

dharani[®] MOTORS

ENERGY EFFICIENT MOTORS

Cutting-edge Technology... Powered by Quality...
Designed to Deliver... Engineered for Excellence...

IE2 IE3 **CE**



0.25 to 75 HP
2/4/6/8 Pole &
Custom made Motors



Engineers Solution



ASIA ENGINEERING

*Thinner steel laminations
decrease eddy current losses*

*More copper wire of larger
diameter in the stator saves
energy by reducing the
resistance of the stator
winding*

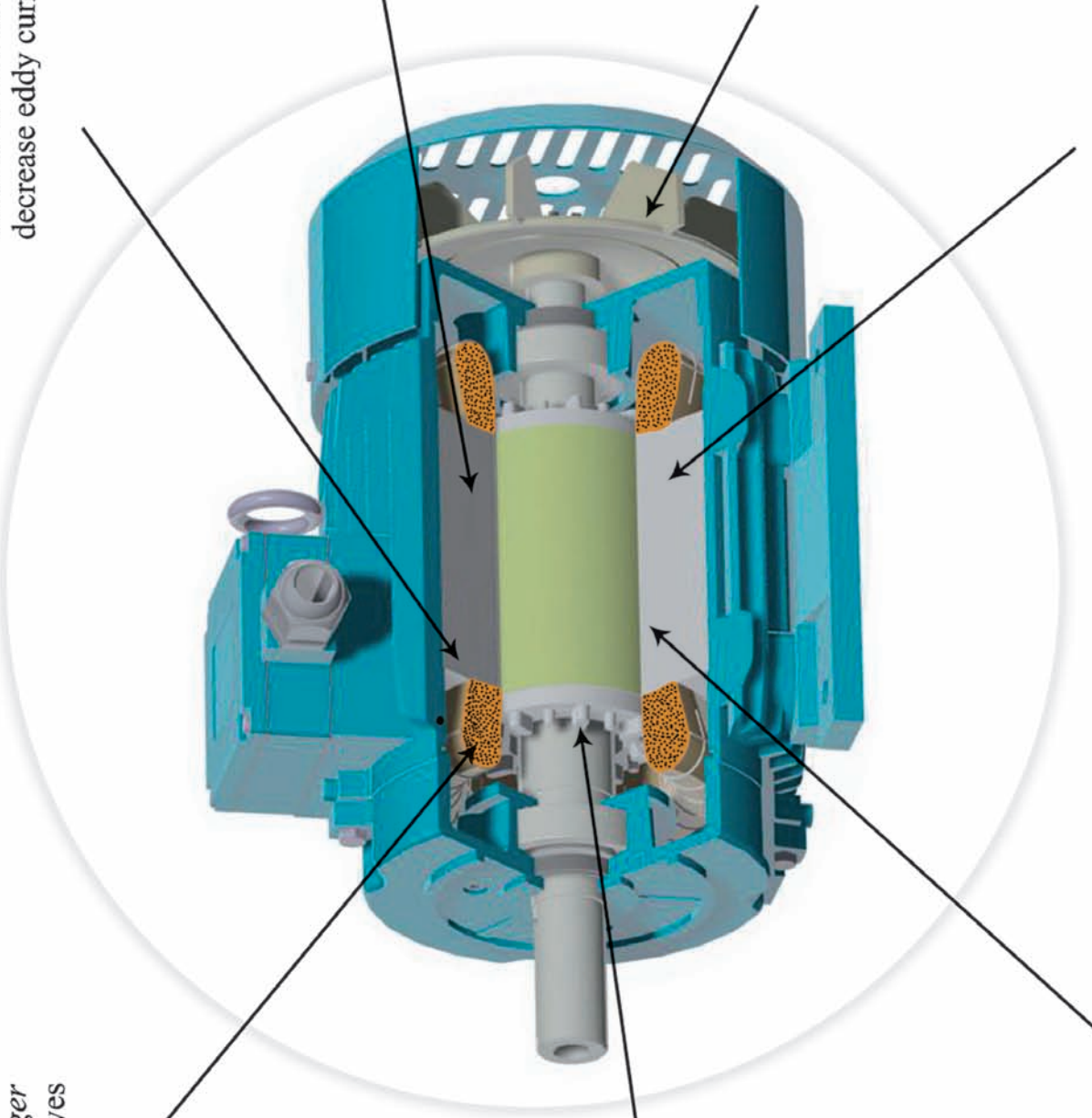
*Longer stator lowers
magnetic density and
increases cooling
capacity. As a result,
both magnetic and load
losses are reduced*

