



Y-H船用三相 异步电动机

Green the World

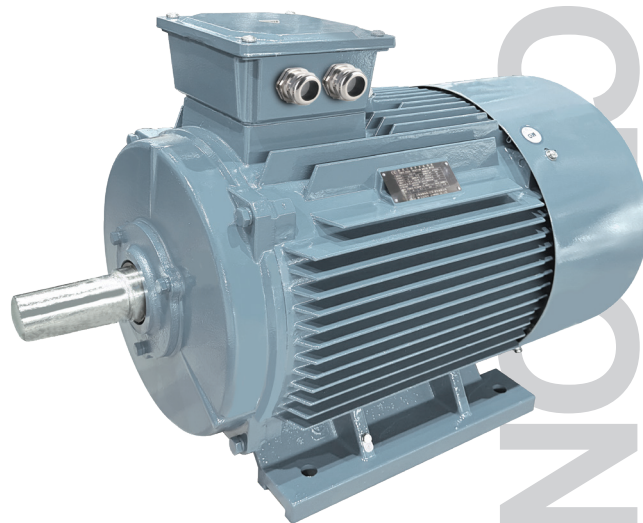


PRODUCT INTRODUCTION

产品介绍 >>

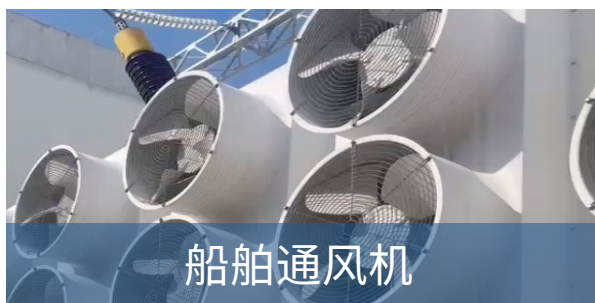
Y-H系列船用三相异步电动机按照国家标准IEC60034-1《旋转电机：定额和性能》和现行《钢制海船入级规范》设计，具有效率高、噪声低、启动性能好、可靠性高等优点，适用于船舶各种机械的驱动、辅助设备及类似船用要求的其他各种设备。

The Y-H series marine three-phase asynchronous motors are designed in accordance with IEC60034-1 "Quota and Performance of Rotating Electrical Machines" and the current "Classification Standard for Steel Seagoing Vessels". The motors has the advantages of high efficiency, low noise, good starting performance, and high reliability, and is suitable for driving various machinery on ships, auxiliary equipment, and other equipment with similar marine requirements.



T APPLICATION

产品应用 >>



产品特点 Product Features >

- 机座号: 80mm~355mm
- 输出功率: 0.55~315kW
- 极数: 2、4、6、8极
- 电压: 380/440V
- 频率: 50/60Hz
- 安装方式: B3、B5、V1、B35等
- 绝缘等级及温升: F/B, H/B
- 防护等级: IP55, IP56
- 传动方式: 电机可用皮带轮、正齿轮或弹性联轴器传动。

- Frame Size: 80mm~355mm
- Output : 0.55~315kW
- Poles: 2P、4P、6P、8P
- Voltage: 380/440V
- Frequency: 50/60Hz
- Mounting :B3、B5、V1、B35 etc
- Insulation class and temperature rise:F/B, H/B
- Protection grade:IP55, IP56
- Driving method: The motor can be driven by belt pulley, spur gears, or elastic couplings.

使用条件 The Use of Terms >

- 1、环境空气温度:-25℃~45℃
- 2、空气相对湿度不大于95%,并有凝露
- 3、有盐雾、油雾、霉菌及海水的影响
- 4、允许倾斜摇摆:倾斜:±30°,摇摆:±22.5°
- 5、能承受船舶和近海装置正常营运和作业中产生的冲击、振动的影响。

1. Ambient air temperature:-25℃~45℃
2. The air relative humidity is no more than 95%, and condensation
3. Influenced by Salt mist, oil mist, mold and seawater
4. Tilting and rocking: tilting: ±30°, rocking: ±22.5°
5. Able to withstand the impact and vibration generated during the normal operation and operation of ships and offshore installations.

