



Low-Voltage Three-Phase Squirrel-Cage Asynchronous Motors





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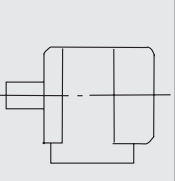
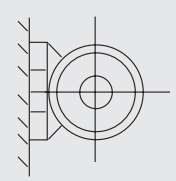
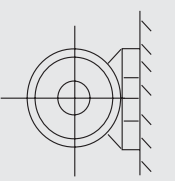
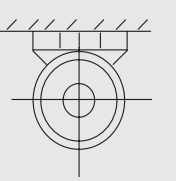
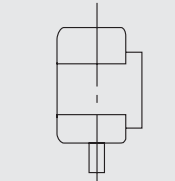
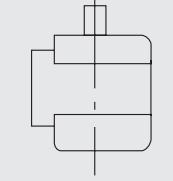
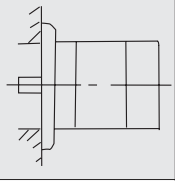
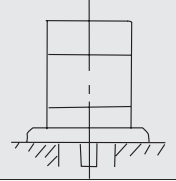
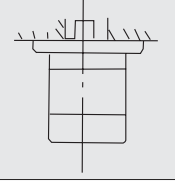
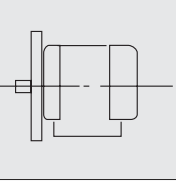
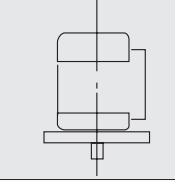
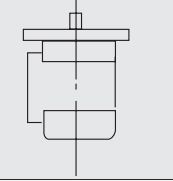
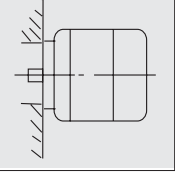
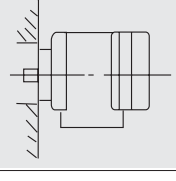
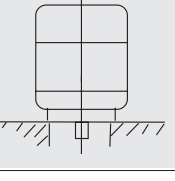
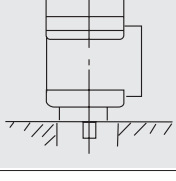
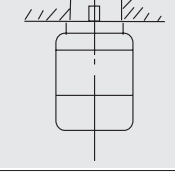
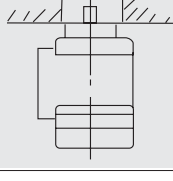
BEARING SIZE

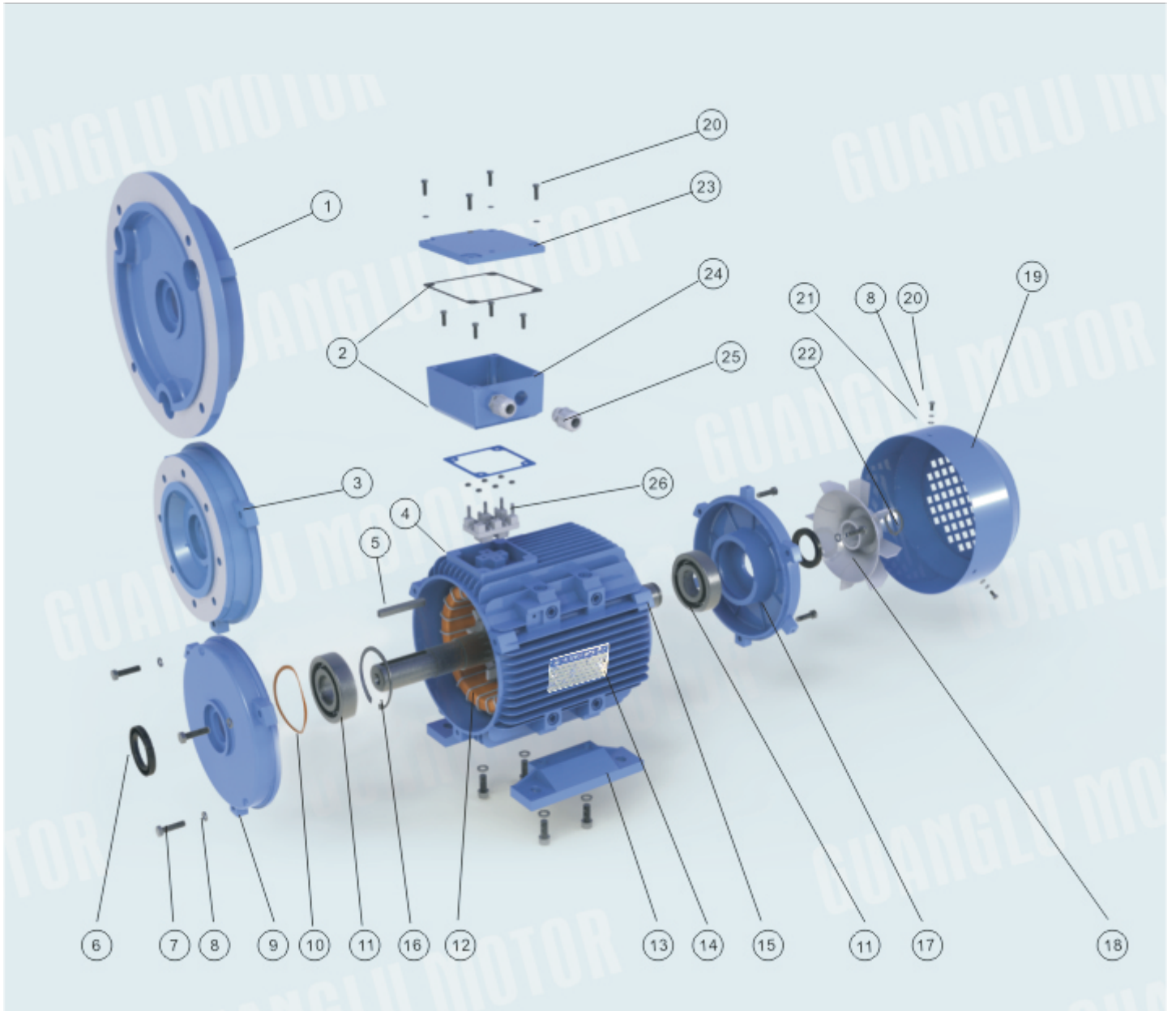
Frame Size	Poles	Drive End	Non-Drive End
		International type	International type
56	2~4	62012Z	62012Z
63	2~4	62012Z	62012Z
71	2~6	62022Z	62022Z
80	2~8	62042Z	62042Z
90	2~8	62052Z	62052Z
100	2~8	62062Z	62062Z
112	2~8	63062Z	63062Z
132	2~8	63082Z	63082Z
160	2~8	63092ZC3	63092ZC3
180	2~8	6311C3	6311C3
200	2~8	6312C3	6312C3
225	2~8	6313C3	6313C3
250	2~8	6314C3	6314C3
280	2	6314C3	6314C3
	4~8	6317C3	6317C3
315	2	6317C3	6317C3
	4~10	NU319C3	6319C3
355	2	6319C3	6319C3
	4~10	NU322C3	6322C3
400	4~10	NU326C3	6326C3

MAIN DATA FOR TERMINAL BOX

Classified number	Frame size	Max.F.Amps	Entry hole size
			International standard
1	H56-80	2.6	2×M20×1.5
2	H90-100	6.8	2×M25×1.5
3	H112-132	15.4	2×M32×1.5
4	H160-180	42.5	2×M40×1.5
5	H200-225	84.2	2×M50×1.5
6	H250-280	166.6	2×M63×1.5
7	H315	358	2×M63×1.5
8	H355	546	2×M63×1.5
9	H400	600	3XM63X1.5

The mounting arrangements of the motors comply with IEC34–7 Recommendation. There are four basic arrangements shown as the following tables and figures.

