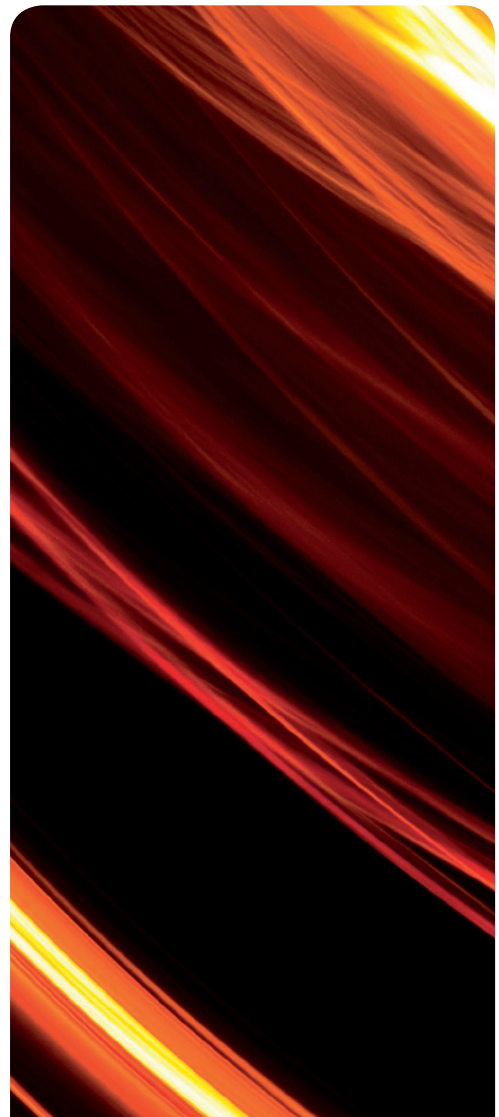




ECOL SERIES
HIGH EFFICIENCY MOTORS
IE1 • IE2 • IE3



ECOL SERIES

ECOL series motors are in compliance with the new European standard concerning efficiency levels, and can be supplied in Standard Efficiency IE1, in High Efficiency IE2 and in Premium Efficiency IE3.

The International Electrotechnical Commission (IEC), in order to harmonize the energy consumption regulations aimed to reduce the CO₂ emissions and the impact of industrial operations on the environment, has established the standard IEC 60034-30 of 2008, which defines energy efficiency classes for single-speed three-phase 50Hz and 60 Hz induction motors.

The efficiency classes specified in the IEC 60034-30 are for single-speed three-phase induction motors, 50Hz or 60Hz with:

- 2,4,6 pole
- rated power output from 0,75Kw to 375Kw
- rated voltage UN up to 1000V
- duty type S1 or S3 with a rated cyclic duration factor of 80% or higher
- direct on-line starting

In according to the European regulation EC No 640/2009 which is essentially based on the IEC 60034-30 the efficiency limit values are:

Pot .nominale <i>Rated power</i> kW	Standard Efficiency (IE1)			High Efficiency (IE2)			Premium Efficiency (IE3)		
	<i>Number of poles</i>			<i>Number of poles</i>			<i>Number of poles</i>		
	2	4	6	2	4	6	2	4	6
0.75	72.1	72.1	70	77.4	79.6	75.9	80.7	82.5	78.9
1.1	75	75	72.9	79.6	81.4	78.1	82.7	84.1	81
1.5	77.2	77.2	75.2	81.3	82.8	79.8	84.2	85.3	82.5
2.2	79.7	79.7	77.7	83.2	84.3	81.8	85.9	86.7	84.3
3	81.5	81.5	79.7	84.6	85.5	83.3	87.1	87.7	85.6
4	83.1	83.1	81.4	85.8	86.6	84.6	88.1	88.6	86.8
5.5	84.7	84.7	83.1	87	87.7	86	89.2	89.6	88
7.5	86	86	84.7	88.1	88.7	87.2	90.1	90.4	89.1
11	87.6	87.6	86.4	89.4	89.8	88.7	91.2	91.4	90.3
15	88.7	88.7	87.7	90.3	90.6	89.7	91.9	92.1	91.2
18.5	89.3	89.3	88.6	90.9	91.2	90.4	92.4	92.6	91.7
22	89.9	89.9	89.2	91.3	91.6	90.9	92.7	93	92.2
30	90.7	90.7	90.2	92	92.3	91.7	93.3	93.6	92.9
37	91.2	91.2	90.8	92.5	92.7	92.2	93.7	93.9	93.3
45	91.7	91.7	91.4	92.9	93.1	92.7	94	94.2	93.7
55	92.1	92.1	91.9	93.2	93.5	93.1	94.3	94.6	94.1
75	92.7	92.7	92.6	93.8	94	93.7	94.7	95	94.6
90	93	93	92.9	94.1	94.2	94	95	95.2	94.9
110	93.3	93.3	93.3	94.3	94.5	94.3	95.2	95.4	95.1
132	93.5	93.5	93.5	94.6	94.7	94.6	95.4	95.6	95.4
160	93.8	93.8	93.8	94.8	94.9	94.8	95.6	95.8	95.6
200-375	94	94	94	95	95.1	95	95.8	96	95.8

Electric motors account for about 70% of the electricity consumed by industry, potential cost saving of the high efficiency systems is estimated 20% to 30% and one of the major factors in such cost-effective improvement is the use of energy efficient motors.

To show compliance with these new efficiency standards, motors must be tested in accordance with the new testing standard IEC 60034-2-1 of 2007.

Electric induction motors excluded from the IEC 60034-30 are:

- motors made solely for converter operation
- motors completely integrated into a machine, pump, fan, compressor, etc., that cannot be tested separately from the machine.

