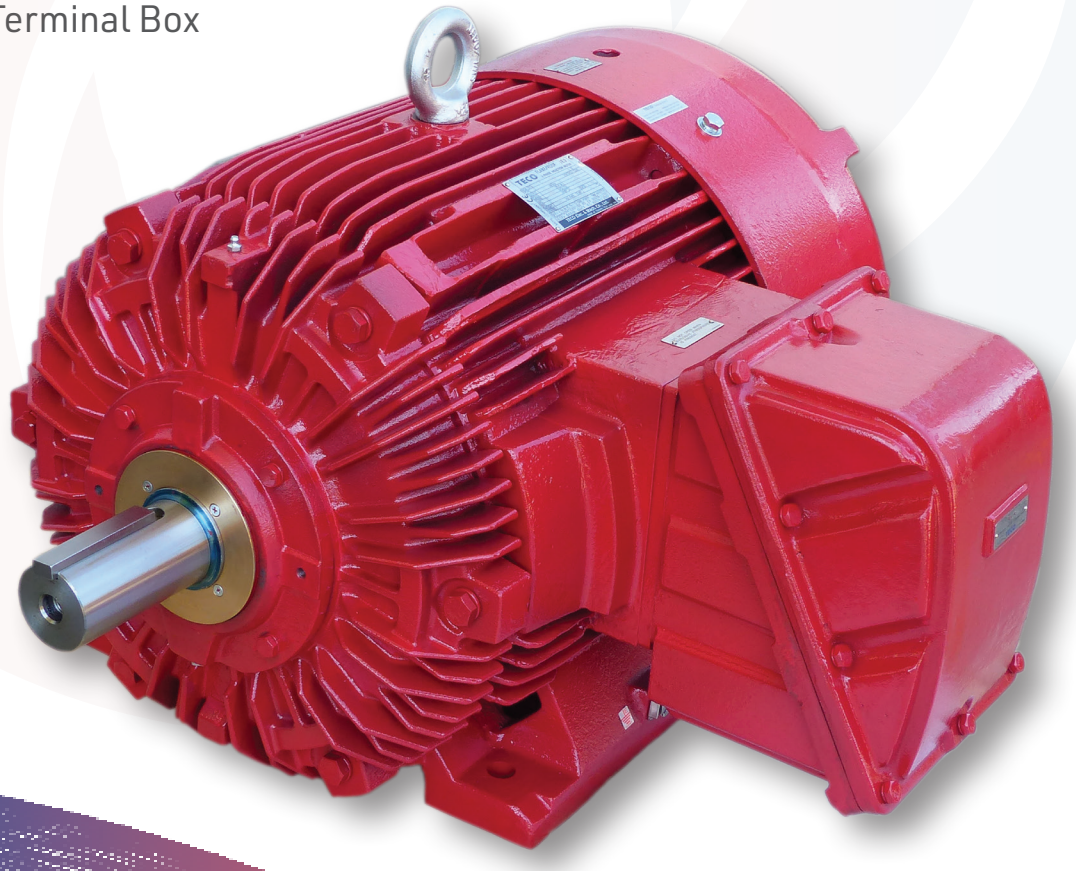
TECO

together, we empower the Future

TECO MAX-Ex
Squirrel Cage Induction Motors

RANGE 0.75kW TO 110kW

Flameproof motors with
Increased Safety Terminal Box



Contents

Rotating the World Sustainably and Reliably with TECO's Industrial Solutions.

GLOBAL EXPERTISE WITH LOCAL SUPPORT

Operating in over 40 countries across all five continents.

VAST STOCK AVAILABILITY

Large stock range across Australia & New Zealand.

LOCAL IN-HOUSE WORKSHOP

Full range of mechanical and electrical modifications ensuring adherence to TECO's stringent QA s procedures and relevant standards.

TECO is a global leader specialising in manufacturing and distribution of industrial Electric Motors and Variable Speed Drives.

Our extensive product range includes high-quality Low &- Medium Voltage Motors from fractional kW to 22,000 kW for supplies up to 14,200 Volts, energy-efficient Variable Speed Drives and reliable automation equipment.

Our commitment to excellence is evident in our longstanding ISO 9001 and ISO 14001 certifications. Furthermore, our recent acquisition of the EPACT Energy Efficiency Certificate solidifies our position as an exemplary player in the global marketplace.

TECO's commitment to technological advancement and sustainable practice has earned a reputation for delivering superior products and exceptional customer service.

With TECO, you can trust in industry-leading performance, reliability, and a commitment to sustainable practices.

Flameproof Electric Motor

BUILT TO PROTECT. ENGINEERED TO PERFORM.

TECO MAX-Ex Flameproof Motors are Squirrel Cage Induction designed to keep your operations running safely and efficiently in mining, oil & gas, chemical plants and industrial sites with explosion risks. Certified to Australian, New Zealand and international standards, these motors deliver maximum protection with minimum downtime.

WHY TECO MAX-Ex?

The TECO MAX-Ex d is built to contain any internal ignition, ensuring that no flames or hot gases escape. Specially machined metal-to-metal flamepaths allow expanding gases to cool before they reach the external atmosphere, preventing ignition of surrounding flammable substances. For installations requiring greater ease of wiring, TECO MAX -Ex de motors combine the same robust flameproof enclosure with an Increased Safety (Ex e) terminal box, removing the need for flameproof glands while maintaining the highest levels of protection.

Tougher. Smarter. Safer.

- Ex d (Flameproof) & Ex de (Flameproof + Increased Safety Terminal Box) options for ultimate protection.
- Heavy-duty cast iron frames built to handle extreme conditions.
- IECEx & ATEX certified to protect your people, processes and bottom line, meeting global safety standards.

Reliable, Efficient & Built for Longevity

- Advanced cooling (IC411) keeps motors running at optimal temperatures.
- Sealed bearings & IP55 protection extend service life, reducing maintenance costs.

Designed for Easy Installation & Maintenance

- Ex de models eliminate the need for flameproof cable glands, simplifying wiring.
- Built-in PTC thermistors and anti-condensation heaters prevent overheating and moisture damage.
- Spacious terminal boxes make connections quick and hassle-free.

PROTECTION TYPES: HOW TECO MOTORS KEEP YOU SAFE

Common Protection Methods:

- Ex d – Flameproof: Contains and cools explosions, preventing external ignition (Gases).
- Ex de – Flameproof + Increased Safety Terminal Box:
  Extra protection for terminal connections (Gases).

The Ex de model is our standard stock motor, readily available for quick delivery. The Ex d model is available on an indent basis to meet specific project requirements.

Hazardous Environments

KNOW YOUR ZONES.

Before selecting a motor, it's crucial to understand the classification of hazardous areas.
Hazardous areas are classified into Zones, based on the frequency of the occurrence and duration of the explosive atmosphere. Zoning does not take into account the potential consequences of an explosion, please refer to EPL (Equipment Protection Levels) on page 6-7. Responsibility for classification rests with the site operator on site and engineers.

Key Standards:

- AS3000:2008 Wiring Rules
- Area Classification AS/NZS60079.10.1:2009 (Gases)
- AS/NZS61241:2004 Part 10 (Dusts)

Gas Zones Only:

- **Zone 0**: Continuous presence of flammable gas. (**Electric Motors are not permitted in Zone 0**).
- **Zone 1**: Flammable gas present intermittently.
- **Zone 2**: Flammable gas present only in abnormal conditions.

