Rocky Fiber Laser Compressor User Manual

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First of all, we thank you for purchasing our High Pressure Screw Type Air Compressor special designed for laser cutting application.

This Manual is only edited for Rocky RMZY serial compressor, No part of this manual is allowed to be reproduced, photographed, forwarded or adapted for any other brand compressor.

Although the Rocky Compressor have been strictly inspected and tested before shipment from our company, still we ask you humbly and patiently read this manual to make sure the compressor will get good care from you, and run stably in return.

Due to product development and technological progress, the product technical parameters mentioned in this manual are subject to change without prior notice.

Shanghai Rocky Machinery Equipment Co., Ltd.

CONTENTS

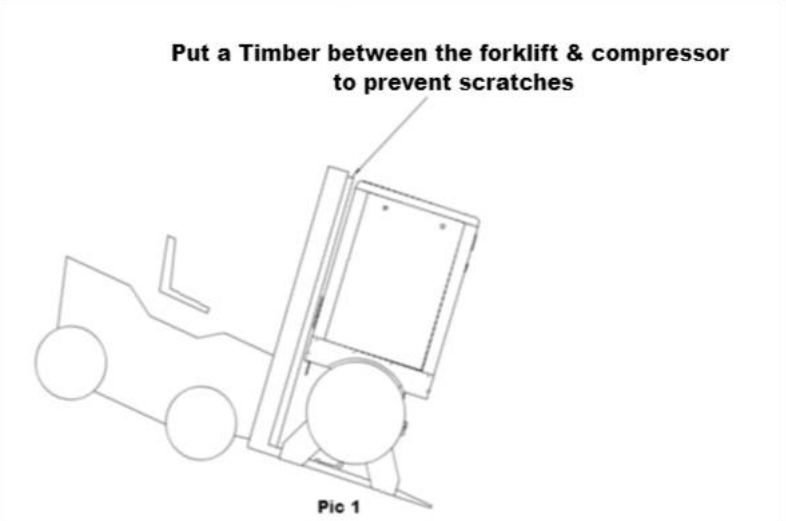
I TRANSPORTATION & UNLOADING

1 Transportation

1.1 Before Rocky Compressor ship to customer, plywood box is used to protect the compressor away from any possible damage, still when customer received the compressor, first thing is to check the plywood box, picture if the box is damaged and contact the Rocky representative as each shipment is insured.

2 Unloading

2.1 If the package received is perfect, forklift with safe working load grater than compressor gross weight is need to unload the compressor from the transport vehicle. The lifting speed & angle should not exceed the forklift's limit.

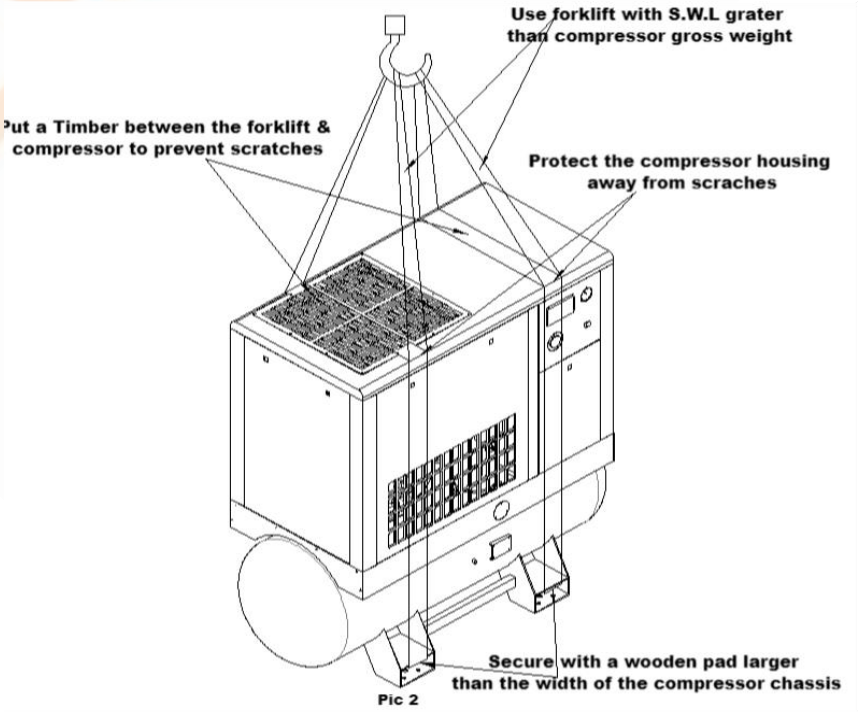


Pic 1

2.2 There are two forklift holes under the base of the compressor, while lifting, a timber should be placed to prevent the forklift from crushing the panel of the unit (Pic 1).

