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永磁 变频

# 中高压螺杆空气压缩机

Medium and high pressure screw air compressor

节能·高效·创新



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凯霸压缩机官网

凯霸压缩机(上海)有限公司

Kaiba Compressor (Shanghai) Co., Ltd

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气量充足



强劲动力



节能省钱





## 企业文化

COMPANY CULTURE

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Integrity creates the future

## COMPANY PROFILE

### 关于我们

Our company is a prominent producer of Fixed Speed Air Compressors, Permanent Magnet Variable Frequency Screw Air Compressors VSD / VFD (including oil-lubricated, oil-free, low-pressure, and medium-pressure models), Dry Oil-Free screw air compressor, Refrigerated Dryers, and other associated products based in Shanghai.

The company adheres to advanced designs and rigorous manufacturing processes in both domestic and overseas markets. It is also supported by its research achievements, constant innovation, professional design, and technical improvement. The company strictly follows production management under the CE and ISO9001 international quality system to ensure that every product complies with international premium standards and maintains a leading position in the industry.

Its products are widely used in Machinery, Food, Medical, Electronic, Textile, Automobile, Mineral, Construction, and Building Materials industries. With the business philosophy of "Customer first, Credibility first, Quality first, and Service first," we strive to provide the best solution and rapid service for numerous customers.

We have been exporting our products to markets in Asia, Europe, Africa, Oceania, and the Americas since 2015. Our company takes great pride in our sophisticated products, which are backed by our extensive research achievements. We are committed to constant innovation, professional design, and technical improvement, while strictly adhering to production management under the CE and ISO9001 international quality system. This ensures that every product we produce meets the highest international standards, allowing our company to maintain its position as a leader in the industry.



