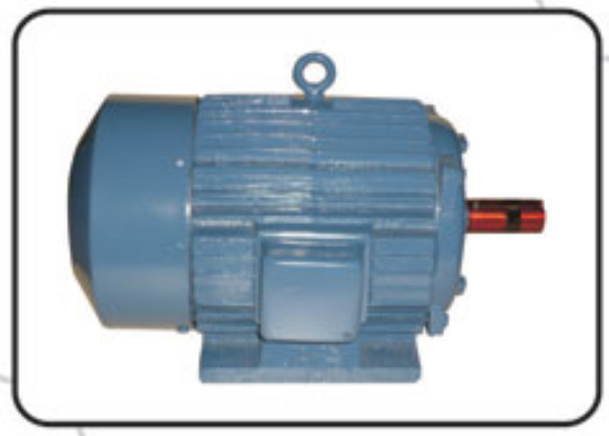
SAGE™

Sigma Electricals

Single Phase &

Three Phase

Electrical Motors



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Range :-

Three Phase :- Motor With Standard Rating And Duty cycles, Squirrel cage 0.37 KW to 22 KW With Standard Speed And Various types Of construction are available From frame size 71 to 200M.

Single Phase :-

0.37K W to 5 H.P. with Standard speed and various types of construction are available from frame size 90 to 132M.

Standards:-

Performance confirms to IS: 325 And lS:996 Also Dimensions according to IS: 1231 and IS:2223.

Frame :-

Motor are supplied in rugged cast iron frame integral feet. On request we can supply motor in aluminum body.

Rating :-

All standard Three Phase & Single Phase Motors are continuous rated to comply with performance standards.

Voltage and frequency:-

Motors are designed for 415v± 10 % Three phase 50 Hz ± 5% supply.
Also Single Phase 230v ± 10% 50 HZ-5% Supply.

Class Of Insulation :-

All standard motors are provided with class "B" insulation system. Motors with any other class of Insulation can be offered on request..

Rotor:-

Rotor are of high pressure aluminum die-cast. Its make motor low amplitudes of Vibration & Noise.

Lubrication :-

Bearing are adequately lubricated with lithium based high temp up to 150 deg. All the motors are supplied with C3 ball bearing & fully charged with lithium base grease at the time of assembly.

Earthing Terminals :-

Motor provided with minimum two earthing terminals. One in the terminal box and other on foot.

Types of Construction :-

Standard motors with single shaft extension are for horizontal foot mounting (B3 as per IS 1231). Other types of construction available on request.

Degree of Protection:-

Motors have I P44 degree of protection as a standard feature conforming to IS 4691.

Noise:

Motors are designed for low noise level in accordance with IS 12065.

Terminal Box :-

Standard location of the terminal box is on the RHS viewed From Driving end Terminal Box can be rotated in the steps of 90 degree.

Method Of starting :-

All the Motors Upto and including 2.2 Kw are connected in star internally and three terminals are brought out in the terminal box for D.O.L. Starting Motor Above 2.2 K W output are designed for continuous operation in Delta connection And Six terminals are brought out in tre terminal box for star- delta starting.

Tests :-

All Standard Motors can withstand momentary overload of 1.6 times of rated torque, for
15 seconda without stall ing. .-

Mechanical Features:-

Special Mountings, Shaft Extensions, Key way, Paint, Nameplate designs.

Paint:-

Standard Synthetic enamel (Bright Bule) paint is provided which is suitable for tropical conditions. However, special paint can be provided on request.

Application :

- Pumps
- Compressors
- Fans And Blowers
- Flour Mills, Rolling Mills, Chaff Cutter Machine Tools
- Textile And Plastic Machineries
- Printing, packaging And Wood Working Machineries Material Handling Equipments
- Cranes, hoists
- Cooling Towers, etc

