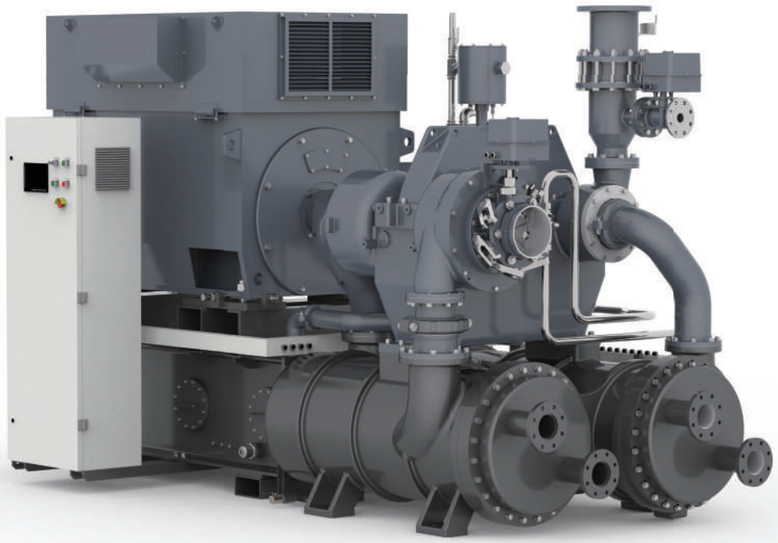
BUSINESS REPRESENTITIVE NAME CARD

SILVERSTONE
INDUSTRIAL

CENTRIFUGAL TURBO COMPRESSOR



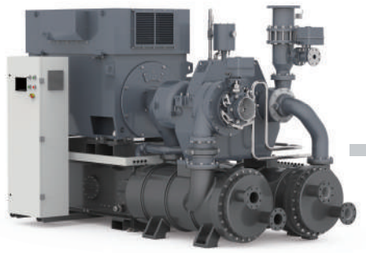
E-mail: contact@sind.ltd
Web: www.sind.ltd

HIGH ENERGY-EFFICIENCY
AIR COMPRESSOR MANUFACTURER

TURBOPURE

SILVERSTONE INDUSTRIAL

COMPRESSED AIR PURIFICATION FLOW CHART



Centrifugal Air Compressor

Oil Free Screw/Scroll Air Compressor

Oil Lubricated Screw Air Compressor

Air/Water Separator

Filter Grade V/A (Optional)

Air Reservoir Tank

Refrigerated Air Dryer

Consumables

Filter Grade V

Filter Grade A

Filter Grade B

Filter Grade A/B

Adsorptive Dryer

Filter Grade AC

Filter Grade AD

Filter Grade B

Adsorptive Dryer

Filter Grade B/AC

1 Architecture
Cleaning
Sand Blasting
Stamping

2 Metalwork
Pressure Forming
Pneumatic Machinery
Parts Drying

3 Precision Machinery
Electronic Industry
Packing
Printing

4 Spraying
Electronics
Textile

5 Medicine
Bioengineering
Chemical Industry

6 Lithium Battery
Pharmacy
Food

Configuration Refers To ISO80753/GB13277.1-2017 Compressed Air Contaminants & Purity Classes

CATALOGUE

ABOUT SIND

Silverstone Industrial, a family-owned industrial alliance, has roots in United Compressor Systems (UCS) and has formed strategic partnerships with AirThink and AST to deliver innovative solutions in industrial air compressor technology.

UCS, Founded in 2002, UCS specialises in developing and manufacturing high-efficiency industrial compressors under the United OSD and United Compressor Systems brands. Since 2013, a strategic partnership with Japan's HITACHI Group has enhanced UCS's capabilities in design, production, and quality control, leading to the launch of innovative and energy-saving products such as two-stage screw compressors and oil-free compressors.

AirThink, a high-tech enterprise headquartered in the same industrial park as UCS in Jiading, Shanghai, offers a comprehensive range of services for compressed air systems, including intelligent equipment R&D, customisation, and air compressor station lifecycle management. With a strong focus on energy efficiency and safe production, Air-Think serves a diverse range of industries across China through its network of over ten subsidiaries.

AST, co-located with AirThink's manufacturing base in Wuxi, focuses on the R&D, manufacturing, and sales of reliable and efficient centrifugal compressors. These products cater to industries such as steel, petrochemical, and automotive, providing high-quality services on a global scale.