10<sup>+</sup>  
年

科技型中小企业  
行业制造经验

100<sup>+</sup>

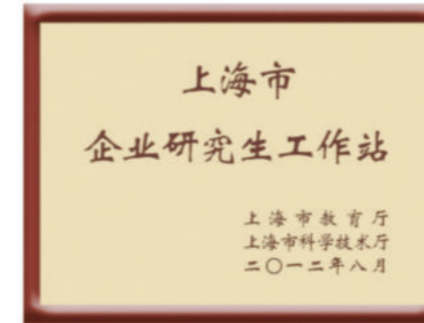
专注生产空压机  
生产研发团队

10000<sup>+</sup>

实力工厂  
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工厂厂房面积

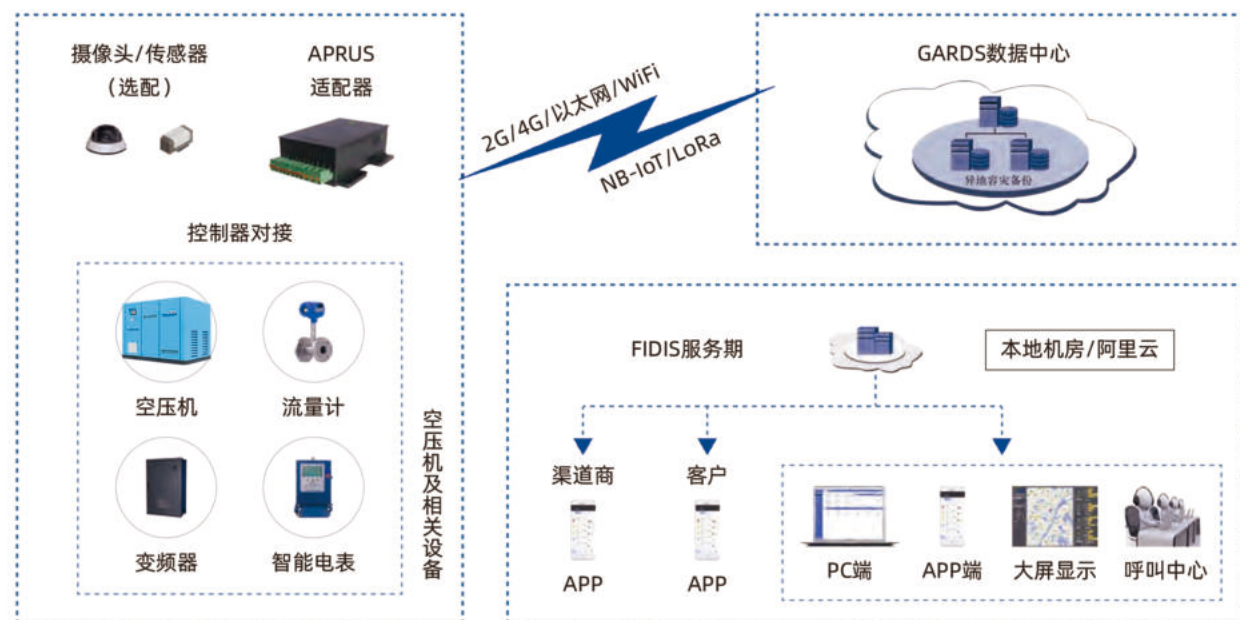
## COMPANY HONORS

### 企业荣誉



# 凯霸中压机物联网方案系统

Medium Voltage Compressor IoT Solution System



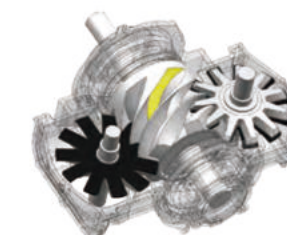
# 可靠的10大创新点

Top 10 Reliable Innovation Points

## 1 性能卓越的主机 HIGH PERFORMANCE HOST

主机采用：德国知名品牌主机最先进工艺技术  
主机经久耐用：螺杆转子经特殊工艺热处理配合SKF重载轴承  
主机传动可靠：主机与电机弹性连接，噪音低、传动效率高、无易损件

Host adopts: the most advanced technology of German famous brand host  
The main engine is durable: the screw rotor is heat treated by a special process and matched with SKF heavy-duty bearings  
Reliable transmission of the main engine: the main engine and the motor are elastically connected, with low noise, high transmission efficiency, and no wearing parts



## 远程监控/Remote Monitoring

可通过电脑、手机或平板对空压机的设备状态和运行数据进行远程监控；  
The equipment status and operation data of the air compressor can be remotely monitored through a computer, mobile phone or tablet;

## 权限管理/Authority Management

可对空压机设备的数据和信息进行分级权限管理；  
The data and information of the air compressor equipment can be managed by hierarchical authority;

## 远程故障排查/Remote Troubleshooting

分析故障信息，帮助缩小问题范围，方便提前准备解决方案，节约人工成本；  
Analyze fault information to help narrow the scope of the problem, facilitate the preparation of solutions in advance, and save labor costs;

## 故障提醒功能/Fault Reminder Function

当空压机设备发生故障时，实时将故障信息通过短信、邮件、系统信息通知相关人员故障类型及原因；  
When the air compressor equipment fails, the fault information will be notified in real time to the relevant personnel of the type and cause of the fault through SMS, email and system information;

## 维保服务/Maintenance Service

可根据不同保养器件和紧急程度进行保养提醒；  
Maintenance reminders can be made according to different maintenance devices and urgency;

## 2



## 2 高效永磁变频电机 HIGH-EFFICIENCY PERMANENT MAGNET VARIABLE FREQUENCY MOTOR

调速范围宽  
低噪音  
结构紧凑、体积小、重量轻  
启动力矩大  
Wide speed range  
low noise  
Compact structure, small size and light weight  
Large starting torque



**3 采用金属硬管材料**  
 USING METAL HARD PIPE MATERIAL

不易产生腐蚀，确保更长的使用寿命  
 Less prone to corrosion, ensuring longer service life



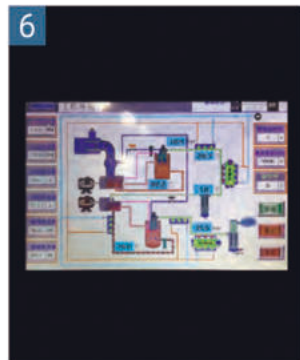
**4 采用管壳组合式冷却器**  
 ADOPTING A TUBE SHELL COMBINATION COOLER

内部不产生腐蚀、体积小、冷却效果显著  
 No internal corrosion, small size, significant cooling effect



**5 不锈钢高压阀组**  
 STAINLESS STEEL HIGH PRESSURE MANIFOLD

自主研发设计生产的一体式组合阀，确保机组长久运行稳定  
 The one-piece combination valve independently developed, designed and produced to ensure long-term stable operation of the unit



**6 采用全智能电脑控制系统**  
 FULLY INTELLIGENT COMPUTER CONTROL SYSTEM

超大彩色触摸屏，系统流程和状态界面一目了然、操作简便、智能。  
 多路点PLC控制和监测系统，结合变频器的PID控制系统，提供了完善、智能的控制、保护和节能功能。

1、相序、短路、堵转、缺相、过载、不平衡等全方位保护功能：  
 2、断水、高温、过压保护：  
 3、过滤器堵塞、传感器失效报警保护：完全满足在无人看守下连续不间断运转的需要

独家开发的多段式调速控制程序，根据设备用气量变化自动适应，不排放多余压缩空气。提供了最大的产气量和功耗的平衡。

485通讯协议和远程控制模块，远程随时了解压缩机运行状况和参数，并远程控制压缩机的启停。

Large color touch screen, the system process and status interface are clear at a glance, easy to operate and intelligent.