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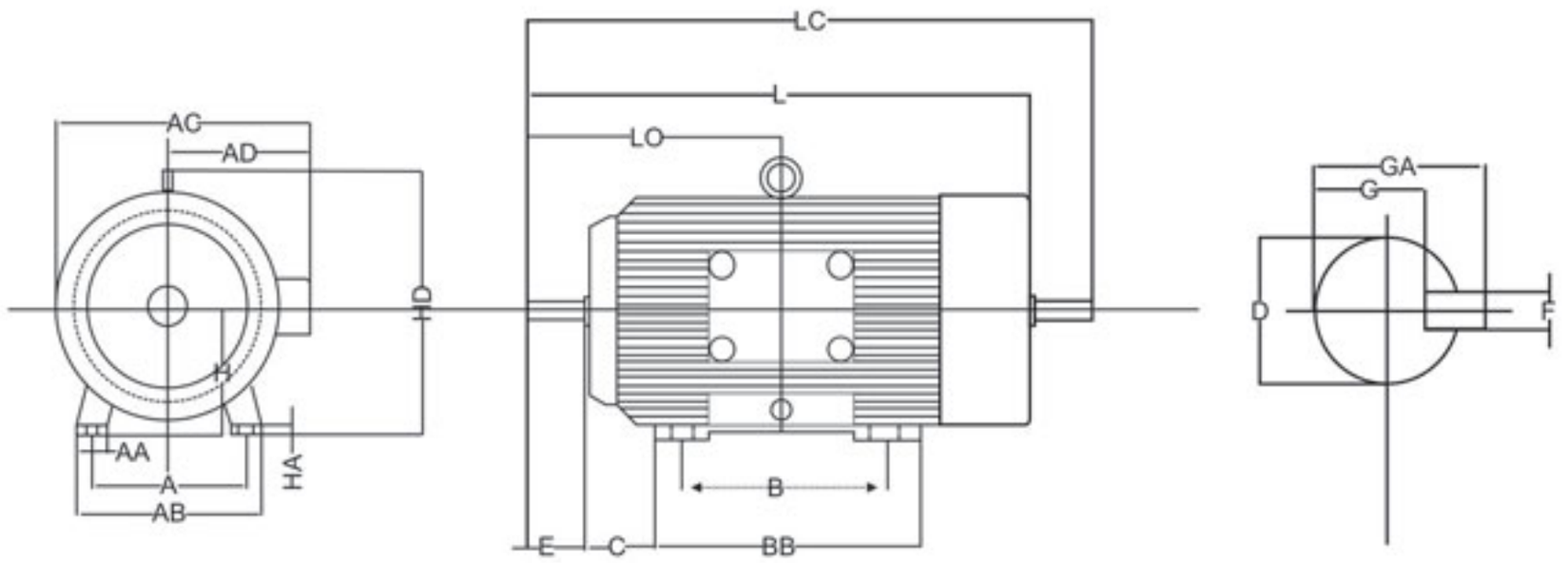
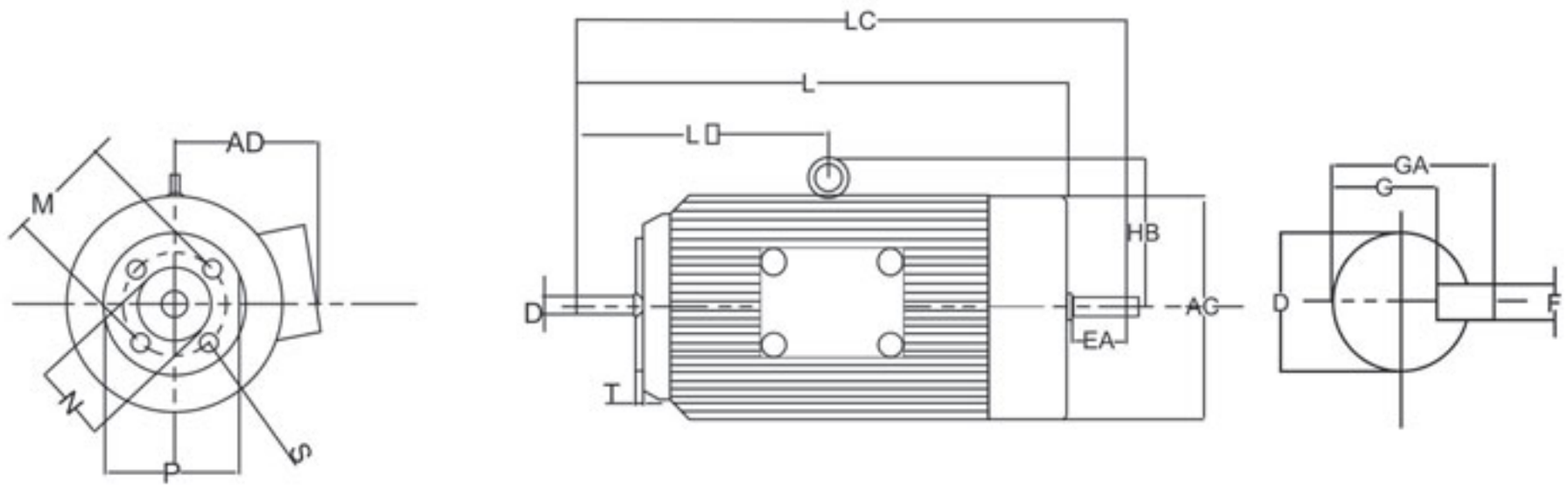
Dimensions Horizontal Foot Mounted Motors



