Smart solutions.
Strong relationships.

Energy Efficient AC Motors

IE3 Efficiency Class

Apex Series

a green solution ....

Crompton Greaves (CG) is part of the US$ 4 bn Avantha Group, a conglomerate with an impressive global footprint. Since its inception CG has been synonymous with electricity.

The company has retained its leadership position in the management and application of electrical energy.

Today, Crompton Greaves is of the largest private sector enterprise. It has diversified extensively and is engaged in designing, manufacturing and marketing technologically advanced electrical products and services related to power generation, transmission and distribution, besides executing turnkey projects. The company is customer-centric in its focus and is the single largest source for a wide variety of electrical equipments and products.

CG employs more than 10000 people in 21 countries. With several international acquisitions, Crompton Greaves is fast emerging as a first choice global supplier for high quality equipment through its three business groups viz;

Power Systems: *Transformer, Switchgear, Power Quality, Engineering Projects.*

Industrial Systems: *Motors, Alternators, Drives, Railway Signaling, Stampings.*

Consumer Products: *Fans, Appliances, Lighting, Integrated Security Solutions & Home Automation, Pumps.*

AVANTHA
GROUP COMPANY

Crompton Greaves Ltd

As one of the world's leading engineering corporations, CG provides end-to-end solutions, helping its customers to use electrical power effectively and to increase industrial productivity with sustainability.

CG is leading manufacturer of electric motors, with motor solutions, which benefits a wide range of customers. Our products are used in almost every industrial application including general manufacturing, petrochemicals, food processing, pharmaceuticals where they drive fans, pumps, compressors, conveyors, lifts and cranes, amongst other things.

Our core competencies lie in our design facility conforming to the international quality standards. We make continuous effort, to bring out the latest, most advanced product into marketplace.

We continuously add many new services, features and introduce new solutions so as to ensure complete customer satisfaction.

Apex Series

Apex IE3 series is an efficient solution by CG to save energy, as growing cost of energy calls for power savings at each possible step of manufacturing. Electric motor driven systems used in industrial process consume about 70% of electricity.

These motors are complying with new efficiency requirements of IEC60034-30:2008 IS12615:2011 standard.

Apex IE3 aluminum motor range covers ac squirrel cage induction motors with output from 0.75kW to 7.50 kW in frame sizes PA80 TO PA132M. Apex IE3 series cast iron range covers ac squirrel cage induction motor with output from 0.75 kW to 22 kW in frame PC80 to PC180L . They are being used in various range of application from food processing to chemical, from cement to steel & heating to refrigeration.

Quality Assurance

Stringent quality procedures are observed from first design to finished product in accordance with ISO9001 documented quality systems. All of our factories have been assessed to meet these requirements, a further assurance that only the highest possible standards of quality are accepted.

Multi Mount

(Aluminum motor range upto 7.5 kW) - By simply changing the position of feet, user is able to convert right, left or top terminal box position and by changing the standard end shield user can change it for flange or face version.

Benefits of APEX Series Motor

- High efficient at low running cost
- Low vibration and noise
- High torque with smooth acceleration
- Suitable for VFD application
- Paint Shade: RAL6018

IEC 60034-30:2008/IS12615:2011

International Electro technical Commission (IEC) standard IEC 60034-30:2008 & IS12615:2011 defines energy efficiency (IE code) classes for single speed, three-phase, 50 and 60 Hz induction motors.

The efficiency levels defined in above mentioned standard are based on test methods specified in IEC 60034-2-1:2007.

The standard defines three International energy efficiency (IE) classes.

- IE1 = Standard efficiency (EFF2 in the former European classification scheme)
- IE2 = High efficiency (EFF1 in the former European classification scheme and equivalent to EPAct in USA for 60 Hz)
- IE3 = Premium efficiency (equivalent to NEMA Premium in USA for 60 Hz)

The standard covers almost all motors (for example standard, marine, brake motors, geared motor)

- Single speed, three-phase, 50Hz and 60Hz.
- 2, 4 or 6 poles.
- Rated output from 0.75 to 375kW.
- Rated voltage up to 1000V.
- Duty type S1 (continuous duty) or S3 (intermittent periodic duty) with a rated cyclic duration factor of 80 percent or higher
- Capable of operating direct online.

The following motors are excluded from the standard:

- Motors made solely for converter operation.
- Motors completely integrated into a machine (for example, pump, fan or compressor) that cannot be tested separately from the machine.
- Motors rated for duty cycles S4 and above except if an equivalent S1 duty is specified by the driven equi pment manufacturer.

Additional Specifications of IS 12615-2011

The motors are capable of delivering rated output with,
a) Terminal voltage differing from its rated value by not more than 10% or
b) Frequency differing from its rated value by not more than 5% or
c) The sum of absolute percent variations of (a) & (b) not exceeding 10%

The fixing dimensions and shaft extensions of motors are conforming to the values specified in IS 1231 and IS 2223.

The relationshi p between output,in kW and frame number are according to IS 1231.

Apart from efficiency, Indian Standard defines following performance parameters for IE3 motors

1) Full load Speed
2) Full load Current
3) Breakaway Torque
4) Breakaway Current

IEC 60034-2-1:2007 / IS 15999 (Part 3 / sec 1) Specification

The standards introduce new rules concerning the testing methods to be used for determining losses and efficiency. It offers two ways of determining efficiency; the direct and indirect methods. The standard specifies the following parameters for determining efficiency using the indirect method:
1) Reference temperature
2) Four options for determining PLL (additional load losses):
   a) Measurement - PLL calculated from load tests.
   b) Estimation - PLL at assigned value 2.5% -1.0% of input power at rated load between 0.1 kW and 1000 kW.
   c) Mathematical calculation - Eh star -alternative indirect method with mathematical calculation of PLL.
   d) PLL from removed rotor and reverse rotation test. Winding losses in stator and rotor are determined at (25C + actual temperature rise measured).