The multi-point PLC control and monitoring system, combined with the PID control system of the frequency converter, provides perfect and intelligent control, protection and energy saving functions.

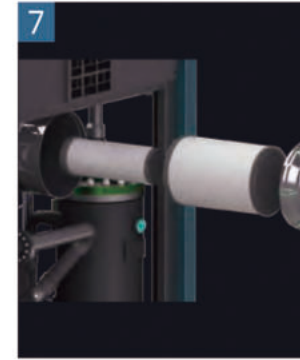
1. All-round protection functions such as phase sequence, short circuit, locked rotor, phase loss, overload, unbalance, etc.:

2. Water cut, high temperature, overvoltage protection:

3. Filter blockage and sensor failure alarm protection: fully meet the needs of continuous and uninterrupted operation under unattended operation

The exclusively developed multi-stage speed control program automatically adapts to changes in the gas consumption of the equipment without discharging excess compressed air. Provides a balance of maximum gas production and power consumption.

485 communication protocol and remote control module, remotely know the compressor operating status and parameters at any time, and remotely control the start and stop of the compressor.



**7 新结构空气滤清器**  
 NEW STRUCTURE AIR FILTER

加大的折叠式结构，压差小、使用寿命更长。  
 子母芯设计方案，可将除尘效果达到99.99%，降低了机械磨损。  
 设有压差监测，及时提醒保养，确保机器稳定运行。

Enlarged folding structure, small pressure difference and longer service life.  
 The sub-core design scheme can achieve 99.99% dust removal effect and reduce mechanical wear.  
 Equipped with differential pressure monitoring to remind maintenance in time to ensure stable operation of the machine.



**8 新结构内置油分芯的油气分离器**  
 NEW STRUCTURE OIL-GAS SEPARATOR WITH BUILT-IN OIL SEPARATOR

折叠式油分芯处理面积大、压差小、使用寿命更长。  
 子母芯设计方案，可将最小压力阀出口含油量达到0.3PPM以下。

The foldable oil separator has large processing area, small pressure difference and longer service life.  
 The sub-core design scheme can reduce the oil content of the minimum pressure valve outlet to below 0.3PPM.



**9 独立油过滤器组合阀**  
 INDEPENDENT OIL FILTER COMBINATION VALVE

自主研发设计生产的核心技术，结构简单便于维护。  
 10μm的过滤精度，极大降低了机械磨损，提高了使用寿命更长。  
 设有压差监测，及时提醒保养，确保机器稳定运行。

The core technology of independent research and development, design and production, the structure is simple and easy to maintain.  
 The filtration accuracy of 10μm greatly reduces mechanical wear and improves the service life.  
 Equipped with differential pressure monitoring to remind maintenance in time to ensure stable operation of the machine.



**10 内置除水、除油系统**  
 BUILT-IN WATER AND OIL REMOVAL SYSTEM

内部整合水油分离系统，将压缩空气的含水量进一步降低。内置达到0.01μm级精密过滤器，通过ISO8573-2:1996认证体系，提供了纯净的压缩空气。  
 供气出口的温度低于25°C，含油量小于0.01PPM

The internal integrated water and oil separation system further reduces the water content of the compressed air. The built-in precision filter reaches 0.01μm, which has passed the ISO8573-2:1996 certification system, providing pure compressed air.  
 The temperature of the air supply outlet is lower than 25°C, and the oil content is less than 0.01PPM

# 应用领域

APPLICATION FIELD

随着螺杆空压机的不断普及，耗电量也随之增加，老旧的空压机成为一只电老虎，在无形中吞噬着企业的利润。自国家推出《国民经济和社会发展第十一个五年规划纲要》以来，公司一直致力于螺杆空压机的节能减排的研究和发展。螺杆空压机的节能高效得到了重大的突破和发展，成为行业值得信任的节能空压机。

With the continuous popularization of screw air compressors, the power consumption has also increased, and the old air compressors have become an electric tiger, which invisibly devours the profits of enterprises. Since the country launched the "Outline of the Eleventh Five-Year Plan for National Economic and Social Development", Innovitas has been committed to the research and development of energy saving and emission reduction of screw air compressors. The energy-saving and high-efficiency screw air compressor has made a major breakthrough and development, and has become a trustworthy energy-saving air compressor in the industry.



