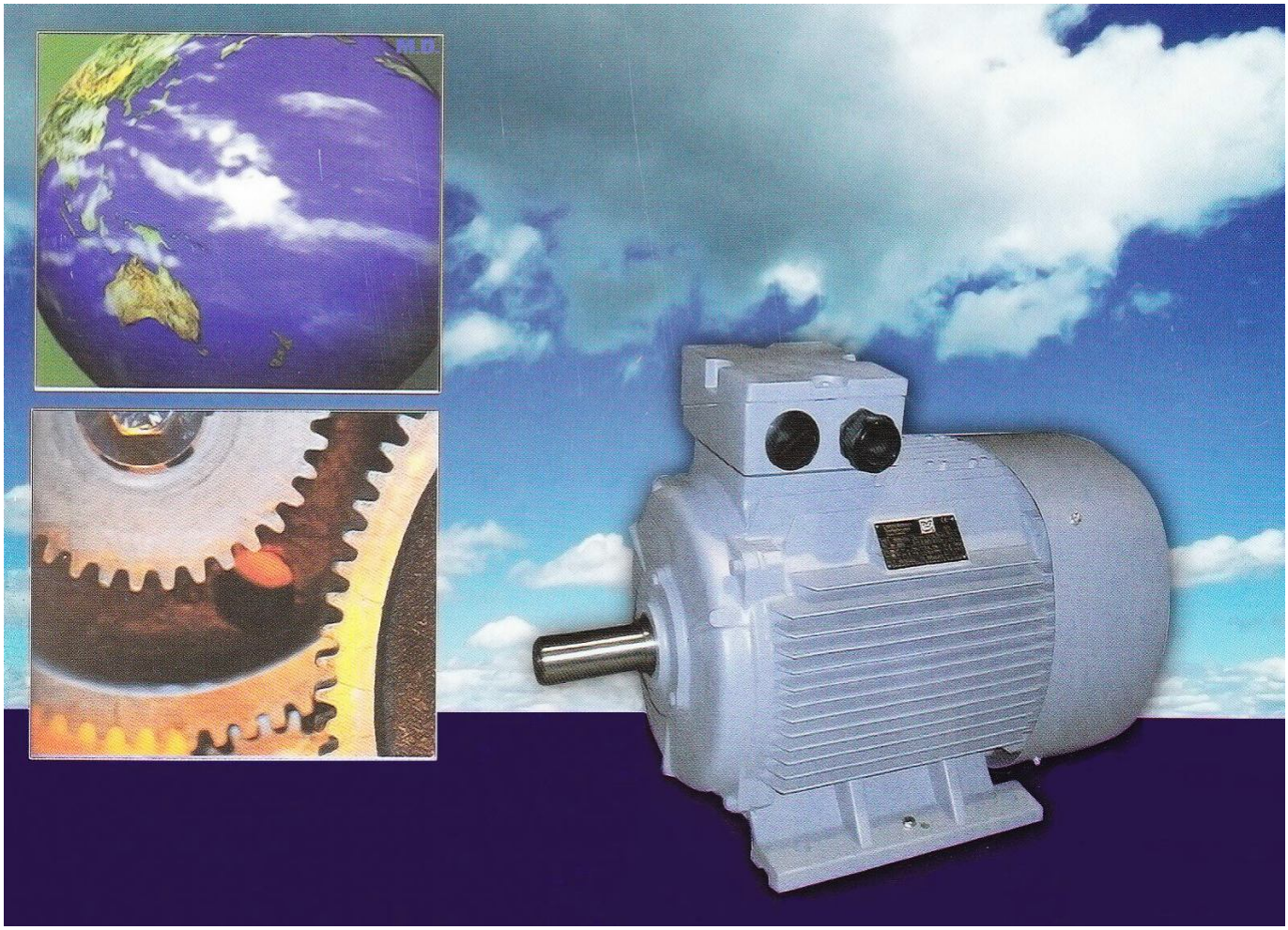
MOTORS

Asynchronous, Low Voltage, Squirrel Cage, Three Phase Electric Motors



Series R2, Frame 63 – 355

ISO 9001

Introduction

KHM R2 series cast iron motors are totally enclosed fan cooled, 3 phase, and squirrel cage induction motors.

KHM R2 series cast iron motors are manufactured to high Efficiency (EFF1 & EFF2) and starting torque are characterized by outstanding features such as protection degree in IP55, insulation Class F, Low noise (test at load), optimized structure and artistic outline.

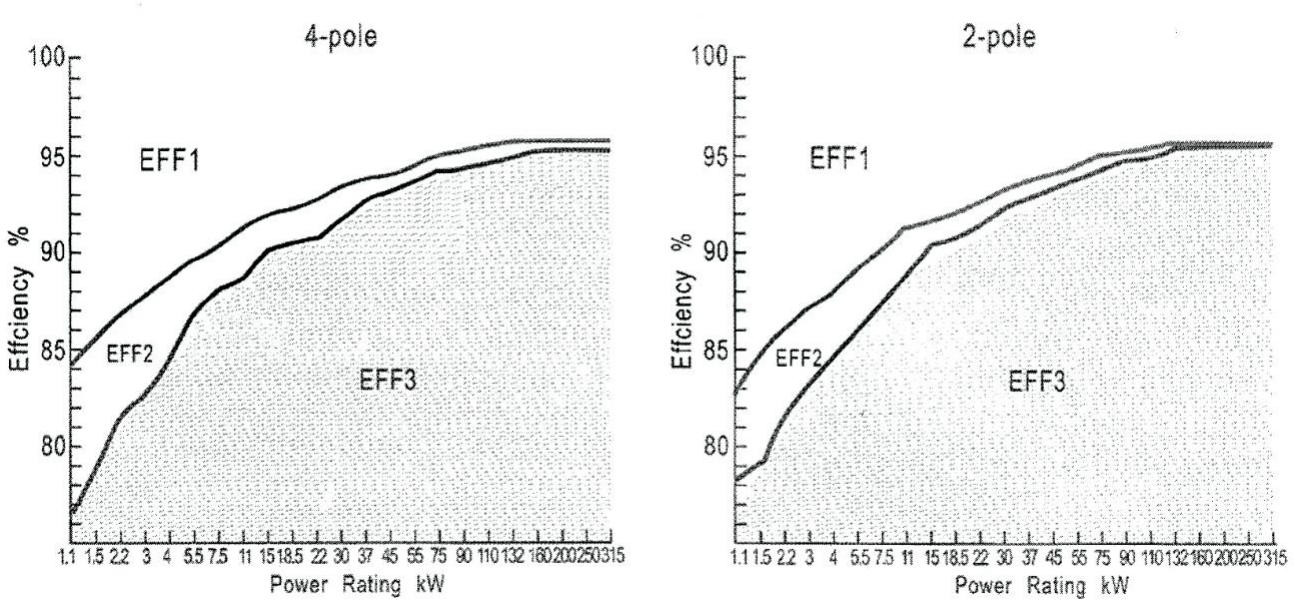
Its cooling method is IC411 and the rated output and mounting dimensions fully conformed to standard IEC and DIN 42673. The KHM R2 series cast iron motors are suitable for driving various kinds of machines or equipments without special requirements. They are rated at 400V, 50Hz, Y connection for motors up to 3kW, Δ connection for 4 kW 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.

R2 Series

HIGH EFFICIENCY THREE PHASE ASYNCHRONOUS INDUCTION MOTORS

- BEST DEVELOPMENT
- BEST MATERIAL CHOICE
- BEST LAYOUT CONFIGURATION
- BEST CUSTOMER SERVICE

Efficiency Charts



Standards and Regulation

CE Marking CE

Our three-phase induction motors comply with the requirements of the following international standard:
IEC 60034

as well as with the Low Voltage Directive 73/20 (1973), modified by the Directive 93/68 (1993) and the EMC-Directive 89/336.

The above named products comply with the requirements of the EC Directive Machines 89/392. In accordance with this Directive induction motors are components and intended solely for integration into other machines.

The CE symbol was applied for the first time in 1998.

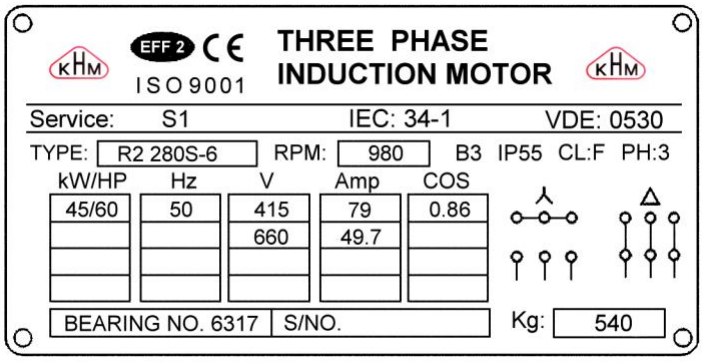
The safety instructions in Operation Manual of the manufacturer and EN 60204-1 have to be observed.

