



YBF3 系列风机用隔爆型三相异步电动机
(Ex db I Mb)
(机座号 80~355)

YBF3 Series Flameproof Asynchronous
Motor for Fan
(Ex db I Mb)
(Frame Size 80~355)

使用说明书

Operation Manual

安徽皖南电机股份有限公司
Anhui Wannan Electric Machine Co.,Ltd

衷心感谢您选购、使用皖南电机。

在使用电动机之前，请扫码仔细阅读本说明书，以便您正确的使用和维护。

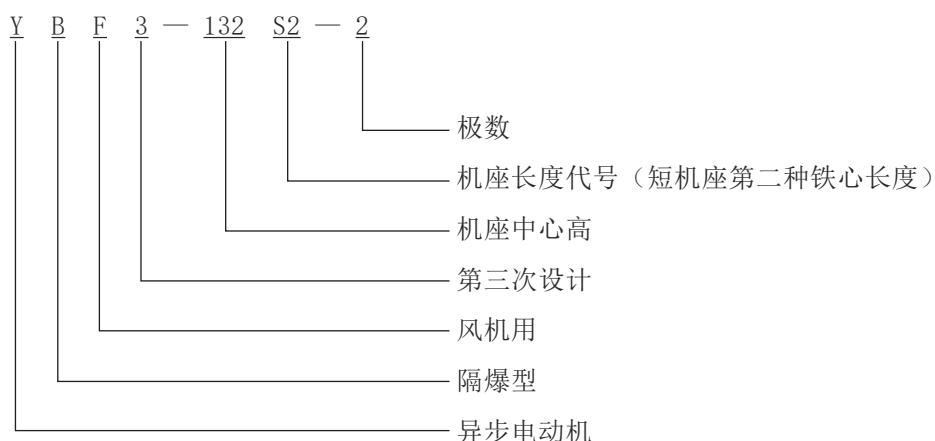
1 产品概述

YBF3 系列风机用隔爆型三相异步电动机（机座号 80 ~ 355）。按照 GB/T3836.1-2021《爆炸性环境第 1 部分：通用要求》和 GB/T 3836.2-2021《爆炸性环境 第 2 部分：由隔爆外壳“d”保护的设 备》的规定，制成隔爆型。防爆标志为 Ex dbI Mb。适用于含有甲烷或煤尘的煤矿井下（非采掘工作面）固定设备上（Ex db I Mb），作为风机的动力设备。

执行标准：JB/T 7565.5-2015《隔爆型三相异步电动机技术条件 第 5 部分：YBF3 系列风机用隔爆型三相异步电动机（机座号 63 ~ 355）》、MT451-2011《煤矿用隔爆型低压三相异步电动机安全性能通用技术规范》和 GB 18613-2020《中小型三相异步电动机能效限定值及能效等级》。

2 产品型号及名称

电动机型号意义：



3 运行使用条件

3.1 海拔不超过 1000m。

3.2 环境空气温度随季节而变化，但最高不超过 35℃，最低为 -15℃。

3.3 环境空气最大相对湿度不超过 90%（当温度为 25℃时）。

3.4 3kW 及以下电动机额定电压为 380V、660V；3kW 以上额定电压为 380V、660V、1140V、380/660V、660/1140V。

3.5 电动机 3kW 及以下为 Y 接法；3kW 以上的单电压电动机为△接法，当电压为 380/660V 时，380V 为△接法、660V 为 Y 接法，当电压为 660/1140V 时，660V 为△接法、1140V 为 Y 接法。

3.6 额定频率为 50Hz。

3.7 电动机的定额是以连续工作制（S1）为基准的连续定额，允许满压起动。

3.8 电动机采用 F 级绝缘，定子绕组的温升（电阻法）按 80K 考核（其中 315 部份规格和 355 机座全部规格允许按 105K 考核）。

4 电动机的主要规格及安装结构型式

4.1 电动机的机座号与转速及功率的对应关系见表 1

4.2 电动机的结构及安装型式为 IMB3、IMB30、IMB35

表 1

机座号	同步转速 r/min					
	3000	1500	1000	750	600	
	功率 kW					
80M1	0.75	0.55	0.37	0.18	-	
80M2	1.1	0.75	0.55	0.25		
90S	1.5	1.1	0.75	0.37		
90L	2.2	1.5	1.1	0.55		
100L1	3	2.2	1.5	0.75		
100L2		3		1.1		
112M	4	4	2.2	1.5		
132S1	5.5	5.5	3	2.2		
132S2	7.5					
132M1	-	7.5	4	3		
132M2			5.5			
160M1	11	11	7.5	4		
160M2	15		5.5			
160L	18.5	15	11	7.5		
180M	22	18.5	-	-		
180L	-	22	1.5	11		
200L1	30	30	18.5	15		
200L2	37		22			
225S	-	37	-	18.5		
225M	45	45	30	22		
250M	55	55	37	30		
280S	75	75	45	37		
280M	90	90	55	45		
315S	110	110	75	55		45
315M	132	132	90	75		55
315L1	160	160	110	90		75
315L2	200	200	132	110		90
355S1	(185)	(185)	160	132		(90)
355S2	(200)	(200)				
355M1	(220)	(220)	(185)	160		110
355M2	250	250	200		132	
355L1	(280)	(280)	(220)	(185)	160	
355L2	315	315	250	200	(185)	

注：1 带括号的为不推荐规格。

2 S.M.L 后面的数字 1.2 分别代表同一机座号和转速下不同的功率。

5 主要结构

5.1 电动机的接线盒位于电动机顶部，制成三个或六个接线端子。适用于橡套电缆结构，内设一个接地端子，并按其需要分别制成一个（M6 及以下）或二个（M8 及以上）出线口。在接线盒座与接线盒盖的止口处加设“O”型密封圈。

5.2 电动机转轴旋转部位采用“V”型轴封环保护。

5.3 电动机机座号 80 ~ 225 的轴承采用密封轴承，机座号 250 及以上电动机设置了不停机注、排油装置。

5.4 电动机主体结构见图 1、接线盒结构见图 2。

6 防爆要点

6.1 本系列电动机为隔爆型。若电动机内部的可燃易爆性混合物爆炸时，隔爆型电动机外壳不应损坏或产生影响隔爆性能的变形；内部爆炸火焰不允许通过电机的隔爆接合面引起外部爆炸性混合物的爆炸。

