



Smart solutions.
Strong relationships.

Premium Efficiency LV AC Motors

IE3 Efficiency Class

Safe Area / Hazardous Area



Apex Series
a green solution



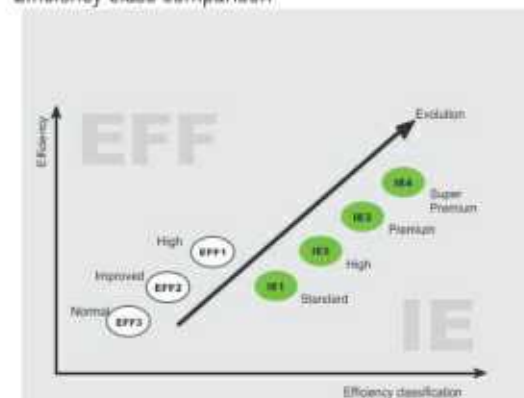
SC Industrial Syndicate

Minimum efficiency values defined in IEC 60034-30:2008 & Annual energy savings

kW	IE1			IE2			IE3			IE2 Vs IE1 saving in kWh			IE3 Vs IE2 Saving in kWh			IE3 Vs IE1 Saving in kWh		
	2	4	6	2	4	6	2	4	6	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	624	859	730	347	290	329	971	1149	1059
1.1	75	75	72.9	79.6	81.4	78.1	82.7	84.1	81	742	1010	880	454	380	442	1196	1390	1322
1.5	77.2	77.2	75.2	81.3	82.8	79.8	84.2	85.3	82.5	858	1151	1007	557	465	539	1415	1616	1546
2.2	79.7	79.7	77.7	83.2	84.3	81.8	85.9	86.7	84.3	1017	1319	1243	728	633	699	1745	1952	1942
3	81.5	81.5	79.7	84.6	85.5	83.3	87.1	87.7	85.6	1182	1509	1425	892	771	848	2073	2280	2273
4	83.1	83.1	81.4	85.8	86.6	84.6	88.1	88.6	86.8	1327	1704	1628	1066	913	1050	2393	2618	2678
5.5	84.7	84.7	83.1	87	87.7	86	89.2	89.6	88	1504	1946	1955	1366	1165	1273	2870	3111	3228
11	87.6	87.6	86.4	89.4	89.8	88.7	91.2	91.4	90.3	2215	2695	2892	2127	1878	1925	4342	4573	4817
15	88.7	88.7	87.7	90.3	90.6	89.7	91.9	92.1	91.2	2625	3107	3341	2533	2362	2409	5158	5469	5750
18.5	89.3	89.3	88.6	90.9	91.2	90.4	92.4	92.6	91.7	3194	3781	3642	2894	2687	2541	6089	6467	6184
22	89.9	89.9	89.2	91.3	91.6	90.9	92.7	93	92.2	3287	3979	4041	3188	3167	2989	6475	7146	7030
30	90.7	90.7	90.2	92	92.3	91.7	93.3	93.6	92.9	4094	5023	4766	3980	3954	3702	8074	8977	8468
37	91.2	91.2	90.8	92.5	92.7	92.2	93.7	93.9	93.3	4995	5751	5420	4488	4468	4145	9482	10219	9565
45	91.7	91.7	91.4	92.9	93.1	92.7	94	94.2	93.7	5553	6464	6048	4966	4944	4538	10518	11409	10587
55	92.1	92.1	91.9	93.2	93.5	93.1	94.3	94.6	94.1	6174	7833	6757	6030	5992	5500	12204	13825	12257
75	92.7	92.7	92.6	93.8	94	93.7	94.7	95	94.6	8311	9802	8329	6657	7357	6671	14968	17159	15000
90	93	93	92.9	94.1	94.2	94	95	95.2	94.9	9910	10799	9931	7937	8791	7954	17847	19591	17885
110	93.3	93.3	93.3	94.3	94.5	94.3	95.2	95.4	95.1	10952	13115	10952	9660	9620	8596	20613	22735	19548
132	93.5	93.5	93.5	94.6	94.7	94.6	95.4	95.6	95.4	14380	15671	14380	10250	11495	10250	24630	27166	24630
160	93.8	93.8	93.8	94.8	94.9	94.8	95.6	95.8	95.6	15762	17320	15762	12372	13875	12372	28134	31195	28134
200	94	94	94	95	95.1	95	95.8	96	95.8	19619	21558	19619	15401	17271	15401	35020	38830	35020
225	94	94	94	95	95.1	95	95.8	96	95.8	22072	24253	22072	17326	19430	17326	39397	43684	39397
275	94	94	94	95	95.1	95	95.8	96	95.8	26976	29643	26976	21176	23748	21176	48152	53391	48152
300	94	94	94	95	95.1	95	95.8	96	95.8	29429	32338	29429	23101	25907	23101	52530	58245	52530
315	94	94	94	95	95.1	95	95.8	96	95.8	30900	33955	30900	24256	27202	24256	55156	61157	55156
375	94	94	94	95	95.1	95	95.8	96	95.8	36786	40422	36786	28876	32384	28876	65662	72806	65662

