



Yuncheng Anjie Fan Electric Co., Ltd.

运城安捷风机电气有限公司

安捷矿用防爆通风机

Anjie mine explosion-proof fan

COMPANY PROFILE

公司简介

运城安捷风机电气有限公司座落于武圣关公故里，地处晋、陕、豫三省交界的黄河金三角地带，是专业研制矿用风机和隧道通风的专业生产厂家，是我国矿山、铁路基建领域通风系统专业化研制企业。

公司拥有通风专业工程师及技术人员 20 余名，为提高产品竞争力，公司依托有雄厚科研力量的沈阳风机研究所、合肥风机研究所、西安流体机械研究所等科研单位并建立了长期合作关系，共同致力于通风技术的设计、科研开发、设备制造，使得产品质量达到国内同行业先进水平，尤其在隧道风机、射流风机等产品上具有低噪高效、外形美观、安装使用方便和维护简便，而且品种规格齐全、参数涵盖面广、实用性强等特点，深受国内外广大用户的青睐，享有高度信誉。

运城安捷风机电气有限公司是一个与您目标一致，同样追求速度、追求效率、追求卓越的合作伙伴。高质量的产品，降低了您的经营成本；全过程的服务，消除了您使用中的烦恼。面向未来，运城安捷风机电气有限公司将与您相伴而行，服务至诚。

Yuncheng Anjie Fan Electric Co., Ltd. is located in the hometown of Guan Gong, Wusheng, and is located in the golden triangle of the Yellow River at the junction of Shanxi, Shaanxi and Henan provinces. It is a professional manufacturer specializing in the development of mining fans and tunnel ventilation. Specialized research and development enterprise of ventilation system. The company has more than 20 professional ventilation engineers and technicians. In order to improve the competitiveness of products, the company relies on scientific research units such as Shenyang Fan Research Institute, Hefei Fan Research Institute, Xi'an Fluid Machinery Research Institute and other scientific research units with strong scientific research strength and has established long-term cooperative relations. Committed to the design, scientific research and development, and equipment manufacturing of ventilation technology, the product quality has reached the advanced level in the same industry in China, especially in tunnel fans, jet fans and other products with low noise and high efficiency, beautiful appearance, convenient installation and use, and easy maintenance. Complete varieties and specifications, wide coverage of parameters, strong practicability and other characteristics, are favored by the majority of users at home and abroad, and enjoy a high reputation. Yuncheng Anjie Fan Electric Co., Ltd. is a partner who has the same goals as you, and also pursues speed, efficiency and excellence. High-quality products reduce your operating costs; the whole process of service eliminates your troubles in use. Facing the future, Yuncheng Anjie Fan Electric Co., Ltd. will accompany you and provide sincere service.

公司愿景

ENTREPRENEURSHIP

成为具有国际竞争力的通风系统解决方案提供商。公司恪守关注客户、成就员工、做优企业的宗旨。聚焦能源矿业装备、交通装备两大领域。做精智能矿山、铁路隧道、水电工程、通风系统及控制系统领域，让领先的通风技术及通风系统更多的惠及社会，做备受业界和社会尊敬的企业。

Become an internationally competitive ventilation system solution provider.

The company abides by the tenet of paying attention to customers, achieving employees, and being an excellent enterprise. Focus on the two major fields of energy mining equipment and transportation equipment. To be a well-respected enterprise in the industry and society by doing fine and intelligent mines, railway tunnels, hydropower projects, ventilation systems and control systems, allowing leading ventilation technology and ventilation systems to benefit the society more.



企业理念

COMPANY QUALIFICATION

认真做好每一件事情，满足用户每一个需求。

运营理念

Operational Philosophy

- 研发理念：求新求是、先进可靠
- 生产理念：精心精益、安全快捷
- 营销理念：至诚至微、合作共赢
- 质量理念：专心专注、恪守标准
- 管理理念：严谨严细、科学高效
- 人才理念：公平公正、选贤任能

经营范围

Business Scope



- 1 各种通风机设计、研发与制造
- 2 各种隧道通风机、矿用通风机设计、生产制造及销售
- 3 各种通用设备及电气设备的研发制造与维修
- 4 工业自动化控制系统装置制造、矿用智能通风机的研发及制造
- 5 电机及其控制系统研发制造与维修
- 6 工业机器人安装、维修

生产设备

PRODUCTION FACILITIES



数控折弯机：用于尺寸不同的板材折弯



数控立式加工中心：用于精加工叶片，各种叶片模具。



风机性能检测室

技术人员正在对风机进行现场测试



地铁风机综合测试系统



加工导流帽及集流器



数控切割机：下料实现数控切割



用于精加工轮毂



大型立车：加工大型轮毂



矿用防爆通风机特点

本公司生产的 FBCZ、FBCDZ、FBD 等系列通风机在结构上和各项性能上具有以下特点：

1. 各系列通风机均采用电动机与叶轮直联的最简单传动结构。
2. 采用机翼扭曲形叶片，气动效率高，单机系列通风机和对旋系列通风机装置的静压效率高达 80% 以上，高效区宽广，节能效果显著。
3. 煤矿用通风机选用隔爆型电动机，并置电动机于通风机的隔流腔内，保证了风流与风机流道中含瓦斯的气流相互隔绝，同时起到了散热导流的作用，其风流通管使电动机周围与大气相通，既增加了电动机的安全性能，又使电动机的热量直接散发到空气中，增加了通风机运行的安全性。
4. 在煤矿用通风机叶轮回转部分的筒体上，增加了抑制火花能量的铜环装置，防止叶片在高速运行中变形与筒壁产生火花，引起事故，使通风机运行更加安全牢靠。
5. 性能多样、规格齐全，有与各类煤矿及非煤矿山的通风网络相匹配的风机供选用，保证长期高效运行。
6. 通风机可以反转反风，反风量可达正风量的 60% 以上，从而可省去传统的排风风峒出口的“S”型风道、反风道及风机房。对场地面积小，有地表塌陷、山体滑坡危险的地方尤为适合。
7. 风机主体采用钢板、型钢组焊结构，叶片为中空钢板焊接结构，叶片及整体强度高。
8. 噪音低。各系列通风机的噪音均可达到国内标准的要求，并且还根据用户的要求，制作消音器并在扩散器和扩散塔内增加隔音及消音装置，进一步降低噪音。

