Sollant

SOLLANT PRODUCT ADVANTAGES

SHANGHAI SOLLANT ENERGY SAVING TECHNOLOGY CO., LTD

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TECHNICAL DESIGN ADVANTAGES

R&D TECHNICAL STANDARDS:

Our pressure vessels can be custom designed and manufactured to comply with the ASME Boiler & Pressure Vessel Code. This demonstrates the ultimate safety and reliability of our pressure-containing components, effectively preventing risks and ensuring the safety of your personnel and equipment.

We can also custom-certify our air compressor electrical systems to UL certification, meaning every circuit, component, and insulation material has undergone the world's most stringent safety testing. We completely eliminate electrical fire hazards, ensuring electrical safety under all operating conditions and providing strong support for your product liability insurance.

Our products fully comply with all EU CE directives (such as the Machinery Directive, the Low Voltage Directive, and the Electromagnetic Compatibility Directive).

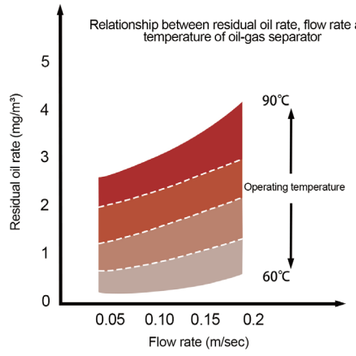
"SOLLANT AIR COMPRESSOR EQUIPMENT DESIGN SPECIFICATIONS" FACTORY DESIGN STANDARDS.

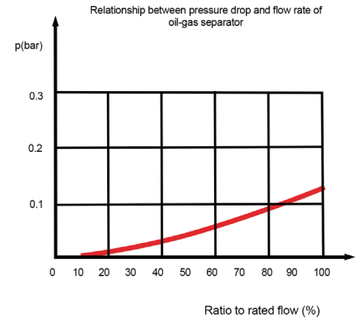
Cooling System Design Standards:
The enlarged fan and heat exchanger design far exceeds comparable designs, allowing operation at ambient temperatures below 60°C. The design standard is 45°C ambient and 90°C exhaust temperature.

Oil Separator System Design Standards:
Under standard operating conditions, at a 0.7 MPa exhaust pressure, the pressure drop of a new oil separator is approximately 0.1-0.25 bar, and the residual oil rate can be controlled between 1-3 ppm. The oil separator lifespan is approximately 4000 hours. This lifespan depends on many factors, including the oil separator design, regular maintenance, environmental cleanliness, operating temperature, and the quality of the oil, air filter, and oil filter.

ISO8573.1 Compressed air quality grades

grade	Dust content Maximum particle size μm	Water content Maximum pressure dew point ℃	Oil content Maximum concentration mg/m³
1	0.1	-70	0.01
2	1	-40	0.1
3	5	-20	1
4	15	3	5
5	40	7	25
6	-	10	





Contactor selection:
Selection standard power frequency; rated current * service factor * 1.5

Motor current margin:
Service factor S.F1.2 will leave a 10% margin
Service factor S.F1.3 will leave a 15% margin
(1) Motor efficiency is as high as over 96%, and the power factor is 0.99, far exceeding the Class 1 energy efficiency standard;
(2) F-class insulation, 70K temperature rise design, suitable for high temperature working conditions under air compressor working conditions;
(3) Fully enclosed IP55 protection level, protects the clean environment inside the motor, and extends the life of permanent magnets and insulation;
(4) Synchronous fan cooling ensures long-term low-frequency safe operation of the motor;

Sheet metal design thickness standard:

Performance sheet metal design thickness	Thickness				
	Door panels	Uprights	Roof	Floor	Electrical box
5.5-7.5kw	1.2	1.2	1.2	1.5	1.2
11-15kw	1.2	1.2	1.2	3	1.2
18.5-22kw	1.2	1.2	1.2	3	1.2
30-45kw	1.2	1.2	1.2	3	1.2
55-75kw	1.5	2	2	4	2
90-110kw	1.5	2	2	5	2
160kw	1.5	2	2	5	2
185-355kw	1.5	2	2	Profiles	2

