

#### **XINLEI COMPRESSOR CO.,LTD.**

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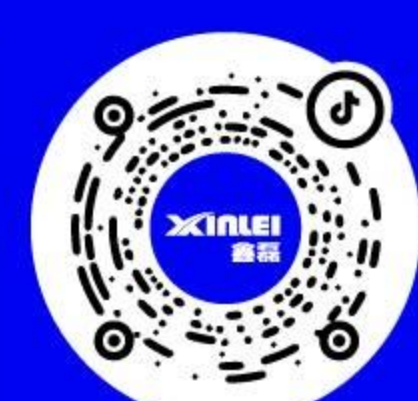
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Xinlei Tik Tok enterprise

202503

## **XINLEI COMPRESSOR CO.,LTD.**

## **MAGNETIC LEVITATION CENTRIFUGAL COMPRESSOR**

- **Energy saving 20%**
- **The noise is below 80dB**
- **Long life and maintenance free**
- **Internet of Things remote 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.**

- **149,270+m<sup>2</sup>  
floor area**
- **800,000+  
units yearly  
production**
- **100+  
sales area**
- **300+  
patents**
- **300+  
product  
specifications**
- **260+  
high quality  
precision  
equipment**

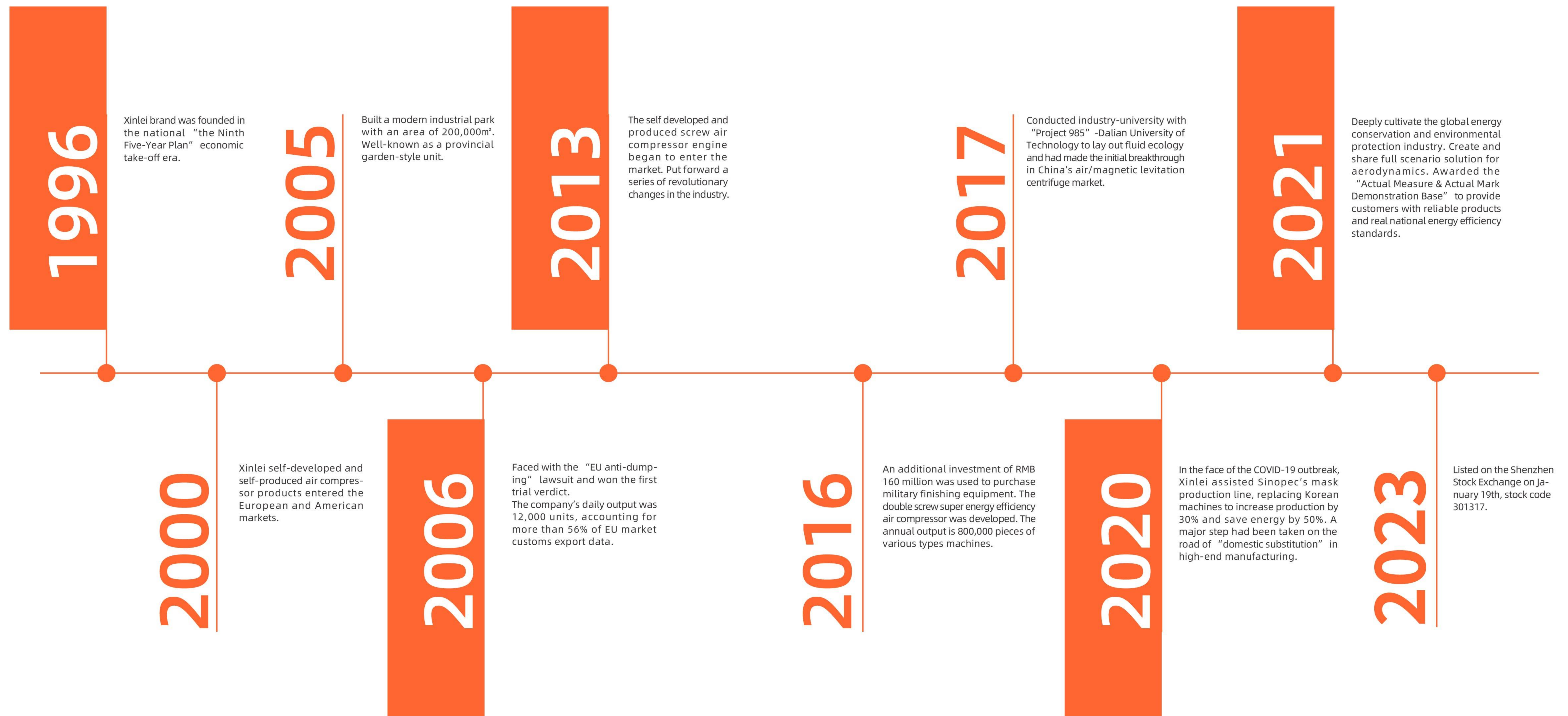
## COMPANY HONOURS

### Draft 4 national standards & 4 industrial standards

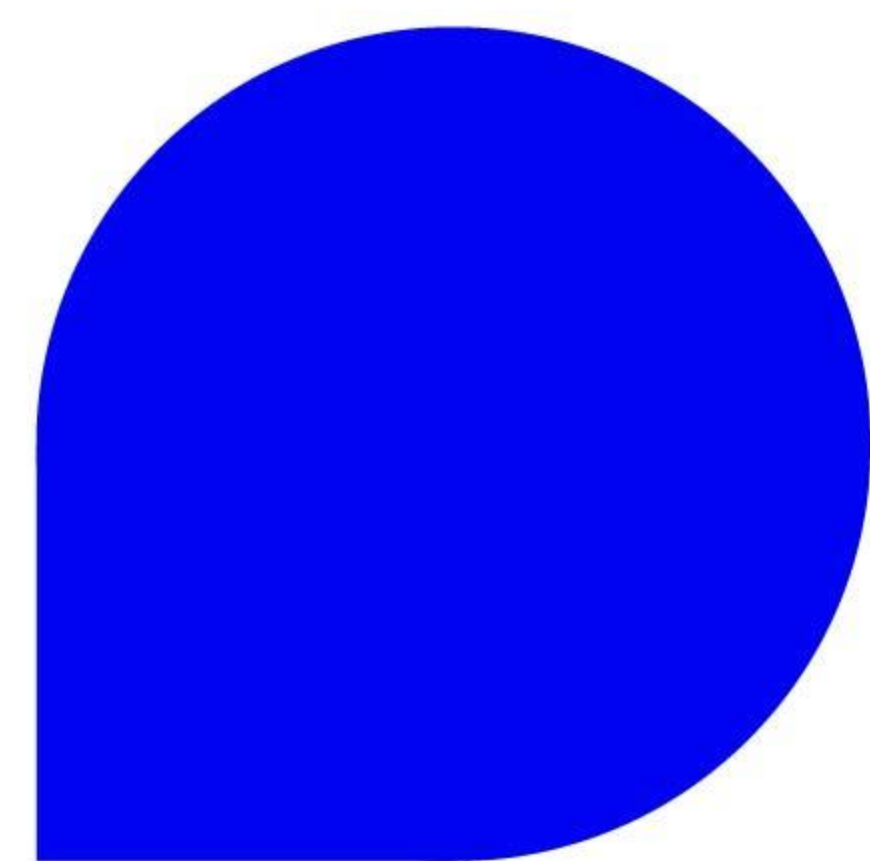
- High-tech enterprise
- National Development and Reform Commission National Key energy-saving and low-carbon technology Promotion Catalogue yearly continuous
- Zhejiang first batch of domestic and foreign trade integration "pacesetter" enterprises
- Ministry of Industry and Information Technology "Energy 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
- 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

