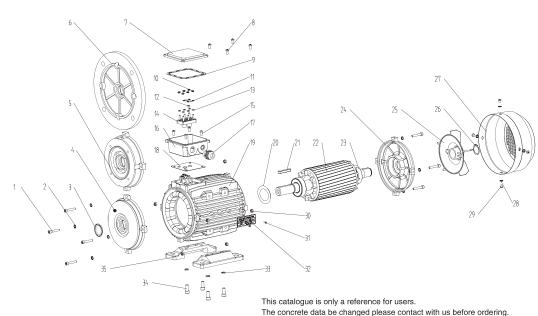


# IEC STANDARD MOTORS





#### otor Spare Part List "Exploded Drawing"



- 1. Screw
- 2. Gasket
- 3. Oil seal
- 4. Front endshield
- 5. B14 flange
- 6. B5 flange
- 7. TB cover
- 8. TB fixing screws
- 9. TB upper gasket
- 10. Terminal board fixing nut
- 11. Terminal bridge
- 12. Terminal pin
- 13. Terminal shim
- 14. Terminal board
- 15. TB fixing screws
- 16. TB base
- 17. Cable gland
- 18. TB bottomgasket
- 19. Frame
- 20. Preload washer
- 21. Key
- 22. Rotor
- 23. Bearing 24. NDE endshield
- 25. Cooling fan
- 26. Fan circlip
- 27. Fan cover
- 28. Fan cover fixing shim
- 29. Fan cover fixing screws
- 30. Endshield fixing nut
- 31. Rivet
- 32. Nameplate
- 33. Foot fixing nut
- 34. Foot fixing screws
- 35. Foot



#### **ountings and Positions**

#### Mountings and positions for standard motors, according to IEC 60034-7, are defined by the codes mentioned in the following table.

		Standards		Frame Sizes
	CEI 2-14	IEC 60	034-7	56-200
	OLI 2-14	Code I	Code II	00 200
	В3	IM B3	IM 1001	Standard
-	B3/B5	IM B35	IM 2001	Standard
4	B5	IM B5	IM 3001	Standard
	B14	IM B14	IM 4001	Standard
4	В8	IM B8	IM 1071	Upon request
	В6	IM B6	IM 1051	Upon request
	В7	IM B7	IM 1061	Upon request

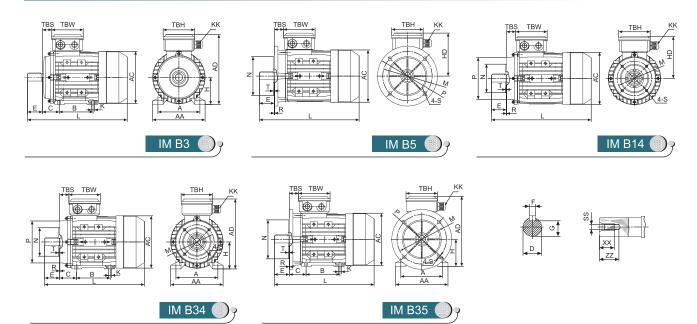
		Standards		Frame Sizes
	CEI 2-14	IEC 60	034-7	56-200
	OLI 2-14	Code I	Code II	00 200
	V1	IM V1	IM 3011	Standard
	V3	IM V3	IM 3031	Upon request
	V5	IM V5	IM 1011	Upon request
Ġ	V6	IM V6	IM 1031	Upon request
	V1/V5	IM V15	IM 2011	Upon request

#### **Aluminum Housing Electric Motors Bearings & Oil Seals**

F	Bea	arings		Oil Seals
Frame	Drive End	Non-drive End	Drive End	Non-drive End
56	6201	6201	12×22×5	12×22×5
63	6201	6201	12×24×5	12×24×5
71	6202	6202	15×25×7	15×25×7
80	6204	6204	20×34×7	20×34×7
90S	6205	6205(6204) ※ ※	25×37×7	25×37×7(20×34×7)※ ※
90L	6205	6205(6204)**	25×37×7	25×37×7(20×34×7)※ ※
100L	6206	6206	30×44×7	30×44×7
112M	6306	6206(6306)	30×44×7	30×44×7
132S	6308	6208(6308)	40×58×7	40×58×7
132M/L	6308	6208(6308)	40×58×7	40×58×7
160M	6309	6309	45×65×8	45×65×8
160L	6309	6309	45×65×8	45×65×8
180M	6311	6211	55×72×8	55×72×8
180L	6311	6211	55×72×8	55×72×8
200L	6312	6212	60×80×8	60×80×8

<sup>\*</sup> Other standards are also available on request, the figures in brackets() are for the MC/ML single phase motors

## MS/MSD/MSBCCL Series Dimensional Drawings



#### **Overall & Installation Dimension**

_			Foot Mou	nting				S	Shaft								Ge	neral				
Frame	Н	А	В	С	К	D	Е	F	G	SS	XX	ZZ	AA	AD	HD	AC	L	LCCL*	КК	TBS	TBW	твн
56	56	90	71	36	5.8X8.8	Ø9	20	3	7.2	МЗ	9	12	110	156	100	Ø117	196	232	1-M16X1.5	14	88	88
63	63	100	80	40	7X10	Ø11	23	4	8.5	M4	10	14	120	171	108	Ø130	220	258	1-M16X1.5	14	94	94
71 ***	71	112	90	45	7X10	Ø14	30	5	11	M5	12	17	132	186	115	Ø147	241(255)	282(296)	1-M20X1.5	20	94	94
80	80	125	100	50	10X13	Ø19	40	6	15.5	M6	16	21	160	213	133	Ø163	290	339	1-M20X1.5	27	105	105
908	90	140	100	56	10X13	Ø24	50	8	20	M8	19	25	175	229	139	Ø183	312	361	1-M20X1.5	30	105	105
90L1/L2	90	140	125	56	10X13	Ø24	50	8	20	M8	19	25	175	229	139	Ø183	337/367	386/416	1-M20X1.5	30	105	105
100☆☆	100	160	140	63	12X15	Ø28	60	8	24	M10	22	30	198	252	152	Ø205	369(387)	425(443)	2-M20X1.5	26	105	105
112	112	190	140	70	12X15	Ø28	60	8	24	M10	22	30	220	279	167	Ø229	395	463	2-M25X1.5	32	112	112
132S	132	216	140	89	12X15	Ø38	80	10	33	M12	28	37	252	318	186	Ø265	437	497	2-M25X1.5	38	112	112
132M/L	132	216	178	89	12X15	Ø38	80	10	33	M12	28	37	252	318	186	Ø265	475/501	535/561	2-M25X1.5	38	112	112
160M/L	160	254	210/254	108	15X19	Ø42	110	12	37	M16	36	45	290	384	224	Ø325	640	697	2-M32X1.5	64	143	143
180M/L	180	279	241/279	121	15X25	Ø48	110	14	42.5	M16	36	45	340	440	260	Ø368	730		2-M32X1.5	73	190	190
200L	200	318	305	133	19X29	Ø55	110	16	49	M20	42	53	390	460	260	Ø368	745		2-M40X1.5	85	190	190

			B5						B5R						B14						B14B			
Frame	М	N	Р	Т	S	R	М	N	Р	Т	S	R	N	М	Р	Т	S	R	N	М	Р	Т	S	R
56	Ø100	Ø80	Ø120	3.0	Ø7	0							Ø50	Ø65	Ø80	2.5	M5	0						
63	Ø115	Ø95	Ø140	3.0	Ø10	0							Ø60	Ø75	Ø90	2.5	M5	0	Ø80	Ø100	Ø120	3.0	M6	0
71☆☆	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø115	Ø95	Ø140	3.5	Ø10	0	Ø70	Ø85	Ø105	2.5	M6	0	Ø95	Ø115	Ø140	3.0	M8	0
80	Ø165	Ø130	Ø200	3.5	Ø12	0	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø80	Ø100	Ø120	3.0	M6	0	Ø110	Ø130	Ø160	3.5	M8	0
908	Ø165	Ø130	Ø200	3.5	Ø12	0	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø95	Ø115	Ø140	3.0	M8	0	Ø110	Ø130	Ø160	3.5	M8	0
90L1/L2	Ø165	Ø130	Ø200	3.5	Ø12	0	Ø130	Ø110	Ø160	3.5	Ø10	0	Ø95	Ø115	Ø140	3.0	M8	0	Ø110	Ø130	Ø160	3.5	M8	0
100☆☆	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø165	Ø130	Ø200	4.0	Ø12	0	Ø110	Ø130	Ø160	3.5	M8	0	Ø130	Ø165	Ø200	3.5	M10	0
112	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø165	Ø130	Ø200	4.0	Ø12	0	Ø110	Ø130	Ø160	3.5	M8	0	Ø130	Ø165	Ø200	3.5	M10	0
132S	Ø265	Ø230	Ø300	4.0	Ø15	0	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø130	Ø165	Ø200	4.0	M10	0	Ø180	Ø215	Ø250	4.0	M12	0
132M/L	Ø265	Ø230	Ø300	4.0	Ø15	0	Ø215	Ø180	Ø250	4.0	Ø15	0	Ø130	Ø165	Ø200	4.0	M10	0	Ø180	Ø215	Ø250	4.0	M12	0
160M/L	Ø300	Ø250	Ø350	5.0	Ø19	0							Ø180	Ø215	Ø250	4.0	M12	0						
180M/L	Ø300	Ø250	Ø350	5.0	Ø19	0																		
200L	Ø350	Ø300	Ø400	5.0	Ø19	0																		

<sup>\*</sup> This data is provided for MSBCCL series Brake motors both with and without hand release lever.

<sup>🌣</sup> This frame size has two housing sizes, the rated output is for normal "L" size, and increased output is for thd bigger "L" size (refer to the figures in the bracket "()")

# **MS** Series

# Three-Phase Asynchronous Motors Aluminum Housing

**MS** series aluminum housing three-phase asynchronous motors, with latest design in entirety, are made of selected quality materials and conform to the IEC standard.

MS motors have good performance, safety and reliable operation, nice appearance, and can be maintained very conveniently, while with low noises, little vibration and at the same time light weight and simple construction. These series motors can be used for general drive.



#### MS Series IE1 Efficiency Motors Technical Data (at 50Hz)

	Power	С	urrent (A	4)	С	urrent (A	۹)	C	urrent (/	4)	Speed	Eff.	Power	T <sub>st</sub> /T <sub>n</sub>	T <sub>max</sub> /T <sub>n</sub>	T <sub>min</sub> /T <sub>n</sub>	I <sub>st</sub> /I <sub>n</sub>	Noise	W.T
Model	(KW)	220V	380V	660V	230V	400V	690V	240V	415V	720V	(r/min)	(%)	Factor (CosΦ)	(Times)	(Times)	(Times)	(Times)	dB(A)	(Kg)
MS561-2	0.09	0.66	0.38	0.22	0.62	0.36	0.21	0.60	0.35	0.20	2710	53	0.72	2.2	2.3	2	4	58	2.60
MS562-2	0.12	0.73	0.42	0.24	0.69	0.40	0.23	0.67	0.39	0.22	2700	61	0.72	2.2	2.3	2	4	58	3.00
MS563-2	0.18	1.00	0.58	0.33	0.95	0.55	0.32	0.92	0.53	0.31	2710	63	0.75	2.2	2.4	1.6	6	61	4.00
MS631-2	0.18	1.00	0.58	0.33	0.95	0.55	0.32	0.92	0.53	0.31	2710	63	0.75	2.2	2.4	1.6	6	61	4.00
MS632-2	0.25	1.29	0.75	0.43	1.23	0.71	0.41	1.19	0.69	0.40	2710	65	0.78	2.2	2.4	1.6	6	61	4.20
MS633-2	0.37	1.92	1.11	0.64	1.82	1.05	0.61	1.76	1.02	0.59	2710	65	0.78	2.2	2.4	1.6	6	62	4.70
MS711-2	0.37	1.76	1.02	0.59	1.67	0.97	0.56	1.61	0.93	0.54	2730	70	0.79	2.2	2.4	1.6	6	64	5.20
MS712-2	0.55	2.57	1.49	0.86	2.45	1.42	0.82	2.36	1.36	0.79	2760	71	0.79	2.2	2.4	1.6	6	64	6.00
MS713-2	0.75	3.33	1.93	1.11	3.18	1.83	1.06	3.06	1.77	1.02	2730	72	0.82	2.2	2.4	1.5	6	65	7.00
MS801-2	0.75	3.21	1.86	1.07	3.06	1.77	1.02	2.94	1.70	0.98	2770	73	0.84	2.2	2.4	1.5	6	67	8.70
MS802-2	1.1	4.56	2.64	1.52	4.35	2.51	1.45	4.18	2.42	1.39	2770	76.2	0.83	2.2	2.4	1.5	6	67	10.00
MS803-2	1.5	6.04	3.50	2.01	5.87	3.32	1.92	5.54	3.20	1.85	2800	78.5	0.83	2.2	2.4	1.5	6	70	11.20
MS90S-2	1.5	5.97	3.46	1.99	5.76	3.28	1.90	5.47	3.16	1.82	2840	78.5	0.84	2.2	2.4	1.5	6	72	12.00
MS90L1-2	2.2	8.39	4.85	2.80	8.0	4.61	2.66	7.69	4.45	2.56	2840	81	0.85	2.2	2.4	1.4	6	72	14.50
MS90L2-2	3	11.1	6.42	3.69	10.6	6.10	3.52	10.2	5.88	3.39	2840	82.6	0.86	2.2	2.4	1.4	6	74	15.00
MS100L1-2	3	11.0	6.34	3.65	10.4	6.03	3.48	10.0	5.81	3.35	2840	82.6	0.87	2.2	2.3	1.4	7	76	20.00
MS100L2-2	4	14.3	8.30	4.78	13.7	7.88	4.55	13.1	7.60	4.38	2850	84.2	0.87	2.2	2.3	1.4	7.5	77	24.00
MS112M-2	4	14.3	8.30	4.78	13.7	7.88	4.55	13.1	7.60	4.38	2880	84.2	0.87	2.2	2.3	1.4	7.5	77	26.00
MS112L-2	5.5	19.1	11.1	6.38	18.2	10.5	6.08	17.5	10.1	5.85	2880	85.7	0.88	2.2	2.3	1.2	7.5	78	29.30
MS132S1-2	5.5	19.1	11.1	6.38	18.2	10.5	6.08	17.5	10.1	5.85	2900	85.7	0.88	2	2.2	1.2	7.5	80	38.40
MS132S2-2	7.5	25.7	14.9	8.57	24.5	14.1	8.16	23.6	13.6	7.86	2920	87	0.88	2	2.2	1.2	7.5	80	41.30
MS132M1-2	9.2	30.8	17.8	10.3	29.9	17.3	9.96	28.3	16.3	9.42	2930	88	0.89	2	2.2	1.2	7.5	81	48.20
MS132M2-2	11	36.3	21.0	12.1	34.6	20.0	11.5	33.3	19.2	11.1	2930	88.4	0.9	2	2.2	1.2	7.5	83	52.50
MS160M1-2	11	36.3	21.0	12.1	34.6	20.0	11.5	33.3	19.2	11.1	2940	88.4	0.9	2	2.2	1.2	7.5	86	76.00
MS160M2-2	15	48.4	28.0	16.1	46.1	26.6	15.4	44.4	25.7	14.8	2940	89.4	0.91	2	2.2	1.2	7.5	86	77.50
MS160L-2	18.5	59.3	34.3	19.8	56.5	32.6	18.8	54.3	31.4	18.1	2940	90	0.91	2	2.2	1.1	7.5	86	92.00
MS180M-2	22	71.3	41.3	23.8	68.2	39.2	22.6	65.3	37.8	21.8	2950	90	0.9	2	2.2	1.2	7.5	91	121.0
MS200L1-2	30	96.0	55.6	32.1	91.8	52.8	30.5	88.0	50.9	29.4	2950	91.2	0.9	2	2.2	1.2	7.5	94	144.0
MS200L2-2	37	117	67.9	39.2	112	64.5	37.2	108	62.2	35.9	2940	92	0.9	2	2.2	1.2	7.5	94	151.0
MS561-4	0.06	0.64	0.37	0.21	0.61	0.35	0.20	0.58	0.34	0.19	1360	50	0.56	2.3	2.4	2	4	50	2.90
MS562-4	0.09	0.82	0.47	0.27	0.78	0.45	0.26	0.75	0.43	0.25	1360	52	0.59	2.3	2.4	2	4	50	3.20

# MS Series [F1] Efficiency Motors Technical Data (at 50Hz)

		C	Current (A	۸۱		Current (A	۸۱	(	Current (A	۸)			_						
Model	Power		unent (A	1)		Julient (A	1)		Turrent (7	7)	Speed	Eff.	Power Factor	T <sub>st</sub> /T <sub>n</sub>	T <sub>max</sub> /T <sub>n</sub>	T <sub>min</sub> /T <sub>n</sub>	I <sub>st</sub> /I <sub>n</sub>	Noise	W.T
mode.	(KW)	220V	380V	660V	230V	400V	690V	240V	415V	720V	(r/min)	(%)	(CosΦ)	(Times)	(Times)	(Times)	(Times)	dB(A)	(Kg)
MS631-4	0.12	1.00	0.58	0.33	0.95	0.55	0.32	0.92	0.53	0.31	1360	52	0.64	2.2	2.4	2	4	52	3.70
MS632-4	0.18	1.28	0.74	0.43	1.21	0.70	0.40	1.17	0.67	0.39	1310	57	0.65	2.2	2.4	2	4	52	4.20
MS633-4	0.25	1.66	0.96	0.55	1.58	0.91	0.53	1.52	0.88	0.51	1340	60	0.66	2.2	2.2	2	4	54	5.00
MS711-4	0.25	1.52	0.88	0.51	1.45	0.84	0.48	1.39	0.81	0.46	1350	60	0.72	2.2	2.4	1.7	6	55	5.00
MS712-4	0.37	2.02	1.17	0.67	1.92	1.11	0.64	1.85	1.07	0.62	1370	65	0.74	2.2	2.4	1.7	6	55	5.80
MS713-4	0.55	2.92	1.69	0.97	2.78	1.60	0.93	2.67	1.55	0.89	1380	66	0.75	2.2	2.4	1.7	6	57	6.50
MS801-4	0.55	2.87	1.66	0.96	2.74	1.58	0.91	2.63	1.52	0.88	1370	67	0.75	2.2	2.4	1.7	6	58	8.10
MS802-4	0.75	3.50	2.03	1.17	3.34	1.93	1.11	3.21	1.86	1.07	1380	72	0.78	2.2	2.4	1.6	6	58	9.10
MS803-4	1.1	4.86	2.81	1.62	4.63	2.67	1.54	4.45	2.57	1.48	1390	76.2	0.78	2.2	2.4	1.6	6	60	11.00
MS90S-4	1.1	4.80	2.78	1.60	4.57	2.64	1.52	4.40	2.54	1.47	1400	76.2	0.79	2.2	2.4	1.6	6	61	11.70
MS90L1-4	1.5	6.27	3.63	2.09	5.97	3.45	1.99	5.75	3.32	1.92	1400	78.5	0.8	2.2	2.4	1.6	6	61	14.40
MS90L2-4	2.2	8.91	5.16	2.97	8.45	4.90	2.83	8.17	4.72	2.72	1400	81	0.8	2.2	2.4	1.5	7	63	17.60
MS100L1-4	2.2	8.80	5.09	2.93	8.38	4.84	2.79	8.07	4.66	2.69	1420	81	0.81	2.2	2.3	1.5	7	64	19.20
MS100L2-4	3	11.8	6.81	3.92	11.2	6.47	3.74	10.8	6.24	3.60	1420	82.6	0.81	2.2	2.3	1.5	7	64	22.50
MS100L3-4	4	15.2	8.80	5.07	14.2	8.36	4.83	13.9	8.06	4.65	1430	84.2	0.82	2.2	2.3	1.5	7	65	27.30
MS112M-4	4	15.0	8.70	5.01	14.3	8.26	4.77	13.8	7.96	4.59	1430	84.2	0.83	2.2	2.2	1.5	7	65	29.00
MS112L-4	5.5	20.3	11.7	6.76	19.3	11.2	6.44	18.6	10.8	6.20	1440	85.7	0.83	2.2	2.2	1.4	7	68	35.70
MS132S-4	5.5	20.1	11.6	6.68	19.1	11.0	6.37	18.4	10.6	6.13	1450	85.7	0.84	2.2	2.2	1.4	7	71	39.00
MS132M-4	7.5	26.6	15.4	8.87	25.4	14.6	8.45	24.4	14.1	8.13	1450	87	0.85	2.2	2.2	1.4	7	71	48.60
MS132L1-4	9.2	32.5	18.8	10.8	30.9	17.9	10.3	29.8	17.2	9.9	1460	87.5	0.85	2.2	2.2	1.4	7.5	74	56.50
MS132L2-4	11	38.0	22.0	12.7	36.2	20.9	12.1	34.8	20.1	11.6	1460	88.4	0.86	2.2	2.2	1.4	7.5	74	64.00
MS160M-4	11	37.5	21.7	12.5	35.8	20.6	11.9	34.4	19.9	11.5	1460	88.4	0.87	2.2	2.2	1.4	7	75	73.00
MS160L1-4	15	51.2	29.6	17.1	48.8	28.2	16.3	46.9	27.1	15.6	1460	88.4	0.87	2.2	2.2	1.4	7.5	75	88.50
MS160L2-4	18.5	63.1	36.5	21.0	60.1	34.7	20.0	57.9	33.5	19.3	1460	90.5	0.85	2.2	2.2	1.4	7.5	78	97.50
MS180M-4	18.5	62.4	36.1	20.8	59.7	34.3	19.8	57.2	33.1	19.1	1460	90.5	0.86	2.2	2.2	1.4	7.5	80	118.0
MS180L-4	22	73.8	42.7	24.7	70.6	40.6	23.4	67.7	39.1 52.7	22.6	1460	91	0.86	2.2	2.2	1.4	7.5 7.5	80	128.0
MS200L-4 MS631-6	30 0.09	99.5 0.92	57.6 0.53	33.2 0.31	95.1 0.88	54.7 0.51	31.6 0.29	91.2 0.85	0.49	30.4 0.28	1470 840	42	0.86	2.2	2.2	1.4	3.5	83 50	158.0 4.20
MS632-6	0.09	1.13	0.65	0.31	1.08	0.62	0.29	1.03	0.49	0.26	850	45	0.61	2	2	1.5	3.5	50	4.50
MS711-6	0.12	1.13	0.74	0.43	1.22	0.70	0.30	1.17	0.68	0.39	880	56	0.66	1.6	1.7	1.5	4	52	5.60
MS712-6	0.25	1.59	0.92	0.53	1.51	0.87	0.50	1.46	0.84	0.49	900	59	0.7	2.1	2.2	1.5	4	52	6.00
MS713-6	0.37	2.31	1.34	0.77	2.2	1.27	0.73	2.11	1.22	0.70	890	61	0.69	2	2.1	1.5	4	54	6.80
MS801-6	0.37	2.24	1.30	0.75	2.13	1.23	0.71	2.05	1.19	0.68	900	62	0.7	1.9	1.9	1.5	4	56	8.10
MS802-6	0.55	2.99	1.73	1.00	2.85	1.65	0.95	2.74	1.59	0.91	900	67	0.72	2	2.3	1.5	4	56	9.60
MS803-6	0.75	4.02	2.33	1.34	3.83	2.21	1.28	3.69	2.13	1.23	900	68	0.72	2	2.3	1.5	4	58	10.00
MS90S-6	0.75	3.96	2.29	1.32	3.77	2.18	1.26	3.63	2.10	1.21	920	69	0.72	2.2	2.2	1.5	5.5	59	11.30
MS90L1-6	1.1	5.49	3.18	1.83	5.23	3.02	1.74	5.03	2.91	1.68	925	72	0.73	2.2	2.2	1.3	5.5	59	14.40
MS90L2-6	1.5	7.09	4.11	2.36	6.76	3.90	2.25	6.50	3.76	2.17	925	74	0.75	2.2	2.2	1.3	5.5	60	15.50
MS100L1-6	1.5	7.00	4.05	2.33	6.67	3.85	2.22	6.42	3.71	2.14	945	74	0.76	2.2	2.2	1.3	6	61	18.80
MS100L2-6	2.2	9.87	5.71	3.29	9.40	5.43	3.13	9.04	5.23	3.01	950	77	0.76	2.2	2.2	1.3	6	63	19.80
MS112M-6	2.2	9.7	5.64	3.25	9.28	5.36	3.09	8.93	5.16	2.98	955	78	0.76	2.2	2.2	1.3	6	64	25.00
MS112L-6	3	12.9	7.49	4.31	12.3	7.12	4.11	11.9	6.86	3.95	950	79	0.77	2.2	2.2	1.3	6	64	30.00
MS132S-6	3	13.1	7.59	4.37	12.5	7.21	4.16	12.0	6.95	4.01	960	79	0.76	2	2	1.3	6.5	64	35.00
MS132M1-6	4	17.2	9.93	5.72	16.4	9.44	5.45	15.7	9.10	5.24	960	80.5	0.76	2	2	1.3	6.5	68	47.60
MS132M2-6	5.5	22.6	13.1	7.53	21.5	12.4	7.17	20.7	12.0	6.9	960	83	0.77	2	2	1.3	6.5	68	50.70
MS132L-6	7.5	30.1	17.4	10.0	28.7	16.5	9.55	27.6	15.9	9.2	960	85	0.77	2	2	1.3	6.5	68	47.60
MS160M-6	7.5	28.6	16.6	9.5	27.3	15.7	9.08	26.2	15.2	8.7	960	86	0.8	2	2.2	1.3	6.5	68	70.0
MS160L-6 MS180L-6	11	41.8	24.2	13.9	39.8 52.2	23.0	13.3	38.3	22.1	12.8	960	87.5	0.79	2	2.2	1.2	6.5	73	87.0
MS180L-6 MS200L1-6	15 18.5	54.6 66.6	31.6 38.6	18.2	63.7	30.0	17.3 21.1	50.1 61.0	35.3	16.7	970	90	0.81	2	2.2	1.3	6.5	79 82	122.0 136.0
MS200L1-6 MS200L2-6	22	77.3	44.7	25.8	73.9	42.5	24.5	70.8	41.0	23.6	975	90	0.83	2	2.2	1.3	6.5	82	152.0
MS711-8	0.09	0.88	0.51	0.29	0.84	0.48	0.28	0.81	0.47	0.27	680	48	0.56	1.5	1.7	1.3	3	50	5.60
MS711-8	0.03	1.05	0.61	0.35	1.00	0.58	0.33	0.96	0.55	0.32	690	51	0.59	1.6	1.7	1.3	2.7	50	6.00
MS801-8	0.18	1.52	0.88	0.51	1.45	0.84	0.48	1.39	0.80	0.46	680	51	0.61	1.5	1.7	1.3	2.8	52	9.40
MS802-8	0.25	1.92	1.11	0.64	1.83	1.06	0.61	1.76	1.02	0.59	680	56	0.61	1.6	2	1.3	2.7	52	10.10
MS90S-8	0.37	2.45	1.42	0.82	2.33	1.35	0.78	2.24	1.30	0.75	680	63	0.63	1.6	1.8	1.3	2.8	56	12.50
MS90L-8	0.55	3.36	1.95	1.12	3.21	1.85	1.07	3.08	1.78	1.03	680	66	0.65	1.6	1.8	1.3	3	56	15.30
MS100L1-8	0.75	4.45	2.58	1.48	4.24	2.45	1.41	4.08	2.36	1.36	710	66	0.67	1.7	2.1	1.3	3.5	59	17.20
MS100L2-8	1.1	5.81	3.36	1.94	5.54	3.20	1.85	5.33	3.08	1.78	710	72	0.69	1.7	2.1	1.2	3.5	59	19.50
MS112M-8	1.5	7.82	4.53	2.61	7.45	4.30	2.48	7.17	4.15	2.39	710	74	0.68	1.8	2.1	1.2	4.2	61	25.50
MS132S-8	2.2	10.8	6.28	3.61	10.3	5.96	3.44	9.94	5.75	3.31	720	75	0.71	2	2	1.2	5.5	64	34.20
MS132M-8	3	14.0	8.11	4.67	13.3	7.70	4.45	12.8	7.43	4.28	720	77	0.73	2	2	1.2	5.5	64	40.00
MS160M1-8	4	18.0	10.4	5.99	17.1	9.89	5.71	16.5	9.53	5.49	730	80	0.73	1.9	2.1	1.2	6	68	59.00
MS160M2-8	5.5	23.4	13.5	7.79	22.3	12.9	7.42	21.4	12.4	7.14	720	83.5	0.74	2	2.2	1.2	6	68	69.00
MS160L-8	7.5	30.9	17.9	10.3	29.4	17.0	9.8	28.3	16.4	9.43	720	85	0.75	1.9	2.2	1.2	6	68	87.00
	11	45.2	26.2	15.1	43.6	25.1	14.5	41.5	24.0	13.8	715	87.4	0.73	1.9	2.2	1.2	6	78	125.0
MS180L-8 MS200L-8	15	58.9	34.1	19.6	56.3	32.4	18.7	54.0	31.2	18.0	725	88.0	0.76	1.9	2.2	1.2	6	80	151.0

