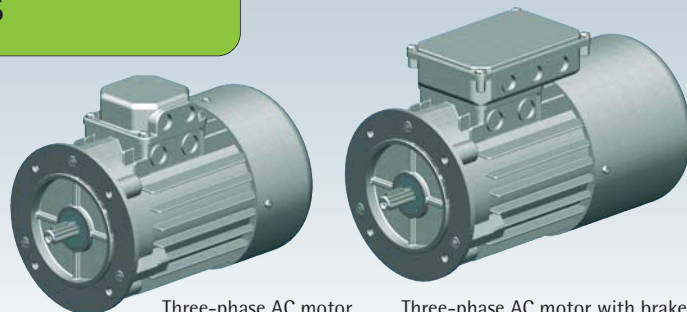


Overview



Three-phase AC motor

Three-phase AC motor with brake

Three-phase AC motors, three-phase AC motors with brakes

Standard three-phase motors (asynchronous)
 No-load speed ~ 1500 rpm (other speeds on request)
 230/400 V Δ 50 Hz, S1 or S3-75%, ISO F
 Three-phase AC motors: IP 55
 Three-phase AC motors with brakes: IP 54

Voltage ranges

220 - 240 V Δ 50 Hz380 - 415 V Δ 50 Hz

380 - 415 V Y 50 Hz

660 - 690 V Y 50 Hz

| Frame size | Power | Rated speed | Rated torque | Rated current at 400 V | for direct-on-line starting | | Breakdown torque to rated torque | Moment of inertia J | Efficiency (at 100% load) | Power factor (at 100% load) | Weight without brake | Weight with brake |
|------------|-------|-------------|--------------|------------------------|-----------------------------------|---------------------------------|----------------------------------|--------------------------|---------------------------|-----------------------------|----------------------|-------------------|
| | | | | | Starting current to rated current | Starting torque to rated torque | | | | | | |
| IEC | kW | rpm | Nm | A | I_A/I_N | M_A/M_N | M_k/M_N | approx. kgm ² | η % | cos | approx. kg | approx. kg |
| 56 | 0.09 | 1300 | 0.66 | 0.35 | 2.5 | 1.8 | 2.0 | 0.0002 | 50.0 | 0.76 | 2.7 | 4.0 |
| 63 | 0.18 | 1330 | 1.30 | 0.65 | 2.3 | 1.9 | 1.9 | 0.0003 | 58.0 | 0.70 | 4.1 | 6.0 |
| 63 | 0.25* | 1340 | 1.81 | 0.94 | 2.2 | 1.7 | 2.5 | 0.0004 | 60.0 | 0.76 | 4.2 | 6.5 |
| 71 | 0.37 | 1360 | 2.60 | 1.2 | 2.8 | 2.0 | 2.0 | 0.0008 | 63.0 | 0.70 | 6.0 | 8.0 |
| 71 | 0.75* | 1370 | 5.33 | 2.1 | 2.9 | 2.1 | 2.4 | 0.0012 | 69.0 | 0.78 | 8.3 | 10.3 |
| 80 | 0.75 | 1410 | 5.10 | 2.0 | 4.5 | 2.2 | 2.8 | 0.0020 | 70.0 | 0.70 | 9.3 | 13.0 |
| 80 | 1.5* | 1390 | 10.4 | 3.4 | 4.1 | 3.2 | 3.2 | 0.0026 | 72.0 | 0.70 | 11.5 | 15.2 |
| 90L | 1.5 | 1410 | 10.3 | 3.7 | 4.9 | 3.0 | 3.0 | 0.0032 | 79.0 | 0.74 | 14.4 | 18.0 |
| 90L | 2.2* | 1400 | 15.2 | 5.2 | 4.5 | 2.7 | 2.7 | 0.0039 | 78.0 | 0.81 | 17.5 | 21.1 |
| 100L | 2.2 | 1420 | 14.8 | 5.3 | 4.0 | 2.3 | 2.7 | 0.0046 | 83.0 | 0.74 | 19.2 | 25.5 |
| 100L | 3.0 | 1410 | 20.3 | 6.7 | 3.9 | 2.3 | 2.5 | 0.0056 | 82.0 | 0.79 | 22.4 | 28.0 |
| 100L | 4.0* | 1420 | 27.0 | 8.9 | 4.0 | 2.2 | 2.2 | 0.0065 | 81.0 | 0.82 | 26.3 | 31.9 |
| 112M | 4.0 | 1440 | 27.0 | 9.4 | 3.3 | 2.5 | 2.9 | 0.0133 | 83.0 | 0.75 | 30.4 | 38.0 |