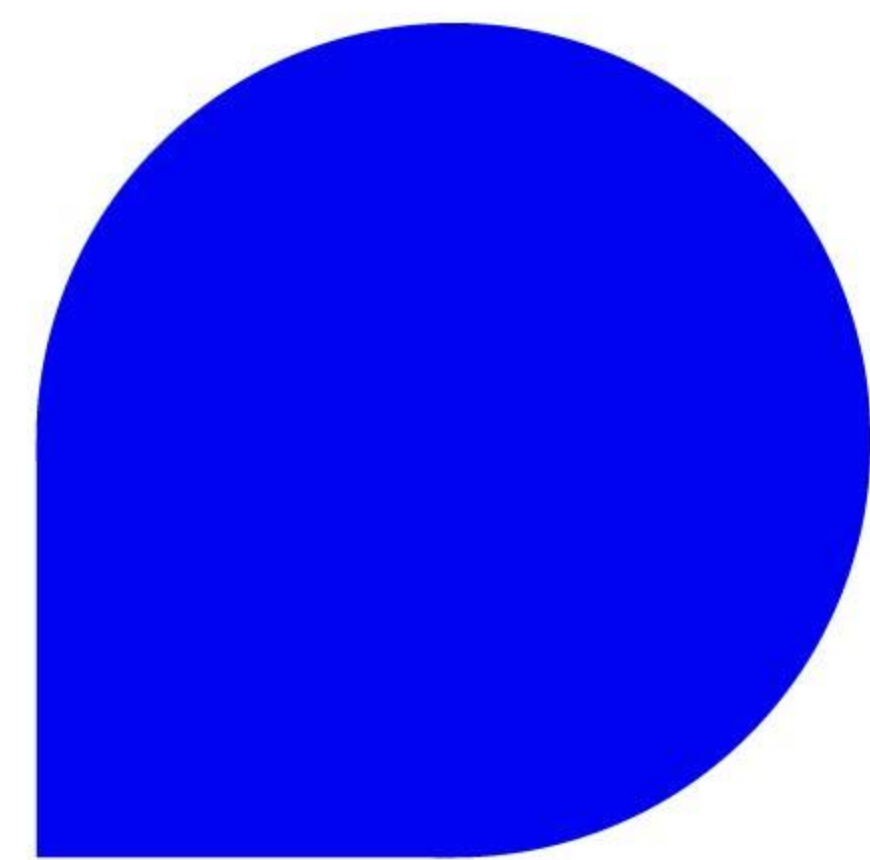






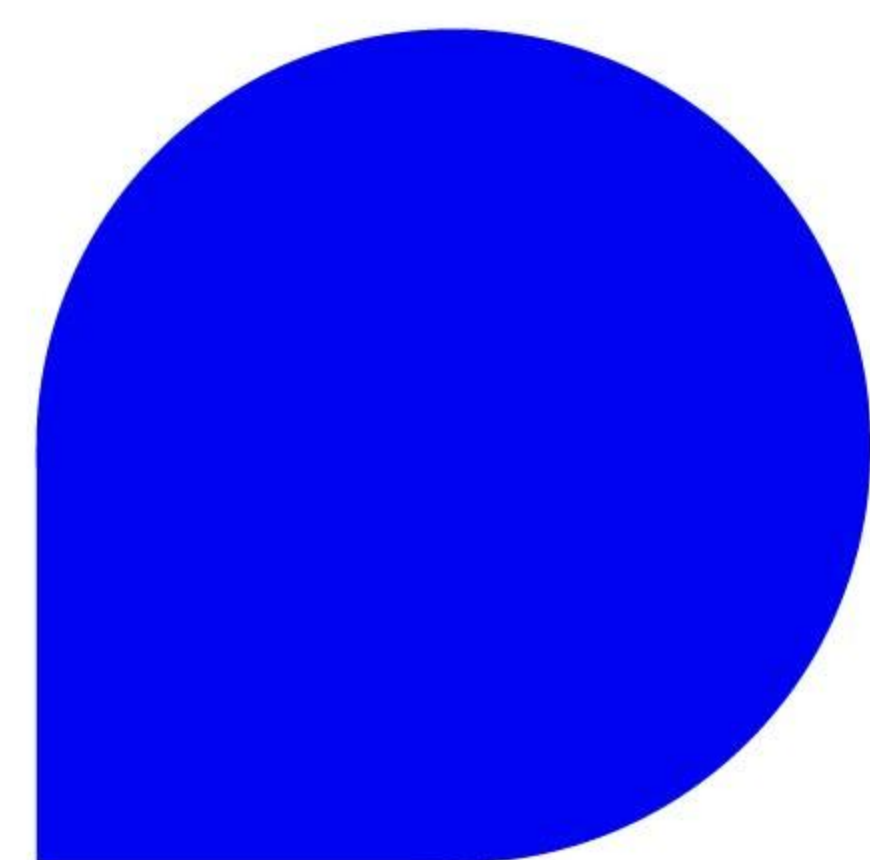
**Zhong Renzhi**  
Chairman

EMBA from Shanghai Jiao Tong University;  
Deeply plow in the field of aerodynamics;  
Proposed a number of industry break-through 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

Nanyang Technological University (NTU), Singapore: Ph.D. and Postdoctoral Fellow in Electrical Engineering. He has been engaged in the research of magnetic levitation linear propulsion systems and direct-drive precision servos for a long time. He has presided over one youth project of the National Natural Science Foundation of China (NSFC). He is also the chair of two special and upper-level grants from the China Postdoctoral Science Foundation. He has published over 40 SCI/EI papers in critical academic journals and conferences at home and abroad. Authorized more than 10 invention patents.

