# Motor Catalogue 2013
# Issue 1

01299 252990 01299 253597






www.tecmotors.co.uk

# TEC ELECTRIC MOTORS

01299 252990 01299 253597




TEC Electric Motors is a newly formed company with a wealth of experience. The TEC management team are well known and respected in the power transmission industry and have a proven track record.



NEW PRODUCTS

TEC's current average yearly sales increase of 35% over a 7 year period has resulted in the company becoming the UK's largest independent motor stockist. TEC has recently purchased an additional warehouse, increasing our work area to over 35,000 sq ft, with plans to more than double this over the next 2 years. This coupled with over £4 million worth of stock, makes TEC Electric Motors the number 1 choice for all of your motor requirements.



IN HOUSE MACHINING

June 2011 saw the opening of our specials division. In recent years it has become apparent that many companies are able to provide "off the shelf" standard products. TEC has recognised the need for a motor company that is able to provide specialist and custom product solutions on quick delivery times.

The new facility has the full machining capabilities to take standard stock motors and modify for encoders, retro fit brake units, customer specific shafts, turning, milling welding, shaft pressing - basically anything that can be done at the factory will be available "in-house" and at a highly competitive price.

TEC's strategy is to eliminate the need to wait for factory deliveries which can vary on country of origin from 6 to 20 weeks. Many customers are looking for single or low volume special products on a reduced lead time. TEC can provide delivery time from point-of-order to shipping within 2 weeks ..... unbeatable in the UK!!

TEC Electric Motors entered into a joint venture partnership with Shanghai Top Motor Co in April 2012. TECHTOP are the largest manufacturer of aluminium electric motors in China, accounting for some 66% of China's motor exports in 2011, and having many high profile customers.

TEC will now form part of a global organisation with TECHTOP's partners in America, Australia, France, Germany, Spain, Greece, Holland and Italy to name but a few. Creating access to an additional stock holding of over £35 million.



JOINT VENTURE

If you are looking for an electric motor supplier with a dedicated team, integrity and reliability, we are sure you will not be disappointed.

**www.tecmotors.co.uk**

## Company Profile

**Company Information:**
TEC Electric Motors were formed following a management buyout of the former TEE Distribution Company.

**Year formed:** 2005
**Number of staff:** 28
**HQ location:** Worcestershire
**Turnover:** £14 million
**Markets:** HVAC, Conveyor, Pump, Hydraulic, Offshore, Distribution.

**Products:**

- 2/4/6/8/10/12 Pole
- 56-355 frame
- Multi mount 56-200 Aluminium
- Multi mount 80-280 Cast Iron
- Fixed feet 315-355 Cast Iron
- IE1, IE2, IE3 Efficiency rated motors
- IE3 motors ECA approved
- Increased output IE1 and IE2
- 1ph motors 56-112 frame
- 1ph motors 230v/110v
- 60hz 1ph motors also available
- ATEX EExde Zone 1 71-355 frame
- ATEX Zone 2/22 56-355 frame
- ATEX Zone 21 & ATEX 1ph
- Brake motors, retro brake fitting
- Two speed Dual & Tap wound
- Special voltage, special shaft
- Vector encoder motors
- Forced ventilated motors
- In-line gearboxes
- Right angle worm boxes
- Mechanical speed variators
- Inverters - IP65, IP31 & IP20
- Double reduction units
- Helical in-lines

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# THE COMPANY

## TEC Electric Motors is a newly formed company with a wealth of experience.

TEC are the UK's biggest independent motor distributor **with over £5 million pounds of UK stock in the main Worcestershire warehouse and 3 other strategically** located warehouses throughout the UK.
TEC will now form part of a global organisation with TECHTOP's partners creating access to an additional European stock holding of over £35 million pounds.



Main Warehouse



TEC Wales Warehouse



Head office and specials division



TEC Northern Warehouse

# Standards and Standardisations

## Motors in the TECA, ECOL TA & ECOL TC design comply with the following Standards:

RATINGS AND PERFORMANCES
IEC 60034-1 CEI EN 60034- 1

METHODS FOR DETERMINING LOSSES AND EFFICIENCY IEC 60034-2 CEI EN 60034-2

ROTATING ELECTRICAL MACHINES, PART 30, EFFICIENCY CLASSES OF SINGLE SPEED, THREE-PHASE INDUCTION MOTORS (IE CODE)
IEC 60034-30 edition 1

CLASSIFICATION OF DEGREES OF PROTECTION (IP CODE) IEC 60034-5 CEI EN 60034-5

METHODS OF COOLING (IC CODE)
IEC 60034 - 6 CEI EN 60034-6

CLASSFICATION OF TYPE OF CONSTRUCTION MOUNTING ARRANGEMENTS (IM CODE)
IEC 60034-7 CEI EN 60034-7

TERMINAL MARKINGS AND DIRECTION OF ROTATION
IEC 60034-8 CEI 2-8

NOISE LIMITS
IEC 60034-9 CEI EN 60034- 9

BUILT-IN THERMAL PROTECTION
IEC 60034-11

STARTING PERFORMANCE OF ROTATING ELECTRICAL MACHINES
IEC 60034- 12 CEI EN 60034 - 12

MECHANICAL VIBRATIONS
IEC 60034-14 CEI EN 60034-14

DIMENSIONS AND OUTPUTS FOR ELECTRICAL MACHINES
CEI EN50347 IEC 60072-1 IEC 60072-2

The coupling dimensions are in compliance with the following standardisations:
UNEL 13113-71 for the B3 mounting and for other frame types
UNEL 13117-71 for the B5 mounting and for other frame types

The UNEL standardisations are in accordance with the IEC international standards publication 72 and relative Amendment Nr. 1.

Qualified for Energy Technology List
www.eca.gov.uk
Authorised User No. 00365

# General Features

## High efficiency motors

All TEC motors are manufactured in line with the new european standard for high efficiency. (TECA and ECOL design)
The motors are totally enclosed, fan cooled, with squirrel cage rotor.
IEC 60034-30 standard defines three IE (International Efficiency) efficiency classes of single speed three-phase cage induction motors; 50Hz and 60Hz; 2,4,6 pole; rated voltage up to 1000V, duty type S1-S8 with a rated cyclic duration factor of 80% or higher operating direct on line.

- IE1 standard efficiency, S2 rated/Ex motors/45°C ambient rated motors
- IE2 high efficiency from 0,75 to 375 Kw, obligatory in Europe from 16.07.2012
- IE3 premium efficiency from 7.5 to 375 Kw, obligatory in Europe from 01.01.2015 and from 0,75 to 375 Kw obligatory in Europe from 01.01.2017

| Rated Power Output (kW) | Efficiency at full load | | |
|---|---|---|---|
| | 2 Pole | 4 Pole | 6 Pole |
| 0.75 | >=80.7 | >=82.5 | >=78.9 |
| 1.1 | >=82.7 | >=84.1 | >=81.0 |
| 1.5 | >=84.2 | >=85.3 | >=82.5 |
| 2.2 | >=85.9 | >=86.7 | >=84.3 |
| 3 | >=87.1 | >=87.7 | >=85.6 |
| 4 | >=88.1 | >=88.6 | >=86.8 |
| 5.5 | >=89.2 | >=89.6 | >=88.0 |
| 7.5 | >=90.1 | >=90.4 | >=89.1 |
| 11 | >=91.2 | >=91.4 | >=90.3 |
| 15 | >=91.9 | >=92.1 | >=91.2 |
| 18.5 | >=92.4 | >=92.6 | >=91.7 |
| 22 | >=92.7 | >=93.0 | >=92.2 |
| 30 | >=93.3 | >=93.6 | >=92.9 |
| 37 | >=93.7 | >=93.9 | >=93.3 |
| 45 | >=94.0 | >=94.2 | >=93.7 |
| 55 | >=94.3 | >=94.6 | >=94.1 |
| 75 | >=94.7 | >=95.0 | >=94.6 |
| 90 | >=95.0 | >=95.2 | >=94.9 |
| 110 | >=95.2 | >=95.4 | >=95.1 |
| 132 | >=95.4 | >=95.6 | >=95.4 |
| 160 | >=95.6 | >=95.8 | >=95.6 |
| 200 | >=95.8 | >=96.0 | >=95.8 |
| 250 | >=95.8 | >=96.0 | >=95.8 |
| 280 | >=95.8 | >=96.0 | >=95.8 |
| 315 | >=95.8 | >=96.0 | >=95.8 |
| 355 | >=95.8 | >=96.0 | >=95.8 |
| 375 | >=95.8 | >=96.0 | >=95.8 |
| 400 | >=95.8 | >=96.0 | >=95.8 |

# Mounting Positions

| Mounting Position | Motor Frame | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56 | 63 | 71 | 80 | 90 | 100 | 112 | 132 | 160 | 180 | 200 | 225 | 250 | 280 | 315 | 355 |
| B3 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| B35 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . | . |
| B5 | . | . | . | . | . | . | . | . | . | | | | | | | |
| B6 | . | . | . | . | . | . | . | . | . | . | . | . | . | . | | |
| B7 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| B8 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| B14 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V1 | . | . | . | . | . | . | . | . | . | | . | . | . | . | . | . |
| V1/V5 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V3 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V3/V6 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V5 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V5/V18 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V6 | . | . | . | . | . | . | . | . | . | | | | | | | |
| V6/V19 | . | . | . | . | . | . | . | . | . | . | | | | | | |
| V18 | . | . | . | . | . | . | . | . | . | | | | | | | |
| V19 | . | . | . | . | . | . | . | . | . | | | | | | | |

## Foot Mount



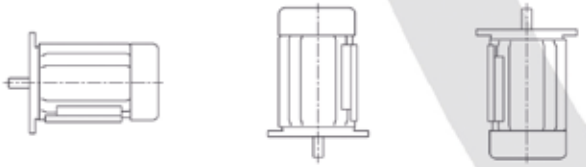
B3 (IM1001) | V5 (IM1011) | V6 (IM1031) | B6 (IM1051) | B7 (IM1061) | B8 (IM1071)

## Large Flange



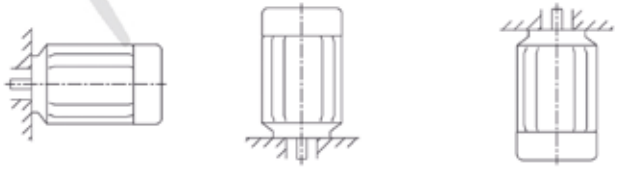
B5 (IM3001) | V1 (IM3011) | V3 (IM3031)

## Large Flange and feet



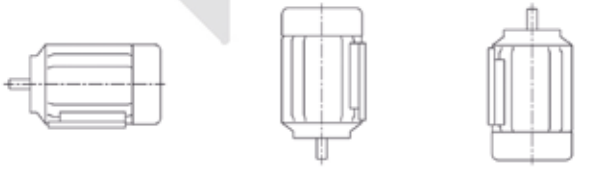
B3/B5 (IM2001) | V1/V5 (IM2011) | V3/V6 (IM2031)

## B14 Face



B14 (IM3601) | V18 (IM3611) | V19 (IM3631)

## B14 face and feet



B3/B14 (IM2101) | V5/V18 (IM2111) | V6/V9 (IM2131)

# Protection

TEC motors are manufactured in compliance with IEC 60034-5 standards.

**IP55 (standard)** totally enclosed motors, fan cooled, protected against penetration from dust and water ingress coming from any direction.

**IP56/IP65 (upon request)** totally enclosed motors, fan cooled, protected against dust penetration and weatherproof, for use on deck.

Normally IP56/IP65 motors are supplied with external fan (IC 411 - IC 416 or IC 418).
Upon request they can be supplied without fan (IC 410). In this case the features, outputs and technical data will be supplied upon request.

The cooling fan is protected by a fan cowl with IP20 protection degree, in line with safety standards.
Motors for vertical mounting V 1, V5, V1N5 can be supplied with rain canopy.
The terminal box, in aluminium or cast iron, has IP55 or IP56 protection degree

# General Construction Features

The motors have been designed and manufactured in compliance with international standards

TECA and ECOL TA aluminium designs are available in frame sizes 56-200.
The fan cowl is made from steel sheet. Flanges and end-shields are aluminium.

ECOL TC and TECC cast iron designs are available in frame sizes 132 - 355.
The fan cowl is made from steel sheet. Flanges and end-shields are cast iron.

Terminal boxes as standard are on the top of the motor, they can be rotated in steps of 90°. The end user can modify the terminal box to be on the left or the right side in frame sizes 56 to frame size 280.

Fans are in nylon, upon request can be supplied with fans in aluminium or steel.
Feet are detachable on all series, from frame sizes 56 to frame size 280.

# Cooling

The designation of cooling method is given by the IC (International Cooling) code, according to IEC 60034-6

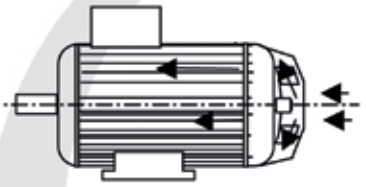
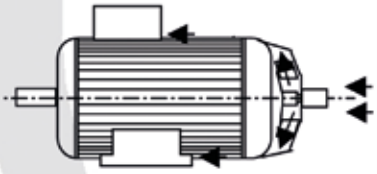
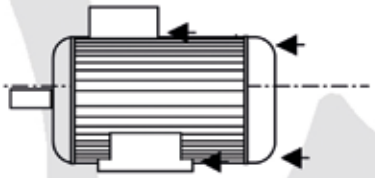
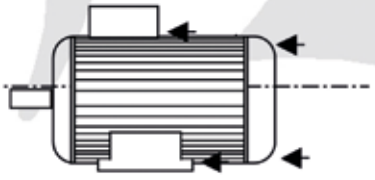
Code I (Simplified) IC _ _ _

Circuit Arrangement I

Method of fluid circulation for the secondary cooling fluid.

Method of fluid circulation for the primary cooling fluid.

Motors in standard production from 56 to 355 are supplied with IC 411 cooling systems, incorporating a bi-directional fan.
All frame sizes can be supplied with cooling system IC 416 on request.
In this case an additional fan is fitted inside the fan cover, suitably reinforced, in order to make the ventilation independent of the motors rotational speed.

| IC CODE | FIGURE | DESCRIPTION | NOTE |
|---|---|---|---|
| IC 411 |  | Self ventilating motor.<br>Enclosed machine.<br>Externally finned.<br>External shaft-mounted fan. | Standard |
| IC 416 |  | Motor with assisted ventilation.<br>Enclosed machine.<br>Externally finned.<br>Independent external fan mounted inside the fan cover. | Upon request |
| IC 418 |  | Motor with external ventilation.<br>Enclosed machine.<br>Externally finned ventilation provided by air flowing from the driven system. | Upon request |
| IC 410 |  | Motor with natural ventilation.<br>Enclosed machine. | Upon request |

# Bearings

TECA and ECOL TA designs from frame size 56 to frame size 200 have sealed for life pre-lubricated ball bearings, DE and NDE side, C3 clearance.
ECOL TC designs in frame sizes up to 132 have sealed for life pre-lubricated ball bearings, DE and NDE side, C3.
ECOL TC designs from frame size 160 to frame size 280 (including 315 2 pole) have open ball bearings, DE and NDE, C3.
ECOL TC designs from frame size 315 (4, 6, 8 pole) to frame size 355, have roller bearings DE side and ball bearings NDE side.
All non sealed bearings need to be periodically re-lubricated according to the data given in the motors operation and maintenance manual.
All motors are fitted with thrust washers in order to minimise vibration. Locked bearing options are available upon request.
The lifetime of bearings (in accordance with supplier data) is in excess of 40,000 hours, for motors with direct coupling.

In table are mentioned all specifications concerning bearings installed in motors frame size 56-355.

| MOTOR TYPE | POLES | MOUNTING B3 | | MOUNTING B5/B14 | |
|---|---|---|---|---|---|
| | | Bearing coupling side DE | Bearing opposite coupling side NDE | Bearing coupling side DE | Bearing opposite coupling side NDE |
| TA/MS 56 | 2-4-6-8 | 6201-2RS-C3 | 6201-2RS-C3 | 6201-2RS-C3 | 6201-2RS-C3 |
| TA/MS 63 | 2-4-6-8 | 6201-2RS-C3 | 6201-2RS-C3 | 6201-2RS-C3 | 6201-2RS-C3 |
| TA/MS 71 | 2-4-6-8 | 6202-2RS-C3 | 6202-2RS-C3 | 6202-2RS-C3 | 6202-2RS-C3 |
| TA/MS 80 | 2-4-6-8 | 6204-2RS-C3 | 6204-2RS-C3 | 6204-2RS-C3 | 6204-2RS-C3 |
| TA/MS 90 | 2-4-6-8 | 6205-2RS-C3 | 6205-2RS-C3 | 6205-2RS-C3 | 6205-2RS-C3 |
| TA/MS 100 | 2-4-6-8 | 6206-2RS-C3 | 6206-2RS-C3 | 6206-2RS-C3 | 6206-2RS-C3 |
| TA/MS 112 | 2-4-6-8 | 6306-2RS-C3 | 6206-2RS-C3 | 6306-2RS-C3 | 6206-2RS-C3 |
| TA/MS 132 | 2-4-6-8 | 6308-2RS-C3 | 6208-2RS-C3 | 6308-2RS-C3 | 6208-2RS-C3 |
| TA/MS 160 | 2-4-6-8 | 6309-2RS-C3 | 6209-2RS-C3 | 6309-2RS-C3 | 6209-2RS-C3 |
| TA/MS 180 | 2-4-6-8 | 6311-2RS-C3 | 6211-2RS-C3 | 6311-2RS-C3 | 6211-2RS-C3 |
| TA/MS 200 | 2-4-6-8 | 6312-2RS-C3 | 6212-2RS-C3 | 6312-2RS-C3 | 6212-2RS-C3 |
| TC 132 | 2-4-6-8 | 6308ZZ-C3 | 6308ZZ-C3 | 6308ZZ-C3 | 6308ZZ-C3 |
| TC 160 | 2-4-6-8 | 6309-C3 | 6309-C3 | 6309-C3 | 6309-C3 |
| TC 180 | 2-4-6-8 | 6311-C3 | 6311-C3 | 6311-C3 | 6311-C3 |
| TC 200 | 2-4-6-8 | 6312-C3 | 6312-C3 | 6312-C3 | 6312-C3 |
| TC 225 | 2-4-6-8 | 6313-C3 | 6313-C3 | 6313-C3 | 6313-C3 |
| TC 250 | 2-4-6-8 | 6314-C3 | 6314-C3 | 6314-C3 | 6314-C3 |
| TC 280 | 2-4-6-8 | 6316-C3 | 6316-C3 | 6316-C3 | 6316-C3 |
| TC 315 | 2 | 6317-C3 | 6317-C3 | 6317-C3 | 6317-C3 |
| TC 315 | 4-6-8 | NU319 | 6319-C3 | NU319 | 6319-C3 |
| TC 355 | 2 | 6319-C3 | 6319-C3 | 6319-C3 | 6319-C3 |
| TC 355 | 4-6-8 | NU322 | 6322-C3 | NU322 | 6322-C3 |

Upon request motors can be modified with roller bearings at the DE, where non-standard, insulated bearings at the NDE and angular contact bearings at the DE.

**PLEASE NOTE:**

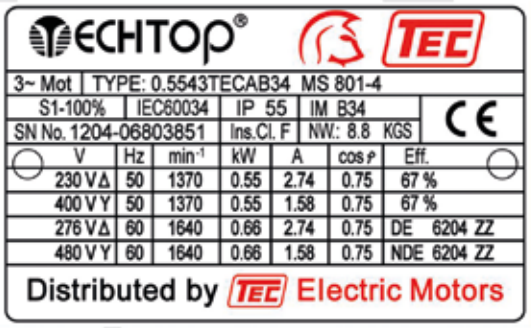
**TEC motors in frames 280-355 frame in 4,6 and 8 pole are fitted with an NU roller bearing as standard at the drive end.**

**TEC recommend that a "7 series" angular contact bearing is fitted onto any motor 250 frame and above for vertically mounted shaft down applications.**

# Terminal Box

The terminal block is normally equipped with 6 terminal and is made of non hygroscopic and mildew resistance material.
Terminal box for the TECA and ECOL TA design is made of aluminum and cast iron or tin for the ECOL TC design.
All terminal boxes are IP55 as standard.
Terminal boxes in the TECA and ECOL TA designs from size 56 to size 90 are fitted with a cable-gland and a plug. Size 100 to size 200 are fitted two cable-glands.
Terminal boxes in the ECOL TC design are fitted with two cable-glands. ECOL TC motors in frame 160 and above are fitted with an addition M16 auxiliary gland. The below table shows which gland sizes are fitted in which frame size:

| FRAME | CABLE-GLAND |
|---|---|
| TA/TECA 56 | 1-M20x1,5 |
| TA/TECA 63 | 1-M20x1,5 |
| TA/TECA 71 | 1-M20x1,5 |
| TA/TECA 80 | 1-M20x1,5 |
| TA/TECA 90 | 1-M25x1,5 |
| TA/TECA 100 | 1-M25x1,5 |
| TA/TECA 112 | 2-M25x1,5 |
| TA/TECA 132 | 2-M32x1,5 |
| TA/TECA 160 | 2-M32x1,5 |
| TA/TECA 180 | 2-M40x1,5 |
| TA/TECA 200 | 2-M40x1,5 |
| TC 132 | 2-M25x1,5 |
| TC 160 | 2-M32x1,5+1M16x1,5 |
| TC 180 | 2-M32x1,5+1M16x1,5 |
| TC 200 | 2-M40x1,5+1M16x1,5 |
| TC 225 | 2-M50x1,5+1M16x1,5 |
| TC 250 | 2-M50x1,5+1M16x1,5 |
| TC 280 | 2-M63x1,5+1M16x1,5 |
| TC 315 | 2-M63x1,5+1M16x1,5 |
| TC 355 | 2-M63x1,5+1M16x1,5 |



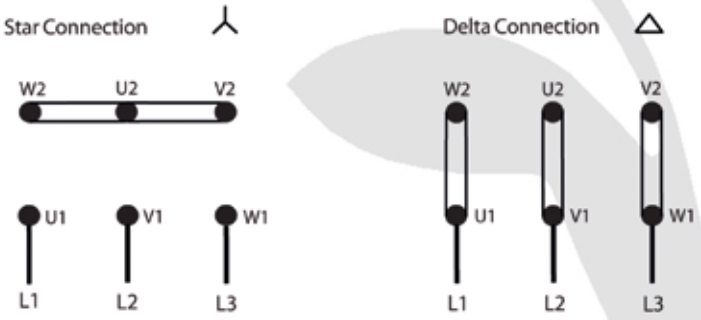

# Connection

Motors 4.0kw and above are usually delta connected (Δ)(400v) to allow star-delta starting (Y/Δ). Motors 3.0kw and below are usually star connected (Y)(400v) which gives the option of a 230/3/50 supply (Δ) for 1ph-3ph frequency drive connection.

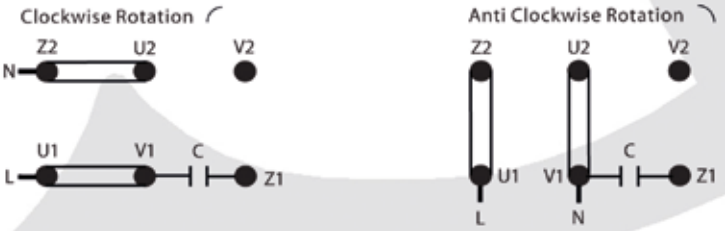
Upon request and for particular applications, based on the powers and supply voltages, motors can be star connected (Y). Wiring diagrams are shown in the operation and maintenance manual and attached to each motor.

**MS Three Phase Motors**

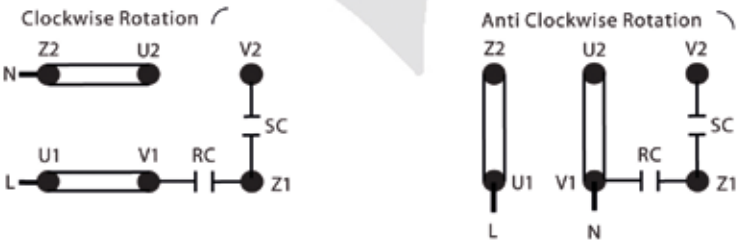
Connect links as shown below




**MY Single Phase - Perm Cap**




**ML Single Phase - Cap Start / Cap Run**



# Insulation & Windings

All TEC motors are manufactured as standard with Class F insulation.
Soft copper electrolytic wire is insulated using a special enamel (double enamel). The type of enamel is classified as H insulation class. All insulating materials used to produce motors are in F or H insulation class.
The winding manufacturing process is as follows: initially the winding is impregnated by soaking it in oven-curing F class resins, it is tropicalized following a process including a spraying of anti-saline enamel and, finally, it is coated using a spray with heatproof, humidity-proof, chemical agent and sea-ambient corrosive action resistant characteristics.
The impregnation cycle is carried out under vacuum conditions (Vacuum impregnation process) VPI.

# Ratings & Technical Data

Power and data reported in the Technical Data Tables are based on continuous duty (S 1) at an ambient temperature of 40 C, max. altitude 1000 a.s.l., with supply at 400 V - 50Hz.
In such conditions, the temperature rise reached by the motors is lower than the one provided for by the H insulation class.
The operating characteristics are guaranteed with the tolerances defined by the CEI EN 60034-1 Standards and the IEC 60034-1 Recommendations, reported in the table:

| CHARACTERISTICS | TOLERANCES |
|---|---|
| Efficiency | Motor power < 50 kW<br>-15% di (1 - η)<br>Motor power > 50 kW<br>-10% di (1 - η) |
| Power factor | +1/6 (1- cosφ)<br>Min 0.02 Max 0.07 |
| Locked rotor current | +20% of guaranteed value |
| Locked rotor torque | -15% + 25% of guaranteed value |
| Pull out torque | -10% of guaranteed value |
| Slip | ± 20% of guaranteed value |

# Voltage & Frequency Variations

Motors will work as expected if the supply voltage variations are limited as stated in the Classification Society Standards.
In particular, motors can run with voltage variations of 10% and frequency variations of 5% with a maximum combined variation of 10% and within the temperature rise as stated by the provisions of the Classification Society Standards.