The resulting efficiency values differ from those obtained under the previous IEC testing standard, IEC 60034-2:1996.

"It must be noted that efficiency values are only comparable if they are measured using the same method."

Reference Standard

Standards	Description
IEC 60034-1-2010	Rotating electrical machines - Rating & Performance
IEC 60034-30:2008	Rotating electrical machines - IE Code for Efficiency Classes
IEC 60034-2-1:2007	Rotating electrical machines - Determination of Losses & Eff.
IEC 60034-5:2006	Rotating electrical machines - Degrees of protection
IEC 60034-9:2007	Rotating electrical machines - Noise Limits
IEC 60034-14:2007	Rotating electrical machines - Vibration Limits
IEC 60072-1:1991	Rotating electrical machines - Dimensions
IS 1231:1974	Rotating electrical machines - Dimensions foot mounted
IS 2223-1983	Rotating electrical machines - Dimensions flange mounted

Apex Series IE3 Motors (Aluminium / Cast Iron Frames)

Range	
Output	0.75 kW to 22 kW
Frames	PA 80 to PA 132M
	PC 80 to PC 180L
Poles	2, 4, 6

Specification		
	Standard Product	Option
Frame sizes	80 to 160	-
Enclosure	IP55	IP66
Mounting option	Foot (B3)	Flange (B5), Face (B14)
Terminal box position	Top	Right hand side (RHS), Left hand side (LHS)
Voltage	3 kW and below: 400人 4 KW and above: 400Δ	380人 380 Δ Others on request
Frequency	50 Hz	60 Hz
Cooling	IC411	IC410
Lubrication	Frame 80 to 180 double-shield bearings	-
Insulation	Class F	Class H
Temperature rise	Class B	Class F
Fan cover	Steel	
Thermal protection	-	80 to 180 frames
Anti condensation		
heaters	-	160 to 180 frames
Inverter Duty (with	Variable Torque - 10:1,	
derate)	Constant Torque - 2:1	Alternative speed range
Ambient temperature	- 20°C to + 50°C	Higher than 50°C
Altitude	≤ 1000m	Higher than 1000 m

The above specification and options give a brief summary of features available for the Apex aluminium range.

For a full listing of optional features, please contact CG sales.

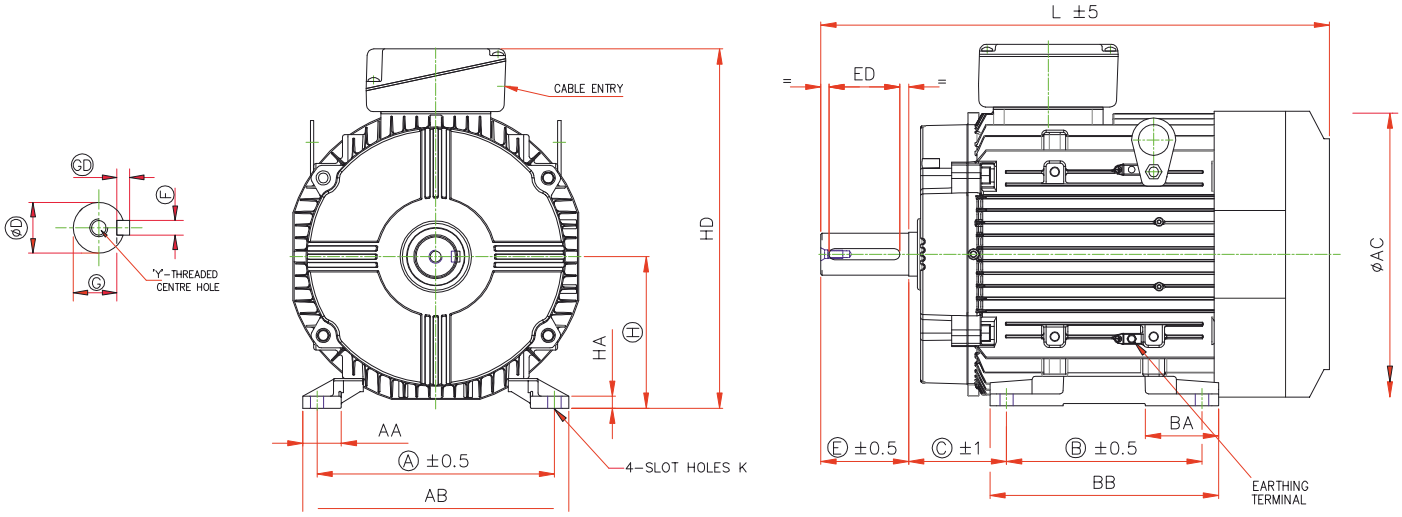
PERFORMANCE DATA FOR ALUMINIUM & CAST IRON MOTORS AS PER IE3 EFFICIENCY (IEC60034-30) (80-132 FRAME)