| 112M | 5.5* | 1440 | 36.4 | 11.7 | 3.9 | 2.1 | 2.3 | 0.0139 | 84.0 | 0.83 | 33.0 | 40.6 |
| 132S | 5.5 | 1440 | 36.0 | 12.0 | 5.8 | 3.0 | 3.0 | 0.0224 | 83.0 | 0.80 | 41.9 | 56.0 |
| 132M | 7.5 | 1440 | 50.0 | 15.4 | 6.8 | 3.1 | 3.1 | 0.0293 | 86.0 | 0.82 | 51.0 | 66.0 |
| 132M | 11* | 1445 | 73.1 | 24.5 | 8.2 | 3.5 | 3.5 | 0.0458 | 83.0 | 0.80 | 74.0 | 89.0 |
| 160M | 11 | 1460 | 72.1 | 20.7 | 7.6 | 2.1 | 2.4 | 0.0832 | 89.1 | 0.86 | 101.0 | 111.0 |
| 160L | 15 | 1460 | 96.2 | 29.2 | 7.1 | 2.4 | 2.6 | 0.1506 | 89.4 | 0.83 | 110.0 | 120.0 |
| 180M | 18.5 | 1465 | 119.0 | 34.3 | 7.1 | 2.3 | 2.6 | 0.1773 | 90.4 | 0.86 | 135.0 | 150.0 |
| 180L | 22 | 1475 | 142.0 | 41.1 | 6.9 | 2.4 | 2.6 | 0.2936 | 90.9 | 0.85 | 145.0 | 160.0 |
| 200L | 30 | 1475 | 190.0 | 54.0 | 6.6 | 2.1 | 2.3 | 0.6345 | 92.1 | 0.87 | 230.0 | 253.0 |
| 225S | 37 | 1470 | 238.0 | 64.7 | 7.0 | 2.3 | 2.5 | 0.3251 | 92.8 | 0.89 | 338.0 | 361.0 |
| 225M | 45 | 1470 | 286.0 | 77.9 | 7.4 | 2.3 | 2.4 | 0.7866 | 92.6 | 0.90 | 358.0 | 381.0 |
| 250M | 55 | 1465 | 359.0 | 94.0 | 7.5 | 2.6 | 2.6 | 0.9483 | 93.4 | 0.90 | 482.0 | 517.0 |
| 250ML | 75 | 1480 | 484.0 | 134.0 | 6.3 | 1.2 | 2.2 | 0.9988 | 94.0 | 0.80 | 535.0 | 570.0 |
| 280S | 75 | 1475 | 476.0 | 136.0 | 6.8 | 2.1 | 2.5 | 1.8495 | 93.5 | 0.85 | 591.0 | 631.0 |
| 280M | 90 | 1485 | 591.0 | 167.0 | 8.3 | 2.5 | 2.9 | 2.2306 | 93.6 | 0.85 | 662.0 | 702.0 |
| 280ML | 110 | 1480 | 710.0 | 190.0 | 6.9 | 2.7 | 3.1 | 2.6800 | 94.0 | 0.89 | 750.0 | 790.0 |
| 315S | 110 | 1485 | 709.0 | 199.0 | 7.5 | 2.3 | 2.5 | 2.8136 | 93.9 | 0.85 | 867.0 | 940.0 |
| 315M | 132 | 1480 | 830.0 | 229.0 | 7.5 | 2.4 | 2.6 | 3.3435 | 94.7 | 0.88 | 990.0 | 1063.0 |
| 315M | 160 | 1485 | 1040.0 | 277.0 | 7.3 | 2.7 | 2.7 | 3.3435 | 94.7 | 0.88 | 1003.0 | 1076.0 |
| 315M | 200 | 1485 | 1277.0 | 349.0 | 7.6 | 2.4 | 2.6 | 3.3435 | 95.0 | 0.87 | 1003.0 | 1076.0 |
| 355M | 250 | 1475 | 1619.0 | 432.0 | 7.5 | 2.4 | 2.5 | 5.8740 | 95.0 | 0.88 | 1380.0 | 1490.0 |
| 355M | 315 | 1485 | 2024.0 | 542.0 | 6.9 | 2.5 | 2.6 | 6.8900 | 95.3 | 0.88 | 1600.0 | 1790.0 |

*Power is higher than the IEC standard (progressive)



Sizes 63 to 132 available on short lead times
 Sizes 160 to 355 available on request

CAUTION:

Overdimensioning the motor power risks overstressing other components. The effects must be considered not only under load but also for the no-load case.

We supply motor brakes as standard for a connection voltage of 230V AC, operating voltage 205 V DC, with bridge rectifiers.