*Larger conductive bars
and end rings reduce
rotor resistance losses*

*Efficient cooling fan
design improves air
flow and reduces
power required to
drive the fan*

*Premium grade steel
core reduces hysteresis
power losses*

*Modified stator slot design helps to
decrease magnetic losses and makes
room for larger diameter wire*



dharanji[®] MOTORS – Modern ERA in Energy Efficient Motors

dharanji[®] MOTORS are Energy Efficient Motors that gives same output power by consuming lesser amount of power. Energy-efficient **dharanji[®] MOTORS** has longer insulation and bearing lives, lower heat output and less vibration. In addition, **dharanji[®] MOTORS** are more tolerant of overload conditions and phase imbalance which results in no failures.

Quality Policy

“Asia Engineering is committed to satisfy the customer through Efficient Manufacture and timely supply of Products through involvement of Employees and Suppliers”.

Energy Efficient dharanji[®] MOTORS - Technical Overview

Standards	: IS 12615 : 2011, EN 60034 - 1 : 2004, EN 60204 - 1 : 2006
Frame Size	: 63 to 250M
Output Range	: 0.18 kW to 55 kW 0.25 HP to 75 HP
Number of Poles	: 2/4/6/8
Protection	: IP 54/55
Phase / Voltage	: 3 / 415V $\pm$ 10% or as required
Frequency	: 50 Hz $\pm$ 5% or as required
Duty	: S1 Continuous (S2 - S9 upon request)
Mounting Types	: B3 (Foot), B5 (Flange), B14 (Face), B35 (Foot & Flange), B34 (Foot & Face)
Cooling Type	: Surface Air and Fan Cooled
Temperature Class	: F Class (Temperature rise limited to B Class)
Ambient Temperature	: -10°C to 40°C
Altitude	: Upto 1000 m above mean sea level

Advantages of Energy Efficient dharanji[®] MOTORS

- ❖ Increased Efficiency
- ❖ Vacuum Pressure Impregnation treated
- ❖ Extended motor life and re-greasing intervals due to lower motor temperature
- ❖ Additional reduction in operating costs
- ❖ High overload capacity in continuous mode
- ❖ Highly reliable with longer bearing life, due to higher bearing sizes
- ❖ Less harmful to the environment due to lower heat generation
- ❖ Very low maintenance cost
- ❖ Mountings can be modified to meet most specifications
- ❖ Spacious terminal box
- ❖ Suitable for VFD applications (To be specified)

Construction Details

- ❖ 63 Frame to 90S Frame - Motor body in aluminium
- ❖ 90L Frame to 180M Frame - Motor body in aluminium / cast iron
- ❖ 200L Frame to 250M Frame - Motor body in cast iron
- ❖ End shields made of aluminium / cast iron
- ❖ Cylindrical shaft made of 45C8 / SS 410
- ❖ Rotors are pressure die cast and dynamically balanced with shaft and key
- ❖ Stator core pack is built from low loss electrical grade steel lamination
- ❖ Terminal box rotation in steps of 90°
- ❖ Cooling fan made of nylon / aluminium material and designed for better cooling
- ❖ Cooling fan cover made of sheet metal

