Crompton

INDUCTION MOTOR

POWER BEHIND THE DRIVE

Frame 63 to 400

ISO 9001 AUTHMTLCATALOGE by EC CE

PRODUCTS CATALOGE 2012

Insulation and Thermal Rating

The temperature rise of the windings and the insulation materials of an electric motor a cirtical to the life expectancy of the moter and are functions of the design of the moter. The insulation materials age overtime and this aging process is directly related to temperature. Eventually the materials lose their insulating properties and break down causing short circuit.

The increase in temperature of a motor is due to the losses that occur in the moter. These losses are mainly made up of copper and iron losses. The temperature inside the moter will depend on how effectively this heat can be removed by the cooling system of the moter. It should not be assumed that a motor that appeare to be hot externally, is hot internally.

If the cooling system is efficient, the thermal gradient through the motor will be small and the differnce between the winding temperatuer and the external temperature will be low.

Some standards estimate the life of the insulation material as 25,000 hours if operated continuously at their rated temperature that the life will be reduced by 50% for every 10 degrees of excess temperature. CROMPTON motors are built with class F insulation and designed for class B temperature rise. This thermal reserve greatly increases the life of the motor especially when most motors operate at less than load, and are not in continuous ambient temperature of 40°C

	Insulation Classes					
	A	E	B	F	F with B rise	H
Temperature Rise	105	120	130	155	155	180
Maximum Temperature of the Winding	100	115	120	140	140	165
Ambient Temperature	40	40	40	40	40	40
Allowance for Hot spots	5	5	10	15	15	15
Maximum Temperature Rise of Winding	60	75	80	100	80	125
Thermal Reserrve	0	0	0	0	20	0

Thermal Protection

The decision on a particular type of thermal protection should be taken according to the actual operating conditions. Motors may be protected by means of current-dependent thermal protection switches, overcurrent relays and temperature detectors.

Thermal protection is possible as follows :

* Thermal protection switch with bimetal release.
* Thermistor protection with semiconductor temperature detectors (PTC) in the stator winding.
* Bimetal temperature detector as N/C or N/O in the stator winding (if required, with additional motor protection switch)
* Resistance thermometer for monitoring winding and bearing temperature.

Should protection of the motor be required, thermistor protection with semiconductor temperature detectore (PTC) Shall be installed.

Degree of Pretection (IP Code)

The EC has defined Ingress Protection as a two digit code. The first digit describes the degerr of protection against ingress of solid objects. The second digit designates the Ingress Protection against water.

Protection against ingress of solid foreign objects (First Digit)	Number	Description
	0	Non-protected
	1	Objects equal or greater than 50 mm.
	2	Objects equal or greater than 12.5 mm.
	3	Objects equal or greater than 2.5 mm.
	4	Dust protected
	5	Dust tight

Protection against ingress of liquid (Second Digit) :	Number	Description
	0	Non-protected
	1	Water dripping vertically
	2	Water dripping enclosure tilted up to 15°
	3	Spraying water, up to 60° angle from vertical
	4	Splashing water, any direction
	5	Jetting water, any direction
	6	Powerful jetting water, any direction
	7	Temporary immersion in water
	8	Continuous immersion in water

All standard crompton motors are designed to degree protection of IP55 (higher protection on request)

Method of Cooling (IC Code]

The designation of the method of cooling consists of the letters "IC", followed by numerals and letters representing the circuit arrangement, the coolant and the method of movement of the coolant. The code are represented below :

Arrangement	Code
Totally Enclosed Fan ventilated (TEFV). Motor cooled by an external fan.	IC 411
Totally Enclosed Non ventilated (TENV). Self cooling no externally mounted fan.	IC 410
Totally Enclosed Air Over Motor (TEAOM). Motor cooled by the airstream.	IC 418
Totally Enclosed Forced Cooled. Motor cooled by an independent fan.	IC 416

Standard Voltage

Output Range	Voltage
up to 3kw	A 220...240 V./Y 380...420 V.
4kw and above	A 380...420 V./Y 660...725 V.

Connection Diagrams

Windings of standard three-phase single speed motors can be connected either in star or delta connection.

Star connection

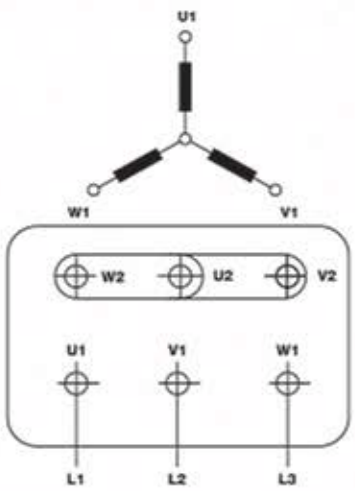
A star connection is obtained by connecting W2, U2, V2 terminals to each other and the U1, V1, W1, terminals to the mainsas shown in the diagram.

Delta connection

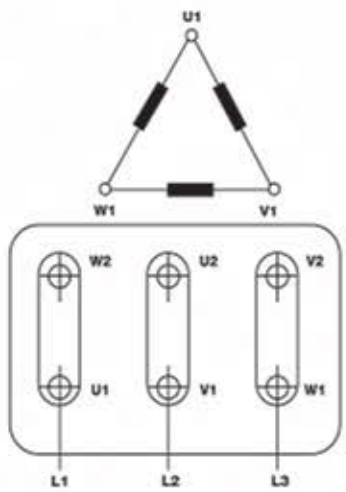
A delta connection is obtained by connecting the end of phase to the beginning the next phase as shown in the diagram.

Star-Delta starting

Star-Delta starting allows a peak current reduction. It can be used only when the reduced starting torque obtained is higher than the resistant torque. Actually, it should be noted that the torque of an induction squirrel-cage motor is directly proportional to the square of the voltage. Motors whose rated voltage with delta connection corresponde to the mains voltage, can be started with the star-delta method.



Star connection



Delta connection

2-Pole
Cast Iron Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosø	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Torque Ratio	Moment of Inertia (Kgm^2)	Noise Level dB(A)	Weight (Kg)
0.75	ND 80 1-2	2840	75.0	74.3	71.5	0.85	2.5	1.8	2.2	5.5	2.5	0.00080	61	17
1.1	ND 80 2-2	2845	78.5	78.2	75.3	0.84	3.7	2.5	2.2	5.5	2.6	0.00090	63	18
1.5	ND 90S-2	2850	79.7	79.5	77.0	0.85	5.0	3.4	2.7	6.0	3.2	0.00120	65	23
2.2	ND 90L-2	2850	82.1	82.2	80.2	0.86	7.4	4.7	2.9	6.1	3.1	0.00140	69	26
3	ND 100L-2	2860	83.3	83.5	82.1	0.88	10.0	6.2	3.0	6.9	3.5	0.00390	72	33
4	ND 112M-2	2870	84.9	85.5	84.5	0.91	13.3	7.9	2.5	6.7	3.1	0.00550	74	42
5.5	ND 132S1-2	2900	87.2	87.1	85.3	0.88	18.1	10.9	2.5	7.5	3.3	0.01110	83	60
7.5	ND 132S2-2	2915	88.2	87.7	85.1	0.89	24.6	14.5	2.4	7.6	3.2	0.01400	83	66
11	ND 160M1-2	2930	89.0	89.5	88.1	0.91	35.8	20.6	2.1	7.3	2.5	0.03900	83	110
15	ND 160M2-2	2930	90.1	88.9	84.4	0.91	48.8	27.8	2.3	7.2	2.6	0.04400	83	120
18.5	ND 160L-2	2935	91.4	91.1	89.7	0.92	60.2	33.4	2.2	7.3	2.7	0.05700	84	140
22	ND 180M-2	2945	90.5	90.1.	86.5	0.90	71.5	41.0	2.4	7.0	3.0	0.07700	84	170
30	ND 200L1-2	2945	91.5	91.0	88.0	0.90	97.2	55.4	2.0	5.9	3.0	0.12500	86	239
37	ND 200L2-2	2950	92.2	92.0	90.5	0.90	119.6	67.7	2.3	6.5	2.8	0.14000	88	268
45	ND 225M-2	2955	92.6	91.9	89.5	0.91	145.2	81.1	2.4	7.1	3.3	0.25000	90	340
55	ND 250M-2	2960	93.5	92.9	89.8	0.90	177.2	99.3	2.7	8.0	3.1	0.32000	90	406
75	ND 280S-2	2965	94.0	93.5	90.1	0.91	241.6	133.2	2.2	6.8	3.2	0.59500	90	520
90	ND 280M-2	2965	94.2	93.9	91.0	0.92	289.4	157.8	2.2	7.2	3.0	0.67600	90	565
110	ND 315S-2	2970	94.3	93.9	91.7	0.91	353.1	194.8	2.3	6.1	26	1.17000	90	882
132	ND 315M-2	2975	94.5	94.5	93.1	0.92	423.0	230.7	2.3	7.1	2.8	1.55000	90	995
160	ND 315L1-2	2980	95.4	94.9	93.2	0.92	512.8	277.0	2.5	7.4	2.7	1.75000	91	1110
200	ND 315L2-2	2980	95.4	94.9	94.1	0.92	640.9	346.2	2.7	7.3	3.0	2.05000	91	1250
220	ND 355M1-2	2980	95.4	94.9	94.1	0.92	705.0	380.8	2.6	7.4	2.8	2.20000	92	1320
250	ND 355M2-2	2985	95.2	94.7	92.5	0.93	799.8	429.0	1.8	7.1	2.6	3.56000	93	1600
280	ND 355L1-2	2985	95.3	94.9	92.9	0.93	894.3	480.0	1.8	7.1	2.6	3.84000	93	1670
315	ND 355L2-2	2985	95.6	95.2	93.8	0.93	1006.1	538.3	1.7	6.3	2.9	4.12000	94	1750