2.3 If a sling is used, be sure to use a cross bar, which can offset the side pressure of the sling against the box (Pic 2).

Attention: No man stands under the sling!



Pic 2

II INSTALLATION

1 Installation Site Selection

1.1 The air compressor should be placed on a level, solid ground to prevent the air compressor from tilting. Use a 5~10mm thick pad at the bottom of the compressor to reduce noise if possible.

1.2 If the compressor is installed upstairs, anti-vibration treatment must be done to prevent the vibration from being transmitted to the downstairs, or causing a resonance, which will pose a safety hazard to the structure of the building and compressor.

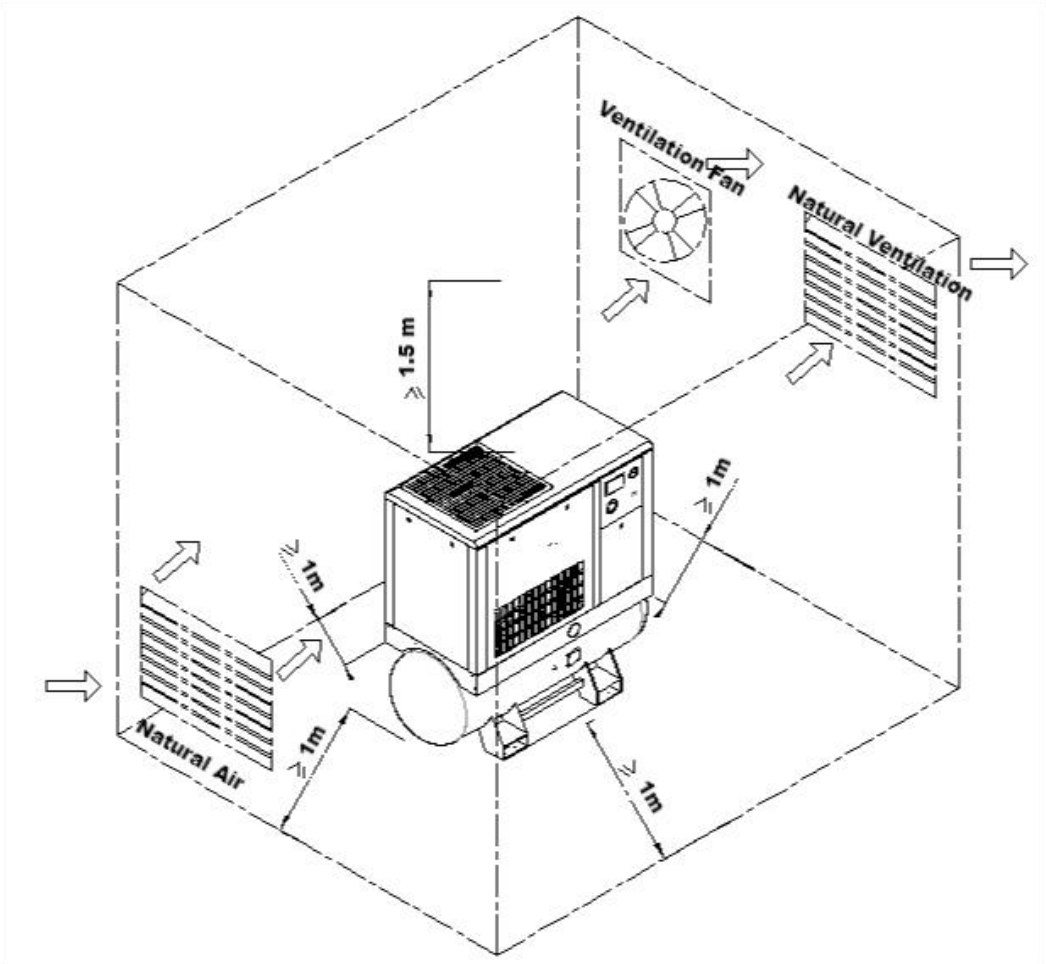
1.3 If the compressor is installed outside of the room, make sure the compressor has good shelter structure on the top and around it to avoid rain, sun, snow, dust etc. Check everyday the compressor's condition and do cleaning/maintenance more frequently.