CEMEP Agreement

Electric Motor R2 Series covered by this agreement are defined as totally closed fan cooled IP55 three phase AC squirrel cage induction motors.

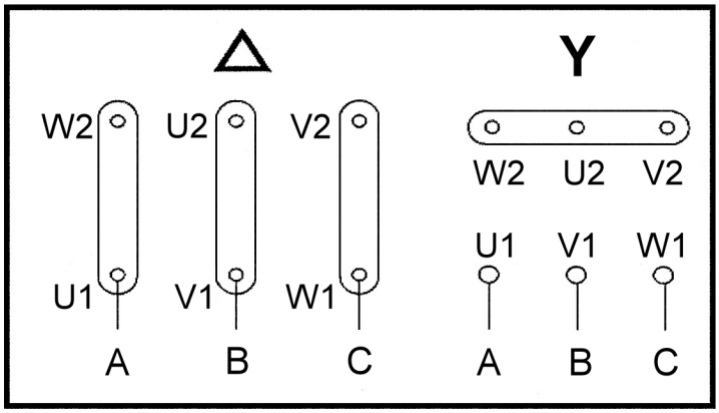
Motor Name Plate

Rating Plates

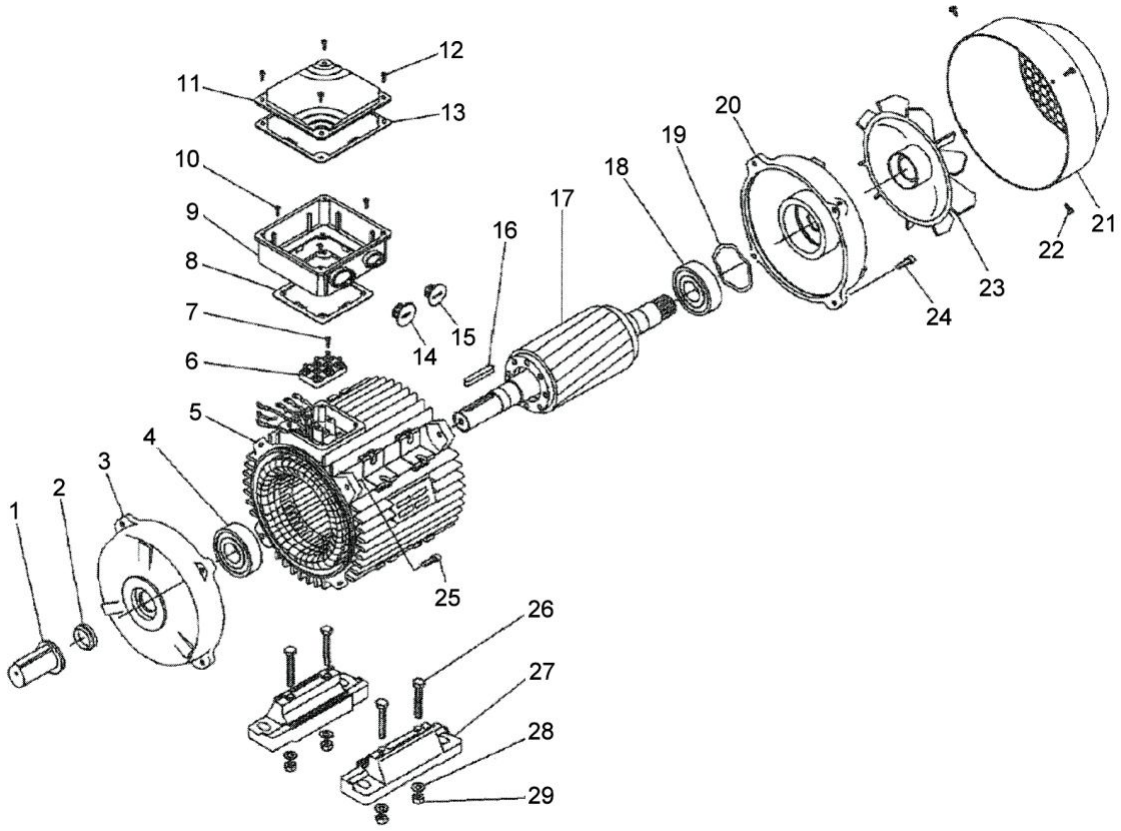


Rating Connection

Three Phase Motor



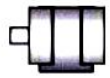
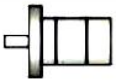
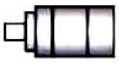
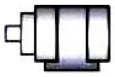
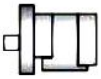
Spare Parts



Description of Parts

1. Shaft Protection
2. Dust Seal Drive End
3. End Shield Drive End
4. Bearing Drive End
5. Stator Frame
6. Terminal Board
7. Fixing Screw Terminal Board
8. Gasket Terminal Box
9. Terminal Box
10. Fixing Screw Terminal Box
11. Terminal Box Lid
12. Fixing Screw Terminal Box Lid
13. Gasket Terminal Box Lid
14. Blank Gland Plug
15. Blank Gland Plug
16. Key
17. Rotor Complete
18. Bearing Non-Drive End
19. Pre-Load Washer
20. End Shield Non-Drive End
21. Fan Cover
22. Fixing Screw Fan Cover
23. Fan
24. Fixing Bolt End Shield Non- Drive End
25. Fixing Bolt End Shield Drive End
26. Fixing Bolt Motor Feel
27. Motor Feet
28. Fixing Washer Motor Feet
29. Fixing Nut Motor Feel

Mounting Arrangements

Types of Mounting	IEC34-7 Code I	1992 Code II	Available Standard Types
	IM B3	IM 1001	R263 ~ 355
	IM B5	IM 3001	R263 ~ 280
	IM B6	IM 1050	R263 ~ 160
	IM B7	IM 1061	R263 ~ 160
	IM B8	IM 1071	R263 ~ 160
	IM B14	IM 3601	R263 ~ 112
	IM B34	IM 2101	R263 ~ 112
	IM B35	IM 2001	R263 ~ 355

Types of Mounting	IEC34-7 Code I	1992 Code II	Available Standard Types
	IM V1	IM 3011	R263 ~ 355
	IM V3	IM 3031	R263 ~ 280
	IM V5	IM 1011	R263 ~ 160
	IM V6	IM 1031	R263 ~ 160
	IM V15	IM 2011	R263 ~ 160
	IM V15	IM 2111	R263 ~ 112
	IM V18	IM 3611	R263 ~ 112
	IM V36	IM 2031	R263 ~ 160
	IM V36	IM 2131	R263 ~ 112

Bearings

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

Performance Data

R2: 2 Poles / 3000 rpm 50 Hz - EFF 1

Technical Specifications

Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current / Rated Current	Locked Torque / Rated Torque	Maximum Torque / Rated Torque	Moment of Inertia	Weight
	kW	HP	380V	400V	415V	Rpm	cos φ	%				JKgm2	kg
801-2	0.75	1	1.83	1.74	1.68	2845	0.83	77	7	2.2	2.3	0.0011	15
802-2	1.1	1.5	2.6	2.5	2.4	2840	0.85	79	7	2.2	2.3	0.0013	16
90S-2	1.5	2	3.5	3.3	3.2	2840	0.85	80.5	7	2.2	2.3	0.00185	22
92L-2	2.2	3	4.9	4.7	4.5	2840	0.85	82.5	7	2.2	2.3	0.0022	25
100L-2	3	4	6.4	6.1	5.9	2830	0.87	86.7	8	2.2	2.3	0.00425	33
112M-2	4	5.5	8.1	7.7	7.4	2890	0.90	87.6	8	2.2	2.3	0.0065	40
132S1-2	5.5	7.5	11	10.5	10.1	2910	0.90	88.7	8	2.2	2.3	0.0146	59
132S-2	7.5	10	15	14.3	13.7	2905	0.90	89.5	8	2.1	2.3	0.0157	62
160M1-2	11	15	22	21	20	2935	0.90	90.5	8	2.1	2.3	0.0549	107
160M2-2	15	20	29	28	27	2935	0.90	91.3	8	2.1	2.3	0.0635	117
160L-2	18.5	25	35	33	32	2935	0.91	91.8	8.2	2.1	2.3	0.0725	134
180M-2	22	30	41	39	38	2940	0.90	92.2	8.2	2.1	2.3	0.1025	169
200L1-2	30	40	56	53	51	2945	0.90	92.9	7.6	1.9	2.2	0.173	220
200L2-2	37	50	68	65	62	2945	0.90	93.3	7.6	1.9	2.2	0.195	239
225M-2	45	60	81	77	74	2950	0.90	93.7	7.6	1.7	2.2	0.325	297
250M-2	55	75	100	95	92	2965	0.90	94	7.6	1.5	2.2	0.395	380
280S-2	75	100	134	127	123	2965	0.91	94.6	7.6	1.5	2.2	0.683	510
280M-2	90	125	160	152	147	2965	0.91	95	7.6	1.5	2.2	0.765	540
315S-2	110	150	196	186	179	2975	0.91	95	7.1	1.8	2.4	1.558	920
315M-2	132	180	234	222	214	2975	0.91	95.4	7.1	1.8	2.4	1.726	970
315L1-2	160	215	280	266	256	2975	0.92	95.4	7.1	1.8	2.5	1.941	1080
315L2-2	200	270	348	331	319	2975	0.92	96	7.1	1.8	2.5	2.212	1170
355M-2	250	340	432	410	396	2970	0.92	96	7.3	1.6	2.2	3.848	1690
355L-2	315	420	543	515	497	2970	0.92	96.4	7.3	1.6	2.2	3.995	1860