Electric induction motors excluded from the EC No 640/2009 are:

- motors designed to operate wholly immersed in a liquid
- motors completely integrated into a product of which the energy performance cannot be tested independently from the product
- brake motors
- water cooled motors with inlet temperature less than 5°C or exceeding 25°C
- motors specifically designed to operate:
 - at altitude exceeding 1000m above sea-level
 - where ambient air temperatures exceed 40°C
 - in maximum operating temperature above 400°C
 - where ambient air temperatures are less than -15°C for any type of motor or less than 0°C for a motor with air cooling in potentially explosive atmospheres as defined in the Directive 94/9/EC

Deadlines

- | | |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| From 16 June 2011 | motor efficiency less than IE2 level will not be allowed. |
| From 1 January 2015 | motor efficiency for output powers from 7,5Kw to 375Kw less than IE3 level will not be allowed or if the IE2 efficiency level is met, motors will have to be equipped variable speed drive. |
| From 1 January 2017 | motor efficiency for output powers from 0,75Kw to 375Kw less than IE3 level will not be allowed or if the IE2 efficiency level is met, motors will have to be equipped variable speed drive. |

VARIOUS CERTIFICATES

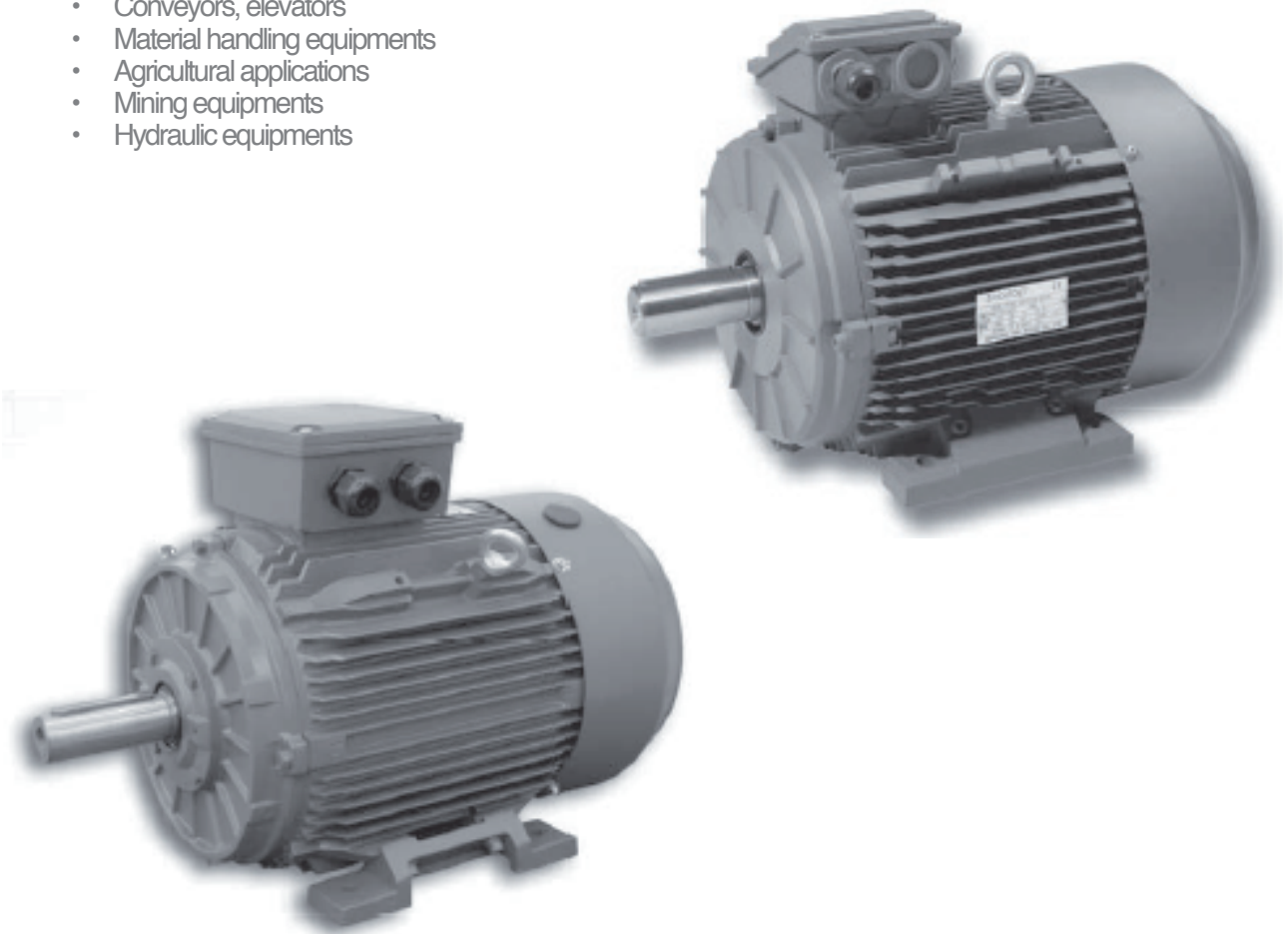


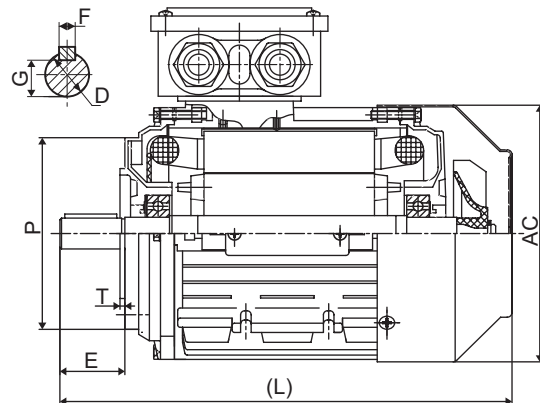
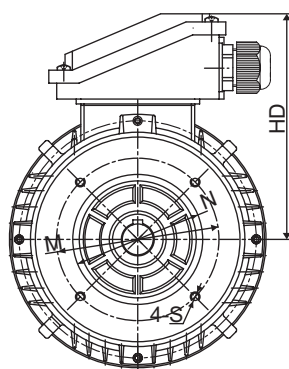
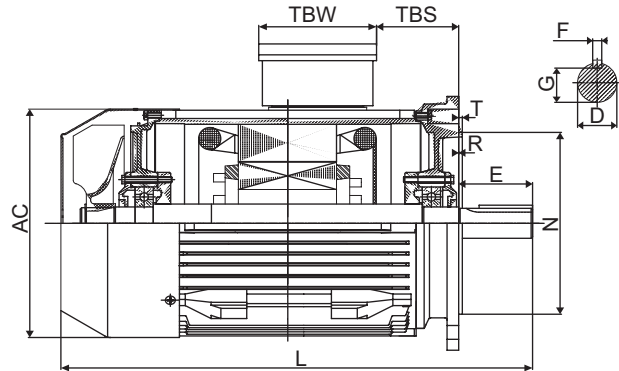
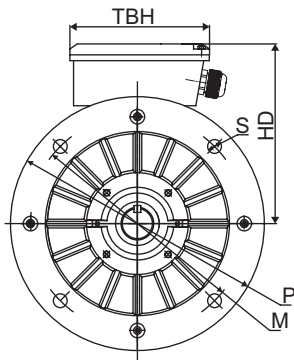
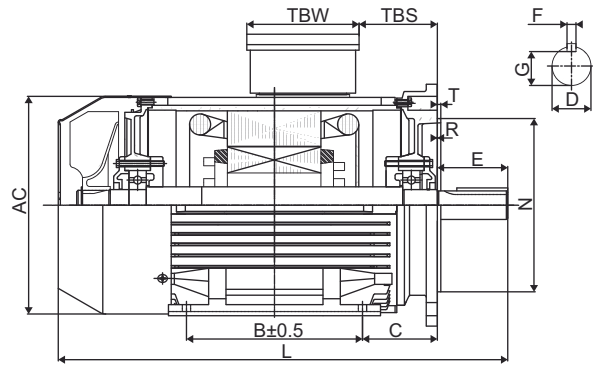
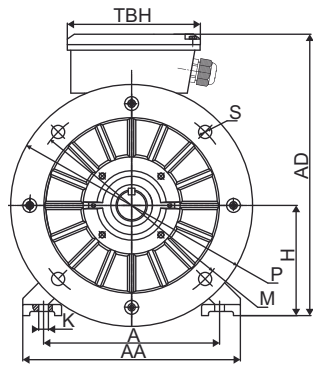
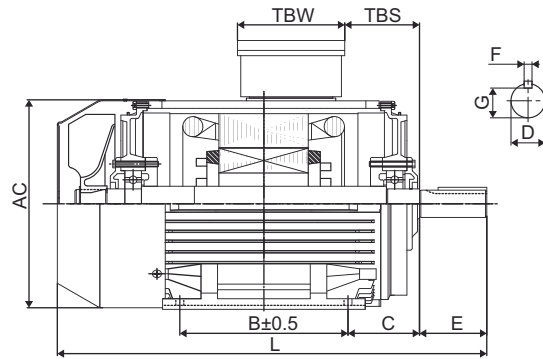
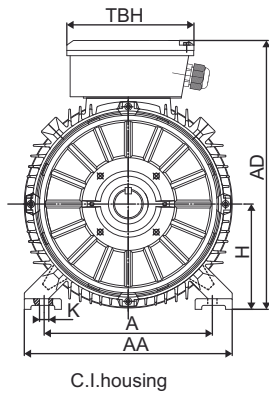
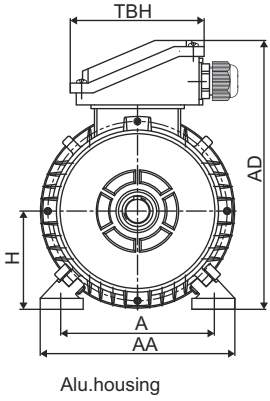
FEATURES

- Energy savings, high efficiency
- High starting torque, lower starting current
- Versatile design (easy to modify for varieties of application)
- Option of integrated or removable foot
- Option of aluminium 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 (same or shorter than current popular models in the market)
- Full use of magnetization property of cold rolled silicon steel (stator lamination is magnetized evenly to reduce temperature rise of winding)

APPLICATIONS

- Pumps
- Waste water treatment plant
- Air compressors, fans
- Gear reducers and power transmission
- Pulp and paper mill
- Steel mill
- Conveyors, elevators
- Material handling equipments
- Agricultural applications
- Mining equipments
- Hydraulic equipments