1.4 Try to install the compressor in a cool, clean and well-ventilated place to ensure that the compressor inhales clean air (ambient temperature 0~40℃).

1.5 The air inhaled by the compressor is not allowed to contain any flammable or corrosive element, to avoid the fir, explosion or internal corrosion.

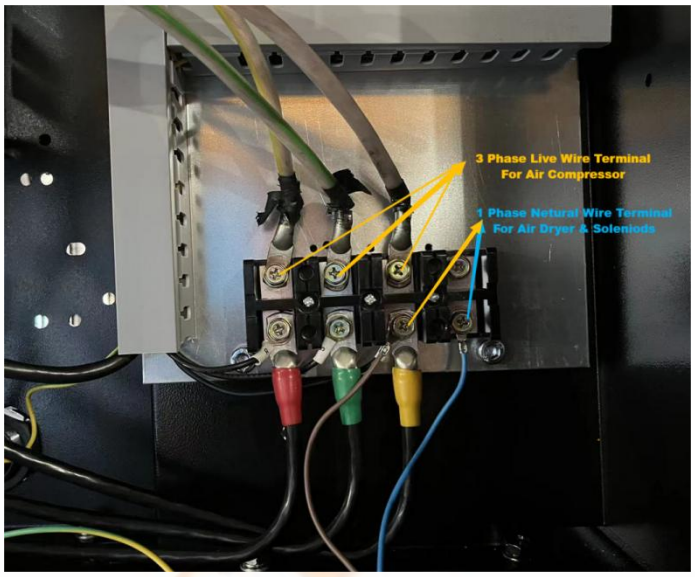
1.6 The altitude should not exceed 1000 meters above sea level, and the relative humidity should be lower than 95%, contact Rocky if you need an air compressor on plateau.

1.7 There should be at least 1 meter of space around the air compressor to provide good heat dissipation, ventilation and maintenance for the air compressor (recommended to reserve 1.5m above).

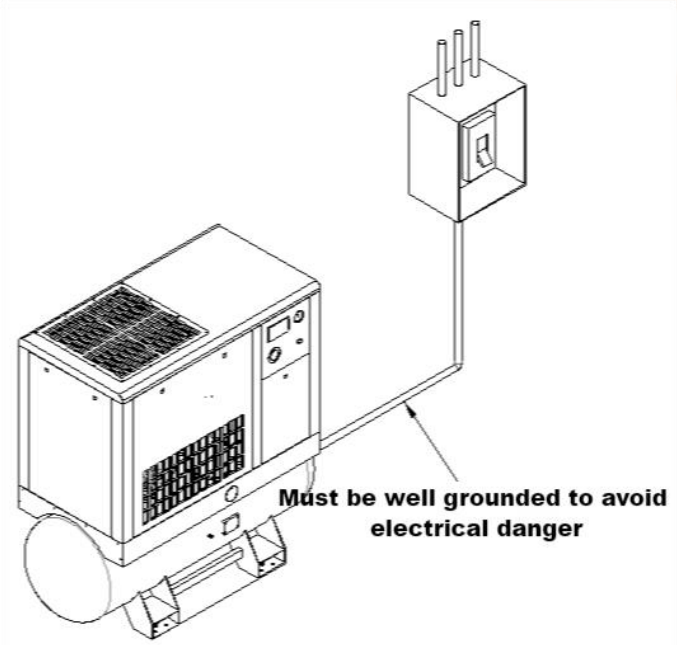


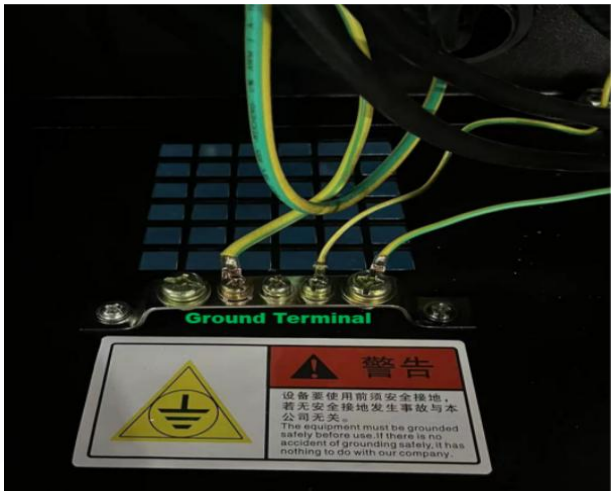
2 Wiring

2.1 Rocky Fiber Laser Compressor (4-in-1) integrates the entire air compressor system, pre-wired & pre-piped between the air compressor, air receiver tank, air dryer and precision line-filters, user only need to power the compressor with 3 phase power in the shop.