# 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+

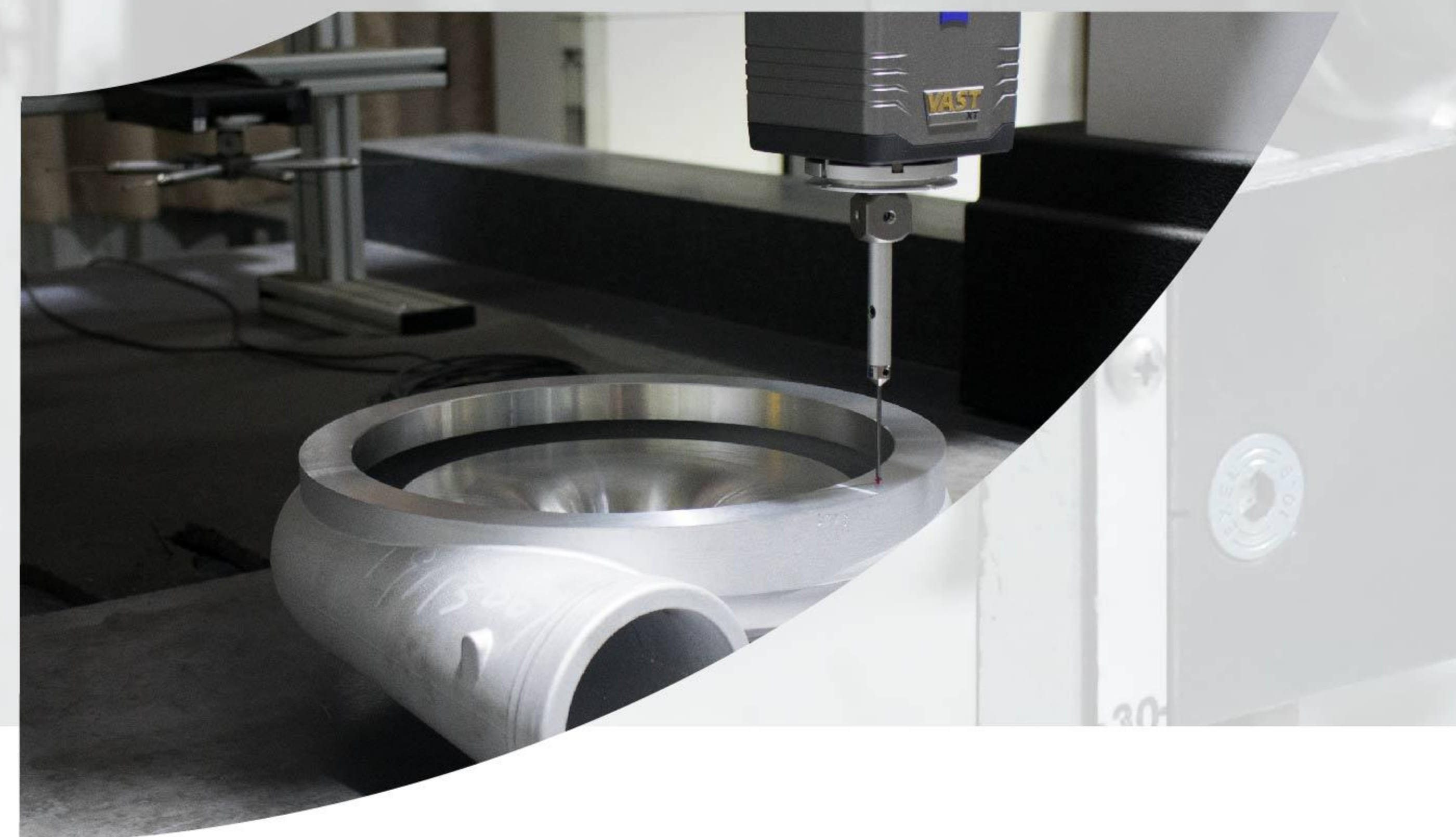
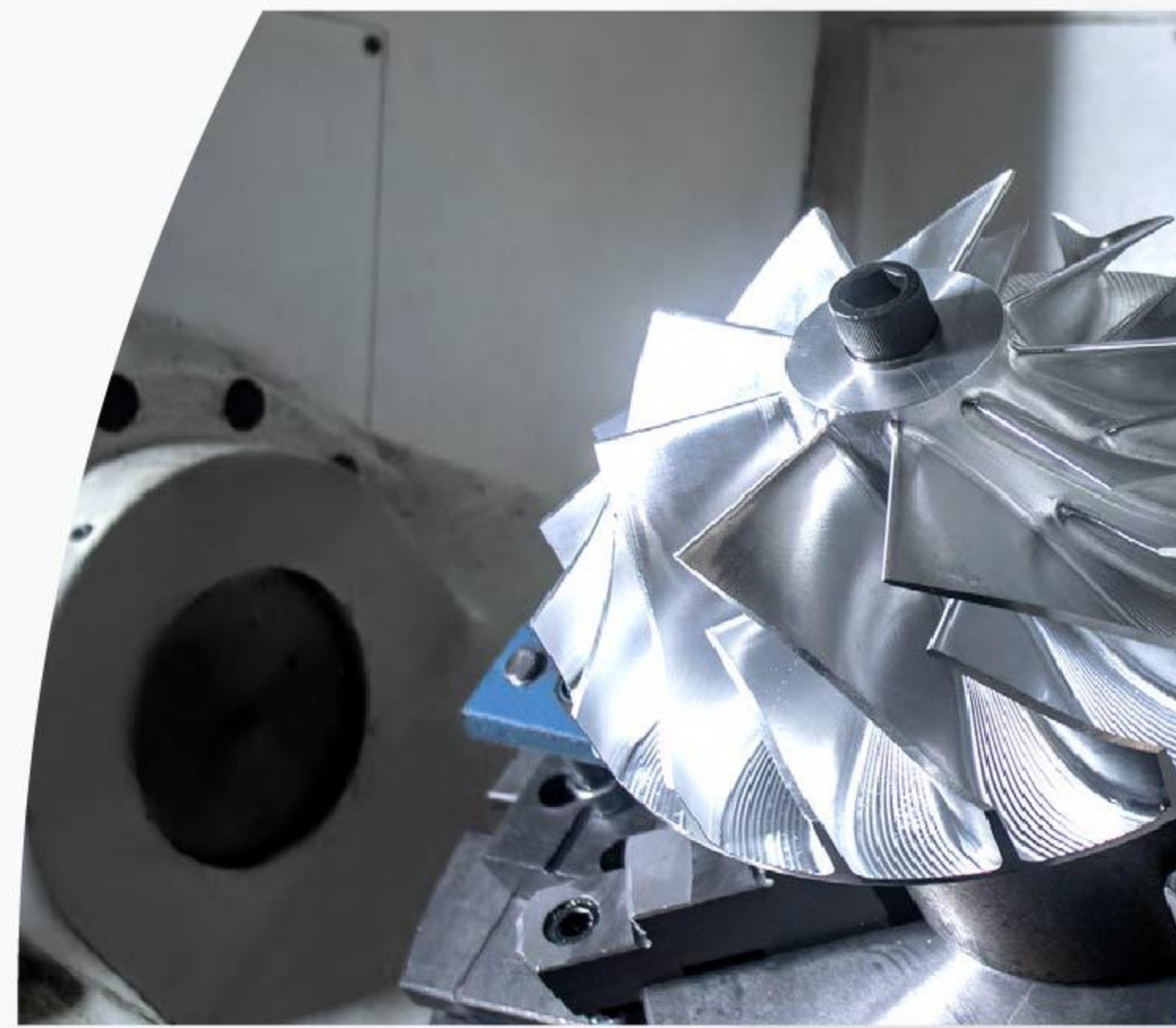
high quality precision equipment to guarantee the high quality of products

○ TSUGAMI bearing grinder machining center

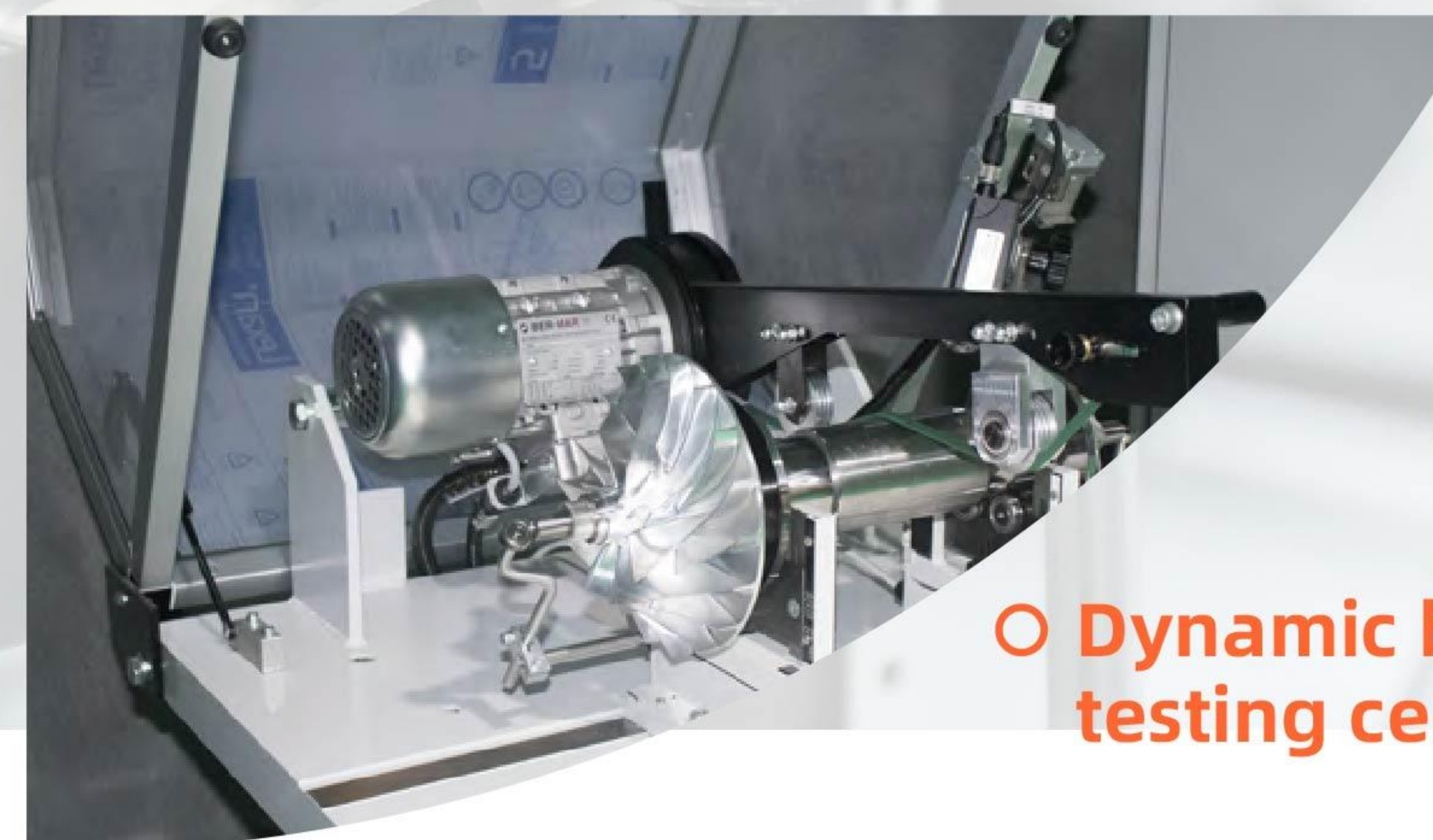


○ MAZAK high precision machining center

ZEISS three-coordinate ○ testing center



○ Dynamic balance testing center



# PROCESSING STRENGTH



**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



# COMPREHENSIVE ADVANTAGES

20%

Compared with the  
traditional air compressor  
energy saving 20%

80dB

The noise is  
below 80dB

20years

There is no decay  
in efficiency  
during the lifetime



01

## Energy efficient

Compared with the traditional air compressor, the energy saving is 10%-20%; Compared with the piston machine, the energy saving is 20-30%.

