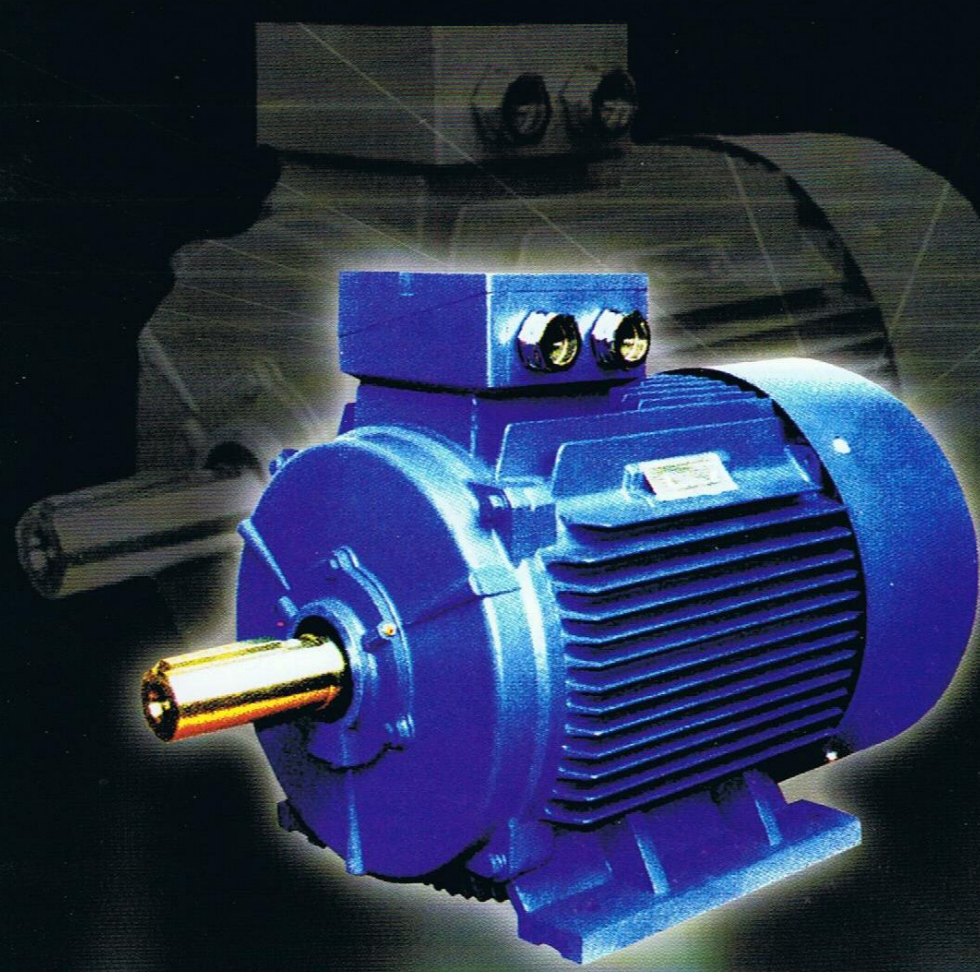


EleDelta[®]