* Annual energy savings are calculated for 8760 hrs/ annum

Efficiency class comparison



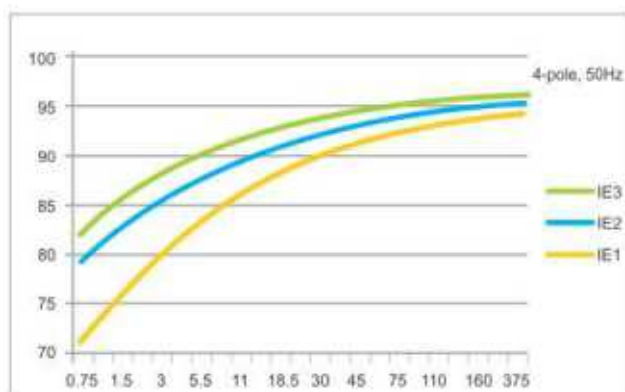
Example:

Energy savings by replacing 11kW 2 pole IE1 motor to IE3 motor:

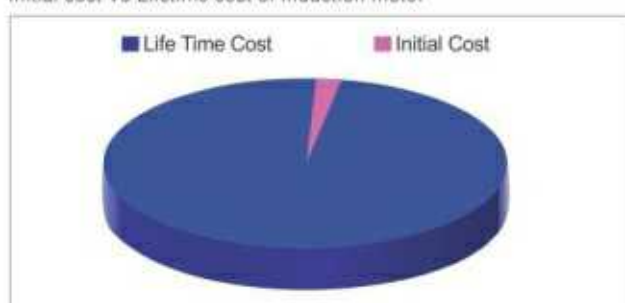
$$\begin{aligned}
 \text{Annual Savings} &= \text{No. of units energy saved} \times R \\
 &= 4342 \times 5 \text{ ₹} \\
 &= 27710 \text{ ₹}
 \end{aligned}$$

*R= Energy Tariff in local currency

$$\text{Payback (months)} = \frac{\text{Cost of energy efficient motor} - \text{cost of standard motor}}{\text{Annual energy savings}} \times 12$$



Initial cost Vs Lifetime cost of induction motor



APEX SERIES

SPECIFICATION

Apex Series Aluminium construction motor (safe area)

Range	
Output	0.75 kW to 7.50 kW
Frames	80 TO 132
Poles	2,4,6



Specification		
	Standard Product	Option
Frame sizes	80 - 132	-
Enclosure	IP55	IP56, IP65, IP66
Mounting option	Foot (B3)	Flange (B5), Face (B14)
Terminal box position	Top	LHS,RHS
Voltage	Upto 3kW 415V Δ	other on request
	Above 3kW 415V Δ	
Frequency	50 Hz	60 Hz
Cooling	IC411	IC410
Lubrication	Frame 80 - 132 double-shielded bearings	
Insulation	Class F	Class H
Temperature rise	Class B	Class F
Paint colour	Water blue (RAL 5021)	other on request
Fan cover	Steel	-
Thermal protection(PTC150)	-	80-132
Anti condensation heaters	-	132
Inverter Duty (with derate)	Variable Torque: 10:1, Constant Torque: 2:1	Alternative speed range
Ambient temperature	- 20°C to + 50°C	- 40°C, up to 60°C

The above specification and options give a brief summary of features available for the Apex series aluminum range.

For a full listing of optional features, please contact CG sales.



Marine Application Certificate



APEX SERIES

SPECIFICATION

Apex Series Cast Iron construction motor (safe area)

Range	
Output	0.75 kW to 315 kW
Frames	80 TO 355
Poles	2,4,6



Specification		
	Standard Product	Option
Frame sizes	80 - 355	-
Enclosure	IP55	IP56, IP65, IP66
Mounting option	Foot(B3) Flange	(B5), Face(B14) up to 132 frame
Terminal box position	Top	LHS,RHS
Voltage	Upto 3kW 415V Δ	other on request
	Above 3kW 415V Δ	
Frequency	50 Hz	60 Hz
Cooling	IC411	IC410
Lubrication	Frame 80 - 225 double-shielded bearings	
	Frame 250 to 355 online greasing	
Insulation	Class F	Class H
Temperature rise	Class B	Class F
Paint colour	Water blue (RAL 5021)	On request
Fan cover	Steel	-
Thermal protection(PTC150)	-	80-355
Anti condensation heaters	-	132-355
Inverter Duty (with derate)	Variable Torque: 10:1,Constant Torque: 2:1	Alternative speed range
Ambient temperature	- 20°C to + 50°C	- 40°C, up to 60°C

The above specification and options give a brief summary of features available for the Apex series cast iron range.

For a full listing of optional features, please contact CG sales.



