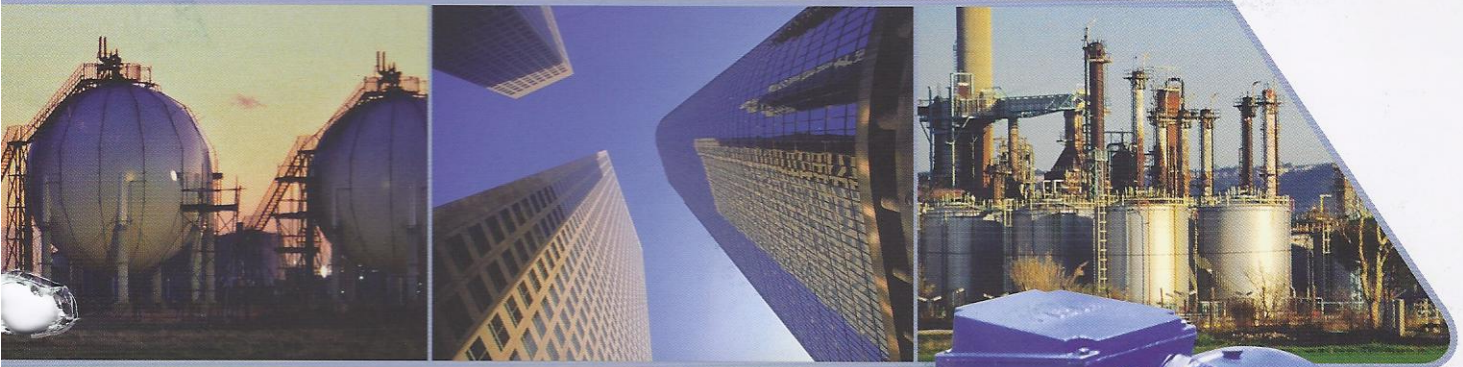


CE



# EMM 'H' SERIES MOTORS

HIGH EFFICIENCY (Eff2) 60Hz AC MOTORS



Elektrim Motors & Machinery Pte Ltd

## EU Efficiency Level Classification

With the aim to reduce the power requirement of electric motors and to the energy consumption in Europe, CEMEP and the European Union reached an agreement, by which 2- and 4-pole three phase AC motors are affected, i.e. standard motors, defined as totally enclosed fan cooled, squirrel cage low voltage motors with 400V, 50Hz and S1 in the rated output range of 1.1 to 90kW.

In the 1.1 to 90kW output range, the 2- and 4-pole standard three phase motors described in this documentation correspond with the EU efficiency classification EFF2. Designation takes place with the EFF2 logo on the nameplate.

The nominal levels of efficiency, to which the individual rated outputs, pole numbers and classes are allocated, are contained in the following tables.

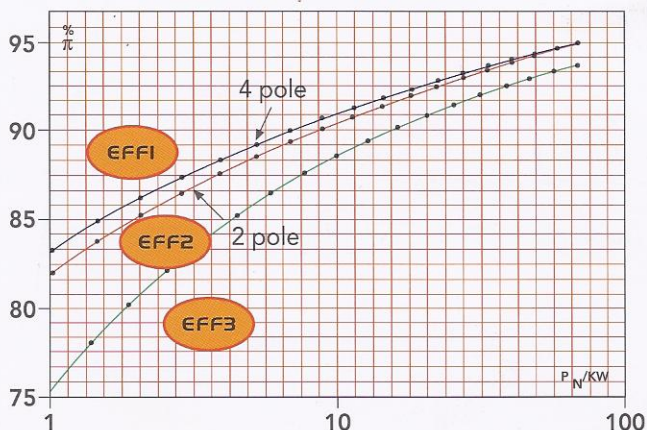
2-pole kw	EFF3 π%	EFF2 π%	EFF1 π%
1.1	<76.2	≥76.2	≥82.8
1.5	<78.5	≥78.5	≥84.1
2.2	<81.0	≥81.0	≥85.6
3	<82.6	≥82.6	≥86.7
4	<84.2	≥84.2	≥87.6
5.5	<85.7	≥85.7	≥88.6
7.5	<87.0	≥87.0	≥89.5
11	<88.4	≥88.4	≥90.5
15	<89.4	≥89.4	≥91.3
18.5	<90.0	≥90.0	≥92.2
22	<90.5	≥90.5	≥92.9
30	<91.4	≥91.4	≥93.3
37	<92.0	≥92.0	≥93.7
45	<92.5	≥92.5	≥94.0
55	<93.0	≥93.0	≥94.0
75	<93.6	≥93.6	≥94.6
90	<93.9	≥93.9	≥95.0