EF1 HIGH EFFICIENCY MOTORS



B14 MOUNTING



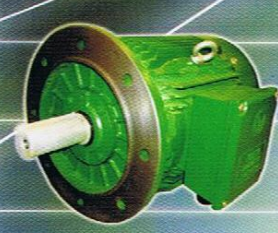
B5 MOUNTING



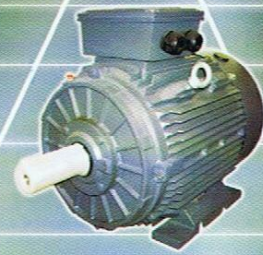
DC BRAKE MOTOR



FORCE FAN WITH MOTORS



IE3 PREMIUM EFFICIENCY



IE2 HIGH EFFICIENCY



TEAO/H

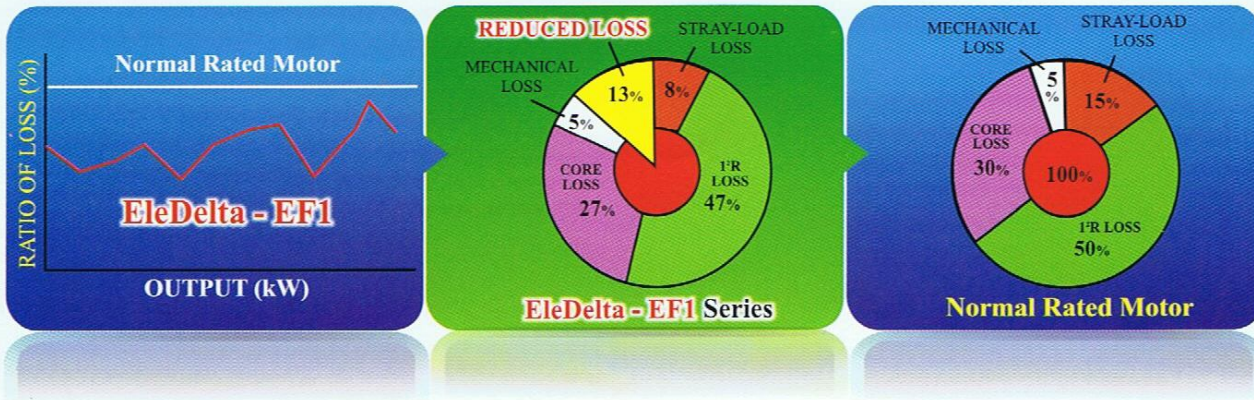


TEAO/F



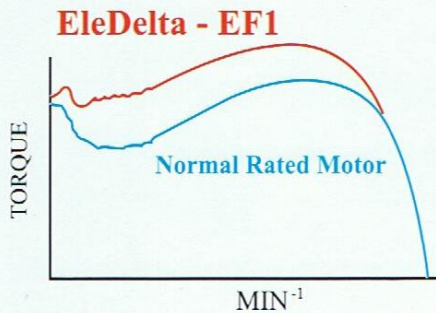
1. REDUCED POWER LOST

- a) Reduce power lost, hence enable to save cost on electricity.
- b) Long term benefit with quick return of cost invested.
- c) Compliance to energy saving campaign.

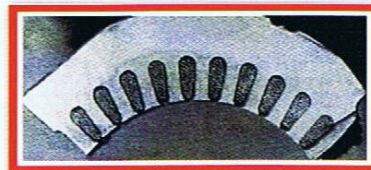


2. GENERATE HIGHER OPERATION TORQUE

- a) General higher operation torque.
- b) Produce greater starting and operation performance.
- c) Withstand higher inconsistency drive force.



EleDelta - EF1 Series Enlarge Quality Space On Induction Cored Plate



Normal Rated Motor



Large Space Enable Higher Induction Factor Hence Able To Achieve Better Torque, Efficiency At Lower Temperature.

3. QUICK GLANCE COMPARISON

	1 x 30kW	2 x 30kW	3 x 30kW	4 x 30kW	5 x 30kW	6 x 30kW
EF1	RM2,486	RM4,972	RM7,458	RM9,944	RM12,430	RM14,916
<i>Estimate cost saving per annual base on 30kW, 4 pole motor</i>						

WORKING FORMULA ON 30kW, 4 POLE MOTOR

EleDelta - EF1:-
30kW, 4 pole, Efficiency 92%

Normal Rate Motor :-
30kW, 4 pole, Efficiency 89%

EF(%)	Power Out kW	Power In kW
92	30	32.6
89	30	33.7

DIFFERENTIAL OF POWER CONSUMED (POWER IN) BY 1.1KW

Unit Cost of Electricity :- RM0.258 / kWh

Annual Cost Saving :- 1.1kW different x 0.258(unit rate) x 24(hrs) x 365(days)