# MS2 Series **IE2** Efficiency Motors Technical Data (at 400V/50Hz)

Model	Power (KW)	Eff. (%)	Current (A)	Power Factor (CosΦ)	Speed (r/min)	T <sub>max</sub> /T <sub>n</sub> (Times)	T <sub>st</sub> /T <sub>n</sub> (Times)	I <sub>st</sub> /I <sub>n</sub> (Times)
MS2 801-2	0.75	77.4	1.75	0.80	2840	3.3	2.9	5.8
MS2 802-2	1.1	80	2.42	0.82	2850	3.6	3.5	6.8
MS2 90S-2	1.5	81.4	3.20	0.83	2850	3.6	3.5	6.9
MS2 90L-2	2.2	83.2	4.54	0.84	2860	4.1	4.1	7.9
MS2 100L-2	3	84.6	5.88	0.87	2880	3.4	3.4	7.8
MS2 112M-2	4	86	7.54	0.89	2890	3.3	2.7	7.5
MS2 132S1-2	5.5	87.2	10.2	0.89	2900	3	2.4	7.7
MS2 132S2-2	7.5	88.1	13.8	0.89	2910	3.2	2.6	8.4
MS2 160M1-2	11	89.4	19.9	0.89	2930	3.1	2.4	7.6
MS2 160M2-2	15	90.3	26.9	0.89	2930	3.2	2.6	8
MS2 160L-2	18.5	90.9	32.6	0.90	2940	3.5	3	9
MS2 180M-2	22	91.3	38.6	0.90	2950	3.5	2.6	8.5
MS2 200L1-2	30	92	52.3	0.90	2950	3.4	2.4	8
MS2 200L2-2	37	92.5	64.1	0.90	2950	3.5	2.5	8.5
MS2 802-4	0.75	79.6	1.79	0.76	1410	3	2.8	5.3
MS2 90S-4	1.1	81.4	2.50	0.78	1420	2.6	3.8	6.7
MS2 90L-4	1.5	82.8	3.31	0.79	1420	2.7	4	7.2
MS2 100L1-4	2.2	84.3	4.83	0.78	1440	3.6	3.6	7.4
MS2 100L2-4	3	85.5	6.33	0.80	1440	3.5	3.8	7.8
MS2 112M-4	4	86.6	8.23	0.81	1440	2.9	3.1	7.1
MS2 132S-4	5.5	87.9	10.9	0.83	1450	2.7	2.6	7.4
MS2 132M-4	7.5	88.7	14.5	0.84	1450	2.7	2.8	7.7
MS2 160M-4	11	89.8	21.6	0.82	1450	3.1	2.7	7.7
MS2 160L-4	15	90.6	28.4	0.84	1450	2.6	2.4	7.3
MS2 180M-4	18.5	91.4	34.4	0.85	1460	3.2	2.2	7.4
MS2 180L-4	22	91.7	40.3	0.86	1460	3.2	2.3	7.5
MS2 200L-4	30	92.3	55.2	0.86	1470	3.1	2.8	7.6
MS2 90S-6	0.75	76.0	2.01	0.71	925	3.1	3.1	4.7
MS2 90L-6	1.1	78.1	2.82	0.72	930	3.2	3.2	5
MS2 100L-6	1.5	80.0	3.71	0.73	940	2.9	3.1	5.9
MS2 112M-6	2.2	81.8	5.17	0.75	945	2.8	2.6	5.5
MS2 132S-6	3	83.3	6.84	0.76	960	2.7	2.2	5.7
MS2 132M1-6	4	84.6	8.86	0.77	960	2.7	2.4	6.2
MS2 132M2-6	5.5	86	12.0	0.77	960	2.7	2.6	6.7
MS2 160M-6	7.5	87.5	16.1	0.77	970	2.8	2	5.6
MS2 160L-6	11	89.0	22.9	0.78	970	2.8	2	5.8
MS2 180L-6	15	90.1	28.9	0.83	975	2.9	1.9	7.5
MS2 200L1-6	18.5	90.4	35.6	0.83	975	2.7	2.2	6.3
MS2 200L2-6	22	90.9	41.6	0.84	975	2.6	2.3	6.2

# **MSD** Series

Three-Phase Asynchronous Double-Polarity Motors

**Aluminum Housing** 





## echnical Data (at 400V/50Hz)

Model		wer W)	Spe (r/n	eed nin)	E (%			Factor osΦ)	Curr (A	rent A)		Torque .M)		/Tո nes)		ı/In nes)		<sub>ax</sub> /T <sub>n</sub> mes)
	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P
MSD711-2/4	0.3	0.22	2750	1350	60	55	0.8	0.73	0.90	0.79	1.04	1.56	1.7	1.7	3.5	3.5	1.9	1.9
MSD712-2/4	0.45	0.3	2790	1380	63	58	0.8	0.73	1.29	1.02	1.54	2.08	2	2	4	4	2	2
MSD801-2/4	0.55	0.45	2800	1380	65	64	0.84	0.75	1.45	1.35	1.88	3.11	2	2	4.5	4.5	2.1	2.1
MSD802-2/4	0.75	0.6	2800	1400	67	68	0.86	0.77	1.88	1.65	2.56	4.09	1.8	1.8	4.5	4.5	2	2
MSD90S-2/4	1.25	0.95	2820	1400	72	68	0.86	0.82	2.91	2.46	4.23	6.48	2	2	5	5	2	2
MSD90L-2/4	1.7	1.32	2830	1400	73	70	0.86	0.83	3.91	3.28	5.74	9.00	2	2	5	5	2	2
MSD100L1-2/4	2.4	1.84	2830	1410	73	76	0.86	0.83	5.52	4.21	8.10	12.46	2	2	5.5	5	2	2
MSD100L2-2/4	3.3	2.6	2840	1420	74	78	0.86	0.85	7.48	5.66	11.10	17.19	2	1.9	5.5	5	2	1.9
MSD112M-2/4	4.5	4	2860	1430	77	79	0.85	0.86	9.92	8.50	15.03	26.71	2	1.8	5.5	5	2.2	2
MSD132S-2/4	6	5	2860	1440	79	82	0.84	0.86	13.05	10.23	20.03	33.16	2	1.5	5.5	5.5	2.2	1.9
MSD132M-2/4	8	6.6	2870	1440	82	84	0.84	0.86	16.76	13.09	26.62	43.77	2	2	6	6	2.2	2.2
MSD160M-2/4	11	9	2920	1450	84	84	0.85	0.82	22.23	18.86	35.98	59.28	1.8	1.8	7	6	2	2
MSD160L-2/4	15	12	2920	1450	86	84	0.87	0.83	28.94	24.84	49.06	79.03	2	2	7	7	2.2	2.2



Model		wer W)	Spe (r/n			ff. %)		Factor sΦ)	Cur (A			Torque .M)		/Tո nes)	I <sub>st</sub> (Tim			nes)
	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P
MSD801-4/8	0.25	0.15	1380	680	58	40	0.77	0.60	0.81	0.90	1.73	2.11	2	2	4.5	3	2	2
MSD802-4/8	0.45	0.25	1390	685	68	48	0.80	0.60	1.19	1.25	3.09	3.49	1.8	2	4.5	3	2	2
MSD90S-4/8	0.55	0.3	1400	690	68	50	0.83	0.61	1.41	1.42	3.75	4.15	1.8	2	4.5	3.5	2	2
MSD90L-4/8	0.8	0.45	1400	690	68	53	0.83	0.63	2.05	1.95	5.46	6.23	1.8	1.6	4	3	1.9	1.8
MSD100L1-4/8	1.25	0.6	1400	700	69	54	0.82	0.56	3.19	2.86	8.53	8.16	1.8	2	5	3.5	2	2
MSD100L2-4/8	1.76	0.88	1400	700	71	58	0.84	0.56	4.26	3.91	12.00	12.00	1.8	2	5.5	4	2	2
MSD112M-4/8	2.2	1.5	1420	700	75	64	0.82	0.61	5.16	5.54	14.80	20.46	2	2	6	4	2	2
MSD132S-4/8	3.3	2.2	1430	705	78	70	0.84	0.64	7.27	7.09	22.04	29.8	2	2	6	5	2	2
MSD132M-4/8	4.5	3	1430	705	82	77	0.85	0.65	9.32	8.65	30.05	40.64	2	2	6	5	2	2
MSD160M1-4/8	5.5	4	1440	710	82	77	0.81	0.69	11.95	10.87	36.48	53.80	2.1	1.7	7.6	4.6	2.3	2.2
MSD160M2-4/8	7.5	5	1440	710	82	79	0.89	0.78	14.83	11.71	49.74	67.25	1.7	1.6	6.6	4.5	2.3	2.1
MSD160L-4/8	10	7	1450	715	84	82	0.90	0.78	19.09	15.80	65.86	93.50	1.8	1.9	5.5	5	2.3	2.1



## echnical Data (at 400V/50Hz)

Model	Pov (K)		Spe (r/m			ff. %)		Factor sΦ)	Curr (A		Rated (N.	Torque M)	Tst/ (Tim		Ist/ (Tim		T <sub>max</sub> (Tim	
	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P
MSD801-4/6	0.3	0.22	1400	910	60	55	0.74	0.69	0.98	0.84	2.05	2.31	2	1.8	4.5	4	2	2
MSD802-4/6	0.45	0.3	1410	920	63	58	0.75	0.7	1.37	1.07	3.05	3.11	2	1.8	4.5	4	2	2
MSD90S-4/6	0.66	0.45	1410	920	66	61	0.76	0.65	1.9	1.64	4.47	4.67	1.7	1.7	5	4.5	2	2
MSD90L-4/6	0.88	0.6	1420	930	70	64	0.77	0.67	2.36	2.02	5.92	6.16	1.7	1.7	5	4.5	2	2
MSD100L1-4/6	1.32	0.88	1420	940	72	67	0.85	0.75	3.11	2.3	8.88	8.94	1.8	1.8	6	5	2	2
MSD100L2-4/6	1.76	1.2	1430	950	74	70	0.85	0.75	4.04	3.3	11.75	12.06	1.8	1.8	6	5	2	2
MSD112M-4/6	2.2	1.5	1430	950	76	70	0.8	0.70	5.22	4.42	14.69	15	2	1.8	6	5	2.2	2.2
MSD132S-4/6	3.3	2.2	1440	960	82	78	0.81	0.72	7.17	5.65	21.9	21.9	2	2	7	6	2.2	2.2
MSD132M-4/6	4.5	3	1450	970	83	80	0.82	0.74	9.54	7.31	29.6	29.5	2	2	7	6	2.3	2.3
MSD160M-4/6	6.6	4.5	1460	970	84	81	0.84	0.78	13.5	10.3	43.2	44.3	1.8	1.8	7	6	2.3	2.3
MSD160L-4/6	8.8	6	1460	970	84	81	0.85	0.79	17.8	13.5	57.6	59.1	1.8	1.8	7	6	2.3	2.3



# echnical Data (at 400V/50Hz)

Model		wer W)	Spe (r/m		E (%			Factor osФ)	Curi (A			Torque M)	T <sub>st.</sub> (Tin	/Tn nes)	I <sub>st.</sub> (Tin			d/Tn nes)
	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P
MSD801-6/8	0.18	0.11	900	680	50	42	0.69	0.65	0.75	0.58	1.91	1.54	1.5	1.5	3.5	3	1.5	1.5
MSD802-6/8	0.25	0.18	920	700	54	46	0.7	0.66	0.95	0.86	2.60	2.46	1.7	1.5	3.5	3	1.5	1.7
MSD90S-6/8	0.37	0.25	930	680	58	50	0.72	0.68	1.28	1.06	3.80	3.51	1.5	1.4	4	3	1.8	1.7
MSD90L-6/8	0.55	0.37	940	685	63	54	0.73	0.69	1.73	1.43	5.59	5.16	1.5	1.4	4	3	1.8	1.7
MSD100L1-6/8	0.75	0.55	950	700	69	63	0.74	0.74	2.12	1.70	7.54	7.50	1.5	1.4	5	4	2	1.8
MSD100L2-6/8	1.03	0.75	955	705	71	65	0.76	0.76	2.76	2.19	10.30	10.16	1.5	1.4	5	4	2	1.8
MSD112M-6/8	1.25	0.95	960	710	72	64	0.71	0.71	3.53	3.02	12.43	12.78	1.5	1.5	5	4	2	1.8
MSD132S-6/8	2.2	1.5	970	720	76	70	0.71	0.7	5.88	4.42	21.66	19.90	1.6	1.4	6	5.5	2.3	2
MSD132M-6/8	3	1.85	970	720	78	74	0.71	0.7	7.82	5.01	29.54	24.37	1.6	1.4	6	5.5	2.3	2
MSD160M1-6/8	3.7	2.6	970	720	78	75	0.74	0.71	9.25	7.05	36.43	34.49	1.8	1.5	6	5.5	2.5	1.9
MSD160M2-6/8	4.5	3.3	970	720	79	76	0.78	0.72	10.54	8.70	44.30	43.77	1.8	1.7	6	5.5	2.5	2
MSD160L-4/6	6	4.5	973	720	80	77	0.79	0.73	13.70	11.55	59.89	59.69	1.8	1.7	6	5.5	2.5	2



Model		wer W)	Spe (r/n		E1 (%			Factor osΦ)	Cur (/	rent A)		Torque .M)		/Tn nes)		/In nes)		x/Tn nes)
	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P	2P	8P
MSD801-2/8	0.37	0.08	2760	660	65	33	0.76	0.48	1.08	0.73	1.28	1.16	1.7	2	3.5	2.5	1.9	2.1
MSD802-2/8	0.55	0.11	2780	670	67	35	0.78	0.50	1.52	0.91	1.89	1.57	1.7	2	4	3	1.9	2.2
MSD90S-2/8	0.75	0.18	2800	670	67	43	0.79	0.52	2.05	1.16	2.56	2.57	1.8	2	4	3	2	2.3
MSD90L-2/8	1.1	0.3	2810	680	67	45	0.8	0.54	2.96	1.78	3.74	4.21	1.8	2	4	3.5	2	2.3
MSD100L1-2/8	1.5	0.37	2820	700	67	50	0.84	0.56	3.85	1.91	5.08	5.05	1.7	2.1	5	3.5	2	2.6
MSD100L2-2/8	2.2	0.55	2820	710	68	51	0.85	0.58	5.49	2.68	7.45	7.40	1.8	2.2	5	3.5	2	2.6
MSD112M1-2/8	2.6	0.75	2840	710	71	58	0.86	0.6	6.15	3.11	8.74	10.09	1.8	1.8	5.5	4	1.9	1.9
MSD112M2-2/8	3	0.9	2850	710	75	63	0.86	0.58	6.71	3.56	10.05	12.1	1.7	2	6.5	4.5	1.9	2.2
MSD132S-2/8	3.7	1.1	2890	710	81	65	0.83	0.57	7.94	4.29	12.22	14.80	1.7	1.7	7	5	1.9	1.9
MSD132M-2/8	5.5	1.5	2900	720	82	66	0.85	0.57	11.39	5.75	18.11	19.90	1.8	1.8	7	5	1.9	1.9
MSD160M-2/8	7.5	2.2	2900	720	80	73	0.87	0.58	15.55	7.50	24.70	29.18	2.3	2.5	7	5	2.3	2.5
MSD160L-2/8	9.5	3	2920	720	82	73	0.87	0.58	19.22	10.23	31.07	39.79	2.3	2.5	7	5	2.3	2.5



## echnical Data (at 400V/50Hz)

Model	Po' (K	wer W)		eed nin)		Eff. %)		Factor sΦ)		rent A)		Torque .M)	T <sub>st</sub> (Tin	/Tn nes)	I <sub>st</sub> (Tin	/In nes)		<sub>x</sub> /T <sub>n</sub> nes)
	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P	2P	4P
MSD712-2/4	0.55	0.12	2850	1410	75	57	0.78	0.55	1.5	0.7	1.8	0.8	2.7	3.3	6	4	2.7	3.2
MSD802-2/4	0.75	0.19	2860	1430	75	59	0.82	0.6	2	1	2.4	1.2	3.3	2.8	7	4	2.6	2.8
MSD802-2/4	1.1	0.28	2870	1430	79	64	0.82	0.59	2.8	1.5	3.6	1.8	3.4	2.5	7.5	4.6	2.8	2.8
MSD90S-2/4	1.5	0.38	2880	1440	82	71	0.84	0.6	3.5	1.5	4.9	2.5	2.6	3.2	7.5	5.5	3.3	3.5
MSD90L-2/4	2.2	0.55	2880	1440	83	73	0.86	0.62	4.5	2	7.2	3.5	3.6	3.6	8	5.8	3.3	3.2
MSD100L1-2/4	3	0.8	2850	1430	81	77	0.9	0.72	6	2.2	10	5.2	2.1	1.9	8	5.5	2.8	2.5
MSD112M-2/4	4	1	2910	1450	85	80	0.86	0.67	8	3	13	6	3.2	3.2	10.5	8	3.4	3.7
MSD112M-2/4	4.5	1.3	2900	1440	84	81	0.93	0.81	8.5	3	14	8	2.3	1.9	9.5	6.5	2.9	2.6
MSD132S-2/4	5.5	1.4	2900	1450	85	82	0.9	0.73	10.5	3.5	18	9	2.7	2.1	9.5	6.5	3	3
MSD132S-2/4	6	1.6	2890	1440	83	80	0.92	0.79	11.5	3.9	19	10	2.5	1.8	9	6	2.9	2.7
MSD132M-2/4	9	2.5	2920	1450	86	82	0.91	0.79	17	6	29	16	2.5	1.8	10.3	6.8	2.5	2.7
MSD160M-2/4	15	3.7	3930	1460	86	86	0.91	0.76	28	8.5	48	24	2.5	2.3	8	6.4	2.9	2.6
MSD160L-2/4	18.5	4.4	2940	1470	88	87	0.91	0.74	34	10.5	59	58	3	2.7	9.5	7	3.2	3



Model		wer W)	Spe (r/r	eed nin)		ff. %)		Factor sΦ)		rent A)		Torque .M)		/Tn nes)		/In nes)		x/Tn nes)
	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P	4P	8P
MSD711-4/8	0.25	0.03	1370	710	53	30	0.67	0.44	1.2	0.5	1.7	0.4	2.4	2.5	3.5	2.8	2.5	4.8
MSD712-4/8	0.33	0.04	1360	710	58	34	0.71	0.45	1.5	0.5	2.3	0.5	2.2	4.1	4	3	2.5	4.6
MSD712-4/8	0.37	0.09	1360	650	58	45	0.69	0.61	1.5	0.5	2.5	1.3	2.4	2	3.5	2.5	2.5	2
MSD801-4/8	0.55	0.09	1410	710	64	43	0.7	0.49	2	1	3.7	1.1	2	2.6	4.5	3.5	2.5	3.6
MSD802-4/8	0.75	0.19	1430	710	76	59	0.82	0.6	1.8	0.8	2.4	1.2	3.3	2.8	7	4	2.6	2.8
MSD90S-4/8	1.1	0.18	1400	710	75	53	0.79	0.47	3	1.5	7.4	2.4	2.3	3	5.8	3.6	2.5	3.5
MSD90L-4/8	1.5	0.25	1380	700	75	57	0.83	0.49	4	1.5	10	3	2.2	2.8	5.8	3.6	2.4	3.3
MSD100L1-4/8	2.2	0.37	1430	720	79	62	0.8	0.46	4	2	14	4.5	2.1	2.5	7	4.5	2.7	3.5
MSD100L2-4/8	3	0.55	1420	710	80	67	0.82	0.5	6.6	2.5	20	7.3	2	2.3	6.9	4	2.5	3
MSD112M-4/8	4	0.75	1440	720	82	72	0.84	0.53	8.5	3	26.5	9.9	1.9	1.9	7.5	4.5	2.5	2.8
MSD132S-4/8	5.5	1.1	1450	720	84	74	0.85	0.54	11	4	36	14	2.1	1.5	8.5	5	2.5	2.8
MSD132M-4/8	7.5	1.5	1450	720	85	75	0.83	0.51	15	5.8	49	19	2.2	2	9.2	5	3	3
MSD160M-4/8	8.9	2	1460	730	87	79	0.83	0.53	18	7	58	26	2.4	1.7	8.7	4.5	3	2.6
MSD160L-4/8	11	2.8	1460	720	88	81	0.83	0.58	22	8.5	71	36	2.3	1.4	8	4	2.7	1.8
MSD160L-4/8	15	3.5	1460	720	89	82	0.83	0.56	12.5	11.5	97	45	2.2	1.6	7.5	4	2.9	2
MSD180M-4/8	18.5	4.6	1470	730	90	84	0.84	0.55	35	14	119	59	2.5	2.3	9	5.5	3	2.8
MSD180L-4/8	22	5.5	1470	730	90	83	0.85	0.6	40	16	142	71	2.4	2.1	9.5	5.5	3	2.8



## echnical Data (at 400V/50Hz)

Model		wer W)	- 10	eed nin)	E (%	ff. %)		Factor sΦ)		rent A)		Torque .M)		/Tn nes)		/I <sub>n</sub> nes)		nes)
	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P	4P	6P
MSD71S-4/6	0.25	0.09	1380	950	48	41	0.68	0.64	1.3	0.5	1.7	0.9	2.4	2	3	2.5	2.2	2.1
MSD801-4/6	0.37	0.12	1420	960	59	47	0.68	0.58	1.5	0.7	2.4	1.1	2	2.2	4.5	4	2.3	2.9
MSD802-4/6	0.55	0.16	1420	960	64	53	0.72	0.56	1.8	0.8	3.6	1.5	1.7	2.4	4.5	4.2	2.2	3.2
MSD90S-4/6	0.75	0.25	1410	950	65	59	0.74	0.65	2.5	0.9	5	2.4	1.8	1.6	4.5	4.2	2.1	2.3
MSD90L1-4/6	1.1	0.37	1410	950	68	64	0.74	0.68	3.2	1.5	7.4	3.7	1.9	2	4.5	4.2	2.1	2.2
MSD90L2-4/6	1.5	0.5	1420	950	73	68	0.77	0.7	4	1.6	10	4.8	1.9	1.9	5.5	5	2.1	2.3
MSD100L1-4/6	1.7	0.6	1430	960	75	68	0.77	0.73	4.5	2	11	5.5	1.9	1.6	5.5	5	2.2	2.1
MSD100L2-4/6	2.2	0.75	1430	950	80	69	0.83	0.69	5	2.4	14.5	7.5	2.4	1.7	6.5	4.3	2.5	2.2
MSD100L2-4/6	3	0.9	1430	950	77	68	0.77	0.7	7.5	3	19	8	2.7	1.7	6	4.6	2.5	2.2
MSD112M-4/6	3	1	1440	950	82	72	0.84	0.72	6.5	3	19.5	9.5	2.2	1.3	7.5	4.5	2.5	2.1
MSD132S-4/6	4	1.3	1440	960	80	73	0.81	0.73	9	4	26	12.5	2.3	1.3	3.8	5.5	2.4	2.1
MSD132M1-4/6	5.5	1.6	1450	970	83	75	0.81	0.71	12	4.5	36	15	2.4	1.4	7.8	6	2.4	2.2
MSD132M1-4/6	6	2	1450	970	84	77	0.8	0.74	13	5.5	39	19	2.5	1.5	7.8	6	2.8	2.2
MSD132M1-4/6	7.5	2.2	1450	970	85	72	0.86	0.74	15	6.2	49	21	2.2	1.4	8	5.5	2.7	2.2
MSD160M-4/6	11	3.3	1460	970	86	77	0.85	0.75	22	8.5	71	32	2.5	1.3	8	4.8	3	1.9
MSD160L-4/6	15	5	1450	970	88	80	0.86	0.73	29	12.5	98	48	2.2	1.9	9	6	2.3	2.3



## echnical Data (at 400V/50Hz)

Model		wer W)		eed nin)	E (%	ff. %)		Factor sΦ)	Cur			Torque .M)		/Tո nes)		/In nes)		<sub>x</sub> /T <sub>n</sub> nes)
	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P	6P	8P
MSD802-6/8	0.37	0.18	940	710	64	53	0.67	0.57	1.3	0.9	3.7	2.4	2.3	2.4	4.5	3.5	2.5	2.7
MSD90S-6/8	0.75	0.32	940	710	70	57	0.73	0.61	2.1	1.4	7.5	4.2	1.9	1.6	4.6	3.3	2.5	2.2
MSD90L-6/8	1.1	0.46	940	710	67	52	0.67	0.63	4	2.4	11	6	1.8	1.6	4	3.5	2.2	1.9
MSD100L-6/8	1.5	0.63	950	710	75	62	0.72	0.66	4.3	2.5	14.5	8	2.1	1.7	5.2	4	2.3	2
MSD112M-6/8	2.2	0.93	950	720	79	68	0.75	0.62	5.5	3.5	21	12	2.6	1.7	6	4.2	2.5	2.3
MSD132S-6/8	3	1.3	970	730	83	72	0.76	0.6	7	4.5	29	16	2.4	1.8	7	4.6	2.6	2.4
MSD132M-6/8	4	1.7	970	730	83	74	0.77	0.6	9.3	5.8	39	22	2.4	1.9	7	5	2.5	2.5



Model		wer W)		eed nin)	_	ff. %)		Factor (sΦ)	Cur	rent A)		Torque .M)		/Tո nes)		/In nes)		<sub>nx</sub> /T <sub>n</sub> nes)
	6P	12P	6P	12P	6P	12P	6P	12P	6P	12P	6P	12P	6P	12P	6P	12P	6P	12P
MSD802-6/12	0.37	0.06	930	450	59	30	0.71	0.57	1.3	0.5	3.7	1.2	1.6	1.9	3.5	2	1.9	2
MSD802-6/12	0.55	0.08	930	450	64	38	0.74	0.57	1.7	0.53	5.6	1.7	1.6	1.8	4	2	2	2
MSD90S-6/12	0.75	0.1	930	460	66	41	0.75	0.47	2.2	0.8	7	2	1.4	1.8	3.6	2	1.9	2.2
MSD90L-6/12	1.1	0.15	930	460	67	42	0.73	0.46	3.2	1.2	11	3	1.7	2.1	3.8	2	2	2.3
MSD100L-6/12	1.5	0.2	940	470	73	48	0.75	0.44	4	1.5	15	4	2.1	3.2	4.8	1.5	2.4	3.1
MSD112M-6/12	2.2	0.3	950	470	77	54	0.74	0.41	5.5	2	22	6	2.2	3	5.3	2.7	2.5	3.2
MSD132S-6/12	3	0.4	960	480	77	51	0.7	0.39	8	2.9	29	7	2.6	3.4	6	3.5	3	3.9
MSD132M1-6/12	4	0.55	970	480	80	57	0.72	0.39	10	3.6	39	10	2.7	3.4	6.5	3.6	3.2	4.2
MSD132M2-6/12	5.5	0.75	970	480	81	59	0.73	0.39	13.5	4.7	54	14	2.9	3.5	7	3.5	2.7	3.9
MSD112M-4/6	3	1	1440	950	82	72	0.84	0.72	6.5	3	19.5	9.5	2.2	1.3	7.5	4.5	2.5	2.1
MSD132S-4/6	4	1.3	1440	960	80	73	0.81	0.73	9	4	26	12.5	2.3	1.3	3.8	5.5	2.4	2.1
MSD132M1-4/6	5.5	1.6	1450	970	83	75	0.81	0.71	12	4.5	36	15	2.4	1.4	7.8	6	2.4	2.2
MSD132M1-4/6	6	2	1450	970	84	77	0.8	0.74	13	5.5	39	19	2.5	1.5	7.8	6	2.8	2.2
MSD132M1-4/6	7.5	2.2	1450	970	85	72	0.86	0.74	15	6.2	49	21	2.2	1.4	8	5.5	2.7	2.2

# MSBCCL Series

# Asynchronous Three-Phase Brake Motors With Squirrel Cage Rotor - Direct Current Brake



## MSBCCL series-enclosed construction externally ventilated-sizes 63~160

The brake-motors of the MSBCCL series result from coupling an asynchronous three-phase motor and an electromagnetic D.C. brake unit. Due to their reliability and operating safety, as well as their quick braking time (connection & disconnection time =  $5\sim80$  milliseconds) they are suitable for a great variety of applications, such as:

- Braking of loads or torques on the driving shaft.
- Braking of rotating masses to reduce any lost-time.
- Braking operations to increase the set-up precision.
- Braking of machine parts, according to safely rules.

2 poles-3000rpm-50Hz Brake motors have a ±6% tolerance on the supply voltage

Model	Power	Speed (r/min)	Eff.	Power Factor		Current (A)		Tst/Tn	T <sub>max</sub> /T <sub>n</sub>	Tmin/Tn	Ist/In	Noise dB(A)
	(KW)	(1/111111)	(%)	(CosΦ)	230V	400V	690V	(Times)	(Times)	(Times)	(Times)	UD(A)
MSBCCL631-2	0.18	2710	63	0.75	0.95	0.55	0.32	2.2	2.4	1.6	6	61
MSBCCL632-2	0.25	2710	65	0.78	1.23	0.71	0.41	2.2	2.4	1.6	6	61
MSBCCL633-2	0.37	2710	65	0.78	1.82	1.05	0.61	2.2	2.4	1.6	6	62
MSBCCL711-2	0.37	2730	70	0.79	1.67	0.97	0.56	2.2	2.4	1.6	6	64
MSBCCL712-2	0.55	2760	71	0.79	2.45	1.42	0.82	2.2	2.4	1.6	6	64
MSBCCL713-2	0.75	2730	72	0.82	3.18	1.83	1.06	2.2	2.4	1.5	6	65
MSBCCL801-2	0.75	2770	73	0.84	3.06	1.77	1.02	2.2	2.4	1.5	6	67
MSBCCL802-2	1.1	2770	76.2	0.83	4.35	2.51	1.45	2.2	2.4	1.5	6	67
MSBCCL803-2	1.5	2800	78.5	0.83	5.87	3.32	1.92	2.2	2.4	1.5	6	70
MSBCCL90S-2	1.5	2840	78.5	0.84	5.76	3.28	1.90	2.2	2.4	1.5	6	72
MSBCCL90L1-2	2.2	2840	81	0.85	8.0	4.61	2.66	2.2	2.4	1.4	6	72
MSBCCL90L2-2	3	2840	82.6	0.86	10.56	6.10	3.52	2.2	2.4	1.4	6	74
MSBCCL100L1-2	3	2840	82.6	0.87	10.44	6.03	3.48	2.2	2.3	1.4	7	76
MSBCCL100L2-2	4	2850	84.2	0.87	13.65	7.88	4.55	2.2	2.3	1.4	7.5	77
MSBCCL112M-2	4	2880	84.2	0.87	13.65	7.88	4.55	2.2	2.3	1.4	7.5	77
MSBCCL112L-2	5.5	2880	85.7	0.88	18.23	10.53	6.08	2.2	2.3	1.2	7.5	78
MSBCCL132S1-2	5.5	2900	85.7	0.88	18.23	10.53	6.08	2	2.2	1.2	7.5	80
MSBCCL132S2-2	7.5	2920	87	0.88	24.49	14.14	8.16	2	2.2	1.2	7.5	80
MSBCCL132M1-2	9.2	2930	88	0.89	29.87	17.25	9.96	2	2.2	1.2	7.5	81
MSBCCL132M2-2	11	2930	88.4	0.9	34.57	19.96	11.52	2	2.2	1.2	7.5	83
MSBCCL160M1-2	11	2940	88.4	0.9	34.57	19.96	11.52	2	2.2	1.2	7.5	86
MSBCCL160M2-2	15	2940	89.4	0.91	46.09	26.61	15.36	2	2.2	1.2	7.5	86
MSBCCL160L-2	18.5	2940	90	0.91	56.47	32.6	18.82	2	2.2	1.1	7.5	86

Type	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake Pd <sup>2</sup> Kgm <sup>2</sup>	No.of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
MSBCCL63	K 1	5	15	0.00005	3000	45	20	10	62
MSBCCL 71	K 2	12	20	0.00014	3000	50	30	15	64
MSBCCL 80	К3	16	25	0.00021	1300	55	30	15	67
MSBCCL 90S	K 4	20	30	0.00039	1100	65	40	15	72
●MSBCCL 90S	K4D	40	30	0.00078	1100	65	40	15	72
MSBCCL 90 L	K 4	20	30	0.00039	1100	65	40	15	72
●MSBCCL 90 L	K4D	40	30	0.00078	1100	65	40	15	72
MSBCCL 100 L	K 5	40	45	0.00104	900	75	45	20	76
●MSBCCL 100 L	K 6	60	50	0.00135	900	180	85	25	76
MSBCCL 112 MT	K 5	40	45	0.00104	880	75	45	20	77
MSBCCL 112 M	K 6	60	50	0.00135	880	180	85	25	78
MSBCCL 132 S	K 7	90	55	0.00219	480	200	95	50	80
●MSBCCL 132 S	K7D	180	55	0.00438	480	200	95	50	80
MSBCCL 132 M	K 7	90	55	0.00219	450	200	95	50	80
●MSBCCL 132 M	K7D	180	55	0.00438	480	200	95	50	80
MSBCCL 160 MT	K7D	180	55	0.00438	350	200	95	50	86
MSBCCL 160 L	K 8	200	60	0.00408	350	210	100	60	86
●MSBCCL 160 L	K8D	400	60	0.00816	350	210	100	60	86

- Motor with increased braking torque on request
- ★ On request, delayed brake cut in time for lifting equipments. We suggest double disk brake D for lifting equipments.