4-pole kw	EFF3 π%	EFF2 π%	EFF1 π%
1.1	<76.2	≥76.2	≥82.8
1.5	<78.5	≥78.5	≥84.1
2.2	<81.0	≥81.0	≥85.6
3	<82.6	≥82.6	≥86.7
4	<84.2	≥84.2	≥87.6
5.5	<85.7	≥85.7	≥88.6
7.5	<87.0	≥87.0	≥89.5
11	<88.4	≥88.4	≥90.5
15	<89.4	≥89.4	≥91.3
18.5	<90.0	≥90.0	≥92.2
22	<90.5	≥90.5	≥92.9
30	<91.4	≥91.4	≥93.3
37	<92.0	≥92.0	≥93.7
45	<92.5	≥92.5	≥94.0
55	<93.0	≥93.0	≥94.0
75	<93.6	≥93.6	≥94.6
90	<93.9	≥93.9	≥95.0

EMM 'H' series cast iron motors are totally enclosed fan cooled, 3 phase, squirrel cage induction motors.

EMM 'H' series cast iron motors are manufactured to High Efficiency (EFF2) and starting torque and are characterized by outstanding features such as : protection degree in IP55, insulation class F, low noise (test at load), optimized structure and artistic outline.

Its cooling method is IC411 and the rated output and mounting dimensions fully conformed to the standard IEC and DIN 42673. The EMM 'H' series cast iron motors are suitable for driving various kinds of machines or equipments without special requirements. They are rated at 400V, 50Hz, Y-connection for motors up to 3kw, Δ-connection for 4kw and above. The S1 duty operating condition is not more than 40°C ambient temperature and not exceeding 1,000 meters height above sea level.

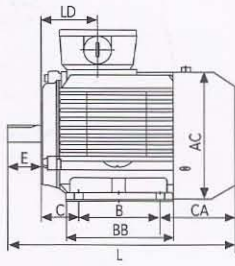


### BEARING SIZE

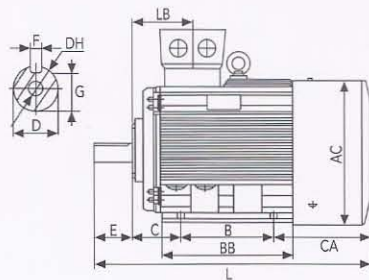
Frame Size	Poles	Drive End	Non-Drive End
63	2,4	6201ZZ-C3	6201ZZ-C3
71	2,4,6	6202ZZ-C3	6202ZZ-C3
80	2,4,6,8	6204ZZ-C3	6204ZZ-C3
90	2,4,6,8	6205ZZ-C3	6205ZZ-C3
100	2,4,6,8	6206ZZ-C3	6206ZZ-C3
112	2,4,6,8	6306ZZ-C3	6306ZZ-C3
132	2,4,6,8	6308ZZ-C3	6308ZZ-C3
160	2	6309ZZ-C3	6309ZZ-C3
	4,6,8	6309ZZ-C3	6309ZZ-C3
180	2	6311-C3	6311-C3
	4,6,8	6311-C3	6311-C3
200	2	6312-C3	6312-C3
	4,6,8	6312-C3	6312-C3
225	2	6313-C3	6313-C3
	4,6,8	6313-C3	6313-C3
250	2	6314-C3	6314-C3
	4,6,8	6314-C3	6314-C3
280	2	6314-C3	6314-C3
	4,6,8	6317-C3	6317-C3
315	2	6317-C3	6317-C3
	4,6,8,10	NU319-C3	6319-C3
355	2	6319-C3	6319-C3
	4,6,8,10	NU322-C3	6322-C3
400	2	6320-C3	6320-C3
	4,6,8,10	NU624-C3	6324-C3
450	2	6322-C3	6322-C3
	4,6,8,10	NU626-C3	6326-C3