Ordering example:

90-P4-1.5-B5-B-2W

Size
 Number of poles - speed
 4-pole = 1500 rpm
 Power [kW]
 Design
 with brake (if required)
 with a second shaft end (if required)

Three-phase AC motors, general information

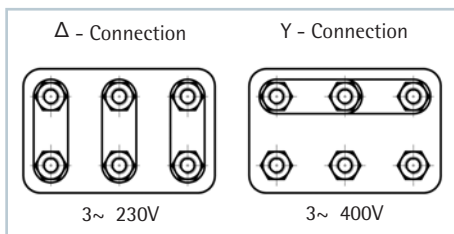


Connection arrangement

The motors usually have a terminal board with 6 terminals and a protective earth terminal in the terminal box. The stator winding can be switched into star or delta connection using the connection links.

Star/delta starting is not suitable for screw jack systems because full torque is required immediately on starting.

For motor windings 230/400V (example)



Operating voltage 230V delta:
Motor windings 230/400V

Operating voltage 400V delta:
Motor windings 400/660V

Direction of rotating

Motors can be arranged for either direction of rotation. When the line phases L1, L2, L3 are connected to the motor terminals U1, V1, W1, the direction of rotation is clockwise. Swapping over two of the supply lines reverses the direction of rotation.

Speeds

Three-phase AC motors have different rotational speeds depending on the number of poles. Generally we recommend our standard motor with 1500 rpm (4 poles).

Other numbers of poles are available on request. Pole-changing motors allow a choice of 2 different rotational speeds.

| Speed (50 Hz) | Number of poles |
|---------------|----------------------|
| 3000 | 2 |
| 1500 | 4 (= preferred type) |
| 1000 | 6 |
| 750 | 8 |
| 500 | 12 |

Geared motors

Geared motors are available for particular projects on request.

Operation with frequency converters

Especially for larger screw jacks and systems, we recommend the use of a frequency converter to achieve smooth start-up and brake ramps. This minimizes start-up noise and extends the service life of the gearbox.

When operating with a frequency converter, remember that if the motor is to be operated for extended periods at frequencies less than 25 Hz, its fan must be driven separately. This is necessary to ensure adequate motor cooling.

When operating a braked motor with a frequency converter, a separate actuation line for the brake must be provided via the frequency converter.

Braked motor

We recommend using a braked motor to minimise the overrun time of the system. Where a screw jack is fitted with a ball screw or a double-pitch screw, a braked motor is absolutely essential. We supply motor brakes as standard for a connection voltage of 230V AC / operating voltage 205V DC, with bridge rectifiers.

Other connection voltages (24V DC, 400V AC, 500V AC) are available on request.

Temperature monitoring

Generally we do not supply temperature monitoring because screw jack duty cycles are normally quite low or the motor is adequately dimensioned.

Temperature control thermal resistor (PTC) or bimetal (TKÖ) is available on request.

Some types are available ex stock with thermal resistor (PTC).

Permanent-magnet DC motors



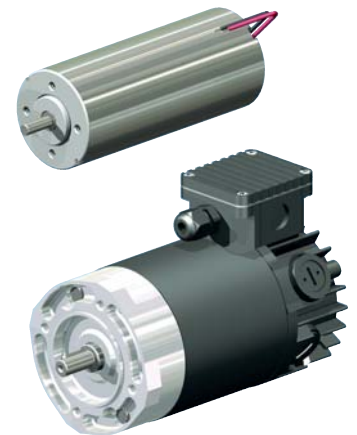
24V DC, IP 54, with terminal box

| Frame size IEC | Power [P] | Speed [rpm] | Rated torque*** [Nm] | Starting torque [Nm] | Voltage [V] | Rated current [A] | Motor length (without shaft) | Weight [kg] |
|----------------|-----------|-------------|----------------------|----------------------|-------------|-------------------|------------------------------|-------------|
| Ø53 | 60W | 3000 | 0.17 | 1.4 | 24V DC | 2.9 | 128 | 1.2 |
| 56, B14C Ø80 | 85W | 1500** | 0.53 | 1.5 | 24V DC | 4.5 | 149* | 2.7 |
| 56, B14C Ø80 | 165W | 1500** | 1.0 | 3.0 | 24V DC | 8.8 | 196* | 4.3 |
| 56, B14C Ø80 | 250W | 1500** | 1.6 | 4.5 | 24V DC | 13.5 | 241* | 5.6 |