OVERALL & INSTALLATION DIMENSIONS













Frame	Foot Mounting				Shaft					General							
	H	A	B	C	D	E	F	G	K	AA	AD	HD	AC	L	TBS	TBW	TBH
80	80	125	100	50	Φ19	40	6	15.5	Φ9	160	220	140	Φ158	280	16	97	97
90S/L	90	140	100/125	56	Φ24	50	8	20	Φ10	175	240	150	Φ176	325/350	16	97	97
100	100	160	140	63	Φ28	60	8	24	Φ12	200	265	165	Φ199	388	20	118	118
112	112	190	140	70	Φ28	60	8	24	Φ12	230	291	179	Φ220	405	29	118	118
132S/M	132	216	140/178	89	Φ38	80	10	33	Φ12	255	332	200	Φ259	467/505	29	118	118
160M/L	160	254	210/254	108	Φ42	110	12	37	Φ15	314	402	242	Φ313	605/650	91	162	187
180M/L	180	279	241/279	121	Φ48	110	14	42.5	Φ15	348	439	259	Φ360	687/725	160/180	162	187
200L	200	318	305	133	Φ55	110	16	49	Φ19	388	497	297	Φ399	768	192	186	233
225S	4,8	225	356	286	Φ60	140	18	53	Φ19	436	553	328	Φ465	814	190	186	233
225M	2	225	356	311	Φ55	110	16	49	Φ19	436	553	328	Φ465	809	202	186	233
	4,6,8	225	356	311	Φ60	140	18	53	Φ19	436	553	328	Φ465	839	202	186	233
250M	2	250	406	349	Φ60	140	18	53	Φ24	484	616	366	Φ506	918	233	218	260
	4,6,8	250	406	349	Φ65	140	18	58	Φ24	484	616	366	Φ506	918	233	218	260
280S/M	2	280	457	368/419	Φ65	140	18	58	Φ24	557	668	388	Φ559	984/1035	265	218	260
	4,6,8	280	457	368/419	Φ75	140	20	67.5	Φ24	557	668	388	Φ559	984/1035	265	218	260
315S	2	315	508	406	Φ65	140	18	58	Φ28	630	840	525	Φ680	1160	130	350	430
	4,6,8	315	508	406	Φ80	170	22	71	Φ28	630	840	525	Φ680	1190	130	350	430
315M/L	2	315	508	457/508	Φ65	140	18	58	Φ28	630	840	525	Φ680	1310	130	350	430
	4,6,8	315	508	457/508	Φ80	170	22	71	Φ28	630	840	525	Φ680	1340	130	350	430
355M/L	2	355	610	560/630	Φ75	140	20	67.5	Φ28	740	920	565	Φ820	1770	180	350	430
	4,6,8	355	610	560/630	Φ95	170	25	86	Φ28	740	920	565	Φ820	1840	180	350	430

Frame	Bearings		Cable Gland	B5						B14						
	Drive End	Non-Drive End		N	M	P	S	T	R	N	M	P	S	T	R	
80	6204ZZ		1-M20×1.5	Φ130	Φ165	Φ200	4-Φ12	3.5	0	Φ80	Φ100	Φ118	M6	3	0	
90S/L	6205ZZ		1-M20×1.5	Φ130	Φ165	Φ200	4-Φ12	3.5	0	Φ95	Φ115	Φ138	M8	3	0	
100	6206ZZ		1-M20×1.5	Φ180	Φ215	Φ250	4-Φ15	4	0	Φ110	Φ130	Φ158	M8	3.5	0	
112	6306ZZ		2-M25×1.5	Φ180	Φ215	Φ250	4-Φ15	4	0	Φ110	Φ130	Φ158	M8	3.5	0	
132S/M	6308ZZ		2-M25×1.5	Φ230	Φ265	Φ300	4-Φ15	4	0	Φ130	Φ165	Φ198	M10	3.5	0	
160M/L	6309C3		2-M32×1.5	Φ250	Φ300	Φ350	4-Φ19	5	0						0	
180M/L	6311C3		2-M32×1.5	Φ250	Φ300	Φ350	4-Φ19	5	0						0	
200L	6312C3		2-M40×1.5	Φ300	Φ350	Φ400	4-Φ19	5	0						0	
225S	4,8	6313C3	2-M50×1.5	Φ350	Φ400	Φ450	8-Φ19	5	0						0	
225M	2			Φ350	Φ400	Φ450	8-Φ19	5	0							0
	4,6,8			Φ350	Φ400	Φ450	8-Φ19	5	0							0
250M	2	6314C3	2-M50×1.5	Φ400	Φ500	Φ550	8-Φ19	5	0						0	
	4,6,8			Φ400	Φ500	Φ550	8-Φ19	5	0						0	
280S/M	2	6316C3	2-M50×1.5	Φ400	Φ500	Φ550	8-Φ19	5	0						0	
	4,6,8			Φ400	Φ500	Φ550	8-Φ19	5	0						0	
315S/M/L	2	6314C3		2-M63×1.5	Φ550	Φ600	Φ660	8-Φ24	6	0					0	
	4,6,8	NU319	6319C3		Φ550	Φ600	Φ660	8-Φ24	6	0					0	
355M/L	2	6319C3		2-M63×1.5	Φ680	Φ740	Φ800	8-Φ24	6	0					0	
	4,6,8	NU322	6322C3		Φ680	Φ740	Φ800	8-Φ24	6	0					0	

MOUNTING ARRANGEMENTS

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

table 1

Frame No.	Basic			Variations								
	B3	B5	B35	Based On B5		Based On B3					Based On B35	
				V1	V3	V5	V6	B6	B7	B8	V15	V36
												
H80~160	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
H180~225	✓	✓	✓	✓	—	—	—	—	—	—	—	—
H250~355	✓	—	✓	✓	—	—	—	—	—	—	—	—