Performance data for Apex series motor (safe area)



Efficiency values complying to IE3 class of IEC 60034-30:2008

PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT (AMP)			FL	FLT	EFFICIENCY %			POWERFACTOR			D.O.L STARTING		PULLOUT	GD ²
	KW	HP			380 V	400 V			415 V	SPEED RPM	M _v kg-m	FL	3/4L	1/2L	FL	3/4L		
2 POLE : 3000 RPM																		
0.75KP2	0.75	1.00	80	1.64	1.56	1.50	2820	0.26	80.7	79.8	77.3	0.88	0.84	0.75	175	600	225	0.004
1.10KP2	1.10	1.50	80	2.35	2.23	2.15	2870	0.38	82.7	81.6	80.1	0.86	0.84	0.72	250	650	300	0.005
1.50KP2	1.50	2.00	90L	3.15	2.99	2.88	2860	0.51	84.2	84.2	83.5	0.86	0.80	0.70	250	650	300	0.006
2.20KP2	2.20	3.00	90L	4.58	4.35	4.19	2850	0.75	85.9	85.9	85.5	0.85	0.80	0.70	275	700	300	0.008
3.00KP2	3.00	4.00	100L	5.88	5.59	5.38	2890	1.01	87.1	87.1	87.1	0.89	0.85	0.76	300	700	350	0.027
3.70KP2	3.70	5.00	100L	7.11	6.76	6.51	2875	1.26	87.8	87.6	86.1	0.90	0.87	0.80	300	650	350	0.032
4.00KP2	4.00	5.50	112M	7.7	7.3	7.0	2870	1.36	88.1	88.1	88.1	0.90	0.88	0.82	275	750	350	0.041
5.50KP2	5.50	7.50	132S	10.6	10.1	9.7	2900	1.86	89.2	89.2	88.2	0.88	0.84	0.78	275	700	300	0.093
7.50KP2	7.50	10.00	132M	14.4	13.7	13.2	2890	2.50	90.1	90.1	89.5	0.88	0.86	0.80	200	600	250	0.11
11KP2	11.00	15.00	160M	21	20	19	2925	3.65	91.2	91.2	90.0	0.89	0.85	0.82	225	700	275	0.19
15KP2	15.00	20.00	160M	28	26	25	2920	4.98	91.9	91.9	90.5	0.90	0.86	0.81	225	700	275	0.23
18.5KP2	18.50	25.00	160L	34	32	31	2920	6.14	92.4	92.4	91.0	0.90	0.86	0.82	225	700	275	0.28
22KP2	22.00	30.00	180M	40	38	37	2940	7.28	92.7	92.7	91.3	0.90	0.86	0.80	175	700	225	0.44
30KP2	30.00	40.00	200L	54	52	50	2955	9.87	93.3	93.3	92.5	0.90	0.85	0.80	200	700	250	1.04
37KP2	37.00	50.00	200L	67	63	61	2950	12.17	93.7	93.5	92.5	0.90	0.85	0.80	225	700	275	1.14
45KP2	45.00	60.00	225M	81	77	74	2965	14.82	94.0	94.0	92.6	0.90	0.86	0.82	200	700	250	1.74
55KP2	55.00	75.00	250MX	96	92	88	2955	18.00	94.3	94.3	93.0	0.92	0.88	0.80	200	700	250	2.53
75KP2	75.00	100.00	280M	131	124	120	2970	24.501	94.7	94.5	93.2	0.92	0.88	0.82	200	700	250	5.67
90KP2	90.00	120.00	280M	156	149	143	2975	29.40	95.0	95.0	94.0	0.92	0.88	0.82	200	700	250	6.21
110KP2	#110.00	150.00	315S	195	185	179	2980	35.934	95.2	95.2	93.8	0.9	0.85	0.81	200	700	250	9.76
132KP2	#132.00	180.00	315M	234	222	214	2980	43.121	95.4	95.4	94.8	0.9	0.88	0.84	200	700	250	10.70
160KP2	#160.00	215.00	315L	296	281	271	2980	52.27	95.6	95.6	95.0	0.86	0.82	0.76	200	700	250	12.33
180KP2	#180.00	240.00	315L	314	298	288	2980	58.80	95.7	95.5	95.0	0.91	0.88	0.84	180	700	225	13.08
200KP2	#200.00	270.00	315L	349	331	319	2980	65.34	95.8	95.8	95.0	0.91	0.88	0.84	200	700	250	13.79
225KP2	*225.00	300.00	355L	396	377	363	2980	73.50	95.8	94.8	93.3	0.9	0.86	0.8	175	750	225	17.79
250KP2	*250.00	335.00	355L	441	419	403	2980	81.67	95.8	95.5	94.5	0.9	0.88	0.8	160	700	225	18.76
275KP2	#275.00	370.00	355L	490	466	449	2980	89.84	95.8	95.5	94.5	0.89	0.85	0.8	160	700	225	19.68
315KP2	*315.00	425.00	355L	555	527	508	2980	102.90	95.8	95.5	94.5	0.9	0.86	0.8	180	650	225	20.48