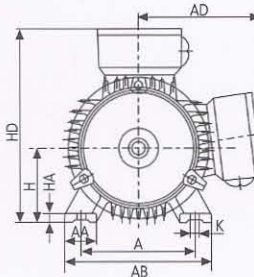
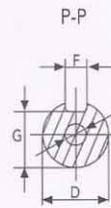




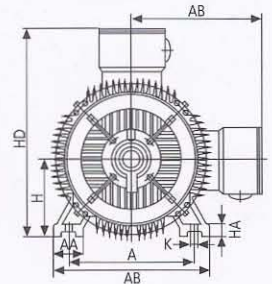
63-132



63-355



63-132

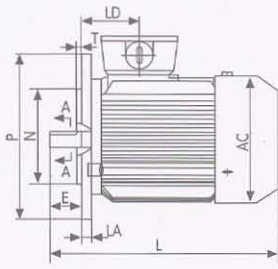


63-355

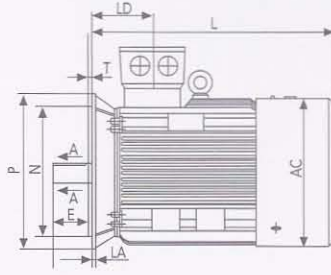
IM B3 63-355 'H' Series

Type	Poles	Dimensions in mm																					
		A	AA	B	C	D	E	F	G	H	K	AB	AC	AD	HD	L	BB	CA	EA	DA	HA	LD	DH
EM63	2,4	100	30	80	40	11	23	4	8.5	63	7	135	120	70	180	225	100	81	23	11	8	54	M4X12
EM71	2,4,6	112	32	90	45	14	30	5	11	71	7	150	136	80	195	250	120	85	30	14	8	64	M5X12
EM80	2,4,6,8	125	34	100	50	19	40	6	15.5	80	10	165	156	145	214	295	130	101	40	19	10	69	M6X16
EM90S	2,4,6,8	140	36	100	56	24	50	8	20	90	10	180	176	155	250	315	130	110	50	24	12	76	M8X19
EM90L	2,4,6,8	140	36	125	56	24	50	8	20	90	10	180	176	155	250	340	155	110	50	24	12	76	M8X19
EM100L	2,4,6,8	160	40	140	63	28	60	8	24	100	12	205	196	180	270	385	176	125	60	28	14	75	M10X22
EM112M	2,4,6,8	190	45	140	70	28	60	8	24	112	12	230	220	190	300	400	180	132	60	28	15	82	M10X22
EM132S	2,4,6,8	216	55	140	89	38	80	10	33	132	12	270	259	210	345	470	230	169	80	38	18	88	M12X28
EM132M	2,4,6,8	216	55	178	89	38	80	10	33	132	12	270	259	210	345	510	238	169	80	38	18	88	M12X28
EM160M	2	254	65	210	108	42	110	12	37	160	15	320	315	255	420	615	260	190	110	42	20	132	M16X36
	4,6,8	254	65	210	108	42	110	12	37	160	15	320	315	255	420	615	260	190	110	42	20	135	M16X36
EM160L	2	254	65	254	108	42	110	12	37	160	15	320	315	255	420	670	304	224	110	42	22	132	M16X36
	4,6,8	254	65	254	108	42	110	12	37	160	15	320	315	255	420	670	304	224	110	42	22	135	M16X36
EM180M	2	279	70	241	121	48	110	14	42.5	180	15	355	355	280	455	700	311	220	110	48	25	138.5	M16X36
	4,6,8	279	70	241	121	48	110	14	42.5	180	15	355	355	280	455	740	349	220	110	48	28	136.5	M16X36
EM180L	4,6,8	279	70	279	121	48	110	14	42.5	180	15	355	355	280	455	740	349	220	110	48	28	139.5	M16X36
EM200L	2	318	70	305	133	55	110	16	49	200	19	395	397	305	505	770	369	241	110	55	30	149.5	M20X42
