

# ECO AIR



**贵在省心**  
Your Pleasure Counts

**贵在省电**  
Your Electricity Counts

**贵在省钱**  
Your Money Counts

**A**  
bout us

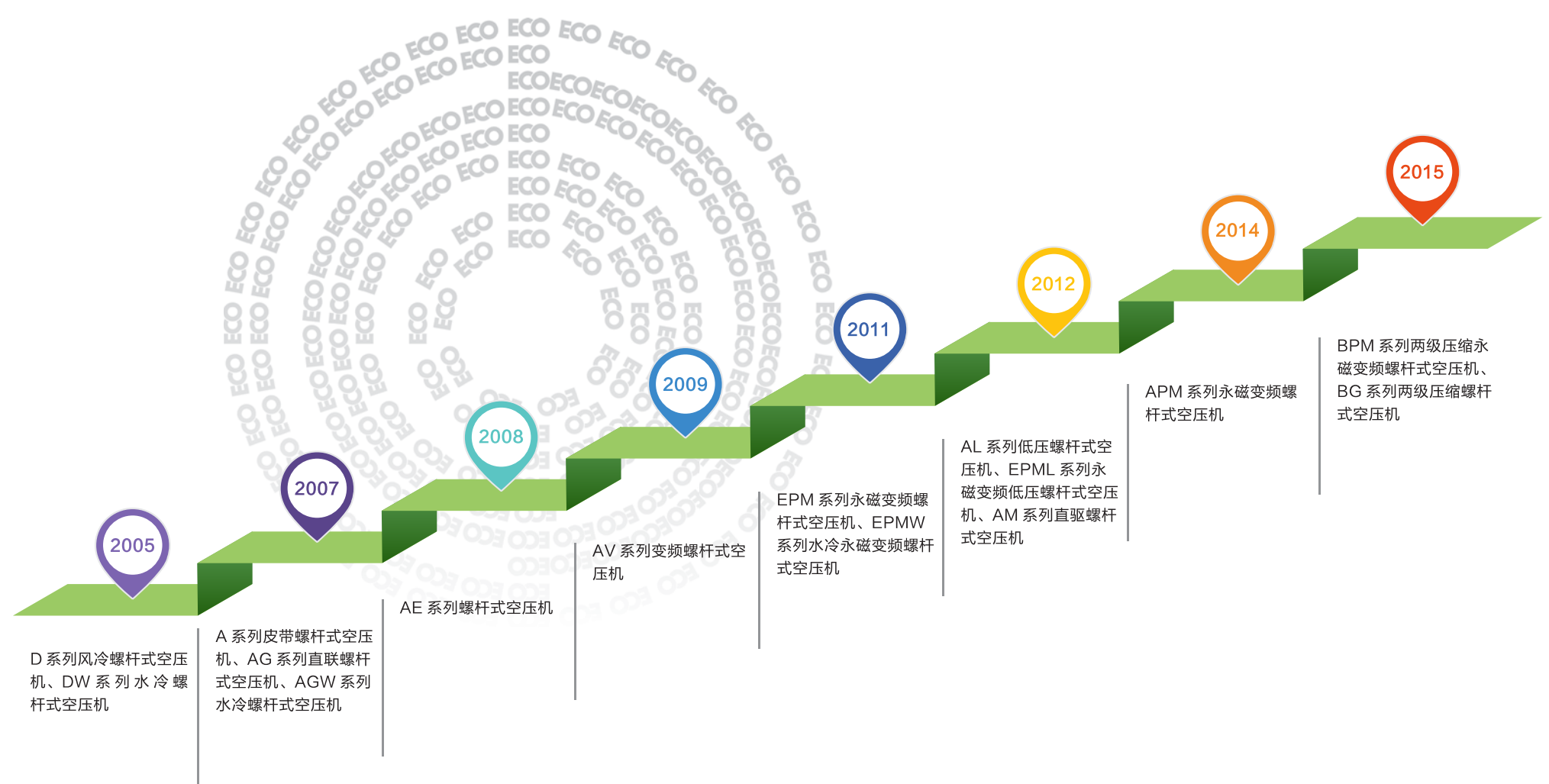


## 艾高简介

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 rotary screw air compressors in China, a professional manufacturer of permanent magnet variable speed air compressors and an excellent service provider of energy-saving air compressors. In order to enable every enterprise to experience quality, energy-saving and reliable compressed air, the Company has introduced advanced production technology of rotary screw air compressors from Germany. Adhering to quality guidelines of “scientific management, constant striving for perfection, paying attention to details and keeping faith”, its air compressors have been certified by ISO 9001:2008 international quality system and a series of national authorities; besides, the Company has set up a mature team to provide customers with 24h “service+”.





**美妙的用气体验**  
nice compressed air experience



## 低压永磁变频螺杆式空压机图解

Illustration of the Low-pressure PM Screw Air Compressor



- A** 特殊设计的低压一体式主机
- B** 高效节能的永磁电机
- C** 高效的轴流风机变频控制系统
- D** 彩色触摸屏微电脑控制系统
- E** 油过滤器



- F** 超加大的油气分离系统
- G** 进气阀
- H** 空气过滤器
- I** 高效冷却器

### A 特殊设计的低压一体式主机 Specially Designed Low Pressure Integrated Main Machine

采用 AED 系列同等风量的主机，特殊优化线型及优化排气蝴蝶口，保持低转速、高效、长寿命、低故障、低噪音的一贯特色。永磁电机与压缩机主机采用内嵌式一体轴直连结构，结构更加紧凑，传动效率 100%。没有电机轴承，带有永磁体的转子直接安装在阳转子的伸出轴上，这种结构无需使用轴承，从而消除了电机轴承的故障点。

