

## XINLEI COMPRESSOR CO.,LTD.

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Please contact the sales person for more product information and service materials. Xinlei reserves the right of final interpretation of this catalog.



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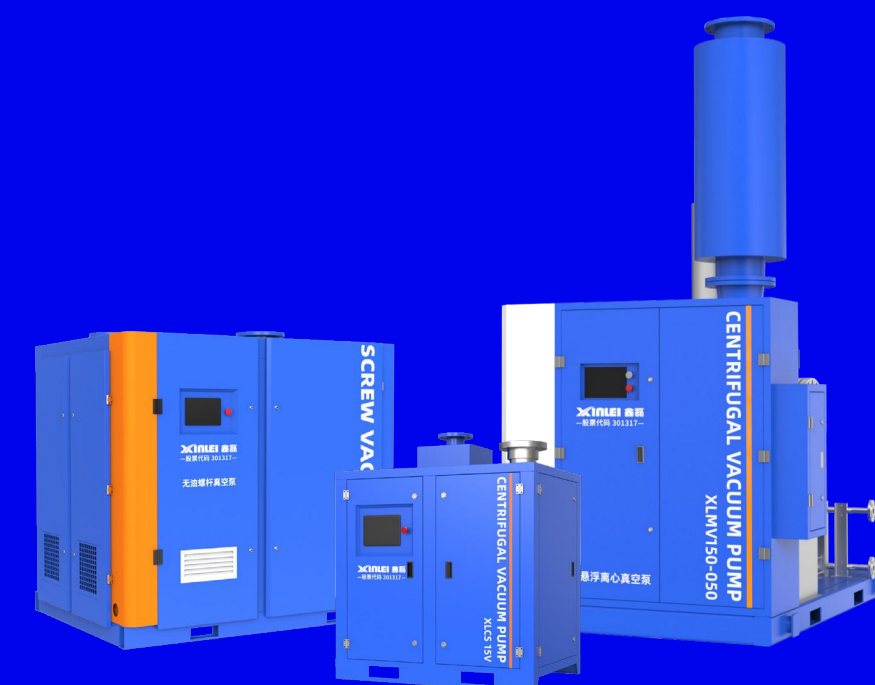


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## XINLEI COMPRESSOR CO.,LTD.

## VACUUM PUMP ENERGY SAVING SOLUTION

- Magnetic Levitation Series
- Screw Series
- PM Variable Frequency
- Intelligent Control



Focus on the customer's challenges and pressures. Provide competitive air energy system solutions and services. Continue to create maximum value for customers.

Founded in Zhejiang, China in 2006. Xinlei is a high-tech enterprise with independent research and development intellectual property rights covering the whole fluid field such as piston, screw and centrifugal. We focus on aerodynamic full-scenario digital and intelligent solution, strive to be a world-class enterprise with world-class standards, create and share digital and intelligent fluid ecology with global customer partners.

#### AIR FOR ALL



**XINLEI  
COMPRESSOR  
CO.,LTD.**

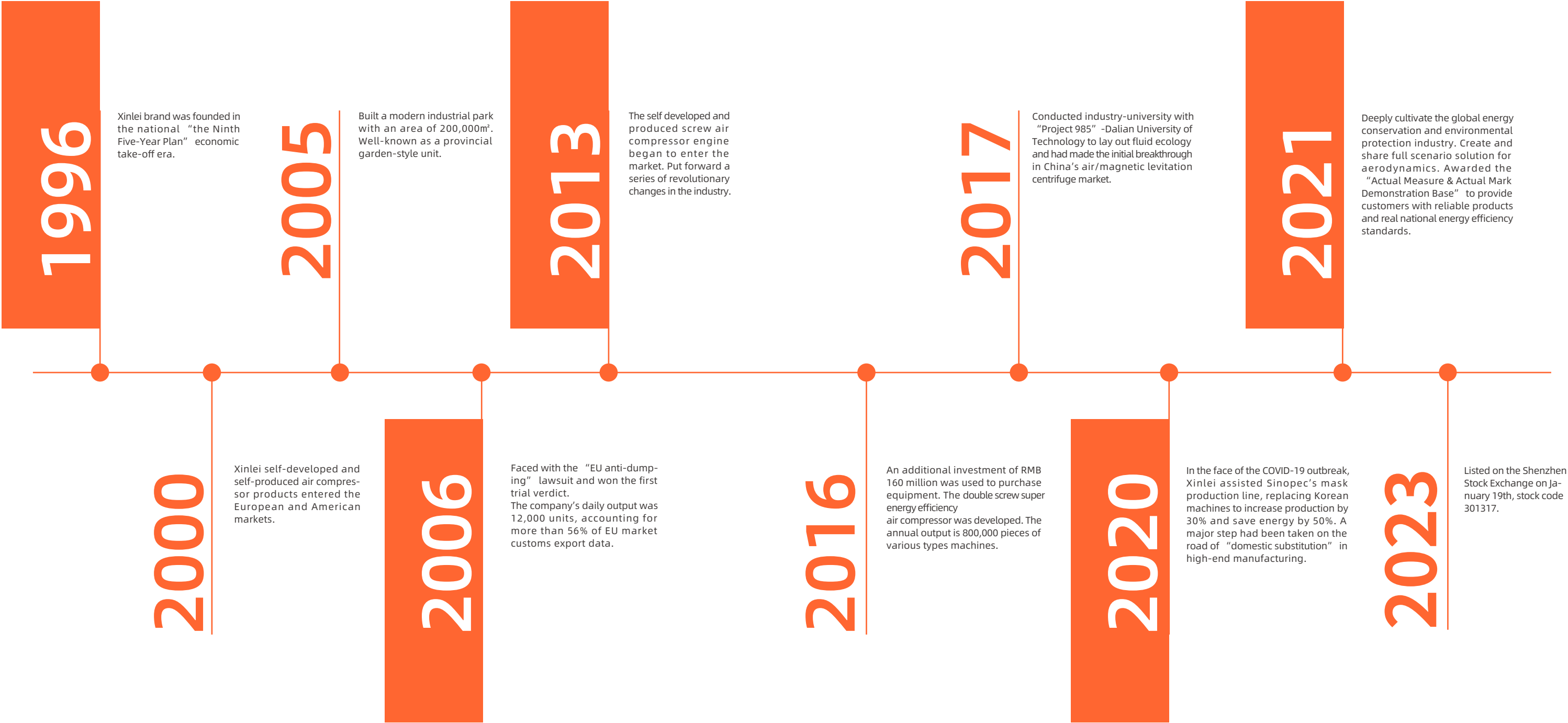
- 110,000+m<sup>2</sup> floor area
- 800,000+ units yearly production
- 100+ sales area
- 300+ patents
- 300+ product specifications
- 260+ high quality precision equipment

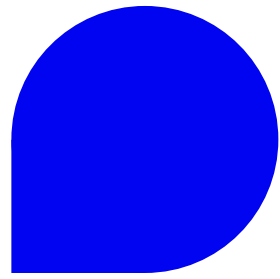
## COMPANY HONOURS

### Draft 2 national standards & 4 industrial standards

- High-tech enterprise
- National Development and Reform Commission National Key energy-saving and low-carbon technology Promotion Catalogue yearly continuous
- Zhejiang first batch of domestic and foreign trade integration "pacesetter" enterprises
- Ministry of Industry and Information Technology "Energy Efficiency Star" equipment product catalog yearly continuous
- National Torch Program Project Certificate
- Vice president unit of China General Machinery Industry Association
- The sixth council of China Equipment Management Association
- Member of China Chamber of Commerce for Import and Export of Mechanical and Electrical Products
- National Energy Efficiency Labeling Testing Laboratory
- Petrochina and Sinopec Engineering Research Association-Air Compressor Technology Center
- Zhejiang Provincial Enterprise Research Institute of Xinlei Fluid Machinery
- Zhejiang export famous brand & "Made in Zhejiang" Standard
- 2020 Excellent supplier in cement industry
- 2021 China's industrial aquatic innovation equipment
- Energy-saving products benefits project high energy efficient positive displacement air compressor promotion enterprise

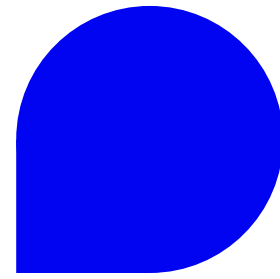
# COMPANY EVENTS AND DEVELOPMENT





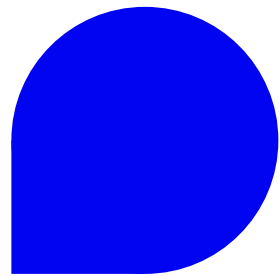
**Zhong Renzhi**  
**Chairman**

EMBA from Shanghai Jiao Tong University  
Deeply plow in the field of aerodynamics  
Proposed a number of industry breakthrough issues  
Applied for more than 200 patents



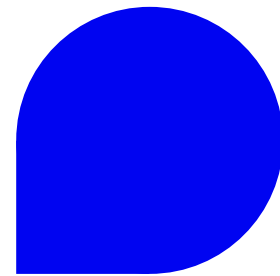
**Yuan Jun**  
**CTO**

Contract Energy Management Engineer (Senior),  
Engaged in the air compressor industry for nearly  
20 years;  
Mainly waiting for a number of air energy full-scene  
implementation plans, claiming 120+ patents.