2-Pole
Aluminium Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosø	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Torque Ratio	Moment of Inertia (Kgm^2)	Noise Level dB(A)	Weight (Kg)
0.09	AD 56 1-2	2765	62.0	63.0	61.0	0.68	0.3	0.3	2.2	4.5	2.4	0.00014	55	4
0.12	AD 56 2-2	2765	63.0	63.0	61.0	0.70	0.4	0.4	2.2	4.5	2.4	0.00014	55	4
0.18	AD 63 1-2	2770	65.0	66.0	62.0	0.80	0.6	0.5	2.2	3.9	2.5	0.00015	55	5
0.25	AD 63 2-2	2770	65.0	65.0	62.0	0.80	0.9	0.7	2.2	4.1	2.6	0.00015	56	5
0.37	AD 71 1-2	2823	69.5	70.1	68.0	0.79	1.3	1.0	2.0	4.9	2.4	0.00060	55	7
0.55	AD 71 2-2	2843	76.0	75.0	69.0	0.81	1.8	1.4	2.2	5.9	2.3	0.00070	56	8
0.75	AD 80 1-2	2840	75.0	74.3	71.5	0.84	2.5	1.8	2.2	5.5	2.5	0.00080	61	12
1.1	AD 80 2-2	2845	78.2	78.2	75.3	0.83	3.7	2.6	2.2	5.5	2.5	0.00090	63	13
1.5	AD 90S-2	2850	79.0	79.5	77.0	0.84	5.0	3.4	2.2	6.0	2.5	0.00120	65	16
2.2	AD 90L-2	2850	81.9	82.2	80.2	0.85	7.4	4.8	2.3	6.1	2.5	0.00140	69	18
3	AD 100L-2	2860	83.3	83.5	82.1	0.87	10.0	6.3	2.3	6.9	2.9	0.00390	72	24
4	AD 112M-2	2870	84.5	85.5	84.5	0.90	13.3	8.0	2.3	6.7	2.9	0.00550	74	35
5.5	AD 132S1-2	2900	87.2	87.1	85.3	0.87	18.1	11.0	2.2	7.5	2.9	0.01110	83	43
7.5	AD 132S2-2	2915	88.2	87.7	85.1	0.88	24.6	14.7	2.1	7.6	2.9	0.01400	83	50

4 Pols
Cast Iron Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosØ	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Torque Ratio	Moment of Inertia (Kgm²)	Noise Level dB(A)	Weight (Kg)
0.55	ND 80 1-4	1410	72.6	72.5	70.1	0.75	3.7	1.5	2.4	4.6	2.7	0.00200	54	17
0.75	ND 80 2-4	1420	72.6	72.9	69.5	0.76	5.0	2.1	2.2	4.4	2.7	0.00200	57	18
1.1	ND 90S-4	1410	76.4	76.6	75.0	0.79	7.5	2.8	2.2	4.3	3.0	0.00210	61	22
1.5	ND 90L-4	1410	79.1	79.0	78.5	0.79	10.2	3.6	2.5	4.7	3.0	0.00300	61	26
2.2	ND 100L1-4	1415	81.0	80.8	79.5	0.82	14.8	5.0	2.5	5.3	2.9	0.00670	61	33
3	ND 100L2-4	1420	82.9	82.7	81.5	0.82	20.2	6.7	2.4	5.7	3.0	0.00700	63	37
4	ND 112M-4	1440	84.4	83.9	81.7	0.84	26.5	8.6	2.7	5.7	3.1	0.00950	67	45
5.5	ND 132S-4	1450	86.4	86.6	85.6	0.84	36.2	11.5	2.3	6.8	3.1	0.02150	68	63
7.5	ND 132M-4	1450	88.3	88.7	88.3	0.87	49.4	14.8	2.6	7.2	3.1	0.03020	68	75
11	ND 160M-4	1460	89.0	87.8	85.1	0.84	72.0	22.0	2.3	6.8	2.5	0.07500	70	115
15	ND 160L-4	1460	90.2	89.5	87.0	0.85	98.1	29.7	2.0	7.4	2.6	0.09300	73	132
18.5	ND 180M-4	1465	90.0	90.5	88.6	0.88	120.6	35.3	2.2	7.0	2.6	0.14000	75	175
22	ND 180L-4	1470	91.0	91.0	89.3	0.88	142.9	41.3	2.2	6.8	2.6	0.15900	75	190
30	ND 200L-4	1475	92.3	92.3	91.2	0.88	194.2	55.5	2.0	6.6	2.7	0.26500	80	264
37	ND 225S-4	1480	92.3	92.1	91.1	0.88	238.8	68.3	2.1	7.0	2.4	0.40400	81	310
45	ND 225M-4	1475	92.8	92.5	91.3	0.87	290.7	82.8	2.0	6.6	2.5	0.47000	82	340
55	ND 250M-4	1480	93.0	92.3	91.0	0.87	354.9	103.2	2.1	6.3	2.5	0.67000	82	390
75	ND 280S-4	1480	93.1	92.8	91.8	0.89	481.6	136.4	2.0	6.3	2.5	1.12000	84	520
90	ND 280M-4	1485	94.3	94.0	92.2	0.89	578.8	161.1	2.4	7.1	2.7	1.46000	84	606
110	ND 315S-4	1485	94.6	94.4	93.8	0.89	707.4	198.5	2.1	5.8	2.6	3.10000	88	880
132	ND 315M-4	1485	95.1	94.0	92.6	0.89	848.0	237.0	2.2	6.3	2.6	3.30000	88	1020
160	ND 315L1-4	1489	95.3	95.0	94.0	0.89	1026.2	286.6	2.0	5.7	2.6	3.79000	87	1110
200	ND 315L2-4	1489	95.2	94.8	93.2	0.89	1282.7	356.8	2.3	6.2	2.7	4.50000	89	1220
220	ND 355M1-4	1489	95.2	94.8	93.2	0.89	1411.0	392.5	2.2	6.2	2.6	4.85000	89	1270
250	ND 355M2-4	1490	95.5	94.7	93.2	0.89	1602.3	441.9	2.1	6.5	3.1	5.67000	90	1700
280	ND 355L1-4	1490	95.5	94.7	93.2	0.89	1795.0	495.0	2.1	6.5	2.8	6.16000	90	1790
315	ND 355L2-4	1490	95.5	94.8	94.3	0.92	2019.0	544.7	2.1	6.0	3.3	6.66000	90	1890

4-Pole
Aluminium Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosØ	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Torque Ratio	Moment of Inertia (Kgm²)	Noise Level dB(A)	Weight (Kg)
0.06	AD 56 1-4	1310	56.0	56.0	53.0	0.58	0.4	0.3	2.1	3.3	2.4	0.00015	50	4
0.09	AD 56 2-4	1310	56.0	56.0	53.0	0.61	0.7	0.4	2.1	3.3	2.4	0.00015	50	4
0.12	AD 63 1-4	1310	57.0	58.0	53.0	0.72	0.9	0.4	2.1	3.2	2.4	0.00018	50	5
0.18	AD 63 2-4	1310	60.0	61.0	57.0	0.74	1.3	0.7	2.1	3.3	2.2	0.00026	50	5
0.25	AD 71 1-4	1365	67.0	70.0	67.8	0.68	1.8	0.8	2.0	5.6	2.4	0.00120	50	8
0.37	AD 71 2-4	1370	69.0	72.0	68.8	0.72	2.6	1.1	2.0	5.9	2.4	0.00160	50	8
0.55	AD 80 1-4	1410	72.6	72.5	68.6	0.74	3.7	1.5	2.1	4.6	2.4	0.00200	54	12
0.75	AD 80 2-4	1420	72.6	72.9	69.5	0.75	5.0	2.1	2.2	4.7	2.5	0.00200	57	13
1.1	AD 90S-4	1410	76.4	76.6	75.0	0.78	7.5	2.8	2.0	5.2	2.4	0.00210	61	16
1.5	AD 90L-4	1410	79.1	79.0	78.5	0.78	10.2	3.7	2.0	5.1	2.5	0.00300	61	18
2.2	AD 100L1-4	1415	84.0	80.8	79.5	0.81	14.8	5.1	2.0	6.3	2.3	0.00670	61	23
3	AD 100M2-4	1420	82.6	82.7	80.3	0.81	20.2	6.8	2.2	5.7	2.7	0.00700	63	26
4	AD 112M-4	1440	84.4	83.9	81.7	0.83	26.5	8.6	2.0	5.9	2.2	0.00950	67	34
5.5	AD 132S-4	1450	86.4	86.6	85.6	0.83	36.2	11.5	2.1	6.8	2.4	0.02150	68	47
7.5	AD 132M-4	1450	88.3	88.7	88.3	0.86	49.4	14.8	2.3	7.2	2.6	0.03020	68	57

6 Pols
Cast Iron Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosø	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Moment of Torque Ratio	Inertia (Kgm^2)	Noise Level dB(A)	Weight (Kg)
0.37	ND 80 1-6	915	63.5	63.2	55.5	0.71	3.9	1.2	1.8	3.2	2.0	0.00230	46	17
0.55	ND 80 2-6	915	69.2	70.0	65.2	0.72	5.7	1.7	2.0	3.3	2.2	0.00300	50	20
0.75	ND 90S-6	920	71.8	71.6	67.8	0.71	7.8	2.2	2.3	3.6	2.6	0.00300	53	23
1.1	ND 90L-6	925	73.1	73.5	70.4	0.73	11.4	3.1	2.1	3.6	2.5	0.00350	59	26
1.5	ND 100L-6	925	76.2	75.8	72.4	0.75	15.5	4.0	2.3	4.3	2.9	0.00690	62	32
2.2	ND 112M-6	935	79.3	78.7	75.9	0.77	22.5	5.5	2.2	4.4	2.5	0.01400	65	42
3	ND 132S-6	960	82.4	82.5	80.1	0.77	29.8	7.2	2.1	5.8	3.0	0.02900	66	59
4	ND 132M1-6	960	83.6	83.9	82.4	0.77	39.8	9.4	2.1	6.4	2.7	0.03600	66	68
5.5	ND 132M2-6	960	85.0	85.3	83.3	0.79	54.7	12.4	2.0	6.5	2.5	0.04500	67	80
7.5	ND 160M-6	965	87.7	88.0	87.0	0.79	74.2	16.4	2.0	5.4	2.3	0.08800	71	102
11	ND 160L-6	970	88.8	89.1	87.5	0.80	108.3	23.5	2.0	5.5	2.3	0.11500	72	126
15	ND 180L-6	970	89.1	89.4	87.9	0.82	147.7	31.1	2.1	6.2	2.5	0.20700	72	185
18.5	ND 200L1-6	975	91.9	91.5	90.4	0.81	181.2	37.8	2.0	6.2	2.8	0.31500	73	238
22	ND 200L2-6	975	90.0	88.9	87.8	0.85	215.5	44.7	2.0	5.9	2.5	0.36000	73	243
30	ND 225M-6	980	92.0	91.8	90.6	0.86	292.3	57.6	2.0	6.4	2.5	0.54500	71	309
37	ND 250M-6	980	92.1	91.7	90.0	0.86	360.6	71.0	2.3	6.7	2.6	0.83400	76	369
45	ND 280S-6	980	92.6	92.5	91.7	0.87	438.5	84.9	2.1	6.7	3.0	1.39000	76	518
55	ND 280M-6	980	93.0	93.0	92.2	0.88	536.0	102.1	2.1	6.3	2.5	1.65000	76	565
75	ND 315S-6	985	94.3	94.0	93.0	0.86	727.2	140.5	2.0	7.0	2.7	4.10000	80	840
90	ND 315M-6	985	94.8	94.5	93.0	0.86	872.6	167.7	2.0	6.2	2.4	4.30000	80	930
110	ND 315L1-6	990	94.7	94.5	93.2	0.87	1061.1	202.9	2.4	6.7	2.8	5.45000	82	1010
132	ND 355L2-6	990	94.5	91.5	93.8	0.87	1273.3	243.9	2.3	6.8	2.9	6.12000	82	1140
160	ND 355M1-6	992	95.2	94.9	93.0	0.88	1543.4	290.2	1.9	6.5	2.5	8.85000	85	1520
185	ND 355M2-6	992	95.2	94.9	93.0	0.88	1784.6	335.5	1.9	6.5	2.5	9.25000	85	1580
200	ND 355M3-6	992	96.1	95.8	94.2	0.89	1929.3	355.3	2.0	6.3	2.5	9.55000	85	1630
220	ND 355L1-6	992	96.1	95.8	94.2	0.89	2122.2	390.8	1.9	6.3	2.5	10.05000	86	1740
250	ND 355L2-6	992	96.3	95.9	94.0	0.90	2411.6	438.3	1.9	6.0	2.4	10.60000	87	1880
315	ND 355L3-6	990	95.4	95.3	94.7	0.90	3034.0	557.4	2.0	6.2	2.4	11.00800	85	2570