- This rating is suitable for Amb 40 with 70 degree rise

* - This rating is with class F Temp rise

Tolerances are applicable as per IEC 60034-1 :2010

Full load currents indicated are given for respective design voltage

Performance data for Apex series motor (safe area)



Efficiency values complying to IE3 class of IEC 60034-30:2008

PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT (AMP)			FL SPEED RPM	FLT Mn kg-m	EFFICIENCY %			POWERFACTOR			D.O.L STARTING		PULLOUT POT %FLT	GD' KGM'
	KW	HP		380 V	400 V	415 V			FL	3/4L	1/2L	FL	3/4L	1/2L	STT %FLT	SCC %FLA		
4 POLE : 1500 RPM																		
0.75KP4	0.75	1.00	80	1.89	1.80	1.73	1420	0.51	82.5	82.5	81.0	0.73	0.68	0.55	225	650	275	0.014
1.10KP4	1.10	1.50	90L	2.55	2.42	2.33	1420	0.75	84.1	84.0	82.4	0.78	0.71	0.58	200	600	250	0.019
1.50KP4	1.50	2.00	90L	3.82	3.63	3.49	1430	1.02	85.3	85.3	85.0	0.70	0.60	0.50	300	750	350	0.019
2.20KP4	2.20	3.00	100L	5.14	4.88	4.71	1450	1.48	86.7	86.7	85.4	0.75	0.70	0.60	200	650	250	0.053
3.00KP4	3.00	4.00	100L	7.22	6.86	6.61	1450	1.99	87.7	87.5	85.0	0.72	0.64	0.50	250	750	300	0.069
3.70KP4	3.70	5.00	112M	8.2	7.7	7.5	1435	2.48	88.4	88.4	87.4	0.78	0.75	0.65	200	550	250	0.086
4.00KP4	4.00	5.50	112M	8.6	8.1	7.9	1445	2.69	88.6	88.6	88.5	0.80	0.75	0.65	225	750	275	0.086
5.50KP4	5.50	7.50	132S	11.5	10.9	10.5	1450	3.67	89.6	89.6	87.4	0.81	0.76	0.66	225	600	275	0.20
7.50KP4	7.50	10.00	132M	16.2	15.4	14.8	1455	5.00	90.4	90.4	88.0	0.78	0.74	0.62	240	650	290	0.23
11KP4	11.00	15.00	160M	22	21	20	1465	7.28	91.4	91.4	89.4	0.84	0.80	0.72	200	700	250	0.47
15KP4	15.00	20.00	160L	29	28	27	1465	9.93	92.1	92.1	91.0	0.84	0.80	0.70	200	700	250	0.59
18.5KP4	18.50	25.00	180M	37	35	34	1470	12.25	92.6	92.6	91.6	0.82	0.79	0.68	200	700	225	0.71
22KP4	22.00	30.00	180L	44	42	41	1470	14.47	93.0	93.0	92.0	0.81	0.75	0.63	200	700	250	0.85
30KP4	30.00	40.00	200L	57	54	52	1470	19.80	93.6	93.6	92.6	0.86	0.82	0.75	225	700	275	1.94
37KP4	37.00	50.00	225S	70	66	64	1470	24.42	93.9	93.9	93.0	0.86	0.82	0.74	225	700	275	3.53
45KP4	45.00	60.00	225M	84	80	77	1475	29.60	94.2	94.2	93.0	0.86	0.82	0.74	250	700	300	3.84
55KP4	55.00	75.00	250MX	105	100	96	1480	36.18	94.6	94.6	94.0	0.84	0.81	0.75	225	700	275	3.84
75KP4	75.00	100.00	280S	136	129	125	1485	49.33	95.0	95.0	94.0	0.88	0.84	0.78	250	700	300	11.14
90KP4	90.00	120.00	280M	158	150	145	1485	58.88	95.2	95.2	94.0	0.91	0.88	0.82	250	700	300	12.26
110KP4	110.00	150.00	315S	195	185	178	1485	72.11	95.4	95.2	94.6	0.9	0.86	0.8	180	700	225	22.10
132KP4	132.00	180.00	315M	231	219	211	1488	86.36	95.6	95.6	94.8	0.91	0.87	0.83	200	700	250	24.22
160KP4	160.00	215.00	315L	282	268	258	1485	104.89	95.8	95.8	95.0	0.9	0.86	0.82	200	700	250	26.68
180KP4	180.00	240.00	315L	317	301	290	1488	117.76	95.9	95.9	95.2	0.9	0.86	0.82	200	700	250	28.23
200KP4	200.00	270.00	315L	352	334	322	1490	130.67	96.0	96.0	95.3	0.9	0.86	0.82	200	700	250	29.76
225KP4	#225.00	300.00	355L	405	384	371	1488	147.20	96.0	95.8	95.3	0.88	86	0.82	180	700	225	47.75
250KP4	250.00	335.00	355L	440	418	403	1488	163.56	96.0	96.0	95.5	0.9	0.88	0.84	180	700	225	46.75
275KP4	#280.00	375.00	355L	492	468	451	1488	183.18	96.0	95.8	95.5	0.9	0.86	0.82	160	700	225	49.56
315KP4	*315.00	425.00	355L	554	526	507	1488	206.08	96.0	96.0	95.8	0.9	0.88	0.84	200	700	250	53.05