Annual Saving = RM2,486

TECHNICAL DATA 2 POLE

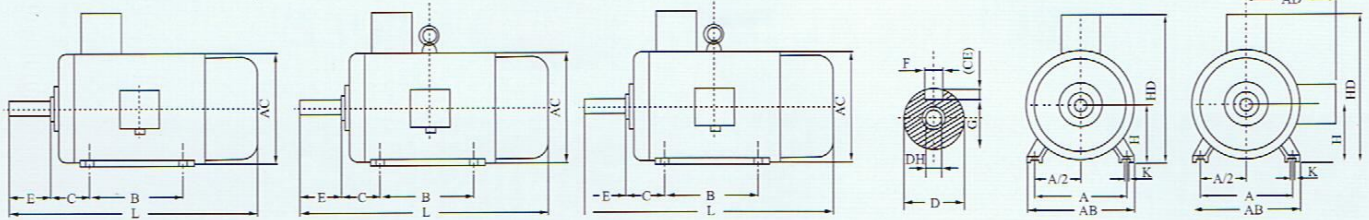
Frame size	Full load current at rated voltage			Rated power	Full load speed in revolutions per minute	Efficiency	Power factor	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Mean sound pressure level@1m on no load	Weight
Type	380 A	400 A	415 A	Output kW	Speed r / min	EFF. %	P.F. Cos ϕ	LRT RLT	LRA RLA	BDT RLT	Noise LwdB(A)	Weight kg
EF1-80M1-2	1.77	1.74	1.68	0.75	2840	75.0	0.83	2.2	6.1	2.3	67	16
EF1-80M2-2	2.61	2.48	2.39	1.1	2840	76.2	0.84	2.2	6.9	2.3	67	17
EF1-90S-2	3.46	3.28	3.16	1.5	2850	78.5	0.84	2.2	7.0	2.3	72	20
EF1-90L-2	4.85	4.61	4.45	2.2	2855	81.0	0.85	2.2	7.0	2.3	72	23
EF1-100L-2	6.34	6.03	5.81	3	2860	82.6	0.87	2.2	7.5	2.3	76	30
EF1-112M-2	8.2	7.79	7.51	4	2880	84.2	0.88	2.2	7.5	2.3	77	41
EF1-132S1-2	11.1	10.53	10.15	5.5	2900	85.7	0.88	2.2	7.5	2.3	80	57.5
EF1-132S2-2	14.9	14.1	13.6	7.5	2900	87.0	0.88	2.2	7.5	2.3	80	60.5
EF1-160M1-2	21.2	20.2	19.5	11	2930	88.4	0.89	2.2	7.5	2.3	86	107
EF1-160M2-2	28.6	27.2	26.2	15	2930	89.4	0.89	2.2	7.5	2.3	86	114
EF1-160L-2	34.7	33.0	31.8	18.5	2930	90.0	0.90	2.2	7.5	2.3	86	133
EF1-180M-2	41	39.0	37.6	22	2940	90.5	0.90	2.0	7.5	2.3	89	165
EF1-200L1-2	55.4	52.6	50.7	30	2950	91.4	0.90	2.0	7.5	2.3	92	218
EF1-200L2-2	67.9	64.5	62.2	37	2950	92.0	0.90	2.0	7.5	2.3	92	230
EF1-225M-2	82.1	78.0	75.2	45	2960	92.5	0.90	2.0	7.5	2.3	92	290
EF1-250M-2	100	94.8	91.4	55	2970	93.0	0.90	2.0	7.5	2.3	93	359
EF1-280S-2	135	129	124	75	2975	93.6	0.90	2.0	7.0	2.3	94	475
EF1-280M-2	160	152	147	90	2975	93.9	0.91	2.0	7.1	2.3	94	510
EF1-315S-2	195	186	179	110	2975	94.0	0.91	1.8	7.1	2.2	96	875
EF1-315M-2	233	222	214	132	2975	94.5	0.91	1.8	7.1	2.2	96	963
EF1-315L1-2	279	265	256	160	2975	94.6	0.92	1.8	7.1	2.2	99	1010
EF1-315L2-2	348	331	319	200	2975	94.8	0.92	1.8	7.1	2.2	99	1138
EF1-355M-2	433	412	397	250	2980	95.2	0.92	1.6	7.1	2.2	103	1900
EF1-355L-2	545	518	499	315	2980	95.4	0.92	1.6	7.1	2.2	103	2300

