

## INTRODUCTION

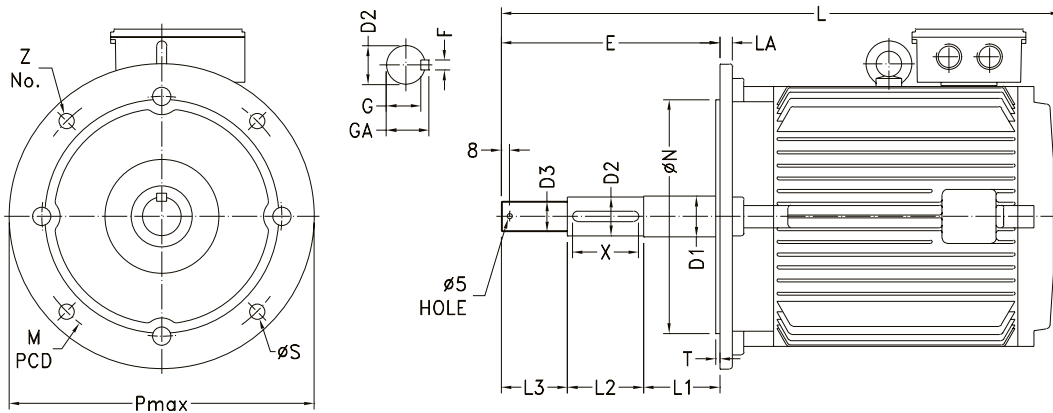
Cooling tower motors are specially designed flange mounted motors in totally enclosed construction to suit air conditioning & refrigeration industries. They are provided with special long shaft construction with external threaded end to directly mount the fan blades. This also helps in the better cooling of the motor. Motors are compact in design & less in weight to facilitate easy maintenance. They are available as standard catalogue designs or as custom built.



## RANGE

Power	: 0.37 to 45.0 kW
Polarity	: 4P, 6P, 8P, 10P & 12P
Mounting	: B5 flange mounted
Frame size	: 71 to 315
Voltage	: 415V ± 10% or as required
Frequency	: 50Hz ± 5% or as required
Ambient	: 45°C
Altitude	: up to 1000m above msl
Enclosure	: Totally Enclosed Non Ventilated (TENV)
Protection	: IP55
Ins. class	: Class F with temp. rise limited to class B.
Duty	: S1

## MECHANICAL DIMENSIONS



Frame	D1	D2	D3	F	GA	G	L1	L2	L3	E	P max	M PCD	øN	øS	Z No.	T	LA	X	L
71	15	14	M12	5	16	11	50	40		155	160	130	110	10		3.5	9	35	331
80	20	19	M16	6	21.5	15.5	50	55	65	170	200	165	130	12	4	4	11	45	408
90S	25	24		8	27	20													442
90L			30				28	M24	31	24	250	215	180	15	4	11	446		
100L	40	38		M30	10	41												33	75
112M			45				42	12	45	37	350	300	250	19	4	13	663		
132S	50	48		M36	14	51.5												42.5	100
132M			60				55	16	59	49	450	400	350	19	5	16	900		
160M	75	65		18	64	53												305	550
160L			85				75	20	79.5	67.5	375	660	600	550	24	154	1045		
180M	95	80		22	85	71												120	170
180L			225SX				65	60	18	64	53	100	120	70	290	400	350		
200L	225MX	75		65	18	64												53	100
225SX			250MX				85	75	20	79.5	67.5	120	170	85	305	550	500		
225MX	280SX	95		80	22	85												71	120
250MX			280MX				95	80	22	85	71	120	170	85	305	550	500		
280SX	315SX	95		80	22	85												71	120
280MX			315MX				95	80	22	85	71	120	170	85	305	550	500		
315SX	315MX	95		80	22	85												71	120
315MX																			

Note: 1) Suffix "X" denotes motors other than 2 pole motors. 2) All flange dimensions are conforming to IS: 2223.