Fundamental arrangement	B3					
Mounting arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of Manufacture (framesize)	56-400	56-160				
Fundamental arrangement	B5			B35		
Mounting arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of Manufacture (framesize)	56-280	56-355	56-160	56-400	56-160	
Fundamental arrangement	B14					
Mounting arrangement	B14	B34	V18	V58	V19	V69
Diagram						
Range of Manufacture (framesize)	56-132					



- 1. B5 Flange
- 2. Gasket
- 3. B14 Flange
- 4. Frame
- 5. Key
- 6. Oil seal (V ring)
- 7. Bolt

- 8. Spring Washer
- 9. Front Endshield
- 10. Wave washer
- 11. Bearing
- 12. Stator
- 13. Feet
- 14. Nameplate

- 15. Rotor
- 16. Circlip
- 17. Rear Endshield
- 18. Fan
- 19. Fan cowl
- 20. Screw
- 21. Washer

- 22. Fan clamp
- 23. Terminal box lid
- 24. Terminal box base
- 25. Cable gland
- 26. Terminal board

THREE-PHASE ASYNCHRONOUS MOTOR

General introduction

ZEM series three-phase asynchronous motors, developed with new techniques.

ZEM series motors are defined as totally enclosed, fan cooled, squirrel cage type and noted for their novel design, beautiful model, compact structures, low noise, high efficiency, large torque, excellent starting performance, easy serving, etc. The motors are adopted with F class insulation and designed with assessing method for insulation system according to international practice, it enhances greatly have reached an international advanced level of the same kind of products at the initial days of the 90s.

ZEM series motors can be widely used as driving equipments of various machineries, such as machine tools, blowers, pumps, compressors, transporters, agricultural and food processing. Pedestal installation size and centre height and other indexes of the motor completely measured by ZEM series three-phase asynchronous motor.

Operating conditions

Ambient temperature: $-15^{\circ}\text{C} \sim 40^{\circ}\text{C}$ Altitude: Altitude should be higher than 1000 metres above sea level.

Rated voltage: 380V, 400V, 415V, 440V. Rated frequency: 50Hz, 60Hz. Connection: Y Star-connection for 3kw or less whereas and delta-connection. Duty/Rating: Continuous (S1).

Insulation class: F, the temperature rise of the stator winding is examined at 80K (by resistance method). Protection class: IP55.

Cooling method: IC411.

TECHNICAL DATA

NO.	Type	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	Rotor inertia WK ²
		380V	400V	415V	kW	HP									
		Amps (A)													
1	ZEM-80M1-2	1.77	1.74	1.68	0.75	1	2840	75.0	0.83	2.2	6.1	2.3	67	16	0.00075
2	ZEM-80M2-2	2.61	2.48	2.39	1.1	1.5	2840	76.2	0.84	2.2	6.9	2.3	67	17	0.00090
3	ZEM-90S-2	3.46	3.28	3.16	1.5	2	2850	78.5	0.84	2.2	7.0	2.3	72	20	0.00120
4	ZEM-90L-2	4.85	4.61	4.45	2.2	3	2855	81.0	0.85	2.2	7.0	2.3	72	23	0.00140
5	ZEM-100L-2	6.34	6.03	5.81	3	4	2860	82.6	0.87	2.2	7.5	2.3	76	30	0.00290
6	ZEM-112M-2	8.2	7.79	7.51	4	5.5	2880	84.2	0.88	2.2	7.5	2.3	77	41	0.00550
7	ZEM-132S1-2	11.1	10.53	10.15	5.5	7.5	2900	85.7	0.88	2.2	7.5	2.3	80	57.5	0.01090
8	ZEM-132S2-2	14.9	14.1	13.6	7.5	10	2900	87.0	0.88	2.2	7.5	2.3	80	60.5	0.01260
9	ZEM-160M1-2	21.2	20.2	19.5	11	15	2930	88.4	0.89	2.2	7.5	2.3	86	107	0.03770
10	ZEM-160M2-2	28.6	27.2	26.2	15	20	2930	89.4	0.89	2.2	7.5	2.3	86	114	0.04990
11	ZEM-160L-2	34.7	33.0	31.8	18.5	25	2930	90.0	0.90	2.2	7.5	2.3	86	133	0.05500
12	ZEM-180M-2	41	39.0	37.6	22	30	2940	90.5	0.90	2.0	7.5	2.3	89	165	0.07500
13	ZEM-200L1-2	55.4	52.6	50.7	30	40	2950	91.4	0.90	2.0	7.5	2.3	92	218	0.12400
14	ZEM-200L2-2	67.9	64.5	62.2	37	50	2950	92.0	0.90	2.0	7.5	2.3	92	230	0.13900
15	ZEM-225M-2	82.1	78.0	75.2	45	60	2960	92.5	0.90	2.0	7.5	2.3	92	290	0.23300
16	ZEM-250M-2	100	94.8	91.4	55	75	2970	93.0	0.90	2.0	7.5	2.3	93	359	0.31200
17	ZEM-280S-2	135	129	124	75	100	2975	93.6	0.90	2.0	7.0	2.3	94	475	0.57900
18	ZEM-280M-2	160	152	147	90	125	2975	93.9	0.91	2.0	7.1	2.3	94	510	0.67500
19	ZEM-315S-2	195	186	179	110	150	2975	94.0	0.91	1.8	7.1	2.2	96	875	1.18000
20	ZEM-315M-2	233	222	214	132	180	2975	94.5	0.91	1.8	7.1	2.2	96	963	1.82000
21	ZEM-315L1-2	279	265	256	160	220	2975	94.6	0.92	1.8	7.1	2.2	99	1010	2.08000
22	ZEM-315L2-2	348	331	319	200	270	2975	94.8	0.92	1.8	7.1	2.2	99	1138	2.38000
23	ZEM-355M-2	433	412	397	250	340	2980	95.2	0.92	1.6	7.1	2.2	103	1900	3.00000
24	ZEM-355L-2	545	518	499	315	430	2980	95.4	0.92	1.6	7.1	2.2	103	2300	3.50000