Performance Data : 3 Phase, 415V, 50 Hz, IE 2

Rated Output HP (kW)	No. of Poles	RPM (sync)	Frame Size/Const.	100% Load			Breakaway	
				RPM	Eff%	A	I rated	T rated
0.50 (0.37)	2	3000	71/AL	2750	72.2	1.20	6.5	1.7
	4	1500	71/AL	1330	70.1	1.40	6.0	1.7
	6	1000	80/AL	870	69.0	1.40	6.0	1.6
0.75 (0.55)	2	3000	71/AL	2760	74.8	1.60	6.5	1.7
	4	1500	80/AL	1340	75.1	1.70	6.0	1.7
	6	1000	80/AL	870	72.9	1.90	6.0	1.6
1.00 (0.75)	2	3000	80/AL	2780	77.4	2.00	6.5	1.7
	4	1500	80/AL	1360	79.6	2.20	6.0	1.7
	6	1000	90S/AL	890	75.9	2.30	6.0	1.6
1.50 (1.10)	2	3000	80/AL	2790	79.6	2.80	6.5	1.7
	4	1500	90S/AL	1370	81.4	2.90	6.0	1.7
	6	1000	90L/AL/CI	900	78.1	3.20	6.0	1.6
2.00 (1.50)	2	3000	90S/AL	2800	81.3	3.70	6.5	1.7
	4	1500	90L/AL/CI	1380	82.8	3.80	6.0	1.7
	6	1000	100L/AL/CI	900	79.8	4.00	6.0	1.6
3.00 (2.20)	2	3000	90L/AL/CI	2810	83.2	5.00	7.0	1.7
	4	1500	100L/AL/CI	1390	84.3	5.10	7.0	1.7
	6	1000	112M/AL/CI	910	81.8	5.50	7.0	1.5
5.00 (3.70)	2	3000	100L/AL/CI	2820	85.5	8.00	7.0	1.6
	4	1500	112M/AL/CI	1410	86.3	8.10	7.0	1.6
	6	1000	132S/AL/CI	920	84.3	8.80	7.0	1.5
7.50 (5.50)	2	3000	132S/AL/CI	2830	87.0	11.00	7.0	1.6
	4	1500	132S/AL/CI	1420	87.7	11.40	7.0	1.6
	6	1000	132M/AL/CI	920	86.0	12.70	7.0	1.5
10.00 (7.50)	2	3000	132S/AL/CI	2840	88.1	15.00	7.0	1.6
	4	1500	132M/AL/CI	1430	88.7	15.40	7.0	1.6
	6	1000	160M/AL/CI	930	87.2	16.70	7.0	1.5
12.50 (9.30)	2	3000	160M/AL/CI	2840	88.8	18.50	7.0	1.6
	4	1500	160M/AL/CI	1430	89.3	18.50	7.0	1.6
	6	1000	160L/AL/CI	930	88.0	20.50	7.0	1.4
15.00 (11.00)	2	3000	160M/AL/CI	2860	89.4	21.50	7.0	1.6
	4	1500	160M/AL/CI	1440	89.8	22.00	7.0	1.6
	6	1000	160L/AL/CI	935	88.7	23.00	7.0	1.4
20.00 (15.00)	2	3000	160M/AL/CI	2870	90.3	29.00	7.0	1.6
	4	1500	160L/AL/CI	1440	90.6	30.00	7.0	1.6
	6	1000	180L/AL/CI	940	89.7	30.50	7.0	1.4
25.00 (18.50)	2	3000	160L/AL/CI	2880	90.9	35.00	7.0	1.6
	4	1500	180M/AL/CI	1440	91.2	36.00	7.0	1.6
	6	1000	200L/CI	940	90.4	37.50	7.0	1.4
30.00 (22.00)	2	3000	180M/AL/CI	2890	91.3	41.50	7.0	1.6
	4	1500	180L/AL/CI	1440	91.6	43.00	7.0	1.6
	6	1000	200L/CI	945	90.9	44.00	7.0	1.4
40.00 (30.00)	2	3000	200L/CI	2900	92.0	54.00	7.0	1.6
	4	1500	200L/CI	1450	92.3	56.00	7.0	1.6
	6	1000	225M/CI	945	91.7	59.00	7.0	1.4
50.00 (37.20)	2	3000	200L/CI	2900	92.5	67.00	7.0	1.6
	4	1500	225S/CI	1450	92.7	69.00	7.0	1.6
	6	1000	250M/CI	950	92.2	72.00	7.0	1.6
60.00 (45.00)	2	3000	225M/CI	2955	92.9	80.00	7.0	1.6
	4	1500	225M/CI	1460	93.1	84.00	7.0	1.6
75.00 (55.00)	2	3000	250M/CI	2960	93.2	95.00	7.0	1.6
	4	1500	250M/CI	1460	93.5	99.00	7.0	1.6