# Operation At 60HZ Frequency

The motors will run with a frequency of 60Hz with differences in performance and electrical power applying the multiplier coefficient as detailed below. Motors made at 50Hz but supplied with 60Hz may have varying output efficiencies compared to the 50Hz values

| PLATE VOLTAGE | PLATE VOLTAGE | NOMINAL POWER | NOMINAL CURRENT | NOMINAL TORQUE | RPM | STARTING CURRENT | STARTING TORQUE | MAX TORQUE |
|---|---|---|---|---|---|---|---|---|
| 50 HZ | 60 HZ | | | | | | | |
| **230 +/- 10%** | 220 +/- 5% | 1.00 | 1.00 | 0.83 | 1.20 | 0.83 | 0.83 | 0.83 |
| **230 +/- 10%** | 230 +/- 10% | 1.00 | 0.95 | 0.83 | 1.20 | 0.83 | 0.83 | 0.83 |
| **230 +/- 10%** | 254 +/- 5% | 1.15 | 1.02 | 0.96 | 1.20 | 0.93 | 0.93 | 0.93 |
| **230 +/- 10%** | 277 +/- 5% | 1.20 | 1.00 | 1.00 | 1.20 | 1.00 | 1.00 | 1.00 |
| **400 +/- 10%** | 380 +/- 5% | 1.00 | 1.00 | 0.83 | 1.20 | 0.83 | 0.83 | 0.83 |
| **400 +/- 10%** | 400 +/- 10% | 1.00 | 0.95 | 0.83 | 1.20 | 0.83 | 0.83 | 0.83 |
| **400 +/- 10%** | 440 +/- 5% | 1.15 | 1.02 | 0.96 | 1.20 | 0.93 | 0.93 | 0.93 |
| **400 +/- 10%** | 460 +/- 10% | 1.15 | 1.00 | 0.96 | 1.20 | 0.96 | 0.96 | 0.96 |
| **400 +/- 10%** | 480 +/- 5% | 1.20 | 1.00 | 1.00 | 1.20 | 1.00 | 1.00 | 1.00 |

# De-rating

The technical data tables refer to an ambient temperature of 40°C and an altitude up to 1000 a.s.l.
In different environmental conditions output ratings vary, and are calculated by applying the factors as mentioned in the table below, maintaining the temperature rise provided for by the F insulation class.

| ALTITUDE M A.S.L. | AMBIENT TEMPERATURE (°C) | | | | | |
|---|---|---|---|---|---|---|
| | 30 | 30-40 | 45 | 50 | 55 | 60 |
| **<= 1000** | 1.06 | 1.00 | 0.97 | 0.94 | 0.90 | 0.87 |
| **1500** | 1.04 | 0.97 | 0.94 | 0.91 | 0.87 | 0.84 |
| **2000** | 1.00 | 0.95 | 0.92 | 0.88 | 0.84 | 0.81 |
| **3000** | 0.96 | 0.89 | 0.86 | 0.82 | 0.78 | 0.74 |
| **4000** | 0.91 | 0.84 | 0.80 | 0.76 | 0.72 | 0.67 |

# Duties

All technical data reported in the tables are referred to continuous duty (S1). Upon request, motors for limited Duty S2 (30 or 60 minutes) can be supplied.

# Overloads

Continuous duty motors can withstand the following overloads

| OVERLOAD % | DURATION MINUTES | TIME INTERVAL MINUTES |
|---|---|---|
| 10 | 10 | 15 |
| 20 | 6 | 15 |
| 30 | 4 | 15 |
| 40 | 3 | 15 |
| 50 | 2 | 15 |

In these operating overloads conditions, over temperatures are then limited to insulation class F.

# Starting

Motors are suitable for the following types of starting:

- Direct
- Star - delta (400/690v only)
- By autotransformer
- Soft-start (*)
- by inverter (**)

(*)After starting is completed, the soft-start should be by-passed, precautions must also be taken when the motor is powered by an inverter
(**) see recommendation in paragraph n.23 "Inverter Supply"

# Vibration

Motors are dynamically balanced with a half key applied to the shaft extension in accordance with standard IEC 60034-14 to vibration severity grade reduced (R) in standard execution.
The following table indicates the maximum vibration grades with respect to the different shaft heights.

| VIBRATION DEGREE | RATED SPEED | FRAME SIZE 56-355 Vmm/sec |
|---|---|---|
| N (normal) | 600-1800 | 1.8 |
| R (reduced) | 600-1800 | 0.71 |
| | 1800-3600 | 1.12 |
| S (special) | 600-1800 | 0.45 |
| | 1800-3600 | 0.71 |

# Noise

The technical features detailed in the table below contain the values of A-sound pressure level (LpA) and A sound power level (LwA), measured at a one meter distance.
Sound levels are measured in no-load conditions and have tolerances of +/- 3 dB(A).

| FRAME SIZE | A-sound pressure level (LpA) · A-sound power level (LwA) dB(A) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 2POLES | | 4POLES | | 6POLES | | 8POLES | |
| | LpA | LwA | LpA | LwA | LpA | LwA | LpA | LwA |
| 56 | 69 | 78 | 63 | 72 | 58 | 67 | 54 | 63 |
| 63 | 75 | 84 | 67 | 76 | 61 | 70 | 58 | 67 |
| 71 | 75 | 84 | 67 | 76 | 61 | 70 | 58 | 67 |
| 80 | 75 | 84 | 70 | 79 | 63 | 72 | 61 | 70 |
| 90 | 75 | 85 | 70 | 80 | 66 | 76 | 66 | 76 |
| 100 | 77 | 87 | 70 | 80 | 66 | 76 | 66 | 76 |
| 112 | 78 | 88 | 73 | 83 | 66 | 76 | 66 | 76 |
| 132 | 69 | 78 | 63 | 72 | 58 | 67 | 54 | 63 |
| 160 | 75 | 84 | 67 | 76 | 61 | 70 | 58 | 67 |
| 180 | 75 | 84 | 67 | 76 | 61 | 70 | 58 | 67 |
| 200 | 75 | 84 | 70 | 79 | 63 | 72 | 61 | 70 |
| 225 | 75 | 85 | 70 | 80 | 66 | 76 | 66 | 76 |
| 250 | 77 | 87 | 70 | 80 | 66 | 76 | 66 | 76 |
| 280 | 78 | 88 | 73 | 83 | 66 | 76 | 66 | 76 |
| 315 | 80 | 90 | 77 | 87 | 73 | 83 | 69 | 79 |
| 355 | 86 | 97 | 84 | 96 | 82 | 94 | 79 | 91 |

The values of the noise (LpA) and of the sound power (LwA) in the table are related to the operation at 50Hz, when the frequency changes these values change how indicated in the following table:

| SUPPLY FREQUENCY HZ | % NOISE LEVEL COMPARED TO THE 50HZ VALUE |
|---|---|
| 10 | 60% |
| 20 | 60% |
| 30 | 70% |
| 40 | 100% |
| 50 | 100% |
| 60 | 100% |
| 80 | 120% |

# Thermal Protection

All 3ph TEC motors from frame size 56 to frame size 355 are fitted with positive temperature coefficient thermistors (PTC), these thermal devices, at the designed temperature, quickly change their standard resistance value. These PTC's, upon request, can be installed in 1ph motors.

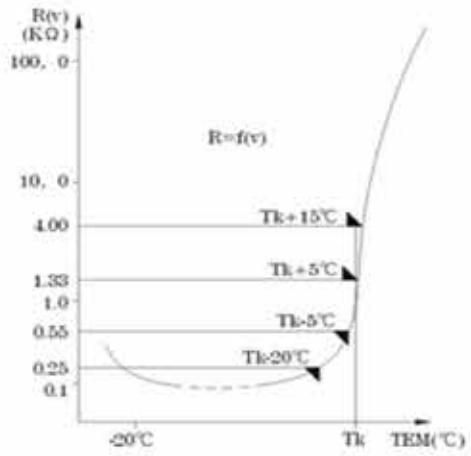
Resistance of PTC, for nominal operating temperature (TK), will be satisfy the following value:

- - < 250 Ohm from temperature from -20°C to TK-20°C
- - < 550 Ohm at a temperature of TK-5°C
- - > 1330 Ohm at a temperature of TK+5°C
- - > 4000 Ohm at a temperature of TK +15°C

In line with the standards, PTC's are designed for resistance value from 1650 Ohm to 4000 Ohm, in our case, installed n. 3 PTC in series, disengaged takes in the temperature range from TK-5°C to TK+5°C.
Values of TK related with the class of insulation are the following:

| CLASS OF INSULATION | OPERATING TEMPERATURE LIMIT OF THE INSULATION °C | TK °C |
|---|---|---|
| A | 105 | 95-100 |
| E | 120 | 110-115 |
| B | 130 | 120-125 |
| F | 155 | 145-150 |
| H | 180 | 170-175 |

The nominal operating temperature of the thermistors PTC, mounted on TEC motors is 130' C in the TECA and ECOL TA designs. ECOL TC design motors have 150°C PTC's fitted. The maximum supply voltage of the PTC thermistors is 2,5V.
Below the characteristic resistance/ temperature of the PTC thermistors:




Upon request, the following thermal protections can be installed on the motors:

**Bimetallic devices**
Motor protectors with contact normally closed. The contact opens when the winding temperature reaches limits dangerous to the insulation system of the motor.

**Platinum resistance thermometers PT100**
Variable linear resistance with the winding temperature. This device is especially suitable for continuous winding temperature monitoring.

The protection is normally made by 3 sensitive elements, one for every phase, series connected and with two terminals in a specially provided terminal board located in the main terminal box or in a specially provided auxiliary terminal box.

# Anti-Condensation Heaters

Motors subject to atmosheric condensation, either through standing idle in damp environments or because of wide ambient temperature variations, may be fitted with anti-condensation heaters.
They are of tape form and are normally mounted on the stator winding head.
Anti-condensation heaters are normally switched on automatically when the supply to the motor is interrupted, heating the motor to avoid water condensation.
Normal supply voltage is 110/115V or 220/240V.

Anti-condensation heater terminals are led to a specifically provided terminal board located in the main terminal box. Upon request they can be led to a terminal board located in an auxilliary terminal box.

The power values normally used are shown in the table:

| FRAME SIZE | POWER (W) |
|---|---|
| **132-160** | 26 |
| **180-200** | 26 |
| **225 - 250** | 50 |
| **280 - 315** | 100 |
| **355** | 200 |

# Drain Holes

TEC Motors in 56-355 frame are equipped with drain holes at DE and NDE for the discharge of condensation, closed with a plug to guarantee the IP integrity (ingress protection) stated on the plate.
As a function of the operating conditions such plugs can be removed to allow the discharge of condensation that may form inside the motor. The holes are fitted ready for B3 mounting position as standard but can be fitted elsewhere on request.

# Inverter Supply

All TEC 3ph motors are designed to be used in conjunction with an inverter.
These motors can be driven up to the rated frequency (50Hz) with supply voltage proportional to the frequency.
(See diag 1), at higher frequencies they can be supplied at constant voltage up to the level of 80Hz.

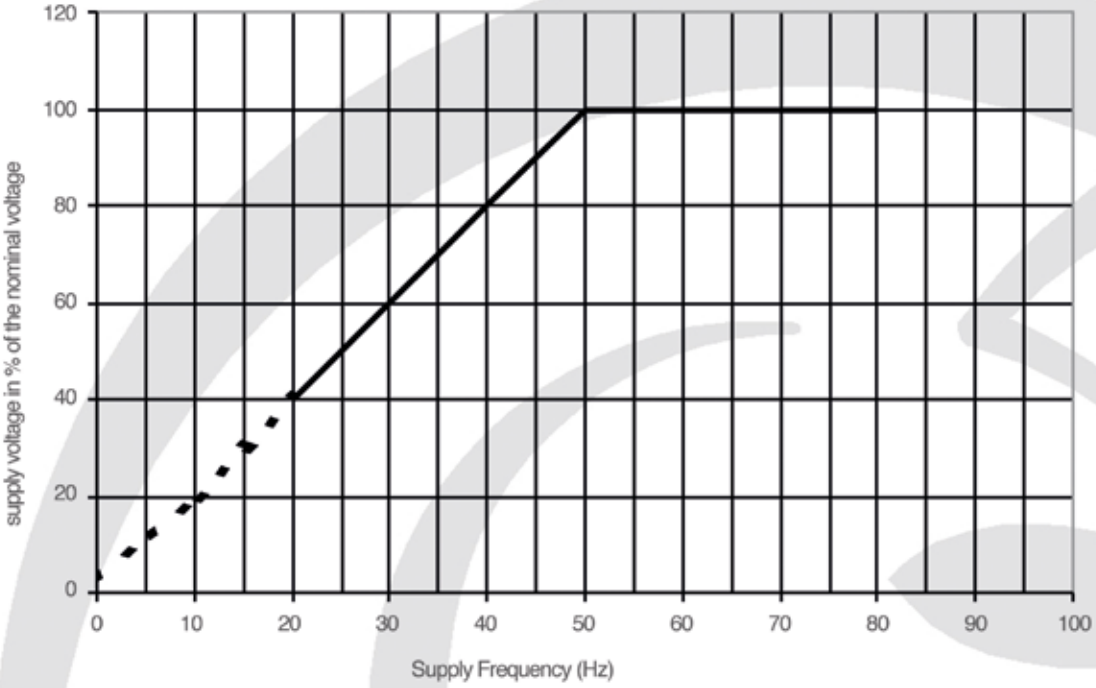



**Diagram 1**
Supply voltage - Supply frequency

Using as per the supply shown in diag 1, the flux created by the stator windings will be constant from 0 frequency to 50 Hz frequency, at frequencies higher than 50 Hz, the flux will be lower than the maximum value.

Note: At low frequencies ( 0 ~ 10Hz. ) due to voltage drop, in order to keep the flux constant, the supply voltage should be slightly increased. This voltage increase depends both on the motor type and on the inverler type.

Consequently the motors in standard production (self ventilating code IC411) are able to run at constant torque between 40 and 50 Hz and at constant power in the section included between 50 and 80 Hz (see diagram 2 and 3).
Upon request, the EG line motors can be equipped with an auxiliary fan (code IC 416), in this case they can supply a constant torque between 0 and 50 Hz and a constant power in the section included between 50 and 80 Hz.

# Inverter Supply Continued

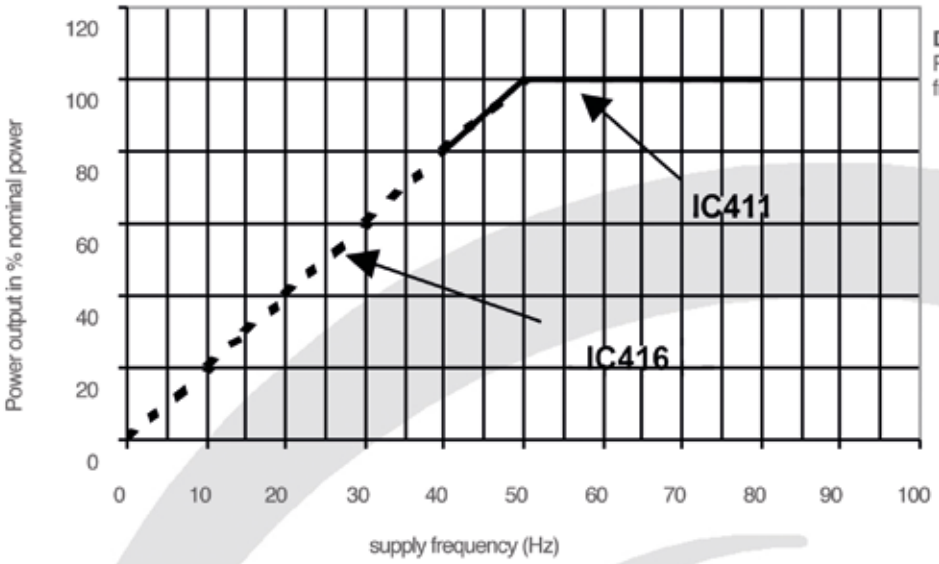



**Diagram 2**
Power output - supply frequency

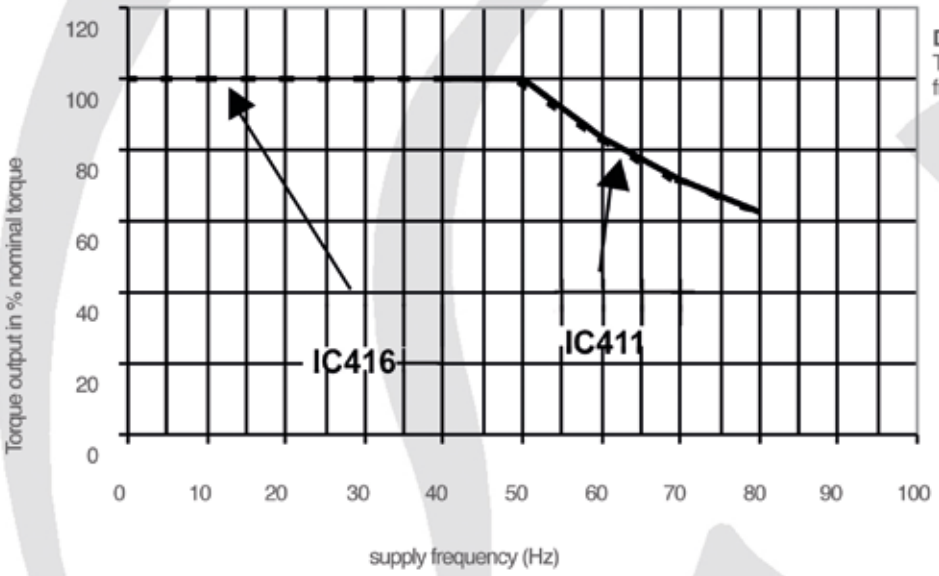



**Diagram 3**
Torque output - supply frequency

The asynchronous three-phase motors to be used for inverter supply are designed and manufactured based on design and manufacturing choices that allow an optimum and reliable operation.
It has to be considered that generally the inverter supplies the asynchronous motor with a non sinusoidal current having a certain harmonic contents. This is due in particular: to the type of inverter, to the value of the switch frequency, to the length of the supply cables.
Moreover steep voltage fronts to the motor terminals (dv/dt) originated by the short commutation times of the IGBT, generate considerable stresses on the insulating materials.
Consequently the motor insulation must be carefully fitted and selected in order for it to be able to withstand such high stresses.
All TEC motors are fitted with phase to phase barrier insulation suitable for inverter use.

# Maximum Speed

Motors supplied by inverter can run at a frequency higher than the rated level supplying the rated power up to the maximum frequency mentioned in table.
In these conditions the motor maximum torque remains 1.6 times higher than the rated torque.

| FRAME SIZE | MAX SUPPLY FREQUENCY (Hz) | | | |
|---|---|---|---|---|
| | 2 POLES | 4 POLES | 6 POLES | 8 POLES |
| 56 - 90 | 75 | 75 | 60 | 60 |
| 100 - 112 | 70 | 70 | 60 | 60 |
| 132 - 160 | 65 | 65 | 60 | 60 |

It is also possible to supply motors at an higher frequency, in this case the deliverable motor powers will be progressively reduced.
In such cases the motor maximum speeds, also at no load operation or loaded by the machine, must never exceed the limit mentioned in the following table:

| FRAME SIZE | MAX PERMISSIBLE SPEED | | | |
|---|---|---|---|---|
| | 2 POLES | 4 POLES | 6 POLES | 8 POLES |
| 132 | 5000 | 5000 | 4500 | 4500 |
| 160 | 5000 | 5000 | 4500 | 4500 |
| 180 | 5000 | 5000 | 4500 | 4500 |
| 200 | 5000 | 5000 | 4500 | 4500 |
| 225 | 4500 | 4500 | 4000 | 4000 |
| 250 | 4000 | 4000 | 3800 | 3800 |
| 280 | 4000 | 3000 | 3000 | 3000 |
| 315 | 3600 | 2600 | 2600 | 2600 |
| 355 | 3600 | 2600 | 2600 | 2600 |

# Auxiliary Fans

All frame sizes can be supplied with cooling system IC 416 (forced ventilation) on request. In this case a suitable fan is fitted inside the fan cover and suitably reinforced. TEC always recommend forced ventilation on motors used below 25hz or above 75hz. Consequently the ventilation is independent of the rotation speed of the motor itself.
This solution is particularly suitable for inverter supplied motors.

| FRAME SIZE | THREE PHASE SUPPLY VOLTAGE 230/400V | SUPPLY FREQUENCY 50HZ | INPUT POWER W | SINGLE PHASE SUPPLY VOLTAGE 230V | SUPPLY FREQUENCY HZ | IINPUT POWER W |
|---|---|---|---|---|---|---|
| 63 | 230/400 | 50 | 20 | 230 | 50 | 17 |
| 71 | 230/400 | 50 | 25 | 230 | 50 | 33 |
| 80 | 230/400 | 50 | 29 | 230 | 50 | 35 |
| 90 | 230/400 | 50 | 32 | 230 | 50 | 45 |
| 100 | 230/400 | 50 | 58 | 230 | 50 | 30 |
| 112 | 230/400 | 50 | 69 | 230 | 50 | 35 |
| 132 | 230/400 | 50 | 52 | 230 | 50 | 32 |
| 160 | 230/400 | 50 | 70 | 230 | 50 | 50 |
| 180 | 230/400 | 50 | 85 | 230 | 50 | 47 |
| 200 | 230/400 | 50 | 105 | 230 | 50 | 49 |
| 225 | 230/400 | 50 | 105 | 230 | 50 | 70 |
| 250 | 230/400 | 50 | 115 | 230 | 50 | 126 |
| 280 | 230/400 | 50 | 180 | 230 | 50 | 149 |
| 315 | 230/400 | 50 | 480 | 230 | 50 | – |
| 355 | 230/400 | 50 | 400 | 230 | 50 | – |

The following table shows the increase that is applicable to dimension L (overall length) when independent ventilation is mounted. When an encoder is mounted with independent ventilation, dimension L does not change and remains the same as the motor with independent ventilation.

| FRAME SIZE | TECA SERIES mm | TA SERIES mm | TC SERIES mm |
|---|---|---|---|
| 63 | 92 | 92 | – |
| 71 | 92 | 105 | – |
| 80 | 98 | 110 | – |
| 90 | 97 | 110 | – |
| 100 | 103 | 120 | – |
| 112 | 93 | 125 | – |
| 132 | 109 | 120 | 120 |
| 160 | – | 145 | 130 |
| 180 | – | – | 130 |
| 200 | – | – | 140 |
| 225 | – | – | 160 |
| 250 | – | – | 167 |
| 280 | – | – | 175 |
| 315 | – | – | 205 |
| 355 | – | – | 205 |

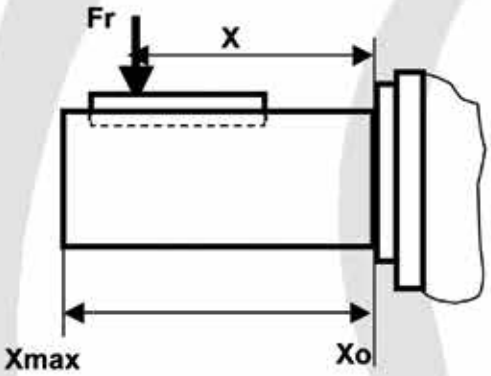


# Permissable Bearing Load

The theoretical basic fatigue life for bearings is calculated according to the provisions of the ISO R 281-1 Standard.
Life is calculated assuming that motors are running under normal ambient conditions, without abnormal vibrations, without axial or radial loads beyond the ones detailed in the following tables and with operating temperatures of the bearings ranging between - 30 and +85 C'.
Life calculated this way is called basic life ($L_{10h}$) expressed in hours of operation.
50% of bearings reach a life equal to five times the basic life resulting from the calculation.
The values in table 13 are the maximum permitted axial and radial loads for a basic life ($L_{10h}$) , and are calculated according to the provisions of the ISO Standards, equal to 20000 and 40000 hours of operation.
Values of the radial loads are given both for loads applied to the shaft extension ($X_{max}$) and in correspondence of the face on the shaft housing ($X_0$).
Radial loads that can be applied linearly, change with the change of the application point, therefore for loads placed at a distance from the shaft face ($X_0$), the maximum load that can be applied is given as the following expression:

$$Fra_X = \frac{C_{xo} - C_{x\max}}{X_{\max}} \times X + C_{x\max}$$

Where:
Fra = permitted radial load at point X
$C_{xo}$ = permitted radial load at point $X_0$
$C_{xmax}$ = permitted' radial load at point $X_{max}$
$X_{max}$ = shaft extension
X = distance from the application point of the radial load to the shaft face




To verify that belt tension does not exceed the maximum value allowed the following formula can be used:

$$F = \frac{19100 \times P \times K}{n \times D}$$

F= radial force in Nm
P= power trasmitted in KW
n= numbers of revs. per minute
D= pulley diameter in meters
K= constant

Constant values K:

| | |
|---|---|
| 2 | for flat pulley with tension roller |
| 2,25 | for sheaves with V belt |
| 2,5-3 | for flat belts without tension roller, or for heavy duty with any type of pulley |

# TECA "MS" DESIGN



# ELECTRICAL AND DIMENSIONAL DATA

The TECA series aluminium housed motor is a 3 phase multi-mount motor available from 56-200 frame (IEC). TECA motors are manufactured to IEC standards using the latest automated production technology.

TECA motors are easily maintained, lightweight with high performance and low noise levels. The multi-mount design gives end users greater flexibility where the terminal box position is important.