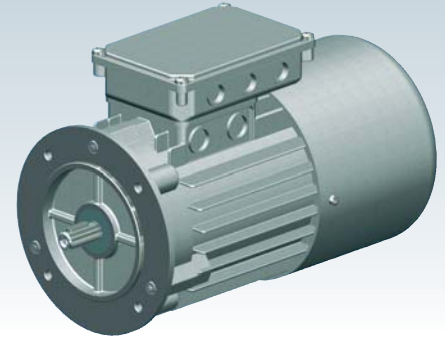
*Optional brake available (24V DC, 13W, 2 Nm, 1.1 kg), + 44 mm length

** 3000 rpm motor available on request, torque remains the same

*** Short-term operation at twice the torque is possible

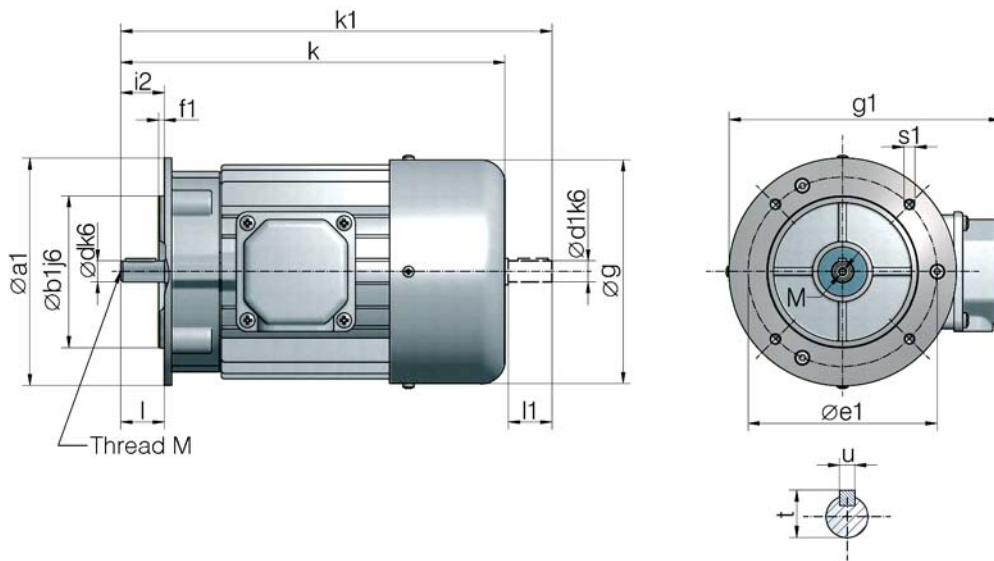


Other sizes available on request



Three-phase AC motors, three-phase AC motors with brakes, flange profile B14B, large flange

B14: Flange with internal thread
B: Large flange



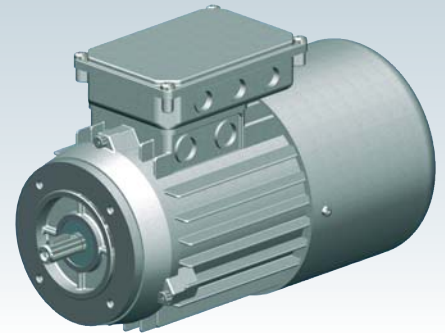
We reserve the right to change the dimensions without changing the motor designation.

| Size | a1 | b1 | e1 | f1 | g | i2 | s1 | d | l | t | u |
|------|-----|-----|-----|-----|-----|----|-----|----|----|------|---|
| 63 | 120 | 80 | 100 | 3.0 | 125 | 23 | M6 | 11 | 23 | 12.5 | 4 |
| 71 | 140 | 95 | 115 | 3.0 | 141 | 30 | M8 | 14 | 30 | 16.0 | 5 |
| 80 | 160 | 110 | 130 | 3.5 | 159 | 40 | M8 | 19 | 40 | 21.5 | 6 |
| 90 | 160 | 110 | 130 | 3.5 | 179 | 50 | M8 | 24 | 50 | 27.0 | 8 |
| 100 | 200 | 130 | 165 | 3.5 | 199 | 60 | M10 | 28 | 60 | 31.0 | 8 |
| 112 | 200 | 130 | 165 | 3.5 | 223 | 60 | M10 | 28 | 60 | 31.0 | 8 |

These dimensions are standardised and thus always remain the same.