Apply AED series main machine of the same air volume, special optimized line and optimized exhaust butterfly outlet, featured in low rotating speed, high efficiency, long service life, low failure rate and low noise. The permanent magnet motor and the compressor are assembled to be embedded integral-shaft direct-connecting structure. The structure is more compact and its transmission efficiency reaches 100%. There is no motor bearing. The permanent magnet rotor is installed on the projecting shaft of the male rotor directly, and this structure doesn't need bearing, so it has no failure of motor bearing.



### B 高效节能的永磁电机 Efficient and energy-saving permanent 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。

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.

#### 节能 Energy Conservation



高效的永磁电机 (PM 电机)，与普通变频电机相比，节能性能更优越；尤其电机低转速时，永磁电机仍能保持很高的电机效率。

In contrast to common frequency modulation motor, the efficient permanent magnet motor (PM motor) can save more energy. Particularly, when the motor rotates at low speed, the permanent magnetic motor can still keep very high motor efficiency.

#### 稳定 Stable



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；定子线圈采用变频器专用耐电晕漆包线，绝缘性能卓越，使用寿命更长；同步电动机响应速度快，在排气响应度上表现卓越；

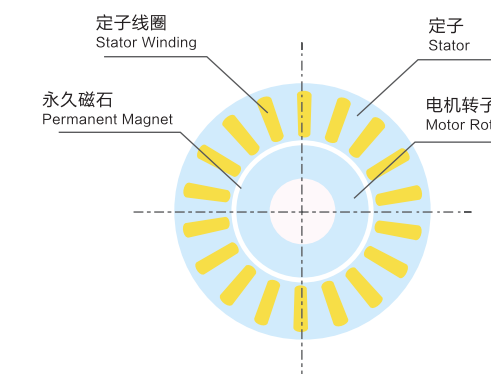
能够实现软启动，运行时，电机电流不会超过满载电流，同时也大大减小了对电网设备的冲击，不会对用电设备造成伤害。

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℃. The stator coil is made of special corona-resistant enamelled wire coatings for transducers. It is of excellent insulation performance and long service life. The synchronous motor responds rapidly and is excellent in exhaust responsibility. It can realize soft start. While running, current of the motor will not exceed the full-load current. Besides, it reduces the impact to grid equipment and will not damage electrical equipment.