6.2 隔爆型电动机的元件（如机座、端盖、轴承内盖、穿线管、出线座、接线盒盖、接线盒座等），精加工后须经压力为 1.0Mpa，加压时间为 10S+2 的静压试验，以不滴水为合格。

6.3 隔爆接合面的长度、间隙、表面粗糙度、接线盒内部裸露导体之间、裸露导体与金属外壳之间的电气间隙及爬电距离应符合 GB/T3836.3 的规定。

6.4 联接隔爆外壳的螺栓均装有弹簧垫圈，防止自行松脱。

6.5 机座、端盖、轴承内盖、穿线管、出线座、接线盒盖、接线盒座、接线螺栓、端子套（或接线板）、轴、橡胶密封圈是隔爆元件。

6.6 在额定工作状态下，电动机外壳表面温度，煤矿用不超过 +130℃，但有煤粉堆积在电动机外表面时，不得超过 +150℃。进线口外的温度不得高于所用电缆的允许温度。

7 安装与使用

警告！



搬运电动机时，应小心谨慎！

强烈的摔、碰、震会严重损坏轴承及隔爆元件。

吊装带有吊攀的电机时，一定要将吊攀旋紧。

7.1 安装前的准备

7.1.1 仔细检查电动机外观是否完好、核对电动机铭牌内容是否与实际需求相符。

7.1.2 电动机是否有防爆标志、防爆合格证编号。

7.1.3 隔爆外壳各零部件联接正确，紧固可靠无松动。

7.1.4 所有隔爆元件应无裂纹或影响隔爆性能的缺陷。

7.1.5 取下接线盒盖检查电动机定子绕组绝缘电阻应不低于 20 MΩ。



注意!

该产品仅用于非采掘工作面。在检查过程中，您若有疑问，请向有关专业技术人员请教或与我们联系。

7.2 安装

7.2.1 电动机的安装应由专业技术人员完成。

7.2.2 电动机宜采用弹性联轴器传动。

7.2.3 电动机轴中心与被传动的主机轴中心要保持一致。

7.2.4 对带底脚的电动机，安装平面应平整、坚固。

7.2.5 联接电动机的电源线（电缆）不宜过细、过长。

7.2.6 电缆的外径要与密封圈的孔径相符。使用电缆最小直径为D1，最大直径为D5，密封圈材质为橡胶XH-21，规格及尺寸见表2（可根据引入电缆外径大小剥去密封圈同心圆）。配合直径差不大于1mm，当压紧接线头后，应保证密封圈与电缆之间及密封圈与接线盒座之间无间隙，否则将失去隔爆性能。

7.2.7 引入的电缆芯线要接在两弓型垫圈之间，注意芯线的飞刺不要突出，引入接线孔时应防止线芯损伤，引入电缆还须用接线压板和弓形垫圈压紧固定，防止窜动。

7.2.8 六端子接线盒通过连接片改变接法，可适应两种不同电压需要（见接线盒盖内侧）。对有两个进线口的接线盒，当引入一根多芯电缆只使用一个进线口时，另一个进线口的堵棒不得拿掉，否则将失去防爆性能。

7.2.9 电动机的相序U、V、W须与接入外电源相序A、B、C相对应，电动机转向从轴伸端视之为顺时针方向，否则电动机将反转。

7.2.10 电动机内、外接地螺栓必须可靠接地。

7.2.11 电动机接好线，经检查确认无误后，方可接通电源进行空载试运转，并观察电机有无异常现象，待空转正常后方可投入负载运行。



警告!

- 1、电源电压的波动不得超过额定电压的95% ~ 105%。
- 2、必须接好接地线。
- 3、电机运行若有异常立即停机。
- 4、保持身体、衣物远离电动机运转部分。

表 2

机座号	进线方式	密封圈形式	D1	D2	D3	D4	D5	D	b1	b
80~132	橡套电缆	图 3	φ 14	φ 20			φ 25	φ 42 0 -0.62	24	26
160~180			φ 14	φ 20	φ 26	φ 31	φ 35	φ 58 0 -0.74	24	26
200~225			φ 20	φ 26	φ 32	φ 38	φ 42	φ 72 0 -0.74	30	32
250~280			φ 25	φ 31	φ 36	φ 45	φ 50	φ 90 0 -0.87	36	38
315~355			φ 40	φ 46	φ 50	φ 56	φ 64	φ 105 0 -0.87	44	46

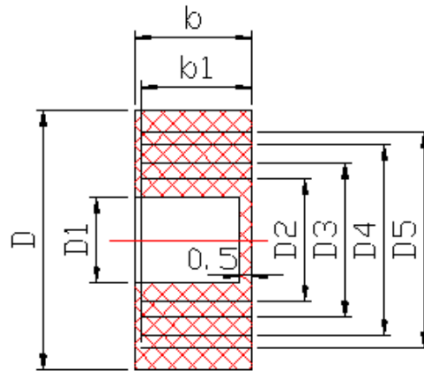


图 3

7.3 使用注意事项

7.3.1 安装前必须进行下列各项检查，若不符合要求，则不许投入使用。

- > 有防爆标志“Ex”和防爆合格证号，且应检查电动机防爆标志是否符合防爆性气体环境的要求。
- > 所有紧固螺栓已拧紧，弹簧垫圈无丢失，防爆外壳各部件间连接妥当。
- > 所有隔爆零件无裂纹及影响隔爆性能的缺陷（未使用的新电机不可拆检）。