The FBCZ, FBCDZ and FBD series fans manufactured by the Company have the following characteristics in the aspects of structure and various performances:

1 The fans of various series all use the simplest transmission device of direct connection between motor and impeller.

2 Wing twisted blades are used, which have high aerodynamic efficiency. The static pressure efficiency of single-stage series fan and counter-rotating series fan devices is as high as above 80%, thus the high efficiency area is wide and energy saving effect is obvious.

produced with cylinder wall, and then accident is caused, and make the operation of fans be safer and more reliable.

3 Fans for mines select explosion-proof motors and put motors in isolating chambers of fans to ensure the isolation between wind current and air flow containing gas in fan flow channel and meanwhile, play heat dissipation and diversion function. The wind current pipe makes the surrounding area of motor is connected with atmosphere, which both increases the safety performance of motor and directly dissipate the heat of motor to air and improve the safety of fan operation.

4 In the cylinders of rotating parts of impellers of fans for mines, copper ring devices for inhibiting spark energy are added to prevent deformation from being occurred during high speed running of impellers and spark from being

5 There are various performances and complete specifications in the Company. The fans matching with ventilation networks of various coal mines and non-coal mines are available for selection, and long-term high efficient operation could be guaranteed.

6 Fans could reverse the air flow and the reversal air flow could reach more than 60% of direct air flow. Thus the "S" type air channel, reversal air channel and fan room of traditional air cave outlet could be saved. The fans are especially suitable for places with small site area, surface subsidence and landslide dangers.

7 The main parts of fans use steel plate and section steel installation and welding structure. Blades are in hollow steel plate welding structure, thus strength of blades and overall strength is high.

8 Low noise. Noise of various series of fans could reach requirement of Chinese standards. Besides, in accordance with the requirements of users, mufflers are made and sound arresters and silencers are added in diffusers and diffusion towers to lower the noise in a further way.

No 31	3751	3100	28000	24575	1085	3000	6200	1860	2500	7130	2640	4051	4814	2350	350	160
No 32	3872	3200	30000	25500	1120	3100	6400	1920	2500	7360	2720	4172	4952	2410	350	160
No 33	3993	3300	30000	26125	1155	3150	6600	1980	2500	7590	2810	4293	5091	2470	350	160
No 34	4114	3400	32000	26940	1190	3180	6800	2040	2500	7820	2890	4414	5229	2530	350	160
No 35	4235	3500	34000	27875	1225	3500	7000	2100	2500	8050	2980	4535	5368	2590	400	200
No 36	4356	3600	34000	28600	1360	3600	7200	2160	2500	8280	3060	4656	5386	2650	400	200
No 37	4477	3700	36000	29225	1395	3650	7400	2220	2500	8510	3150	4777	5645	2710	400	200
No 38	4598	3800	36000	29850	1330	3700	7600	2280	2500	8740	3230	4898	5783	2770	400	200
No 39	4719	3900	36000	30975	1365	3750	7800	2340	3000	8970	3320	5180	6002	2880	450	250
No 40	4840	4000	36000	31270	1400	3750	8000	2400	3000	9200	3400	5300	6240	2900	450	250
No 41	4961	4100	38000	32125	1435	3800	8200	2460	3000	9430	3490	5420	6428	3100	450	250
No 42	5082	4200	38000	32650	1470	3800	8400	2520	3000	9660	3570	5550	6631	3220	450	250
No 43	5203	4300	40000	33275	1505	3850	8600	2580	3000	9890	3600	5680	6834	3340	500	300
No 44	5324	4400	40000	34240	1540	3850	9240	2640	3000	10120	3740	5840	7052	3460	500	300
No 45	5445	4500	42000	34875	1575	3900	9450	2700	3000	10350	3830	5980	7260	3580	500	300
No 46	5566	4600	44000	36410	1610	3900	9660	2760	4000	10580	3910	6100	7458	3700	500	300

矿用隔爆型压入式对旋轴流局部通风机用“通风自动切换器”

Use the "ventilation automatic switch" for the local ventilator of rotary axial flow

1. 主要用途及适用范围

Main uses and applicable scope

在煤矿开采过程中，井巷的掘进、巷道采煤和均压通风等方面，都要使用局部通风机进行通风。局部通风机因检修、保养等原因必须停风时，按要求必须撤出工作人员，这会造成停产等经济损失并且也会造成井下局部瓦斯超标等安全问题。为解决这一问题，两台矿用隔爆型压入式对旋轴流局部通风机（一备一用）可配一套通风自动切换器（简称三通），从而实现了不停风切换，为局部通风提供了方便和保障。

In the process of coal mining, local ventilators should be used for ventilation in well lane excavation, roadway mining and average pressure ventilation and other aspects. When local ventilation machines must be stopped due to maintenance and other reasons, the staff must be removed as required, which will cause economic losses such as production production and also cause safety problems such as excessive local gas standards underground. In order to solve this problem, two mine explosion-proof pressure-in partial rotary axial ventilation (one for one) can be equipped with a set of ventilation automatic ventilation switch (three links), so as to realize non-stop wind switching, provide convenience and guarantee for local ventilation.