型号说明 Model Description >

Y - 1 6 0 M 1 - 2 - H

船用 marine

极数 poles

铁芯长度代号 core length code

机座长度代号 frame length code
(S 短 short, M 中 medium, L 长 long)

电机中心高 motor center height

系列代号 series code

Technical Data

型 号 Type	功 率 Rated output		电 流 Rated current		转 速 Rated speed		堵转转矩 额定转矩		最大转矩 额定转矩		堵转视在功率 额定功率		效 率 Efficiency		功率因数 Power factor		重 量 (kg)
							Locked-rotor torque Rated torque		Maximum torque Rated torque		Locked rotor apparent power Rated output						
	(A)		(r/min)		50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz					
	kW	HP	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz			
Y80M1-2-H	0.75	1	1.8	1.6	2820	3460	1.9		2.1		13		75	77	0.8	0.8	17
Y80M2-2-H	1.1	1.5	2.6	2.2	2820	3460	1.9		2.1		13		77	78	0.9	0.9	19
Y90S-2-H	1.5	2	3.5	3.1	2840	3470	1.9		2.1		13		80	80	0.8	0.8	23
Y90L-2-H	2.2	3	4.9	4.3	2840	3470	1.9		2.1		13		83	84	0.8	0.8	26
Y100L-2-H	3	4	6.2	5.4	2880	3490	1.9		2.1		13		84	84	0.9	0.9	33
Y112M-2-H	4	5.5	8.2	7.2	2890	3500	1.9		2.1		13		87	87	0.9	0.8	46
Y132S1-2-H	5.5	7.5	11	9.6	2900	3520	1.5		2.0		13		87	86	0.9	0.9	78
Y132S2-2-H	7.5	10	14.6	12.9	2900	3520	1.5		2.0		12		88	87	0.9	0.9	90
Y160M1-2-H	11	15	21.6	18.7	2930	3540	1.8		2.0		12		89	89	0.9	0.9	120
Y160M2-2-H	15	20	28.9	25.1	2930	3540	1.8		2.0		12		89	90	0.9	0.9	135
Y160L-2-H	18.5	25	35.7	30.3	2940	3550	1.8		2.0		12		90	90	0.9	0.9	160
Y180M-2-H	22	30	42.2	36.9	2955	3560	1.8		2.0		12		90	89	0.9	0.9	180
Y200L1-2-H	30	40	57.9	50.3	2960	3560	1.7		1.8		11		90	89	0.9	0.9	215
Y200L2-2-H	37	50	69.4	60.3	2960	3570	1.7		1.8		11		92	92	0.9	0.9	245
Y225M-2-H	45	60	85.9	76.3	2970	3580	1.7		1.8		11		91	91	0.9	0.9	330
Y250M-2-H	55	75	103.2	91.7	2970	3580	1.7		1.8		11		92	91	0.9	0.9	400
Y280S-2-H	75	100	139.2	120.9	2970	3580	1.7		1.8		11		92	92	0.9	0.9	535
Y280M-2-H	90	125	167.1	143.5	2970	3580	1.7		1.8		11		93	93	0.9	0.9	550
Y315S-2-H	110	150	203	180.2	2970	3580	1.4		1.8		10		93	91	0.9	0.9	980
Y315M-2-H	132	175	242.3	215.1	2970	3580	1.4		1.8		10		93	92	0.9	0.9	1080
Y315L1-2-H	160	220	292.1	259.3	2970	3580	1.4		1.8		10		94	92	0.9	0.9	1160
Y315L2-2-H	200	270	365.2	324.2	2970	3580	1.4		1.8		10		94	92	0.9	0.9	1260
Y355M-2-H	250	350	451.4	400.6	2970	3580	1.1		1.9		10		94	92	0.9	0.9	1600
Y355L-2-H	315	422	565.7	502.1	2970	3580	1.1		1.9		10		94	93	0.9	0.9	1800