4 poles-1500rpm-50Hz Brake motors have a  $\pm 6\%$  tolerance on the supply voltage

Model	Power (KW)	Speed (r/min)	Eff. (%)	Power Factor		Current (A)		Tst/Tn	T <sub>max</sub> /T <sub>n</sub>	Tmin/Tn	Ist/In	Noise dB(A)
	(KVV)	(1/111111)	(70)	(CosΦ)	230V	400V	690V	(Times)	(Times)	(Times)	(Times)	UD(A)
MSBCCL631-4	0.12	1350	57	0.64	0.82	0.47	0.27	2.2	2.4	1.7	6	52
MSBCCL632-4	0.18	1350	59	0.65	1.17	0.68	0.39	2.2	2.4	1.7	6	52
MSBCCL633-4	0.25	1350	60	0.66	1.58	0.91	0.53	2.2	2.4	1.7	6	54
MSBCCL711-4	0.25	1350	60	0.72	1.45	0.84	0.48	2.2	2.4	1.7	6	55
MSBCCL712-4	0.37	1370	65	0.74	1.92	1.11	0.64	2.2	2.4	1.7	6	55
MSBCCL713-4	0.55	1380	66	0.75	2.78	1.60	0.93	2.2	2.4	1.7	6	57
MSBCCL801-4	0.55	1370	67	0.75	2.74	1.58	0.91	2.2	2.4	1.7	6	58
MSBCCL802-4	0.75	1380	72	0.78	3.34	1.93	1.11	2.2	2.4	1.6	6	58
MSBCCL803-4	1.1	1390	76.2	0.78	4.63	2.67	1.54	2.2	2.4	1.6	6	60
MSBCCL90S-4	1.1	1400	76.2	0.79	4.57	2.64	1.52	2.2	2.4	1.6	6	61
MSBCCL90L-4	1.5	1400	78.5	0.8	5.97	3.45	1.99	2.2	2.4	1.6	6	61
MSBCCL90L2-4	2.2	1400	81	0.8	8.45	4.90	2.83	2.2	2.4	1.5	7	63
MSBCCL100L1-4	2.2	1420	81	0.81	8.38	4.84	2.79	2.2	2.3	1.5	7	64
MSBCCL100L2-4	3	1420	82.6	0.81	11.21	6.47	3.74	2.2	2.3	1.5	7	64
MSBCCL100L3-4	4	1430	84.2	0.82	14.18	8.36	4.83	2.2	2.3	1.5	7	65
MSBCCL112M-4	4	1430	84.2	0.83	14.31	8.26	4.77	2.2	2.2	1.5	7	65
MSBCCL112L-4	5.5	1440	85.7	0.83	19.33	11.16	6.44	2.2	2.2	1.4	7	68
MSBCCL132S-4	5.5	1450	85.7	0.84	19.1	11.03	6.37	2.2	2.2	1.4	7	71
MSBCCL132M-4	7.5	1450	87	0.85	25.35	14.64	8.45	2.2	2.2	1.4	7	71
MSBCCL132L1-4	9.2	1460	87.5	0.85	30.92	17.85	10.31	2.2	2.2	1.4	7.5	74
MSBCCL132L2-4	10	1460	88	0.85	33.42	19.3	11.14	2.2	2.2	1.4	7.5	74
MSBCCL132L2-4	11	1460	88.4	0.86	36.17	20.88	12.06	2.2	2.2	1.4	7.5	74
MSBCCL160M-4	11	1460	88.4	0.87	35.76	20.64	11.92	2.2	2.2	1.4	7	75
MSBCCL160L-4	15	1460	88.4	0.87	48.76	28.15	16.25	2.2	2.2	1.4	7.5	75

Туре	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake Pd <sup>2</sup> Kgm <sup>2</sup>	No.of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
MSBCCL63	K 1	5	15	0.00005	3000	45	20	10	52
MSBCCL 71	K 2	12	20	0.00014	3000	50	30	15	55
MSBCCL 80	К3	16	25	0.00021	1300	55	30	15	58
MSBCCL 90S	K 4	20	30	0.00039	1100	65	40	15	61
●MSBCCL 90S	K4D	40	30	0.00078	1100	65	40	15	61
MSBCCL 90 L	K 4	20	30	0.00039	1100	65	40	15	63
●MSBCCL 90 L	K4D	40	30	0.00078	1100	65	40	15	63
MSBCCL 100 L	K 5	40	45	0.00104	900	75	45	20	64
●MSBCCL 100 L	K 6	60	50	0.00135	900	180	85	25	65
MSBCCL 112 MT	K 5	40	45	0.00104	880	75	45	20	65
MSBCCL 112 M	K 6	60	50	0.00135	880	180	85	25	65
MSBCCL 132 S	K 7	90	55	0.00219	480	200	95	50	71
●MSBCCL 132 S	K7D	180	55	0.00438	480	200	95	50	71
MSBCCL 132 M	K 7	90	55	0.00219	450	200	95	50	71
●MSBCCL 132 M	K7D	180	55	0.00438	480	200	95	50	71
MSBCCL 160 MT	K7D	180	55	0.00438	350	200	95	50	75
MSBCCL 160 L	K 8	200	60	0.00408	350	210	100	60	75
●MSBCCL 160 L	K8D	400	60	0.00816	350	210	100	60	75

- Motor with increased braking torque on request
- ★ On request, delayed brake cut in time for lifting equipments. We suggest double disk brake D for lifting equipments.

6 poles-1000rpm-50Hz Brake motors have a  $\pm 6\%$  tolerance on the supply voltage

Model	Power	Speed	Eff.	Power Factor		Current (A)		T <sub>st</sub> /T <sub>n</sub>	T <sub>max</sub> /T <sub>n</sub>	Tmin/Tn	I <sub>st</sub> /I <sub>n</sub>	Noise
	(KW)	(r/min)	(%)	(CosΦ)	230V	400V	690V	(Times)	(Times)	(Times)	(Times)	dB(A)
MSBCCL631-6	0.09	840	42	0.61	0.88	0.51	0.29	2	2	1.5	3.5	50
MSBCCL632-6	0.12	850	45	0.62	1.08	0.62	0.36	2	2	1.5	3.5	50
MSBCCL711-6	0.18	880	56	0.66	1.22	0.70	0.41	1.6	1.7	1.5	4	52
MSBCCL712-6	0.25	900	59	0.7	1.51	0.87	0.50	2.1	2.2	1.5	4	52
MSBCCL713-6	0.37	890	61	0.69	2.2	1.27	0.73	2	2.1	1.5	4	54
MSBCCL801-6	0.37	900	62	0.7	2.13	1.23	0.71	1.9	1.9	1.5	4	56
MSBCCL802-6	0.55	900	67	0.72	2.85	1.65	0.95	2	2.3	1.5	4	56
MSBCCL803-6	0.75	900	68	0.72	3.83	2.21	1.28	2	2.3	1.5	4	58
MSBCCL90S-6	0.75	920	69	0.72	3.77	2.18	1.26	2.2	2.2	1.5	5.5	59
MSBCCL90L-6	1.1	925	72	0.73	5.23	3.02	1.74	2.2	2.2	1.3	5.5	59
MSBCCL100L-6	1.5	945	74	0.76	6.67	3.85	2.22	2.2	2.2	1.3	6	61
MSBCCL112M-6	2.2	955	78	0.76	9.28	5.36	3.09	2.2	2.2	1.3	6	64
MSBCCL132S-6	3	960	79	0.76	12.49	7.21	4.16	2	2	1.3	6.5	64
MSBCCL132M1-6	4	960	80.5	0.76	16.35	9.44	5.45	2	2	1.3	6.5	68
MSBCCL132M2-6	5.5	960	83	0.77	21.51	12.42	7.17	2	2	1.3	6.5	68
MSBCCL132L-6	7.5	960	85	0.77	28.65	16.54	9.55	2	2	1.3	6.5	68
MSBCCL160M-6	7.5	960	86	0.8	27.25	15.73	9.08	2	2.2	1.3	6.5	68
MSBCCL160L-6	11	960	87.5	0.79	39.78	22.97	13.26	2	2.2	1.2	6.5	73

Туре	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake Pd <sup>2</sup> Kgm <sup>2</sup>	No.of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
MSBCCL63	K 1	5	15	0.00005	3000	45	20	10	50
MSBCCL 71	K 2	12	20	0.00014	3000	50	30	15	52
MSBCCL 80	K 3	16	25	0.00021	1300	55	30	15	56
MSBCCL 90S	K 4	20	30	0.00039	1100	65	40	15	59
●MSBCCL 90S	K 4 D	40	30	0.00078	1100	65	40	15	59
MSBCCL 90 L	K 4	20	30	0.00039	1100	65	40	15	59
●MSBCCL 90 L	K 4 D	40	30	0.00078	1100	65	40	15	59
MSBCCL 100 L	K 5	40	45	0.00104	900	75	45	20	61
●MSBCCL 100 L	K 6	60	50	0.00135	900	180	85	25	61
MSBCCL 112 MT	K 5	40	45	0.00104	880	75	45	20	64
MSBCCL 112 M	K 6	60	50	0.00135	880	180	85	25	64
MSBCCL 132 S	K 7	90	55	0.00219	480	200	95	50	64
●MSBCCL 132 S	K7D	180	55	0.00438	480	200	95	50	64
MSBCCL 132 M	K 7	90	55	0.00219	450	200	95	50	68
●MSBCCL 132 M	K7D	180	55	0.00438	480	200	95	50	68
MSBCCL 160 MT	K7D	180	55	0.00438	350	200	95	50	68
MSBCCL 160 L	K 8	200	60	0.00408	350	210	100	60	73
●MSBCCL 160 L	K8D	400	60	0.00816	350	210	100	60	73

- Motor with increased braking torque on request
- ★ On request, delayed brake cut in time for lifting equipments. We suggest double disk brake D for lifting equipments.



8 poles-750rpm-50Hz Brake motors have a ±6% tolerance on the supply voltage

Model	Power	Speed	Eff.	Power Factor		Current (A)		Tst/Tn	T <sub>max</sub> /T <sub>n</sub>	Tmin/Tn	Ist/In	Noise
	(KW)	(r/min)	(%)	(CosΦ)	230V	400V	690V	(Times)	(Times)	(Times)	(Times)	dB(A)
MSBCCL711-8	0.09	680	48	0.56	0.84	0.48	0.28	1.5	1.7	1.3	3	50
MSBCCL712-8	0.12	690	51	0.59	1.00	0.58	0.33	1.6	1.7	1.3	2.7	50
MSBCCL801-8	0.18	680	51	0.61	1.45	0.84	0.48	1.5	1.7	1.3	2.8	52
MSBCCL802-8	0.25	680	56	0.61	1.83	1.06	0.61	1.6	2	1.3	2.7	52
MSBCCL90S-8	0.37	680	63	0.63	2.33	1.35	0.78	1.6	1.8	1.3	2.8	56
MSBCCL90L-8	0.55	680	66	0.65	3.21	1.85	1.07	1.6	1.8	1.3	3	56
MSBCCL100L1-8	0.75	710	66	0.67	4.24	2.45	1.41	1.7	2.1	1.3	3.5	59
MSBCCL100L2-8	1.1	710	72	0.69	5.54	3.20	1.85	1.7	2.1	1.2	3.5	59
MSBCCL112M-8	1.5	710	74	0.68	7.45	4.30	2.48	1.8	2.1	1.2	4.2	61
MSBCCL132S-8	2.2	720	75	0.71	10.33	5.96	3.44	2	2	1.2	5.5	64
MSBCCL132M-8	3	720	77	0.73	13.34	7.70	4.45	2	2	1.2	5.5	64
MSBCCL160M1-8	4	730	80	0.73	17.12	9.89	5.71	1.9	2.1	1.2	6	68
MSBCCL160M2-8	5.5	720	83.5	0.74	22.25	12.85	7.42	2	2.2	1.2	6	68
MSBCCL160L-8	7.5	720	85	0.75	29.41	17.0	9.8	1.9	2.2	1.2	6	68

Туре	Brake Type K	Brake Torque Nm	Brake Rated Power W	J Brake Pd <sup>2</sup> Kgm <sup>2</sup>	No.of Starts/hr. Under No Load	Delayed Cut-in Time ★ Msec.	Quick Cut-in Time Msec.	Cut Out Time Msec.	Noise dB(A)
63 MSBCCL	K 1	5	15	0.00005	3000	45	20	10	50
71 MSBCCL	K 2	12	20	0.00014	3000	50	30	15	50
80 MSBCCL	К3	16	25	0.00021	1300	55	30	15	52
90 S MSBCCL	K 4	20	30	0.00039	1100	65	40	15	56
●90 S MSBCCL	K4D	40	30	0.00078	1100	65	40	15	56
90 L MSBCCL	K 4	20	30	0.00039	1100	65	40	15	56
●90 L MSBCCL	K4D	40	30	0.00078	1100	65	40	15	56
100 L MSBCCL	K 5	40	45	0.00104	900	75	45	20	59
● 100 L MSBCCL	K 6	60	50	0.00135	900	180	85	25	59
112 MT MSBCCL	K 5	40	45	0.00104	880	75	45	20	61
112 M MSBCCL	K 6	60	50	0.00135	880	180	85	25	61
132 S MSBCCL	K 7	90	55	0.00219	480	200	95	50	64
●132 S MSBCCL	K7D	180	55	0.00438	480	200	95	50	64
132 M MSBCCL	K 7	90	55	0.00219	450	200	95	50	64
●132 M MSBCCL	K7D	180	55	0.00438	480	200	95	50	64
160 MT MSBCCL	K7D	180	55	0.00438	350	200	95	50	68
160 L MSBCCL	K 8	200	60	0.00408	350	210	100	60	68
●160 L MSBCCL	K8D	400	60	0.00816	350	210	100	60	68

- Motor with increased braking torque on request
- ★ On request, delayed brake cut in time for lifting equipments. We suggest double disk brake D for lifting equipments.

#### **MSBCCL Series Brake Motors**

#### **Operating Principle**

The direct current brake is fed by means of an electronic circuit with diode bridge (rectifier) situated inside the terminal-box. When feeding the electromagnet (5), the movable anchor (4) is attracted towards the same, thus loading the braking torque springs (9) and allowing the disk (2), equipped with friction packing and fitted on the groove hub (6) to turn solitary the motor shaft (1) by means of a key (7). By interrupting the feeding, the movable anchor (4), pushed by the braking torque springs (9), exerts a pressure upon the friction surface of the disk (2), thus causing its stopping.

#### **Adjustment Of The Air Gap**

The air gap (11) is the distance between the electromagnet (5) and the movable anchor (9).

The air gap has to be regularly checked, since due to the wear of the friction packing (2) it tends to increase.

Act no the brake adjusters (3) after having unloosen the screws (8) to bring the air gap to the required value.

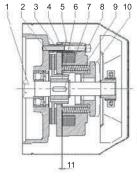
Act on the ring nut (10) which acts on the braking torque springs (9) to adjust the braking torque.

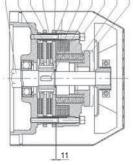
Pls. contact our technical department for information on the air gap adjustment values.

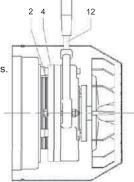


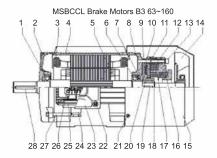
Upon request a hand release with lever can be supplied.

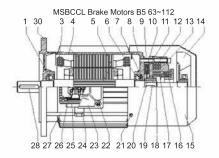
In case of a current cutoff, acting on the lever (12), the release, connected to the movable anchor (4) overcomes the springs pressure, thus detaching the movable anchor from the disc friction packing (2) allowing the shaft to turn.

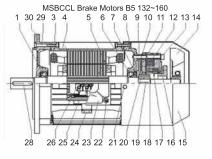












#### **Spare Parts**

- 1. Front bearing
- 2. Front shield
- 3. Winding
- 4. Frame with stator package
- 5. Shaft with rotor
- 6. Rear bearing
- 7. Spring
- 8. Rear shield
- 9. Adjusting bush
- 10. Brake disc
- 11. Moving anchor
- 12. Electromagnet coil with diode
- 13. Fixing screws for brake
- 14. Cooling fan
- 15. Fan hood
- 16. Ring nut
- 17. Spring
- 18. See gearing
- 19. Key brake side
- 20. Toothed pinion
- 21. Fixing screw for fan hood
- 22. Fixing crew for terminal-box
- 23. Terminal-box
- 24. Able-holder
- 25. Packing
- 26. Terminal-block
- 27. Tie-bolt
- 28. Coupling side key
- 29. Fixing screw for shield
- 30. Flange shield

# Y Series



Frame size	H80~355
• Power	0.55~315KW
Synchronous speed	3000; 1500; 1000; 750RPM
Voltage	220/380V; 380/660V
Frequency	50Hz、60Hz
Protection class	IP44; IP54; IP55
Insulation class	B <sub>x</sub> F
Ambi.temperature	-15~+40℃
Altitude above sea level	≤1000m



- · See Table 1 for the mounting arrangements and respective frame numbers
- See Table 2 for the bearings
- See Table 3-4 for the technical data
- See Table 7-10 for the types and mounting dimensions

# Y<sub>2</sub> Series



- Frame size
- Power
- Synchronous speed
- Voltage
- Frequency
- Protection class
- Insulation class
- · Ambi.temperature
- Altitude above sea level

H80~355

0.18~315KW

3000; 1500; 1000; 750; 600RPM

230/400V; 400/690V

50Hz、60Hz IP54; IP55

- ., .. - .

-15~+40℃

≤1000m

- See Table 1 for the mounting arrangements and respective frame numbers
- See Table 2 for the bearings
- See Table 5-6 for the technical data
- See Table 11-14 for the types and mounting dimensions



# **TE** Series



• Frame size

Power

Synchronous speed

Voltage

Frequency

Protection class

Insulation class

Ambi.temperature

· Altitude above sea level

Removable feet

H80~200 0.18~37KW 3000; 1500; 1000; 750RPM

230/400V; 400/690V

50Hz、60Hz

IP54; IP55

-15~+40°C

≤1000m



# The Commonly used mounting arrangements and the corresponding frame numbers are shown in table 1

Table 1

		Basic						Variations				
	В3	B5	B35	Based	On B5			Based On B3			Based (	On B35
Frame No.				V1	V3	V5	V6	B6	В7	В8	V15	V36
Traile No.		П								<b>**</b>		
H80~160	<b>√</b>	√	<b>√</b>	√	<b>√</b>	√	<b>√</b>	<b>√</b>	<b>√</b>	<b>√</b>	√	<b>√</b>
H180~225	√	√	<b>√</b>	√	_	_	_	_	_	_	_	_
H250~355	<b>√</b>	_	<b>√</b>	√	_	_	_	_	_	_	_	_

# Bearings

		Drivin	g End			Non-dr	iving End	
Frame No.	21	>	4,6,	8P	2P	4,6,8P	2P	4,6,8P
	Y	Y <sub>2</sub> /TE	Y	Y₂/TE	Y	Y	Y2/TE	Y <sub>2</sub> /TE
80		62	04			62	204	
90		62	05			62	205	
100		62	06			62	206	
112		62	06			62	206	
132		62	08			62	208	
160	6309	6209	630	09		63	309	
180	6311	6211	63	11		63	311	
200	6312	6212	63 <sup>-</sup>	12		63	312	
225	6313	6312	63	13	63	13	63	12
250	6314	6313	63 <sup>-</sup>	14	63	14	63	13
280	63	14	63	17	6314	6317	63	14
315	63	17	N3	19	6317	6319	6317	6319
355	63	19	N3.	22	6319	6322	6319	6322



# Series Technical Data (at 380V)

			At Fu	ull Load		Locked	Locked	Max		Noise	l able E Level
Model	Rated Output				Power	Current	Torque	Torque	Net Weight		(A)
Wiodel	(KW)	Speed (r/min)	Current (A)	Eff. (%)	Factor (CosΦ)	Rated Current	Rated Torque	Rated Torque	(Kg)	I	II
	1			Sy	nchronous Spe	eed 3000r/min 50	)Hz		1		
80 1	0.75	2825	1.8	75.5	0.845	6.5			16	66	71
80 2	1.1		2.5	77.2	0.867				18		
90S	1.5	2840	3.4	78.6	0.849		2.2		21	70	75
90L 100L	2.2	2880	4.8 6.4	80.7 82.2	0.86 0.872				24		
112M	4	2890	8.2	85.8	0.86			2.3	34 43	74	79
132S1	5.5	2000	11.1	85.7	0.89			+	63		
132S2	7.5	2900	14.9	86.4	0.886				69	78	83
160M1	11		21.6	87.4	0.885	_			114		
160M2	15	2930	28.9	88.3	0.893	7			120	82	87
160L	18.5		35.7	89.2	0.883				136		
180M	22	2940	42.2	89.9	0.881		2		172	87	92
200L1	30	2950	56.9	90.2	0.888				222		95
200L2	37	2000	69.8	90.6	0.889				246	90	
225M	45	2970	83.9	91.3	0.893				292		97
250M	55		103	91.6	0.884				392	92	
280S	75	_	139.7	91.8	0.889			-	508	94	99
280M	90	_	166	92.6	0.89	-		2.2	590		
315S	110	2960	202	92.7	0.883	- 0.0	4.0		862		
315M 315L1	160		238	93.1	0.905 0.905	6.8	1.8		996	99	104
315L1 315L2	200		365	93.6	0.905				1055		
355M1	220		397	94.2	0.89	6.9		-	1080 1750	10	l 09
355M2	250	_	444	94.5	0.03	7	-		1770	1	30
355L1	280	2980	497	94.7	0.9		1.2		1830	1	11
355L2	315		557	95	-	7.1			1900		
			1	Sy	nchronous Spe	eed 1500r/min 50	)Hz				
80 1	0.55	4200	1.5	73.2	0.766		2.4		16	56	
80 2	0.75	1390	2	74.7	0.764	6			17	56	67
90S	1.1	1400	2.8	77.9	0.782	6.5	2.3		21	61	67
90L	1.5	1100	3.7	79.2	0.792	0.0		2.3	25	62	
100L1	2.2	1420	5	81.1	0.824			2.0	33	65	70
100L2	3		6.8	82.7	0.811		2.2		38		
112M	4	4440	8.7	84.6	0.83	-			49	68	74
1328	5.5	1440	11.6	85.6	0.843				64	70	78
132M 160M	7.5		15.4 22.7	86.7 88.1	0.852	+	2.2	2.2	77	71 75	
160L	15	1460	30.5	88.4	0.845	-	2.2	2.3	122 140	10	
180M	18.5		35.9	91.2	0.859	7			166	77	82
180L	22	1470	42.9	91.3	0.861	1	2		181		
200L	30		56.8	92.1	0.871	1			242		
225S	37		70.4	91.9	0.869	1	4.0	1	278	79	84
225M	45	1480	84.2	92.2	0.88		1.9		312	1	
250M	55		103	92.7	0.875		2		395	81	86
280S	75		137.6	92.8	0.892		1.0		562	85	90
280M	90		163.7	93.4	0.894		1.9	2.2	630	00	90
3158	110	1470	199	94.1	0.893			2.2	905	93	98
315M	132		235	94.6	0.902		1.8		1016		
315L1	160		285	94.5	0.903	1			1108	96	101
315L2	200		361	94.6	0.89	6.8		-	1210		
355M1	220	_	407	94.4	_				1660	11	06
355M2	250	1490	461	94.7	0.87		1.4		1700		
355L1	280	-	515	94.9	-	0.0	-		1790	1	08
355L2	315		578	95.2		6.9			1890		

# Series Technical Data (at 380V)

			At Fu	II Load		Locked	Locked	Max			e Level
Model	Rated Output	Speed	Current	Eff.	Power	Current	Torque	Torque	Net Weight	dE	(A)
	(KW)	(r/min)	(A)	(%)	Factor (CosΦ)	Rated Current	Rated Torque	Rated Torque	(Kg)	I	II
				Synd	chronous Speed	1000r/min 50Hz	_				
90S	0.75	910	2.3	72.5	0.7	5.5			22	56	65
90L	1.1		3.2	73.5	0.72				25		
100L	1.5	940	4	77.5	0.74	6			33	62	67
112M	2.2		5.6	80.5	0.74			2.2	43		
132S	3		7.2	83	0.76		2		60 71		
132M1	4	960	9.4	84	0.77				71	- 66	71
132M2	5.5		13	85.3	0.78				82		
160M	7.5		17.1	86.2	0.773				108	69	75
160L	11	070	25	87.1	0.768				128	=0	
180L	15	970	31.4	89.4	0.812				178	70	
200L1	18.5		37.7	89.9	0.829	0.5	1.8	2	220	70	78
200L2	22		44.6	90.4	0.829	6.5		2	230	73	
225M	30		59.5	90.2	0.849		1.7		296		
250M	37		72	90.9	0.859				386	76	81
280S	45	980	84.2	92.1	0.882		1.8		498	70	0.4
280M	55		102	92.4	0.887				556	79	84
315S	75		139.6	92.9	0.879				858		
315M	90		167	93.3	0.878				962		
315L1	110		203.3	93.7	0.877		1.6		1020	87	92
315L2	132		241.8	93.9	0.886				1126		
355M1	160	990	300	94.1				2	1590		
355M2	185		346	94.3					1680		
355M3	200		374	94.3	0.86	6.7	1.3		1750	10	)2
355L1	220		409	94.5					1880		
355L2	250		465	94.7					1990	10	)5
				Sy	nchronous Spe	ed 750r/min 50H	z				
132S	2.2	710	5.8	80.5	0.71	F F			60	C4	
132M	3	710	7.6	82.3	0.729	5.5			71	61	66
160M1	4		10.5	84.1	0.73	6	2		102	64	
160M2	5.5	720	13.4	85.2	0.732				108	64	69
160L	7.5		17.7	86.1	0.748	5.5			133	67	72
180L	11		25.1	87.7	0.758		1.7	2	176	01	12
200L	15		34.1	88.3	0.757		1.8		230		
225S	18.5		41.3	89.7	0.759		1.7		258	70	75
225M	22		47.6	90.3	0.778	6			296		
250M	30		63	90.5	0.8		1.8		378		
280S	37	730	76.1	91.2	0.81				494	73	78
280M	45		90.8	91.9	0.819				562		
315S	55		110.2	92.3	0.822	6.5			856		
315M	75		148.9	92.7	0.826	0.0	1.6		1010	82	87
315L1	90		175.9	93.3	0.833	6	1.0		1110	02	37
315L2	110		214.8	93.4	0.833			_	1195		
355M1	132		260	93.8				2	1660		
355M2	160		315	94					1740		_
0001112		740			0.81	6.3	1.3		1870	9	19
355L1	185		363	94.2					1070		



# Y2 /TE Series Technical Data (at 400V)

			At Fi	ıll Load		Looked	Laskad	Mey		Noise	Table
	Rated		Acre	Load		Locked Current	Locked Torque	Max Torque	Net		e Level (A)
Model	Output (KW)	Speed (r/min)	Current (A)	Eff. (%)	Power Factor (CosΦ)	Rated Current	Rated Torque	Rated Torque	- Weight (Kg)	I	II
				S	ynchronous Spe	ed 3000r/min 5	OHz		1		
80 1	0.75		1.8	75	0.83	6.1			16		
80 2	1.1	2830	2.5	77			1		17	67	69
908	1.5		3.3	79	0.84	7			22		
90L	2.2	2840	4.6	81	0.85	-			25	72	74
100L	3	2860	6.0	83	0.87		+		33	76	78
112M	4	2880	7.7	85	0.67	+	2.2		45	77	78
	5.5	2000	10.5	86	0.88					,,,	70
132S1	7.5	2900	14.1	87	0.00				64	80	82
132S2						-		2.3	70		
160M1	11	2020	20.3	88	0.89			2.0	117		00
160M2	15	2930	27.3	89		7.5			125	86	88
160L	18.5		33	90					147		
180M	22	2940						180	89	91	
200L1	30	2950						240	-		
200L2	37			0.90				255	92	94	
225M	45		64.5 92 78.2 92.3				2		309		
250M	55	2970	95.4	78.2 92.3					403	93	95
280S	75		129.3	93					544		
280M	90		152.2	93.8					620	94	96
315S	110		185.6	94	0.91				980		
315M	132	1	221.6	94.5					1080	96	98
315L1	160	2000	265.4	94.6			1.8		1160		
315L2	200	2980	331.0	94.8		7.1		2.2	1190	99	101
355M	250	-	411.6	95.3	0.92				1760		
355L	315	-	517.0	95.6			1.6		1850	103	105
333L	010		011.0		vnchronous Spe	eed 1500r/min 50	⊥ )Hz		1000		
80 1	0.55		1.5	71	0.75	5.2	2.4		17		
80 2	0.75	1390	2.0	73	0.76				18	- 58	63
90S	1.1	1390	2.8	75	0.77	6			22		
90L	1.5	1390	3.5	78	0.79				27	61	66
100L1	2.2		4.9	80	0.81		2.3		34	64	69
100L2	3	1410	6.5	82	0.82		2.5		38	04	09
112M	4	1440	8.4	84					43	65	70
132S	5.5	1440	11.3	85	0.83	7			68	71	76
132M	7.5		14.8	87	0.84			-	81		
160M	11	1460	21.5	88			-	2.3	123	75	80
160L	15		30.1	89	0.85				144		79
180M 180L	18.5 22	1470	34.3 40.6	90.5	0.86	7.5			182	76	80
200L	30	1470	54.7	92	0.00		2.2		270	79	83
225S	37		66.4	92.5		-	2.2		284	19	85
225M	45	1	80.5	92.8	1	7.2			320	- 81	84
250M	55	1480	98.1	93	0.87	1.2			427	83	86
280S	75	]	132.7	93.8					562		00
280M	90		158.5	94.2					667	86	89
315S	110		191.0	94.5	0.88				1000	-	
315M	132		228.4	94.8	0.08				1100	93	96
315L1	160	1490	273.4	94.9	0.89		2.1		1160	97	100
315L2	200	-	334.4	95	0.00	6.9	2.1	2.2	1270	31	100
355M	250	-	420.7	95.3	0.90				1700	101	104
355L	315		528.4	95.6					1850		