TECHNICAL DATA **EFF2** 4 POLE

Frame size	Full load current at rated voltage			Rated power	Full load speed in revolutions per minute	Efficiency	Power factor	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Mean sound pressure level@1m on no load	Weight
Type	380 A	V 400 A	415 A	Output kW	Speed r / min	EFF. %	P.F. Cos ϕ	LRT RLT	LRA RLA	BDT RLT	Noise LwdB(A)	Weight kg
EF1-80M1-4	1.57	1.49	1.44	0.55	1390	71	0.75	2.4	5.2	2.3	58	15
EF1-80M2-4	2.05	1.95	1.88	0.75	1380	73	0.76	2.3	6.0	2.3	58	15.5
EF1-90S-4	2.85	2.71	2.61	1.1	1390	76.2	0.77	2.3	6.0	2.3	61	19
EF1-90L-4	3.72	3.54	3.41	1.5	1400	78.5	0.78	2.3	6.0	2.3	61	23
EF1-100L1-4	5.09	4.90	4.72	2.2	1410	80	0.81	2.3	7.0	2.3	64	29
EF1-100L2-4	6.78	6.39	6.16	3	1410	82.6	0.82	2.3	7.0	2.3	64	31
EF1-112M-4	8.8	8.36	8.06	4	1435	84.2	0.82	2.3	7.0	2.3	65	42
EF1-132S-4	11.7	11.2	10.8	5.5	1440	85.7	0.83	2.3	7.0	2.3	71	63.5
EF1-132M-4	15.6	14.8	14.3	7.5	1450	87	0.84	2.3	7.0	2.3	71	72
EF1-160M-4	22.5	21.4	20.6	11	1460	88.4	0.84	2.2	7.0	2.3	75	110
EF1-160L-4	30	28.5	27.5	15	1460	89.4	0.85	2.2	7.5	2.3	75	129
EF1-180M-4	36.3	34.5	33.3	18.5	1470	90	0.86	2.2	7.5	2.3	76	160
EF1-180L-4	43.2	40.8	39.3	22	1470	90.5	0.86	2.2	7.5	2.3	76	178
EF1-200L-4	57.6	55.1	53.1	30	1470	91.4	0.86	2.2	7.2	2.3	79	228
EF1-225S-4	70.2	66.7	64.3	37	1475	92	0.87	2.2	7.2	2.3	81	288
EF1-225M-4	84.9	80.7	77.8	45	1475	92.5	0.87	2.2	7.2	2.3	81	313
EF1-250M-4	103	98.1	94.6	55	1480	93	0.87	2.2	7.2	2.3	83	376
EF1-280S-4	138.3	131	127	75	1480	93.6	0.88	2.2	6.8	2.3	86	508
EF1-280M-4	165	157	152	90	1480	93.9	0.88	2.2	6.8	2.3	86	581
EF1-315S-4	201	191	184	110	1480	94.5	0.88	2.1	6.9	2.2	93	846
EF1-315M-4	240	228	220	132	1480	94.8	0.88	2.1	6.9	2.2	93	940
EF1-315L1-4	288	273	264	160	1480	94.9	0.89	2.1	6.9	2.2	97	1044
EF1-315L2-4	360	342	329	200	1480	94.9	0.89	2.1	6.9	2.2	97	1162
EF1-355M-4	443	421	406	250	1490	95.2	0.90	2.1	6.9	2.2	101	1700
EF1-355L-4	559	531	511	315	1490	95.2	0.90	2.1	6.9	2.2	101	1900