7.3.2 扳动转子，检查转子是否自由转动，有无擦碰现象。

7.3.3 检查定子和轴承测温装置及报警系统是否完善。

7.3.4 检查三相电源电压是否正常，电压是否过高、过低或三相电压不对称等。

7.3.5 电动机与电源连接应注意的事项：

- > 根据电动机的电流大小，使用条件，正确选择供电电缆。
- > 接线时，电缆芯线应置于两个弓形垫圈或压线板之间，接地芯线应置于接地螺钉的弓型垫圈之间，并应可靠连接，以保证接触完好和电气间隙的需要。
- > 接线完毕后，应检查盒内有无杂质、灰尘、接法是否符合电源电压及电动机的铭牌数据的规定，确定无误方可紧固接线盒盖。
- > 引入接线盒的电缆，用卡板将其固定在接线盒斗上，以防止电缆拔脱。
- > 电机合闸后，若电机不转，应迅速、果断地拉闸，以免烧毁电机，查清原因后，再启动电动机。
- > 电动机允许满压启动，如果采用降压启动时，电动机的启动转矩将与电压下降的平方成正比下降。
- > 为了避免电动机在启动过程中过热，电动机在冷态下允许连续启动两次，再次启动之间相隔不应少于5min，在热态下只允许启动一次。如果还需要启动应等待电动机适当冷却后方可再行启动。



警告！

煤矿井下严禁带电开盖。

8 保养与维修

8.1 电动机应定期检查和清洁，外壳不得堆积灰尘，不得用水龙头喷射清扫电机。

8.2 电动机运行时轴承允许温度不得超过 95 ℃（温度计法），轴承每运行 2500 小时（约半年）至少检查一次，如发现轴承润滑脂变质必须及时更换，更换前，须将轴承外盖、贮油盒内的废油以及排油装置的油管、油杯清理干净，并用汽油将轴承清洗干净，润滑脂推荐采用锂基润滑脂 2 号（GB/T 7324-2010），轴承润滑油使用量和加油时间见附表 3，轴承牌号见表 4。

8.3 对于存储半年的电动机，建议每 2 个月将电机轴旋转 180 度；存储超过半年的，通电运转一段时间，使轴承润滑脂分布均匀。

8.4 拆装电动机时应注意保护隔爆面。H80 ~ 132 机座号的电机没有轴承内外盖。拆卸电动机时，应先拆掉风罩、再拆掉轴伸端的“V”型轴封环，拆去前端盖、后端盖的固定螺栓，将后端盖连同转子、风扇连体抽出。装配时，所有隔爆面需涂 204-1 防锈脂。

8.5 电机受潮后，必须经干燥处理后方可使用。干燥处理可采用烘干或短路电流法。在烘焙过程中，温度应逐渐升高，但不可超过 145℃。用短路电流法干燥时，（严重受潮的电机不宜用此方法，以免发生电解现象。）电机处于短路状态，其输入电流为 0.6 ~ 0.8 倍额定电流值为宜。

8.6 更换绕组时，须记下原绕组的型式、尺寸、线规、匝数。当失落这些数据时，应向我公司索取。随意改变设计绕组会使电动机某项或几项性能恶化，以致不能使用。

8.7 防爆零部件维修、更换，须由专业技术人员按有关技术标准进行维修、验收。

8.8 电机隔爆面的隔爆参数见表 5。

表 3 轴承润滑油使用量和加油时间

机座号	极数	油脂量 (g)	加油时间 (h)
Frame	Poles	Grease content (g)	Re-lubrication interval (h)
180	2	20	4200
	4	20	7000
	6, 8	20	9000
200	2	25	3100
	4	25	6500
	6, 8	25	8500
225	2	25	3100
	4	30	6200
	6, 8	30	6200
250	2	30	2600
	4	35	6000
	6, 8	35	8000
280	2	35	2000
	4	40	5500
	6, 8	40	7500
315	2	30	2500
	4, 6, 8, 10	36	2500
355	2	36	2500

表 4

机座号	极数	轴伸端	非轴伸端
80	2 ~ 8P	6204-2RS	6204-2RS
90	2 ~ 8P	6205-2RS	6205-2RS
100	2 ~ 8P	6206-2RS	6206-2RS
112	2 ~ 8P	6206-2RS	6206-2RS
132	2 ~ 8P	6308-2RS	6308-2RS
160	2P	6309-2RS	6309-2RS
	4 ~ 8P	6309-2RS	6309-2RS
180	2P	6311/V2	6211/V2
	4 ~ 8P	6311/V2	6311/V2
200	2P	6312/V2	6312/V2
	4 ~ 8P	6312/V2	6212/V2
225	2P	6312/V2	6312/V2
	4 ~ 8P	6313/V2	6312/V2
250	2P	6313/V2	6313/V2
	4 ~ 8P	6314/V2	6313/V2
280	2P	6314/V2	6314/V2
	4 ~ 8P	6317/V2	6314/V2
315	2P	6317	6317
	4 ~ 10P	NU319	6319
355	2P	6319	6319ZV
	4 ~ 8P	NU322	6322ZV

表 5

机座号		H80 ~ 100	H112 ~ 160	H180 ~ 355
A	L	≥ 12.5	≥ 12.5	≥ 12.5
	l	≥ 8	≥ 8	≥ 8
	ic	≤ 0.12	≤ 0.12	≤ 0.12
B	L	≥ 12.5	≥ 25	≥ 25
	ic	≤ 0.2	≤ 0.2	≤ 0.2
C	L	≥ 12.5	≥ 25	≥ 40
	m	≤ 0.2	≤ 0.2	≤ 0.26
	k	≥ 0.075	≥ 0.075	≥ 0.075
	ic	≤ 0.3	≤ 0.3	≤ 0.4
D	L	—	—	≥ 12.5
	l	—	—	≥ 8
	ic	—	—	≤ 0.2