Technical Data

型 号 Type	功 率 Rated output		电 流 Rated current		转 速 Rated speed		堵转转矩 额定转矩		最大转矩 额定转矩		堵转视在功率 额定功率		效 率 Efficiency		功率因数 Power factor		重 量 (kg)
							Locked-rotor torque Rated torque		Maximum torque Rated torque		Locked rotor apparent power Rated output						
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz							
	kW	HP	380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	
Y80M1-4-H	0.55	0.7	1.5	1.4	1390	1710	2		2.1		13		73	74	0.8	0.7	17
Y80M2-4-H	0.75	1	2.1	1.8	1390	1710	1.9		2.1		13		74	76	0.8	0.7	19
Y90S-4-H	1.1	1.5	2.7	2.4	1400	1710	1.9		2.1		13		78	79	0.8	0.8	23
Y90L-4-H	1.5	2	3.6	3.2	1400	1710	1.9		2.1		13		79	81	0.8	0.8	26
Y100L1-4-H	2.2	3	5	4.5	1420	1730	1.9		2.1		13		82	83	0.8	0.8	36
Y100L2-4-H	3	4	6.8	5.9	1420	1730	1.9		2.1		13		83	85	0.8	0.8	39
Y112M-4-H	4	5.5	8.9	7.7	1440	1750	1.9		2.1		13		85	86	0.8	0.8	47
Y132S-4-H	5.5	7.5	11.7	10	1440	1750	1.8		2.0		13		86	88	0.8	0.8	78
Y132M-4-H	7.5	10	15.4	13.2	1440	1750	1.8		2.0		12		87	89	0.9	0.8	98
Y160M-4-H	11	15	22.6	19.5	1460	1760	1.8		2.0		12		89	89	0.8	0.8	123
Y160L-4-H	15	20	30.5	26.3	1460	1760	1.8		2.0		12		89	90	0.8	0.8	152
Y180M-4-H	18.5	25	35.9	30.8	1470	1770	1.8		2.0		12		91	92	0.9	0.9	180
Y180L-4-H	22	30	42.2	36.9	1470	1770	1.8		2.0		12		91	91	0.9	0.9	200
Y200L-4-H	30	40	57.3	49.8	1480	1780	1.7		1.9		11		92	92	0.9	0.9	260
Y225S-4-H	37	50	70.2	60.3	1480	1780	1.7		1.9		11		92	93	0.9	0.9	321
Y225M-4-H	45	60	84	73.4	1480	1780	1.7		1.9		11		93	93	0.9	0.9	355
Y250M-4-H	55	75	103.8	88.7	1480	1780	1.7		1.9		11		93	93	0.9	0.9	417
Y280S-4-H	75	100	139.2	120	1480	1790	1.7		1.9		11		93	93	0.9	0.9	550
Y280M-4-H	90	125	164.3	141.9	1480	1790	1.6		1.9		11		94	94	0.9	0.9	650
Y315S-4-H	110	150	200.8	177.3	1480	1790	1.4		1.8		10		94	93	0.9	0.9	1000
Y315M-4-H	132	175	239.7	211.6	1480	1790	1.4		1.8		10		94	93	0.9	0.9	1100
Y315L1-4-H	160	220	289	255.2	1480	1790	1.4		1.8		10		95	94	0.9	0.9	1160
Y315L2-4-H	200	270	361.3	319	1480	1790	1.4		1.8		10		95	94	0.9	0.9	1260
Y355M-4-H	250	350	464.5	410.2	1480	1790	1.2		1.9		10		94	93	0.9	0.9	1600
Y355L-4-H	315	422	582.1	514	1480	1790	1.2		1.9		10		95	94	0.9	0.9	1800