Performance Data

R2: 4 Poles / 1500 rpm 50 Hz - EFF 1

Technical Specifications

Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current / Rated Current	Locked Torque / Rated Torque	Maximum Torque / Rated Torque	Moment of Inertia	Weight
	kW	HP	380V	400V	415V	Rpm	cos φ	%				JKgm2	kg
801-4	0.55	0.75	1.5	1.43	1.37	1390	0.77	79	6	2.4	2.7	0.00148	15
802-4	0.75	1	2	1.9	1.8	1380	0.78	80.5	6	2.4	2.7	0.00165	16
90S-4	1.1	1.5	3	2.9	2.7	1390	0.78	82	6.5	2.3	2.5	0.00232	22
90L-4	1.5	2	3.9	3.7	3.6	1390	0.78	83	6.5	2.3	2.5	0.00312	27
100L1-4	2.2	3	5.2	4.9	4.8	1410	0.81	85	7.1	2.3	2.5	0.00779	34
100L2-4	3	4	6.8	6.5	6.2	1410	0.82	87.4	7.1	2.3	2.5	0.00865	35
112M-4	4	5.5	8.7	8.3	8	1440	0.82	88.3	7.1	2.3	2.5	0.0185	44
132S1-4	5.5	7.5	12	11.4	11	1445	0.83	89.2	7.1	2.3	2.5	0.03301	61
132M2-4	7.5	10	16	15.2	14.7	1445	0.85	90.1	7.1	2.3	2.5	0.04121	73
160M-4	11	15	23	22	21	1460	0.85	91	7.7	2.1	2.4	0.1052	113
160L-4	15	20	30	29	27	1460	0.85	91.3	7.7	2.1	2.4	0.1123	133
180M-4	18.5	25	36	34	33	1470	0.87	92.2	7.7	2.1	2.4	0.1659	167
180L-4	22	30	42	40	38	1470	0.87	92.6	7.7	2.1	2.4	0.1865	181
200L-4	30	40	58	55	53	1470	0.86	93.2	7.3	2.1	2.4	0.302	232
225S-4	37	50	70	67	64	1475	0.87	93.6	7.3	1.7	2.3	0.538	287
225M-4	45	60	85	81	78	1475	0.87	93.9	7.3	1.8	2.3	0.635	322
250M-4	55	75	103	98	94	1475	0.87	94.2	7.3	1.8	2.3	0.785	385
280S-4	75	100	140	133	128	1485	0.87	94.7	7.3	2	2.4	1.552	510
280M-4	90	125	167	159	153	1485	0.87	95	7.3	2	2.4	1.865	600
315S-4	110	150	201	191	184	1480	0.88	95.4	6.9	2.2	2.7	3.48	930
315M-4	132	180	241	229	221	1485	0.88	95.8	6.9	2.2	2.8	3.678	1010
315L1-4	160	215	288	274	264	1485	0.89	95.9	6.9	2.2	2.4	4.472	1170
315L2-4	200	270	360	342	330	1485	0.89	95.9	6.9	2.2	2.4	4.856	1170
355M-4	250	340	440	418	403	1490	0.91	96	6.8	2.3	2.3	7.364	1720
355L-4	315	420	550	523	504	1490	0.91	96	6.8	2.3	2.3	9.1	1870

Performance Data

R2: 2 Poles / 3000 rpm 50 Hz - EFF 2

Technical Specifications

Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current	Locked Torque	Maximum Torque	Moment of Inertia	Weight
									Rated Current	Rated Torque	Rated Torque		
	kW	HP	380V	400V	415V	Rpm	cos φ	%				JKgm2	kg
631-2	0.18	0.24	0.53	0.5	0.49	2730	0.8	65	5.5	2.2	2.2	0.0031	10
632-2	0.25	0.33	0.63	0.6	0.58	2730	0.81	74	4.6	2.6	2.6	0.0004	11
711-2	0.37	0.5	0.95	0.9	0.87	2750	0.82	72.3	4.4	2.4	2.5	0.0006	14
712-2	0.55	0.75	1.33	1.26	1.22	2790	0.82	76.4	5.8	3	3.9	0.0006	14
801-2	0.75	1	1.83	1.74	1.68	2845	0.83	75	5.8	2.4	2.5	0.0008	15
802-2	1.1	1.5	2.6	2.5	2.4	2840	0.85	77	6.2	2.5	2.5	0.0009	16
90S-2	1.5	2	3.5	3.3	3.2	2840	0.85	78.3	6	2.7	2.8	0.0012	22
90L-2	2.2	3	4.9	4.7	4.5	2840	0.85	81.3	6	2.5	2.8	0.0014	25
100L-2	3	4	6.4	6.1	5.9	2830	0.87	83	7.5	2.2	2.5	0.0029	33
112M-2	4	5.5	8.1	7.7	7.4	2890	0.88	85	7.1	2.3	2.3	0.0055	40
132S1-2	5.5	7.5	11	10.5	10.1	2910	0.88	86	7.5	2.3	2.5	0.0109	59
132S2-2	7.5	10	15	14.3	13.7	2905	0.88	87	7.5	2.2	2.4	0.0126	62
160M1-2	11	15	22	21	20	2935	0.89	87.6	7.7	2.3	3.1	0.0377	107
160M2-2	15	20	29	28	27	2935	0.9	88.8	7.6	2.4	3.1	0.0499	117
160L-2	18.5	25	35	33	32	2935	0.91	90	7.7	2.7	3.2	0.055	134
180M-2	22	30	41	39	38	2940	0.9	90.5	7.7	2	2.7	0.075	169
200L1-2	30	40	56	53	51	2945	0.9	91.2	6.9	2.1	2.8	0.124	220
200L2-2	37	50	68	65	62	2945	0.9	92	7	2.2	2.6	0.139	239
225M-2	45	60	81	77	74	2950	0.9	92.5	7.3	2.4	3.5	0.233	297
250M-2	55	75	100	95	92	2965	0.9	92.5	7.6	2.6	3.3	0.312	380
280S-2	75	100	134	127	123	2965	0.91	93.5	7.8	2.2	2.5	0.579	510
280M-2	90	125	160	152	147	2965	0.91	93.8	7.8	2.2	2.5	0.675	540
315S-2	110	150	196	186	179	2975	0.91	94	7.1	1.8	2.4	1.18	920
315M-2	132	180	234	222	214	2975	0.91	94.5	7.1	1.8	2.4	1.82	970
315L1-2	160	215	280	266	256	2975	0.92	94.6	7.1	1.8	2.5	2.08	1080
315L2-2	200	270	348	331	319	2975	0.92	94.8	7.1	1.8	2.5	2.38	1170
355M-2	250	340	432	410	396	2970	0.92	95.5	7.3	1.6	2.2	3	1690
355L-2	315	420	543	515	497	2970	0.92	95.8	7.3	1.6	2.2	3.5	1860