**Shen Yiming**  
**PD**

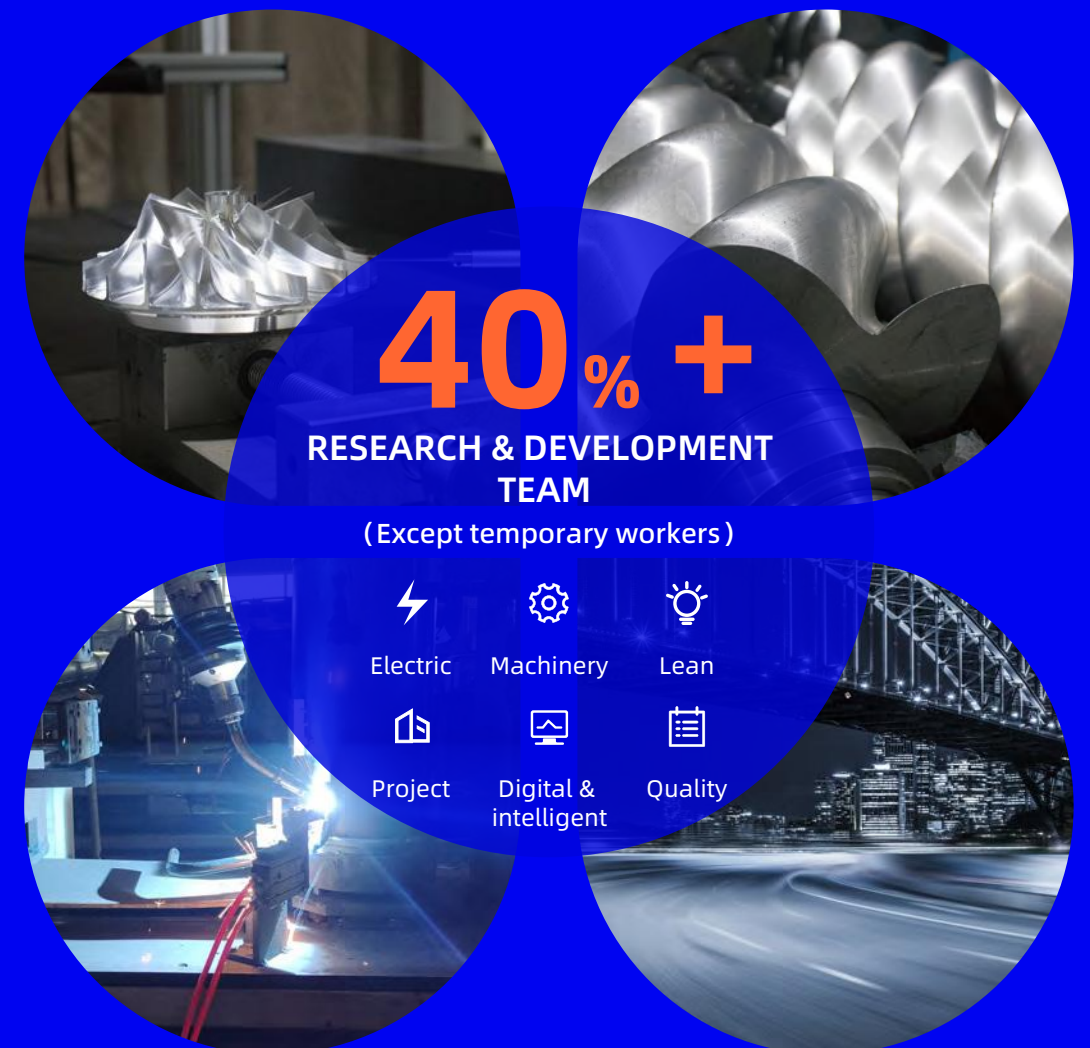
Professor and Doctoral Fellow of Zhejiang University. He  
has long been engaged in teaching and research work in  
magnetic levitation bearings, high-power high-speed  
and ultra-high-speed motors, kWh/hundred kW-class  
high-speed flywheel energy storage systems, etc.  
He has published nearly 300 papers in important  
academic journals and conferences at home and  
abroad, over 230 SCI and EI-indexed papers, and 40  
national invention and utility model patents.



**Ji Tian**  
**PD**

Dalian Polytechnic University: Doctor of engineer-  
ing, post-doctor, master supervisor. Special pump  
technology. Centrifugal compressor and other turbine  
machinery design and manufacturing technology.  
High speed and heavy duty gear transmission system  
dynamic performance research.

# RESEARCH & DEVELOPMENT TEAM





# PROCESSING STRENGTH

From raw material procurement, spare parts processing, complete machine assembly to performance testing, Xinlei always strict with quality control. The company has the world advanced MAZAK high-precision machining center, Tsugami bearing grinding machining center, high-precision ZEISS CMM and robot configuration refinement processing center, to build Xinlei a refinement and advanced production&processing center, to ensure the core components of self-research and production, and the high efficiency collaborative accuracy.