2. 产品配套风机型号及外形尺寸

Product supporting fan model and appearance size

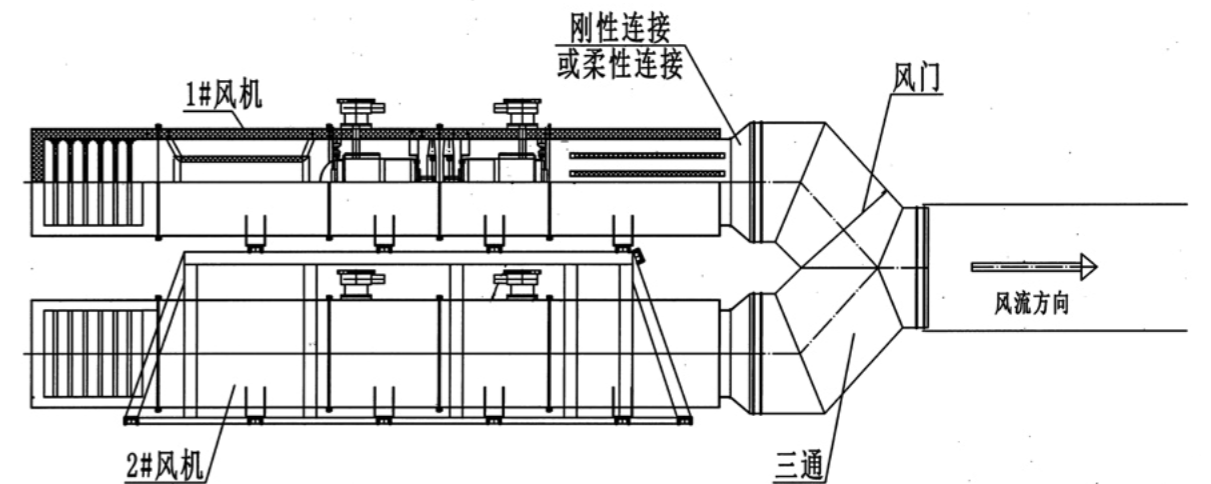
型号 model	三通内径 Three inner diameter (mm)	配套风机型号 Supporting fan model	配套风筒直径 Supporting air cylinder diameter (mm)
No 5.0	500	FBD No 5.0	600
No 6.0	600	FBD No 6.0	650
No 6.3	630	FBD No 6.3	650 或 700
No 6.7	670	FBD No 6.7	700 或 800
No 7.1	710	FBD No 7.1	800
No 8.0	800	FBD No 8.0	850 或 1000
No 8.5	850	FBD No 8.5	1000

备注：可根据用户实际需求的三通内径定制。

Note: It can be customized according to the three-way inner diameter of the actual needs of the user.

3. 外形结构示意图

Outline structure diagram



通风系统风机自动防反风装置

Automatic reverse wind prevention device for ventilation system fan

1. 主要用途及适用范围

Main uses and applicable scope

当数台通风机并联通风时，其中某一风机需主动停机时，为了不影响整个通风系统的正常工作，通常要把该风机的通风管道封闭，关于上述部分的操作通常都是人工来进行，在实际生产过程中，采用人工控制不仅面临人力资源浪费的问题，在设备发生故障时，由于工人不能及时发现，实时进行操作，极易引起事故发生，另有一些地方使用电气自动控制的防反风装置，由此又造成了成本的极大升高的情况。为了解决上述问题，本公司开发出通风系统风机自动防反风装置，无需人力操作及电力控制，可有效达到自动防反风的目的。

When several ventilators in parallel ventilation, a fan needs to actively stop, in order not to affect the normal work of the whole ventilation system, usually the fan ventilation duct closed, the above part of the operation is usually manual, in the actual production process, using manual control not only face the problem of human resources waste, in equipment failure, because workers can not find, real-time operation, very easy to cause accidents, other places use electrical automatic control of wind device, resulting in a great increase in cost. In order to solve the above problems, the Company has developed automatic wind control device for ventilation system, without human operation and power control, which can effectively achieve the purpose of automatic wind control.

本装置为本公司专利产品，专利号为：ZL 2020 2 1167819.4。

The device is a patented product of the Company with Patent No.: ZL 2020 2 1167819.4.