TECHNICAL DATA



NO.	Type	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	Rotor inertia Wk ²
		380V	400V	415V	kW	HP									
1	ZEM-80M1-4	1.57	1.49	1.44	0.55	0.75	1390	71	0.75	2.4	5.2	2.3	58	15	0.00180
2	ZEM-80M2-4	2.05	1.59	1.88	0.75	1	1380	73	0.76	2.3	6.0	2.3	58	15.5	0.00210
3	ZEM-90S-4	2.85	2.71	2.61	1.1	1.5	1390	76.2	0.77	2.3	6.0	2.3	61	19	0.00230
4	ZEM-90L-4	3.72	3.54	3.41	1.5	2	1400	78.5	0.78	2.3	6.0	2.3	61	23	0.00270
5	ZEM-100L1-4	5.09	4.90	4.72	2.2	3	1410	80	0.81	2.3	7.0	2.3	64	29	0.00540
6	ZEM-100L2-4	6.78	6.39	6.16	3	4	1410	82.6	0.82	2.3	7.0	2.3	64	31	0.00670
7	ZEM-112M-4	8.8	8.36	8.06	4	5.5	1435	84.2	0.82	2.3	7.0	2.3	65	42	0.00950
8	ZEM-132S-4	11.7	11.2	10.8	5.5	7.5	1440	85.7	0.83	2.3	7.0	2.3	71	63.5	0.02140
9	ZEM-132M-4	15.6	14.8	14.3	7.5	10	1450	87	0.84	2.3	7.0	2.3	71	72	0.02960
10	ZEM-160M-4	22.5	21.4	20.6	11	15	1460	88.4	0.84	2.2	7.0	2.3	75	110	0.07470
11	ZEM-160L-4	30	28.5	27.5	15	20	1460	89.4	0.85	2.2	7.5	2.3	75	129	0.09180
12	ZEM-180M-4	36.3	34.5	33.3	18.5	25	1470	90	0.86	2.2	7.5	2.3	76	160	0.13900
13	ZEM-180L-4	43.2	40.8	39.3	22	30	1470	90.5	0.86	2.2	7.5	2.3	76	178	0.15800
14	ZEM-200L-4	57.6	55.1	53.1	30	40	1470	91.4	0.86	2.2	7.2	2.3	79	228	0.26200
15	ZEM-225S-4	70.2	66.7	64.3	37	50	1475	92	0.87	2.2	7.2	2.3	81	288	0.40600
16	ZEM-225M-4	84.9	80.7	77.8	45	60	1475	92.5	0.87	2.2	7.2	2.3	81	313	0.46900
17	ZEM-250M-4	103	98.1	94.6	55	75	1480	93	0.87	2.2	7.2	2.3	83	376	0.66000
18	ZEM-280S-4	138.3	131	127	75	100	1480	93.6	0.88	2.2	6.8	2.3	86	508	1.12000
19	ZEM-280M-4	165	157	152	90	125	1480	93.9	0.88	2.2	6.8	2.3	86	581	1.64000
20	ZEM-315S-4	201	191	184	110	150	1480	94.5	0.88	2.1	6.9	2.2	93	846	3.10000
21	ZEM-315M-4	240	228	220	132	180	1480	94.8	0.88	2.1	6.9	2.2	93	940	3.62000
22	ZEM-315L1-4	288	273	264	160	220	1480	94.9	0.89	2.1	6.9	2.2	97	1044	4.13000
23	ZEM-315L2-4	360	342	329	200	270	1480	94.9	0.89	2.1	6.9	2.2	97	1162	4.73000
24	ZEM-355M-4	443	421	406	250	340	1490	95.2	0.90	2.1	6.9	2.2	101	1700	6.50000
25	ZEM-355L-4	559	531	511	315	430	1490	95.2	0.90	2.1	6.9	2.2	101	1900	8.20000

TECHNICAL DATA

IE1

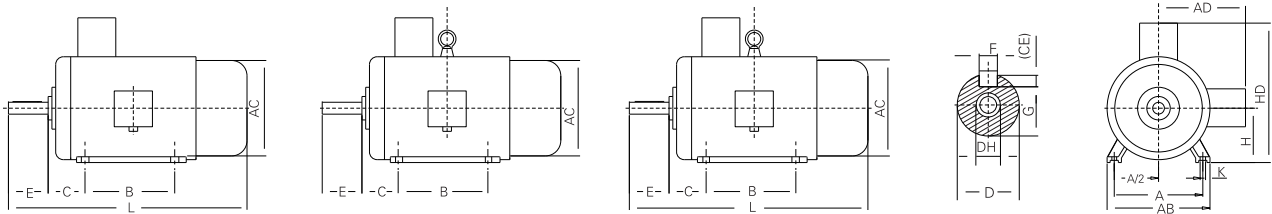
NO.	Type	Full load current at rated voltage			Rated power		Full load speed in revolutions per minute	Efficiency	Power factor	Direct on line starting torque ratio	Direct on line starting current ratio	Direct on line pull out torque ratio	Mean sound level @ 1m on no load	Weight	Rotor inertia WK ²
		380V	400V	415V	kW	HP									
1	ZEM-80M1-6	1.3	1.23	1.19	0.37	0.5	880	62	0.70	1.9	4.7	2.0	54	15	0.00160
2	ZEM-80M2-6	1.8	1.70	1.64	0.55	0.75	880	65	0.72	1.9	4.7	2.1	54	16	0.00190
3	ZEM-90S-6	2.29	2.18	2.10	0.75	1	905	69	0.72	2.0	5.3	2.1	57	20	0.00290
4	ZEM-90L-6	3.18	3.02	2.91	1.1	1.5	905	72	0.73	2.0	5.5	2.1	57	23	0.00350
5	ZEM-100L-6	4	3.80	3.66	1.5	2	920	76	0.75	2.0	5.5	2.1	61	29	0.00690
6	ZEM-112M-6	5.6	5.29	5.10	2.2	3	935	79	0.76	2.0	6.5	2.1	65	41	0.01400
7	ZEM-132S-6	7.4	7.03	6.78	3	4	960	81	0.76	2.1	6.5	2.1	69	59	0.02860
8	ZEM-132M1-6	9.75	9.26	8.93	4	5.5	960	82	0.76	2.1	6.5	2.1	69	66	0.03570
9	ZEM-132M2-6	12.9	12.3	11.8	5.5	7.5	960	84	0.77	2.1	6.5	2.1	69	76.5	0.04490
10	ZEM-160M-6	17.2	16.3	15.8	7.5	10	970	86	0.77	2.0	6.5	2.1	73	106	0.08100
11	ZEM-160L-6	24.5	23.3	22.4	11	15	970	87.5	0.78	2.0	6.5	2.1	73	122	0.11600
12	ZEM-180L-6	31.6	30.0	28.9	15	20	970	89	0.81	2.0	7.0	2.1	73	167	0.20700
13	ZEM-200L1-6	38.6	36.6	35.3	18.5	25	980	90	0.81	2.1	7	2.1	76	236	0.31500
14	ZEM-200L2-6	44.7	42.5	41.0	22	30	980	90	0.83	2.0	7	2.1	76	247	0.36000
15	ZEM-225M-6	59.3	56.3	54.3	30	40	980	91.5	0.84	2.0	7	2.1	76	287	0.54700
16	ZEM-250M-6	71	67.5	65.1	37	50	980	92	0.86	2.1	7	2.1	78	355	0.84300
17	ZEM-280S-6	86	81.7	78.1	45	60	980	92.5	0.86	2.1	7	2	80	444	1.39000
18	ZEM-280M-6	104	99.5	95.9	55	75	980	92.8	0.86	2.1	7	2	80	498	1.65000
19	ZEM-315S-6	142	135	130	75	100	985	93.5	0.86	2.0	6.7	2	85	859	4.11000
20	ZEM-315M-6	169	161	155	90	125	985	93.8	0.86	2.0	6.7	2	85	950	4.78000
21	ZEM-315L1-6	207	196	189	110	150	985	94	0.86	2.0	6.7	2	85	1031	5.45000
22	ZEM-315L2-6	245	232	224	132	180	985	94.2	0.87	2.0	6.7	2	85	1107	6.12000
23	ZEM-355M1-6	292	278	268	160	220	990	94.5	0.88	1.9	6.7	2	92	1550	9.50000
24	ZEM-355M2-6	365	347	335	200	270	990	94.5	0.88	1.9	6.7	2	92	1600	10.40000
25	ZEM-355L-6	457	434	418	250	340	990	94.5	0.88	1.9	6.7	2	92	1700	12.40000