IE1 EFFICIENCY MOTORS TECHNICAL DATA

Model	Power (KW)	Full Load Speed (r/min)	I _n 400V (A)	I _n 400V (A)	I _{st} /I _n (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T _{st} /T _n (Times)	T _{min} /T _n (Times)	T _{max} /T _n (Times)
2 Pole - 3000 rpm Synchronous Speed 50Hz											
801-2	0.75	2838	1.09	2.06	5	72.1	0.73	2.52	2.2	1.9	2.6
802-2	1.1	2836	1.54	2.90	5	75	0.73	3.70	2.2	1.8	2.6
90S-2	1.5	2842	1.98	3.79	5	77.2	0.74	5.04	2.2	1.8	2.5
90L-2	2.2	2835	2.39	5.04	5.5	79.7	0.79	7.41	2.2	1.8	2.5
100L-2	3	2841	2.97	6.56	5.5	81.5	0.81	10.08	2.3	1.9	2.6
112M-2	4	2900	3.88	8.58	6	83.1	0.81	13.17	2.4	1.9	2.6
132S1-2	5.5	2895	4.65	11.16	6	84.7	0.84	18.14	2.3	2	2.6
132S2-2	7.5	2900	5.98	14.81	6.4	86	0.85	24.70	2.3	2	2.7
160M1-2	11	2910	7.85	20.83	6.3	87.6	0.87	36.10	2.3	2	2.7
160M2-2	15	2908	10.57	28.06	6.8	88.7	0.87	49.26	2.3	2	2.7
160L-2	18.5	2912	11.69	33.60	7	89.3	0.89	60.67	2.3	2	2.7
180M-2	22	2920	13.81	39.69	7.2	89.9	0.89	71.95	2.3	2	2.6
200L1-2	30	2915	18.67	53.64	7	90.7	0.89	98.28	2.3	2	2.6
200L2-2	37	2920	22.90	65.80	7.2	91.2	0.89	121.00	2.3	2	2.7
225M-2	45	2920	26.21	78.70	7	91.7	0.90	147.16	2.3	2	2.7
250M-2	55	2930	35.47	97.85	7.8	92.2	0.88	179.25	2.2	1.9	2.5
280S-2	75	2930	45.66	131.22	7.8	92.7	0.89	244.44	2.1	1.9	2.5
280M-2	90	2930	51.68	155.21	7.7	93	0.90	293.32	2.1	1.9	2.5
315S-2	110	2940	62.97	189.09	7.7	93.3	0.90	357.29	2	1.8	2.3
315M-2	132	2940	71.12	223.93	7.6	93.5	0.91	428.74	2	1.8	2.3
315L1-2	160	2945	91.10	273.57	7.8	93.8	0.90	518.81	2	1.8	2.3
315L2-2	200	2945	120.08	345.07	7.9	94	0.89	648.51	2	1.8	2.3
355M-2	250	2945	142.04	426.54	7.8	94	0.90	810.64	2	1.8	2.3
355L-2	315	2945	189.13	543.48	7.8	94	0.89	1021.40	2	1.8	2.3
4 Pole - 1500 rpm Synchronous Speed 50Hz											
802-4	0.75	1410	1.03	2.00	5.4	72.1	0.75	5.08	2.2	1.9	2.6
90S-4	1.1	1415	1.32	2.71	5.3	75	0.78	7.42	2.2	1.8	2.6
90L-4	1.5	1410	1.74	3.60	5.5	77.2	0.78	10.16	2.2	1.8	2.5
100L1-4	2.2	1420	2.31	4.98	6	79.7	0.80	14.79	2.2	1.8	2.5
100L2-4	3	1420	3.08	6.64	6	81.5	0.80	20.17	2.3	1.9	2.6
112M-4	4	1425	3.74	8.47	6.3	83.1	0.82	26.81	2.4	1.9	2.6
132S-4	5.5	1420	4.85	11.29	6.5	84.7	0.83	36.99	2.3	2	2.6
132M-4	7.5	1420	5.98	14.81	6.4	86	0.85	50.44	2.3	2	2.7
160M-4	11	1430	8.61	21.32	6.8	87.6	0.85	73.46	2.3	2	2.7
160L-4	15	1435	10.06	27.74	6.7	88.7	0.88	99.82	2.3	2	2.7
180M-4	18.5	1435	12.32	33.98	7.2	89.3	0.88	123.11	2.3	2	2.7
180L-4	22	1450	15.29	40.60	7.3	89.9	0.87	144.89	2.3	2	2.6
200L-4	30	1450	18.67	53.64	7.6	90.7	0.89	197.57	2.3	2	2.6
225S-4	37	1460	22.90	65.80	7.5	91.2	0.89	242.00	2.3	2	2.7
225M-4	45	1470	29.18	80.49	7.3	91.7	0.88	292.33	2.3	2	2.7
250M-4	55	1470	33.70	96.85	7.4	92.1	0.89	357.29	2.2	1.9	2.5
280S-4	75	1470	48.11	132.71	7.5	92.7	0.88	487.21	2.1	1.9	2.5
280M-4	90	1470	51.68	155.21	7.7	93	0.90	584.65	2.1	1.9	2.5
315S-4	110	1475	62.97	189.09	7.8	93.3	0.90	712.15	2	1.8	2.3
315M-4	132	1475	71.12	223.93	7.8	93.5	0.91	854.58	2	1.8	2.3
315L1-4	160	1475	85.93	270.56	7.9	93.8	0.91	1035.86	2	1.8	2.3
315L2-4	200	1475	113.63	341.23	7.7	94	0.90	1294.82	2	1.8	2.3
355M-4	250	1475	150.10	431.33	7.9	94	0.89	1618.52	2	1.8	2.3
355L-4	315	1475	178.97	537.44	7.8	94	0.90	2039.34	2	1.8	2.3
6 Pole - 1000 rpm Synchronous Speed 50Hz											
90S-6	0.75	930	1.16	2.15	5.3	70	0.72	7.70	2.2	1.9	2.6
90L-6	1.1	930	1.63	3.02	5	72.9	0.72	11.29	2.2	1.8	2.6
100L-6	1.5	935	2.09	3.94	4.9	75.2	0.73	15.32	2.2	1.8	2.5
112M-6	2.2	935	2.97	5.60	5.7	77.7	0.73	22.47	2.2	1.8	2.5