6-Pole
Aluminium Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosø	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Moment of Torque Ratio	Inertia (Kgm^2)	Noise Level dB(A)	Weight (Kg)
037	AD 80 1-6	915	62.1	61.7	54.0	0.70	3.9	1.3	1.9	4.7	2.0	0.00230	46	11
0.55	AD 80 2-6	915	65.0	65.8	61.0	0.72	5.7	1.8	1.9	4.7	2.1	0.00300	50	12
0.75	AD 90S-6	920	69.0	68.8	63.6	0.72	7.8	2.3	2.0	5.5	2.1	0.00300	53	16
1.1	AD 90L-6	925	72.0	72.4	69.3	0.73	11.4	3.1	2.0	5.5	2.1	0.00350	59	18
1.5	AD 100L-6	925	76.0	75.6	72.2	0.75	15.5	4.0	2.0	5.5	2.1	0.00690	62	24
2.2	AD 112M-6	935	79.0	78.4	75.6	0.76	22.4	5.5	2.0	6.5	2.1	0.01400	65	30
3	AD 132S-6	960	81.0	81.1	78.7	0.76	29.8	7.4	2.1	6.5	2.1	0.02900	66	46
4	AD 132M2-6	960	82.0	82.3	80.8	0.76	39.5	9.5	2.1	6.5	2.1	0.03600	66	52
5.5	AD 132M2-6	960	84.0	84.3	82.3	0.76	54.4	12.8	2.1	6.5	2.1	0.04500	67	62

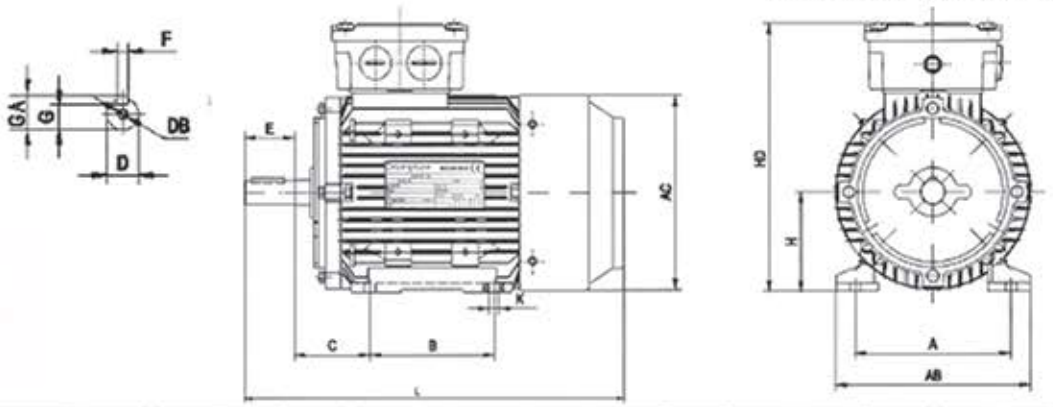
8 Pols
Cast Iron Construction

Output (kw)	Model	Speed (rpm)	Efficiency 100% Load	Efficiency 75% Load	Efficiency 50% Load	Power Factor cosø	Full load Torque (Nm)	Full load Current (A)	Locked Rotor Torque Ratio	Locked Rotor Current Ratio	Pull Out Torque Ratio	Moment of Inertia (Kgm^2)	Noise Level dB(A)	Weight (Kg)
0.18	ND 80 1-8	680	58.6	54.0	45.0	0.62	2.5	0.8	2.1	3.2	2.4	0.00200	50	17
0.25	ND 80 2-8	690	60.6	55.2	45.1	0.61	3.5	1.0	2.0	3.3	2.2	0.00300	50	19
0.37	ND 90S-8	700	65.1	64.9	56.2	0.61	5.0	1.4	1.9	3.6	2.5	0.00400	53	23
0.55	ND 90L-8	700	68.5	67.1	59.3	0.60	7.5	2.0	1.9	3.5	2.3	0.00400	54	25
0.75	ND 100L1-8	700	70.6	70.2	62.5	0.66	10.2	2.4	2.1	4.0	2.4	0.00800	56	33
1.1	ND 100L2-8	700	72.9	72.1	68.8	0.69	15.0	3.3	2.2	3.7	2.4	0.01000	59	38
1.5	ND 112M-8	703	76.7	76.8	73.7	0.69	20.5	4.3	2.2	4.2	2.7	0.01700	61	50
2.2	ND 132S-8	705	79.8	79.4	77.5	0.72	29.8	5.8	2.1	4.7	2.5	0.03000	65	58
3	ND 132M-8	705	80.7	80.5	79.5	0.75	40.6	7.5	2.1	4.6	2.6	0.04000	65	68
4	ND 160M1-8	710	81.8	81.5	80.3	0.74	53.8	10.0	2.1	4.5	2.7	0.07500	67	113
5.5	ND 160M2-8	715	86.2	85.8	84.6	0.75	73.5	12.9	2.3	5.0	2.8	0.09300	68	123
7.5	ND 160L-8	720	86.9	86.7	84.9	0.76	99.5	17.3	2.2	6.0	2.6	0.12500	69	150
11	ND 180L-8	730	87.6	87.5	85.9	0.77	143.9	24.7	2.2	5.5	2.5	0.20200	70	178
15	ND 200L-8	730	89.4	89.1	88.2	0.77	196.2	33.1	2.1	5.8	2.8	0.33800	71	233
18.5	ND 225S-8	731	90.1	89.5	88.8	0.76	241.7	41.0	2.1	6.3	2.5	0.49000	73	283
22	ND 225M-8	735	90.6	90.2	88.8	0.78	285.9	47.3	2.2	6.2	2.5	0.55000	73	323
30	ND 250M-8	735	90.6	90.4	88.6	0.81	389.8	62.1	2.3	5.9	3.0	0.83000	74	400
37	ND 280S-8	735	91.3	91.2	90.1	0.81	480.7	76.0	2.1	6.3	2.8	1.39000	75	515
45	ND 280M-8	740	91.2	90.7	89.5	0.82	580.7	91.4	1.9	6.4	2.5	1.65000	76	566
55	ND 315S-8	740	93.5	93.2	92.5	0.82	709.8	109.0	1.9	6.8	2.7	4.79000	78	790
75	ND 315M-8	741	93.9	93.9	91.6	0.83	967.9	146.2	2.0	7.0	2.4	5.58000	78	970
90	ND 315L1-8	741	93.9	94.0	92.0	0.82	1159.9	177.6	2.4	6.7	2.8	6.37000	80	1060
110	ND 315L2-8	741	94.2	94.1	92.5	0.82	1417.7	216.4	2.4	6.4	2.5	7.23000	81	1170
132	ND 355M1-8	741	95.2	94.9	93.6	0.84	1703.5	250.8	1.7	5.8	2.3	10.54000	82	1560
160	ND 355M2-8	743	95.3	95.1	94.2	0.84	2056.5	303.7	1.5	5.5	2.3	11.72000	86	1650
185	ND 355L1-8	743	95.3	95.1	94.2	0.84	2377.8	351.2	1.5	5.5	2.3	12.32000	86	1800
200	ND 355L2-8	743	95.5	95.5	94.6	0.86	2507.7	370.0	1.3	6.0	3.3	12.85000	87	1940

VENTILATOR FAN/AIR BLOWER THREE-PHASE ASYNCHRONOUS MOTER TECHNICAL DATA

	Franmer reference and size	Rated power	Full load current at rated voltage	Rated torque	Frequency at constant torque	Frequency at constant power	Direct on ine starting torque ratio	Direct on ine starting current ratio	Direct on ine pull out torque ratio	Pull up torque ratio
NO.	Type	Power (Kw)	Amps (A)	(N.m)	(Hz)	(Hz)	LRT / RLT	LRA / LRA	BDT / RLT	SDT / RLT
1	80M1-4	0.55	1.5	3.5	5-50	5-100	2	10	2.8	1.7
2	80M2-4	0.75	2	4.7	5-50	5-100	2	10	2.8	1.6
3	90S-4	1.1	2.8	7	5-50	5-100	2	10	2.8	1.6
4	90L-4	1.5	3.7	9.5	5-50	5-100	2	10	2.8	1.6
5	100L1-4	2.2	5.1	14	5-50	5-100	2	10	2.8	1.5
6	100L2-4	3	6.8	19	5-50	5-100	2	10	2.8	1.5
7	112M-4	4	8.7	25.4	5-50	5-100	2	10	2.81	1.5
8	132S-4	5.5	11.4	35	5-50	5-100	2	10	2.8	1.4
9	132M-4	7.5	15.3	47.7	5-50	5-100	2	10	2.8	1.4
10	160M-4	11	22.1	70	5-50	5-100	2	10	2.8	1.4
11	160L-4	15	30.1	95.5	5-50	5-100	2	10	2.8	1.4
12	180M-4	18.5	35.4	117.1	5-50	5-100	2	10	2.8	1.2
13	180L-4	22	41.6	140.9	5-50	5-100	2	10	2.8	1.2
14	200L-4	30	55.9	190.9	5-50	5-100	2	10	2.8	1.2
15	225S-4	37	68.2	235.5	5-50	5-100	2	10	2.8	1.2
16	225M-4	45	82.5	286.4	5-50	5-100	2	10	2.8	1.1
17	250M-4	55	101	350.1	3-50	5-100	1.7	10	2.8	1.1
18	280S-4	75	132.3	477.1	3-50	5-100	1.7	10	2.8	1
19	280M-4	90	157.4	572.9	3-50	5-100	1.7	10	2.8	1
20	315S-4	110	191.4	700.2	3-50	5-100	1.7	10	2.8	1
21	315M-4	132	227.6	840.3	3-50	5-100	1.7	10	2.8	1
22	315L1-4	160	274.2	1018.5	3-50	5-100	1.7	10	2.8	1
23	315L2-4	200	341.6	1273.2	3-50	5-100	1.7	10	2.8	0.9