	4,6,8	318	70	305	133	55	110	16	49	200	19	395	397	305	505	770	369	241	110	55	30	158.5	M20X42
EM225S	4,8	356	75	286	149	60	140	18	53	225	19	435	445	335	555	815	368	241	140	60	28	156.5	M20X42
EM225M	2	356	75	311	149	55	110	16	49	225	19	435	445	335	555	820	304	241	110	55	28	154.5	M20X42
	4,6,8	356	75	311	149	60	140	18	53	225	19	435	445	335	555	845	304	241	140	60	28	156.5	M20X42
EM250M	2	406	80	349	168	60	140	18	53	250	24	490	485	370	615	910	445	263	140	60	30	170.5	M20X42
	4,6,8	406	80	349	168	65	140	18	58	250	24	490	485	370	615	910	445	263	140	65	30	172.5	M20X42
EM280S	2	457	85	368	190	65	140	18	58	280	24	550	547	410	680	985	485	283	140	65	35	170.5	M20X42
	4,6,8	457	85	368	190	75	140	20	67.5	280	24	550	547	410	680	985	485	283	140	75	35	179	M20X42
EM280M	2	457	85	419	190	65	140	18	58	280	24	550	547	410	680	1035	536	283	140	65	35	170.5	M20X42
	4,6,8	457	85	419	190	75	140	20	67.5	280	24	550	547	410	680	1035	536	283	140	75	35	179	M20X42
EM315S	2	508	120	406	216	65	140	18	58	315	28	635	620	530	845	1160	570	428	140	65	45	211	M20X42
	4,6,8,10	508	120	406	216	80	170	22	71	315	28	635	620	530	845	1270	570	428	170	80	45	211	M20X42
EM315M	2	508	120	457	216	65	140	18	58	315	28	635	620	530	845	1190	680	487	140	65	45	211	M20X42
	4,6,8,10	508	120	457	216	80	170	22	71	315	28	635	620	530	845	1300	680	487	170	80	45	211	M20X42
EM315L	2	508	120	508	216	65	140	18	58	315	28	635	620	530	845	1190	680	436	140	65	45	211	M20X42
	4,6,8,10	508	120	508	216	80	170	22	71	315	28	635	620	530	845	1300	680	436	170	80	45	211	M20X42
EM355M	2	610	116	560	254	75	140	20	67.5	355	28	730	698	655	1010	1500	760	544	140	75	52	234	M20X42
	4,6,8,10	610	116	560	254	95	170	25	86	355	28	730	698	655	1010	1530	760	544	170	95	52	234	M20X42
EM355L	2	610	116	630	254	75	140	20	67.5	355	28	730	698	655	1010	1500	760	474	140	75	52	234	M20X42
	4,6,8,10	610	116	630	254	95	170	25	86	355	28	730	698	655	1010	1530	760	474	170	95	52	234	M20X42