- This rating is suitable for Amb 40 with 70 degree rise

* - This rating is with class F Temp rise

Tolerances are applicable as per IEC 60034-1 :2010

Full load currents indicated are given for respective design voltage

Performance data for Apex series motor



Efficiency values complying to IE3 class of IEC 60034-30:2008

PRODUCT CODE	RATED POWER		FRAME	FULL LOAD CURRENT (AMP)			FL SPEED RPM	FLT Mn kg-m	EFFICIENCY %			POWERFACTOR			D.O.L STARTING		PULLOUT	GD² KGM²
	KW	HP		IN 380 V	400 V	415 V			FL	3/4L	1/2L	FL	3/4L	1/2L	STT %FLT	SCC %FLA		
6 POLE : 1000 RPM																		
0.75KP6	0.75	1.00	90S	2.22	2.11	2.03	950	0.77	78.9	78.9	78.8	0.65	0.58	0.45	180	500	225	0.019
1.10KP6	1.10	1.50	90L	3.03	2.88	2.78	935	1.15	81.0	80.2	78.4	0.68	0.58	0.45	200	600	250	0.025
1.50KP6	1.50	2.00	100L	4.60	4.37	4.22	940	1.56	82.5	82.2	81.0	0.60	0.55	0.50	200	500	250	0.052
2.20KP6	2.20	3.00	112M	5.7	5.4	5.2	950	2.25	84.3	84.3	81.0	0.70	0.65	0.50	200	600	250	0.095
3.00KP6	3.00	4.00	132S	6.8	6.5	6.3	965	3.07	85.6	85.6	84.0	0.78	0.72	0.65	220	650	270	0.26
3.70KP6	3.70	5.00	132S	10.0	9.5	9.2	960	3.73	86.5	86.0	84.0	0.65	0.60	0.50	250	500	275	0.26
4.00KP6	4.00	5.50	132M	9.6	9.1	8.8	965	4.04	86.8	86.8	85.0	0.73	0.66	0.54	150	600	200	0.26
5.50KP6	5.50	7.50	132M	12.8	12.2	11.8	950	5.64	88.0	88.0	86.5	0.74	0.66	0.54	150	600	200	0.29
7.50KP6	7.50	10.00	160M	17	16	15	970	7.53	89.1	89.1	88.5	0.77	0.70	0.60	175	500	225	0.43
11KP6	11.00	15.00	160L	23	22	21	975	10.93	90.3	90.3	90.0	0.79	0.73	0.61	200	600	250	0.64
15KP6	15.00	20.00	180L	30	29	28	980	14.82	91.2	91.2	91.0	0.82	0.77	0.67	225	600	250	1.26
18.5KP6	18.50	25.00	200L	38	36	35	975	18.28	91.7	91.7	90.8	0.81	0.77	0.68	225	600	275	2.08
22KP6	22.00	30.00	200L	45	43	41	975	21.74	92.2	92.2	91.0	0.81	0.77	0.68	200	600	250	2.33
30KP6	30.00	40.00	225M	63	60	58	980	29.50	92.9	92.9	91.5	0.78	0.70	0.60	200	600	250	3.84
37KP6	37.00	50.00	250M	73	70	67	985	36.38	93.3	93.3	92.3	0.82	0.77	0.65	175	600	225	5.56
46KP6	45.00	60.00	280S	91	87	84	985	44.47	93.7	93.7	93.0	0.8	0.76	0.7	200	600	250	13.04
55KP6	55.00	75.00	280M	106	100	97	985	54.19	94.1	94.1	93.8	0.84	0.8	0.75	200	650	250	14.42
75KP6	75.00	100.00	315S	142	135	130	990	73.75	94.6	94.6	94.0	0.85	0.81	0.72	160	600	200	20.80
90KP6	90.00	120.00	315M	168	159	153	990	88.50	94.9	94.9	93.0	0.86	0.82	0.74	200	650	250	22.79
110KP6	110.00	150.00	315M	202	192	185	990	108.17	95.1	95.1	94.0	0.87	0.85	0.8	160	600	200	25.22
132KP6	132.00	180.00	315L	256	244	235	985	130.46	95.4	95.4	95.0	0.82	0.78	0.72	160	600	200	27.63
160KP6	160.00	215.00	315L	296	281	271	990	157.33	95.6	95.6	95.0	0.86	0.82	0.74	200	600	250	30.43
180KP6	180.00	240.00	355L	336	319	308	985	177.90	95.7	95.5	95.0	0.85	0.81	0.72	160	600	200	30.93
200KP6	200.00	270.00	355L	373	355	342	985	197.66	95.8	95.5	94.5	0.85	0.81	0.72	160	600	200	32.62
225KP6	225.00	300.00	355L	420	399	384	985	222.37	95.8	95.8	94.8	0.85	0.81	0.72	160	600	200	34.60
250KP6	250.00	335.00	355L	466	443	427	990	245.83	95.8	95.8	94.8	0.85	0.81	0.72	160	600	200	36.45