260+

high quality precision equipment to guarantee the high quality of products

○ TSUGAMI bearing grinder machining center



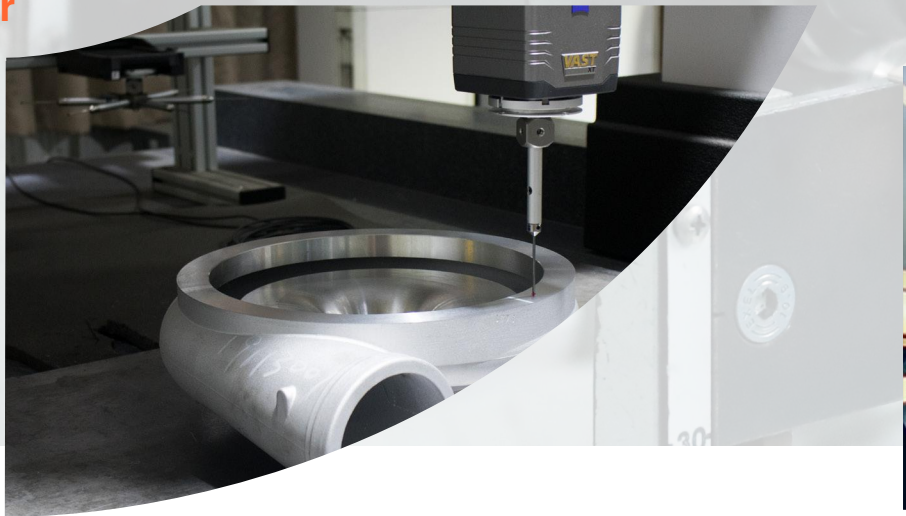
○ Dynamic balance testing center



○ MAZAK high precision machining center



ZEISS three-coordinate ○ testing center





# XINLEI AIR ENERGY ALL PERIODS SOLUTION

# TOTAL SOLUTION

## 01

### Pre-sales engineers plan and consult

Customer interview/demand survey

Technical communication and  
product demonstration

## 02

### Project investigation and confirmation

Customized scheme selection/  
project team

Whole process of tracking and  
completion

## 03

### Delivery guarantee

Offline site testing

Focus on actual demand

Flexible reforming scheme

## 04

### After-sales engineers worry-free

24 Hours 400 hotline

Lightweight work order access by Wechat

Full technical Q&A videos



# SIX ADVANTAGES

50%

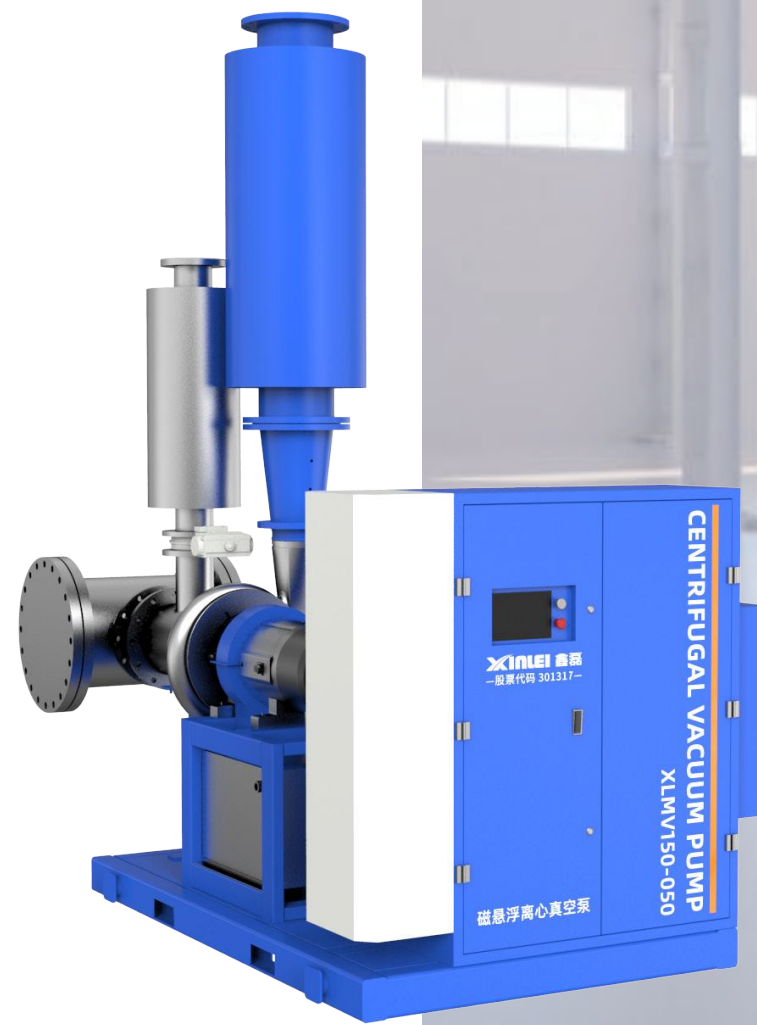
50% energy saving  
than water ring  
vacuum pump

85dB

The noise is  
below 80dB

20years

There is no decay  
in efficiency  
during the lifetime



Magnetic Suspension Centrifugal Vacuum Pump

01

## High efficiency and energy saving

Compared with water ring vacuum pump, it can reduce power consumption by more than 30%.

02

## Simple operation and intelligent control

Intelligent and humanized touch screen, with 5 operation modes and 5 protection functions.

03

## Low noise and no vibration

The noise is less than 85 dB, no vibration, no foundation or anchor bolts.

04

## Maintenance free without lubrication

The 100% oil-free magnetic bearing system avoids secondary pollution and eliminates the need for regular maintenance and replacement of bearings.

05

## Highly integrated, easy to install

The whole machine is highly integrated, small in size, light in weight and easy to install.

06

## Long life (semi permanent)

Magnetic suspension bearing technology is adopted. It has been designed semi permanently for more than 20 years, and the efficiency does not decay in the life cycle.



# advantages



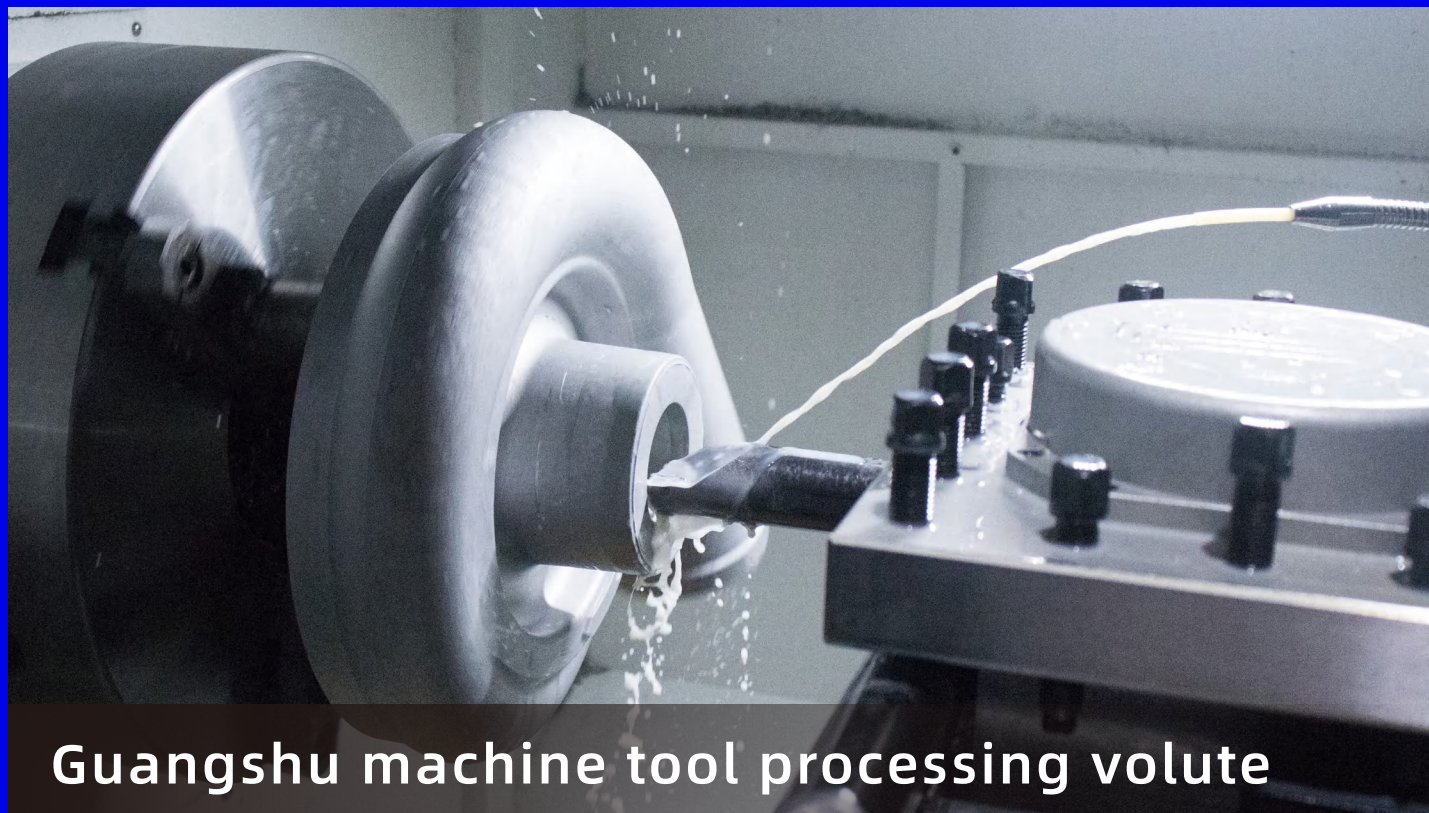
# The core components are 85% patented

## High precision integrated coordination



Three-dimensional  
impeller

Adopt high hardness heat treatment aviation aluminum AL7075, high strength, suitable for high temperature and high pressure of the harsh working conditions. Precision manufactured by the 5 axis machining center, the tolerance is kept below 5/1000 mm. The power transfer efficiency can reach 100% due to the direct connection between the impeller and the shaft.



Guangshu machine tool processing volute

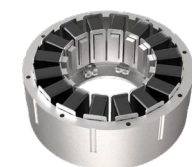
### High speed permanent magnet airend

High efficiency permanent magnet synchronous motor (PMSM) is adopted, with efficiency  $\geq 96\%$ . The motor shaft is directly connected with the impeller, and the transmission efficiency is **100%**; It can realize accurate speed regulation, up to **50000 r / min**; The insulation grade is class H (maximum temperature resistance **180 ° C**).



### Magnetic bearing

FE optimizes magnetic force design and minimizes eddy current, high load capacity up to 10kN radial and 20kN thrust, rotor unbalance compensation and dynamic support stiffness; **No contact, no wear, no lubrication**, integrated vacuum potting production process, long life Cycle design.



### Sensor

The reliable sensor technology ensures the stable operation of the whole maglev bearing system. One sensor unit (3 displacement, 1 rotation) standby pulse sensor has four induction channels; **Low noise and high resolution design**, integrated protection to shield external magnetic field



NO INNOVATION



# WHOLE STRUCTURE

# WHOLE STRUCTURE

## Magnetic Levitation Centrifugal Vacuum Pump

### The whole machine is highly integrated / portable

Small size, light weight, special structure design, quick disassembly and assembly of the whole machine, convenient installation

### PLC electric control system

- Real-time monitoring of system data and trajectories with multiple protection alerts.
- Circulating cooling system with constant temperature and humidity control for the electronic system, enhancing lifespan and stability.
- IoT database management with a backend service platform for modular equipment efficiency management.

