59.5-59.5 | 650-1040 | 210-340 | 250-390 |

2-pole motors 60 Hz, 460 V

| ML Type Designation | KW | 60 HZ VOLTAGE | Full Load Current | Power Factor | NEMA | Speed | Full Load | Locked | Locked | Break-down |
|---------------------|------|-----------------|---------------------|--------------|------------|-----------|-----------|---------------|--------------|------------|
| | | | | (Cos Phi) | Efficiency | | Torque | Rotor Current | Rotor Torque | Torque |
| | | | | | | | NM | % | % | % |
| ML80AA-H3 | 0.75 | 380-440 | 1.70-1.60 | 0.86-0.77 | 77.0 | 3410-3470 | 2.10-2.10 | 600-740 | 280-380 | 330-440 |
| ML80CA-H3 | 1.1 | 380-440 | 2.40-2.30 | 0.88-0.80 | 84.0 | 3420-3470 | 3.10-3.05 | 430-500 | 240-310 | 280-380 |
| ML90CC-H3 | 1.5 | 380-480 | 3.10-2.70 | 0.90-0.81 | 85.5 | 3470-3530 | 4.10-4.10 | 780-1050 | 270-430 | 330-530 |
| ML90FA-H3 | 2.2 | 380-480 | 4.45-3.70 | 0.91-0.85 | 86.5 | 3470-3530 | 6.00-6.00 | 780-1100 | 280-450 | 330-530 |
| ML100DA-H3 | 3.0 | 380-480 | 6.20-5.40 | 0.91-0.84 | 87.5 | 3480-3530 | 8.25-8.10 | 860-1100 | 280-450 | 370-540 |
| ML112CA-H3 | 4.0 | 380-480 | 7.80-6.80 | 0.91-0.82 | 88.5 | 3510-3540 | 10.8-10.8 | 1000-1470 | 330-530 | 420-670 |
| ML132DA-H3 | 5.5 | 380-480 | 10.6-9.30 | 0.90-0.80 | 89.5 | 3510-3550 | 15.0-15.0 | 1020-1480 | 320-530 | 400-660 |
| ML132EA-H3 | 7.5 | 380-480 | 14.2-12.0 | 0.90-0.82 | 90.2 | 3490-3530 | 20.6-20.6 | 680-1050 | 200-310 | 240-370 |
| ML160BA-H3 | 11 | 380-480 | 20.8-17.2 | 0.89-0.83 | 91.0 | 3520-3550 | 30.0-30.0 | 580-890 | 220-350 | 240-390 |
| ML160BB-H3 | 15 | 380-480 | 28.0-22.4 | 0.90-0.86 | 91.0 | 3520-3550 | 40.5-40.5 | 580-890 | 200-330 | 230-370 |
| ML160BC-H3 | 18.5 | 380-480 | 34.5-28.0 | 0.89-0.84 | 91.7 | 3520-3560 | 50.0-50.0 | 670-1100 | 140-260 | 280-490 |
| ML180BA-H3 | 22 | 380-480 | 40.0-32.5 | 0.91-0.91 | 91.7 | 3520-3560 | 59.5-59.5 | 650-1040 | 210-340 | 250-390 |
| ML160BC-H3 | 18.5 | 220-277/380-480 | 59.5-48.5/34.5-28.0 | 0.89-0.84 | 91.7 | 3520-3560 | 50.0-50.0 | 670-1100 | 140-260 | 280-490 |
| ML180BA-H3 | 22 | 220-277/380-480 | 69.5-56.5/40.0-32.5 | 0.91-0.91 | 91.7 | 3520-3560 | 59.5-59.5 | 650-1040 | 210-340 | 250-390 |

0.75KW - 22KW motors meet Premium Efficient per NEMA Standards
 1.0 Service factor motors
 * Efficiency not defined by NEMA Standards