Performance Data

R2: 4 Poles / 1450 rpm 50 Hz - EFF 2

Technical Specifications

Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current	Locked Torque	Maximum Torque	Moment of Inertia	Weight
									Rated Current	Rated Torque	Rated Torque		
	kW	HP	380V	400V	415V	Rpm	cos φ	%				JKgm2	kg
631-4	0.12	0.16	0.44	0.42	0.4	1320	0.72	57	2.1	4.4	2.2	0.0002	11
632-4	0.18	0.24	0.54	0.51	0.49	1320	0.72	70	3.6	2.4	2.5	0.0003	11
711-4	0.25	0.33	0.76	0.72	0.7	1350	0.7	70.6	4.1	2.5	3	0.0006	14
712-4	0.37	0.5	1.1	1.05	1.01	1340	0.75	71	4.1	2.5	3.1	0.0008	14
801-4	0.55	0.75	1.5	1.43	1.37	1390	0.77	71	5.3	2.5	2.5	0.0018	15
802-4	0.75	1	2	1.9	1.8	1380	0.77	73	5.3	2.7	2.5	0.0021	16
90S-4	1.1	1.5	3	2.9	2.7	1390	0.75	77.4	4.7	2.2	2.3	0.0023	22
90L-4	1.5	2	3.9	3.7	3.6	1390	0.76	77.1	5.2	2.3	2.6	0.0027	27
100L1-4	2.2	3	5.2	4.9	4.8	1410	0.81	80	6.8	2.3	2.5	0.0054	34
100L2-4	3	4	6.8	6.5	6.2	1410	0.82	82	7.1	2.3	2.5	0.0067	35
112M-4	4	5.5	8.7	8.3	8	1440	0.82	85	6.4	2.3	2.6	0.0095	44
132S-4	5.5	7.5	12	11.4	11	1445	0.83	85	7	2.3	2.5	0.0214	61
132M-4	7.5	10	16	15.2	14.7	1445	0.84	87	7	2.3	2.5	0.0296	73
160M-4	11	15	23	22	21	1460	0.85	88	7.6	2.4	2.9	0.0747	113
160L-4	15	20	30	29	27	1460	0.85	89.4	7.6	2.6	2.9	0.0918	133
180M-4	18.5	25	36	34	33	1470	0.87	90.7	7	2.2	3	0.139	167
180L-4	22	30	42	40	38	1470	0.87	91.2	7	2.2	2.7	0.158	181
200L-4	30	40	58	55	53	1470	0.86	92	7.2	2.2	2	0.262	232
225S-4	37	50	70	67	64	1475	0.87	92.5	6.9	2.2	2.8	0.406	287
225M-4	45	60	85	81	78	1475	0.87	93	7	2.2	3	0.469	322
250M-4	55	75	103	98	94	1475	0.87	93.2	7.4	2.2	2.8	0.66	385
280S-4	75	100	140	133	128	1485	0.87	93.8	7.5	2.2	2.4	1.12	510
280M-4	90	125	167	159	153	1485	0.87	94.2	7.5	2.2	2.4	1.46	600
315S-4	110	150	201	191	184	1480	0.88	94.5	6.9	2.2	2.7	3.11	930
315M-4	132	180	241	229	221	1485	0.88	94.8	6.9	2.2	2.6	3.62	1010
315L1-4	160	215	288	274	264	1485	0.89	94.9	6.9	2.2	2.4	4.13	1170
315L2-4	200	270	360	342	330	1485	0.89	95	6.9	2.2	2.4	4.73	1170
355M-4	250	340	440	418	403	1490	0.91	95.5	6.8	2.3	2.3	6.5	1720
355L-4	315	420	550	523	504	1490	0.91	95.8	6.8	2.3	2.3	8.2	1870

Performance Data

R2: 6 Poles / 1000 rpm 50 Hz - EFF 2

Technical Specifications

Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current / Rated Current	Locked Torque / Rated Torque	Maximum Torque / Rated Torque	Moment of Inertia	Weight
	kW	HP	380V	400V	415V	Rpm	cos φ	%				JKgm2	kg
711-6	0.18	0.24	0.7	0.67	0.64	865	0.66	59	3.2	2.3	2.4	0.0011	13
712-6	0.25	0.33	0.9	0.86	0.82	865	0.68	64	3	2	2	0.014	14
801-6	0.37	0.5	1.2	1.14	1.1	865	0.76	62.5	4	2	2.1	0.0016	15
802-6	0.55	0.75	1.7	1.62	1.56	865	0.76	66	4	2	2.1	0.019	16
90S-6	0.75	1	2.4	2.28	2.2	915	0.71	67.5	4	2	2.2	0.0029	23
90L-6	1.1	1.5	3.3	3.1	3	915	0.72	70.5	4	2	2.2	0.0035	25
100L-6	1.5	2	4	3.8	3.7	910	0.76	76	6.2	2.1	2.2	0.0069	33
112M-6	2.2	3	5.5	5.2	5	940	0.76	82	5	2.2	2.2	0.014	39
132S-6	3	4	7.5	7.1	6.9	960	0.76	81	6.3	2.2	2.8	0.0286	56
132M1-6	4	5.5	10	9.5	9.2	960	0.76	82	6.4	2.4	2.9	0.0357	71
132M2-6	5.5	7.5	13	12.4	11.9	960	0.77	84	6.5	2.4	2.8	0.0449	75
160M-6	7.5	10	17	16.2	15.6	970	0.78	86	6.5	2	2.3	0.0081	108
160L-6	11	15	24	23	22	970	0.79	87.5	6.5	2	2.3	0.116	131
180L-6	15	20	31	29	28	970	0.83	90	7	2.1	2.2	0.207	171
200L1-6	18.5	25	38	36	35	975	0.82	90	6.5	2.1	2.8	0.315	216
200L2-6	22	30	45	43	41	975	0.83	90.5	6.5	2.1	2.7	0.36	225
225M-6	30	40	58	55	53	980	0.85	91.6	6.9	2.1	2.5	0.547	286
250M-6	37	50	71	67	65	980	0.86	91.7	6.9	2.3	3	0.843	380
280S-6	45	60	86	82	79	980	0.86	92.5	7	2.3	2.7	1.39	456
280M-6	55	75	105	100	96	980	0.86	92.8	7	2.3	2.7	1.65	540
315S-6	75	100	142	135	130	935	0.86	93.5	7	2	2.4	4.11	861
315M-6	90	125	170	162	156	935	0.86	93.8	7	2	2.4	4.78	940
315L1-6	110	150	207	197	190	935	0.86	94	7	2.1	2.4	5.45	1110
315L2-6	132	180	245	233	224	935	0.87	94.2	7	2.1	2.3	6.12	1175
355M1-6	160	215	291	276	266	990	0.88	94.8	7	2	2	9.5	1620
355M2-6	200	270	363	345	332	990	0.88	95	7	2	2	10.4	1730
355L-6	250	340	450	428	412	990	0.89	95	7	2.3	2.5	12.4	1820

Performance Data

R2: 8 Poles / 750 rpm 50 Hz - EFF 2

Technical Specifications

Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current / Rated Current	Locked Torque / Rated Torque	Maximum Torque / Rated Torque	Moment of Inertia	Weight
	kW	HP	380V	400V	415V	Rpm	cos φ	%				JKgm2	kg
801-8	0.18	0.24	0.82	0.78	0.75	645	0.64	52	2.9	1.8	2	0.0025	16
802-8	0.25	0.33	1.1	1.05	1.01	645	0.64	54	2.9	1.8	2	0.003	17
90S-8	0.37	0.5	1.6	1.52	1.47	670	0.6	59	3.2	1.9	2.3	0.0051	24
90L-8	0.55	0.75	2.2	2.1	2	670	0.6	62	3.2	2	2.3	0.0065	26
100L1-8	0.75	1	2.4	2.3	2.2	680	0.67	70	4.7	2	2.2	0.009	33
100L2-8	1.1	1.5	3.4	3.2	3.1	680	0.69	72	5	1.8	2.2	0.011	34
112M-8	1.5	2	4	3.8	3.7	700	0.75	75	5	2	2.5	0.0245	39
132S-8	2.2	3	6	5.7	5.5	710	0.71	78	6	1.8	2.5	0.0314	62
132M-8	3	4	7.9	7.5	7.2	710	0.73	79	6	1.8	2.4	0.0395	66
160M1-8	4	5.5	10.3	9.8	9.4	720	0.73	81	6	1.9	2	0.0753	94
160M2-8	5.5	7.5	14	13	12	720	0.74	83	6	2	2	0.0931	106
160L-8	7.5	10	18	17	16	720	0.75	85.5	6	2	2	0.126	128
180L-8	11	15	25	24	23	730	0.76	87	6.2	2.2	2.8	0.203	170
200L-8	15	20	35	33	32	730	0.76	88.5	6.2	2.2	2.8	0.339	220
225S-8	18.5	25	40	38	37	730	0.77	90.1	6.8	2	3	0.491	270
225M-8	22	30	47	45	43	730	0.8	90.7	6.7	2	2.9	0.547	295
250M-8	30	40	63	60	58	730	0.8	90.7	5.5	1.9	2.8	0.834	370
280S-8	37	50	78	74	71	735	0.79	91.5	6.6	2	2.4	1.93	475
280M-8	45	60	95	90	87	735	0.79	92	6.6	2	2.4	3.65	555
315S-8	55	75	115	109	105	735	0.81	92.8	6.6	1.8	2.2	4.79	905
315M-8	75	100	150	143	137	735	0.81	93	6.6	1.8	2.2	5.58	981
315L1-8	90	125	180	171	165	735	0.82	93.8	6.6	1.8	2.3	6.37	1070
315L2-8	110	150	220	209	201	735	0.82	94	6.6	1.9	2.3	7.23	1160
355M1-8	132	180	265	252	243	745	0.82	93.5	6.5	1.9	2	7.9	1700
355M2-8	160	215	315	299	288	745	0.83	93.5	6.5	1.9	2	10.3	1730
355L-8	200	270	386	367	353	745	0.83	94.8	6.5	1.9	2	12.3	1970