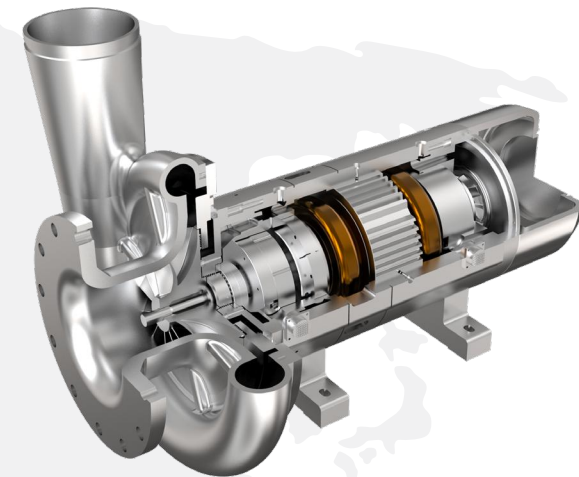


### High efficiency frequency converter

- Adopt famous brand frequency converter, with high stability and reliability;
- Provide miniaturization algorithm for high-speed rotation;
- Achieve energy-saving high-speed rotation function by adjusting frequency (Hz).

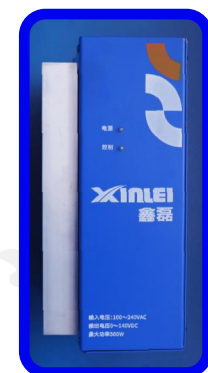
### Permanent magnet high speed air end

- IP54 permanent magnet synchronous motor with a fully sealed cooling system and liquid-gas exchange, ideal for high-temperature, high-humidity, and corrosive environments.
- PMSM permanent magnet synchronous motor is optimized for high-speed rotation, with an efficiency of more than 97%. Accurate speed control can be achieved through the frequency converter;
- Precision machining of three-dimensional flow impeller;
- Five degree of freedom magnetic bearing;
- Liquid cooling / air cooling.



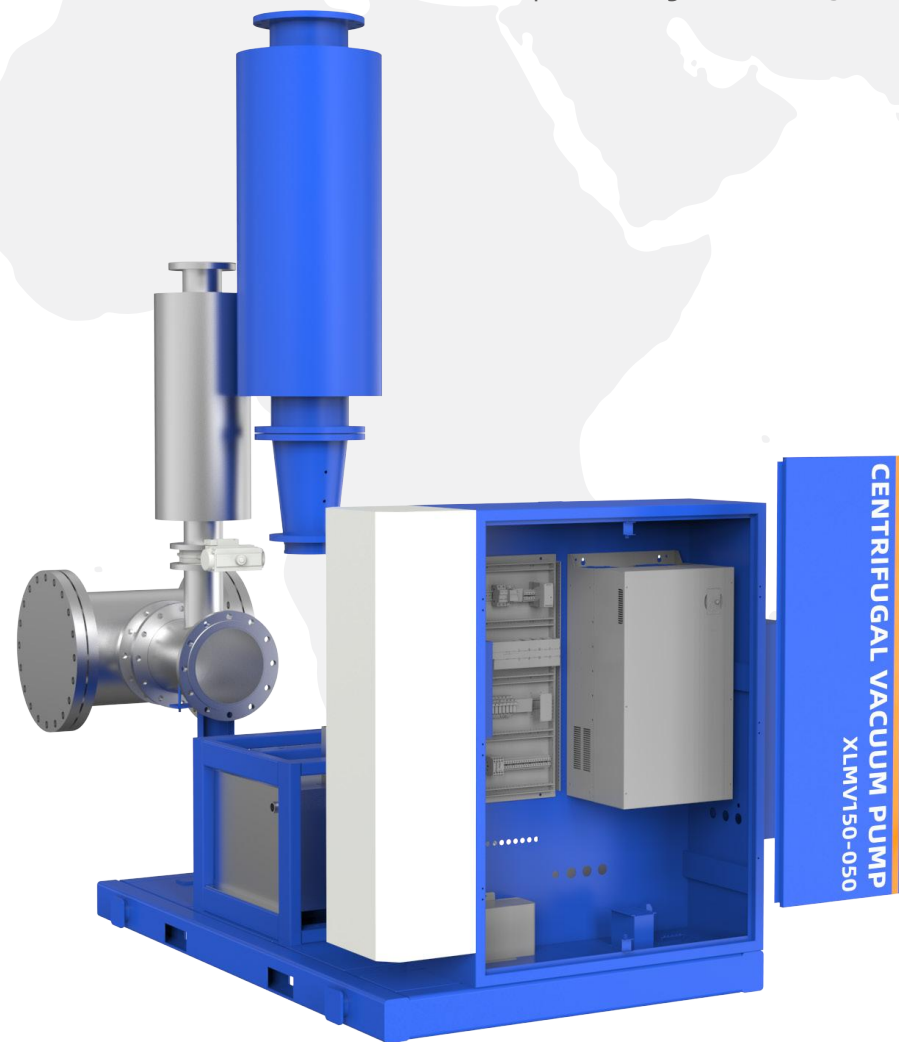
### Magnetic bearing controller

- Real-time dynamic balance online detection to predict impeller and volute foreign object attachment in advance.



### Intelligent operation panel

- Touch screen screen real-time monitoring equipment operation;
- Intelligent remote control;
- Automatic fault alarm, easy to analyze fault causes.



# COMPREHENSIVE ADVANTAGES

## High efficiency and energy saving

- Permanent magnet synchronous high-speed motor + high-efficiency three-dimensional flow impeller;
- Compared with the water ring vacuum pump, the power consumption can be reduced by more than 50%.

## No lubrication and maintenance

- 100% oil-free magnetic bearing system to avoid secondary pollution;
- It is unnecessary to maintain and replace the bearing regularly.

## Highly integrated, easy to install

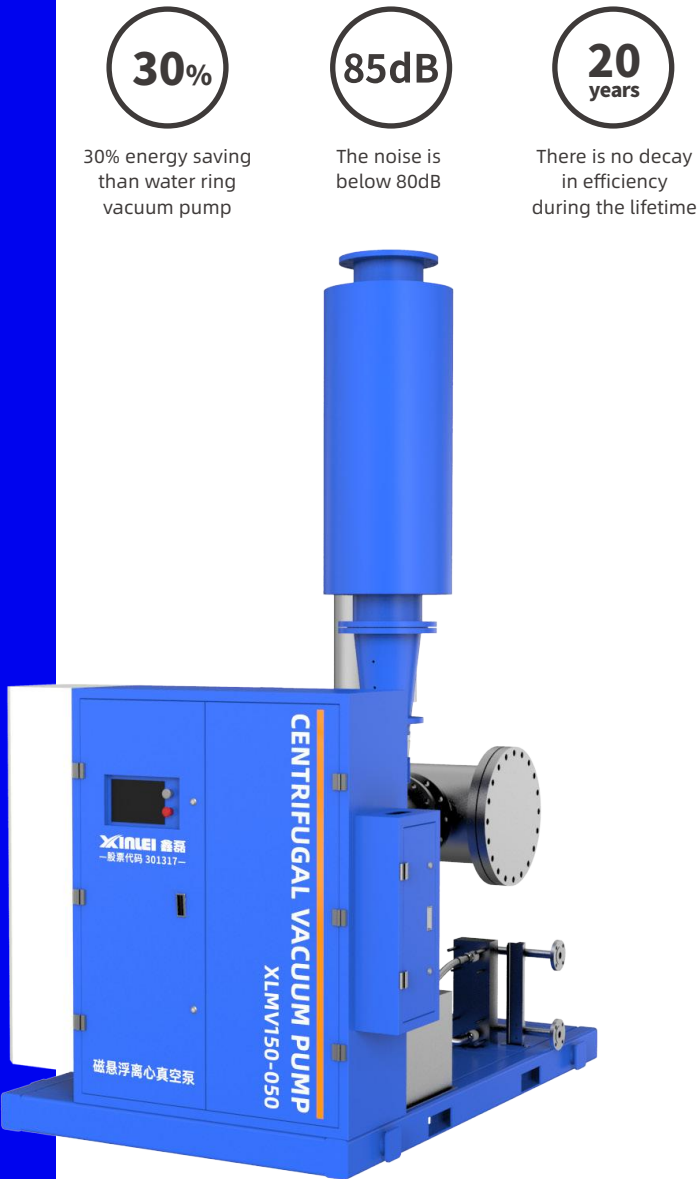
- The whole machine is highly integrated, small in size, light in weight, and can be easily installed;
- No mechanical maintenance is required for normal operation.