Dust Zones Only:

- **Zone 20**: Continuous presence of combustible dust. (**Electric Motors are not permitted in Zone 20**).
- **Zone 21**: Combustible dust present intermittently.
- **Zone 22**: Combustible dust present only in abnormal conditions.

IEC61241.1:2004 Dust Zone Practices:

Practice A (ie. Zone 21A): Performance based requirements, maximum surface temperature determined with 5 mm layer of dust and 75k safety margin.
Practice A is the most common referred to in Australia.

Practice B (ie. Zone 21B): Prescriptive based requirements, maximum surface temperature determined with 25 mm layer of dust and 25k safety margin.

Equipment – Zone certification acceptability

Gases		Dusts	
Zone	Satisfies Zone(s)	Zone	Satisfies Zone(s)
0	0, 1, 2	20	20, 21, 22
1	1, 2	21	21, 22
2	2	22	22

Traditional relationship of Zones (no additional risk assessment), refer to EPL (Equipment Protection Levels) on page 6-7.

Gas and Dust Group

TO AS/NZS60079.0:2008

Gas Group I – Coal Mines, intended for use in mines susceptible to firedamp and coal dust long with enhanced physical protection for use underground.

Gas Group II (all other places apart from Group 1 Coal Mines – note a)			Dust Group III (note b)		
Subdivisions	Satisfies	Typical Gas	Subdivisions	Satisfies	Description
IIA	IIA	propane	IIIA	IIIA	combustible flyings
IIB	IIA & IIB	ethylene	IIIB	IIIA + IIIB	non-conductive dust
IIC	IIA & IIB & IIC	hydrogen	IIIC	IIIA + IIIB + IIIC	conductive dust

Note: a) Equipment certified for use in Group I does not satisfy Group II, unless certified and marked as such.
Equipment certified for use in Group II does not satisfy Group I, unless certified and marked as such.
b) Dust Groups (IIIA, IIIB & IIIC) not covered in IEC61241.0:2004

Temperature Class

Classification of maximum surface temperatures, this is the highest temperature that an equipment surface is allowed to reach in service to avoid ignition.

Dust Groups

Maximum surface temperature shall be specified or restricted to the specific combustible dust which it was intended to be used with.
Marking example: T135˚C

Temperature Class	Maximum surface temperature ˚C
T1	450
T2	300
T3	200
T4	135
T5	100
T6	85

Equipment Protection Levels (EPL): Selecting the Right Motor for Your Zone

These EPL's were introduced to enable an alternative approach to selecting Ex equipment.
The equipment selection standard provides a solid link between the type of protection for the equipment and the zone in which the equipment can be used. Nowhere in the IEC Ex standards was there any account taken of the potential consequences of an explosion, should it occur. Plant operators often make decisions on extending (or restricting) their zones in order to compensate for this omission.

A typical example is the installation of "zone 1 type" equipment in zone 2 areas in critical area of personal or equipment concern. In the other direction, it is reasonable for the owner of a remote, well secured, small pumping station to drive the pump with a "zone 2 type" motor, even in zone 1, if the total amount of gas available to explode is small and the risk of life and property from such an explosion can be discounted.

Gases (Group II)

EPL Ga

Equipment with a "very high" level of protection, which is not a source of ignition in normal operations, during expected or rare malfunctions.

EPL Gb

Equipment with a "high" level of protection, which is not a source of ignition in normal operations during expected malfunctions

EPL Gc

Equipment with an "enhanced" level of protection, which is not a source of ignition in normal operation.

Dusts (Group III)

EPL Da

Equipment with a "very high" level of protection, which is not a source of ignition in normal operations, during expected or rare malfunctions.

EPL Db

Equipment with a "high" level of protection, which is not a source of ignition in normal operations during expected malfunctions.

EPL Dc

Equipment with an "enhanced" level of protection, which is not a source of ignition in normal operation.

Traditional relationship of EPLs to Zones (no additional risk assessment)

Equipment Protection Level Zone	Zone Gases	Equipment Protection Level	Zone Dusts
Ga	0	Da	20
Gb	1	Db	21
Gc	2	Dc	22

Marking

"Ex" followed by the type of protection and details in the specific standards.

Ambient and Altidude

Unless otherwise specified in Ex certification documents and marking the design ambient is -20°C to + 50°C with an altitude not exceeding 1000 meters above sea level.

How Flameproof Electric Motors Work

Core Flameproof Theory: Understanding the Science Behind Protection

Flameproof motors are managing and controlling the energy released to prevent external ignition.

- **Precision Flamepaths:** The motor enclosure features carefully machined joints with precisely controlled gaps. These flamepaths act as barriers, ensuring that any escaping gas cools down before it exits, preventing ignition outside the installed electric motor.
- **Pressure Resistance:** The housing is built to withstand the internal pressure of an explosion, ensuring it remains structurally intact even under extreme conditions.
- **Heat Dissipation:** The enclosure material and design facilitate rapid heat dissipation, reducing the risk of surface ignition in hazardous environments.
- **Spark Prevention:** Ex de models with Increased Safety (Ex e) terminal boxes eliminate sparking components within the wiring system, further enhancing protection.

Ideal Industries & Applications

- **Oil & Gas**

Rugged and explosion-proof – ideal for offshore platforms, refineries, and pumping stations.

- **Chemical & Petrochemical**

Handle volatile gases and liquids with confidence. Flameproof enclosures prevent ignition in reactors, mixers, and compressors.

- **Mining**

Handles harsh underground and surface conditions, protecting against flammable gases and dust.

- **Pharmaceutical**

For processes using flammable solvents, TECO MAX-Ex reduce hazards and maintain a controlled environment.

- **Food & Beverage**

Protect against combustible dust and vapours. Our TECO MAX-Ex flameproof designs deliver clean, reliable power for sensitive production lines.

- **Power Generation**

Dependable in boiler feeds, cooling pumps, and more. TECO MAX-Ex keep you operational in high-temperature, high-risk zones.

MAX-Ex Design & Construction

TECO MAX-Ex Flameproof Electric Motors are totally enclosed fan cooled (TEFC) squirrel cage induction motors with integral cast cooling fins on the frame and end shields (IC411) for optimal heat dissipation. Available in frame sizes D80 to D280M,these motors are engineered for continuous S1 duty, making them suitable for demanding industrial applications.

Constructed from high-grade cast iron, the enclosures are designed for foot and/or D Flange mounting (C Face available for D80 frame only), allowing for both horizontal and vertical shaft orientations. For vertical shaft down installations, a protective canopy is fitted to safeguard the cooling system.

EXTERNAL FANS

Non-sparking, bi-directional axial-flow fans maintain cool operation.Rain covers are mandatory fitted for vertical shaft-down installations.

TERMINAL BOX

Cast iron construction, typically IP55 as standard (optional IP56 on request).Ex de motors feature an Increased Safety terminal box (Ex e), simplifying wiring and removing the need for flameproof glands. Each motor includes an auxiliary M20 entry, while models 37kW and above are equipped with two M20 auxiliary entries. Refer to the notes on pages 13 through 19 for additional details.

