

# AC Motors

AC Motors are suitable for a variety of industrial, domestic & other general purpose applications.

RANGE: 0.125 HP to 120 HP  
 FRAME SIZE : 56 to 280 in 2,4,6,8,10,12 pole design

**STANDARDS:**

- Conformance : IS 325
- Dimension : IS 1231 and 2223
- Cooling & Ventilation : IS 6362
- Degree of Protection : IS 4691. IP-54/IP-55 (Optional)
- Noise : IS 12065

**TECHNICAL SPECIFICATION**

- Voltage : 415 V  $\pm$  6%
- Frequency : 50 Hz  $\pm$  3%
- Duty : S1,S2,.. Upto S8
- Class of Insulation : B,F, class avail on request
- Enclose : T.E.F.C.
- Ambient Temp. : 40°C

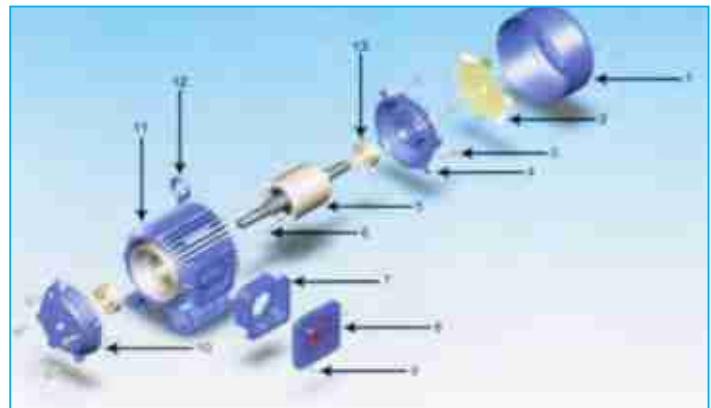
**CONSTRUCTION FEATURES:**

Housing : (Stator Frame) Cast Iron body with colling ribs  
 Rotor : Core of Insulated lamination with a high pressure die-cast Aluminum cage. The whole rotor assembly is dynamically balance to ensure quiet and vibration free operation. Surface of rotor is protected by an anti corrosion coating.

**Shalt:** Made from high carbon steel (ie. EN-8)

**Terminal Box :** Are located at right hand side of the drive end side, sealed against ingress of moisture. Also provided with conduit entry. Earthing terminal is fitted at the box-side.

High air flow external Bi-directional polypropylene fans assure low temperature rise to give an extended life of motor. Fan cowls are suitable gauge pressed steel construction, securely bolted to end shield of motor-body.



Frame Size	Beraing No.		Frame Size	Beraing No.	
	DE	NDE		DE	NDE
71	6203ZZ	6203ZZ	132	6308ZZ	6307ZZ
80	6204ZZ	6204ZZ	160	6309ZZ	6309ZZ
90	6205ZZ	6204ZZ	180	6310ZZ	6310ZZ
100	6206ZZ	6205ZZ	200	6312	6312
112	6206ZZ	6206ZZ	225	6314	6314

**WEIGHTS & SHIPPING DIMENSION :**

FRAME	56	63	71	80	90S	90L	100L	112M	132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M
wt. Gr.	5	8	11	17	19	23	37	58	85	94	140	167	202	220	298	365	410	435	550	600
(kg.) Nt.	4	7	10	16	18	22	35	45	60	70	100	135	180	190	260	325	365	390	490	540
L	24	24	28	32	38	38	45	55	65	65	80	80	90	90	95	97	97	110	123	123
BOX H	16	16	18	19	23	23	24	41	43	43	47	47	48	48	55	60	60	66	74	74
(cms) W	22	22	24	27	29	29	34	41	50	50	58	58	60	60	73	73	73	75	80	80