Frame	A	B	C	H	K	L	LO	AA	AB	AC	BA	AD	BB	HA	HD	DD/A	E/EA	F	G	GA	LC
71	112	90	45	71	M6	238	123	30	142	142	35	110	110	10	140	14	30	5	11	16	271
80	125	100	50	80	M8	270	140	35	155	161	40	120	124	12	160	19	40	6	15.5	21.5	315
90L	140	125	56	90	M8	328	170	40	175	180	50	135	155	13	180	24	50	8	20	27	382
100L	160	140	63	100	M10	370	185	40	195	201	55	155	170	14	240	28	60	8	24	31	434
112M	190	140	70	112	M10	335	200	45	225	225	60	173	180	15	275	28	60	8	24	31	448
132S	216	140	89	132	M12	470	239	60	265	264	80	255	175	22	265	38	80	10	33	41	560
132M	216	178	89	132	M12	508	258	60	265	264	80	255	215	22	265	38	80	10	33	41	598
160L	254	254	108	160	M12	625	345	70	315	330	90	290	310	25	385	42	110	12	37	45	739
180L	279	279	121	180	M12	685	971	75	360	370	90	310	340	30	415	48	110	14	425	51.5	800
200L	318	305	133	200	M16	745	395	80	440	405	100	280	385	35	450	55	110	16	49	59	860

Flange Mounted Motors (B14 Contraction)



Frame	M	N	P	S	T	L	LO	LA	AD	AC	HB	D/DA	E/EA	F	G	GA	LC
71	130	110	160	10	3.5	238	123	9	110	142	70	14	30	5	11	16	271
80	165	130	200	12	3.5	270	140	10	120	151	79	19	40	6	15.5	21.5	315
90L	165	130	200	12	3.5	328	170	10	135	180	89	24	50	8	20	27	382
100L	215	180	250	15	4	370	185	11	155	201	99	28	60	8	24	31	435
112M	215	180	250	15	4	385	200	11	173	225	110	28	60	8	24	31	448
132M	265	230	300	15	4	508	258	12	255	254	270	38	80	10	33	41	598
160L	300	250	350	19	5	625	345	20	290	330	225	42	110	12	37	45	739
180L	300	250	350	19	5	685	371	20	310	370	235	48	110	14	42.5	51.5	751
200L	350	300	400	19	5	745	395	20	320	405	250	55	110	16	49	59	860

