

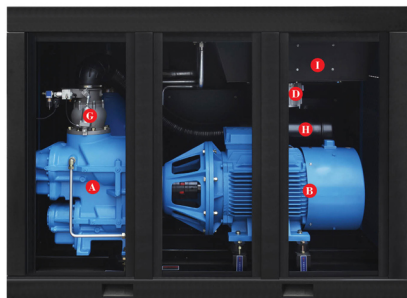


两级压缩螺杆式空压机 Two-Stage Screw Air Compressor

about us 艾高简介

广东艾高装备科技有限公司是国内领先的螺杆式空压机制造商，专业的永磁变频空压机制造商，是节能空压机服务提供商。为了让每个企业都能获得优质、节能、可靠的压缩空气体验，公司引进德国螺杆式空压机先进生产技术，秉持“科学管理、精益求精、注重细节、守约诚信”的质量方针，生产的空压机通过了 ISO 9001:2008 国际质量体系认证，并获得一系列国家权威机构颁发证书；同时，公司打造了一支为客户提供 24 小时“服务+”的成熟团队。

Guangdong ECOAIR Equipment Technology Co., Ltd. is a leading manufacturer of screw air compressor, professional permanent inverter compressor manufacturers, and energy-saving air compressor service provider. In order to make every company can get high-quality, energy-efficient and reliable compressed air experience, the company introduced the German advanced production technology screw compressors, uphold the "scientific management, excellence, attention to detail, good faith compliance," the quality, production compressor through the ISO 9001: 2008 international quality system certification, and a series of certificates issued by national authorities; the same time, the company created a 24 hours to provide customers with "Service +" mature team.



- A** 两级压缩一体式主机
- B** 高效节能的永磁电机
- C** 彩色触摸屏微电脑控制系统
- D** 高效的轴流风机变频控制系统
- E** 油过滤器
- F** 油气分离器
- G** 进气阀
- H** 空气过滤器
- I** 高效冷却器

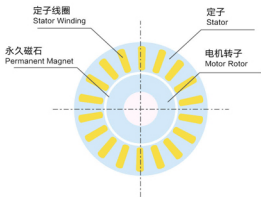


A 两级压缩一体式主机

Two-Stage Integrated Mainframe

采用两级压缩主机，也即将一级压缩转子和二级压缩转子组合在一个机壳里面，并分别通过斜齿轮直接传动。自然空气通过空气过滤器进入第一级压缩，在压缩腔与少量润滑油混合，同时将混合气体压缩到级间压力。压缩后的气体进入冷却通道，与大量油雾接触，从而大大降低了温度。降温后的压缩气体进入第二级转子，进行二次压缩，被压缩到最终排气压力。

Using two-stage compression engine, the first level of the compressor rotor and two compressed rotor is in a casing, the two groups of screw rotor through reasonable pressure distribution. Natural air through the air filter into the first stage compression, the compression chamber is mixed with a small amount of the lubricating oil, while the mixed gas is compressed to the interstage pressure. The compressed gas runs into the cooling passage, in contact with a lot of mist, thereby greatly reducing the temperature. After cooling the compressed gas into the second stage rotor, secondary compression, it is compressed to the final discharge pressure.



B 高效节能的永磁电机

Energy-Efficiency Permanent Magnet Motor

通过与定子线圈相关的交流电压产生的磁场及磁场的磁力使转子产生转动的电机。永磁同步电动机（PM电机）采用高性能钕铁硼永磁体，120℃不失磁。使用的是优质弹性联轴器直接传动，永磁电机与压缩机主机结合为一体，结构更加紧凑，传动精度、效率更高。

注：BPM机型为两级压缩永磁变频螺杆式空压机，BG机型为两级压缩螺杆式空压机。

This motor enables the rotor to rotate via the magnetic field generated by AC voltage of the stator coil and the magnetic force of the magnetic field. The permanent magnetic synchronous motor (PM motor) is made of high efficiency Nd-Fe-B permanent magnet; it will not loss of field at 120°C.

Permanent magnet motor and mainframe of compressor adopt the straight structure, and the structure is more compact with the transmission efficiency of 100%.

NOTE: BPM means two-stage compression screw compressor frequency permanent magnet, BG means the two-stage compression screw compressor.