Al - Aluminium, CI - Cast Iron

0.50 HP & 0.75 HP - As per IS Standards

Performance Data : 3 Phase, 415V, 50 Hz, IE 3

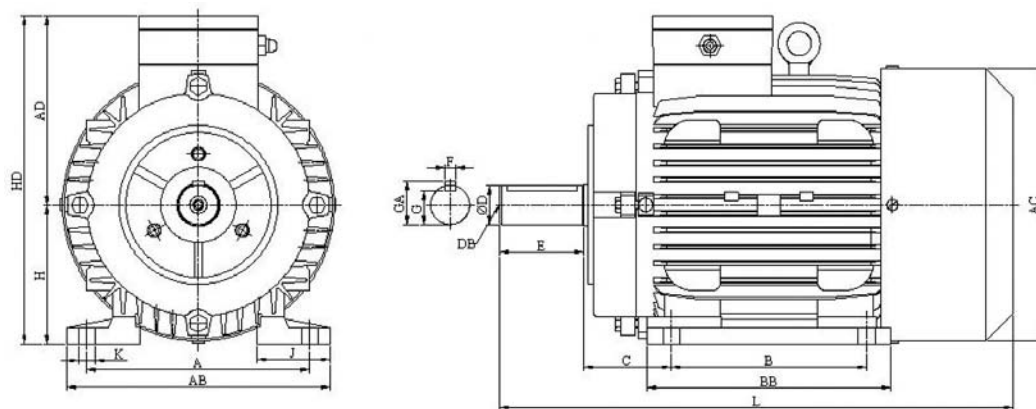
Rated Output HP (kW)	No.of Poles	RPM (sync)	Frame Size/Const.	100% Load			Breakaway	
				RPM	Eff%	A	I rated	T rated
0.50 (0.37)	2	3000	71/AL	2750	75.5	1.20	7.0	1.7
	4	1500	71/AL	1330	73.0	1.40	6.5	1.7
	6	1000	80/AL	870	71.9	1.40	6.5	1.6
0.75 (0.55)	2	3000	71/AL	2760	78.1	1.60	7.0	1.7
	4	1500	80/AL	1340	78.0	1.70	6.5	1.7
	6	1000	80/AL	870	75.9	1.90	6.5	1.6
1.00 (0.75)	2	3000	80/AL	2780	80.7	2.00	7.0	1.7
	4	1500	80/AL	1360	82.5	2.20	6.5	1.7
	6	1000	90S/AL	890	78.9	2.30	6.5	1.6
1.50 (1.10)	2	3000	80/AL	2790	82.7	2.80	7.0	1.7
	4	1500	90S/AL	1370	84.1	2.90	6.5	1.7
	6	1000	90L/AL/CI	900	81.0	3.20	6.5	1.6
2.00 (1.50)	2	3000	90S/AL	2800	84.2	3.70	7.0	1.7
	4	1500	90L/AL/CI	1380	85.3	3.80	6.5	1.7
	6	1000	100L/AL/CI	900	82.5	4.00	6.5	1.6
3.00 (2.20)	2	3000	90L/AL/CI	2810	85.9	5.00	7.7	1.7
	4	1500	100L/AL/CI	1390	86.7	5.10	7.5	1.7
	6	1000	112M/AL/CI	910	84.3	5.50	7.5	1.5
5.00 (3.70)	2	3000	100L/AL/CI	2820	87.8	8.00	7.7	1.6
	4	1500	112M/AL/CI	1410	88.4	8.10	7.5	1.6
	6	1000	132S/AL/CI	920	86.5	8.80	7.5	1.5
7.50 (5.50)	2	3000	132S/AL/CI	2830	89.2	11.00	7.7	1.6
	4	1500	132S/AL/CI	1420	89.6	11.40	7.5	1.6
	6	1000	132M/AL/CI	920	88.0	12.70	7.5	1.5
10.00 (7.50)	2	3000	132S/AL/CI	2840	90.1	15.00	7.7	1.6
	4	1500	132M/AL/CI	1430	90.4	15.40	7.5	1.6
	6	1000	160M/AL/CI	930	89.1	16.70	7.5	1.5
12.50 (9.30)	2	3000	160M/AL/CI	2840	90.7	18.50	7.7	1.6
	4	1500	160M/AL/CI	1430	91.0	18.50	7.5	1.6
	6	1000	160L/AL/CI	930	89.7	20.50	7.5	1.4
15.00 (11.00)	2	3000	160M/AL/CI	2860	91.2	21.50	7.7	1.6
	4	1500	160M/AL/CI	1440	91.4	22.00	7.5	1.6
	6	1000	160L/AL/CI	935	90.3	23.00	7.5	1.4
20.00 (15.00)	2	3000	160M/AL/CI	2870	91.9	29.00	7.7	1.6
	4	1500	160L/AL/CI	1440	92.1	30.00	7.5	1.6
	6	1000	180L/AL/CI	940	91.2	30.50	7.5	1.4
25.00 (18.50)	2	3000	160L/AL/CI	2880	92.4	35.00	7.7	1.6
	4	1500	180M/AL/CI	1440	92.6	36.00	7.5	1.6
	6	1000	200L/CI	940	91.7	37.50	7.5	1.4
30.00 (22.00)	2	3000	180M/AL/CI	2890	92.7	41.50	7.7	1.6
	4	1500	180L/AL/CI	1440	93.0	43.00	7.5	1.6
	6	1000	200L/CI	945	92.2	44.00	7.5	1.4
40.00 (30.00)	2	3000	200L/CI	2900	93.3	54.00	7.7	1.6
	4	1500	200L/CI	1450	93.8	56.00	7.5	1.6
	6	1000	225M/CI	945	92.9	59.00	7.5	1.4
50.00 (37.20)	2	3000	200L/CI	2900	93.7	67.00	7.7	1.6
	4	1500	225S/CI	1450	93.9	69.00	7.5	1.6
	6	1000	250M/CI	950	93.3	72.00	7.5	1.4
60.00 (45.00)	2	3000	225M/CI	2955	94.0	80.00	7.7	1.6
	4	1500	225M/CI	1460	94.2	84.00	7.5	1.6
75.00 (55.00)	2	3000	250M/CI	2960	94.3	95.00	7.7	1.6
	4	1500	250M/CI	1460	94.6	99.00	7.5	1.6