Foot Mounted Dimension (B3)
Aluminum Construction

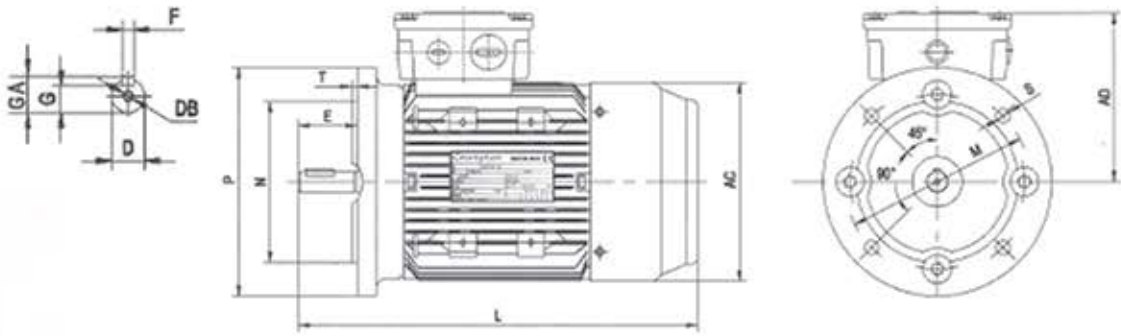


Frame size	Pole	A	A/2	B	C	D	DB	E	F	G	GA	H	K	AB	AC	HD	L
56	ALL	90	45	71	36	9	M3X8	20	3	7.2	10.2	56	6	110	120	154	192
63	ALL	100	50	80	40	11	M4X10	23	4	8.5	12.5	63	7	121	125	183	223
71	ALL	112	56	90	45	14	M5X12	30	5	11	16	71	7	139	145	193	248
80	ALL	125	62.5	100	50	19	M6X16	40	6	15.5	21.5	80	10	150	160	209	291
90S	ALL	140	70	100	56	24	M8X19	50	8	20	27	90	10	169	180	229	355
90L	ALL	140	70	125	56	24	M8X19	50	8	20	27	90	10	169	180	250	393
100L	ALL	160	80	140	63	28	M10X22	60	8	24	31	100	12	191	200	250	393
112M	ALL	190	95	140	70	28	M10X22	60	8	24	31	112	12	222	225	285	402
132S	ALL	216	108	140	89	38	M12X28	80	10	33	41	132	12	255	265	324	506
132M	ALL	216	108	178	89	38	M12X28	80	10	33	41	132	12	255	265	324	506

Cast Iron Construction

Frame Size	Pole	A	A/2	B	C	D	DB	E	F	G	H	K	AB	AC	HD	L
80	ALL	125	62.5	100	50	19	M6X16	40	6	15.5	80	10	160	166	225	296
90S	ALL	140	70	100	56	24	M8X19	50	8	20	90	10	180	188	245	318
90L	ALL	140	70	125	56	24	M8X19	50	8	20	90	10	180	188	245	343
100L	ALL	160	80	140	63	28	M10X22	60	8	24	100	12	200	210	270	380
112M	ALL	190	95	140	70	28	M10X22	60	8	24	112	12	226	230	310	400
132S	ALL	216	108	140	89	38	M12X28	80	10	33	132	12	282	270	350	470
132M	ALL	216	108	178	89	38	M12X28	80	10	33	132	12	282	270	350	510
160M	ALL	254	127	210	108	42	M16X36	110	12	37	160	15	314	325	420	615
160L	ALL	254	127	254	108	42	M16X36	110	12	37	160	15	314	325	420	660
180M	ALL	279	139.5	241	121	48	M16X36	110	14	42.5	180	15	349	366	455	700
180L	ALL	279	139.5	279	121	48	M16X36	110	14	42.5	180	15	349	366	455	740
200L	ALL	318	159	305	133	55	M20X42	110	16	49	200	19	388	410	510	770
225S	ALL	356	178	286	149	60	M20X42	140	18	53	225	19	431	460	550	810
225M	2	356	178	311	149	55	M20X42	110	16	49	225	19	431	460	550	835
	4,6,8	356	178	311	149	60	M20X42	140	18	53	225	19	431	460	550	845
250M	2	406	203	349	168	60	M20X42	140	18	53	250	24	484	500	615	920
	4,6,8	406	203	349	168	65	M20X42	140	18	58	250	24	484	500	615	920
280S	2	457	228.5	368	190	65	M20X42	140	20	58	280	24	542	570	670	980
	4,6,8	457	228.5	368	190	75	M20X42	140	18	67.5	280	24	542	570	670	980
280M	2	457	228.5	419	190	65	M20X42	140	20	58	280	24	542	570	670	1040
	4,6,8	457	228.5	419	190	75	M20X42	140	18	67.5	280	24	542	570	670	1040
315S	2	508	254	406	216	65	M20X42	140	22	58	315	28	628	640	848	1190
	4,6,8	508	254	406	216	80	M20X42	170	18	71	315	28	628	640	848	1220
315M	2	508	254	457	216	65	M20X42	140	22	58	315	28	628	640	848	1290
	4,6,8	508	254	457	216	80	M20X42	170	18	71	315	28	628	640	848	1330
315L	2	508	254	508	216	65	M20X42	140	22	58	315	28	628	640	848	1290
	4,6,8	508	254	508	216	80	M20X42	170	20	71	315	28	628	640	848	1330
355M	2	610	305	560	254	75	M24X50	140	25	67.5	355	28	726	710	1040	1495
	4,6,8	610	305	560	254	95	M24X50	170	20	86	355	28	726	710	1040	1540
355L	2	610	305	630	254	75	M24X50	140	25	67.5	355	28	726	710	1040	1495
	4,6,8	610	305	630	254	95	M24X50	170	25	86	355	28	726	710	1040	1540

Flange Mounted Dimension (B5)
Aluminum Construction

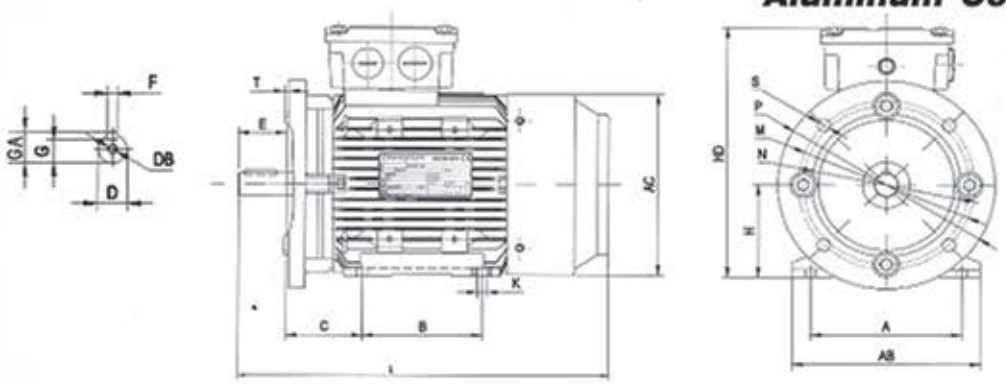


Frame Size	Pole	A	A/2	C	D	DB	E	F	G	GA	M	N	P	S	T	Flang holes	AC	AD	L
56	ALL	90	45	36	9	M3X8	20	3	7.2	10.2	100	80	120	7	3	4	120	98	192
63	ALL	100	50	40	11	M4X10	23	4	8.5	12.5	115	95	140	10	3	4	125	120	223
71	ALL	112	56	45	14	M5X12	30	5	11	16	130	110	160	10	3.5	4	145	122	248
80	ALL	125	62.5	50	19	M6X16	40	6	15.5	21.5	165	130	200	12	3.5	4	160	129	291
90S	ALL	140	70	56	24	M8X19	50	8	20	27	165	130	200	12	3.5	4	180	139	349
90L	ALL	140	70	56	24	M8X19	50	8	20	27	165	130	200	12	3.5	4	180	139	349
100L	ALL	160	80	63	28	M10X22	60	8	24	31	215	180	250	15	4	4	200	150	393
112M	ALL	190	95	70	28	M10X22	60	8	24	31	215	180	250	15	4	4	225	173	402
132S	ALL	216	108	89	38	M12X28	80	10	33	41	265	230	300	15	4	4	265	192	506
132M	ALL	216	108	89	38	M12X28	80	10	33	41	265	230	300	15	4	4	265	192	506