Technical Data

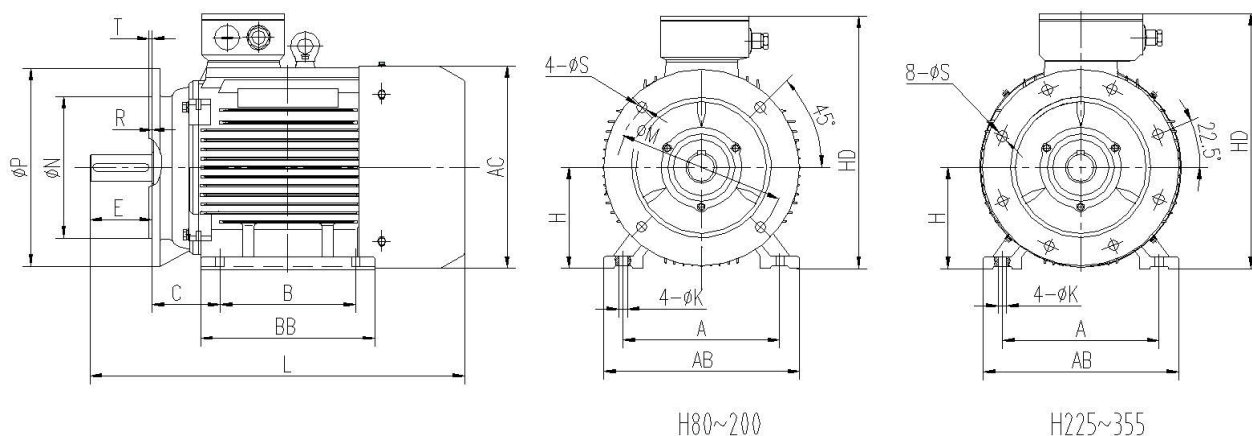
型 号 Type	功 率 Rated output		电 流 Rated current		转 速 Rated speed		堵转转矩 额定转矩		最大转矩 额定转矩		堵转视在功率 额定功率		效 率 Efficiency		功率因数 Power factor		重 量 (kg)
							Locked-rotor torque Rated torque		Maximum torque Rated torque		Locked rotor apparent power Rated output						
	kW	HP	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz					
			380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	380V	440V			
Y90S-6-H	0.75	1	2.2	2	910	1130	1.8		2.0		13		73	74	0.7	0.7	20
Y90L-6-H	1.1	1.5	3.2	2.9	910	1130	1.8		2.0		13		73	74	0.7	0.7	24
Y100L-6-H	1.5	2	4	3.5	940	1150	1.8		2.0		13		78	80	0.7	0.7	33
Y112M-6-H	2.2	3	5.8	5.2	940	1150	1.8		2.0		13		80	82	0.7	0.7	47
Y132S-6-H	3	4	7.2	6.4	960	1170	1.8		2.0		13		84	84	0.8	0.7	66
Y132M1-6-H	4	5.5	9.5	8.2	960	1170	1.8		2.0		13		84	86	0.8	0.7	80
Y132M2-6-H	5.5	7.5	12.5	10.7	960	1170	1.8		2.0		13		86	88	0.8	0.8	90
Y160M-6-H	7.5	10	17.1	14.8	970	1170	1.7		1.9		12		88	89	0.8	0.8	100
Y160L-6-H	11	15	25	21.7	970	1170	1.7		1.9		12		88	89	0.8	0.8	125
Y180L-6-H	15	20	33	29.3	970	1180	1.7		1.9		12		89	89	0.8	0.8	195
Y200L1-6-H	18.5	25	37.6	32.7	980	1180	1.7		1.9		12		90	91	0.8	0.8	225
Y200L2-6-H	22	30	44.7	38.9	980	1180	1.7		1.9		12		90	91	0.8	0.8	275
Y225M-6-H	30	40	61.1	53.1	990	1190	1.5		1.8		11		91	92	0.8	0.8	325
Y250M-6-H	37	50	71	61.3	980	1180	1.5		1.8		11		91	91	0.9	0.9	430
Y280S-6-H	45	60	86.4	74.6	980	1190	1.5		1.8		11		92	92	0.9	0.9	505
Y280M-6-H	55	75	103.2	89.7	980	1190	1.5		1.8		11		92	93	0.9	0.9	540
Y315S-6-H	75	100	141.1	124	980	1190	1.2		1.7		11		93	92	0.9	0.9	990
Y315M-6-H	90	125	168.6	148.1	980	1190	1.2		1.7		11		93	93	0.9	0.9	1080
Y315L1-6-H	110	150	205.5	180.5	980	1190	1.2		1.7		10		94	93	0.9	0.9	1150
Y315L2-6-H	132	175	245.8	215.9	980	1190	1.2		1.7		10		94	93	0.9	0.9	1210
Y355M1-6-H	160	220	302	265.3	980	1190	1.1		1.8		10		94	93	0.9	0.9	1500
Y355M2-6-H	200	270	376.7	330.9	980	1190	1.1		1.8		10		94	93	0.9	0.9	1700
Y355L-6-H	250	350	468.9	411.9	980	1190	1.1		1.8		10		94	94	0.9	0.9	1900