**CABLE SIZE OF STANDARD MOTOR :**

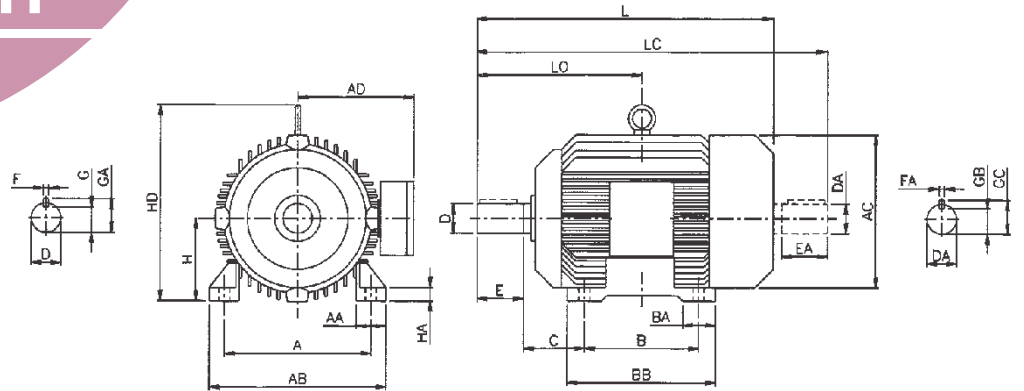
Frame Size	Max. Cable Size		Cable Entry Size	Terminal Stud Size
	DOL Starting	Star-D Starting		
56-71	3C X 2.5 mm <sup>2</sup>	-	1 X 3/4"	M4
80 - 90 - 100	3C X 4.0 mm <sup>2</sup>	-	1 X 3/4"	M4
132	3C X 10 mm <sup>2</sup>	2 X 3C X 10mm <sup>2</sup>	2 X 1"	M5
160 - 180	3C X 35 mm <sup>2</sup>	2 X 3C X 25mm <sup>2</sup>	2 X 1"	M8
200 - 225	3C X 120 mm <sup>2</sup>	2 X 3C X 70mm <sup>2</sup>	2 X 2"	M8
250 - 280	3C X 240mm <sup>2</sup>	2 X 3C X 150mm <sup>2</sup>	2 X 2 "	M10

Degree of Protection IP-44 as per IS:6362, 415 V  $\pm$  6%, 50 c/s $\pm$ 3%, Insulation Class B