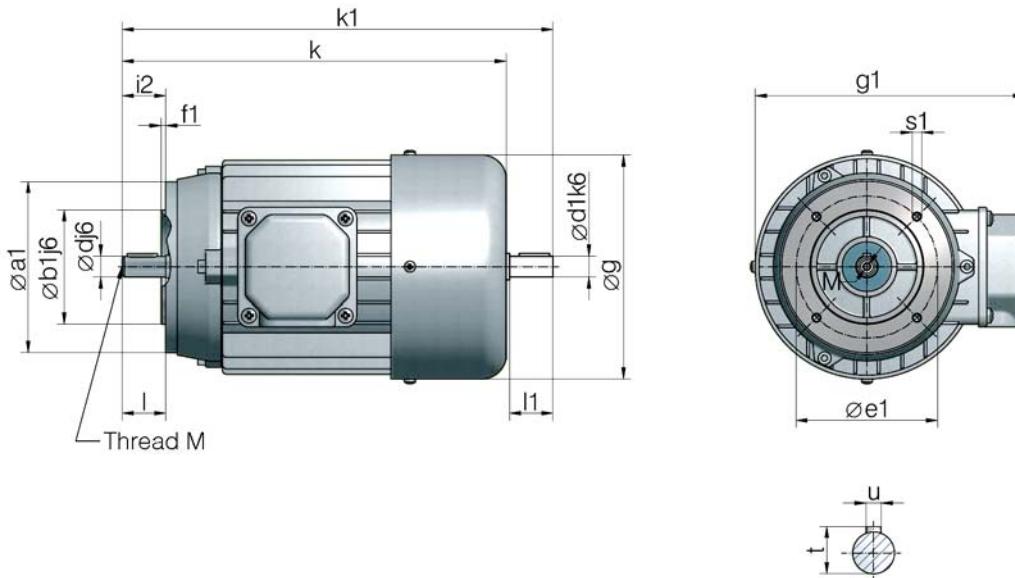
| Size | kW (4-pole) | without brake | | | | with brake | with brake and second shaft end | | | | M | |
|------|----------------|---------------|-----|----|----|------------|---------------------------------|-----|----|----|-----|----|
| | | k | k1 | d1 | l1 | k | k | k1 | d1 | l1 | | g1 |
| 63 | 0.18 | 212 | 238 | 11 | 23 | 261 | 261 | 285 | 9 | 20 | 172 | 4 |
| 63 | 0.25 | 212 | 238 | 11 | 23 | 239 | 261 | 285 | 9 | 20 | 172 | 4 |
| 71 | 0.37 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 188 | 5 |
| 71 | 0.75 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 188 | 5 |
| 80 | 0.75 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 211 | 6 |
| 80 | 1.5 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 211 | 6 |
| 90 | 1.5 | 329 | 378 | 24 | 50 | 390 | 390 | 432 | 19 | 40 | 227 | 8 |
| 90 | 2.2 | 329 | 378 | 24 | 50 | 348 | 390 | 432 | 19 | 40 | 227 | 8 |
| 100 | 3.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 248 | 10 |
| 100 | 4.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 248 | 10 |
| 112 | 5.5 | 391 | 448 | 28 | 60 | 456 | 456 | 511 | 24 | 50 | 266 | 10 |

These dimensions are our standard (4-pole), but may vary in individual cases.



Three-phase AC motors, three-phase AC motors with brakes, flange profile B14C, small flange

B14: Flange with internal thread
C: Small flange



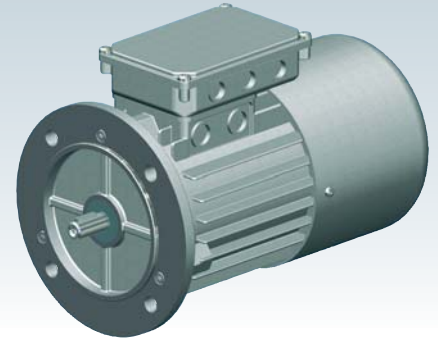
i We reserve the right to change the dimensions without changing the motor designation.

| Size | a1 | b1 | e1 | f1 | g | i2 | s1 | d | l | t | u |
|------|-----|-----|-----|-----|-----|----|-----|----|----|------|----|
| 56 | 80 | 50 | 65 | 2.5 | 110 | 20 | M5 | 9 | 20 | 10.2 | 3 |
| 63 | 90 | 60 | 75 | 2.5 | 125 | 23 | M5 | 11 | 23 | 12.5 | 4 |
| 71 | 105 | 70 | 85 | 2.5 | 141 | 30 | M6 | 14 | 30 | 16.0 | 5 |
| 80 | 120 | 80 | 100 | 3.0 | 159 | 40 | M6 | 19 | 40 | 21.5 | 6 |
| 90 | 140 | 95 | 115 | 3.0 | 179 | 50 | M8 | 24 | 50 | 27.0 | 8 |
| 100 | 160 | 110 | 130 | 3.5 | 199 | 60 | M8 | 28 | 60 | 31.0 | 8 |
| 112 | 160 | 110 | 130 | 3.5 | 223 | 60 | M8 | 28 | 60 | 31.0 | 8 |
| 132 | 200 | 130 | 165 | 4.0 | 258 | 80 | M10 | 38 | 80 | 41.0 | 10 |

These dimensions are standardised and thus always remain the same.