Tolerances are applicable as per IEC 60034-1 :2010

Full load currents indicated are given for respective design voltage

APEX SERIES

SPECIFICATION

Apex series Flame proof motors (Cast iron frames)

Range	
Output	0.75 to 275 kW
Frames	E80 TO E355
Poles	2,4,6



Specification			
	Standard Product		Option
Frame sizes	E80 - E355		-
Enclosure	IP55		IP66
Zone	1		
Gas group	I IIA IIB IIC		
Temperature class	T4		T3 TO T6
Mounting	B3		Frame
			Optional
			Upto 132
			B5, B35, B14, B34, V1
			160 TO 315
			B5, B35, V1
Terminal Box Material	Cast Iron		-
Shaft Material	EN8		EN24
Voltage	Upto 3kW	415V Δ	other on request
	Above 3kW	415V Δ	
Frequency	50Hz		60Hz*
Cooling	IC411		
Insulation	Class F		Class H
Thermal Protection	--		E90 TO E355
Anti Condensation Heater	--		E160 TO E355
Paint	Epoxy anti corrosive paint surface		Other on request
Inverter duty (With deration)*	--		E80 TO E355
Ambient Temperature	-20°C TO 45°C		Permissible output as % of Standard output at different Ambient
			45°C 50°C 55°C 60°C
			100% 92% 85% 78%
Altitude	<1000 mtr.		Other per request
Efficiency	IE3 as per IEC60034-2008		
Approvals	DGMS, PESO, BASEEFA (ATEX, IECEx)		



Performance data for Apex series flame proof motor

IE3

Efficiency values complying to IE3 class of IEC 60034-30:2008

RATED POWER		FRAME	FULL LOAD CURRENT (AMP)			FL	FLT	EFFICIENCY %			POWERFACTOR			D.O.L STARTING		PULLOUT	GD ²
KW	HP		380 V	400 V	415 V	SPEED RPM	Mn kg-m	FL	3/4L	1/2L	FL	3/4L	1/2L	STT %FLT	SCC %FLA	POT %FLT	KGM ²
2 POLE - 3000 RPM																	
0.75	1.00	E80	1.7	1.7	1.6	2770	0.264	80.7	80.7	80.3	0.81	0.72	0.65	240	650	280	0.00
1.10	1.50	E90L	2.5	2.3	2.3	2870	0.373	82.7	82.7	82.0	0.82	0.75	0.62	325	650	350	0.01
1.50	2.00	E90L	3.3	3.1	3.0	2870	0.51	84.2	84.2	83.5	0.82	0.75	0.62	250	650	300	0.01
2.20	3.00	E90L	5.0	4.7	4.6	2900	0.74	85.9	85.9	85.5	0.78	0.71	0.61	300	700	350	0.01
3.00	4.00	E100L	5.9	5.6	5.4	2900	1.01	87.1	87.1	87.1	0.88	0.84	0.78	225	650	275	0.03
3.70	5.00	E100L	7.6	7.2	7.0	2890	1.2	87.8	88.1	88.1	0.84	0.8	0.72	250	650	300	0.03
4.00	5.50	E112M	7.8	7.4	7	2910	1.3	88.1	88.1	88.1	0.88	0.84	0.75	225	700	275	0.04
5.50	7.50	E132M	10.6	10.1	10	2910	1.8	89.2	89.2	89.2	0.88	0.84	0.8	200	650	250	0.10
7.50	10.00	E132M	14.7	14	13	2920	2.5	90.1	90.1	90.1	0.86	0.82	0.76	250	700	300	0.11
11.00	15.00	E160L	20	19	19	2925	3.7	91.2	91.2	91.0	0.9	0.86	0.82	225	700	275	0.17
15.00	20.00	E160L	28	27	26	2920	5.0	91.9	91.9	91.5	0.88	0.85	0.78	250	700	300	0.17
18.50	25.00	E160L	35	33	32	2920	6.2	92.4	92.4	92.4	0.88	0.85	0.8	200	700	300	0.21
22.00	30.00	E180L	41	38	37	2940	7.3	92.7	92.7	91.5	0.89	0.85	0.77	250	700	300	0.44
30.00	40.00	E200L	55	52	50	2945	9.9	93.3	93.3	92.4	0.89	0.86	0.82	180	700	225	0.44
37.00	50.00	E200L	68	65	62	2945	12.2	93.7	93.5	92.7	0.88	0.86	0.81	160	650	200	3.40
45.00	60.00	E225M	86	81	78	2960	14.8	94.0	94.0	93.5	0.85	0.8	0.78	200	700	250	6.65
55.00	75.00	E250M	96	92	88	2970	18.0	94.3	94.3	93.0	0.92	0.88	0.84	250	700	300	6.65
75.00	100.00	E280M	131	124	120	2975	24.5	94.7	94.5	93.2	0.92	0.88	0.84	200	650	250	6.65
90.00	120.00	E280M	153	145	140	2975	29.5	95	95	94	0.94	0.9	0.82	175	650	225	13.31
110.00	150.00	E315M	197	187	181	2980	35.9	95.2	95.2	93.8	0.89	0.85	0.81	200	700	250	13.31
132.00	180.00	E315M	234	222	214	2970	43.3	95.4	95.4	94.8	0.9	0.88	0.85	175	600	225	14.75
160.00	215.00	E315L	286	271	262	2977	52.3	95.6	95.6	95	0.89	0.85	0.81	200	700	250	16.37
180.00	240.00	E315L	318	302	291	2977	58.9	95.7	95.5	95	0.9	0.85	0.81	200	700	250	16.37
200.00	270.00	E315L	345	328	316	2980	65.3	95.8	95.8	95	0.92	0.9	0.87	200	750	250	16.37
225.00	300.00	E355LX	392	373	359	2980	98.1	95.8	94.8	93.3	0.91	0.88	0.84	160	650	225	18.40
250.00	335.00	E355LX	441	419	403	2980	109.5	95.8	95.5	94.5	0.90	0.88	0.84	150	650	225	27.70
275.00	370.00	E355LX	490	466	449	2980	120.9	95.8	95.5	94.5	0.89	0.86	0.82	200	650	250	27.70