KW	HP	POLE	FRAME	FL AMPS		FL	FLT	EFFICIENCY			POWER FACTOR			STT %FLT	SCC %FLA	POT %FLT	GD2 KGM2
				230	400	RPM	kg-m	FL	3/4L	1/2L	FL	3/4L	1/2L				
2 POLE: 3000 rpm																	
0.75	1.00	2	80M	2.7	1.5	2795	0.261	80.7	80.7	80.3	0.88	0.84	0.75	200	650	250	0.004
1.10	1.50	2	80M	3.9	2.2	2845	0.376	82.7	82.7	82.0	0.86	0.82	0.72	225	700	275	0.005
1.50	2.00	2	90L	5.2	3.0	2860	0.511	84.2	84.2	83.5	0.86	0.80	0.70	250	650	300	0.006
2.20	3.00	2	90L	7.6	4.3	2850	0.751	85.9	85.9	85.5	0.85	0.80	0.70	275	700	325	0.008
3.00	4.00	2	100L	9.7	5.6	2890	1.01	87.1	87.1	87.1	0.89	0.85	0.76	350	800	375	0.027
3.70	5.00	2	100L	11.8	6.8	2870	1.255	87.8	88.1	88.1	0.90	0.87	0.80	250	700	300	0.032
4.00	5.50	2	112M	12.7	7.3	2870	1.36	88.1	88.1	88.1	0.90	0.88	0.82	275	750	350	0.041
5.50	7.50	2	132S	17.6	10.1	2880	1.86	89.2	89.2	89.2	0.88	0.84	0.78	150	650	200	0.093
7.50	10.00	2	132M	23.7	13.7	2915	2.50	90.1	90.1	90.1	0.88	0.86	0.80	250	750	300	0.111
4 POLE: 1500 rpm																	
0.75	1.00	4	80M	3.1	1.8	1420	0.514	82.5	82.5	81.5	0.73	0.68	0.55	225	650	275	0.014
1.10	1.50	4	90L	4.2	2.4	1420	0.754	84.1	84.0	82.4	0.78	0.71	0.58	200	600	250	0.015
1.50	2.00	4	90L	6.3	3.6	1430	1.02	85.3	85.3	85.0	0.70	0.60	0.50	300	750	350	0.019
2.20	3.00	4	100L	8.5	4.9	1445	1.48	86.7	86.7	86.0	0.75	0.70	0.60	225	650	275	0.053
3.00	4.00	4	100L	11.9	6.9	1465	1.99	87.7	87.5	85.0	0.72	0.64	0.50	250	800	300	0.069
3.70	5.00	4	112M	13.5	7.7	1455	2.48	88.4	88.4	88.2	0.78	0.75	0.65	225	750	275	0.086
4.00	5.50	4	112M	14.2	8.1	1450	2.69	88.6	88.6	88.5	0.80	0.75	0.65	225	750	275	0.086
5.50	7.50	4	132S	19.0	10.9	1460	3.67	89.6	89.6	89.6	0.81	0.76	0.66	250	650	300	0.200
7.50	10.00	4	132M	26.7	15.4	1460	5.00	90.4	90.4	90.0	0.78	0.74	0.62	250	800	300	0.225
6 POLE: 1000 rpm																	
0.75	1.00	6	90S	3.7	2.1	950	0.769	78.9	78.9	78.8	0.65	0.58	0.45	180	500	225	0.019
1.10	1.50	6	90L	5.0	2.9	935	1.145	81.0	80.2	78.4	0.68	0.58	0.45	200	600	250	0.025
1.50	2.00	6	100L	7.6	4.4	935	1.562	82.5	81.5	80.4	0.60	0.55	0.50	200	650	250	0.052
2.20	3.00	6	112M	9.4	5.4	950	2.254	84.3	84.3	84.0	0.70	0.65	0.50	150	700	200	0.095
3.00	4.00	6	132S	11.3	6.5	950	3.074	85.6	85.6	83.5	0.78	0.72	0.65	150	700	200	0.258
3.70	5.00	6	132S	16.5	9.5	965	3.733	86.5	86.5	86.0	0.65	0.60	0.50	200	700	250	0.258
4.00	5.50	6	132M	15.8	9.1	965	4.035	86.8	86.8	85.0	0.73	0.66	0.54	150	600	200	0.258
5.50	7.50	6	132M	21.2	12.2	950	5.636	88.0	88.0	86.5	0.74	0.66	0.54	150	600	200	0.290

PERFORMANCE DATA FOR CAST IRON MOTORS AS PER IE3 EFFICIENCY (IEC60034-30) (160-180 FRAME)

KW	HP	POLE	FRAME	FL AMPS		FL	FLT	EFFICIENCY			POWER FACTOR			STT %FLT	SCC %FLA	POT %FLT	GD2 KGM2
				230	400	RPM	kg-m	FL	3/4L	1/2L	FL	3/4L	1/2L				
2 POLE: 3000 rpm																	
11.00	15.00	2	PC160M	34.0	19.6	2920	3.667	91.2	91.2	91.0	0.89	0.85	0.82	250	700	300	0.195
15.00	20.00	2	PC160M	45.5	26.2	2935	4.975	91.9	91.9	91.9	0.90	0.86	0.81	250	700	300	0.234
18.50	25.00	2	PC160L	55.8	32.1	2930	6.147	92.4	92.4	92.4	0.90	0.86	0.82	250	700	300	0.279
22.00	30.00	2	PC180M	70.1	40.3	2940	7.285	92.7	92.7	91.5	0.85	0.82	0.74	175	700	225	0.437
4 POLE: 1500 rpm																	
11.00	15.00	4	PC160M	36.0	20.7	1470	7.285	91.4	91.4	91.0	0.84	0.80	0.72	200	600	250	0.469
15.00	20.00	4	PC160L	48.7	28.0	1470	9.934	92.1	92.1	91.0	0.84	0.80	0.70	200	600	250	0.593
18.50	25.00	4	PC180M	59.0	33.9	1470	12.25	92.6	92.6	92.0	0.85	0.82	0.76	180	700	225	0.713
22.00	30.00	4	PC180L	69.0	39.7	1470	14.57	93.0	93.0	92.4	0.86	0.83	0.76	180	650	225	0.851
6 POLE: 1000 rpm																	
7.50	10.00	6	PC160M	27.4	15.8	970	7.527	89.1	89.1	89.1	0.77	0.70	0.60	180	500	225	0.429
11.00	15.00	6	PC160L	38.2	22.0	975	10.983	90.3	90.3	90.0	0.80	0.73	0.61	180	600	225	0.636
15.00	20.00	6	PC180L	50.3	29.0	970	15.054	91.2	91.2	91.0	0.82	0.77	0.67	200	650	250	1.257