TECHNICAL DATA **EFF2** 6 POLE

Frame size	Full load current at rated voltage			Rated power	Full load speed in revolutions per minute	Efficiency	Power factor	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Mean sound pressure level@1m on no load	Weight
Type	380 A	V 400 A	415 A	Output kW	Speed r / min	EFF. %	P.F. Cos ϕ	LRT RLT	LRA RLA	BDT RLT	Noise LwdB(A)	Weight kg
EF1-80M1-6	1.3	1.23	1.19	0.37	880	62	0.70	1.9	4.7	2.0	54	15
EF1-80M2-6	1.8	1.70	1.64	0.55	880	65	0.72	1.9	4.7	2.1	54	16
EF1-90S-6	2.29	2.18	2.10	0.75	905	69	0.72	2.0	5.3	2.1	57	20
EF1-90L-6	3.18	3.02	2.91	1.1	905	72	0.73	2.0	5.5	2.1	57	23
EF1-100L-6	4	3.80	3.66	1.5	920	76	0.75	2.0	5.5	2.1	61	29
EF1-112M-6	5.6	5.29	5.10	2.2	935	79	0.76	2.0	6.5	2.1	65	41
EF1-132S-6	7.4	7.03	6.78	3	960	81	0.76	2.1	6.5	2.1	69	59
EF1-132M1-6	9.75	9.26	8.93	4	960	82	0.76	2.1	6.5	2.1	69	66
EF1-132M2-6	12.9	12.3	11.8	5.5	960	84	0.77	2.1	6.5	2.1	69	76.5
EF1-160M-6	17.2	16.3	15.8	7.5	970	86	0.77	2.0	6.5	2.1	73	106
EF1-160L-6	24.5	23.3	22.4	11	970	87.5	0.78	2.0	6.5	2.1	73	122
EF1-180L-6	31.6	30.0	28.9	15	970	89	0.81	2.0	7.0	2.1	73	167
EF1-200L1-6	38.6	36.6	35.3	18.5	980	90	0.81	2.1	7	2.1	76	236
EF1-200L2-6	44.7	42.5	41.0	22	980	90	0.83	2.0	7	2.1	76	247
EF1-225M-6	59.3	56.3	54.3	30	980	91.5	0.84	2.0	7	2.1	76	287
EF1-250M-6	71	67.5	65.1	37	980	92	0.86	2.1	7	2.1	78	355
EF1-280S-6	86	81.7	78.7	45	980	92.5	0.86	2.1	7	2	80	444
EF1-280M-6	104	99.5	95.9	55	980	92.8	0.86	2.1	7	2	80	498
EF1-315S-6	142	135	130	75	985	93.5	0.86	2.0	6.7	2	85	859
EF1-315M-6	169	161	155	90	985	93.8	0.86	2.0	6.7	2	85	950
EF1-315L1-6	207	196	189	110	985	94	0.86	2.0	6.7	2	85	1031
EF1-315L2-6	245	232	224	132	985	94.2	0.87	2.0	6.7	2	85	1107
EF1-355M1-6	292	278	268	160	990	94.5	0.88	1.9	6.7	2	92	1550
EF1-355M2-6	365	347	335	200	990	94.5	0.88	1.9	6.7	2	92	1600
EF1-355L-6	457	434	418	250	990	94.5	0.88	1.9	6.7	2	92	1700



H80-90

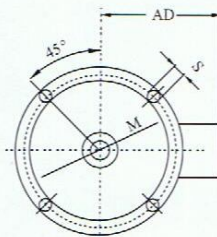
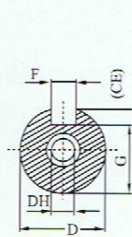
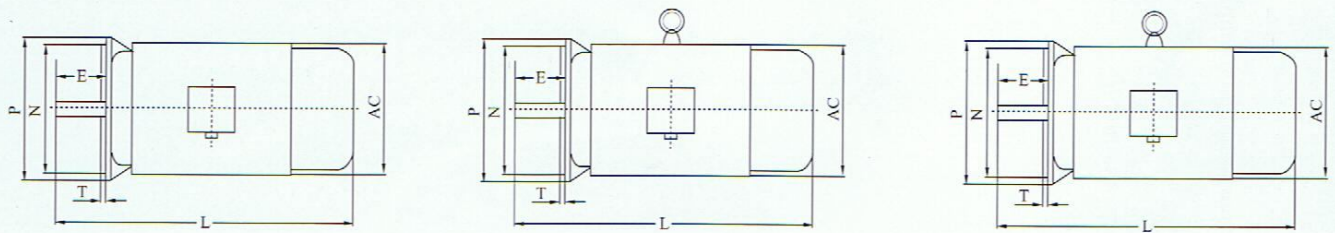
H100-132