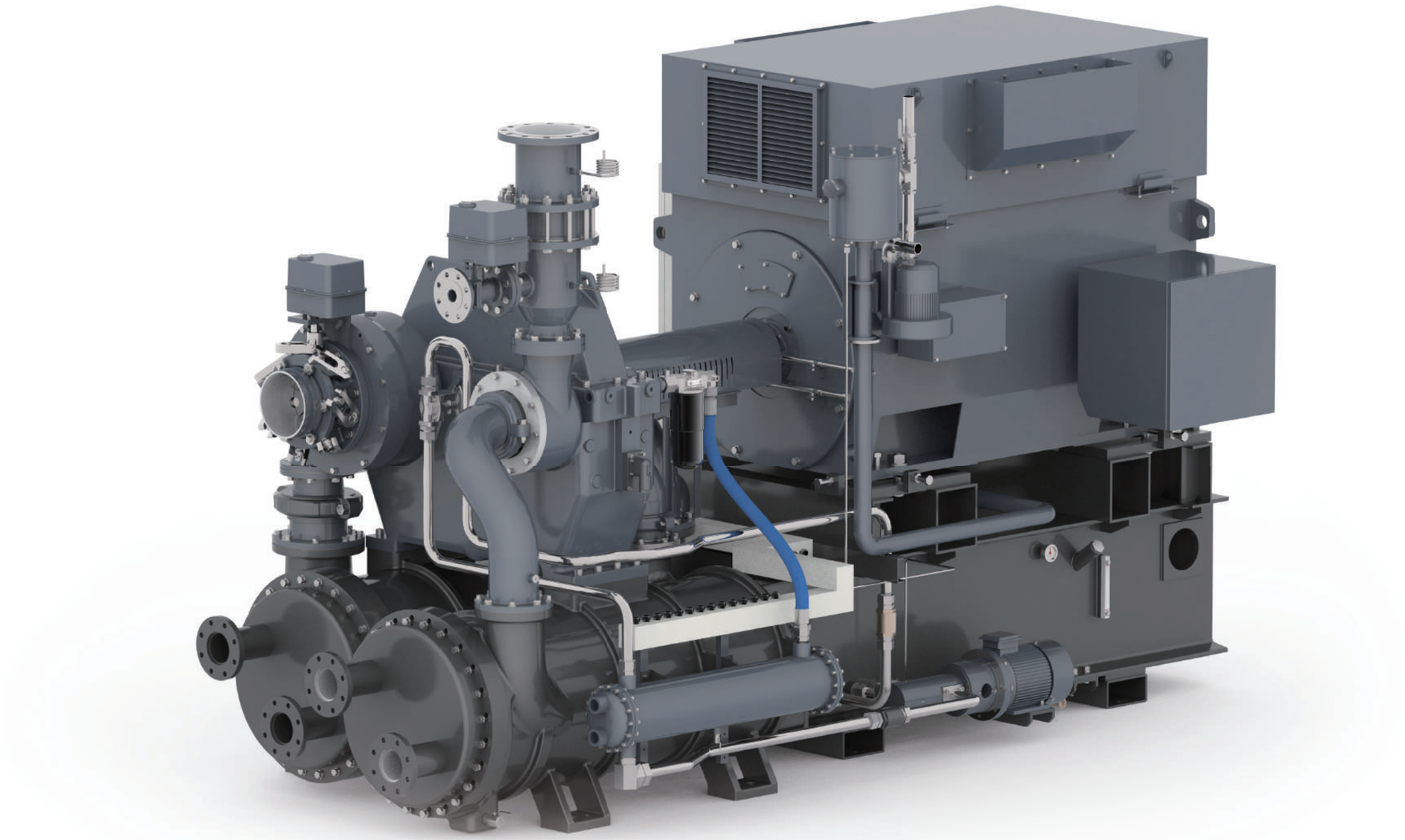
The industrial alliance has earned a broad reputation and ranks among the top five in manufacturing output in China's air compressor industry. The alliance offers a comprehensive product series, including stationary and mobile-type screw/scroll compressors, centrifugal compressors, and innovative compressor solutions, to industrial users. By leveraging robust product and technical service support, Silverstone Industrial targets the international market, providing customers with cost-effective air compressor products and compressed air station solutions.

AirThink Joint Production Plant
(Intelligent Skid / Container Air Station)