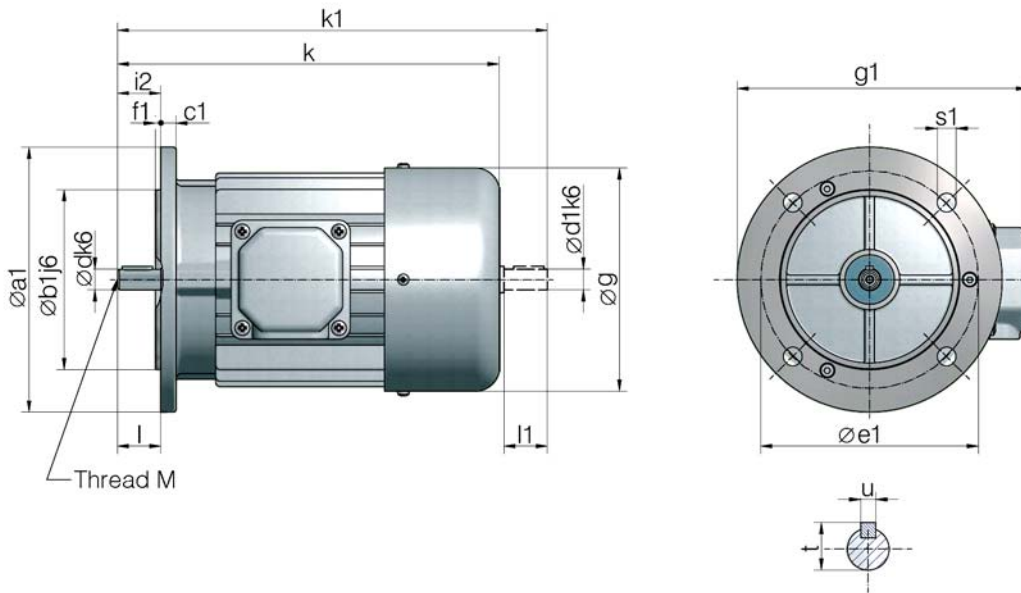
| Size | kW (4-pole) | without brake | | | | with brake | with brake and second shaft end | | | | M | |
|------|----------------|---------------|-----|----|----|------------|---------------------------------|-----|----|----|-----|----|
| | | k | k1 | d1 | l1 | k | k | k1 | d1 | l1 | | g1 |
| 56 | 0.09 | 189 | 212 | 9 | 20 | 243 | 243 | - | - | - | 161 | 4 |
| 63 | 0.18 | 212 | 238 | 11 | 23 | 261 | 261 | 285 | 9 | 20 | 172 | 4 |
| 63 | 0.25 | 212 | 238 | 11 | 23 | 239 | 261 | 285 | 9 | 20 | 172 | 4 |
| 71 | 0.37 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 188 | 5 |
| 71 | 0.75 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 188 | 5 |
| 80 | 0.75 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 211 | 6 |
| 80 | 1.5 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 211 | 6 |
| 90 | 1.5 | 329 | 378 | 24 | 50 | 390 | 390 | 432 | 19 | 40 | 227 | 8 |
| 90 | 2.2 | 329 | 378 | 24 | 50 | 348 | 390 | 432 | 19 | 40 | 227 | 8 |
| 100 | 3.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 248 | 10 |
| 100 | 4.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 248 | 10 |
| 112 | 5.5 | 391 | 448 | 28 | 60 | 456 | 456 | 511 | 24 | 50 | 266 | 10 |
| 132 | 7.5 | 490 | 570 | 38 | 80 | 585 | - | - | - | - | 326 | 12 |

These dimensions are our standard (4-pole), but may vary in individual cases.



Three-phase AC motors, three-phase AC motors with brakes, flange profile B5

B5: Flange with through holes



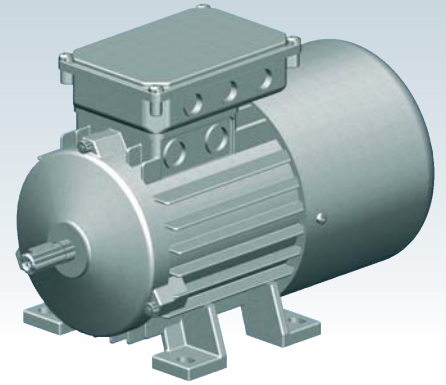
We reserve the right to change the dimensions without changing the motor designation.