IP RATING AND SEALING

Motors shafts extensions have non-contact non sparking seals, with endshields frame and other mating surfaces are metal to metal surfaces to exacting tolerances to provide the needed flamepaths and support the tested IP55 rating. All Ex de terminal box lids are sealed with one-piece neoprene gasket for an improved weather seal at this vulnerable joint.

VOLTAGE & INSULATION

Motors can be wound to operate on 200V to 690V supply systems at 50 Hz or 60 Hz and incorporate windings with double enamelled class 'F' and / or class 'H' insulation, which are impregnated with an insulating varnish.

Stock motors are configured for 380~415V 3 Phase 50 Hz operation and are also compatible with 440~480V 3 Phase 60 Hz supply.

- Motors up to 4 kW: 380~415V STAR connected (50 Hz)
- Motors 5.5 kW and above: 380~415V DELTA connected (50 Hz)

THERMISTORS & HEATERS

All stock motors are fitted with PTC thermistors protection within windings with the leads terminated in the main terminal box with an auxiliary entry provided for connection within the primary terminal box (M20 x 1.5 on F#80 ~ 200 (less than 37kW), 2 x M20 x 1.5 F#225 (37kW and larger).

ANTI-CONDENSATION HEATERS

All stock motors 37kW and larger are fitted with anti-condensation heaters for a 220~240 Volt supply when the motor is de energised. Heater leads are terminated in the main terminal box with an auxiliary entry provided for connection within the primary terminal box (M20 x 1.5).

HIGH-QUALITY FINISH

All external components are shot blast near white blast clean. A durable coat of Alkyd Resin primer giving excellent corrosion protection follows this preparation. The complete motor is then finished with Alkyd Resin Gloss Enamel with a finish colour of Red (Munsell 6.9R 4.4/13.6) or AS2700 R13 Signal Red.

Other paint systems and colours are available upon request including chemical /marine duty two pack epoxy / polyurethane paint systems.

Permissible variations: please refer to TECO.

How TECO MAX-Ex Stands Out in the Market

Industry-Leading Compliance for Hazardous Zones

Every TECO MAX-Ex Flameproof Electric Motor is fully certified to IECEx and ATEX standards, ensuring compatibility with a wide range of hazardous environments, including gas groups IIC, IIB, IIA, and temperature classifications T4, T3. These certifications not only meet but exceed regulatory requirements, streamlining compliance for operators and reducing the risk of safety violations.

Reliability That Lowers Costs

Built to Withstand the Harshest Conditions, Fewer Breakdowns, Lower Maintenance Costs – Built with heavy-duty cast iron frames, durable coatings, and precision sealing, TECO MAX-Ex Flameproof Electric Motors are designed for longevity. Reduced failure rates mean fewer maintenance shutdowns and a lower total cost of ownership over the motor's lifespan.

Optimised Cooling for Greater Efficiency – Featuring advanced insulation systems, optimised windings, and IC411 cooling, TECO MAX-Ex motors enhances temperature control, reducing the risk of overheating and in turn increasing reliability. This ensures consistent performance even in high-heat environments where traditional designs may struggle.

Designed for Simplicity – TECO's Ex de models eliminate the need for flameproof cable glands, reducing installation complexity and costs. Many solutions still require traditional wiring setups, which can be more labour-intensive.

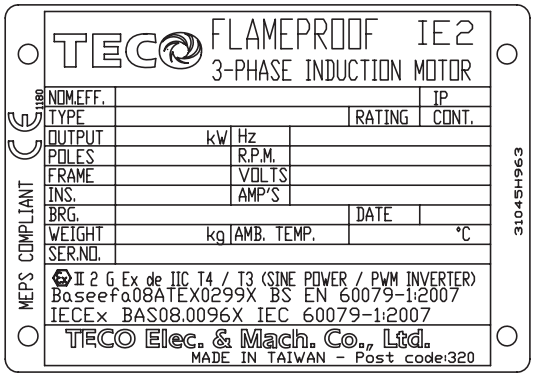
Technical Overview

Features	Details
Ex Protection	Ex d (Flameproof), Ex de (Flameproof + Ex e Terminal Box)
Frame Sizes	D80 to D280M (TEFC, IC411 cooling)
Power Range	Up to 110 kW+ (consult TECO for specifics)
Voltage	4kW & below suitable for 380-415V 3Ph Star Connection
	5.5kW and above suitable for 380 - 415V Delta Connection
Frequency	50Hz (60Hz available upon request)
Ambient	Standard -20 °C to + 50 °C
Duty	S1 (Continuous)
Enclosure Rating	IP55 Standard (optional - up to IP56 Ex de Only)
Temp Class	T4 (T3* for inverter duty)
Insulation	Class F (Vacuum pressure impregnated) with B class Temp. rise
Heaters	Fitted from 37 kW+ (optional below 37 kW)
Thermistor	PTC sensors included in windings for all sizes
Finish	Shot-blasted, Alkyd Resin primer + Gloss Enamel

Type of Protection	Hazardous Zone	Gas Group	Temperature Class	Permissible ambient	IECEx Marking ATEX Marking
Ex d	1 or 2	IIA, IIB	T4 (T3*)	-20°C to +50°C	Ex d IIB T4/T3 (Sine Power/PWM Inverter) II 2 G Ex d IIB T4/T3(Sine Power/PWM Inverter)
Ex de	1 or 2	IIA, IIB, IIC	T4 (T3*)	-20°C to +50°C	Ex de IIC T4/T3 (Sine Power/PWM Inverter) II 2 G Ex de IIC T4/T3(Sine Power/PWM Inverter)

**T3 for inverter supply (PWM inverter)/ Condition of safe use is mandatory connection of thermistor.*

Marking - typical nameplate



For higher frames, special conditions, or specific application needs (including alternative IP ratings or paint systems), please contact TECO.