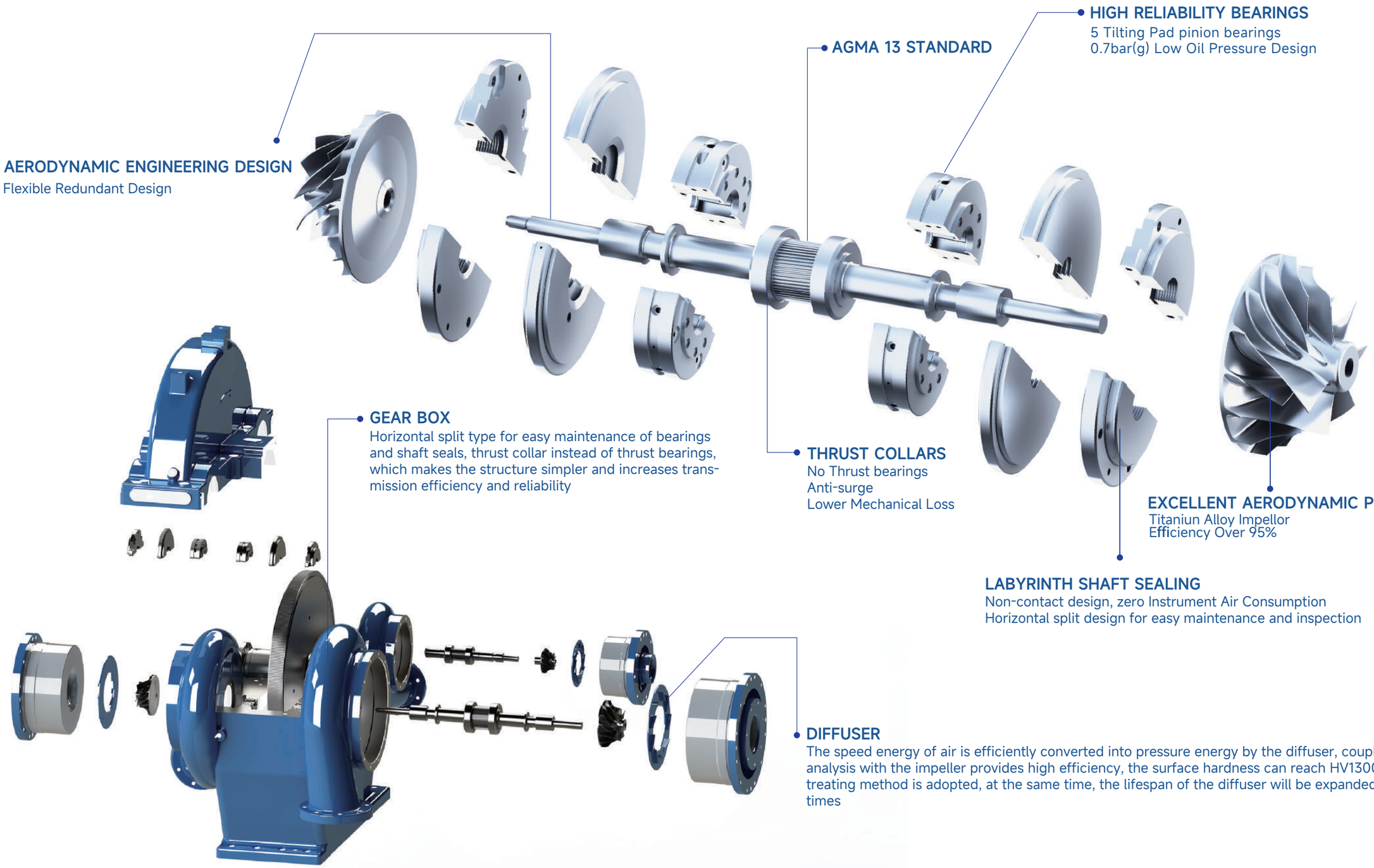
AST Production Plant
(Centrifugal Compressor)

UCS & Hitachi Joint Production Plant
(Screw & Scroll Compressor)

CENTRIFUGAL TURBO COMPRESSOR



INNOVATIVE LEADING EDGE COMPRESSOR TECHNOLOGY



AERODYNAMIC ENGINEERING DESIGN
Flexible Redundant Design

AGMA 13 STANDARD

HIGH RELIABILITY BEARINGS
5 Tilting Pad pinion bearings
0.7bar(g) Low Oil Pressure Design

GEAR BOX
Horizontal split type for easy maintenance of bearings and shaft seals, thrust collar instead of thrust bearings, which makes the structure simpler and increases transmission efficiency and reliability