Al - Aluminium, CI - Cast Iron

0.50 HP & 0.75 HP - As per IS Standards

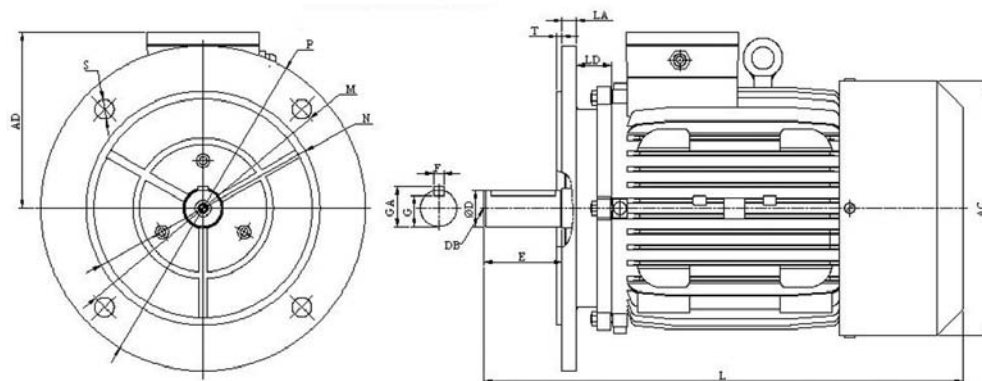
Dimension Details:

THREE PHASE MOTOR : FOOT MOUNTING (B3)



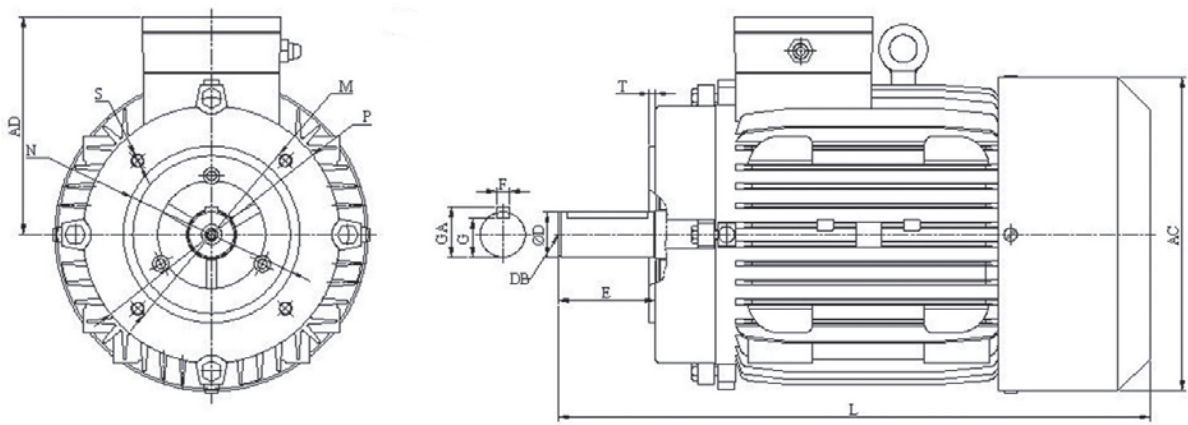
S.No.	Frame size	Mounting Dimensions												Overall Dimensions					
		A	B	C	D	E	F	G	GA	J	H	K	DB	AB	AC	BB	HD	AD	L
1	63	100	80	40	11	23	4	8.5	12.5	27	63	7	M4	118	117	96	154	91	203.5
2	71	112	90	45	14	30	5	11	16	29	71	7.5	M5	132	133.5	110	172	101	246
3	80	125	100	50	19	40	6	15.5	21.5	28	80	15x10	M6	153	160	125	204	124	272
4	90S	140	100	56	24	50	8	20	27	40	90	15x10	M8	170	178	125	216	126	316
5	90L	140	125	56	24	50	8	20	27	46	90	10	M8	167.5	178	160	220	130	337
6	100L	160	140	63	28	60	8	24	31	53	100	12	M10	189.5	195	175	235	135	369
7	112M	190	140	70	28	60	8	24	31	61	112	12	M10	219.5	220	175	259	147	379
8	132S	216	140	89	38	80	10	33	41	66	132	12	M12	245.5	260	180	314	182	480
9	132M	216	178	89	38	80	10	33	41	66	132	12	M12	245.5	260	216	314	182	480
10	160M	254	210	108	42	110	12	37	45	74	160	15	M16	287.5	307	264	380	220	628
11	160L	254	254	108	42	110	12	37	45	74	160	15	M16	287.5	307	304	380	220	628
12	180M	279	241	121	48	110	14	42.5	51.5	70	180	15	M16	312.5	353	291	414	234	705
13	180L	279	279	121	48	110	14	42.5	51.5	70	180	15	M16	312.5	353	329	414	234	705
14	200L	318	305	133	55	110	16	49	59	88	200	19	M20	357.5	386	365	454	254	742
15	225S 2 Pole	356	286	149	55	110	16	49	59	94	225	19	M20	395.5	435	346	502	277	778
16	225S 4-6 Pole	356	286	149	60	140	18	53	64	94	225	19	M20	395.5	435	346	502	277	808
17	225M	356	311	149	60	140	18	53	64	94	225	19	M20	395.5	435	371	502	277	808
18	250M 2 Pole	406	349	168	60	140	18	53	64	90	250	24	M20	475	480	404	590	340	900
19	250M 4-6 Pole	406	349	168	65	140	18	58	69	90	250	24	M20	475	480	404	590	340	900