TEFC, 3 PHASE FOOT MOUNTED TB ON TOP ALUMINIUM INDUCTION MOTORS

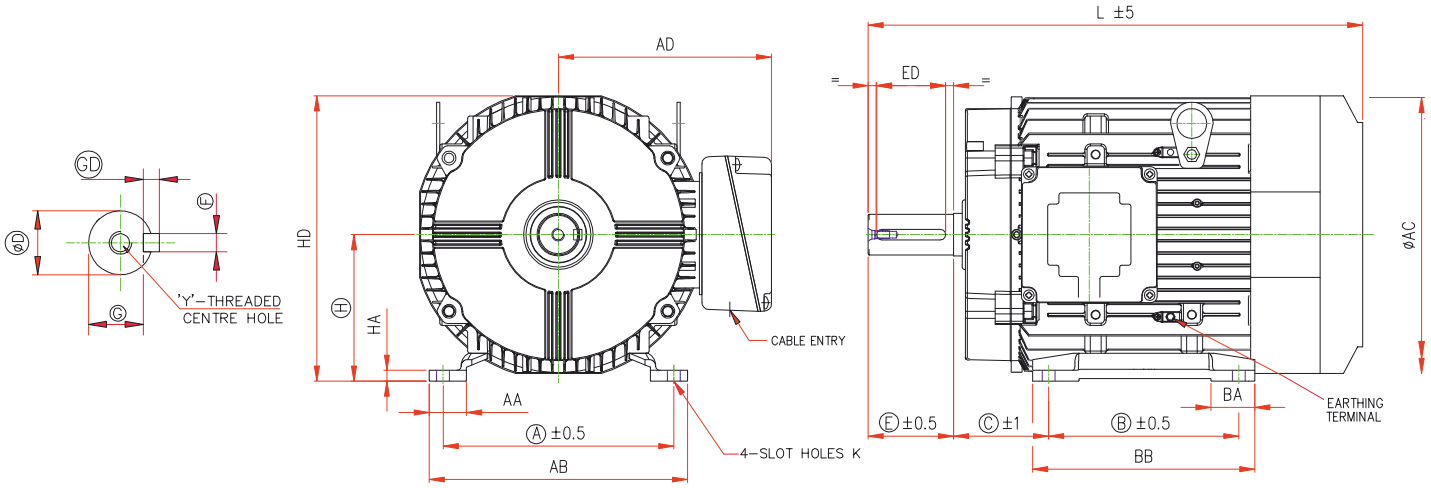


ALL DIMENSIONS ARE AS PER IEC60072-1
ALL DIMENSIONS ARE IN MM

Frame	A	B	C	H	AA	AB	BA	BB	K	D	E	ED	F	GD	G	Y	AC	L	HD	HA
PA80	125	100	50	80.0/79.7	30	156	29	127	10x14	19.009/18.996	40	32	6.00/5.97	6.0/5.97	15.5/15.3	M6x16	162	330	212	7
PA90S	140	100	56	90.0/89.7	30	170	54	150	10x14	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	180	365	225	10
PA90L	140	125	56	90.0/89.7	30	170	54	150	10x14	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	180	365	225	10
PA100L	160	140	63	100.0/99.7	35	195	35	170	12x16	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	210	415	258	11
PA112M	190	140	70	112.0/111.7	40	230	60	194	12x20	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	234	410	282	10
PA132S	216	140	89	132.0/131.7	40	256	74	208	12x20	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	274	485	322	12
PA132M	216	178	89	132.0/131.7	40	256	74	208	12x20	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	274	485	322	12

*Some features may be different & may not be a part of standard product.