# TECA Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 2 pole IE1

| Frame size | Power (KW) | Current (A) | | | Current (A) | | | Current (A) | | | rpm. (r/min) | Eff. (%) | Power factor (Cosφ) | Cs/ Cn | Cmax/ Cn | Cn (Nm) | Is/In | dB(A) | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220V | 380V | 660V | 230V | 400V | 690V | 240V | 415V | 720V | | | | | | | | | |
| MS 561-2 | 0.09 | 0.66 | 0.38 | 0.22 | 0.62 | 0.36 | 0.21 | 0.60 | 0.35 | 0.20 | 2710 | 53 | 0.72 | 2.2 | 2.3 | 0,502 | 4 | 58 | 2.60 |
| MS 562-2 | 0.12 | 0.73 | 0.42 | 0.24 | 0.69 | 0.40 | 0.23 | 0.67 | 0.39 | 0.22 | 2700 | 61 | 0.72 | 2.2 | 2.3 | 0,534 | 4 | 58 | 3.00 |
| MS 563-2 | 0.18 | 1.00 | 0.58 | 0.33 | 0.95 | 0.55 | 0.32 | 0.92 | 0.53 | 0.31 | 2710 | 63 | 0.75 | 2.2 | 2.4 | 0,642 | 6 | 61 | 4.00 |
| MS 631-2 | 0.18 | 1.00 | 0.58 | 0.33 | 0.95 | 0.55 | 0.32 | 0.92 | 0.53 | 0.31 | 2710 | 63 | 0.75 | 2.2 | 2.4 | 0,641 | 6 | 61 | 4.00 |
| MS 632-2 | 0.25 | 1.29 | 0.75 | 0.43 | 1.23 | 0.71 | 0.41 | 1.19 | 0.69 | 0.40 | 2710 | 65 | 0.78 | 2.2 | 2.4 | 0,884 | 6 | 61 | 4.20 |
| MS 633-2 | 0.37 | 1.92 | 1.11 | 0.64 | 1.82 | 1.05 | 0.61 | 1.76 | 1.02 | 0.59 | 2710 | 65 | 0.78 | 2.2 | 2.4 | 1,261 | 6 | 62 | 4.70 |
| MS 711-2 | 0.37 | 1.76 | 1.02 | 0.59 | 1.67 | 0.97 | 0.56 | 1.61 | 0.93 | 0.54 | 2730 | 70 | 0.79 | 2.2 | 2.4 | 1,262 | 6 | 64 | 5.20 |
| MS 712-2 | 0.55 | 2.57 | 1.49 | 0.86 | 2.45 | 1.42 | 0.82 | 2.36 | 1.36 | 0.79 | 2760 | 71 | 0.79 | 2.2 | 2.4 | 1,869 | 6 | 64 | 6.00 |
| MS 713-2 | 0.75 | 3.33 | 1.93 | 1.11 | 3.18 | 1.83 | 1.06 | 3.06 | 1.77 | 1.02 | 2730 | 72 | 0.82 | 2.2 | 2.4 | 2,54 | 6 | 65 | 7.00 |
| MS 801-2 | 0.75 | 3.21 | 1.86 | 1.07 | 3.06 | 1.77 | 1.02 | 2.94 | 1.70 | 0.98 | 2770 | 73 | 0.84 | 2.2 | 2.4 | 2,54 | 6 | 67 | 8.70 |
| MS 802-2 | 1.1 | 4.56 | 2.64 | 1.52 | 4.35 | 2.51 | 1.45 | 4.16 | 2.42 | 1.39 | 2770 | 76.2 | 0.83 | 2.2 | 2.4 | 3,72 | 6 | 67 | 10.00 |
| MS 803-2 | 1.5 | 6.04 | 3.50 | 2.01 | 5.87 | 3.32 | 1.92 | 5.54 | 3.20 | 1.85 | 2800 | 78.5 | 0.83 | 2.2 | 2.4 | 5,04 | 6 | 70 | 11.20 |
| MS 90S-2 | 1.5 | 5.97 | 3.46 | 1.99 | 5.76 | 3.28 | 1.90 | 5.47 | 3.16 | 1.82 | 2840 | 78.5 | 0.84 | 2.2 | 2.4 | 5,04 | 6 | 72 | 12.00 |
| MS 90L1-2 | 2.2 | 8.39 | 4.85 | 2.80 | 8.0 | 4.61 | 2.66 | 7.69 | 4.45 | 2.56 | 2840 | 81 | 0.85 | 2.2 | 2.4 | 7,4 | 6 | 72 | 14.50 |
| MS 90L2-2 | 3 | 11.1 | 6.42 | 3.69 | 10.6 | 6.10 | 3.52 | 10.2 | 5.88 | 3.39 | 2840 | 82.6 | 0.86 | 2.2 | 2.4 | 10,1 | 6 | 74 | 15.00 |
| MS 100L1-2 | 3 | 11.0 | 6.34 | 3.65 | 10.4 | 6.03 | 3.48 | 10.0 | 5.81 | 3.35 | 2840 | 82.6 | 0.87 | 2.2 | 2.3 | 10,1 | 7 | 76 | 20.00 |
| MS 100L2-2 | 4 | 14.3 | 8.30 | 4.78 | 13.7 | 7.88 | 4.55 | 13.1 | 7.60 | 4.38 | 2850 | 84.2 | 0.87 | 2.2 | 2.3 | 13,4 | 7.5 | 77 | 24.00 |
| MS 112M-2 | 4 | 14.3 | 8.30 | 4.78 | 13.7 | 7.88 | 4.55 | 13.1 | 7.60 | 4.38 | 2880 | 84.2 | 0.87 | 2.2 | 2.3 | 13,4 | 7.5 | 77 | 26.00 |
| MS 112L-2 | 5.5 | 19.1 | 11.1 | 6.38 | 18.2 | 10.5 | 6.08 | 17.5 | 10.1 | 5.85 | 2880 | 85.7 | 0.88 | 2.2 | 2.3 | 18,2 | 7.5 | 78 | 29.30 |
| MS 132S1-2 | 5.5 | 19.1 | 11.1 | 6.38 | 18.2 | 10.5 | 6.08 | 17.5 | 10.1 | 5.85 | 2900 | 85.7 | 0.88 | 2 | 2.2 | 18,1 | 7.5 | 80 | 38.40 |
| MS 132S2-2 | 7.5 | 25.7 | 14.9 | 8.57 | 24.5 | 14.1 | 8.16 | 23.6 | 13.6 | 7.86 | 2920 | 87 | 0.88 | 2 | 2.2 | 24,7 | 7.5 | 80 | 41.30 |
| MS 132M1-2 | 9.2 | 30.8 | 17.8 | 10.3 | 29.9 | 17.3 | 9.96 | 28.3 | 16.3 | 9.42 | 2930 | 88 | 0.89 | 2 | 2.2 | 29,5 | 7.5 | 81 | 48.20 |
| MS 132M2-2 | 11 | 36.3 | 21.0 | 12.1 | 34.6 | 20.0 | 11.5 | 33.3 | 19.2 | 11.1 | 2930 | 88.4 | 0.9 | 2 | 2.2 | 36,0 | 7.5 | 83 | 52.50 |
| MS 160M1-2 | 11 | 36.3 | 21.0 | 12.1 | 34.6 | 20.0 | 11.5 | 33.3 | 19.2 | 11.1 | 2940 | 88.4 | 0.9 | 2 | 2.2 | 36,1 | 7.5 | 86 | 76.00 |
| MS 160M2-2 | 15 | 48.4 | 28.0 | 16.1 | 46.1 | 26.6 | 15.4 | 44.4 | 25.7 | 14.8 | 2940 | 89.4 | 0.91 | 2 | 2.2 | 48,9 | 7.5 | 86 | 77.50 |
| MS 160L-2 | 18.5 | 59.3 | 34.3 | 19.8 | 56.5 | 32.6 | 18.8 | 54.3 | 31.4 | 18.1 | 2940 | 90 | 0.91 | 2 | 2.2 | 60,1 | 7.5 | 86 | 92.00 |
| MS 180M-2 | 22 | 71.3 | 41.3 | 23.8 | 68.2 | 39.2 | 22.6 | 65.3 | 37.8 | 21.8 | 2950 | 90 | 0.9 | 2 | 2.2 | 71,2 | 7.5 | 91 | 121.0 |
| MS 200L1-2 | 30 | 96.0 | 55.6 | 32.1 | 91.8 | 52.8 | 30.5 | 88.0 | 50.9 | 29.4 | 2950 | 91.2 | 0.9 | 2 | 2.2 | 97,0 | 7.5 | 94 | 144.0 |
| MS 200L2-2 | 37 | 117 | 67.9 | 39.2 | 112 | 64.5 | 37.2 | 108 | 62.2 | 35.9 | 2940 | 92 | 0.9 | 2 | 2.2 | 119 | 7.5 | 94 | 151.0 |

# TECA Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 4 pole IE1

| Frame size | Power (KW) | Current (A) | | | Current (A) | | | Current (A) | | | rpm. (r/min) | Eff. (%) | Power factor (Cosφ) | Cs/ Cn | Cmax/ Cn | Cn (Nm) | Is/In | dB(A) | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220V | 380V | 660V | 230V | 400V | 690V | 240V | 415V | 720V | | | | | | | | | |
| MS 561-4 | 0.06 | 0.64 | 0.37 | 0.21 | 0.61 | 0.35 | 0.20 | 0.58 | 0.34 | 0.19 | 1360 | 50 | 0.56 | 2.3 | 2.4 | 0.478 | 4 | 50 | 2.90 |
| MS 562-4 | 0.09 | 0.82 | 0.47 | 0.27 | 0.78 | 0.45 | 0.26 | 0.75 | 0.43 | 0.25 | 1360 | 52 | 0.59 | 2.3 | 2.4 | | 4 | 50 | 3.20 |
| MS 631-4 | 0.12 | 1.00 | 0.58 | 0.33 | 0.95 | 0.55 | 0.32 | 0.92 | 0.53 | 0.31 | 1360 | 52 | 0.64 | 2.2 | 2.4 | 0.93 | 4 | 52 | 3.70 |
| MS 632-4 | 0.18 | 1.28 | 0.74 | 0.43 | 1.21 | 0.70 | 0.40 | 1.17 | 0.67 | 0.39 | 1310 | 57 | 0.65 | 2.2 | 2.4 | 1,28 | 4 | 52 | 4.20 |
| MS 633-4 | 0.25 | 1.66 | 0.96 | 0.55 | 1.58 | 0.91 | 0.53 | 1.52 | 0.88 | 0.51 | 1340 | 60 | 0.66 | 2.2 | 2.2 | 1,77 | 4 | 54 | 5.00 |
| MS 711-4 | 0.25 | 1.52 | 0.88 | 0.51 | 1.45 | 0.84 | 0.48 | 1.39 | 0.81 | 0.46 | 1350 | 60 | 0.72 | 2.2 | 2.4 | 1,78 | 6 | 55 | 5.00 |
| MS 712-4 | 0.37 | 2.02 | 1.17 | 0.67 | 1.92 | 1.11 | 0.64 | 1.85 | 1.07 | 0.62 | 1370 | 65 | 0.74 | 2.2 | 2.4 | 2,62 | 6 | 55 | 5.80 |
| MS 713-4 | 0.55 | 2.92 | 1.69 | 0.97 | 2.78 | 1.60 | 0.93 | 2.67 | 1.55 | 0.89 | 1380 | 66 | 0.75 | 2.2 | 2.4 | 3,86 | 6 | 57 | 6.50 |
| MS 801-4 | 0.55 | 2.87 | 1.66 | 0.96 | 2.74 | 1.58 | 0.91 | 2.63 | 1.52 | 0.88 | 1370 | 67 | 0.75 | 2.2 | 2.4 | 3,87 | 6 | 58 | 8.10 |
| MS 802-4 | 0.75 | 3.50 | 2.03 | 1.17 | 3.34 | 02.33.00 | 1.11 | 3.21 | 1.86 | 1.07 | 1380 | 72 | 0.78 | 2.2 | 2.4 | 5,27 | 6 | 58 | 9.10 |
| MS 803-4 | 1.1 | 4.86 | 2.81 | 1.62 | 4.63 | 2.67 | 1.54 | 4.45 | 2.57 | 1.48 | 1390 | 76.2 | 0.78 | 2.2 | 2.4 | 7,61 | 6 | 60 | 11.00 |
| MS 90S-4 | 1.1 | 4.80 | 2.78 | 1.60 | 4.57 | 2.64 | 1.52 | 4.40 | 2.54 | 1.47 | 1400 | 76.2 | 0.79 | 2.2 | 2.4 | 7,60 | 6 | 61 | 11.70 |
| MS 90L1-4 | 1.5 | 6.27 | 3.63 | 2.09 | 5.97 | 3.45 | 1.99 | 5.75 | 3.32 | 1.92 | 1400 | 78.5 | 0.8 | 2.2 | 2.4 | 10,38 | 6 | 61 | 14.40 |
| MS 90L2-4 | 2.2 | 8.91 | 5.16 | 2.97 | 8.45 | 4.90 | 2.83 | 8.17 | 4.72 | 2.72 | 1400 | 81 | 0.8 | 2.2 | 2.4 | 14,90 | 7 | 63 | 17.60 |
| MS 100L1-4 | 2.2 | 6.80 | 5.09 | 2.93 | 6.38 | 4.84 | 2.79 | 8.07 | 4.66 | 2.69 | 1420 | 81 | 0.81 | 2.2 | 2.3 | 14,90 | 7 | 64 | 19.20 |
| MS 100L2-4 | 3 | 11.8 | 6.81 | 3.92 | 11.2 | 6.47 | 3.74 | 10.8 | 6.24 | 3.60 | 1420 | 82.6 | 0.81 | 2.2 | 2.3 | 20,32 | 7 | 64 | 22.50 |
| MS 100L3-4 | 4 | 15.2 | 8.80 | 5.07 | 14.2 | 8.36 | 4.83 | 13.9 | 8.06 | 4.65 | 1430 | 84.2 | 0.82 | 2.2 | 2.3 | 26,93 | 7 | 65 | 27.30 |
| MS 112M-4 | 4 | 15.0 | 8.70 | 5.01 | 14.3 | 8.26 | 4.77 | 13.8 | 7.96 | 4.59 | 1430 | 84.2 | 0.83 | 2.2 | 2.2 | 26,90 | 7 | 65 | 29.00 |
| MS 112L-4 | 5.5 | 20.3 | 11.7 | 6.76 | 19.3 | 11.2 | 6.44 | 18.6 | 10.8 | 6.20 | 1440 | 85.7 | 0.83 | 2.2 | 2.2 | 36,74 | 7 | 68 | 35.70 |
| MS 132S-4 | 5.5 | 20.1 | 11.6 | 6.68 | 19.1 | 11.0 | 6.37 | 18.4 | 10.6 | 6.13 | 1450 | 85.7 | 0.84 | 2.2 | 2.2 | 36,72 | 7 | 71 | 39.00 |
| MS 132M-4 | 7.5 | 26.6 | 15.4 | 8.87 | 25.4 | 14.6 | 8.45 | 24.4 | 14.1 | 8.13 | 1450 | 87 | 0.85 | 2.2 | 2.2 | 50,12 | 7 | 71 | 48.60 |
| MS 132L1-4 | 9.2 | 32.5 | 18.8 | 10.8 | 30.9 | 17.9 | 10.3 | 29.8 | 17.2 | 9.9 | 1460 | 87.5 | 0.85 | 2.2 | 2.2 | 60,13 | 7.5 | 74 | 56.50 |
| MS 132L2-4 | 11 | 38.0 | 22.0 | 12.7 | 36.2 | 20.9 | 12.1 | 34.8 | 20.1 | 11.6 | 1460 | 88.4 | 0.86 | 2.2 | 2.2 | 71,74 | 7.5 | 74 | 64.00 |
| MS 160M-4 | 11 | 37.5 | 21.7 | 12.5 | 35.8 | 20.6 | 11.9 | 34.4 | 19.9 | 11.5 | 1460 | 88.4 | 0.87 | 2.2 | 2.2 | 71,78 | 7 | 75 | 73.00 |
| MS 160L1-4 | 15 | 51.2 | 29.6 | 17.1 | 48.8 | 28.2 | 16.3 | 46.9 | 27.1 | 15.6 | 1460 | 88.4 | 0.87 | 2.2 | 2.2 | 97,83 | 7.5 | 75 | 88.50 |
| MS 160L2-4 | 18.5 | 63.1 | 36.5 | 21.0 | 60.1 | 34.7 | 20.0 | 57.9 | 33.5 | 19.3 | 1460 | 90.5 | 0.85 | 2.2 | 2.2 | 120 | 7.5 | 78 | 97.50 |
| MS 180M-4 | 18.5 | 62.4 | 36.1 | 20.8 | 59.7 | 34.3 | 19.8 | 57.2 | 33.1 | 19.1 | 1460 | 90.5 | 0.86 | 2.2 | 2.2 | 143 | 7.5 | 80 | 118.0 |
| MS 180L-4 | 22 | 73.8 | 42.7 | 24.7 | 70.6 | 40.6 | 23.4 | 67.7 | 39.1 | 22.6 | 1460 | 91 | 0.86 | 2.2 | 2.2 | 143 | 7.5 | 80 | 128.0 |
| MS 200L-4 | 30 | 99.5 | 57.6 | 33.2 | 95.1 | 54.7 | 31.6 | 91.2 | 52.7 | 30.4 | 1470 | 92 | 0.86 | 2.2 | 2.2 | 195 | 7.5 | 83 | 158.0 |

# TECA Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 6 poles IE1

| Frame size | Power (KW) | Current (A) | | | Current (A) | | | Current (A) | | | rpm. (r/min) | Eff. (%) | Power factor (Cosφ) | Cs/ Cn | Cmax/ Cn | Cn (Nm) | Is/In | dB(A) | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220V | 380V | 660V | 230V | 400V | 690V | 240V | 415V | 720V | | | | | | | | | |
| MS 631-6 | 0.09 | 0.92 | 0.53 | 0.31 | 0.88 | 0.51 | 0.29 | 0.85 | 0.49 | 0.28 | 840 | 42 | 0.61 | 2 | 2 | 0,96 | 3.5 | 50 | 4.20 |
| MS 632-6 | 0.12 | 1.13 | 0.65 | 0.38 | 1.06 | 0.62 | 0.36 | 1.03 | 0.60 | 0.34 | 850 | 45 | 0.62 | 2 | 2 | 1,18 | 3.5 | 50 | 4.50 |
| MS 711-6 | 0.18 | 1.28 | 0.74 | 0.43 | 1.22 | 0.70 | 0.41 | 1.17 | 0.68 | 0.39 | 880 | 56 | 0.66 | 1.6 | 1.7 | 1,93 | 4 | 52 | 5.60 |
| MS 712-6 | 0.25 | 1.59 | 0.92 | 0.53 | 1.51 | 0.87 | 0.50 | 1.46 | 0.84 | 0.49 | 900 | 59 | 0.7 | 2.1 | 2.2 | 2,36 | 4 | 52 | 6.00 |
| MS 713-6 | 0.37 | 2.31 | 1.34 | 0.77 | 2.2 | 1.27 | 0.73 | 2.11 | 1.22 | 0.70 | 890 | 61 | 0.69 | 2 | 2.1 | 3,93 | 4 | 54 | 6.80 |
| MS 801-6 | 0.37 | 2.24 | 1.30 | 0.75 | 2.13 | 1.23 | 0.71 | 2.05 | 1.19 | 0.68 | 900 | 62 | 0.7 | 1.9 | 1.9 | 3,90 | 4 | 56 | 8.10 |
| MS 802-6 | 0.55 | 2.99 | 1.73 | 1.00 | 2.85 | 1.65 | 0.95 | 2.74 | 1.59 | 0.91 | 900 | 67 | 0.72 | 2 | 2.3 | 5,84 | 4 | 56 | 9.60 |
| MS 803-6 | 0.75 | 4.02 | 2.33 | 1.34 | 3.83 | 2.21 | 1.28 | 3.69 | 2.13 | 1.23 | 900 | 68 | 0.72 | 2 | 2.3 | 7,88 | 4 | 58 | 10.00 |
| MS 90S-6 | 0.75 | 3.96 | 2.29 | 1.32 | 3.77 | 2.18 | 1.26 | 3.63 | 2.10 | 1.21 | 920 | 69 | 0.72 | 2.2 | 2.2 | 7,83 | 5.5 | 59 | 11.30 |
| MS 90L1-6 | 1.1 | 5.49 | 3.18 | 1.83 | 5.23 | 3.02 | 1.74 | 5.03 | 2.91 | 1.68 | 925 | 72 | 0.73 | 2.2 | 2.2 | 11,54 | 5.5 | 59 | 14.40 |
| MS 90L2-6 | 1.5 | 7.09 | 4.11 | 2.36 | 6.76 | 3.90 | 2.25 | 6.50 | 3.76 | 2.17 | 925 | 74 | 0.75 | 2.2 | 2.2 | 15,64 | 5.5 | 60 | 15.50 |
| MS 100L1-6 | 1.5 | 7.00 | 4.05 | 2.33 | 6.67 | 3.85 | 2.22 | 6.42 | 3.71 | 2.14 | 945 | 74 | 0.76 | 2.2 | 2.2 | 15,62 | 6 | 61 | 18.80 |
| MS 100L2-6 | 2.2 | 9.87 | 5.71 | 3.29 | 9.40 | 5.43 | 3.13 | 9.04 | 5.23 | 3.01 | 950 | 77 | 0.76 | 2.2 | 2.2 | 22,31 | 6 | 63 | 19.80 |
| MS 112M-6 | 2.2 | 9.7 | 5.64 | 3.25 | 9.28 | 5.36 | 3.09 | 8.93 | 5.16 | 2.98 | 955 | 78 | 0.78 | 2.2 | 2.2 | 22,34 | 6 | 64 | 25.00 |
| MS 112L-6 | 3 | 12.9 | 7.49 | 4.31 | 12.3 | 7.12 | 4.11 | 11.9 | 6.86 | 3.95 | 950 | 79 | 0.77 | 2.2 | 2.2 | 30,21 | 6 | 64 | 30.00 |
| MS 132S-6 | 3 | 13.1 | 7.59 | 4.37 | 12.5 | 7.21 | 4.16 | 12.0 | 6.95 | 4.01 | 960 | 79 | 0.76 | 2 | 2 | 30,18 | 6.5 | 64 | 35.00 |
| MS 132M1-6 | 4 | 17.2 | 9.93 | 5.72 | 16.4 | 9.44 | 5.45 | 15.7 | 9.10 | 5.24 | 960 | 80.5 | 0.76 | 2 | 2 | 40,21 | 6.5 | 68 | 47.60 |
| MS 132M2-6 | 5.5 | 22.6 | 13.1 | 7.53 | 21.5 | 12.4 | 7.17 | 20.7 | 12.0 | 6.9 | 960 | 83 | 0.77 | 2 | 2 | 55,32 | 6.5 | 68 | 50.70 |
| MS 132L-6 | 7.5 | 30.1 | 17.4 | 10.0 | 28.7 | 16.5 | 9.55 | 27.6 | 15.9 | 9.2 | 960 | 85 | 0.77 | 2 | 2 | 74,60 | 6.5 | 68 | 47.60 |
| MS 160M-6 | 7.5 | 28.6 | 16.6 | 9.5 | 27.3 | 15.7 | 9.08 | 26.2 | 15.2 | 8.7 | 960 | 86 | 0.8 | 2 | 2.2 | 74,58 | 6.5 | 68 | 70.0 |
| MS 160L-6 | 11 | 41.8 | 24.2 | 13.9 | 39.8 | 23.0 | 13.3 | 38.3 | 22.1 | 12.8 | 960 | 87.5 | 0.79 | 2 | 2.2 | 109,43 | 6.5 | 73 | 87.0 |
| MS 180L-6 | 15 | 54.6 | 31.6 | 18.2 | 52.2 | 30.0 | 17.3 | 50.1 | 28.9 | 16.7 | 970 | 89 | 0.81 | 2 | 2.2 | 147,73 | 6.5 | 79 | 122.0 |
| MS 200L1-6 | 18.5 | 66.6 | 38.6 | 22.2 | 63.7 | 36.6 | 21.1 | 61.0 | 35.3 | 20.3 | 975 | 90 | 0.81 | 2 | 2.2 | 181,23 | 6.5 | 82 | 136.0 |
| MS 200L2-6 | 22 | 77.3 | 44.7 | 25.8 | 73.9 | 42.5 | 24.5 | 70.8 | 41.0 | 23.6 | 975 | 90 | 0.83 | 2 | 2.2 | 215,21 | 6.5 | 82 | 152.0 |

# TECA Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) - 8 poles

| Frame size | Power (KW) | Current (A) | | | Current (A) | | | Current (A) | | | rpm. (r/min) | Eff. (%) | Power factor (Cosφ) | Cs/ Cn | Cmax/ Cn | Cn (Nm) | Is/In | dB(A) | Weight (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 220V | 380V | 660V | 230V | 400V | 690V | 240V | 415V | 720V | | | | | | | | | |
| MS 711-8 | 0.09 | 0.88 | 0.51 | 0.29 | 0.84 | 0.48 | 0.28 | 0.81 | 0.47 | 0.27 | 680 | 48 | 0.56 | 1.5 | 1.7 | 1,05 | 3 | 50 | 5.60 |
| MS 712-8 | 0.12 | 1.05 | 0.61 | 0.35 | 1.00 | 0.58 | 0.33 | 0.96 | 0.55 | 0.32 | 690 | 51 | 0.59 | 1.6 | 1.7 | 1,63 | 2.7 | 50 | 6.00 |
| MS 801-8 | 0.18 | 1.52 | 0.88 | 0.51 | 1.45 | 0.84 | 0.48 | 1.39 | 0.80 | 0.46 | 680 | 51 | 0.61 | 1.5 | 1.7 | 2,60 | 2.8 | 52 | 9.40 |
| MS 802-8 | 0.25 | 1.92 | 1.11 | 0.64 | 1.83 | 1.06 | 0.61 | 1.76 | 1.02 | 0.59 | 680 | 56 | 0.61 | 1.6 | 2 | 3,60 | 2.7 | 52 | 10.10 |
| MS 90S-8 | 0.37 | 2.45 | 1.42 | 0.82 | 2.33 | 1.35 | 0.78 | 2.24 | 1.30 | 0.75 | 680 | 63 | 0.63 | 1.6 | 1.8 | 5,22 | 2.8 | 56 | 12.50 |
| MS 90L-8 | 0.55 | 3.36 | 1.95 | 1.12 | 3.21 | 1.85 | 1.07 | 3.08 | 1.78 | 1.03 | 680 | 66 | 0.65 | 1.6 | 1.8 | 7,63 | 3 | 56 | 15.30 |
| MS 100L1-8 | 0.75 | 4.45 | 2.58 | 1.48 | 4.24 | 2.45 | 1.41 | 4.08 | 2.36 | 1.36 | 710 | 66 | 0.67 | 1.7 | 2.1 | 10,42 | 3.5 | 59 | 17.20 |
| MS 100L2-8 | 1.1 | 5.81 | 3.36 | 1.94 | 5.54 | 3.20 | 1.85 | 5.33 | 3.08 | 1.78 | 710 | 72 | 0.69 | 1.7 | 2.1 | 15,18 | 3.5 | 59 | 19.50 |
| MS 112M-8 | 1.5 | 7.82 | 4.53 | 2.61 | 7.45 | 4.30 | 2.48 | 7.17 | 4.15 | 2.39 | 710 | 74 | 0.68 | 1.8 | 2.1 | 20,63 | 4.2 | 61 | 25.50 |
| MS 132S-8 | 2.2 | 10.8 | 6.28 | 3.61 | 10.3 | 5.96 | 3.44 | 9.94 | 5.75 | 3.31 | 720 | 75 | 0.71 | 2 | 2 | 29,82 | 5.5 | 64 | 34.20 |
| MS 132M-8 | 3 | 14.0 | 8.11 | 4.67 | 13.3 | 7.70 | 4.45 | 12.8 | 7.43 | 4.28 | 720 | 77 | 0.73 | 2 | 2 | 42,35 | 5.5 | 64 | 40.00 |
| MS 160M1-8 | 4 | 18.0 | 10.4 | 5.99 | 17.1 | 9.89 | 5.71 | 16.5 | 9.53 | 5.49 | 730 | 80 | 0.73 | 1.9 | 2.1 | 53,81 | 6 | 68 | 59.00 |
| MS 160M2-8 | 5.5 | 23.4 | 13.5 | 7.79 | 22.3 | 12.9 | 7.42 | 21.4 | 12.4 | 7.14 | 720 | 83.5 | 0.74 | 2 | 2.2 | 73,27 | 6 | 68 | 69.00 |
| MS 160L-8 | 7.5 | 30.9 | 17.9 | 10.3 | 29.4 | 17.0 | 9.8 | 28.3 | 16.4 | 9.43 | 720 | 85 | 0.75 | 1.9 | 2.2 | 100,65 | 6 | 68 | 87.00 |
| MS 180L-8 | 11 | 45.2 | 26.2 | 15.1 | 43.6 | 25.1 | 14.5 | 41.5 | 24.0 | 13.8 | 715 | 87.4 | 0.73 | 1.9 | 2.2 | 144,2 | 6 | 78 | 125.0 |
| MS 200L-8 | 15 | 58.9 | 34.1 | 19.6 | 56.3 | 32.4 | 18.7 | 54.0 | 31.2 | 18.0 | 725 | 88.0 | 0.76 | 1.9 | 2.2 | 194,65 | 6 | 80 | 151.0 |

# TECA Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 2poles IE2

| Frame size | Power (KW) | Eff. (%) | Current In(A) 400V | Power factor (Cosφ) | rpm (rpm/min) | Cn (Nm) | Cs/Cn | Is/In |
|---|---|---|---|---|---|---|---|---|
| MS2 801-2 | 0.75 | 77.4 | 1.75 | 0.80 | 2840 | 2,49 | 2.9 | 5.8 |
| MS2 802-2 | 1.1 | 80 | 2.42 | 0.82 | 2850 | 3.53 | 3.5 | 6.8 |
| MS2 90S-2 | 1.5 | 81.4 | 3.20 | 0.83 | 2850 | 5.09 | 3.5 | 6.9 |
| MS2 90L-2 | 2.2 | 83.2 | 4.54 | 0.84 | 2860 | 7,32 | 4.1 | 7.9 |
| MS2 100L-2 | 3 | 84.6 | 5.88 | 0.87 | 2880 | 9,96 | 3.4 | 7.8 |
| MS2 112M-2 | 4 | 86 | 7.54 | 0.89 | 2890 | 13,18 | 2.7 | 7.5 |
| MS2 132S1-2 | 5.5 | 87.2 | 10.2 | 0.89 | 2900 | 18,25 | 2.4 | 7.7 |
| MS2 132S2-2 | 7.5 | 88.1 | 13.8 | 0.89 | 2910 | 24,47 | 2.6 | 8.4 |
| MS2 160M1-2 | 11 | 89.4 | 19.9 | 0.89 | 2930 | 20,23 | 2.4 | 7.6 |
| MS2 160M2-2 | 15 | 90.3 | 26.9 | 0.89 | 2930 | 27,68 | 2.6 | 8 |
| MS2 160L-2 | 18.5 | 90.9 | 32.6 | 0.90 | 2940 | 33,42 | 3 | 9 |
| MS2 180M-2 | 22 | 91.3 | 38.6 | 0.90 | 2950 | 39,11 | 2.6 | 8.5 |
| MS2 200L1-2 | 30 | 92 | 52.3 | 0.90 | 2950 | 51,93 | 2.4 | 8 |
| MS2 200L2-2 | 37 | 92.5 | 64.1 | 0.90 | 2950 | 63,48 | 2.5 | 8.5 |