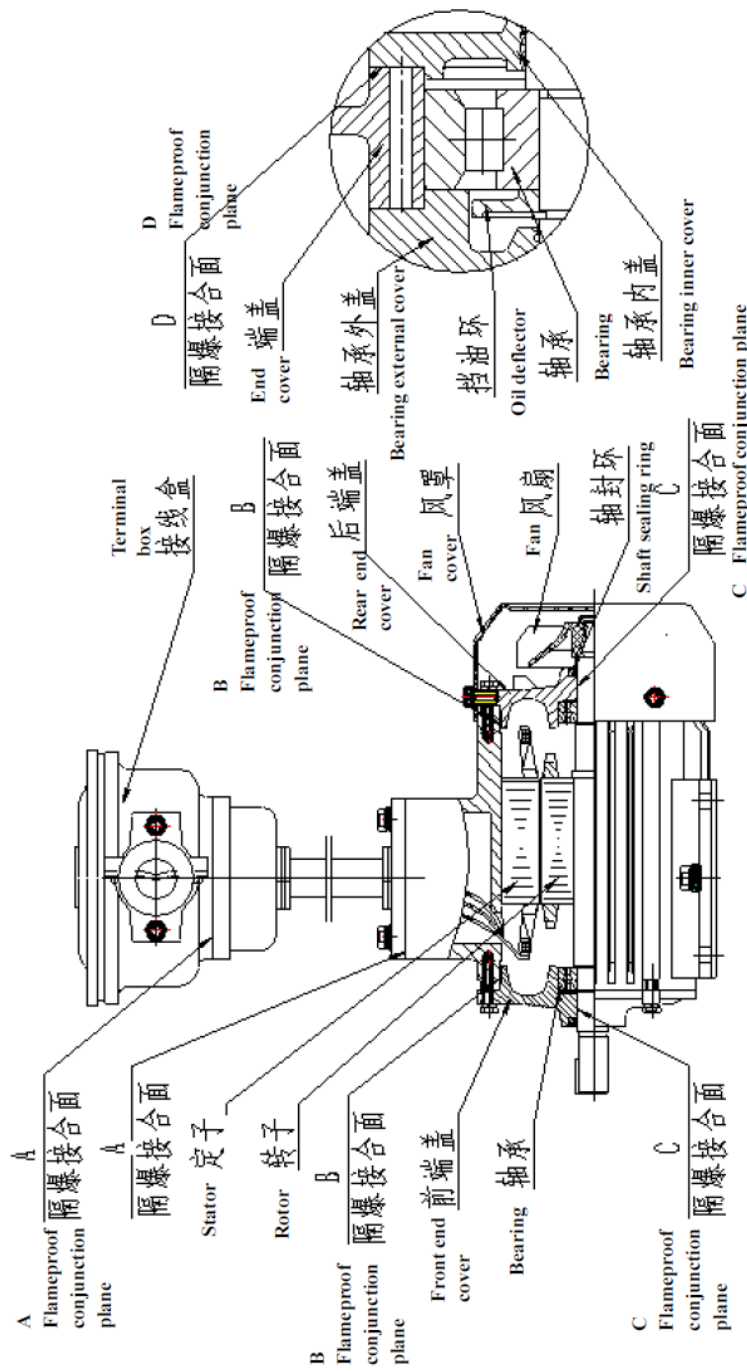


图1 电动机主体结构
Fig 1 Motor structure

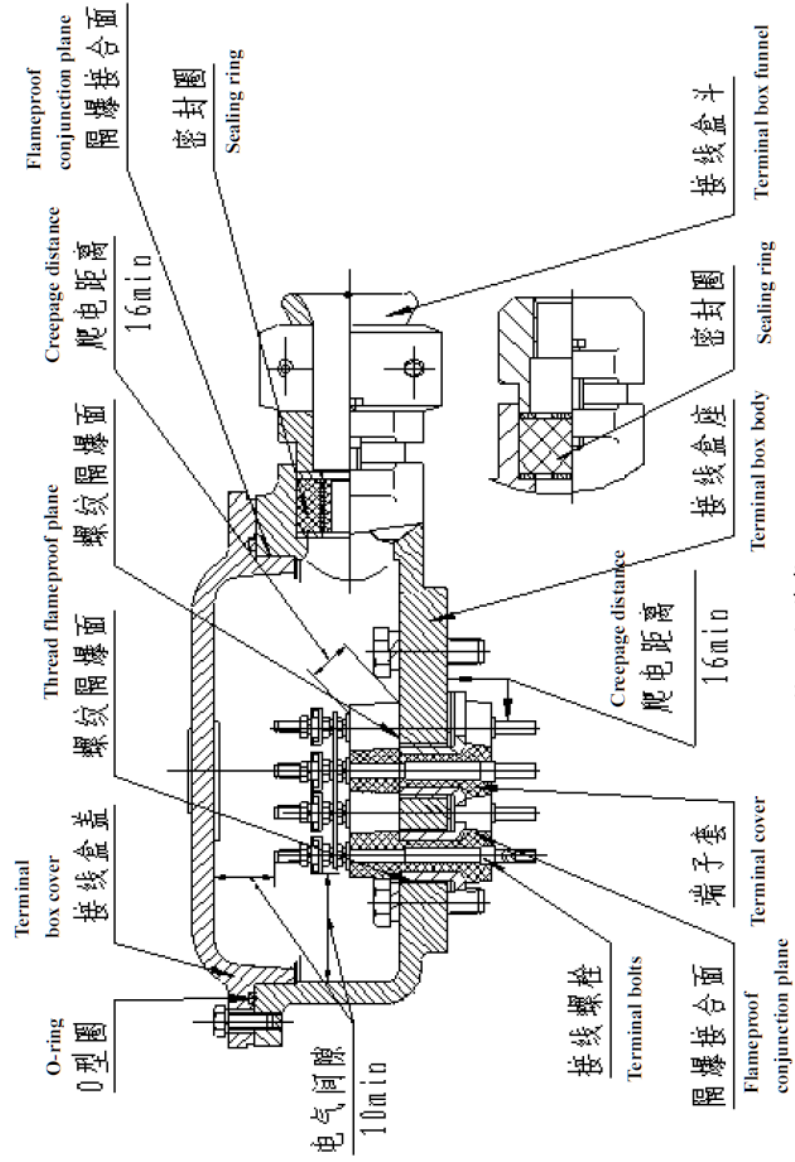


图2 接线盒结构

Fig 2 Terminal box structure

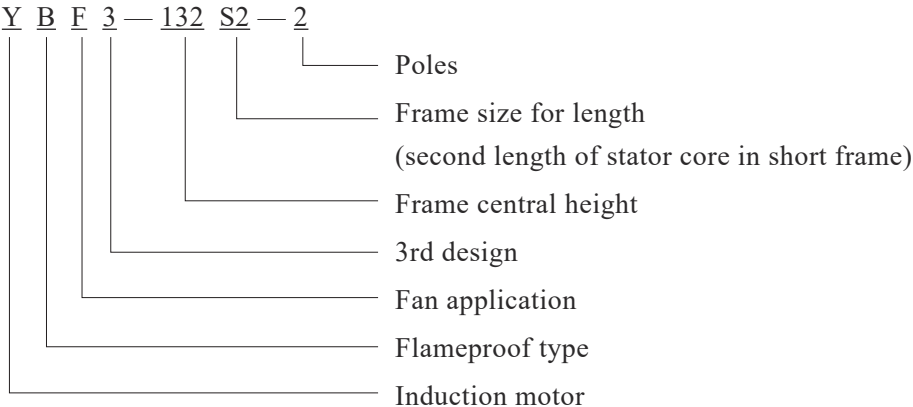
We are truly grateful for your purchasing of Wannan Motors. Before using the motor, please scan the QR code to read the manual so as to use and maintain the motor in a right way.