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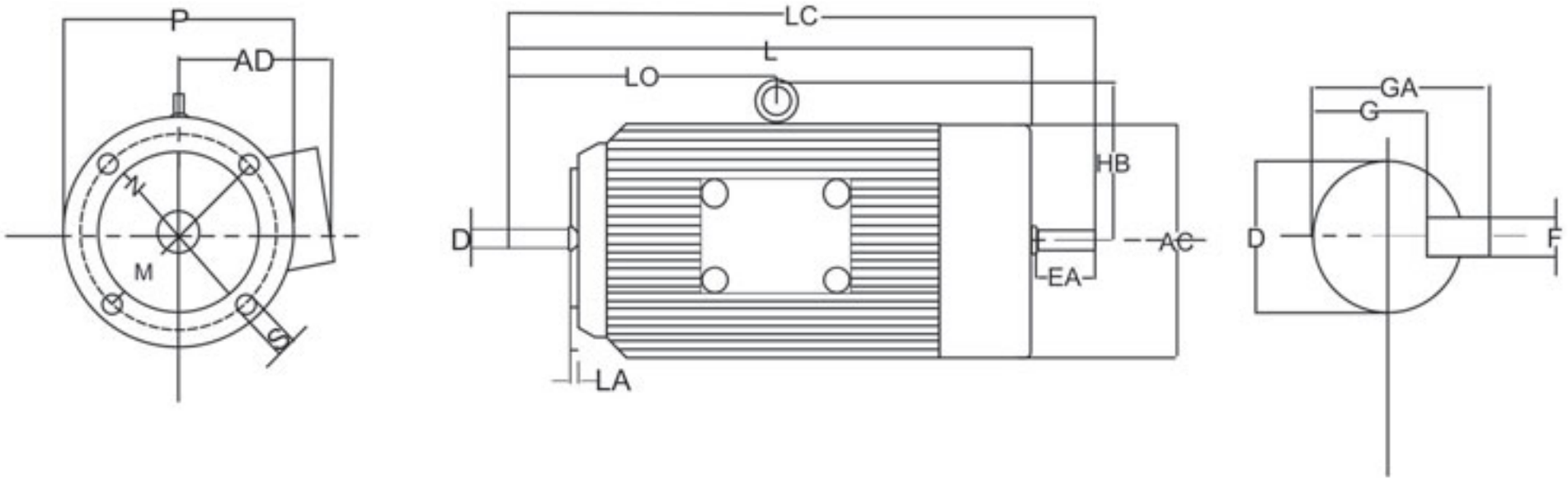
Flange Mounted Motors (B5 Contraction)



Frame	M	N	P	S	T	L	LO	AD	AC	HB	D/DA	E/EA	F	G	GA	LC
71	85	70	105	M6	2.5	238	123	110	142	70	14	30	5	11	16	271
80	100	80	120	M6	3	270	140	120	161	79	19	40	6	15.5	21.5	315
90L	115	95	140	M8	3	328	170	135	180	89	24	50	8	20	27	382
100L	130	110	160	M8	3.5	370	185	155	201	99	28	60	8	24	31	434
112M	130	110	160	M8	3.5	385	200	173	225	110	28	60	8	24	31	448
132S	165	130	200	M12	3.5	470	239	200	264	200	38	80	10	33	41	560
132M	165	130	200	M12	3.5	470	239	200	264	200	38	80	10	33	41	598

Dimensions :-

Appoximate packing Dimensions and weight of motors

Frame Size	71	80	90L	100L	112M	132S	132M	160M	160L	180L
Length mm	325	350	375	425	450	510	560	620	660	780
Breath mm	225	255	280	320	360	415	415	490	490	550
Height mm	200	225	240	310	350	400	400	425	425	500
Weight mm	12	7	26	34	45	74	90	123	145	200

Single Phase Motor Dol Starting

Motor output Kw	0.37	0.55	0.75	1.1	1.5	2.2	3.7
H.P.	0.5	0.75	1	1.5	2	3	5
Full Load Current	3.7	5	6.5	9.4	12.5	16.5	20
Over Load relay Range	1-	1-	5-	8-	8-	10-	18-
	2.5	4	10	14	14	20	24
M.C.B	6	6	10	10	16	20	32

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Star Delta Starting of Motor

Motor Rated output KW	2.2	3.7	5.5	7.5	9.3	11	15	18.5	22	30
H.P.	3.0	5	7.5	10	12.5	15	20	25	30	40
Full load Current L	4.8	7.8	11.2	15	18	21	27	33	39	47
P	2.8	4.5	6.5	9	11	12.7	16.8	20.2	23	30.6
Over Load relay Range	1.5-3	3 - 6	4-8	6-12	6-12	10-16	18-24	15-24	12-24	16-32