H160-355

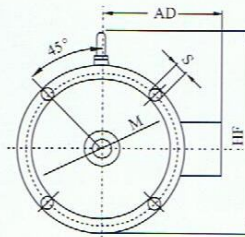
H63-71

H80-355

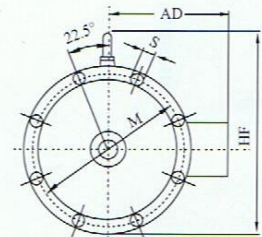
FRAME SIZE	POLES	A	A/2	B	C	D	E	F	G	H	K	AB	AC	AD	HD	L	DH*	DRIVE END <i>International type</i>	NON-DRIVE END <i>International type</i>
63M	2 4	100	50	80	40	11	23	4	8.5	63	7	135	130	115	180	230	M4X12	62012Z	62012Z
71M	2 4 6	112	56	90	45	14	30	5	11	71	7	150	145	127	195	255	M5X12	62022Z	62022Z
80M	2 4 6 8	125	62.5	100	50	19	40	6	15.5	80	10	165	155	145	220	295	M6X16	62042Z	62042Z
90S	2 4 6 8	140	70	100	56	24	50	8	20	90	10	180	173	155	250	320	M8X19	62052Z	62052Z
90L	2 4 6 8	140	70	125	56	24	50	8	20	90	10	180	173	155	250	345	M8X19	62052Z	62052Z
100L	2 4 6 8	160	80	140	63	28	60	8	24	100	12	205	195	180	270	385	M10X22	62062Z	62062Z
112M	2 4 6 8	190	95	140	70	28	60	8	24	112	12	230	217	190	300	400	M10X22	63062Z	63062Z
132S	2 4 6 8	216	108	140	89	38	80	10	33	132	12	270	275	210	345	470	M12X28	63082Z	63082Z
132M	2 4 6 8	216	108	178	89	38	80	10	33	132	12	270	275	210	345	510	M12X28	63082Z	63082Z
160M	2 4 6 8	254	127	210	108	42	110	12	37	160	15	320	314	255	420	615	M16X36	63092ZC3	63092ZC3
160L	2 4 6 8	254	127	254	108	42	110	12	37	160	15	320	314	255	420	660	M16X36	63092ZC3	63092ZC3
180M	2 4 6 8	279	139.5	241	121	48	110	14	42.5	180	15	355	352	280	455	700	M16X36	6311C3	6311C3
180L	2 4 6 8	279	139.5	279	121	48	110	14	42.5	180	15	355	352	280	455	740	M16X36	6311C3	6311C3
200L	2 4 6 8	318	159	305	133	55	110	16	49	200	19	395	395	305	505	770	M20X42	6312C3	6312C3
225S	4 8	356	178	286	149	60	140	18	53	225	19	435	470	335	560	815	M20X42	6313C3	6313C3
225M	2	356	178	311	149	55	110	16	49	225	19	435	470	335	560	820	M20X42	6313C3	6313C3
	4 6 8	356	178	311	149	60	140	18	53	225	19	435	470	335	560	845	M20X42	6314C3	6314C3
250M	2	406	203	349	168	60	140	18	53	250	24	490	480	370	615	920	M20X42	6314C3	6314C3
	4 6 8	406	203	349	168	65	140	18	58	250	24	490	480	370	615	920	M20X42	6314C3	6314C3
280S	2	457	228.5	368	190	65	140	18	58	280	24	550	547	410	680	995	M20X42	6314C3	6314C3
	4 6 8	457	228.5	368	190	75	140	20	67.5	280	24	550	547	410	680	995	M20X42	6317C3	6317C3
280M	2	457	228.5	419	190	65	140	18	58	280	24	550	547	410	680	1045	M20X42	6314C3	6314C3
	4 6 8	457	228.5	419	190	75	140	20	67.5	280	24	550	547	410	680	1045	M20X42	6317C3	6317C3
315S	2	508	254	406	216	65	140	18	58	315	28	635	620	530	845	1185	M20X42	6317C3	6317C3
	4 6 8 10	508	254	406	216	80	170	22	71	315	28	635	620	530	845	1220	M20X42	NU319C3	6319C3
315M	2	508	254	457	216	65	140	18	58	315	28	635	620	530	845	1290	M20X42	6317C3	6317C3
	4 6 8 10	508	254	457	216	80	170	22	71	315	28	635	620	530	845	1325	M20X42	NU319C3	6319C3
315L	2	508	254	508	216	65	140	18	58	315	28	635	620	530	845	1290	M20X42	6317C3	6317C3
	4 6 8 10	508	254	508	216	80	170	22	71	315	28	635	620	530	845	1325	M20X42	NU319C3	6319C3
355M	2	610	305	560	254	75	140	20	67.5	355	28	730	710	655	1010	1500	M20X42	6319C3	6319C3
	4 6 8 10	610	305	560	254	95	170	25	86	355	28	730	710	655	1010	1530	M20X42	NU322C3	6322C3
355L	2	610	305	630	254	75	140	20	67.5	355	28	730	710	655	1010	1500	M20X42	6319C3	6319C3
	4 6 8 10	610	305	630	254	95	170	25	86	355	28	730	710	655	1010	1530	M20X42	NU322C3	6322C3