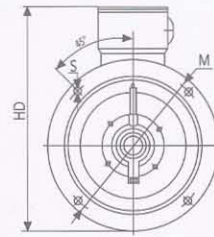
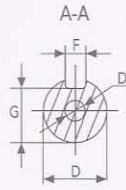
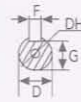




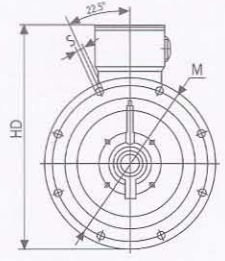
63-132



160-355



63-220



225-355

## IM B5 63-355 'H' Series

Type	Flange No	Poles	Dimensions in mm																	
			D	E	F	G	M	N	P	S	T	Flange holes	AC	HD	L	EA	DA	LD	LA	DH
EM63	FF115	2,4	11	23	4	8.5	115	95	140	10	3	4	120	180	225	23	11	57	10	M4X12
EM71	FF130	2,4,6	14	30	5	11	130	110	160	10	3.5	4	136	195	250	30	14	68	10	M5X12
EM80	FF165	2,4,6,8	19	40	6	15.5	165	130	200	12	3.5	4	156	214	295	40	19	71.5	12	M6X16
EM90S	FF165	2,4,6,8	24	50	8	20	165	130	200	12	3.5	4	176	250	315	50	24	79.5	12	M8X19
EM90L	FF165	2,4,6,8	24	50	8	20	165	130	200	12	3.5	4	176	250	340	50	24	79.5	12	M8X19
EM100L	FF215	2,4,6,8	28	60	8	24	215	180	250	15	4	4	196	270	385	60	28	78.5	13	M10X22
EM112M	FF215	2,4,6,8	28	60	8	24	215	180	250	15	4	4	220	300	400	60	28	86.5	14	M10X22
EM132S	FF265	2,4,6,8	38	80	10	33	265	230	300	15	4	4	259	345	470	80	38	92	14	M12X28
EM132M	FF265	2,4,6,8	38	80	10	33	265	230	300	15	4	4	259	345	510	80	38	92	14	M12X28
EM160M	FF300	2,4,6,8	42	110	12	37	300	250	350	19	5	4	315	420	615	110	42	146	15	M16X36
EM160L	FF300	2,4,6,8	42	110	12	37	300	250	350	19	5	4	315	420	670	110	42	146	15	M16X36
EM180M	FF300	2,4,6,8	48	110	14	42.5	300	250	350	19	5	4	355	455	700	110	48	158	15	M16X36
EM180L	FF300	2,4,6,8	48	110	14	42.5	300	250	350	19	5	4	355	455	740	110	48	158	15	M16X36
EM200L	FF350	2,4,6,8	55	110	16	49	350	300	400	19	5	4	397	505	770	110	55	186	17	M20X42
EM225S	FF400	4,8	60	140	18	53	400	350	450	19	5	8	445	555	815	140	60	189	20	M20X42
EM225M	FF400	2	55	110	16	49	400	350	450	19	5	8	445	555	820	110	55	189	20	M20X42
EM250M	FF400	4,6,8	60	140	18	53	400	350	450	19	5	8	445	555	845	140	60	189	20	M20X42
EM250M	FF500	2	60	140	18	53	500	450	550	19	5	8	485	615	910	140	60	116	22	M20X42
EM250M	FF500	4,6,8	65	140	18	58	500	450	550	19	5	8	485	615	910	140	65	116	22	M20X42
EM280S	FF500	2	65	140	18	58	500	450	550	19	5	8	547	680	985	140	65	215.5	22	M20X42
EM280S	FF500	4,6,8	75	140	20	67.5	500	450	550	19	5	8	547	680	985	140	75	215.5	22	M20X42
EM280M	FF500	2	65	140	18	58	500	450	550	19	5	8	547	680	1035	140	65	215.5	22	M20X42
EM280M	FF500	4,6,8	75	140	20	67.5	500	450	550	19	5	8	547	680	1035	140	75	215.5	22	M20X42
EM315S	FF600	2	65	140	18	58	600	550	660	24	6	8	620	845	1160	140	65	257	22	M20X42
EM315S	FF600	4,6,8,10	80	170	22	71	600	550	660	24	6	8	620	845	1270	170	80	257	22	M20X42
EM315M	FF600	2	65	140	18	58	600	550	660	24	6	8	620	845	1190	140	65	257	22	M20X42
EM315M	FF600	4,6,8,10	80	170	22	71	600	550	660	24	6	8	620	845	1300	170	80	257	22	M20X42
EM315L	FF600	2	65	140	18	58	600	550	660	24	6	8	620	845	1190	140	65	257	22	M20X42
EM315L	FF600	4,6,8,10	80	170	22	71	600	550	660	24	6	8	620	845	1300	170	80	257	22	M20X42
EM355M	FF740	2	75	140	20	67.5	740	680	800	24	6	8	698	1010	1500	140	75	284	25	M20X42
EM355M	FF740	4,6,8,10	95	170	25	86	740	680	800	24	6	8	698	1010	1530	170	95	284	25	M20X42
EM355L	FF740	2	75	140	20	67.5	740	680	800	24	6	8	698	1010	1500	140	75	284	25	M20X42
EM355L	FF740	4,6,8,10	95	170	25	86	740	680	800	24	6	8	698	1010	1530	170	95	284	25	M20X42



## **Elektrim Motors & Machinery Pte Ltd**

(Singapore)

80 Joo Koon Circle, Singapore 629100

Tel: (65) 6863 9500

Fax: (65) 6863 3778

E-mail: [elektrim@singnet.com.sg](mailto:elektrim@singnet.com.sg)

GST Reg. No. : M2-0066520-1

## **Elektrim Motors & Machinery Sdn Bhd**

(Malaysia)

NO. 23, Jalan Bulan U5/8, Seksyen U5,  
Bandar Pinggiran Subang, 40150 Shah Alam,  
Selangor Darul Ehsan, Malaysia

Tel: (603) 7847 6635 / 7847 6629 / 7847 6919

Fax: (603) 7847 1017

E-mail: [elektrim@tm.net.my](mailto:elektrim@tm.net.my)

Website: [www.emm-motors.com](http://www.emm-motors.com)

Co. No. : 511496-M