TEFC, 3 PHASE FOOT MOUNTED TB ON RHS ALUMINIUM INDUCTION MOTORS

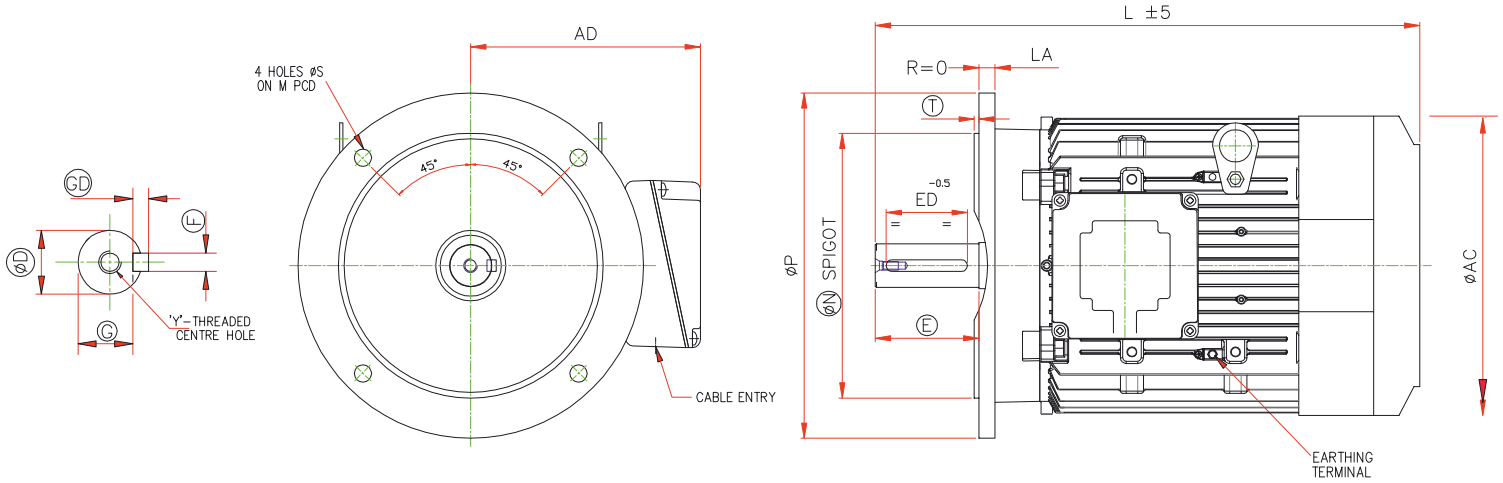


ALL DIMENSIONS ARE AS PER IEC60072-1
ALL DIMENSIONS ARE IN MM

Frame	A	B	C	H	AA	AB	BA	BB	K	D	E	ED	F	GD	G	Y	AD	AC	L	HD	HA
PA80	125	100	50	80.0/79.7	30	156	29	127	10x14	19.009/18.996	40	32	6.00/5.97	6.0/5.97	15.5/15.3	M6x16	125	162	330	160	7
PA90S	140	100	56	90.0/89.7	30	170	54	150	10x14	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	125	180	365	180	10
PA90L	140	125	56	90.0/89.7	30	170	54	150	10x14	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	135	180	365	180	10
PA100L	160	140	63	100.0/99.7	35	195	35	170	12x16	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	158	210	415	200	11
PA112M	190	140	70	112.0/111.7	40	230	60	194	12x20	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	170	234	410	220	10
PA132S	216	140	89	132.0/131.7	40	256	74	208	12x20	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	190	274	485	260	12
PA132M	216	178	89	132.0/131.7	40	256	74	208	12x20	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	190	274	485	260	12

*Some features may be different & may not be a part of standard product.

TEFC, 3 PHASE FLANGE MOUNTED ALUMINIUM INDUCTION MOTORS

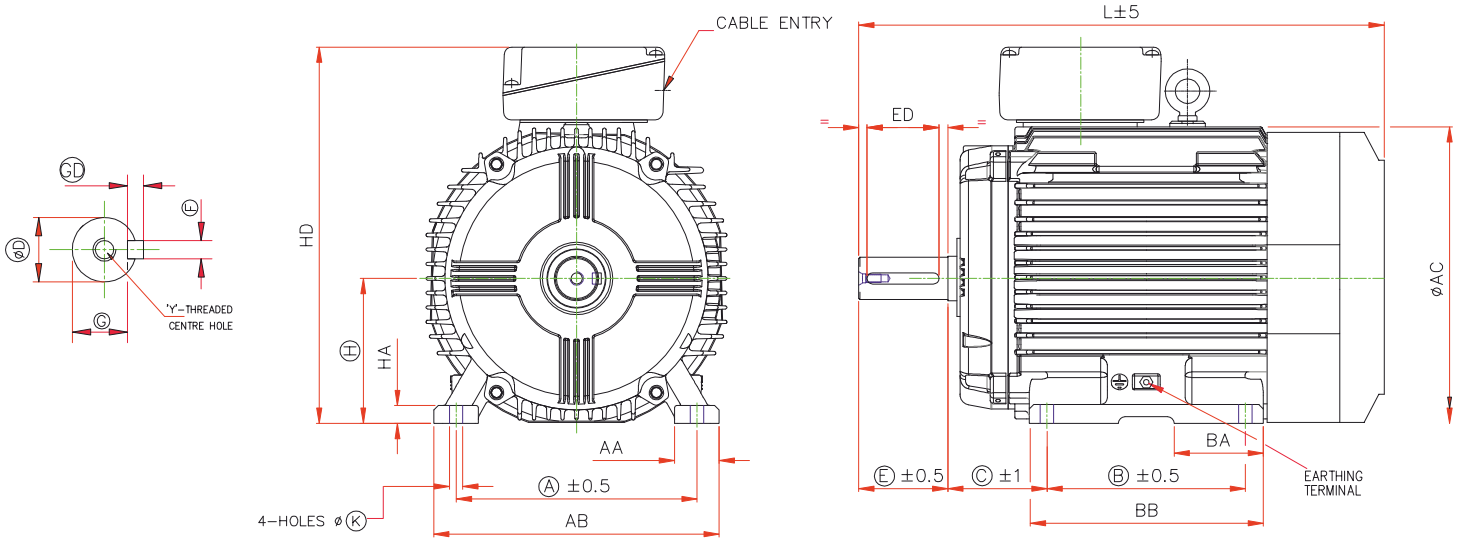


ALL DIMENSIONS ARE AS PER IEC60072-1
ALL DIMENSIONS ARE IN MM

Frame	D	E	ED	F	GD	G	Y	AD	AC	L	M Tol	N Tol	P	S	T	LA	LE
PA80	19.009/18.996	40	32	6.00/5.97	6.0/5.97	15.5/15.3	M6x16	125	162	330	165.3/164.7	130.014/129.989	200	12	3.5	12	85
PA90S	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	125	180	365	165.3/164.7	130.014/129.989	200	12	3.5	12	85
PA90L	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	135	180	365	165.3/164.7	130.014/129.989	200	12	3.5	12	85
PA100L	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	158	210	415	215.3/214.7	180.014/179.989	250	14.5	4	14.5	106
PA112M	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	170	234	410	215.3/214.7	180.014/179.989	250	15	4	12	125
PA132S	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	190	274	485	265.3/264.7	230.016/229.987	300	15	4	14	130
PA132M	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	190	274	485	265.3/264.7	230.016/229.987	300	15	4	14	130

*Some features may be different & may not be a part of standard product.

