

GW-15DHY

Instructions for use



Guangzhou Guangwo Compressor Co., Ltd.

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I, The product brief introduction

First of all, thank you for choosing the company's wide vortex scroll air compressor. Please be sure to read this instruction manual carefully before using it.

GW-15DHY is the latest type of medium pressure developed successfully in recent years 1.6Mpa compressor, with novel and simple structure, small vibration, low noise, long life, simple operation and reliable operation, such as a series of excellent technical performance, to fill the gap in the domestic pressure small machine.

The whole machine is composed of air compressor, gas storage tank, cold dryer, water separator, level three filtration, filtration accuracy up to 0.01um , can provide customers with high-quality gas sources.

The company's production of scroll air compressor is the application of many international and domestic awards of the patented technology and software results, the use of imported high-precision automatic composite machining center processing and manufacturing. Its excellent performance, is a variety of pneumatic machinery, pneumatic tools of the ideal power source and supporting equipment, the need for compressed air occasions.

The Guangwo scroll air compressor will bring you a quiet and clean environment, remove the trouble of maintenance, reduce the floor area.

II, The working principle

The Guangwo scroll air compressor is a work process in which the moving and rotating scrolls of the two composite function equation lines mesh with each other to complete the suction, compression and exhaust. The static plate is fixed on the frame, and the moving plate is driven by the eccentric shaft and is controlled by the anti-

rotation mechanism to rotate a plane with a small radius around the center of the base of the static disk, as shown in FIG 1. The gas is freely sucked by the filter from the periphery of the fixed scroll through the filter, and as the eccentric shaft rotates, the gas is gradually compressed by a plurality of pairs of crescent-shaped compression chambers formed by the meshing of the movable scroll, and then the center portion of the fixed scroll is continuously continuous. discharge.

The scroll air compressor has high volumetric efficiency and excellent gas transmission performance due to small pressure difference between adjacent compression chambers and less leakage. In addition, since the radius of gyration of the orbiting scroll is small, the sliding speed of the orbiting scroll is only It is about 2m/s, so the machine wear is small, the mechanical efficiency is high, and the reliability is greatly improved. Since the suction, compression and exhaust are continuous during the rotation of the orbiting scroll, the variation of the torque is small, so the machine vibrates. Small, low noise; due to the small and small parts, the solid machine is very compact, light weight, small size, low failure rate, easy to use and reliable