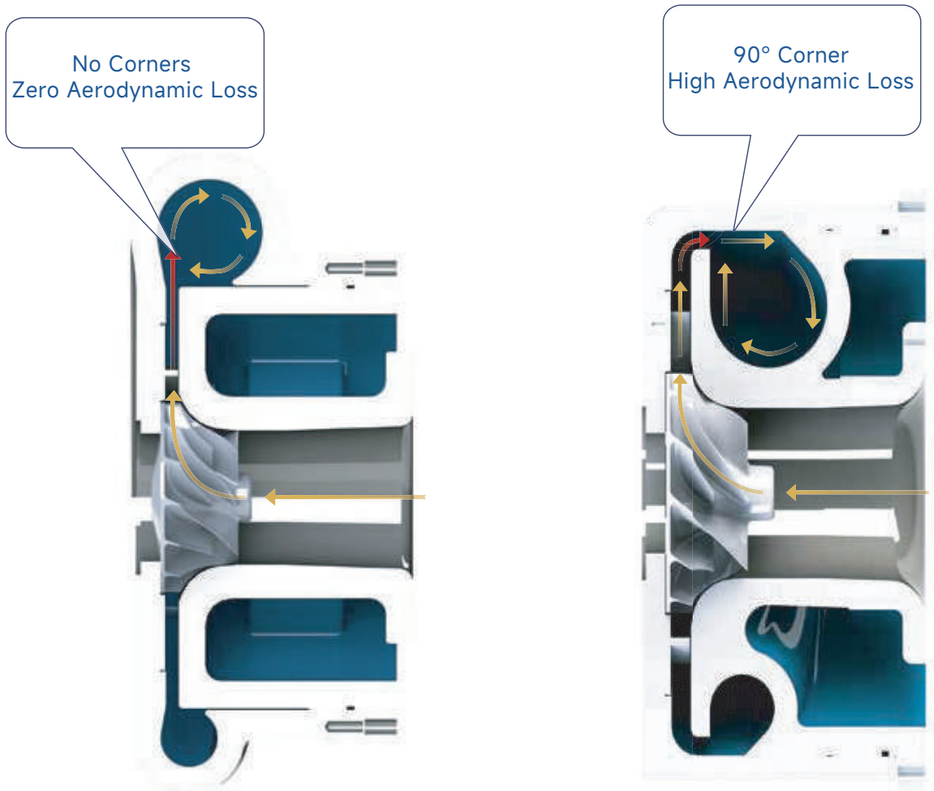
THRUST COLLARS
No Thrust bearings
Anti-surge
Lower Mechanical Loss

EXCELLENT AERODYNAMIC PERFORMANCE
Titaniun Alloy Impellor
Efficiency Over 95%

LABYRINTH SHAFT SEALING
Non-contact design, zero Instrument Air Consumption
Horizontal split design for easy maintenance and inspection

DIFFUSER
The speed energy of air is efficiently converted into pressure energy by the diffuser, coupled analysis with the impeller provides high efficiency, the surface hardness can reach HV1300 for MA treating method is adopted, at the same time, the lifespan of the diffuser will be expanded to 3 times

HIGH-EFFICIENCY EXTERNAL VOLUTE

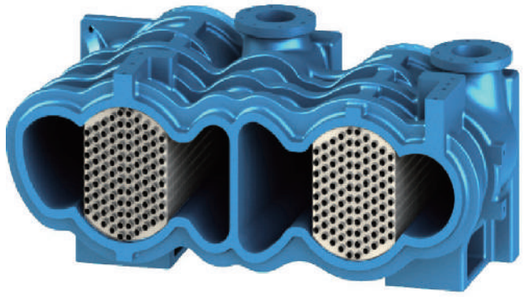


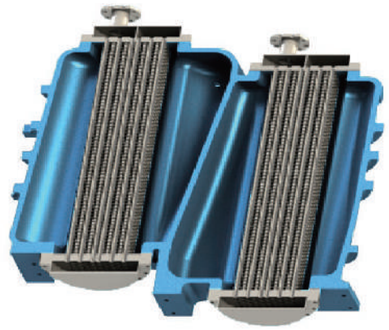
Outer Scroll Design

Inner Scroll Design

The outer scroll design reduces the airflow by one bend compared to the inner scroll, increasing efficiency by 20%.

PATENTED HIGH EFFICIENCY AND HIGH RELIABILITY COOLER





High-Efficiency and High-Reliability Design

1.Straight pipe design, no core extraction required during maintenance, easy to maintain, saving 90% on maintenance time

2.No wear parts, low maintenance costs

3.Enlarged design for efficient heat exchange, low water consumption, ultra-low gas pressure drop, saving 1-2% energy compared to traditional structures

4.Patented variable cross-section design, effective gas-liquid separation

5.Stainless steel core support design, reduces the risk of corrosion

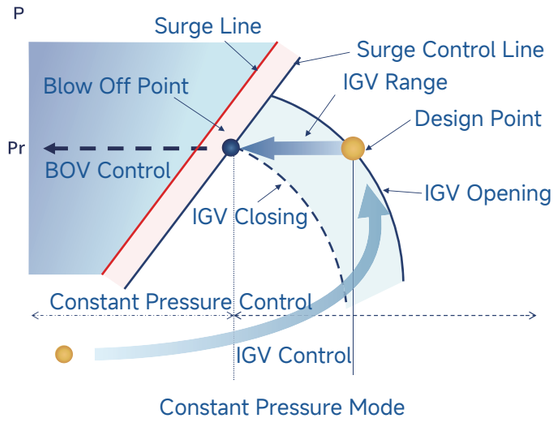
6.No fasteners, the risk of damage to the impeller from falling parts is zero