Technical Data

型 号 Type	功 率 Rated output		电 流 Rated current		转 速 Rated speed		堵转转矩 额定转矩		最大转矩 额定转矩		堵转视在功率 额定功率		效 率 Efficiency		功率因数 Power factor		重 量 (kg)
	kW	HP	50Hz	60Hz	50Hz	60Hz	Locked-rotor torque Rated torque		Maximum torque Rated torque		Locked rotor apparent power Rated output		(%)		50Hz	60Hz	
			380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	380V	440V	
Y132S-8-H	2.2	3	5.8	5.2	710	860	1.7		1.9		13		80	81	0.7	0.7	66
Y132M-8-H	3	4	7.6	6.8	710	860	1.7		1.9		13		83	84	0.7	0.7	80
Y160M1-8-H	4	5.5	10.5	9.1	720	870	1.7		1.9		13		84	86	0.7	0.7	92
Y160M2-8-H	5.5	7.5	13.4	11.5	720	870	1.7		1.9		13		86	87	0.7	0.7	105
Y160L-8-H	7.5	10	17.7	15.5	720	880	1.7		1.9		12		86	87	0.8	0.7	130
Y180L-8-H	11	15	25.6	22.2	730	880	1.5		1.8		12		87	88	0.8	0.7	175
Y200L-8-H	15	20	33.3	29.2	730	890	1.5		1.8		12		89	90	0.8	0.8	255
Y225S-8-H	18.5	25	40.3	35.6	740	890	1.5		1.8		12		91	91	0.8	0.8	300
Y225M-8-H	22	30	47.4	41.7	730	890	1.5		1.8		12		91	91	0.8	0.8	320
Y250M-8-H	30	40	64.7	57.1	740	890	1.5		1.8		11		92	92	0.8	0.8	420
Y280S-8-H	37	50	79.8	68.9	740	890	1.5		1.8		11		92	92	0.8	0.8	515
Y280M-8-H	45	60	94.8	80.8	740	890	1.5		1.8		11		93	93	0.8	0.8	550
Y315S-8-H	55	75	113.5	98.59	740	890	1.2		1.7		11		92	92	0.8	0.8	1000
Y315M-8-H	75	100	152.1	132.1	740	890	1.2		1.7		11		93	92	0.8	0.8	1100
Y315L1-8-H	90	125	179.3	155.7	740	890	1.2		1.7		11		93	93	0.8	0.8	1160
Y315L2-8-H	110	150	218.5	189.6	740	890	1.2		1.7		10		93	93	0.8	0.8	1230
Y355M1-8-H	132	175	264.8	229.9	740	890	1.1		1.8		10		94	93	0.8	0.8	1500
Y355M2-8-H	160	220	320.3	278.1	740	890	1.1		1.8		10		94	93	0.8	0.8	1600
Y355L-8-H	200	270	399.1	346.5	740	890	1.1		1.8		10		94	94	0.8	0.8	1800

尺寸 Dimensions

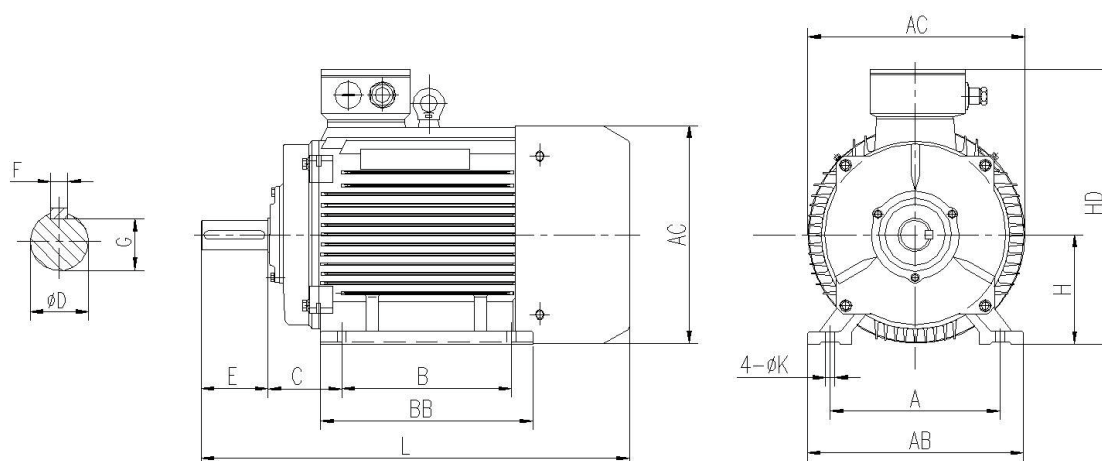
机座带地脚,端盖带凸缘 Frame with feet, with flange on end-shield