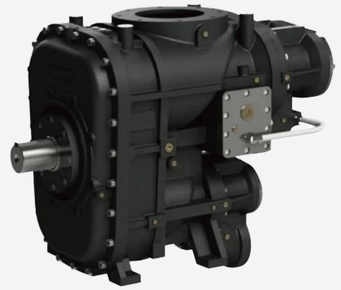
ACCESSORIES ADVANTAGES

Core Components

Air end:

Equipped with top-tier brands (customization available from brands such as HANBELL, GHH, GE, and RODERCOMP), featuring a patented profile design, high-precision bearings, and constant-clearance assembly.

Excellent specific power, high volumetric efficiency, low operating noise, and slow long-term performance degradation.



Motors:

1. All are from top domestic brands, with customization available for international brands such as Siemens and WEG.
2. Utilizes high-quality silicon steel sheets, increased copper content, optimized electromagnetic design, and low-loss bearings.
3. High inherent efficiency (reaching IE4/IE5 energy efficiency ratings), converting more electrical energy into mechanical energy with minimal losses.
4. Energy savings are achieved at the source, consuming less energy than conventional motors even when operating at full power frequency.
5. Optimized heat dissipation design: High efficiency results in low heat generation.
6. Lower operating temperatures, slowing aging of bearing grease and insulation materials.
7. Designed for a longer lifespan, higher reliability, and a very low failure rate.

Utilizes a world-class inverter brand

1. Precise Energy Efficiency: Real-time speed adjustment matches gas demand, eliminating no-load losses and significantly reducing energy consumption.
2. Stable Pressure: Closed-loop pressure control maintains constant pipeline pressure, improving production process stability.
3. Soft Start Protection: Significantly reduces startup inrush current, alleviates mechanical stress, and extends equipment life.
4. Optimized Operation: Reduces load/unload cycles, reduces wear on key components, and extends maintenance intervals.
5. High Power Factor: Built-in reactive power compensation capability improves grid quality.

Radiator:

1. High-efficiency heat-exchange finned tubes, mechanically expanded tube technology, all-aluminum construction;
2. High heat exchange efficiency, low air and water resistance, and resistance to scaling and clogging;
3. Effectively controls oil and air temperatures, extending overall unit lifespan while saving energy and reducing fan power consumption.

Lubricant:

1. Fully synthetic base oil with a special additive formula.
2. Strong oxidation resistance, minimal carbon deposit tendency, and a lifespan of 4,000-6,000 hours.
3. Ultra-long oil change intervals (cost savings), clean engine (reduced maintenance), and stable high-temperature performance.

Air Filter:

1. Utilizes nano-glass fiber filter paper with a multi-layer gradient structure.
2. Reduces initial pressure drop, increases dust holding capacity by 30%, and achieves a filtration accuracy of 99.9% (2μm).
3. Improves energy efficiency (reduced pressure drop), extends life (reduced replacement frequency), and protects the air conditioner (prevents dust from wearing out the rotor).

Oil Filter:

1. Built-in patented bypass valve and high-strength support mesh;
2. Filtration accuracy of 10-15μm, strong resistance to pressure differentials, and a stable, non-collapse structure;
3. Ensures unobstructed oil flow, eliminates the risk of oil outages, and ensures reliable lubrication of the main engine.

Center Bracket

1. Adopting one-piece molding technology, compared with similar products on the market, the interface flange is processed and formed by CWC CNC center, the connection is tighter and more stable, and the stable operation of the motor is guaranteed to the greatest extent.

2. Reduce vibration and noise, add a protective net, effectively prevent foreign matter from intrusion during machine operation, and ensure the smooth and safe operation of the machine.