7.Dual-end support, the risk of cooler core damage due to resonance is zero

8.Ultra-long life span drain valve, rust-proof, powerful drainage, zero air loss

PRECISION ENERGY-SAVING ADJUSTMENT MODE

IGV



Constant Pressure Mode

● Advantages of IGV over Butterfly Valves

Compressors using IGVs are 7-9% more efficient than those using butterfly valves because IGVs have a pre-rotation effect on the incoming air, allowing the gas to enter the impeller at the same angle as the impeller blades. Additionally, IGVs can provide a wider range of adjustment, resulting in less air flow disturbance and smoother regulation.

● 0-100% Flow Rate Regulation Description

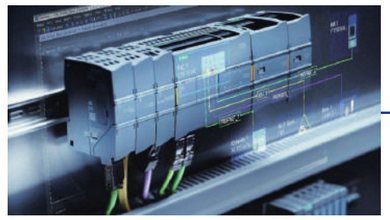
The compressor utilizes a highly reliable blow-off control valve, capable of operating within a 0-100% flow range, and can load and unload up to 200,000 times per year.

PLC + TOUCHSCREEN CONTROL SYSTEM

● Touch screen introduction

The 7-inch touchscreen boasts sensitive response speed, ease of communication, robust durability, and space-saving benefits. It is currently the most convenient, simple, and natural form of human-machine interaction, and it supports multi-touch operation, which is sensitive and characterized by low accidental touch and high durability.

● PLC introduction



In the manufacturing industry, the innovative system solution - the modular controller SIMATIC S7-1200 features modularity, compact structure, and comprehensive functionality, making it suitable for a variety of applications and ensuring the long-term security of existing investments. Thanks to its expandable flexible design, communication interfaces that meet the highest industrial communication standards, and a full range of integrated process functions, it can be integrated as a component in a complete integrated automation solution.

※ Advanced PLC Control System

※ Provide automatic dual, constant pressure control, and self-balancing control modes for automatic air volume adjustment.

※ Display all operational parameters and provide parameter settings.

※ Possess adjustable alarm and shutdown functions.

※ Possess anti-surge function and surge prediction capability.

※ communicate via DH+, Modbus, Profibus, or Ethernet protocols.

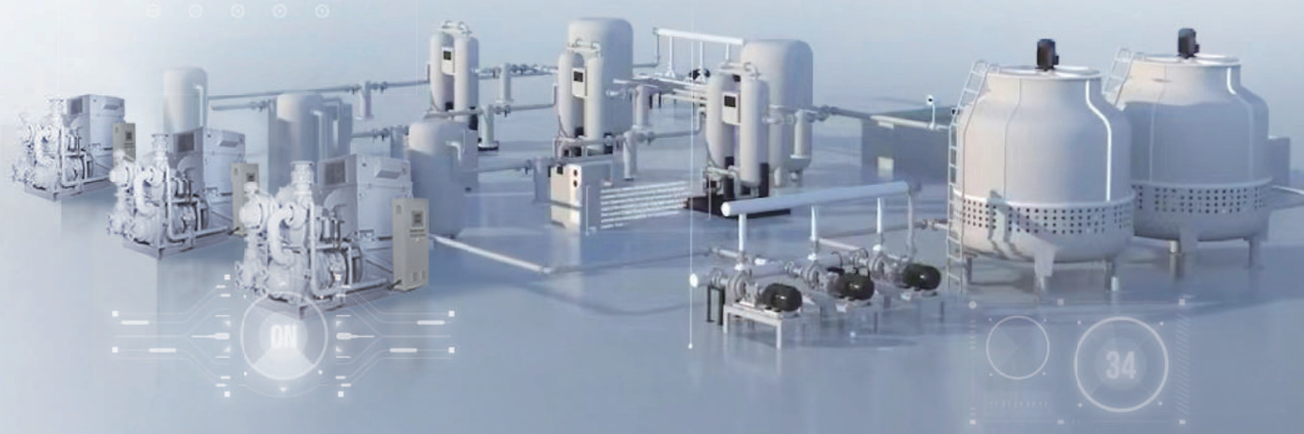
IMPELLER

Anti-corrosion special coating
golden impeller

- Aviation class high efficiency and high reliability titanium alloy impeller
- Anti-corrosion special coating impeller used for high corrosion industry
- Five-axis precision machining forging 3D flow back leaning design impeller
- Higher aerodynamic efficiency
- Splitter blade design for large flow
- Low flow loss and better adaptability for off-design conditions