TYPICAL PERFORMANCE Exd - Exde TYPE AEHBXZ/AEUBXZ

Output kW	Full Load Speed RPM	Frame Size	EFFICIENCY			POWER FACTOR			CURRENT		TORQUE				INERTIA ROTOR J=GD2/4 kg·m2
			FULL LOAD (%)	3/4 LOAD (%)	1/2 LOAD (%)	FULL LOAD (%)	3/4 LOAD (%)	1/2 LOAD (%)	FULL LOAD (A)	LOCKED ROTOR (%)	FULL LOAD Nm	LOCKED ROTOR %FLT	PULL UP %FLT	BREAK DOWN %FLT	
0.75	2860	80	82.0	82.0	79.0	85.0	78.5	65.5	1.49	810	2.49	340	340	380	0.0015
	1420	80	82.5	82.5	80.5	71.0	61.0	47.0	1.77	680	5.01	330	320	330	0.0028
	940	90S	78.0	78.0	75.0	67.5	58.0	46.0	1.97	610	7.57	200	200	250	0.0048
1.1	2820	80 **	83.0	84.5	83.0	84.0	77.5	63.5	2.23	720	3.78	305	275	330	0.0015
	1415	90S	84.0	85.0	84.0	80.0	72.5	60.0	2.32	690	7.54	250	215	270	0.0043
	930	90L	79.9	80.0	78.5	69.5	60.5	47.0	2.80	570	11.5	210	210	255	0.0063
1.5	2855	90S	85.0	85.5	83.0	85.5	80.5	68.0	2.86	800	4.98	330	300	330	0.0028
	1430	90L	85.0	85.0	83.0	75.0	66.5	53.0	3.26	710	9.95	300	240	310	0.0058
	935	100L	81.5	81.5	80.0	71.0	63.0	49.5	3.59	560	15.2	220	190	230	0.0113
2.2	2855	90L	86.0	86.5	85.5	88.0	83.0	72.0	4.11	800	7.47	320	290	330	0.0038
	1440	100L	86.5	86.5	85.0	82.5	76.0	63.5	4.36	760	14.8	290	250	300	0.0103
	955	112M **	85.0	85.5	85.0	70.0	62.5	50.0	5.23	570	22.3	175	170	235	0.0178
3	2855	100L	86.7	87.0	86.0	88.5	85.0	75.5	5.41	890	9.97	360	310	340	0.0058
	1440	100L	87.4	88.0	87.0	82.5	74.5	60.0	5.76	780	19.8	250	180	300	0.0113
	965	132S **	88.5	87.5	86.0	81.0	75.0	63.0	5.79	740	29.5	210	170	300	0.0385
4	2895	112M	87.6	89.0	89.0	90.5	87.5	79.5	7.20	830	13.5	250	245	320	0.0110
	1455	112M	88.3	88.0	87.0	79.5	72.0	59.0	8.13	800	26.9	230	200	345	0.0178
	970	132M **	89.5	89.0	87.0	79.0	72.5	60.0	8.07	740	40.3	210	180	310	0.0513
5.5	2915	132S **	91.5	91.5	90.5	88.0	85.0	78.5	9.67	780	18.3	220	190	280	0.0190
	1460	132S	90.5	90.5	89.0	82.5	76.0	63.5	10.4	820	36.5	270	220	320	0.0333
	960	132M	89.0	89.0	89.0	79.5	73.5	61.5	11.0	640	55.6	185	170	270	0.0513
7.5	2895	132S **	91.0	91.0	90.0	87.0	85.0	78.5	13.1	690	24.6	210	180	260	0.0190
	1455	132M	91.0	91.0	90.0	85.0	80.0	68.5	13.4	820	48.9	270	220	320	0.0433
	970	160M	91.0	91.0	90.0	81.0	75.0	64.0	14.1	670	73.3	240	200	260	0.121
11	2935	160M **	92.5	92.5	92.0	91.5	89.0	84.5	18.4	760	36.4	230	200	280	0.0458
	1460	160M **	92.5	92.5	92.0	87.0	83.5	75.0	19.3	720	73.1	230	180	270	0.0918
	975	160L	91.0	90.5	89.0	79.0	72.5	60.0	21.7	740	109	280	230	280	0.158
15	2935	160M **	92.5	92.0	91.5	91.0	88.0	81.0	24.7	790	48.5	240	210	290	0.0458
	1460	160L **	93.0	93.0	92.5	88.0	84.5	76.5	25.4	730	97.4	230	180	270	0.116
	970	180LC **	91.5	92.0	92.0	84.0	79.5	71.5	27.0	610	147	230	190	250	0.336
18.5	2925	160L **	93.0	93.0	93.0	91.5	89.5	84.0	30.5	800	60.8	260	210	300	0.0593
	1470	180MC **	94.0	94.0	93.5	85.0	81.0	72.5	32.5	750	121	240	180	270	0.187
	975	200LC **	93.0	93.5	93.0	81.0	77.5	68.5	34.4	640	182	230	200	250	0.459
22	2935	180MA **	93.5	93.5	92.5	87.5	84.5	76.0	38.1	790	72.7	250	210	300	0.0755
	1465	180LC **	94.0	94.0	93.5	86.0	82.5	74.0	38.5	700	146	230	180	270	0.213
	975	200LC **	93.0	93.5	93.5	83.0	80.5	72.5	40.3	650	219	215	180	230	0.520
30	2955	200LA **	94.0	94.0	93.0	89.0	87.5	83.5	49.6	690	96.3	175	150	260	0.151
	1470	200LC **	94.5	94.5	94.5	87.0	85.5	78.0	50.5	770	194	230	190	270	0.364
	980	225MC **	94.0	94.0	93.5	85.5	82.0	75.0	51.7	590	290	210	190	230	0.756
37	2950	200LA **	94.5	94.5	93.5	90.0	88.0	84.5	61.0	660	121	155	135	260	0.189
	1475	225SC **	95.0	95.0	94.5	85.0	81.0	73.0	64.3	670	241	200	180	240	0.474
	985	250SC **	94.0	94.5	94.0	87.0	83.5	76.0	63.5	640	361	210	200	250	1.049
45	2955	225MA	94.5	94.5	93.5	92.0	91.0	88.0	71.6	670	144	140	130	230	0.31
	1475	225MC **	95.0	95.0	94.5	85.0	81.0	72.5	77.1	640	289	200	175	250	0.495
	985	250MC **	94.5	95.0	94.5	87.5	85.0	77.5	75.3	700	433	230	200	250	1.28
55	2960	250SA **	95.0	94.5	94.0	89.5	88.0	87.0	91.5	700	180.2	150	130	250	0.387
	1480	250SC **	95.5	95.0	94.5	87.0	84.0	77.0	93.7	700	360.5	230	200	260	0.978
	977	280SC	94.5	94.0	91.8	84.1	80.2	74	97.9	630	546.1	146	121	221	1.85
75	2960	250MA **	95.5	95.5	95.0	91.0	88.0	85.0	119	690	240.3	140	130	250	0.454
	1480	250MC **	95.5	95.5	95.0	87.0	84.0	77.0	125	650	480.6	220	180	240	1.12
	978	280MC	95.0	94.2	92.1	85.7	81.5	74.4	127	670	727.3	141	119	220	2.38
90	2970	280SA	95.2	95.0	92.7	89.8	87.6	85.5	152	670	299.4	133	112	222	0.685
	1480	280SC	95.4	95.1	93.1	87.7	84.2	80.4	155	660	600.8	145	123	223	1.85
110	2970	280MA	95.3	95.1	92.9	90.0	87.8	85.8	182	655	359.3	122	105	216	0.795
	1483	280MC	95.5	95.4	93.2	88.0	85.9	81.0	185	640	719.5	128	108	214	2.08

Notes:
1. All figures are based on tests carried out on 415 Volt 3-Phase Motors
2. Test Method: AS/NZS1359.5 Method B.
3. Tolerances : AS60034-1
4. ** Motors comply to GEMS 2019 Determination High Efficiency requirements
5. dB(A): Mean Sound Pressure Level on no load at one meter.
6. Eight Pole motor data on request.
7. Data subject to change without notice.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 80 - 112 Foot Mount

