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重庆赛力盟电机有限责任公司

CHONGQING ELECTRIC MACHINE FEDERATION LTD.

变频调速专用三相异步电动机安全使用说明书 (H132~355)



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赛力盟

重庆赛力盟电机有限责任公司

安全注意事项

请在安装、接线、运行、维护、检查之前，必须熟读本说明书的全部内容，做到正确使用。请熟知三相异步电动机的有关知识，安全信息和注意事项后再使用。

本说明书有关安全注意事项的等级分为“危险”和“注意”两级。

◇!危险：错误使用会有危险，可能会导致人死亡、残废或重伤。

△!注意：错误使用会有危险，可能会造成中度伤害、轻伤或使物质受损。

有时，即使对“注意”类说明的事项，如不遵守，根据情况，也有可能发生严重后果。所以本说明书阐述的内容都是很重要的，请务必遵守规定。

- 本说明书的内容若有更改，恕不另行通知。
- 对于任何公司或个人因不正确使用这些产品所导致的或相关的任何特殊的、间接的、偶然的，或结果性的损失，本公司概不负责。

◇! 危险

- 该电机适用于工频电源供电的一般用途的三相交流异步电动机，不能用于特殊场合或作特殊用途使用。否则可能引起电机烧毁或缩短电机的使用寿命。特殊场合和特殊用途电动机应该在订货时特殊注明。
- 该电机绝不能使用于维持生命装置等直接有关人身安全的场合。
- 该电机是严格的质量管理条件下生产的，可是若由于本产品的故障预计将引发重大事故或损失的应用场合，则必须设置安全装置，以防万一。否则可能引起重大事故。
- 从供电电网的质量、起动和制动特性、调速性能和控制特性等方面综合考虑选择的电动机类型，否则将引起电网及设备的损坏，严重时将危及人的生命安全。

◇! 注意

- 电动机的额定功率能够满足额定运行的要求，选择电动机应与负载功率相匹配。
- 电动机应该具有生产机械所需要的过载能力和起动能力。
- 本说明书主要针对S1连续工作制的电动机，其他工作制的电动机参照相关技术手册内容使用，选择电动机时要充分考虑电动机的工作制。
- 电动机的防护等级有IP44、IP54、IP55等。被使用在户外或者是腐蚀性环境中的电动机，其设计和制造与普通型电动机是不同的，必须在订货合同中显著的位置注明。

变频调速专用三相异步电动机

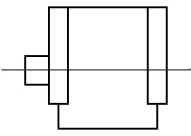
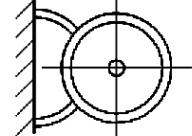
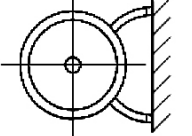
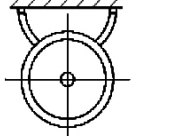
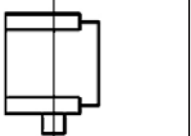
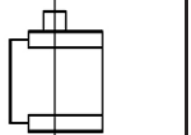
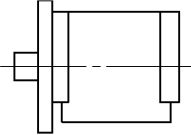
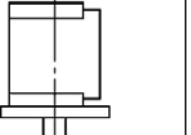
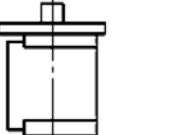
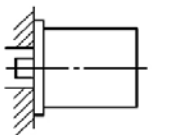
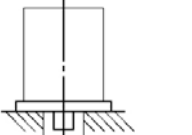
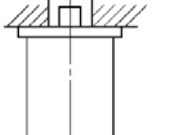
1 概述

1.1 本电动机符合 IEC34-1、GB755 标准。

1.2 本安全使用说明适用于变频调速专用三

相异步电动机，外壳防护等级 IP44（或 IP54、IP55），冷却方式为 IC416。

1.3 电动机的结构及安装型式按表 1。

代号	IMB3	IMB6	IMB7	IMB8	IMV5	IMV6
示意图						
制造范围 (中心高)	132 ~ 355	132 ~ 160				
代号	IMB35	IMV15	IMV35	IMB5	IMV1	IMV3
示意图						
制造范围 (中心高)	132 ~ 355	132 ~ 160		132 ~ 225	132 ~ 355	132 ~ 160



1.4 电动机的环境空气温度不低于 -20°C ，不超过 40°C ，海拔不超过 1000 m。绕组的接线方式为“Y”接法（355 机座号的 2 极电机为“ Δ ”接法），绝缘等级为 F 级或 H 级，定子绕组温升限值（电阻法）F 级考核不超过 105K，H 级考核不超过 125K，电动机在规定的转速范围内能平稳连续运行。