机座 Frame	极数 Poles	安装尺寸 Mounting dimension															外形尺寸 Overall dimension				
		A	B	C	D	E	F	G	H	K	M	N	P	R	S	T	AB	BB	AC	HD	L
80M	2,4	125	100	50	19	40	6	15.5	80	10	165	130	200	0	4-Φ12	3.5	160	130	155	211	284
90S	2,4,6	140	100	56	24	50	8	20	90	10	165	130	200	0	4-Φ12	3.5	174	140	176	237	313
90L	2,4,6	140	125	56	24	50	8	20	90	10	165	130	200	0	4-Φ12	3.5	174	165	176	237	338
100L	2,4,6	160	140	63	28	60	8	24	100	12	215	180	250	0	4-Φ15	4	200	176	195	261	375
112M	2,4,6	190	140	70	28	60	8	24	112	12	215	180	250	0	4-Φ15	4	226	180	220	293	394
132S	2,4,6,8	216	140	89	38	80	10	33	132	12	265	230	300	0	4-Φ15	4	260	186	258	333	463
132M	2,4,6,8	216	178	89	38	80	10	33	132	12	265	230	300	0	4-Φ15	4	260	224	258	333	501
160M	2,4,6,8	254	210	108	42	110	12	37	160	15	300	250	350	0	4-Φ19	5	314	260	314	409	608
160L	2,4,6,8	254	254	108	42	110	12	37	160	15	300	250	350	0	4-Φ19	5	314	304	314	409	652
180M	2,4,6,8	279	241	121	48	110	14	42.5	180	15	300	250	350	0	4-Φ19	5	350	311	355	445	688
180L	2,4,6,8	279	279	121	48	110	14	42.5	180	15	300	250	350	0	4-Φ19	5	350	349	355	445	726
200L	2,4,6,8	318	305	133	55	110	16	49	200	19	350	300	400	0	4-Φ19	5	388	365	397	500	760
225S	4,8	356	286	149	60	140	18	53	225	19	400	350	450	0	8-Φ19	5	431	368	446	547	807
225M	2	356	311	149	55	110	16	49	225	19	400	350	450	0	8-Φ19	5	431	393	446	547	802
225M	4,6,8	356	311	149	60	140	18	53	225	19	400	350	450	0	8-Φ19	5	431	393	446	547	832
250M	2	406	349	168	60	140	18	53	250	24	500	450	550	0	8-Φ19	5	484	445	485	608	910
250M	4,6,8	406	349	168	65	140	18	58	250	24	500	450	550	0	8-Φ19	5	484	445	485	608	910
280S	2	457	368	190	65	140	18	58	280	24	500	450	550	0	8-Φ19	5	542	485	547	667	950
280S	4,6,8	457	368	190	75	140	20	67.5	280	24	500	450	550	0	8-Φ19	5	542	485	547	667	980
280M	2	457	419	190	65	140	18	58	280	24	500	450	550	0	8-Φ19	5	542	536	547	667	1001
280M	4,6,8	457	419	190	75	140	20	67.5	280	24	500	450	550	0	8-Φ19	5	542	536	547	667	1031
315S	2	508	406	216	65	140	18	58	315	28	600	550	660	0	8-Φ24	6	628	570	620	849	1178
315S	4,6,8	508	406	216	80	170	22	71	315	28	600	550	660	0	8-Φ24	6	628	570	620	849	1208
315M	2	508	457	216	65	140	18	58	315	28	600	550	660	0	8-Φ24	6	628	680	620	849	1288
315M	4,6,8	508	457	216	80	170	22	71	315	28	600	550	660	0	8-Φ24	6	628	680	620	849	1318
315L	2	508	508	216	65	140	18	58	315	28	600	550	660	0	8-Φ24	6	628	680	620	849	1288
315L	4,6,8	508	508	216	80	170	22	71	315	28	600	550	660	0	8-Φ24	6	628	680	620	849	1318
355M	2	610	560	254	75	140	20	67.5	355	28	740	680	800	0	8-Φ24	6	730	750	710	1004	1486
355M	4,6,8	610	560	254	95	170	25	86	355	28	740	680	800	0	8-Φ24	6	730	750	710	1004	1516
355L	2	610	630	254	75	140	20	67.5	355	28	740	680	800	0	8-Φ24	6	730	750	710	1004	1486
355L	4,6,8	610	630	254	95	170	25	86	355	28	740	680	800	0	8-Φ24	6	730	750	710	1004	1516