COMPREHENSIVE SYSTEM SOLUTION

- Reliable, safe, environmentally friendly, and energy-saving
- PLC control system, with a user-friendly interface and simple operation
- Easy to maintain, low cost
- No special foundation required, no need for pre-embedded anchor bolts
- No need for sealing gas
- Contract Energy Management.
- Thermal recovery and other complete systems
- Grades 1-4 are available for selection
- No meter gas required
- Surge protection
- Oil-free, silicone-free
- Low noise, low vibration
- Energy-saving dryer



5G Cloud Platform

Digital Air Compressor Station

Data monitoring + Visualization:
Reduce operational risk by 99%

※ Data intelligence cockpit, a comprehensive view of the entire plant's data.
※ Real-time equipment data monitoring, 3D virtual workshop.
※ Fault online early warning, maintenance cycle reminder.
※ Energy consumption load big data analysis.
※ Workshop comprehensive diagnostic report.

DCS integrated control system

Interlock control

The centralized control system, through control logic, completes interlocking control, data monitoring, and optimized management of on-site compressors, dryers, fans, and pumps, ensuring that the system operates safely, rationally, and efficiently.

Control or monitor

The centralized control system simultaneously controls or monitors the centrifugal oil-free air compressors as well as the associated dryers, fans, and pumps.

Data acquisition and exchange

The system is connected to the on-site centrifugal oil-free compressors and dryers through a communication protocol network to perform data acquisition and exchange.

Constant pressure

Based on the system's set pressure, it can automatically control all centrifugal compressors that are in operation to ensure that the system's output pressure remains constant.

Automatic start-stop unloading and loading

The system automatically starts and stops, unloads and loads the compressors based on the air demand, ensuring that the compressors operate under optimal conditions.

● Intelligent spot inspection

Efficiency Improvement:
Increase operational and maintenance efficiency by 100%.

● Energy saving and consumption reduction

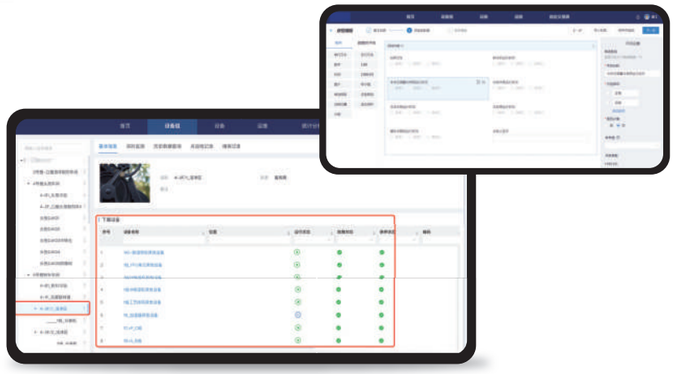
※ Intelligent water, electricity, and gas reports for the entire plant, with automatic statistics.

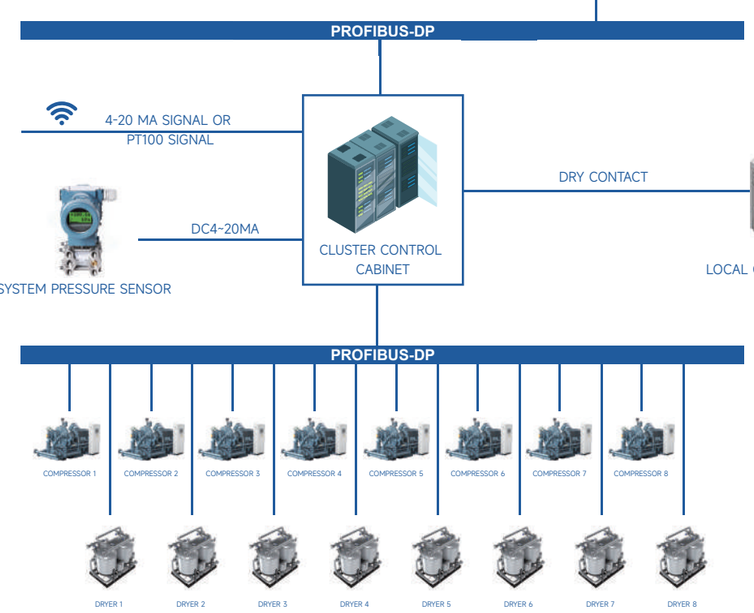
※ Real-time monitoring of core indicators across the entire plant to ensure quality.