Tolerances are applicable as per IEC 60034-1 :2010

Full load currents indicated are given for respective design voltage.

Performance data for Apex series flame proof motor

IE3

Efficiency values complying to IE3 class of IEC 60034-30:2008

RATED POWER		FRAME	FULL LOAD CURRENT (AMP)			FL	FLT	EFFICIENCY %			POWERFACTOR			D.O.L STARTING		PULLOUT	GD ²
KW	HP		380 V	IN 400 V	415 V	SPEED RPM	M _w kg-m	FL	3/4L	1/2L	FL	3/4L	1/2L	STT %FLT	SCC %FLA	POT %FLT	KGM ²
4 POLE - 1500 RPM																	
0.75	1.00	E80	2	1.8	1.7	1410	0.518	82.5	82.5	81.5	0.73	0.66	0.55	200	500	250	0.01
1.10	1.50	E90L	3	2.6	2.5	1430	0.749	84.1	84.0	82.4	0.73	0.67	0.52	200	600	250	0.02
1.50	2.00	E90L	4	3.6	3.5	1430	1.021	85.3	85.3	85.0	0.7	0.65	0.54	200	600	250	0.02
2.20	3.00	E100L	5	4.7	4.5	1450	1.477	86.7	86.7	86.0	0.78	0.7	0.6	200	600	250	0.05
3.70	5.00	E112M	8	7.7	7.5	1450	2.5	88.4	88.4	88.2	0.78	0.74	0.66	200	600	250	0.09
5.50	7.50	E132M	11	10	10	1460	3.7	89.6	89.6	89.6	0.85	0.8	0.75	200	650	250	0.26
7.50	10.00	E132M	15	14	14	1457	5.0	90.4	90.4	90.0	0.83	0.77	0.66	225	650	275	0.26
11.00	15.00	E160L	21	20	19	1470	7.3	91.4	91.4	91.0	0.86	0.81	0.72	250	700	300	0.45
15.00	20.00	E160L	30	29	28	1465	10.0	92.1	92.1	91.0	0.82	0.75	0.65	200	650	250	0.48
18.50	25.00	E180L	36	34	33	1470	2.3	92.6	92.6	92.0	0.85	0.8	0.75	200	600	250	0.81
22.00	30.00	E180L	42	40	39	1470	14.6	93.0	93.0	92.4	0.85	0.8	0.75	225	600	275	0.85
30.00	40.00	E200L	57	54	52	1475	19.8	93.6	93.6	93.0	0.86	0.82	0.76	200	650	250	1.62
37.00	50.00	E225S	73	69	67	1470	24.5	93.9	93.9	93.0	0.82	0.75	0.72	200	600	250	2.70
45.00	60.00	E225M	81	77	74	1475	29.7	94.2	94.2	93.5	0.9	0.85	0.8	225	650	275	3.13
55.00	75.00	E250M	100	95	92	1480	36.2	94.6	94.6	94.0	0.88	0.84	0.8	225	600	275	6.28
75.00	100.00	E280M	132	125	121	1485	49.2	95	95	94.5	0.91	0.88	0.84	200	650	250	11.62
90.00	120.00	E280M	163	155	149	1485	59.0	95.2	95.2	94.6	0.88	0.84	0.8	200	700	250	11.62
110.00	150.00	E315M	193	183	176	1488	72.0	95.4	95.2	94.6	0.91	0.88	0.82	200	600	250	20.31
132.00	180.00	E315M	233	221	213	1490	86.2	95.6	95.6	94.8	0.9	0.86	0.8	180	650	225	20.31
160.00	215.00	E315L	279	265	255	1488	104.7	95.8	95.8	95	0.91	0.88	0.85	200	650	250	25.00
180.00	240.00	E315L	313	298	287	1488	117.8	95.9	95.9	95.2	0.91	0.88	0.85	225	700	275	24.97
200.00	270.00	E315L	344	327	315	1489	130.8	96	96	95.3	0.92	0.9	0.86	200	700	250	27.99
225.00	300.00	E355LX	396	376	362	1490	196.1	96	95.8	95.3	0.90	0.88	0.84	150	600	225	28.00
250.00	335.00	E355LX	440	418	403	1490	219.0	96	96	95.5	0.90	0.86	0.81	180	800	225	29.60
250.00	335.00	E355LX	473	449	403	1490	219.0	96	96	95.5	0.90	0.86	0.81	180	800	225	29.60