1. Summary

YBF3 series flameproof asynchronous motor for fan (frame size 80~355) are manufactured according to the requirements of standard GB 3836.1-2021 “Part 1 of Electrical equipment used in explosive environment: General Requirement” and GB3836.2-2021 “Part 2 of Electrical equipment used in explosive environment: The Apparatus with the flameproof enclosure “d”. With Ex marking “Ex db I Mb”, this series motor are suitable for driving fan or blower of fixed equipment (Ex db I Mb) in coal mine (non-working face) where contains methane or coal-dust.

YBF3 series motors are found to be in conforming to the requirements of standard JB/T 7565.5-2015“Specification of flameproof three-phase Asynchronous motor: Part 5 YBF3 series flameproof three phase asynchronous motor for fan (Frame 63~355)”, MT451-2011 “General specification for low voltage three-phase flameproof induction motor for coal mine” and GB 18616-2020 “minimum allowable values of energy efficiency and values of efficiency grade for motors” (Grade 3)/

2. Designation and types



3. Operating condition

3.1 Not exceed 1000m above the sea level.

3.2 Ambient temperature varies as seasonal variation, but the temperature shall not beyond the range -15°C ~+35°C .

3.3 The maximum environment relative humidity is 90% (when the ambient temperature is 25°C)

3.4 Motor of 3kW and below: rated voltage 380V、 660V; Motor of 4kW and above: rated voltage 380V、 660V 、 1140V、 380/660V、 660/1140V.

3.5 Motor of 3kW and below shall adopt Y connection; but the motor over 3kW shall adopt Δ connection for single rating voltage motor; for motor of dual- voltage 380/660V, 380V shall be connected as Δ、 660V as Y; when dual-voltage is 660/1140V, 660V shall be connected as Δ、 1140V as Y.

3.6 Rated frequency: 50Hz。

3.7 The rating here refers to the continuous rating power on the basis of S1 operation system, the motor allows direct starting.

3.8 The series motor is of F insulation grade, the maximum temperature rise for stator is 80K (by resistance method), except for the motors of frame size 315/355 whose stator temperature rise are allowed to be checked as 105K limit.

4. Main technical parameter and installation type

4.1 Main technical parameter see table 1

4.2 Motor installation type: IMB3、IMB30、IMB35

Table 1

Frame	Synchronous speed r/min					
	3000	1500	1000	750	600	
	Power kW					
80M1	0.75	0.55	0.37	0.18	-	
80M2	1.1	0.75	0.55	0.25		
90S	1.5	1.1	0.75	0.37		
90L	2.2	1.5	1.1	0.55		
100L1	3	2.2	1.5	0.75		
100L2		3		1.1		
112M	4	4	2.2	1.5		
132S1	5.5	5.5	3	2.2		
132S2	7.5					
132M1	-	7.5	4	3		
132M2			5.5			
160M1	11	11	7.5	4		
160M2	15			5.5		
160L	18.5	15	11	7.5		
180M	22	18.5	-	-		
180L	-	22	1.5	11		
200L1	30	30	18.5	15		
200L2	37		22			
225S	-	37	-	18.5		
225M	45	45	30	22		
250M	55	55	37	30		
280S	75	75	45	37		
280M	90	90	55	45		
315S	110	110	75	55		45
315M	132	132	90	75		55
315L1	160	160	110	90		75
315L2	200	200	132	110		90
355S1	(185)	(185)	160	132		(90)
355S2	(200)	(200)				
355M1	(220)	(220)	(185)	160	110	
355M2	250	250	200		132	
355L1	(280)	(280)	(220)	(185)	160	
355L2	315	315	250	200	(185)	

Note: 1. The models with bracket are not preferred recommended type.

2. The figures 1、2 behind S、M、L refer to the different output power of the motors with the same frame and speed.

5. Main Structure

5.1 Terminal box is on the top of the motor, with 3 or 6 connecting terminals. This series motor is of rubber-sheathed cable wiring type. One grounding terminal in each connection box, on which there is one outlet (M6 or below), or two outlets (M8 or above) (depending on its requirement). At the front edge between connection box body and its cover an o-sealing ring will be fitted.

5.2 V-sealing ring is adopted at the rotation part of motor shaft.

5.3 The frame 80~225 Motors use sealed bearing, the motors of frame 250 or above are equipped with on-the-go oil filling/discharging device.

5.4 Subject structure of the motor see figure 1, and the structure of terminal box see figure 2.

6. Explosion-proof highlight

6.1 The series motor highlights its explosion-proof feature. If the explosive mixture inside the motor explodes, the motor shall not be damaged or deformed to the extent that may affect its explosion-proof performance. The flame inside should not pass through conjunction plane to cause explosion of the flammable mixture outside the motor.

6.2 Components of the explosion-proof motor (such as cover, bearing inner cover, connection box cover, connection box body etc.) should be tested with 1.0Mpa static pressure for 10S+2. The motor should be checked as qualified one if they won't drip in or after the test.

6.3 The length of the explosion-proof conjunction plane, clearance, roughness of the surface, the electric clearance between the bare conductors, the electric clearance between bare conductor and metal casing all should be in accordance with GB3836.3.

6.4 Spring washer on fastening bolt can prevent the bolts releasing down from explosion-proof casing.

6.5 Frame, end closure, bearing inner cover, terminal box cover, terminal box body, connection bolt, terminal lugs (or connection board), bearing, rubber seal ring all are explosion components.

6.6 When rating operating, motor surface temperature must be lower than +130°C when used in coal mine, or lower than +150°C if there was coal dusty on its casing. Temperature at cable inlet shall be no higher than the cable allowable temperature.