Cable Size Estimated Full Load Currents For Motors

H.P.	KW	Single Phase Amp.	Recommended Cable Size Sq.mm. For Single Phase		Three Phase Amp.	Recommended Cable Size Sq.mm. For Three Phase	
0.5	0.37	3.7	1.5	Copper	1.	1.5	Copper
0.75	.55	5	1.5	Copper	1.3	1.5	Copper
1	.75	6.5	1.5	Copper	1.9	1.5	Copper
1.5	1.1	9.4	1.5	Copper	2.6	1.5	Copper
2	1.5	12.5	1.5	Copper	3.7	1.5	Copper
3	2.2	16.5	2.5	Copper	4.8	1.5	Copper
5	3.7	20	4	Copper	7.8	1.5	Copper
7.5	5.5	-	-	-	11.2	1.5	Copper
10	5.5	-	-	-	15.5	2.5	Copper
12.5	9.3	-	-	-	19	2.5	Copper
15	11	-	-	-	22	6	Aluminum
20	15	-	-	-	29	10	Aluminum
25	18.5	-	-	-	35	16	Aluminum
30	22	-	-	-	40	16	Aluminum

Three Phase 6 Pole 960 R.P.M. Basic Operating Characteristics

Rated Output		FRAME	RATED CURRENT A	RATED SPEED R.P.M.	POWER FACTOR	EFFICIENCY %
K.W	H.P					
0.18	0.25	71	0.7	900	0.60	54
0.25	0.33	80	1.1	900	0.60	56
0.37	0.50	80	1.2	905	0.66	65
0.55	0.75	80	1.5	910	0.70	72
0.75	1.0	90S	2.1	920	0.72	69
1.1	1.5	90L	2.9	920	0.72	72
1.5	2.0	100L	3.8	930	0.70	77
2.2	3.0	112m	5.2	935	0.74	79
3.7	5.0	132S	8.1	940	0.78	81
5.5	7.5	132M	12.5	950	0.74	83
7.5	10	160M	16	960	0.78	84
11	15	160L	22.8	960	0.78	86
15	20	180L	27.6	970	0.85	88

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Three Phase 4 Pole 1500 R.P.M. Basic Operating Characteristics

Rated Output						
K.W	H.P	FRAME	RATED CURRENT	RATED SPEED	POWER FACTOR	EFFICIENCY
			A	R.P.M.		%
0.25	0.33	71	0.8	1370	0.73	60
0.37	0.5	71	1.1	1375	0.68	65
0.55	0.75	80	1.6	1400	0.68	67
0.75	1	80	1.9	1400	0.76	71
1.1	1.5	90	2.6	1400	0.75	77
1.5	2	90	3.6	1400	0.75	78
2.2	3	100	4.6	1415	0.82	81
3.7	5	112	7.5	1430	0.83	82
5.5	7.5	132	11.1	1440	0.82	84
7.5	10	132M	14.8	1450	0.82	86
9.3	12.5	160	18	1450	0.83	87
11	15	160	22	1450	0.80	87
15	20	160	29.5	1455	0.81	88
18.5	25	180	35	1460	0.84	88
22	30	180	42	1460	0.83	88

Single Phase 4 Pole 1500 R.P.M. Basic Operating Characteristics

K.W	H.P	FRAME	RATED CURRENT	RATED SPEED	POWER FACTOR	EFFICIENCY
			A	R.P.M.		%
0.37	0.5	90	4	1440	0.59	60
0.75	1	100	8.5	1375	0.79	75
1.1	1.5	100	12.5	1380	0.79	75
1.5	2	112	12.5	1380	0.80	76
2.2	3	112	16.5	1390	0.88	75
3.7	5	132	22.5	1400	0.91	73

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Tolerance on Dimensions

Dimension	Tolerance	Dimension	Tolerance
H	-0.5 IS : 1231		+ J IS : 2223
B.A	± 0.75	N	
K	10 0 + 0.360 12.0 + 0.430		UPTO 265MM ± 0.3
D.DA	11,14,19, 24, 280 j6 38, 420k6	M	UPTO 265MM ± 0.5 IS = 2223
GA, QC, F, FA	IS : 2048		

Specifications

Details	Three Phase	Three Phase
Range	0.5 H.P. To 30 H.P.	0.5 H.P. To 5 H. P.
RPM	3000/1500/960/720	3000/1500/960
Frame	71 To 180L	90 To 132 M
Insulation	"B"	"B"
Rating	Continuous	Continuous

OUR APPLICATION

CHAFF CUTTER

WOOD CUTTER

FLOURMILL

LATHE MACHINE

AIR COMPRESSOR

BLOWER

SAGE™

Cooling Tower Motor

Single Phase Motor

Single Phase Flange Motor

Vibrator Motor

Flange Motor

Three Phase Motor

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