Totally Enclosed Fan Cooled

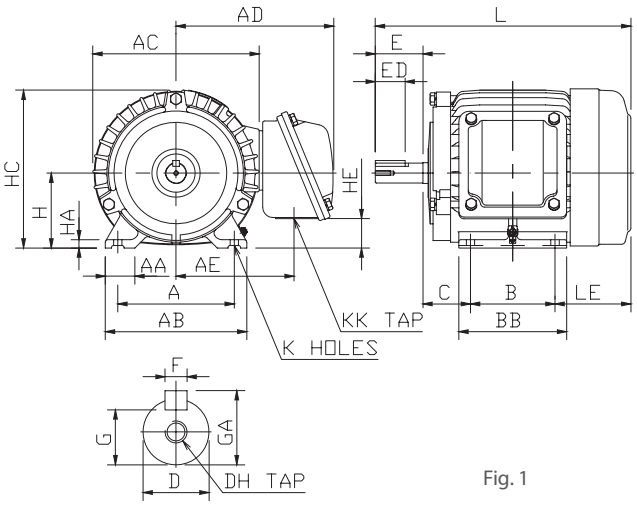


Fig. 1

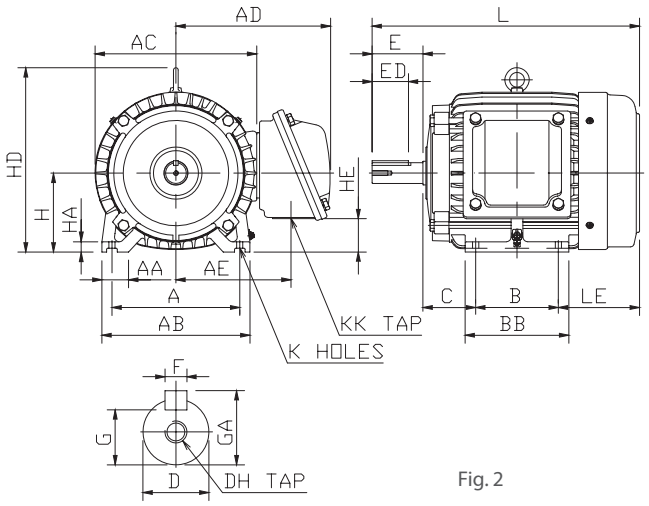


Fig. 2

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)												
2P	4P	6P	8P			A	AA	AB	AC	AD	AE	B	BB	C	H	HA	HC	HD
0.75 1.1	0.55 0.75	0.37 0.55	0.18	80	1	125	35.5	155	180	204	146.0	100	130	50	80	9.0	169	-
1.5	1.1	0.75	0.37	90S		140	35.5	170	204	217	159.0	100	130	56	90	10.0	190	-
2.2	1.5	1.1	0.55	90L		140	35.5	170	204	217	159.0	125	150	56	90	10.0	190	-
3	2.2 3	1.5	0.75 1.1	100L	2	160	45.0	195	223	226	168.5	140	175	63	100	12.5	-	243
4	4	2.2	1.5	112M		190	45.0	224	242	236	178.0	140	175	70	112	14.0	-	265

FRAME SIZE	HE	K	KK#	L	LE	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
						D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
80	26.5	10	M20X1.5	282.0	92.0	19	40	25	6	15.5	21.5	M6x12	620422C3	6204ZZC3	23
90S	36.5	10	M20X1.5	309.0	103.0	24	50	32	8	20.0	27.0	M8×16	6205ZZC3	6205ZZC3	33
90L	36.5	10	M20X1.5	337.5	106.5	24	50	32	8	20.0	27.0	M8×16	6205ZZC3	6205ZZC3	35
100L	46.5	12	M20X1.5	374.5	111.5	28	60	40	8	24.0	31.0	M10×20	6206ZZC3	6305ZZC3	45
112M	58.5	12	M20X1.5	391.0	121.0	28	60	40	8	24.0	31.0	M10×20	6306ZZC3	6306ZZC3	56

Notes:
1. Tolerance of shaft end diameter D:Ø19 ~ Ø28:j6.
2. Tolerance of shaft center height H:+0 , -0.5.
3. Lifting lugs not provided on frames D90 and smaller.
4. # Auxiliary entries refer page 9.
5. Data subject to change without notice and should not be used for installation purposes.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 132 - 180 Foot Mount

Totally Enclosed Fan Cooled

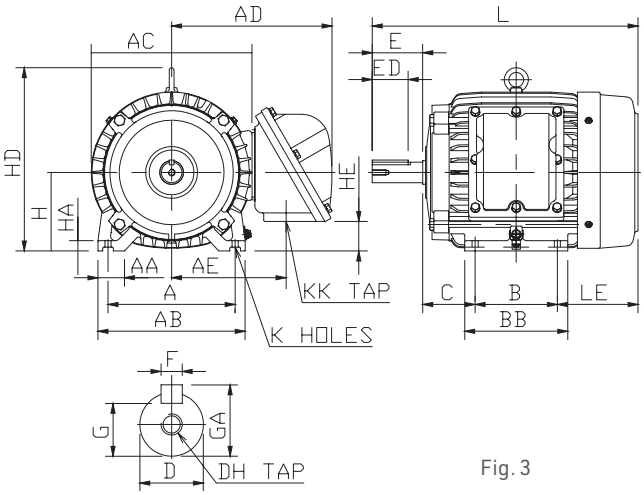


Fig. 3

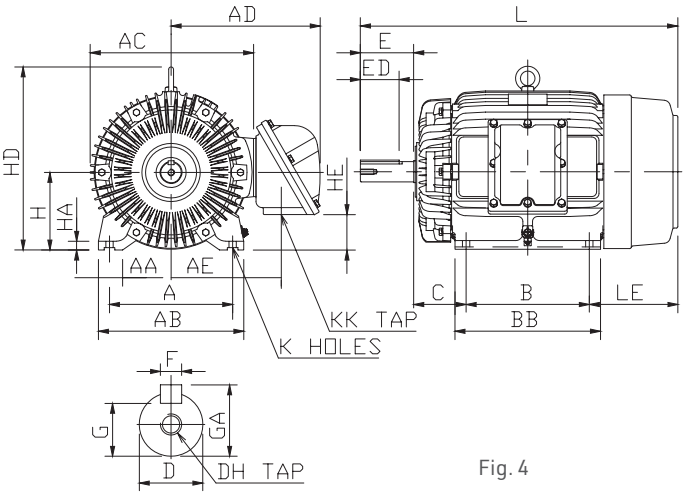


Fig. 4

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)												
2P	4P	6P	8P			A	AA	AB	AC	AD	AE	B	BB	C	H	HA	HD	HE
5.5 7.5	5.5	3	2.2	132S	3	216	45	250	277	287	202.5	140	175	89	132	16	310	48
-	7.5	4 5.5	3	132M		216	45	250	277	287	202.5	178	212	89	132	16	310	48
11 15	11	7.5	4 5.5	160M	4	254	50	300	342	322	237	210	250	108	160	18	378	73
18.5	15	11	7.5	160L		254	50	300	342	322	237	254	300	108	160	18	378	73
22	-	-	-	180MA		279	75	355	391	347	262	241	297	121	180	20	431	93
-	18.5	-	-	180MC		279	75	355	391	347	262	241	297	121	180	20	431	93
-	22	15	11	180LC		279	75	355	391	347	262	279	335	121	180	20	431	93

FRAME SIZE	K	KK #	L	LE	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
					D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
132S	12.0	M32X1.5	454	145	38	80	64	10	33.0	41.0	M12X24	6308ZZC3	6306ZZC3	99
132M	12.0	M32X1.5	492	145	38	80	64	10	33.0	41.0	M12×24	6308ZZC3	6306ZZC3	104
160M	14.5	M32X1.5	608	180	42	110	80	12	37.0	45.0	M16×32	6309ZZC3	6307ZZC3	160
160L	14.5	M32X1.5	652	180	42	110	80	12	37.0	45.0	M16×32	6309ZZC3	6307ZZC3	182
180MA	14.5	M32X1.5	672	200	48	110	80	14	42.5	51.5	M16×32	6311ZZC3	6310ZZC3	193
180MC	14.5	M32X1.5	672	200	48	110	80	14	42.5	51.5	M16×32	6311ZZC3	6310ZZC3	194
180LC	14.5	M32X1.5	710	200	48	110	80	14	42.5	51.5	M16×32	6311ZZC3	6310ZZC3	208