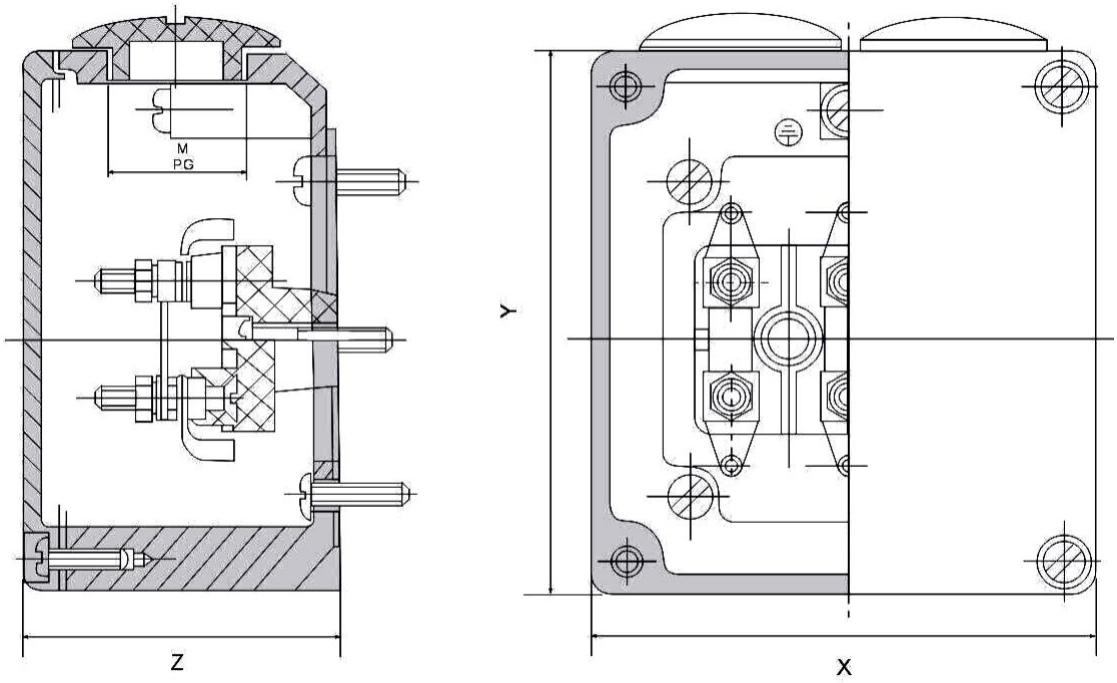
Performance Data

R2: 10 Poles / 600 rpm 50 Hz - EFF 2

Technical Specifications

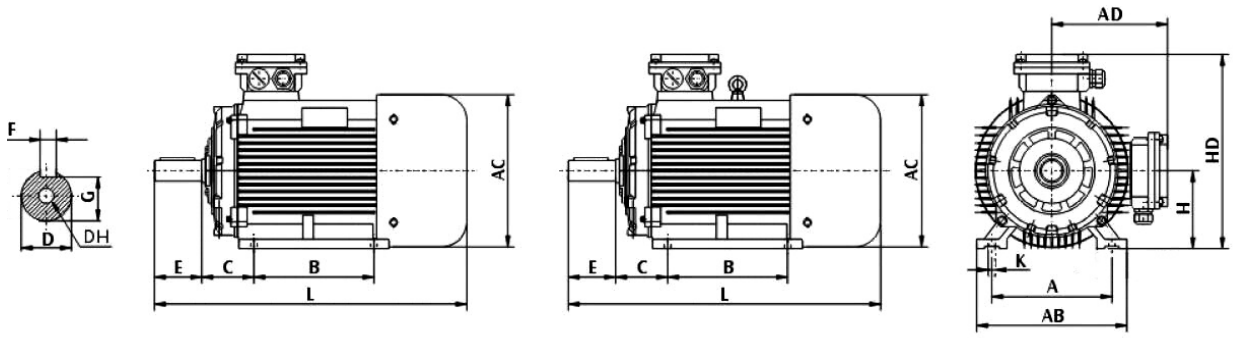
Motor Type	Rated Output		Current (A)			Speed	Power Factor	Efficiency	Locked Current	Locked Torque	Maximum Torque	Moment of Inertia	Weight
	kW	HP	380V	400V	415V	Rpm	cos φ	%	Rated Current	Rated Torque	Rated Torque	JKgm2	kg
315S-10	45	60	100	95	92	590	0.75	91.5	6.2	1.5	2	5.23	890
315M-10	55	75	122	116	112	590	0.75	92	6.2	1.5	2	6.05	965
315L1-10	75	100	163	155	149	590	0.76	92.5	6.2	1.5	2	6.98	1040
315L2-10	90	125	191	181	175	590	0.77	93	6.2	1.5	2	7.21	1130
355M1-10	110	150	230	219	211	590	0.78	93.2	6	1.3	2	13.8	1620
355M2-10	132	180	275	261	252	590	0.78	93.5	6	1.3	2	15	1730
355L-10	160	215	333	316	305	590	0.78	93.5	6	1.3	2	16.64	1970

Terminal Box



Frame Size	Diameter of the pipe thread (mm)	PG pipe thread	X x Y x Z (mm)
63	1-M24 x 1.5-6g		95 x 95 x 50
71	1-M24 x 1.5-6g		95 x 95 x 50
80	1-M24 x 1.5-6g	2-Pg16	95 x 95 x 50
90	1-M24 x 1.5-6g	2-Pg16	102 x 102 x 50
100	1-M24 x 1.5-6g	2-Pg16	102 x 102 x 50
112 - 132	1-M30 x 2-6g	2-Pg21	108 x 123 x 75
160 - 180	2-M36 x 2-6g	2-Pg29	150 x 160 x 105
200 - 225	2-M48 X 2-6g	2-Pg36	188 x 208 x 105
250 - 280	2-M64 x 2-6g	2-Pg42	216 x 251 x 120
315	2-M64 x 2-6g	2-Pg48	300 x 358 x 198
355	2-M72 x 2-6g		330 x 380 x 200