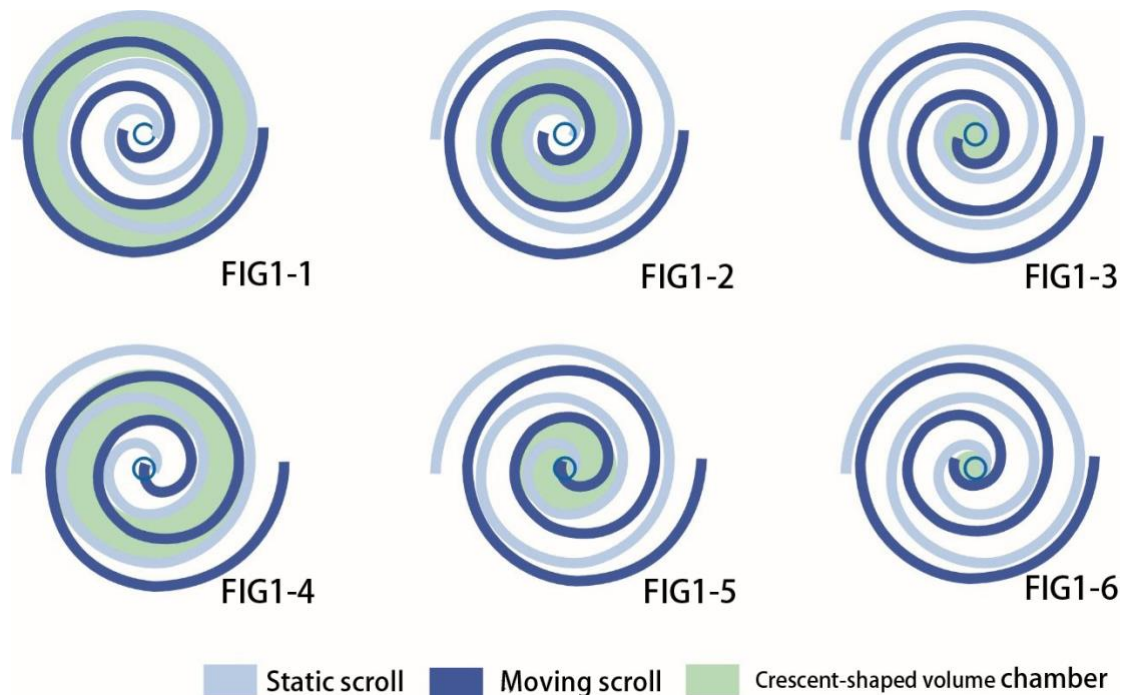


FIG 1: Host working principle diagram.