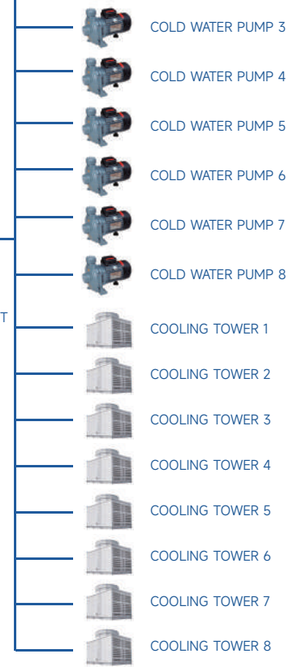
※ Fault online early warning to reduce the risk of downtime.

※ Equipment scheduled for automatic inspection, eliminating the need for manual data recording.

※ Equipment failure directly escalates to maintenance, enhancing repair efficiency.

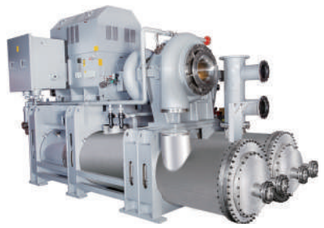






CUSTOM MACHINE (BOOSTER) SPECIAL PROCESS GAS COMPRESSOR

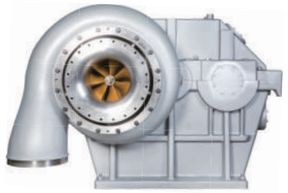
INTEGRATED CENTRIFUGAL COMPRESSOR FOR NUCLEAR POWER PLANTS (SEAWATER COOLING, FULLY CORRO-SION-RESISTANT)



FUME GAS CENTRIFUGAL COMPRESSOR

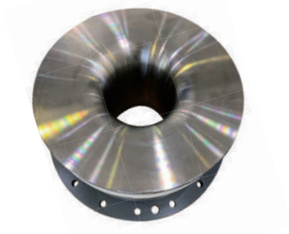
ARGON GAS CENTRIFUGAL COMPRESSOR

HIGH-FLOW SINGLE-STAGE BLOWER HEAD FOR FERMENTATION AND INTENSIFICATION



CARBON DIOXIDE CENTRIFUGAL COMPRESSOR HEAD

ALL-STAINLESS-STEEL INLET GUIDE VANE (IGV)



STAINLESS STEEL FLOW DIVERTER

LH Series Turbine Compressors for Customized Special Requirements, Suitable for Air Separation, CCUS, Compressed Air Energy Storage, Fire-Driven Oil Extraction, Oxygen-Enriched Combustion, Argon Recovery, Mechanical Vapor Recompression (MVR), Pressure Swing Adsorption (VPSA), and Process Gases

Full-Scenario Customization

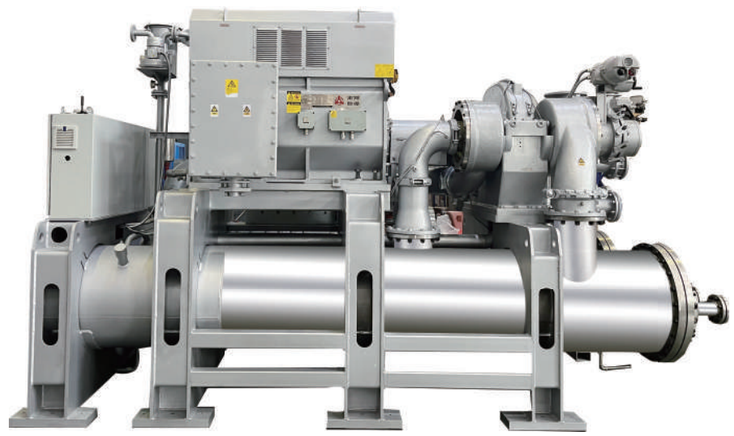
In response to the differences in market applications and to meet the varying needs of customers in different scenarios, we provide reliable and energy-efficient products for various media and gas usage scenarios. We manufacture and produce products that exceed customer expectations, strictly adhering to the highest industry standards.

Stable and Reliable

The unit is designed with a lifespan of 30 years. Based on the different gas media and scenarios, we provide unique high-reliability solutions with a long service life. This includes specially surface-treated impellers, stainless steel volute casings and guide vanes, stainless steel cooler casings with special surface treatment, and highly redundant control system solutions, etc., to ensure the unit's stable and reliable operation.

Long-Term Energy Saving

Exclusive seventh-generation impeller design, customized impellers, diffusers, volute casings, and coolers, etc., to match the actual application requirements of customers, achieving the best isothermal efficiency and the lowest mechanical losses. The design and manufacturing of the unit consider the stability of efficiency during long-term operation, truly achieving long-term energy saving.