TEFC, 3 PHASE FOOT MOUNTED TB ON TOP CAST IRON INDUCTION MOTORS

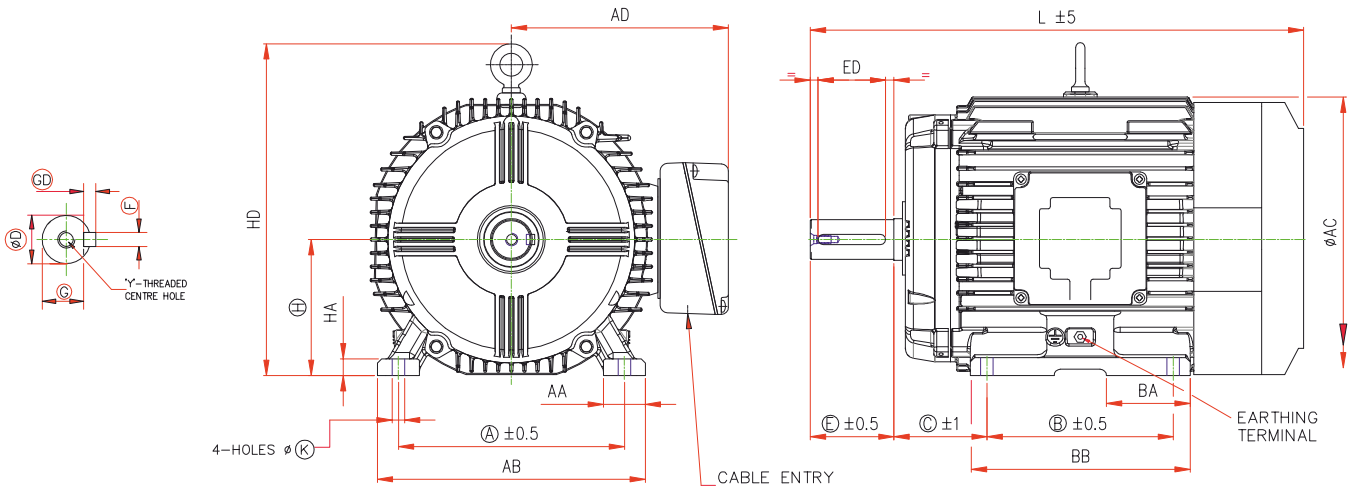


ALL DIMENSIONS ARE AS PER IEC60072-1
ALL DIMENSIONS ARE IN MM

Frame	A	B	C	H	AA	AB	BA	BB	K	D	E	ED	F	GD	G	Y	AC	L	HD	HA
PC80	125	100	50	80.0/79.7	35	158	--	127	10.0x10.5	19.009/18.996	40	32	6.00/5.97	6.0/5.97	15.5/15.3	M6x16	162	278	212	10
PC90S	140	100	56	90.0/89.7	35	175	--	150	10.0x10.5	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	180	322	225	12
PC90L	140	125	56	90.0/89.7	38	175	--	195	10.0x10.5	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	190	365	225	12
PC100L	160	140	63	100.0/99.7	34	195	--	206	12.0x12.5	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	220	415	270	12
PC112M	190	140	70	112.0/111.7	40	230	68	194	12.0x12.5	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	240	410	300	16
PC132S	216	140	89	132.0/131.7	40	256	80	210	12.0x12.5	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	285	485	335	18
PC132M	216	178	89	132.0/131.7	40	256	80	210	12.0x12.5	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	285	485	335	18
PC160M	254	210	108	160.0/159.5	60	314	100	298	15.0x15.5	42.018/42.002	110	80	12.00/11.957	8.0/7.9	37.0/36.8	M16x32	334	650	440	22
PC160L	254	254	108	160.0/159.5	60	314	100	298	15.0x15.5	42.018/42.002	110	80	12.00/11.957	8.0/7.9	37.0/36.8	M16x32	334	650	440	22
PC180M	279	241	121	180.0/179.5	65	344	96	324	15.0x15.5	48.018/48.002	110	80	14.00/13.957	9.0/8.9	42.5/42.3	M16x32	384	720	480	22
PC180L	279	279	121	180.0/179.5	65	344	96	324	15.0x15.5	48.018/48.002	110	80	14.00/13.957	9.0/8.9	42.5/42.3	M16x32	384	720	480	22

*Some features may be different & may not be a part of standard product.