#### 体积小 Small Size



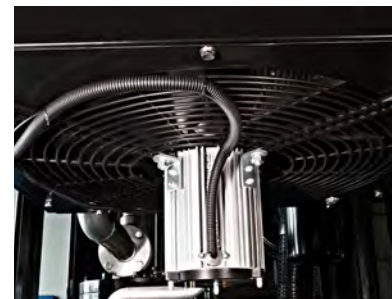
电机体积小，一般约为普通变频电机的尺寸的 1/3，便于拆装。  
The motor is compact in size and its overall dimension is about 1/3 of common frequency modulation motor, so it is easy to assemble and disassemble.



## C 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；因为风扇的变频控制，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.



## D 彩色触摸屏微电脑控制系统 Color touch screen microcomputer control system

1. 先进的微电脑控制驱动系统实现智能控制、变速控制气量自动调节、负载起动、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. Advanced microcomputer control and driving system realizes intelligent control, automatic adjustment of variable speed air volume control, load start and soft start;
2. Current flowing is eliminated, and service life of parts is extended, so reliability of the system is improved largely;
3. Intelligent and dynamic control, display working condition of every part of the compressor dynamically, real-time and visual pressure, temperature and current working curve;
4. Very large memory: 8M flash ROM + 16M SDRAM, save thousands of historical failure records;
5. It is equipped with printer interface and can print work information table of the compressor at any time; RJ45 Ethernet interface, support interconnection with HMI and Ethernet controller or PC.



## 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 超加大的油气分离系统 Ultra-large Capacity Of the Oil and Gas Separation System

低压力空压机比普通空压机，其压缩后的压缩空气体积更大、流速更高，油气分离系统的设计要与普通空压机不一样。与普通同等气量的普通空压机相比，艾高 EPML 系列空压机的油气分离系统（容量）增大 80% 以上，充分保证压缩后的空气品质及油气分离器的寿命。

Comparing the low pressure air compressor with common air compressor, volume of its compressed air is bigger; flow velocity is higher; the design of its oil and gas separation system is different from that of common air compressor. In contrast to common air compressor of the same air volume, capacity of ECOAIR oil and gas separation system increases over 80%, so it makes sure quality of the compressed air and service life of the oil and gas separator fully.



## G 进气阀 Air Inlet Valve

设计先进的进气阀，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。

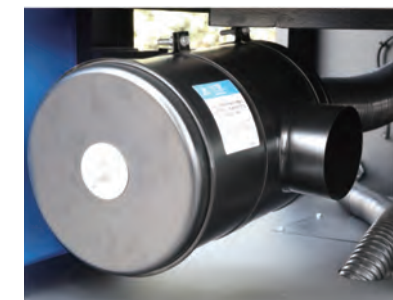
Advanced design of the air valve, adjustment range of inlet air: 0-100%, adjusted by the capacity regulating valve, featured in low pressure loss, stable running and long service life.