2 安装前的准备

2.1 电动机开箱前应检查包装是否完整无损，有无受潮的迹象。

2.2 电动机开箱后应小心清除电机上的尘土、轴伸及法兰部位的防锈油脂。

2.3 检查电动机的铭牌数据是否符合要求。

2.4 仔细检查电动机在运输过程中，有无变

形或损坏，紧固件有否松动或脱落。试用手转动电动机是否灵活。

2.5 用兆欧表测量绝缘电阻，其值不应低于 $0.5\text{M}\Omega$ ，否则应对定子绕组进行干燥处理，干燥处理时的温度不超过 120°C 。

3 电动机的安装

3.1 电动机应采用联轴器或正齿轮传动。

3.2 安装联接电动机和负载时，电动机轴中心线与负载轴中心线应重合。联轴器等应校动平衡。

3.3 对立式安装的电动机，轴伸除联轴器负荷外，不允许再带其它任何轴向负荷装置。

3.4 电动机的安装应保证良好的通风冷却条件。

4 电动机的运转

4.1 电动机应妥善接地，接线盒内右下方有接地标记。当电机功率大于 100kW 时，在电动机的底脚或法兰盘处另有紧固螺栓接地。

4.2 电动机的接线

4.2.1 电动机的出线板上有 6 个接线柱，“Y”或“ Δ ”接法的电机出线端均为 3 个，星点或首末端均已在内部接好，见下图示，标志见表 2。

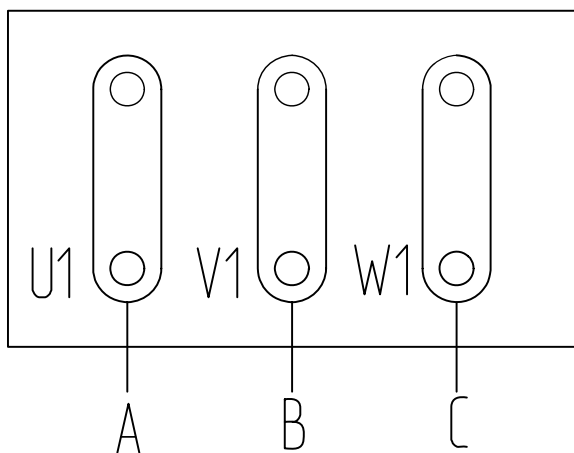


表 2

相序	A	B	C
标志	U1	V1	W1

当电源相序 A、B、C 分别与接线柱标志 U1、V1、W1 相对应时，电动机的转向，从主轴伸端视之为顺时针，对调任意两相电源相序，电动机的转向就与原来相反。

4.2.2 电机风机电源为独立的三相工频电源（不通过变频器的三相 380V 50Hz 电源），风机接线方式见下图示。风机主要技术参数见表 3。

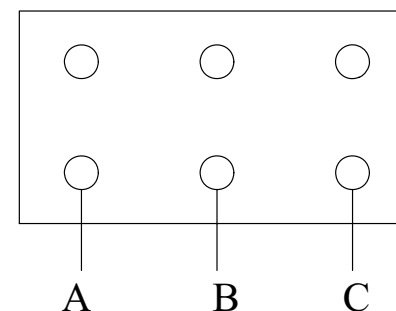




表 3

型号	电制	功率 (W)	转速 (r/min)	风量 (m ³ /h)	全压 (Pa)	噪声 dB (A)	风叶直径 (mm)
G-132A	三相380V 50Hz	40	1300	780	50	70	250
G-160A	三相380V 50Hz	80	1350	1300	50	70	300
G-180A	三相380V 50Hz	80	1350	1300	55	70	300
G-200A	三相380V 50Hz	150	1350	2400	100	70	380
G-225A	三相380V 50Hz	200	1350	4200	150	74	400
G-250A	三相380V 50Hz	230	1350	4200	150	77	460
G-280A	三相380V 50Hz	320	1250	5000	150	77	520
G-315A	三相380V 50Hz	370	1250	5000	150	85	520
G-355A	三相380V 50Hz	600	1350	6500	180	88	680

4.2.3 电动机一般不加装加热器。如果电动机内部安装有加热器时，其接线方式如下：

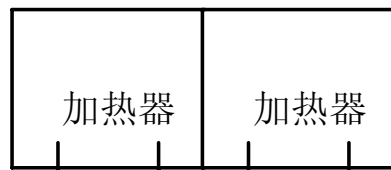
加热器电源接头在电动机接线盒内，电源为交流电，电源电压为 220V，加热器接头标志：H1、H2，接线方式见下图示，加热器功率见表 4。

表 4

机座号	加热器功率 (W)
132~160	100
180~225	175
250~280	300
315~355	500



一支加热器时



两支加热器时

4.2.4 电动机如安装有测速发电机或编码器时，其接线引入专门的接线盒内。

4.3 电动机一般应有热保护与短路保护装置，并应根据电动机的铭牌电流调整保护装置的整定值。

4.4 电动机空载或负载运行不应有断续的或异常的声响或振动，轴承最高工作温度不应超过 95℃（温度计法）。

5 电动机的维护、修理

5.1 使用环境应经常保持干燥，电动机表面应保持清洁，进风口不应受尘土，纤维等的阻碍。

5.2 当电动机的热保护及短路保护连续发生动作时，应查明故障来自电动机，还是超负荷或保护装置整定值太低，消除故障后，方可投入运行。



5.3 应保证电动机在运行过程中良好的润滑，一般的电动机运行 3000~5000h 左右，即应补充或换润滑脂（封闭轴承在使用寿命期内不必更换润滑脂）。运行中发现轴承过热或润滑脂变质时，应及时更换润滑脂。更换润滑脂时，应清除旧的润滑脂并用汽油洗净轴承及轴承盖的油槽，然后将合成锂基润滑脂 ZL-3H 填充轴承内外圆之间空腔的 1/2（对 2 极）或 2/3（对 4、6、8、10 极）。