Notes:
1. Tolerance of shaft end diameter D:Ø19 ~ Ø28:j6.
2. Tolerance of shaft center height H:+0 , -0.5.
3. # Auxiliary entries refer page 9.
4. Data subject to change without notice and should not be used for installation purposes.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 200 - 280 Foot Mount

Totally Enclosed Fan Cooled

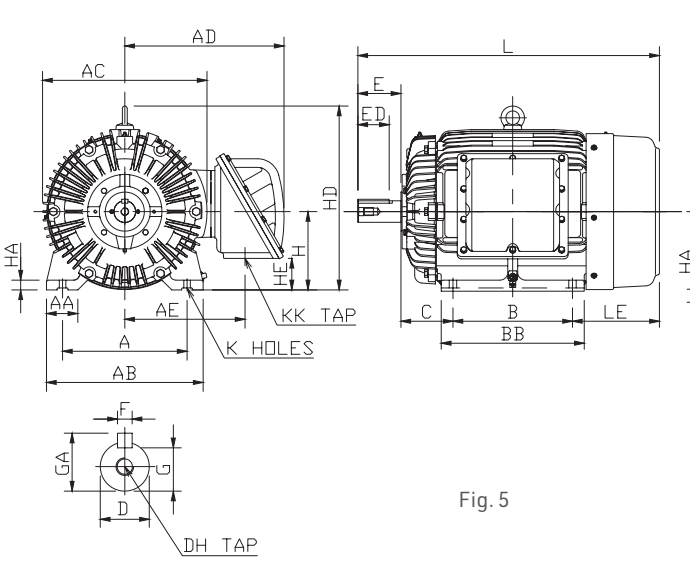


Fig. 5

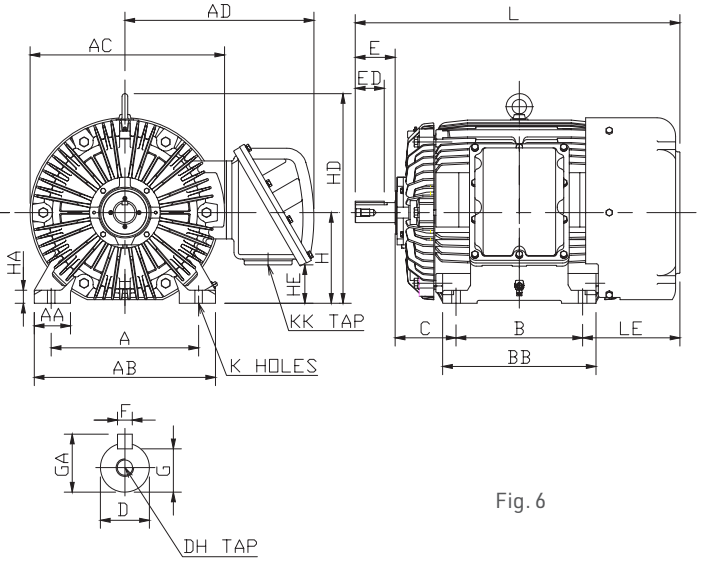


Fig. 6

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)												
2P	4P	6P	8P			A	AA	AB	AC	AD	AE	B	BB	C	H	HA	HD	HE
30 37	-	-	-	200LA	5	318	80	400	420	407	307	305	365	133	200	25	470	81
-	30	18.5 22	15	200LC		318	80	400	420	407	307	305	365	133	200	25	470	81
-	37	-	18.5	225SC		356	90	450	458	427	327	286	375	149	225	30	525	116
45	-	-	-	225MA		356	90	450	458	427	327	311	375	149	225	30	525	116
-	45	30	22	225MC		356	90	450	458	427	327	311	375	149	225	30	525	116
55	-	-	-	250SA	6	406	100	500	530	521	395	311	385	168	250	36	598	106
-	55	37	30	250SC		406	100	500	530	521	395	311	385	168	250	36	598	106
75	-	-	-	250MA		406	100	500	530	521	395	349	425	168	250	36	598	106
-	75	45	37	250MC		406	100	500	530	521	395	349	425	168	250	36	598	106
90	-	-	-	280SA		457	110	560	592	554	425	368	445	190	280	40	655	131
-	90	55	45	280SC		457	110	560	592	554	425	368	445	190	280	40	655	131
110	-	-	-	280MA		457	110	560	592	554	425	419	495	190	280	40	655	131
-	110	75	55	280MC		457	110	560	592	554	425	419	495	190	280	40	655	131

FRAME SIZE	K	KK#	L	LE	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
					D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
200LA	18.5	M50X1.5	770.0	222.0	55	110	80	16	49.0	59.0	M20×40	6312C3	6212C3	347
200LC	18.5	M50X1.5	770.0	222.0	55	110	80	16	49.0	59.0	M20×40	6312C3	6212C3	347
225SC	18.5	M50X1.5	816.0	241.0	60	140	110	18	53.0	64.0	M20×40	6313C3	6213C3	419
225MA	18.5	M50X1.5	811.0	241.0	55	110	80	16	49.0	59.0	M20×40	6312C3	6212C3	439
225MC	18.5	M50X1.5	841.0	241.0	60	140	110	18	53.0	64.0	M20×40	6313C3	6213C3	445
250SA	24.0	M63X1.5	857.5	268.5	60	140	110	18	53.0	59.0	M20×40	6313C3	6313C3	541
250SC	24.0	M63X1.5	887.5	268.5	70	140	110	18	67.5	79.5	M20×40	6317C3	6313C3	571
250MA	24.0	M63X1.5	895.5	268.5	60	140	110	18	53.0	64.0	M20×40	6313C3	6313C3	601
250MC	24.0	M63X1.5	925.5	268.5	70	140	110	20	67.5	79.5	M20×40	6317C3	6313C3	631
280SA	24.0	M63X1.5	992.0	294.0	65	140	110	18	53.0	64.0	M20×40	6313C3	6313C3	722
280SC	24.0	M63X1.5	1022.0	294.0	80	170	140	22	76.0	90.0	M20×40	NU318C3	6318C3	822
280MA	24.0	M63X1.5	1042.0	293.0	65	140	110	18	53.0	64.0	M20×40	6313C3	6313C3	812
280MC	24.0	M63X1.5	1072.0	293.0	80	170	140	22	76.0	90.0	M20×40	NU318C3	6318C3	837

Notes:
1. Tolerance of shaft end diameter D:Ø55 ~ Ø85:m6.
2. Tolerance of shaft center height H:200~250 : +0 , -0.5 ; 280 : +0, -1.
3. # Auxiliary entries refer page 9
4. Data subject to change without notice and should not be used for installation purposes.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 80 - 112 Flange Mount