## Simple operation and intelligent control

- Intelligent and humanized touch screen, with 5 operation modes and 5 protection functions;
- Remote debugging and adjustment of equipment operating conditions.

## Magnetic Levitation Centrifugal Vacuum Pump

- Power: 37-600kW
- vacuum degree: 30-70kPa



# TECHNICAL PARAMETER

型号	XLMV 50	XLMV 75	XLMV 100	XLMV 125	XLMV 150	XLMV 200	XLMV 250	XLMV 300	XLMV 400	XLMV 500	XLMV 600	XLMV 800
功率(kW)	37	55	75	90	110	150	185	220	300	385	450	600
真空度(kPa)	流量(m³/min)											
30	63	93	127	152	186	254	313	372	507	634	761	1014
40	50	74	101	121	148	202	249	296	403	504	605	807
50	43	64	87	104	127	173	214	254	346	433	520	693
外形尺寸 (mm)	1820	1820	1820	1820	1820	2340	2340	2340	2340	2340	3150	3150
	2500	2500	2500	2650	2670	2760	2760	2825	2825	5200	5200	5200
	1965	1965	1965	1970	2040	2170	2170	2135	2135	2170	2170	2170
重量(kg)	1150	1250	1250	1250	1250	1850	1850	2650	2300	3720	4250	4250
吸气口管径	DN200	DN200	DN150	DN250	DN300	DN300	DN300	DN400	DN400	DN400	-	-
排气口管径	DN300	DN300	DN200	DN250	DN300	DN300	DN300	DN300	DN300	DN400	-	-
真空度(kPa)	流量(m³/min)											
60	-	-	-	-	-	-	-	232	316	395	474	632
70	-	-	-	-	-	-	-	213	284	355	426	585
外形尺寸 (mm)	-	-	-	-	-	-	-	2340	2340	2340	3150	3150
	-	-	-	-	-	-	-	5200	5200	5200	5200	5200
	-	-	-	-	-	-	-	2170	2170	2170	2170	2170
重量(kg)	-	-	-	-	-	-	-	3720	3720	3720	4250	4250
吸气口管径	-	-	-	-	-	-	-	DN400	DN400	DN400	-	-
排气口管径	-	-	-	-	-	-	-	DN300	DN300	DN300	-	-

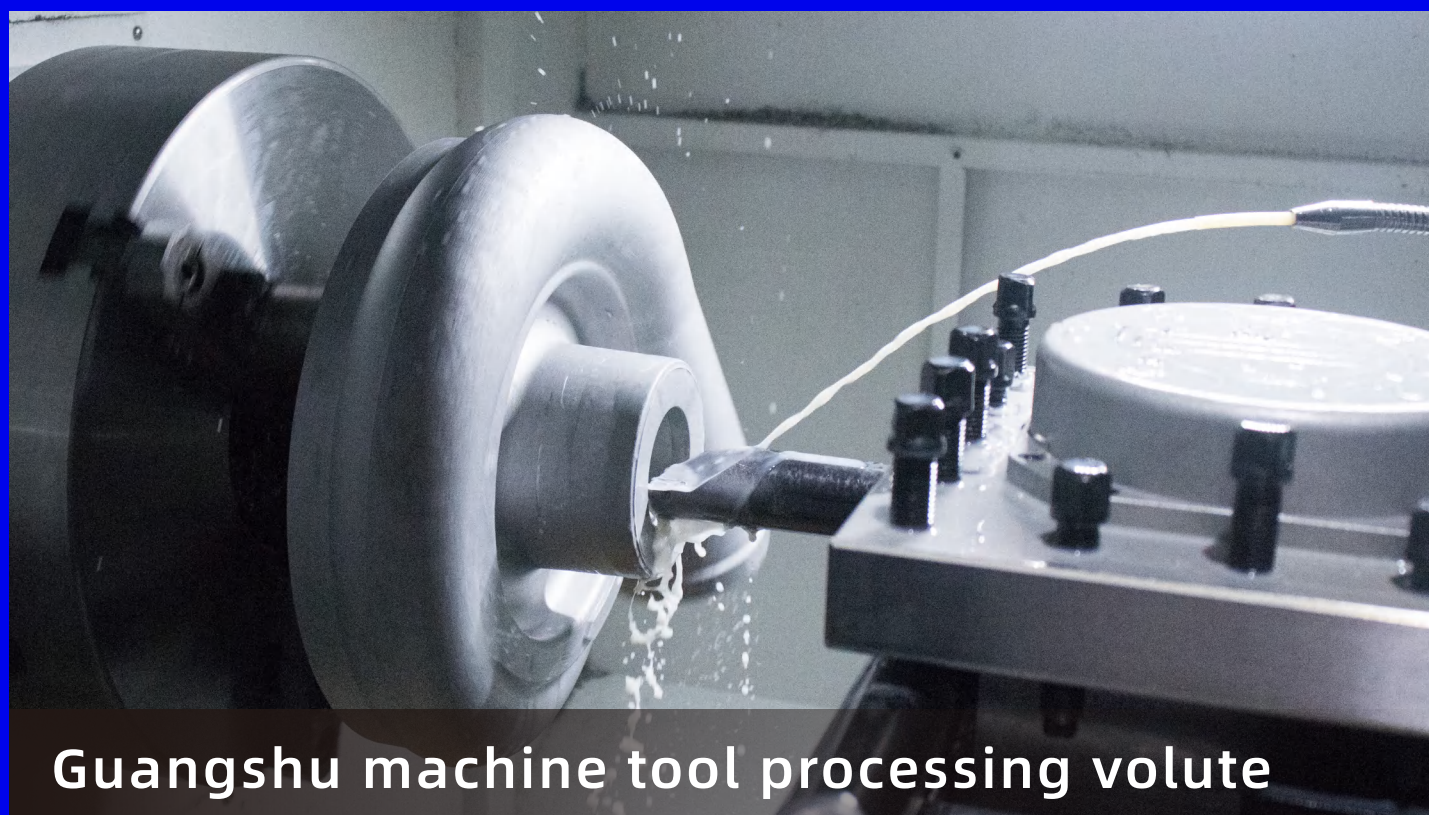


# The core components are 85% patented High precision integrated coordination



Three-dimensional  
impeller

Adopt high hardness heat treatment aviation aluminum AL7075, high strength, suitable for high temperature and high pressure of the harsh working conditions. Precision manufactured by the 5 axis machining center, the tolerance is kept below 5/1000 mm. The power transfer efficiency can reach 100% due to the direct connection between the impeller and the shaft.



Guangshu machine tool processing volute

## High speed permanent magnet aircend

High efficiency permanent magnet synchronous motor (PMSM) is adopted, with efficiency  $\geq 96\%$ . The motor shaft is directly connected with the impeller, and the transmission efficiency is **100%**; It can realize accurate speed regulation, up to **50000 r / min**; The insulation grade is class H (maximum temperature resistance **180 ° C**).



## High speed ceramic ball bearing

Higher speed, longer life, stable and quiet operation under high temperature and high speed conditions; High temperature sealing material, no grease leakage, complete oil-free; Special contact angle design realizes stable operation with large axial force.



## Control system

The control system is mainly composed of three parts: touch screen control panel, high-speed frequency converter control, characteristic linearity and accurate control.



NONVATION



# WHOLE STRUCTURE

# WHOLE STRUCTURE

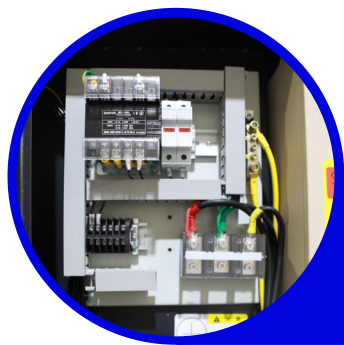
## Permanent magnet variable frequency centrifugal vacuum pump

### The whole machine is highly integrated / portable

Small size, light weight, special structure design, quick disassembly and assembly of the whole machine, convenient installation

### PLC electric control system

- Adopt international brand PLC, real-time monitoring system operation data and track, multiple protection and early warning functions;
- IoT database management with a backend service platform for modular equipment efficiency management.