C 彩色触摸屏微电脑控制系统

Color touch screen microcomputer control system

1. 先进的微电脑控制系统实现智能控制。变速控制气量自动调节、负载起、软启动；
2. 电流涌动的消除以及部件使用寿命的延长，这样大大的增加了系统的可靠性；
3. 智能动态控制，动态显示压缩机各个部件的工作状况，实时直观的压力、温度、电流工作曲线；
4. 超大内存8M Flash ROM + 16M SDRAM，可贮存上千条的历史故障纪录；
5. 配有打印机接口，可随时打印压缩机的工作信息表，RJ45以太网接口，支持HMI与以太网控制器或PC互联。

1. The advanced microcomputer control driving system can realize intelligent control and variable speed control, gas automatic adjustment, load start, soft start;
2. The reliability of system is greatly increased by eliminating of flow surge and extending the service life of parts;
3. The intelligent dynamic control, Dynamic display of various components of the working condition of compressor. Real time visual pressure, temperature, current working curve;
4. Super memory 8M Flash ROM+16M SDRAM can store thousands of historical fault record;
5. With the printer interface, they can always print. Compressor working information report RJ45 Ethernet interface, support HMI and Ethernet controller or PC interconnection.

D 高效的轴流风机变频控制系统

Efficient Axial-flow Fan Frequency Conversion Control System

轴流式冷却风扇采用变频控制，节能约为 50%；根据排气温度，控制风扇的转速，抑制电力的浪费，同时因为稳定了系统及整体的部件温度，从而提高了部件的耐久性，而且风扇的变频化，从而使噪音进一步降低。

Axial-flow cooling fan applies frequency conversion control and can save about 50% energy. It controls speed of the fan according to exhaust temperature and prevents electricity waste. Besides, it keeps temperature of the system and all parts stable and improves durability of parts. As the fan is controlled by frequency conversion, its noise is further reduced.



E 油过滤器

Oil Filter

采用航空用高端材料过滤的旋装式油过滤器，效果比常规滤芯高 20%，有效延长主机正常使用寿命。

It is equipped with the rotary-type oil filter made of high-end material for aviation. Its effect is 20% higher than that of common filter element, so it extends normal service life of the compressor effectively.



F 油气分离器

Oil-Air Separator

超大容量的油气分离器，品质优越的油气分离元件和气、液过滤元件，配以设计先进的三次油气分离，含油量控制在 3ppm 以下，保证压缩空气的高质量。

Ultra high capacity oil-gas separator, excellent oil-gas separation elements, gas and liquid filter elements and advanced 3-time oil-gas separation design keep oil content below 3ppm and ensure high quality of compressed air.

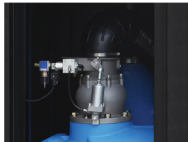


G 进气阀

Air Inlet Valve

设计先进的气阀，进气调整范围 0-100%，容调阀调节，压力损失小，动作稳定，寿命长。

Advanced design of the air valve, adjustment range of inlet air: 0-100%, adjusted by the capacity regulating valve, featured in low pressure loss, stable running and long service life.



H 空气过滤器

Air Filter

采用具有较高的容尘能力和较低的流动阻力设计，可滤除空气中的微小固体颗粒，除尘效果达 99.5%，确保系统的各个零部件的功能正常运行和经济的使用寿命。

High dust holding capacity and low flow resistance design is applied, so it can filter tiny solid particles in air, reaches 99.5% dust removal efficiency and makes sure normal running and long service life of every part of the system.



I 高效冷却器

Efficient Cooler

采用超大换热面积设计，提高冷却效率，有效防止机器高温，内壁做防腐处理，适应更恶劣的工况，延长使用寿命。

It has large heat exchange area design, so it can improve cooling efficiency and prevent the machine from high temperature effectively. Antiseptic treatment is carried out to its inner wall, so it is applicable for severe working conditions and its service life is extended.



贵在省电

Your Electricity Counts



杜绝无用功损耗 Avoid Idle Consumption



压力传感器检测排气口的压力，把信号传输给 PLC，PLC 根据压力传感器的压力大小来控制变频器的输出频率。当压力大时，减小频率；当压力小时，增大频率使压力始终恒定。压缩机通过变频器来控制永磁电机转速这样就组成了一个变频闭环控制系统，实现恒压供气、多用多产、少用少产、不用即停、有用即软启动产气，彻底杜绝了无用功的能量损耗。

The pressure sensor detects pressure of the air outlet and sends signal to PLC; PLC controls output frequency of the transducer according to pressure of the pressure sensor. When the pressure is high, decrease the frequency; when the pressure is low, increase the frequency to keep the pressure constant. The compressor controls speed of the permanent magnet motor via the transducer, so it forms a variable speed and closed-loop control system, realizes air supply at constant pressure, produces air according to demand, stops production when air is not used, starts production by soft start when air is used; thus, it avoids idle consumption thoroughly.