Electrical data

2-pole motors 50 Hz, 230/400 V

| ML Type Designation | KW | 50 HZ VOLTAGE | Full Load Current | Power Factor | Efficiency | Speed | Full Load | Locked | Locked | Break-down |
|---------------------|------|-----------------|---------------------|--------------|------------|-----------|-----------|---------------|--------------|------------|
| | | | | (Cos Phi) | % | RPM | Torque | Rotor Current | Rotor Torque | Torque |
| | | | | | | | NM | % | % | % |
| ML71AB | 0.37 | 220-240/380-415 | 1.74/1.00 | 0.80-0.70 | 78.5* | 2850-2880 | 1.26-1.26 | 490-530 | 300-360 | 330-400 |
| ML71BA | 0.55 | 220-240/380-415 | 2.50/1.44 | 0.80-0.70 | 80.0* | 2830-2850 | 1.86-1.86 | 580-620 | 330-390 | 350-420 |
| ML80AA-H3 | 0.75 | 220-240/380-415 | 3.30/1.90 | 0.81-0.71 | 80.7 | 2840-2870 | 2.50-2.50 | 580-620 | 330-390 | 370-440 |
| ML80CA-H3 | 1.1 | 220-240/380-415 | 4.35/2.50 | 0.83-0.76 | 82.7 | 2840-2870 | 3.70-3.60 | 450-500 | 300-350 | 340-410 |
| ML90CC-H3 | 1.5 | 220-240/380-415 | 5.45/3.15 | 0.87-0.82 | 84.2 | 2890-2910 | 5.00-5.00 | 850-930 | 320-390 | 370-440 |
| ML90FA-H3 | 2.2 | 220-240/380-415 | 7.70/4.45 | 0.89-0.87 | 85.9 | 2890-2910 | 7.25-7.25 | 850-950 | 330-390 | 370-440 |
| ML100DA-H3 | 3.0 | 220-240/380-415 | 11.0/6.30 | 0.87-0.82 | 87.1 | 2900-2920 | 9.90-9.90 | 840-920 | 320-390 | 410-460 |
| ML112CA-H3 | 4.0 | 220-240/380-415 | 13.6/7.90 | 0.87-0.87 | 88.1 | 2920-2940 | 13.0-13.0 | 1000-1110 | 400-460 | 520-520 |
| ML132DA-H3 | 5.5 | 220-240/380-415 | 19.0/11.0 | 0.87-0.82 | 89.2 | 2920-2940 | 17.8-17.8 | 1080-1180 | 370-460 | 460-550 |
| ML132EA-H3 | 7.5 | 220-240/380-415 | 25.0-24.2/14.4-14.0 | 0.88-0.82 | 90.1 | 2910-2920 | 24.6-24.6 | 780-910 | 220-260 | 280-330 |
| ML160BA-H3 | 11 | 220-240/380-415 | 36.0-34.5/20.8-19.8 | 0.88-0.84 | 91.2 | 2940-2950 | 36.0-36.0 | 660-780 | 240-280 | 290-350 |
| ML160BB-H3 | 15 | 220-240/380-415 | 48.5-45.0/28.0-26.0 | 0.89-0.87 | 91.9 | 2930-2950 | 49.0-49.0 | 660-780 | 230-280 | 280-330 |
| ML160BC-H3 | 18.5 | 220-240/380-415 | 59.5-56.5/34.5-32.5 | 0.89-0.85 | 92.4 | 2940-2950 | 60.0-60.0 | 830-980 | 200-250 | 350-430 |
| ML180BA-H3 | 22 | 220-240/380-415 | 68.5-64/39.5-37 | 0.90-0.90 | 92.7 | 2950-2950 | 71.5-71.0 | 830-830 | 280-280 | 320-320 |