## 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

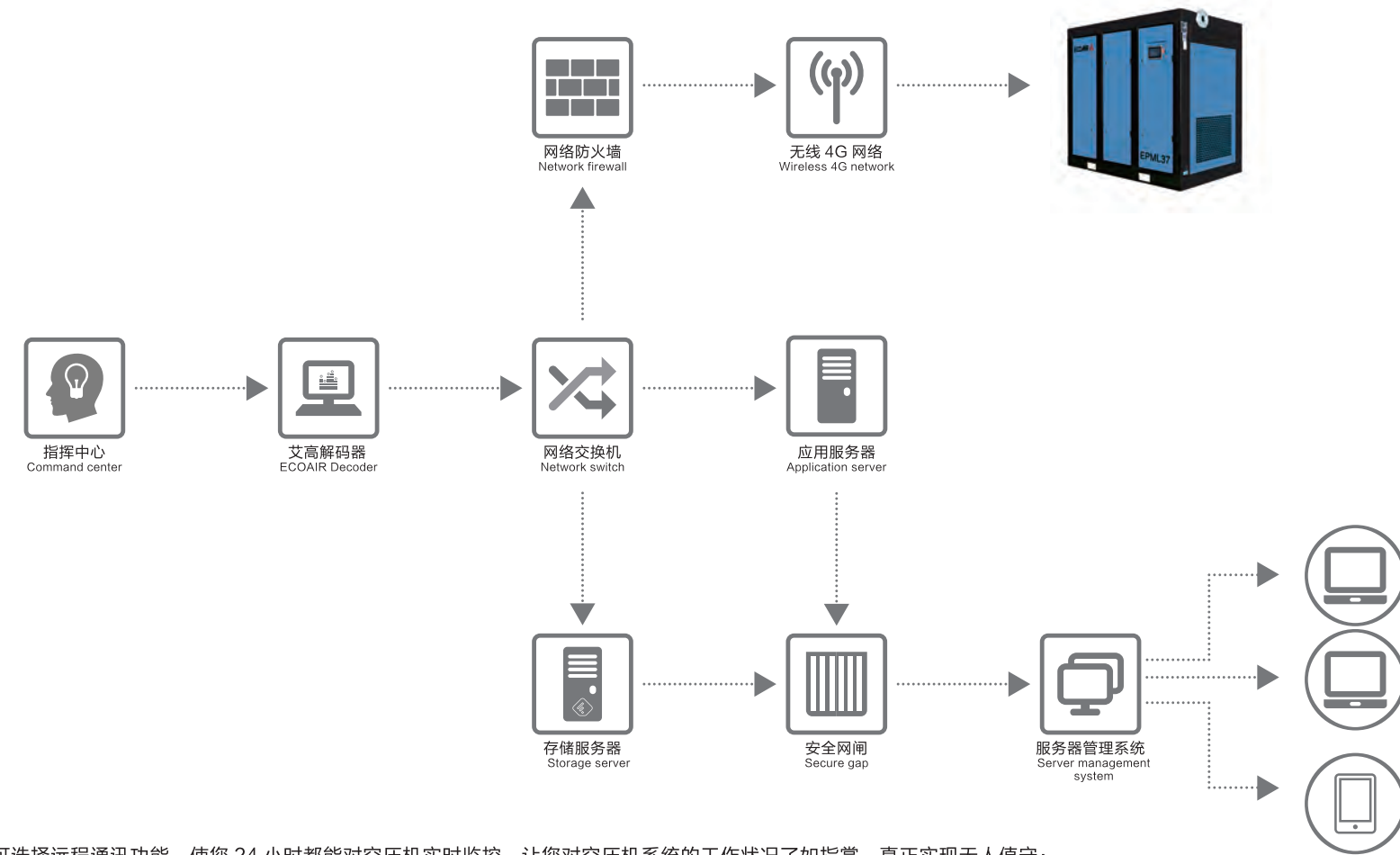
采用超大换热面积设计，提高冷却效率，有效防止机器高温，内壁做防腐处理，适应更恶劣的工况，延长使用寿命。

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.



## 卓越的远程物联网功能 (选配)

Excellent function of remote Internet of things (optional)