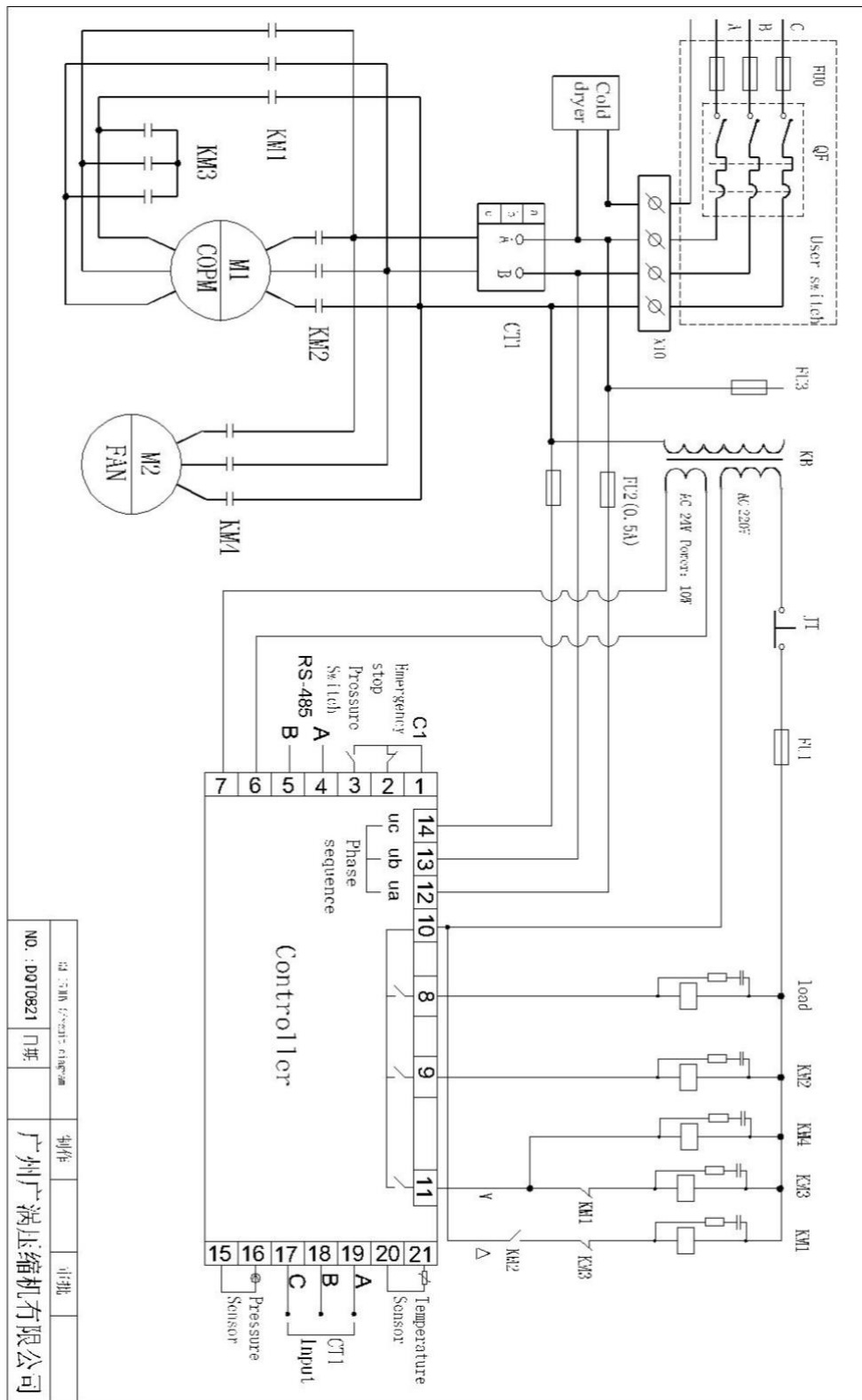


FIG 2: Electrical schematic

GW-15DHY Whole machine system diagram