02

## Simple operation intelligent control

Intelligent and humanized touch screen, real-time monitoring compressor bearing temperature, axis trajectory and other parameters connected with the user main control machine, to achieve phased control.

03

## Low noise No vibration

Noise below 80 dB, no vibration, no foundation or anchor bolts.

04

## No lubrication and maintenance free

100% oil-free magnetic levitation bearing system, avoid secondary pollution, no need for regular maintenance and replacement of bearings.

05

## Highly integrated and easy to install

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

06

## Long life semi-permanent

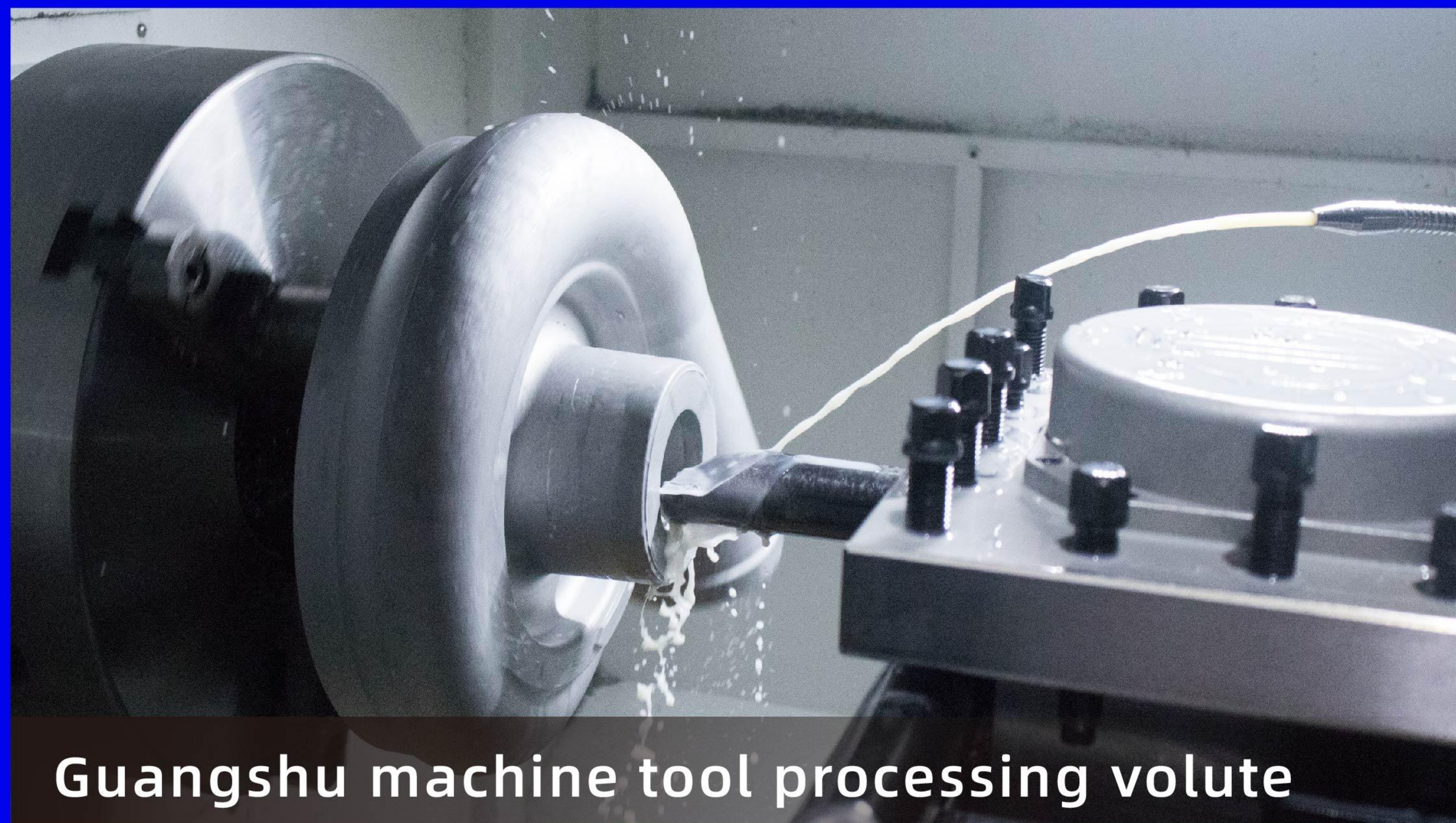
Magnetic levitation bearing technology, more than 20 years of semi-permanent design, life cycle efficiency does not decay.



# advantages



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



Guangshu machine tool processing volute

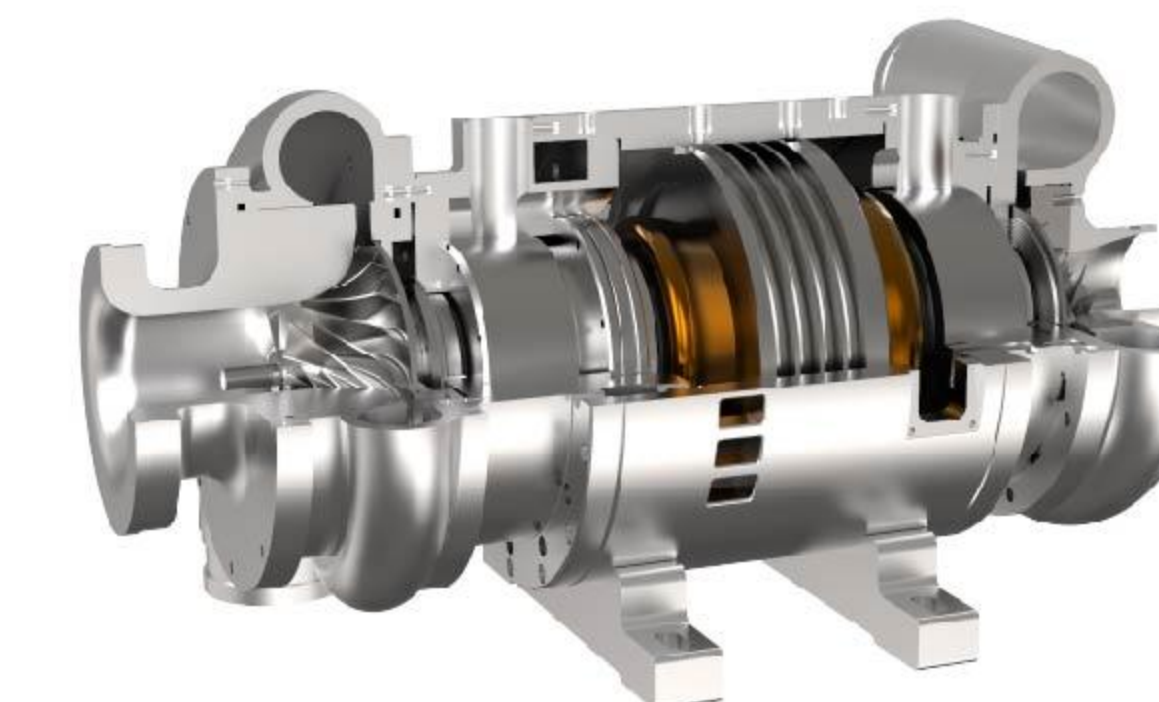


Ternary flow impeller

Aviation aluminum precision manufacturing, strong corrosion resistance; Precision manufacturing through 5-axis machining center, tolerance is maintained below 5/1000 mm; The high-order mode calculation obtains the optimal solution of the impeller full arc to avoid prime flow and reduce overspeed blocking.