2-pole motors 50 Hz, 400 V

| ML Type Designation | KW | 50 HZ VOLTAGE | Full Load Current | Power Factor | Efficiency | Speed | Full Load | Locked | Locked | Break-down |
|---------------------|------|-----------------|---------------------|--------------|------------|-----------|-----------|---------------|--------------|------------|
| | | | | (Cos Phi) | % | RPM | Torque | Rotor Current | Rotor Torque | Torque |
| | | | | | | | NM | % | % | % |
| ML80AA-H3 | 0.75 | 380-415 | 1.90 | 0.81-0.71 | 80.7 | 2840-2870 | 2.50-2.50 | 580-620 | 330-390 | 370-440 |
| ML80CA-H3 | 1.1 | 380-415 | 2.50 | 0.83-0.76 | 82.7 | 2840-2870 | 3.70-3.60 | 450-500 | 300-350 | 340-410 |
| ML90CC-H3 | 1.5 | 380-415 | 3.15 | 0.87-0.82 | 84.2 | 2890-2910 | 5.00-5.00 | 850-930 | 320-390 | 370-440 |
| ML90FA-H3 | 2.2 | 380-415 | 4.45 | 0.89-0.87 | 85.9 | 2890-2910 | 7.25-7.25 | 850-950 | 330-390 | 370-440 |
| ML100DA-H3 | 3.0 | 380-415 | 6.30 | 0.87-0.82 | 87.1 | 2900-2920 | 9.90-9.90 | 840-920 | 320-390 | 410-460 |
| ML112CA-H3 | 4.0 | 380-415 | 7.90 | 0.87-0.87 | 88.1 | 2920-2940 | 13.0-13.0 | 1000-1110 | 400-460 | 520-520 |
| ML132DA-H3 | 5.5 | 380-415 | 11.0 | 0.87-0.82 | 89.2 | 2920-2940 | 17.8-17.8 | 1080-1180 | 370-460 | 460-550 |
| ML132EA-H3 | 7.5 | 380-415 | 14.4-14.0 | 0.88-0.82 | 90.1 | 2910-2920 | 24.6-24.6 | 780-910 | 220-260 | 280-330 |
| ML160BA-H3 | 11 | 380-415 | 20.8-19.8 | 0.88-0.84 | 91.2 | 2940-2950 | 36.0-36.0 | 660-780 | 240-280 | 290-350 |
| ML160BB-H3 | 15 | 380-415 | 28.0-26.0 | 0.89-0.87 | 91.9 | 2930-2950 | 49.0-49.0 | 660-780 | 230-280 | 280-330 |
| ML160BC-H3 | 18.5 | 380-415 | 34.5-32.5 | 0.89-0.85 | 92.4 | 2940-2950 | 60.0-60.0 | 830-980 | 200-250 | 350-430 |
| ML180BA-H3 | 22 | 380-415 | 39.5/22.8 | 0.90-0.90 | 92.7 | 2950-2950 | 71.5-71.0 | 830-830 | 280-280 | 320-320 |
| ML160BC-H3 | 18.5 | 220-240/380-415 | 59.5-56.5/34.5-32.5 | 0.89-0.85 | 92.4 | 2940-2950 | 60.0-60.0 | 830-980 | 200-250 | 350-430 |
| ML180BA-H3 | 22 | 220-240/380-415 | 68.5-64/39.5-37 | 0.90-0.90 | 92.7 | 2950-2950 | 71.5-71.0 | 830-830 | 280-280 | 320-320 |

Electrical data

2-pole motors 50 Hz, 200/380 V

| ML Type Designation | KW | 50 HZ VOLTAGE | Full Load Current | Power Factor | Efficiency | Speed | Full Load | Locked | Locked | Break-down |
|---------------------|------|-----------------|---------------------|--------------|------------|-----------|-----------|---------------|--------------|------------|
| | | | | (Cos Phi) | % | RPM | Torque | Rotor Current | Rotor Torque | Torque |
| | | | | | | | NM | % | % | % |
| ML71AB | 0.37 | 200-220/346-380 | 1.90/1.10 | 0.80-0.70 | 78.5* | 2850-2880 | 1.26-1.26 | 490-530 | 300-360 | 330-400 |
| ML71BA | 0.55 | 200-220/346-380 | 2.75/1.58 | 0.80-0.70 | 80.0* | 2830-2850 | 1.86-1.86 | 480-520 | 330-390 | 350-420 |
| ML80AA-H3 | 0.75 | 200-220/346-380 | 3.6/2.08 | 0.81-0.71 | 80.7 | 2840-2870 | 2.50-2.50 | 580-620 | 330-390 | 370-440 |
| ML80CA-H3 | 1.1 | 200-220/346-380 | 4.75/2.75 | 0.83-0.76 | 82.7 | 2840-2870 | 3.70-3.60 | 450-500 | 300-350 | 340-410 |
| ML90CC-H3 | 1.5 | 200-220/346-380 | 5.95/3.45 | 0.87-0.82 | 84.2 | 2890-2910 | 5.00-5.00 | 850-930 | 320-390 | 370-440 |
| ML90FA-H3 | 2.2 | 200-220/346-380 | 8.45/4.85 | 0.89-0.87 | 85.9 | 2890-2910 | 7.25-7.25 | 850-950 | 330-390 | 370-440 |
| ML100DA-H3 | 3.0 | 200-220/346-380 | 12/6.90 | 0.87-0.82 | 87.1 | 2900-2920 | 9.90-9.90 | 840-920 | 320-390 | 410-460 |
| ML112CA-H3 | 4.0 | 200-220/346-380 | 15.0/8.65 | 0.87-0.87 | 88.1 | 2920-2940 | 13.0-13.0 | 1000-1110 | 400-460 | 520-520 |
| ML132DA-H3 | 5.5 | 200-220/346-380 | 21/12.2 | 0.87-0.82 | 89.2 | 2920-2940 | 17.8-17.8 | 1080-1180 | 370-460 | 460-550 |
| ML132EA-H3 | 7.5 | 200-220/346-380 | 27.5-26.5/15.8-15.4 | 0.88-0.82 | 90.1 | 2910-2920 | 24.6-24.6 | 780-910 | 220-260 | 280-330 |
| ML160BA-H3 | 11 | 200-220/346-380 | 39.5-37.5/22.8-21.8 | 0.88-0.84 | 91.2 | 2940-2950 | 36.0-36.0 | 660-780 | 240-280 | 290-350 |
| ML160BB-H3 | 15 | 200-220/346-380 | 53.5-49.5/31-28.5 | 0.89-0.87 | 91.9 | 2930-2950 | 49.0-49.0 | 660-780 | 230-280 | 280-330 |
| ML160BC-H3 | 18.5 | 200-220/346-380 | 65.5-62/38-35.5 | 0.89-0.85 | 92.4 | 2940-2950 | 60.0-60.0 | 830-980 | 200-250 | 350-430 |
| ML180BA-H3 | 22 | 200-220/346-380 | 75.5-68/43.5-39.5 | 0.90-0.90 | 92.7 | 2950-2950 | 71.5-71.0 | 830-830 | 280-280 | 320-320 |