| Size | a1 | b1 | c1 | e1 | f1 | g | i2 | s1 | d | l | t | u |
|------|-----|-----|----|-----|-----|-----|----|------|----|----|------|---|
| 63 | 140 | 95 | 5 | 115 | 3.0 | 125 | 23 | 9.5 | 11 | 23 | 12.5 | 4 |
| 71 | 160 | 110 | 7 | 130 | 3.5 | 141 | 30 | 9.5 | 14 | 30 | 16.0 | 5 |
| 80 | 200 | 130 | 8 | 165 | 3.5 | 159 | 40 | 11.5 | 19 | 40 | 21.5 | 6 |
| 90 | 200 | 130 | 8 | 165 | 3.5 | 179 | 50 | 11.5 | 24 | 50 | 27.0 | 8 |
| 100 | 250 | 180 | 10 | 215 | 4.0 | 199 | 60 | 14 | 28 | 60 | 31.0 | 8 |
| 112 | 250 | 180 | 10 | 215 | 4.0 | 223 | 60 | 14 | 28 | 60 | 31.0 | 8 |

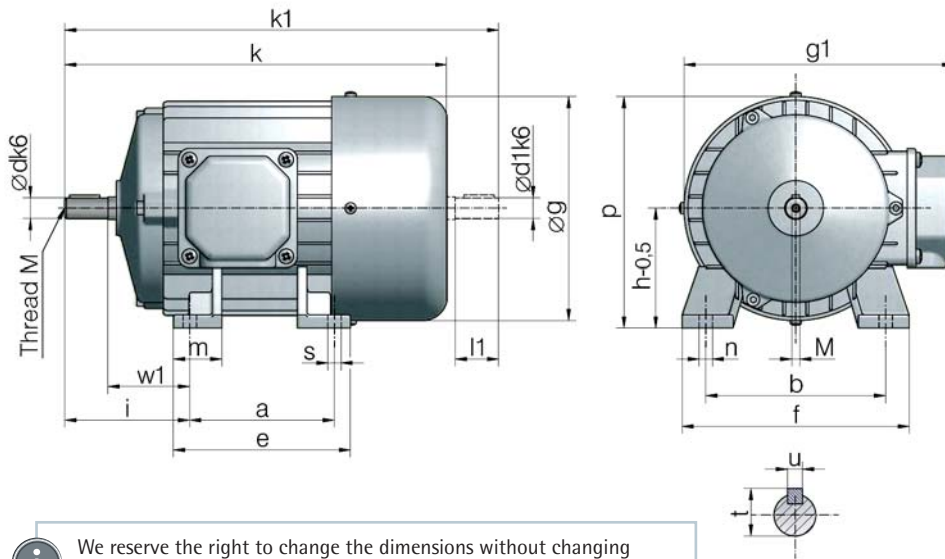
These dimensions are standardised and thus always remain the same.

| Size | kW | without brake | | | | with brake | with brake and second shaft end | | | | | |
|------|------|---------------|-----|----|----|------------|---------------------------------|-----|----|----|-----|----|
| | | k | k1 | d1 | l1 | k | k | k1 | d1 | l1 | g1 | M |
| 63 | 0.18 | 212 | 238 | 11 | 23 | 261 | 261 | 285 | 9 | 20 | 172 | 4 |
| 63 | 0.25 | 212 | 238 | 11 | 23 | 239 | 261 | 285 | 9 | 20 | 172 | 4 |
| 71 | 0.37 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 188 | 5 |
| 71 | 0.75 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 188 | 5 |
| 80 | 0.75 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 211 | 6 |
| 80 | 1.5 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 211 | 6 |
| 90 | 1.5 | 329 | 378 | 24 | 50 | 390 | 390 | 432 | 19 | 40 | 227 | 8 |
| 90 | 2.2 | 329 | 378 | 24 | 50 | 348 | 390 | 432 | 19 | 40 | 227 | 8 |
| 100 | 3.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 248 | 10 |
| 100 | 4.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 248 | 10 |
| 112 | 5.5 | 391 | 448 | 28 | 60 | 456 | 456 | 511 | 24 | 50 | 266 | 10 |

These dimensions are our standard (4-pole), but may vary in individual cases.



Three-phase AC motors, three-phase AC motors with brakes, pedestal mounted type B3



For this type, we can supply a flanged motor (e.g.: B14) with additional pedestal mounts fitted. This version is generally available on a shorter lead time. The dimensions remain the same.