VS

Intake Valve

1. The intake valve is normally open, controlling pressure input and closing as needed.
2. All intake valves include a check function to prevent oil spray during emergency shutdown conditions.
3. The intake valve has unloading and air supply functions, effectively eliminating cavitation noise generated by the main engine.
4. The intake valve integrates a discharge valve, air supply valve, solenoid valve, and proportional valve, making installation easy and quick.

VS

Oil Separator:

1. Made of imported fiberglass, triple-layer sealing, and laser-welded steel sleeve.
2. The outlet oil content is only 1-3 ppm, far below the national standard (5 ppm), resulting in minimal pressure drop.

VS

Pressure Gauge

1. The seismic pressure gauge is suitable for environments with severe vibrations and can withstand medium pulsations, impacts, and sudden unloading.
2. The instrument provides stable and clear readings, consisting of a pressure guide system, a gear transmission mechanism, a digital display, and a shell.
3. The shell is a stainless steel airtight structure that effectively protects the internal parts from environmental influences and dirt intrusion. The mounting holes are made of brass material to resist oxidation and corrosion. The back is fixed with screws. Compared to similar products on the market, the rubber-sealed holes offer stronger seismic resistance and stability.
4. The shell is filled with damping fluid (silicone oil or glycerin) to resist environmental vibrations and reduce medium pressure pulsations. The instrument operates in ambient temperatures from -40°C to 70°C, with a relative humidity of no more than 80%.

VS

Sound Insulation Cotton

Soundproof cotton offers excellent sound absorption performance, reducing sound penetration. It is moisture-proof, weather-resistant, waperproof, and can adapt to humid environments without deformation or rotting, ensuring durability.

VS

Flange/Asbestos Gasket

Flange: All flange connections feature O-rings made of fluorine rubber, ensuring excellent sealing properties with no leakage.

Asbestos gaskets: These pads can become easily saturated and may leak after prolonged use.

VS

Ordinary: Iron, easy to rust

Stainless Steel Ball Valve

1. The ball valve body is robust with a stable structure.

2. Constructed from stainless steel 304/316, the mini ball valve is small, exquisite, rust-proof, and corrosion-resistant. It undergoes high-precision lathe processing, ensuring precise threading and strong sealing.

VS

Normal: If it is broken, it needs to be replaced as a whole

Temperature Sensor

1.The core is imported from Japan, ensuring stable quality and high measurement accuracy.
2.Features a split structure for easy installation and replacement.
3.The product plug is self-manufactured, with two pins embedded deep inside the stainless steel to prevent rotation, a unique patented design.

VS

Pressure Sensor

1. Features a German brand plug, offering superior anti-aging, anti-condensation, and conduction performance.
2. Advanced circuit processing ensures high voltage resistance and strong anti-interference capabilities.
3. Constructed with 304 stainless steel for durability and reliability.
4. Self-developed core technology allows for complete quality control and innovation.

VS

Cannot see the inside

Oil Return Check Valve

1. Utilizes a fluorine rubber ball for reliable sealing.
2. Equipped with a check spring, allowing for flexible installation direction (except for model HY-1ZG).
3. Available in a variety of diameter specifications to meet different requirements.
4. The sight glass is made of special plastic, providing excellent resistance to temperature, pressure, and chemicals.
5. Allows for visual identification to determine if the one-way valve is blocked.

Air Filter Hose

Made from TPV material, it remains consistent in both cold and hot weather conditions remaining soft in cold weather and not becoming too soft in hot weather. It exhibits excellent resistance to high and low temperatures, along with good tensile strength and vibration resistance.

Welding Pipeline

Made of carbon steel, blackened to prevent internal pipes from rusting.

Bell-shaped Shock Absorber

Elastic Element: Natural rubber.

Metal Parts: Galvanized iron plate, provides a good shock absorption effect.

The rubber inside the product is fully bonded to the iron, ensuring more reliable performance and resistance to erosion from substances like gasoline and diesel waves.

Couplings

1. The coupling is made of 45# steel, offering good plasticity, toughness, and high strength.

2. All production and processing equipment uses CNC lathes and CNC machining centers, ensuring high precision, high yield rates, and efficient batch production.