B3 Mounting and Overall Dimensions

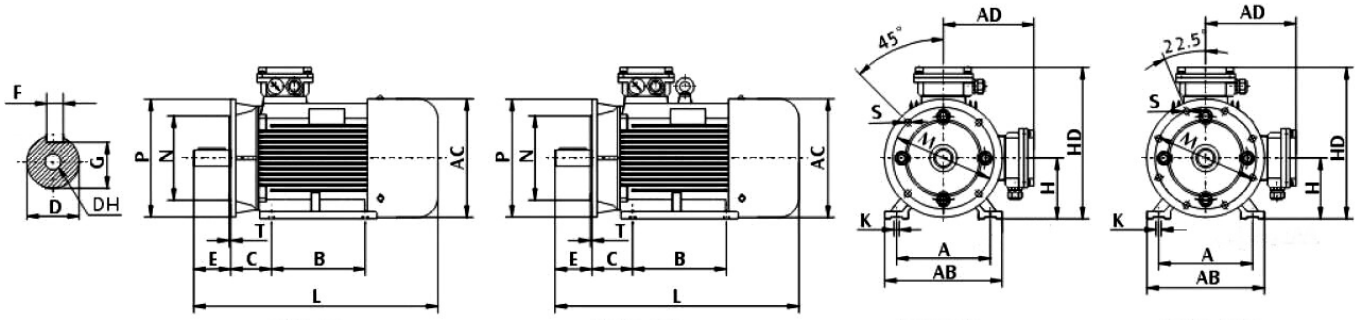


63 – 90 100 - 355

63 – 90 without lifting bolt

Frame Size	Poles	Mounting Dimensions (mm)										Overall Dimensions				
		A	B	C	D	E	F	G	H	K	DH	AB	AC	AD	HD	L
63	2,4	100	80	40	11	23	4	8.5	63	7	M4X12	135	130	70	180	225
71	2,4,6	112	90	45	14	30	5	11	71	7	M5X12	150	145	80	195	250
80	2,4,6,8	125	100	50	19	40	6	15.5	80	10	M6X16	165	175	145	214	295
90S	2,4,6,8	140	100	56	24	50	8	20	90	10	M8X19	180	195	155	250	310
90L	2,4,6,8	140	125	56	24	50	8	20	90	10	M8X19	180	195	155	250	345
100L	2,4,6,8	160	140	63	28	60	8	24	100	12	M10X22	205	215	180	270	385
112M	2,4,6,8	190	140	70	28	60	8	24	112	12	M10X22	230	240	190	300	415
132S	2,4,6,8	216	140	89	38	80	10	33	132	12	M12X28	270	275	210	345	490
132M	2,4,6,8	216	178	89	38	80	10	33	132	12	M12X28	270	275	210	345	520
160M	2,4,6,8	254	210	108	42	110	12	37	160	15	M16X36	320	330	255	420	610
160L	2,4,6,8	254	254	108	42	110	12	37	160	15	M16X36	320	330	255	420	665
180M	2,4,6,8	279	241	121	48	110	14	42.5	180	15	M16X36	355	380	280	455	700
180L	2,4,6,8	279	279	121	48	110	14	42.5	180	15	M16X36	355	380	280	455	740
200L	2,4,6,8	318	305	133	55	110	16	49	200	19	M20X42	395	420	305	545	775
225S	4,6,8	356	286	149	60	140	18	53	225	19	M20X42	435	470	335	555	825
225M	2	356	311	149	55	110	16	49	225	19	M20X42	435	470	335	555	850
	4,6,8	356	311	149	60	140	18	53	225	19	M20X42	435	470	335	555	850
250M	2	406	349	168	60	140	18	53	250	24	M20X42	490	510	370	615	935
	4,6,8	406	349	168	65	140	18	58	250	24	M20X42	490	510	370	615	935
280S	2	457	368	190	65	140	18	58	280	24	M20X42	550	580	410	680	1010
	4,6,8	457	368	190	75	140	20	67.5	280	24	M20X42	550	580	410	680	1010
280M	2	457	419	190	65	140	18	58	280	24	M20X42	550	580	410	680	1010
	4,6,8	457	419	190	75	140	20	67.5	280	24	M20X42	550	580	410	680	1010
315S	2	508	406	216	65	140	18	58	315	28	M20X46	635	645	530	845	1190
	4,6,8,10	508	406	216	80	170	22	75	315	28	M20X46	635	645	530	845	1270
315M	2	508	457	216	65	140	18	58	315	28	M20X46	635	645	530	845	1270
	4,6,8,10	508	457	216	80	170	22	75	315	28	M20X46	635	645	530	845	1300
315L	2	508	508	216	65	140	18	58	315	28	M20X46	635	645	530	845	1270
	4,6,8,10	508	508	216	80	170	22	75	315	28	M20X46	635	645	530	845	1300
355M	2	610	560	254	75	140	20	67.5	355	28	M20X46	730	710	655	1010	1500
	4,6,8,10	610	560	254	95	170	25	86	355	28	M20X46	730	710	655	1010	1530
355L	2	610	630	254	75	140	20	67.5	355	28	M20X46	730	710	655	1010	1500
	4,6,8,10	610	630	254	95	170	25	86	355	28	M20X46	730	710	655	1010	1530

B35 Mounting and Overall Dimensions

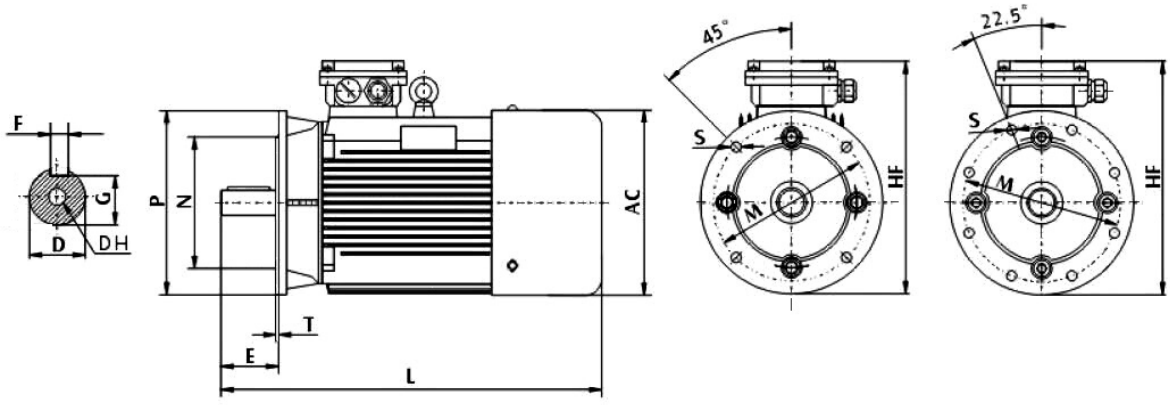


63 – 90 | 100 – 355 | 63 – 200 | 225 – 355

63 – 90 without lifting bolt

Frame Size	Flange No	Poles	Dimensions (mm)																Overall Dimensions (mm)				
			A	B	C	D	E	F	G	H	K	M	N	P	S	T	DH	Flange Hole	AB	AC	AD	HD	L
63	FF115	2,4	100	80	40	11	23	4	8.5	63	7	115	95	140	10	3	M4X12	4	135	130	70	180	225
71	FF130	2,4,6	112	90	45	14	30	5	11	71	7	130	110	160	10	3.5	M5X12	4	150	145	80	195	250
80	FF165	2,4,6,8	125	100	50	19	40	6	15.5	80	10	165	130	200	12	3.5	M6X16	4	165	175	145	214	295
90S	FF165	2,4,6,8	140	100	56	24	50	8	20	90	10	165	130	200	12	3.5	M8X20	4	180	195	155	250	315
90L	FF165	2,4,6,8	140	125	56	24	50	8	20	90	10	165	130	200	12	3.5	M8X20	4	180	195	155	250	340
100L	FF215	2,4,6,8	160	140	63	28	60	8	24	100	12	215	180	250	15	4	M10X25	4	205	215	180	270	385
112M	FF215	2,4,6,8	190	140	70	28	60	8	24	112	12	215	180	250	15	4	M10X25	4	230	240	190	300	400
132S	FF265	2,4,6,8	216	140	89	38	80	10	33	132	12	265	230	300	15	4	M12X30	4	270	275	210	345	470
132M	FF265	2,4,6,8	216	178	89	38	80	10	33	132	12	265	230	300	15	4	M12X30	4	270	275	210	345	510
160M	FF300	2,4,6,8	254	210	108	42	110	12	37	160	14.5	300	250	350	19	5	M16X36	4	320	330	255	420	615
160L	FF300	2,4,6,8	254	254	108	42	110	12	37	160	14.5	300	250	350	19	5	M16X36	4	320	330	255	420	670
180M	FF300	2,4,6,8	279	241	121	48	110	14	42.5	180	14.5	300	250	350	19	5	M16X36	4	355	380	280	455	700
180L	FF300	2,4,6,8	279	279	121	48	110	14	42.5	180	14.5	300	250	350	19	5	M16X36	4	355	380	280	455	740
200L	FF350	2,4,6,8	318	305	133	55	110	16	49	200	19	350	300	400	19	5	M20X42	4	395	420	305	545	770
225S	FF400	4,6,8	356	286	149	60	140	18	53	225	19	400	350	450	19	5	M20X42	8	435	470	335	555	815
225M	FF400	2	356	311	149	55	110	16	49	225	19	400	350	450	19	5	M20X42	8	435	470	335	555	820
	FF400	4,6,8	356	311	149	60	140	18	53	225	19	400	350	450	19	5	M20X42	8	435	470	335	555	845
250M	FF500	2	406	349	168	60	140	18	53	250	24	500	450	550	19	5	M20X42	8	490	510	370	615	910
	FF500	4,6,8	406	349	168	65	140	18	58	250	24	500	450	550	19	5	M20X42	8	490	510	370	615	910
280S	FF500	2	457	368	190	65	140	18	58	280	24	500	450	550	19	5	M20X42	8	550	580	410	680	985
	FF500	4,6,8	457	368	190	75	140	20	67.5	280	24	500	450	550	19	5	M20X42	8	550	580	410	680	985
280M	FF500	2	457	419	190	65	140	18	58	280	24	500	450	550	19	5	M20X42	8	550	580	410	680	1035
	FF500	4,6,8	457	419	190	75	140	20	67.5	280	24	500	450	550	19	5	M20X42	8	550	580	410	680	1035
315S	FF600	2	508	406	216	65	140	18	58	315	28	600	550	680	24	6	M20X46	8	635	645	530	845	1160
	FF600	4,6,8,10	508	406	216	80	170	22	71	315	28	600	550	680	24	6	M20X46	8	635	645	530	845	1270
315M	FF600	2	508	457	216	65	140	18	58	315	28	600	550	680	24	6	M20X46	8	635	645	530	845	1190
	FF600	4,6,8,10	508	457	216	80	170	22	71	315	28	600	550	680	24	6	M20X46	8	635	645	530	845	1300
315L	FF600	2	508	508	216	65	140	18	58	315	28	600	550	680	24	6	M20X46	8	635	645	530	845	1190
	FF600	4,6,8,10	508	508	216	80	170	22	71	315	28	600	550	680	24	6	M20X46	8	635	645	530	845	1300
355M	FF740	2	610	560	254	75	140	20	67.5	355	28	740	680	800	24	6	M20X46	8	730	710	655	1010	1500
	FF740	4,6,8,10	610	560	254	95	170	25	86	355	28	740	680	800	24	6	M20X46	8	730	710	655	1010	1530
355L	FF740	2	610	630	254	75	140	20	67.5	355	28	740	680	800	24	6	M20X46	8	730	710	655	1010	1500
	FF740	4,6,8,10	610	630	254	95	170	25	86	355	28	740	680	800	24	6	M20X46	8	730	710	655	1010	1530