## 激光切割

- 1.25年的保证
- 2.24小时×365天不间断运行
- 3.5000小时超长保养周期

### LASER CUTTING

- 1.25 Years Guarantee
- 2.24 hours x 365 days of uninterrupted operation
- 3.5000 hours long maintenance period



## 食品

- 无油
- 无水
- 无杂质
- 无振动、静音

### FOOD

- No oil
- No water
- No impurities
- No vibration, silent



## 钻探工程

- 二级压缩系统
- 高效永磁同步电机驱动
- 排气量用不衰退

### DRILLING ENGINEERING

- Two stage compression system
- High Efficiency Permanent Magnet Synchronous Motor Drive
- Exhaust volume does not decline



## 管道、压力容器试压

- 无油
- 无水
- 无杂质
- 无振动、静音

### PRESSURE TESTING OF PIPELINES AND PRESSURE VESSELS

- no fuel
- Anhydrous
- No impurities
- No vibration, silent



## 光伏

- 双螺杆二级压缩系统
- 高效永磁同步电机驱动
- 排气量用不衰退

### PHOTOVOLTAIC

- Twin screw two-stage compression system
- High Efficiency Permanent Magnet Synchronous Motor Drive
- Exhaust volume does not decline



## 制药

- 自动启停功能
- 自动调节排气量
- 故障自我保护功能
- 远程检测和控制

### PHARMACEUTICAL

- Automatic start and stop function
- Automatically adjust the exhaust volume
- Fault self-protection function
- Remote detection and control



## 化工、石油

- 1.25年的保证
- 2.24小时×365天不间断运行
- 3.5000小时超长保养周期

### CHEMICAL, PETROLEUM

- 1.25 Years Guarantee
- 2.24 hours x 365 days of uninterrupted operation
- 3.5000 hours long maintenance period



