BUSINESS REPRESENTITIVE NAME CARD

SILVERSTONE
INDUSTRIAL

SCREW VACUUM PUMP

E-mail: contact@sind.ltd
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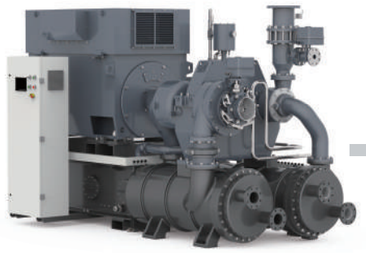
HIGH ENERGY-EFFICIENCY
AIR COMPRESSOR MANUFACTURER

VACPRO

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)

FEATURES

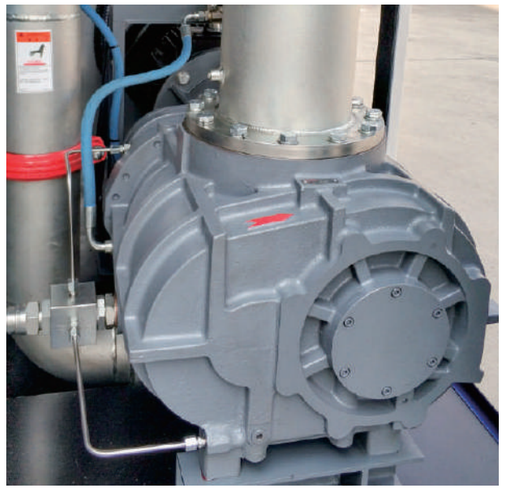
VACPRO SERIES

- SPECIAL AIR END FOR VACUUM APPLICATIONS
- PERMANENT MAGNETIC DIRECT DRIVE
- OIL LUBRICATING
- EFFICIENT AND RELIABLE

VACUUM SPECIAL OIL-SEALED TWIN-SCREW AIR END

Efficient Reliable Low noise

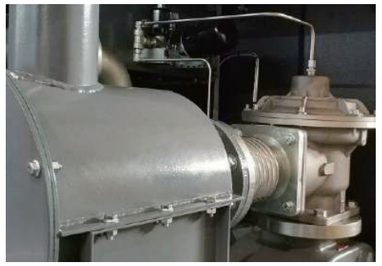
The VACRO air end is designed with either 7 or 8 sets of bearings, ensuring optimal stability and reliability. By utilizing an exhaust end drive mechanism, the system enhances the dependability of the shaft seal assembly. This innovation not only minimizes vacuum leakage but also significantly boosts the efficiency of the air end.



The VACPRO air end's enhanced lubrication channels and bearing housings eliminate the need for an external forced oil pump. This design relies on differential pressure to achieve effective lubrication and cooling, ensuring air end reliability while reducing component and failure points. The absence of an external pump also decreases energy consumption and enhances overall machine efficiency.

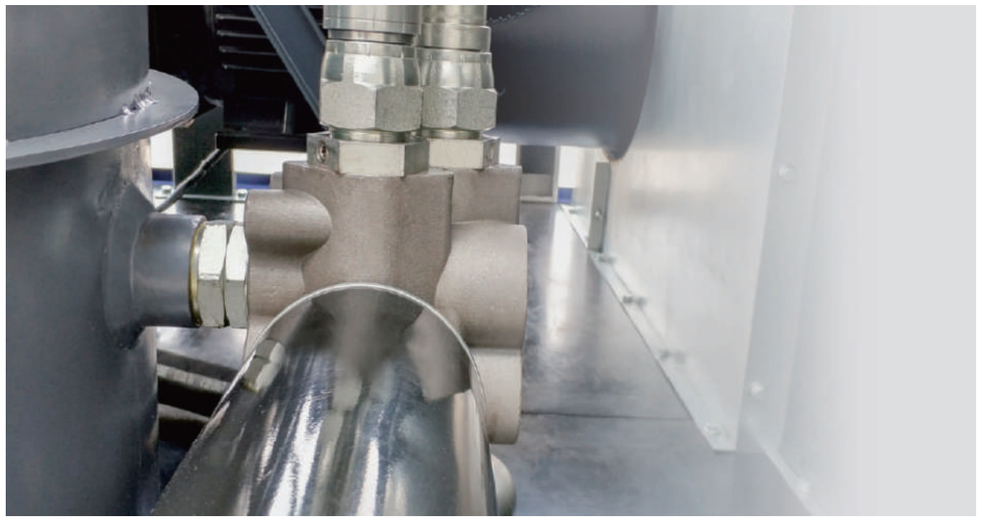
The rotor profile is specially optimized for industrial vacuum applications, precision-machined using a high-accuracy rotor grinder. Fine-tuned exhaust pressure ratios and orifice designs further increase the efficiency of the vacuum pump air end.