## Electrical data (50Hz) 4 poles IE2

| Frame size | Power (KW) | Eff. (%) | Current In(A) 400V | Power factor (Cosφ) | rpm (rpm/min) | Cn (Nm) | Cs/Cn | Is/In |
|---|---|---|---|---|---|---|---|---|
| MS2 802-4 | 0.75 | 79.6 | 1.79 | 0.76 | 1410 | 5,27 | 2.8 | 5.3 |
| MS2 90S-4 | 1.1 | 81.4 | 2.50 | 0.78 | 1420 | 7,51 | 3.8 | 6.7 |
| MS2 90L-4 | 1.5 | 82.8 | 3.31 | 0.79 | 1420 | 10,39 | 4 | 7.2 |
| MS2 100L1-4 | 2.2 | 84.3 | 4.83 | 0.78 | 1440 | 14,76 | 3.6 | 7.4 |
| MS2 100L2-4 | 3 | 85.5 | 6.33 | 0.80 | 1440 | 20,13 | 3.8 | 7.8 |
| MS2 112M-4 | 4 | 86.6 | 8.23 | 0.81 | 1440 | 26,89 | 3.1 | 7.1 |
| MS2 132S-4 | 5.5 | 87.9 | 10.9 | 0.83 | 1450 | 36,25 | 2.6 | 7.4 |
| MS2 132M-4 | 7.5 | 88.7 | 14.5 | 0.84 | 1450 | 49,21 | 2.8 | 7.7 |
| MS2 160M-4 | 11 | 89.8 | 21.6 | 0.82 | 1450 | 71,86 | 2.7 | 7.7 |
| MS2 160L-4 | 15 | 90.6 | 28.4 | 0.84 | 1450 | 97,90 | 2.4 | 7.3 |
| MS2 180M-4 | 18.5 | 91.4 | 34.4 | 0.85 | 1460 | 121,32 | 2.2 | 7.4 |
| MS2 180L-4 | 22 | 91.7 | 40.3 | 0.86 | 1460 | 143,26 | 2.3 | 7.5 |
| MS2 200L-4 | 30 | 92.3 | 55.2 | 0.86 | 1470 | 195,54 | 2.8 | 7.6 |

# TECA Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 6 poles IE2

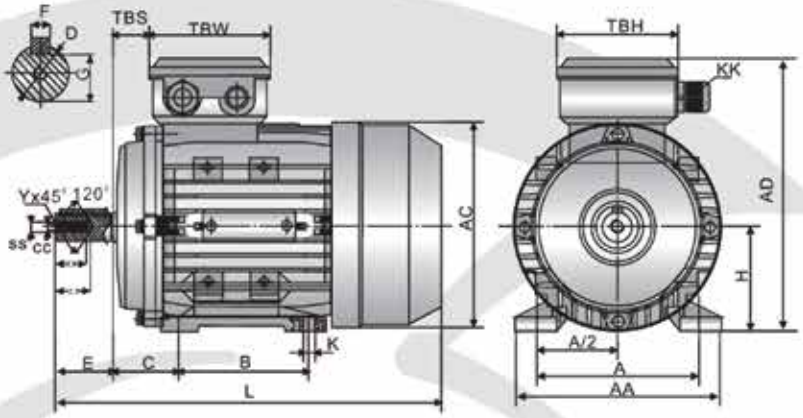
| Frame size | Power (KW) | Eff. (%) | Current In(A) 400V | Power factor (Cosφ) | rpm (rpm/min) | Cn (Nm) | Cs/Cn | Is/In |
|---|---|---|---|---|---|---|---|---|
| MS2 90S-6 | 0.75 | 78.0 | 2.01 | 0.71 | 925 | 7,75 | 3.1 | 4.7 |
| MS2 90L-6 | 1.1 | 78.1 | 2.82 | 0.72 | 930 | 11,43 | 3.2 | 5 |
| MS2 100L-6 | 1.5 | 80.0 | 3.71 | 0.73 | 940 | 15,09 | 3.1 | 5.9 |
| MS2 112M-6 | 2.2 | 81.8 | 5.17 | 0.75 | 945 | 22,13 | 2.6 | 5.5 |
| MS2 132S-6 | 3 | 83.3 | 6.84 | 0.76 | 960 | 30,32 | 2.2 | 5.7 |
| MS2 132M1-6 | 4 | 84.6 | 8.86 | 0.77 | 960 | 41,25 | 2.4 | 6.2 |
| MS2 132M2-6 | 5.5 | 86 | 12.0 | 0.77 | 960 | 54,86 | 2.6 | 6.7 |
| MS2 160M-6 | 7.5 | 87.5 | 16.1 | 0.77 | 970 | 74,69 | 2 | 5.6 |
| MS2 160L-6 | 11 | 89.0 | 22.9 | 0.78 | 970 | 108,92 | 2 | 5.8 |
| MS2 180L-6 | 15 | 90.1 | 28.9 | 0.83 | 975 | 147,77 | 1.9 | 7.5 |
| MS2 200L1-6 | 18.5 | 90.4 | 35.6 | 0.83 | 975 | 180,32 | 2.2 | 6.3 |
| MS2 200L2-6 | 22 | 90.9 | 41.6 | 0.84 | 975 | 214,53 | 2.3 | 06.02 |

# TECA Series - Overall & Installation Dimensions

All dimensions in mm

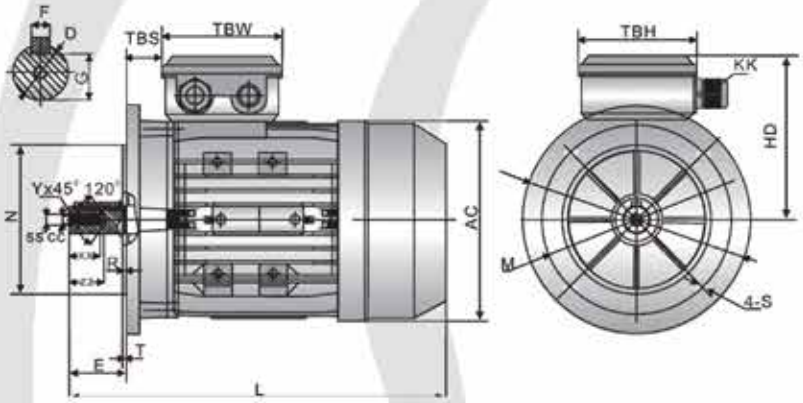
## TECA MS B3

Table 1



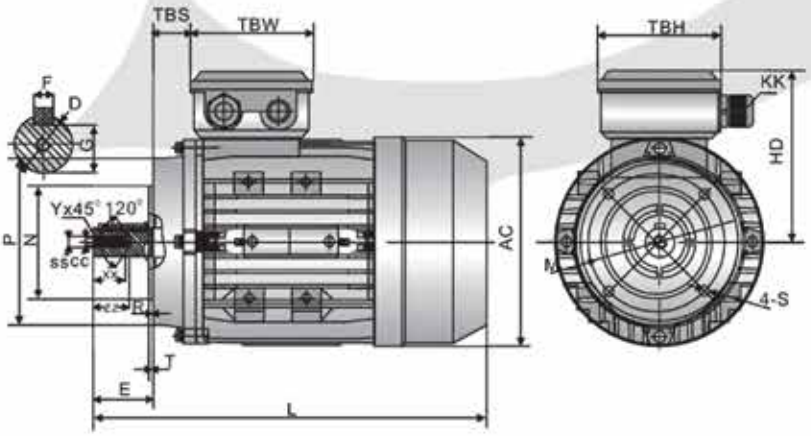

## TECA MS B5

Table 2




## TECA MS B14

Table 2



# TECA Series - Overall & Installation Dimensions

## Table 1

| Frame Size | B3 | | | | | Shaft | | | | | | | General | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H | A | B | C | K | D | E | F | G | SS | XX | ZZ | AA | AD | HD | AC | L | TBS | TBW | TBH |
| 56 | 56 | 90 | 71 | 36 | 5.8 x 8.8 | Ø9 | 20 | 3 | 7.2 | M3 | 9 | 12 | 110 | 156 | 100 | Ø117 | 196 | 14 | 14 | 88 |
| 63 | 63 | 100 | 80 | 40 | 7 x 10 | Ø11 | 23 | 4 | 8.5 | M4 | 10 | 14 | 120 | 171 | 108 | Ø130 | 220 | 14 | 14 | 94 |
| 71 | 71 | 112 | 90 | 45 | 7 x 10 | Ø14 | 30 | 5 | 11 | M5 | 12 | 17 | 132 | 186 | 115 | Ø147 | 241 | 20 | 20 | 94 |
| 80 | 80 | 125 | 100 | 50 | 10 x 13 | Ø19 | 40 | 6 | 15.5 | M6 | 16 | 21 | 160 | 213 | 133 | Ø163 | 290 | 27 | 27 | 105 |
| 90S | 90 | 140 | 100 | 56 | 10 x 13 | Ø24 | 50 | 8 | 20 | M8 | 19 | 25 | 175 | 229 | 139 | Ø183 | 312 | 30 | 30 | 105 |
| 90L1/L2 | 90 | 140 | 125 | 56 | 10 x 13 | Ø24 | 50 | 8 | 20 | M8 | 19 | 25 | 175 | 229 | 139 | Ø183 | 337/367 | 30 | 30 | 105 |
| 100 | 100 | 160 | 140 | 63 | 12 x 15 | Ø28 | 60 | 8 | 24 | M10 | 22 | 30 | 198 | 252 | 152 | Ø205 | 369 | 26 | 26 | 105 |
| 112 | 112 | 190 | 140 | 70 | 12 x 15 | Ø28 | 60 | 8 | 24 | M10 | 22 | 30 | 220 | 279 | 167 | Ø229 | 395 | 32 | 32 | 112 |
| 132S | 132 | 216 | 140 | 89 | 12 x 15 | Ø38 | 80 | 10 | 33 | M12 | 28 | 37 | 252 | 318 | 186 | Ø265 | 437 | 38 | 38 | 112 |
| 132M/L | 132 | 216 | 178 | 89 | 12 x 15 | Ø38 | 80 | 10 | 33 | M12 | 28 | 37 | 252 | 318 | 186 | Ø265 | 475/501 | 38 | 38 | 112 |
| 160M/L | 160 | 254 | 210/254 | 108 | 15 x 19 | Ø42 | 110 | 12 | 27 | M16 | 36 | 45 | 290 | 384 | 224 | Ø325 | 640 | 64 | 64 | 143 |
| 180M/L | 180 | 279 | 241/279 | 121 | 15 x 19 | Ø48 | 110 | 14 | 42.5 | M18 | 36 | 45 | 340 | 440 | 260 | Ø368 | 730 | 73 | 73 | 190 |
| 200L | 200 | 318 | 305 | 133 | 19 x 29 | Ø55 | 110 | 16 | 49 | M20 | 42 | 53 | 390 | 460 | 260 | Ø368 | 745 | 85 | 85 | 190 |

## Table 2

| Frame Size | B5 | | | | | | B5R | | | | | | B14 | | | | | | B14B | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | M | N | P | T | S | R | M | N | P | T | S | R | N | M | P | T | S | R | N | M | P | T | S | R |
| 56 | Ø100 | Ø80 | Ø120 | 3.0 | Ø7 | 0 | | | | | | | Ø50 | Ø65 | Ø80 | 2.5 | M5 | 0 | | | | | | |
| 63 | Ø115 | Ø95 | Ø140 | 3.0 | Ø10 | 0 | | | | | | | Ø60 | Ø75 | Ø90 | 2.5 | M5 | 0 | Ø80 | Ø100 | Ø120 | 3.0 | M6 | 0 |
| 71 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø115 | Ø95 | Ø140 | 3.5 | Ø10 | 0 | Ø70 | Ø85 | Ø105 | 2.5 | M6 | 0 | Ø95 | Ø115 | Ø140 | 3.0 | M8 | 0 |
| 80 | Ø165 | Ø130 | Ø200 | 3.5 | Ø12 | 0 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø80 | Ø110 | Ø120 | 3.0 | M6 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8 | 0 |
| 90S | Ø165 | Ø130 | Ø200 | 3.5 | Ø12 | 0 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø95 | Ø115 | Ø140 | 3.0 | M8 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8 | 0 |
| 90L1/L2 | Ø165 | Ø130 | Ø200 | 3.5 | Ø12 | 0 | Ø130 | Ø110 | Ø160 | 3.5 | Ø10 | 0 | Ø95 | Ø115 | Ø140 | 3.0 | M8 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8 | 0 |
| 100 | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø165 | Ø130 | Ø200 | 4.0 | Ø12 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8 | 0 | Ø130 | Ø165 | Ø200 | 3.5 | M10 | 0 |
| 112 | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø165 | Ø130 | Ø200 | 4.0 | Ø12 | 0 | Ø110 | Ø130 | Ø160 | 3.5 | M8 | 0 | Ø130 | Ø165 | Ø200 | 3.5 | M10 | 0 |
| 132S | Ø265 | Ø230 | Ø300 | 4.0 | Ø15 | 0 | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø130 | Ø165 | Ø200 | 4.0 | M10 | 0 | Ø180 | Ø215 | Ø250 | 4.0 | M12 | 0 |
| 132M/L | Ø265 | Ø230 | Ø300 | 4.0 | Ø15 | 0 | Ø215 | Ø180 | Ø250 | 4.0 | Ø15 | 0 | Ø130 | Ø165 | Ø200 | 4.0 | M10 | 0 | Ø180 | Ø215 | Ø250 | 4.0 | M12 | 0 |
| 160M/L | Ø300 | Ø250 | Ø350 | 5.0 | Ø19 | 0 | | | | | | | Ø180 | Ø215 | Ø250 | 4.0 | M10 | 0 | | | | | | |
| 180M/L | Ø300 | Ø250 | Ø350 | 5.0 | Ø19 | 0 | | | | | | | | | | | | | | | | | | |
| 200L | Ø300 | Ø300 | Ø400 | 5.0 | Ø19 | 0 | | | | | | | | | | | | | | | | | | |

# TECA-BM "MSBCCL" DESIGN



The TECA brake motor combines the asynchronous three phase motor with an electromagnetic D.C brake.

Features include reliability, safe operation and quick braking times.

(Disconnection = 5-80 milli seconds).

Suitable for a variety of applications including
- Braking of loads or torques on the drive shaft.
- Braking of rotating loads to reduce stopping times.
- Braking operations to assist set-up precision.
- Braking of machine parts, in accordance with safety standards.

| Frame | H | A | B | C | D | E | F | G | K | AA | AC | L | KK | TBS | TBW | TBH | SS | XX | ZZ | CC | Y |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 56 | 56 | 90 | 71 | 36 | φ9 | 20 | 3 | 7.2 | 5.8×8.8 | 110 | φ117 | 232 | 1-M16×1.5 | 14 | 88 | 88 | M3 | 9 | 12 | 2.5 | 0.5 |
| 63 | 63 | 100 | 80 | 40 | φ11 | 23 | 4 | 8.5 | 7×10 | 120 | φ130 | 256 | 1-M16×1.5 | 14 | 94 | 94 | M4 | 10 | 14 | 3.3 | 0.8 |
| 71** | 71 | 112 | 90 | 45 | φ14 | 30 | 5 | 11 | 7×10 | 132 | φ147 | 282(296) | 1-M20×1.5 | 20 | 94 | 94 | M5 | 12 | 17 | 4.2 | 0.8 |
| 80 | 80 | 125 | 100 | 50 | φ19 | 40 | 6 | 15.5 | 10×13 | 160 | φ163 | 339 | 1-M20×1.5 | 27 | 105 | 105 | M6 | 16 | 21 | 5 | 1 |
| 90 S | 90 | 140 | 100 | 56 | φ24 | 50 | 8 | 20 | 10×13 | 175 | φ183 | 361 | 1-M20×1.5 | 30 | 105 | 105 | M8 | 19 | 25 | 6.8 | 1 |
| 90L1/L2 | 90 | 140 | 125 | 56 | φ24 | 50 | 8 | 20 | 10×13 | 175 | φ183 | 386/416 | 1-M20×1.5 | 30 | 105 | 105 | M8 | 19 | 25 | 6.8 | 1 |
| 100** | 100 | 160 | 140 | 63 | φ28 | 60 | 8 | 24 | 12×15 | 198 | φ205 | 425(443) | 2-M20×1.5 | 26 | 105 | 105 | M10 | 22 | 30 | 8.5 | 1.5 |
| 112 | 112 | 190 | 140 | 70 | φ28 | 60 | 8 | 24 | 12×15 | 220 | φ229 | 463 | 2-M25×1.5 | 32 | 112 | 112 | M10 | 22 | 30 | 8.5 | 1.5 |
| 132S | 132 | 216 | 140 | 89 | φ38 | 80 | 10 | 33 | 12×15 | 252 | φ265 | 497 | 2-M25×1.5 | 38 | 112 | 112 | M12 | 28 | 37 | 10.2 | 1.5 |
| 132M/L | 132 | 216 | 178 | 89 | φ38 | 80 | 10 | 33 | 12×15 | 252 | φ265 | 535/561 | 2-M25×1.5 | 38 | 112 | 112 | M12 | 28 | 37 | 10.2 | 1.5 |
| 160M/L | 160 | 254 | 210/254 | 108 | φ42 | 110 | 12 | 37 | 15×19 | 290 | φ325 | 697 | 2-M32×1.5 | 64 | 143 | 143 | M13 | 36 | 45 | 14.2 | 2 |
| 180M/L | 180 | 279 | 241/279 | 121 | φ48 | 110 | 14 | 42.5 | 15×25 | 340 | φ368 | | 2-M32×1.5 | 73 | 190 | 190 | M14 | 36 | 45 | 14.2 | 2 |
| 200L | 200 | 318 | 305 | 133 | φ55 | 110 | 16 | 49 | 19×29 | 390 | φ368 | | 2-M40×1.5 | 85 | 190 | 190 | M15 | 42 | 53 | 17.5 | 2 |

# 2 Pole TECA-BM Technical Data 50HZ

| Model | Power (KW) | Speed (r/min) | Eff. (%) | Power Factor (CosΦ) | Current (A) | | | $T_a/T_n$ (Times) | $T_{max}/T_n$ (Times) | $T_{min}/T_n$ (Times) | $I_a/I_n$ (Times) | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 230V | 400V | 690V | | | | | |
| MSBCCL631-2 | 0.18 | 2710 | 63 | 0.75 | 0.95 | 0.55 | 0.32 | 2.2 | 2.4 | 1.6 | 6 | 61 |
| MSBCCL632-2 | 0.25 | 2710 | 65 | 0.78 | 1.23 | 0.71 | 0.41 | 2.2 | 2.4 | 1.6 | 6 | 61 |
| MSBCCL633-2 | 0.37 | 2710 | 65 | 0.78 | 1.82 | 1.05 | 0.61 | 2.2 | 2.4 | 1.6 | 6 | 62 |
| MSBCCL711-2 | 0.37 | 2730 | 70 | 0.79 | 1.67 | 0.97 | 0.56 | 2.2 | 2.4 | 1.6 | 6 | 64 |
| MSBCCL712-2 | 0.55 | 2760 | 71 | 0.79 | 2.45 | 1.42 | 0.82 | 2.2 | 2.4 | 1.6 | 6 | 64 |
| MSBCCL713-2 | 0.75 | 2730 | 72 | 0.82 | 3.18 | 1.83 | 1.06 | 2.2 | 2.4 | 1.5 | 6 | 65 |
| MSBCCL801-2 | 0.75 | 2770 | 73 | 0.84 | 3.06 | 1.77 | 1.02 | 2.2 | 2.4 | 1.5 | 6 | 67 |
| MSBCCL802-2 | 1.1 | 2770 | 76.2 | 0.83 | 4.35 | 2.51 | 1.45 | 2.2 | 2.4 | 1.5 | 6 | 67 |
| MSBCCL803-2 | 1.5 | 2800 | 78.5 | 0.83 | 5.87 | 3.32 | 1.92 | 2.2 | 2.4 | 1.5 | 6 | 70 |
| MSBCCL90S-2 | 1.5 | 2840 | 78.5 | 0.84 | 5.76 | 3.28 | 1.90 | 2.2 | 2.4 | 1.5 | 6 | 72 |
| MSBCCL90L1-2 | 2.2 | 2840 | 81 | 0.85 | 8.0 | 4.61 | 2.66 | 2.2 | 2.4 | 1.4 | 6 | 72 |
| MSBCCL90L2-2 | 3 | 2840 | 82.6 | 0.86 | 10.56 | 6.10 | 3.52 | 2.2 | 2.4 | 1.4 | 6 | 74 |
| MSBCCL100L1-2 | 3 | 2840 | 82.6 | 0.87 | 10.44 | 6.03 | 3.48 | 2.2 | 2.3 | 1.4 | 7 | 76 |
| MSBCCL100L2-2 | 4 | 2850 | 84.2 | 0.87 | 13.65 | 7.88 | 4.55 | 2.2 | 2.3 | 1.4 | 7.5 | 77 |
| MSBCCL112M-2 | 4 | 2880 | 84.2 | 0.87 | 13.65 | 7.88 | 4.55 | 2.2 | 2.3 | 1.4 | 7.5 | 77 |
| MSBCCL112L-2 | 5.5 | 2880 | 85.7 | 0.88 | 18.23 | 10.53 | 6.08 | 2.2 | 2.3 | 1.2 | 7.5 | 78 |
| MSBCCL132S1-2 | 5.5 | 2900 | 85.7 | 0.88 | 18.23 | 10.53 | 6.08 | 2 | 2.2 | 1.2 | 7.5 | 80 |
| MSBCCL132S2-2 | 7.5 | 2920 | 87 | 0.88 | 24.49 | 14.14 | 8.16 | 2 | 2.2 | 1.2 | 7.5 | 80 |
| MSBCCL132M1-2 | 9.2 | 2930 | 88 | 0.89 | 29.87 | 17.25 | 9.96 | 2 | 2.2 | 1.2 | 7.5 | 81 |
| MSBCCL132M2-2 | 11 | 2930 | 88.4 | 0.9 | 34.57 | 19.96 | 11.52 | 2 | 2.2 | 1.2 | 7.5 | 83 |
| MSBCCL160M1-2 | 11 | 2940 | 88.4 | 0.9 | 34.57 | 19.96 | 11.52 | 2 | 2.2 | 1.2 | 7.5 | 86 |
| MSBCCL160M2-2 | 15 | 2940 | 89.4 | 0.91 | 46.09 | 26.61 | 15.36 | 2 | 2.2 | 1.2 | 7.5 | 86 |
| MSBCCL160L-2 | 18.5 | 2940 | 90 | 0.91 | 56.47 | 32.6 | 18.82 | 2 | 2.2 | 1.1 | 7.5 | 86 |

## Table 2

| Type | Brake Type K | Brake Torque Nm | Brake Rated Power W | J Brake $Pd^2$ $Kgm^2$ | No.of Starts/hr. Under No Load | Delayed Cut-in Time ★ Msec. | Quick Cut-in Time Msec. | Cut Out Time Msec. | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|
| MSBCCL63 | K 1 | 5 | 15 | 0.00005 | 3000 | 45 | 20 | 10 | 62 |
| MSBCCL 71 | K 2 | 12 | 20 | 0.00014 | 3000 | 50 | 30 | 15 | 64 |
| MSBCCL 80 | K 3 | 16 | 25 | 0.00021 | 1300 | 55 | 30 | 15 | 67 |
| MSBCCL 90S | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 72 |
| ●MSBCCL 90S | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 72 |
| MSBCCL 90 L | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 72 |
| ●MSBCCL 90 L | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 72 |
| MSBCCL 100 L | K 5 | 40 | 45 | 0.00104 | 900 | 75 | 45 | 20 | 76 |
| ●MSBCCL 100 L | K 6 | 60 | 50 | 0.00135 | 900 | 180 | 85 | 25 | 76 |
| MSBCCL 112 MT | K 5 | 40 | 45 | 0.00104 | 880 | 75 | 45 | 20 | 77 |
| MSBCCL 112 M | K 6 | 60 | 50 | 0.00135 | 880 | 180 | 85 | 25 | 78 |
| MSBCCL 132 S | K 7 | 90 | 55 | 0.00219 | 480 | 200 | 95 | 50 | 80 |
| ●MSBCCL 132 S | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 80 |
| MSBCCL 132 M | K 7 | 90 | 55 | 0.00219 | 450 | 200 | 95 | 50 | 80 |
| ●MSBCCL 132 M | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 80 |
| MSBCCL 160 MT | K 7 D | 180 | 55 | 0.00438 | 350 | 200 | 95 | 50 | 86 |
| MSBCCL 160 L | K 8 | 200 | 60 | 0.00408 | 350 | 210 | 100 | 60 | 86 |
| ●MSBCCL 160 L | K 8 D | 400 | 60 | 0.00816 | 350 | 210 | 100 | 60 | 86 |

● Motors with increased braking torque upon request

★ On request, delayed brake cut in time for lifting equipment. We recommend a double disk brake D for lifting equipment