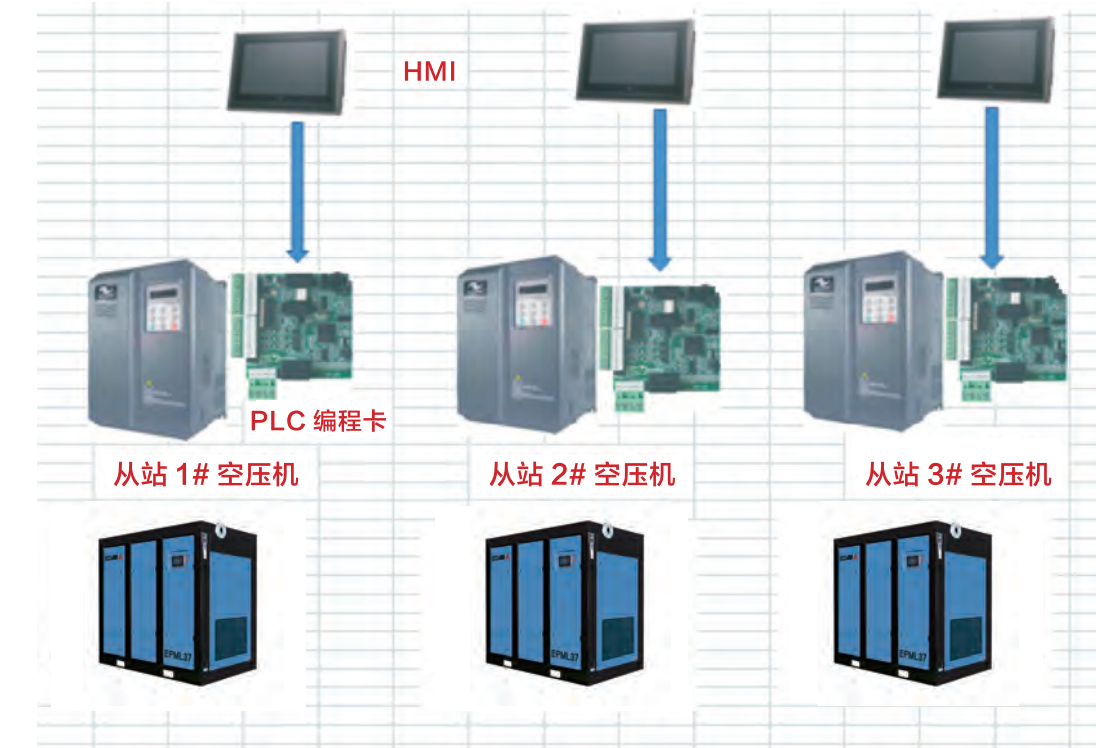


1. 可选择远程通讯功能, 使您 24 小时都能对空压机实时监控, 让您对空压机系统的工作状况了如指掌, 真正实现无人值守;
2. 多达三个用户手机设置方便用户及时了解空压机出现的异常信息;
3. 机器的实时监控。

1. Remote communication function is optional. It enables users to monitor the air compressor at 24h and to follow working conditions of the air compressor system and realizes real unattended operation.
2. Phone setting of three users are available and are convenient for users to know abnormal information of the air compressor.
3. Real-time monitor of the machine.

## 艾高空压机联控方案 (选配)

ECOAIR compressor joint control scheme (optional)



1. 一台艾高 PLC 作为主站, 分别与三台艾高空压机变频器的 PLC 编程卡进行 RS485 通讯, 站号任意标定, 实现启动、停止、压力 / 温度、空压机轮换等控制功能;
2. 每台艾高空压机配置一台 HMI 和 PLC 编程卡进行 RS422 通讯, 实时读取变频器的运行状态、电流 / 功率、压力 / 温度等显示参数, 也可作为在单机模式下独立的控制;
3. PC 机可以安装组态软件与 PLC 通讯, 用作后台的监控, 实时进行数据读取和发送, 来控制系统的运行。

1. A ECOAIR PLC is used as the master station and runs RS485 communication with the programming cards of 3 ECOAIR compressor transducers respectively; station number is calibrated randomly; it realizes start, stop, pressure/temperature and air compressor alternative control functions.
2. Every ECOAIR air compressor is equipped with a HMI and PLC programming card for RS485 communication. It can read real-time running status, current/power, pressure/temperature, and other display parameters of transducers and may control separately at standalone mode.
3. PC may be equipped with configuration software and PLC communication. As the background monitor, they can read and send data in real time and control operation of the system.

## 贵在省心

Your Pleasure Counts

### 根据您的行业用气需求量定制 Tailoring for you



艾高专门为水泥、化纤、玻璃、石油、电子、食品、制药、纺织、印染、陶瓷、测绘勘探等有大气量、低压力（2-5 bar）的用气需求行业，贴心设计、制造能直接输出您所需的低压空气的低压螺杆式空压机，包括艾高 AL 系列低压螺杆式空压机及 EPML 系列低压永磁变频螺杆式空压机。

ECOAIR is specialized in the design and manufacturing of low pressure rotary screw air compressors which can output the required low pressure air directly for chemical, glass, petroleum, textile, printing, dyeing and ceramic industry which requires big volume and low pressure (2-5bar) air.