SPECIAL VACUUM INTAKE FILTER INTAKE CONTROL VALVE



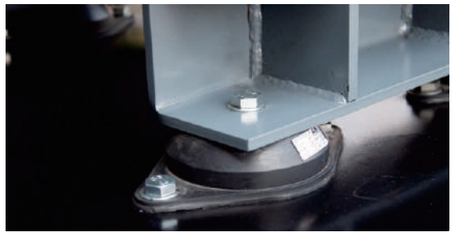
The VACPRO vacuum intake filter is specifically designed for pre-filtration, offering a 99% filtration efficiency at 5 microns and a high dust holding capacity. This ensures the safe operation of the air end. With an ultra-low pressure drop, it significantly improves the overall efficiency of the vacuum pump.
The intake control valve, tailored for oil-sealed screw vacuum pumps, is automatically regulated to sustain optimal vacuum levels and the circulation of lubricating oil, ensuring consistent performance.
This streamlined approach reduces complexity and enhances the reliability of vacuum pump operations.

COOLING SYSTEM AND OIL WAY SYSTEM



The VACPRO system incorporates a high-efficiency cooler with ultra-low pressure drop, a specialized lubricating oil filter system, and a temperature control valve, all designed for vacuum applications. These components provide ample redundancy to maintain the equipment's optimal working temperature and effectively manage the oil circuit's pressure drop.
The system also features a low-noise, high-efficiency fan that minimizes wind noise. Coupled with a well-designed airflow field, it effectively regulates the internal temperature of the machine, ensuring quiet and efficient operation.

NOISE REDUCTION AND SOUND INSULATION SYSTEM



The noise reduction enclosure and sound insulation system, along with the shock absorption foundation, effectively mitigate noise propagation, significantly lowering the equipment's noise level. This solution delivers a quieter production environment for our customers.

HIGH-EFFICIENCY OIL-AIR SEPARATOR

The optimized pre-separation structure and a redesigned oil-air separator for vacuum applications ensure that the majority of lubricating oil is separated prior to reaching the oil separator element. This reduces the load on the polymeric separation element, enhances separation efficiency, and maintains the exhaust air oil content at 3ppm or lower, effectively safeguarding the environment.

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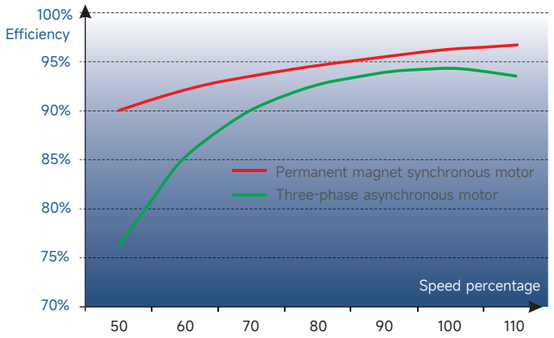
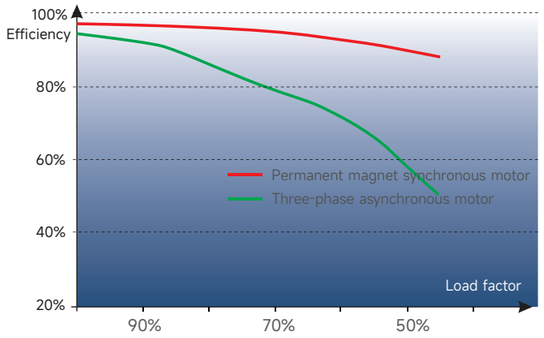
MORE SUITABLE FOR VACUUM PUMPS PERMANENT MAGNET SYNCHRONOUS VARI-ABLE-FREQUENCY VPM MOTOR DIRECT DRIVE