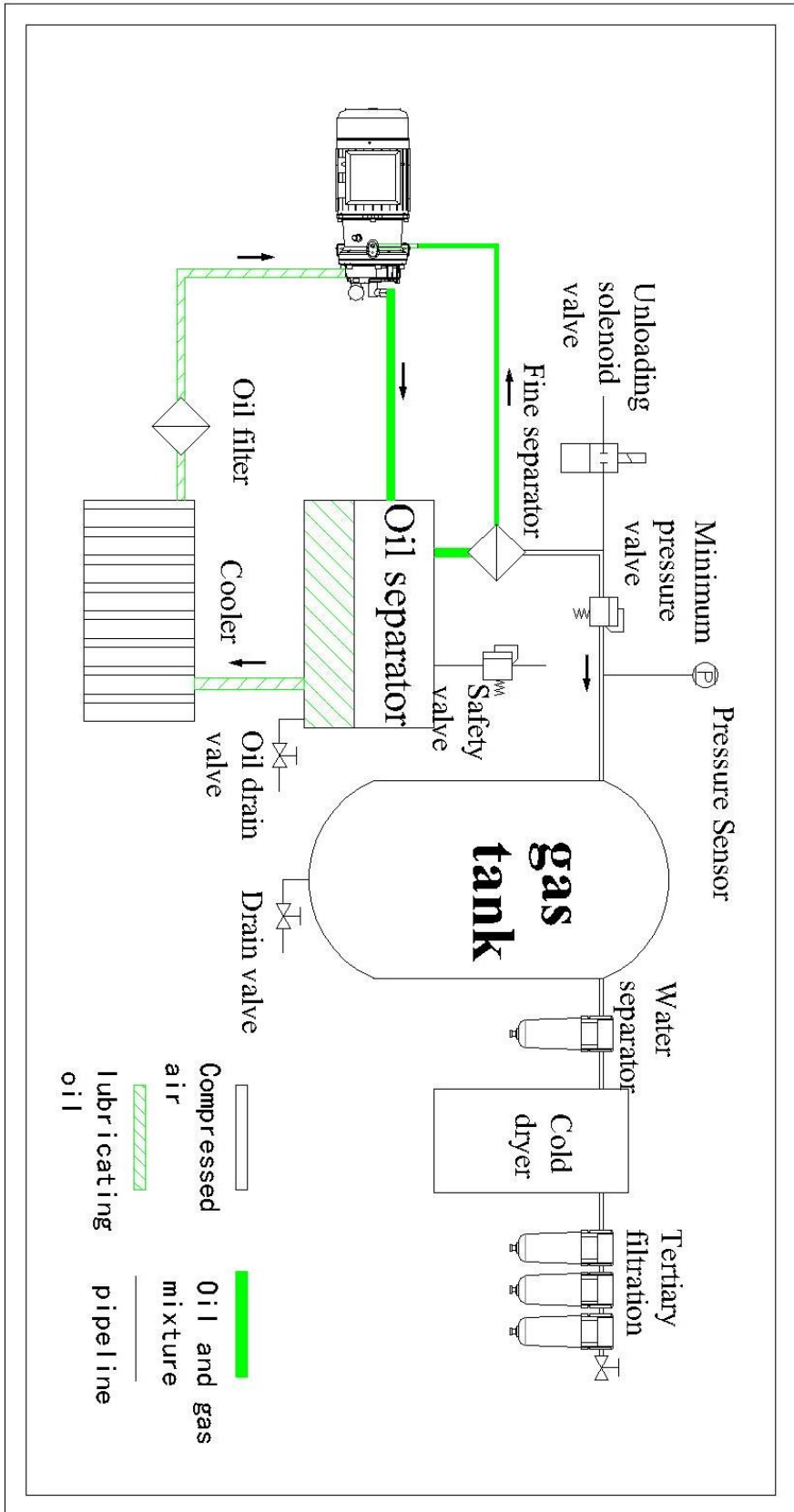
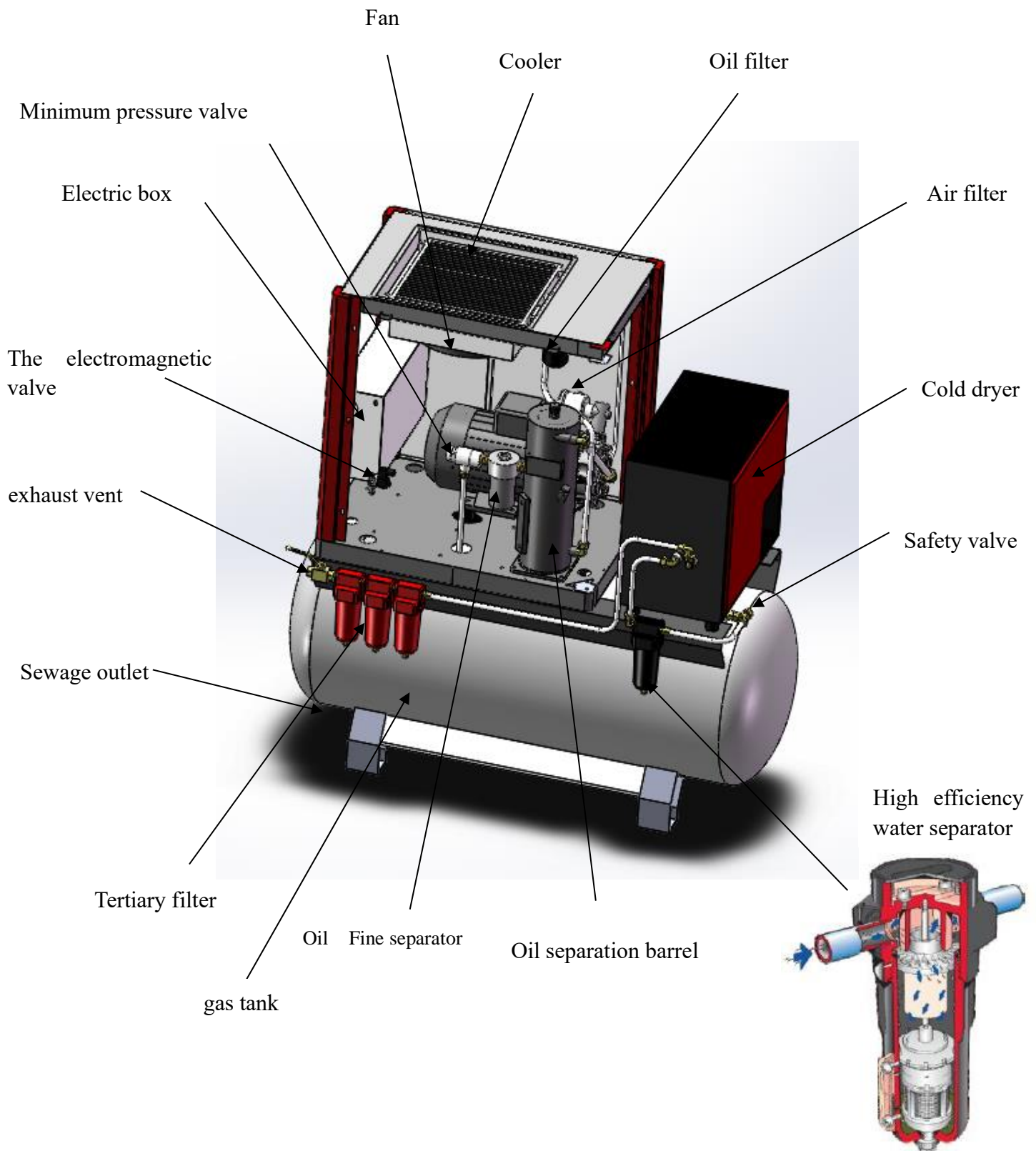