Cast Iron Construction

Frame Size	Pole	A	A/2	B	C	D	DB	E	F	G	GA	M	N	P	S	T	Flang holes	AC	AD	L
80	ALL	19	19	100	50	19	M6X16	40	6	15.5	21.5	165	130	200	12	3.5	4	166	145	296
90S	ALL	24	24	100	50	24	M8X19	50	8	20	27	165	130	200	12	3.5	4	188	155	318
90L	ALL	24	24	125	56	24	M8X19	50	8	20	27	165	130	200	12	3.5	4	188	155	343
100L	ALL	24	24	140	63	28	M10X22	50	8	20	31	215	180	250	15	4	4	210	170	380
112M	ALL	28	28	140	70	28	M12X28	60	8	24	31	215	180	250	15	4	4	230	198	400
132S	ALL	38	38	140	89	38	M12X28	80	10	33	41	265	230	300	15	4	4	270	218	470
132M	ALL	38	38	178	89	38	M12X28	80	10	33	41	265	230	300	19	4	4	270	218	510
160M	ALL	42	42	210	108	42	M16X36	110	12	37	45	300	250	350	19	5	4	325	260	615
160L	ALL	42	42	254	108	42	M16X36	110	12	37	45	300	250	350	19	5	4	325	260	670
180M	ALL	48	48	241	121	48	M16X36	110	14	42.5	51.5	300	250	350	19	5	4	366	275	700
180L	ALL	48	48	279	121	48	M16X36	110	14	42.5	51.5	300	250	350	19	5	4	366	275	740
200L	ALL	55	55	305	133	55	M20X42	110	16	49	59	350	300	400	19	5	4	410	310	770
225S	ALL	60	60	286	140	60	M20X42	140	18	53	64	400	350	450	19	5	8	460	325	810
225M	2	55	55	311	149	55	M20X42	110	16	49	59	400	350	450	19	5	8	460	325	835
	4,6,8	60	60	311	149	60	M20X42	140	18	53	64	400	350	450	19	5	8	460	325	845
250M	2	60	60	349	168	60	M20X42	140	18	53	64	500	450	550	19	5	8	500	365	920
	4,6,8	65	65	349	168	65	M20X42	140	18	58	69	500	450	550	19	5	8	500	365	920
280S	2	65	65	368	190	65	M20X42	140	18	58	69	500	450	550	19	5	8	570	390	980
	4,6,8	75	75	368	190	75	M20X42	140	20	67.5	79.5	500	450	550	19	5	8	570	390	980
280M	2	65	65	419	190	65	M20X42	140	18	58	69	500	450	550	19	5	8	570	390	1040
	4,6,8	75	75	419	190	75	M20X42	140	20	67.5	79.5	500	450	550	24	5	8	570	390	1040
315S	2	65	65	406	216	65	M20X42	140	18	58	69	600	550	660	24	6	8	640	533	1190
	4,6,8	80	80	406	216	80	M20X42	170	22	71	85	600	550	660	24	6	8	640	533	1220
315M	2	65	65	457	216	65	M20X42	140	18	58	69	600	550	660	24	6	8	640	533	1290
	4,6,8	80	80	457	216	80	M20X42	170	22	71	85	600	550	660	24	6	8	640	533	1330
315L	2	65	65	508	216	65	M20X42	140	18	58	69	600	550	660	24	6	8	640	533	1290
	4,6,8	80	80	508	216	80	M20X42	170	22	71	85	600	550	660	24	6	8	640	533	1330
355M	2	75	75	560	254	75	M24X50	140	20	67.5	79.5	740	680	800	24	6	8	710	685	1495
	4,6,8	95	95	560	254	95	M24X50	170	25	86	100	740	680	800	24	6	8	710	685	1540
355L	2	75	75	630	254	75	M24X50	140	20	67.5	79.5	740	680	800	24	6	8	710	685	1495
	4,6,8	95	95	630	254	95	M24X50	170	25	86	100	740	680	800	24	6	8	710	685	1540

Flange Mounted Dimension (B35)
Aluminum Construction

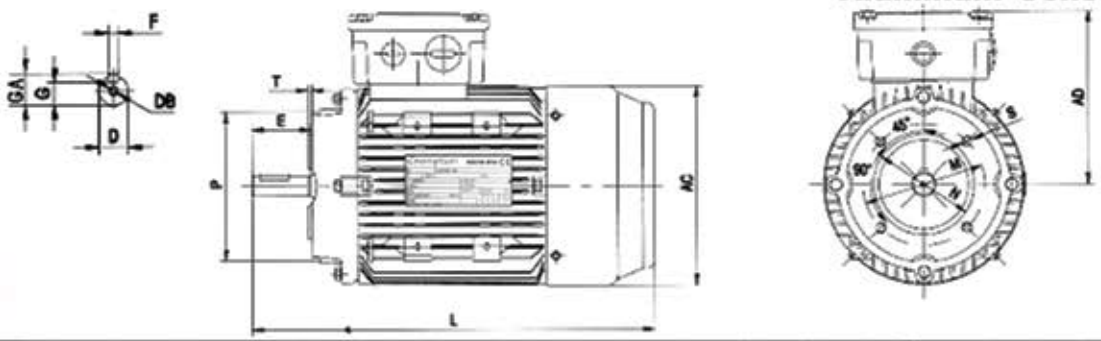


Frame size	Pole	A	B	C	D	DB	E	F	G	GA	H	K	M	N	P	S	T	Flang holes	AB	AC	HD	L
56	ALL	90	71	36	9	M3X8	20	3	7.2	10.2	56	6	100	80	120	7	3	4	110	120	154	192
63	ALL	100	80	40	11	M4X10	23	4	8.5	12.5	63	7	115	95	140	10	3	4	121	125	183	223
71	ALL	112	90	45	14	M5X12	30	5	11	16	71	7	130	110	160	10	3.5	4	139	145	193	248
80	ALL	125	100	50	19	M6X16	40	6	15.5	21.5	80	10	165	130	200	12	3.5	4	150	160	209	291
90S	ALL	140	100	56	24	M8X19	50	8	20	27	90	10	165	130	200	12	3.5	4	169	180	229	349
90L	ALL	140	125	56	24	M8X19	50	8	20	27	90	10	165	130	200	12	3.5	4	169	180	229	349
100L	ALL	160	140	63	28	M10X22	60	8	24	31	100	12	215	180	250	15	4	4	191	200	250	393
112M	ALL	190	140	70	28	M10X22	60	8	24	31	112	12	215	180	250	15	4	4	222	225	285	402
132S	ALL	216	140	89	38	M12X28	80	10	33	41	132	12	265	230	300	15	4	4	255	265	324	506
132M	ALL	216	178	89	38	M12X28	80	10	33	41	132	12	265	230	300	15	4	4	255	265	324	506

Cast Iron Construction

Frame Size	Pole	A	B	C	D	DB	E	F	G	GA	H	K	M	N	P	S	T	Flange holes	AB	AC	HD	L
80	ALL	125	100	50	19	M6X16	40	6	15.5	21.5	80	10	165	130	200	12	3.5	4	160	166	225	296
90S	ALL	140	100	56	24	M8X19	50	8	20	27	90	10	165	130	200	12	3.5	4	180	188	245	318
90L	ALL	140	125	56	24	M8X19	50	8	20	27	90	10	165	130	200	12	3.5	4	180	188	245	343
100L	ALL	160	140	63	28	M10X22	50	8	20	31	100	12	215	180	250	15	4	4	200	210	270	380
112M	ALL	190	140	70	28	M10X22	60	8	24	31	112	12	215	180	250	15	4	4	226	230	310	400
132S	ALL	216	140	89	38	M12X28	80	10	33	41	132	12	265	230	300	15	4	4	282	270	350	470
132M	ALL	216	178	89	38	M12X28	80	10	33	41	132	12	265	230	300	15	4	4	282	270	350	510
160M	ALL	254	210	108	42	M16X36	110	12	37	45	160	15	300	250	350	19	5	4	314	325	420	615
160L	ALL	254	254	108	42	M16X36	110	12	37	45	160	15	300	250	350	19	5	4	314	325	420	670
180M	ALL	279	241	121	48	M16X36	110	14	42.5	51.5	180	15	300	250	350	19	5	4	349	366	455	700
180L	ALL	279	279	121	48	M16X36	110	14	42.5	51.5	180	15	300	250	350	19	5	4	349	366	455	740
200L	ALL	318	305	133	55	M20X42	110	16	49	59	200	19	350	300	400	19	5	4	388	410	510	770
225S	ALL	356	286	149	60	M20X42	140	18	53	64	225	19	400	350	450	19	5	8	431	460	550	810
225M	2	356	311	149	55	M20X42	110	16	49	59	225	19	400	350	450	19	5	8	431	460	550	835
	4,6,8	356	311	149	60	M20X42	140	18	53	64	225	19	400	350	450	19	5	8	431	460	550	845
250M	2	406	349	168	60	M20X42	140	18	53	64	250	24	500	450	550	19	5	8	484	500	615	920
	4,6,8	406	349	168	65	M20X42	140	18	58	69	250	24	500	450	550	19	5	8	484	500	615	920
280S	2	457	368	190	65	M20X42	140	18	58	69	280	24	500	450	550	19	5	8	542	570	670	980
	4,6,8	457	368	190	75	M20X42	140	20	67.5	79.5	280	24	500	450	550	19	5	8	542	570	670	980
280M	2	457	419	190	65	M20X42	140	18	58	69	280	24	500	450	550	19	5	8	542	570	670	1040
	4,6,8	457	419	190	75	M20X42	140	20	67.5	79.5	280	24	500	450	550	19	5	8	542	570	670	1040
315S	2	508	406	216	65	M20X42	140	18	58	69	315	28	600	550	660	24	6	8	628	640	848	1190
	4,6,8	508	406	216	80	M20X42	170	22	71	85	315	28	600	550	660	24	6	8	628	640	848	1220
315M	2	508	457	216	65	M20X42	140	18	58	69	315	28	600	550	660	24	6	8	628	640	848	1290
	4,6,8	508	457	216	80	M20X42	170	22	71	85	315	28	600	550	660	24	6	8	628	640	848	1330
315L	2	508	508	216	65	M20X42	140	18	58	69	315	28	600	550	660	24	6	8	628	640	848	1290
	4,6,8	508	508	216	80	M24X50	170	22	71	85	315	28	600	550	660	24	6	8	628	640	848	1330
355M	2	610	560	254	75	M24X50	140	20	67.5	79.5	355	28	740	680	800	24	6	8	726	710	1040	1495
	4,6,8	610	560	254	95	M24X50	170	25	86	100	355	28	740	680	800	24	6	8	726	710	1040	1540
355L	2	610	630	254	75	M24X50	140	20	67.5	79.5	355	28	740	680	800	24	6	8	726	710	1040	1495
	4,6,8	610	630	254	95	M24X50	170	25	86	100	355	28	740	680	800	24	6	8	726	710	1040	1540

Face Mounted Dimension (B14)
Aluminum Construction

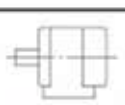


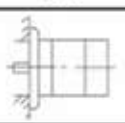
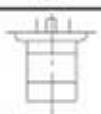
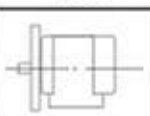
Frame Size	Pole	D	DB	E	F	G	GA	M	N	P	S	T	Flang holes	AC	AD	L
56	ALL	9	M3X8	20	3	7.2	10.2	65	50	80	M5	2	4	120	98	192
63	ALL	11	M4X10	23	4	8.5	12.5	75	60	90	M5	2.5	4	125	120	223
71	ALL	14	M5X12	30	5	11	16	85	70	105	M6	2.5	4	145	122	248
80	ALL	19	M6X16	40	6	15.5	21.5	100	80	120	M6	3	4	160	129	291
90S	ALL	24	M8X19	50	8	20	27	115	95	140	M8	3	4	180	139	349
90L	ALL	24	M8X19	50	8	20	27	115	95	140	M8	3	4	180	139	349
100L	ALL	28	M10X22	60	8	24	31	130	110	160	M8	3.5	4	200	150	393
112M	ALL	28	M10X22	60	8	24	31	130	110	160	M8	3.5	4	225	173	402
132S	ALL	38	M12X28	80	10	33	41	165	130	200	M10	3.5	4	265	192	506
132M	ALL	38	M12X28	80	10	33	41	165	130	200	M10	3.5	4	265	192	506