7. Installation and operation



Warning!

Motor cover is forbidden to open with power on.

Handle the motor with care.

Strong fall, impact, vibration will heavily damage bearing or explosion proof components.

Fasten onto the lifting hook tightly if the motor is moved by the crane.

7.1 Inspection

7.1.1 Check the appearance of the motor to see whether it is in good condition, and check the nameplate to see whether the data is conform to actual requirement.

7.1.2 Check whether motor has explosion-proof mark, explosion-proof certificate Number.

7.1.3 The explosion proof components are connected correctly and tightly.

7.1.4 There should be neither crack on explosion proof component nor defect that affects the explosion proof performance.

7.1.5 Check the cold insulation resistance of the stator winding, and ensure that the resistance value should be no less than 20MΩ.



Warning!

The series motors are only for non-working face application. Any question discovered during inspection, contact with us or consulate technician.

7.2. Installation

7.2.1 Motor should be installed by technician.

7.2.2 Spring coupling ought to be used to drive the motor.

7.2.3 Keep the shaft center of the motor at the same level with that of driven machine

7.2.4 For the motor with feet, all the feet should be fixed to sound and flat plane.

7.2.5 Power wires should be neither too thin nor too long.

7.2.6 External diameter of the cable should fit bore diameter of the seal ring. The min diameter of cable is D1, max D5, seal ring is of rubber XH-21, specification and dimension see table 4(concentric-ring of seal gasket can be stripped off to fit inner diameter of incoming cable). The diameter gap should not exceed 1mm. Clamp the connection plug and ensure that there is no clearance between seal ring and power cable as well as between seal ring and connection box body, otherwise the motor will lose its explosion-proof function.

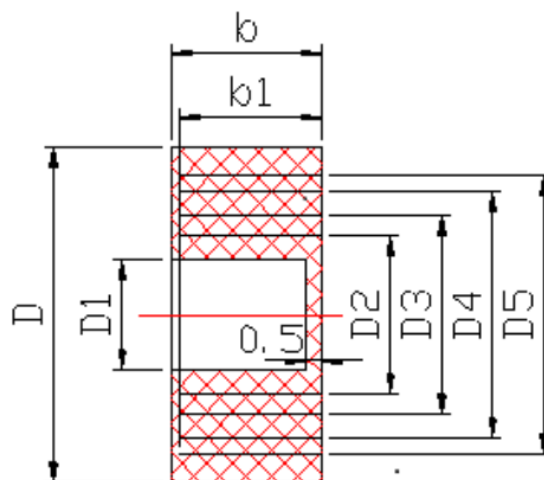


Fig 3

Table 2

Frame size	Cable entry	Sealing	D1	D2	D3	D4	D5	D	b1	b
80~132	Rubber shread	Fig 3	φ14	φ20			φ25	φ42 0 -0.62	24	26
160~180			φ14	φ20	φ26	φ31	φ35	φ58 0 -0.74	24	26
200~225			φ20	φ26	φ32	φ38	φ42	φ72 0 -0.74	30	32
250~280			φ25	φ31	φ36	φ45	φ50	φ90 0 -0.87	36	38
315~355			φ40	φ46	φ50	φ56	φ64	φ105 0 -0.87	44	46

7.2.7 The lead-in cable core should be attached between arched washers, and thorn on the cable corn can't be protruding. Prevent the cable corn from damaging when pulling it out through the bonding hole. The lead-in cable shall be fixed by connection board on arched washer to avoid movement.

7.2.8 To fit different supply voltage, different connection method should be chosen. For the connection box which has 6 terminals, connection way can be changed by connection strap. As one multi-core cable is introduced into one of the inlet holes, the head plug of the other unused hole can't be removed; otherwise the motor will lose its explosion-proof function.

7.2.9 U、V、W phase sequence of the motor should match A、B、C phase sequence. Shaft rotates clockwise from the view of DE.

7.2.10 Internal and external grounding screw bolts need to be connected to ground.

7.2.11 Check the motor first and do not power on until the motor has been confirmed to be no problems, and then conduct no-load running test. When all runs smoothly the motor can be put into load operation.

Warning!



1. Supply voltage fluctuation should not go beyond the range±5% the rated voltage.
2. Ground wire must be connected
3. Turn off the motor when abnormal problem occurs.
4. Keep the person and clothe away from the rotation part.

7.3 Notes

7.3.1 Inspect the following items, and guarantee all requirements are fulfilled.

- > Check Ex marking and ex-proof license No., guarantee the ex-proof grade is consistent with application atmosphere gas requirement.
- > Check and guarantee all the fastener bolts are tightened, spring washers fixed, and ex-proof components are well-connected.
- > Check and guarantee all flameproof components are without crack or defects which

may affect their flameproof performance (Unused new machine is not allowed to be dismantled).

7.3.2 Rotate shaft or rotor to see whether the rotation is flexible and free.

7.3.3 Inspect stator and bearing RTDs and alarm system

7.3.4 Check the three-phase power supply and guarantee the voltage is proper and balanced.

7.3.5 Power connection matters

- > Choose proper power cable according to motor's current and application condition.
- > Put cable core between two bow gaskets or connection strips, guarantee the grounding core cable are put between grounding bolts and bow washes, well fixed.
- > When connecting is over, check and guarantee no impurities or dust in terminal box, right connection method is chosen following nameplate or manual, and then close terminal box cover.
- > The power cable need to be well fixed onto terminal box.
- > Cut off electricity supply immediately if the motor cannot work when switch on.
- > Motor can be started at full voltage or reduced voltage. As torque is proportional to voltage square, the torque will be reduced when the motor is started at reduced voltage
- > The series motors are allowed to continuously start twice in cold condition with interval no less than 5 minutes; or one start in heat condition. (NOT Restart until motor is completed cooled). Otherwise the motor may overheat or even burning.



Warning!

In coal mine to open cover with power supply on is strictly forbidden.

8. Maintenance

8.1 Examine and clean the motor periodically, ensure that no dust accumulate on the casing. Spraying with tap for cleaning is not allowed.