## High speed permanent magnet motor

Using high-efficiency permanent magnet synchronous motor (PMSM), the efficiency is **96%**; the impeller is directly connected to the shaft, and the power transmission efficiency can reach **100%**; the aerodynamic engineering technology, the speed can reach more than **100,000 rpm**; the insulation grade is H class (Maximum temperature resistance **180°C**);



## Magnetic bearing

Five degrees of freedom magnetic levitation bearing with 8 sensors; The sensor signal processing frequency is **10000 times** per second, and the rotor axis position is accurately controlled. FE optimizes magnetic force design and minimizes overflow; High load capacity of up to 10kN radial and 20kN thrust; Rotor unbalance compensation and dynamic support stiffness; No contact, no wear and no lubrication;



## The sensor

Reliable sensor technology to ensure the whole magnetic levitation bearing system stable operation; Induced current or full current; One sensor unit (3 displacement, 1 rotation) standby pulse sensor has four sensing channels; Low noise and high resolution design, integrated protection shielding external magnetic field;



INNOVATION



# WHOLE STRUCTURE

# WHOLE STRUCTURE

## The whole machine is highly integrated

Small size, light weight, special structure design, easy installation, portable disassembly and assembly.

## Magnetic suspension bearing controller

- all-digital controller;
- Superior damping function;
- Multi-function monitoring capability;
- Efficient service interface.

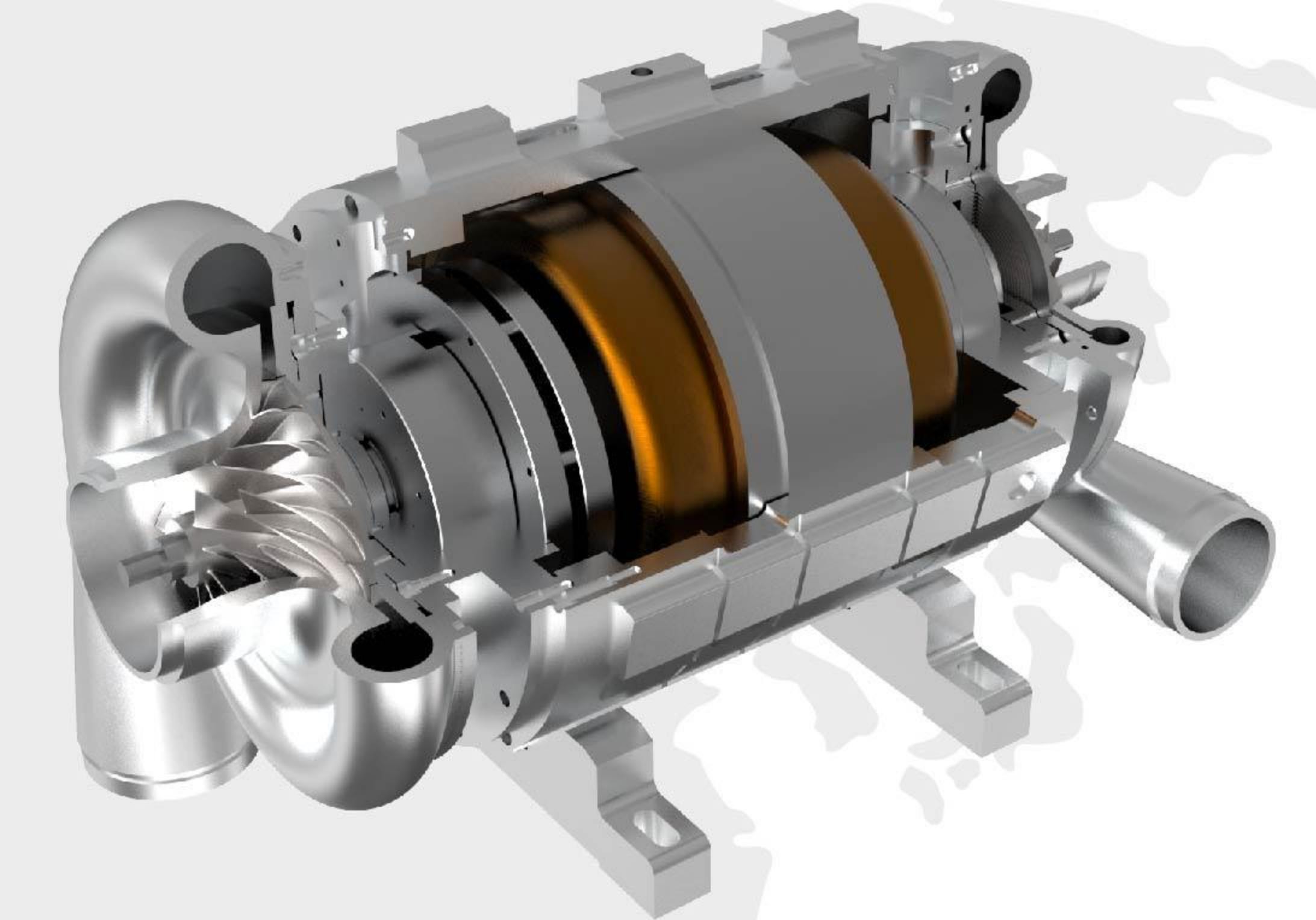


## High efficiency frequency converter

- Use well-known brand inverter, high stability and reliability;
- Provide a miniaturization algorithm for high-speed rotations;
- Achieve high speed rotation function by adjusting frequency (HZ) to save energy.

## Permanent magnet high-speed host

- PMSM permanent magnet synchronous motor with high speed rotation optimization design, efficiency can reach more than 96%, through the frequency converter can be accurate speed control;
- Precision machining ternary flow impeller;
- five degrees of freedom magnetic levitation bearing;
- Liquid cooling + air cooling.

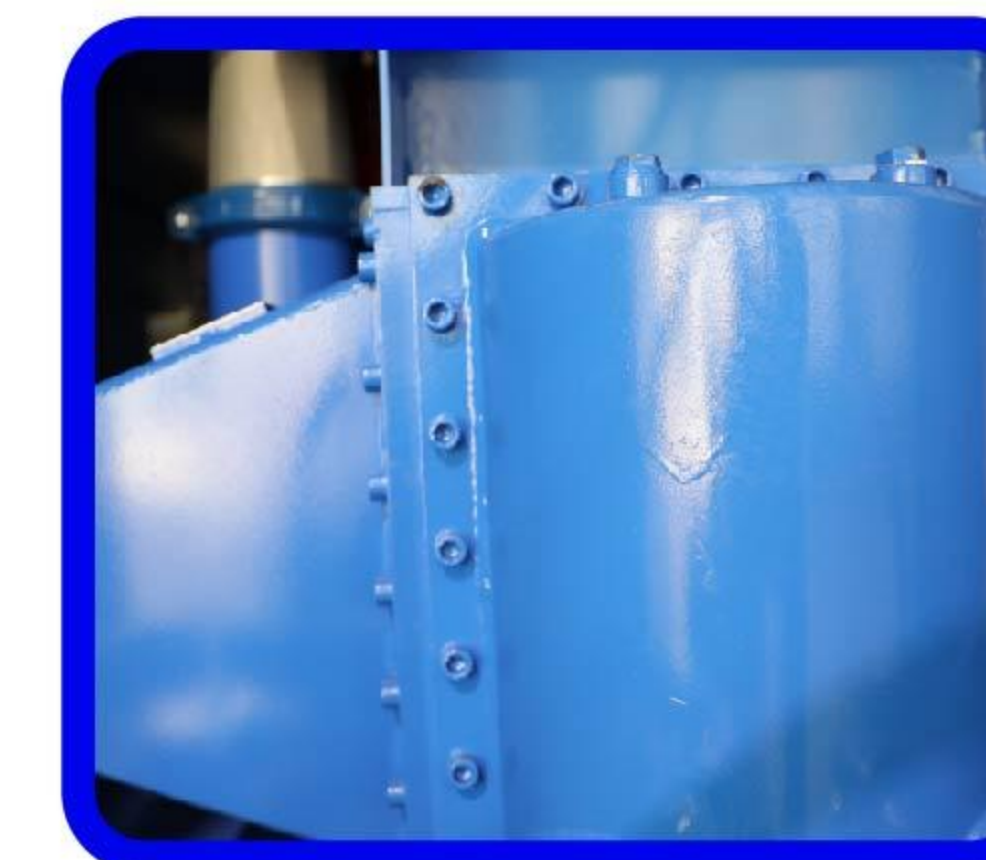


## Intelligent operation panel

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



## Radiator



- High heat transfer efficiency  
Due to the perturbation of the fins to the fluid, the boundary layer is constantly broken, so the heat transfer coefficient is large. At the same time, because the partition and fin are very thin, it has high thermal conductivity.
- Smaller volume, larger heat dissipation area lightweight design, heat exchanger expansion surface area up to 1000m<sup>2</sup>/m<sup>3</sup>.