TECHNICAL DATA



NO.	Type	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	Rotor inertia Wk ²
		380V	400V	415V	kW	HP									
1	ZEM-80M1-8	0.83	0.84	0.80	0.18	0.25	645	51	0.61	1.8	3.3	1.9	52	15	0.00250
2	ZEM-80M2-8	1.10	1.10	1.06	0.25	0.34	645	54	0.61	1.8	3.3	1.9	52	16	0.00300
3	ZEM-90S-8	1.49	1.41	1.36	0.37	0.5	675	62	0.61	1.8	4	1.9	56	20	0.00510
4	ZEM-90L-8	2.17	2.07	1.99	0.55	0.75	680	63	0.61	1.8	4	2	56	23	0.00650
5	ZEM-100L1-8	2.43	2.31	2.22	0.75	1	680	70	0.67	1.8	4	2	59	29	0.00900
6	ZEM-100L2-8	3.36	3.20	3.08	1.1	1.5	680	72	0.69	1.8	5	2	59	31	0.01100
7	ZEM-112M-8	4.4	4.18	4.03	1.5	2	690	74	0.70	1.8	5	2	61	41	0.02450
8	ZEM-132S-8	6.0	5.66	5.46	2.2	3	710	79	0.71	1.8	6	2	64	61	0.03140
9	ZEM-132M-8	7.8	7.41	7.15	3	4	710	80	0.73	1.8	6	2	64	74	0.03950
10	ZEM-160M1-8	10.3	9.76	9.41	4	5.5	720	81	0.73	1.9	6	2	68	95.5	0.07530
11	ZEM-160M2-8	13.6	12.9	12.5	5.5	7.5	720	83	0.74	1.9	6	2	68	107	0.09310
12	ZEM-160L-8	17.8	16.9	16.3	7.5	10	720	85.5	0.75	1.9	6	2	68	128	0.12600
13	ZEM-180L-8	25.5	24.2	23.3	11	15	730	87.5	0.75	2	6.5	2	70	169	0.20300
14	ZEM-200L-8	34.1	32.4	31.2	15	20	730	88	0.76	2	6.6	2	73	236	0.33900
15	ZEM-225S-8	41.1	39.0	37.6	18.5	25	730	90	0.76	1.9	6.6	2	73	274	0.49100
16	ZEM-225M-8	48.9	45.0	43.4	22	30	730	90.5	0.78	1.9	6.6	2	73	290	0.54700
17	ZEM-250M-8	63	60.2	58.1	30	40	735	91	0.79	1.9	6.5	2	75	370	0.83400
18	ZEM-280S-8	78	73.9	71.2	37	50	740	91.5	0.79	1.9	6.6	2	76	488	1.65000
19	ZEM-280M-8	94	89.4	86.1	45	60	740	92	0.79	1.9	6.6	2	76	563	1.93000
20	ZEM-315S-8	111	106	102	55	75	735	92.8	0.81	1.8	6.6	2	82	852	4.79000
21	ZEM-315M-8	150	143	138	75	100	735	93.5	0.81	1.8	6.2	2	82	933	5.58000
22	ZEM-315L1-8	178	169	163	90	125	735	93.8	0.82	1.8	6.4	2	82	1027	6.37000
23	ZEM-315L2-8	217	206	199	110	150	735	94	0.82	1.8	6.4	2	82	1117	7.23000
24	ZEM-355M1-8	261	248	239	132	180	740	93.7	0.82	1.8	6.4	2	90	2000	7.90000
25	ZEM-355M2-8	315	299	288	160	220	740	94.2	0.82	1.8	6.4	2	90	2150	10.30000
26	ZEM-355L-8	387	368	355	200	270	740	94.5	0.83	1.8	6.4	2	90	2250	12.30000
27	ZEM-315S-10	100	95	91	45	60	590	91.5	0.75	1.5	6.2	2	82	818	4.79000
28	ZEM-315M-10	121	115	111	55	75	590	92	0.75	1.5	6.2	2	82	903	5.58000
29	ZEM-315L1-10	162	154	148	75	100	590	92.5	0.76	1.5	5.8	2	82	1007	6.37000
30	ZEM-315L2-10	191	181	175	90	125	590	93	0.77	1.5	5.9	2	82	1100	7.23000
31	ZEM-355M1-10	230	218	211	110	150	590	93.2	0.78	1.3	6.0	2	90	1800	7.90000
32	ZEM-355M2-10	275	261	252	132	180	590	93.5	0.78	1.3	6.0	2	90	2000	10.30000
33	ZEM-355L-10	334	317	305	160	220	590	93.5	0.78	1.3	6.0	2	90	2500	12.30000

Mounting data



H80-90

H100-132

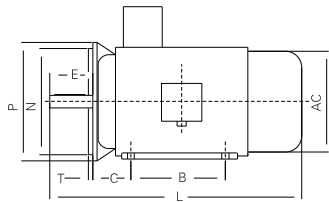
H160-355

H80-355

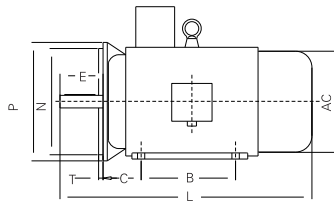
Frame with feet and end-shield without flange(IM B3)

FRAME SIZE	POLES	A	A/2	B	C	D	E	F	G	H	K	AB	AC	AD	HD	L	DH*
80M	2 4 6 8	125	62.5	100	50	19	40	6	15.5	80	10	165	155	145	220	295	M6×16
90S	2 4 6 8	140	70	100	56	24	50	8	20	90	10	180	175	155	250	320	M8×19
90L	2 4 6 8	140	70	125	56	24	50	8	20	90	10	180	175	155	250	345	M8×19
100L	2 4 6 8	160	80	140	63	28	60	8	24	100	12	205	196	180	270	385	M10×22
112M	2 4 6 8	190	95	140	70	28	60	8	24	112	12	230	220	190	300	400	M10×22
132S	2 4 6 8	216	108	140	89	38	80	10	33	132	12	270	259	210	345	470	M12×28
132M	2 4 6 8	216	108	178	89	38	80	10	33	132	12	270	259	210	345	510	M12×28
160M	2 4 6 8	254	127	210	108	42	110	12	37	160	15	320	315	255	420	615	M16×36
160L	2 4 6 8	254	127	254	108	42	110	12	37	160	15	320	315	255	420	660	M16×36
180M	2 4 6 8	279	139.5	241	121	48	110	14	42.5	180	15	355	355	280	455	700	M16×36
180L	2 4 6 8	279	139.5	279	121	48	110	14	42.5	180	15	355	355	280	455	740	M16×36
200L	2 4 6 8	318	159	305	133	55	110	16	49	200	19	395	397	305	505	770	M20×42
225S	4 8	356	178	286	149	60	140	18	53	225	19	435	445	335	560	815	M20×42
225M	2	356	178	311	149	55	110	16	49	225	19	435	445	335	560	820	M20×42
	4 6 8	356	178	311	149	60	140	18	53	225	19	435	445	335	560	845	M20×42
250M	2	406	203	349	168	60	140	18	53	250	24	490	485	370	615	920	M20×42
	4 6 8	406	203	349	168	65	140	18	58	250	24	490	485	370	615	920	M20×42
280S	2	457	228.5	368	190	65	140	18	58	280	24	550	547	410	680	995	M20×42
	4 6 8	457	228.5	368	190	75	140	20	67.5	280	24	550	547	410	680	995	M20×42
280M	2	457	228.5	419	190	65	140	18	58	280	24	550	547	410	680	1045	M20×42
	4 6 8	457	228.5	419	190	75	140	20	67.5	280	24	550	547	410	680	1045	M20×42
315S	2	508	254	406	216	65	140	18	58	315	28	635	620	530	845	1185	M20×42
	4 6 8 10	508	254	406	216	80	170	22	71	315	28	635	620	530	845	1220	M20×42
315M	2	508	254	457	216	65	140	18	58	315	28	635	620	530	845	1290	M20×42
	4 6 8 10	508	254	457	216	80	170	22	71	315	28	635	620	530	845	1325	M20×42
315L	2	508	254	508	216	65	140	18	58	315	28	635	620	530	845	1290	M20×42
	4 6 8 10	508	254	508	216	80	170	22	71	315	28	635	620	530	845	1325	M20×42
355M	2	610	305	560	254	75	140	20	67.5	355	28	730	698	655	1010	1500	M20×42
	4 6 8 10	610	305	560	254	95	170	25	86	355	28	730	698	655	1010	1530	M20×42
355L	2	610	305	630	254	75	140	20	67.5	355	28	730	698	655	1010	1500	M20×42
	4 6 8 10	610	305	630	254	95	170	25	86	355	28	730	698	655	1010	1530	M20×42