两级压缩提升产气量 Two-stage Compression Improves Gas Production Rate



两级压缩采用等压比来设定级间压力，故每级压缩比都要比单级压缩比降低很多，转子之间的回流泄漏量大大降低了，容积效率和隔热效率得到大大提高；在相同的功率下，两级压缩比单级压缩产气量多 10%，也即实现节能 10%。

Interstage pressure of two-stage compression is set by isobaric rate; thus, the compression rate of every stage is much lower than that of single-stage; the backflow leakage between rotors reduces largely; volumetric efficiency and thermal insulating efficiency improve largely. At the same power, the gas production rate of two-stage compression rate is 10% higher than that of single-stage compression, so it can save 10% energy.

智能 PID 功能 Intelligent PID function

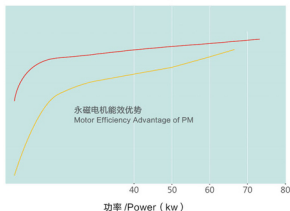


防止用气量迅速变化时空压机系统的频繁加卸载，延长系统寿命。其功能下的压力 PID 调节更灵敏可控，即使在用气量变化较大的场合，也能防止空压机过多卸载。降低因用气量变化较大问题而使压缩机来不及降低转速而多余浪费的能源。

Function: prevent the air compressor system from frequent loading and unloading when gas consumption changes quickly, extend service life. Under this function, pressure PID adjustment is more sensitive and controllable; it can prevent excessive unloading of the air compressor even the gas consumption changes largely and reduce redundant energy waste when the gas consumption changes largely and the compressor has no enough time to slow down.

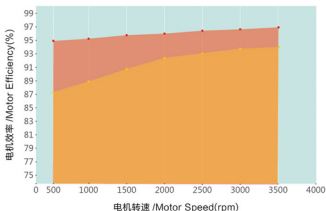
贵在省钱

Your Money Counts



红色: 永磁电机 (75kw) 黄色: 普通电机 (75kw)
Red: Special PM Motor (75kw) Yellow: Normal Frequency Modulation Motor (75kw)

电机效率对比 / Efficiency Comparison



红色: 永磁电机 (75kw) 黄色: 普通电机 (75kw)
Red: Special PM Motor (75kw) Yellow: Normal Frequency Modulation Motor (75kw)

空压机用电成本理论计算

Theoretical calculation of electric cost for air compressor

项目 CONTENTS	单位 UNIT	满载 FULL LOAD		70% 负载 70% LOAD	
		三级能效空压机 CLASS-III energy efficiency air compressor	艾高两级压缩永磁变频 螺杆式空压机满载节能 ECOAIR Two-Stage PM VFD Screw Air Compressor	三级能效空压机 CLASS-III energy efficiency air compressor	艾高两级压缩永磁变频 螺杆式空压机满载节能 ECOAIR Two-Stage PM VFD Screw Air Compressor
年工作时间 Annual working hours	H	8000	8000	8000	8000
比功率 specific power	kW*min/m ³	8.4	5.4	10.02	5.4
每立方气用电度数 Power per cubic meter	度 / m ³ degree/m ³	0.14	0.09	0.167	0.09
排量 displacement	m ³ /min	15.2	19.2	15.2	19.2
年用气量 Annual gas consumption	m ³	7296000	7296000	5107200	5107200
电费单价 Electricity price	元 / 度 Yuan/degree	0.8	0.8	0.8	0.8
年耗电 Annual electricity consumption	万度 10 thousand degrees	102.14	65.66	85.29	45.96
年支付电费 Annual payment of electricity	万元 10 thousand yuan	81.72	52.53	68.23	36.77
年节省电费 Save electricity	万元 10 thousand yuan	-	29.18	-	31.46

说明: 1. 本表中的空压机是以 90kW/8bar 为例;

2. 本表中节省电费数据, 均是与三级能效空压机相比。

NOTE: 1. All data above is based on the compressor of 90kW/8bar;