### 超低压力时的润滑保障 Lubrication Guarantee at Ultra Low Pressure



润滑油充当润滑、密封、冷却、降噪的四大重要功能，压缩空气是驱动润滑油循环流动的动力。而在超低压力（例如不足 2 bar）的情况下，会导致供油不足，从而出现异响、轴承和转子磨损、高温、泄露大等严重问题。艾高 EPML 系列空压机加装润滑油加压特殊装置，管路经特殊设计，在超低排气压力的情况下，保证润滑油的正常供给。

Lubricating oil has 4 major functions, receptively lubricating, sealing, cooling and noise reduction, and it is driven to cycle and flow by compressed air. At ultra low pressure (i.e. below 2 bar), oil supply will be insufficient, and some serious problems may occur, such as abnormal noise, bearing and rotor abrasion, high temperature, and leakage, etc. ECOAIR EPML-series of air compressor is equipped with a special lubricating oil pressurizing device and its pipeline is designed especially, so as to ensure normal supply of lubricating oil at ultra low exhaust pressure.

### “工业管家”功能 “Industrial housekeeper” function



艾高压缩机系统，可以根据您工厂的工作时间预先设定每周的工作时间表，压缩机会按照设定好的工作时间表，准时的自动开机和关机，真正让设备实现 24 小时无人值守。

ECOAIR compressor system may preset working schedule of every week according to working time of your factory, and the compressor will be turned on or off automatically according to the preset working schedule, so it realizes 24h unattended operation of the equipment.

## 贵在省电

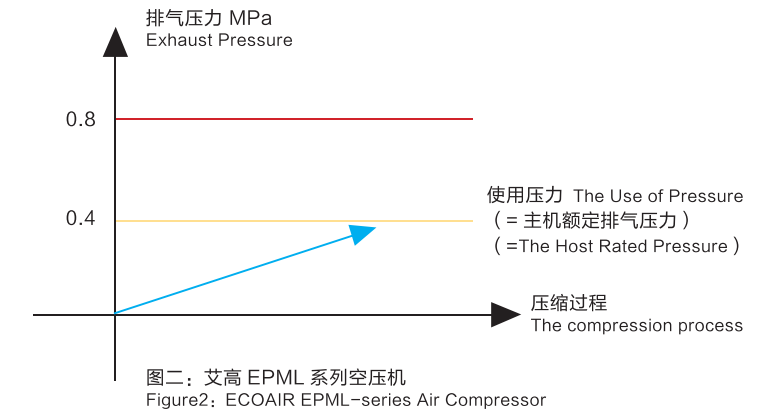
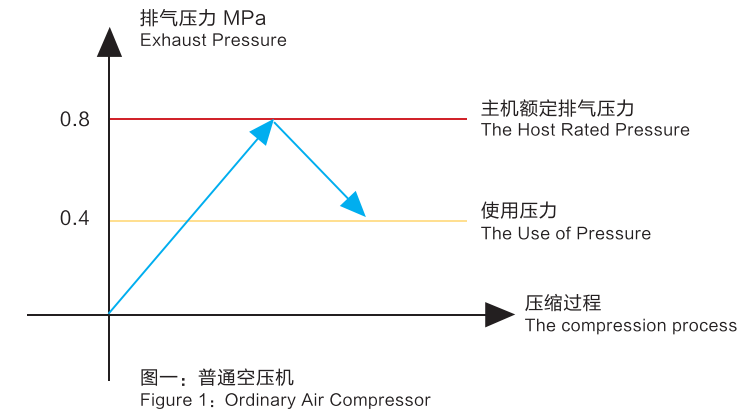
Your Electricity Counts

普通空压机应用于低压力时，是将空气压缩到高压（例如 8 bar）后才排出；此后，高压的压缩空气再膨胀减压至低压力（例如 4 bar），如图一所示。

艾高 EPML 系列低压永磁变频螺杆式空压机排气蝶阀口经过特殊优化设计，使主机的额定排气压力与用户的使用压力（例如 4 bar）一致，也即主机刚将空气压缩到使用压力时即开始排气，不经过膨胀减压的过程，节约 20-50% 的电力，如图二所示。

When common air compressor is used at low pressure, air is exhausted after being compressed to high pressure (i.e. 8 bar); then, high pressure compressed air expands and reduces to low pressure (i.e. 4 bar), as shown in Figure 1.