尺寸 Dimensions

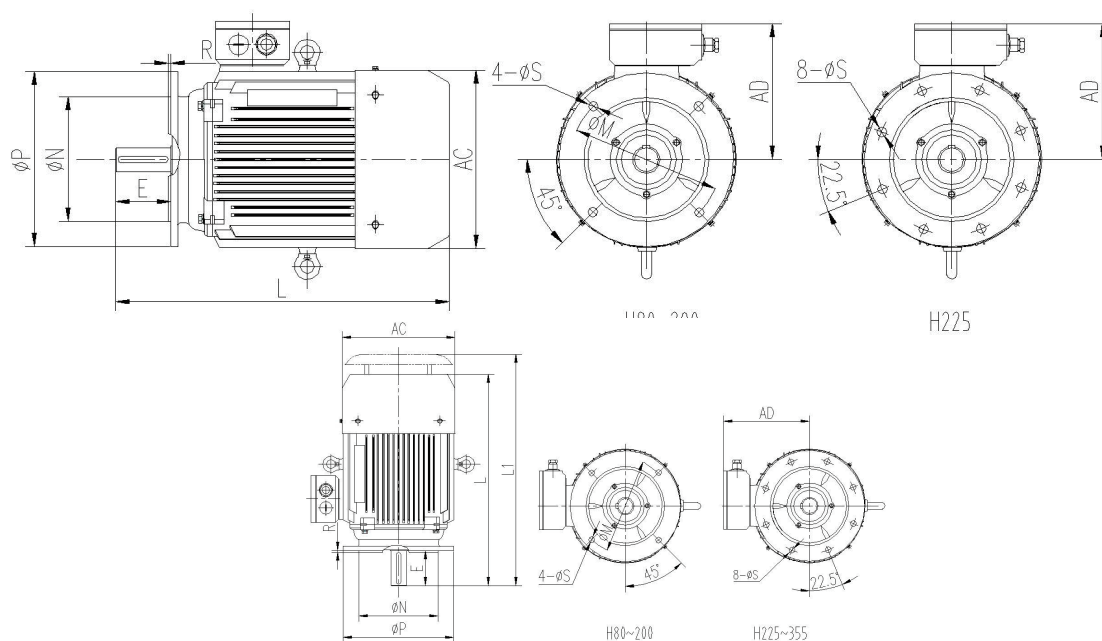
机座带地脚,端盖上无凸缘 Frame with feet,without flange on end-shield



机座号 Frame	极数 Poles	安装尺寸 Mountingdimension									外形尺寸 Overall dimension					
		A	B	C	D	E	F	G	H	K	AB	BB	AC	HD	HF	L
80M	2,4	125	100	50	19	40	6	15.5	80	10	160	130	155	211	—	284
90S	2,4,6	140	100	56	24	50	8	20	90	10	174	140	176	237	—	313
90L	2,4,6	140	125	56	24	50	8	20	90	10	174	165	176	237	—	338
100L	2,4,6	160	140	63	28	60	8	24	100	12	200	176	195	261	290	375
112M	2,4,6	190	140	70	28	60	8	24	112	12	226	180	220	293	305	394
132S	2,4,6,8	216	140	89	38	80	10	33	132	12	260	186	258	333	356	463
132M	2,4,6,8	216	178	89	38	80	10	33	132	12	260	224	258	333	356	501
160M	2,4,6,8	254	210	108	42	110	12	37	160	15	314	260	314	409	436	608
160L	2,4,6,8	254	254	108	42	110	12	37	160	15	314	304	314	409	436	652
180M	2,4,6,8	279	241	121	48	110	14	42.5	180	15	350	311	355	445	501	688
180L	2,4,6,8	279	279	121	48	110	14	42.5	180	15	350	349	355	445	501	726
200L	2,4,6,8	318	305	133	55	110	16	49	200	19	388	365	397	500	539	760
225S	4,8	356	286	149	60	140	18	53	225	19	431	368	446	547	591	807
225M	2	356	311	149	55	110	16	49	225	19	431	393	446	547	591	802
225M	4,6,8	356	311	149	60	140	18	53	225	19	431	393	446	547	591	832
250M	2	406	349	168	60	140	18	53	250	24	484	445	485	608	690	910
250M	4,6,8	406	349	168	65	140	18	58	250	24	484	445	485	608	690	910
280S	2	457	368	190	65	140	18	58	280	24	542	485	547	667	730	950
280S	4,6,8	457	368	190	75	140	20	67.5	280	24	542	485	547	667	730	980
280M	2	457	419	190	65	140	18	58	280	24	542	536	547	667	730	1001
280M	4,6,8	457	419	190	75	140	20	67.5	280	24	542	536	547	667	730	1031
315S	2	508	406	216	65	140	18	58	315	28	628	570	620	849	900	1178
315S	4,6,8	508	406	216	80	170	22	71	315	28	628	570	620	849	900	1208
315M	2	508	457	216	65	140	18	58	315	28	628	680	620	849	900	1288
315M	4,6,8	508	457	216	80	170	22	71	315	28	628	680	620	849	900	1318
315L	2	508	508	216	65	140	18	58	315	28	628	680	620	849	900	1288
315L	4,6,8	508	508	216	80	170	22	71	315	28	628	680	620	849	900	1318
355M	2	610	560	254	75	140	20	67.5	355	28	730	750	710	1004	1010	1486
355M	4,6,8	610	560	254	95	170	25	86	355	28	730	750	710	1004	1010	1516
355L	2	610	630	254	75	140	20	67.5	355	28	730	750	710	1004	1010	1486
355L	4,6,8	610	630	254	95	170	25	86	355	28	730	750	710	1004	1010	1516