H63-90



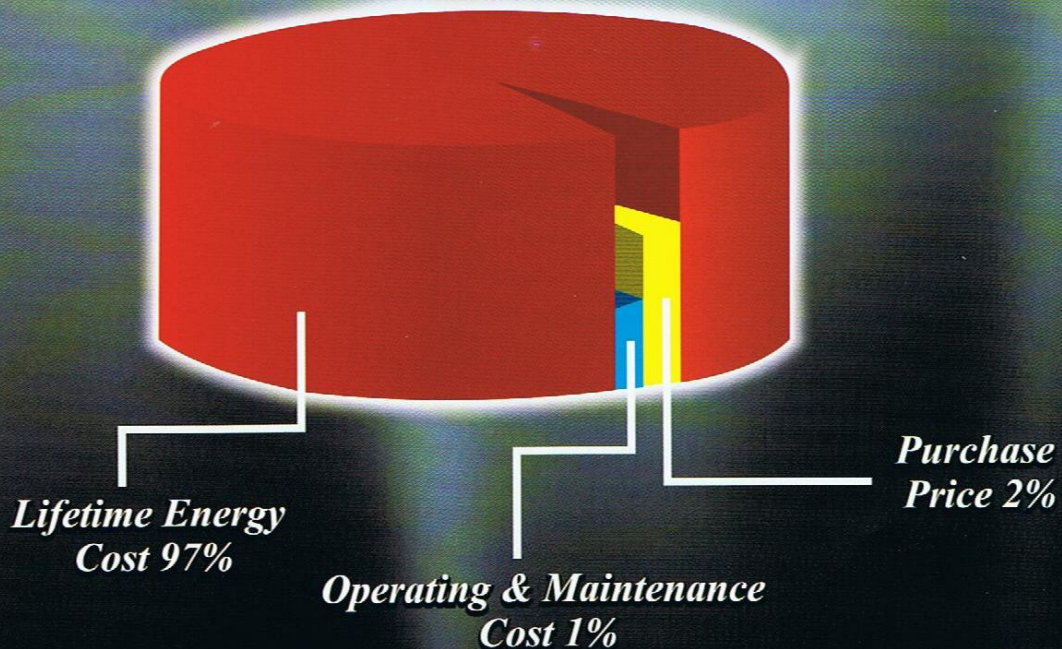
H100-200



H225-280

FRAME SIZE	POLES	D	E	F	G	M	N	P	S	T	FLANGE HOLES	AC	AD	HF	L	DH*	DRIVE END <small>International type</small>	NON-DRIVE END <small>International type</small>
63M	2 4	11	23	4	8.5	115	95	140	10	3	4	130	115	130	230	M4 x 12	62012Z	62012Z
71M	2 4 6	14	30	5	11	130	110	160	10	3.5	4	145	127	145	255	M5 x 12	62022Z	62022Z
80M	2 4 6 8	19	40	6	15.5	165	130	200	12	3.5	4	155	145	185	295	M6 x 16	62042Z	62042Z
90S	2 4 6 8	24	50	8	20	165	130	200	12	3.5	4	173	155	195	320	M8 x 19	62052Z	62052Z
90L	2 4 6 8	24	50	8	20	165	130	200	12	3.5	4	173	155	195	345	M8 x 19	62052Z	62052Z
100L	2 4 6 8	28	60	8	24	215	180	250	15	4	4	195	180	245	385	M10 x 22	62062Z	62062Z
112M	2 4 6 8	28	60	8	24	215	180	250	15	4	4	217	190	265	400	M10 x 22	63062Z	63062Z
132S	2 4 6 8	38	80	10	33	265	230	300	15	4	4	275	210	315	470	M12 x 28	63082Z	63082Z
132M	2 4 6 8	38	80	10	33	265	230	300	15	4	4	275	210	315	510	M12 x 28	63082Z	63082Z
160M	2 4 6 8	42	110	12	37	300	250	350	19	5	4	314	255	385	615	M16 x 36	6309ZC3	6309ZC3
160L	2 4 6 8	42	110	12	37	300	250	350	19	5	4	314	255	385	660	M16 x 36	6309ZC3	6309ZC3
180M	2 4 6 8	48	110	14	42.5	300	250	350	19	5	4	352	280	430	700	M16 x 36	6311C3	6311C3
180L	2 4 6 8	48	110	14	42.5	300	250	350	19	5	4	352	280	430	740	M16 x 36	6311C3	6311C3