Brake motors have a supply voltage tolerence of +/- 6%

# 4 Pole TECA-BM Technical Data 50HZ

| Model | Power (KW) | Speed (r/min) | Eff. (%) | Power Factor (CosΦ) | Current (A) | | | $T_{st}/T_n$ (Times) | $T_{max}/T_n$ (Times) | $T_{min}/T_n$ (Times) | $I_{st}/I_n$ (Times) | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 230V | 400V | 690V | | | | | |
| MSBCCL631-4 | 0.12 | 1350 | 57 | 0.64 | 0.82 | 0.47 | 0.27 | 2.2 | 2.4 | 1.7 | 6 | 52 |
| MSBCCL632-4 | 0.18 | 1350 | 59 | 0.65 | 1.17 | 0.68 | 0.39 | 2.2 | 2.4 | 1.7 | 6 | 52 |
| MSBCCL633-4 | 0.25 | 1350 | 60 | 0.66 | 1.58 | 0.91 | 0.53 | 2.2 | 2.4 | 1.7 | 6 | 54 |
| MSBCCL711-4 | 0.25 | 1350 | 60 | 0.72 | 1.45 | 0.84 | 0.48 | 2.2 | 2.4 | 1.7 | 6 | 55 |
| MSBCCL712-4 | 0.37 | 1370 | 65 | 0.74 | 1.92 | 1.11 | 0.64 | 2.2 | 2.4 | 1.7 | 6 | 55 |
| MSBCCL713-4 | 0.55 | 1380 | 66 | 0.75 | 2.78 | 1.60 | 0.93 | 2.2 | 2.4 | 1.7 | 6 | 57 |
| MSBCCL801-4 | 0.55 | 1370 | 67 | 0.75 | 2.74 | 1.58 | 0.91 | 2.2 | 2.4 | 1.7 | 6 | 58 |
| MSBCCL802-4 | 0.75 | 1380 | 72 | 0.78 | 3.34 | 1.93 | 1.11 | 2.2 | 2.4 | 1.6 | 6 | 58 |
| MSBCCL803-4 | 1.1 | 1390 | 76.2 | 0.78 | 4.63 | 2.67 | 1.54 | 2.2 | 2.4 | 1.6 | 6 | 60 |
| MSBCCL90S-4 | 1.1 | 1400 | 76.2 | 0.79 | 4.57 | 2.64 | 1.52 | 2.2 | 2.4 | 1.6 | 6 | 61 |
| MSBCCL90L-4 | 1.5 | 1400 | 78.5 | 0.8 | 5.97 | 3.45 | 1.99 | 2.2 | 2.4 | 1.6 | 6 | 61 |
| MSBCCL90L2-4 | 2.2 | 1400 | 81 | 0.8 | 8.45 | 4.90 | 2.83 | 2.2 | 2.4 | 1.5 | 7 | 63 |
| MSBCCL100L1-4 | 2.2 | 1420 | 81 | 0.81 | 8.38 | 4.84 | 2.79 | 2.2 | 2.3 | 1.5 | 7 | 64 |
| MSBCCL100L2-4 | 3 | 1420 | 82.6 | 0.81 | 11.21 | 6.47 | 3.74 | 2.2 | 2.3 | 1.5 | 7 | 64 |
| MSBCCL100L3-4 | 4 | 1430 | 84.2 | 0.82 | 14.18 | 8.36 | 4.83 | 2.2 | 2.3 | 1.5 | 7 | 65 |
| MSBCCL112M-4 | 4 | 1430 | 84.2 | 0.83 | 14.31 | 8.26 | 4.77 | 2.2 | 2.2 | 1.5 | 7 | 65 |
| MSBCCL112L-4 | 5.5 | 1440 | 85.7 | 0.83 | 19.33 | 11.16 | 6.44 | 2.2 | 2.2 | 1.4 | 7 | 68 |
| MSBCCL132S-4 | 5.5 | 1450 | 85.7 | 0.84 | 19.1 | 11.03 | 6.37 | 2.2 | 2.2 | 1.4 | 7 | 71 |
| MSBCCL132M-4 | 7.5 | 1450 | 87 | 0.85 | 25.35 | 14.64 | 8.45 | 2.2 | 2.2 | 1.4 | 7 | 71 |
| MSBCCL132L1-4 | 9.2 | 1460 | 87.5 | 0.85 | 30.92 | 17.85 | 10.31 | 2.2 | 2.2 | 1.4 | 7.5 | 74 |
| MSBCCL132L2-4 | 10 | 1460 | 88 | 0.85 | 33.42 | 19.3 | 11.14 | 2.2 | 2.2 | 1.4 | 7.5 | 74 |
| MSBCCL132L2-4 | 11 | 1460 | 88.4 | 0.86 | 36.17 | 20.88 | 12.06 | 2.2 | 2.2 | 1.4 | 7.5 | 74 |
| MSBCCL160M-4 | 11 | 1460 | 88.4 | 0.87 | 35.76 | 20.64 | 11.92 | 2.2 | 2.2 | 1.4 | 7 | 75 |
| MSBCCL160L-4 | 15 | 1460 | 88.4 | 0.87 | 48.76 | 28.15 | 16.25 | 2.2 | 2.2 | 1.4 | 7.5 | 75 |

| Type | Brake Type K | Brake Torque Nm | Brake Rated Power W | J Brake $Pd^2$ $Kgm^2$ | No.of Starts/hr. Under No Load | Delayed Cut-in Time ★ Msec. | Quick Cut-in Time Msec. | Cut Out Time Msec. | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|
| MSBCCL63 | K 1 | 5 | 15 | 0.00005 | 3000 | 45 | 20 | 10 | 52 |
| MSBCCL 71 | K 2 | 12 | 20 | 0.00014 | 3000 | 50 | 30 | 15 | 55 |
| MSBCCL 80 | K 3 | 16 | 25 | 0.00021 | 1300 | 55 | 30 | 15 | 58 |
| MSBCCL 90S | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 61 |
| ●MSBCCL 90S | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 61 |
| MSBCCL 90 L | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 63 |
| ●MSBCCL 90 L | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 63 |
| MSBCCL 100 L | K 5 | 40 | 45 | 0.00104 | 900 | 75 | 45 | 20 | 64 |
| ●MSBCCL 100 L | K 6 | 60 | 50 | 0.00135 | 900 | 180 | 85 | 25 | 65 |
| MSBCCL 112 MT | K 5 | 40 | 45 | 0.00104 | 880 | 75 | 45 | 20 | 65 |
| MSBCCL 112 M | K 6 | 60 | 50 | 0.00135 | 880 | 180 | 85 | 25 | 65 |
| MSBCCL 132 S | K 7 | 90 | 55 | 0.00219 | 480 | 200 | 95 | 50 | 71 |
| ●MSBCCL 132 S | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 71 |
| MSBCCL 132 M | K 7 | 90 | 55 | 0.00219 | 450 | 200 | 95 | 50 | 71 |
| ●MSBCCL 132 M | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 71 |
| MSBCCL 160 MT | K 7 D | 180 | 55 | 0.00438 | 350 | 200 | 95 | 50 | 75 |
| MSBCCL 160 L | K 8 | 200 | 60 | 0.00408 | 350 | 210 | 100 | 60 | 75 |
| ●MSBCCL 160 L | K 8 D | 400 | 60 | 0.00816 | 350 | 210 | 100 | 60 | 75 |

● Motors with increased braking torque upon request

★ On request, delayed brake cut in time for lifting equipment. We recommend a double disk brake D for lifting equipment

Brake motors have a supply voltage tolerence of +/- 6%

# 6 Pole TECA-BM Technical Data 50HZ

| Model | Power (KW) | Speed (r/min) | Eff. (%) | Power Factor (CosΦ) | Current (A) | | | $T_s/T_n$ (Times) | $T_{max}/T_n$ (Times) | $T_{min}/T_n$ (Times) | $I_s/I_n$ (Times) | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 230V | 400V | 690V | | | | | |
| MSBCCL631-6 | 0.09 | 840 | 42 | 0.61 | 0.88 | 0.51 | 0.29 | 2 | 2 | 1.5 | 3.5 | 50 |
| MSBCCL632-6 | 0.12 | 850 | 45 | 0.62 | 1.08 | 0.62 | 0.36 | 2 | 2 | 1.5 | 3.5 | 50 |
| MSBCCL711-6 | 0.18 | 880 | 56 | 0.66 | 1.22 | 0.70 | 0.41 | 1.6 | 1.7 | 1.5 | 4 | 52 |
| MSBCCL712-6 | 0.25 | 900 | 59 | 0.7 | 1.51 | 0.87 | 0.50 | 2.1 | 2.2 | 1.5 | 4 | 52 |
| MSBCCL713-6 | 0.37 | 890 | 61 | 0.69 | 2.2 | 1.27 | 0.73 | 2 | 2.1 | 1.5 | 4 | 54 |
| MSBCCL801-6 | 0.37 | 900 | 62 | 0.7 | 2.13 | 1.23 | 0.71 | 1.9 | 1.9 | 1.5 | 4 | 56 |
| MSBCCL802-6 | 0.55 | 900 | 67 | 0.72 | 2.85 | 1.65 | 0.95 | 2 | 2.3 | 1.5 | 4 | 56 |
| MSBCCL803-6 | 0.75 | 900 | 68 | 0.72 | 3.83 | 2.21 | 1.28 | 2 | 2.3 | 1.5 | 4 | 58 |
| MSBCCL90S-6 | 0.75 | 920 | 69 | 0.72 | 3.77 | 2.18 | 1.26 | 2.2 | 2.2 | 1.5 | 5.5 | 59 |
| MSBCCL90L-6 | 1.1 | 925 | 72 | 0.73 | 5.23 | 3.02 | 1.74 | 2.2 | 2.2 | 1.3 | 5.5 | 59 |
| MSBCCL100L-6 | 1.5 | 945 | 74 | 0.76 | 6.67 | 3.85 | 2.22 | 2.2 | 2.2 | 1.3 | 6 | 61 |
| MSBCCL112M-6 | 2.2 | 955 | 78 | 0.76 | 9.28 | 5.36 | 3.09 | 2.2 | 2.2 | 1.3 | 6 | 64 |
| MSBCCL132S-6 | 3 | 960 | 79 | 0.76 | 12.49 | 7.21 | 4.16 | 2 | 2 | 1.3 | 6.5 | 64 |
| MSBCCL132M1-6 | 4 | 960 | 80.5 | 0.76 | 16.35 | 9.44 | 5.45 | 2 | 2 | 1.3 | 6.5 | 68 |
| MSBCCL132M2-6 | 5.5 | 960 | 83 | 0.77 | 21.51 | 12.42 | 7.17 | 2 | 2 | 1.3 | 6.5 | 68 |
| MSBCCL132L-6 | 7.5 | 960 | 85 | 0.77 | 28.65 | 16.54 | 9.55 | 2 | 2 | 1.3 | 6.5 | 68 |
| MSBCCL160M-6 | 7.5 | 960 | 86 | 0.8 | 27.25 | 15.73 | 9.08 | 2 | 2.2 | 1.3 | 6.5 | 68 |
| MSBCCL160L-6 | 11 | 960 | 87.5 | 0.79 | 39.78 | 22.97 | 13.26 | 2 | 2.2 | 1.2 | 6.5 | 73 |

| Type | Brake Type K | Brake Torque Nm | Brake Rated Power W | J Brake $Pd^2$ $Kgm^2$ | No.of Starts/hr. Under No Load | Delayed Cut-in Time ★ Msec. | Quick Cut-in Time Msec. | Cut Out Time Msec. | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|
| MSBCCL63 | K 1 | 5 | 15 | 0.00005 | 3000 | 45 | 20 | 10 | 50 |
| MSBCCL 71 | K 2 | 12 | 20 | 0.00014 | 3000 | 50 | 30 | 15 | 52 |
| MSBCCL 80 | K 3 | 16 | 25 | 0.00021 | 1300 | 55 | 30 | 15 | 56 |
| MSBCCL 90S | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 59 |
| ●MSBCCL 90S | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 59 |
| MSBCCL 90 L | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 59 |
| ●MSBCCL 90 L | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 59 |
| MSBCCL 100 L | K 5 | 40 | 45 | 0.00104 | 900 | 75 | 45 | 20 | 61 |
| ●MSBCCL 100 L | K 6 | 60 | 50 | 0.00135 | 900 | 180 | 85 | 25 | 61 |
| MSBCCL 112 MT | K 5 | 40 | 45 | 0.00104 | 880 | 75 | 45 | 20 | 64 |
| MSBCCL 112 M | K 6 | 60 | 50 | 0.00135 | 880 | 180 | 85 | 25 | 64 |
| MSBCCL 132 S | K 7 | 90 | 55 | 0.00219 | 480 | 200 | 95 | 50 | 64 |
| ●MSBCCL 132 S | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 64 |
| MSBCCL 132 M | K 7 | 90 | 55 | 0.00219 | 450 | 200 | 95 | 50 | 68 |
| ●MSBCCL 132 M | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 68 |
| MSBCCL 160 MT | K 7 D | 180 | 55 | 0.00438 | 350 | 200 | 95 | 50 | 68 |
| MSBCCL 160 L | K 8 | 200 | 60 | 0.00408 | 350 | 210 | 100 | 60 | 73 |
| ●MSBCCL 160 L | K 8 D | 400 | 60 | 0.00816 | 350 | 210 | 100 | 60 | 73 |

● Motors with increased braking torque upon request

★ On request, delayed brake cut in time for lifting equipment. We recommend a double disk brake D for lifting equipment

Brake motors have a supply voltage tolerence of +/- 6%

# 8 Pole TECA-BM Technical Data 50HZ

| Model | Power (KW) | Speed (r/min) | Eff. (%) | Power Factor (CosΦ) | Current (A) | | | $T_a/T_n$ (Times) | $T_{max}/T_n$ (Times) | $T_{ma}/T_n$ (Times) | $I_a/I_n$ (Times) | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 230V | 400V | 690V | | | | | |
| MSBCCL711-8 | 0.09 | 680 | 48 | 0.56 | 0.84 | 0.48 | 0.28 | 1.5 | 1.7 | 1.3 | 3 | 50 |
| MSBCCL712-8 | 0.12 | 690 | 51 | 0.59 | 1.00 | 0.58 | 0.33 | 1.6 | 1.7 | 1.3 | 2.7 | 50 |
| MSBCCL801-8 | 0.18 | 680 | 51 | 0.61 | 1.45 | 0.84 | 0.48 | 1.5 | 1.7 | 1.3 | 2.8 | 52 |
| MSBCCL802-8 | 0.25 | 680 | 56 | 0.61 | 1.83 | 1.06 | 0.61 | 1.6 | 2 | 1.3 | 2.7 | 52 |
| MSBCCL90S-8 | 0.37 | 680 | 63 | 0.63 | 2.33 | 1.35 | 0.78 | 1.6 | 1.8 | 1.3 | 2.8 | 56 |
| MSBCCL90L-8 | 0.55 | 680 | 66 | 0.65 | 3.21 | 1.85 | 1.07 | 1.6 | 1.8 | 1.3 | 3 | 56 |
| MSBCCL100L1-8 | 0.75 | 710 | 66 | 0.67 | 4.24 | 2.45 | 1.41 | 1.7 | 2.1 | 1.3 | 3.5 | 59 |
| MSBCCL100L2-8 | 1.1 | 710 | 72 | 0.69 | 5.54 | 3.20 | 1.85 | 1.7 | 2.1 | 1.2 | 3.5 | 59 |
| MSBCCL112M-8 | 1.5 | 710 | 74 | 0.68 | 7.45 | 4.30 | 2.48 | 1.8 | 2.1 | 1.2 | 4.2 | 61 |
| MSBCCL132S-8 | 2.2 | 720 | 75 | 0.71 | 10.33 | 5.96 | 3.44 | 2 | 2 | 1.2 | 5.5 | 64 |
| MSBCCL132M-8 | 3 | 720 | 77 | 0.73 | 13.34 | 7.70 | 4.45 | 2 | 2 | 1.2 | 5.5 | 64 |
| MSBCCL160M1-8 | 4 | 730 | 80 | 0.73 | 17.12 | 9.89 | 5.71 | 1.9 | 2.1 | 1.2 | 6 | 68 |
| MSBCCL160M2-8 | 5.5 | 720 | 83.5 | 0.74 | 22.25 | 12.85 | 7.42 | 2 | 2.2 | 1.2 | 6 | 68 |
| MSBCCL160L-8 | 7.5 | 720 | 85 | 0.75 | 29.41 | 17.0 | 9.8 | 1.9 | 2.2 | 1.2 | 6 | 68 |

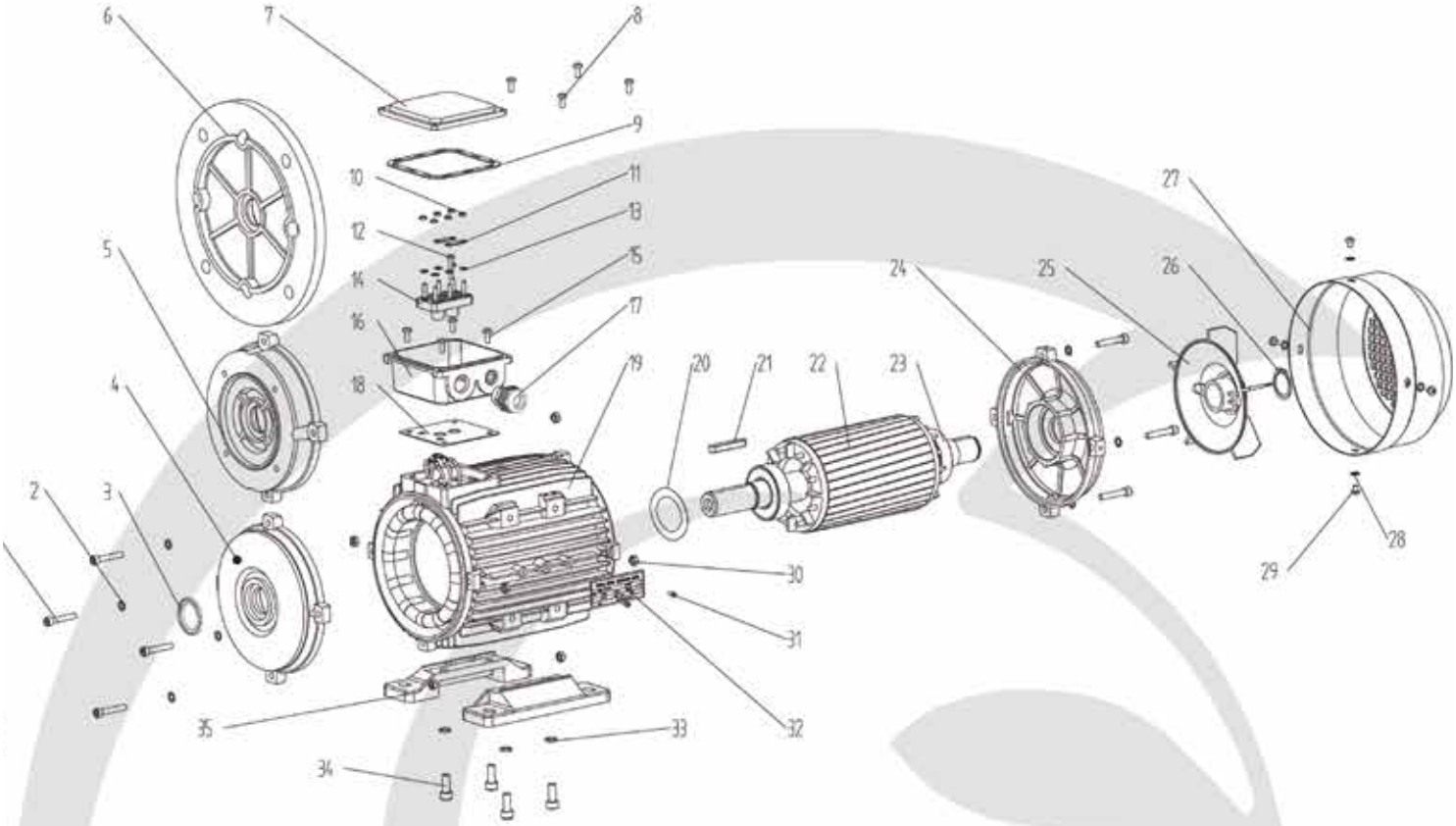
| Type | Brake Type K | Brake Torque Nm | Brake Rated Power W | J Brake $Pd^2$ $Kgm^2$ | No.of Starts/hr. Under No Load | Delayed Cut-in Time ★ Msec. | Quick Cut-in Time Msec. | Cut Out Time Msec. | Noise dB(A) |
|---|---|---|---|---|---|---|---|---|---|
| 63 MSBCCL | K 1 | 5 | 15 | 0.00005 | 3000 | 45 | 20 | 10 | 50 |
| 71 MSBCCL | K 2 | 12 | 20 | 0.00014 | 3000 | 50 | 30 | 15 | 50 |
| 80 MSBCCL | K 3 | 16 | 25 | 0.00021 | 1300 | 55 | 30 | 15 | 52 |
| 90 S MSBCCL | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 56 |
| ●90 S MSBCCL | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 56 |
| 90 L MSBCCL | K 4 | 20 | 30 | 0.00039 | 1100 | 65 | 40 | 15 | 56 |
| ●90 L MSBCCL | K 4 D | 40 | 30 | 0.00078 | 1100 | 65 | 40 | 15 | 56 |
| 100 L MSBCCL | K 5 | 40 | 45 | 0.00104 | 900 | 75 | 45 | 20 | 59 |
| ●100 L MSBCCL | K 6 | 60 | 50 | 0.00135 | 900 | 160 | 85 | 25 | 59 |
| 112 MT MSBCCL | K 5 | 40 | 45 | 0.00104 | 880 | 75 | 45 | 20 | 61 |
| 112 M MSBCCL | K 6 | 60 | 50 | 0.00135 | 880 | 160 | 85 | 25 | 61 |
| 132 S MSBCCL | K 7 | 90 | 55 | 0.00219 | 480 | 200 | 95 | 50 | 64 |
| ●132 S MSBCCL | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 64 |
| 132 M MSBCCL | K 7 | 90 | 55 | 0.00219 | 450 | 200 | 95 | 50 | 64 |
| ●132 M MSBCCL | K 7 D | 180 | 55 | 0.00438 | 480 | 200 | 95 | 50 | 64 |
| 160 MT MSBCCL | K 7 D | 180 | 55 | 0.00438 | 350 | 200 | 95 | 50 | 68 |
| 160 L MSBCCL | K 8 | 200 | 60 | 0.00408 | 350 | 210 | 100 | 60 | 68 |
| ●160 L MSBCCL | K 8 D | 400 | 60 | 0.00816 | 350 | 210 | 100 | 60 | 68 |

● Motors with increased braking torque upon request

★ On request, delayed brake cut in time for lifting equipment. We recommend a double disk brake D for lifting equipment

Brake motors have a supply voltage tolerence of +/- 6%

# Exploded Drawing




1. Bolt
2. Washer
3. Oil seal
4. DE endsheild
5. B14 flange
6. B5 flange
7. Terminal box cover
8. Terminal box fixing screws
9. Terminal box upper gasket
10. Terminal box fixing nut
11. Terminal links
12. Terminal pin
13. Terminal washer
14. Terminal block
15. Terminal box fixing screws
16. Terminal box base
17. Cable gland
18. Terminal box bottom gasket
19. Stator housing
20. Spring washer
21. Key
22. Rotor
23. Bearing
24. NDE endshield
25. Cooling fan
26. Fan circlip
27. Fan cowl
28. Fan cover fixing washer
29. Fan cover fixing screws
30. Endshield fixing nut
31. Rivet
32. Nameplate
33. Foot fixing washer
34. Foot fixing screws
35. Foot

# TCC "ML" DESIGN



# ELECTRICAL AND DIMENSIONAL DATA

TCC aluminium multi-mount single phase dual capacitor asynchronus motors are manufactured to the latest design. All motors conform to IEC standard and offer a comprehensive range up to 3.7KW. They are suitable for applications where starting torque requirements are 1.8-2.5 times full load torque.

Please note it is recommended that single phase motors are not stop/ started more than 15 times in a 1 hour period in order to allow safe discharge of capacitors.

# TCC Electrical Data

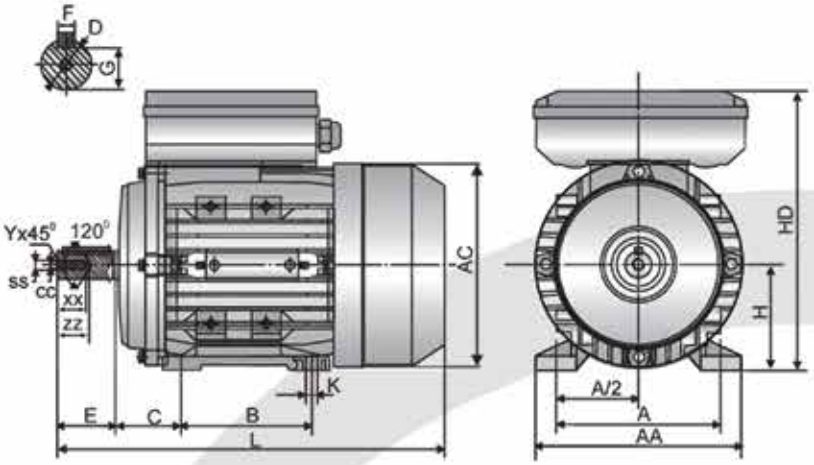
## 230V ELECTRICAL DATA

| Model | Power (KW) | Current (A) 230V | Speed (r/min) | Eff. (%) | Power Factor (Cosφ) | Rate Torque (N.M) | $T_{st}/T_R$ (Times) | $T_{max}/T_R$ (Times) | Starting Current (A) | Run Capacitor (μF/V) | Start Capacitor (μF/V) | Noise dB (A) | W.T (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCC 631-2 | 0.18 | 1.38 | 2710 | 63 | 0.9 | 0.63 | 2.5 | 1.6 | 8 | 10μF/450V | 30μF/250V | 70 | 3.9 |
| TCC 632-2 | 0.25 | 1.89 | 2710 | 64 | 0.9 | 0.88 | 2.5 | 1.6 | 10 | 12μF/450V | 40μf/250V | 73 | 4.4 |
| TCC 711-2 | 0.37 | 2.66 | 2780 | 65 | 0.93 | 1.27 | 2.5 | 1.8 | 15 | 12μF/450V | 75μF/250V | 75 | 6.1 |
| TCC 712-2 | 0.55 | 3.78 | 2790 | 68 | 0.93 | 1.88 | 2.5 | 1.8 | 20 | 16μF/450V | 100μF/250V | 76 | 7 |
| TCC 801-2 | 0.75 | 4.87 | 2800 | 72 | 0.93 | 2.56 | 2.5 | 1.8 | 30 | 20μF/450V | 100μF/250V | 76 | 9 |
| TCC 802-2 | 1.1 | 7.04 | 2810 | 73 | 0.93 | 3.74 | 2.5 | 1.8 | 40 | 30μF/450V | 150μF/250V | 79 | 10.3 |
| TCC 90S-2 | 1.5 | 9.48 | 2810 | 74 | 0.93 | 5.10 | 2.5 | 1.8 | 55 | 40μF/450F | 200μF/300V | 84 | 16.3 |
| TCC 90L-2 | 2.2 | 13.57 | 2810 | 75 | 0.94 | 7.48 | 2.5 | 1.8 | 75 | 50μF/450V | 250μF/300V | 84 | 16.7 |
| TCC 100L-2 | 3.0 | 17.83 | 2830 | 77 | 0.95 | 10.13 | 2.5 | 1.7 | 110 | 60μF/450V | 400μF/300V | 88 | 25 |
| TCC 112M1-2 | 3.7 | 21.48 | 2850 | 78 | 0.96 | 12.40 | 2.5 | 1.7 | 140 | 60μF/450V | 600μF/300V | 90 | 33 |
| TCC 112M2-2 | 4.0 | 22.18 | 2850 | 80 | 0.98 | 13.41 | 2.5 | 1.7 | 150 | 60μF/450V | 600μF/300V | 90 | 34.2 |
| TCC 631-4 | 0.12 | 1.05 | 1350 | 55 | 0.9 | 0.85 | 2.5 | 1.6 | 6 | 10μF/450V | 30μF/250V | 64 | 4.1 |
| TCC 632-4 | 0.18 | 1.55 | 1350 | 56 | 0.9 | 1.27 | 2.5 | 1.6 | 8.5 | 12μF/450V | 40μF/250V | 64 | 4.5 |
| TCC 711-4 | 0.25 | 2.01 | 1380 | 60 | 0.9 | 1.73 | 2.5 | 1.7 | 10 | 12μF/450V | 50μF/250V | 66 | 5.9 |
| TCC 712-4 | 0.37 | 2.84 | 1380 | 63 | 0.9 | 2.58 | 2.5 | 1.7 | 15 | 16μF/450V | 75μF/250V | 68 | 6.9 |
| TCC 801-4 | 0.55 | 4.03 | 1400 | 66 | 0.9 | 3.75 | 2.5 | 1.8 | 20 | 20μF/450V | 100μF/250V | 71 | 9.6 |
| TCC 802-4 | 0.75 | 5.25 | 1410 | 69 | 0.9 | 5.08 | 2.5 | 1.8 | 30 | 25μF/450V | 100μF/250V | 71 | 10.9 |
| TCC 90S-4 | 1.1 | 7.24 | 1410 | 71 | 0.93 | 7.45 | 2.5 | 1.8 | 40 | 35μF/450V | 150μF/250V | 74 | 13.8 |
| TCC 90L-4 | 1.5 | 9.61 | 1400 | 73 | 0.93 | 10.24 | 2.5 | 1.8 | 55 | 40μF/450V | 200μF/300V | 79 | 16.7 |
| TCC 100L1-4 | 2.2 | 13.90 | 1430 | 74 | 0.93 | 14.70 | 2.5 | 1.8 | 75 | 50μF/450V | 300μF/300V | 79 | 22.8 |
| TCC 100L2-4 | 3 | 18.70 | 1440 | 75 | 0.93 | 19.91 | 2.5 | 1.8 | 110 | 60μF/450V | 500μF/300V | 83 | 28.7 |
| TCC 112M1-4 | 3.7 | 21.99 | 1440 | 77 | 0.95 | 24.55 | 2.5 | 1.7 | 140 | 80μF/450V | 600μF/300V | 86 | 31 |
| TCC 112M2-4 | 4.0 | 22.41 | 1440 | 80 | 0.97 | 26.54 | 2.5 | 1.7 | 150 | 80μF/450V | 600μF/300V | 86 | 32.8 |