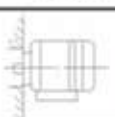
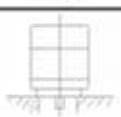
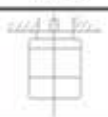
Cast Iron Construction

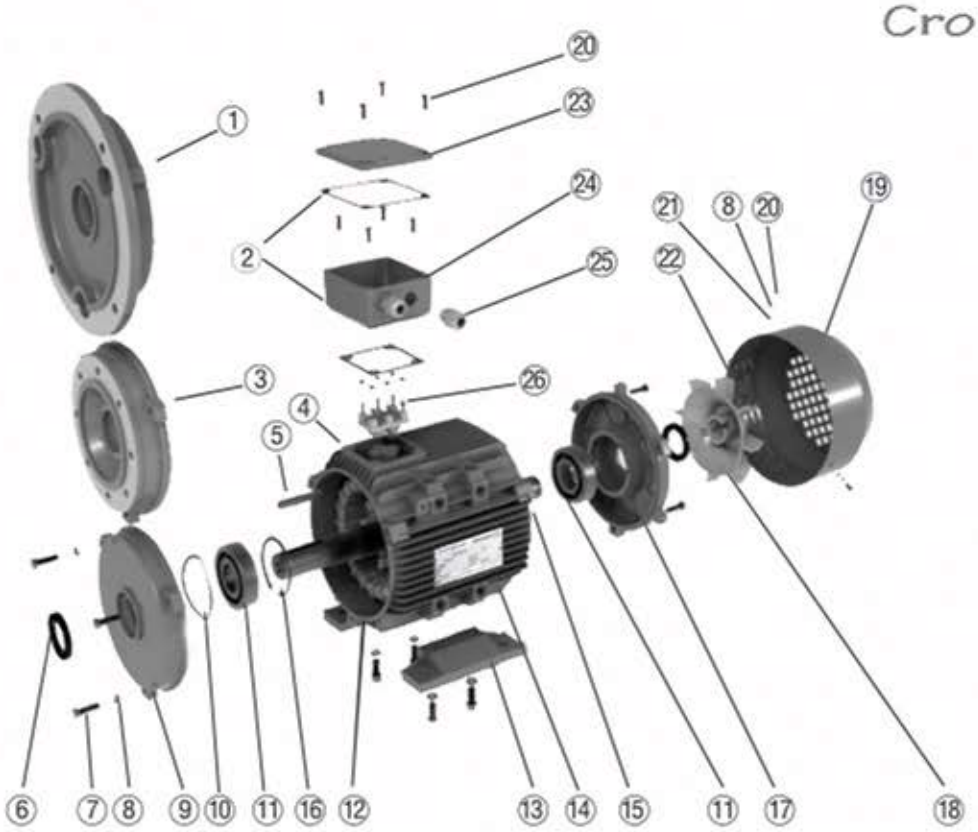
Frame Size	Pole	D	DB	E	F	G	GA	M	N	P	S	T	Flang holes	AC	AD	L
80	ALL	19	M6X16	40	6	15.5	21.5	100	80	120	M6	3	4	166	145	296
90S	ALL	24	M8X19	50	8	20	27	115	95	140	M8	3	4	188	155	318
90L	ALL	24	M8X19	50	8	20	27	115	95	140	M8	3	4	188	155	343
100L	ALL	28	M10X22	60	8	24	31	130	110	160	M8	3.5	4	210	170	380
112M	ALL	28	M10X22	60	8	24	31	130	110	160	M8	3.5	4	230	198	400
132S	ALL	38	M12X28	80	10	33	41	165	130	200	M10	3.5	4	270	218	470
132M	ALL	38	M12X28	80	10	33	41	165	130	200	M10	3.5	4	270	218	510

The mounting arrangements of the moters comply with IEC34-7 Recommendation. There are four basic arrangements shown as the following tables and figures.

Fundamental arrangement	B3					
Mounting arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of Manufacture (framesize)	56-400			56-160		

Fundamental arrangement	B5			B35		
Mounting arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of Manufacture (framesize)	56-280	56-355	56-160	56-400	56-160	

Fundamental arrangement	B14					
Mounting arrangement	B14	B34	V18	V58	V19	V69
Diagram						
Range of Manufacture (framesize)	56-132					



1. B5 Flange	8. Spring Washer	15. Rotor	22. Fan clamp
2. Gasket	9. Front Endshield	16. Circlip	23. Terminal Box Lid
3. B14 Flange	10. Wave washer	17. Rear Endshield	24. Terminal Box Base
4. Frame	11. Bearing	18. Fan	25. Cable gland
5. Key	12. Stator	19. Fan cowl	26. Terminal board
6. Oil Seal (V ring)	13. Feet	20. Screw	
7. Bolt	14. Nameplate	21. Washer	

THREE-PHASE MOTOR

BEARING SIZE

Frame Size	Poles	Drive End	Non-Drive End
		International type	International type
56	2~4	62012Z	62012Z
63	2~4	62012Z	62012Z
71	2~6	62022Z	62022Z
80	2~8	62042Z	62042Z
90	2~8	62052Z	62052Z
100	2~8	62062Z	62062Z
112	2~8	63062Z	63062Z
132	2~8	63082Z	63082Z
160	2~8	63092ZC3	63092ZC3
180	2~8	6311C3	6311C3
200	2~8	6312C3	6312C3
225	2~8	6313C3	6313C3
250	2~8	6314C3	6314C3
280	2	6314C3	6314C3
	4~8	6317C3	6317C3
315	2	6317C3	6317C3
	4~10	NU319C3	6319C3
355	2	6319C3	6319C3
	4~10	NU322C3	6322C3
400	4~10	NU326C3	6326C3

MAIN DATA FOR TERMINAL BOX

Classified number	Frame size	Max .F.Amps	Entery hole size Internaion standard
1	H56-80	2.6	2xM20x1.5
2	H90-100	6.8	2xM25x1.5
3	H112-132	15.4	2xM32x1.5
4	H160-180	42.5	2xM40x1.5
5	H200-225	84.2	2xM50x1.5
6	H250-280	166.6	2xM63x1.5
7	H315	358	2xM63x1.5
8	H355	546	2xM63x1.5
9	H400	600	3xM63x1.5



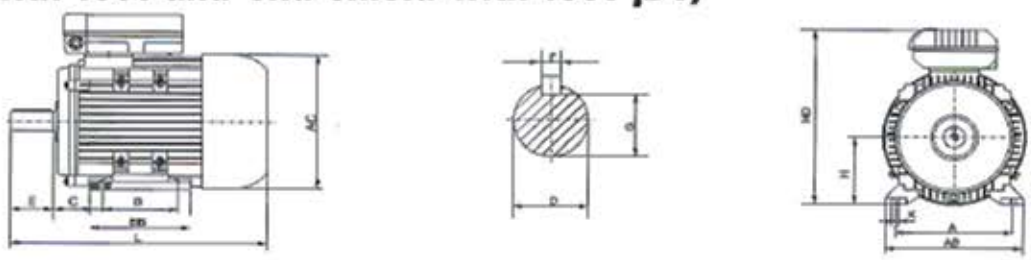

TECHNICAL DATA OF CROMPTON 220 V.

Franme reference and size	Rated power	Full load current at rated voltage	Exciter voltage	Frequency at constant power	Full load sreed in ravolution per minule	Effciency	power factor	Direct on ine starting torque ratio	Direct on ine pull out torque ratio	Locked rotor torgue	Mean sound pressure level@1m on no load
Type	Output (KW)	Amps (A)	Voltage (v)	Frequency	Speed (r/min)	EFF (%)	P.F Cosϕ	LRT / RLT	BDT / RLT	LRA	Noise LodB(A)
ML63M1-2	0.18	1.37	220	50	2790	65	0.92	0.4	1.7	5.0	70
ML63M2-2	0.25	1.87	220	50	2790	66	0.92	0.4	1.7	7.0	70

Franme reference and size	Rated power	Full load sreed in revolutions per minute	Full load current at rated voltage	Excitrer Voltage	Effciency	Power factor	Direct on ine starting forque ratio	Direct on ine pull out torque ratio	Direct on ine starting current ratio	Mean sound pressure level@1m on no load	Weight
Type	Output (KW)	Speed (r/min)	Amps (A)	Voltage (V)	EFF. (%)	P.F. Cosϕ	LRT / RLT	BDT / RLT	LRA / RLA	Noise LwdB (A)	Weight
ML711-2	0.37	2800	2.7	220	67	0.92	1.8	1.6	5.5	72	10
ML712-2	0.55	2800	3.9	220	70	0.92	1.8	1.6	5.5	72	11
ML711-4	0.25	1400	2.0	220	62	0.92	1.7	1.6	5.0	67	9
ML712-4	0.37	1400	2.8	220	65	0.92	1.7	1.6	5.0	67	10
ML801-2	0.75	2800	4.9	220	73	0.95	1.8	1.6	5.5	75	14
ML802-2	1.1	2800	7.0	220	75	0.95	1.8	1.6	5.5	75	15
ML801-4	0.55	1400	3.95	220	69	0.92	1.7	1.6	5.0	70	13
ML802-4	0.75	1400	5.05	220	71	0.95	1.7	1.6	5.0	70	14
ML90S-2	1.5	2800	9.4	220	76	0.95	1.8	1.6	5.5	78	22
ML90L-2	2.2	2800	13.7	220	77	0.95	1.7	1.6	5.5	78	24
ML90S-4	1.1	1400	7.3	220	72	0.95	1.7	1.6	5.0	73	21
ML90L-4	1.5	1400	9.7	220	74	0.95	1.7	1.6	5.0	73	23
ML100L-2	3	2800	18.2	220	79	0.95	1.7	1.6	6.0	83	24
M100L1-4	2.2	1400	13.9	220	76	0.95	1.7	1.6	5.0	78	32
ML100L2-4	3	1400	18.4	220	78	0.95	1.7	1.6	5.0	78	33
ML112M-2	3.7	2800	22.1	220	80	0.95	1.7	1.6	6.0	83	46
ML112M-4	3.7	1400	22.4	220	79	0.95	1.7	1.6	5.5	83	44
ML132-2	5.5	2800	32.5	220	81	0.95	1.7	1.6	6.0	88	66
ML132-4	5.5	1400	32.9	220	80	0.95	1.7	1.6	5.5	83	70