# Y2 /TE Series Technical Data (at 400V)

			At Fi	ull Load		Locked	Locked	Max			e Level
Model	Rated Output				Power	Current	Torque	Torque	Net - Weight	dE	B(A)
	(KW)	Speed (r/min)	Current (A)	Eff. (%)	Factor (CosΦ)	Rated Current	Rated Torque	Rated Torque	(Kg)	I	II
				S	ynchronous Spe	ed 1000r/min 50	)Hz				
80 1	0.37	890	1.3	62	0.70	4.70	1.90	2.00	17	54	61
80 2	0.55		1.7	65	0.72				19	J-1	
90S	0.75	910	2.2	69	V				23	57	64
90L	1.1		3.0	72	0.73	5.50	2.00		25	, , , , , , , , , , , , , , , , , , ,	
100L	1.5	920	3.8	76	0.75				33	61	68
112M	2.2	940	5.3	79				-	45	65	72
132S	3	-	7.0	81	0.76				63		
132M1	4	960	9.3	82		6.50	2.10	0.40	73	69	76
132M2	5.5 7.5		12.3	84	0.77			2.10	84		
160M	11	-	16.4	86	0.78	-	2.00		119	73	80
160L	15	970	30.0	87.5 89.0	0.76		2.00		195	73	79
180L 200L1	18.5		36.6	90.0	0.81				220		73
200L1	22	-	42.5	90.0	0.83	+	2.10		250	76	82
225M	30		56.3	91.5	0.84	†	2.00	-	292	-	
250M	37	_	67.5	92		7.00		_	408	78	84
280S	45	980	81.7	92.5			2.10		536		85
280M	55	-	99.5	92.8					595	- 80	85
315S	75		134.6	93.5	0.86				990		
315M	90		161.1	93.8					1080	85	90
315L1	110	000	196.1	94.0			2.00	2.00	1150		30
315L2	132	990	232.5	94.2	0.87	1			1210		89
355M1	160		227.7	94.5		6.70			1600		
355M2	200		346.4	94.7	0.88		1.90		1700	92	96
355L	250		432.1	94.9					1800		
				S	Synchronous Spe	eed 750r/min 50	Hz				
80 1	0.18	630	0.9	51.0					17		
80 2	0.25	640	1.1	54.0		3.30		1.90	19	- 52	60
90S	0.37	660	1.4	62.0	0.61				23	- 56	64
90L	0.55	000	2.1	63.0		4.00			25	30	64
100L1	0.75	690	2.3	71.0	0.67		1.80		33	59	67
100L2	1.1	000	3.2	73.0	0.69	5.00			38		
112M	1.5	680	4.2	75.0	0.69	0.00			50	61	69
132S	2.2	710	5.8	78.0	0.71	-			63	64	72
132M	3		7.5	79.0	0.73	0.00			79		
160M1	4	700	9.8	81.0		6.00	1.90	-	118	-	
160M2	5.5	720	12.9	83.0	0.74	+			119	68	76
160L	7.5		16.9	85.5	0.75		2.00		145		7.
180L	11	720	23.9	87.5	0.76				184	70	78
200L 225S	15 18.5	730	32.4	88.0 90.0	0.76			-	250 266	73	80
225S 225M	22		45.0	90.0	0.79	+		2.00	292	- 13	
250M	30	+	63.4	91.0	0.78	6.60	1.90		405	75	82
ZUUIVI	37	-	73.9	91.5	0.79	0.00	1.50		520		83
	45	1	89.4	92.0	- 0.75				592	76	82
280S		†	105.6	92.8		1		1	1000		52
280S 280M				93.0	0.81				1100		
280S 280M 315S	55	740	143.7			4				82	88
280S 280M 315S 315M		740	143.7 168.9	93.8					1160		
280S 280M 315S 315M 315L1	55 75 90	740	168.9				1.80		1160		
280S 280M 315S 315M 315L1 315L2	55 75	740		93.8	0.82		1.80		1160 1230 1600		
280S 280M 315S	55 75 90 110	740	168.9 206.0	93.8 94.0	0.82	6.40	1.80		1230	90	95

## **Series Mounting Dimensions**





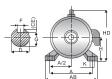
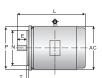


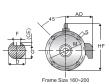
Table 7

IM B3

Frame	Poles							Mountii	ng Dime	nsions	& Toler	ance									Frame	Dimens	sions	
No.	1 0163	Α	A	/2	В	(	0	- 1	)	E			F	G	S <sup>1)</sup>	Н		K <sup>2)</sup>		AB	AC	AD	HD	L
80	2,4	125	62.5		100	50		19		40		6	0 -0.030	15.5	0 -0.10	80			+0.360	165	175	150	175	290
90S 90L		140	70		100 125	56	±1.5	24	+0.009	50	±0.310			20		90		10	0	180	195	160	195	315 340
100L	2,4,6	160	80	±0.50		63			-0.004			8			-	100				205	215	180	245	380
112M		190	95		140	70		28		60			-0.036	24		112		12		245	240	190	265	400
132S		216	108		140	89	±2.0	38		80	±0.370	10		33		132		12		280	275	210	315	475
132M		210	100		178	09		30		00		10		33		132			+0.430	200	215	210	313	515
160M		254	127		210	108		42	+0.018			12		37		160	0		0	330	335	265	385	605
160L	2,4,6,8			-	254				+0.002				-				-0.5	15						650
180M 180L		279	139.5		241 279	121	±3.0	48		110	±0.430	14		42.5		180				355	380	285	430	670 710
200L		318	159	±0.75		133		55				16	1	49		200				395	420	315	475	775
225S	4,8	310	100		286	100		60		140	±0.500	18		53		200				- 000	720	010	470	820
	2	356	178			149		55		110	±0.430	16	-0.043	49		225		19		435	475	345	530	815
225M	4,6,8				311			60						53										845
250M	2	406	203		349	168		00				18		55		250				490	515	385	575	930
200111	4,6,8	406	203		349	100		65				10		58		230				490	313	303	3/3	930
280S	2				368								0		0									1000
	4,6,8				300	190		75	+0.030	140		20	-0.052	67.5	-0.20	280		24		550	580	410	640	
280M	2	457	228.5		440	190		65	+0.011			18	0 -0.043	58										4050
200101	4,6,8				419			75				20	0 -0.052	67.5										1050
	2							65			±0.500	18	0 -0.043	58										1240
315S	4,6,8,10			±1.00	406			80		170		22	0 -0.052	71					+0.520					1270
	2						±4.0	65		140		18	0 -0.043	58					0					1310
315M	4,6,8,10	508	254		457	216		80	-	170		22	0	71		315	0			744	645	576	865	1340
	2							65		140		18	-0.052 0 -0.043	58			-1.0							1310
315L	4,6,8,10				508			80	-	170	-	22	0	71				28						1340
	2							75	+0.030	140	±0.50	20	-0.052											1540
355M	4,6,8,10				560			95	+0.011	170	±0.57			67.5										1570
	2	610	305	±1.05		254			+0.013	140	±0.50	25	0 -0.052	86		355				740	750	680	1035	1540
355L	4,6,8,10				630			75	+0.011	170	±0.57	20		67.5										1570
	4,0,8,10							95	+0.013	170	10.57	25		86								1		15/0







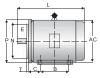


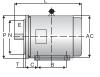
Y Series Mounting Dimensions IM B5

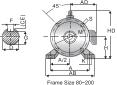
Table 8	3		Size 80~1	32			Size 160-	-225			Frame Siz	e 180~200	)	Fra	me Size 22	5	Seni	es ivic	Junun	g Dimens	SIONS	IIVI	БЭ	
Frame	Poles							Mou	ınting E	imens	ions &	Tolerar	nce								Fra	ame Dir	nensio	ns
No.	Foles	ı	)	ı	E		F	G	1)	М	- 1	N	P <sup>3)</sup>		R <sup>4)</sup>		S		Т	Holes No.	AC	AD	HF	L
80	2,4	19	+0.009	40		6	0 -0.030	15.5	0 -0.10			+0.014									175	150	185	290
90S		24	-0.004	50	±0.310			20		165	130	-0.011	200		±1.5	12	+0.430	3.5			195	160	195	315
90L	2,4,6	24		50		8	0	20									0				195	100	195	340
100L	2,4,0	28		60			-0.036	24		215	180		250		±2.0	15		4			215	180	245	380
112M		20		60	±0.370			24		215	100		250			15		4		4	240	190	265	400
132S		38		80	_ 0.010	10		33		265	230		300								275	210	315	475
132M		50	+0.018	00		10		33	0	200	230	+0.016		0					0		2.0	2.0	0.0	515
160M		42	-0.002			12		37	-0.20			-0.013							-0.120		335	265	385	605
160L	2,4,6,8	72				12		- 07		300	250		350		±3.0						000	200	000	650
180M	2, 1,0,0	48		110	±0.430	14		42.5		000	200		000								380	285	430	670
180L		40				14	0 -0.043	42.3								19	+0.520	5				200	100	710
200L		55				16	0.040	49		350	300	±0.016	400				"				420	315	480	775
225S	4,8	60	+0.030	140	±0.500	18		53																820
225M	2	55	-0.011	110	$\pm 0.430$	16		49		400	350	±0.018	450		±4.0					8	475	345	535	815
ZZOW	160	-00		440	⊥ o 500	40			1								1				1			015



## **Series Mounting Dimensions**









IM B35

Table 9

Frame	Deles										Mou	ntin	g Dime	ensior	ns & T	olera	ance												F	Fram	ne D	imen	sions	3
No.	Poles	Α	A/2	2	В	(	С		D		Е		F	G	1)		Н		K <sup>2)</sup>	М		N	P <sup>3)</sup>	R <sup>4)</sup>		S		Т	Holes No.	AB	AC	AD	HD	L
80	2,4	125	62.5		100	50		19		40	±0.310	6	0-0.030	16	0 -0.10	80														165	175	150	175	290
90S 90L	246	140	70	l  -	100 125	56	±1.5	24	+0.009	50	20.010	8		20		90		10	+0.360	165	130	+0.014	200	±1.5	12	+0.430	3.5			180	195	160	195	315 340
100L 112M	2,4,6	160 190	80 95		140 140			28		60			0 -0.036	24		100 112				215	180		250	±2.0	1.5	0					_	-	245 265	_
132S 132M		216	108		140 178	89	±2.0	38		80	±0.370	10		33		132		12	+0.430	265	230		300	±2.0	, 15		4		4	280	275	210	315	475 515
160M 160L	2,4,6,8	254	127	l 1	210 254	108		42	+0.018	110		12		37		160	0 -0.5	15	0	300	250	+0.016 -0.013	350							330	335	265	385	605 650
180M 180L		279	139.5	±0.75	241 279	121	±3.0	48		110	±0.430	14		43		180		15		300	230		000	±3.0	)			0		355	380	285	430	670 710
200L		318	159		305	133		55				16		49		200				350	300	±0.016	400					-0.120		395	420	315	475	775
225S	4,8				286			60		140	20.000	18	0 -0.043	53				19																820
225M	2 4,6,8	356	178		311	149		55 60		110	±0.430	16		49 53		225				400	350	±0.018	450		19		5			435	475	345	530	815 845
250M	2 4,6,8	406	203		349	168		65				18		58		250														490	515	385	575	930
280S	2 4,6,8				368			75				20	0 -0.052	68	0 -0.20			24		500	450	±0.020	550											1000
280M	2	457	228.5		419	190		65		140	±0.500	18 20	0 -0.043	58		280										+0.520				550	585	410	640	1050
	4,6,8			±1.00				75					-0.052	68												0					L		L_	
315S	2 4,6,8,10				406		±4.0	65 80		170		18 22	0 -0.043 0 -0.052	58 71					+0.520 0					±4.0	)				8					1240 1270
315M	2	508	254		457	216		65		140		18	-0.052 0 -0.043	58		315	0			600	550	±0.022	660							711	1641	576	965	1310
	4,6,8,10				101	210		80		170		22	0 -0.052	71			-1.0													/ 44	040	370	003	1340
315L	2				508			65 80		140 170		18 22	0 -0.043	58				28							24		6	0 -0.150						1310
	4,6,8,10 2							75	+0.030	140		20		71 67.5																				1340 1540
355M	4,6,8,10			±1.05	560			95	+0.011 +0.035 +0.013	170	±0.570	25	0 -0.052	86																				1570
355L	2	610	305		630	254		75	+0.030 +0.011	140	±0.500	20		67.5		355				740	680	±0.025	800							740	750	680	1035	1540
	4,6,8,10							95	+0.035 +0.013	170	±0.570	25		86																	L		L	1570







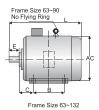


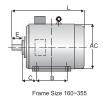
P IM V1

Y Series Mounting Dimensions

Frame	Poles							1	Mounti	ng Dim	ension	s & Tole	erance								Fra	me Din	nension	s
No.	Foles		)	ı	E		F	G	1)	М	1	٧	P <sup>3)</sup>	F	(4)		3	7	-	Holes No.	AC	AD	HF	L
180M 180L	2,4,6,8	48	+0.018 +0.002	110	±0.43	14		42.5		300	250	+0.016	350		±3.0					4	380	285	500	730 770
200L		55	.0.00Z			16		49 53		350	300	±0.016	400		±3.0					-+	420	315	550	850
225S	4,8	60 55		140 110	±0.50 ±0.43	18 16	0	53 49		400	350	±0.018	450								475	345	610	910 905
225M	4,6,8	60	İ	110	±0.43	10	-0.043	53		100	000	20.010	400								475	545	010	935
250M	2 4,6,8					18										19		5	0 -0.150		515	385	650	1035
	2	65						58																
280S	4,6,8	75		140		20	0 -0.052	67.5		500	450	±0.020	550											1120
280M	2	65				18	0 -0.043	58													580	410	720	1170
200IVI	4,6,8	75	+0.030			20	0 -0.052	67.5	0					0	±4.0		+0.520							1170
315S	2	65	+0.011			18	0 -0.043	58	-0.20					0	±4.0		0			8				1360
3133	4,6,8,10	80		170	±0.50	22	0 -0.052	71												0				1390
24514	2	65		140		18	0 -0.043	58													645	576	900	1460
315M	4,6,8,10	80		170		22	0 -0.052	71		600	550	±0.022	660			0.4		6	0 -0.150		043	370	900	1490
315L	2	65		140		18	0 -0.043	58								24		Ü	-0.150					1460
315L	4,6,8,10	80		170		22		71																1490
355	2	75		140		20	0 -0.052	67.5		740	680	±0.025	800								750	680	1035	1645
335	4,6,8,10	95	+0.035 +0.013	170	±0.57	25		86		740	000	±0.025	000								130	080	1035	1675

# TE Series Mounting Dimensions









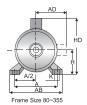
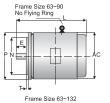


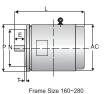
Table 11

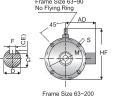
IM B3

Frame	5.1							Моц	unting [	Dimensio	ons & T	Γoleranα	e							Frai	me Dime	nsions	
No.	Poles	Α	A/2	В	C		ı	D	ı	 E		F	C	∋¹)	ı	+	ŀ	< <sup>2)</sup>	AB	AC	AD	HD	L
80		125	62.5	100	50		19		40		6		15.5	0 -0.10	80				105	475	445	220	295
908		140	70	100	56	±1.5	0.4		50	±0.31			20		90		10	+0.036 0	165	175	145	220	320
90L		140	70	125	30		24	+0.009 -0.004	30		8		20		30				180	195	155	250	345
100L		160	80	140	63		28		60			0 -0.036	24		100	0 -0.5			205	215	180	270	385
112M		190	95	140	70	±2.0				±0.37		-0.030			112	-0.5	12		230	240	190	300	400
132S	2,4,6,8	216	108	140	89		38		80		10		33		132				270	275	210	345	470
132M				178														+0.430					510
160M		254	127	210	108		42	+0.018 +0.002			12		37		160			0	320	330	255	420	615
160L				254		±3.0			440	10.42							15						670
180M 180L		279	139.5	241	121	20.0	48		110	±0.43	14		42.5		180				355	380	280	455	700
200L		318	159	305	133	-	55				16		49	_	200				395	420	305	505	770
2258	4,8	0,10		286	100		60		140	±0.50	18	0-0.043	53										815
	2	356	178		149		55		110	±0.43	16	-0.040	49		225		19		435	470	335	560	820
225M	4,6,8			311																			845
05014	2	400	000	0.40	400		60				18		53	0	250	0			490	510	370	615	910
250M	4,6,8	406	203	349	168		65				10		58	-0.20	200	-1.0			430	010	070	010	310
2000	2			368									00										985
280S	4,6,8			300			75		140		20	0 -0.052	67.5				24						300
	2	457	228.5		190		65				18	0-0.043	58		280				550	580	410	680	
280M	4.0.0			419			7.5				00		07.5										1035
	4,6,8					-	75	+0.030			20	0 -0.052	67.5					-					
0.450	2			406			65	.0.011			18	0 -0.043	58					+0.520 0					1185
315S	4,6,8,10			400		±4.0	80		170	±0.50	22	0 -0.052	71										1215
	2						65		140		18	0 -0.043	58										1295
315M	4,6,8,10	508	254	457	216		80		170		22	0 -0.052	71		315				635	645	530	845	1325
	2						65		140		18	0 -0.043	58	-									1295
315L				508						-		-0.043					28						
	4,6,8,10						80		170		22		71										1325
355M	2			560			75		140	-	20	-	67.5										1500
	4,6,8,10	610	305		254		95	+0.035 +0.013			25	0 -0.052	86		355				730	710	655	1010	1530
355L	2			630			75	+0.030 +0.011	140		20		67.5										1500
SSSE	4,6,8,10			550			95	+0.035 +0.013	170		25		86										1530

# Y2 /TE Series Mounting Dimensions









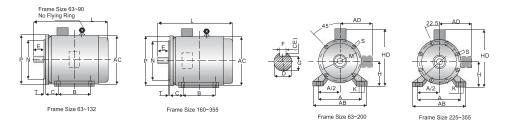
IM B5

me Size 63~132 Frame Size 160

Size 63~200 Frame Size 225~280

Frame	Poles								Mounti	ng Dim	ension	s & Tol	erance								F	rame Di	mensio	ons
No.	1 Oles	[	)	ı	E		F	G	S <sup>1)</sup>	М	ı	N	P <sup>3)</sup>	ſ	R <sup>4)</sup>	Ş	3		Т	Holes No.	AC	AD	HF	L
80		19		40		6	0 -0.030	15.5	0 -0.10												175	145	185	295
90S 90L		24	+0.009	50	±0.31			20		165	130	+0.014	200		±1.5	12		3.5			195	155	195	320
100L			-0.004			8	0					-0.011					+0.430				215	180	245	345 385
112M		28		60	±0.37		-0.030	24		215	180		250		±2.0	15		4			240	190	265	400
132S 132M	2,4,6,8	38		80	20.07	10		33		265	230		300							4	275	210	315	470 510
160M 160L		42	+0.018 +0.002			12		37		200	050	+0.016 -0.013	050	•							330	255	385	615 670
180M 180L		48		110	±0.43	14		42.5	0 -0.20	300	250		350	0	±3.0				0 -0.120		380	280	430	700 740
200L		55				16		49	-0.20	350	300	±0.016	400								420	305	480	770
225S	4,8	60		140	±0.50	18	0 -0.043	53																815
225M	2	55		110	±0.43	16		49		400	350	±0.018	450								470	335	535	820
223101	4,6,8	60						53								19	+0.520 0	5						845
250M	4,6,8		+0.030			18															510	370	595	910
	4,6,8	65	+0.030					58							±4.0					8				
280S	4,6,8	75		140	±0.50	20	0 -0.052	67.5		500	450	±0.020	550											985
	2	65				18	0 -0.043	58													580	410	650	
280M	4,6,8	75				20	0 -0.052	67.5											-					1035

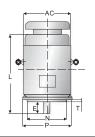
# Y2 /TE Series Mounting Dimensions



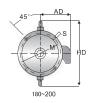
IM B35

See											N	Лои	nting Di	men	sions &	& Tol	erand	се													Fr	ame	Dime	ensio	ns
Substitution of the content of the		Poles	А	A/2	В		С		D		E		F		G <sup>1)</sup>		Н	ŀ	(2)	М		N	P <sup>3)</sup>	R	4)	5	3		Т		AB	AC	AD	HD	L
Section of the lease of the l	80		125	63	100	50		19		40		6	0 -0.030	16	0 -0.10	80		10													165	175	145	220	295
1004 1104 1105 1106 1107 1107 1107 1107 1107 1107 1107	90S		140	70	100	56	±1.5	24		50				20		90		12	+0.360	165	130		200	ź	1.5	12		3.5			180	195	155	250	320
1004   11	90L				125							8															+0.43			,					345
1328   140	100L							28		60			0 -0.036	24						215	180		250							4	-				
132M   142M   14			190	95		70	±2.0				±0.370					112	-0.5		+0.430					ź	2.0	15		4			230	240	190	300	
160M   160L   160M   160L   160M   160L   160M   160L   160M   160L   160M   16		2,4,6,8	216	108		89		38		80		10		33		132				265	230		300								270	275	210	345	470
160.   160.   160.   160.   160.   17																						.0.040		-											615
180M 180L 279 140 241 170 170 180L 180L 180L 180L 180L 180L 180L 180			254	127		108		42				12		37		160															320	330	255	420	670
180L   279   140   279   121   48   18   180   180   180   48   180							±3.0		-	110	±0.430		-					15		300	250		350	±	3.0										700
225S   4,8			279	140	279	121		48		110	10.430	14		43		180															355	380	280	455	740
2	200L		318	159	305	133		55				16	-			200				350	300	±0.016	400								395	420	305	505	770
225M   46,8   46,8   470   349   18	225S	4,8			286			60		140	±0.500	18	0 -0.043	53				10																	815
A   A   A   A   A   A   A   A   A   A	225M	2	356	178	311	149		55		110	±0.430	16		53		225		19		400	350	±0.018	450			10		5			435	470	335	560	820
2   46.8	ZZOW	4,6,8			• • •			60						49			0		+0.520							19		J							845
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	250M		406	203	349	168						18				250								0							490	510	370	615	910
280 46.8   46.8								65						58																					
280M   280M   46,8,10   29	280S				368								0		0			24		500	450	±0.020	550												985
2 315S 4.6.8.10		4,6,8	457	229		190		75		140		20		68	-0.20	280															550	580	410	680	
2 315S 4.6.8.10 4.6.8.10 5 60 4.0.10 1 75 4.0.30 1 70 4.0.50 1 70	00014	2			110			65				18	0 -0.043	58													+0.52								1035
315N 4,6,8,10	280IVI	4,6,8,10			413			75				20	0 -0.052	68																					
315N 4,6,8,10		2						65				18	0 -0.043	58																					1185
The color of the	315S	4,6,8,10			406		±4.0			170		22		71										4	4.0					8					1215
315M 4,6,8,10		2						65		140				58																					1295
2   315L   2   4,6,8,10   2   508	315M		508	254	457	216										315				600	550	±0.022	660								635	645	530	845	
315L 4,6,8,10		4,6,8,10								170		22																							1325
4,6,8,10	315L	2			508					140		18	-0.043	58														6							1295
355M 4,6,8,10 4,6,8,10 560 550 550 550 550 550 550 550 550 55		4,6,8,10						80		170		22		71				28								24									1325
4,6,8,10 610 305 254 95 +0.035 170 25 -0.052 86 355L 740 680 ±0.025 800 730 710 655 1010 15 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 15 15 1010 1		2						75		140		20		68																					1500
2 355L 630 75 +0.030 140 20 68 355 740   680   40.025   800   730   710   655   1010   150	355M	4,6,8,10						95	+0.035	170		25	0 -0.052	86																				40.00	1530
355L - 630     -   -   -   -   -   -   -		2	610	305		254		75			1	20		68		355				740	680	±0.025	800								730	710	655	1010	1500
4,6,8,10   95   0,003   170   25   86                     15	355L	4,6,8,10			630			95	+0.011 +0.035 +0.013		İ	25		86																					1530

# Y2 /TE Series Mounting Dimensions







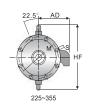




Table 14

																								able 1
Frame	Poles							Мо	unting	Dimen	sions &	& Toleran	ice									Frame Di	mensions	
No.	roles		D	ı	E		F	G	1)	М	ı	V	P <sup>3)</sup>		R <sup>4)</sup>		s		Т	Holes No .	AC	AD	HF	L
180M 180L	2,4,6,8	48	+0.018 +0.022	110	±0.430	14		42.5		300	250	+0.016	350		±3.0				0	4	380	280	500	760 800
200L		55			± 0.430	16		49		350	300	±0.016	400						-0.120		420	305	550	840
225S	4,8	60		140	±0.500	18	0	53																905
225M	2	55		110	±0.430	16	-0.043	49		400	350	±0.018	450								470	335	610	910
223IVI	4,6,8	60						53																935
05014	2	60				18		55								19		5						
250M	4,6,8	65						58													510	370	650	1015
280S	2	03		440		20	0 -0.052	67.5		500	450	±0.020	550											1110
2003	4,6,8	75	+0.030	140		40	0	50													580	410	720	1110
	2	65	+0.011			18	0-0.043	58	0 -0.20					0			+0.520 0				300	410	720	4450
280M	4,6,8	75				20	0 -0.052	67.5							±4.0		Ü		-0.150	8				1150
	2	65				18	0 -0.043	58											0					1280
315S	4,6,8,10	80		170	±0.500	22	0 -0.052	71																1510
	2	65	-	140		18	0 -0.043	58																1310
315M	4,6,8,10	80	-	170		22	0 -0.052	71		600	550	±0.022	660								645	530	900	1430
	2	65		140		18	0	58																1310
315L	4,6,8,10			170		22	-0.043	71	1							24		6						1430
	2	75				20	-	67.5						1										1640
355M			+0.035	140			0		-															
	4,6,8,10		+0.013	170		25	-0.052	86		740	680	±0.025	800								710	655	1010	1670
355L	2	75	+0.030	140		20	-	67.5	1						Ť									1640
	4,6,8,10	95	+0.035 +0.013	170		25		86																1670

The note for: 1)G=D-GE. The limit of deciation in GE is  $\binom{+0.10}{0}$  for frame No.up to 80, the rest is  $\binom{+0.20}{0}$ .

- 2)The position tolerance for hole K is based on the axis of shaft extention.
- 3)Dimension P is the maximun limit value.
- 4)R is the distance from the matching surface of flange to the shoulder of shaft extension.

# Series Single-Phase Capacitor Start and **Capacitor Run Asynchronous Motors**

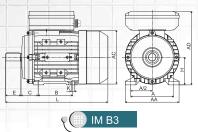
**Aluminum Housing** 

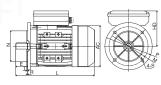
ML series aluminum housing single-phase dual-capacitor asynchronous motors, with latest design in entirety, are made of selected quality materials and conform to the IEC standard.

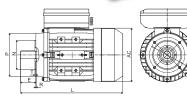
ML motors have good performance, safety and reliable operation, the multiple of starting torque is up to 2.5.

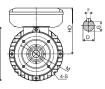
These series motors are suitable for the occasion where the requirements of big starting torque and high over load, such as aircompressors, pumps, and many other small machines.











IM B5

♥ IM B14

# verall & Installation Dimensions

_									Мо	unting	Dime	ension	S										Ove	rall Di	mansi	one	Shat	ft End S	crew
Frame Size					_	F			14			IM B	14					IM E	35				OVC	ian Di	1101131	0113	D	imensio	ns
OIZE	A	В	С	D	E	-	G	Н	K	М	N	Р	R	S	Т	М	N	Р	R	S	Т	AA	AC	AD	HD	L	SS	XX	ZZ
63	100	80	40	11	23	4	8.5	63	7X10	75	60	90	0	M5	2.5	115	95	140	0	Ф 10	3.0	120	130	179	116	212	M4	10	15
71	112	90	45	14	30	5	11	71	7X10	85	70	105	0	M6	2.5	130	110	160	0	ф 10	3.5	132	145	194	123	255	M5	12	18
80	125	100	50	19	40	6	15.5	80	10X13	100	80	120	0	M6	3.0	165	130	200	0	ф 12	3.5	157	165	223	143	290	M6	16	22
90S	140	100	56	24	50	8	20	90	10X13	115	95	140	0	M8	3.0	165	130	200	0	ф 12	3.5	172	185	240	150	335	M8	20	25
90L	140	125	56	24	50	8	20	90	10X13	115	95	140	0	M8	3.0	165	130	200	0	ф 12	3.5	172	185	240	150	365	M8	20	25
100L	160	140	63	28	60	8	24	100	12X15	130	110	160	0	M8	3.5	215	180	250	0	Ф 15	4.0	196	205	260	160	398/416	M10	22	28
112M	190	140	70	28	60	8	24	112	12X15	130	110	160	0	M8	3.5	215	180	250	0	Ф 15	4.0	222	230	295	183	416	M10	22	28

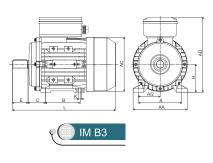
Model	Power (KW)	Current (A)	Speed (r/min)	Eff. (%)	Power Factor (CosΦ)	Rate Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	Starting Current (A)	Run Capacitor (µF/V)	Start Capacitor (µF/V)	Noise dB (A)	W.T (Kg)
ML631-2	0.18	1.38	2710	63	0.9	0.63	2.5	1.6	8	10µF/450V	30μF/250V	70	3.9
ML632-2	0.25	1.89	2710	64	0.9	0.88	2.5	1.6	10	12µF/450V	40μf/250V	73	4.4
ML711-2	0.37	2.66	2780	65	0.93	1.27	2.5	1.8	15	12µF/450V	75µF/250V	75	6.1
ML712-2	0.55	3.78	2790	68	0.93	1.88	2.5	1.8	20	16µF/450V	100μF/250V	76	7
ML801-2	0.75	4.87	2800	72	0.93	2.56	2.5	1.8	30	20µF/450V	100μF/250V	76	9
ML802-2	1.1	7.04	2810	73	0.93	3.74	2.5	1.8	40	30µF/450V	150µF/250V	79	10.3
ML90S-2	1.5	9.48	2810	74	0.93	5.10	2.5	1.8	55	40µF/450F	200µF/300V	84	16.3
ML90L-2	2.2	13.57	2810	75	0.94	7.48	2.5	1.8	75	50µF/450V	250µF/300V	84	16.7
ML100L-2	3.0	17.83	2830	77	0.95	10.13	2.5	1.7	110	60µF/450V	400µF/300V	88	25
ML112M1-2	3.7	21.48	2850	78	0.96	12.40	2.5	1.7	140	60µF/450V	600µF/300V	90	33
ML112M2-2	4.0	22.18	2850	80	0.98	13.41	2.5	1.7	150	60µF/450V	600µF/300V	90	34.2
ML631-4	0.12	1.05	1350	55	0.9	0.85	2.5	1.6	6	10μF/450V	30μF/250V	64	4.1
ML632-4	0.18	1.55	1350	56	0.9	1.27	2.5	1.6	8.5	12µF/450V	40μF/250V	64	4.5
ML711-4	0.25	2.01	1380	60	0.9	1.73	2.5	1.7	10	12µF/450V	50μF/250V	66	5.9
ML712-4	0.37	2.84	1380	63	0.9	2.56	2.5	1.7	15	16µF/450V	75µF/250V	68	6.9
ML801-4	0.55	4.03	1400	66	0.9	3.75	2.5	1.8	20	20µF/450V	100μF/250V	71	9.6
ML802-4	0.75	5.25	1410	69	0.9	5.08	2.5	1.8	30	25µF/450V	100μF/250V	71	10.9
ML90S-4	1.1	7.24	1410	71	0.93	7.45	2.5	1.8	40	35µF/450V	150µF/250V	74	13.8
ML90L-4	1.5	9.61	1400	73	0.93	10.24	2.5	1.8	55	40µF/450V	200µF/300V	79	16.7
ML100L1-4	2.2	13.90	1430	74	0.93	14.70	2.5	1.8	75	50µF/450V	300µF/300V	79	22.8
ML100L2-4	3	18.70	1440	75	0.93	19.91	2.5	1.8	110	60µF/450V	500µF/300V	83	28.7
ML112M1-4	3.7	21.99	1440	77	0.95	24.55	2.5	1.7	140	60µF/450V	600µF/300V	86	31
ML112M2-4	4.0	22.41	1440	80	0.97	26.54	2.5	1.7	150	60µF/450V	600µF/300V	86	32.8

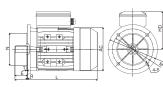
# MY/MYT Series Single-Phase Capacitor Run Asynchronous Motors Aluminum Housing

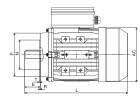
**MY/MYT** series aluminum housing single-phase capacitor-run asynchronous motors, with latest design in entirety, are made of selected quality materials and conform to the IEC standard. **MY** motors have good performance, safety and reliable operation, nice appearance, and can be maintained very conveniently, while with low noises, little vibration and at the same time of light weight and simple construction. The multiple of starting torque is 0.3~0.7(MY), 0.45~0.75(MYT).