## ELECTRICAL PERFORMANCE DATA

KW.	HP	Operating Characteristics at Rated Output												With Direct On Line Starting																																			
		Frame Size (IS)						Rated Speed (RPM)						Rated Current						Power Factor						Efficiency %						Starting/Rated/Current						Tst / IR						Pullout/Rated/Torque					
		2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P	2P	4P	6P	8P												
0.09	0.125	56	56					2750	1375				0.38	0.4				0.57	0.61						4.0	3.2				2.0	1.8			2.0	2.2														
0.12	0.16	56	56					2750	1375				0.47	0.5				0.57	0.63						4.1	3.4				2.0	1.9			2.1	2.2														
0.18	0.25	63	63	71	80		80	2730	1370	900	660	660	0.61	0.65	0.77	0.91	0.69	0.69	0.60	0.60	53	44	44	4.4	3.4	3.2	2.1	2.5	2.1	1.7	1.6	2.7	2.7	2.2	2.0														
0.24	0.33	63	71	80	80		80	2710	1390	900	650	650	0.78	0.8	1.07	1.20	0.70	0.72	0.60	0.62	55	50	50	4.0	3.8	3.3	2.4	2.3	2.4	1.75	1.7	2.7	2.7	2.1	2.1														
0.37	0.5	71	71	80	80	90S	90S	2790	1370	910	665	665	1.10	1.10	1.40	1.40	0.72	0.69	0.65	0.65	64	64	64	5.1	4.5	3.2	3.2	2.0	2.5	1.75	1.8	2.3	3.2	2.4	2.0														
0.55	0.75	71	80	80	80	90L	90L	2790	1400	915	700	700	1.30	1.60	1.60	2.30	0.74	0.69	0.69	0.60	73	65	71	5.1	4.7	3.5	2.6	2.4	2.5	2.1	1.8	2.4	3.2	2.5	2.1	2.1													
0.75	1.0	80	80	90S	90S	100L	100L	2820	1400	920	695	695	1.80	1.90	2.10	2.60	0.77	0.75	0.71	0.60	74	70	69	5.2	4.7	4.4	3.8	2.4	2.4	2.1	1.7	2.6	2.8	2.4	2.0	2.0													
1.1	1.5	80	90S	90L	100L	100L	100L	2820	1410	920	700	700	2.40	2.60	2.80	3.80	0.78	0.75	0.70	0.60	75	75	71	4.7	4.8	4.5	4.2	2.5	2.4	2.3	2.1	2.5	3.1	2.6	2.3	2.3													
1.5	2.0	90S	90L	100L	100L	112M	112M	2810	1410	935	705	705	3.40	3.45	3.90	4.00	0.82	0.75	0.73	0.70	76	76	75	5.1	5.3	4.6	4.2	2.5	2.7	2.0	1.9	2.7	3.0	2.6	2.0	2.0													
2.2	3.0	90L	100L	112M	132S	132S	132S	2830	1420	940	705	705	4.70	4.70	5.30	5.30	0.85	0.82	0.73	0.74	75	82	78	6.9	5.2	4.0	4.1	2.8	2.4	2.1	1.6	2.75	2.5	2.3	2.7	2.7													
3.75	5.0	100L	112M	132S	160M	160M	160M	2865	1430	945	705	720	7.20	7.70	8.30	8.80	0.86	0.81	0.77	0.74	80	83	80	6.9	5.0	4.0	4.3	2.9	2.1	2.2	2.0	2.7	2.6	2.45	2.6	2.6													