## PET/PP吹瓶

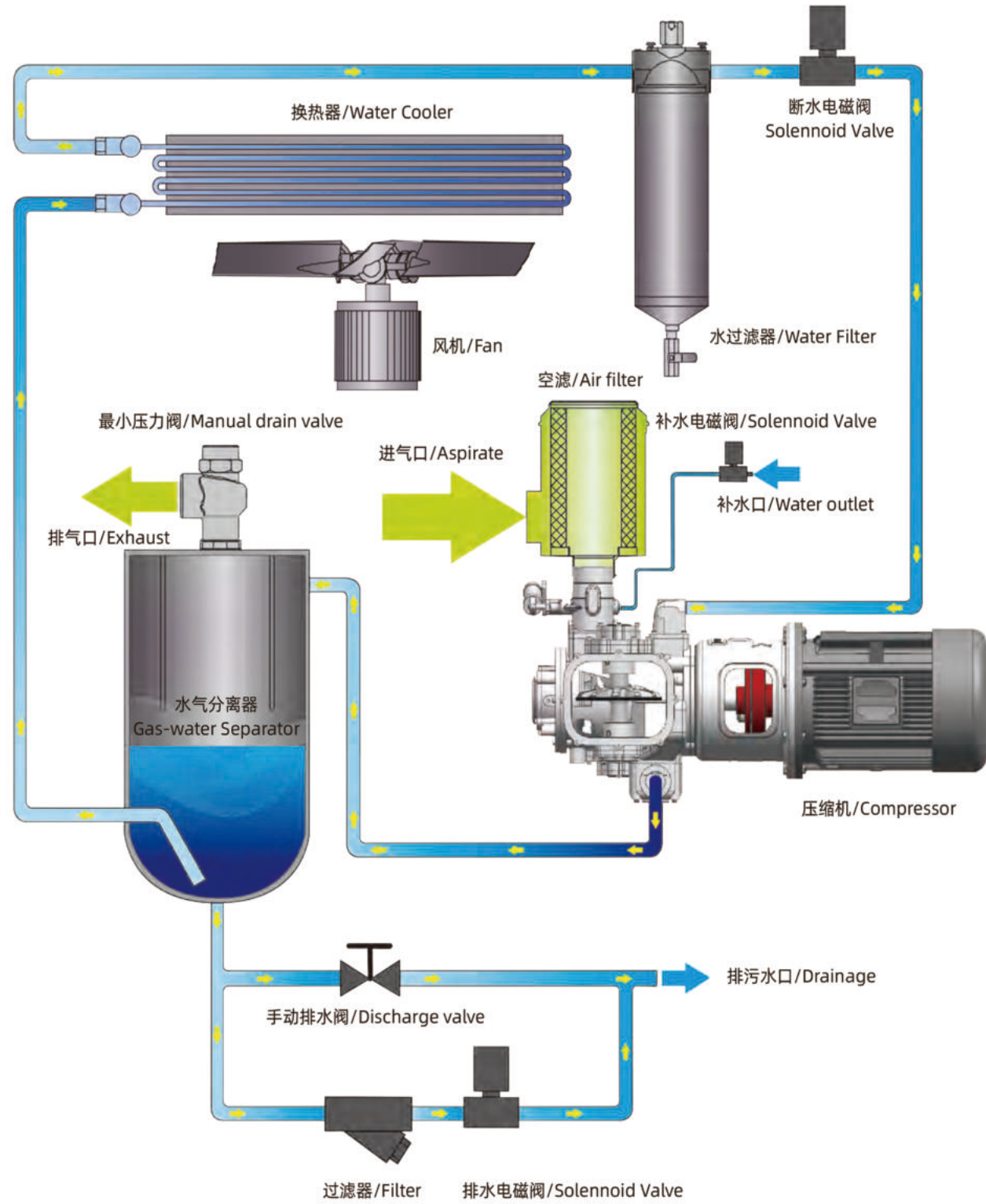
- 二级压缩系统
- 高效永磁同步电机驱动
- 排气量用不衰退

### PET/PP BLOWING

- Two stage compression system
- High Efficiency Permanent Magnet Synchronous Motor Drive
- Exhaust volume does not decline

# 系统流程图

SYSTEM FLOW CHART



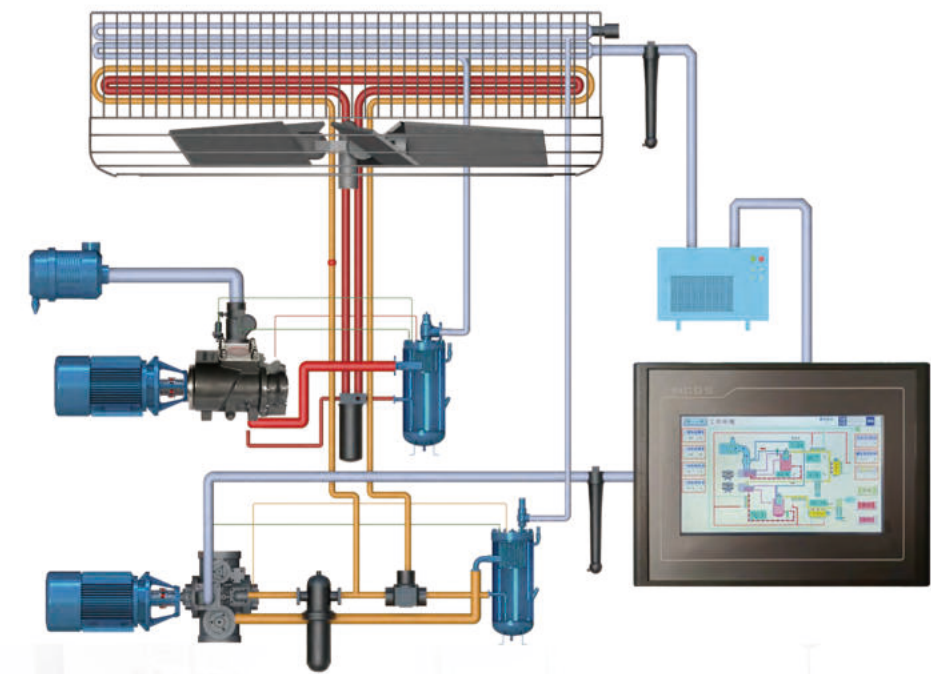
# 中压螺杆空压机的优势

ADVANTAGES OF MEDIUM PRESSURE SCREW AIR COMPRESSOR

参数/Parameter	中压活塞空压机 Medium pressure piston air compressor	螺杆活塞串联空压机 Screw piston series air compressor	中压螺杆空气机 Medium pressure screw air machine
外形尺寸 Outline dimension	较大 Larger	适中 Moderate	较小 Smaller
安装难度 Installation difficulty	超难 Super difficult	难 Difficult	简易 Simple
噪音 Noise	超高 Super high	中等 Medium	较低 Lower
振动 Vibration	高 High	中等 Medium	几乎没有 Hardly
排气温度 Exhaust temperature	较高 Higher	中等 Medium	较低 Lower
排气稳定度 Exhaust stability	波动较高 High volatility	波动一般 Fluctuate in general	平稳 Smooth
易损件 Vulnerable parts	多 Many	中 Middle	少 Few
维护成本 Maintenance cost	超高 Super high	中等 Medium	较低 Lower
易操作性 Ease of operation	较难 Difficult	难 Difficult	简易 Simple
可靠性 Reliability	较差 Poor	差 Difference	可靠 Reliable
使用寿命 Service life	较短 Shorter	一般 Generally	较长 Longer
自动节能控制能力 Automatic energy saving control	无 None	一般 Generally	较高 Higher