8.2 Bearing permitted temperature should not exceed 95°C during its operation (by thermometer method), the motor should be examined at least once for every 2500-hour operation (approximate half a year). Bearing lubrication grease should be replaced when it is found to be spoiled. Before that the waste grease at bearing external cover, storage box, grease discharging device including oil tube and oil cup should be cleaned up, and clean the bearing with machine oil. No.2 lithium-base lubricating grease for small medium size motor is recommended. re-grease duration and grease mass see table 3, bearing type see table 4.

8.3 Turn the shaft by 180° with hand every 2 month for the motor which has been stored half year; the motor need to work for a period of time to make the lubrication grease equidistribution when the motor has been stored longer than half year.

8.4 Take care of the explosion-proof plane if the motor need to be dismantled. Frame H80~132

Motors have no internal and external shaft cover, so windshield should be removed at first, then remove the V-shape shaft sealing ring, knock down the fastener on front and rear end closure, and take out rear end closure together with the rotor and fan. Explosion proof plane of the motor has been painted with 204-1 rust protection grease when assembled.

8.5 Motor must be dried before use if the motor has been affected with damp, either by means of drying in the oven or short-circuit current. If dried in the oven the temperature should be increased gradually but not exceed 145°C . And when the motor adopt short-circuit method, it should be connected as short circuit whose input current is 0.6-0.8 times rated current. However the short-circuit method is not suitable if the motor is heavily damped, since it may cause the electrolysis.

8.6 When the winding need to be changed, please keep such data as the type size, wire gage, number of turns of the original winding firmly in mind. Contact us and ask for the date in case they are lost. Winding should not be optionally changed, otherwise some of the motor's properties may be deteriorated and even affect its running.

8.7 Explosion-proof components should be repaired, replaced, tested by technician following relevant technical standards.

8.8 Flameproof surface parameter see table 5

Table 3 Lubrication Grease Content and Lifespan

Frame	Poles	Grease content (g)	Re-lubrication interval (h)
180	2	20	4200
	4	20	7000
	6,8	20	9000
200	2	25	3100
	4	25	6500
	6,8	25	8500
225	2	25	3100
	4	30	6200
	6,8	30	6200
250	2	30	2600
	4	35	6000
	6,8	35	8000
280	2	35	2000
	4	40	5500
	6,8	40	7500
315	2	30	2500
	4,6,8,10	36	2500
355	2	36	2500

Table 4

Frame	Poles	DE Bearing	NDE Bearing
80	2 ~ 8P	6204-2RS	6204-2RS
90	2 ~ 8P	6205-2RS	6205-2RS
100	2 ~ 8P	6206-2RS	6206-2RS
112	2 ~ 8P	6206-2RS	6206-2RS
132	2 ~ 8P	6308-2RS	6308-2RS
160	2P	6309-2RS	6309-2RS
	4 ~ 8P	6309-2RS	6309-2RS
180	2P	6311/V2	6211/V2
	4 ~ 8P	6311/V2	6311/V2
200	2P	6312/V2	6312/V2
	4 ~ 8P	6312/V2	6212/V2
225	2P	6312/V2	6312/V2
	4 ~ 8P	6313/V2	6312/V2
250	2P	6313/V2	6313/V2
	4 ~ 8P	6314/V2	6313/V2
280	2P	6314/V2	6314/V2
	4 ~ 8P	6317/V2	6314/V2
315	2P	6317	6317
	4 ~ 10P	NU319	6319
355	2P	6319	6319ZV
	4 ~ 8P	NU322	6322ZV

Table 5**mm**

Frame		H80 ~ 100	H112 ~ 160	H180 ~ 355
A	L	≥ 12.5	≥ 12.5	≥ 12.5
	l	≥ 8	≥ 8	≥ 8
	ic	≤ 0.12	≤ 0.12	≤ 0.12
B	L	≥ 12.5	≥ 25	≥ 25
	ic	≤ 0.2	≤ 0.2	≤ 0.2
C	L	≥ 12.5	≥ 25	≥ 40
	m	≤ 0.2	≤ 0.2	≤ 0.26
	k	≥ 0.075	≥ 0.075	≥ 0.075
	ic	≤ 0.3	≤ 0.3	≤ 0.4
D	L	—	—	≥ 12.5
	l	—	—	≥ 8
	ic	—	—	≤ 0.2