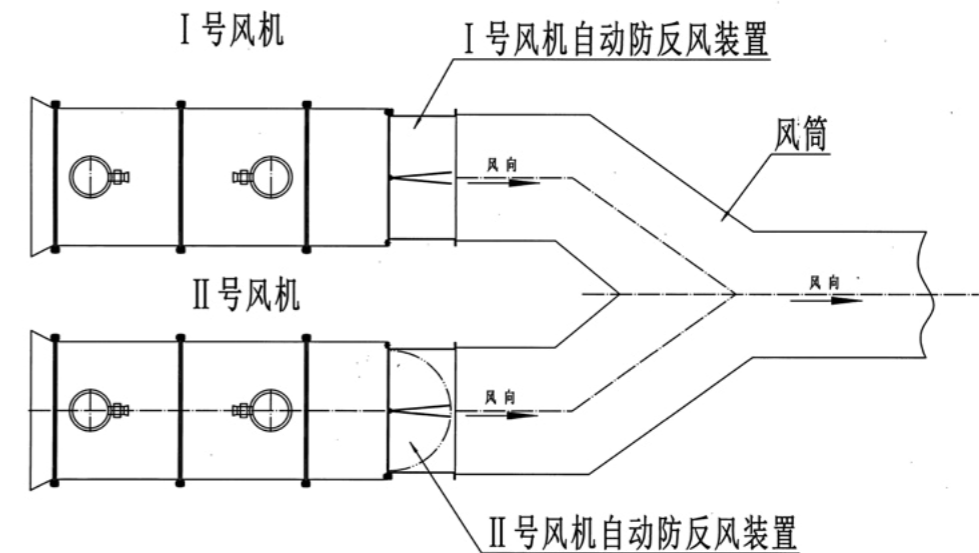
2. 产品配套风机型号及外形尺寸

Product supporting fan model and appearance size

型号 model	配套风机型号 Supporting fan model	自动防反风装置内径 Internal diameter of the automatic wind resistance device (mm)
No 5.0	FBD No 5.0	500
No 6.0	FBD No 6.0	600
No 6.3	FBD No 6.3	630
No 6.7	FBD No 6.7	670
No 7.1	FBD No 7.1	710
No 8.0	FBD No 8.0	800
No 8.5	FBD No 8.5	850

3. 外形结构示意图

Outline structure diagram



FBD 系列隔爆压入式对旋轴流局部通风机

FBD SERIES EXPLOSION-PROOF PRESS-IN COUNTER-ROTATING AXIAL FLOW LOCAL FANS

1. 概述

Overview

FBD 系列隔爆压入式对旋轴流局部通风机主要用于矿山井下及其它工业部门含有瓦斯、煤尘及易燃气体的场所，可供煤矿、金属矿山、化学矿山及其它矿山的矿井掘进、建井和隧道长距离的通风等。适用于介质温度不超过 40℃，湿度不大于 95% ± 3% (25℃ 时) 及无腐蚀的场所。

FBD series explosion-proof press-in counter-rotating axial flow local fans are mainly used under mine shafts and the places containing gas, coal dust or inflammable gas of other industrial departments, and can be used for mine tunneling, shaft building and tunnel long-distance ventilation of coal mines, metal mines, chemical mines and other mines. The fans are applicable to places where medium temperature is less than 40 °C and humidity is less than 95% ± 3% (at 25°C) and without corrosion.



2. 风机型号标示解释

Explanation of markings of fan type



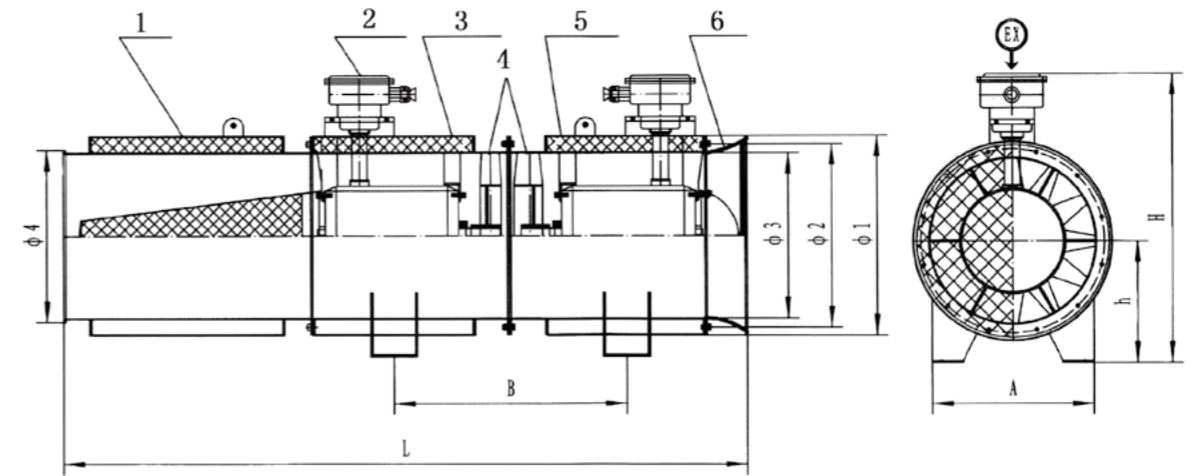
3.FBD 系列防爆压入式对旋轴流局部通风机性能技术参数

Technical performance parameters table of FBD series explosion-proof press-in counter-rotating axial flow local fans for mines

机号	电动机型号	功率 (kw)	风量 (m ³ /min)	风压 (pa)	备注
5.0	YBF3-132S1-2	2x5.5	145-280	2900-400	
	YBF3-132S2-2	2x7.5	155-300	3200-580	
6.0	YBF3-160M1-2	2x11	170-380	4200-650	
	YBF3-160M2-2	2x15	240-460	4800-700	
	YBF3-160L-2	2x18.5	260-520	5100-750	
6.3	YBF3-180M-2	2x22	288-550	5400-800	
	YBF3-200L1-2	2x30	380-630	6200-1200	
6.7	YBF3-200L2-2	2x37	450-680	6800-1400	
	YBF3-200L1-2	2x30	380-680	6600-1100	
7.1	YBF3-200L2-2	2x37	480-790	6800-1250	
	YBF3-225M-2	2x45	560-850	7200-1400	
8.0	YBF3-225M-2	2x45	420-879	6800-1280	
	YBF3-250M-2	2x55	435-950	8000-1400	
8.5	YBF3-280S-2	2x75	810-1150	8500-1800	
9.5	YBF3-200L-4	2x30	660-1320	3200-500	
	YBF3-225S-4	2x37	690-1400	3600-1000	
10.0	YBF3-225S-4	2x37	750-1500	3500-800	
	YBF3-225M-4	2x45	800-1550	3800-1000	
11.0	YBF3-250M-4	2x55	960-1980	4150-1100	
	YBF3-280S-4	2x75	1080-2100	4500-1150	