THREE PHASE MOTOR : FLANGE MOUNTING (B5)



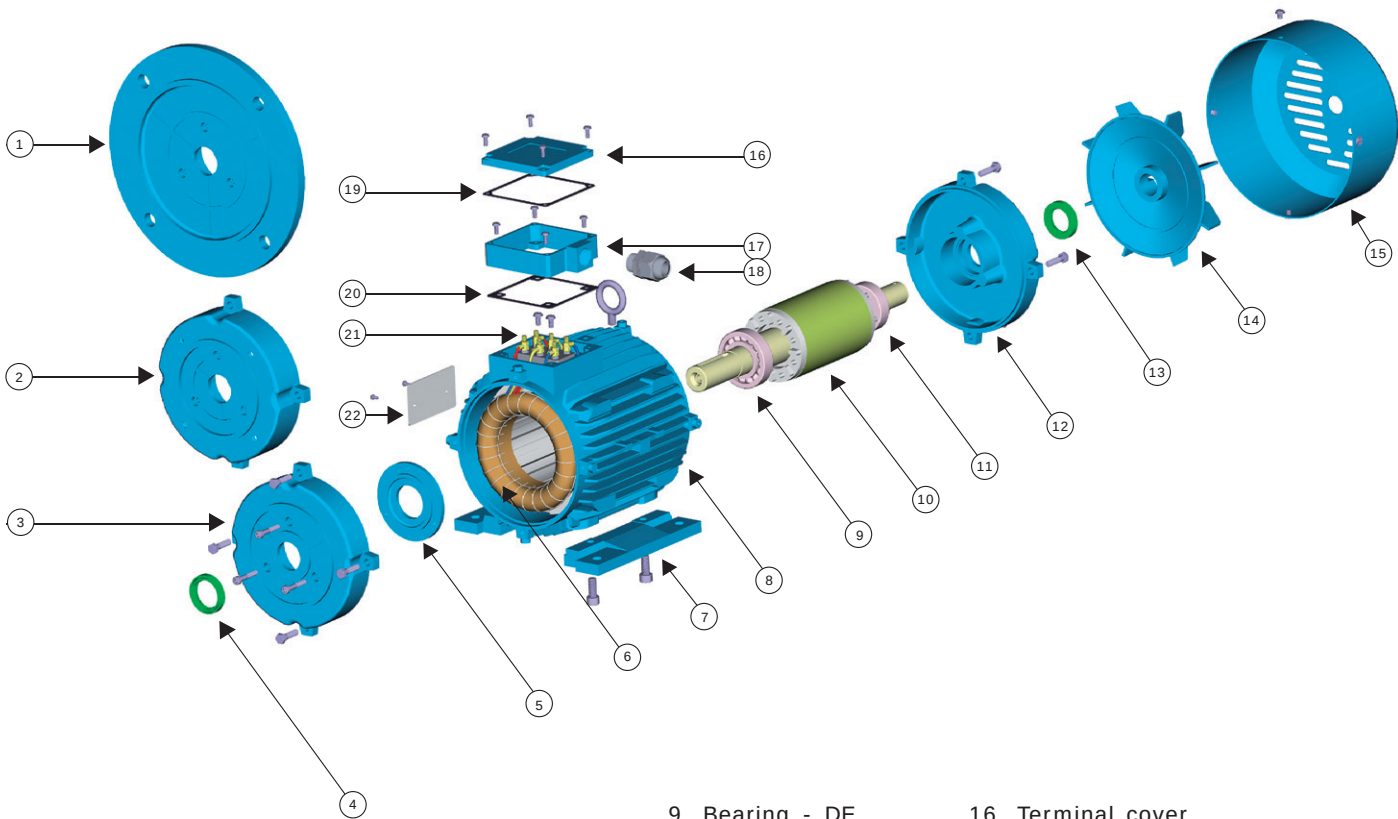
S.No.	Frame size	Mounting Dimensions														Overall Dimensions		
		D	E	F	G	GA	M	N	P	S	No.of Holes	T	LA	LD	DB	AC	AD	L
1	63	11	23	4	8.5	12.5	115	95	140	10	4	3	10	16	M4	117	91	203.5
2	71	14	30	5	11	16	130	110	160	10	4	3.5	10	16	M5	133.5	101	246
3	80	19	40	6	15.5	21.5	165	130	200	12	4	3.5	10	21	M6	160	124	272
4	90S	24	50	8	20	27	165	130	200	12	4	3.5	10	24	M8	178	126	316
5	90L	24	50	8	20	27	165	130	200	12	4	4	10	24	M8	178	130	337
6	100L	28	60	8	24	31	215	180	250	15	4	4	11	27	M10	195	135	369
7	112M	28	60	8	24	31	215	180	250	15	4	4	11	29	M10	220	147	379
8	132S	38	80	10	33	41	265	230	300	15	4	4	12	36	M12	260	182	480
9	132M	38	80	10	33	41	265	230	300	15	4	4	12	36	M12	260	182	480
10	160M	42	110	12	37	45	300	250	350	19	4	5	13	49	M16	307	220	628
11	160L	42	110	12	37	45	300	250	350	19	4	5	13	49	M16	307	220	628
12	180M	48	110	14	42.5	51.5	300	250	350	19	4	5	13	52	M16	353	234	705
13	180L	48	110	14	42.5	51.5	300	250	350	19	4	5	13	52	M16	353	234	705
14	200L	55	110	16	49	59	350	300	400	19	4	5	15	65	M20	386	254	742
15	225S 2Pole	55	110	16	49	59	400	350	450	19	8	5	16	81	M20	435	277	778
16	225S 4Pole	60	140	18	53	64	400	350	450	19	8	5	16	81	M20	435	277	808
17	225S 6Pole	60	140	18	53	64	400	350	450	19	8	5	16	81	M20	435	277	808
18	225M	60	140	18	53	64	400	350	450	19	8	5	16	81	M20	435	277	808