132S-6	3	935	3.95	7.44	6.3	79.7	0.73	30.64	2.3	1.9	2.6
132M1-6	4	940	5.01	9.59	6.2	81.4	0.74	40.64	2.4	1.9	2.6
132M2-6	5.5	940	6.34	12.57	6.8	83.1	0.76	55.87	2.3	2	2.6
160M-6	7.5	950	8.49	16.82	7	84.7	0.76	75.39	2.3	2	2.7
160L-6	11	955	11.43	23.56	7.3	86.4	0.78	109.99	2.3	2	2.7
180L-6	15	955	14.84	31.25	7.2	87.7	0.79	149.99	2.3	2	2.7
200L1-6	18.5	960	15.58	36.31	6.9	88.6	0.83	184.02	2.3	2	2.7
200L2-6	22	960	18.41	42.89	7.3	89.2	0.83	218.84	2.3	2	2.6
225M-6	30	970	24.82	57.84	7.4	90.2	0.83	295.34	2.3	2	2.6
250M-6	37	970	27.94	69.20	7.5	90.8	0.85	364.25	2.3	2	2.7
280S-6	45	975	32.26	82.63	7.7	91.4	0.86	440.74	2.3	2	2.7
280M1-6	55	975	37.40	99.29	7.7	91.9	0.87	538.68	2.2	1.9	2.5
315S-6	75	975	45.71	131.36	7.9	92.6	0.89	734.56	2.1	1.9	2.5
315M-6	90	975	51.74	155.37	8	92.9	0.90	881.47	2	1.8	2.3
315L1-6	110	975	62.97	189.09	7.7	93.3	0.90	1077.36	2	1.8	2.3
315L2-6	132	975	79.68	228.96	8	93.5	0.89	1292.83	2	1.8	2.3
355M1-6	160	975	85.93	270.56	7.6	93.8	0.91	1567.06	2	1.8	2.3
355M2-6	200	975	113.63	341.23	7.8	94	0.90	1958.83	2	1.8	2.3
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)	I _n 400V (A)	I _n 400V (A)	I _{st} /I _n (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T _{st} /T _n (Times)	T _{min} /T _n (Times)	T _{max} /T _n (Times)
2 Pole - 3000 rpm Synchronous Speed 50Hz											
801-2	0.75	2848	0.96	1.86	6	77.4	0.75	2.51	2.7	2.1	2.8
802-2	1.1	2846	1.20	2.52	6.7	79.6	0.79	3.69	2.7	2.1	2.9
90S-2	1.5	2852	1.32	3.17	6.1	81.3	0.84	5.02	2.3	2	2.7
90L-2	2.2	2845	1.89	4.54	7	83.2	0.84	7.38	2.6	2.1	2.7
100L-2	3	2851	2.00	5.75	7.6	84.6	0.89	10.05	2.5	2	2.8
112M-2	4	2910	2.63	7.56	7.8	85.8	0.89	13.13	2.5	2	2.7
132S1-2	5.5	2905	3.57	10.25	7.8	87	0.89	18.08	2.4	2	2.9
132S2-2	7.5	2910	5.06	13.96	7.9	88.1	0.88	24.61	2.7	2	2.8
160M1-2	11	2920	6.57	19.73	7.9	89.4	0.90	35.97	2.2	2.1	3
160M2-2	15	2918	8.37	26.35	7.9	90.3	0.91	49.09	2.3	2.1	3
160L-2	18.5	2922	9.64	31.93	8	90.9	0.92	60.46	2.4	2.1	2.9
180M-2	22	2930	13.60	39.08	7.5	91.3	0.89	71.70	2.3	2	2.8
200L1-2	30	2925	19.39	53.49	6.7	92	0.88	97.94	2.4	2	2.7
200L2-2	37	2930	21.36	64.15	6.3	92.5	0.90	120.59	2.3	2	2.7
225M-2	45	2930	28.81	79.45	6.9	92.9	0.88	146.66	2.3	2	2.8
250M-2	55	2940	35.09	96.80	8	93.2	0.88	178.64	2.3	1.9	2.7
280S-2	75	2940	37.86	125.45	8	93.8	0.92	243.60	2.2	1.9	2.7
280M-2	90	2940	45.28	150.06	7.7	94.1	0.92	292.33	2.2	1.9	2.6
315S-2	110	2940	62.30	187.08	7.7	94.3	0.90	357.29	2	1.8	2.3
315M-2	132	2940	70.29	221.33	7.6	94.6	0.91	428.74	2	1.8	2.3
315L1-2	160	2945	90.14	270.68	7.8	94.8	0.90	518.81	2	1.8	2.3
315L2-2	200	2945	118.82	341.44	7.9	95	0.89	648.51	2	1.8	2.3
355M-2	250	2945	140.54	422.05	7.8	95	0.90	810.64	2	1.8	2.3
355L-2	315	2945	187.14	537.76	7.8	95	0.89	1021.40	2	1.8	2.3
4 Pole - 1500 rpm Synchronous Speed 50Hz											
802-4	0.75	1420	0.90	1.79	5.4	79.6	0.76	5.04	2.3	2.1	2.9
90S-4	1.1	1425	1.21	2.50	5.9	81.4	0.78	7.37	2.3	2.1	2.7
90L-4	1.5	1420	1.57	3.31	6.4	82.8	0.79	10.09	2.4	2	2.7
100L1-4	2.2	1430	2.03	4.59	6.6	84.3	0.82	14.69	2.4	2.1	2.9
100L2-4	3	1430	2.94	6.33	6.9	85.5	0.80	20.03	2.4	2	2.8
112M-4	4	1435	4.01	8.44	7.9	86.6	0.79	26.62	2.5	2	3
132S-4	5.5	1430	4.87	11.04	7.1	87.7	0.82	36.73	2.3	2	2.8
132M-4	7.5	1430	6.31	14.70	7.8	88.7	0.83	50.08	2.3	2	2.7
160M-4	11	1440	6.17	19.43	7.9	89.8	0.91	72.95	2.5	2.1	2.8
160L-4	15	1445	7.82	25.92	7.8	90.8	0.92	99.13	2.4	2.1	2.9
180M-4	18.5	1445	12.68	33.66	7.8	91.2	0.87	122.26	2.4	2.1	3