Tolerances are applicable as per IEC 60034-1 :2010

Full load currents indicated are given for respective design voltage.

APEX SERIES

PERFORMANCE

Performance data for Apex series flame proof motor

IE3

Efficiency values complying to IE3 class of IEC 60034-30:2008

RATED POWER		FRAME	FULL LOAD CURRENT (AMP)			FL	FLT	EFFICIENCY %			POWERFACTOR			D.O.L STARTING		PULLOUT	GD ²
KW	HP		380 V	400 V	415 V	SPEED RPM	M _N kg-m	FL	3/4L	1/2L	FL	3/4L	1/2L	STT %FLT	SCC %FLA	POT %FLT	KGM ²
6 POLE - 1000 RPM																	
0.75	1.00	E90L	2	2.1	2.0	935	1.0	78.9	78.9	78.8	0.65	0.56	0.48	175	500	225	0.02
1.10	1.50	E90L	3	2.8	2.7	935	1.6	81.0	80.2	78.4	0.69	0.6	0.47	180	500	250	0.03
1.50	2.00	E100L	4	4	3.9	940	2.1	82.5	81.5	80.4	0.65	0.59	0.48	200	500	250	0.04
2.20	3.00	E112M	6	5.4	5.2	960	3.0	84.3	84.3	84.0	0.7	0.66	0.56	200	550	250	0.11
3.70	5.00	E132M	8	7.5	7.3	960	5.1	86.5	86.5	86.0	0.82	0.76	0.64	175	550	250	0.21
5.50	7.50	E132M	13	10	11.6	965	7.6	88.0	88.0	86.5	0.75	0.7	0.6	175	550	250	0.33
7.50	10.00	E160L	16	15	14.3	975	10.0	89.1	89.1	88.5	0.82	0.76	0.64	225	600	275	0.46
11.00	15.00	E160L	23	22	21.2	975	15.0	90.3	90.3	90.0	0.8	0.75	0.65	200	600	250	0.64
15.00	20.00	E180L	32	30	29	975	20.0	91.2	91.2	91.0	0.78	0.71	0.58	225	600	250	1.16
18.50	25.00	E200L	36	35	33.4	975	25.0	91.7	91.7	90.8	0.84	0.8	0.72	200	600	250	1.69
22.00	30.00	E200L	43	41	39.5	975	30.0	92.2	92.2	91.0	0.84	0.8	0.7	200	550	250	2.04
30.00	40.00	E225M	58	55	52.9	980	39.8	92.9	92.9	91.5	0.85	0.81	0.73	200	600	250	3.70
37.00	50.00	E250M	72	68	65.7	975	49.9	93.3	93.3	92.3	0.84	0.8	0.78	200	600	250	7.51
45.00	60.00	E280M	89	85	81.5	988	59.1	93.7	93.7	93	0.82	0.78	0.7	200	650	250	14.15
55.00	75.00	E280M	110	104	100.4	990	73.8	94.1	94.1	93.8	0.81	0.78	0.74	200	700	250	14.15
75.00	100.00	E315M	140	132	128.3	990	98.4	94.6	94.6	94	0.86	0.82	0.74	160	600	200	24.20
90.00	120.00	E315M	168	159	153.4	990	118.1	94.9	94.9	93	0.86	0.82	0.74	175	600	225	24.20
110.00	150.00	E315L	204	194	187.1	985	148.3	95.1	95.1	94	0.86	0.82	0.74	175	600	225	33.33
132.00	180.00	E315L	244	232	223.8	990	177.1	95.4	95.4	95	0.86	0.82	0.74	200	600	250	33.33
160.00	215.00	E355L	296	281	270.7	990	211.5	95.6	95.6	95	0.86	0.82	0.74	200	600	250	35.60
180.00	240.00	E355L	328	312	300.8	990	236.1	95.7	95.5	95	0.87	0.85	0.78	175	600	250	35.60
200.00	270.00	E355L	373	355	341.7	990	265.6	95.8	95.5	94.5	0.85	0.81	0.75	130.00	600	225	39.70



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