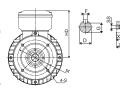
These series motors are suitable for the occasion where there requirements of starting torque is low and long-term continuous woking, such as home electric appliances, pumps, fans, and recording meters, etc.















# **Overall & Installation Dimensions**

										Mountir	ng Dime	ensions												Overa	all			aft E	
Frame Size	Α	В	С	D	Е	F	G	Н	К			IM B14						IM B5					Di	mens	ions			Screv nensi	
	4	Б	C	D	ш		G	П	2	М	Z	Р	Т	R	S	М	N	Р	Т	R	S	AA	AC	AD	HD	L	ss	xx	ZZ
56	90	71	36	φ9	20	3	7.2	56	5.8x8.8	φ65	φ50	φ80	2.5	0	M5	φ100	φ80	φ120	3.0	0	φ7	110	φ117	144	88	196	МЗ	9	12
63	100	80	40	φ11	23	4	8.5	63	7x10	φ75	φ60	φ90	2.5	0	M5	φ115	φ95	φ140	3.0	0	φ10	120	φ130	181	118	220	M4	10	14
71*	112	90	45	φ14	30	5	11	71	7x10	φ85	φ70	φ105	2.5	0	М6	φ130	φ110	φ160	3.5	0	φ10	132	φ147	196	125	241/255	M5	12	17
80	125	100	50	φ19	40	6	15.5	80	10x13	φ100	φ80	φ120	3.0	0	M6	φ165	φ130	φ200	3.5	0	φ12	160	φ163	226	146	290	М6	16	21
90S	140	100	56	φ24	50	8	20	90	10x13	φ115	φ95	φ140	3.0	0	М8	φ165	φ130	φ200	3.5	0	φ12	175	φ183	243	153	312	М8	19	25
90L	140	125	56	φ24	50	8	20	90	10x13	φ115	φ95	φ140	3.0	0	M8	φ165	φ130	φ200	3.5	0	φ12	175	φ183	243	153	337/367	M8	19	25
100L**	160	140	63	φ28	60	8	24	100	12x15	φ130	φ110	φ160	3.5	0	М8	φ215	φ180	φ250	4.0	0	φ15	198	φ205	265	165	369/387	M10	22	30



Model	Power (KW)	Current (A)	Speed (r/min)	Eff. (%)	Power Factor (CosΦ)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	Starting Current (A)	Run Capacitor (µF/V)	Noise dB(A)	W.T (Kg)
MY561-2	0.09	0.80	2740	54	0.91	0.69	1.8	2.5	4μF/450V	67	2.8
MY562-2	0.12	0.90	2760	60	0.93	0.69	1.8	3.5	6μF/450V	67	3.05
MY631-2	0.18	1.40	2760	62	0.93	0.55	1.8	4.5	8μF/450V	70	4.1
MY632-2	0.25	1.70	2780	66	0.93	0.55	1.8	6	10μF/450V	70	4.5
MY633-2	0.37	2.50	2780	67	0.93	0.45	1.65	8	12µF/450V	75	5.25
MY711-2	0.37	2.60	2780	67	0.93	0.5	1.65	10	12µF/450V	75	5.6
MY712-2	0.55	3.50	2790	73	0.95	0.5	1.8	15	16µF/450V	75	6.95
MY713-2	0.75	4.50	2810	74	0.97	0.48	1.8	20	25μF/450V	75	8.15
MY801-2	0.75	4.40	2810	74	0.98	0.4	1.8	19	25µF/450V	75	8.5
MY802-2	1.1	6.30	2810	75	0.98	0.4	1.8	30	35μF/450V	78	11
MY803-2	1.5	8.50	2810	77	0.98	0.33	1.8	40	40μF/450V	80	12.75
MY90S-2	1.5	8.40	2820	77	0.98	0.33	1.72	35	45µF/450V	80	13.7
MY90L-2	2.2	12.10	2850	78	0.98	0.29	1.8	61	60μF/450V	80	16.7
MY100L-2	3	16.50	2860	79	0.99	0.28	1.8	73	80μF/450V	83	23.1
MY561-4	0.06	0.60	1370	48	0.92	0.73	1.75	2	4μF/450V	63	3.3
MY562-4	0.09	0.80	1370	50	0.92	0.6	1.75	3	6μF/450V	63	3.6
MY631-4	0.12	1.30	1370	52	0.92	0.6	1.75	3	8μF/450V	65	4.45
MY632-4	0.18	1.50	1370	54	0.94	0.6	1.6	4	12µF/450V	65	5.05
MY633-4	0.25	2.00	1370	58	0.95	0.6	1.6	5	14µF/450V	65	5.4
MY711-4	0.25	1.80	1390	61	0.96	0.5	1.6	5	14µF/450V	65	5.8
MY712-4	0.37	2.70	1390	62	0.96	0.5	1.6	8	16µF/450V	68	6.9
MY713-4	0.55	3.70	1390	64	0.97	0.48	1.7	12	20μF/450V	70	8.25
MY801-4	0.55	3.50	1410	64	0.98	0.37	1.8	13	25μF/450V	70	9.55
MY802-4	0.75	4.70	1410	68	0.98	0.37	1.65	17	30μF/450V	70	10.45
MY90S-4	1.1	6.30	1410	71	0.98	0.35	1.75	24	40μF/450V	73	13.1
MY90L-4	1.5	8.50	1420	73	0.96	0.33	1.8	36	45μF/450V	75	16.45
MY100L1-4	2.2	12.90	1440	77	0.96	0.32	1.8	57	80μF/450V	78	22.8
MY100L2-4	3	16.20	1440	78	0.99	0.3	1.7	75	100μF/450V	78	29.2
MY711-6	0.18	1.49	920	57	0.92	0.45	1.5	4	16µF/450V	68	6.3
MY712-6	0.25	2.00	920	59	0.92	0.45	1.5	5	20μF/450V	68	7.6
MY801-6	0.37	2.78	920	63	0.92	0.35	1.6	8	20µF/450V	68	9
MY802-6	0.55	3.90	920	66	0.93	0.35	1.6	14	25µF/450V	70	11.6
MY90S-6	0.75	5.05	920	68	0.95	0.35	1.6	16	35µF/450V	70	13.5
MY90L-6	1.1	7.30	920	69	0.95	0.35	1.6	25	50μF/450V	70	16.2

Model	Power (KW)	Current (A)	Speed (r/min)	Eff. (%)	Power Factor (CosΦ)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	Starting Current (A)	Run Capacitor (μF/V)	Noise dB(A)	W.T (Kg)
MYT631-2	0.18	1.40	2750	62	0.93	0.7	1.8	4.5	10μF/450V	70	4
MYT632-2	0.25	1.80	2750	65	0.93	0.65	1.75	6	12μF/450V	70	4.7
MYT711-2	0.37	2.60	2640	66	0.94	0.72	1.65	8	14µF/450V	75	6.1
MYT712-2	0.55	3.60	2760	71	0.95	0.7	1.8	14	20μF/450V	75	7.7
MYT801-2	0.75	4.50	2735	73	0.98	0.68	1.75	16	25μF/450V	75	10.25
MYT802-2	1.1	6.60	2720	74	0.98	0.65	1.8	23	35μF/450V	78	11.6
MYT90S-2	1.5	8.50	2755	76	0.98	0.65	1.8	31	50μF/450V	80	14.55
MYT90L-2	2.2	12.30	2765	77	0.98	0.65	1.8	51	70μF/450V	80	17.8
MYT100L-2	3	16.90	2765	77	0.99	0.55	1.75	64	90μF/450V	83	23.7
MYT711-4	0.25	2.00	1320	56	0.94	0.75	1.6	5	16μF/450V	65	6.2
MYT712-4	0.37	2.90	1325	58	0.94	0.7	1.55	7	20μF/450V	68	7.3
MYT801-4	0.55	10.60	1340	64	0.94	0.7	1.7	11	25μF/450V	73	10.05
MYT802-4	0.75	5.30	1340	64	0.94	0.7	1.75	15	35μF/450V	73	11.4
MYT90S-4	1.1	7.00	1355	72	0.95	0.68	1.8	22	40μF/450V	75	14.4
MYT90L-4	1.5	9.30	1360	74	0.95	0.68	1.8	32	50μF/450V	78	17.5
MYT100L1-4	2.2	12.60	1390	78	0.97	0.48	1.75	49	70μF/450V	80	24.5
MYT100L2-4	3	16.50	1380	79	0.99	0.45	1.6	61	90μF/450V	80	32
MYT631-6	0.09	0.92	900	46	0.92	0.8	1.45	2	8μF/450V	63	5.1
MYT632-6	0.12	1.05	900	54	0.92	0.75	1.45	3	11μF/450V	63	6
MYT711-6	0.18	1.55	900	55	0.92	0.7	1.5	4	16μF/450V	68	6.3
MYT712-6	0.25	2.07	900	57	0.92	0.68	1.5	5	20μF/450V	68	7.6
MYT801-6	0.37	2.82	900	62	0.92	0.68	1.6	8	25µF/450V	68	9
MYT802-6	0.55	4.08	900	63	0.93	0.68	1.6	14	30µF/450V	70	11.6
MYT90S-6	0.75	5.20	900	66	0.95	0.65	1.6	16	40µF/450V	70	13.5
MYT90L-6	1.1	7.51	900	67	0.95	0.62	1.6	25	50μF/450V	70	16.2

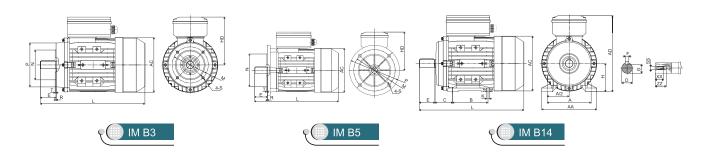
 $<sup>^{\</sup>star}$  Note: MYT is high starting torque series single phase capacitor–run motors

# MC Series Single-Phase Capacitor Start Asynchronous Motors Aluminum Housing

**MC** Series aluminum housing single-phase capacitor-start asynchronous motors, with latest design in entirety, are made of selected quality materials and conform to the IEC standard.

MC motors have good performance, safely and reliable operation, nice appearance, and can be maintained very conveniently, while with low noises, little vibration and at the same time of light weight and simple construction. High starting torque, perfect starting performance, generally the multiple of the starting torque can up to 3.0 times. These series motors are suitable for the occasion where big starting torque and small starting current, such as air-compressors, pumps, refrigerators, medical apparatus, and many other machines needing full-load start.





# **O** verall & Installation Dimensions

									Мо	unting	Dime	nsions	3										Over	all Din	nensio	ins	Shaf	t End S	crew
Frame Size	Α	В	С	D	Е	F	G	Н	К			IM B	14					IM I	35				0.00	u D			D	imensio	ns
		В	C		_	F	G	П	, K	М	N	Р	R	S	Т	М	N	Р	R	s	Т	AA	AC	AD	HD	L	SS	XX	ZZ
63	100	80	40	11	23	4	8.5	63	7X10	75	60	90	0	M5	2.5	115	95	140	0	Ф10	3.0	120	130	179	116	212	M4	10	15
71	112	90	45	14	30	5	11	71	7X10	85	70	105	0	M6	2.5	130	110	160	0	Ф10	3.5	132	145	194	123	255	M5	12	18
80	125	100	50	19	40	6	15.5	80	10X13	100	80	120	0	М6	3.0	165	130	200	0	Ф12	3.5	157	165	223	143	290	M6	16	22
908	140	100	56	24	50	8	20	90	10X13	115	95	140	0	M8	3.0	165	130	200	0	Ф12	3.5	172	185	240	150	335	M8	20	25
90L	140	125	56	24	50	8	20	90	10X13	115	95	140	0	М8	3.0	165	130	200	0	Ф12	3.5	172	185	240	150	365	M8	20	25
100L	160	140	63	28	60	8	24	100	12X15	130	110	160	0	M8	3.5	215	180	250	0	Ф15	4.0	196	205	260	160	398/416	M10	22	28
112M	190	140	70	28	60	8	24	112	12X15	130	110	160	0	M8	3.5	215	180	250	0	Ф15	4.0	222	230	295	183	416	M10	22	28



Model	Power (KW)	Current (A)	Speed (r/min)	Eff. (%)	Power Factor (CosΦ)	Rate Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	Starting Current (A)	Start Capacitor (µF/V)	Noise dB(A)	W.T (Kg)
MC711-2	0.18	1.86	2750	60	0.70	0.63	3.0	2.2	12	75μF/250V	70	5
MC712-2	0.25	2.43	2780	62	0.72	0.86	3.0	2.2	15	75μF/250V	70	6.8
MC801-2	0.37	3.46	2800	62	0.75	1.26	2.8	2.2	21	100μF/250V	75	9.2
MC802-2	0.55	4.78	2800	65	0.77	1.88	2.8	2.2	29	150μF/250V	75	11
MC90S-2	0.75	6.15	2810	68	0.78	2.55	2.5	2.2	37	200μF/300V	75	13
MC90L-2	1.1	8.76	2820	70	0.78	3.73	2.5	2.2	60	250µF/300V	78	16
MC100L1-2	1.5	11.47	2830	72	0.79	5.06	2.5	2.0	80	300µF/300V	83	22
MC100L2-2	2.2	16.59	2840	73	0.79	7.40	2.2	2.0	120	400μF/300V	83	24
MC112M-2	3.0	22.03	2850	74	0.8	10.05	2.2	1.9	150	600µF/300V	87	28
MC711-4	0.12	1.86	1360	50	0.56	0.84	3.0	2.2	9	50μF/250V	65	5.4
MC712-4	0.18	2.46	1380	53	0.6	1.25	2.8	2.2	12	75µF/250V	65	6.4
MC801-4	0.25	3.07	1390	58	0.61	1.72	2.8	2.2	15	100μF/250V	65	9
MC802-4	0.37	4.18	1400	62	0.62	2.52	2.5	2.2	21	100μF/250V	70	10.2
MC90S-4	0.55	5.49	1400	66	0.66	3.75	2.5	2.0	29	150μF/250V	70	12.8
MC90L-4	0.75	6.85	1410	68	0.7	5.08	2.5	2.0	37	150μF/250V	70	15.7
MC100L1-4	1.1	9.49	1420	71	0.71	7.40	2.5	2.0	60	250µF/300V	73	23
MC100L2-4	1.5	12.41	1430	73	0.72	10.01	2.5	2.0	80	400µF/300V	78	28
MC112M-4	2.2	17.71	1440	74	0.73	14.59	2.2	1.9	120	600µF/300V	78	34.5

# YC Series

# Single-Phase Capacitor Start Asynchronous Motors Cost Iron Housing

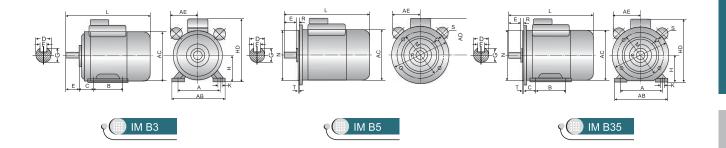
**Cast Iron Housing** 

YC series heavy-duty single-phase motors are suitable for driving small machines and water pumps, especially for families or workshops where only single-phase electric supply are available conforming to "IEC" design with advanced techniques and made from best materials, the motors have pleasant appearance and good performance.

YC series a motors are of IP44, totally enclosed and fan-cooling type. rated output is 3HP or below are capacitor-start, when operating under rated voltage, under 50HZ(60HZ), has a starting torque as high as 3 times the rated tone and under 60HZ, the torque can be 2.75 times the rated one. Motors of 4HP and above are of capacitor start and run. They have the advantages of high torque, steady running, low the mal rise, lower noise and greater overload performance.



## YC Series Single-Phase Capacitor Start Asynchronous Motors



# 0

## verall & Installation Dimensions (at 230V/50Hz)

Frame Size	Mounting Dimensions(mm)												Overall & Installation Dimension								
	А	В	С	D	Е	F	G	Н	К	М	N	Р	R	S	Т	AB	AC	AD	AE	HD	L
80	125	100	50	19	40	6	15.5	80	10	165	130	200	0	12	3.5	160	165	120	110	200	310
90S	140	100	56	24	50	8	20	90	10	165	130	200	0	12	3.5	180	185	140	120	240	355
90L	140	125	56	24	50	8	20	90	10	165	130	200	0	12	4.5	180	185	140	120	240	385
100L	160	140	63	28	60	8	24	100	12	215	180	250	0	15	4.0	205	220	145	130	260	415
112M	190	140	70	28	60	8	24	112	12	215	180	250	0	15	4.0	245	250	160	140	300	440
132S	216	140	89	38	80	10	33	132	12	215	230	300	0	15	4.0	280	262	210	150	350	470



## echnical Data

Model	Oı	ıtput	Current	Speed	Eff.	Power Factor	Locked Rotor Torque	Locked Rotor Current	Pull-Out Torque	
dd:	(HP)	(KW)	(A)	(r/min)	(%)	(CosΦ)	Rated Torque	Rated Current	Rated Torque	
YC80A-2	1/2	0.37	3.7	2880	62	0.73	2.8	6.5	1.8	
YC80B-2	3/4	0.55	5.3	2880	65	0.73	2.8	6.5	1.8	
YC80C-2	1	0.75	6.7	2880	68	0.75	2.4	6.5	1.8	
YC90S-2	1.5	1.1	9.1	2880	71	0.77	2.4	7.0	1.8	
YC90L-2	2	1.5	12.1	2900	72	0.78	2.4	7.0	1.8	
YC100L-2	3	2.2	17.1	2900	74	0.79	2.1	7.0	1.8	
YC80A-4	1/3	0.25	3.4	1450	56	0.60	2.8	6	1.8	
YC80B-4	1/2	0.37	4.5	1450	60	0.62	2.8	6	1.8	
YC80C-4	3/4	0.55	6	1450	64	0.65	2.8	6	1.8	
YC90S-4	1	0.75	7.7	1450	67	0.66	2.4	6.5	1.8	
YC90L-4	1.5	1.1	10.5	1450	70	0.68	2.4	6.5	1.8	
YC100L-4	2	1.5	13.5	1450	72	0.70	2.4	6.5	1.8	
YC112M-4	3	2.2	19.3	1450	72	0.72	2.2	6.5	1.8	
YC132A-4	4	3	25.2	1450	74	0.73	2.1	6.5	1.8	
YC132B-4	5	3.7	30	1450	75	0.74	2.1	6.5	1.8	

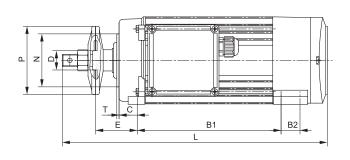
# MSC/MYC Series Three/Single-Phase Aluminum Housing Saw Motors

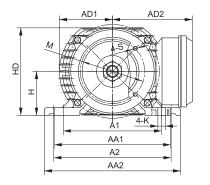


#### **MSC/MYC Series Motors Technical Data**

Туре	Power (KW)	Phase	V/Hz	Current (A)	Eff. (%)	Power Factor (CosΦ)	Speed (r/min)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	I <sub>st</sub> /I <sub>n</sub> (Times)	Duty	Capacitor
MYC58A2	1.1	1	230/50	7.18	68	0.98	2770	0.35	1.7	5	S6-40%	25uF/450V
MYC58B2	1.5	1	230/50	9.51	70	0.98	2790	0.35	1.7	5	S6-40%	30uF/450V
MYC58C2	1.8	1	230/50	11.1	72	0.98	2790	0.32	1.7	5	S6-40%	30uF/450V
MYC63B2	2.2	1	230/50	13.2	74	0.98	2800	0.32	1.7	5	S6-40%	40uF/450V
MSC58A2	1.5	3	400/50	3.41	77.5	0.82	2750	3	3	6	S6-40%	
MSC58B2	2.2	3	400/50	4.76	78.5	0.85	2750	3	3	6	S6-40%	
MSC63A2	2.2	3	400/50	4.73	79	0.85	2800	2.4	2.2	6	S6-40%	
MSC63B2	3	3	400/50	6.37	80	0.85	2820	2.8	2.4	6.5	S6-40%	
MSC74A2	4	3	400/50	8.19	82	0.86	2850	3	3	7	S6-40%	
MSC81A2	5.5	3	400/50	10.5	85	0.89	2880	3	3	9	S1	
MSC81B2	7.5	3	400/50	14.1	86	0.89	2880	3	3	9	S1	
MSC93A2	5.5	3	400/50	10.1	87	0.90	2890	3	3	9	S1	
MSC93B2	7.5	3	400/50	13.6	87.5	0.91	2890	3	3	9	S1	

#### MSC/MYC Series Three/Single-Phase Aluminum Housing Saw Motors





#### **MSC/MYC Series Motors Overall & Installation Dimensions**

Model	Н	D	Р	N	М	S	A1	A2	B1	B2	С	E	Т	К	AA1	AA2	HD	AD1	AD2	L*
MYC58A2	58	25.4	90	70	85	M6	130	155	165	25	24	55	3	10	154	180	116	70	113	325
MYC58B2	58	25.4	90	70	85	M6	130	155	190	25	24	55	3	10	154	180	116	70	113	350
MYC58C2	58	25.4	90	70	85	M6	130	155	190	25	24	55	3	10	154	180	116	70	113	350
MYC63B2	63	25.4	90	80	100	M6	130	155	190	28	24	55	3	10	154	180	126	77	108	355
MSC58A2	58	25.4	90	70	85	M6	130	155	165	25	24	55	3	10	154	180	116	70	103	325
MSC58B2	58	25.4	90	70	85	M6	130	155	190	25	24	55	3	10	154	180	116	70	103	350
MSC63A2	63	25.4	90	80	100	M6	130	155	165	28	24	55	3	10	154	180	126	77	108	330
MSC63B2	63	25.4	90	80	100	M6	130	155	190	28	24	55	3	10	154	180	126	77	108	355
MSC74A2	74	30	110	95	115	M6	155	155	190	25	24	55	3	12	180	180	147	87	126	370
MSC81A2	81	40	158	110	130	M8	160	190	254	20	25	64	3.5	12	190	225	162	99	133	462
MSC81B2	81	40	158	110	130	M8	160	190	318	20	25	64	3.5	12	190	225	162	99	133	526
MSC93A2	93	40	158	110	130	M8	190	190	229	25	25	64	3.5	14	225	225	184	108	145	442
MSC93B2	93	40	158	110	130	M8	190	190	254	25	25	64	3.5	14	225	225	184	108	145	467

<sup>\*</sup> Note:The size "L" With brake type is 30mm more

# MSV/MYV Series Three/Single-Phase Aluminum Housing Pad Mount Motors



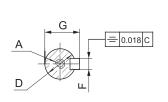
#### MYV Series Technical Data (at 230V/50Hz)

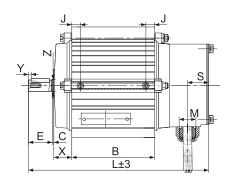
Model	Power (KW)	Current (A)	Speed (r/min)	Eff. (%)	Power Factor (CosΦ)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	Starting Current (A)	Run Capacitor (µF/V)	Noise dB(A)	W.T (Kg)
MYV711-2	0.37	2.60	2780	67	0.93	0.5	1.65	10	12µF/450V	75	5.6
MYV712-2	0.55	3.50	2790	73	0.95	0.5	1.8	15	16µF/450V	75	6.95
MYV713-2	0.75	4.50	2810	74	0.97	0.48	1.8	20	25µF/450V	75	8.15
MYV801-2	0.75	4.40	2810	74	0.98	0.4	1.8	19	25µF/450V	75	8.5
MYV802-2	1.1	6.30	2810	75	0.98	0.4	1.8	30	35µF/450V	78	11
MYV803-2	1.5	8.50	2810	77	0.98	0.33	1.8	40	40µF/450V	80	12.75
MYV90S-2	1.5	8.40	2820	77	0.98	0.33	1.72	35	45µF/450V	80	13.7
MYV90L-2	2.2	12.10	2850	78	0.98	0.29	1.8	61	60µF/450V	80	16.7
MYV100L-2	3	16.50	2860	79	0.99	0.28	1.8	73	80µF/450V	83	23.1
MYV711-4	0.25	1.80	1390	61	0.96	0.5	1.6	5	14µF/450V	65	5.8
MYV712-4	0.37	2.70	1390	62	0.96	0.5	1.6	8	16µF/450V	68	6.9
MYV713-4	0.55	3.70	1390	64	0.97	0.48	1.7	12	20µF/450V	70	8.25
MYV801-4	0.55	3.50	1410	64	0.98	0.37	1.8	13	25µF/450V	70	9.55
MYV802-4	0.75	4.70	1410	68	0.98	0.37	1.65	17	30µF/450V	70	10.45
MYV90S-4	1.1	6.30	1410	71	0.98	0.35	1.75	24	40µF/450V	73	13.1
MYV90L-4	1.5	8.50	1420	73	0.96	0.33	1.8	36	45µF/450V	75	16.45
MYV100L1-4	2.2	12.90	1440	77	0.96	0.32	1.8	57	80µF/450V	78	22.8
MYV711-6	0.18	1.49	920	57	0.92	0.45	1.5	4	16µF/450V	68	6.3
MYV712-6	0.25	2.00	920	59	0.92	0.45	1.5	5	20µF/450V	68	7.6
MYV801-6	0.37	2.78	920	63	0.92	0.35	1.6	8	20µF/450V	68	9
MYV802-6	0.55	3.90	920	66	0.93	0.35	1.6	14	25µF/450V	70	11.6
MYV90S-6	0.75	5.05	920	68	0.95	0.35	1.6	16	35µF/450V	70	13.5
MYV90L-6	1.1	7.30	920	69	0.95	0.35	1.6	25	50µF/450V	70	16.2