0.75KW - 22KW motors meet IEC per IEC 60034-30
 1.0 Service factor motors
 * Efficiency not defined by IEC Standards

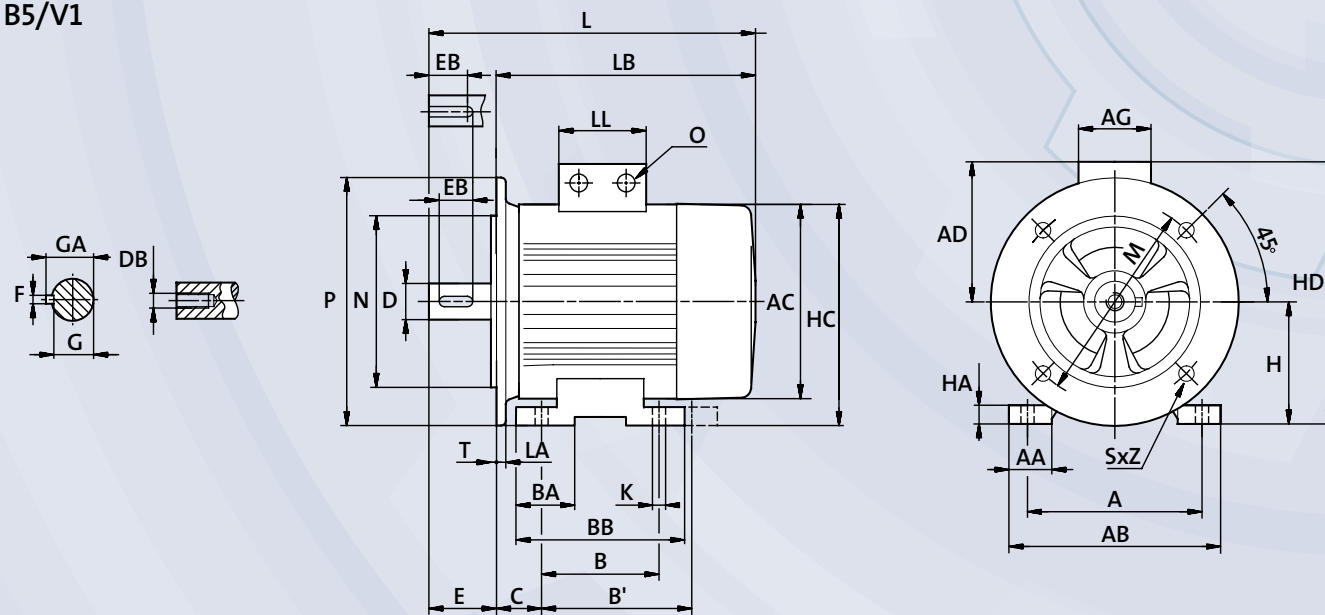
Dimensions

| Frame size | Pole | p2 [kW] | Short type designation | Stator housing | | | | | | Shaft end | | | | | | | Flange B5/V1 | | | | | | Flange B14/V18 | | | | | | Cable entry | | | | | |
|------------|------|---------|------------------------|----------------|-----|-----|-----|-----|-----|-----------|-----|-----|-----|----|------|------|--------------|-----|-----|-----|---------------|-----|------------------|-----|-----|-----|---------|-------------------------------|-------------------------------|---------|----|----|------|------|
| | | | | AC | AD | AG | L | LB | LL | D | DB | E | EB | F | G | GA | LA | M | N | P | SxZ | T | LA | M | N | P | SxZ | T | O | | | | | |
| ML 71 | 2 | 0.37 | ML71AB | 141 | 109 | 82 | 221 | 191 | 82 | 14 (j6) | M5 | 30 | 22 | 5 | 11.0 | 16.0 | - | - | - | - | - | - | 12 ¹⁾ | 85 | 70 | 105 | M6 x 4 | 2.5 | 2 x M20 x 1.5 | | | | | |
| | | 0.55 | ML71BA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ML 80 | 2 | 0.75 | ML80AA-H3 | 141 | 109 | 82 | 271 | 231 | 82 | 19 (j6) | M6 | 40 | 32 | 6 | 15.5 | 21.5 | - | - | - | - | - | - | 12 ¹⁾ | 100 | 80 | 120 | M6 x 4 | 3.0 | 2 x M20 x 1.5 | | | | | |
| | | 1.1 | ML80CA-H3 | | | | 291 | 251 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ML 90 | 2 | 1.5 | ML90CC-H3 | 178 | 110 | 162 | 331 | 281 | 103 | 24(j6) | M8 | 50 | 40 | 8 | 20.0 | 27.0 | - | - | - | - | - | - | 13 ¹⁾ | 115 | 95 | 135 | M8 x 4 | 3.0 | 4 x M20 ²⁾ | | | | | |