FIG 3: Air compressor system diagram



III, parameter

Name	unit	
Model		GW-15DHY
Motor power	KW/HP	11/15
Motor power	M ³ /min	1.0
Motor power	Mpa	1.6
Motor power	V	380
noise	dB(A)	68
Dimensions	LxWxH	1700x610x1500
weight	KG	430
gas tank	L	420
Wiring method		Three-phase four-wire system
Starting method		Star triangle (Y→Δ)
cooling method		Air cooled

IV, Instructions for use

(1) Power supply equipment

- 1) According to the power and voltage of the machine, provide a suitable power supply and the power supply voltage fluctuation does not exceed $\pm 5\%$, and the three-phase unbalance is less than 3%.
- 2) Set the appropriate air switch and leakage switch according to the power and voltage of the machine (see table below).
- 3) Please select 600 volt insulated conductive wire for the power cable, and the cross-sectional area should not be less than the data listed in the following table:
- 4) Set a reliable ground wire with an internal resistance of 100 ohms or less.

Motor Power (KW)	11
Wire cross-sectional area (mm ²)	6
air switch (A)	60



(2) Installation site

1) The vortex air compressor is strictly forbidden to use outdoors. It is strictly forbidden to use in the environment exposed to sunlight or rain, steam, moisture or corrosive gas, explosive gas and dust.

2) Install in a computer room with good ventilation and ambient temperature below 40 °C. In a poorly ventilated machine room, a ventilator should be installed with a flow rate >100m³/min; there should be enough space for the air compressor to dissipate heat. It is recommended to install a heat exhaust hood.

In addition, the ambient temperature must be above 5 °C and controlled above the freezing point of water and lubricating oil.

3) Reserve enough space for future maintenance and repair. The distance between the wall, ceiling and the fuselage should not be less than 0.6 meters.

4) Installed on a solid, flat, non-oscillating foundation, the noise and vibration of the air compressor will increase due to the uneven foundation of the foundation, the vibration or the fact that the base is not in close contact with the foundation surface.

(3)operation

1) Start the air-drying machine before pressing the air compressor. After the cold-drying machine starts for 2 minutes, start the air compressor again. Otherwise, shut down the air compressor first, drain the condensate from the gas storage tank, and then turn off the cold. machine.

- 2) Check the exhaust pressure rise on the main screen of the controller; (the exhaust pressure reading is similar to the main air pipe pressure, and the pressure sensor is in the unit)
- 3) When the exhaust pressure rises to 1.6Mpa (or set pressure), the machine will automatically stop. When the pressure reaches the set value, the compressor's load solenoid valve works, and the time delay relay works. After 80 seconds of stop, the machine judges whether it needs to start again according to the gas tank pressure.
- 4) If there is abnormal sound, vibration, or leakage during the operation of the machine, press the emergency stop switch.