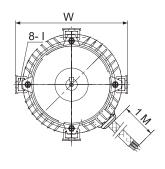
# **MSV Series Technical Data at 50Hz**

		Cu	ırrent (	(A)	Cı	ırrent (	A)	Cı	ırrent (	A)			Power						Moment Of	Rated
Model	Power (KW)	220V	380V	660V	230V	400V	690V	240V	415V	720V	Speed (r/min)	Eff. (%)	Factor (CosΦ)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	I <sub>st</sub> /I <sub>n</sub> (Times)	Noise dB(A)	W.T (Kg)	Inertia (Kg*M²)	Torque (N.M)
MSV711-2	0.37	1.76	1.02	0.59	1.67	0.97	0.56	1.61	0.93	0.54	2730	70	0.79	2.2	2.4	6	64	5.6	0.00034	1.30
MSV712-2	0.55	2.57	1.49	0.86	2.45	1.42	0.82	2.36	1.36	0.79	2760	71	0.79	2.2	2.4	6	64	6.1	0.00042	1.90
MSV713-2	0.75	3.33	1.93	1.11	3.18	1.83	1.06	3.06	1.77	1.02	2730	72	0.82	2.2	2.4	6	65	7	0.00054	2.63
MSV801-2	0.75	3.21	1.86	1.07	3.06	1.77	1.02	2.94	1.70	0.98	2770	73	0.84	2.2	2.4	6	67	9.1	0.00083	2.59
MSV802-2	1.1	4.56	2.64	1.52	4.35	2.51	1.45	4.18	2.42	1.39	2770	76.2	0.83	2.2	2.4	6	67	10.2	0.00097	3.79
MSV803-2	1.5	6.04	3.50	2.01	5.87	3.32	1.92	5.54	3.20	1.85	2800	78.5	0.83	2.2	2.4	6	70	11.7	0.00125	5.12
MSV90S-2	1.5	5.97	3.46	1.99	5.76	3.28	1.90	5.47	3.16	1.82	2840	78.5	0.84	2.2	2.4	6	72	12	0.00136	5.05
MSV90L1-2	2.2	8.39	4.85	2.80	8.0	4.61	2.66	7.69	4.45	2.56	2840	81	0.85	2.2	2.4	6	72	15	0.0017	7.40
MSV90L2-2	3	11.08	6.42	3.69	10.56	6.10	3.52	10.16	5.88	3.39	2840	82.6	0.86	2.2	2.4	6	74	18.5	0.0021	10.09
MSV100L1-2	3	10.96	6.34	3.65	10.44	6.03	3.48	10.04	5.81	3.35	2840	82.6	0.87	2.2	2.3	7	76	22.3	0.0036	10.09
MSV100L2-2	4	14.33	8.30	4.78	13.65	7.88	4.55	13.14	7.60	4.38	2850	84.2	0.87	2.2	2.3	7.5	77	25.2	0.0044	13.41
MSV112M-2	4	14.33	8.30	4.78	13.65	7.88	4.55	13.14	7.60	4.38	2880	84.2	0.87	2.2	2.3	7.5	77	26.7	0.0054	13.27
MSV112L-2	5.5	19.14	11.08	6.38	18.23	10.53	6.08	17.54	10.15	5.85	2880	85.7	0.88	2.2	2.3	7.5	78	30.2	0.0068	18.25
MSV711-4	0.25	1.52	0.88	0.51	1.45	0.84	0.48	1.39	0.81	0.46	1350	60	0.72	2.2	2.4	6	55	5.4	0.00051	1.77
MSV712-4	0.37	2.02	1.17	0.67	1.92	1.11	0.64	1.85	1.07	0.62	1370	65	0.74	2.2	2.4	6	55	6.2	0.00081	2.58
MSV713-4	0.55	2.92	1.69	0.97	2.78	1.60	0.93	2.67	1.55	0.89	1380	66	0.75	2.2	2.4	6	57	7.3	0.00092	3.81
MSV801-4	0.55	2.87	1.66	0.96	2.74	1.58	0.91	2.63	1.52	0.88	1370	67	0.75	2.2	2.4	6	58	9	0.00128	3.84
MSV802-4	0.75	3.50	2.03	1.17	3.34	1.93	1.11	3.21	1.86	1.07	1380	72	0.78	2.2	2.4	6	58	10	0.0015	5.19
MSV803-4	1.1	4.86	2.81	1.62	4.63	2.67	1.54	4.45	2.57	1.48	1390	76.2	0.78	2.2	2.4	6	60	12.3	0.00184	7.56
MSV90S-4	1.1	4.80	2.78	1.60	4.57	2.64	1.52	4.40	2.54	1.47	1400	76.2	0.79	2.2	2.4	6	61	12.1	0.00221	7.51
MSV90L1-4	1.5	6.27	3.63	2.09	5.97	3.45	1.99	5.75	3.32	1.92	1400	78.5	0.8	2.2	2.4	6	61	14.6	0.00284	10.24
MSV90L2-4	2.2	8.91	5.16	2.97	8.45	4.90	2.83	8.17	4.72	2.72	1400	81	0.8	2.2	2.4	7	63	18.3	0.0037	15.02
MSV100L1-4	2.2	8.80	5.09	2.93	8.38	4.84	2.79	8.07	4.66	2.69	1420	81	0.81	2.2	2.3	7	64	21	0.0058	14.80
MSV100L2-4	3	11.77	6.81	3.92	11.21	6.47	3.74	10.79	6.24	3.60	1420	82.6	0.81	2.2	2.3	7	64	24.7	0.0073	20.19
MSV100L3-4	4	15.20	8.80	5.07	14.18	8.36	4.83	13.94	8.06	4.65	1430	84.2	0.82	2.2	2.3	7	65	29	0.0092	26.73
MSV112M-4	4	15.02	8.70	5.01	14.31	8.26	4.77	13.77	7.96	4.59	1430	84.2	0.83	2.2	2.2	7	65	30.5	0.0107	26.73
MSV112L-4	5.5	20.29	11.75	6.76	19.33	11.16	6.44	18.60	10.76	6.20	1440	85.7	0.83	2.2	2.2	7	68	34.8	0.013	36.49
MSV711-6	0.18	1.28	0.74	0.43	1.22	0.70	0.41	1.17	0.68	0.39	880	56	0.66	1.6	1.7	4	52	6	0.00083	1.95
MSV712-6	0.25	1.59	0.92	0.53	1.51	0.87	0.50	1.46	0.84	0.49	900	59	0.7	2.1	2.2	4	52	6.5	0.00095	2.65
MSV713-6	0.37	2.31	1.34	0.77	2.2	1.27	0.73	2.11	1.22	0.70	890	61	0.69	2	2.1	4	54	7.2	0.00114	3.97
MSV801-6	0.37	2.24	1.30	0.75	2.13	1.23	0.71	2.05	1.19	0.68	900	62	0.7	1.9	1.9	4	56	8.2	0.00153	3.93
MSV802-6	0.55	2.99	1.73	1.00	2.85	1.65	0.95	2.74	1.59	0.91	900	67	0.72	2	2.3	4	56	9.9	0.00232	5.84
MSV803-6	0.75	4.02	2.33	1.34	3.83	2.21	1.28	3.69	2.13	1.23	900	68	0.72	2	2.3	4	58	11.3	0.00286	7.96
MSV90S-6	0.75	3.96	2.29	1.32	3.77	2.18	1.26	3.63	2.10	1.21	920	69	0.72	2.2	2.2	5.5	59	11.7	0.00376	7.79
MSV90L1-6	1.1	5.49	3.18	1.83	5.23	3.02	1.74	5.03	2.91	1.68	925	72	0.73	2.2	2.2	5.5	59	15.1	0.00467	11.36
MSV90L2-6	1.5	7.19	4.16	2.40	6.88	3.97	2.29	6.59	3.81	2.20	930	73	0.75	2.2	2.2	6	61	18	0.00567	15.41
MSV100L1-6	1.5	7.00	4.05	2.33	6.67	3.85	2.22	6.42	3.71	2.14	945	74	0.76	2.2	2.2	6	61	19.1	0.0073	15.17
MSV100L2-6	2.2	9.87	5.71	3.29	9.40	5.44	3.13	9.04	5.23	3.01	950	77	0.76	2.2	2.2	6	63	23.4	0.0084	22.13
MSV112M-6	2.2	9.74	5.64	3.25	9.28	5.36	3.09	8.93	5.16	2.98	955	78	0.76	2.2	2.2	6	64	25.4	0.013	22.01
MSV112L-6	3	13.28	7.69	4.43	12,7	7.31	4.24	12.17	7.04	4.06	955	78	0.76	2.2	2.2	6	69	30	0.019	30.02

#### **MSV/MYV Series Motors Overall & Installation Dimensions**







#### **MYV Series Motors Overall & Installation Dimensions**

Model	Power (KW)	А	В	С	D	E	F	G	Y	Z	W	ı	J	L	Х	М	S
MYV711-2	0.37		115											235			
MYV712-2	0.55		135											255			
MYV713-2	0.75		155											275			
MYV711-4	0.25	·	120				_							240			
MYV712-4	0.37	M5X10	140	2	Ф14	30	5	16	4.5	Ф14.85	147	M10	11	260	26	M16	22
MYV713-4	0.55		160											280			
MYV711-6	0.18		135											255			
MYV712-6	0.25	-	150											270			
MYV801-2	0.75		125											267			
MYV802-2	1.1	-	145											287			
MYV803-2	1.5		165											307			
MYV801-4	0.55	M6X12	130	2	Ф19	40	6	21.5	7	Ф19.85	173	M12	13	272	30	M16	26
MYV802-4	0.75		145											287			
MYV801-6	0.37		140											282			
MYV802-6	0.55		165											307			
MYV90S-2	1.5		150											320			
MYV90L-2	2.2		180											350			
MYV90S-4	1.1		155											325			
MYV90L-4	1.5	- M6X12	185	8	Ф24	50	8	27	4	Ф24.85	191	M12	13	355	35	M16	28
MYV90S-6	0.75	-	155											325			
MYV90L-6	1.1		195											365			
MYV100L-2	3		175											356			
MYV100L1-4	2.2	M8X16	175	8	Ф28	60	8	31	4	Ф29.7	211	M12	13	356	27	M20	28

#### **MSV Series Motors Overall & Installation Dimensions**

Model	Power (KW)	А	В	С	D	E	F	G	Y	Z	W	ı	J	L	Х	М	S
MSV711-2	0.37		110											230			
MSV712-2	0.55		125											245			
MSV713-2	0.75		140											260			
MSV711-4	0.25		110											230			
MSV712-4	0.37	M5X10	125	2	Ф14	30	5	16	4.5	Ф14.85	147	M10	11	245	26	M16	22
MSV713-4	0.55		145											265			
MSV711-6	0.18		125											245			
MSV712-6	0.25		135											255			
MSV713-6	0.37		155											275			
MSV801-2	0.75		120											257			
MSV802-2	1.1		135											272			
MSV803-2	1.5		155											292			
MSV801-4	0.55		115											252			
MSV802-4	0.75	M6X12	135	2	Ф19	40	6	21.5	7	Ф19.85	173	M12	13	272	30	M16	26
MSV803-4	1.1		155											292			
MSV801-6	0.37		115											252			
MSV802-6	0.55		135											272			
MSV803-6	0.75		155											292			
MSV90S-2	1.5		140											310			
MSV90L1-2	2.2		170											340			
MSV90L2-2	3		200											370			
MSV90S-4	1.1		135											305			
MSV90L1-4	1.5	M6X12	160	8	Ф24	50	8	27	4	Ф24.85	191	M12	13	330	35	M16	28
MSV90L2-4	2.2		195											365			
MSV90S-6	0.75		135											305			
MSV90L1-6	1.1		170											340			
MSV90L2-6	1.5		200											370			
MSV100L1-2	3		150											331			
MSV100L2-2	4		175											356			
MSV100L1-4	2.2		150											331			
MSV100L2-4	3	M8X16	175	8	Ф28	60	8	31	4	Ф29.7	211	M12	13	356	27	M20	25
MSV100L3-4	4		210											391			
MSV100L1-6	1.5		150											331			
MSV100L2-6	2.2		185											366			
MSV112M-2	4		165											337			
MSV112L-2	5.5		190											362			
MSV112M-4	4	M8X16	190	4	Ф28	60	8	31	4	Ф29.7	211	M12	13	362	28	M25	25
MSV112L-4	5.5	INIO NO	220	_ "	Ψ20	00	0	31	-	Ψ23.1	411	IVI I Z	13	392	20	IVIZO	23
MSV112M-6	2.2		165											337			
MSV112L-6	3		200											372			

# Motors

#### **FEATURES**

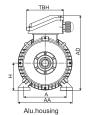
- Energy savings, high efficiency
- High starting torque, lower starting current
- Versatile and easy to modify design adapts to a variety of applications
- · Option of integrated or removable feet
- Option of aluminum housing up to frame size 200
- Option of terminal box location (top, left or right)
- Option of IE2, IE3, MEPS High and Premium Efficiency for IEC standards + NEMA EPACT and Premium Efficiency
- Contained total length is the same as or shorter than the current market standard
- Full use of the magnetization properties of cold rolled silicone steel in which the stator laminations are magnetized evenly to reduce temperature rise of the winding

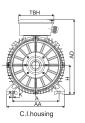


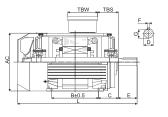
#### **APPLICATIONS**

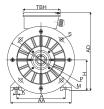
- Pumps
- Waste water treatment plants
- · Air compressors, fans
- · Gear reducers and power transmission
- Pulp and paper mills
- · Steel mill
- Conveyors, elevators
- Should be "Material handling equipment"
- Agricultural application
- Mining equipment
- Hydraulic equipment

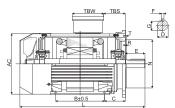






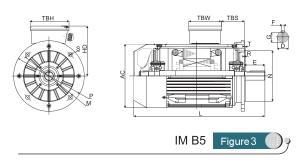


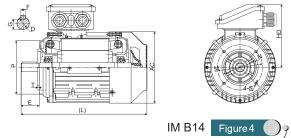


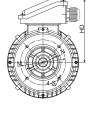


IM B3 Figure 1









#### **Overall & Installation Dimensions**

Fran	ma		Foo	t Mounting				Shaft						Ge	neral			
Fran	TIE	Н	А	В	С	D	Е	F	G	К	AA	AD	HD	AC	L	TBS	TBW	ТВН
80	)	80	125	100	50	Ф19	40	6	15.5	Ф9	160	220	140	Ф158	280	16	97	97
908	S/L	90	140	100/125	56	Ф24	50	8	20	Ф10	175	240	150	Ф176	325/350	16	97	97
10	0	100	160	140	63	Ф28	60	8	24	Ф12	200	265	165	Ф199	388	20	118	118
11:	2	112	190	140	70	Ф28	60	8	24	Ф12	230	291	179	Ф220	405	29	118	118
1325	S/M	132	216	140/178	89	Ф38	80	10	33	Ф12	255	332	200	Ф259	467/505	29	118	118
1601	M/L	160	254	210/254	108	Ф42	110	12	37	Ф15	314	402	242	Ф313	605/650	91	162	187
180	M/L	180	279	241/279	121	Ф48	110	14	42.5	Ф15	348	439	259	Ф360	687/725	160/180	162	187
200	DL	200	318	305	133	Ф55	110	16	49	Ф19	388	497	297	Ф399	768	192	186	233
225S	4,8	225	356	286	149	Ф60	140	18	53	Ф19	436	553	328	Ф465	814	190	186	233
225M	2	225	356	311	149	Ф55	110	16	49	Ф19	436	553	328	Ф465	809	202	186	233
ZZJIVI	4,6,8	225	356	311	149	Ф60	140	18	53	Ф19	436	553	328	Ф465	839	202	186	233
250M	2	250	406	349	168	Ф60	140	18	53	Ф24	484	616	366	Ф506	918	233	218	260
250101	4,6,8	250	406	349	168	Ф65	140	18	58	Ф24	484	616	366	Ф506	918	233	218	260
280S/M	2	280	457	368/419	190	Ф65	140	18	58	Ф24	557	668	388	Ф559	984/1035	265	218	260
2003/101	4,6,8	280	457	368/419	190	Φ75	140	20	67.5	Ф24	557	668	388	Ф559	984/1035	265	218	260
315S	2	315	508	406	216	Ф65	140	18	58	Ф28	630	840	525	Ф680	1160	130	350	430
3133	4,6,8	315	508	406	216	Ф80	170	22	71	Ф28	630	840	525	Ф680	1190	130	350	430
315M/L	2	315	508	457/508	216	Ф65	140	18	58	Ф28	630	840	525	Ф680	1310	130	350	430
3 TOW/L	4,6,8	315	508	457/508	216	Ф80	170	22	71	Ф28	630	840	525	Ф680	1340	130	350	430
355M/L	2	355	610	560/630	254	Φ75	140	20	67.5	Ф28	740	920	565	Ф820	1770	180	350	430
333IVI/L	4,6,8	355	610	560/630	254	Ф95	170	25	86	Ф28	740	920	565	Ф820	1840	180	350	430

Fram		В	earings	Cable Gland			B5						B14			
Fram	ie	Drive End	Non-Drive End	Cable Glariu	N	M	Р	S	Т	R	N	М	Р	S	Т	R
80		6	204ZZ	1-M20×1.5	Ф130	Ф165	Ф198	4-Φ12	3.5	0	Ф80	Ф100	Ф118	M6	3	0
908/1	L	6	205ZZ	1-M20×1.5	Ф130	Ф165	Ф198	4 <b>-</b> Φ12	3.5	0	Ф95	Ф115	Ф138	M8	3	0
100		6	206ZZ	1-M20×1.5	Ф180	Ф215	Ф250	4-Ф15	4	0	Ф110	Ф130	Ф158	M8	3.5	0
112		6	306ZZ	2-M25×1.5	Ф180	Ф215	Ф250	4-Ф15	4	0	Ф110	Ф130	Ф158	M8	3.5	0
132S/	M	6	308ZZ	2-M25×1.5	Ф230	Ф265	Ф300	4-Φ15	4	0	Ф130	Ф165	Ф198	M10	3.5	0
160M	/L	6	309C3	2-M32×1.5	Ф250	Ф300	Ф350	4-Ф19	5	0						0
180M	/L	6	311C3	2-M32×1.5	Ф250	Ф300	Ф350	4-Ф19	5	0						0
200L	-	6	312C3	2-M40×1.5	Ф300	Ф350	Ф400	4-Φ19	5	0						0
225S	4,8				Ф350	Ф400	Ф450	8-Ф19	5	0						0
225M	2	6	313C3	2-M50×1.5	Ф350	Ф400	Ф450	8-Ф19	5	0						0
223IVI	4,6,8				Ф350	Ф400	Ф450	8-Ф19	5	0						0
05014	2		314C3	2-M50×1.5	Ф400	Ф500	Ф550	8-Ф19	5	0						0
250M	4,6,8		13 14 03	2-10100 ~ 1.0	Ф400	Ф500	Ф550	8-Ф19	5	0						0
2000/M	2		316C3	2-M50×1.5	Ф400	Ф500	Ф550	8-Ф19	5	0						0
280S/M	4,6,8		3 1003	2-10130 ^ 1.3	Ф400	Ф500	Ф550	8-Ф19	5	0						0
2450/M/I	2	6	314C3	0.14004.5	Ф550	Ф600	Ф660	8-Ф24	6	0						0
315S/M/L	4,6,8	NU319	6319C3	2-M63×1.5	Ф550	Ф600	Ф660	8-Ф24	6	0						0
OFFINAL	2	6	319C3	2-M63×1.5	Ф680	Ф740	Ф800	8-Ф24	6	0						0
355M/L	4,6,8	NU322	6322C3	∠-IVI03×1.5	Ф680	Ф740	Ф800	8-Ф24	6	0						0

# **IE1** Efficiency Motors Technical Data

Model	Power (KW)	Full Load Speed (r/min)	Ini 400V (A)	In 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
				2 Pole - 300	0 rpm Synchro	nous Speed 5	0Hz				
T1C 801-2	0.75	2838	1.09	2.06	5	72.1	0.73	2.52	2.2	1.9	2.6
T1C 802-2	1.1	2836	1.54	2.90	5	75	0.73	3.70	2.2	1.8	2.6
T1C 90S-2	1.5	2842	1.98	3.79	5	77.2	0.74	5.04	2.2	1.8	2.5
T1C 90L-2	2.2	2835	2.39	5.04	5.5	79.7	0.79	7.41	2.2	1.8	2.5
T1C 100L-2	3	2841	2.97	6.56	5.5	81.5	0.81	10.08	2.3	1.9	2.6
T1C 112M-2	4	2900	3.88	8.58	6	83.1	0.81	13.17	2.4	1.9	2.6
T1C 132S1-2	5.5	2895	4.65	11.16	6	84.7	0.84	18.14	2.3	2	2.6
T1C 132S2-2	7.5	2900	5.98	14.81	6.4	86	0.85	24.70	2.3	2	2.7
T1C 160M1-2	11	2910	7.85	20.83	6.3	87.6	0.87	36.10	2.3	2	2.7
T1C 160M2-2	15	2908	10.57	28.06	6.8	88.7	0.87	49.26	2.3	2	2.7
T1C 160L-2	18.5	2912	11.69	33.60	7	89.3	0.89	60.67	2.3	2	2.7
T1C 180M-2	22	2920	13.81	39.69	7.2	89.9	0.89	71.95	2.3	2	2.6
T1C 200L1-2	30	2915	18.67	53.64	7	90.7	0.89	98.28	2.3	2	2.6
T1C 200L2-2	37	2920	22.90	65.80	7.2	91.2	0.89	121.00	2.3	2	2.7
T1C 225M-2	45	2920	26.21	78.70	7	91.7	0.90	147.16	2.3	2	2.7
T1C 250M-2	55	2930	35.47	97.85	7.8	92.2	0.88	179.25	2.2	1.9	2.5
T1C 280S-2	75	2930	45.66	131.22	7.8	92.7	0.89	244.44	2.1	1.9	2.5
T1C 280M-2	90	2930	51.68	155.21	7.7	93	0.90	293.32	2.1	1.9	2.5
T1C 315S-2	110	2940	62.97	189.09	7.7	93.3	0.90	357.29	2	1.8	2.3
T1C 315M-2	132	2940	71.12	223.93	7.6	93.5	0.91	428.74	2	1.8	2.3
T1C 315L1-2	160	2945	91.10	273.57	7.8	93.8	0.90	518.81	2	1.8	2.3
T1C 315L2-2	200	2945	120.08	345.07	7.9	94	0.89	648.51	2	1.8	2.3
T1C 355M-2	250	2945	142.04	426.54	7.8	94	0.90	810.64	2	1.8	2.3
T1C 355L-2	315	2945	189.13	543.48	7.8	94	0.89	1021.40	2	1.8	2.3
	l .			T	0 rpm Synchro		T			ı	
T1C 802-4	0.75	1410	1.03	2.00	5.4	72.1	0.75	5.08	2.2	1.9	2.6
T1C 90S-4	1.1	1415	1.32	2.71	5.3	75	0.78	7.42	2.2	1.8	2.6
T1C 90L-4	1.5	1410	1.74	3.60	5.5	77.2	0.78	10.16	2.2	1.8	2.5
T1C 100L1-4	2.2	1420	2.31	4.98	6	79.7	0.80	14.79	2.2	1.8	2.5
T1C 100L2-4	3	1420	3.08	6.64	6	81.5	0.80	20.17	2.3	1.9	2.6
T1C 112M-4	4	1425	3.74	8.47	6.3	83.1	0.82	26.81	2.4	1.9	2.6
T1C 132S-4	5.5	1420	4.85	11.29	6.5	84.7	0.83	36.99	2.3	2	2.6
T1C 132M-4	7.5	1420	5.98	14.81	6.4	86	0.85	50.44	2.3	2	2.7
T1C 160M-4	11	1430	8.61	21.32	6.8	87.6	0.85	73.46	2.3	2	2.7
T1C 160L-4	15	1435	10.06	27.74	6.7	88.7	0.88	99.82	2.3	2	2.7
T1C 180M-4	18.5	1435	12.32	33.98	7.2	89.3	0.88	123.11	2.3	2	2.7
T1C 180L-4	22	1450	15.29	40.60	7.3	89.9	0.87	144.89	2.3	2	2.6
T1C 200L-4	30	1450	18.67	53.64	7.6	90.7	0.89	197.57	2.3	2	2.6
T1C 225S-4	37	1460	22.90	65.80	7.5	91.2	0.89	242.00	2.3	2	2.7
T1C 225M-4	45	1470	29.18	80.49	7.3	91.7	0.88	292.33	2.3	2	2.7
T1C 250M-4	55	1470	33.70	96.85	7.4	92.1	0.89	357.29	2.2	1.9	2.5
T1C 280S-4	75	1470	48.11	132.71	7.5	92.7	0.88	487.21	2.1	1.9	2.5
T1C 280M-4	90	1470	51.68	155.21	7.7	93	0.90	584.65	2.1	1.9	2.5
T1C 315S-4	110	1475	62.97	189.09	7.8	93.3	0.90	712.15	2	1.8	2.3
T1C 315M-4	132	1475	71.12	223.93	7.8	93.5	0.91	854.58	2	1.8	2.3
T1C 315L1-4	160	1475	85.93	270.56	7.9	93.8	0.91	1035.86	2	1.8	2.3
T1C 315L2-4	200	1475	113.63	341.23	7.7	94	0.90	1294.82	2	1.8	2.3
T1C 355M-4	250	1475	150.10	431.33	7.9	94	0.89	1618.52	2	1.8	2.3
T1C 355L-4	315	1475	178.97	537.44	7.8	94	0.90	2039.34	2	1.8	2.3
T10 000 0	0.75	000	4.40		0 rpm Synchro			7.70	0.0	4.0	0.0
T1C 90S-6	0.75	930	1.16	2.15	5.3	70	0.72	7.70	2.2	1.9	2.6
T1C 90L-6	1.1	930	1.63	3.02	5	72.9	0.72	11.29	2.2	1.8	2.6
T1C 100L-6	1.5	935	2.09	3.94	4.9	75.2	0.73	15.32	2.2	1.8	2.5
T1C 112M-6	2.2	935	2.97	5.60	5.7	77.7	0.73	22.47	2.2	1.8	2.5
T1C 132S-6	3	935	3.95	7.44	6.3	79.7	0.73	30.64	2.3	1.9	2.6
T1C 132M1-6	4	940	5.01	9.59	6.2	81.4	0.74	40.64	2.4	1.9	2.6
T1C 132M2-6	5.5	940	6.34	12.57	6.8	83.1	0.76	55.87	2.3	2	2.6
T1C 160M-6	7.5	950	8.49	16.82	7	84.7	0.76	75.39	2.3	2	2.7
T1C 160L-6	11	955	11.43	23.56	7.3	86.4	0.78	109.99	2.3	2	2.7
T1C 180L-6	15	955	14.84	31.25	7.2	87.7	0.79	149.99	2.3	2	2.7
T1C 200L1-6	18.5	960	15.58	36.31	6.9	88.6	0.83	184.02	2.3	2	2.7
T1C 200L2-6	22	960	18.41	42.89	7.3	89.2	0.83	218.84	2.3	2	2.6
T1C 225M-6	30	970	24.82	57.84	7.4	90.2	0.83	295.34	2.3	2	2.6
T1C 250M-6	37	970	27.94	69.20	7.5	90.8	0.85	364.25	2.3	2	2.7
T1C 280S-6	45	975	32.26	82.63	7.7	91.4	0.86	440.74	2.3	2	2.7
T1C 280M1-6	55	975	37.40	99.29	7.7	91.9	0.87	538.68	2.2	1.9	2.5
T1C 315S-6	75	975	45.71	131.36	7.9	92.6	0.89	734.56	2.1	1.9	2.5
T1C 315M-6	90	975	51.74	155.37	8	92.9	0.90	881.47	2	1.8	2.3
T1C 315L1-6	110	975	62.97	189.09	7.7	93.3	0.90	1077.36	2	1.8	2.3
T1C 315L2-6	132	975	79.68	228.96	.8	93.5	0.89	1292.83	2	1.8	2.3
T1C 355M1-6	160	975	85.93	270.56	7.6	93.8	0.91	1567.06	2	1.8	2.3
T1C 355M2-6	200	975	113.63	341.23	7.8	94	0.90	1958.83	2	1.8	2.3
T1C 355L-6	250	975	150.10	431.33	7.8	94	0.89	2448.54	2	1.8	2.3

## **IE2** Efficiency Motors Technical Data

Model	Power (KW)	Full Load Speed (r/min)	Ini 400V (A)	In 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
T2C 801-2	0.75	2040	0.96	2 Pole - 300	0 rpm Synchro	onous Speed 5		2.51	2.7	2.1	2.0
T2C 801-2	1.1	2848 2846	1.20	2.52	6.7	77.4 79.6	0.75	2.51 3.69	2.7	2.1	2.8
T2C 90S-2	1.5	2852	1.32	3.17	6.1	81.3	0.79	5.02	2.7	2.1	2.7
T2C 903-2	2.2	2845	1.89	4.54	7	83.2	0.84	7.38	2.6	2.1	2.7
T2C 100L-2	3	2851	2.00	5.75	7.6	84.6	0.89	10.05	2.5	2.1	2.8
T2C 100L-2	4	2910	2.63	7.56	7.8	85.8	0.89	13.13	2.5	2	2.7
T2C 132S1-2	5.5	2905	3.57	10.25	7.8	87	0.89	18.08	2.3	2	2.9
T2C 132S1-2	7.5	2910	5.06	13.96	7.9	88.1	0.88	24.61	2.7	2	2.8
T2C 160M1-2	11	2920	6.57	19.73	7.9	89.4	0.90	35.97	2.2	2.1	3
T2C 160M1-2	15	2918	8.37	26.35	7.9	90.3	0.91	49.09	2.3	2.1	3
T2C 160L-2	18.5	2922	9.64	31.93	8	90.9	0.92	60.46	2.4	2.1	2.9
T2C 180M-2	22	2930	13.60	39.08	7.5	91.3	0.92	71.70	2.4	2.1	2.8
T2C 200L1-2	30	2925	19.39	53.49	6.7	92	0.88	97.94	2.3	2	2.7
T2C 200L1-2	37	2930	21.36	64.15	6.3	92.5	0.88	120.59	2.4	2	2.7
T2C 225M-2	45	2930	28.81	79.45	6.9	92.9	0.90	146.66	2.3	2	2.8
T2C 250M-2	55	2940	35.09	96.80	8	93.2	0.88	178.64	2.3	1.9	2.7
T2C 280S-2		2940	37.86	125.45	8		0.00		2.3	1.9	2.7
	75					93.8		243.60			
T2C 280M-2	90	2940 2940	45.28	150.06	7.7	94.1	0.92	292.33	2.2	1.9	2.6
T2C 315S-2	110		62.30	187.08	7.7	94.3	0.90	357.29	2	1.8	2.3
T2C 315M-2	132	2940	70.29	221.33	7.6	94.6	0.91	428.74	2	1.8	2.3
T2C 315L1-2	160	2945	90.14	270.68	7.8	94.8	0.90	518.81	2	1.8	2.3
T2C 315L2-2	200	2945	118.82	341.44	7.9	95	0.89	648.51	2	1.8	2.3
T2C 355M-2	250	2945	140.54	422.05	7.8	95	0.90	810.64	2	1.8	2.3
T2C 355L-2	315	2945	187.14	537.76	7.8	95	0.89	1021.40	2	1.8	2.3
						onous Speed 5					
T2C 802-4	0.75	1420	0.90	1.79	5.4	79.6	0.76	5.04	2.3	2.1	2.9
T2C 90S-4	1.1	1425	1.21	2.50	5.9	81.4	0.78	7.37	2.3	2.1	2.7
T2C 90L-4	1.5	1420	1.57	3.31	6.4	82.8	0.79	10.09	2.4	2	2.7
T2C 100L1-4	2.2	1430	2.03	4.59	6.6	84.3	0.82	14.69	2.4	2.1	2.9
T2C 100L2-4	3	1430	2.94	6.33	6.9	85.5	0.80	20.03	2.4	2	2.8
T2C 112M-4	4	1435	4.01	8.44	7.9	86.6	0.79	26.62	2.5	2	3
T2C 132S-4	5.5	1430	4.87	11.04	7.1	87.7	0.82	36.73	2.3	2	2.8
T2C 132M-4	7.5	1430	6.31	14.70	7.8	88.7	0.83	50.08	2.3	2	2.7
T2C 160M-4	11	1440	6.17	19.43	7.9	89.8	0.91	72.95	2.5	2.1	2.8
T2C 160L-4	15	1445	7.82	25.92	7.8	90.8	0.92	99.13	2.4	2.1	2.9
T2C 180M-4	18.5	1445	12.68	33.66	7.8	91.2	0.87	122.26	2.4	2.1	3
T2C 180L-4	22	1460	13.55	38.95	7.5	91.6	0.89	143.89	2.3	2	3
T2C 200L-4	30	1460	19.33	53.31	7.9	92.3	0.88	196.22	2.4	2	2.7
T2C 225S-4	37	1470	33.42	72.02	6.7	92.7	0.80	240.36	2.4	2	2.7
T2C 225M-4	45	1480	40.47	87.21	7	93.1	0.80	290.35	2.3	2	2.8
T2C 250M-4	55	1480	34.98	96.49	7.4	93.5	0.88	354.87	2.4	1.9	2.7
T2C 280S-4	75	1480	40.19	126.56	7.5	94	0.91	483.92	2.2	1.9	2.6
T2C 280M-4	90	1480	45.23	149.90	7.7	94.2	0.92	580.70	2.2	1.9	2.6
T2C 315S-4	110	1480	62.17	186.69	7.8	94.5	0.90	709.75	2	1.8	2.3
T2C 315M-4	132	1480	70.22	221.09	7.8	94.7	0.91	851.69	2	1.8	2.3
T2C 315L1-4	160	1480	84.93	267.43	7.9	94.9	0.91	1032.36	2	1.8	2.3
T2C 315L2-4	200	1480	112.32	337.29	7.7	95.1	0.90	1290.45	2	1.8	2.3
T2C 355M-4	250	1480	148.36	426.35	7.9	95.1	0.89	1613.06	2	1.8	2.3
T2C 355L-4	315	1480	176.90	531.23	7.8	95.1	0.90	2032.45	2	1.8	2.3
				I .		onous Speed 5					
T2C 90S-6	0.75	935	0.95	1.88	6.2	75.9	0.76	7.66	2.2	2	2.7
T2C 90L-6	1.1	935	1.18	2.54	6	78.1	0.80	11.23	2.3	2.1	2.6
T2C 100L-6	1.5	940	1.46	3.31	5.8	79.8	0.82	15.24	2.3	2.1	2.7
T2C 112M-6	2.2	940	2.25	4.85	6.4	81.8	0.80	22.35	2.3	2.1	2.9
T2C 132S-6	3	940	2.69	6.26	6.3	83.3	0.83	30.48	2.4	2.2	2.8
T2C 132M1-6	4	945	3.39	8.12	6.2	84.6	0.84	40.42	2.5	2	2.8
T2C 132M2-6	5.5	945	4.97	11.26	6.8	86	0.82	55.58	2.3	1.9	2.8
T2C 160M-6	7.5	955	6.16	14.78	7	87.2	0.84	74.99	2.4	1.9	2.7
T2C 160L-6	11	960	8.50	21.06	7.3	88.7	0.85	109.42	2.5	2	2.8
T2C 180L-6	15	960	12.48	29.08	7.8	89.7	0.83	149.21	2.3	2.1	2.9
T2C 200L1-6	18.5	965	14.03	34.75	7.8	90.4	0.85	183.07	2.4	2.1	3.2
T2C 200L1-0	22	965	15.86	40.62	7.9	90.9	0.86	217.70	2.4	1.9	3.1
T2C 225M-6	30	975	22.43	55.56	7.9	91.7	0.85	293.82	2.3	1.9	2.7
T2C 250M-6	37	975	29.95	69.79	7.5	92.2	0.83	362.38	2.2	2.1	2.7
T2C 280S-6	45	980	31.81	81.48	7.5	92.2	0.83	438.49	2.3	2.1	2.7
T2C 280M1-6	55	980	38.71	99.15	7.7	93.1	0.86	535.93	2.2	1.9	2.7
T2C 315S-6	75	980	45.17	129.81	7.9	93.7	0.89	730.81	2.1	1.9	2.5
T2C 315M-6	90	980	51.13	153.56	8	94	0.90	876.98	2	1.8	2.3
T2C 315L1-6	110	980	62.30	187.08	7.7	94.3	0.90	1071.86	2	1.8	2.3
T2C 315L2-6	132	980	78.75	226.30	.8	94.6	0.89	1286.23	2	1.8	2.3
T2C 355M1-6	160	980	85.02	267.71	7.6	94.8	0.91	1559.07	2	1.8	2.3
T2C 355M2-6	200	980	112.43	337.64	7.8	95	0.90	1948.84	2	1.8	2.3
T2C 355L-6	250	980	148.52	426.79	7.8	95	0.89	2436.05	2	1.8	2.3