| | | 2.2 | ML90FA-H3 | | | | 371 | 321 | | | | | | | | | | | | | | | | | | | | | | 24 (j6) | | | | |
| ML 100 | 2 | 3.0 | ML100DA-H3 | 198 | 120 | 162 | 395 | 335 | 103 | 28 (j6) | M10 | 60 | 50 | 8 | 24.0 | 31.0 | - | - | - | - | - | - | 14 ¹⁾ | 130 | 110 | 160 | M8 x 4 | 3.5 | 4 x M20 ²⁾ | | | | | |
| ML 112 | 2 | 4.0 | ML112CA-H3 | 220 | 134 | 202 | 432 | 372 | 103 | 28(j6) | M10 | 60 | 50 | 8 | 24.0 | 31.0 | - | - | - | - | - | - | 14 ¹⁾ | 130 | 110 | 160 | M8 x 4 | 3.5 | 4 x M25 ²⁾ | | | | | |
| ML 132 | 2 | 5.5 | ML132DA-H3 | 220 | 134 | 202 | 471 | 391 | 103 | 38 (k6) | M12 | 80 | 70 | 10 | 33.0 | 41.0 | 12 | 265 | 230 | 300 | D15 x 4 (M12) | 4.0 | - | - | - | - | - | - | 4 x M25 ²⁾ | | | | | |
| | | 7.5 | ML132EA-H3 | 260 | 159 | 203 | 459 | 379 | 135 | 38 (k6) | M12 | 80 | 70 | 10 | 33.0 | 41.0 | 12 | 265 | 230 | 300 | D15 x 4 (M12) | 4.0 | - | - | - | - | - | - | 4 x M25 ²⁾ | | | | | |
| ML 160 | 2 | 11.0 | ML160BA-H3 | 314 | 204 | 243 | 581 | 471 | 213 | 42 (k6) | M16 | 110 | 82 | 12 | 37.0 | 45.0 | 12 | 300 | 250 | 350 | D19 x 4 (M16) | 5.0 | - | - | - | - | - | - | 4 x M40/2 x M20 ²⁾ | | | | | |
| | | 15.0 | ML160BB-H3 | | | | - | - | | | | | | | | | | | | | | | - | - | - | - | - | - | | - | - | - | - | - |
| | | 18.5 | ML160BC-H3 | | | | 314 | 204 | | | | | | | | | | | | | | | 243 | 625 | 515 | 213 | 42 (k6) | M16 | | 110 | 82 | 12 | 37.0 | 45.0 |
| ML 180 | 2 | 22.0 | ML180BA-H3 | 314 | 204 | 243 | 651 | 541 | 213 | 48 (K6) | M16 | 110 | 100 | 14 | 43.0 | 51.5 | 12 | 300 | 250 | 350 | D19 x 4 (M16) | 5.0 | - | - | - | - | - | 4 x M40/2 x M20 ²⁾ | | | | | | |