5.4 当轴承的寿命终了时，电动机运行时的振动及噪声将明显增大，检查轴承的游隙达到表 5 规定的值时，即应更换轴承。电动机的轴承规格见表 6。

表 5

轴承内径	20~30	35~50	55~80	85~120
极限磨损游隙	0.1	0.15	0.20	0.30

6 电动机的贮存，运输

6.1 电动机的贮存应置于防潮、防尘、无腐蚀性物质有较好防护条件的场所。

6.2 电动机贮存中不宜堆码太高，以免损坏下层电动机的包装。

6.3 贮存及运输中应防止电动机的倾倒或倒置。

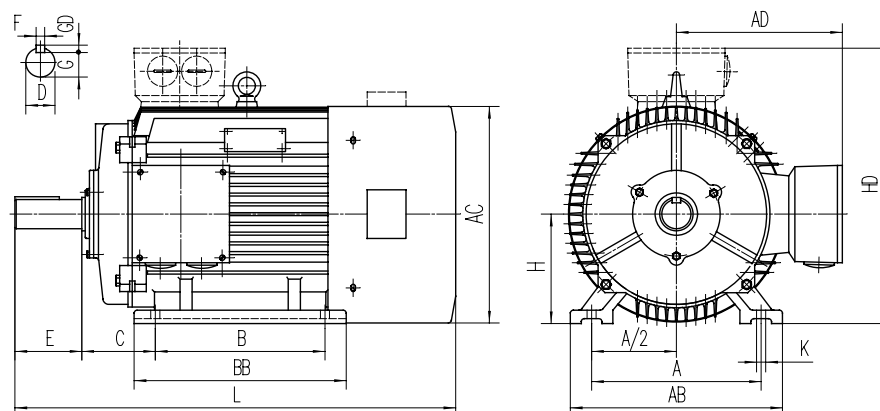


表 6

机座号	极数	轴承规格		轴承尺寸
		主轴伸端	风机端	(内径×外径×宽度)
132	2、4、6、8	6208-2RS	6208-2RS	40×80×18
160	2、4、6、8	6309-2RS	6309-2RS	45×100×25
180	2、4、6、8	6311Z1	6311Z1	55×120×29
200	2、4、6、8	6312Z1	6312Z1	60×130×31
225	2、4、6、8	6313Z1	6313Z1	65×140×33
250	2、4、6、8	6314Z1	6314Z1	70×150×35
280	2	6314Z1	6314Z1	70×150×35
	4、6、8	6317Z1	6317Z1	85×180×41
315 (B3、B35)	2	6317Z1	6317Z1	85×180×41
	4、6、8、10	6319Z1	6319Z1	95×200×45



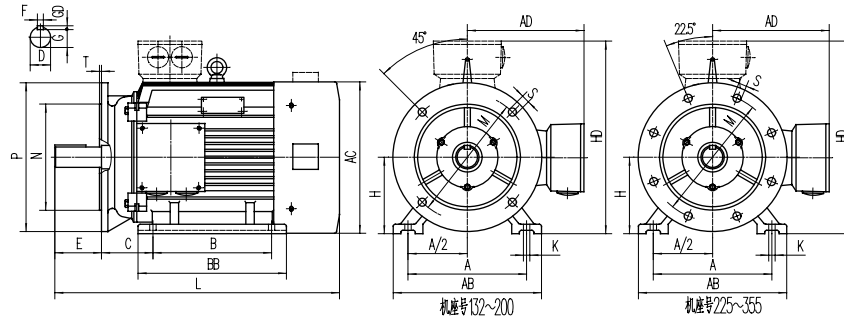
机座号	极数	轴承规格		轴承尺寸
		主轴伸端	风机端	(内径×外径×宽度)
355 (B3、B35)	2	6319Z1	6319Z1	95×200×45
	4、6、8、10	6322Z1	6322Z1	110×240×50
315 (V1)	2	6317Z1	7317CJ	85×180×41
	4、6、8、10	6319Z1	7319CJ	95×200×45
355 (V1)	4、6、8、10	6322Z1	7322CJ	110×240×50



B3、B6、B7、B8、V5、V6 机座带底脚，端盖上无凸缘的电动机外形及安装尺寸

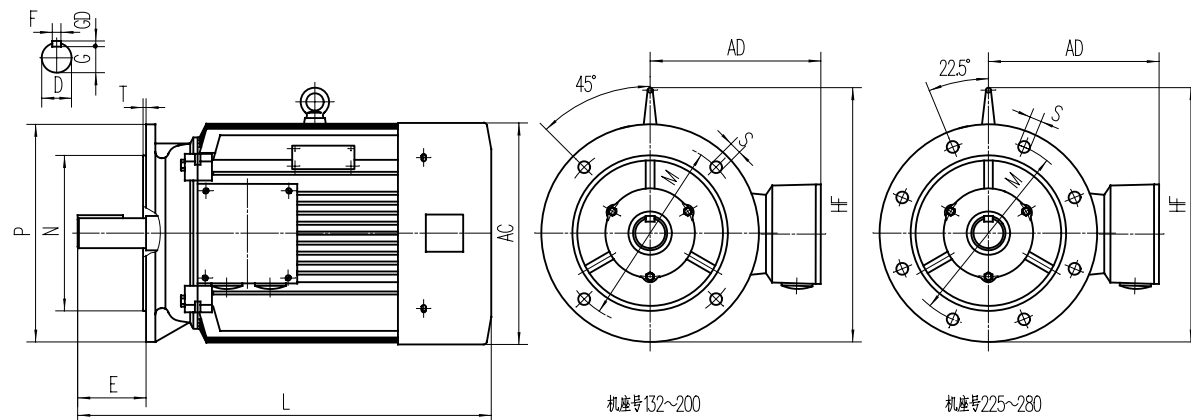
B3、B6、B7、B8、V5、V6 Frame with feet, Endshield without flange, motor outline and mounting dimensions