2. The data of saving electricity is based on the CLASS-III energy efficiency air compressor.



项目 Project 型号 Model	功率 Power	排气量 / 排气压力 (M ³ /min) Free Air Delivery/ Discharge Pressure		出口管径 Air Outlet Pipe Diameter	重量 Weight	外型尺寸 Dimension	启动方式 Starting Method
		排量 /m ³ /min 压力 /Mpa					
Mpa	KW			inch	kg	(L × W × H) mm	
BPM15	15	2.9/7	2.4/10	G1"	740	1480 × 960 × 1300	永磁变频启动 PM&VFD Start
		2.8/8	2.2/13				
BPM18	18.5	3.85/7	2.9/10	G1"	810	1480 × 960 × 1300	
		3.75/8	2.5/13				
BPM22	22	4.26/7	3.5/10	G1"	880	1480 × 960 × 1300	
		4.1/8	3.2/13				
BPM30	30	6.4/7	4.9/10	G1 1/2"	1090	1650 × 1050 × 1480	
		6.3/8	4.2/13				
BPM37	37	7.6/7	5.8/10	G1 1/2"	1185	1650 × 1050 × 1480	
		7.0/8	5.4/13				
BPM45	45	9.8/7	7.8/10	G2"	1580	1905 × 1250 × 1500	
		9.7/8	6.5/13				
BPM55	55	12.2/7	10.6/10	G2"	1950	2165 × 1300 × 1600	
		12/8	8.6/13				
BPM75	75	16.8/7	13/10	G2"	2180	2165 × 1300 × 1600	
		16.5/8	11.2/13				
BPM90	90	20.8/7	17.5/10	DN65	2850	2550 × 1700 × 1860	
		20/8	14/13				
BPM110	110	25.5/7	20/10	DN65	3080	2550 × 1700 × 1860	
		24.5/8	17/13				
BPM132	132	29.5/7	23.5/10	DN80	3280	2550 × 1700 × 1860	
		28/8	19.5/13				
BPM160	160	33.5/7	28/10	DN80	3500	2550 × 1700 × 1860	
		32.5/8	23/13				
BPM185	185	39.5/7	32.5/10	DN100	4150	3150 × 1950 × 1950	
		37.8/8	27.5/13				
BPM200	200	42.5/7	38.5/10	DN100	4530	3150 × 1950 × 1950	
		41.5/8	33/13				
BPM220	220	45.6/7	41.5/10	DN125	4850	3300 × 2050 × 1950	
		45.0/8	38/13				
BPM250	250	51.5/7	45/10	DN125	5280	3300 × 2050 × 1950	
		50.2/8	40/13				

- 注：1. 样本中的资料仅用于说明本系列产品的相关信息，产品技术参数如有变动，以实际发货清单为准；
 2. 针对行业或使用工况不同，可能调整相应参数，以提供的外视图为准；
 3. 想获得更多信息，请联系艾高。

艾高两级压缩螺杆式空压机参数表

Technical Parameters of ECOAIR Two-Stage Screw Air Compressor



项目 Project	功率 Power	排气量 / 排气压力 (M ³ /min) Free Air Delivery/ Discharge Pressure	出口管径 Air Outlet Pipe Diameter	重量 Weight	外形尺寸 Dimension	启动方式 Starting Method	
型号 Model	Mpa	KW	排量 / m ³ / min 压力 / Mpa	inch	kg	(L × W × H) mm	
BG15	15	2.9/7	2.4/10	G1"	820	1610 × 960 × 1300	星三角启动 Star Triangle Start
		2.8/8	2.2/13				
BG18	18	3.85/7	2.9/10	G1"	880	1610 × 960 × 1300	
		3.75/8	2.5/13				
BG22	22	4.28/7	3.5/10	G1"	930	1610 × 960 × 1300	
		4.1/8	3.2/13				
BG30	30	6.4/7	4.9/10	G1 1/2"	1230	1780 × 1050 × 1480	
		6.3/8	4.2/13				
BG37	37	7.6/7	5.8/10	G1 1/2"	1350	1780 × 1050 × 1480	
		7.0/8	5.4/13				
BG45	45	9.8/7	7.8/10	G2"	1730	2050 × 1250 × 1500	
		9.7/8	6.5/13				
BG55	55	12.2/7	10.6/10	G2"	2130	2300 × 1300 × 1600	
		12/8	8.6/13				
BG75	75	16.8/7	13/10	G2"	2330	2300 × 1300 × 1600	
		16.5/8	11.2/13				
BG90	90	20.8/7	17.5/10	DN65	3040	2670 × 1700 × 1860	
		20/8	14/13				
BG110	110	25.5/7	20/10	DN65	3360	2670 × 1700 × 1860	
		24.5/8	17/13				
BG132	132	29.5/7	23.5/10	DN80	3450	2670 × 1700 × 1860	
		28/8	19.5/13				
BG160	160	33.5/7	28/10	DN80	3760	2670 × 1700 × 1860	
		32.5/8	23/13				
BG185	185	39.5/7	32.5/10	DN100	4320	3300 × 2000 × 1950	
		37.8/8	27.5/13				
BG200	200	42.5/7	38.5/10	DN100	4760	3300 × 2000 × 1950	
		41.5/8	33/13				
BG220	220	45.6/7	41.5/10	DN125	5100	3450 × 2050 × 1950	
		45.0/8	38/13				
BG250	250	51.5/7	45/10	DN125	5430	3450 × 2050 × 1950	
		50.2/8	40/13				
BG280	280	57.1/7	50/10	DN125	5720	3650 × 2100 × 2050	
		56/8	43.5/13				
BG315	315	68/7	60/10	DN125	5970	3650 × 2100 × 2050	
		66/8	54/13				

注：1. 样本中的资料仅用于说明本系列产品的相关信息，产品技术参数如有变动，以实际发货清单为准；

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