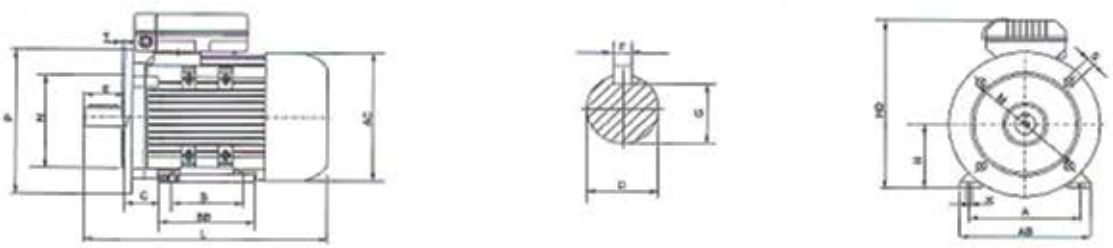
MOUNTING DATA

Frame with feet and end-shield with foot (B3)



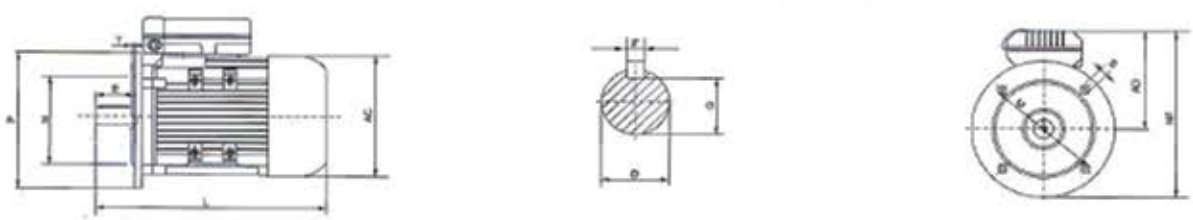
TYPE	POLES	A	B	C	D	E	F	G	H	K	AB	BB	HD	AC	L
63	2.4	100	80	40	11	23	4	8.5	63	7	135	100	182	120	217
71	2.4	80	80	45	14	30	5	11	71	7	150	112	202	136	250
80	2.4	125	100	50	19	40	6	15.6	80	10	153	125	227	160	310
90S	2.4	140	100	56	24	50	8	20	90	10	172	156	246	175	340
90L	2.4	140	125	56	24	50	8	20	90	10	172	156	246	175	340
100L	2.4	160	140	63	28	60	8	24	100	12	200	172	250	196	425
112M	2.4	190	140	70	28	60	8	24	112	12	230	181	285	220	450
132S	2.4	216	140	89	38	80	10	33	132	12	260	186	330	259	485
132M	2.4	216	178	89	38	80	10	33	132	12	260	224	330	259	525

Frame with feet and end-shield with foot (B35)



TYPE	POLES	A	B	C	D	E	F	G	H	K	P	N	M	S	T	AB	BB	AC	HD	L
63	2.4	100	80	40	11	23	4	8.5	63	7	140	95	115	10	3	135	100	120	182	217
71	2.4	80	80	45	14	30	5	11	71	7	160	110	130	12	3.5	150	112	136	202	250
80	2.4	125	100	50	19	40	6	15.6	80	10	200	130	165	12	3.5	153	125	160	227	310
90S	2.4	140	100	56	24	50	8	20	90	10	200	130	165	12	3.5	172	156	175	246	340
90L	2.4	140	125	56	24	50	8	20	90	10	200	130	165	12	3.5	172	156	175	246	340
100L	2.4	160	140	63	28	60	8	24	100	12	250	180	215	15	4	200	172	196	250	425
112M	2.4	190	140	70	28	60	8	24	112	12	250	180	215	15	4	230	181	220	285	450
132S	2.4	216	140	89	38	80	10	33	132	12	300	230	265	15	4	260	186	259	330	485
132M	2.4	216	178	89	38	80	10	33	132	12	300	230	265	15	4	260	224	259	330	525

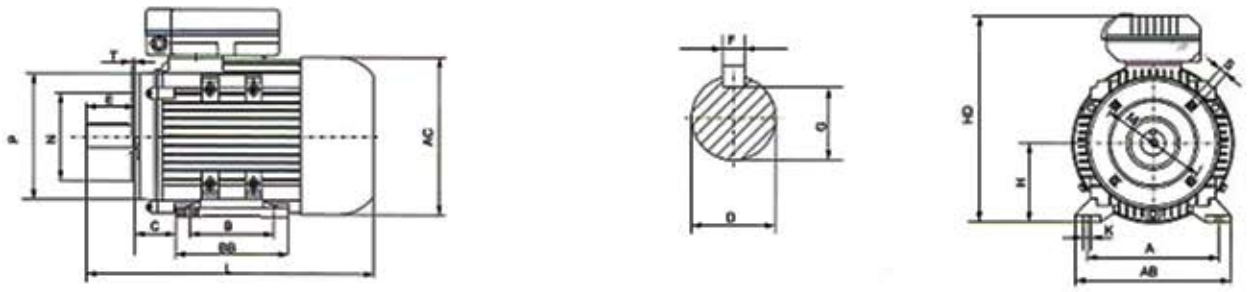
Frame with feet and end-shield with foot (B5)



TYPE	POLES	D	E	F	G	P	N	M	S	T	AD	HF	AC	L
63	2.4	11	23	4	8.5	140	95	115	10	3	119	189	120	217
71	2.4	14	30	5	11	160	110	130	12	3.5	131	211	136	250
80	2.4	19	40	6	15.5	200	130	165	12	3.5	147	247	160	310
90S	2.4	24	50	8	20	200	130	165	12	3.5	156	256	175	340
90L	2.4	24	50	8	20	200	130	165	12	3.5	156	256	175	340
100L	2.4	28	60	8	24	250	180	215	15	4	150	275	196	425
112M	2.4	28	60	8	24	250	180	215	15	4	173	298	220	450
132S	2.4	38	80	10	33	300	230	265	15	4	198	348	259	485
132M	2.4	38	80	10	33	300	230	265	15	4	198	348	259	525

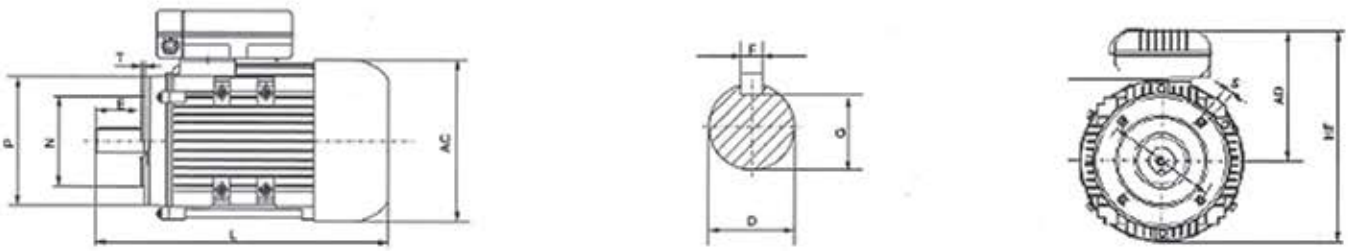
MOUNTING DATA

Frame with feet and end-shield with foot/flange (B3/B34)

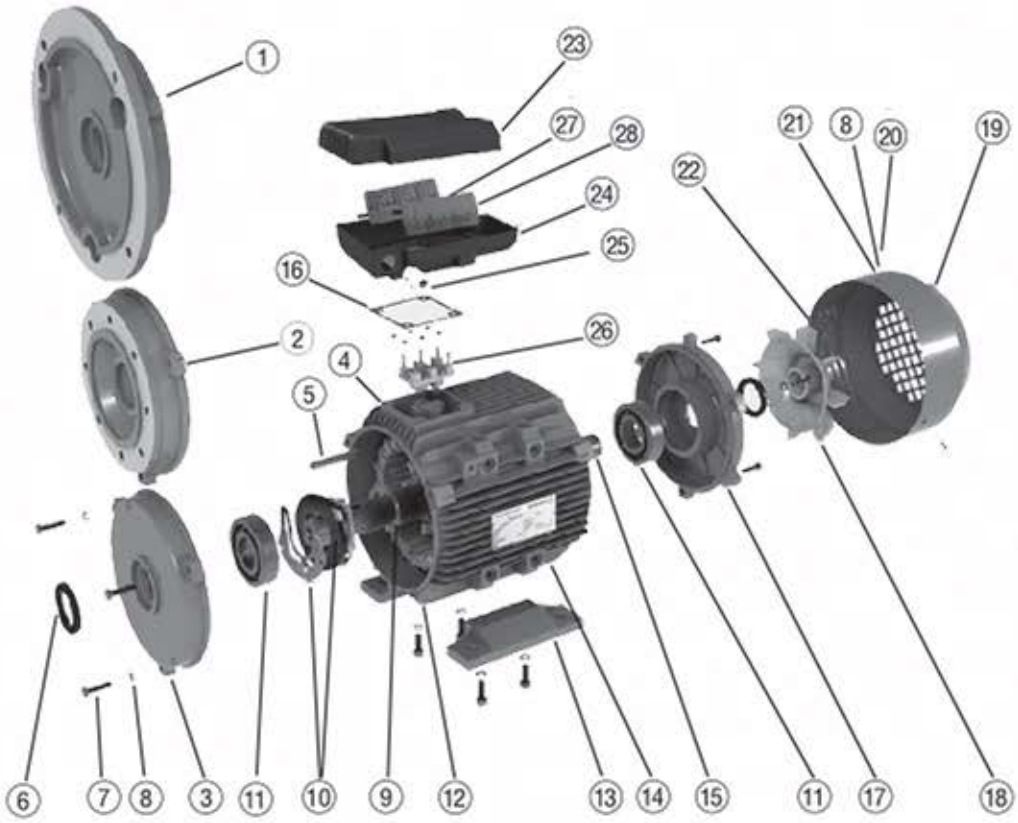


TYPE	POLES	A	B	C	D	E	F	G	H	N	P	N	M	S	T	AB	BB	AC	HD	L
63	2.4	100	80	40	11	23	4	8.5	63	95	140	95	115	M5	2.5	135	100	120	182	217
71	2.4	80	80	45	14	30	5	11	71	70	105	110	85	M6	2.5	150	112	136	202	250
80	2.4	125	100	50	19	40	6	15.6	80	80	120	130	100	M6	3.0	153	125	160	227	310
90S	2.4	140	100	56	24	50	8	20	90	95	140	130	115	M8	3.0	172	156	175	246	340
90L	2.4	140	125	56	24	50	8	20	90	95	140	130	115	M8	3.0	172	156	175	246	340
100L	2.4	160	140	63	28	60	8	24	100	110	160	180	130	M8	3.5	200	172	196	250	425
112M	2.4	190	140	70	28	60	8	24	112	110	160	180	130	M8	3.5	230	181	220	285	450
132S	2.4	216	140	89	38	80	10	33	132	130	200	230	165	M10	3.5	260	186	259	330	485
132M	2.4	216	178	89	38	80	10	33	132	130	200	230	165	M10	3.5	260	224	259	330	525