180L-4	22	1460	13.55	38.95	7.5	91.6	0.89	143.89	2.3	2	3
200L-4	30	1460	19.33	53.31	7.9	92.3	0.88	196.22	2.4	2	2.7
225S-4	37	1470	33.42	72.02	6.7	92.7	0.80	240.36	2.4	2	2.7
225M-4	45	1480	40.47	87.21	7	93.1	0.80	290.35	2.3	2	2.8
250M-4	55	1480	34.98	96.49	7.4	93.5	0.88	354.87	2.4	1.9	2.7
280S-4	75	1480	40.19	126.56	7.5	94	0.91	483.92	2.2	1.9	2.6
280M-4	90	1480	45.23	149.90	7.7	94.2	0.92	580.70	2.2	1.9	2.6
315S-4	110	1480	62.17	186.69	7.8	94.5	0.90	709.75	2	1.8	2.3
315M-4	132	1480	70.22	221.09	7.8	94.7	0.91	851.69	2	1.8	2.3
315L1-4	160	1480	84.93	267.43	7.9	94.9	0.91	1032.36	2	1.8	2.3
315L2-4	200	1480	112.32	337.29	7.7	95.1	0.90	1290.45	2	1.8	2.3
355M-4	250	1480	148.36	426.35	7.9	95.1	0.89	1613.06	2	1.8	2.3
355L-4	315	1480	176.90	531.23	7.8	95.1	0.90	2032.45	2	1.8	2.3
6 Pole - 1000 rpm Synchronous Speed 50Hz											
90S-6	0.75	935	0.95	1.88	6.2	75.9	0.76	7.66	2.2	2	2.7
90L-6	1.1	935	1.18	2.54	6	78.1	0.80	11.23	2.3	2.1	2.6
100L-6	1.5	940	1.46	3.31	5.8	79.8	0.82	15.24	2.3	2.1	2.7
112M-6	2.2	940	2.25	4.85	6.4	81.8	0.80	22.35	2.3	2.1	2.9
132S-6	3	940	2.69	6.26	6.3	83.3	0.83	30.48	2.4	2.2	2.8
132M1-6	4	945	3.39	8.12	6.2	84.6	0.84	40.42	2.5	2	2.8
132M2-6	5.5	945	4.97	11.26	6.8	86	0.82	55.58	2.3	1.9	2.8
160M-6	7.5	955	6.16	14.78	7	87.2	0.84	74.99	2.4	1.9	2.7
160L-6	11	960	8.50	21.06	7.3	88.7	0.85	109.42	2.5	2	2.8
180L-6	15	960	12.48	29.08	7.8	89.7	0.83	149.21	2.3	2.1	2.9
200L1-6	18.5	965	14.03	34.75	7.8	90.4	0.85	183.07	2.4	2.1	3.2
200L2-6	22	965	15.86	40.62	7.9	90.9	0.86	217.70	2.3	1.9	3.1
225M-6	30	975	22.43	55.56	7.9	91.7	0.85	293.82	2.2	1.9	2.7
250M-6	37	975	29.95	69.79	7.5	92.2	0.83	362.38	2.3	2.1	2.7
280S-6	45	980	31.81	81.48	7.2	92.7	0.86	438.49	2.3	2	2.8
280M1-6	55	980	38.71	99.15	7.7	93.1	0.86	535.93	2.2	1.9	2.7
315S-6	75	980	45.17	129.81	7.9	93.7	0.89	730.81	2.1	1.9	2.5
315M-6	90	980	51.13	153.56	8	94	0.90	876.98	2	1.8	2.3
315L1-6	110	980	62.30	187.08	7.7	94.3	0.90	1071.86	2	1.8	2.3
315L2-6	132	980	78.75	226.30	.8	94.6	0.89	1286.23	2	1.8	2.3
355M1-6	160	980	85.02	267.71	7.6	94.8	0.91	1559.07	2	1.8	2.3
355M2-6	200	980	112.43	337.64	7.8	95	0.90	1948.84	2	1.8	2.3
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)	I _n 400V (A)	I _n 400V (A)	I _s /I _n (Times)	Eff. 100%FL (%)	Power Factor (CosΦ)	Full Load Torque (N.M)	T _{st} /T _n (Times)	T _{min} /T _n (Times)	T _{max} /T _n (Times)
2 Pole - 3000 rpm Synchronous Speed 50Hz											
801-2	0.75	2848	0.92	1.79	6	80.7	0.75	2.51	2.7	2.1	2.8
802-2	1.1	2846	1.15	2.43	6.7	82.7	0.79	3.69	2.7	2.1	2.9
90S-2	1.5	2852	1.28	3.06	6.1	84.2	0.84	5.02	2.3	2	2.7
90L-2	2.2	2845	1.83	4.40	7	85.9	0.84	7.38	2.6	2.1	2.7
100L-2	3	2851	1.94	5.59	7.6	87.1	0.89	10.05	2.5	2	2.8
112M-2	4	2910	2.56	7.36	7.8	88.1	0.89	13.13	2.5	2	2.7
132S1-2	5.5	2905	3.48	10.00	7.8	89.2	0.89	18.08	2.4	2	2.9
132S2-2	7.5	2910	4.95	13.65	7.9	90.1	0.88	24.61	2.7	2	2.8
160M1-2	11	2920	6.44	19.34	7.9	91.2	0.90	35.97	2.2	2.1	3
160M2-2	15	2918	8.22	25.89	7.9	91.9	0.91	49.09	2.3	2.1	3
160L-2	18.5	2922	9.48	31.41	8	92.4	0.92	60.46	2.4	2.1	2.9
180M-2	22	2930	13.39	38.49	7.5	92.7	0.89	71.70	2.3	2	2.8
200L1-2	30	2925	19.12	52.74	6.7	93.3	0.88	97.94	2.4	2	2.7
200L2-2	37	2930	21.09	63.33	6.3	93.7	0.90	120.59	2.3	2	2.7
225M-2	45	2930	28.47	78.52	6.9	94	0.88	146.66	2.3	2	2.8
250M-2	55	2940	34.68	95.67	8	94.3	0.88	178.64	2.3	1.9	2.7
280S-2	75	2940	37.50	124.26	8	94.7	0.92	243.60	2.2	1.9	2.7
280M-2	90	2940	44.85	148.64	7.7	95	0.92	292.33	2.2	1.9	2.6