TEFC, 3 PHASE FOOT MOUNTED TB ON RHS CAST IRON INDUCTION MOTORS

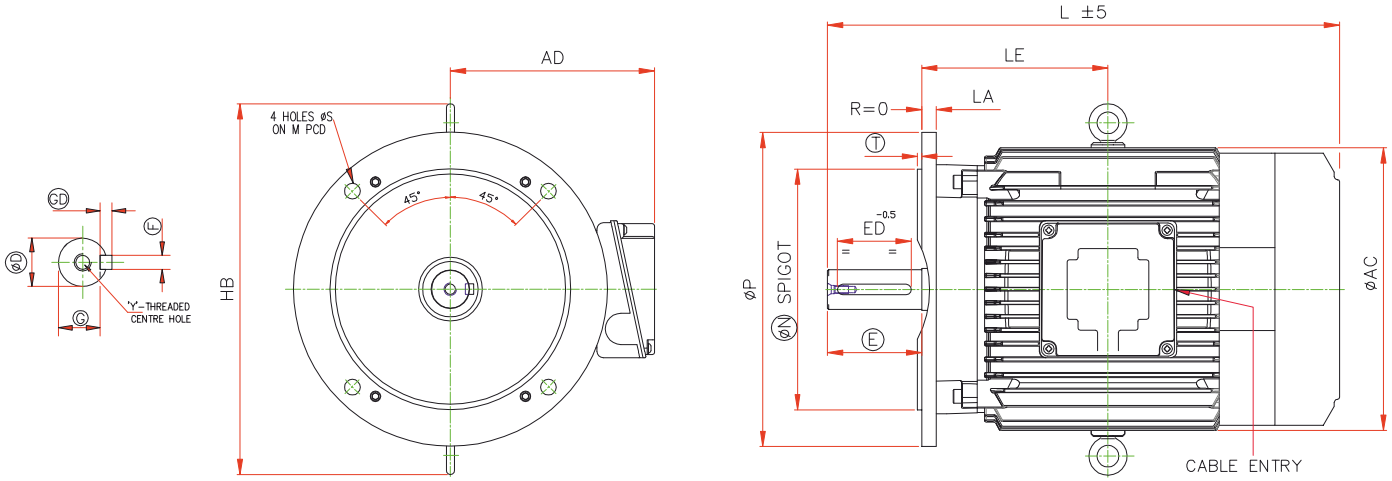


ALL DIMENSIONS ARE AS PER IEC60072-1
ALL DIMENSIONS ARE IN MM

Frame	A	B	C	H	AA	AB	BA	BB	K	D	E	ED	F	GD	G	Y	AD	AC	L	HD	HA
PC80	125	100	50	80.0/79.7	35	158	--	127	10.0/10.5	19.009/18.996	40	32	6.00/5.97	6.0/5.97	15.5/15.3	M6x16	127	162	278	160	10
PC90S	140	100	56	90.0/89.7	35	175	--	150	10.0/10.5	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	135	180	322	232	12
PC90L	140	125	56	90.0/89.7	38	175	--	195	10.0/10.5	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	135	190	365	232	12
PC100L	160	140	63	100.0/99.7	34	195	--	206	12.0/12.5	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	170	220	415	262	12
PC112M	190	140	70	112.0/111.7	40	230	68	194	12.0/12.5	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	180	240	410	285	16
PC132S	216	140	89	132.0/131.7	40	256	80	210	12.0/12.5	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	200	285	485	320	18
PC132M	216	178	89	132.0/131.7	40	256	80	210	12.0/12.5	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	200	285	485	320	18
PC160M	254	210	108	160.0/159.5	60	314	100	298	15.0/15.5	42.018/42.002	110	80	12.00/11.957	8.0/7.9	37.0/36.8	M16x32	280	334	650	380	22
PC160L	254	254	108	160.0/159.5	60	314	100	298	15.0/15.5	42.018/42.002	110	80	12.00/11.957	8.0/7.9	37.0/36.8	M16x32	280	334	650	380	22
PC180M	279	241	121	180.0/179.5	65	344	96	324	15.0/15.5	48.018/48.002	110	80	14.00/13.957	9.0/8.9	42.5/42.3	M16x32	305	384	720	430	22
PC180L	279	279	121	180.0/179.5	65	344	96	324	15.0/15.5	48.018/48.002	110	80	14.00/13.957	9.0/8.9	42.5/42.3	M16x32	305	384	720	430	22

*Some features may be different & may not be a part of standard product.

TEFC, 3 PHASE FLANGE MOUNTED CAST IRON INDUCTION MOTORS



ALL DIMENSIONS ARE AS PER IEC60072-1
ALL DIMENSIONS ARE IN MM

Frame	D	E	ED	F	GD	G	Y	AD	AC	L	M Tol	N Tol	P	S	T	LA	LE	HB
PC80	19.009/18.996	40	32	6.00/5.97	6.0/5.97	15.5/15.3	M6x16	127	162	278	165.3/164.7	130.014/129.989	200	12	3.5	12	105	--
PC90S	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	135	180	322	165.3/164.7	130.014/129.989	200	12	3.5	12	140	140
PC90L	24.009/23.996	50	40	8.00/7.96	7.0/6.9	20.0/19.8	M8x19	135	190	365	165.3/164.7	130.014/129.989	200	12	3.5	12	140	140
PC100L	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	170	220	415	215.3/214.7	180.014/179.989	250	14.5	4	14.5	95	150
PC112M	28.009/27.996	60	50	8.00/7.96	7.0/6.9	24.0/23.8	M10x22	180	240	410	215.3/214.7	180.014/179.989	250	15	4	12	153	346
PC132S	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	200	285	485	265.3/264.7	230.016/229.987	300	15	4	14	178	366
PC132M	38.018/38.002	80	70	10.00/9.964	8.0/7.9	33.0/32.8	M12x28	200	285	485	265.3/264.7	230.016/229.987	300	15	4	14	178	366
PC160M	42.018/42.002	110	80	12.00/11.957	8.0/7.9	37.0/36.8	M16x32	280	334	650	300.5/299.5	250.016/249.987	350	19	5	15	235	440
PC160L	42.018/42.002	110	80	12.00/11.957	8.0/7.9	37.0/36.8	M16x32	280	334	650	300.5/299.5	250.016/249.987	350	19	5	15	235	440
PC180M	48.018/48.002	110	80	14.00/13.957	9.0/8.9	42.5/42.3	M16x32	305	384	720	300.5/299.5	250.016/249.987	350	19	5	15	260	500
PC180L	48.018/48.002	110	80	14.00/13.957	9.0/8.9	42.5/42.3	M16x32	305	384	720	300.5/299.5	250.016/249.987	350	19	5	15	260	500

*Some features may be different & may not be a part of standard product.