4.FBD 系列防爆压入式对旋轴流局部通风机外形结构示意图

Schematic diagram of outline structure of FBD series explosion-proof press-in counter-rotating axial flow local fans for mines



- 1. 消音器 Muffler
- 2. 电动机 Motor
- 3. 二级主机 Secondary main machine
- 4. 叶轮 Impeller
- 5. 一级主机 Primary main machine
- 6. 集流器 Current collector

5.FBD 系列防爆压入式对旋轴流局部通风机外形尺寸表 (仅供参考)

Outline dimension table of FBD series explosion-proof press-in counter-rotating axial flow local fans for mines (only for reference)

型号 Type No	功率 Power (kw)	外形尺寸 Outline dimension								
		φ 1	φ 2	φ 3	φ 4	H	h	A	B	L
5.0	2x5.5	640	570	503	535	925	400	480	680	1740
	2x7.5									
6.0	2x11	730	670	603	630	1025	435	580	750	2145
	2x15									2145
	2x18.5									2235
	2x22									820
6.3	2x22	765	700	635	665	1025	448	620	820	2380
	2x30									705
6.7	2x37	820	742	675	715	1150	485	620	900	2580
	2x30									866
7.1	2x45	885	798	715	750	1260	525	680	960	2750
	2x37									957
8.0	2x55	976	890	805	835	1305	720	780	1000	3190
	2x45									1025
8.5	2x75	1025	945	855	890	1400	745	780	1160	3520
	2x30									1125
9.5	2x37	1125	1050	956	985	1500	650	780	1000	3860

10.0	2x37	1175	1095	1006	1035	1530	655	780	1000	3860
	2x45									4090
11.0	2x55	1280	1195	1106	1180	1725	718	880	1100	4700
	2x75									4930

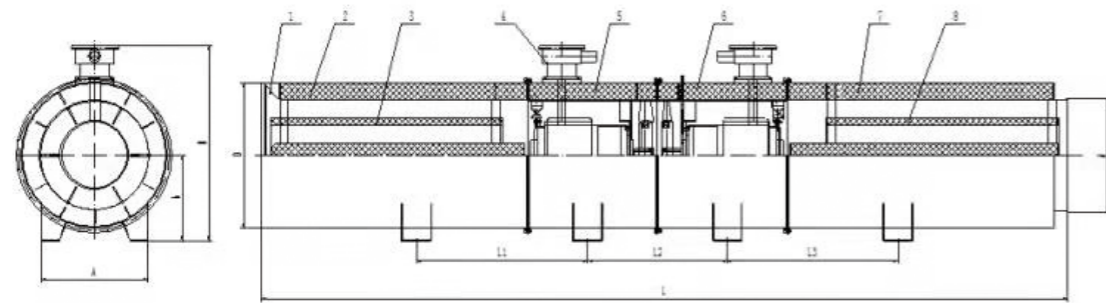
6.FBD 系列隔爆压入式对旋轴流局部通风机 (双层加长低噪系列) 外形尺寸表:

FBD series explosion-proof press-in counter-rotating axial flow local ventilator (double-layer lengthened low-noise series) outline dimension table

型号 Type No	功率 Power (kw)	外形尺寸 Outline dimension								
		L	L1	L2	L3	D	d	A	h	H
6.0	2x11	4790	910	840	910	840	630	580	510	990
	2x15									
6.3	2x18.5	5170	1000	900	1000	870	665	620	520	1130
	2x22	5170								
	2x30	5200								
6.7	2x30	5200	1000	900	1000	910	715	620	550	1160
	2x37									
	2x45									
7.1	2x30	5250	1230	900	1230	938	750	680	560	1275
	2x37	5290								
	2x45	5290								
8.0	2x45	5690	1250	1020	1250	1060	835	780	625	1430
	2x55	5900								
	2x75	6190								

7. 双层加长低噪系列外形结构示意图

Schematic diagram of the appearance and structure of the double-layer extended low-noise series



- 1. 集流器 Current collector
- 2. 进气消音器 Intake muffler
- 3. 双层消音内芯 Double silencing inner core
- 4. 电动机 Electric motor
- 5. 一级主机 Primary host
- 6. 二级主机 Secondary host
- 7. 排气消音器 Exhaust silencer
- 8. 排气双层消音内芯 Exhaust double-layer silencer inner core