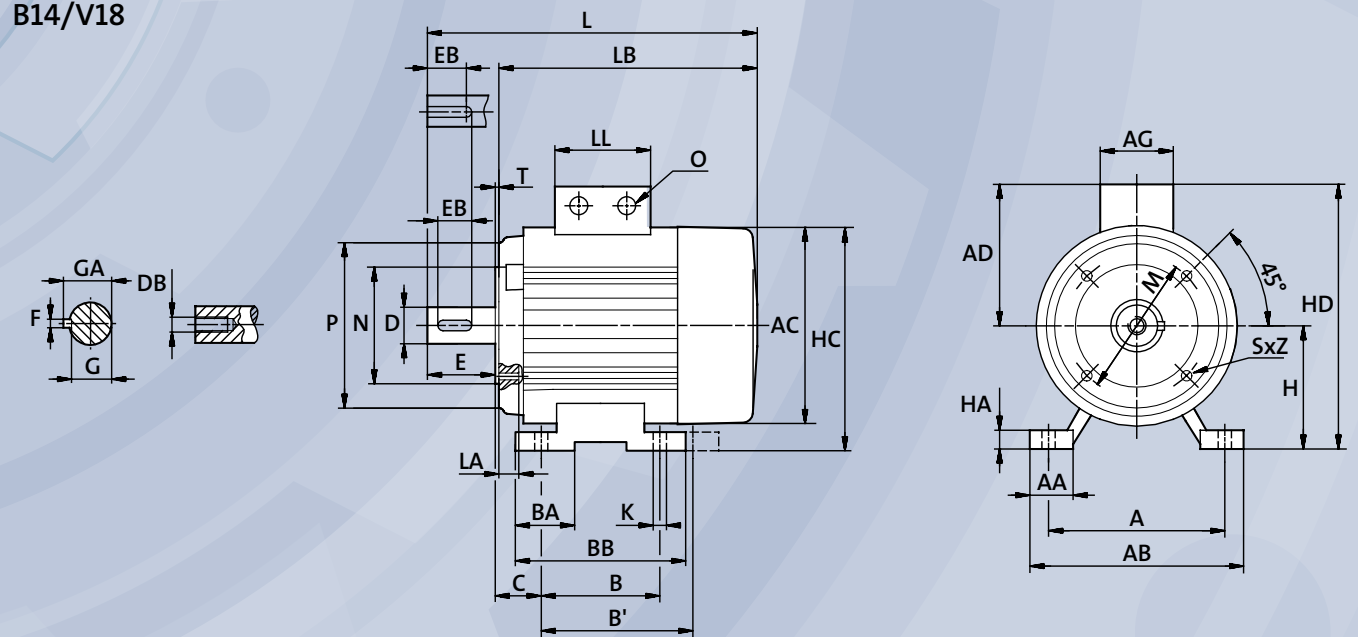
¹⁾ When fitting a component on the motor flange, check that the through-going screws do not penetrate deeper into the flange than the dimension LA. If the screws are too long, they can be screwed into the stator windings.

²⁾ Knockouts

B5/V1



B14/V18



Doing business with Grundfos

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Cost of Ownership is an important consideration when choosing a motor for a specific task. At Grundfos we define Cost of Ownership as the total sum of both the costs and benefits of having a business relationship with us. An important element of this is how Grundfos can assist in reducing operation costs through technical advice, customer training, service, and reliable logistics.

L-ML-SL-002 Rev. 04/2013 (US)

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