200L	2 4 6 8	55	110	16	49	350	300	400	19	5	8	395	305	480	770	M20 x 42	6312C3	6312C3
225S	4 8	60	140	18	53	400	350	450	19	5	8	470	335	535	815	M20 x 42	6313C3	6313C3
225M	2	55	110	16	49	400	350	450	19	5	8	470	335	535	820	M20 x 42	6313C3	6313C3
	4 6 8	60	140	18	53	400	350	450	19	5	8	470	335	535	845	M20 x 42	6313C3	6313C3
250M	2	60	140	18	53	500	450	550	19	5	8	480	370	595	920	M20 x 42	6314C3	6314C3
	4 6 8	65	140	18	58	500	450	550	19	5	8	480	370	595	920	M20 x 42	6314C3	6314C3
280S	2	65	140	18	58	500	450	550	19	5	8	547	410	650	995	M20 x 42	6314C3	6314C3
	4 6 8	75	140	20	67.5	500	450	550	19	5	8	547	410	650	995	M20 x 42	6317C3	6317C3
280M	2	65	140	18	58	500	450	550	19	5	8	547	410	650	1045	M20 x 42	6314C3	6314C3
	4 6 8	75	140	20	67.5	500	450	550	19	5	8	547	410	650	1045	M20 x 42	6317C3	6317C3

Lifetimes Cost Of An Electric Motor



**For Most Motors, Purchase Price Represents Just 2%
Of Its Lifetime Cost, Electricity Accounts For Nearly 97%**

- Cost saving through a motor's energy efficiency will have a significant impact on an operation's bottomline.
- High Efficiency motors cost more in initial investment, but will result in have a significant lowering of your operating expenses.

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