3. The testing tools are complete, the testing equipment is advanced, and the testing methods are comprehensive, meeting the requirements of product processing under various working conditions.

PRODUCTION PROCESS ADVANTAGES

All production standards meet the ISO9001 production quality management system

Sheet metal assembly advantages

Install the main engine flange, using imported sealant throughout.The sealants used for safety valves and pressure gauges are all imported sealants.

The main engine flange is all made of O-rings, high temperature resistant, 150°

After the main engine motor is installed, use a spirit level to measure the level.

All bolts with mounting holes are filled with thread lockers (imported)

For all hosts, use a multimeter to measure the level of the host shaft to ensure level installation.

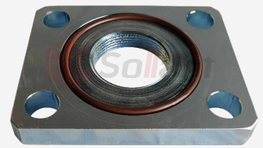
Tighten all bolts with a torque wrench to avoid uneven force.

All bolts used are of strength grade 8.8

The sealant is neutral and non-corrosive, aging-resistant, pressure-resistant ⩾15MPa, and temperature-resistant -60°C~+280°C

Screw locking agent: German adhesive technology, temperature resistant to 232°C, anti-vibration and shock

Pipeline connection advantages



The flanges are sealed with fluoropolymer O-rings and are temperature-resistant from -20°C to 200°C, making them suitable for extreme environments.
All flanges and piping are galvanized to prevent rust.

The air pipe is made of stainless steel to prevent steam from entering and forming water vapor, which may cause the air pipe to rust.

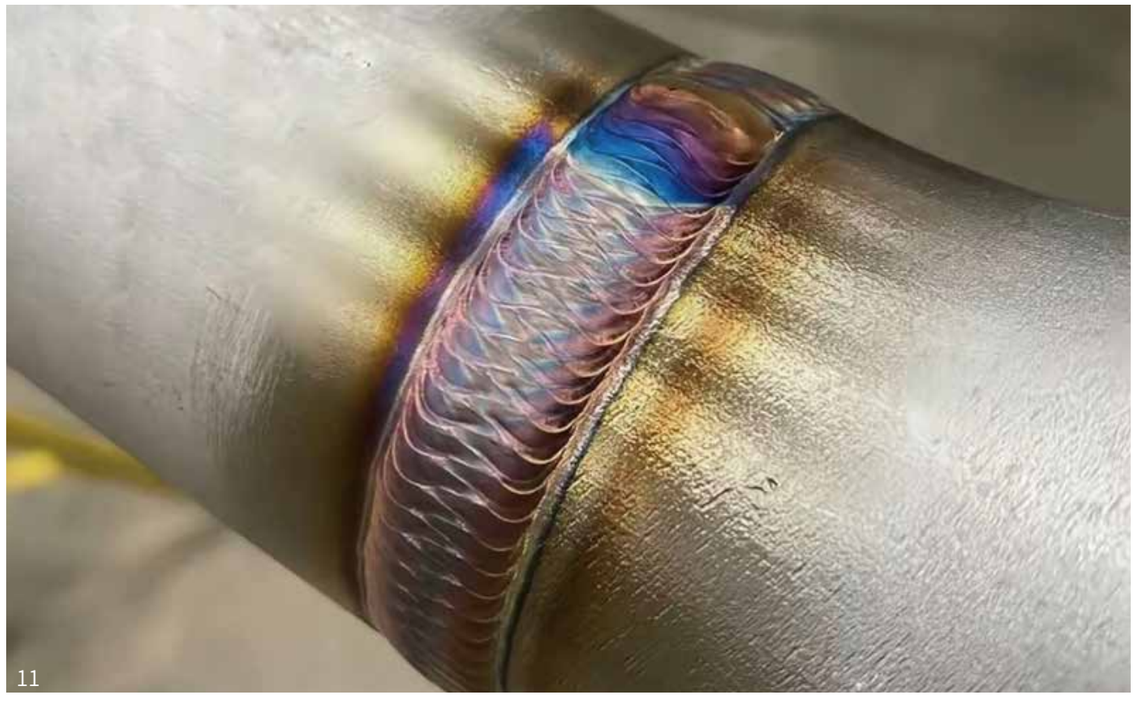
German-imported JS ferrules provide enhanced sealing.