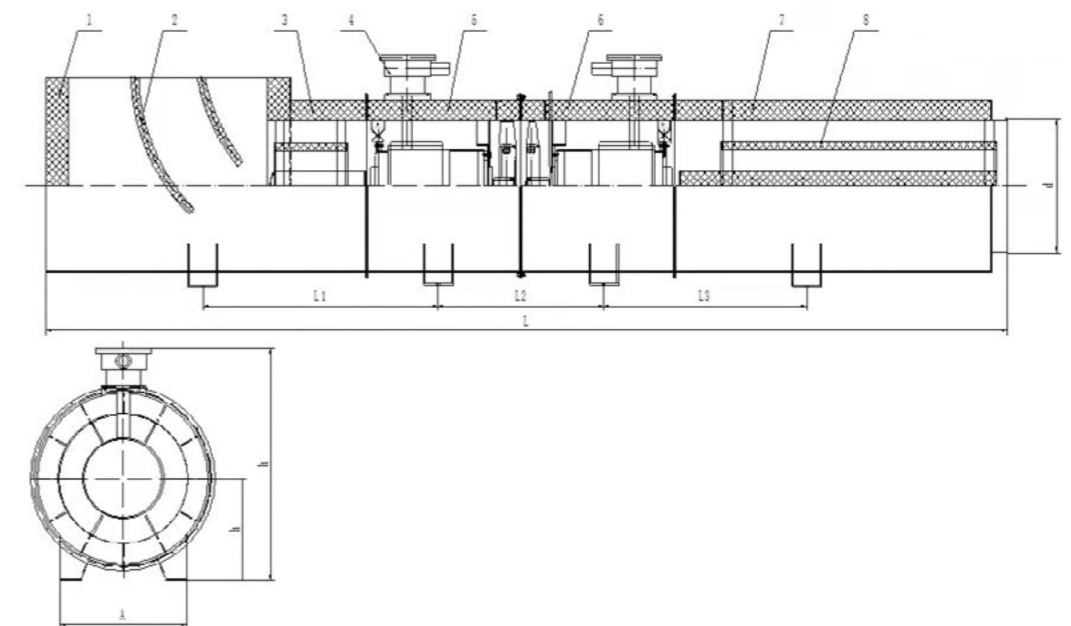
8.FBD 系列隔爆压入式对旋轴流局部通风机 (上进风低噪系列) 外形尺寸表:

FBD series explosion-proof press-in counter-rotating axial flow local ventilator (upper inlet low noise series) outline dimension table

型号 Type No	功率 Power (kw)	外形尺寸 Outline dimension							
		L	L1	L2	L3	d	A	h	H
6.0	2x11	4500	800	840	800	630	580	510	990
	2x15	4700							
6.3	2x18.5	4900	900	840	900	665	620	520	1130
	2x22	4900							
6.7	2x30	5020	1000	900	1000	715	620	550	1160
	2x37	5100							
7.1	2x45	5220	1200	1000	1200	750	680	560	1275
	2x30	5180							
	2x37	5180							
8.0	2x45	5620	1450	1020	1250	835	780	625	1430
	2x55	5830							
	2x75	6020							

9. 上进风低噪系列外形结构示意图

Schematic diagram of the appearance and structure of the upper inlet low noise series



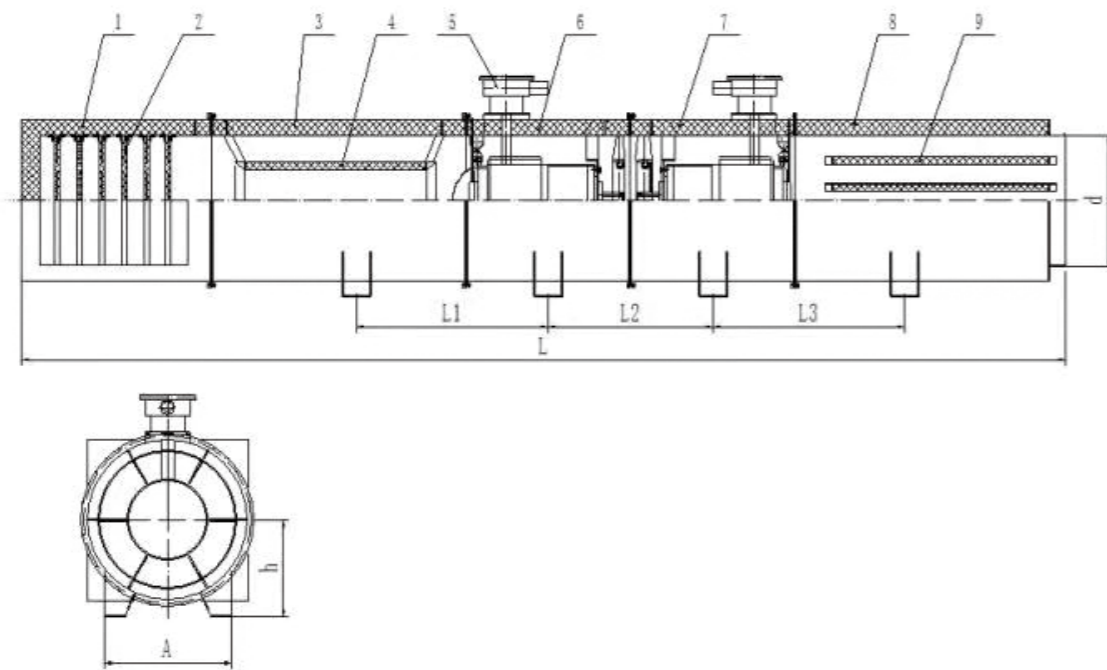
- 1. 上进风消音器 Upper inlet muffler
- 2. 消音栅 Muffler
- 3. 进气消音器 Intake muffler
- 4. 电动机 Electric motor
- 5. 一级主机 Primary host
- 6. 二级主机 Secondary host
- 7. 排气消音器 Exhaust silencer
- 8. 排气双层消音内芯 Exhaust double-layer silencer inner core

10. FBD 系列隔爆压入式对旋轴流局部通风机（侧进风低噪系列）外形尺寸表：

型号 Type №	功率 Power (kw)	外形尺寸 Outline dimension							
		L	L1	L2	L3	d	A	h	H
6.0	2x11	4690	910	840	910	630	580	510	990
	2x15								
6.3	2x18.5	5000	1150	900	1150	665	620	520	1130
	2x22	5000							
	2x30	5170							
6.7	2x30	5170	1150	900	1150	715	620	550	1160
	2x37								
	2x45								
7.1	2x30	5240	1180	900	1180	750	680	560	1275
	2x37								
	2x45								
8.0	2x45	6080	1190	1020	1190	835	780	625	1430
	2x55	6480							
	2x75	6660							