315S-2	110	2940	61.71	185.31	7.7	95.2	0.90	357.29	2	1.8	2.3
315M-2	132	2940	69.70	219.47	7.6	95.4	0.91	428.74	2	1.8	2.3
315L1-2	160	2945	89.20	267.86	7.8	95.8	0.90	518.81	2	1.8	2.3
315L2-2	200	2945	117.82	338.58	7.9	95.8	0.89	648.51	2	1.8	2.3
355M-2	250	2945	139.37	418.53	7.8	95.8	0.90	810.64	2	1.8	2.3
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 Synchronous Speed 50Hz											
802-4	0.75	1420	0.87	1.73	5.4	82.5	0.76	5.04	2.3	2.1	2.9
90S-4	1.1	1425	1.17	2.42	5.9	84.1	0.78	7.37	2.3	2.1	2.7
90L-4	1.5	1420	1.53	3.21	6.4	85.3	0.79	10.09	2.4	2	2.7
100L1-4	2.2	1430	1.97	4.47	6.6	86.7	0.82	14.69	2.4	2.1	2.9
100L2-4	3	1430	2.86	6.17	6.9	87.7	0.80	20.03	2.4	2	2.8
112M-4	4	1435	3.92	8.25	7.9	88.6	0.79	26.62	2.5	2	3
132S-4	5.5	1430	4.77	10.81	7.1	89.6	0.82	36.73	2.3	2	2.8
132M-4	7.5	1430	6.19	14.43	7.8	90.4	0.83	50.08	2.3	2	2.7
160M-4	11	1440	6.06	19.09	7.9	91.4	0.91	72.95	2.5	2.1	2.8
160L-4	15	1445	7.71	25.55	7.8	92.1	0.92	99.13	2.4	2.1	2.9
180M-4	18.5	1445	12.49	33.15	7.8	92.6	0.87	122.26	2.4	2.1	3
180L-4	22	1460	13.35	38.37	7.5	93	0.89	143.89	2.3	2	3
200L-4	30	1460	19.06	52.57	7.9	93.6	0.88	196.22	2.4	2	2.7
225S-4	37	1470	32.99	71.09	6.7	93.9	0.80	240.36	2.4	2	2.7
225M-4	45	1480	39.99	86.19	7	94.2	0.80	290.35	2.3	2	2.8
250M-4	55	1480	34.57	95.36	7.4	94.6	0.88	354.87	2.4	1.9	2.7
280S-4	75	1480	39.77	125.22	7.5	95	0.91	483.92	2.2	1.9	2.6
280M-4	90	1480	44.76	148.32	7.7	95.2	0.92	580.70	2.2	1.9	2.6
315S-4	110	1480	61.58	184.92	7.8	95.4	0.90	709.75	2	1.8	2.3
315M-4	132	1480	69.56	219.01	7.8	95.6	0.91	851.69	2	1.8	2.3
315L1-4	160	1480	84.13	264.91	7.9	95.8	0.91	1032.36	2	1.8	2.3
315L2-4	200	1480	111.26	334.12	7.7	96	0.90	1290.45	2	1.8	2.3
355M-4	250	1480	146.97	422.35	7.9	96	0.89	1613.06	2	1.8	2.3
355L-4	315	1480	175.24	526.25	7.8	96	0.90	2032.45	2	1.8	2.3
6 Pole - 1000 rpm Synchronous Speed 50Hz											
90S-6	0.75	935	0.91	1.81	6.2	78.9	0.76	7.66	2.2	2	2.7
90L-6	1.1	935	1.14	2.45	6	81	0.80	11.23	2.3	2.1	2.6
100L-6	1.5	940	1.41	3.20	5.8	82.5	0.82	15.24	2.3	2.1	2.7
112M-6	2.2	940	2.18	4.71	6.4	84.3	0.80	22.35	2.3	2.1	2.9
132S-6	3	940	2.62	6.09	6.3	85.6	0.83	30.48	2.4	2.2	2.8
132M1-6	4	945	3.30	7.92	6.2	86.8	0.84	40.42	2.5	2	2.8
132M2-6	5.5	945	4.85	11.00	6.8	88	0.82	55.58	2.3	1.9	2.8
160M-6	7.5	955	6.03	14.46	7	89.1	0.84	74.99	2.4	1.9	2.7
160L-6	11	960	8.35	20.69	7.3	90.3	0.85	109.42	2.5	2	2.8
180L-6	15	960	12.27	28.60	7.8	91.2	0.83	149.21	2.3	2.1	2.9
200L1-6	18.5	965	13.83	34.26	7.8	91.7	0.85	183.07	2.4	2.1	3.2
200L2-6	22	965	15.64	40.05	7.9	92.2	0.86	217.70	2.3	1.9	3.1
225M-6	30	975	22.14	54.84	7.9	92.9	0.85	293.82	2.2	1.9	2.7
250M-6	37	975	29.59	68.97	7.5	93.3	0.83	362.38	2.3	2.1	2.7
280S-6	45	980	31.47	80.61	7.2	93.7	0.86	438.49	2.3	2	2.8
280M1-6	55	980	38.30	98.10	7.7	94.1	0.86	535.93	2.2	1.9	2.7
315S-6	75	980	44.74	128.58	7.9	94.6	0.89	730.81	2.1	1.9	2.5
315M-6	90	980	50.65	152.10	8	94.9	0.90	876.98	2	1.8	2.3
315L1-6	110	980	61.77	185.51	7.7	95.1	0.90	1071.86	2	1.8	2.3
315L2-6	132	980	78.09	224.40	8	95.4	0.89	1286.23	2	1.8	2.3
355M1-6	160	980	84.31	265.47	7.6	95.6	0.91	1559.07	2	1.8	2.3
355M2-6	200	980	111.50	334.82	7.8	95.8	0.90	1948.84	2	1.8	2.3
355L-6	250	980	147.28	423.23	7.8	95.8	0.89	2436.05	2	1.8	2.3

The technical characteristics, dimensions and other data in this catalog are not binding.

Simo Top Group reserves the right to change at any time and without notice.

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