型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	355M	355L	
安装尺寸 Installation Dimension	H	132	132	160	160	180	180	200	225	225	250	280	280	315	315	315	355	355	
	A	216	216	254	254	279	279	318	356	356	406	457	457	508	508	508	610	610	
	A/2	108	108	127	127	139.5	139.5	159	178	178	203	228.5	228.5	254	254	254	305	305	
	B	140	178	210	254	241	279	305	286	311	349	368	419	406	457	508	560	630	
	C	89 ± 2.0		108 ± 3.0		121 ± 3.0		133 ± 3.0	149 ± 4.0		168 ± 4.0	190 ± 4.0		216 ± 4.0		254 ± 4.0			
	D	2P	38 ^{+0.018} _{+0.002}		42 ^{+0.018} _{+0.002}		48 ^{+0.018} _{+0.002}		55 ^{+0.030} _{+0.011}		—	55 ^{+0.030} _{+0.011}	60 ^{+0.030} _{+0.011}	65 ^{+0.030} _{+0.011}				75 ^{+0.030} _{+0.011}	
		4/6/8P									60 ^{+0.030} _{+0.011}		65 ^{+0.030} _{+0.011}		75 ^{+0.030} _{+0.011}		80 ^{+0.030} _{+0.011}		95 ^{+0.035} _{+0.013}
	E	2P	80 ± 0.37		110 ± 0.43				—	110 ± 0.43		140 ± 0.50							
		4/6/8P							140 ± 0.50				170 ± 0.50						
	F×GD	2P	10×8	10×8	12×8	12×8	14×9	14×9	16×10	—	16×10	18×11	18×11	18×11	18×11	18×11	18×11	18×11	20×12
4/6/8P		18×11								18×11	18×11	20×12	20×12	22×14	22×14	22×14	25×14	25×14	
G	2P	33	33	37	37	42.5	42.5	49	—	49	53	58	58	58	58	58	58	67.5	67.5
	4/6/8P								53	53	58	67.5	67.5	71	71	71	86	86	
K	12	12	15	15	15	15	19	19	19	24	24	24	28	28	28	28	28	28	
外形尺寸 Outline Dimension	AB	270	270	320	320	355	355	395	435	435	490	550	550	630	630	630	730	730	
	BB	190	230	260	305	311	349	370	375	400	445	485	536	570	680	680	750	750	
	AC	260	260	315	315	355	355	395	445	445	490	550	550	620	620	620	700	700	
	AD	215	215	260	260	275	275	345	335	335	365	400	400	530	530	530	—	—	
	HD	345	345	420	420	455	455	545	555	555	615	680	680	845	845	845	1010	1010	
L	2P	525	565	660	715	765	805	—	—	895	1000	1075	1125	1260	1370	1370	1565	1565	
	4/6/8P	525	565	660	715	765	805	845	890	920	1000	1095	1145	1290	1400	1400	1595	1595	
型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	355M	355L	
制造范围 Frame Height	B3	→																	
	B6/B7/B8 V5/V6	→				→													



B35、V15、V35 机座带底脚，端盖上有凸缘（带通孔）的电动机外形及安装尺寸
 B35、V15、V35 Frame with feet, Endshield with flange, motor outline and mounting dimensions