Frame	DE	NDE
ALUMINIUM MOTOR		
PA80	6204ZZ-C3	6003ZZ-C3
PA90	6205ZZ-C3	6203ZZ-C3
PA100	6206ZZ-C3	6206ZZ-C3
PA112	6206ZZ-C3	6206ZZ-C3
PA132	6208ZZ-C3	6208ZZ-C3
CAST IRON MOTOR		
PC80	6204ZZ-C3	6003ZZ-C3
PC90	6205ZZ-C3	6203ZZ-C3
PC100	6206ZZ-C3	6205ZZ-C3
PC112	6206ZZ-C3	6206ZZ-C3
PC132	6208ZZ-C3	6208ZZ-C3
PC160	6309ZZ-C3	6309ZZ-C3
PC180	6310ZZ-C3	6310ZZ-C3

Frame	Net Wt.	Gross Wt.	L x B X H
IE3 ALUMINIUM MOTOR WT. IN KG.			
PA80M	12	13	410 x 225 x 240
PA90S	16	17	420 x 270 x 230
PA90L	19	20	420 x 270 x 230
PA100L	28	30	500 x 300 x 350
PA112M	31	34	475 x 350 x 290
PA132S	54	56	540 x 450 x 330
PA132M	63	65	540 x 450 x 330
CAST IRON MOTOR WT. IN KG.			
PC80M	17	21	410 x 225 x 240
PC90S	23	27	420 x 270 x 230
PC90L	28	32	420 x 270 x 230
PC100L	38	43	500 x 300 x 350
PC112M	43	56	485 x 410 x 340
PC132S	70	86	570 x 470 x 375
PC132M	78	94	570 x 470 x 375
PC160M	132	162	700 x 390 x 440
PC160L	152	182	700 x 390 x 440
PC180M	185	220	790 x 390 x 550
PC180L	197	232	790 x 390 x 550

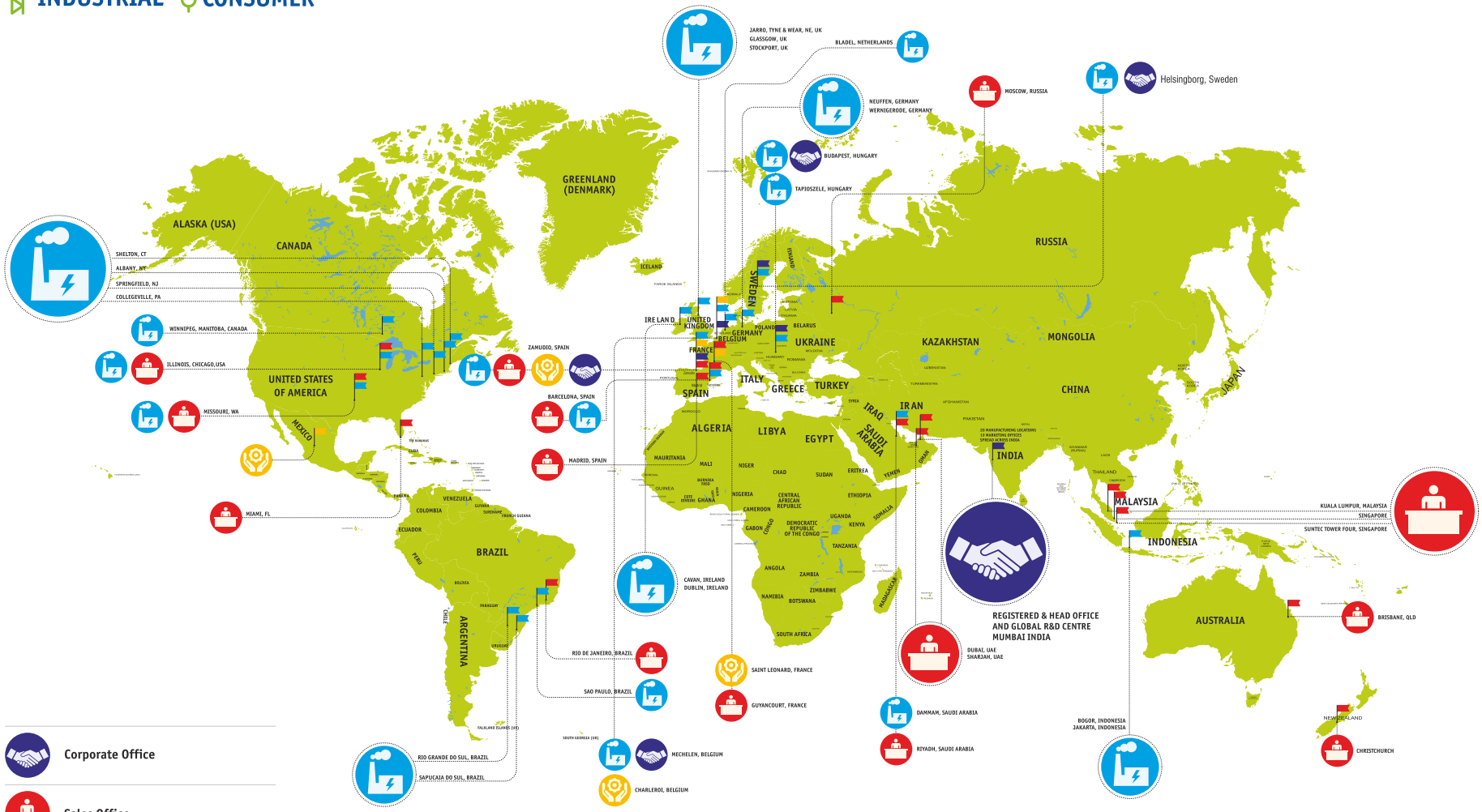
ONE CG.

From generator to bulb, all across the globe

15,000 employees, **$2.3** billion in revenue

POWER AUTOMATION

INDUSTRIAL CONSUMER



For more information :
Visit us at : www.cgglobal.com

Ref : CG/LVRM/IE-3 Catalogue/R1/March14