SHOW CASE



IRON
&
STEEL REFINING




PETROLEUM
&
CHEMICAL INDUSTRY




FIBER
&
TEXTILE INDUSTRY






SHIPBUILDING
INDUSTRY

AIR SEPARATION
EMC







FOOD
&
PHARMACEUTICALS



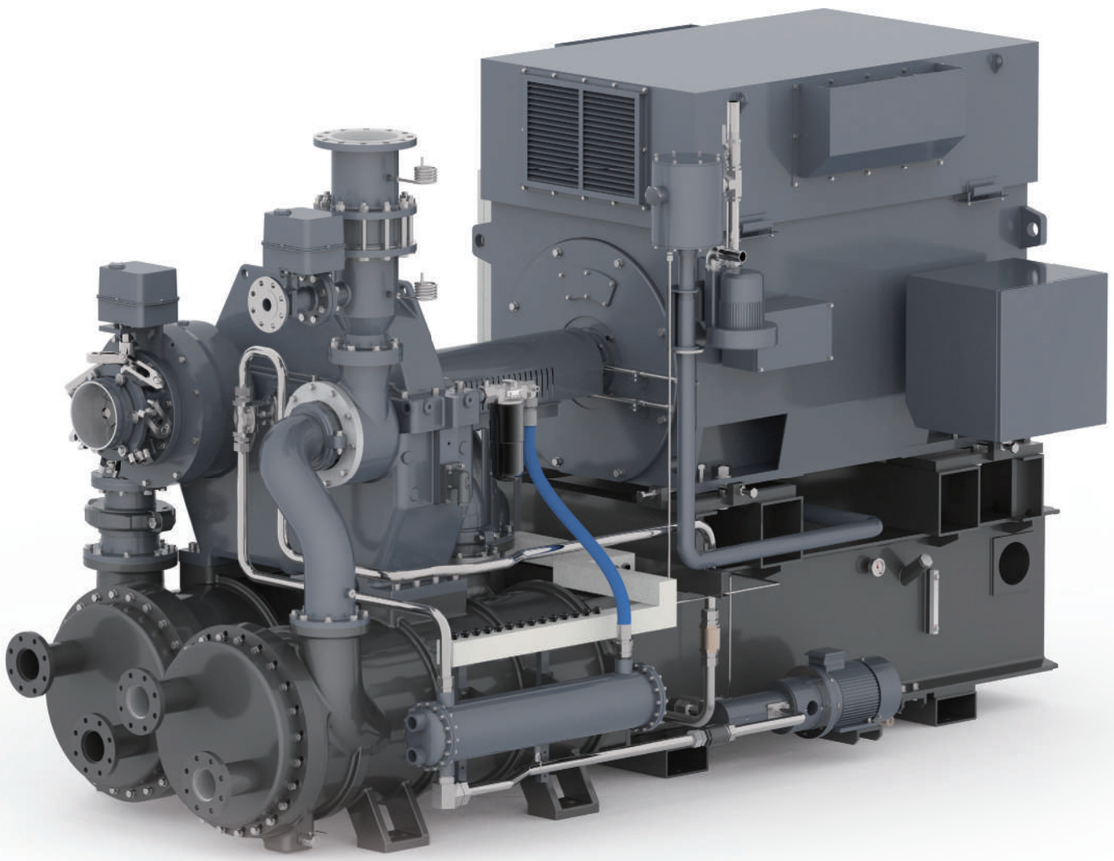


PHOTOVOLTAIC
&
LITHIUM-ION

MICROELECTRONICS
&
AUTOMOBILE



CENTRIFUGAL TURBO COMPRESSOR



TurboPure MT90 Series

Capacity Range:	25-100m³/min
Discharge pressure:	0.6-11bar(g)
Main Motor Power:	100-600kW
Main Motor Voltage:	380V/3KV/6KV/10KV/50Hz/3Ph

TurboPure MT150 Series

Capacity Range:	100-240m³/min
Discharge pressure:	0.6-16bar(g)
Main Motor Power:	300-1350kW
Main Motor Voltage:	380V/3KV/6KV/10KV/50Hz/3Ph

TurboPure MT300 Series

Capacity Range:	200-400m³/min
Discharge pressure:	0.6-11bar(g)
Main Motor Power:	600-2000kW
Main Motor Voltage:	3KV/6KV/10KV/50Hz/3Ph

TurboPure MT500 Series

Capacity Range:	400-1800m³/min
Discharge pressure:	0.6-150bar(g)
Main Motor Power:	1000-15000kW
Main Motor Voltage:	3KV/6KV/10KV/50Hz/3Ph

Remark:

The machine size, weight and other parameters may change according to the customer's actual working conditions, and the actual data shall subject to the finished product.

AFTER SERVICE

'BE OF SERVICE' ATTITUDE

- LEARN CUSTOMER'S NEEDS
- CAREFULLY DIAGNOSE FAULTS
- TROUBLESHOOTING BY HEART