# IOT TECHNOLOGY

Based on the network, it provides monitoring and digital scientific energy-saving management scheme for the operation and use of air compressor equipment manufacturers

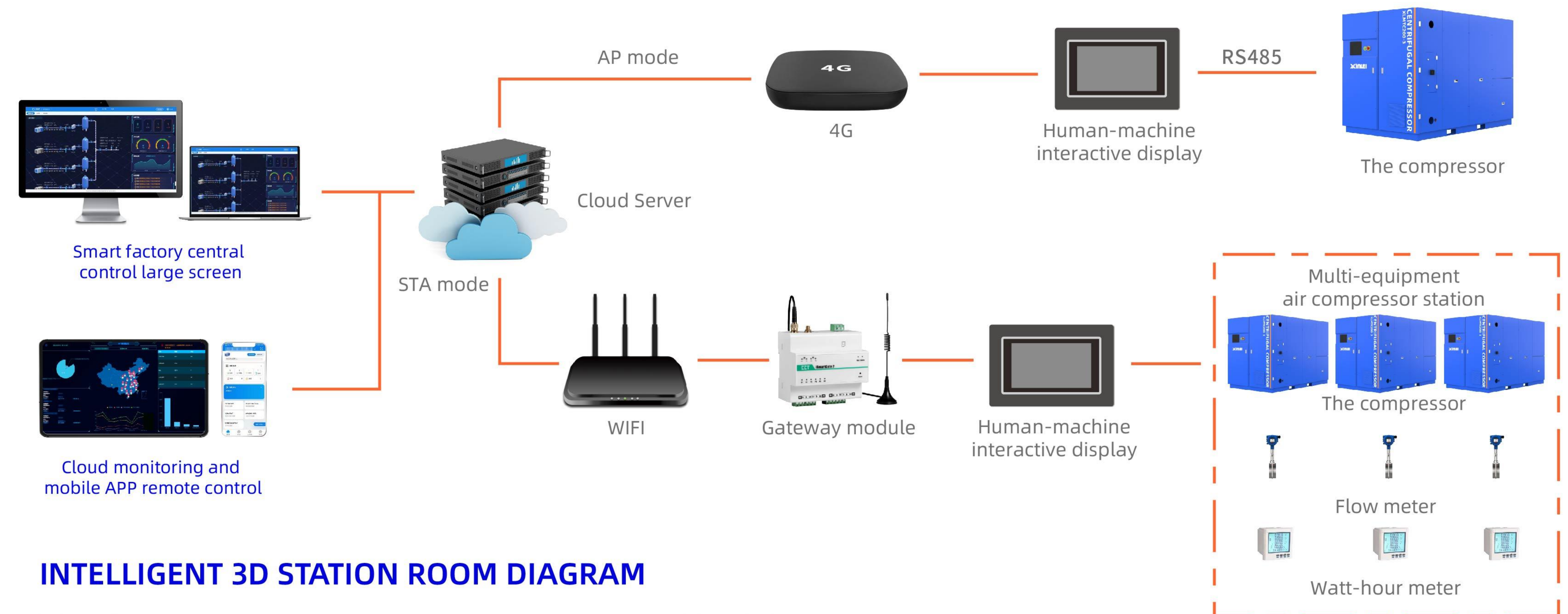
## PRODUCT FUNCTION

The cloud platform can record the operating status, operating parameters and perform fault alarm and data recording analysis of the compressors that have been bound to the platform. Users can log in to the platform to achieve remote monitoring, energy-saving Settings management, enabling users to achieve real-time device management. At present, the iot cloud platform provides ANDROID, IOS, PC clients, and open interfaces to link with third-party software such as ERP, which provides more possibilities for users.

## CORE EQUIPMENT

Core equipment  
The compressor  
Cloud server  
Human-computer interaction screen  
WIFI base station  
All kinds of smart meters  
The gateway module

## TECHNICAL SCHEMATIC



## INTELLIGENT 3D STATION ROOM DIAGRAM



- Visualize equipment running status and view real-time working status
- Real-time monitoring of energy consumption, real-time data collection
- Statistical analysis of gas data to help enterprises make business decisions
- Equipment remote management, intelligent joint control
- Use gas on demand to avoid wasting energy
- Equipment operation daily records, maintenance and daily management are more convenient
- Stable air pressure, scientific energy saving of the whole



# COMPREHENSIVE ADVANTAGES

## High efficiency and energy saving

- Compared with the traditional air compressor, the energy saving is 10%-20%
- Save 20-30% energy compared with piston machine

## High efficiency air management

- PLC control system + touch screen, real-time monitoring of compressor bearing temperature, axis trajectory and other parameters connected with the user main control machine, real-time phased control
- Standard Internet of things, anytime and anywhere to control the operation of air compressor

## Low maintenance cost

- No duty, simple daily maintenance
- oil-free design, reduce the oil road maintenance and repair links, greatly saving maintenance costs

## Stable and reliable

- Power off spontaneous power system, auxiliary bearings to avoid accidental power failure caused by equipment damage