5.5	7.5	112M	132S	160M	160M	160M	160M	2910	1440	945	710	710	10.8	11.3	12.8	12.7	0.84	0.81	0.73	0.75	82	85	82	6.8	5.0	4.6	4.4	2.6	2.1	2.0	2.0	2.7	2.5	2.5	2.5	2.5	2.5												
7.5	10.0	132S	160M	160M	160M	160M	160L	2900	1445	955	720	720	14.5	14.9	16.2	16.5	0.87	0.81	0.78	0.79	80	86	85	6.9	5.0	5.9	4.6	2.4	2.0	2.1	2.2	2.5	2.5	2.4	2.5	2.4	2.5												
9.37	12.5	132M	160M	160L	160L	180L	180L	2900	1450	960	720	720	17.8	18.2	19.0	19.8	0.87	0.82	0.81	0.80	83	86	85	7.0	5.4	5.7	4.7	2.4	2.2	2.2	2.2	2.56	2.6	2.4	2.5	2.4	2.5												
11	15.0	160M	160M	160L	180L	180L	180L	2910	1455	955	720	720	20.8	23.9	23.0	24.0	0.85	0.78	0.77	0.79	84	86	85	7.0	5.3	6.0	5.1	2.3	2.4	2.2	2.0	2.5	2.6	2.5	2.4	2.4	2.4												
15	20.0	160M	160L	180L	180L			2900	1455	965			28.2	29.6	27.9		0.86	0.80	0.84	0.80				6.9	5.0	6.1		2.5	2.4	2.3		2.7	2.7	2.4															
18.5	25.0	160L	180M					2910	1460				34.0	35.0			0.86	0.82	0.83					6.8	6.4			2.3	2.4			2.5	2.6																
22	30.0	180L	180L					2890	1460				53.1	42.5			0.87	0.83	0.82					6.8	6.5			2.3	2.4			2.5	2.4																
30	40.0	200L	200L	225MX	250MX	250MX	250MX	2940	1465	978	730	730	51.5	53.0	55.0	55.8	0.89	0.86	0.83	0.80	91.0	92.0	91.0	6.5	6.0	6.0	5.0	2.1	2.2	2.1	1.8	2.5	2.5	2.4	2.0	2.0	2.0												
37	50.0	200L	225SX	250MX	280SX	280SX	280SX	2945	1470	980	730	730	63.0	65.0	67.0	69.0	0.89	0.86	0.84	0.82	92.0	92.0	91.5	6.5	6.0	6.0	5.0	2.1	2.2	2.1	1.8	2.5	2.5	2.4	2.0	2.0	2.0												
45	60.0	225M	225MX	280SX	280MX	280MX	280MX	2955	1475	982	730	730	76.0	78.0	80.0	83.0	0.89	0.87	0.85	0.83	92.5	92.5	92.0	6.5	6.0	6.0	5.0	2.1	2.2	2.1	1.8	2.5	2.5	2.4	2.0	2.0	2.0												
55	75.0	250M	250MX	280MX				2965	1475	982			91.0	95.0	97.0		0.90	0.87	0.85		93.0	93.0	92.5	7.0	6.0	6.0		2.0	2.2	2.1		2.4	2.5	2.4															
75	100.0	280S	280SX					2970	1480				124.0	130.0			0.90	0.86			93.5	93.5		7.0	6.0			1.9	2.2			2.3	2.5																
90	200.0	280M	280MX					2970	1480				148.0	155.0			0.90	0.86			94.0	94.0		7.0	6.0			1.9	2.2			2.3	2.5																