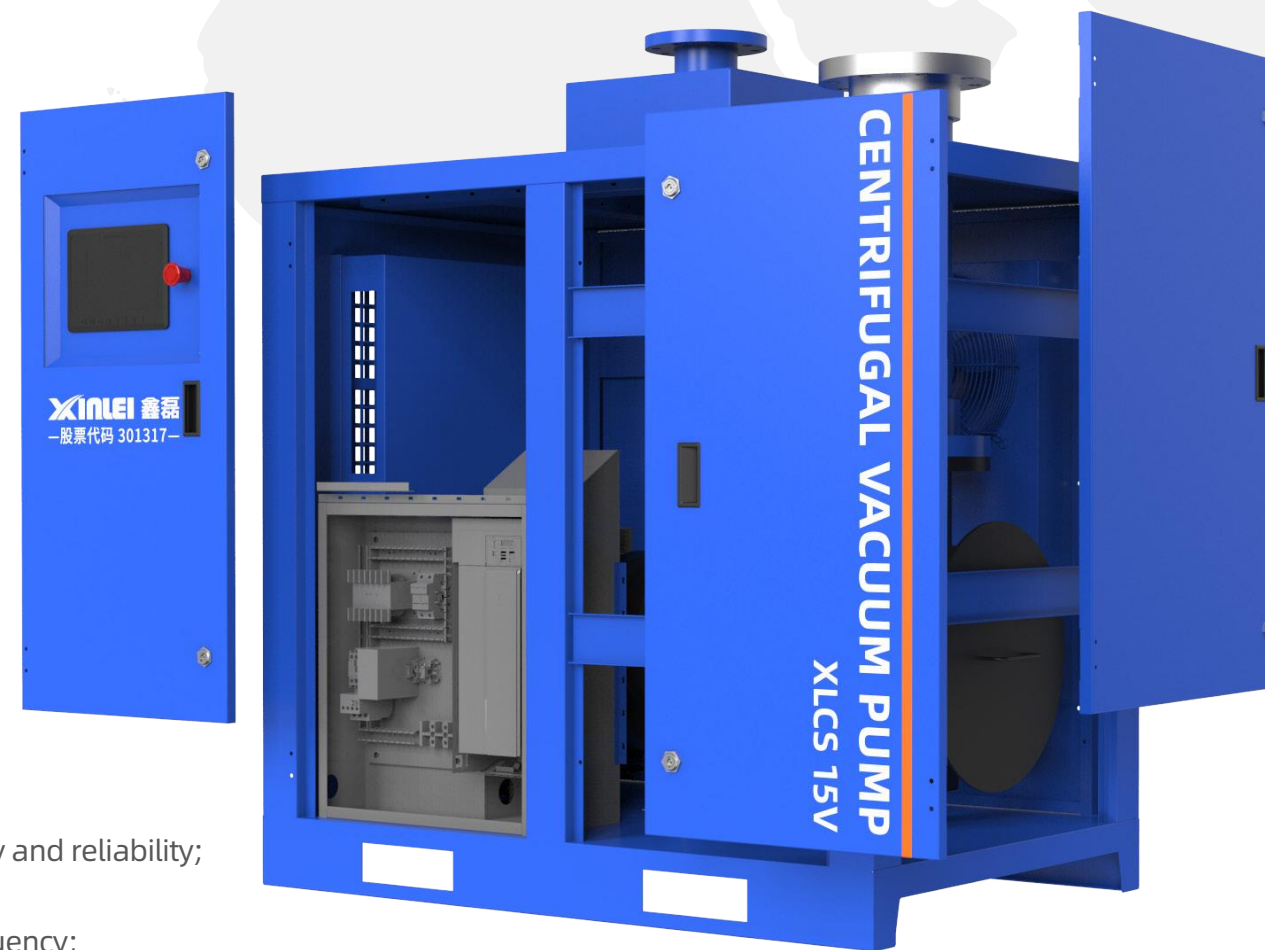
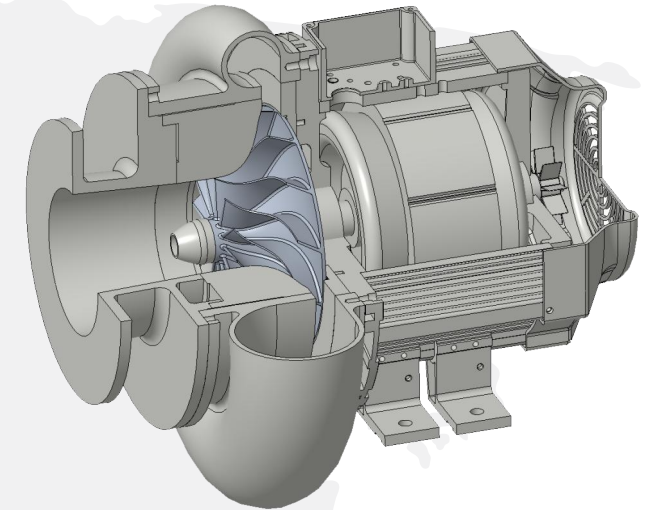


### High efficiency frequency converter

- Adopt well-known brand frequency converter, with high stability and reliability;
- Provide miniaturization algorithm for high-speed rotation;
- High speed rotation function of energy saving by adjusting frequency;
- Built in DC reactor, which can suppress power harmonic and operate precisely, Soft start.

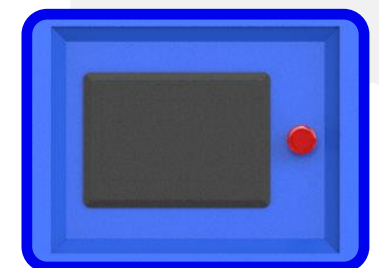
### Permanent magnet high speed air end

- PMSM permanent magnet synchronous motor is optimized for high-speed rotation, with an efficiency of more than 96%. Accurate speed control can be achieved through the frequency converter;
- Precision machining of three-dimensional flow impeller.



### Intelligent operation panel

- Touch screen real-time monitoring equipment operation;
- Intelligent remote control;
- Automatic fault alarm, easy to analyze fault causes.



# COMPREHENSIVE ADVANTAGES

## High efficiency and energy saving

- Permanent magnet synchronous high-speed airen+ high-efficiency three-dimensional flow impeller.
- 50% energy saving than traditional fans (scroll, roots, etc.).

## Convenient disassembly and assembly

- Special structure design is adopted for quick disassembly and easy installation.
- No mechanical maintenance is required for normal operation.

## Stable and reliable


- Continuous and stable gas flow, long-time operation without pressure attenuation.
- FEA analysis and modal analysis of the whole machine to ensure the reliable operation of the product.

## Intelligent control


- PLC + remote data monitoring can be used for remote debugging and adjustment of equipment operating conditions

### Permanent Magnet Variable Frequency Centrifugal Vacuum Pump


- power: 11-37kW
- vacuum degree: 10-35kPa




Energy saving  
40%



Low noise  
and no oil



11KW-37KW  
Wide range of  
working conditions



Remote control



# TECHNICAL PARAMETER

Model	XLCS11V	XLCS15V	XLCS18.5V	XLCS22V	XLCS30V	XLCS37V
Power (kW)	11	15	18.5	22	30	37
Vacuum degree (KPa)	流量(m³/min): 20°C湿度65%					
10	25.6	34.6	43.6	51.3	74.5	91.5
15	20.1	27.1	39.9	47.4	67.2	82.6
20	17.4	23.5	35.5	41.9	60.3	73.8
25	16.6	22.3	29.8	35.1	52.1	64
30	—	19.3	25.2	29.7	40.8	50.1
35	—	—	—	21.5	29.7	36.8
Long (mm)	1250	1250	1250	1250	1350	1350
Wide (mm)	850	850	950	950	1050	1050
High (mm)	1500	1500	1500	1500	1750	1750
Weight (kg)	200	220	280	300	526	550
Exhaust pipe diameter	DN100	DN100	DN125	DN125	DN150	DN150
Pipe diameter of air inlet	DN150	DN150	DN150	DN150	DN150	DN150