# **IE3** Efficiency Motors Technical Data

Model	Power (KW)	Full Load Speed (r/min)	Int 400V (A)	In 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
				2 Pole -	3000 rpm Sync	hronous Spee	d 50Hz				
T3C 801-2	0.75	2848	0.92	1.79	6	80.7	0.75	2.51	2.7	2.1	2.8
T3C 802-2	1.1	2846	1.15	2.43	6.7	82.7	0.79	3.69	2.7	2.1	2.9
T3C 90S-2	1.5	2852	1.28	3.06	6.1	84.2	0.84	5.02	2.3	2	2.7
T3C 90L-2	2.2	2845	1.83	4.40	7	85.9	0.84	7.38	2.6	2.1	2.7
T3C 100L-2	3	2851	1.94	5.59	7.6	87.1	0.89	10.05	2.5	2	2.8
T3C 112M-2	4	2910	2.56	7.36	7.8	88.1	0.89	13.13	2.5	2	2.7
T3C 132S1-2	5.5	2905	3.48	10.00	7.8	89.2	0.89	18.08	2.4	2	2.9
T3C 132S2-2	7.5	2910	4.95	13.65	7.9	90.1	0.88	24.61	2.7	2	2.8
T3C 160M1-2	11	2920	6.44	19.34	7.9	91.2	0.90	35.97	2.2	2.1	3
T3C 160M2-2	15	2918	8.22	25.89	7.9	91.9	0.91	49.09	2.3	2.1	3
T3C 160L-2	18.5	2922	9.48	31.41	8	92.4	0.92	60.46	2.4	2.1	2.9
T3C 180M-2	22	2930	13.39	38.49	7.5	92.7	0.89	71.70	2.3	2	2.8
T3C 200L1-2	30	2925	19.12	52.74	6.7	93.3	0.88	97.94	2.4	2	2.7
T3C 200L2-2	37	2930	21.09	63.33	6.3	93.7	0.90	120.59	2.3	2	2.7
T3C 225M-2	45	2930	28.47	78.52	6.9	94	0.88	146.66	2.3	2	2.8
T3C 250M-2	55	2940	34.68	95.67	8	94.3	0.88	178.64	2.3	1.9	2.7
T3C 280S-2	75	2940	37.50	124.26	8	94.7	0.92	243.60	2.2	1.9	2.7
T3C 280M-2	90	2940	44.85	148.64	7.7	95	0.92	292.33	2.2	1.9	2.6
T3C 315S-2	110	2940	61.71	185.31	7.7	95.2	0.90	357.29	2	1.8	2.3
T3C 315M-2	132	2940	69.70	219.47	7.6	95.4	0.91	428.74	2	1.8	2.3
T3C 315L1-2	160	2945	89.20	267.86	7.8	95.8	0.90	518.81	2	1.8	2.3
T3C 315L2-2	200	2945	117.82	338.58	7.9	95.8	0.89	648.51	2	1.8	2.3
T3C 355M-2	250	2945	139.37	418.53	7.8	95.8	0.90	810.64	2	1.8	2.3
T3C 355L-2	315	2945	185.57	533.27	7.8	95.8	0.89	1021.40	2	1.8	2.3
				4 Pole -	1500 rpm Sync	hronous Spee	d 50Hz				
T3C 802-4	0.75	1420	0.87	1.73	5.4	82.5	0.76	5.04	2.3	2.1	2.9
T3C 90S-4	1.1	1425	1.17	2.42	5.9	84.1	0.78	7.37	2.3	2.1	2.7
T3C 90L-4	1.5	1420	1.53	3.21	6.4	85.3	0.79	10.09	2.4	2	2.7
T3C 100L1-4	2.2	1430	1.97	4.47	6.6	86.7	0.82	14.69	2.4	2.1	2.9
T3C 100L2-4	3	1430	2.86	6.17	6.9	87.7	0.80	20.03	2.4	2	2.8
T3C 112M-4	4	1435	3.92	8.25	7.9	88.6	0.79	26.62	2.5	2	3
T3C 132S-4	5.5	1430	4.77	10.81	7.1	89.6	0.82	36.73	2.3	2	2.8
T3C 132M-4	7.5	1430	6.19	14.43	7.8	90.4	0.83	50.08	2.3	2	2.7
T3C 160M-4	11	1440	6.06	19.09	7.9	91.4	0.91	72.95	2.5	2.1	2.8
T3C 160L-4	15	1445	7.71	25.55	7.8	92.1	0.92	99.13	2.4	2.1	2.9
T3C 180M-4	18.5	1445	12.49	33.15	7.8	92.6	0.87	122.26	2.4	2.1	3
T3C 180L-4	22	1460	13.35	38.37	7.5	93	0.89	143.89	2.3	2	3
T3C 200L-4	30	1460	19.06	52.57	7.9	93.6	0.88	196.22	2.4	2	2.7
T3C 225S-4	37	1470	32.99	71.09	6.7	93.9	0.80	240.36	2.4	2	2.7
T3C 225M-4	45	1480	39.99	86.19	7	94.2	0.80	290.35	2.3	2	2.8
T3C 250M-4	55	1480	34.57	95.36	7.4	94.6	0.88	354.87	2.4	1.9	2.7
T3C 280S-4	75	1480	39.77	125.22	7.5	95	0.91	483.92	2.2	1.9	2.6
T3C 280M-4	90	1480	44.76	148.32	7.7	95.2	0.92	580.70	2.2	1.9	2.6
T3C 315S-4	110	1480	61.58	184.92	7.8	95.4	0.90	709.75	2	1.8	2.3
T3C 315M-4	132	1480	69.56	219.01	7.8	95.6	0.91	851.69	2	1.8	2.3
T3C 315L1-4	160	1480	84.13	264.91	7.9	95.8	0.91	1032.36	2	1.8	2.3
T3C 315L2-4	200	1480	111.26	334.12	7.7	96	0.90	1290.45	2	1.8	2.3
T3C 355M-4	250	1480	146.97	422.35	7.9	96	0.89	1613.06	2	1.8	2.3
T3C 355L-4	315	1480	175.24	526.25	7.8	96	0.90	2032.45	2	1.8	2.3
				6 Pole -	1000 rpm Sync	hronous Spee	d 50Hz				
T3C 90S-6	0.75	935	0.91	1.81	6.2	78.9	0.76	7.66	2.2	2	2.7
T3C 90L-6	1.1	935	1.14	2.45	6	81	0.80	11.23	2.3	2.1	2.6
T3C 100L-6	1.5	940	1.41	3.20	5.8	82.5	0.82	15.24	2.3	2.1	2.7
T3C 112M-6	2.2	940	2.18	4.71	6.4	84.3	0.80	22.35	2.3	2.1	2.9
T3C 132S-6	3	940	2.62	6.09	6.3	85.6	0.83	30.48	2.4	2.2	2.8
T3C 132M1-6	4	945	3.30	7.92	6.2	86.8	0.84	40.42	2.5	2	2.8
T3C 132M2-6	5.5	945	4.85	11.00	6.8	88	0.82	55.58	2.3	1.9	2.8
T3C 160M-6	7.5	955	6.03	14.46	7	89.1	0.84	74.99	2.4	1.9	2.7
T3C 160L-6	11	960	8.35	20.69	7.3	90.3	0.85	109.42	2.5	2	2.8
T3C 180L-6	15	960	12.27	28.60	7.8	91.2	0.83	149.21	2.3	2.1	2.9
T3C 200L1-6	18.5	965	13.83	34.26	7.8	91.7	0.85	183.07	2.4	2.1	3.2
T3C 200L2-6	22	965	15.64	40.05	7.9	92.2	0.86	217.70	2.3	1.9	3.1
T3C 225M-6	30	975	22.14	54.84	7.9	92.9	0.85	293.82	2.2	1.9	2.7
T3C 250M-6	37	975	29.59	68.97	7.5	93.3	0.83	362.38	2.3	2.1	2.7
T3C 280S-6	45	980	31.47	80.61	7.2	93.7	0.86	438.49	2.3	2	2.8
T3C 280M1-6	55	980	38.30	98.10	7.7	94.1	0.86	535.93	2.2	1.9	2.7
T3C 315S-6	75	980	44.74	128.58	7.9	94.6	0.89	730.81	2.1	1.9	2.5
T3C 315M-6	90	980	50.65	152.10	8	94.9	0.90	876.98	2	1.8	2.3
T3C 315L1-6	110	980	61.77	185.51	7.7	95.1	0.90	1071.86	2	1.8	2.3
T3C 315L1-6	132	980	78.09	224.40	.8	95.4	0.89	1286.23	2	1.8	2.3
	160	980	84.31	265.47	7.6	95.4	0.89	1559.07	2	1.8	2.3
	100	900	U4.J I	200.47	7.0	95.0			2	1.0	
T3C 355M1-6 T3C 355M2-6	200	980	111.50	334.82	7.8	95.8	0.90	1948.84	2	1.8	2.3

## **MEPS2 (Aus) Efficiency Motors Technical Data**

Model	Power (KW)	Full Load Speed (r/min)	Int 400V (A)	In 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
			ı	2 Pole	e - 3000 rpm S	Synchronous S	peed 50Hz			II	
TCI 801-2	0.75	2860	0.86	1.77	6.8	80.5	0.76	2.51	2.4	2.1	2.8
TCI 802-2	1.1	2860	1.19	2.43	7.2	82.8	0.79	3.69	2.4	2.1	2.9
TCI 90S-2	1.5	2860	1.55	3.16	7.5	84.1	0.81	5.02	2.4	2	2.7
TCI 90L-2	2.2	2860	2.15	4.45	7.6	85.6	0.83	7.38	2.4	2.1	2.7
TCI 100L-2	3	2880	2.79	6.04	8.1	86.7	0.83	10.05	2.3	2	2.8
TCI 112M-2	4	2900	3.68	7.42	8.3	87.6	0.89	13.13	2.4	2	2.7
TCI 132S1-2	5.5	2900	4.44	10.4	8.3	88.6	0.86	18.08	2.3	2	2.9
TCI 132S2-2	7.5	2900	5.75	14.1	7.7	89.5	0.86	24.61	2.3	2	2.8
TCI 160M1-2	11	2945	7.59	18.90	7.5	90.6	0.92	35.97	2.4	2.1	3
TCI 160M2-2	15	2945	10.27	25.53	7.5	91.3	0.93	49.09	2.4	2.1	3
TCI 160L-2	18.5	2945	11.37	31.30	7.5	91.8	0.93	60.46	2.4	2.1	2.9
TCI 180M-2	22	2945	13.47	38.70	7.5	92.2	0.89	71.70	2.3	2	2.8
TCI 200L1-2	30	2960	17.25	51.80	7.5	92.9	0.90	97.94	2.4	2	2.7
TCI 200L2-2	37	2960	21.18	63.60	7.5	93.3	0.90	120.59	2.3	2	2.7
TCI 225M-2	45	2975	24.19	77.00	7.5	93.7	0.90	146.66	2.3	2	2.8
TCI 250M-2	55	2975	29.47	93.80	7.5	94	0.90	178.64	2.3	1.9	2.7
TCI 280S-2	75	2980	37.53	125.80	7.5	94.6	0.91	243.60	2.2	1.9	2.7
TCI 280M-2	90	2980	42.07	150.30	7.5	94.8	0.91	292.33	2.2	1.9	2.6
TCI 315S-2	110	2980	61.77	185.51	7.7	95.1	0.90	357.29	2	1.8	2.3
TCI 315M-2	132	2980	69.70	219.47	7.6	95.4	0.91	428.74	2	1.8	2.3
TCI 315L1-2	160	2980	89.48	268.70	7.8	95.5	0.90	518.81	2	1.8	2.3
TCI 315L2-2	200	2980	118.19	339.65	7.9	95.5	0.89	648.51	2	1.8	2.3
TCI 355M-2	250	2980	139.81	419.84	7.8	95.5	0.90	810.64	2	1.8	2.3
TCI 355L-2	315	2980	186.16	534.95	7.8	95.5	0.89	1021.40	2	1.8	2.3
				4 Pole	e - 1500 rpm S	Synchronous S	peed 50Hz				
TCI 802-4	0.75	1420	0.82	1.85	6.6	82.2	0.71	5.04	2.3	2.1	2.9
TCI 90S-4	1.1	1420	1.18	2.77	6.8	83.8	0.70	7.37	2.3	2.1	2.7
TCI 90L-4	1.5	1420	1.48	3.78	7	85	0.68	10.09	2.4	2	2.7
TCI 100L1-4	2.2	1430	2.13	4.50	7.4	86.4	0.81	14.69	2.4	2.1	2.9
TCI 100L2-4	3	1435	2.87	6.50	7.4	87.4	0.78	20.03	2.4	2	2.8
TCI 112M-4	4	1450	3.52	8.0	7.5	88.3	0.82	26.62	2.5	2	3
TCI 132S-4	5.5	1450	4.60	10.8	7.8	89.2	0.82	36.73	2.3	2	2.8
TCI 132M-4	7.5	1460	5.20	14.7	7.4	90.1	0.82	50.08	2.3	2	2.7
TCI 160M-4	11	1460	7.55	19.51	7	91	0.89	72.95	2.5	2.1	2.8
TCI 160L-4	15	1460	9.72	26.28	7.5	91.8	0.90	99.13	2.4	2.1	2.9
TCI 180M-4	18.5	1470	11.93	32.20	7.5	92.2	0.89	122.26	2.4	2.1	3
TCI 180L-4	22	1470	12.69	38.50	7.5	92.6	0.89	143.89	2.3	2	3
TCI 200L-4	30	1475	18.17	54.00	7.2	93.2	0.86	196.22	2.4	2	2.7
TCI 225S-4	37	1480	22.31	66.50	7.2	93.6	0.86	240.36	2.4	2	2.7
TCI 225M-4	45	1480	27.05	79.50	7.2	93.9	0.87	290.35	2.3	2	2.8
TCI 250M-4	55	1480	29.41	96.90	7.2	94.2	0.87	354.87	2.4	1.9	2.7
TCI 280S-4	75	1485	39.90	131.40	7.2	94.7	0.87	483.92	2.2	1.9	2.6
TCI 280M-4	90	1485	44.85	157.20	7.2	95	0.87	580.70	2.2	1.9	2.6
TCI 315S-4	110	1485	61.64	185.12	7.8	95.3	0.90	709.75	2	1.8	2.3
TCI 315M-4	132	1485	69.63	219.24	7.8	95.5	0.91	851.69	2	1.8	2.3
TCI 315L1-4	160	1485	84.22	265.19	7.9	95.7	0.91	1032.36	2	1.8	2.3
TCI 315L2-4	200	1485	111.61	335.17	7.7	95.7	0.90	1290.45	2	1.8	2.3
TCI 355M-4	250	1485	147.43	423.67	7.9	95.7	0.89	1613.06	2	1.8	2.3
TCI 355L-4	315	1485	175.79	527.90	7.8	95.7	0.90	2032.45	2	1.8	2.3

## **MEPS2 (Aus) Efficiency Motors Technical Data**

Model	Power (KW)	Full Load Speed (r/min)	Ini 400V (A)	In 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
				6 Pole	e - 1000 rpm S	Synchronous S <sub>l</sub>	peed 50Hz				
TCI 90S-6	0.75	940	1.04	1.95	5.5	77.7	0.71	7.66	2.2	2	2.7
TCI 90L-6	1.1	940	1.49	2.69	5.5	79.9	0.74	11.23	2.3	2.1	2.6
TCI 100L-6	1.5	950	1.93	3.58	6	81.5	0.74	15.24	2.3	2.1	2.7
TCI 112M-6	2.2	960	2.77	4.98	6	83.4	0.76	22.35	2.3	2.1	2.9
TCI 132S-6	3	960	3.71	6.45	6.5	84.9	0.79	30.48	2.4	2.2	2.8
TCI 132M1-6	4	960	4.73	8.24	6.5	86.1	0.81	40.42	2.5	2	2.8
TCI 132M2-6	5.5	960	6.03	11.2	6.5	87.4	0.81	55.58	2.3	1.9	2.8
TCI 160M-6	7.5	960	8.12	16.10	6.5	88.5	0.76	74.99	2.4	1.9	2.7
TCI 160L-6	11	970	11.00	22.90	6.5	89.8	0.77	109.42	2.5	2	2.8
TCI 180L-6	15	970	14.35	28.10	7	90.7	0.85	149.21	2.3	2.1	2.9
TCI 200L1-6	18.5	970	15.12	33.20	7	91.3	0.88	183.07	2.4	2.1	3.2
TCI 200L2-6	22	970	17.88	39.22	7	91.8	0.88	217.70	2.3	1.9	3.1
TCI 225M-6	30	980	24.20	54.54	7	92.5	0.86	293.82	2.2	1.9	2.7
TCI 250M-6	37	980	27.28	66.75	7	93	0.86	362.38	2.3	2.1	2.7
TCI 280S-6	45	980	31.54	85.50	7	93.5	0.81	438.49	2.3	2	2.8
TCI 280M1-6	55	980	36.61	104.60	7	93.9	0.81	535.93	2.2	1.9	2.7
TCI 315S-6	75	980	44.84	128.85	7.9	94.4	0.89	730.81	2.1	1.9	2.5
TCI 315M-6	90	980	50.70	152.26	8	94.8	0.90	876.98	2	1.8	2.3
TCI 315L1-6	110	980	61.77	185.51	7.7	95.1	0.90	1071.86	2	1.8	2.3
TCI 315L2-6	132	980	78.09	224.40	.8	95.4	0.89	1286.23	2	1.8	2.3
TCI 355M1-6	160	980	84.31	265.47	7.6	95.6	0.91	1559.07	2	1.8	2.3
TCI 355M2-6	200	980	111.73	335.52	7.8	95.6	0.90	1948.84	2	1.8	2.3
TCI 355L-6	250	980	147.59	424.12	7.8	95.6	0.89	2436.05	2	1.8	2.3
101333E-0	230	300	147.55			ynchronous Sp		2430.03		1.0	2.0
TCI 100L1-8	0.75	690	1.19	0.02	4.5	73.5	69.00	10.38	2.2	2	2.5
TCI 100L2-8	1.1	690	1.69	0.02	4.5	76.3	69.00	15.22	2.3	2.1	2.6
TCI 112M1-8	1.5	695	2.18	0.04	4.8	78.4	70.00	20.61	2.3	2.1	2.6
TCI 132S-8	2.2	700	3.10	0.04	5	80.9	70.00	30.01	2.3	2.1	2.7
TCI 132S-8	3	700	4.03	0.00	5.1	82.7	71.00	40.93	2.4	2.2	2.7
TCI 160M1-8	4	720	5.27	10.80	6	84.2	0.63	53.80	2.5	2	2.8
TCI 160M2-8	5.5	720	6.92	14.86	6	85.8	0.63	73.97	2.3	1.9	2.6
TCI 160L-8	7.5	720	9.29	18.60	6	87.2	0.67	100.17	2.4	1.9	2.7
TCI 180L-8	11	730	13.00	23.80	6.6	88.8	0.75	145.89	2.3	2	2.8
TCI 200L-8	15	730	17.49	30.60	6.6	90	0.78	198.94	2.2	2	2.9
TCI 2225S-8	18.5	730	20.79	38.65	6.6	90.7	0.76	243.67	2.2	2	3.2
TCI 2225M-8	22	740	23.85	43.50	6.6	91.2	0.80	289.77	2.1	1.9	3.1
TCI 250M-8	30	740	32.21	61.50	6.6	92.1	0.76	392.44	2.1	1.9	2.7
TCI 280S-8	37	740	37.04	73.50	6.6	92.7	0.78	484.01	2.1	1.8	2.5
TCI 280M1-8	45	740	44.81	88.88	6.6	93.2	0.78	584.65	2	1.8	2.5
TCI 315S-8	55	740	50.92	107.25	7.5	93.7	0.79	709.75	2	1.8	2.4
TCI 315M-8	75	740	68.92	145.16	7.7	94.4	0.79	967.83	2	1.8	2.3
TCI 315L1-8	90	740	79.56	171.47	7.8	94.7	0.80	1161.40	2	1.8	2.2
TCI 315L2-8	110	745	96.83	208.70	7.8	95.1	0.80	1409.96	2	1.8	2.3
TCI 355M1-8	132	745	99.06	237.76	7.9	95.4	0.84	1691.96	2	1.8	2.3
TCI 355M2-8	160	745	119.70	287.29	7.8	95.7	0.84	2050.86	2	1.8	2.3
TCI 355L-8	200	745	136.95	350.76	7.7	95.7	0.86	2563.57	2	1.8	2.3

#### MEPS2 (Aus) Premium Efficiency Motors Technical Data

Model	Power (KW)	Full Load Speed (r/min)	Ini 400V (A)	In 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
				2 Pole	- 3000 rpm Syn	chronous Spe	ed 50Hz				
TCP 801-2	0.75	2848	0.84	1.70	5	82.9	0.77	2.51	2.4	2.1	2.8
TCP 802-2	1.1	2846	1.17	2.41	5	84.5	0.78	3.69	2.4	2.1	2.9
TCP 90S-2	1.5	2852	1.51	3.18	5	86.2	0.79	5.02	2.4	2	2.7
TCP 90L-2	2.2	2845	2.10	4.54	5.5	87.5	0.80	7.38	2.4	2.1	2.7
TCP 100L-2	3	2851	2.74	6.04	5.5	88.5	0.81	10.05	2.3	2	2.8
TCP 112M-2	4	2910	3.61	7.98	6	89.3	0.81	13.13	2.4	2	2.7
TCP 132S1-2	5.5	2905	4.37	10.49	6	90.1	0.84	18.08	2.3	2	2.9
TCP 132S2-2	7.5	2910	5.66	14.01	6.4	90.9	0.85	24.61	2.3	2	2.8
TCP 160M1-2	11	2920	7.48	19.86	6.3	91.9	0.87	35.97	2.4	2.1	3
TCP 160M2-2	15	2918	10.14	26.90	6.8	92.5	0.87	49.09	2.4	2.1	3
TCP 160L-2	18.5	2922	11.24	32.30	7	92.9	0.89	60.46	2.4	2.1	2.9
TCP 180M-2	22	2930	13.31	38.24	7.2	93.3	0.89	71.70	2.3	2	2.8
TCP 200L1-2	30	2925	17.06	51.24	7	93.9	0.90	97.94	2.4	2	2.7
TCP 200L2-2	37	2930	20.98	62.99	7.2	94.2	0.90	120.59	2.3	2	2.7
TCP 225M-2	45	2930	23.96	75.45	7	94.6	0.91	146.66	2.3	2	2.8
TCP 250M-2	55	2940	29.20	91.93	7.8	94.9	0.91	178.64	2.3	1.9	2.7
TCP 280S-2	75	2940	37.22	123.34	7.8	95.4	0.92	243.60	2.2	1.9	2.7
TCP 280M-2	90	2940	41.76	146.27	7.7	95.5	0.93	292.33	2.2	1.9	2.6
TCP 315S-2	110	2940	61.32	184.15	7.7	95.8	0.90	357.29	2	1.8	2.3
TCP 315M-2	132	2940	69.19	217.87	7.6	96.1	0.91	428.74	2	1.8	2.3
TCP 315L1-2	160	2945	88.92	267.02	7.8	96.1	0.90	518.81	2	1.8	2.3
TCP 315L2-2	200	2945	117.46	337.53	7.9	96.1	0.89	648.51	2	1.8	2.3
TCP 355M-2	250	2945	138.93	417.22	7.8	96.1	0.90	810.64	2	1.8	2.3
TCP 355L-2	315	2945	184.99	531.61	7.8	96.1	0.89	1021.40	2	1.8	2.3
				4 Pole	- 1500 rpm Syn	chronous Spe	ed 50Hz				
TCP 802-4	0.75	1420	0.80	1.64	5.4	84.5	0.78	5.04	2.3	2.1	2.9
TCP 90S-4	1.1	1425	1.15	2.37	5.3	85.9	0.78	7.37	2.3	2.1	2.7
TCP 90L-4	1.5	1420	1.44	3.11	5.5	87	0.80	10.09	2.4	2	2.7
TCP 100L1-4	2.2	1430	2.09	4.50	6	88.2	0.80	14.69	2.4	2.1	2.9
TCP 100L2-4	3	1430	2.82	6.07	6	89.1	0.80	20.03	2.4	2	2.8
TCP 112M-4	4	1435	3.46	7.83	6.3	89.9	0.82	26.62	2.5	2	3
TCP 132S-4	5.5	1430	4.53	10.55	6.5	90.7	0.83	36.73	2.3	2	2.8
TCP 132M-4	7.5	1430	5.12	13.60	6.4	91.5	0.87	50.08	2.3	2	2.7
TCP 160M-4	11	1440	7.46	19.79	6.8	92.2	0.87	72.95	2.5	2.1	2.8
TCP 160L-4	15	1445	9.60	26.48	6.7	92.9	0.88	99.13	2.4	2.1	2.9
TCP 180M-4	18.5	1445	11.79	32.52	7.2	93.3	0.88	122.26	2.4	2.1	3
TCP 180L-4	22	1460	12.55	37.70	7.3	93.6	0.90	143.89	2.3	2	3
TCP 200L-4	30	1460	17.97	51.65	7.6	94.2	0.89	196.22	2.4	2	2.7
TCP 225S-4	37	1470	22.10	63.50	7.5	94.5	0.89	240.36	2.4	2	2.7
TCP 225M-4	45	1480	26.79	76.99	7.3	94.8	0.89	290.35	2.3	2	2.8
TCP 250M-4	55	1480	29.16	91.83	7.4	95	0.91	354.87	2.4	1.9	2.7
TCP 280S-4	75	1480	39.90	125.62	7.5	94.7	0.91	483.92	2.2	1.9	2.6
TCP 280M-4	90	1480	44.85	148.64	7.7	95	0.92	580.70	2.2	1.9	2.6
TCP 315S-4	110	1480	61.52	184.73	7.8	95.5	0.90	709.75	2	1.8	2.3
TCP 315M-4	132	1480	69.48	218.78	7.8	95.7	0.91	851.69	2	1.8	2.3
TCP 315L1-4	160	1480	83.96	264.36	7.9	96	0.91	1032.36	2	1.8	2.3
TCP 315L2-4	200	1480	111.15	333.78	7.7	96.1	0.90	1290.45	2	1.8	2.3
TCP 355M-4	250	1480	146.52	421.03	7.9	96.3	0.89	1613.06	2	1.8	2.3
	315	1480	174.69	524.61	7.8	96.3	0.90	2032.45	2	1.8	2.3