# ELECTRICAL PERFORMANCE - IE2 (Upto 8P) COOLING TOWER MOTOR

Output		Frame Size	Type Designation	Speed (rpm)	Current (A)	Torque (kgm)	Efficiency %			Power Factor			I <sub>ST</sub> /I <sub>N</sub>	T <sub>ST</sub> /T <sub>N</sub>	T <sub>PO</sub> /T <sub>N</sub>	GD <sup>2</sup> (kgm <sup>2</sup> )
KW	HP						FL	3/4L	1/2L	FL	3/4L	1/2L				
<b>4 POLE</b>																
0.37	0.50	71	2KL2 073-04	1390	1.00	0.26	72.7	72.7	65.0	0.71	0.67	0.58	6.0	1.9	2.3	0.0024
0.75	1.0	80	2KL2 083-04	1415	1.70	0.52	79.6	79.6	75.0	0.77	0.70	0.63	6.0	2.5	3.0	0.0062
1.1	1.5	90S	2KL2 090-04	1430	2.4	0.75	81.4	81.4	80.0	0.78	0.73	0.65	6.0	2.5	3.0	0.0093
1.5	2.0	90L	2KL2 096-04	1430	3.2	1.02	82.8	82.8	81.0	0.79	0.74	0.65	6.0	2.4	2.8	0.0134
<b>6 POLE</b>																
0.75	1.0	90S	2KL2 090-06	935	2.0	0.78	75.9	75.9	73.0	0.69	0.63	0.52	5.0	2.1	2.5	0.0122
1.1	1.5	90L	2KL2 096-06	935	2.7	1.15	78.1	78.1	74.0	0.73	0.68	0.54	5.0	2.1	2.5	0.0176
1.5	2.0	100L	2KL2 106-06	945	3.4	1.55	79.8	79.8	77.0	0.77	0.70	0.56	5.5	2.1	2.5	0.0269
2.2	3.0	112M	2KL2 123-06	950	4.8	2.26	81.8	81.8	78.5	0.78	0.71	0.58	6.0	2.1	2.5	0.0467
3.7	5.0	132S	2KL2 130-06	950	7.6	3.79	84.3	84.3	80.0	0.80	0.74	0.62	6.0	2.2	2.6	0.0991
5.5	7.5	132M	2KL2 133-06	955	11.0	5.61	86.0	86.0	83.0	0.81	0.76	0.62	6.5	2.2	2.6	0.1321
7.5	10.0	160M	2KL2 163-06	970	14.6	7.53	87.2	87.2	84.0	0.82	0.77	0.65	7.0	2.2	2.6	0.2625
9.3	12.5	160L	2KL2 166-06	970	18.0	9.34	88.1	88.1	85.0	0.82	0.77	0.65	7.0	2.1	2.5	0.3440
11.0	15.0	160L	2KL2 167-06	970	21.0	11.05	88.7	88.7	86.0	0.82	0.77	0.65	7.0	2.1	2.5	0.4164
<b>8 POLE</b>																
1.1	1.5	100L	2KL2 107-08	700	3.0	1.53	70.8	70.8	65.0	0.72	0.62	0.48	5.0	1.9	2.1	0.0296
1.5	2.0	112M	2KL2 123-08	710	3.9	2.06	77.0	74.1	73.0	0.69	0.63	0.51	5.5	1.8	2.3	0.0467
2.2	3.0	132S	2KL2 130-08	715	5.3	3.00	77.6	77.6	75.0	0.74	0.66	0.53	5.0	2.2	2.4	0.0826
3.7	5.0	160M	2KL2 163-08	722	8.2	4.99	81.4	81.4	79.5	0.77	0.71	0.59	6.0	2.2	2.4	0.2625
5.5	7.5	160M	2KL2 164-08	720	11.8	7.44	83.8	83.8	82.0	0.77	0.72	0.60	6.0	2.0	2.2	0.2625
7.5	10.0	160L	2KL2 166-08	723	15.8	10.10	85.3	85.3	83.0	0.77	0.72	0.60	6.0	2.0	2.2	0.3440
9.3	12.5	180M	2KL2 183-08	725	19.5	12.49	86.3	86.3	83.5	0.77	0.72	0.60	6.0	2.1	2.3	0.5057
11.0	15.0	180L	2KL2 186-08	727	23.0	14.74	86.9	86.9	84.0	0.77	0.68	0.55	6.0	2.2	2.4	0.5949
15.0	20.0	200L	2KL2 206-08	730	31.0	20.01	88.0	88.0	85.0	0.76	0.68	0.56	6.0	2.0	2.2	1.1136