The design of ECOAIR EPML-series low voltage permanent magnetic frequency conversion screw type air compressor exhaust butterfly outlet is optimized specially, so rated exhaust pressure of the main machine is equal to operation pressure of the user (i.e. 4 bar); namely, air is exhausted immediately after being compressed to operation pressure by the main machine, without expansion and pressure reduction course; thus, it saves 20-50% electric power, as shown in Figure 2.



## 贵在省钱

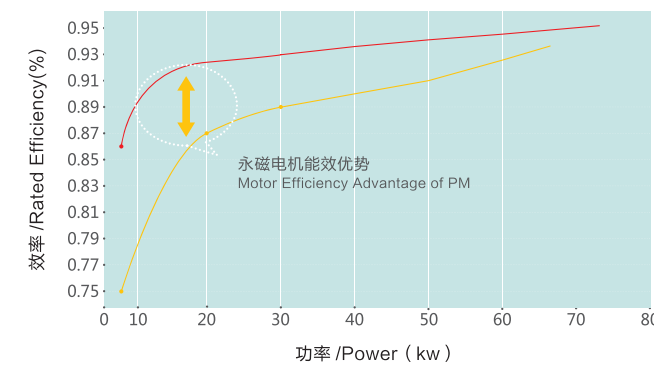
Your Money Counts

选用低压螺杆式空压机，在相同的电机功率下可大幅度增加压缩空气的产气量。例如，一台 132kW、7bar 的螺杆式空压机，其排气量在 23.5m<sup>3</sup>/min，而选用艾高 EPML 系列 132kW、4bar 的空压机，它的排气量是 32.3 m<sup>3</sup>/min，所节省的电费将让您在不到一年的时间收回成本。

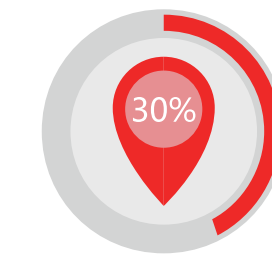
一台高效、运行可靠的机器，将会大大节省您的开支，而且不止是一天，日复一日、年复一年，它都能保证较少的停机维修时间及较长的检修间歇。这些都降低您的运营成本。

The low pressure rotary screw air compressor is chosen; at the same motor power, it can increase gas production rate of compressed air largely. Take a 132kW and 7bar rotary screw air compressor as an example, its gas displacement is 23.5m<sup>3</sup>/min; if ECOAIR EPML series 132kW and 4bar air compressor is chosen, its gas displacement can reach 32.3 m<sup>3</sup>/min; the saved electric charge will enable you to recover cost within 1 year.

An efficient and reliable machine will save cost for you largely. Not just a day, but day after day, year after year, it ensures short shutdown and maintenance time and long maintenance interval. To sum up, it will reduce your operation cost largely.

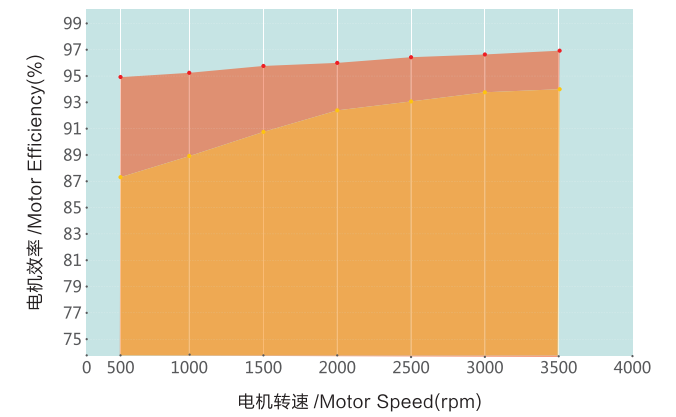


红色：永磁电机（75kw） Red: Special PM Motor (75kw)  
黄色：普通电机（75kw） Yellow: Normal Frequency Modulation Motor (75kw)