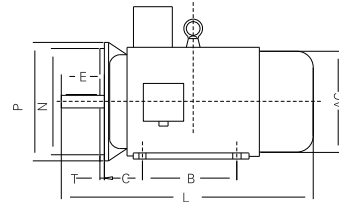
MOUNTING DATA



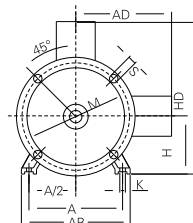
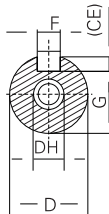
H80-90



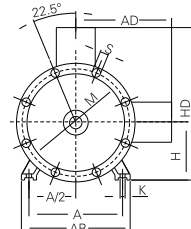
H100-132



H160-355



H80-200

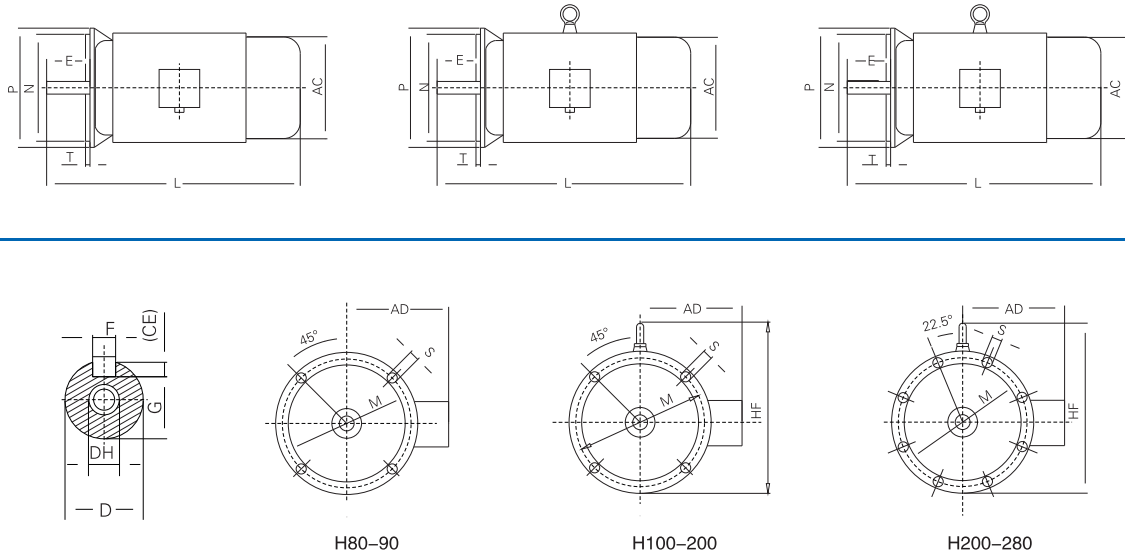


H225-355

FRAME WITH FEET AND END-SHIELD WITH FLANGE(IM B35)

FRAME SIZE	POLES	A	A/2	B	C	D	E	F	G	H	K	M	N	P	S	T	FLANGE HOLES	AB	AC	AD	HD	L	DH*
80M	2 4 6 8	125	62.5	100	50	19	40	6	15.5	80	10	165	130	200	12	3.5	4	165	155	145	220	295	M6 × 16
90S	2 4 6 8	140	70	100	56	24	50	8	20	90	10	165	130	200	12	3.5	4	180	175	155	250	320	M8 × 19
90L	2 4 6 8	140	70	125	56	24	50	8	20	90	10	165	130	200	12	3.5	4	180	175	155	250	345	M8 × 19
100L	2 4 6 8	160	80	140	63	28	60	8	24	100	12	215	180	250	15	4	4	205	196	180	270	385	M10×22
112M	2 4 6 8	190	95	140	70	28	60	8	24	112	12	215	180	250	15	4	4	230	220	190	300	400	M10×22
132S	2 4 6 8	216	108	140	89	38	80	10	33	132	12	265	230	300	15	4	4	270	259	210	345	470	M12×28
132M	2 4 6 8	216	108	178	89	38	80	10	33	132	12	265	230	300	15	4	4	270	259	210	345	510	M12×28
160M	2 4 6 8	254	127	210	108	42	110	12	37	160	15	300	250	350	19	5	4	320	315	255	420	615	M16×36
160L	2 4 6 8	254	127	254	108	42	110	12	37	160	15	300	250	350	19	5	4	320	315	255	420	660	M16×36
180M	2 4 6 8	279	139.5	241	121	48	110	14	42.5	180	15	300	250	350	19	5	4	355	355	280	455	700	M16×36
180L	2 4 6 8	279	139.5	279	121	48	110	14	42.5	180	15	300	250	350	19	5	4	355	355	280	455	740	M16×36
200L	2 4 6 8	318	159	305	133	55	110	16	49	200	19	350	300	400	19	5	4	395	397	305	505	770	M20×42
225S	4 8	356	178	286	149	60	140	18	53	225	19	400	350	450	19	5	8	435	445	335	560	815	M20×42
225M	2	356	178	311	149	55	110	16	49	225	19	400	350	450	19	5	8	435	445	335	560	820	M20×42
	4 6 8	356	178	311	149	60	140	18	53	225	19	400	350	450	19	5	8	435	445	335	560	845	M20×42
250M	2	406	203	349	168	60	140	18	53	250	24	500	450	550	19	5	8	490	485	370	615	920	M20×42
	4 6 8	406	203	349	168	65	140	18	58	250	24	500	450	550	19	5	8	490	485	370	615	920	M20×42
280S	2	457	228.5	368	190	65	140	18	58	280	24	500	450	550	19	5	8	550	547	410	680	995	M20×42
	4 6 8	457	228.5	368	190	75	140	20	67.5	280	24	500	450	550	19	5	8	550	547	410	680	995	M20×42
280M	2	457	228.5	419	190	65	140	18	58	280	24	500	450	550	19	5	8	550	547	410	680	1045	M20×42
	4 6 8	457	228.5	419	190	75	140	20	67.5	280	24	500	450	550	19	5	8	550	547	410	680	1045	M20×42
315S	2	508	254	406	216	65	140	18	58	315	28	600	550	660	24	6	8	635	620	530	845	1185	M20×42
	4 6 8 10	508	254	406	216	80	170	22	71	315	28	600	550	660	24	6	8	635	620	530	845	1220	M20×42
315M	2	508	254	457	216	65	140	18	58	315	28	600	550	660	24	6	8	635	620	530	845	1290	M20×42
	4 6 8 10	508	254	457	216	80	170	22	71	315	28	600	550	660	24	6	8	635	620	530	845	1325	M20×42
315L	2	508	254	508	216	65	140	18	58	315	28	600	550	660	24	6	8	635	620	530	845	1290	M20×42
	4 6 8 10	508	254	508	216	80	170	22	71	315	28	600	550	660	24	6	8	635	620	530	845	1325	M20×42
355M	2	610	305	560	254	75	140	20	67.5	355	28	740	680	800	24	6	8	730	698	655	1010	1500	M20×42
	4 6 8 10	610	305	560	254	95	170	25	86	355	28	740	680	800	24	6	8	730	698	655	1010	1530	M20×42
355L	2	610	305	630	254	75	140	20	67.5	355	28	740	680	800	24	6	8	730	698	655	1010	1500	M20×42
	4 6 8 10	610	305	630	254	95	170	25	86	355	28	740	680	800	24	6	8	730	698	655	1010	1530	M20×42