<b>10 POLE</b>																
1.5	2.0	132S	2HL1 130-10	555	4.5	2.63	74.0	74.0	71.0	0.63	0.55	0.43	4.5	2.0	2.2	0.0826
2.2	3.0	132M	2HL1 133-10	555	5.7	3.86	78.0	78.0	76.0	0.69	0.61	0.49	4.5	2.0	2.2	0.1198
3.7	5.0	160M	2HL1 164-10	560	9.0	6.44	81.0	81.0	79.0	0.71	0.62	0.50	5.0	2.1	2.3	0.2072
5.5	7.5	180M	2HL1 183-10	560	14.0	9.57	82.0	81.5	80.0	0.67	0.58	0.45	5.0	2.0	2.2	0.5057
7.5	10.0	180L	2HL1 186-10	565	18.0	12.93	83.0	82.5	80.0	0.70	0.62	0.48	5.0	2.0	2.2	0.5949
9.3	12.5	180L	2HL1 187-10	570	22.0	15.89	84.0	83.5	81.0	0.70	0.62	0.49	5.0	2.0	2.2	0.6544
11.0	15.0	180L	2HL1 188-10	570	25.0	18.80	85.0	85.0	83.0	0.72	0.64	0.50	5.0	2.0	2.2	0.7734
15.0	20.0	200L	2HL1 206-10	575	34.0	25.41	86.5	86.0	84.0	0.71	0.63	0.52	4.5	2.0	2.2	1.2654
18.5	25.0	225MX	2HL1 223-10	575	43.0	31.34	89.0	89.0	87.0	0.67	0.60	0.50	4.0	2.0	2.2	1.8378
<b>12 POLE</b>																
1.1	1.5	132S	2HL1 130-12	460	3.8	2.33	70.0	68.0	64.0	0.58	0.50	0.40	3.5	1.7	1.9	0.0826
1.5	2.0	132M	2HL1 133-12	460	4.9	3.18	71.0	70.0	66.0	0.60	0.52	0.42	3.5	1.7	1.9	0.1198
2.2	3.0	160M	2HL1 164-12	465	6.0	4.61	79.0	79.0	75.0	0.65	0.54	0.45	4.5	2.0	2.2	0.2072
3.7	5.0	160L	2HL1 166-12	465	10.0	7.75	80.0	80.0	77.0	0.64	0.55	0.42	4.5	2.0	2.2	0.2857
5.5	7.5	180M	2HL1 183-12	470	15.0	11.40	82.0	82.0	80.0	0.62	0.54	0.42	4.5	1.9	2.1	0.5949
7.5	10.0	180L	2HL1 186-12	470	20.0	15.54	82.0	82.0	80.0	0.64	0.55	0.43	4.5	1.9	2.1	0.6544
9.3	12.5	180L	2HL1 187-12	470	23.0	19.27	84.0	84.0	82.0	0.67	0.59	0.46	4.5	1.9	2.1	0.7734
11.0	15.0	200L	2HL1 206-12	485	33.0	22.09	84.5	84.0	81.0	0.55	0.47	0.38	4.5	1.9	2.1	1.2654
15.0	20.0	225MX	2HL1 223-12	480	40.0	30.44	85.5	85.5	83.5	0.61	0.54	0.43	4.0	1.8	2.0	1.8378
18.5	25.0	250MX	2HL1 253-12	485	54.0	37.15	86.5	86.0	82.0	0.55	0.48	0.37	4.0	1.9	2.1	2.5127
22.0	30.0	280SX	2HL1 280-12	485	56.0	44.18	89.0	89.0	87.0	0.61	0.54	0.44	4.0	1.8	2.0	4.8613
30.0	40.0	280MX	2HL1 283-12	485	77.0	60.25	89.3	89.3	87.2	0.61	0.55	0.44	4.0	1.9	2.1	5.8335
37.0	50.0	315SX	2HL1 310-12	488	103.0	73.85	89.3	89.3	86.0	0.56	0.49	0.39	4.0	2.0	2.1	7.2611
45.0	60.0	315MX	2HL1 314-12	488	125.0	89.82	90.0	90.0	87.0	0.56	0.49	0.39	4.0	2.0	2.1	10.3731

Note : 1) All the above ratings can be offered in flameproof enclosure wherever applicable.  
2) All the above ratings can be offered in totally enclosed fan cooled (TEFC) construction as well.