## Magnetic levitation centrifugal compressor

# COMPRESSOR

- Power:110-600kW
- Pressure:0.15-0.8MPa



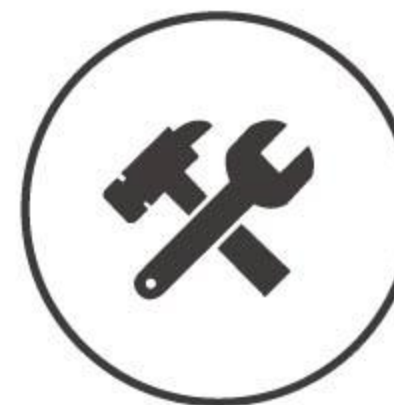
Low noise  
no vibration



Energy  
conservation



Intelligent  
access control



Tear open outfit  
is convenient



# PARAMETER SELECTION

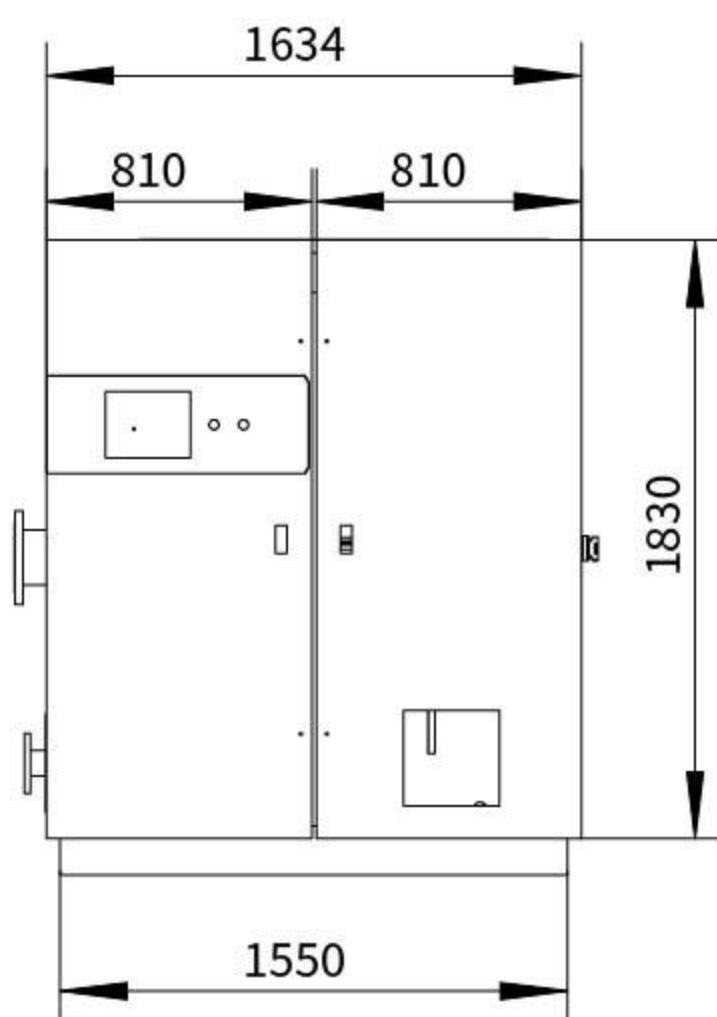
## Technical parameters

Model		XLMTCC 150	XLMTCC 175	XLMTCC 200	XLMTCC 250	XLMTCC 270	XLMTCC 300	XLMTCC 350	XLMTCC 400	XLMTCC 450	XLMTCC 500	XLMTCC 550	XLMTCC 600
Motor power	kW	110	132	150	185	200	220	250	300	335	375	400	440
Exhaust pressure	MPa	Air displacement(m³/min)											
0.15		46	55	63	77	83	92	104	125	140	156	167	183
0.2		39	47	57	66	71	79	89	107	120	134	143	157
0.25		34	41	50	58	63	69	78	94	105	117	125	138
0.3		31	38	45	53	57	63	71	86	93	104	111	122
0.35		—	—	—	49	53	58	66	79	86	96	103	113
0.4		—	—	—	46	50	55	63	75	82	91	98	107
Size (mm)	L	2560	2560	2560	2560	2560	3450	3450	3450	4000	3550	3550	3550
	W	1780	1780	1780	1780	1780	2280	2280	2280	2300	2280	2280	2280
	H	1750	1750	1750	1750	1750	2250	2250	2250	2450	2250	2250	2250
Outlet pipe diameter		DN150	DN150	DN150	DN150	DN150	DN200	DN200	DN200	DN250	DN250	DN250	DN300
Cooling pipe diameter		DN65	DN65	DN65	DN65	DN65	DN80	DN80	DN80	DN100	DN100	DN100	DN100
Weight	kg	2400	2600	2900	3000	3200	3200	4250	4300	4820	5000	5200	5400
The above parameters are 20°C, 1atm, 60% parameters													

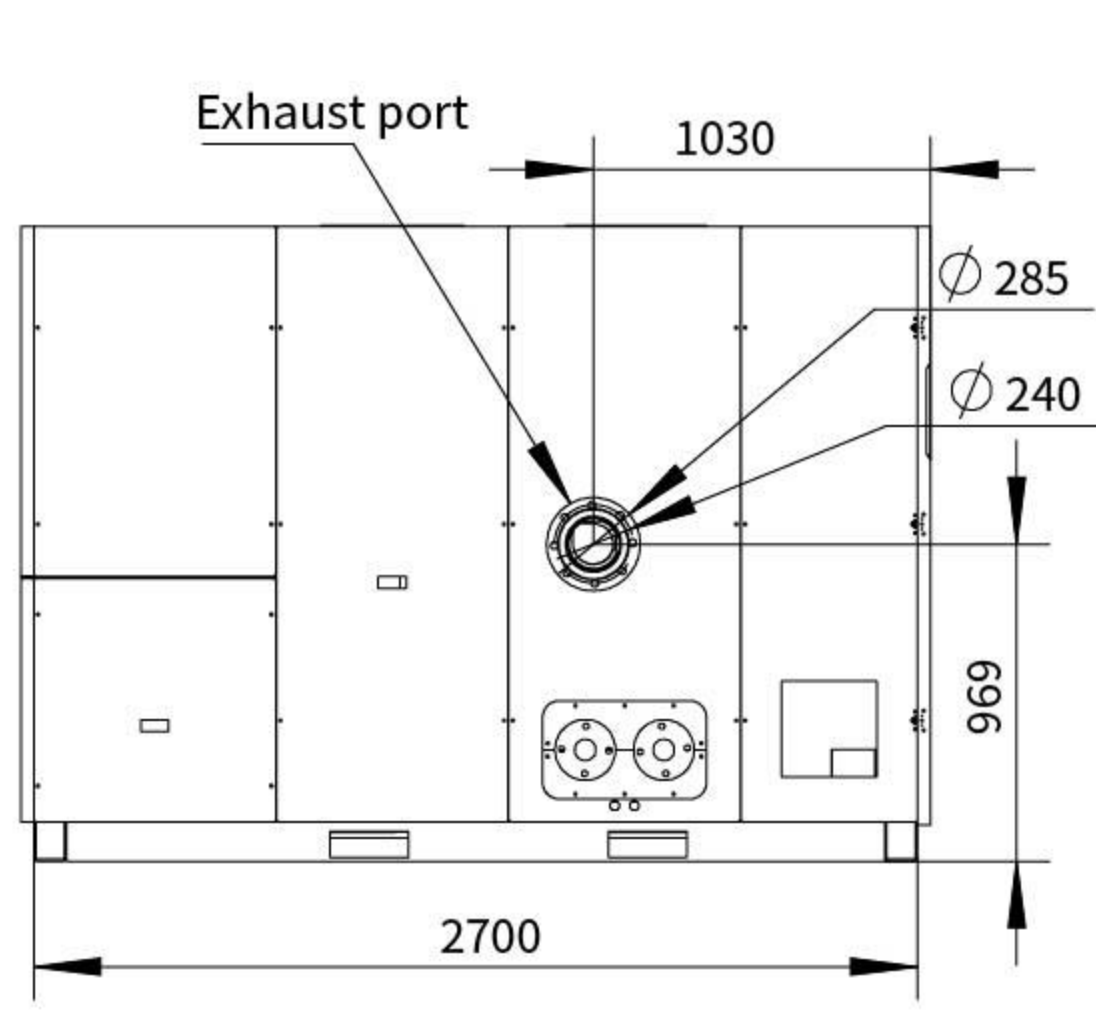
Model	Motor power (kW)	Exhaust pressure (MPa)	Air displacement (m³/min)	Size (mm)	Cooling pipe diameter	Outlet pipe diameter	Weight (kg)
XLMTC400	315	0.8	53	2800x2450x1940	DN80	DN150	5500
		0.7	57	2800x2450x1940	DN80	DN150	5500
XLMTC475	350	0.8	60	2800x2450x1940	DN80	DN150	5600
		0.7	64	2800x2450x1940	DN80	DN150	5600
XLMTC500	375	0.8	64	2800x2450x1940	DN80	DN150	5800
		0.7	68	2800x2450x1940	DN80	DN150	5800
XLMTC535	400	0.8	68	2800x2450x1940	DN80	DN150	5900
		0.7	73	2800x2450x1940	DN80	DN150	5900
XLMTC600	450	0.8	78	3360x3500x2160	DN100	DN200	6800
		0.7	83	3360x3500x2160	DN100	DN200	6800
XLMTC700	525	0.8	91	3360x3500x2160	DN100	DN200	7200
		0.7	97	3360x3500x2160	DN100	DN200	7200
XLMTC800	600	0.8	103	3360x3500x2160	DN100	DN200	7900
		0.7	111	3360x3500x2160	DN100	DN200	7900