Totally Enclosed Fan Cooled

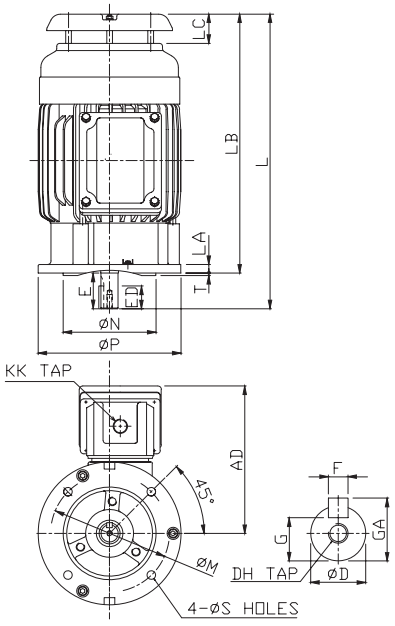


Fig. 1

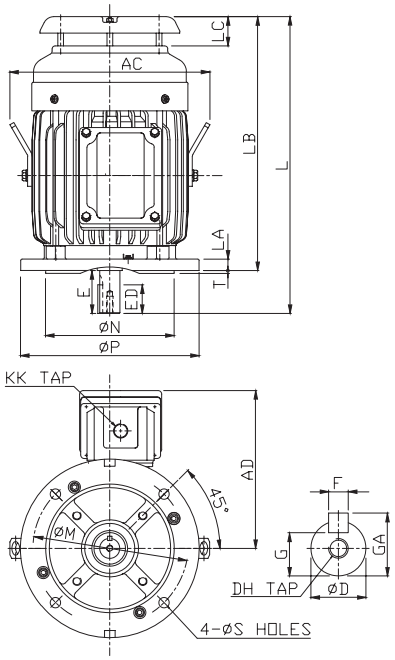


Fig. 2

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)									
2P	4P	6P	8P			AC	AD	L	LA	LB	LC	M	N	P	S
0.75 1.1	0.55 0.75	0.37 0.55	0.18	80	1	-	204	335.5	12	295.5	41	165	130	200	12
1.5	1.1	0.75	0.37	90S		-	217	387.5	12	337.5	41	165	130	200	12
2.2	1.5	1.1	0.55	90L		-	217	412.5	12	362.5	41	165	130	200	12
3	2.2 3	1.5	0.75 1.1	100L	2	280	226	415.5	16	355.5	41	215	180	250	14.5
4	4	2.2	1.5	112M		300	236	479.0	16	419.0	48	215	180	250	14.5

FRAME SIZE	T	KK#	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
			D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
80	3.5	M20X1.5	19	40	25	6	15.5	21.5	M6×12	6204ZZC3	6204ZZC3	24
90S	3.5	M20X1.5	24	50	32	8	20.0	27.0	M8×16	6205ZZC3	6205ZZC3	35
90L	3.5	M20X1.5	24	50	32	8	20.0	27.0	M8×16	6205ZZC3	6205ZZC3	38
100L	4.0	M20X1.5	28	60	40	8	24.0	31.0	M10×20	6206ZZC3	6305ZZC3	49
112M	4.0	M20X1.5	28	60	40	8	24.0	31.0	M10×20	6306ZZC3	6306ZZC3	60

Notes:
1. Tolerance of Shaft End Diameter D:Ø19 ~ Ø28:j6.
2. Tolerance of N : h7.
3. Lifting lugs not provided on frames D90 and smaller.
4. # Auxiliary entries refer page 9.
5. Data subject to change without notice and should not be used for installation purposes.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 132 - 180 Flange Mount

Totally Enclosed Fan Cooled

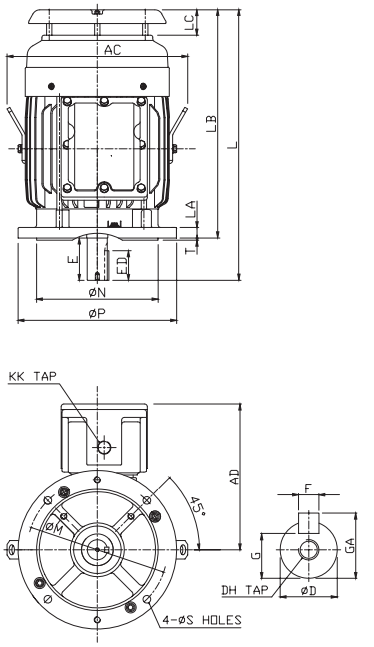


Fig. 3

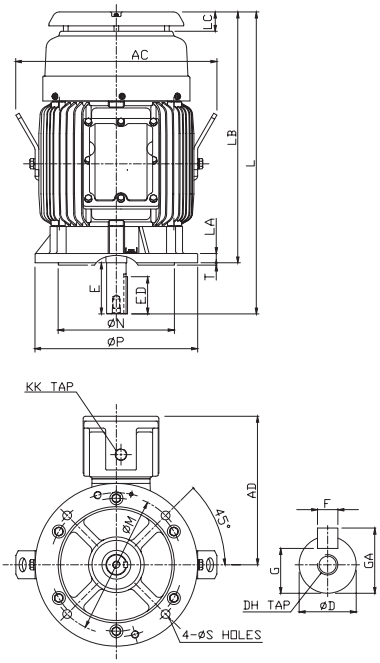


Fig. 4

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)									
2P	4P	6P	8P			AC	AD	L	LA	LB	LC	M	N	P	S
5.5 7.5	5.5	3	2.2	132S	3	342	287	512	20	432	48	265	230	300	14.5
-	7.5	4 5.5	3	132M		342	287	550	20	470	48	265	230	300	14.5
11 15	11	7.5	4 5.5	160M	4	432	322	650	20	540	42	300	250	350	18.5
18.5	15	11	7.5	160L		432	322	694	20	584	42	300	250	350	18.5
22	-	-	-	180MA		482	347	722	20	612	50	300	250	350	18.5
-	18.5	-	-	180MC		482	347	722	20	612	50	300	250	350	18.5
-	22	15	11	180LC		482	347	760	20	650	50	300	250	350	18.5

FRAME SIZE	T	KK#	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
			D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
132S	4	M32X1.5	38	80	64	10	33.0	41.0	M12X24	6308ZZC3	6306ZZC3	99
132M	4	M32X1.5	38	80	64	10	33.0	41.0	M12X24	6308ZZC3	6306ZZC3	112
160M	5	M32X1.5	42	110	80	12	37.0	45.0	M16×32	6309ZZC3	6307ZZC3	170
160L	5	M32X1.5	42	110	80	12	37.0	45.0	M16×32	6309ZZC3	6307ZZC3	195
180MA	5	M32X1.5	48	110	80	14	42.5	51.5	M16×32	6311ZZC3	6310ZZC3	200
180MC	5	M32X1.5	48	110	80	14	42.5	51.5	M16×32	6311ZZC3	6310ZZC3	253
180LC	5	M32X1.5	48	110	80	14	42.5	51.5	M16×32	6311ZZC3	6310ZZC3	281

Notes:
1. Tolerance of Shaft End Diameter D:Ø38~Ø48:k6.
2. Tolerance of N : h7.
3. # Auxiliary entries refer page 9.
4. Data subject to change without notice and should not be used for installation purposes.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 200 - 225 Flange Mount