11. 侧进风低噪系列外形结构示意图

Schematic diagram of the appearance and structure of the side-inlet low-noise series



- | | | |
|-------------------------------|---------------------------|--------------------------|
| 1. 侧进风消音器 Side inlet silencer | 2. 消音栅 Muffler | 3. 进气消音器 Intake muffler |
| 4. 消音内芯 Muffler inner core | 5. 电动机 Electric motor | 6. 一级主机 Primary host |
| 7. 二级主机 Secondary host | 8. 出气消音器 Exhaust silencer | 9. 出气消音栅 Exhaust muffler |

部件介绍

INTRODUCTION OF PARTS

1. 扩散器

Diffuser

各系列矿用节能通风机作为主要通风机和机站风机时，应配带钢板制作的专用扩散器。地面主要通风机所配带扩散器可将部分动压转化为静压，降低出口动压损失，提高静压效率，以达到节能的目的。金属矿安装于井下的风机应配带扩散器，既可降低局阻系数，又可降低扩散器出口的动压值，从而可大幅度降低风机装置的局部阻力，节省通风电耗。

各系列通风机均有专用配套的扩散器。扩散器的法兰与风机出口法兰用螺栓连接。

In serving as major fans and fans of machine stations, all series of energy-saving fans for mining use shall be equipped with the dedicated diffuser made of steel plates. The diffusers of major ground fans can transform partial dynamic pressure into static pressure so as to reduce the loss of outlet dynamic pressure, improve the efficiency of static pressure, and realize the purpose of saving energy. The fans installed underground for metal mines shall be equipped with diffusers, which can not only reduce partial resistance coefficient, but also lower the outlet dynamic pressure value, and thus substantially reducing the partial resistance of fans, and cutting down power consumption for ventilation.

All series of fans are equipped with dedicated diffusers, flanges of which are connected with outlet flanges of fans with bolts.

2. 消音器

Muffler

本公司生产的各系列通风机的比 A 声级均符合煤炭行业标准的规定，但它作为主要通风机安装于地面时，若其产生的噪音不能达到环境噪音标准，会影响周围居民的工作与休息。因此，当安装主通风机的地点距居民区较近时，应当在主要通风机扩散器后安装消音器，并在扩散塔内加设消音结构，把主通风机噪音降到环境噪音标准以下。

我公司还为各类局部通风机配置了消音器，以减少局部通风机噪音对井下工人的干扰，保证安全生产和工人的身体健康。

Various series of A-weighted sound level fans manufactured by the Company conform to the stipulation of coal industry standard. However, when it is used as the main fan installed on ground, in case the noise produced by it cannot reach environmental noise standard, it will affect the work and rest of surrounding residents. Thus, in case the place installing main fan is near to residential area, a muffler shall be installed behind the diffuser of main fan, and noise reduction device shall be added in diffusion tower to reduce the noise of main fan blow environmental noise standard.

The Company also provides mufflers for various local fans to reduce the interference of noise of local fans on workers under the shaft and ensure the safety production and physical health of workers.

3. 扩散塔

Diffusion tower

在扩散器后还有一过风断面逐渐扩大向上弯曲的排风弯道，该弯道称为扩散塔，它的作用一方面减少通风机的动压损失，提高通风机的有效静压；另一方面是将乏风排至上空，保护周围环境，还可以降低噪声，以免干扰居民的睡眠与休息。本公司生产的钢板式扩散塔，把苏式 90° 的扩散塔改为 45° 或流线型扩散塔，大大降低了扩散塔的局部阻力，节能效果十分明显。

4. 自开自闭式风门（蝶阀）

Self-opening and self-closing air door (butterfly valve)

煤矿排风井所用主要通风机应有两台，一台工作，一台备用，所以每台主要通风机都必须配备一个风门。两台通风机并联工作时，为了安全顺利地开启每台风机，故需配备各自的风门。本公司设计制作的风门，安装在排风井风峒与风机主机之间。开启风机后，靠风机风压把门吸开；停机后，靠门的自重自然关闭。另一台风机工作产生的负压紧紧把门吸住，减少漏风。此门在金属矿山已被多家采用，它比煤矿现有的其它风门，不仅节省吊装设备、结构简单，而且管理方便、造价低。

Behind the diffuser, there is also an air exhaust bending channel with air passing cross section gradually expanding and bending upwards. This bending channel is called diffusion tower. On the one hand, its function is to reduce the dynamic pressure loss of fans and improve the effective static pressure of fans; on the other hand, it could discharge ventilation air methane to the sky, protect surrounding environment and lower noise to avoid the interference on sleeping and resting of residents. The steel plate diffusion tower manufactured by the Company changes Soviet-style 90° diffusion tower to 45° or streamline diffusion tower, which greatly reduces partial resistance of diffusion tower and has an obvious energy saving effect.

Main fans needed by coal mine ventilation shaft are two, one for working and the other one for standby. Thus, each main fan must be provided with an air door. When two fans work in parallel, in order to successfully open each fan, each fan shall be provided with an air door. The air doors designed and made by the Company will be installed between ventilation shaft cave and fan main machine. After fan is started, door will be opened by the air pressure of fan; after fan is stopped, door will be closed by its own weight. The negative pressure produced by working of the other fan will tightly draw the door and reduce air leak. This kind of door has been used by many metal mines. Comparing with other existing air doors of coal mine, it does not only save hoisting equipment and has a simple structure, but also convenient to be managed and the cost is low.