## 110V ELECTRICAL DATA

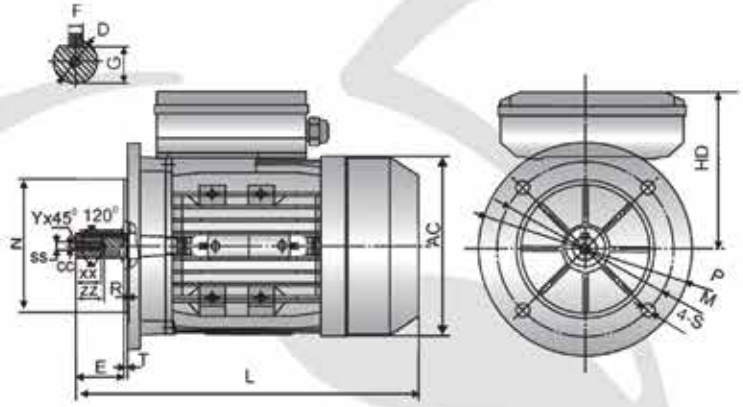
| Model | Power (KW) | Current (A) 110V | Speed (r/min) | Eff. (%) | Power Factor (Cosφ) | Rate Torque (N.M) | $T_{st}/T_R$ (Times) | $T_{max}/T_R$ (Times) | Starting Current (A) | Run Capacitor (μF/V) | Start Capacitor (μF/V) | Noise dB (A) | W.T (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TCC 631-2 | 0.18 | 2.89 | 2710 | 63 | 0.9 | 0.63 | 1.8 | 1.6 | 16 | 30μF/250V | 100μF/125V | 70 | 4.2 |
| TCC 632-2 | 0.25 | 3.95 | 2710 | 64 | 0.9 | 0.88 | 1.8 | 1.6 | 20 | 40μF/250V | 100μF/125V | 73 | 4.7 |
| TCC 711-2 | 0.37 | 5.4 | 2780 | 67 | 0.93 | 1.27 | 2.0 | 1.8 | 30 | 40μF/250V | 200μF/125V | 75 | 5.3 |
| TCC 712-2 | 0.55 | 7.68 | 2790 | 70 | 0.93 | 1.88 | 2.0 | 1.8 | 40 | 60μF/250V | 300μF/125V | 76 | 7.4 |
| TCC 801-2 | 0.75 | 9.97 | 2800 | 72 | 0.95 | 2.56 | 2.5 | 1.8 | 60 | 80μF/250V | 400μF/125V | 76 | 9.5 |
| TCC 802-2 | 1.1 | 14.04 | 2810 | 75 | 0.95 | 3.74 | 2.5 | 1.8 | 80 | 100μF/250V | 600μF/125V | 79 | 11.2 |
| TCC 90S-2 | 1.5 | 18.89 | 2810 | 76 | 0.95 | 5.10 | 2.5 | 1.8 | 110 | 140μF/250V | 800μF/125V | 84 | 14 |
| TCC 90L-2 | 2.2 | 27.34 | 2810 | 77 | 0.95 | 7.48 | 2.5 | 1.8 | 150 | 160μF/250V | 1000μF/125V | 84 | 17 |
| TCC 100L-2 | 3 | 36.34 | 2830 | 79 | 0.95 | 10.13 | 2.5 | 1.7 | 220 | 180μF/250V | 1400μF/125V | 88 | 25 |
| TCC 631-4 | 0.12 | 2.2 | 1350 | 55 | 0.9 | 0.86 | 2.5 | 1.6 | 12 | 30μF/250V | 100μF/125V | 64 | 4.1 |
| TCC 632-4 | 0.18 | 3.25 | 1350 | 56 | 0.9 | 1.27 | 1.8 | 1.6 | 17 | 40μF/250V | 100μF/125V | 64 | 4.4 |
| TCC 711-4 | 0.25 | 4.21 | 1380 | 60 | 0.9 | 1.73 | 1.8 | 1.7 | 20 | 40μF/250V | 150μF/125V | 66 | 5.9 |
| TCC 712-4 | 0.37 | 5.93 | 1380 | 63 | 0.9 | 2.56 | 2.0 | 1.7 | 30 | 40μF/250V | 200μF/125V | 68 | 6.9 |
| TCC 801-4 | 0.55 | 8.42 | 1400 | 66 | 0.9 | 3.75 | 2.0 | 1.8 | 40 | 70μF/250V | 300μF/125V | 71 | 9.6 |
| TCC 802-4 | 0.75 | 10.98 | 1410 | 69 | 0.9 | 5.08 | 2.5 | 1.8 | 60 | 90μF/250V | 400μF/125V | 71 | 10.8 |
| TCC 90S-4 | 1.1 | 14.73 | 1410 | 73 | 0.93 | 7.45 | 2.5 | 1.8 | 80 | 120μF/250V | 600μF/125V | 74 | 13.5 |
| TCC 90L-4 | 1.5 | 19.81 | 1400 | 74 | 0.93 | 10.24 | 2.5 | 1.8 | 110 | 140μF/250V | 800μF/125V | 79 | 16.5 |
| TCC 100L-4 | 2.2 | 28.3 | 1430 | 76 | 0.93 | 14.70 | 2.5 | 1.8 | 150 | 170μF/250V | 1300μF/125V | 79 | 24 |
| TCC 100L2-4 | 3 | 38.09 | 1440 | 77 | 0.93 | 19.91 | 2.5 | 1.8 | 220 | 200μF/250V | 1600μF/125V | 83 | 30 |

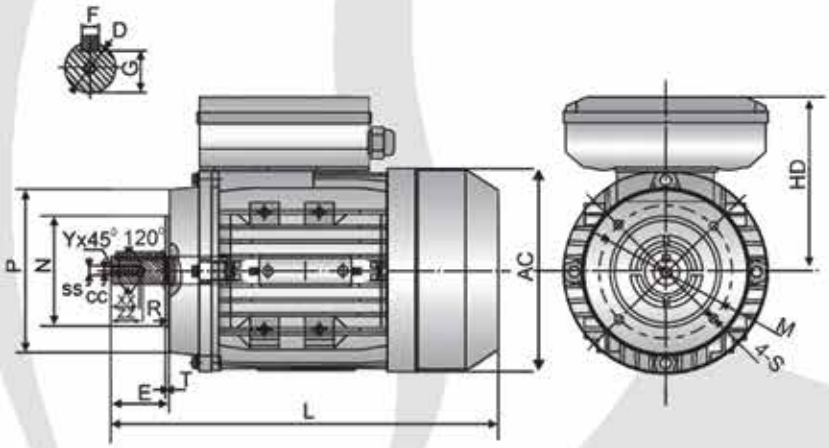
# TCC Series Dimensional Data




TCC ML B3

TCC ML B5




TCC ML B14

| Frame Size | Mounting Dimensions | | | | | | | | | | | | | | | | | | | | | Overall Dimensions | | | | | Shaft End Screw Dimensions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | K | IM B14 | | | | | | IM B5 | | | | | | AA | AC | AD | HD | L | SS | XX | ZZ |
| | | | | | | | | | | M | N | P | R | S | T | M | N | P | R | S | T | | | | | | | | |
| 63 | 100 | 80 | 40 | 11 | 23 | 4 | 8.5 | 63 | 7X10 | 75 | 60 | 90 | 0 | M5 | 2.5 | 115 | 95 | 140 | 0 | Φ 10 | 3.0 | 120 | 130 | 179 | 116 | 212 | M4 | 10 | 15 |
| 71 | 112 | 90 | 45 | 14 | 30 | 5 | 11 | 71 | 7X10 | 85 | 70 | 105 | 0 | M6 | 2.5 | 130 | 110 | 160 | 0 | Φ 10 | 3.5 | 132 | 145 | 194 | 123 | 255 | M5 | 12 | 18 |
| 80 | 125 | 100 | 50 | 19 | 40 | 6 | 15.5 | 80 | 10X13 | 100 | 80 | 120 | 0 | M6 | 3.0 | 165 | 130 | 200 | 0 | Φ 12 | 3.5 | 157 | 165 | 223 | 143 | 290 | M6 | 16 | 22 |
| 90S | 140 | 100 | 56 | 24 | 50 | 8 | 20 | 90 | 10X13 | 115 | 95 | 140 | 0 | M8 | 3.0 | 165 | 130 | 200 | 0 | Φ 12 | 3.5 | 172 | 185 | 240 | 150 | 335 | M8 | 20 | 25 |
| 90L | 140 | 125 | 56 | 24 | 50 | 8 | 20 | 90 | 10X13 | 115 | 95 | 140 | 0 | M8 | 3.0 | 165 | 130 | 200 | 0 | Φ 12 | 3.5 | 172 | 185 | 240 | 150 | 365 | M8 | 20 | 25 |
| 100L | 160 | 140 | 63 | 28 | 60 | 8 | 24 | 100 | 12X15 | 130 | 110 | 160 | 0 | M8 | 3.5 | 215 | 180 | 250 | 0 | Φ 15 | 4.0 | 196 | 205 | 260 | 160 | 398/416 | M10 | 22 | 28 |
| 112M | 190 | 140 | 70 | 28 | 60 | 8 | 24 | 112 | 12X15 | 130 | 110 | 160 | 0 | M8 | 3.5 | 215 | 180 | 250 | 0 | Φ 15 | 4.0 | 222 | 230 | 295 | 183 | 416 | M10 | 22 | 28 |

# TPC "MY" DESIGN



# ELECTRICAL AND DIMENSIONAL DATA

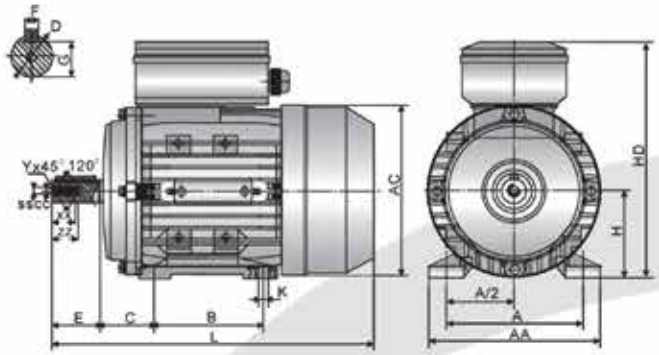
TPC aluminium multi-mount single phase permanent capacitor asynchronus motors adapt the same frame configurations as the TCC range with a smaller terminal box arrangement and a high resistance rotor. The TPC range is suitable for most fan and square law torque applications where starting torque requirements are 0.5-0.9 times full load torque.

Please note it is recommended that single phase motors are not stop/started more than 15 times in a 1 hour period in order to allow safe discharge of capacitors.

# TPC Series Electrical Data

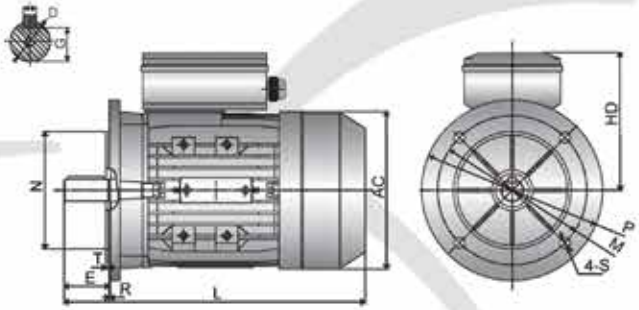
| Model | Power (KW) | Current (A) | Speed (r/min) | Eff. (%) | Power Factor (CosΦ) | $T_s/T_n$ (Times) | $T_{max}/T_n$ (Times) | Starting Current (A) | Run Capacitor (μF/V) | Noise dB(A) | W.T (Kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TPC 5612 | 0.09 | 0.80 | 2740 | 54 | 0.91 | 0.69 | 1.8 | 2.5 | 4μF/450V | 67 | 2.8 |
| TPC 5622 | 0.12 | 0.90 | 2760 | 60 | 0.93 | 0.69 | 1.8 | 3.5 | 6μF/450V | 67 | 3.05 |
| TPC 5632 | 0.18 | 1.40 | 2760 | 62 | 0.93 | 0.55 | 1.8 | 4.5 | 8μF/450V | 70 | 3.5 |
| TPC 6312 | 0.18 | 1.40 | 2760 | 62 | 0.93 | 0.55 | 1.8 | 4.5 | 8μF/450V | 70 | 4.1 |
| TPC 6322 | 0.25 | 1.70 | 2780 | 66 | 0.93 | 0.55 | 1.8 | 6 | 10μF/450V | 70 | 4.5 |
| TPC 6332 | 0.37 | 2.50 | 2780 | 67 | 0.93 | 0.45 | 1.65 | 8 | 12μF/450V | 75 | 5.25 |
| TPC 711-2 | 0.37 | 2.60 | 2640 | 66 | 0.94 | 0.72 | 1.65 | 8 | 14μF/450V | 75 | 6.1 |
| TPC 712-2 | 0.55 | 3.60 | 2760 | 71 | 0.95 | 0.7 | 1.8 | 14 | 20μF/450V | 75 | 7.7 |
| TPC 801-2 | 0.75 | 4.50 | 2735 | 73 | 0.98 | 0.68 | 1.75 | 16 | 25μF/450V | 75 | 10.3 |
| TPC 802-2 | 1.10 | 6.60 | 2720 | 74 | 0.98 | 0.65 | 1.8 | 23 | 35μF/450V | 78 | 11.6 |
| TPC 803-2 | 1.50 | 9.20 | 2730 | 74 | 0.98 | 0.65 | 1.8 | 31 | 50μF/450V | 78 | 13.6 |
| TPC 90S-2 | 1.50 | 8.50 | 2755 | 76 | 0.98 | 0.65 | 1.8 | 31 | 50μF/450V | 80 | 14.6 |
| TPC 90L-2 | 2.20 | 12.30 | 2765 | 77 | 0.98 | 0.65 | 1.8 | 51 | 70μF/450V | 80 | 17.8 |
| TPC 100L-2 | 3.00 | 16.90 | 2765 | 77 | 0.99 | 0.55 | 1.75 | 64 | 90μF/450V | 83 | 23.7 |
| TPC 5614 | 0.06 | 0.60 | 1360 | 50 | 0.94 | 0.75 | 1.75 | 2 | 4μF/450V | 63 | 3.3 |
| TPC 5624 | 0.09 | 0.80 | 1360 | 52 | 0.94 | 0.6 | 1.75 | 3 | 6μF/451V | 63 | 3.6 |
| TPC 5634 | 0.12 | 1.30 | 1370 | 52 | 0.92 | 0.6 | 1.75 | 3 | 8μF/452V | 65 | 4.1 |
| TPC 6314 | 0.12 | 1.30 | 1370 | 52 | 0.92 | 0.6 | 1.75 | 3 | 8μF/453V | 65 | 4.45 |
| TPC 6324 | 0.18 | 1.50 | 1370 | 54 | 0.94 | 0.6 | 1.6 | 4 | 10μF/450V | 65 | 5.05 |
| TPC 6334 | 0.25 | 2.00 | 1370 | 58 | 0.95 | 0.6 | 1.6 | 5 | 12μF/450V | 65 | 5.4 |
| TPC 711-4 | 0.25 | 2.00 | 1320 | 56 | 0.94 | 0.75 | 1.6 | 5 | 14μF/450V | 65 | 6.2 |
| TPC 712-4 | 0.37 | 2.90 | 1325 | 58 | 0.94 | 0.7 | 1.55 | 7 | 20μF/450V | 68 | 7.3 |
| TPC 801-4 | 0.55 | 3.90 | 1340 | 64 | 0.94 | 0.7 | 1.7 | 11 | 25μF/450V | 73 | 10.1 |
| TPC 802-4 | 0.75 | 5.30 | 1340 | 64 | 0.94 | 0.7 | 1.75 | 15 | 35μF/450V | 73 | 11.4 |
| TPC 90S-4 | 1.10 | 7.00 | 1355 | 72 | 0.95 | 0.68 | 1.8 | 22 | 50μF/450V | 75 | 14.4 |
| TPC 90L-4 | 1.50 | 9.30 | 1360 | 74 | 0.95 | 0.68 | 1.8 | 32 | 50μF/450V | 78 | 17.5 |
| TPC 100L1-4 | 2.20 | 12.60 | 1390 | 78 | 0.97 | 0.48 | 1.75 | 49 | 70μF/450V | 80 | 24.5 |
| TPC 100L2-4 | 3.00 | 16.50 | 1380 | 79 | 0.99 | 0.45 | 1.6 | 61 | 90μF/450V | 80 | 32 |
| TPC 6316 | 0.09 | 0.92 | 900 | 46 | 0.92 | 0.8 | 1.45 | 2 | 8μF/464V | 63 | 5.1 |
| TPC 6326 | 0.12 | 1.05 | 900 | 54 | 0.92 | 0.75 | 1.45 | 3 | 11μF/465V | 63 | 6 |
| TPC 7116 | 0.18 | 1.55 | 900 | 55 | 0.92 | 0.7 | 1.5 | 4 | 16μF/466V | 68 | 6.3 |
| TPC 7126 | 0.25 | 2.07 | 900 | 57 | 0.92 | 0.68 | 1.5 | 5 | 20μF/467V | 68 | 7.6 |
| TPC 8016 | 0.37 | 2.82 | 900 | 62 | 0.92 | 0.68 | 1.6 | 8 | 25μF/468V | 68 | 9 |
| TPC 8026 | 0.55 | 4.08 | 900 | 63 | 0.93 | 0.68 | 1.6 | 14 | 30μF/469V | 70 | 11.6 |
| TPC 90S6 | 0.75 | 5.20 | 900 | 66 | 0.95 | 0.65 | 1.6 | 16 | 40μF/470V | 70 | 13.5 |
| TPC 90L6 | 1.10 | 7.51 | 900 | 67 | 0.95 | 0.62 | 1.6 | 25 | 50μF/471V | 70 | 16.2 |

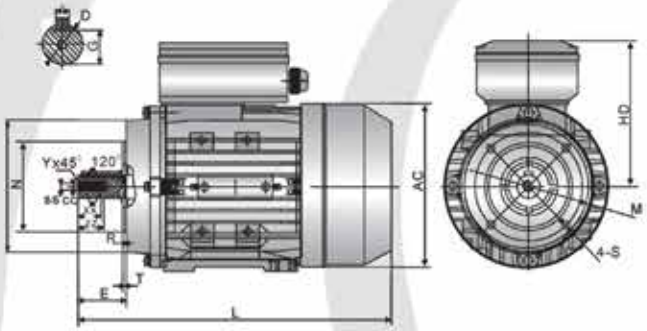
# TPC Series Dimensional Data




TPC MY B3

TPC MY B5




TPC MY B14

| Frame Size | Mounting Dimensions | | | | | | | | | IM B14 | | | | | | IM B5 | | | | | | Overall Dimensions | | | | | Shaft End Screw Dimensions | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | K | M | N | P | T | R | S | M | N | P | T | R | S | AA | AC | AD | HD | L | SS | XX | ZZ |
| 56 | 90 | 71 | 36 | φ9 | 20 | 3 | 7.2 | 56 | 5.8x8.8 | φ65 | φ50 | φ80 | 2.5 | 0 | M5 | φ100 | φ80 | φ120 | 3.0 | 0 | φ7 | 110 | φ117 | 144 | 88 | 196 | M3 | 9 | 12 |
| 63 | 100 | 80 | 40 | φ11 | 23 | 4 | 8.5 | 63 | 7x10 | φ75 | φ60 | φ90 | 2.5 | 0 | M5 | φ115 | φ95 | φ140 | 3.0 | 0 | φ10 | 120 | φ130 | 181 | 118 | 220 | M4 | 10 | 14 |
| 71* | 112 | 90 | 45 | φ14 | 30 | 5 | 11 | 71 | 7x10 | φ85 | φ70 | φ105 | 2.5 | 0 | M6 | φ130 | φ110 | φ160 | 3.5 | 0 | φ10 | 132 | φ147 | 196 | 125 | 241/255 | M5 | 12 | 17 |
| 80 | 125 | 100 | 50 | φ19 | 40 | 6 | 15.5 | 80 | 10x13 | φ100 | φ80 | φ120 | 3.0 | 0 | M6 | φ165 | φ130 | φ200 | 3.5 | 0 | φ12 | 160 | φ163 | 226 | 146 | 290 | M6 | 16 | 21 |
| 90S | 140 | 100 | 56 | φ24 | 50 | 8 | 20 | 90 | 10x13 | φ115 | φ95 | φ140 | 3.0 | 0 | M8 | φ165 | φ130 | φ200 | 3.5 | 0 | φ12 | 175 | φ183 | 243 | 153 | 312 | M8 | 19 | 25 |
| 90L | 140 | 125 | 56 | φ24 | 50 | 8 | 20 | 90 | 10x13 | φ115 | φ95 | φ140 | 3.0 | 0 | M8 | φ165 | φ130 | φ200 | 3.5 | 0 | φ12 | 175 | φ183 | 243 | 153 | 337/367 | M8 | 19 | 25 |
| 100L** | 160 | 140 | 63 | φ28 | 60 | 8 | 24 | 100 | 12x15 | φ130 | φ110 | φ160 | 3.5 | 0 | M8 | φ215 | φ180 | φ250 | 4.0 | 0 | φ15 | 198 | φ205 | 265 | 165 | 369/387 | M10 | 22 | 30 |

** This frame size has two housing sizes, the rated output is for the normal "L" size and increased output is for the large "L" size (refer to the figures in the brackets "()").

# ECOL "TC" DESIGN



# ELECTRICAL AND DIMENSIONAL DATA

ECOL "TC" Motors are the latest high efficient cast iron design asynchronus design from the TECHTOP factory. The ECOL TC motors are a higly versitile design and adaptable to suit many applications. The ECOL "TC" motor is multi-mount up to and including 280 frame.

These high efficient motors are available in IE2 or IE3 and are also fully approved by the enhanced capital allowance scheme.

# ECOL TC Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 2poles IE1

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosϕ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T1C 132S1-2 | 5.5 | 2895 | 11.16 | 84.7 | 0.84 | 18.14 | 6 | 2.3 | 2 | 2.6 |
| T1C 132S2-2 | 7.5 | 2900 | 14.81 | 86 | 0.85 | 24.70 | 6.4 | 2.3 | 2 | 2.7 |
| T1C 160M1-2 | 11 | 2910 | 20.83 | 87.6 | 0.87 | 36.10 | 6.3 | 2.3 | 2 | 2.7 |
| T1C 160M2-2 | 15 | 2908 | 28.06 | 88.7 | 0.87 | 49.26 | 6.8 | 2.3 | 2 | 2.7 |
| T1C 160L-2 | 18.5 | 2912 | 33.60 | 89.3 | 0.89 | 60.67 | 7 | 2.3 | 2 | 2.7 |
| T1C 180M-2 | 22 | 2920 | 39.69 | 89.9 | 0.89 | 71.95 | 7.2 | 2.3 | 2 | 2.6 |
| T1C 200L1-2 | 30 | 2915 | 53.64 | 90.7 | 0.89 | 98.28 | 7 | 2.3 | 2 | 2.6 |
| T1C 200L2-2 | 37 | 2920 | 65.80 | 91.2 | 0.89 | 121.00 | 7.2 | 2.3 | 2 | 2.7 |
| T1C 225M-2 | 45 | 2920 | 78.70 | 91.7 | 0.90 | 147.16 | 7 | 2.3 | 2 | 2.7 |
| T1C 250M-2 | 55 | 2930 | 97.85 | 92.2 | 0.88 | 179.25 | 7.8 | 2.2 | 1.9 | 2.5 |
| T1C 280S-2 | 75 | 2930 | 131.22 | 92.7 | 0.89 | 244.44 | 7.8 | 2.1 | 1.9 | 2.5 |
| T1C 280M-2 | 90 | 2930 | 155.21 | 93 | 0.90 | 293.32 | 7.7 | 2.1 | 1.9 | 2.5 |
| T1C 315S-2 | 110 | 2940 | 189.09 | 93.3 | 0.90 | 357.29 | 7.7 | 2 | 1.8 | 2.3 |
| T1C 315M-2 | 132 | 2940 | 223.93 | 93.5 | 0.91 | 428.74 | 7.6 | 2 | 1.8 | 2.3 |
| T1C 315L1-2 | 160 | 2945 | 273.57 | 93.8 | 0.90 | 518.81 | 7.8 | 2 | 1.8 | 2.3 |
| T1C 315L2-2 | 200 | 2945 | 345.07 | 94 | 0.89 | 648.51 | 7.9 | 2 | 1.8 | 2.3 |
| T1C 355M-2 | 250 | 2945 | 426.54 | 94 | 0.90 | 810.64 | 7.8 | 2 | 1.8 | 2.3 |
| T1C 355L-2 | 315 | 2945 | 543.48 | 94 | 0.89 | 1021.40 | 7.8 | 2 | 1.8 | 2.3 |