## MEPS2 (Aus) Premium Efficiency Motors Technical Data

Model	Power (KW)	Full Load Speed (r/min)	Ini 400V (A)	I <sub>fi</sub> 400V (A)	I <sub>st</sub> /I <sub>n</sub> (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
				6 Pole	- 1000 rpm Syn	chronous Spe	ed 50Hz				
TCP 90S-6	0.75	935	1.01	1.87	5.3	80.4	0.72	7.66	2.2	2	2.7
TCP 90L-6	1.1	935	1.44	2.68	5	82.4	0.72	11.23	2.3	2.1	2.6
TCP 100L-6	1.5	940	1.88	3.54	4.9	83.8	0.73	15.24	2.3	2.1	2.7
TCP 112M-6	2.2	940	2.70	5.09	5.7	85.5	0.73	22.35	2.3	2.1	2.9
TCP 132S-6	3	940	3.62	6.83	6.3	86.9	0.73	30.48	2.4	2.2	2.8
TCP 132M1-6	4	945	4.64	8.88	6.2	87.9	0.74	40.42	2.5	2	2.8
TCP 132M2-6	5.5	945	5.92	11.72	6.8	89.1	0.76	55.58	2.3	1.9	2.8
TCP 160M-6	7.5	955	7.98	15.81	7	90.1	0.76	74.99	2.4	1.9	2.7
TCP 160L-6	11	960	10.83	22.32	7.3	91.2	0.78	109.42	2.5	2	2.8
TCP 180L-6	15	960	14.14	29.79	7.2	92	0.79	149.21	2.3	2.1	2.9
TCP 200L1-6	18.5	965	14.92	34.78	6.9	92.5	0.83	183.07	2.4	2.1	3.2
TCP 200L2-6	22	965	17.67	41.18	7.3	92.9	0.83	217.70	2.3	1.9	3.1
TCP 225M-6	30	975	23.92	55.74	7.4	93.6	0.83	293.82	2.2	1.9	2.7
TCP 250M-6	37	975	26.99	66.84	7.5	94	0.85	362.38	2.3	2.1	2.7
TCP 280S-6	45	980	31.24	80.01	7.7	94.4	0.86	438.49	2.3	2	2.8
TCP 280M1-6	55	980	36.26	96.26	7.7	94.8	0.87	535.93	2.2	1.9	2.7
TCP 315S-6	75	980	44.46	127.77	7.9	95.2	0.89	730.81	2.1	1.9	2.5
TCP 315M-6	90	980	50.33	151.14	8	95.5	0.90	876.98	2	1.8	2.3
TCP 315L1-6	110	980	61.32	184.15	7.7	95.8	0.90	1071.86	2	1.8	2.3
TCP 315L2-6	132	980	77.52	222.77	.8	96.1	0.89	1286.23	2	1.8	2.3
TCP 355M1-6		980	83.78	263.81		96.2	0.89		2		2.3
	160				7.6			1559.07		1.8	
TCP 355M2-6	200	980	111.03	333.43	7.8	96.2	0.90	1948.84	2	1.8	2.3
TCP 355L-6	250	980	146.67	421.47	7.8	96.2	0.89	2436.05	2	1.8	2.3
TOD 4001 4 0	0.75	000	4.45		- 750 rpm Syno			40.20	2.2	2	2.5
TCP 100L1-8	0.75	690	1.15	2.05	4.5	76.5	0.69	10.38	2.2	2	2.5
TCP 100L2-8	1.1	690	1.63	2.91	4.5	79.1	0.69	15.22	2.3	2.1	2.6
TCP 112M1-8	1.5	695	2.11	3.82	4.8	81	0.70	20.61	2.3	2.1	2.6
TCP 132S-8	2.2	700	3.01	5.45	5	83.3	0.70	30.01	2.3	2.1	2.7
TCP 132M-8	3	700	3.92	7.18	5.1	84.9	0.71	40.93	2.4	2.2	2.7
TCP 160M1-8	4	710	5.15	9.43	5.3	86.2	0.71	53.80	2.5	2	2.8
TCP 160M2-8	5.5	710	6.77	12.57	5.5	87.7	0.72	73.97	2.3	1.9	2.6
TCP 160L-8	7.5	715	9.11	16.91	6	88.9	0.72	100.17	2.4	1.9	2.7
TCP 180L-8	11	720	12.78	24.09	6	90.3	0.73	145.89	2.3	2	2.8
TCP 200L-8	15	720	17.22	32.45	6.4	91.4	0.73	198.94	2.2	2	2.9
TCP 2225S-8	18.5	725	20.49	39.22	6.4	92	0.74	243.67	2.2	2	3.2
TCP 2225M-8	22	725	23.54	45.82	7	92.4	0.75	289.77	2.1	1.9	3.1
TCP 250M-8	30	730	31.83	61.95	7	93.2	0.75	392.44	2.1	1.9	2.7
TCP 280S-8	37	730	36.65	74.02	7.5	93.7	0.77	484.01	2.1	1.8	2.5
TCP 280M1-8	45	735	44.34	89.55	7.5	94.2	0.77	584.65	2	1.8	2.5
TCP 315S-8	55	740	50.44	106.23	7.5	94.6	0.79	709.75	2	1.8	2.4
TCP 315M-8	75	740	68.34	143.94	7.7	95.2	0.79	967.83	2	1.8	2.3
TCP 315L1-8	90	740	78.90	170.04	7.8	95.5	0.80	1161.40	2	1.8	2.2
TCP 315L2-8	110	745	96.13	207.17	7.8	95.8	0.80	1409.96	2	1.8	2.3
TCP 355M1-8	132	745	98.34	236.03	7.9	96.1	0.84	1691.96	2	1.8	2.3
TCP 355M2-8	160	745	118.95	285.50	7.8	96.3	0.84	2050.86	2	1.8	2.3
TCP 355L-8	200	745	136.10	348.58	7.7	96.3	0.86	2563.57	2	1.8	2.3

## **IEC Frame - NEMA EPACT Efficiency TEFC Motors Technical Data**

					60Hz						50Hz						
Model	Power (KW)	Full Load Speed (r/min)	I <sub>nl</sub> 460V (A)	I <sub>fl</sub> 460V (A)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	Full Load Speed (r/min)	I <sub>nl</sub> 460V (A)	I <sub>fl</sub> 460V (A)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	I <sub>st</sub> /I <sub>n</sub> (Times)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)
801-2	0.75	3495	0.85	1.66	75.5	0.75	2.05	2848	0.96	1.86	77.4	0.75	2.51	6	2.7	2.1	2.8
802-2	1.1	3495	1.01	2.12	82.5	0.79	3.01	2846	1.20	2.52	79.6	0.79	3.69	6.7	2.7	2.1	2.9
90S-2	1.5	3510	1.11	2.67	84	0.84	4.08	2852	1.32	3.17	81.3	0.84	5.02	6.1	2.3	2	2.7
90L-2	2.2	3525	1.60	3.84	85.5	0.84	5.96	2845	1.89	4.54	83.2	0.84	7.38	7	2.6	2.1	2.7
100L-2	3	3540	1.68	4.84	87.5	0.89	8.09	2851	2.00	5.75	84.6	0.89	10.05	7.6	2.5	2	2.8
112M-2	4	3540	2.24	6.45	87.5	0.89	10.79	2910	2.63	7.56	85.8	0.89	13.13	7.8	2.5	2	2.7
132S1-2	5.5	3540	3.05	8.76	88.5	0.89	14.84	2905	3.57	10.25	87	0.89	18.08	7.8	2.4	2	2.9
132S2-2	7.5	3545	4.33	11.95	89.5	0.88	20.20	2910	5.06	13.96	88.1	0.88	24.61	7.9	2.7	2	2.8
160M1-2	11	3550	5.66	17.01	90.2	0.90	29.59	2920	6.57	19.73	89.4	0.90	35.97	7.9	2.2	2.1	3
160M2-2	15	3550	7.28	22.94	90.2	0.91	40.35	2918	8.37	26.35	90.3	0.91	49.09	7.9	2.3	2.1	3
160L-2	18.5	3550	8.37	27.74	91	0.92	49.76	2922	9.64	31.93	90.9	0.92	60.46	8	2.4	2.1	2.9
180M-2	22	3555	11.86	34.09	91	0.89	59.10	2930	13.60	39.08	91.3	0.89	71.70	7.5	2.3	2	2.8
200L1-2	30	3555	16.92	46.66	91.7	0.88	80.58	2925	19.39	53.49	92	0.88	97.94	6.7	2.4	2	2.7
200L2-2	37	3560	18.60	55.84	92.4	0.90	99.25	2930	21.36	64.15	92.5	0.90	120.59	6.3	2.3	2	2.7
225M-2	45	3560	25.02	69.01	93	0.88	120.71	2930	28.81	79.45	92.9	0.88	146.66	6.9	2.3	2	2.8
250M-2	55	3565	30.58	84.35	93	0.88	147.32	2940	35.09	96.80	93.2	0.88	178.64	8	2.3	1.9	2.7
250M2-2	75	3565	37.21	111.75	93.6	0.90	200.90	2940	42.70	128.24	93.8	0.90	243.60	8	2.3	1.9	2.7
280S-2	75	3565	32.99	109.32	93.6	0.92	200.90	2940	37.86	125.45	93.8	0.92	243.60	8	2.2	1.9	2.7
280M-2	90	3564	39.21	129.93	94.5	0.92	241.14	2940	45.28	150.06	94.1	0.92	292.33	7.7	2.2	1.9	2.6
280M2-2	110	3555	50.99	160.55	94.5	0.91	295.48	2940	58.76	185.03	94.3	0.91	357.29	7.7	2.2	1.9	2.6
315S-2	110	3555	54.06	162.34	94.5	0.90	295.48	2940	62.30	187.08	94.3	0.90	357.29	7.7	2	1.8	2.3
315M-2	132	3560	61.19	192.66	94.5	0.91	354.08	2940	70.29	221.33	94.6	0.91	428.74	7.6	2	1.8	2.3
315L1-2	160	3560	78.22	234.88	95	0.90	429.18	2945	90.14	270.68	94.8	0.90	518.81	7.8	2	1.8	2.3
315L2-2	200	3565	102.89	295.66	95.4	0.89	535.72	2945	118.82	341.44	95	0.89	648.51	7.9	2	1.8	2.3
355M-2	250	3565	121.70	365.46	95.4	0.90	669.66	2945	140.54	422.05	95	0.90	810.64	7.8	2	1.8	2.3
355L-2	315	3568	162.04	465.66	95.4	0.89	843.06	2945	187.14	537.76	95	0.89	1021.40	7.8	2	1.8	2.3
802-4	0.75	1705	0.76	1.50	82.5	0.76	4.20	1420	0.90	1.79	79.6	0.76	5.04	5.4	2.3	2.1	2.9
90S-4	1.1	1710	1.02	2.11	84	0.78	6.14	1425	1.21	2.50	81.4	0.78	7.37	5.9	2.3	2.1	2.7
90L-4	1.5	1710	1.35	2.84	84	0.79	8.38	1420	1.57	3.31	82.8	0.79	10.09	6.4	2.4	2	2.7
100L1-4	2.2	1710	1.70	3.85	87.5	0.82	12.29	1430	2.03	4.59	84.3	0.82	14.69	6.6	2.4	2.1	2.9
100L2-4	3	1715	2.50	5.38	87.5	0.80	16.70	1430	2.94	6.33	85.5	0.80	20.03	6.9	2.4	2	2.8
112M-4	4	1715	3.45	7.26	87.5	0.79	22.27	1435	4.01	8.44	86.6	0.79	26.62	7.9	2.5	2	3
132S-4	5.5	1720	4.15	9.41	89.5	0.82	30.54	1430	4.87	11.04	87.7	0.82	36.73	7.1	2.3	2	2.8
132M-4	7.5	1720	5.44	12.67	89.5	0.83	41.64	1430	6.31	14.70	88.7	0.83	50.08	7.8	2.3	2	2.7
160M-4	11	1730	5.30	16.67	91	0.91	60.72	1440	6.17	19.43	89.8	0.91	72.95	7.9	2.5	2.1	2.8
160L-4	15	1730	6.79	22.49	91	0.92	82.80	1445	7.82	25.92	90.8	0.92	99.13	7.8	2.4	2.1	2.9
180M-4	18.5	1730	10.88	28.89	92.4	0.87	102.12	1445	12.68	33.66	91.2	0.87	122.26	7.8	2.4	2.1	3
180L-4	22	1740	11.68	33.58	92.4	0.89	120.74	1460	13.55	38.95	91.6	0.89	143.89	7.5	2.3	2	3

## IEC Frame - NEMA EPACT Efficiency TEFC Motors Technical Data

					60Hz						50Hz						
Model	Power (KW)	Full Load Speed (r/min)	I <sub>nl</sub> 460V (A)	In 460V (A)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	Full Load Speed (r/min)	I <sub>nl</sub> 400V (A)	I <sub>fi</sub> 400V (A)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	I <sub>st</sub> /I <sub>n</sub> (Times)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
225S-4	37	1745	28.96	62.42	93	0.80	202.48	1470	33.42	72.02	92.7	0.80	240.36	6.7	2.4	2	2.7
225M-4	45	1745	35.00	75.43	93.6	0.80	246.26	1480	40.47	87.21	93.1	0.80	290.35	7	2.3	2	2.8
250M-4	55	1750	30.22	83.37	94.1	0.88	300.12	1480	34.98	96.49	93.5	0.88	354.87	7.4	2.4	1.9	2.7
250M2-4	75	1755	36.86	110.68	94.5	0.90	408.09	1480	42.61	127.96	94	0.90	483.92	7.4	2.4	1.9	2.7
280S-4	75	1760	34.77	109.47	94.5	0.91	406.93	1480	40.19	126.56	94	0.91	483.92	7.5	2.2	1.9	2.6
280M-4	90	1760	39.21	129.93	94.5	0.92	488.32	1480	45.23	149.90	94.2	0.92	580.70	7.7	2.2	1.9	2.6
315S-4	110	1780	53.77	161.48	95	0.90	590.13	1480	62.17	186.69	94.5	0.90	709.75	7.8	2	1.8	2.3
315M-4	132	1780	60.87	191.65	95	0.91	708.15	1480	70.22	221.09	94.7	0.91	851.69	7.8	2	1.8	2.3
315L1-4	160	1781	73.78	232.30	95	0.91	857.88	1480	84.93	267.43	94.9	0.91	1032.36	7.9	2	1.8	2.3
315L2-4	200	1781	97.77	293.60	95	0.90	1072.35	1480	112.32	337.29	95.1	0.90	1290.45	7.7	2	1.8	2.3
355M-4	250	1782	128.61	369.57	95.4	0.89	1339.69	1480	148.36	426.35	95.1	0.89	1613.06	7.9	2	1.8	2.3
355L-4	315	1782	153.34	460.48	95.4	0.90	1688.01	1480	176.90	531.23	95.1	0.90	2032.45	7.8	2	1.8	2.3
				•													
90L-6	1.1	1120	0.94	2.02	85.5	0.80	9.38	935	1.18	2.54	78.1	0.80	11.23	6	2.3	2.1	2.6
100L-6	1.5	1120	1.17	2.65	86.5	0.82	12.79	940	1.46	3.31	79.8	0.82	15.24	5.8	2.3	2.1	2.7
112M-6	2.2	1130	1.83	3.94	87.5	0.80	18.59	940	2.25	4.85	81.8	0.80	22.35	6.4	2.3	2.1	2.9
132S-6	3	1130	2.22	5.18	87.5	0.83	25.35	940	2.69	6.26	83.3	0.83	30.48	6.3	2.4	2.2	2.8
132M1-6	4	1140	2.85	6.83	87.5	0.84	33.51	945	3.39	8.12	84.6	0.84	40.42	6.2	2.5	2	2.8
132M2-6	5.5	1140	4.15	9.41	89.5	0.82	46.07	945	4.97	11.26	86	0.82	55.58	6.8	2.3	1.9	2.8
160M-6	7.5	1140	5.22	12.52	89.5	0.84	62.82	955	6.16	14.78	87.2	0.84	74.99	7	2.4	1.9	2.7
160L-6	11	1145	7.27	18.01	90.2	0.85	91.74	960	8.50	21.06	88.7	0.85	109.42	7.3	2.5	2	2.8
180L-6	15	1145	10.79	25.15	90.2	0.83	125.10	960	12.48	29.08	89.7	0.83	149.21	7.8	2.3	2.1	2.9
200L1-6	18.5	1150	12.03	29.79	91.7	0.85	153.62	965	14.03	34.75	90.4	0.85	183.07	7.8	2.4	2.1	3.2
200L2-6	22	1150	13.67	35.01	91.7	0.86	182.68	965	15.86	40.62	90.9	0.86	217.70	7.9	2.3	1.9	3.1
225M-6	30	1150	19.23	47.63	93	0.85	249.11	975	22.43	55.56	91.7	0.85	293.82	7.9	2.2	1.9	2.7
250M-6	37	1150	25.82	60.16	93	0.83	307.24	975	29.95	69.79	92.2	0.83	362.38	7.5	2.3	2.1	2.7
250M2-6	45	1155	28.66	70.99	93.6	0.85	372.05	975	33.28	82.43	92.7	0.85	440.74	7.5	2.3	2.1	2.7
280S-6	45	1160	27.40	70.17	93.6	0.86	370.45	980	31.81	81.48	92.7	0.86	438.49	7.2	2.3	2	2.8
280M1-6	55	1160	33.48	85.76	93.6	0.86	452.77	980	38.71	99.15	93.1	0.86	535.93	7.7	2.2	1.9	2.7
280M2-6	75	1165	41.22	113.68	94.1	0.88	614.76	980	47.60	131.29	93.7	0.88	730.81	7.7	2.2	1.9	2.7
315S-6	75	1174	39.11	112.40	94.1	0.89	610.05	980	45.17	129.81	93.7	0.89	730.81	7.9	2.1	1.9	2.5
315M-6	90	1172	44.42	133.38	94.1	0.90	733.31	980	51.13	153.56	94	0.90	876.98	8	2	1.8	2.3
315L1-6	110	1176	53.77	161.48	95	0.90	893.22	980	62.30	187.08	94.3	0.90	1071.86	7.7	2	1.8	2.3
315L2-6	132	1178	68.19	195.95	95	0.89	1070.04	980	78.75	226.30	94.6	0.89	1286.23	.8	2	1.8	2.3
355M1-6	160	1180	73.78	232.30	95	0.91	1294.82	980	85.02	267.71	94.8	0.91	1559.07	7.6	2	1.8	2.3
355M2-6	200	1179	97.77	293.60	95	0.90	1619.90	980	112.43	337.64	95	0.90	1948.84	7.8	2	1.8	2.3
355L-6	250	1180	129.15	371.13	95	0.89	2023.16	980	148.52	426.79	95	0.89	2436.05	7.8	2	1.8	2.3

## IEC Frame - NEMA Premium Efficiency TEFC Motors Technical Data

					60Hz						50Hz						
Model	Power (KW)	Full Load Speed (r/min)	I <sub>nl</sub> 460V (A)	I <sub>fl</sub> 460V (A)	Eff. 100% FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	Full Load Speed (r/min)	I <sub>nl</sub> 400V (A)	I <sub>fl</sub> 400V (A)	Eff. 100% FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	I <sub>st</sub> /I <sub>n</sub> (Times)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
801-2	0.75	3495	0.84	1.63	77	0.75	2.05	2848	0.92	1.79	80.7	0.75	2.51	6	2.7	2.1	2.8
802-2	1.1	3495	0.99	2.08	84	0.79	3.01	2846	1.15	2.43	82.7	0.79	3.69	6.7	2.7	2.1	2.9
90S-2	1.5	3510	1.09	2.62	85.5	0.84	4.08	2852	1.28	3.06	84.2	0.84	5.02	6.1	2.3	2	2.7
90L-2	2.2	3525	1.58	3.80	86.5	0.84	5.96	2845	1.83	4.40	85.9	0.84	7.38	7	2.6	2.1	2.7
100L-2	3	3540	1.66	4.78	88.5	0.89	8.09	2851	1.94	5.59	87.1	0.89	10.05	7.6	2.5	2	2.8
112M-2	4	3540	2.22	6.37	88.5	0.89	10.79	2910	2.56	7.36	88.1	0.89	13.13	7.8	2.5	2	2.7
132S1-2	5.5	3540	3.02	8.67	89.5	0.89	14.84	2905	3.48	10.00	89.2	0.89	18.08	7.8	2.4	2	2.9
132S2-2	7.5	3545	4.30	11.86	90.2	0.88	20.20	2910	4.95	13.65	90.1	0.88	24.61	7.9	2.7	2	2.8
160M1-2	11	3550	5.61	16.86	91	0.90	29.59	2920	6.44	19.34	91.2	0.90	35.97	7.9	2.2	2.1	3
160M2-2	15	3550	7.22	22.74	91	0.91	40.35	2918	8.22	25.89	91.9	0.91	49.09	7.9	2.3	2.1	3
160L-2	18.5	3550	8.31	27.52	91.7	0.92	49.76	2922	9.48	31.41	92.4	0.92	60.46	8	2.4	2.1	2.9
180M-2	22	3555	11.77	33.83	91.7	0.89	59.10	2930	13.39	38.49	92.7	0.89	71.70	7.5	2.3	2	2.8
200L1-2	30	3555	16.79	46.31	92.4	0.88	80.58	2925	19.12	52.74	93.3	0.88	97.94	6.7	2.4	2	2.7
200L2-2	37	3560	18.48	55.48	93	0.90	99.25	2930	21.09	63.33	93.7	0.90	120.59	6.3	2.3	2	2.7
225M-2	45	3560	24.86	68.57	93.6	0.88	120.71	2930	28.47	78.52	94	0.88	146.66	6.9	2.3	2	2.8
250M-2	55	3565	30.39	83.81	93.6	0.88	147.32	2940	34.68	95.67	94.3	0.88	178.64	8	2.3	1.9	2.7
250M2-2	75	3565	37.01	111.15	94.1	0.90	200.90	2940	42.30	127.02	94.7	0.90	243.60	8	2.3	1.9	2.7
280S-2	75	3565	32.81	108.74	94.1	0.92	200.90	2940	37.50	124.26	94.7	0.92	243.60	8	2.2	1.9	2.7
280M-2	90	3564	39.00	129.25	95	0.92	241.14	2940	44.85	148.64	95	0.92	292.33	7.7	2.2	1.9	2.6
280M2-2	110	3555	50.72	159.71	95	0.91	295.48	2940	58.21	183.28	95.2	0.91	357.29	7.7	2.2	1.9	2.6
315S-2	110	3555	53.77	161.48	95	0.90	295.48	2940	61.71	185.31	95.2	0.90	357.29	7.7	2	1.8	2.3
315M-2	132	3560	60.87	191.65	95	0.91	354.08	2940	69.70	219.47	95.4	0.91	428.74	7.6	2	1.8	2.3
315L1-2	160	3560	77.89	233.90	95.4	0.90	429.18	2945	89.38	268.42	95.6	0.90	518.81	7.8	2	1.8	2.3
315L2-2	200	3565	102.46	294.42	95.8	0.89	535.72	2945	117.82	338.58	95.8	0.89	648.51	7.9	2	1.8	2.3
355M-2	250	3565	121.19	363.94	95.8	0.90	669.66	2945	139.37	418.53	95.8	0.90	810.64	7.8	2	1.8	2.3
355L-2	315	3568	161.37	463.71	95.8	0.89	843.06	2945	185.57	533.27	95.8	0.89	1021.40	7.8	2	1.8	2.3
802-4	0.75	1705	0.73	1.45	85.5	0.76	4.20	1420	0.87	1.73	82.5	0.76	5.04	5.4	2.3	2.1	2.9
90S-4	1.1	1710	0.99	2.05	86.5	0.78	6.14	1425	1.17	2.42	84.1	0.78	7.37	5.9	2.3	2.1	2.7
90L-4	1.5	1710	1.31	2.76	86.5	0.79	8.38	1420	1.53	3.21	85.3	0.79	10.09	6.4	2.4	2	2.7
100L1-4	2.2	1710	1.66	3.76	89.5	0.82	12.29	1430	1.97	4.47	86.7	0.82	14.69	6.6	2.4	2.1	2.9
100L2-4	3	1715	2.44	5.26	89.5	0.80	16.70	1430	2.86	6.17	87.7	0.80	20.03	6.9	2.4	2	2.8
112M-4	4	1715	3.37	7.10	89.5	0.79	22.27	1435	3.92	8.25	88.6	0.79	26.62	7.9	2.5	2	3
132S-4	5.5	1720	4.05	9.18	91.7	0.82	30.54	1430	4.77	10.81	89.6	0.82	36.73	7.1	2.3	2	2.8
132M-4	7.5	1720	5.31	12.37	91.7	0.83	41.64	1430	6.19	14.43	90.4	0.83	50.08	7.8	2.3	2	2.7
160M-4	11	1730	5.21	16.42	92.4	0.91	60.72	1440	6.06	19.09	91.4	0.91	72.95	7.9	2.5	2.1	2.8
160L-4	15	1730	6.64	22.00		0.92	82.80	1445	7.71	25.55	92.1	0.92	99.13	7.8	2.4	2.1	2.9
180M-4	18.5	1730	10.74	28.51	93.6	0.87	102.12	1445	12.49	33.15	92.6	0.87	122.26	7.8	2.4	2.1	3
180L-4	22	1740 1740	11.54	33.15	93.6	0.89	164.64	1460	13.35	38.37	93		143.89 196.22	7.5	2.3	2	
200L-4 225S-4	30	1740	28.50	45.47	94.1	0.88	202.48	1460 1470	19.06 32.99	52.57 71.09	93.6	0.88	240.36	7.9	2.4	2	2.7
				61.43	94.5							0.80		6.7		2	
225M-4 250M-4	45 55	1745 1750	34.48 29.81	74.32 82.23	95 95.4	0.80	246.26 300.12	1480 1480	39.99 34.57	95.36	94.2 94.6	0.80	290.35 354.87	7.4	2.3	1.9	2.8
250M2-4		1750	36.51	109.64	95.4	0.88	408.09	1480	42.16	126.62	94.6	0.88	483.92		2.4	1.9	2.7
250M2-4 280S-4	75 75	1755	36.51	109.64	95.4	0.90	408.09		39.77		95	0.90	483.92	7.4 7.5	2.4	1.9	2.7
	90	1760	38.84		95.4	0.91		1480	44.76	125.22	95.2	0.91			2.2		2.6
280M-4 315S-4	110	1780	53.32	128.71 160.13	95.4	0.92	488.32 590.13	1480 1480	61.58	148.32 184.92	95.2	0.92	580.70 709.75	7.7	2.2	1.9	2.3
315S-4 315M-4	132	1780	60.36	190.05	95.8	0.90	708.15	1480	69.56	219.01	95.4	0.90	851.69	7.8	2	1.8	2.3
315IVI-4 315L1-4	160	1780	72.86	229.40	96.2	0.91	857.88	1480	84.13	264.91	95.8	0.91	1032.36	7.8	2	1.8	2.3
					96.2						95.8				2	1.8	
315L2-4	200	1781	96.55	289.94		0.90	1072.35	1480	111.26			0.90	1290.45	7.7			2.3
355M-4 355L-4	250 315	1782 1782	127.54 152.07		96.2 96.2	0.89	1339.69 1688.01	1480	146.97		96 96	0.89	1613.06 2032.45	7.9	2	1.8	2.3
333L=4	313	1702	102.07	456.65	90.2	0.90	1000.01	1480	175.24	320.23	90	0.90	2032.43	7.0		1.0	2.3

#### IEC Frame - NEMA Premium Efficiency TEFC Motors Technical Data

					60Hz						50Hz						
Model	Power (KW)	Full Load Speed (r/min)	I <sub>nl</sub> 460V (A)	I <sub>fl</sub> 460V (A)	Eff. 100% FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	Full Load Speed (r/min)	I <sub>nl</sub> 400V (A)	I <sub>fl</sub> 400V (A)	Eff. 100% FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	I <sub>st</sub> /I <sub>n</sub> (Times)	T <sub>st</sub> /T <sub>n</sub> (Times)	T <sub>min</sub> /T <sub>n</sub> (Times)	T <sub>max</sub> /T <sub>n</sub> (Times)
90L-6	1.1	1120	0.92	1.97	87.5	0.80	9.38	935	1.14	2.45	81	0.80	11.23	6	2.3	2.1	2.6
100L-6	1.5	1120	1.14	2.59	88.5	0.82	12.79	940	1.41	3.20	82.5	0.82	15.24	5.8	2.3	2.1	2.7
112M-6	2.2	1130	1.79	3.86	89.5	0.80	18.59	940	2.18	4.71	84.3	0.80	22.35	6.4	2.3	2.1	2.9
132S-6	3	1130	2.18	5.07	89.5	0.83	25.35	940	2.62	6.09	85.6	0.83	30.48	6.3	2.4	2.2	2.8
132M1-6	4	1140	2.78	6.68	89.5	0.84	33.51	945	3.30	7.92	86.8	0.84	40.42	6.2	2.5	2	2.8
132M2-6	5.5	1140	4.08	9.25	91	0.82	46.07	945	4.85	11.00	88	0.82	55.58	6.8	2.3	1.9	2.8
160M-6	7.5	1140	5.13	12.32	91	0.84	62.82	955	6.03	14.46	89.1	0.84	74.99	7	2.4	1.9	2.7
160L-6	11	1145	7.15	17.71	91.7	0.85	91.74	960	8.35	20.69	90.3	0.85	109.42	7.3	2.5	2	2.8
180L-6	15	1145	10.61	24.74	91.7	0.83	125.10	960	12.27	28.60	91.2	0.83	149.21	7.8	2.3	2.1	2.9
200L1-6	18.5	1150	11.86	29.37	93	0.85	153.62	965	13.83	34.26	91.7	0.85	183.07	7.8	2.4	2.1	3.2
200L2-6	22	1150	13.48	34.53	93	0.86	182.68	965	15.64	40.05	92.2	0.86	217.70	7.9	2.3	1.9	3.1
225M-6	30	1150	19.01	47.08	94.1	0.85	249.11	975	22.14	54.84	92.9	0.85	293.82	7.9	2.2	1.9	2.7
250M-6	37	1150	25.52	59.46	94.1	0.83	307.24	975	29.59	68.97	93.3	0.83	362.38	7.5	2.3	2.1	2.7
250M2-6	45	1155	28.39	70.32	94.5	0.85	372.05	975	32.93	81.55	93.7	0.85	440.74	7.5	2.3	2.1	2.7
280S-6	45	1160	27.14	69.50	94.5	0.86	370.45	980	31.47	80.61	93.7	0.86	438.49	7.2	2.3	2	2.8
280M1-6	55	1160	33.17	84.94	94.5	0.86	452.77	980	38.30	98.10	94.1	0.86	535.93	7.7	2.2	1.9	2.7
280M2-6	75	1165	40.83	112.60	95	0.88	614.76	980	47.15	130.04	94.6	0.88	730.81	7.7	2.2	1.9	2.7
315S-6	75	1174	38.74	111.34	95	0.89	610.05	980	44.74	128.58	94.6	0.89	730.81	7.9	2.1	1.9	2.5
315M-6	90	1172	44.00	132.12	95	0.90	733.31	980	50.65	152.10	94.9	0.90	876.98	8	2	1.8	2.3
315L1-6	110	1176	53.32	160.13	95.8	0.90	893.22	980	61.77	185.51	95.1	0.90	1071.86	7.7	2	1.8	2.3
315L2-6	132	1178	67.62	194.32	95.8	0.89	1070.04	980	78.09	224.40	95.4	0.89	1286.23	.8	2	1.8	2.3
355M1-6	160	1180	73.16	230.36	95.8	0.91	1294.82	980	84.31	265.47	95.6	0.91	1559.07	7.6	2	1.8	2.3
355M2-6	200	1179	96.95	291.15	95.8	0.90	1619.90	980	111.50	334.82	95.8	0.90	1948.84	7.8	2	1.8	2.3
355L-6	250	1180	128.07	368.03	95.8	0.89	2023.16	980	147.28	423.23	95.8	0.89	2436.05	7.8	2	1.8	2.3

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