The VacPro series oil-sealed screw vacuum pumps are powered by a high-efficiency permanent magnet synchronous frequency motor, addressing the efficiency challenges faced by traditional three-phase asynchronous motors at low speeds. Key features include:

- High coercivity and temperature-resistant permanent magnets that remain stable up to 150°C, preventing demagnetization.
- Built-in PTC temperature protection to safeguard against demagnetization due to faults.
- An IP55 rating ensures a clean motor interior, extending the service life of the permanent magnet and insulation.
- A low-temperature rise design accommodates long-term operation within a low-speed range.
- An independent, high-volume forced cooling fan ensures effective motor cooling during extended low-speed operation.
- The motor provides precise vacuum control with excellent dynamic response and rapid adjustment capabilities.
- Smooth variable-frequency start-up minimizes power grid impact.
- Super first-class energy efficiency with IE4 motor efficiency exceeding 97%.
- A high power factor of over 98% reduces the load on the customer's power grid, maintaining power quality and reducing equipment's apparent current.
- These enhancements ensure reliable performance and energy efficiency, adapting to diverse operating conditions.



Permanent magnet synchronous motors maintain close to their highest efficiency over a wide range of speeds



Permanent magnet synchronous motors maintain close to their highest efficiency over a wide range of loads

High motor efficiency **High power factor**

97% **98%**

Variable-frequency drive system

The VCS vector frequency conversion drive, in synergy with the permanent magnet synchronous motor, enables variable-frequency starting and swift, broad-range dynamic response. It ensures precise control under targeted operating conditions. The system incorporates specialized industrial inverters known for their efficiency, stability, and reliability.

EB-1 intelligent control system

- The programmable intelligent industrial controller offers a suite of advanced features including self-diagnostics on power-up, operational logic control, real-time monitoring, fault alerts, and maintenance guidance.
- Equipped with a 6" color touch screen, the interface is visually appealing and user-friendly, ensuring straightforward operation.
- The controller supports RS485 communication and natively integrates with the Modbus protocol, facilitating centralized control from a single computer or direct control across multiple systems.
- Furthermore, an integrated IoT module enables remote monitoring capabilities via PCs and mobile devices, enhancing accessibility and control.

SCREW VACUUM PUMP PARAMETERS

VACPRO SERIES SCREW VACUUM PUMP PARAMETERS

Model	Max. Volume Flow m^3 /min	Ultimate Vacuum mbar	Motor Power kW	Noise dB(A)	Inlet Connect	Discharge Connect	Weight kg	Dimension L×W×H mm
VacPro VP-450	7.1		5.5					
VacPro VP-550	9.1	0.3	7.5	55-70	G2 1/2	G2	700	1250×780×1360
VacPro VP-750	12.1		11					
VacPro VP-950	16.05		15	55-74				
VacPro VP-1100	18.5	0.3	18.5	55-76	DN100	DN80	1050	1500×1350×1290
VacPro VP-1300	21.4		22	55-76				
VacPro VP-1800	29.2	0.3	30	65-79	DN150	DN100	1500	1804×1420×1455
VacPro VP-2000	32.1		37					
VacPro VP-3000	50.8	0.3	45	67-80	DN200	DN150	3200	2600×1910×1760
VacPro VP-3900	64.4		55					
VacPro VP-4800	81.2		75					
VacPro VP-5600	93.9	0.3	90	72-85	DN200	DN150	5500	3400×2100×1893
VacPro VP-6200	103		110					

▲ The performance test is conducted in accordance with the ISO 21360-2-2012 standard, utilizing a default 380V/3P/50Hz power system

AFTER SERVICE

'BE OF SERVICE' ATTITUDE

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