# 二级压缩系统流程图

TWO-STAGE COMPRESSION SYSTEM FLOW CHART



# 永磁/变频控制系统

PERMANENT MAGNET VARIABLE FREQUENCY CONTROL SYSTEM

## ■ 永磁同步电机驱动 Permanent magnet synchronous motor drive

### ● 永磁同步电机与普通异步电机对比的优势

高效率、高功率因数：取消了转子励磁系统损耗，提高了效率2-3%，以一台37kW永磁电机为例，该电机最高效率可达96%，而同功率的异步电机最高效率只能达到93%，且随着负载（功率）的减小，效率差异增大；转子无需电励磁，感抗小，功率因素高。

### Advantages of permanent magnet synchronous motor and general asynchronous motor

High efficiency, high power factor: cancel the rotor excitation system loss, improves the efficiency of 2-3%, decreased to a 37KW permanent magnet motor as an example, the motor maximum efficiency of up to 96%, and with power asynchronous motor maximum efficiency can only be reached 93%, and as the load(power), efficiency difference increases; rotor without electrical excitation, the small inductance and power factor high.

### ● 调速范围宽

转子无需电励磁，电机的低速性能好，采用先进的无位置矢量控制技术，电机变频范围可以实现25%-100%，而异步变频只能实现50%-100%，因而永磁电机驱动的压缩机能够实现更低速度的空载运行，实现空载节能。

### Wide speed range

Rotor without electrical excitation, motor in the low-speed performance, using advanced sensorless vector control technology, the frequency range of the motor can achieve 25% - 100%, and asynchronous frequency can only achieve 50% - 100%, and permanent magnet motor driving the compressor to realize the no-load operation of lower velocity, no-load energy-saving.

### ● 低噪音

合理的槽极配合、磁场设计，工作频率更广，运行噪音更低。

### Low noise

Reasonable slot, magnetic field design, work more widely, lower operating noise.

### ● 结构紧凑、体积小、重量轻

永磁转子体积小，功率（转矩）密度大。

### Compact in structure, small in size and light in weight

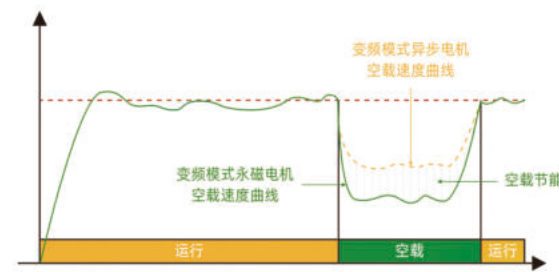
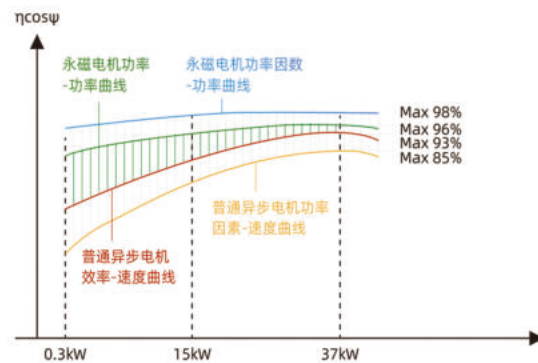
Permanent magnet rotor small size, high power (torque) density.

### ● 启动力矩大

永磁同步电动机启动力矩和过载能力均比三相异步电动机高出一个功率等级，最大启动力矩与额定力矩之比可达3倍以上，一般异步电动机仅有1.6倍。

### Large starting torque

Permanent magnet synchronous motor starting torque and overload capacity than three-phase induction motor with a power rating, maximum starting torque and rated torque ratio of up to 3 times more than the general induction motor is only 1.6 times.