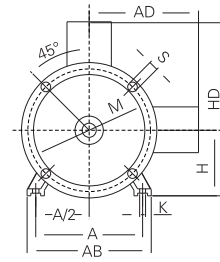
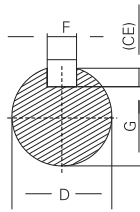
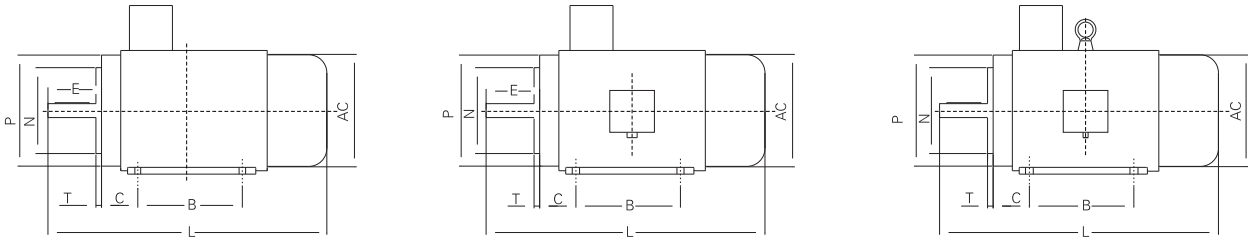
MOUNTING DATA



FRAME WITHOUT FEET AND END-SHIELD WITH FLANGE (IM B5)

FRAME SIZE	POLES	D	E	F	G	M	N	P	S	T	FLANGE HOLES	AC	AD	HF	L	DH*
80M	2 4 6 8	19	40	6	15.5	165	130	200	12	3.5	4	155	145	185	295	M6 × 16
90S	2 4 6 8	24	50	8	20	165	130	200	12	3.5	4	175	155	195	320	M8 × 19
90L	2 4 6 8	24	50	8	20	165	130	200	12	3.5	4	175	155	195	345	M8 × 19
100L	2 4 6 8	28	60	8	24	215	180	250	15	4	4	196	180	245	385	M10 × 22
112M	2 4 6 8	28	60	8	24	215	180	250	15	4	4	220	190	265	400	M10 × 22
132S	2 4 6 8	38	80	10	33	265	230	300	15	4	4	259	210	315	470	M12 × 28
132M	2 4 6 8	38	80	10	33	265	230	300	15	4	4	259	210	315	510	M12 × 28
160M	2 4 6 8	42	110	12	37	300	250	350	19	5	4	315	255	385	615	M16 × 36
160L	2 4 6 8	42	110	12	37	300	250	350	19	5	4	315	255	385	660	M16 × 36
180M	2 4 6 8	48	110	14	42.5	300	250	350	19	5	4	355	280	430	700	M16 × 36
180L	2 4 6 8	48	110	14	42.5	300	250	350	19	5	4	355	280	430	740	M16 × 36
200L	2 4 6 8	55	110	16	49	350	300	400	19	5	4	397	305	480	770	M20 × 42
225S	4 8	60	140	18	53	400	350	450	19	5	8	445	335	535	815	M20 × 42
225M	2	55	110	16	49	400	350	450	19	5	8	445	335	535	820	M20 × 42
	4 6 8	60	140	18	53	400	350	450	19	5	8	445	335	535	845	M20 × 42
250M	2	60	140	18	53	500	450	550	19	5	8	485	370	595	920	M20 × 42
	4 6 8	65	140	18	58	500	450	550	19	5	8	485	370	595	920	M20 × 42
280S	2	65	140	18	58	500	450	550	19	5	8	547	410	650	995	M20 × 42
	4 6 8	75	140	20	67.5	500	450	550	19	5	8	547	410	650	995	M20 × 42
280M	2	65	140	18	58	500	450	550	19	5	8	547	410	650	1045	M20 × 42
	4 6 8	75	140	20	67.5	500	450	550	19	5	8	547	410	650	1045	M20 × 42

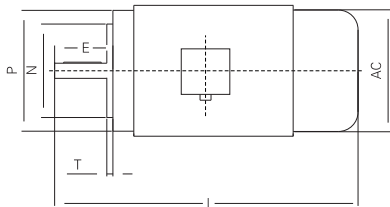
MOUNTING DATA



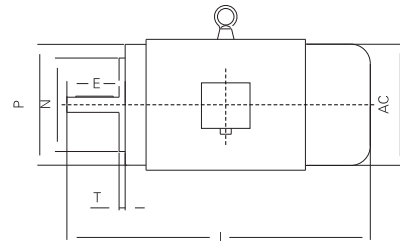
H80-132

FRAME WITH FEET AND END-SHIELD WITH FLANGE (IM B34)

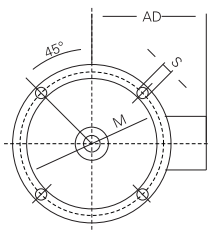
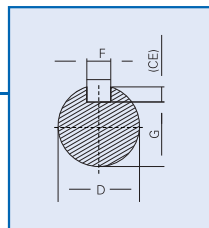
FRAME SIZE	POLES	A	A/2	B	C	D	E	F	G	H	K	M	N	P	R*	S	T	FLANGE HOLES	AB	AC	AD	HD	L
80	2 4 6 8	125	62.5	100	50	19	40	6	15.5	80	10	100	80	120	0	M6	3.0	4	165	155	145	214	295
90S	2 4 6 8	140	70	100	56	24	50	8	20	90	10	115	95	140	0	M8	3.0	4	180	175	155	250	320
90L	2 4 6 8	140	70	125	56	24	50	8	20	90	10	115	95	140	0	M8	3.0	4	180	175	155	250	345
100L	2 4 6 8	160	80	140	63	28	60	8	24	100	12	130	110	160	0	M8	3.5	4	205	196	180	270	385
112M	2 4 6 8	190	95	140	70	28	60	8	24	112	12	130	110	160	0	M8	3.5	4	230	220	190	300	400
132S	2 4 6 8	216	108	140	89	38	80	10	33	132	12	165	130	200	0	M10	3.5	4	270	259	210	345	470
132M	2 4 6 8	216	108	178	89	38	80	10	33	132	12	165	130	200	0	M10	3.5	4	270	259	210	345	510



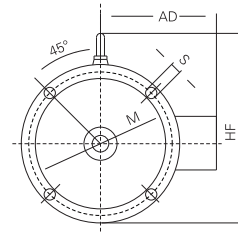
H80-90



H100-132



H80-90



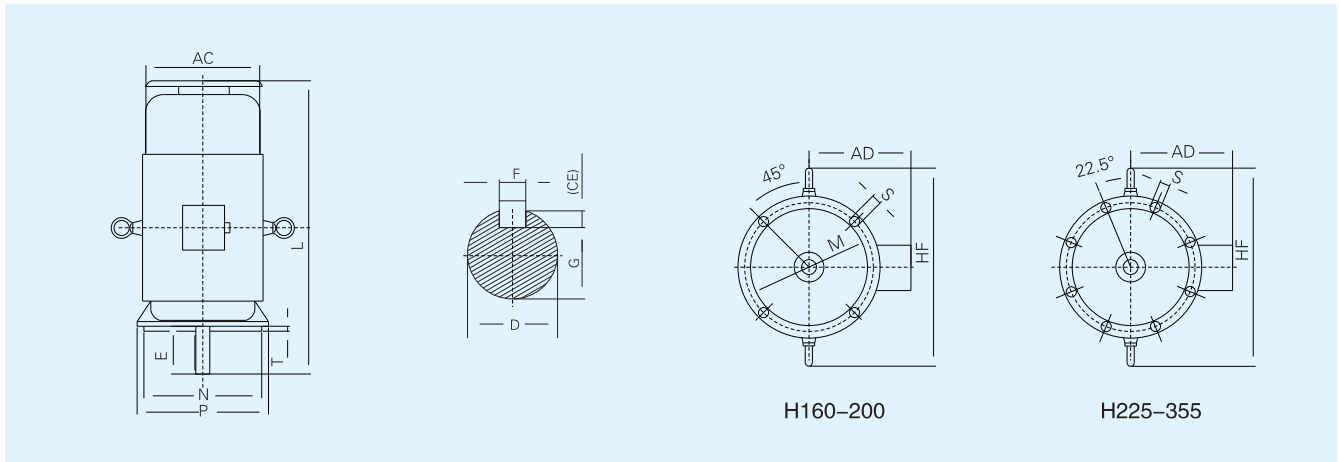
H100-132

MOUNTING DATA

FRAME WITHOUT FEET AND END-SHIELD WITHOUT FLANGE (IM B14)