Imported glue from Italy, stronger seal, temperature resistant up to 230°

When installing the temperature/pressure sensor, use imported combination gaskets and add imported sealant to prevent oil leakage.

Pipeline welding standards

Project	Core standard requirements
Welding method	It is recommended to use **argon arc welding (TIG)** or **argon arc welding primer + arc welding filling** for carbon steel pipe butt welding.
Groove preparation	The end face of the cut should be flat and perpendicular to the axis of the pipe, with a deviation of ⩽1% of the pipe diameter and ⩽2mm; when the wall thickness is >5mm, the groove should be scraped, the oxide scale should be removed, and the pipe should be polished smooth.
Weld seam appearance quality	**No defects such as cracks, incomplete penetration, incomplete fusion, pores, slag inclusions, depressions, undercuts** (undercut depth < 0.5mm, and total length on both sides < 10% of the total weld length) are allowed; good forming and smooth transition.
Weld seam location	The circumferential weld **must not be placed on the bracket** and must be ⩾ 200mm away from the edge of the bracket; the longitudinal weld should be in a direction that is convenient for inspection.
Pre-weld cleaning and environment	Before welding, the groove and its vicinity should be cleaned of **rust, oil, moisture** and other contaminants; when the ambient temperature is below -20 °C, the weld should be preheated (100-200°C).
Pressure testing	The test pressure is **1.5 times the working pressure**. Maintain the pressure for 10 minutes and then reduce it to the working pressure for inspection. It is qualified if there is **no leakage or permanent deformation**.



Advantages of electrical panel assembly

All wiring harnesses are routed through flame-retardant corrugated tubing and secured to the wire nuts with rolled tape to prevent wear and leakage. Corrugated tubing connectors are installed at the wiring harness entry point.

All electrical panel cables comply with national standards and carry multiple certifications, and all wire ends are crimped with terminals. For power-frequency machines above 55 kW, the company provides motor thermal overload relays as standard.

All electrical appliances are safely grounded and the power inlets are affixed with power guidance signs.

55 kW and above variable frequency machines are equipped with input reactors

This series of products is usually connected in series with the input or output of the inverter. The inverter will generate large harmonics when working. Installing an incoming line reactor can suppress the harmonics generated by the inverter from being transmitted to the power grid, reduce the interference of the harmonics generated by the inverter on other components, improve the quality of the power grid, improve the power factor, limit abnormal fluctuations in the power grid voltage and the impact current on the power grid, smooth the waveform, and reduce the impact on the inverter; installing an outgoing line reactor can passivate the steepness of the inverter output voltage (switching frequency), reduce the disturbance and impact of the components in the inverter, improve the power factor, improve the quality of the power grid, and smooth the waveform. It is one of the important components between the inverter and the motor.

Structural Features of the Inlet and Outlet Reactors

1. This reactor is three-phase and features a dry-type iron core.
2. The iron core is constructed of high-quality, low-loss imported cold-rolled grain-oriented silicon steel sheets. The core legs are divided into uniform segments by multiple air gaps, separated by epoxy-laminated glass cloth sheets to ensure that the air gaps do not fluctuate during operation.
3. The coils are wound with Class F enameled rectangular wire, arranged tightly and evenly. Without an insulating layer, they offer excellent aesthetics and heat dissipation.
4. After the reactor coils and iron core are assembled, they undergo a series of processes, including pre-baking, vacuum impregnation, and thermal curing, ensuring a secure, integrated connection between the coils and iron core. This significantly reduces temperature rise and noise during operation.
5. The fasteners on the reactor core legs are made of non-magnetic material to reduce eddy current heating during operation.
6. All external components are treated with corrosion protection, and the lead terminals utilize tinned copper tubes.
7. This reactor features small size, light weight, and attractive appearance.