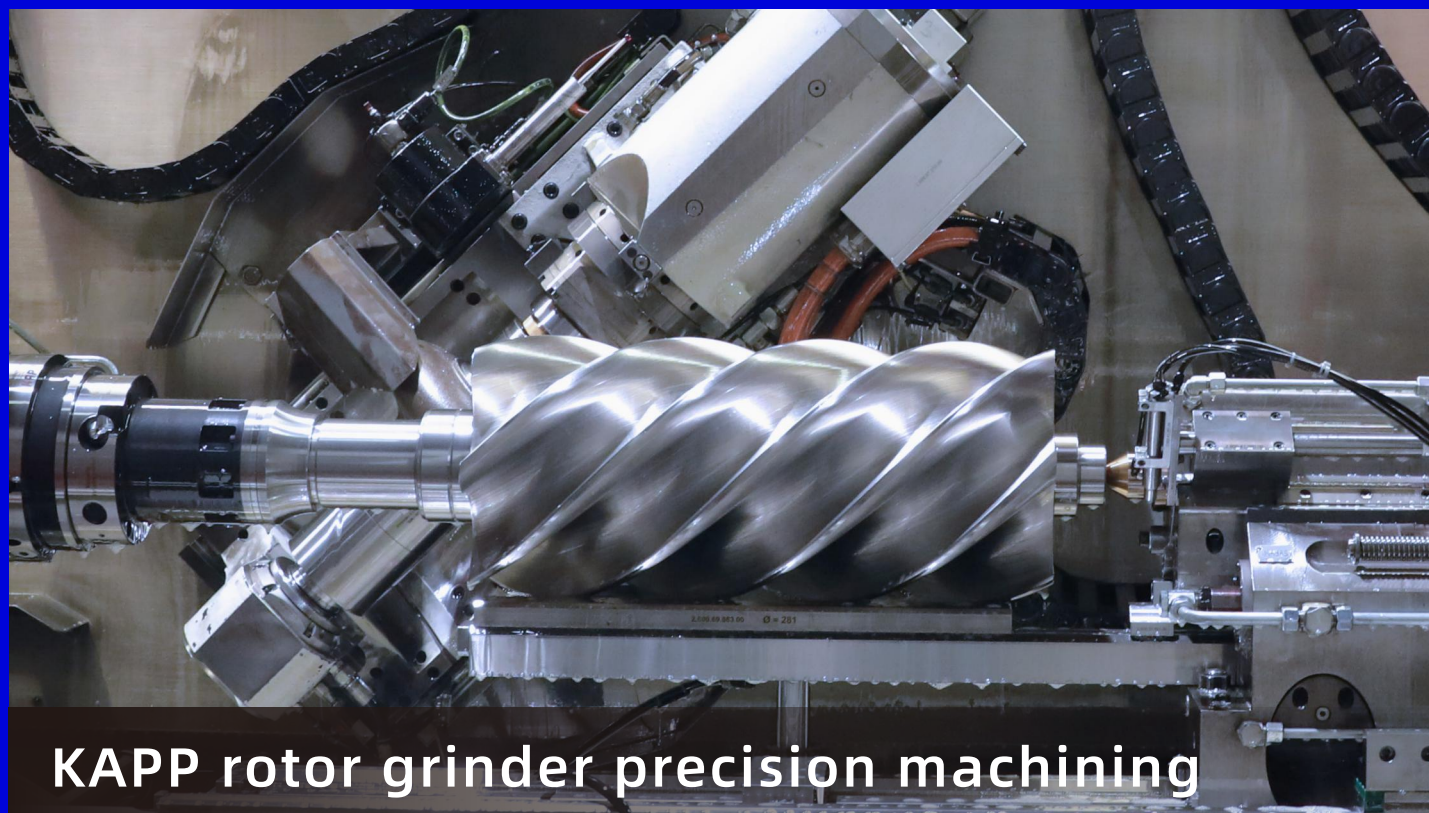


# The core components are 85% patented High precision integrated coordination



## 4: 6 Rotary screw rotor profile

Through in-depth analysis of energy saving demand and continuous optimization of product structure, the technical team of Xinlei continuously upgraded the rotor profile with years of technical accumulation. The profile adopts a 4:6 rotating screw rotor, which makes the speed of the male rotor 50% faster than that of the female rotor. The transmission leakage is smaller and the efficiency is higher.



## KAPP rotor grinder precision machining

## Oil free twin-screw airend

The oil-free twin-screw host provides **oil-free and dust-free** pure compressed air. Optimized profile design, more efficient. Food grade PTFE (polytetraethylene) coating can reduce air loss and improve efficiency. The air is compressed internally, **saving energy up to 30%.**



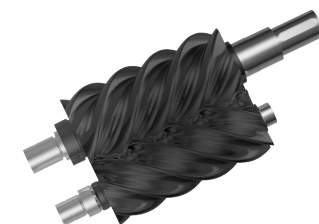
## High efficiency permanent magnet motor

The rotor has no slip, no electric excitation, no fundamental wave iron and copper loss and less heat generation, reducing the loss of stator current and stator resistance. Its efficiency is **5% - 8%** higher than that of asynchronous motor with the same capacity.



## Nodular cast iron rotor

High strength, high axle load capacity, direct coupling and belt drive. The high-quality Teflon coating technology on the rotor surface makes the rotor gap smaller, improves the volumetric efficiency, protects the rotor, and has a **longer service life.**





# WHOLE STRUCTURE

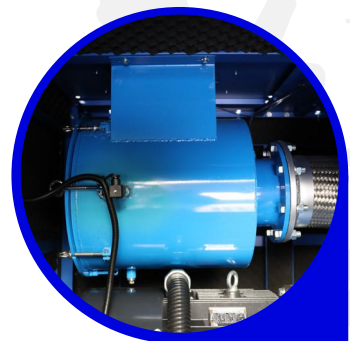
# WHOLE STRUCTURE

## OIL FREE SCREW VACUUM PUMP

The whole machine is highly integrated / portable

### Vacuum pump air filter assembly

The primary material of the filter element is polyester cotton, and the auxiliary material is fine polyester non-woven fabric, filtration 3μm efficiency of 99%

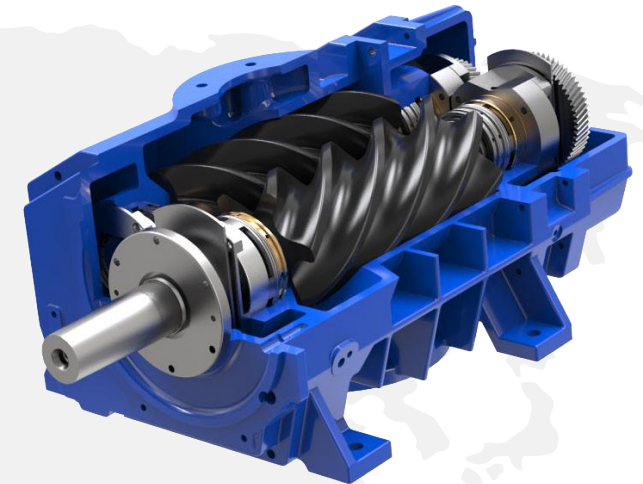


### High efficiency frequency converter

- The inverter of well-known brand is adopted, with high stability and reliability;
- Back capacitance, protection equipment;
- Soft start, precise operation, high safety performance.

### Efficient airend

- Oil free twin-screw host, the compressed air is oil-free;
- 4: 6 Optimized profile design of rotating screw rotor, more efficient;
- Unique split cylinder design;
- Advanced coating, corrosion resistance and long service life;
- The air is compressed internally, saving energy up to 30%.



### Silencer

- Noise as low as 73-85dB(A)
- Precision filter for the inlet air, with a precision of up to 15UM and a pressure loss of ≤500PA



### Intelligent operation panel

- Touch screen monitoring the real-time equipment operation;
- Intelligent remote control;
- Automatic fault alarm can analyze the cause of fault.



# COMPREHENSIVE ADVANTAGES

## Energy-saving, stable and reliable

- Compared with traditional Roots blower, it can save energy by 20-30%
- Strong adaptability to working conditions, no surge, and flow hardly changes with pressure
- Low pressure pulse, stable exhaust

## Box type integrated design

- No need for embedded foundation, simple installation
- Pipeline sealing design, zero leakage of medium
- Forced circulating lubrication cooling system, more reliable

## Clean, oil-free and lower noise

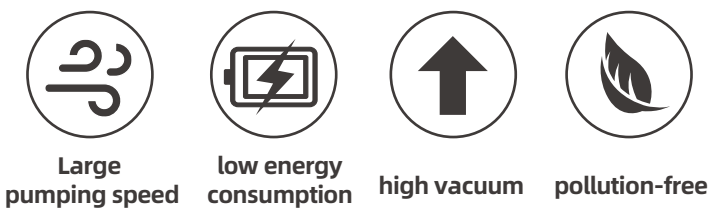
- Spiral seal+carbon ring seal, realizing zero leakage of medium and ensuring 100% oil-free air
- The spiral rotor has low aerodynamic noise, stable gas output, and noise levels between 73 and 85 dB(A).