FRAME SIZE	POLES	D	E	F	G	M	N	P	R*	S	T	FLANGE HOLES	AC	AD	HF	L
80	2 4 6 8	19	40	6	15.5	100	80	120	0	M6	3.0	4	155	145	185	295
90S	2 4 6 8	24	50	8	20	115	95	140	0	M8	3.0	4	175	155	195	320
90L	2 4 6 8	24	50	8	20	115	95	140	0	M8	3.0	4	175	155	195	345
100L	2 4 6 8	28	60	8	24	130	110	160	0	M8	3.5	4	196	180	245	385
112M	2 4 6 8	28	60	8	24	130	110	160	0	M8	3.5	4	220	190	265	400
132S	2 4 6 8	38	80	10	33	165	130	200	0	M10	3.5	4	259	210	315	470
132M	2 4 6 8	38	80	10	33	165	130	200	0	M10	3.5	4	259	210	315	510

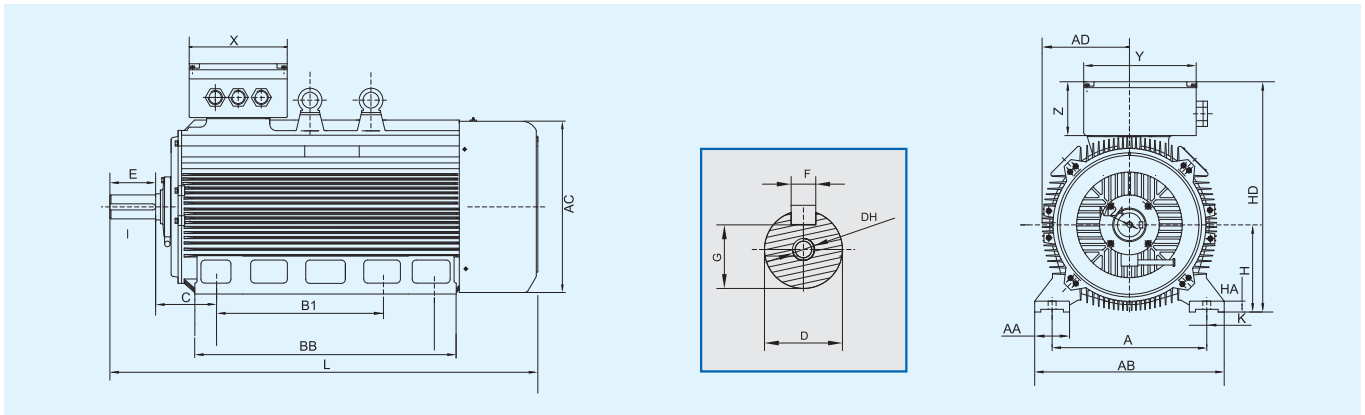
FRAME TYPE, FRAME WITHOUT FEET AND END SHIELD WITH FLANGE (WITH PLAIN HOLES) (IM V1)



FRAME SIZE	POLES	D	E	F	M	N	P	S	T	FLANGE HOLES	AC	AD	HF	L
160M	2 4 6 8	42	110	12	300	250	350	19	5	4	315	255	455	695
160L	2 4 6 8	42	110	12	300	250	350	19	5	4	315	255	455	740
180M	2 4 6 8	48	110	14	300	250	350	19	5	4	355	280	500	790
180L	2 4 6 8	48	110	14	300	250	350	19	5	4	355	280	500	830
200L	2 4 6 8	55	110	16	350	300	400	19	5	4	4397	305	550	860
225S	4 8	60	140	18	400	350	450	19	5	8	445	335	610	905
225M	2	55	110	16	400	350	450	19	5	8	445	335	610	910
	4 6 8	60	140	18	400	350	450	19	5	8	445	335	610	935
250M	2	60	140	18	500	450	550	19	5	8	485	370	650	1015
	4 6 8	65	140	18	500	450	550	19	5	8	485	370	650	1015
280S	2	65	140	18	500	450	550	19	5	8	547	410	720	1110
	4 6 8	75	140	20	500	450	550	19	5	8	547	410	720	1110
280M	2	65	140	18	500	450	550	19	5	8	547	410	720	1150
	4 6 8	75	140	20	500	450	550	19	5	8	547	410	900	1150
315S	2	65	140	18	600	550	660	24	6	8	620	530	900	1280
	4 6 8 10	80	170	22	600	550	660	24	6	8	620	530	900	1510
315M	2	65	140	18	600	550	660	24	6	8	620	530	900	1310
	4 6 8 10	80	170	22	600	550	660	24	6	8	620	530	900	1430
315L	2	65	140	18	600	550	660	24	6	8	620	530	900	1310
	4 6 8 10	80	170	22	600	550	660	24	6	8	620	530	900	1430
355M	2	75	140	20	740	680	800	24	6	8	698	655	1010	1640
	4 6 8 10	95	170	25	740	680	800	24	6	8	698	655	1010	1670
355L	2	75	140	20	740	680	800	24	6	8	698	655	1010	1640
	4 6 8 10	95	170	25	740	680	800	24	6	8	698	655	1010	1670

IM B3 H400-450

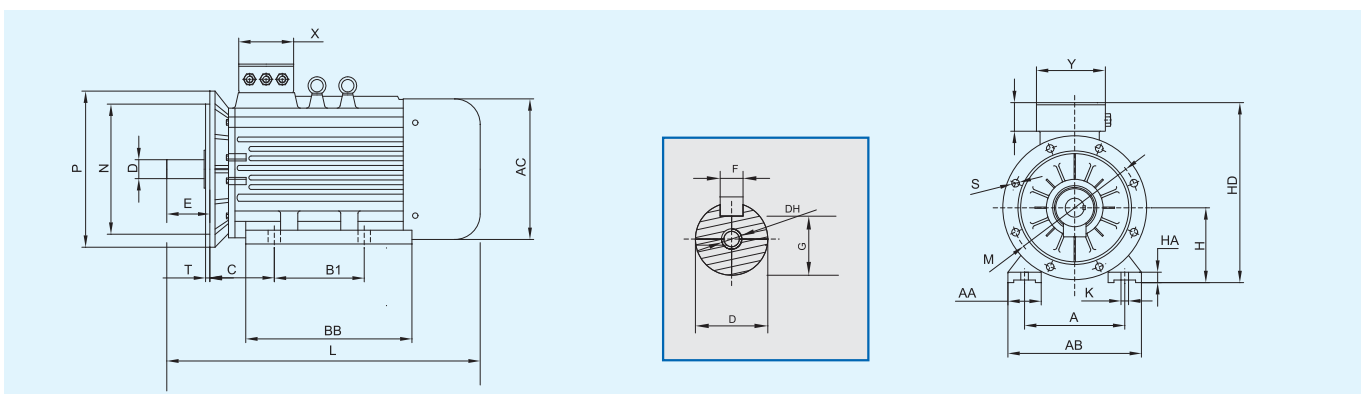
MOUNTING AND OVERALL DIMENSIONS OF IM B3 H400-450