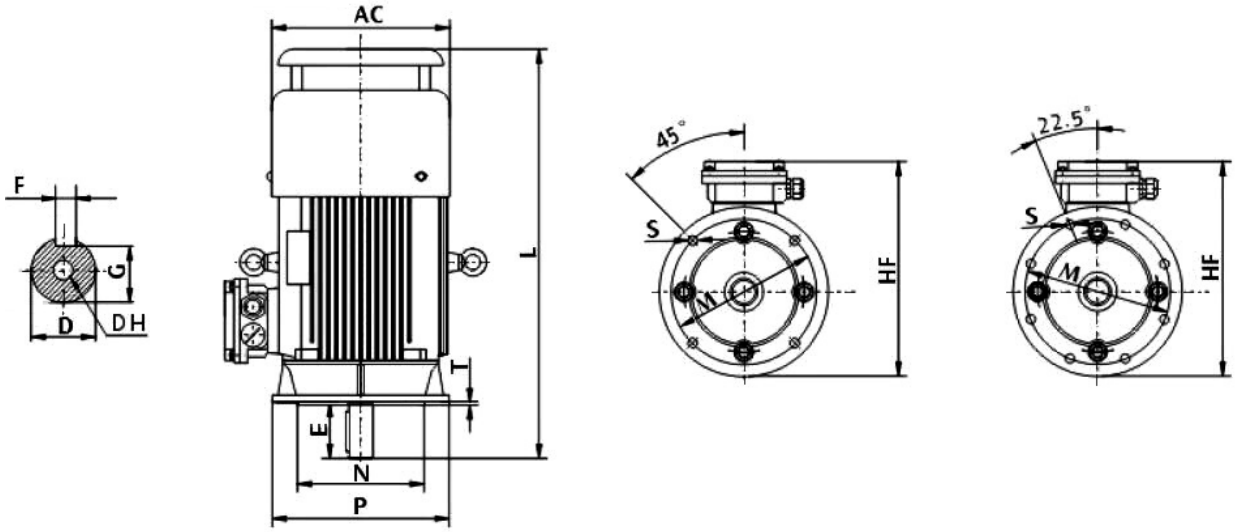
B5 Mounting and Overall Dimensions



63 – 200 225 – 250

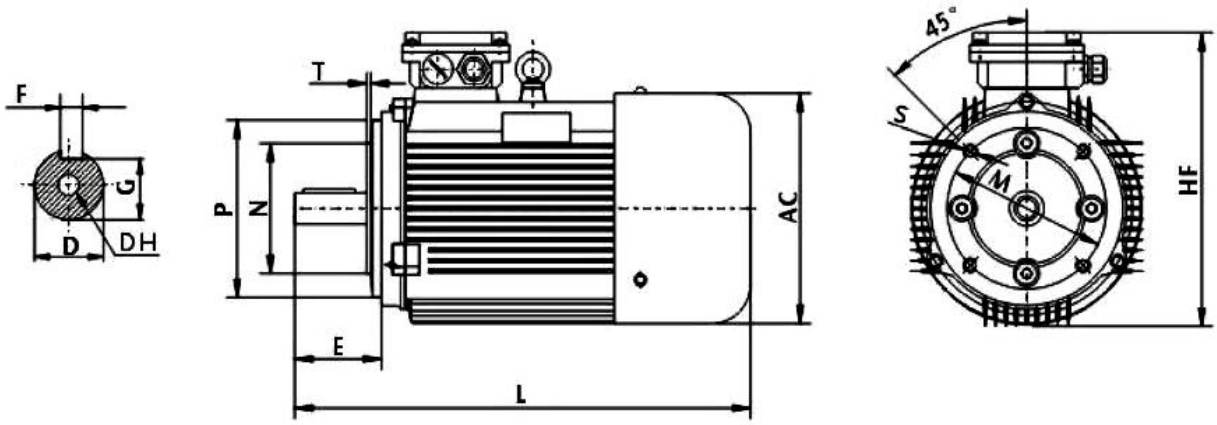
Frame Size	Flange No	Poles	Mounting Dimensions (mm)											Overall Dimensions (mm)		
			D	E	F	G	M	N	P	S	T	DH	Flange Holes	AC	HF	L
63	FF115	2,4	11	23	4	10	115	95	140	10	3	M4X12	4	130	185	225
71	FF130	2,4,6	14	30	5	11	130	110	160	10	3.5	M5X12	4	145	200	250
80	FF165	2,4,6,8	19	40	6	15.5	165	130	200	12	3.5	M6X16	4	175	235	295
90S	FF165	2,4,6,8	24	50	8	20	165	130	200	12	4	M8X19	4	195	250	315
90L	FF165	2,4,6,8	24	50	8	20	165	130	200	12	4	M8X19	4	195	270	340
100L	FF215	2,4,6,8	28	60	8	24	215	180	250	15	4	M10X22	4	215	280	385
112M	FF215	2,4,6,8	28	60	8	24	215	180	250	15	4	M10X22	4	240	360	400
132S	FF265	2,4,6,8	38	80	10	33	265	230	300	15	4	M12X28	4	275	360	470
132M	FF265	2,4,6,8	38	80	10	33	265	230	300	15	4	M12X28	4	275	360	510
160M	FF300	2,4,6,8	42	110	12	37	300	250	350	19	5	M16X36	4	330	430	615
160L	FF300	2,4,6,8	42	110	12	37	300	250	350	19	5	M16X36	4	330	430	670
180M	FF300	2,4,6,8	48	110	14	42.5	300	250	350	19	5	M16X36	4	380	430	700
180L	FF300	2,4,6,8	48	110	14	42.5	300	250	350	19	5	M16X36	4	380	450	740
200L	FF350	2,4,6,8	55	110	16	49	350	300	400	19	5	M20X42	4	420	545	770
225S	FF400	4,6,8	60	140	18	53	400	350	450	19	5	M20X42	8	470	555	815
225M	FF400	2	55	110	16	49	400	350	450	19	5	M20X42	8	470	555	820
	FF400	4,6,8	60	140	18	53	400	350	450	19	5	M20X42	8	470	555	845
250M	FF500	2	60	140	18	53	500	450	550	19	5	M20X42	8	510	640	910
	FF500	4,6,8	65	140	18	58	500	450	550	19	5	M20X42	8	510	640	910
280S	FF500	2	65	140	18	58	500	450	550	19	5	M20X42	8	580	675	985
	FF500	4,6,8	75	140	20	67.5	500	450	550	19	5	M20X42	8	580	675	985
280M	FF500	2	65	140	18	58	500	450	550	19	5	M20X42	8	580	675	1035
	FF500	4,6,8	75	140	20	67.5	500	450	550	19	5	M20X42	8	580	675	1035