# Dimension



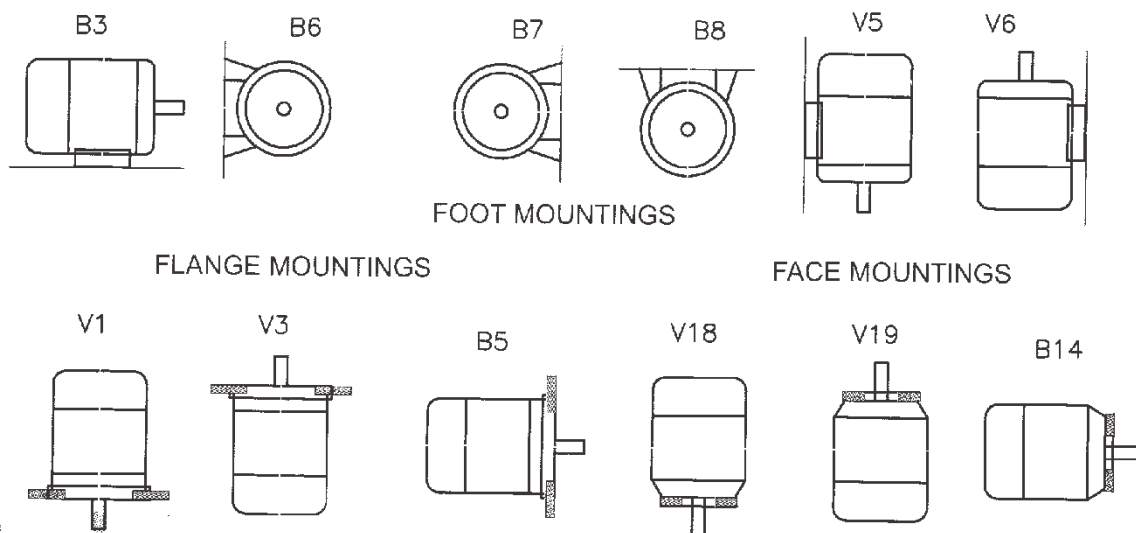
## B-3

### Construction Horizontal Foot Mouted

Frame Size	A	B	C	II	K	L	LC	LO	AA	AB	BB	BA	AC	HA	HD	AD	D, DA	E, EA	F, FA	GA, GC	G, GB
56	90	71	36	56	6	180	204	-	25	110	91	-	110	6	-	86	9	20	3	10.2	7.2
63	100	80	40	63	7	206	212	-	27	122	102	27	124	7	-	103	11	23	4	12.5	8.5
71	112	90	45	71	7	240	276	-	31	134	112	31	140	8	-	110	14	30	5	16	11
80	125	100	50	80	10	277	324	-	32	150	125	32	158	9	-	120	19	40	6	21.5	15.5
90S	140	100	56	90	10	297	354	-	33	168	124	32	180	10	-	140	24	50	8	27	20
90L	140	125	56	90	10	322	379	-	33	168	149	32	180	10	-	140	24	50	8	27	20
100L	160	140	63	100	12	366	433	-	43	200	180	46	198	14	-	152	28	60	8	31	24
112M	190	140	70	112	12	389	456	230	49	230	180	47	222	15	265	165	28	60	8	31	24
132S	216	140	89	132	12	437	524	257	52	256	180	48	262	16	305	190	38	80	10	41	33
132M	216	178	89	132	12	475	562	260	52	256	218	48	262	16	305	190	38	80	10	41	33
160M	254	210	108	160	15	576	693	354	64	304	260	60	311	20	365	235	42	110	12	45	37
160L	254	254	108	160	15	620	737	354	64	304	304	60	311	20	365	235	42	110	12	45	37
180M	279	241	121	180	15	643	760	381	65	335	297	101	336	24	405	255	48	110	14	51.5	42.5
180L	279	279	121	180	15	681	798	381	65	335	335	101	336	24	405	255	48	110	14	51.5	42.5
200L	318	305	133	200	19	760	880	416	84	386	365	74	395	26	457	290	55	110	16	59	49
225S	356	286	149	225	19	805	925	436	90	428	371	91	435	28	518	315	55	110	16	59	49
225SX	356	286	149	225	19	835	985	466	90	428	371	91	435	28	518	315	60	140	18	64	53
225M	356	311	149	225	19	805	925	436	90	428	371	91	435	28	518	315	55	140	16	59	49
225MX	356	311	149	225	19	835	985	466	90	428	371	91	435	28	518	315	60	140	18	64	53
250M	406	349	168	250	24	930	1080	524	105	490	433	93	485	38	563	385	60	140	18	64	53
250MX	406	349	168	250	24	930	1080	524	105	490	433	93	485	38	563	385	65	140	18	69	58
280S	457	368	190	280	24	1030	1180	590	100	557	483	145	540	42	618	415	65	140	18	69	58
280SX	457	368	190	280	24	1030	1180	590	100	557	483	145	540	42	618	415	75	140	20	80	68
280M	457	419	190	280	24	1030	1180	590	100	557	483	145	540	42	618	415	65	140	18	69	58
280MX	457	419	190	280	24	1030	1180	590	100	557	483	145	540	42	618	415	75	140	20	80	68