Frame with feet and end-shield with flange (B14)



TYPE	POLES	D	E	F	G	P	N	M	S	T	AD	HF	AC	L
63	2.4	11	23	4	8.5	140	95	115	M5	2.5	119	180	120	217
71	2.4	14	30	5	11	105	70	85	M6	2.5	131	198.5	136	250
80	2.4	19	40	6	15.6	120	80	100	M6	3.0	147	227	160	310
90S	2.4	24	50	8	20	140	95	115	M8	3.0	156	243.5	175	340
90L	2.4	24	50	8	20	140	95	115	M8	3.0	156	243.5	175	340
100L	2.4	28	60	8	24	160	110	130	M8	3.5	150	249	196	425
112M	2.4	28	60	8	24	160	110	150	M8	3.5	173	283	220	450
132S	2.4	38	80	10	33	200	130	165	M10	3.5	198	327.5	259	485
132M	2.4	38	80	10	33	200	130	165	M10	3.5	198	327.5	259	525



1. B5 Flange
2. B14 Flange
3. Front Endshield
4. Frame
5. Key
6. Oil Seal (V ring)
7. Bolt
8. Spring Washer
9. Circlip
10. Centrifugal Switch
11. Bearing
12. Stator
13. Feet
14. Nameplate
15. Rotor
16. Gasket
17. Rear Endshield
18. Fan
19. Fan Cover
20. Screw
21. Washer
22. Fan Clamp
23. Terminal Box Lid
24. Terminal Box Base
25. Cable Gland
26. Terminal Board
27. Running Capacitor
28. Starting Capacitor

SINGLE-PHASE ASYNCHRONOUS MOTER

Crompton series capacitor asynchronous moter are single-phase the moter of capacitor start and run. Main features : mall size high capacity, strong starting torque, high power factor and efficiency, safety and reliability in running, simple construction and easymaintenance, it possess frame No and capacity as three-phase asynchronous motors.

The rated frequency of motors in 50Hz while the rated voltage is 220V.

This series motors are of totally enclosed fan-cooted structure, class B insulation, IP44 degree of protection and IC411 method of cooling. The mounting dimensions of the motors are all in conformity with IEC standards. Mounting types ;

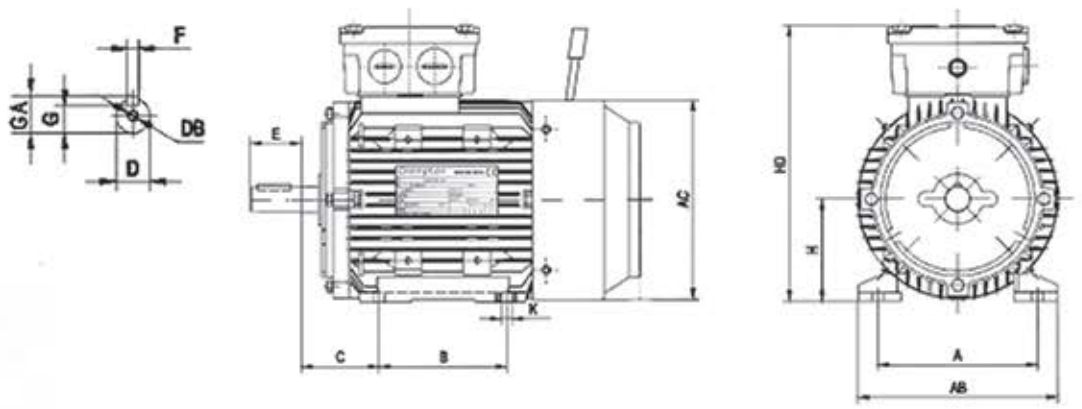
Crompton series motors are suitable for machines and equipments such as full load start.

TECHNICAL DATA DC BRAKE "MOTORS"

Franme reference and size	Rated Power	Full load sreed in revolutions per minute	Full load current at rated voltage	Effciency	Power factor	Direct on ine starting forque ratio	Direct on ine starting current ratio	Direct on ine pull out torque ratio	Rated torque	Exciter Voltage	No-load brake lag time
Type	POWER (Kw)	Speed (r/min)	Amps (A)	η (%)	Cosϕ	LRT / RLT	LRA / RLA	BDT / RLT	Static braking touque not less than N.m	(V)	(S)
801-4	0.55	1390	1.6	70.5	0.76	2.2	6.0	2.2	7.36	100	0.2
802-4	0.75	1390	2.1	72.5	0.76	2.2	6.0	2.2	7.36	100	0.2
90S-4	1.1	1400	2.7	79	0.78	2.2	6.5	2.2	14.7	100	0.25
90L-4	1.5	1400	3.7	79	0.79	2.2	6.5	2.2	14.7	100	0.25
100L1-4	2.2	1420	5.0	81	0.82	2.2	7	2.2	29.4	100	0.3
100L2-4	3	1420	6.8	82.5	0.81	2.2	7	2.2	29.4	100	0.3
112M-4	4	1440	8.8	84.5	0.82	2.2	7	2.2	39.2	170	0.35
132S-4	5.5	1440	11.6	85.5	0.84	2.2	7	2.2	73.6	170	0.4
132M-4	7.5	1440	15.4	87	0.85	2.2	7	2.2	73.6	170	0.4
160M-4	11	1460	22.6	88	0.84	2.2	7	2.2	147.2	170	0.5
160L-4	15	1460	30.3	88.5	0.85	2.2	7	2.2	147.2	170	0.5
180M-4	18.5	1470	35.9	91	0.86	2.2	7	2.2	215.8	170	0.6
180L-4	22	1470	42.5	91.5	0.86	2.2	7	2.2	215.8	170	0.6
200L-4	30	1470	56.8	82.5	0.87	2.2	7	2.2	294.3	170	0.7
225S-4	37	1480	69.8	91.8	0.87	2.2	7	2.2	414.5	170	0.8
225M-4	45	1480	84.2	92.3	0.88	2.2	7	2.2	441.5	170	0.8
801-2	0.75	2825	1.9	73	0.84	2.2	6.5	2.2	73.6	100	0.2
802-2	1.1	2825	2.6	76	0.86	2.2	7	2.2	73.6	100	0.2
90S-2	1.5	2840	3.4	79	0.85	2.2	7	2.2	14.7	100	0.25
90L-2	2.2	2840	4.7	82	0.86	2.2	7	2.2	14.7	100	0.25
100L-2	3	2880	6.4	82	0.87	2.2	7	2.2	29.4	100	0.3
112M-2	4	2890	8.2	85.5	0.87	2.2	7	2.2	39.2	170	0.35
132S1-2	5.5	2900	11.1	86.2	0.88	2.2	7	2.2	73.6	170	0.4
132S2-2	7.5	2900	15	86.2	0.88	2.2	7	2.2	73.6	170	0.4
160M1-2	11	2930	21.8	87.2	0.88	2.2	7	2.2	147.2	170	0.5
160M2-2	15	2930	29.4	88.2	0.88	2.2	7	2.2	147.2	170	0.5
160L-2	18.5	2930	35.5	89	0.89	2.2	7	2.2	147.2	170	0.5
180M-2	22	2940	42.2	89	0.89	2.2	7	2.2	215.8	170	0.6
200L1-2	30	2950	56.9	90	0.89	2.2	7	2.2	294.3	170	0.7
200L2-2	37	2950	69.8	90.5	0.89	2.2	7	2.2	294.3	170	0.7
225M-2	45	2970	83.9	91.5	0.89	2.2	7	2.2	441.5	170	0.8

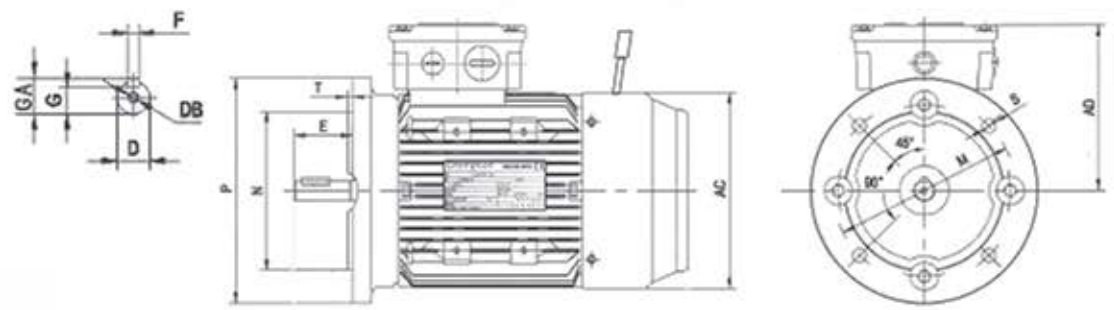
Mounting and overall dimension

Mounting arrangements B3



Frame Type	Poles	FRAME						Shaft End				AB	AC	AD	HD
		A	A/2	B	C	H	K	D	E	F	G				
80	2,4	125	62.5	100	50	80		19	40	6	15.5	165	165	150	170
90S	2,4,6	140	70		56	90	10	24	50	8	20	180	180	155	190
90L				125											
100L		160	80		63	100		28	60		24	205	205	180	245
112M		190	95	140	70	112	12					245	230	190	265
132S	2,4,6,8	213	108		89	132		38	80	10	33	280	270	210	315
132M				178											
160M		254	127	210	108	160	15	42	110	12	37	330	325	255	385
160L				254											

Mounting arrangements B5



Frame Type	Poles	Shaft End				Flarge End							AC	AD	HD
		D	E	F	G	M	N	P	R	S	T	Holes			
80	2,4	19	40	6	15.5	165	130	200	0	12	3.5	4	165	150	195
90S	2,4,6	24	50	8	20								180	155	195
90L															
100L		28	60		24	215	180	250		15	4		206	180	245
112M													230	190	265
132S	2,4,6,8	38	80	10	33	265	230	300					270	210	316
132M															
160M		42	110	12	37	300	250	350		19	5		325	255	385
160L															

Crompton

INDUCTION MOTOR

POWER BEHIND THE DRIVE

PRODUCTS CATALOGE 2012

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