V1 Mounting and Overall Dimensions



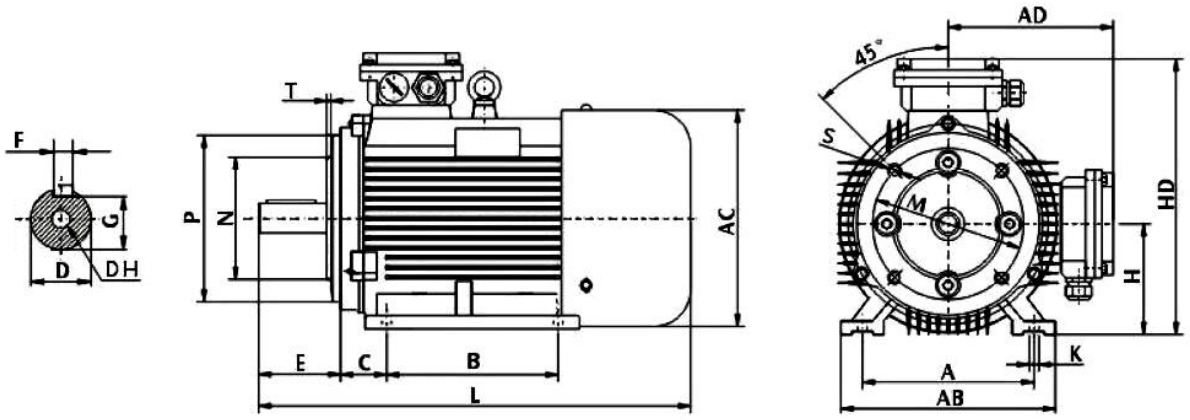
Frame Size	Flange No	Poles	Mounting Dimensions (mm)											Overall Dimensions (mm)		
			D	E	F	G	M	N	P	S	T	Flange Holes	DH	AC	HF	L
80	FF165	2,4,6,8	19	40	6	15.5	165	130	200	12	3.5	4	M6X16	160	150	349
90S	FF165	2,4,6,8	24	50	8	20	165	130	200	12	4	4	M8X19	175	165	362
90L	FF165	2,4,6,8	24	50	8	20	165	130	200	12	4	4	M8X19	175	165	387
100L	FF215	2,4,6,8	28	60	8	24	215	180	250	15	4	4	M10X22	220	170	428
112M	FF215	2,4,6,8	28	60	8	24	215	180	250	15	4	4	M10X22	225	195	436
132S	FF265	2,4,6,8	38	80	10	33	265	230	300	15	4	4	M12X28	260	215	508
132M	FF265	2,4,6,8	38	80	10	33	265	230	300	15	4	4	M12X28	260	215	538
160M	FF300	2,4,6,8	42	110	12	37	300	250	350	19	5	4	M16X36	315	265	660
160L	FF300	2,4,6,8	42	110	12	37	300	250	350	19	5	4	M16X36	315	265	704
180M	FF300	2,4,6,8	48	110	14	42.5	300	250	350	19	5	4	M16X36	360	500	744
180L	FF300	2,4,6,8	48	110	14	42.5	300	250	350	19	5	4	M16X36	360	500	782
200L	FF350	2,4,6,8	55	110	16	49	350	300	400	19	5	4	M20X42	420	550	849
225S	FF400	4,6,8	60	140	18	53	400	350	450	19	5	8	M20X42	470	610	911
225M	FF400	2	55	110	16	49	400	350	450	19	5	8	M20X42	470	610	895
	FF400	4,6,8	60	140	18	53	400	350	450	19	5	8	M20X42	470	610	935
250M	FF500	2	60	140	18	53	500	450	550	19	5	8	M20X42	510	650	1010
	FF500	4,6,8	65	140	18	58	500	450	550	19	5	8	M20X42	510	650	1010
280S	FF500	2	65	140	18	58	500	450	550	19	5	8	M20X42	580	720	1082
	FF500	4,6,8	75	140	20	67.5	500	450	550	19	5	8	M20X42	580	720	1082
280M	FF500	2	65	140	18	58	500	450	550	19	5	8	M20X42	580	720	1133
	FF500	4,6,8	75	140	20	67.5	500	450	550	19	5	8	M20X42	580	720	1131
315S	FF600	2	65	140	18	58	600	550	660	24	6	8	M20X42	645	900	1324
	FF600	4,6,8,10	80	170	22	71	600	550	660	24	6	8	M20X42	645	900	1354
315M	FF600	2	65	140	18	58	600	550	660	24	6	8	M20X42	645	900	1427
	FF600	4,6,8,10	80	170	22	71	600	550	660	24	6	8	M20X42	645	900	1457
315L	FF600	2	65	140	18	58	600	550	660	24	6	8	M20X42	645	900	1427
	FF600	4,6,8,10	80	170	22	71	600	550	660	24	6	8	M20X42	645	900	1457
355M	FF740	2	75	140	20	67.5	740	680	800	24	6	8	M24X50	710	1010	1665
	FF740	4,6,8,10	95	170	25	86	740	680	800	24	6	8	M24X50	710	1010	1700
355L	FF740	2	75	140	20	67.5	740	680	800	24	6	8	M24X50	710	1010	1665
	FF740	4,6,8,10	95	170	25	86	740	680	800	24	6	8	M24X50	710	1010	1700

B14 Mounting and Overall Dimensions



Frame Size	Flange Size	Poles	Mounting Dimensions (mm)											Overall Dimensions (mm)		
			D	E	F	G	M	N	P	S	T	Flange Hole	DH	AC	HF	L
63	FT75	2,4	11	23	4	8.5	75	60	90	M5	2.5	4	M4X12	130	185	225
71	FT85	2,4,6	14	30	5	11	85	70	105	M6	2.5	4	M5X12	145	195	250
80	FT100	2,4,6,8	19	40	6	15.5	100	80	120	M6	3	4	M6X16	175	220	295
90S	FT115	2,4,6,8	24	50	8	20	115	95	140	M8	3	4	M8X19	195	245	315
90L	FT130	2,4,6,8	24	50	8	20	115	95	140	M8	3	4	M8X19	195	245	340
100L	FT130	2,4,6,8	28	60	8	24	130	110	160	M8	3.5	4	M10X22	215	280	385
112M	FT165	2,4,6,8	28	60	8	24	130	110	160	M8	3.5	4	M10X22	240	305	400
132S	FT165	2,4,6,8	38	80	10	33	165	130	200	M10	4	4	M12X28	275	345	470
132M	FT165	2,4,6,8	38	80	10	33	165	130	200	M10	4	4	M12X28	275	345	510

B34 Mounting and Overall Dimensions



Frame Size	Flange No	Poles	Dimensions (mm)																Overall Dimensions (mm)				
			A	B	C	D	E	F	G	H	K	M	N	P	S	T	DH	Flange Hole	AB	AC	AD	HD	L
63	FT75	2,4	100	80	40	11	23	4	8.5	63	7	75	60	90	M5	2.5	M4X12	4	105	130	70	180	225
71	FT85	2,4,6	112	90	45	14	30	5	11	71	7	85	70	105	M6	2.5	M5X12	4	150	145	80	195	250
80	FT100	2,4,6,8	125	100	50	19	40	6	15.5	80	10	100	80	120	M6	3	M6X16	4	165	175	145	214	295
90S	FT115	2,4,6,8	140	100	56	24	50	8	20	90	10	115	95	140	M8	3	M8X20	4	180	195	155	250	315
90L	FT115	2,4,6,8	140	125	56	24	50	8	20	90	10	115	95	140	M8	3	M8X20	4	180	195	155	250	340
100L	FT130	2,4,6,8	160	140	63	28	60	8	24	100	12	130	110	160	M8	3.5	M10X25	4	205	215	180	270	385
112M	FT130	2,4,6,8	190	140	70	28	60	8	24	112	12	130	110	160	M8	3.5	M10X25	4	230	240	190	300	400
132S	FT165	2,4,6,8	216	140	89	38	80	10	33	132	12	165	130	200	M10	4	M12X30	4	270	275	210	345	470
132M	FT165	2,4,6,8	216	178	89	38	80	10	33	132	12	165	130	200	M10	4	M12X30	4	270	275	210	345	510

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