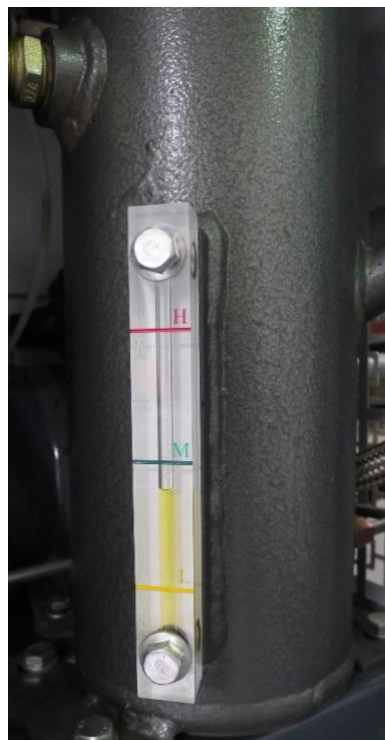
Note: It is strictly forbidden to operate the compressor for a long time under a pressure of less than 0.4Mpa.

(4)replace the lubricant

Be sure to use the special oil for the scroll compressor! The use of other lubricants will cause serious failures and lead to major accidents.

- 1) Start the machine for 10 minutes before changing the oil, so that the machine and the old oil warm up, close the ball at the air outlet.
- 2) Valve, after the pressure gauge of the exhaust gas rises to the rated pressure, the machine will stop automatically. Press the emergency stop button to cut off the power supply after about 1.5 seconds of compressor stop.
- 2) Open the front plate and you will see an oil separation cylinder. There is a grease plug screw plug in the middle part and a sight oil pipe in the lower part.
- 3) Check and confirm that the oil and gas separation cylinders are not under pressure before proceeding with the following steps:

- a) Use a wrench to unscrew the filler plug.
- b) At the drain port, connect with the bucket, open the exhaust and oil valve under the oil and gas separation cylinder, and the old oil will flow out through the hose at the drain. After the old oil is drained, use the compressed air. Blow the oil and gas separation cylinder, completely discharge the residual old oil, or add a small amount of new oil, and then discharge it to the outside of the machine to confirm that the discharge is clean and close the drain and oil valve.



(Note: 3~5% of the residual lubricating oil with severe discoloration will seriously affect the performance and service life of the new lubricating oil. Therefore, it is required to completely replace the old oil when changing the oil)

- c) Install the funnel at the oil filling port and add a new special lubricant for the scroll machine to the upper red line mark on the sight pipe.

Note: The oil level will decrease slightly during operation, which is normal, but the oil level must be kept between the upper and lower red lines.

- 4) After completing the refueling, tighten the screw plug of the oil filling port and change the oil.

In addition: during operation, if the oil level is lower than the lower red line, please refer to the oil change method to add the appropriate

amount of special lubricant for the scroll compressor to the upper red line of the sight tube.

(5), replace consumables

Special oils, oil mist extractors, oil filters and air filters are consumables with a certain service life, and their performance directly affects the normal operation of the machine. After the new machine has been running for a certain period of time, it must be replaced in time and replaced periodically. (See "Maintenance Plan" for details)

(6) Users should do the following work regularly

1) Clean the air filter (confirm that the system can be operated without air pressure)

After removing the air filter, the compressed air can be blown from the inside out to keep it clean and smooth. When the air filter cannot be cleaned, it should be replaced in time.

2) Oil and gas separation cylinder drainage

If the air humidity is high and the machine is not running continuously, the water should be discharged once a week; when the machine is running, the oil level is higher than the upper red line and it needs to be drained in time.

When it is confirmed that the pressure in the oil separation cylinder is zero, the drain and oil valve can be opened to drain the water in the oil separation cylinder through the drain port. When the oil is discharged, the valve is closed immediately, if the compressor is continuous Running, can extend the water discharge cycle.