尺寸 Dimensions

机座无底脚, 端盖带法兰 Frame without feet, with flange on the end-shield



机座号 Frame	极数 Poles	安装尺寸 Mounting dimension										外形尺寸 Overall dimension			
		D	E	F	G	M	N	P	R	S	T	AC	AD	L	L1
80M	2,4	19	40	6	15.5	165	130	200	0	4- $\phi 12$	3.5	155	131	284	334
90S	2,4,6	24	50	8	20	165	130	200	0	4- $\phi 12$	3.5	174	147	313	363
90L	2,4,6	24	50	8	20	165	130	200	0	4- $\phi 12$	3.5	174	147	338	388
100L	2,4,6	28	60	8	24	215	180	250	0	4- $\phi 15$	4	195	161	375	425
112M	2,4,6	28	60	8	24	215	180	250	0	4- $\phi 15$	4	220	181	394	444
132S	2,4,6,8	38	80	10	33	265	230	300	0	4- $\phi 15$	4	258	201	463	513
132M	2,4,6,8	38	80	10	33	265	230	300	0	4- $\phi 15$	4	258	201	501	551
160M	2,4,6,8	42	110	12	37	300	250	350	0	4- $\phi 19$	5	314	249	608	668
160L	2,4,6,8	42	110	12	37	300	250	350	0	4- $\phi 19$	5	314	249	652	712
180M	2,4,6	48	110	14	42.5	300	250	350	0	4- $\phi 19$	5	355	265	688	748
180L	2,4,6,8	48	110	14	42.5	300	250	350	0	4- $\phi 19$	5	355	265	726	786
200L	2,4,6,8	55	110	16	49	350	300	400	0	4- $\phi 19$	5	397	300	760	830
225S	4,8	60	140	18	53	400	350	450	0	8- $\phi 19$	5	446	322	807	887
225M	2	55	110	16	49	400	350	450	0	8- $\phi 19$	5	446	322	802	892
225M	4,6,8	60	140	18	53	400	350	450	0	8- $\phi 19$	5	446	322	832	922
250M	2	60	140	18	53	500	450	550	0	8- $\phi 19$	5	485	358	910	1015
250M	4,6,8	65	140	18	58	500	450	550	0	8- $\phi 19$	5	485	358	910	1015
280S	2	65	140	18	58	500	450	550	0	8- $\phi 19$	5	547	387	950	1055
280S	4,6,8	75	140	20	67.5	500	450	550	0	8- $\phi 19$	5	547	387	980	1085
280M	2	65	140	18	58	500	450	550	0	8- $\phi 19$	5	547	387	1001	1106
280M	4,6,8	75	140	20	67.5	500	450	550	0	8- $\phi 19$	5	547	387	1031	1136
315S	2	65	140	18	58	600	550	660	0	8- $\phi 24$	6	620	534	1178	1308
315S	4,6,8	80	170	22	71	600	550	660	0	8- $\phi 24$	6	620	534	1208	1338
315M	2	65	140	18	58	600	550	660	0	8- $\phi 24$	6	620	534	1288	1418
315M	4,6,8	80	170	22	71	600	550	660	0	8- $\phi 24$	6	620	534	1318	1448
315L	2	65	140	18	58	600	550	660	0	8- $\phi 24$	6	620	534	1288	1418
315L	4,6,8	80	170	22	71	600	550	660	0	8- $\phi 24$	6	620	534	1318	1448
355M	2	75	140	20	67.5	740	680	800	0	8- $\phi 24$	6	710	649	1486	1626
355M	4,6,8	95	170	25	86	740	680	800	0	8- $\phi 24$	6	710	649	1516	1656
355L	2	75	140	20	67.5	740	680	800	0	8- $\phi 24$	6	710	649	1486	1626
355L	4,6,8	95	170	25	86	740	680	800	0	8- $\phi 24$	6	710	649	1516	1656