THREE PHASE MOTOR : FACE MOUNTING (B14)



S.No.	Frame size	Mounting Dimensions												Overall Dimensions		
		D	E	F	G	GA	M	N	P	S	No of Holes	T	DB	AC	AD	L
1	63	11	23	4	8.5	12.5	75	60	90	M5	4	2.5	M4	117	91	203.5
2	71	14	30	5	11	16	85	70	105	M6	4	2.5	M5	133.5	101	246
3	80	19	40	6	15.5	21.5	100	80	120	M6	4	3	M6	160	124	272
4	90S	24	50	8	20	27	115	95	140	M8	4	3	M8	178	126	316
5	90L	24	50	8	20	27	115	95	140	M8	4	3	M8	178	130	337
6	100L	28	60	8	24	31	130	110	160	M8	4	3.5	M10	195	135	369
7	112M	28	60	8	24	31	130	110	160	M8	4	3.5	M10	220	147	379
8	132S	38	80	10	33	41	165	130	200	M10	4	3.5	M12	260	182	480
9	132M	38	80	10	33	41	165	130	200	M10	4	3.5	M12	260	182	480

EXPLODED VIEW



- 1. Flange B5
- 2. Flange B14
- 3. Front cover B3
- 4. Front seal

- 5. Bearing cap
- 6. Wound stator
- 7. Body leg
- 8. Motor body

- 9. Bearing - DE
- 10. Rotor with shaft
- 11. Bearing - NDE
- 12. Rear cover
- 13. Rear seal
- 14. Cooling fan
- 15. Cooling fan cover

- 16. Terminal cover
- 17. Terminal box
- 18. Cable gland
- 19. Terminal gasket - Top
- 20. Terminal gasket - Bottom
- 21. Connector
- 22. Name plate



Contact:

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