## Electrical data (50Hz) 4 poles IE1

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosϕ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T1C 132S-4 | 5.5 | 1420 | 11.29 | 84.7 | 0.83 | 36.99 | 6.5 | 2.3 | 2 | 2.6 |
| T1C 132M-4 | 7.5 | 1420 | 14.81 | 86 | 0.85 | 50.44 | 6.4 | 2.3 | 2 | 2.7 |
| T1C 160M-4 | 11 | 1430 | 21.32 | 87.6 | 0.85 | 73.46 | 6.8 | 2.3 | 2 | 2.7 |
| T1C 160L-4 | 15 | 1435 | 27.74 | 88.7 | 0.88 | 99.82 | 6.7 | 2.3 | 2 | 2.7 |
| T1C 180M-4 | 18.5 | 1435 | 33.98 | 89.3 | 0.88 | 123.11 | 7.2 | 2.3 | 2 | 2.7 |
| T1C 180L-4 | 22 | 1450 | 40.60 | 89.9 | 0.87 | 144.89 | 7.3 | 2.3 | 2 | 2.6 |
| T1C 200L-4 | 30 | 1450 | 53.64 | 90.7 | 0.89 | 197.57 | 7.6 | 2.3 | 2 | 2.6 |
| T1C 225S-4 | 37 | 1460 | 65.80 | 91.2 | 0.89 | 242.00 | 7.5 | 2.3 | 2 | 2.7 |
| T1C 225M-4 | 45 | 1470 | 80.49 | 91.7 | 0.88 | 292.33 | 7.3 | 2.3 | 2 | 2.7 |
| T1C 250M-4 | 55 | 1470 | 96.85 | 92.1 | 0.89 | 357.29 | 7.4 | 2.2 | 1.9 | 2.5 |
| T1C 280S-4 | 75 | 1470 | 132.71 | 92.7 | 0.88 | 487.21 | 7.5 | 2.1 | 1.9 | 2.5 |
| T1C 280M-4 | 90 | 1470 | 155.21 | 93 | 0.90 | 584.65 | 7.7 | 2.1 | 1.9 | 2.5 |
| T1C 315S-4 | 110 | 1475 | 189.09 | 93.3 | 0.90 | 712.15 | 7.8 | 2 | 1.8 | 2.3 |
| T1C 315M-4 | 132 | 1475 | 223.93 | 93.5 | 0.91 | 854.58 | 7.8 | 2 | 1.8 | 2.3 |
| T1C 315L1-4 | 160 | 1475 | 270.56 | 93.8 | 0.91 | 1035.86 | 7.9 | 2 | 1.8 | 2.3 |
| T1C 315L2-4 | 200 | 1475 | 341.23 | 94 | 0.90 | 1294.82 | 7.7 | 2 | 1.8 | 2.3 |
| T1C 355M-4 | 250 | 1475 | 431.33 | 94 | 0.89 | 1618.52 | 7.9 | 2 | 1.8 | 2.3 |

# ECOL TC Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 6 poles IE1

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosφ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T1C 132S-6 | 3 | 935 | 7.44 | 79.7 | 0.73 | 30.64 | 6.3 | 2.3 | 1.9 | 2.6 |
| T1C 132M1-6 | 4 | 940 | 9.59 | 81.4 | 0.74 | 40.64 | 6.2 | 2.4 | 1.9 | 2.6 |
| T1C 132M2-6 | 5.5 | 940 | 12.57 | 83.1 | 0.76 | 55.87 | 6.8 | 2.3 | 2 | 2.6 |
| T1C 160M-6 | 7.5 | 950 | 16.82 | 84.7 | 0.76 | 75.39 | 7 | 2.3 | 2 | 2.7 |
| T1C 160L-6 | 11 | 955 | 23.56 | 86.4 | 0.78 | 109.99 | 7.3 | 2.3 | 2 | 2.7 |
| T1C 180L-6 | 15 | 955 | 31.25 | 87.7 | 0.79 | 149.99 | 7.2 | 2.3 | 2 | 2.7 |
| T1C 200L1-6 | 18.5 | 960 | 36.31 | 88.6 | 0.83 | 184.02 | 6.9 | 2.3 | 2 | 2.7 |
| T1C 200L2-6 | 22 | 960 | 42.89 | 89.2 | 0.83 | 218.84 | 7.3 | 2.3 | 2 | 2.6 |
| T1C 225M-6 | 30 | 970 | 57.84 | 90.2 | 0.83 | 295.34 | 7.4 | 2.3 | 2 | 2.6 |
| T1C 250M-6 | 37 | 970 | 69.20 | 90.8 | 0.85 | 364.25 | 7.5 | 2.3 | 2 | 2.7 |
| T1C 280S-6 | 45 | 975 | 82.63 | 91.4 | 0.86 | 440.74 | 7.7 | 2.3 | 2 | 2.7 |
| T1C 280M1-6 | 55 | 975 | 99.29 | 91.9 | 0.87 | 538.68 | 7.7 | 2.2 | 1.9 | 2.5 |
| T1C 315S-6 | 75 | 975 | 131.36 | 92.6 | 0.89 | 734.56 | 7.9 | 2.1 | 1.9 | 2.5 |
| T1C 315M-6 | 90 | 975 | 155.37 | 92.9 | 0.90 | 881.47 | 8 | 2 | 1.8 | 2.3 |
| T1C 315L1-6 | 110 | 975 | 189.09 | 93.3 | 0.90 | 1077.36 | 7.7 | 2 | 1.8 | 2.3 |
| T1C 315L2-6 | 132 | 975 | 228.96 | 93.5 | 0.89 | 1292.83 | .8 | 2 | 1.8 | 2.3 |
| T1C 355M1-6 | 160 | 975 | 270.56 | 93.8 | 0.91 | 1567.06 | 7.6 | 2 | 1.8 | 2.3 |
| T1C 355M2-6 | 200 | 975 | 341.23 | 94 | 0.90 | 1958.83 | 7.8 | 2 | 1.8 | 2.3 |
| T1C 355L-6 | 250 | 975 | 431.33 | 94 | 0.89 | 2448.54 | 7.8 | 2 | 1.8 | 2.3 |

## Electrical data (50Hz) - 8 poles IE1

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosφ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T1C 132S-8 | 2.2 | 705 | 5.7 | 78 | 0.71 | 29.8 | 4.6 | 1.9 | 1.6 | 2.2 |
| T1C 132M-8 | 3 | 710 | 7.6 | 79 | 0.72 | 40.4 | 5 | 1.9 | 1.6 | 2.2 |
| T1C 160M1-8 | 4 | 710 | 9.9 | 80 | 0.73 | 53.8 | 5 | 1.9 | 1.6 | 2.2 |
| T1C 160M2-8 | 5.5 | 715 | 13 | 82 | 0.74 | 73.7 | 5.2 | 2 | 1.8 | 2.3 |
| T1C 160L-8 | 7.5 | 725 | 17 | 84 | 0.75 | 100 | 5.3 | 2 | 1.8 | 2.3 |
| T1C 180L-8 | 11 | 730 | 24 | 86 | 0.76 | 144 | 5.2 | 2.1 | 1.8 | 2.4 |
| T1C 200L1-8 | 15 | 730 | 33 | 87 | 0.76 | 196 | 5.3 | 2.3 | 1.9 | 2.5 |
| T1C 225S-8 | 18,5 | 730 | 38 | 88 | 0.79 | 242 | 5.3 | 2.3 | 1.9 | 2.5 |
| T1C 225M-8 | 22 | 735 | 45 | 89 | 0.79 | 288 | 5.3 | 2.3 | 1.9 | 2.5 |
| T1C 250M-8 | 30 | 735 | 60 | 90 | 0.80 | 390 | 5.3 | 2.4 | 2 | 2.6 |
| T1C 280S-8 | 37 | 735 | 74 | 91 | 0.81 | 481 | 5 | 2.1 | 1.8 | 2.3 |
| T1C 280M-8 | 45 | 735 | 89 | 92 | 0.80 | 585 | 5 | 2.1 | 1.8 | 2.3 |
| T1C 315S-8 | 55 | 740 | 108 | 93 | 0.81 | 710 | 5.1 | 2.1 | 1.8 | 2.3 |
| T1C 315M1-8 | 75 | 740 | 146 | 93 | 0.81 | 968 | 5.2 | 1.8 | 1.6 | 2.3 |
| T1C 315L1-8 | 90 | 740 | 174 | 93.5 | 0.81 | 1162 | 5 | 1.8 | 1.6 | 2.2 |
| T1C 315L2-8 | 110 | 740 | 212 | 93.7 | 0.81 | 1420 | 5.1 | 1.8 | 1.4 | 2.4 |
| T1C 355M1-8 | 132 | 740 | 254 | 94.2 | 0.81 | 1704 | 5.1 | 1.6 | 1.4 | 2.2 |
| T1C 355M2-8 | 160 | 740 | 303 | 95 | 0.82 | 1987 | 5.2 | 1.6 | 1.4 | 2.3 |
| T1C 355L2-8 | 200 | 740 | 378 | 95.3 | 0.82 | 2134 | 5.2 | 1.6 | 1.4 | 2.4 |

# ECOL TC Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 2poles IE2

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosϕ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T2C132S1-2 | 5.5 | 2905 | 10.25 | 87 | 0.89 | 18.08 | 7.8 | 2.4 | 2 | 2.9 |
| T2C 132S2-2 | 7.5 | 2910 | 13.96 | 88.1 | 0.88 | 24.61 | 7.9 | 2.7 | 2 | 2.8 |
| T2C 160M1-2 | 11 | 2920 | 19.73 | 89.4 | 0.90 | 35.97 | 7.9 | 2.2 | 2.1 | 3 |
| T2C 160M2-2 | 15 | 2918 | 26.35 | 90.3 | 0.91 | 49.09 | 7.9 | 2.3 | 2.1 | 3 |
| T2C 160L-2 | 18.5 | 2922 | 31.93 | 90.9 | 0.92 | 60.46 | 8 | 2.4 | 2.1 | 2.9 |
| T2C 180M-2 | 22 | 2930 | 39.08 | 91.3 | 0.89 | 71.70 | 7.5 | 2.3 | 2 | 2.8 |
| T2C 200L1-2 | 30 | 2925 | 53.49 | 92 | 0.88 | 97.94 | 6.7 | 2.4 | 2 | 2.7 |
| T2C 200L2-2 | 37 | 2930 | 64.15 | 92.5 | 0.90 | 120.59 | 6.3 | 2.3 | 2 | 2.7 |
| T2C 225M-2 | 45 | 2930 | 79.45 | 92.9 | 0.88 | 146.66 | 6.9 | 2.3 | 2 | 2.8 |
| T2C 250 M-2 | 55 | 2940 | 96.80 | 93.2 | 0.88 | 178.64 | 8 | 2.3 | 1.9 | 2.7 |
| T2C 280S-2 | 75 | 2940 | 125.45 | 93.8 | 0.92 | 243.60 | 8 | 2.2 | 1.9 | 2.7 |
| T2C 280M-2 | 90 | 2940 | 150.06 | 94.1 | 0.92 | 292.33 | 7.7 | 2.2 | 1.9 | 2.6 |
| T2C 315S-2 | 110 | 2940 | 187.08 | 94.3 | 0.90 | 357.29 | 7.7 | 2 | 1.8 | 2.3 |
| T2C 315M-2 | 132 | 2940 | 221.33 | 94.6 | 0.91 | 428.74 | 7.6 | 2 | 1.8 | 2.3 |
| T2C 315L1-2 | 160 | 2945 | 270.68 | 94.8 | 0.90 | 518.81 | 7.8 | 2 | 1.8 | 2.3 |
| T2C 315L2-2 | 200 | 2945 | 341.44 | 95 | 0.89 | 648.51 | 7.9 | 2 | 1.8 | 2.3 |
| T2C 355M-2 | 250 | 2945 | 422.05 | 95 | 0.90 | 810.64 | 7.8 | 2 | 1.8 | 2.3 |
| T2C 355L-2 | 315 | 2945 | 537.76 | 95 | 0.89 | 1021.40 | 7.8 | 2 | 1.8 | 2.3 |

## Electrical data (50Hz) 4 poles IE2

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosϕ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T2C 132S-4 | 5.5 | 1430 | 11.04 | 87.7 | 0.82 | 36.73 | 7.1 | 2.3 | 2 | 2.8 |
| T2C 132M-4 | 7.5 | 1430 | 14.70 | 88.7 | 0.83 | 50.08 | 7.8 | 2.3 | 2 | 2.7 |
| T2C 160M-4 | 11 | 1440 | 19.43 | 89.8 | 0.91 | 72.95 | 7.9 | 2.5 | 2.1 | 2.8 |
| T2C 160L-4 | 15 | 1445 | 25.92 | 90.8 | 0.92 | 99.13 | 7.8 | 2.4 | 2.1 | 2.9 |
| T2C 180M-4 | 18.5 | 1445 | 33.66 | 91.2 | 0.87 | 122.26 | 7.8 | 2.4 | 2.1 | 3 |
| T2C 180L-4 | 22 | 1460 | 38.95 | 91.6 | 0.89 | 143.89 | 7.5 | 2.3 | 2 | 3 |
| T2C 200L-4 | 30 | 1460 | 53.31 | 92.3 | 0.88 | 196.22 | 7.9 | 2.4 | 2 | 2.7 |
| T2C 225S-4 | 37 | 1470 | 72.02 | 92.7 | 0.80 | 240.36 | 6.7 | 2.4 | 2 | 2.7 |
| T2C 225M-4 | 45 | 1480 | 87.21 | 93.1 | 0.80 | 290.35 | 7 | 2.3 | 2 | 2.8 |
| T2C 250M-4 | 55 | 1480 | 96.49 | 93.5 | 0.88 | 354.87 | 7.4 | 2.4 | 1.9 | 2.7 |
| T2C 280S-4 | 75 | 1480 | 126.56 | 94 | 0.91 | 483.92 | 7.5 | 2.2 | 1.9 | 2.6 |
| T2C 280M-4 | 90 | 1480 | 149.90 | 94.2 | 0.92 | 580.70 | 7.7 | 2.2 | 1.9 | 2.6 |
| T2C 315S-4 | 110 | 1480 | 186.69 | 94.5 | 0.90 | 709.75 | 7.8 | 2 | 1.8 | 2.3 |
| T2C 315M-4 | 132 | 1480 | 221.09 | 94.7 | 0.91 | 851.69 | 7.8 | 2 | 1.8 | 2.3 |
| T2C 315L1-4 | 160 | 1480 | 267.43 | 94.9 | 0.91 | 1032.36 | 7.9 | 2 | 1.8 | 2.3 |
| T2C 315L2-4 | 200 | 1480 | 337.29 | 95.1 | 0.90 | 1290.45 | 7.7 | 2 | 1.8 | 2.3 |
| T2C 355M-4 | 250 | 1480 | 426.35 | 95.1 | 0.89 | 1613.06 | 7.9 | 2 | 1.8 | 2.3 |
| T2C 355L-4 | 315 | 1480 | 531.23 | 95.1 | 0.90 | 2032.45 | 7.8 | 2 | 1.8 | 2.3 |

# ECOL TC Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 6 poles IE2

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosΦ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T2C 132S-6 | 3 | 940 | 6.26 | 83.3 | 0.83 | 30.48 | 6.4 | 2.4 | 2.2 | 2.8 |
| T2C 132M1-6 | 4 | 945 | 8.12 | 84.6 | 0.84 | 40.42 | 6.2 | 2.5 | 2 | 2.8 |
| T2C 132M2-6 | 5.5 | 945 | 11.26 | 86 | 0.82 | 55.58 | 6.7 | 2.3 | 1.9 | 2.8 |
| T2C 160M-6 | 7.5 | 955 | 14.78 | 87.2 | 0.84 | 74.99 | 7 | 2.4 | 1.9 | 2.7 |
| T2C 160L-6 | 11 | 960 | 21.06 | 88.7 | 0.85 | 109.42 | 7.3 | 2.5 | 2 | 2.8 |
| T2C 180L-6 | 15 | 960 | 29.08 | 89.7 | 0.83 | 149.21 | 7.8 | 2.3 | 2.1 | 2.9 |
| T2C200L1-6 | 18.5 | 965 | 34.75 | 90.4 | 0.85 | 183.07 | 7.8 | 2.4 | 2.1 | 3.2 |
| T2C 200L2-6 | 22 | 965 | 40.62 | 90.9 | 0.86 | 217.70 | 7.9 | 2.3 | 1.9 | 3.1 |
| T2C 225M-6 | 30 | 975 | 55.56 | 91.7 | 0.85 | 293.82 | 7.9 | 2.2 | 1.9 | 2.7 |
| T2C 250M-6 | 37 | 975 | 69.79 | 92.2 | 0.83 | 362.38 | 7.5 | 2.3 | 2.1 | 2.7 |
| T2C 280S-6 | 45 | 980 | 81.48 | 92.7 | 0.86 | 438.49 | 7.2 | 2.3 | 2 | 2.8 |
| T2C280M1-6 | 55 | 980 | 99.15 | 93.1 | 0.86 | 535.93 | 7.7 | 2.2 | 1.9 | 2.7 |
| T2C315S-6 | 75 | 980 | 129.81 | 93.7 | 0.89 | 730.81 | 7.9 | 2.1 | 1.9 | 2.5 |
| T2C315M-6 | 90 | 980 | 153.56 | 94 | 0.90 | 876.98 | 7.9 | 2 | 1.8 | 2.3 |
| T2C315L1-6 | 110 | 980 | 187.08 | 94.3 | 0.90 | 1071.86 | 7.7 | 2 | 1.8 | 2.3 |
| T2C315L2-6 | 132 | 980 | 226.30 | 94.6 | 0.89 | 1286.23 | 7.8 | 2 | 1.8 | 2.3 |
| T2C355M1-6 | 160 | 980 | 267.71 | 94.8 | 0.91 | 1559.07 | 7.8 | 2 | 1.8 | 2.3 |
| T2C 355M2-6 | 200 | 980 | 337.64 | 95 | 0.90 | 1948.84 | 7.8 | 2 | 1.8 | 2.3 |
| T2C 355L-6 | 250 | 980 | 426.79 | 95 | 0.89 | 2436.05 | 7.8 | 2 | 1.8 | 2.3 |

# ECOL TC Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 2poles IE3

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosφ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T3C 132S1-2 | 5.5 | 2905 | 10.00 | 89.2 | 0.89 | 18.08 | 7.8 | 2.4 | 2 | 2.9 |
| T3C 132S2-2 | 7.5 | 2910 | 13.65 | 90.1 | 0.88 | 24.61 | 7.9 | 2.7 | 2 | 2.8 |
| T3C 160M1-2 | 11 | 2920 | 19.34 | 91.2 | 0.90 | 35.97 | 7.9 | 2.2 | 2.1 | 3 |
| T3C160M2-2 | 15 | 2918 | 25.89 | 91.9 | 0.91 | 49.09 | 7.9 | 2.3 | 2.1 | 3 |
| T3C 160L-2 | 18.5 | 2922 | 31.41 | 92.4 | 0.92 | 60.46 | 8 | 2.4 | 2.1 | 2.9 |
| T3C 180M-2 | 22 | 2930 | 38.49 | 92.7 | 0.89 | 71.70 | 7.5 | 2.3 | 2 | 2.8 |
| T3C 200L1-2 | 30 | 2925 | 52.74 | 93.3 | 0.88 | 97.94 | 6.7 | 2.4 | 2 | 2.7 |
| T3C 200L2-2 | 37 | 2930 | 63.33 | 93.7 | 0.90 | 120.59 | 6.3 | 2.3 | 2 | 2.7 |
| T3C 225M-2 | 45 | 2930 | 78.52 | 94 | 0.88 | 146.66 | 6.9 | 2.3 | 2 | 2.8 |
| T3C 250M-2 | 55 | 2940 | 95.67 | 94.3 | 0.88 | 178.64 | 8 | 2.3 | 1.9 | 2.7 |
| T3C 280S-2 | 75 | 2940 | 124.26 | 94.7 | 0.92 | 243.60 | 8 | 2.2 | 1.9 | 2.7 |
| T3C 280M-2 | 90 | 2940 | 148.64 | 95 | 0.92 | 292.33 | 7.7 | 2.2 | 1.9 | 2.6 |
| T3C 315S-2 | 110 | 2940 | 185.31 | 95.2 | 0.90 | 357.29 | 7.7 | 2 | 1.8 | 2.3 |
| T3C 315M-2 | 132 | 2940 | 219.47 | 95.4 | 0.91 | 428.74 | 7.6 | 2 | 1.8 | 2.3 |
| T3C 315L1-2 | 160 | 2945 | 267.86 | 95.8 | 0.90 | 518.81 | 7.8 | 2 | 1.8 | 2.3 |
| T3C 315L2-2 | 200 | 2945 | 338.58 | 95.8 | 0.89 | 648.51 | 7.9 | 2 | 1.8 | 2.3 |
| T3C 355M-2 | 250 | 2945 | 418.53 | 95.8 | 0.90 | 810.64 | 7.8 | 2 | 1.8 | 2.3 |
| T3C 355L-2 | 315 | 2945 | 533.27 | 95.8 | 0.89 | 1021.40 | 7.8 | 2 | 1.8 | 2.3 |

## Electrical data (50Hz) 4 poles IE3

| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosφ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T3C 132S-4 | 5.5 | 1430 | 10.81 | 89.6 | 0.82 | 36.73 | 7.1 | 2.3 | 2 | 2.8 |
| T3C 132M-4 | 7.5 | 1430 | 14.43 | 90.4 | 0.83 | 50.08 | 7.8 | 2.3 | 2 | 2.7 |
| T3C160M-4 | 11 | 1440 | 19.09 | 91.4 | 0.91 | 72.95 | 7.9 | 2.5 | 2.1 | 2.8 |
| T3C 160L-4 | 15 | 1445 | 25.55 | 92.1 | 0.92 | 99.13 | 7.8 | 2.4 | 2.1 | 2.9 |
| T3C 180M-4 | 18.5 | 1445 | 33.15 | 92.6 | 0.87 | 122.26 | 7.8 | 2.4 | 2.1 | 3 |
| T3C 180L-4 | 22 | 1460 | 38.37 | 93 | 0.89 | 143.89 | 7.5 | 2.3 | 2 | 3 |
| T3C 200L-4 | 30 | 1460 | 52.57 | 93.6 | 0.88 | 196.22 | 7.9 | 2.4 | 2 | 2.7 |
| T3C 225S-4 | 37 | 1470 | 71.09 | 93.9 | 0.80 | 240.36 | 6.7 | 2.4 | 2 | 2.7 |
| T3C 225M-4 | 45 | 1480 | 86.19 | 94.2 | 0.80 | 290.35 | 7 | 2.3 | 2 | 2.8 |
| T3C 250M-4 | 55 | 1480 | 95.36 | 94.6 | 0.88 | 354.87 | 7.4 | 2.4 | 1.9 | 2.7 |
| T3C 280S-4 | 75 | 1480 | 125.22 | 95 | 0.91 | 483.92 | 7.5 | 2.2 | 1.9 | 2.6 |
| T3C 280M-4 | 90 | 1480 | 148.32 | 95.2 | 0.92 | 580.70 | 7.7 | 2.2 | 1.9 | 2.6 |
| T3C 315S-4 | 110 | 1480 | 184.92 | 95.4 | 0.90 | 709.75 | 7.8 | 2 | 1.8 | 2.3 |
| T3C 315M-4 | 132 | 1480 | 219.01 | 95.6 | 0.91 | 851.69 | 7.8 | 2 | 1.8 | 2.3 |
| T3C 315L1-4 | 160 | 1480 | 264.91 | 95.8 | 0.91 | 1032.36 | 7.9 | 2 | 1.8 | 2.3 |
| T3C 315L2-4 | 200 | 1480 | 334.12 | 96 | 0.90 | 1290.45 | 7.7 | 2 | 1.8 | 2.3 |
| T3C 355M-4 | 250 | 1480 | 422.35 | 96 | 0.89 | 1613.06 | 7.9 | 2 | 1.8 | 2.3 |
| T3C 355L-4 | 315 | 1480 | 526.25 | 96 | 0.90 | 2032.45 | 7.8 | 2 | 1.8 | 2.3 |

# ECOL TC Series - Three-Phase Asynchronous Single Speed Motors

## Electrical data (50Hz) 6 poles IE3

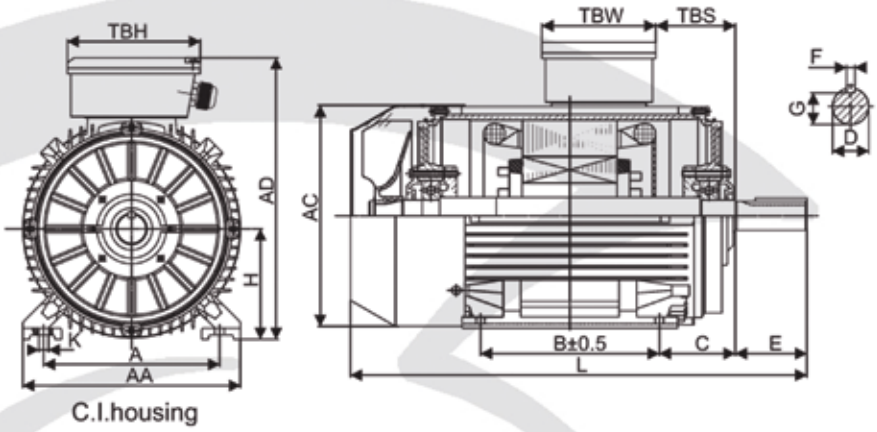
| Frame size | Power(Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosϕ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin./Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T3C 132S-6 | 3 | 940 | 6.09 | 85.6 | 0.83 | 30.48 | 6.3 | 2.4 | 2.2 | 2.8 |
| T3C 132M1-6 | 4 | 945 | 7.92 | 86.8 | 0.84 | 40.42 | 6.2 | 2.5 | 2 | 2.8 |
| T3C 132M2-6 | 5.5 | 945 | 11.00 | 88 | 0.82 | 55.58 | 6.8 | 2.3 | 1.9 | 2.8 |
| T3C 160M-6 | 7.5 | 955 | 14.46 | 89.1 | 0.84 | 74.99 | 7 | 2.4 | 1.9 | 2.7 |
| T3C 160L-6 | 11 | 960 | 20.69 | 90.3 | 0.85 | 109.42 | 7.3 | 2.5 | 2 | 2.8 |
| T3C 180L-6 | 15 | 960 | 28.60 | 91.2 | 0.83 | 149.21 | 7.8 | 2.3 | 2.1 | 2.9 |
| T3C 200L1-6 | 18.5 | 965 | 34.26 | 91.7 | 0.85 | 183.07 | 7.8 | 2.4 | 2.1 | 3.2 |
| T3C 200L2-6 | 22 | 965 | 40.05 | 92.2 | 0.86 | 217.70 | 7.9 | 2.3 | 1.9 | 3.1 |
| T3C 225M-6 | 30 | 975 | 54.84 | 92.9 | 0.85 | 293.82 | 7.9 | 2.2 | 1.9 | 2.7 |
| T3C 250M-6 | 37 | 975 | 68.97 | 93.3 | 0.83 | 362.38 | 7.5 | 2.3 | 2.1 | 2.7 |
| T3C 280S-6 | 45 | 980 | 80.61 | 93.7 | 0.86 | 438.49 | 7.2 | 2.3 | 2 | 2.8 |
| T3C 280M1-6 | 55 | 980 | 98.10 | 94.1 | 0.86 | 535.93 | 7.7 | 2.2 | 1.9 | 2.7 |
| T3C 315S-6 | 75 | 980 | 128.58 | 94.6 | 0.89 | 730.81 | 7.9 | 2.1 | 1.9 | 2.5 |
| T3C 315M-6 | 90 | 980 | 152.10 | 94.9 | 0.90 | 876.98 | 8 | 2 | 1.8 | 2.3 |
| T3C 315L1-6 | 110 | 980 | 185.51 | 95.1 | 0.90 | 1071.86 | 7.7 | 2 | 1.8 | 2.3 |
| T3C 315L2-6 | 132 | 980 | 224.40 | 95.4 | 0.89 | 1286.23 | .8 | 2 | 1.8 | 2.3 |
| T3C 355M1-6 | 160 | 980 | 265.47 | 95.6 | 0.91 | 1559.07 | 7.6 | 2 | 1.8 | 2.3 |
| T3C 355M2-6 | 200 | 980 | 334.82 | 95.8 | 0.90 | 1948.84 | 7.8 | 2 | 1.8 | 2.3 |
| T3C 355L-6 | 250 | 980 | 423.23 | 95.8 | 0.89 | 2436.05 | 7.8 | 2 | 1.8 | 2.3 |