# 节能/高效

ENERGY SAVING / HIGH EFFICIENCY

## ■ 变频驱动具有的优势 Variable frequency drive has the advantage

### ● 供气压力恒定

能够对压力实现快速调节控制；

### Constant supply pressure

To achieve rapid pressure control control;

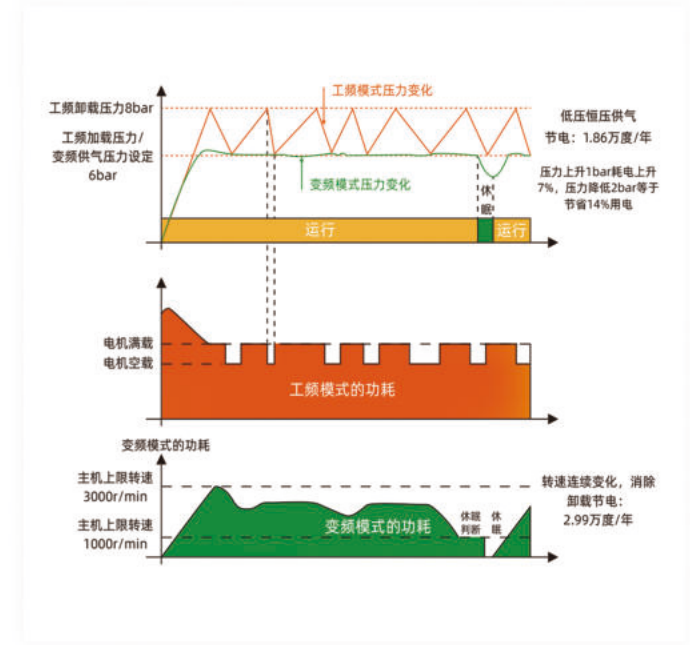
### ● 启动无冲击

平滑软启动，启动电流不大于额定电流的2倍；节能。

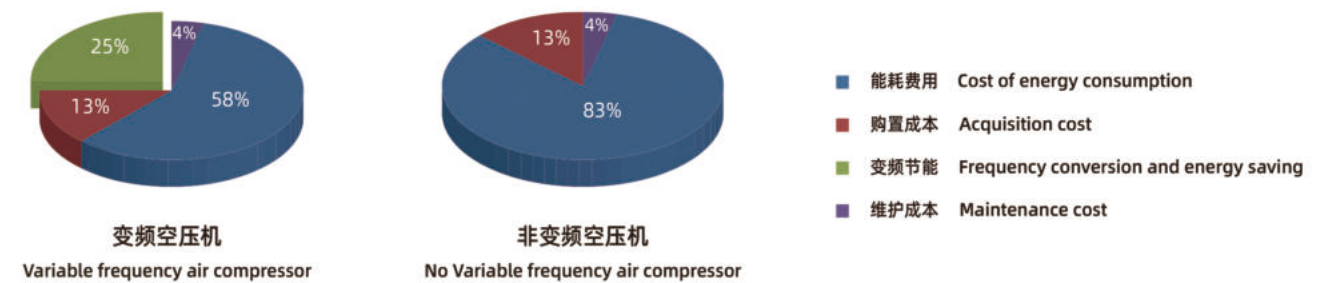
以一台37kW空压机为例，按平均用气负载率70%，年运行6000小时计算，综上所述，永磁同步电机驱动变频空压机相比于普通工频空压机有突出的综合优势，最主要的优势是节能，其综合节能效率能达到40%以上。

### Start without impact

Smooth soft start, the starting current is not more than 2 times the rated current; energy saving. To a 37KW air compressor as an example, according to the average gas load rate of 70%, annual operating 6000 hours. To sum up, the permanent magnet synchronous motor drive inverter compressor prominent comprehensive advantages in comparison to ordinary power air compressor, the main advantage is energy-saving, the comprehensive energy efficiency can reach more than 40%.