in 56, 63 terminal box located at the top side of the motor

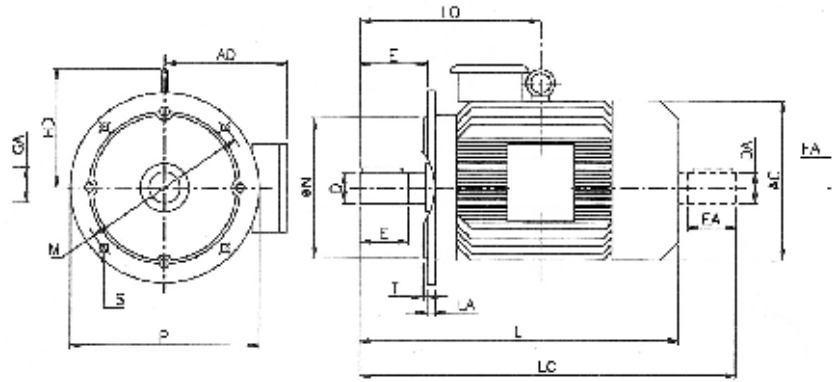
NOTE : TOP BOX AVAILABLE



# Dimension

## B-5

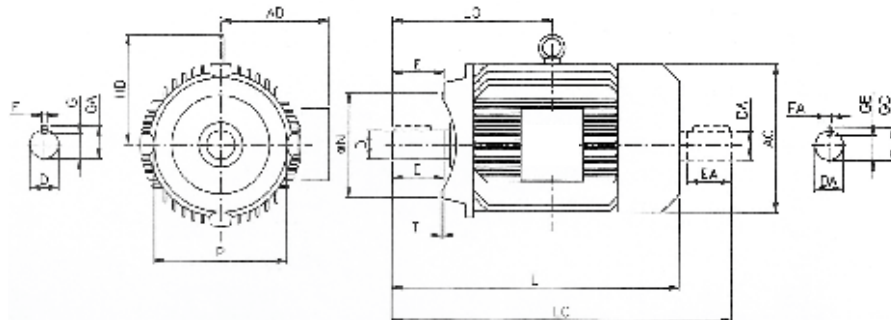
Construction  
Flange Mounted



Frame Size	L	LC	LD	AC	HD	AD	D, DA	E, EA	F, FA	GA, GC	G, GB	P max	M PCD	ON	S	No. of Hole	T max	LA
56	180	204	-	110	-	86	9	20	3	10.2	7.2	140	115	95	10	4	3	9
63	216	222	-	124	-	103	11	23	4	12.5	8.5	140	115	95	10	4	3	9
71	240	276	-	140	-	110	14	30	5	16	11	160	130	110	10	4	3.5	9
80	277	324	-	158	-	120	19	40	6	21.5	15.5	200	165	130	12	4	3.5	10
90S	297	354	-	180	-	140	24	50	8	27	20	200	165	130	12	4	3.5	10
90L	322	379	-	180	-	140	24	50	8	27	20	200	165	130	12	4	3.5	10
100L	366	433	-	198	-	152	28	60	8	31	24	250	215	180	15	4	4	11
112M	389	456	230	222	265	165	28	60	8	31	24	250	215	180	15	4	4	11
132S	437	524	257	262	305	190	38	80	10	41	33	300	265	230	15	4	4	12
132M	475	562	260	262	305	190	38	80	10	41	33	300	265	230	15	4	4	12
160M	576	693	354	311	365	235	42	110	12	45	37	350	300	250	19	4	5	13
160L	620	737	354	311	365	235	42	110	12	45	37	350	300	250	19	4	5	13
180M	643	760	381	336	405	255	48	110	14	52	43	350	300	250	19	4	5	13
180L	681	798	381	336	405	255	48	110	14	52	43	350	300	250	19	4	5	13
200L	760	880	416	395	457	290	55	110	16	59	49	400	350	300	19	4	5	15
225S	805	925	436	435	518	315	55	110	16	59	49	450	400	350	19	8	5	16
225SX	835	985	466	435	518	315	60	140	18	64	53	450	400	350	19	8	5	16
225M	805	925	436	435	518	315	55	110	16	59	49	450	400	350	19	8	5	16
225MX	835	985	466	435	518	315	60	140	18	64	53	450	400	350	19	8	5	16
250M	930	1080	524	485	563	385	60	140	18	64	53	550	500	450	24	8	5	18
250MX	930	1080	524	485	563	385	65	140	18	69	58	550	500	450	24	8	5	18
280S	1030	1180	590	540	618	415	65	140	18	69	58	550	500	450	24	8	5	18
280SX	1030	1180	590	540	618	415	75	140	20	80	68	550	500	450	24	8	5	18
280M	1030	1180	590	540	618	415	65	140	18	69	58	550	500	450	24	8	5	18
280MX	1030	1180	590	540	618	415	75	140	20	80	68	550	500	450	24	8	5	18

## B-14

Construction  
Face Mounted



Frame Size	L	LC	LD	AC	HD	AD	D, DA	E, EA	F, FA	GA, GC	G, GB	P max	M PCD	ON	S	No. of Hole	T max
56	180	204	-	110	-	86	9	20	3	10.2	7.2	80	65	50	M5	4	2.5
63	206	212	-	124	-	103	11	23	4	12.5	8.5	90	75	60	M5	4	2.5
71	240	276	-	140	-	110	14	30	5	16	11	105	85	70	M6	4	2.5
80	277	324	-	158	-	120	19	40	6	22	16	120	100	80	M6	4	3
90S	297	354	-	180	-	140	24	50	8	27	20	140	115	95	M8	4	3
90L	322	379	-	180	-	140	24	50	8	27	20	140	115	95	M8	4	3
100L	366	433	-	198	-	152	28	60	8	31	24	160	130	110	M8	4	3.5
112M	389	456	230	222	265	165	28	60	8	31	24	160	130	110	M8	4	3.5
132S	437	524	257	262	305	190	38	80	10	41	33	200	165	130	M12	4	3.5
132M	475	562	260	262	305	190	38	80	10	41	33	200	165	130	M12	4	3.5
160M	576	693	354	311	365	235	42	110	12	45	37	250	215	180	M12	4	4
160L	620	737	354	311	365	235	42	110	12	45	37	250	215	180	M12	4	4