Technical Performance Parameters

1. Suitable for use with any brand of inverter.
2. Voltage drop: 5V, 9V.
3. Rated insulation level 3.5kV/min.
4. Reactor noise: ⩽45dB.
5. Overload capacity: ⩽1.35 times continuous operation.
6. Reactor temperature rise: ⩽95K.
7. The difference between any two reactance values of a three-phase reactor must not exceed ±3%.

TESTING ADVANTAGES

Testing Advantages:
1. Each machine is 100% tested to ensure no quality issues before leaving the factory.
2. Testing time guaranteed to be no less than 3 hours.
3. Each machine comes with a test report, one for each unit shipped.

Pipeline Pressure Testing Advantages:
1. Pipelines are made of stainless steel.
2. Welded pipelines are made of seamless steel pipe.
3. Each machine is pressure tested for no less than 3 hours. During the pressure test, each joint and weld is inspected at least 3 times using a special foam.

Testing Instruments Display: Clamp meter, vibration meter, temperature meter, tachometer, flow meter, variable frequency power supply

Ammeter

Thermometer

Tachometer

Thermometer

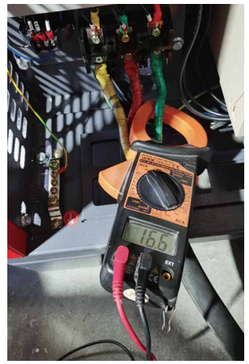
Vibration meter

All new models adhere to ASME international standards for flow testing and data collection, ensuring that every data is globally recognized, accurate and reliable.

Sollant strictly abides by the international ISO9001 quality management system standards, from R & D design to manufacturing to quality testing, and each link is strictly controlled.


Measure air compressor specific power


Measure air compressor pipeline flow


Voltage and current detection


Measure air compressor exhaust flow

Motor type test


Measure air end rotor profile


Measure air compressor inlet flow


Measure air compressor total power


Air compressor vibration test


Vacuum inspective meter


Air dryer pressure dew point detection


Fan dynamic balance test


Air compressor operating temperature test


Noise test


Shock absorber tensile test


Oil content in air detection


Ambient temperature and humidity detection


Balance test


Exhaust pressure test

QUALITY INSPECTION ADVANTAGES

I. Incoming Material Inspection:

1) Appearance:
Appearance Inspection (Visual Inspection/Auxiliary Tools)
Surface Defects: Inspect for scratches, dents, deformation, rust, oil stains, coating detachment, and other issues, with a focus on customer-specified surfaces.
Edge Condition: Verify that cut/stamped edges are free of burrs and flash, bends are free of cracks and wrinkles, and welds are free of pores, cold welds, or weld bumps.
Coating Quality: Inspect coating thickness uniformity and adhesion (can be tested by lightly scratching), and check for sags, color variations, and missing coatings. (Tool: Grid Knife)
Sheet Thickness: Inspect the uniformity of sheet thickness. (Tool: Caliper)
2) Dimensional and Geometric Tolerance Inspection
Basic Dimensions: Use a tape measure, caliper (vernier/digital), micrometer, etc. to measure key dimensions such as length, width, height, hole diameter, and hole spacing, and compare to the tolerance requirements on the drawing. Geometric Tolerances: Use a square to measure verticality, a straightedge to measure flatness, and a plug gauge to measure clearances to ensure that bend angles, assembly hole locations, and other information conform to the drawings.
3) Labeling and Packaging Inspection
Label Verification: Verify that the part number, specifications, quantity, batch number, and supplier information on the incoming material packaging are consistent with the purchase order and delivery note, ensuring that there are no errors or omissions.
4) Forms: Output and archive incoming inspection forms.