Totally Enclosed Fan Cooled

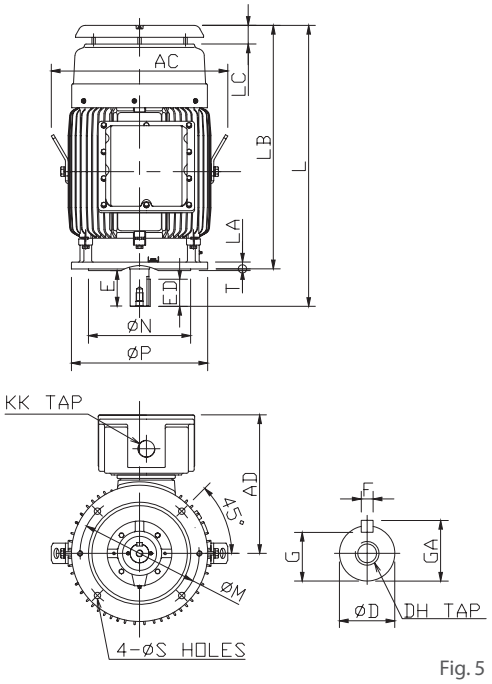


Fig. 5

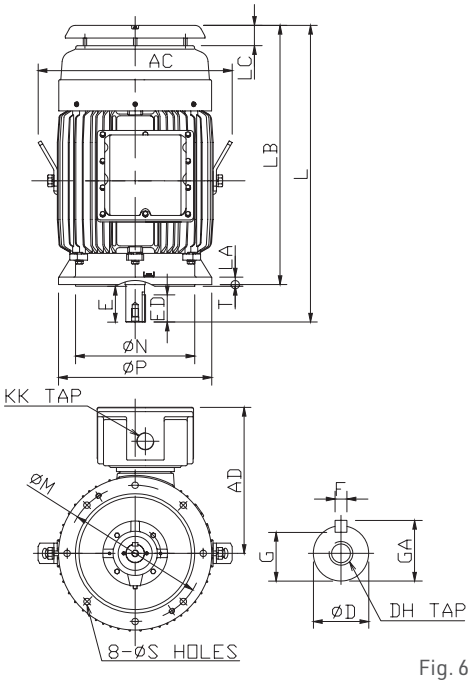


Fig. 6

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)									
2P	4P	6P	8P			AC	AD	L	LA	LB	LC	M	N	P	S
30 37	-	-	-	200LA	5	518	407	825	20	715.0	55	350	300	400	18.5
-	30	18.5 22	15	200LC		518	407	825	20	715.0	55	350	300	400	18.5
-	37	-	18.5	225SC	6	570	427	876	22	736.0	60	400	350	450	18.5
45	-	-	-	225MA		570	427	871	22	761.0	60	400	350	450	18.5
-	45	30	22	225MC		570	427	901	22	761.0	60	400	350	450	18.5

FRAME SIZE	T	KK #	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
			D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
200LA	5	M50X1.5	55	110	80	16	49	59	M20×40	6312C3	6212C3	377
200LC	5	M50X1.5	55	110	80	16	49	59	M20×40	6312C3	6212C3	383
225SC	5	M50X1.5	60	140	110	18	53	64	M20×40	6313C3	6213C3	436
225MA	5	M50X1.5	55	110	80	16	49	59	M20×40	6312C3	6212C3	457
225MC	5	M50X1.5	60	140	110	18	53	64	M20×40	6313C3	6213C3	467

Notes:
1. Tolerance of Shaft End Diameter D:Ø55 ~ Ø60:m6.
2. Tolerance of N : h7.
3. # Auxiliary entries refer page 9.
4. Data subject to change without notice and should not be used for installation purposes.

TECO Exd - Exde Cast Iron TEFC 3-Phase Squirrel Cage Induction Motors

Frame 250 - 280 Flange Mount

Totally Enclosed Fan Cooled

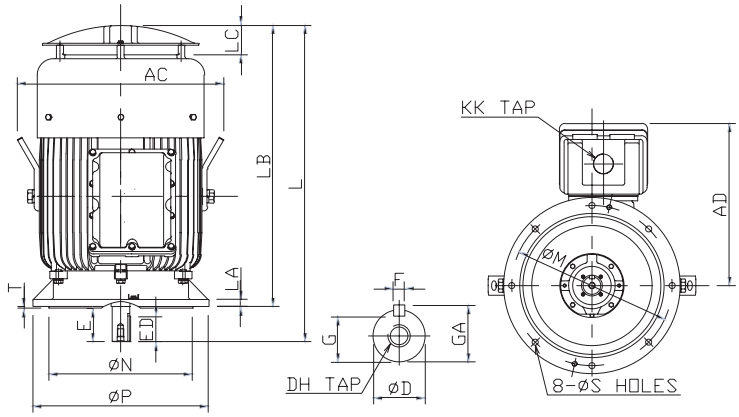


Fig. 7

Output (kW)				Frame Size	Fig. No.	Dimensions (mm)									
2P	4P	6P	8P			AC	AD	L	LA	LB	LC	M	N	P	S
55	-	-	-	250SA	7	626	507	949.0	22	839.0	91.5	500	450	550	18.5
-	55	37	30	250SC		626	507	979.0	22	839.0	91.5	500	450	550	18.5
75	-	-	-	250MA		626	507	987.0	22	877.0	91.5	500	450	550	18.5
-	75	45	37	250MC		626	507	1017.0	22	877.0	91.5	500	450	550	18.5
90	-	-	-	280SA		655	539	1083.5	22	943.5	91.5	500	450	550	18.5
-	90	55	45	280SC		655	539	1113.5	22	943.5	91.5	500	450	550	18.5
110	-	-	-	280MA		655	539	1133.5	22	993.5	91.5	500	450	550	18.5
-	110	75	55	280MC		655	539	1163.5	22	993.5	91.5	500	450	550	18.5

FRAME SIZE	T	KK#	SHAFT EXTENSION							BEARING		APPROX. WEIGHT KGS
			D	E	ED	F	G	GA	DH	DRIVE END	OPPOSITE DRIVE END	
250SA	5	M63X1.5	55	110	80	16	49.0	59.0	M20×40	6313C3	6313C3	595
250SC	5	M63X1.5	75	140	110	20	67.5	79.5	M20×40	6317C3	6313C3	609
250MA	5	M63X1.5	55	110	80	16	49.0	59.0	M20×40	6313C3	6313C3	662
250MC	5	M63X1.5	75	140	110	20	67.5	79.5	M20×40	6317C3	6313C3	704
280SA	5	M63X1.5	60	140	110	18	53.0	64.0	M20×40	6313C3	6313C3	748
280SC	5	M63X1.5	85	170	140	22	76.0	90.0	M20×40	NU318C3	6318C3	849
280MA	5	M63X1.5	60	140	110	18	53.0	64.0	M20×40	6313C3	6313C3	821
280MC	5	M63X1.5	85	170	140	22	76.0	90.0	M20×40	NU318C3	6318C3	951

Notes:
1. Tolerance of Shaft End Diameter D:Ø55~Ø85:m6.
2. Tolerance of N:h7.
3. #Auxiliary entries refer page 9.
4. Data subject to change without notice and should not be used for installation purposes.

TECO

together, we empower the Future

MAX-Ex Flameproof Squirrel Cage Induction Motors

PRODUCT CATALOGUE MARCH 2025

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