# ECOL TC Series - Overall & Installation Dimensions

All dimensions in mm

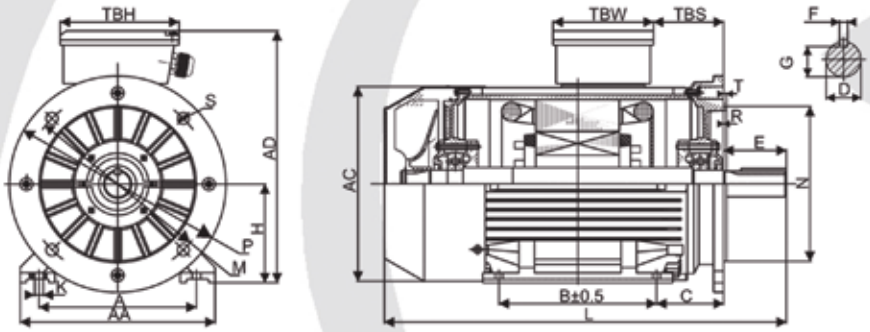
## ECOL TC B3

Table 1



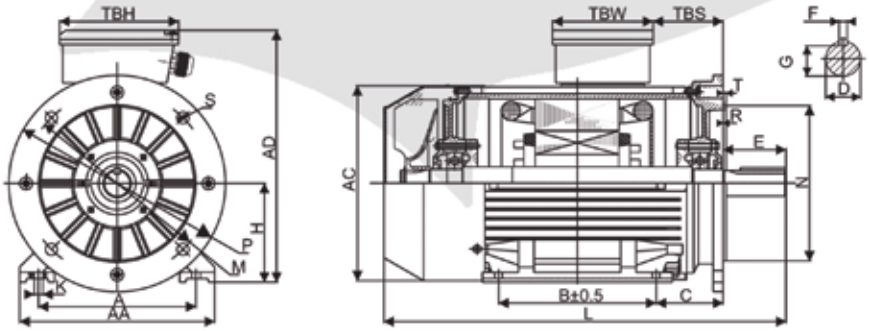

## ECOL TC B35

Table 2




## ECOL TC B5

Table 2



# ECOL TC Series - Overall installation dimension.

## Table 1

| Frame size | | B3 | | | | Sharf | | | | | General | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H | A | B | C | D | E | F | G | K | AA | AD | HD | AC | L | TBS | TBW | TBH |
| 132S/M | | 132 | 216 | 140/178 | 89 | Ø38 | 80 | 10 | 33 | Ø12 | 255 | 332 | 200 | 259 | 467/505 | 29 | 118 | 118 |
| 160M/L | | 160 | 254 | 210/254 | 108 | Ø42 | 110 | 12 | 37 | Ø15 | 314 | 402 | 242 | 313 | 605/650 | 91 | 162 | 187 |
| 180M/L | | 180 | 279 | 241/279 | 121 | Ø48 | 110 | 14 | 42.5 | Ø15 | 348 | 439 | 259 | 360 | 687/725 | 160/180 | 162 | 187 |
| 200L | | 200 | 318 | 305 | 133 | Ø55 | 110 | 16 | 49 | Ø19 | 388 | 497 | 297 | 399 | 788 | 152 | 186 | 233 |
| 225S | 4,8 | 225 | 356 | 286 | 149 | Ø60 | 140 | 18 | 53 | Ø19 | 436 | 553 | 328 | 465 | 814 | 190 | 186 | 233 |
| 225M | 2 | 225 | 356 | 311 | 149 | Ø55 | 110 | 16 | 49 | Ø19 | 436 | 553 | 328 | 465 | 809 | 202 | 186 | 233 |
| | 4,6,8 | 225 | 356 | 311 | 149 | Ø60 | 140 | 18 | 53 | Ø19 | 436 | 553 | 328 | 465 | 839 | 202 | 186 | 233 |
| 250M | 2 | 250 | 406 | 349 | 168 | Ø60 | 140 | 18 | 53 | Ø24 | 484 | 616 | 366 | 506 | 918 | 233 | 218 | 260 |
| | 4,6,8 | 250 | 406 | 349 | 168 | Ø65 | 140 | 18 | 58 | Ø24 | 484 | 616 | 366 | 506 | 918 | 233 | 218 | 260 |
| 280S/M | 2 | 280 | 457 | 368/419 | 190 | Ø65 | 140 | 18 | 58 | Ø24 | 557 | 668 | 388 | 559 | 984/1035 | 265 | 218 | 260 |
| | 4,6,8 | 280 | 457 | 368/419 | 190 | Ø75 | 140 | 20 | 67.5 | Ø24 | 557 | 668 | 388 | 559 | 984/1035 | 265 | 218 | 260 |
| 315S | 2 | 315 | 508 | 406 | 216 | Ø65 | 140 | 18 | 58 | Ø28 | 630 | 845 | 530 | 680 | 1205 | 130 | 280 | 320 |
| | 4,6,8 | 315 | 508 | 406 | 216 | Ø80 | 170 | 22 | 71 | Ø28 | 630 | 845 | 530 | 680 | 1235 | 130 | 280 | 320 |
| 315M/L | 2 | 315 | 508 | 457/508 | 216 | Ø65 | 140 | 18 | 58 | Ø28 | 630 | 845 | 530 | 680 | 1355 | 130 | 280 | 320 |
| | 4,6,8 | 315 | 508 | 457/508 | 216 | Ø80 | 170 | 22 | 71 | Ø28 | 630 | 845 | 530 | 680 | 1385 | 130 | 280 | 320 |
| 355M/L | 2 | 355 | 610 | 560/630 | 254 | Ø75 | 140 | 20 | 67.5 | Ø28 | 740 | 1010 | 655 | 820 | 1500 | HO | 330 | 380 |
| | 4,6,8 | 355 | 610 | 560/630 | 254 | Ø100 | 210 | 28 | 90 | Ø28 | 740 | 1010 | 655 | 820 | 1570 | 140 | 330 | 380 |

## Table 2

| Frame size | | B5 | | | | | | B14 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | M | P | S | T | R | N | M | P | S | T | R |
| 132S/M | | 230 | 265 | 300 | 4-Ø15 | 4 | 0 | 130 | 165 | 196 | M10 | 3.5 | 0 |
| 160M/L | | 250 | 300 | 350 | 4-Ø19 | 5 | 0 | | | | | | |
| 180M/L | | 250 | 300 | 350 | 4-Ø19 | 5 | 0 | | | | | | |
| 200L | | 300 | 350 | 400 | 4-Ø19 | 5 | 0 | | | | | | |
| 225S | 4,8 | 350 | 400 | 450 | 8-Ø19 | 5 | 0 | | | | | | |
| 225M | 2 | 350 | 400 | 450 | 8-Ø19 | 5 | 0 | | | | | | |
| | 4,6,8 | 350 | 400 | 450 | 8-Ø19 | 5 | 0 | | | | | | |
| 250M | 2 | 450 | 500 | 550 | 8-Ø19 | 5 | 0 | | | | | | |
| | 4,6,8 | 450 | 500 | 550 | 8-Ø19 | 5 | 0 | | | | | | |
| 280S/M | 2 | 450 | 500 | 550 | 8-Ø19 | 5 | 0 | | | | | | |
| | 4,6,8 | 450 | 500 | 550 | 8-Ø19 | 5 | 0 | | | | | | |
| 355M/L | 2 | 550 | 600 | 660 | 8-Ø24 | 6 | 0 | | | | | | |

# ECOL "TA" DESIGN



# ELECTRICAL AND DIMENSIONAL DATA

ECOL "TA" Motors are the latest high efficient aluminium design asynchronus design from the TECHTOP factory. The ECOL TA motors are lightweight yet rugged and suitable for many applications including pumps, fans, compressors, mining, agricultural, maritime, hydraulic and many more.

# ECOL TA SERIES - Three-Phase asynchronus single speed motors

## Electrical data (50hz) 2 pole IE2

| Frame Size | Power (Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosØ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin/Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T2A 801-2 | 0.75 | 2848 | 1.86 | 77.4 | 0.75 | 2.51 | 6 | 2.7 | 2.1 | 2.8 |
| T2A 802-2 | 1.1 | 2846 | 2.52 | 79.6 | 0.79 | 3.69 | 6.7 | 2.7 | 2.1 | 2.9 |
| T2A 90S-2 | 1.5 | 2852 | 3.17 | 81.3 | 0.84 | 5.02 | 6.1 | 2.3 | 2 | 2.7 |
| T2A 90L-2 | 2.2 | 2845 | 4.54 | 83.2 | 0.84 | 7.38 | 7 | 2.6 | 2.1 | 2.7 |
| T2A 100L-2 | 3 | 2851 | 5.75 | 84.6 | 0.89 | 10.05 | 7.6 | 2.5 | 2 | 2.8 |
| T2A 112M-2 | 4 | 2910 | 7.56 | 85.8 | 0.89 | 13.13 | 7.8 | 2.5 | 2 | 2.7 |
| T2A 132S1-2 | 5.5 | 2905 | 10.25 | 87 | 0.89 | 18.08 | 7.8 | 2.4 | 2 | 2.9 |
| T2A 132S2-2 | 7.5 | 2910 | 13.96 | 88.1 | 0.88 | 24.61 | 7.9 | 2.7 | 2 | 2.8 |
| T2A 160M1-2 | 11 | 2920 | 19.73 | 89.4 | 0.90 | 35.97 | 7.9 | 2.2 | 2.1 | 3 |
| T2A 160M2-2 | 15 | 2918 | 26.35 | 90.3 | 0.91 | 49.09 | 7.9 | 2.3 | 2.1 | 3 |
| T2A 160L-2 | 18.5 | 2922 | 31.93 | 90.9 | 0.92 | 60.46 | 8 | 2.4 | 2.1 | 2.9 |
| T2A 180M-2 | 22 | 2930 | 39.08 | 91.3 | 0.89 | 71.70 | 7.5 | 2.3 | 2 | 2.8 |
| T2A 200L1-2 | 30 | 2925 | 53.49 | 92 | 0.88 | 97.94 | 6.7 | 2.4 | 2 | 2.7 |
| T2A 200L2-2 | 37 | 2930 | 64.15 | 92.5 | 0.90 | 120.59 | 6.3 | 2.3 | 2 | 2.7 |

## Electrical data (50hz) 4 pole IE2

| Frame Size | Power (Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosØ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin/Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T2A 802-4 | 0.75 | 1420 | 1.79 | 79.6 | 0.76 | 5.04 | 5.4 | 2.3 | 2.1 | 2.9 |
| T2A 90S-4 | 1.1 | 1425 | 2.50 | 81.4 | 0.78 | 7.37 | 5.9 | 2.3 | 2.1 | 2.7 |
| T2A 90L-4 | 1.5 | 1420 | 3.31 | 82.8 | 0.79 | 10.09 | 6.4 | 2.4 | 2 | 2.7 |
| T2A 100L1-4 | 2.2 | 1430 | 4.59 | 84.3 | 0.82 | 14.69 | 6.6 | 2.4 | 2.1 | 2.9 |
| T2A 100L2-4 | 3 | 1430 | 6.33 | 85.5 | 0.80 | 20.03 | 6.9 | 2.4 | 2 | 2.8 |
| T2A 112M-4 | 4 | 1435 | 8.44 | 86.6 | 0.79 | 26.62 | 7.9 | 2.5 | 2 | 3 |
| T2A 132S-4 | 5.5 | 1430 | 11.04 | 87.7 | 0.82 | 36.73 | 7.1 | 2.3 | 2 | 2.8 |
| T2A 132M-4 | 7.5 | 1430 | 14.70 | 88.7 | 0.83 | 50.08 | 7.8 | 2.3 | 2 | 2.7 |
| T2A 160M-4 | 11 | 1440 | 19.43 | 89.8 | 0.91 | 72.95 | 7.9 | 2.5 | 2.1 | 2.8 |
| T2A 160L-4 | 15 | 1445 | 25.92 | 90.8 | 0.92 | 99.13 | 7.8 | 2.4 | 2.1 | 2.9 |
| T2A 180M-4 | 18.5 | 1445 | 33.66 | 91.2 | 0.87 | 122.26 | 7.8 | 2.4 | 2.1 | 3 |
| T2A 180L-4 | 22 | 1460 | 38.95 | 91.6 | 0.89 | 143.89 | 7.5 | 2.3 | 2 | 3 |
| T2A 200L-4 | 30 | 1460 | 55.31 | 92.3 | 0.88 | 196.22 | 7.9 | 2.4 | 2 | 2.7 |

# ECOL TA SERIES - Three-Phase asynchronus single speed motors

## Electrical data (50hz) 6 pole IE2

| Frame Size | Power (Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosØ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin/Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T2A 90S-6 | 0.75 | 935 | 1.88 | 75.9 | 0.76 | 7.66 | 6.2 | 2.2 | 2 | 2.7 |
| T2A 90L-6 | 1.1 | 935 | 2.54 | 78.1 | 0.80 | 11.23 | 6 | 2.3 | 2.1 | 2.6 |
| T2A 100L-6 | 1.5 | 940 | 3.31 | 79.8 | 0.82 | 15.24 | 5.8 | 2.3 | 2.1 | 2.7 |
| T2A 112M-6 | 2.2 | 940 | 4.85 | 81.8 | 0.80 | 22.35 | 6.4 | 2.3 | 2.1 | 2.9 |
| T2A 132S-6 | 3 | 940 | 6.26 | 83.3 | 0.83 | 30.48 | 6.3 | 2.4 | 2.2 | 2.8 |
| T2A 132M1-6 | 4 | 945 | 8.12 | 84.6 | 0.84 | 40.42 | 6.2 | 2.5 | 2 | 2.8 |
| T2A 132M2-6 | 5.5 | 945 | 11.26 | 86 | 0.82 | 55.58 | 6.8 | 2.3 | 1.9 | 2.8 |
| T2A 160M-6 | 7.5 | 955 | 14.78 | 87.2 | 0.84 | 74.99 | 7 | 2.4 | 1.9 | 2.7 |
| T2A 160L-6 | 11 | 960 | 21.06 | 88.7 | 0.85 | 109.42 | 7.3 | 2.5 | 2 | 2.8 |
| T2A 180L-6 | 15 | 960 | 29.08 | 89.7 | 0.83 | 149.21 | 7.8 | 2.3 | 2.1 | 2.9 |
| T2A 200L1-6 | 18.5 | 965 | 34.75 | 90.4 | 0.85 | 183.07 | 7.8 | 2.4 | 2.1 | 3.2 |
| T2A 200L2-6 | 22 | 965 | 40.62 | 90.9 | 0.86 | 217.70 | 7.9 | 2.3 | 1.9 | 3.1 |

# ECOL TA SERIES - Three-Phase asynchronus single speed motors

## Electrical data (50hz) 2 pole IE3

| Frame Size | Power (Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosØ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin/Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T3A 801-2 | 0.75 | 2848 | 1.79 | 80.7 | 0.75 | 2.51 | 6 | 2.7 | 2.1 | 2.8 |
| T3A 802-2 | 1.1 | 2846 | 2.43 | 82.7 | 0.79 | 3.69 | 6.7 | 2.7 | 2.1 | 2.9 |
| T3A 90S-2 | 1.5 | 2852 | 3.06 | 84.3 | 0.84 | 5.02 | 6.1 | 2.3 | 2 | 2.7 |
| T3A 90L-2 | 2.2 | 2845 | 4.40 | 85.9 | 0.84 | 7.38 | 7 | 2.6 | 2.1 | 2.7 |
| T3A 100L-2 | 3 | 2851 | 5.59 | 87.1 | 0.89 | 10.05 | 7.6 | 2.5 | 2 | 2.8 |
| T3A112M-2 | 4 | 2910 | 7.36 | 88.1 | 0.89 | 13.13 | 7.8 | 2.5 | 2 | 2.7 |
| T3A 132S1-2 | 5.5 | 2905 | 10.00 | 89.2 | 0.89 | 18.08 | 7.8 | 2.4 | 2 | 2.9 |
| T3A 132S2-2 | 7.5 | 2910 | 13.65 | 90.1 | 0.88 | 24.61 | 7.9 | 2.7 | 2 | 2.8 |
| T3A 160M1-2 | 11 | 2920 | 19.34 | 91.2 | 0.90 | 35.97 | 7.9 | 2.2 | 2.1 | 3 |
| T3A 160M2-2 | 15 | 2918 | 25.89 | 91.9 | 0.91 | 49.09 | 7.9 | 2.3 | 2.1 | 3 |
| T3A 160L-2 | 18.5 | 2922 | 31.41 | 92.4 | 0.92 | 60.46 | 8 | 2.4 | 2.1 | 2.9 |
| T3A 180M-2 | 22 | 2930 | 38.49 | 92.7 | 0.89 | 71.70 | 7.5 | 2.3 | 2 | 2.8 |
| T3A 200L1-2 | 30 | 2925 | 52.74 | 93.3 | 0.88 | 97.94 | 6.7 | 2.4 | 2 | 2.7 |
| T3A 200L2-2 | 37 | 2930 | 63.33 | 93.7 | 0.90 | 120.59 | 6.3 | 2.3 | 2 | 2.7 |

## Electrical data (50hz) 4 pole IE3

| Frame Size | Power (Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosØ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin/Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T3A 802-4 | 0.75 | 1420 | 1.73 | 82.5 | 0.76 | 5.04 | 5.4 | 2.3 | 2.1 | 2.9 |
| T3A 90S-4 | 1.1 | 1425 | 2.42 | 84.1 | 0.78 | 7.37 | 5.9 | 2.3 | 2.1 | 2.7 |
| T3A 90L-4 | 1.5 | 1420 | 3.21 | 85.3 | 0.79 | 10.09 | 6.4 | 2.4 | 2 | 2.7 |
| T3A 100L1-4 | 2.2 | 1430 | 4.47 | 86.7 | 0.82 | 14.69 | 6.6 | 2.4 | 2.1 | 2.9 |
| T3A 100L2-4 | 3 | 1430 | 6.17 | 87.7 | 0.80 | 20.03 | 6.9 | 2.4 | 2 | 2.8 |
| T3A 112M-4 | 4 | 1435 | 8.25 | 88.6 | 0.79 | 26.62 | 7.9 | 2.5 | 2 | 3 |
| T3A 132S-4 | 5.5 | 1430 | 10.81 | 89.6 | 0.82 | 36.73 | 7.1 | 2.3 | 2 | 2.8 |
| T3A 132M-4 | 7.5 | 1430 | 14.43 | 90.4 | 0.83 | 50.08 | 7.8 | 2.3 | 2 | 2.7 |
| T3A 160M-4 | 11 | 1440 | 19.09 | 91.4 | 0.91 | 72.95 | 7.9 | 2.5 | 2.1 | 2.8 |
| T3A 160L-4 | 15 | 1445 | 25.55 | 92.1 | 0.92 | 99.13 | 7.8 | 2.4 | 2.1 | 2.9 |
| T3A 180M-4 | 18.5 | 1445 | 33.15 | 92.6 | 0.87 | 122.26 | 7.8 | 2.4 | 2.1 | 3 |
| T3A 180L-4 | 22 | 1460 | 38.37 | 93 | 0.89 | 143.89 | 7.5 | 2.3 | 2 | 3 |
| T3A 200L-4 | 30 | 1460 | 52.57 | 93.6 | 0.88 | 196.22 | 7.9 | 2.4 | 2 | 2.7 |

# ECOL TA SERIES - Three-Phase asynchronus single speed motors

## Electrical data (50hz) 6 pole IE3

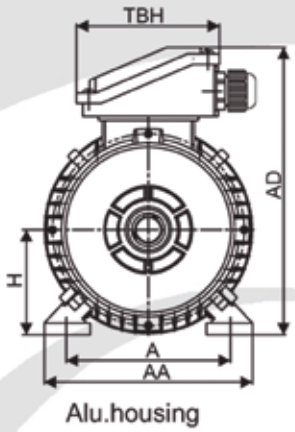
| Frame Size | Power (Kw) | rpm (rpm/min) | Current In(A) 400V | Eff. (%) | Power factor (cosØ) | Torque Cn (Nm) | Is/In | Cs/Cn | Cmin/Cn | Cmax/Cn |
|---|---|---|---|---|---|---|---|---|---|---|
| T3A 90S-6 | 0.75 | 935 | 1.81 | 78.9 | 0.78 | 7.66 | 6.2 | 2.2 | 2 | 2 |
| T3A 90L-6 | 1.1 | 935 | 2.45 | 81 | 0.80 | 11.23 | 6 | 2.3 | 2.1 | 2.1 |
| T3A 100L-6 | 1.5 | 940 | 3.20 | 82.5 | 0.82 | 15.24 | 5.8 | 2.3 | 2.1 | 2.1 |
| T3A 112M-6 | 2.2 | 940 | 4.71 | 84.3 | 0.80 | 22.35 | 6.4 | 2.3 | 2.1 | 2.1 |
| T3A 132S-6 | 3 | 940 | 6.09 | 85.6 | 0.83 | 30.48 | 6.3 | 2.4 | 2.2 | 2.2 |
| T3A 132M1-6 | 4 | 945 | 7.92 | 86.8 | 0.84 | 40.42 | 6.2 | 2.5 | 2 | 2 |
| T3A 132M2-6 | 5.5 | 945 | 11.00 | 88 | 0.82 | 55.58 | 6.6 | 2.3 | 1.9 | 1.9 |
| T3A 160M-6 | 7.5 | 955 | 14.46 | 89.1 | 0.84 | 74.99 | 7 | 2.4 | 1.9 | 1.9 |
| T3A 160L-6 | 11 | 960 | 20.69 | 90.3 | 0.85 | 109.42 | 7.3 | 2.5 | 2 | 2 |
| T3A 180L-6 | 15 | 960 | 28.60 | 91.2 | 0.83 | 149.21 | 7.8 | 2.3 | 2.1 | 2.1 |
| T3A 200L1-6 | 18.5 | 965 | 34.26 | 91.7 | 0.85 | 183.07 | 7.8 | 2.4 | 2.1 | 2.1 |
| T3A 200L2-6 | 22 | 965 | 40.05 | 92.2 | 0.86 | 217.70 | 7.9 | 2.3 | 1.9 | 1.9 |

# ECOL TA SERIES - Overall & Installation dimension

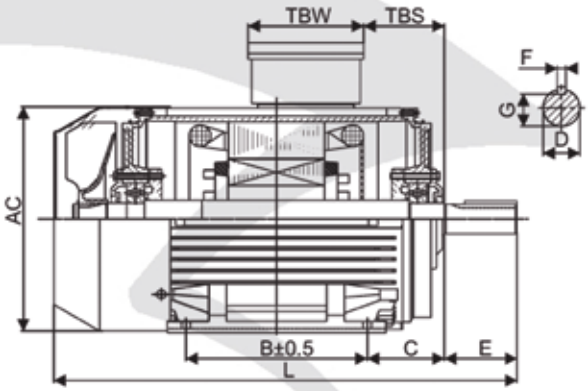
All dimensions in mm

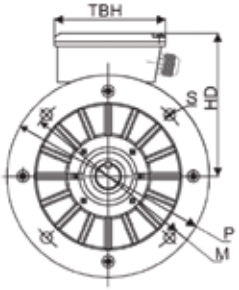
## ECOL TA B3

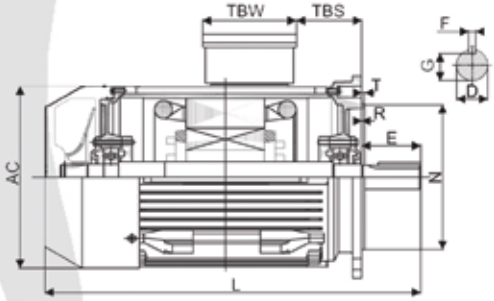
Table 1




Alu.housing



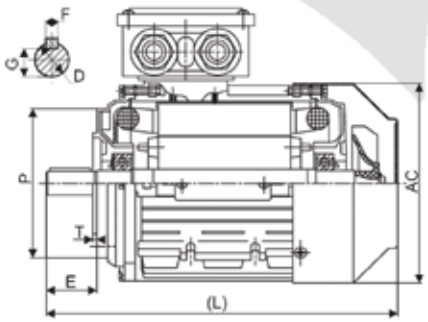



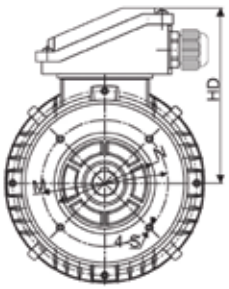

## ECOL TA B5

Table 2

## ECOL TA B14

Table 2



# ECOL TA SERIES - Overall & Installation dimension

## Table 1

| Frame size | B3 | | | | Shaft | | | | | General | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H | A | B | C | D | E | F | G | K | AA | AD | HD | AC | L | TBS | TBW | TBH |
| 80 | 80 | 125 | 100 | 50 | Ø19 | 40 | 6 | 15.5 | Ø9 | 160 | 220 | 140 | 158 | 280 | 16 | 97 | 97 |
| 90S/L | 90 | 140 | 100/125 | 56 | Ø24 | 50 | 8 | 20 | Ø10 | 175 | 240 | 150 | 176 | 325/350 | 16 | 97 | 97 |
| 100 | 100 | 160 | 140 | 63 | Ø28 | 60 | 8 | 24 | Ø12 | 200 | 265 | 165 | 199 | 388 | 20 | 118 | 118 |
| 112 | 112 | 190 | 140 | 70 | Ø28 | 60 | 8 | 24 | Ø12 | 230 | 291 | 179 | 220 | 405 | 29 | 118 | 118 |
| 132S/M | 132 | 216 | 140/178 | 89 | Ø38 | 80 | 10 | 33 | Ø12 | 255 | 332 | 200 | 259 | 467/505 | 29 | 118 | 118 |
| 160M/L | 160 | 254 | 210/254 | 108 | Ø42 | 110 | 12 | 37 | Ø15 | 314 | 402 | 242 | 313 | 605/650 | 91 | 162 | 187 |
| 180M/L | 180 | 279 | 241/279 | 121 | Ø48 | 110 | 14 | 42.5 | Ø15 | 348 | 439 | 259 | 360 | 687/725 | 160/180 | 162 | 187 |
| 200L | 200 | 318 | 305 | 133 | Ø55 | 110 | 16 | 49 | Ø19 | 388 | 497 | 297 | 399 | 768 | 192 | 186 | 233 |

## Table 2

| Frame size | B5 | | | | | | B14 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | M | P | S | T | R | N | M | P | S | T | R |
| 80 | 130 | 165 | 198 | 4-Ø12 | 3.5 | 0 | 80 | 100 | 118 | M6 | 3 | 0 |
| 90S/L | 130 | 165 | 198 | 4-Ø12 | 3.5 | 0 | 95 | 115 | 138 | M8 | 3 | 0 |
| 100 | 180 | 215 | 250 | 4-Ø15 | 4 | 0 | 110 | 130 | 158 | M8 | 3.5 | 0 |
| 112 | 180 | 215 | 250 | 4-Ø15 | 4 | 0 | 110 | 130 | 158 | M8 | 3.5 | 0 |
| 132S/M | 230 | 265 | 300 | 4-Ø15 | 4 | 0 | 130 | 165 | 198 | M10 | 3.5 | 0 |
| 160M/L | 250 | 300 | 350 | 4-Ø19 | 5 | 0 | | | | | | 0 |
| 180M/L | 250 | 300 | 350 | 4-Ø19 | 5 | 0 | | | | | | 0 |
| 200L | 300 | 350 | 400 | 4-Ø19 | 5 | 0 | | | | | | 0 |

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