V, maintenance plan

Check parts	Check content	Weekly monthly half year year				Remarks
		Weekly	monthly	half year	year	
Lubricating oil is recommended to use Shell Turbo GT 32	Check the oil level	every day				The oil level should be between the upper and lower red lines
	supplement		Δ			
	replace					Replace it every 2000 hours after the initial operation for 500 hours
Oil Fine separator	Cleaning and replacement					
Oil separator	Inspection and cleaning		Δ			
Air filter element	Cleaning and replacement	Δ				2000 hours replacement
Intake valve	Inspection and cleaning			Δ	○	Normal use period may be extended
Compressor shaft seal	Check for leaks		Δ			The amount of oil leakage is less than two drops /h
Pipeline system	Check for leaks		Δ			Confirm that the oil path and the gas path are leak free
electrical system	Check contact tightness		Δ			
Safety valve	Check action sensitive			Δ		
Pressure Sensor	checking			Δ	○	Normal use period may be extended
Oil and gas cooler	cleaning		Δ			Clean the surface of the cooler
Oil level observation tube	Check clarity				○	When the oil level is not clear, it should be replaced in time.

Explanation: Δ: indicates inspection and cleaning; ○: indicates replacement; ※ indicates that the new machine must be replaced after continuous operation for 500 hours, and every time after operation for about 2000 hours, or when the lubricating oil is severely oxidized and discolored, it should be replaced in time.

VI, Failure inspection and maintenance

Fault phenomenon	reason	Measure
Main shaft seal oil leakage	Shaft seal quality problem or improper installation	Replace shaft seal
Can not start	Power failure Power supply wire cross section and length are not suitable Fuse blown Power phase misalignment Pressure sensor failure Motor failure Compressor failure	Check the power supply Replace the appropriate wire Check the circuit and confirm the error, replace the fuse Change the power phase Replace the pressure sensor Overhaul or replace Overhaul or replace
Exhaust humidity is too high Cause the machine to stop	a large amount of lubricating oil leaks Ambient temperature is too high The cooler is dirty Lubricating oil failure (winter) Oil circuit blockage Temperature sensor failure	Replenishing lubricant Strengthen the ventilation of the machine room Cleaning cooler Replacement of lubricant Check the oil circuit and repair Replace the temperature sensor
Exhaust oil too much	Oil Fine separator overload Oil circuit blockage Too much added lubricant The fractionator returns a small amount of oil	Replace the oil mist concentrator Check the oil circuit and repair Adjust the amount of oil (refer to replace the lubricant) Cleaning and finer oil return throttle filter joint
Exhaust pressure does not reach the rated pressure	Excessive gas consumption Intake valve failure Pressure sensor failure Pipe leak Air filter blocked	Add compressor Overhaul or replace replace Check for leaks and retighten replace
Lubricating oil deteriorates prematurely	Use of undesirable lubricants Ambient temperature is too high Lubricating oil Not fully draining old lubricant	Replace special lubricants Improve the environment and enhance ventilation Should be drained in time Cleaning and replacement
Abnormal sound and vibration	Motor bearing wear or damage Compressor bearing wear or damage The belt slips or is damaged	Overhaul or replace Overhaul or replace Adjust the elastic or replace Re-tighten

	Loose fasteners The two pulleys are not in the same plane	readjust
Motor temperature is too high, causing downtime	Motor is not normal Low voltage Compressor rotation failure Use of undesirable lubricants Loose wire connector Exhaust pressure is too high	Overhaul or replace Check and adjust the voltage Overhaul or replace Replace special lubricants Re-tighten Adjust to preset pressure