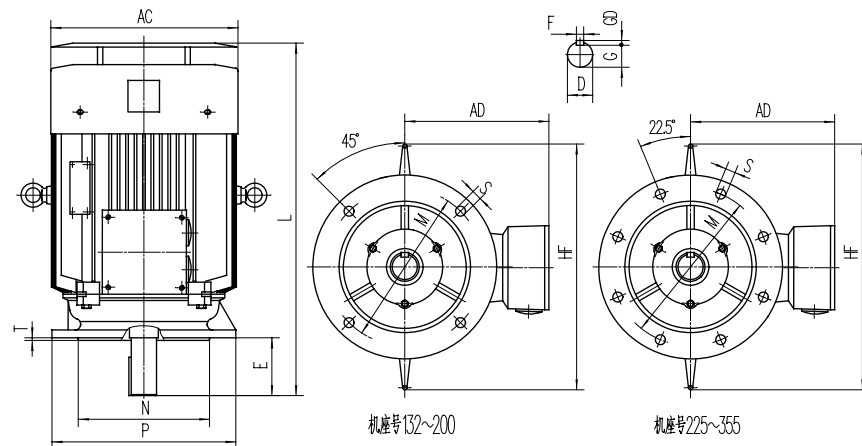
型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	355M	355L		
安装尺寸 Installation Dimension	H	132	132	160	160	180	180	200	225	225	250	280	280	315	315	315	355	355		
	A	216	216	254	254	279	279	318	356	356	406	457	457	508	508	508	610	610		
	A/2	108	108	127	127	139.5	139.5	159	178	178	203	228.5	228.5	254	254	254	305	305		
	B	140	178	210	254	241	279	305	286	311	349	368	419	406	457	508	560	630		
	C	89 ± 2.0		108 ± 3.0		121 ± 3.0		133 ± 3.0	149 ± 4.0		168 ± 4.0		190 ± 4.0		216 ± 4.0		254 ± 4.0			
	D	2P	38 ^{+0.018} _{+0.002}		42 ^{+0.018} _{+0.002}		48 ^{+0.018} _{+0.002}		55 ^{+0.030} _{+0.011}	—	55 ^{+0.030} _{+0.011}	60 ^{+0.030} _{+0.011}	65 ^{+0.030} _{+0.011}					75 ^{+0.030} _{+0.011}		
		4/6/8P								55 ^{+0.030} _{+0.011}	65 ^{+0.030} _{+0.011}	75 ^{+0.030} _{+0.011}		80 ^{+0.030} _{+0.011}		95 ^{+0.035} _{+0.013}				
	E	2P	80 ± 0.37		110 ± 0.43				—	110 ± 0.43		140 ± 0.50								
		4/6/8P								140 ± 0.50				170 ± 0.50						
	F × GD	2P	10 × 8	10 × 8	12 × 8	12 × 8	14 × 9	14 × 9	16 × 10	—	16 × 10	18 × 11	18 × 11	18 × 11	18 × 11	18 × 11	18 × 11	18 × 11	20 × 12	20 × 12
		4/6/8P								18 × 11	18 × 11	20 × 12	20 × 12	22 × 14	22 × 14	22 × 14	25 × 14	25 × 14		
	G	2P	33	33	37	37	42.5	42.5	49	—	49	53	58	58	58	58	58	58	67.5	67.5
		4/6/8P								53	53	58	67.5	67.5	71	71	71	71	86	86
	K	12	12	15	15	15	15	19	19	19	24	24	24	28	28	28	28	28	28	
	M	265	265	300	300	300	300	350	400	400	500	500	500	600	600	600	600	740	740	
	N	230	230	250	250	250	250	300	350	350	450	450	450	550	550	550	550	680	680	
	P	300	300	350	350	350	350	400	450	450	550	550	550	660	660	660	660	800	800	
R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
S	4-Φ15			4-Φ19				8-Φ19					8-Φ24							
T	4	4	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6		
外形尺寸 Outline Dimension	AB	270	270	320	320	355	355	395	435	435	490	550	550	630	630	630	730	730		
	BB	190	230	260	305	311	349	370	375	400	445	485	536	570	680	680	750	750		
	AC	260	260	315	315	355	355	395	445	445	490	550	550	620	620	620	700	700		
	AD	215	215	260	260	275	275	345	335	335	365	400	400	530	530	530	—	—		
	HD	345	345	420	420	455	455	545	555	555	615	680	680	845	845	845	1010	1010		
	L	2P	525	565	660	715	765	805	—	—	895	1000	1075	1125	1260	1370	1370	1565	1565	
4/6/8P		525	565	660	715	765	805	845	890	920	1000	1095	1145	1290	1400	1400	1595	1595		
型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	355M	355L		
制造范围 Frame Height	B35	→																		
	V15/V35	→																		
备注 Note		R 为凸缘安装平面至轴伸台阶平面的距离 R is the distance between the flange surface and surface of stage on shaft of driving end																		



B5、V3 机座不带底脚，端盖上有凸缘（带通孔）的电动机外形及安装尺寸

B5、V3 Frame without feet, Endshield with flange, motor outline and mounting dimensions

型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	
安装尺寸 Installation Dimension	D	2P	38 ^{+0.018} _{+0.002}	42 ^{+0.018} _{+0.002}	48 ^{+0.018} _{+0.002}	55 ^{+0.030} _{+0.011}	—	55 ^{+0.030} _{+0.011}	60 ^{+0.030} _{+0.011}	65 ^{+0.030} _{+0.011}	75 ^{+0.030} _{+0.011}	—	—	
		4/6/8P												
	E	2P	80±0.37	110±0.43						—	110±0.43	140±0.50		
		4/6/8P		140±0.50										
	F×GD	2P	10×8	10×8	12×8	12×8	14×9	14×9	16×10	—	16×10	18×11	18×11	18×11
		4/6/8P	18×11	18×11	18×11	20×12	20×12							
	G	2P	33	33	37	37	42.5	42.5	49	—	49	53	58	58
		4/6/8P	53	53	58	67.5	67.5							
	M	265	265	300	300	300	300	350	400	400	500	500	500	
	N	230	230	250	250	250	250	300	350	350	450	450	450	
P	300	300	350	350	350	350	400	450	450	550	550	550		
R	0	0	0	0	0	0	0	0	0	0	0	0		
S	4-Φ15			4-Φ19				8-Φ19						
T	4	4	5	5	5	5	5	5	5	5	5	5		
外形尺寸 Outline Dimension	AC	260	260	315	315	355	355	395	445	445	490	550	550	
	AD	215	215	260	260	275	275	345	335	335	365	400	400	
	HF	315	315	385	385	430	430	480	535	535	595	650	650	
	L	2P	525	565	660	715	765	805	—	—	895	1000	1075	1125
4/6/8P		525	565	660	715	765	805	845	890	920	1000	1095	1145	
型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	
制造范围 Frame Height	B5	→												
	V3	→												
备注 Note		R 为凸缘安装平面至轴伸台阶平面的距离 R is the distance between the flange surface and surface of stage on shaft of driving end												