Please specify the terminal box position (top, right or left when looking at the motor shaft). If not otherwise specified, we deliver up to size 112 with the box on top and from size 132 with it on the right.

i We reserve the right to change the dimensions without changing the motor designation.

| Size | a | b | g | h | i | p* | s | n | w1 | d | l | t | u |
|------|-----|-----|-----|-----|-----|-----|----|----|-----|----|-----|------|----|
| 63 | 80 | 100 | 125 | 63 | 63 | 126 | 7 | 11 | 40 | 11 | 23 | 12.5 | 4 |
| 71 | 90 | 112 | 141 | 71 | 75 | 142 | 7 | 7 | 45 | 14 | 30 | 16.0 | 5 |
| 80 | 100 | 125 | 159 | 80 | 90 | 160 | 9 | 17 | 50 | 19 | 40 | 21.5 | 6 |
| 90 | 125 | 140 | 179 | 90 | 106 | 180 | 9 | 17 | 56 | 24 | 50 | 27.0 | 8 |
| 100 | 140 | 160 | 199 | 100 | 123 | 200 | 12 | 20 | 63 | 28 | 60 | 31.0 | 8 |
| 112 | 140 | 190 | 223 | 112 | 130 | 224 | 12 | 21 | 70 | 28 | 60 | 31.0 | 8 |
| 132S | 140 | 216 | 262 | 132 | 169 | 264 | 12 | - | 89 | 38 | 80 | 41.0 | 10 |
| 132M | 178 | 216 | 262 | 132 | 169 | 264 | 12 | - | 89 | 38 | 80 | 41.0 | 10 |
| 160M | 210 | 254 | 318 | 160 | 218 | 320 | 14 | - | 108 | 42 | 110 | 45.0 | 12 |
| 160L | 254 | 254 | 318 | 160 | 218 | 320 | 14 | - | 108 | 42 | 110 | 45.0 | 12 |
| 180M | 241 | 279 | 358 | 180 | 231 | 360 | 14 | - | 121 | 48 | 110 | 51.5 | 14 |
| 180L | 279 | 279 | 358 | 180 | 231 | 360 | 14 | - | 121 | 48 | 110 | 51.5 | 14 |
| 200L | 305 | 318 | 398 | 200 | 243 | 400 | 19 | - | 133 | 55 | 110 | 59.0 | 16 |

These dimensions are standardised and thus always remain the same.

* The height g1 is for top-mounted terminal boxes

| Size | kW | without brake | | | | with brake | with brake and second shaft end | | | | c | e | f | g1 | M |
|------|------|---------------|-----|----|----|------------|---------------------------------|-----|----|----|----|-----|-----|-----|----|
| | | k | k1 | d1 | l1 | k | k1 | d1 | l1 | | | | | | |
| 63 | 0.18 | 212 | 238 | 11 | 23 | 261 | 261 | 285 | 9 | 20 | 10 | 105 | 120 | 172 | 4 |
| 63 | 0.25 | 212 | 238 | 11 | 23 | 239 | 261 | 285 | 9 | 20 | 10 | 105 | 120 | 172 | 4 |
| 71 | 0.37 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 11 | 108 | 136 | 188 | 5 |
| 71 | 0.75 | 248 | 281 | 14 | 30 | 263 | 295 | 325 | 11 | 23 | 11 | 108 | 136 | 188 | 5 |
| 80 | 0.75 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 11 | 125 | 154 | 211 | 6 |
| 80 | 1.5 | 277 | 315 | 19 | 40 | 310 | 330 | 375 | 19 | 40 | 11 | 125 | 154 | 211 | 6 |
| 90 | 1.5 | 329 | 378 | 24 | 50 | 390 | 390 | 432 | 19 | 40 | 13 | 155 | 174 | 227 | 8 |
| 90 | 2.2 | 329 | 378 | 24 | 50 | 348 | 390 | 432 | 19 | 40 | 13 | 155 | 174 | 227 | 8 |
| 100 | 3.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 14 | 175 | 192 | 248 | 10 |
| 100 | 4.0 | 369 | 429 | 28 | 60 | 451 | 433 | 487 | 24 | 50 | 14 | 175 | 192 | 248 | 10 |
| 112 | 5.5 | 391 | 448 | 28 | 60 | 456 | 456 | 511 | 24 | 50 | 14 | 175 | 224 | 266 | 10 |
| 132S | 5.5 | 452 | - | - | - | 547 | - | - | - | - | 16 | 180 | 256 | 326 | 12 |
| 132M | 7.5 | 490 | - | - | - | 585 | - | - | - | - | 16 | 219 | 256 | 326 | 12 |
| 160M | 11.0 | 608 | - | - | - | - | - | - | - | - | 23 | 264 | 320 | 395 | 16 |
| 160L | 15.0 | 652 | - | - | - | - | - | - | - | - | 23 | 306 | 320 | 395 | 16 |

These dimensions are our standard (4-pole), but may vary in individual cases.