II. Inspections:
1) Pre-Inspection Preparation: Conduct inspections twice daily (once in the morning and once in the afternoon) at key processes (assembly, pipe welding, and complete machine testing). Bring the "Inspection Standards" (including dimensional tolerances and performance parameter thresholds).
2) Prepare Tools: Prepare calipers, micrometers, dial indicators, torque wrenches, airtightness testers, noise meters, pressure gauges, etc., ensuring that all tools are within their calibration validity period.
3) Inspection Points: Ensure that employees assemble according to the work instructions. After assembly, mark the assembly area with self-inspection markings. 4) Form: Output the inspection record form and archive it.

III. Full Inspection:
1) Appearance and Assembly Integrity Full Inspection:
Appearance Inspection: 100% inspect the entire unit surface to confirm that the exterior is free of scratches, deformation, or paint peeling; that labeling (model, specifications, warning labels) is clear, intact, and securely affixed; that piping and wiring harnesses are free of exposed damage; and that connectors/flanges are free of looseness or misalignment.
Assembly Compliance: Use a torque wrench to verify the tightening torque of key bolts (motor mounting bolts, pipe connector bolts); that no components are missing or damaged; that all labels are clear, accurate，and in the correct language; and that the valve assembly (intake valve, exhaust valve) is correctly installed.
2) Full Inspection Records and Disposition:
Records: 100% complete the "Complete Unit Full Inspection Record Form," marking the inspection results (pass/fail) for each unit. The inspector will confirm with a signature and stamp. Disposition:
Qualified products: Affix a "Qualified" label, proceed to packaging, and prepare for shipment.
Unqualified products: Separately isolate, identify the unqualified item (e.g., "Airtightness Exceeds Standard" or "Noise Exceeds Limit"), and report back to the technical department for analysis (e.g., seal damage, motor noise). After repairs and rectification, re-inspection is required until qualified. If repair is not possible, the product will be scrapped.

DELIVERY ADVANTAGES

Delivery Advantages:
To prevent internal damage, sheet metal deformation, or loose screws caused by bumps during transportation, each unit is secured with shipping brackets.

To prevent scratches caused by multiple transfers, all equipment is packed in wooden crates during bulk shipment.

Due to the long, humid sea transport, internal screws and pipe joints are coated with anti-rust oil and desiccant is placed to prevent rust.

Dust and dirt prevention: The entire unit is first wrapped with film to prevent dust and oil from entering the delicate components, ensuring the equipment looks pristine and new upon unpacking.

AFTER-SALES ADVANTAGES

After-Sales Advantages:
Fast response time. Our engineers are available 24/7 online to answer questions and quickly resolve customer issues.

Comprehensive After-Sales Manual
Each unit comes with an air compressor operating manual that includes:
1. Safety Operation Guide: Equipment startup and shutdown, daily operating procedures, and safety precautions.
2. Daily Maintenance Diagram: Oil level check, filter cleaning/replacement, drain valve operation, and other routine maintenance procedures.
3. Common Troubleshooting Chart: Provides self-diagnosis and troubleshooting tips for common problems such as unit failure to start, insufficient pressure, and abnormal alarms.

Warranty Statement
1. Unit Warranty Period: Sollant provides a three-year unit warranty starting from the date of shipment after successful commissioning.
2. Warranty Service Commitment: During the warranty period, repairs or replacements due to manufacturing quality issues are free of charge.
3. Out-of-Warranty Service Commitment: Lifetime paid service is provided beyond the warranty period, charging only the reasonable cost of parts with transparent pricing.

After-Sales Videos
We've created comprehensive instructional videos covering common air compressor issues, daily maintenance, and air compressor parameter tuning for easier viewing and understanding.
Each machine is assigned a unique serial number, allowing engineers to accurately identify and prevent errors.
Quickly check warranty status: Service engineers enter the serial number, and the system instantly displays the warranty start and end dates for the device.
Precise spare parts preparation: When replacement parts are needed, the serial number ensures that the engineer's replacement parts are 100% compatible.