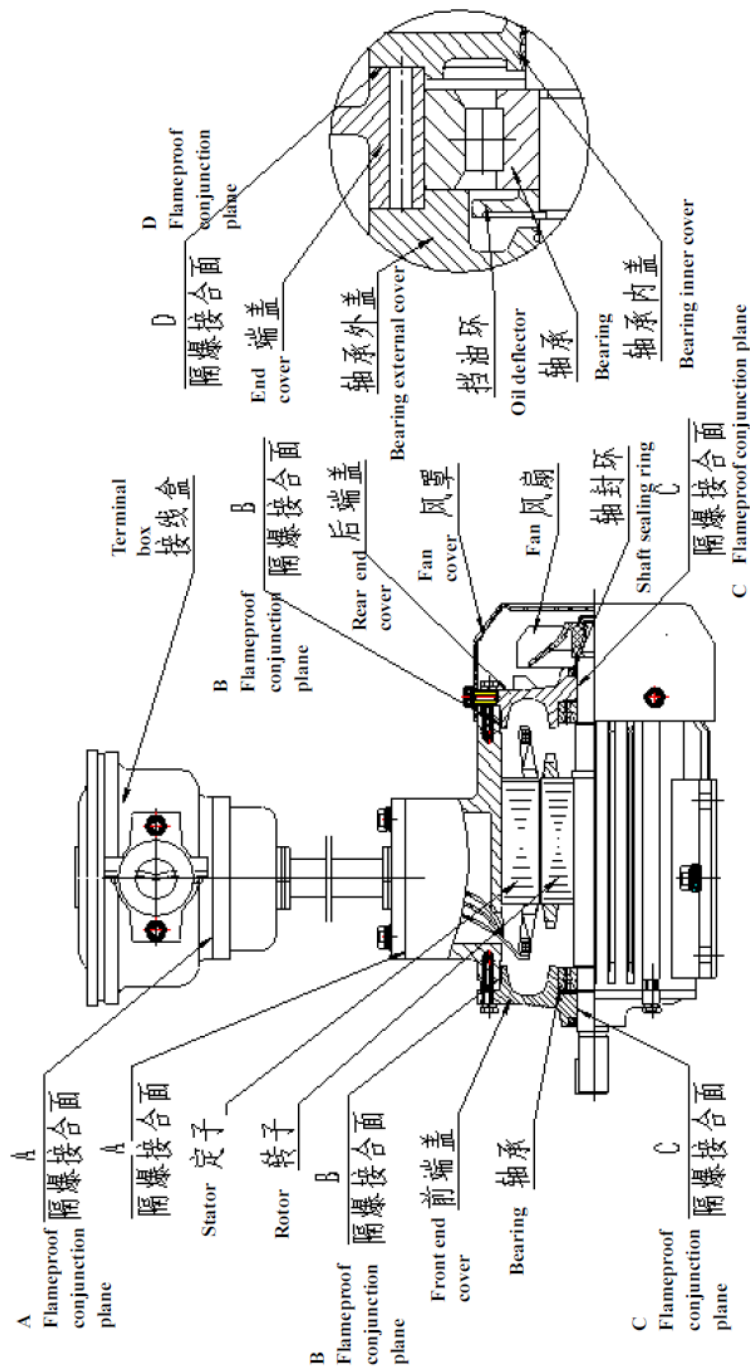


图1 电动机主体结构
Fig 1 Motor structure

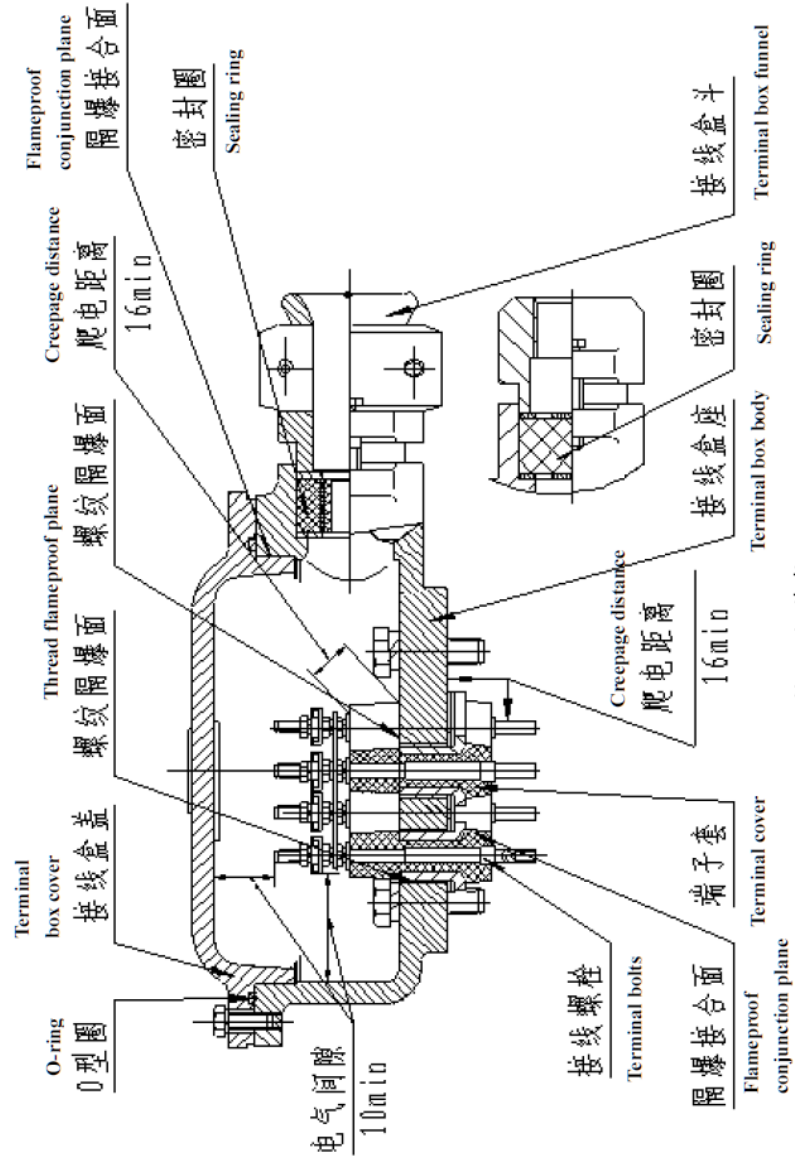


图2 接线盒结构

Fig 2 Terminal box structure

敬告用户：

请您按照本使用说明书的规定，正确地使用和储存电动机，我们将为您提供优质、快捷的服务。

在电动机使用过程中，您如有什么疑惑请与我们联系，我们将及时给予您满意的解答；您有什么良好的建议请向我们提出，以便我们改进，为您提供优质、快捷的服务。

安徽皖南电机股份有限公司对本使用说明书保留最终解释权。

请勿在未事先获得安徽皖南电机股份有限公司书面许可的情况下向第三方复制、公布或者使用本使用说明书内容。

Dear user,

Please use and store the motor right following the instruction of the manual. We will make our effort to provide you with high-quality and prompt service. Contact us if you had any questions in application, and we will offer you timely and effective resolution; let us know if you had any advices or suggestions, with which we can improve ourselves and make service better. Anhui Wannan Motor Co., Ltd. reserves the right of final interpretation of the user manual. No copy, disclosing or using of the content of this user manual to third parties prior to written permission from Anhui Wannan Motor Co., Ltd.

安徽皖南电机股份有限公司

Anhui Wannan Electric Machine Co.,Ltd

地址：安徽省泾县泾川镇南华路 86 号

Address: No.86 Nanhua Road Jingxian County Anhui Province P.R.C

销售处 **Sales department:** 400-111-0563 0563-5031908 5031988

客户服务中心 **Customer service center:** 0563-5031953

企业管理处 **Enterprises management department:** 0563-5031954

质量检验处 **Quality inspection department:** 0563-5031910 5031985

传真 **Fax:** (0563) 5029999 5023698

网址 **Website:** <http://www.wnmotor.com>

E-mail: wndjc@wnmotor.com

邮编 **Postal code:** 242500

本说明书内容如有变动，恕不另行通知。

Content in the manual may be changed without prior notice.