V1 立式安装，机座不带底脚，端盖上有凸缘（带通孔），轴伸向下的电动机外形及安装尺寸

V1 Vertical shaft, Frame without feet, Endshield with flange, D-end down, motor outline and mounting dimensions

型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	355M	355L	
安装尺寸 Installation Dimension	D	2P	38 ^{+0.018} +0.002	42 ^{+0.018} +0.002	48 ^{+0.018} +0.002	55 ^{+0.030} +0.011	55 ^{+0.030} +0.011	—	55 ^{+0.030} +0.011	60 ^{+0.030} +0.011	65 ^{+0.030} +0.011						75 ^{+0.030} +0.011		
		4/6/8P									60 ^{+0.030} +0.011		65 ^{+0.030} +0.011	75 ^{+0.030} +0.011		80 ^{+0.030} +0.011		95 ^{+0.035} +0.013	
	E	2P	80±0.37		110±0.43				—	110±0.43		140±0.50							
		4/6/8P	80±0.37		110±0.43				140±0.50			170±0.50							
	F×GD	2P	10×8	10×8	12×8	12×8	14×9	14×9	16×10	—	16×10	18×11	18×11	18×11	18×11	18×11	18×11	20×12	20×12
		4/6/8P	10×8	10×8	12×8	12×8	14×9	14×9	16×10	18×11	18×11	18×11	20×12	20×12	22×14	22×14	22×14	25×14	25×14
	G	2P	33	33	37	37	42.5	42.5	49	—	49	53	58	58	58	58	58	67.5	67.5
		4/6/8P	33	33	37	37	42.5	42.5	49	53	53	58	67.5	67.5	71	71	71	86	86
	M	265	265	300	300	300	300	350	400	400	500	500	500	500	600	600	600	740	740
	N	230	230	250	250	250	250	300	350	350	450	450	450	450	550	550	550	680	680
P	300	300	350	350	350	350	400	450	450	550	550	550	550	660	660	660	800	800	
R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
S	4-Φ15			4-Φ19				8-Φ19					8-Φ24						
T	4	4	5	5	5	5	5	5	5	5	5	5	5	6	6	6	6	6	
外形尺寸 Outline Dimension	AC	260	260	315	315	355	355	395	445	445	490	550	550	620	620	620	700	700	
	AD	215	215	260	260	275	275	345	335	335	365	400	400	530	530	530	655	655	
	HF	315	315	420	420	500	500	550	575	575	650	725	725	860	860	860	960	960	
	L	2P	575	615	700	755	830	865	—	—	985	1070	1175	1225	1320	1430	1430	1665	1665
4/6/8P		575	615	700	755	830	865	900	985	1010	1070	1195	1245	1350	1460	1460	1695	1695	
型号 Type		132S	132M	160M	160L	180M	180L	200L	225S	225M	250M	280S	280M	315S	315M	315L	355M	355L	
制造范围 Frame Height	V1	→																	
备注 Note	R 为凸缘安装平面至轴伸台阶平面的距离 R is the distance between the flange surface and surface of stage on shaft of driving end																		

VARIABLE FREQUENCY THREE-PHASE INDUCTION MOTOR

1 Brief introduction

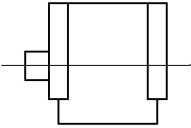
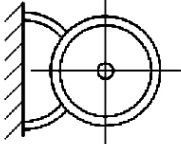
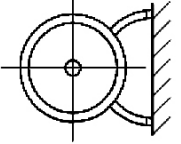
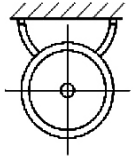
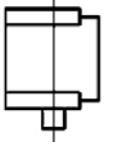
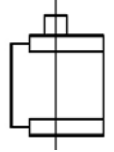
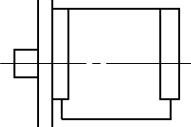
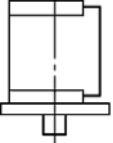
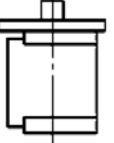
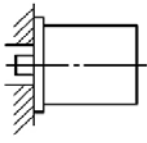
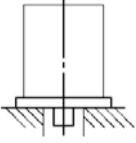
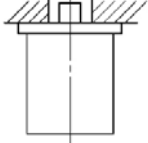
1.1 The motor conform to IEC34-1 and GB755.

1.2 This instruction manual is suitable for three phase cage asynchronous motor with speed regulation by

frequency variation. Frame protection class is IP44 (IP54 or IP54), cooling method IC416.