## Outline diagram (Take XLMT200 as an example)

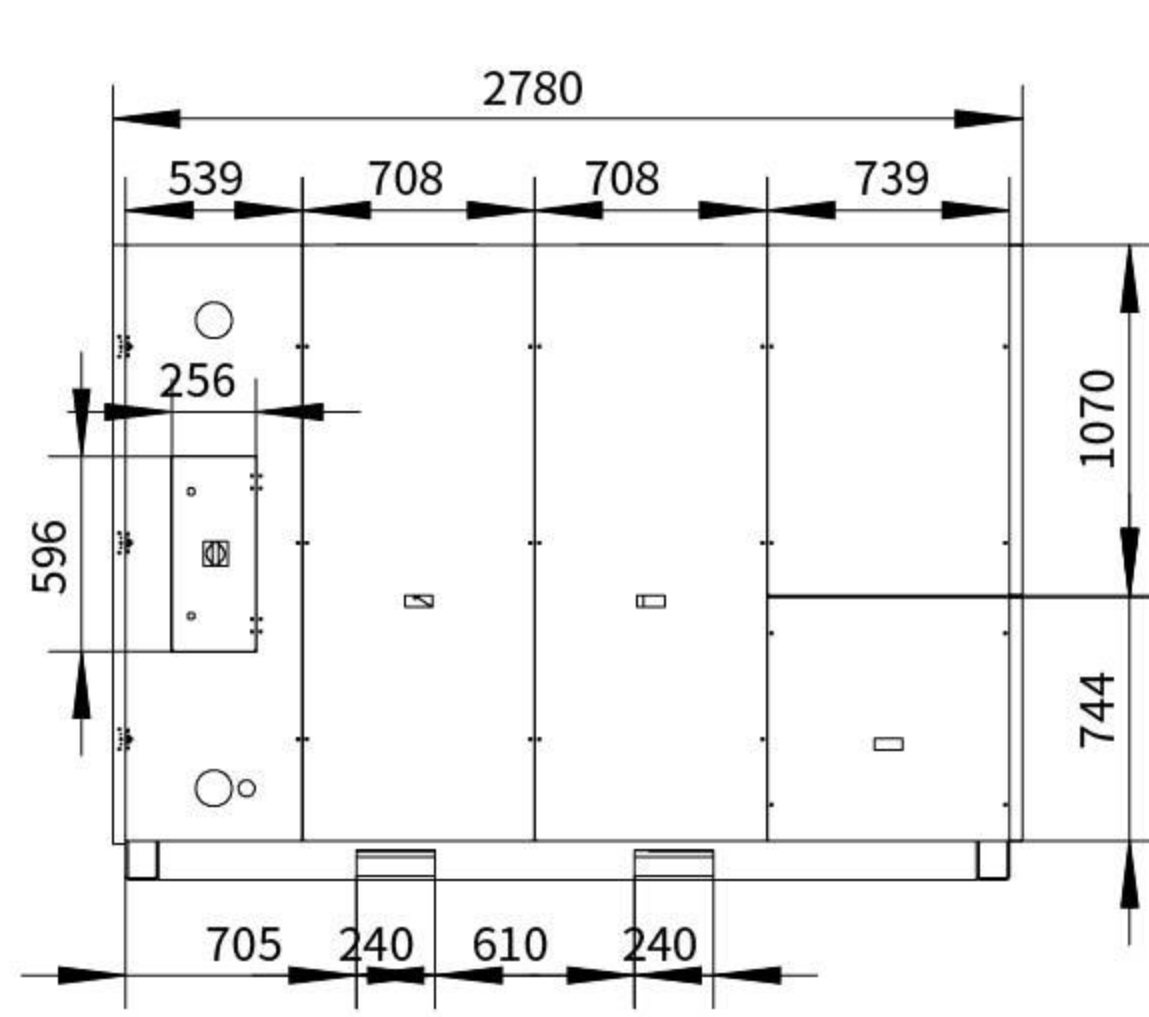
Main view



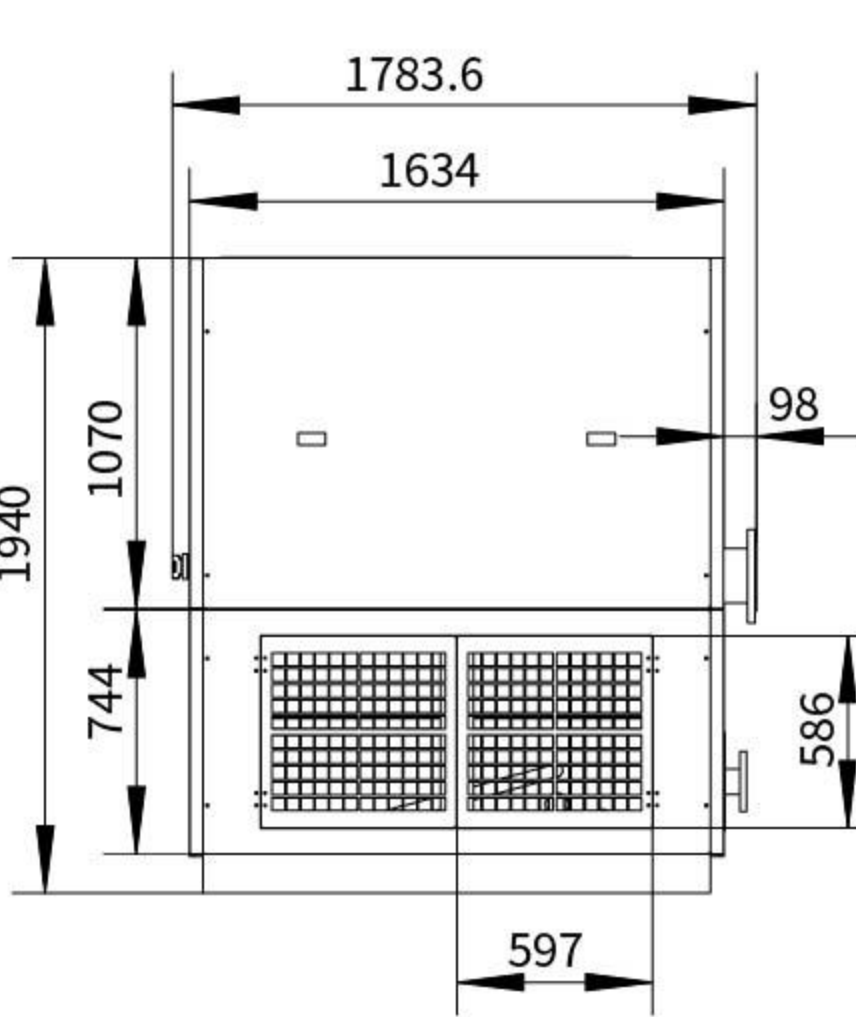
The left view



Right view



Back view





## FERMENTATION INDUSTRY DISRUPTING THE CONCEPT OF AIR USING

📍 Zhangzhou, Fujian



### Project requirements

A pharmaceutical company in Fujian originally used a certain brand of piston machine, relatively speaking, the bearing life is relatively short, the wear and tear of the components lead to the performance of the machine continues to deteriorate, the output can not meet the standards and so on.

**Annual saving is nearly 4 million | electricity saving rate is nearly 35%**

### Solution

After investigation and analysis by the project engineer, the replacement scheme of magnetic suspension centrifugal compressor was provided :6 Xinlei magnetic suspension centrifugal compressors replaced the original 10 piston machines. Semi-permanent, frictionless, no lubrication and other features make the machine in the life cycle will not occur performance attenuation, compared with the original machine energy saving of about 35%, significantly reduce the operating cost, improve system stability.

### Solution advantage

- 1. Leading energy-saving industry**—Energy-saving rate of up to 35%, annual electricity savings of nearly 4 million yuan, easily compressed energy costs.
- 2. Stable control**—Replace multiple old equipment, precise running power, more stable and efficient system.
- 3. Low-noise operation**—Reduce the number of equipment, low noise operation, the production environment is more quiet and comfortable.

## TEXTILE INDUSTRY DIGITAL INTELLIGENCE SOLUTIONS

📍 Shandong



### Project requirements

A textile company in Shandong has been working in the textile industry for many years. The company originally used 2 sets of 185kW two-stage compression screw compressors. Due to the noise, power consumption, frequent failures, calibration frequency and the practical frequency is very different, and so decided to replace the upgrade.

**Annual savings of up to 280,000 yuan | electricity saving of nearly 25%**

### Solution

Xinlei technical team in-depth customer site, fully understand the customer's actual use conditions, according to the customer's production gas consumption tailored program - with a 210kW Xinlei magnetic suspension centrifugal compressor to replace the original two sets of two-stage compression screw air compressor.

### Solution advantage

- 1. Energy-saving giant**—After upgrading, the energy-saving rate is about 25%, and the annual electricity cost is up to 280,000 yuan.
- 2. Intelligent control master**—Precise customized solutions, perfect match the actual gas needs of customers, intelligent monitoring of operating status.
- 3. Green low-carbon and more environmentally friendly**—Oil-free magnetic suspension bearing system, reducing equipment maintenance, completely prevent secondary pollution.