Type	Mounting Dimensions										Overall Dimensions													
	Poles	A	AA	AB	AC	B1	BB	C	D	DH	E	F	G	H	HA	HD	K	L	AD	Eyeboit	X	Y	Z	
400L	4								φ 110		210	28	100				1925							
400L	6, 8, 10	686	125	810	855	710	1090	280	φ 120	M24X54	210	32	109	400	30	1080	φ 36	1925	430	2xM36	430	540	225	
450L	4								φ 130		210	32	119				2200							
450L	4, 6, 8, 10	800	190	1000	930	1000	1300	300	φ 140	M24X54	210	32	129	450	52	1380	φ 42	2200	480	2xM36	500	595	410	

IM B35 H400-450

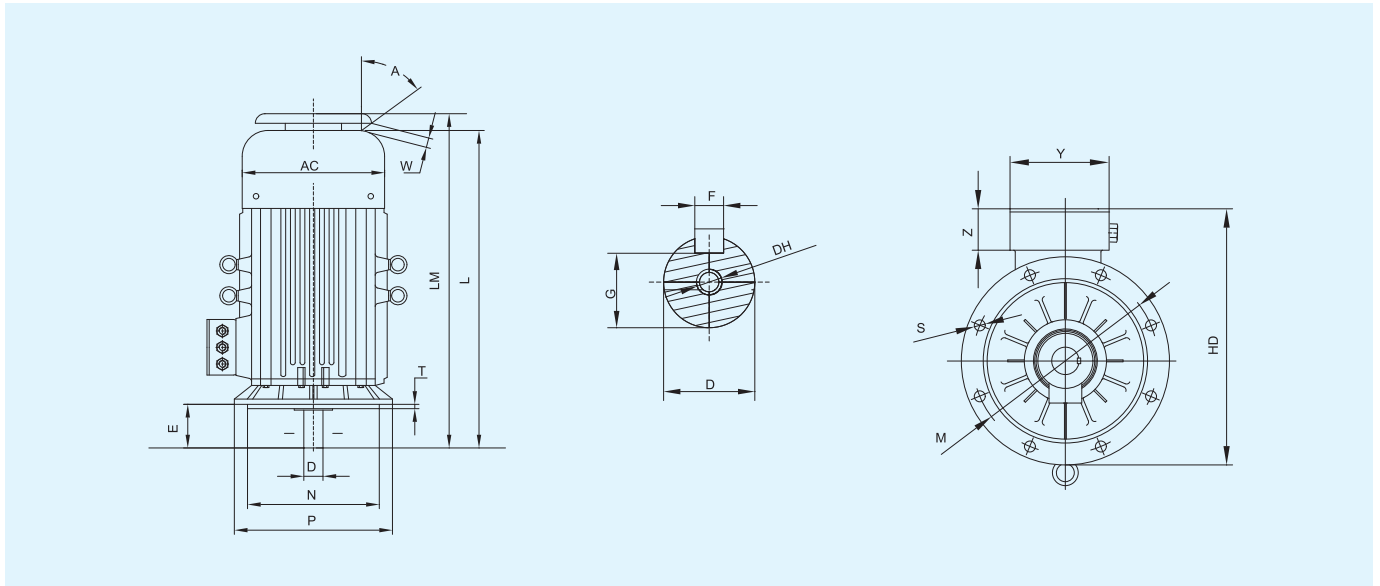
MOUNTING AND OVERALL DIMENSIONS OF IM B35 H400-450



Type	Mounting Dimensions										Overall Dimensions															
	Poles	A	AA	AB	AC	B1	BB	C	D	E	F	H	HA	HD	DH	K	L	M	N	P	S	T	Eyeboit	X	Y	Z
400L	4								φ 110	210	28					1925										
400L	6/8/10	686	125	810	855	710	1090	280	φ 120	210	32	400	30	1080	M24X54	φ 36	1925	940	880	1000	8xφ 28	6	2xM36	430	540	225
450L	4	800	190	1000	930	1000	1300	300	φ 130	210	32	450	52	1380		φ 42	2200	1080	1000	1150	8xφ 28	6	2xM36	500	595	410
450L	6/8/10								φ 140	210	32				M24X54		2200									

IM V1 H400-450

MOUNTING AND OVERALL DIMENSIONS OF IM V1 H400-450



Type	Mounting Dimensions										Overall Dimensions									
	Poles	AC	D	E	F	G	H	HD	DH	L	LM	M	N	P	S	T	Eyeboit	X	Y	Z
400L	4		φ 110	210	28	100				1925	2025									
400L	6, 8, 10	855	φ 120	210	32	109	400	1180	M24X54	1925	2025	940	880	1000	8x φ 28	6	4xM36	430	540	225
450L	4	930	φ 130	210	32	119	450	1380		2200	2300	1080	1000	1150	8x φ 28	6	4xM36	500	595	410
450L	6, 8, 10		φ 140	210	32	129			M24X54	2200	2300									

TECHNICAL DATA OF H400-450 SERIES

NO.	Type	Output kW	Amps A	Speed r/min	EFF. %	P.F. Cos Φ	LRT / RLT	LRA / RLA	BDT / RLT	Noise LwdB(A)	V
1	400L1-4	450	792	1490	96.3	0.89	1.7	6.8	2.2	105	380
2	400L2-4	500	878	1490	96.3	0.89	1.7	6.8	2.2	105	380
3	400L3-4	560	978	1490	96.3	0.89	1.7	6.8	2.2	108	380

TECHNICAL DATA OF H400-450 SERIES

	Frame reference and size	Rated power	Full load current at voltage	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	Voltage
NO.	Type	Output kW	Amps A	Speed r/min	EFF. %	P.F. Cos Φ	<u>LRT</u> RLT	<u>LRA</u> RLA	<u>BDT</u> RLT	Noise LwdB(A)	V
4	400L4-4	630	633	1490	96.3	0.89	1.7	6.8	2.2	108	660
5	450L1-4	630	639	1490	96.5	0.89	1.6	7	2.6	108	660
6	450L2-4	710	718	1490	96.5	0.89	1.6	7	2.6	108	660
7	450L3-4	800	806	1490	96.7	0.89	1.6	7	2.6	108	660
8	450L4-4	900	905	1490	96.7	0.89	1.6	7	2.6	108	660
9	400L1-6	355	649	990	96	0.86	2	6.5	2.2	98	380
10	400L2-6	400	729	990	96	0.86	2	6.5	2.2	98	380
11	400L3-6	450	817	990	96	0.86	2	6.5	2.2	102	380
12	400L4-6	500	906	990	96	0.86	2	6.5	2.2	102	380
13	450L1-6	500	534	990	96.2	0.86	1.6	7	2.6	102	660
14	450L2-6	560	596	990	96.3	0.85	1.6	7	2.6	105	660
15	450L3-6	630	670	990	96.5	0.85	1.6	7	2.6	105	660
16	450L4-6	710	751	990	96.5	0.85	1.6	7	2.6	105	660
17	400L1-8	315	596	740	96	0.82	2.1	6.1	2.4	95	380
18	400L2-8	355	676	740	96	0.82	2.1	6.1	2.4	95	380
19	400L3-8	400	757	740	96	0.82	2.1	6.1	2.4	99	380
20	450L1-8	400	445	740	96	0.89	1.6	7	2.6	99	380
21	450L2-8	450	499	740	96	0.82	1.6	7	2.6	99	380
22	450L3-8	500	553	740	96.2	0.82	1.6	7	2.6	99	380
23	450L4-8	560	621	740	96.2	0.82	1.6	7	2.6	102	380
24	400L1-10	250	512	590	95.2	0.77	2.1	6.5	2.4	99	660
25	400L2-10	315	639	590	96	0.77	2.1	6.5	2.4	99	660
26	400L3-10	355	718	590	96	0.77	2.1	6.5	2.4	99	660
27	450L1-10	355	732	590	95.6	0.77	1.6	7	2.6	99	660
28	450L2-10	400	822	590	95.6	0.77	1.6	7	2.6	99	660
29	450L3-10	450	927	590	95.6	0.77	1.6	7	2.6	99	660



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