VII, matters needing attention

1. Pre-use prerequisites

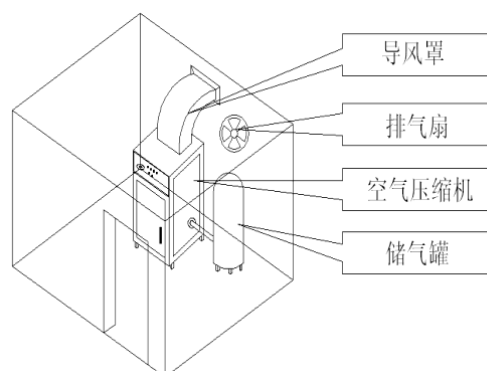
Start-up mode: 1. Start the cold-drying machine first, then start the air compressor after two minutes. Stop the air compressor first, then the cold-drying machine. **The gas storage tank needs to discharge water every day.**

2. Installation prerequisites

The air compressor must be installed in a well ventilated area. There must be a distance of not less than 60 cm around the area for ventilation and maintenance.

3. Attention to ventilation facilities

In order to ensure the normal use of the air compressor, in addition to ensuring good ventilation, the engine room must be equipped with an exhaust fan, and it is recommended to install a shroud on the cooling exhaust port of the air



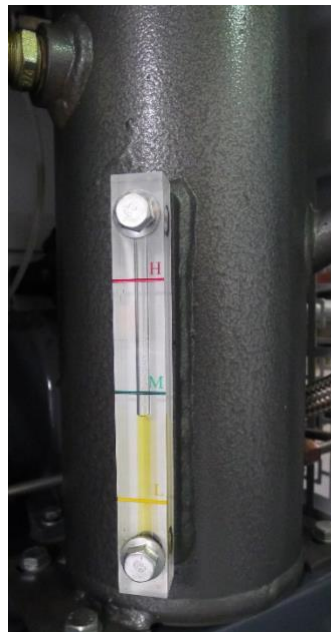
compressor to avoid the compression of the room due to excessive room temperature. The normal use of the machine. (see photo to the right)

4. The compressor can't be higher than 1.6Mpa, otherwise it will cause the motor to overload or stop burning.

5. Pay attention to the oil level

The lubricating oil used in the "wide vortex" scroll air compressor is a special lubricating oil. It cannot be used with other lubricating oils or mixed with other lubricating oils.

An oil sight pipe is installed on the oil separator of the air compressor to clearly indicate the oil level in the machine. When using the oil, the oil pipe should be observed frequently to determine the oil storage capacity in the machine.



If it is not enough oil, it should be added in time to avoid Damage to the compressor caused by lack of oil. (see photo to the right)

6. Wiring requirements

If the power supply access line is multi-strand, be sure to install the terminal block to connect to the terminal block, and ensure that the fastening screw cannot be loosened. The wiring must be installed by a professional electrician.

7. Precautions when turning off the power

If the input power needs to be turned off after the machine is stopped, it must be turned off 3 to 5 minutes after the machine is stopped.

respected user:

First of all, thank you for choosing our company's scroll air compressor. In order to make our service more satisfactory, please read the product manual carefully after purchase and save this quality guarantee card. Please fill in and return it to our company for contact and service. If this product fails during use, we will promptly solve it for you through the following terms of this warranty.

1. This quality guarantee card must have the seal of the final direct dealer. If there is no seal, please find the original purchase.

2. This warranty is valid only in the following circumstances:

(1) This product is operated and maintained according to the manufacturer's Chinese "Instruction for Use";

(2) The malfunction of this product is not caused by improper installation, operation or repair, user negligence, natural disaster, war or violence;

(3) The manufacturing number has not been removed or altered;

(4) All faults are repaired by the company's service personnel or special service providers;

(5) The parts used are all genuine parts produced or designated by the company.

3, this product is in the above range, with reference to the national "three guarantees" regulations, the implementation of quality assurance:

(1) This product is warranted for one year or 2,500 hours from the date of purchase, whichever comes first;

(2) This product has the following consumables: the special lubricant for scroll compressor, oil mist extractor, oil filter and air filter are paid.

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