主要配套产品

MAIN AUXILIARY PRODUCTS

1. 风机专用启动柜的选择

Selection of special start cabinets of fans

◆根据电网电压与主扇要求选择额定工作电压和容量。

◆根据供电系统情况合理选择风机电控和启动方式：

(1) 若电网容量允许，可以选择直接启动；

(2) 电网容量较小时则选用降压或软启动方式和变频启动方式；

(3) 6KV 和 10KV 风机电控一般选用直接启动方式；

(4) 风机要求调速的则选用带变频装置的电控。

◆双回路供电建议选用成套电控装置。

(1) 380V、660V 主扇电控：固定式选用 GGD 成套装置；抽屉式选用 GCS 或 MNS 成套装置。一般配置为进线、联络和启动柜，共 7 台；

(2) 6KV、10KV 主扇电控：固定式选用

XGN 型成套装置，一般配置为进线、联络和启动柜，共 7 台；移出式选用 KYN 型成套装置，一般配置为进线、联络、换相、互感器和启动柜，共 11 台；

另外，所用电源柜和电容柜用户可根据各自情况选择增加。

2. 微机在线监测预警系统

Microcomputer online monitoring and early warning system

风机在运行中，微机就能够准确地反映和记录风机的运行曲线、风压、风量、风速、轴承和定子温度及电流、电压、振动等参数，并能记录存档和故障报警，且能随时从微机中调出三个月来的风机运行情况。这是一项先进的高科技技术。

◆ Select rated working voltage and capacity in accordance with power grid voltage and main fan requirements.

◆ Reasonably select electric control and starting means of fans in accordance with power supply system condition :

(1) In case power grid capacity allows, direct starting could be selected;

(2) In case power grid capacity is relatively small, pressure reduction or soft starting means and variable frequency starting means could be selected;

(3) Generally, electric control of 6KV and 10KV fan selects direct starting method;

(4) Where fan requires speed regulation, electrical control with frequency converter shall be selected.

◆ For double circuit power supply, it is suggested to select complete set of electrical control device.

(1) Electrical control of 380V and 660V main fans: fixed type shall select GGD complete equipment; draw out type shall select GCS or MNS complete equipment. General configuration is incoming line, contact and starting cabinet, 7 sets in total.

(2) Electric control of 6KV and 10KV main fans: Fixed type shall select XGN type complete equipment, whose general configuration is incoming line, contact and starting cabinet, 7 sets in total; run-out type shall select KYN28 type complete equipment, whose general configuration is incoming line, contact, phase changing, mutual inductor and starting cabinet, 11 sets in total.

Besides, users could select to add power cabinet and capacitor box in accordance with their own condition.

During operation process of fans, microcomputer could accurately reflect and record the parameters such as operation curves, air pressures, air volumes, air speeds, bearings, stator temperatures, electric currents, voltages and vibrations of fans, and could record, archive and make fault alarm. Besides, the fan operation condition of the last three months could be searched from microcomputer. It is a kind of advanced high technology.

售后服务承诺:

POST-SALE SERVICE PLEDGE

1. 公司遵循用户至上的服务理念, 竭诚为用户提供服务;

The company adheres to the service concept of putting users first and wholeheartedly provides services for users;

2. 公司负责包括从设备及其配件的制造到整套设备的交付使用。在设备安装和交付使用期间, 将派专业技术人员到用户所在地进行指导。

The company is responsible for the manufacturing of equipment and accessories and the delivery of the whole set of equipment. During the installation and delivery of the equipment, professional and technical personnel will be sent to the user's site for guidance.

3. 设备使用期间, 凡发生质量问题或需要技术支持, 我公司将及时地提供买方提出的技术服务要求。在质量保证期内, 如发生质量问题, 买方发出通知后, 我公司提供维修服务, 免费修理或更换不合格的零部件, 以保证设备的正常运行。超过质量保证期的仅收取成本费。质保期内, 由于用户操作、使用不当造成的硬件损坏, 公司负责维修, 只收取材料费;

During the use of the equipment, in case of quality problems or technical support, our company will timely provide technical service requirements proposed by the buyer. During the warranty period, in case of quality problems, after the buyer issues a notice, our company will provide maintenance services to repair or replace unqualified parts for free to ensure the normal operation of the equipment. Exceed quality assure period only charge the

material cost. During the warranty period, if the hardware is damaged due to user's improper operation or use, the company will be responsible for maintenance and only charge the material fee.

4. 质量保证期的计算 (三包期): 设备从买卖双方签署验收合格之日起 12 个月。

Calculation of quality guarantee period: 12 months from the date of acceptance of the equipment signed by both parties.

5. 凡用户需要我公司提供服务, 接到用户电话后, 1000km 之内, 服务人员 24 小时赶到现场; 1000km 之外, 24 小时之内派出服务人员。问题不解决, 达不到用户要求, 服务人员不能撤离工作现场。如需返厂修理, 保证在商定时间内交付使用。

The service personnel will arrive at the site within 24 hours within 1000km after receiving the call from users who need our services; 1000km away, dispatch service personnel within 24 hours. If the problem is not solved and cannot meet the user's requirements, the service personnel cannot leave the work site. If it needs to be returned to the factory for repair, it shall be guaranteed to be delivered for use within the agreed time.

6. 公司实行用户回访制度, 每三个月对用户回访一次。

The company implements the system of user return visit, which is conducted every three months.