1.3 Structure and installation type as Table 1

Table 1

Code	IMB3	IMB6	IMB7	IMB8	IMV5	IMV6
Sketch drawing						
Frame No.	132 ~ 355	132 ~ 160				
Code	IMB35	IMV15	IMV35	IMB5	IMV1	IMV3
Sketch drawing						
Frame No.	132 ~ 355	132 ~ 160		132 ~ 225	132 ~ 355	132 ~ 160



1.4 Ambient temperature should be between $-20\text{ }^{\circ}\text{C}$ and $40\text{ }^{\circ}\text{C}$, elevation not less than 1000m. Y connection (Δ connection for 2 poles motor with frame No. 355) is selected. Insulation class is Class F or Class H. Temperature rise limit of stator coil (electric resistance method) is 105K for Class F, and 125K for Class H. Motor can rotate reliably and continuously within designed speed range.

2 Preparation before installation

2.1 Checking the packing case before opening to see if there is any damage or damped indication.

2.2 After opening carefully sweep out all dust and remove antirust coating from the flange and motor shaft on driving end.

2.3 Checking over all the technical data carded in the nameplate of the motor.

2.4 Examine the motor thoroughly to see if it has been damaged during the course of shipment. And also check

over all fasteners of the motor for looseness of falling off. Try to rotate the rotor with hand to see if it runs agilely.

2.5 To measure its insulation resistance by megohmmeter. The value of the insulation resistance of the motor should not less than $0.5\text{M}\Omega$ otherwise the stator windings should be dried accordingly. The drying temperature shall not exceed 120°C .

3 Installation

3.1 Power of the motor should be transmitted by coupling device or spur gear.

3.2 The center line of driving shaft should be in parallel with that of driven shaft. Adjust the balance of coupling device.

3.3 For vertical mounting motor, it is inadvisable to apply any extra axial load to it other than the coupling device.

3.4 Make sure the motor is well ventilated.

4 Operation

4.1 The motor should be properly grounded. Grounding mark is right below the junction box. If power of motor is more than 100kW, grounding bolt is on mounting surface or flange.

4.2 Wiring

4.2.1 There are 6 terminals on the outlet panel, with 3 outgoing wires for either Y or Δ connection. The star point, first and last wires are already connected as shown in the following drawing. For marks see Table 2.

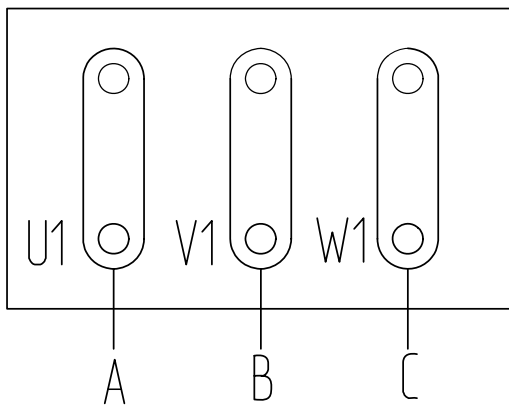


Table 2

Phase Sequence	A	B	C
Mark	U1	V1	W1

When the Phase Sequence A, B and C are connected to U1, V1 and W1 respectively, the motor rotates in clockwise direction if seen from the drive end of the shaft. It will rotate in counterclockwise direction if any two phases are exchanged.

4.2.2 Power supply of fan is 3-phase 380V 50Hz not through frequency converter.

Wire of fan is as following, and main parameters are in Table 3.

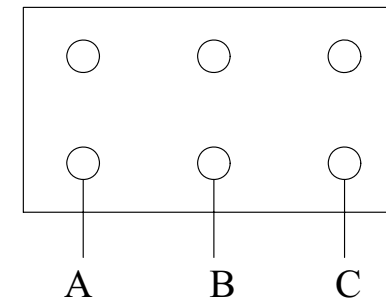




Table 3

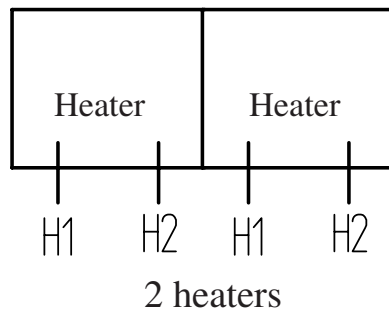
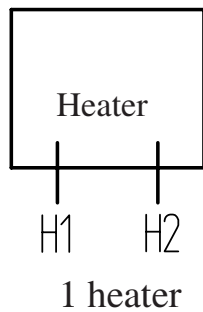
Type	Power Supply	Power (W)	Speed (r/min)	Air Amount (m ³ /h)	Pressure (Pa)	Noise dB (A)	(mm) Fan Diameter
G-132A	3-phase 380V 50Hz	40	1300	780	50	70	250
G-160A	3-phase 380V 50Hz	80	1350	1300	50	70	300
G-180A	3-phase 380V 50Hz	80	1350	1300	55	70	300
G-200A	3-phase 380V 50Hz	150	1350	2400	100	70	380
G-225A	3-phase 380V 50Hz	200	1350	4200	150	74	400
G-250A	3-phase 380V 50Hz	230	1350	4200	150	77	460
G-280A	3-phase 380V 50Hz	320	1250	5000	150	77	520
G-315A	3-phase 380V 50Hz	370	1250	5000	150	85	520
G-355A	3-phase 380V 50Hz	600	1350	6500	180	88	680

4.2.3 Usually there is no heater in the motor. If there is heater, its wiring is as following:

Power supply of heater is from junction box, AC 220V. Wire mark: H1 and H2. Wiring is as following drawing. For its power see Table 4.