## Simple operation and intelligent control

- Internet of Things remote control, remote debugging and adjustment of equipment operating conditions

# Oil Free Screw Vacuum Pump

- **Rated power: 5.5-75kW**
- **Vacuum: 40-70Kpa**



# TECHNICAL PARAMETER

Atmospheric pressure		1	atm			
Inspiratory humidity		32	°C			
Relative humidity		60%	R.H.			
Vacuum		-40	kPa.g			
Rated power kW	Host Model	Speed rpm	Pumping capacity m³/min	Shaft power kW	Exhaust gas temperature °C	Oil Volume L
5.5	XLU90	3700	3.8	5.3	82	2.8
7.5	XLU90	4800	5.6	7.6	82	2.8
11	XLU90	6000	7.8	11.2	82	2.8
15	XLU124	2800	12	15.3	82	4.9
18.5	XLU124	3500	16.5	18.7	82	4.9
22	XLU124	4100	19.8	22.5	82	4.9
30	XLU165	2800	28.5	31.5	85	9
37	XLU165	3200	32.9	37.9	85	9
45	XLU165	3800	40.2	45.8	85	9
55	XLU203	2500	48.1	56.2	85	14
75	XLU203	3300	65.2	75.8	85	14

Atmospheric pressure		1	atm			
Inspiratory humidity		32	°C			
Relative humidity		60%	R.H.			
Vacuum		-50	kPa.g			
Rated power kw	Host Model	Speed rpm	Pumping capacity m³/min	Shaft power kw	Exhaust gas temperature °C	Oil Volume L
5.5	XLU90	3700	3.8	5.6	92	2.8
7.5	XLU90	4800	5.6	8.0	92	2.8
11	XLU90	6000	7.8	11.8	92	2.8
15	XLU124	2800	12	16.1	92	4.9
18.5	XLU124	3500	16.5	19.6	92	4.9
22	XLU124	4100	19.8	23.6	92	4.9
30	XLU165	2800	28.5	33.1	95	9
37	XLU165	3200	32.9	39.8	95	9
45	XLU165	3800	40.2	48.1	95	9
55	XLU203	2500	48.1	59.0	95	14
75	XLU203	3300	65.2	79.6	95	14



# TECHNICAL PARAMETER

Atmospheric pressure		1	atm				
Inspiratory humidity		32	°C				
Relative humidity		60%	R.H.				
Vacuum		-60	kPa.g				
Rated power kW	Host Model	Speed rpm	Pumping capacity m³/min	Shaft power kW	Exhaust gas temperature °C	Oil Injection Temperature °C	Oil Injection Volume L/min
5.5	XLU90FL	3700	3.8	5.8	118	60	8~12
7.5	XLU90FL	4800	5.6	8.2	118	60	8~12
11	XLU90FL	6000	7.8	11.9	118	60	8~12
15	XLU124FL	2800	12	16.5	118	60	10~15
18.5	XLU124FL	3500	16.5	20	118	60	10~15
22	XLU124FL	4100	19.8	23.5	118	60	10~15
30	XLU165FL	2700	27.5	33.6	122	60	15~20
37	XLU165FL	3100	31.9	40.2	122	60	15~20
45	XLU165FL	3800	40.2	50.3	122	60	15~20
55	XLU203FL	2500	48.1	61.5	122	60	20~25
75	XLU203FL	3200	63.2	80.8	122	60	20~25

Atmospheric pressure		1	atm				
Inspiratory humidity		32	°C				
Relative humidity		60%	R.H.				
Vacuum		-70	kPa.g				
Rated power kW	Host Model	Speed rpm	Pumping capacity m³/min	Shaft power kW	Exhaust gas temperature °C	Oil Injection Temperature °C	Oil Injection Volume L/min
5.5	XLU90FL	3500	3.6	5.9	140	60	8~12
7.5	XLU90FL	4400	5.13	8.2	140	60	8~12
11	XLU90FL	5500	7.15	12.1	140	60	8~12
15	XLU124FL	2600	11.14	16.8	140	60	10~15
18.5	XLU124FL	3200	15.1	20.2	140	60	10~15
22	XLU124FL	3700	17.9	23.9	140	60	10~15
30	XLU165FL	2500	25.5	33.2	145	60	15~20
37	XLU165FL	2900	29.8	40.5	145	60	15~20
45	XLU165FL	3500	37.1	49.8	145	60	15~20
55	XLU203FL	2300	44.2	61.1	145	60	20~25
75	XLU203FL	3100	61.2	84.0	145	60	20~25

# APPLICATION FIELD

**A vacuum pump** is a device or equipment that uses mechanical, physical, chemical, or physico-chemical methods to pump the container being pumped to obtain a vacuum. Says popularly, a vacuum pump is a device that improves, generates, and maintains a vacuum in an enclosed space by various methods. Vacuum pumps are used for various applications such as packaging, degassing, pneumatic conveying, drying, clamping/conveying, distillation, evacuation, forming/pressing/laminating, scavenging, coating, aeration, etc.



## Applications in pulp and paper production

Black liquor evaporation, rough pulp washers, lime slurry and filters, sediment filters, vacuum dewatered, raw material and white water degassing systems, stock conditioning box compressors, suction boxes, couch rolls, suction shift and transfer rolls, vacuum presses, wool fabric suction boxes, anti-blow boxes.

## Applications in the petrochemical industry

Gas recovery, gas recovery, gas boosting, enhanced oil recovery, gas collection, crude oil stabilization, crude oil vacuum distillation, exhaust gas compression, vapor recovery/gas boosting, filtration/wax removal, tail gas recovery, polyester production, PVC production, fluorine gas packaging, circulating gas compression, pressure swing adsorption (PSA), liquid oxygen production, acetylene, and hydrogen, etc.

## Applications in the pharmaceutical industry

Drying (trays, rotary, tumblers, conical and freeze dryers), reproduction/reactor drying, distillation, degassing, crystallization/vaporization, refilling, and material transfer.

## Applications in the power industry

Condenser evacuation, vacuum suction, flue gas desulphurization, fly ash transport, turbine seal pipe exhaust, vacuum exhaust, and exhaust of geothermal gas.

## Applications in the plastics industry

Extruder degassing, sizing tables (profiling), EPS foaming, drying, pneumatic conveying devices, vinyl chloride gas extraction, and compression.

## Applications in medical devices

Steam sterilization, breathing apparatus, air mattresses, protective clothing, dental treatment instruments, and central vacuum systems.



PAPER INDUSTRY  
GREEN ENERGY TRANSFORMATION  
SOLUTIONS

📍 A large domestic  
paper company



PAPER INDUSTRY  
PROVIDE LOW-CARBON AND  
ENERGY-SAVING PRODUCTION POWER

📍 Domestic a listed living  
paper enterprise



Project requirements

The paper industry is traditional in China and a key monitoring industry for resources and energy consumption. According to statistics, the paper industry accounts for about 2% of the total energy consumption of the national industry. Traditional water ring vacuum pumps consume high energy, and their efficiency decreases year by year as they grow older.

Annual saving of **324000 RMB** | Energy saving rate of **33.6%**

Solution

The technical team tailored the solution - replacing the original 2 Roots vacuum pumps with 1 x 110kW Xinlei Maglev vacuum pump. With the support of black technology such as aerospace aluminum triple flow impeller, high-speed permanent magnet motor, and magnetic bearings, the efficiency and energy consumption barrier is crushed, and money is saved while using it.

Solution advantage

1. **Steady C position in energy saving** - the energy saving rate is **33%**, and the electricity saved will pay for itself in a few months.
2. **Hidden profit "black hole"** - annual electricity savings of **nearly 300,000**, saving money while using.
3. **No iteration of the advantages** - magnetic levitation bearing system design, **more than 20 years** of semi-permanent design, life cycle efficiency without decay.
4. **Save workforce** - intelligent operation and maintenance, mobile phone and computer multi-dimensional linkage, remote control.
5. **Cost "manager"** - magnetic floating bearing design, maintenance-free, no consumables, zero loss, saving tens of thousands of maintenance costs.

Project requirements

In the paper making process, the vacuum pump occupies a very important position and is an indispensable part of the whole paper making system. The energy consumption of the vacuum pump accounts for a large proportion in the whole paper making industry. Therefore, the energy saving of the vacuum pump is of great significance.

Annual saving of **348500 RMB** | Energy saving rate of **37.2%**

Solution

The technical team went deep into the customer's site and landed the whole process, and developed a vacuum pump for C&S. It is equipped with aviation aluminum three-dimensional flow impeller, Swiss imported magnetic bearing, high-speed permanent magnet motor, high-efficiency cooling system, etc. to achieve high-efficiency and stable operation of more than 96% in high-temperature corrosive environment.

Solution advantage

1. **Invisible profit "Black hole"** —The energy saving rate of **37.2%** and the annual electricity saving of **348500 rmb**.
2. **Green ambassador**— **Reduced carbon emissions by 251.24 tons**, saved 100.8 tons of standard coal, which means 14036 Haloxylon trees are planted in the same amount.
3. **Increase production and efficiency**—The motor efficiency exceeds 97%, the overall efficiency exceeds 88%, and the daily output is **2,500 tons**.
4. **Stable and reliable**—Under the pressure of high temperature and high production capacity, it still maintains a stable and efficient range.