为您节省电费 30% 以上  
Save over 30% electric charge for you

### 电机效率对比 / Efficiency Comparison



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

## 艾高低压永磁变频螺杆式空压机

ECOAIR EPML-series Low-pressure PM Screw Air Compressor



艾高 EPML 系列低压永磁变频螺杆式空压机参数表 Technical Parameters of ECOAIR EPML-series Low-pressure PM Screw Air Compressor

项目 Project	型号 Model	Mpa	EPML 37	EPML 45	EPML 55	EPML 75	EPML 90	EPML 110	EPML 132	EPML 160	EPML 185	EPML 250
排气量 / 排气压力 (M <sup>3</sup> /min) Gas Displacement/Exhaust Pressure	排量 /m <sup>3</sup> /min 压力 /Mpa		11.7/3	14.5/3	19.5/3	23/3	26/3	29.8/3	36.3/3	42.6/3	54.2/3	60.4/3
			10.2/4	12.6/4	16.6/4	20.5/4	23.5/4	26/4	31/4	38.5/4	42.6/4	52.2/4
			9.2/5	11.5/5	14.7/5	18.6/5	21.5/5	24/5	30/5	38.5/5	42.6/5	52.2/5
功率 Power		kW	37	45	55	75	90	110	132	160	185	250
启动方式 Starting Mode			永磁变频启动 PM&VFD Start									
出口管径 Outlet Pipe Diameter		inch	DN 65	DN 65	DN 65	DN 80	DN 80	DN 100	DN 100	DN 125	DN 125	DN 125
外型尺寸 Overall Dimension	长 Length	mm	900	1800	2050	2050	2400	2400	2600	2600	3600	3600
	宽 Width	mm	1200	1900	1250	1250	1300	1300	1300	1600	1600	1600
	高 Height	mm	1800	1200	1650	1650	1800	1800	1800	2000	2000	2000
重量 Weight		kg	1680	1800	2160	2360	2800	3100	3200	3800	4200	4600

## 艾高低压螺杆式空压机

ECOAIR Low-pressure Screw Air Compressor



艾高 AL 系列低压螺杆式空压机参数表 Technical Parameters of ECOAIR AL-series Low-pressure Screw Air Compressor

项目 Project	型号 Model	Mpa	AL37	AL45	AL55	AL75	AL90	AL110	AL132	AL160	AL185	AL250
排气量 / 排气压力 (M <sup>3</sup> /min) Gas Displacement/Exhaust Pressure	排量 /m <sup>3</sup> /min 压力 /Mpa		11.2/3	13.5/3	18.5/3	21/3	25/3	28.8/3	32.3/3	42.6/3	51.2/3	60.4/3
			9.2/4	11.6/4	15.6/4	18.5/4	21.5/4	24/4	30/4	33.5/4	39.6/4	50.2/4
			8.2/5	10.5/5	13.7/5	18/5	21.5/5	24/5	30/5	33.5/5	39.6/5	50.2/5
功率 Power		kW	37	45	55	75	90	110	132	160	185	250
启动方式 Starting Mode			星三角启动 Star Triangle Start									
出口管径 Outlet Pipe Diameter		inch	DN 65	DN 65	DN 65	DN 80	DN 80	DN 100	DN 100	DN 125	DN 125	DN 125
外型尺寸 Overall Dimension	长 Length	mm	900	1900	2100	2200	2400	2400	2600	2600	3600	3600
	宽 Width	mm	1200	1200	1240	1240	1300	1300	1300	1600	1600	1600
	高 Height	mm	1800	1800	1800	1800	1800	1800	1800	2000	2000	2000
重量 Weight		kg	1680	1800	2300	2600	2800	3100	3200	3800	4200	4600