## ■ 五年使用成本对比 Five years of cost comparison



# OIL-SCREW AIR COMPRESSOR

## 永磁变频(中压)螺杆机技术参数表

energy-saving middle pressure screw air compressor

型号 Model	最大工作压力 Maximum working pressure	流量 FAD	电机功率 Motor power	转速 Rotate speed	噪音 Noise	冷却水口外径 Cooling water outlet/inlet diameter	冷却水量 Quantity of cooling water	润滑油量 Quantity of lubricating water	外形尺寸 Dimension	重量 Weight	
	Mpa	m <sup>3</sup> /min	KW/HP	r/min	DB		进水32℃ Inlet water 32℃		L		L*W*H
							T/H				mm
55HPM	2.0-3.0	1.4-3.5	18.5+22	3000+2000	70	G3/4"	18	60	2400*1400*1600	1500	
	3.0-4.0		22+30								
60HPM	2.0-3.0	3.5-5.5	22+30	3000+2000	70	G3/4"	18	60	2500*1400*1650	1800	
	3.0-4.0		30+37								
75HPM	2.0-3.0	2.4~6.0	30+30	3000+2200	70	G1-1/4"	18	86	2700*1500*1700	2000	
	3.0-4.0		37+37								
90HPM	2.0-3.0	3.2~8.0	37+37	3000+2400	72	G1-1/4"	28	130	2850*1650*1790	2500	
	3.0-4.0		45+45								
110HPM	2.0-3.0	4.0~10.0	45+45	3000+2700	72	G2"	28	140	3000*1750*1850	3000	
	3.0-4.0		55+55								
132HPM	2.0-3.0	5.2~12.0	55+55	3000+2700	72	G2"	28	150	3250*1850*2000	3500	
	3.0-4.0		75+75								
160HPM	2.0-3.0	6.4~16.0	75+75	3000+3000	72	DN50"	28	150	3400*1900*2050	4000	
	3.0-4.0		90+90								
220HPM	2.0-3.0	8.0~20.0	90+90	3000+2800	74	DN50"	38	170	3600*2000*2150	4500	
	3.0-4.0		110+110								
250HPM	2.0-3.0	10.0~25.0	110+110	3000+3000	76	DN50"	47	190	4000*2150*2300	5000	
	3.0-4.0		132+132								
300HPM	2.0-3.0	12.0~28.0	132+132	3300+3300	76	DN65	53	210	4350*2250*2450	60000	
	3.0-4.0		150+150								



广泛使用于：PET吹瓶、橡胶、检测、激光切割等行业

- 全系优化的主机螺杆型线，特殊设计的中压螺杆主机；
- 全系列永磁变频控制，启动平稳，对电网冲击小；
- 可实现30%~100%变频恒压控制，减少空载，可实现节能高达25%以上；
- 两级或者三级螺杆主机形式压缩，体积小，重量轻，占用空间小；维护简单方便。
- 相比传统的中压活塞机安装方便；
- 全系列匹配风冷却系统，不需要安装冷却水塔，无需安装基础，安装简洁方便；
- 相比活塞机噪音更低，震动更小，排气量损失小，气源品质更高；
- 采用更效率的永磁同步电机替代传统的异步电机；
- 压缩系统自带高效不锈钢冷冻干燥机，排出的压缩空气露点5~7℃左右。

# 应用领域



## 行业定制节能空压机

设备流程图

1 适用一般机械焊接、矿山等；符合 ISO8573.1:3.-4



2 适用一般车间、气动工具、喷砂处理等；符合 ISO8573.1:2.-2



3 适用食品、饮料、静电涂装、激光切割、精密控制阀等，可选过滤器组具有模块化可配 >4 级过滤器，具有压差指示器、自动排水排污阀；符合 ISO8573.1:1.-1



4 适用食品、饮料、医疗、洁净无菌实验室、自动化科技设备、精密电子工业等；符合 ISO8573.1:1.-1

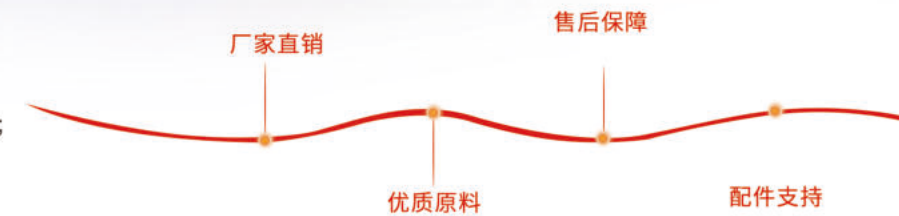


## 服务 0 距离

### 快速专业的售后服务

拥有专业的售后服务团队，在全国各地主要城市，均设有售后服务点，为客户提供及时专业的服务支持以及正品原发零件供应。

- 提供专业的开机调试服务和用户培训指导；
- 4 小时快速响应，24 小时到达现场服务；
- 专业人员，专业工具提供故障诊断和维修服务；
- 定期上门巡检，提供计划性维护保养建议；
- 原装正品零配件，售后无忧；
- 提供主动咨询服务，优化设备运行管理，提高能效
- 提供节能改造优化服务



**实力保障**  
大品牌放心购

高级研发工程师,层层把控精益求精

**质量保障**  
品质无忧

完美组装,严格把控力保每一台机器的使用率。

**发货保证**  
交货无忧

按照制作产品的周期控制发货时间,在约定时间内发出。