Table 4

Frame No.	Power (W)
132~160	100
180~225	175
250~280	300
315~355	500



4.2.4 If there is speed detecting generator or code inside the motor, special junction box is needed.

4.3 Usually there is overheating and short circuit protection device which can be adjusted according to current on nameplate.

4.4 The existence of either intermittent or transient abnormal noise or vibration during operation. The motor operates under either load or no-load condition. At the same moment, the summit operating temperature of bearings should be not exceed 95℃ (thermometer).

5 Maintenance and repair

5.1 The operating site should be kept dry. The surface of the motor should be kept clean.

5.2 When short-circuit protecting device works, check the value setting of over load and the motor itself, the motor

could be only put into operation after problem solved.

5.3 Be sure to maintain excellent lubricating condition during the course of operation. In general the lubricant will be replenished or renewed after each 3,000-5,000h operation approximately (The lubricant for sealed bearing may not be renewed within its service life). But the lubricant must be renewed timely in case of the bearing is found to be overtemperatured or the lubricant has gone bad. Clean all the old lubricant and clean out the bearings and the covering disks of bearings by gasoline before the replacement. Filling up 1/2 the space (for two poles motor) or 2/3 the space (for 4, 6, 8, 10 poles motor) between the outside race and inner race of the bearing with compound lithium group grease ZL-3H.

5.4 The vibration and the noise level of the motor will rise obviously if the bearing has gone dead. Bearing should

be renewed if its radial play reaches the numerical value listed in Table 5:

Table 5

ID of bearing	20~30	35~50	55~80	85~120
Limit of radial play	0.1	0.15	0.20	0.30

6 Storage and shipping

6.1 Stocking spot of the motor should be kept dry, no dust, no corrosive material, etc.

6.2 Do not pile up the packing cases too high during stocking to avoid damage.

6.3 The case should not be tipped or even up side down during stocking or shipping.



Table 6

Frame No.	Poles	Bearing Type		Bearing Dimensions
		Driving End	Fan End	(I.D.O.W)
132	2、4、6、8	6208-2RS	6208-2RS	40×80×18
160	2、4、6、8	6309-2RS	6309-2RS	45×100×25
180	2、4、6、8	6311Z1	6311Z1	55×120×29
200	2、4、6、8	6312Z1	6312Z1	60×130×31
225	2、4、6、8	6313Z1	6313Z1	65×140×33
250	2、4、6、8	6314Z1	6314Z1	70×150×35
280	2	6314Z1	6314Z1	70×150×35
	4、6、8	6317Z1	6317Z1	85×180×41
315 (B3、B35)	2	6317Z1	6317Z1	85×180×41
	4、6、8、10	6319Z1	6319Z1	95×200×45



Frame No.	Poles	Bearing Type		Bearing Dimensions
		Driving End	Fan End	(I.D.O.W)
355 (B3、B35)	2	6319Z1	6319Z1	95 × 200 × 45
	4、6、8、10	6322Z1	6322Z1	110 × 240 × 50
315 (V1)	2	6317Z1	7317CJ	85 × 180 × 41
	4、6、8、10	6319Z1	7319CJ	95 × 200 × 45
355 (V1)	4、6、8、10	6322Z1	7322CJ	110 × 240 × 50



SAFETY NOTICE

Before installing, connecting, operation, maintenance and inspecting this machine, please read up all the content of this manual, and know well the relate knowledge, safety information and notice of three phase asynchronous motor, for operating it correctly.

The safety notice degrees of this manual are “danger” and “notice”

◇!Dangerous : If the operation incorrect, it will cause death, crippledom or serious injury.

△!Notice : If the operation incorrect, it will cause middle injure, flesh wound, or device damage.

Sometimes, it may cause serious aftereffect if the condition of the “notice” item is not abide, So, the content of this manual is very important, You must obey it.

- The manufacturer continues to have the right of correct the manual and no announce user
- The manufacturer does not have any responsibility for especial, indirect, occasional, final loss if the operation incorrect. The manufacturer does not have any responsibility for compensation of the third party.

◇!Dangerous

- This motor suits for the general purpose three phase asynchronous motor which the electrical source is 50Hz, it is forbidden to use in the special situation or the special purpose, otherwise, it will cause the motor destroy or reduce the motor's serving life.
- This motor is forbidden to use in the condition of life safety, such as maintain life device, etc.
- This motor is manufactured in the condition of strict quality control, but do to the predictive great accident or damaging because of this machine problem, you must set the safety device for prevent the great accident.
- The type of motor is must be selected carefully according to quality of electric network, performance of start and brake, character of speed adjust and control. If do not, it will cause electric network and equipments, even person health serious Injury.

◇!Notice

- The rated motor power should satisfy the rated load running requirement. The selected motor power must match up to the load power.
- The motor should have enough overload and start power according with the maching.
- The manual is about S1-duty motor. Please refer to corresponding technical document while using other, duty motor. The duty is one of important parameter for selecting type of motor.
- The protect class of motor is Ip44, Ip54, Ip55. When the motor is used in out of door or causticity condition, The motor design and produce is different from the common motor. The especial condition must be marked clearly at notable location of order.

NO: OCD.460.511-2011



CEMF

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VARIABLE FREQUENCY THREE-PHASE INDUCTION MOTOR SAFETY MANUAL (H132~355)



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