2.2 Ground line must be well connected to avoid any electrical danger.





2.3 Corresponding Selection of Wire Diameter and Circuit Breaker

Rated Power / Item	7.5KW	11KW	15KW	22KW	37KW
National standard copper wire main wiring cross section	≥6M^2		≥10M^2	≥16M^2	≥25M^2
Circuit breaker	30 amp		40 amp	60 amp	100 amp
Wiring length	The length of the wiring should be determined by the user according to the requirements of the figure. The wiring should not be too long				

3 Tubing & Valving

3.1 All the outlet diameter has been listed in our catalog or mentioned in the proposal, it is G3/4".

3.2 Prepare the necessary adaptor or valve to connect the compressor and equipment you use.

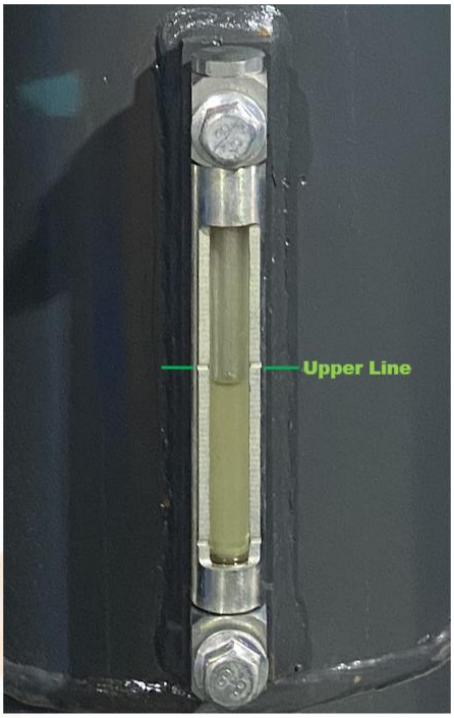
3.3 In order to reduce the pressure drop of the air compressor, when the distance between the machine and the air-consuming equipment should be ⩽10m, when the length of the main pipe is longer than 30m, it is better to choose a larger diameter pipe. The longer the pipe, the larger the pipe diameter.

3.4 If one air compressor supplies air to multiple machines, please calculate the air consumption in advance, and select the appropriate main pipeline and branch pipeline.

3.5 Our Fiber Laser Air Compressors have multiple drain valves, drains automatically particle, moisture which is bad for laser.

III BEFORE START, STARTING, RUNNING CHECK & SHUT DOWN

1 Before Start



1.1 Check all pipelines, valves and bolts, fasten if any of them is getting loose.

1.2 Check the compressor is properly wired, fasten all the terminals, Loose conductive sheets may cause sparks.

1.3 Check inside of the compressor, make sure all tools and irrelevant items are removed.

1.4 Check oil level from the oil level indicator on the separator tank the oil level should flush with the upper line while compressor is stopped(or 1cm above), too much oil may cause compressed air contains oil. (it is forbidden to mix different brands lubricant).

1.5 Check all the automatic drainers are switched on.

2 Starting Procedure (Sequence is Important)

2.1 Turn on the main power supply

2.2 Firstly, Switch on the Refrigerated Air Dryer, let the dryer get to the working condition for 1~2 minutes, if there is any alarm, please troubleshooting according to page 30.

2.3 Secondly, check the compressor controller screen, see if there is any alarm (first start may have “Phase Sequence Error”, simply change any 2 of 3-phase power cables), press “START” on the controller screen for 2 seconds to start the compressor.

Attention: When the compressor inner pressure achieves 0.6Mpa, start the desiccant dryer (if equipped).

3 Running Check

3.1 After starting the system, operator should be around, if need to leave the compressor room, a warning sigh like “Danger, keep away” should be placed at a prominent place.

3.2 If it is the first run of the new compressor, operator should stay with the compressor for 2 hours at least, keep watching the controller screen see if there is any alarm, troubleshoot according to page 28.

3.3 If all goes well, compressor will keep charging from 0 Mpa to rated pressure, minimum pressure valve will open and discharge from the compressor outlet after certain of purification.

3.4 The discharge temperature should be controlled between 85~ 110° C, when the temperature reaches 95° C, the cooling fan will automatically turn on.

3.5 Attention! If there is abnormal noise, vibration, oil leakage, or air leakage, stop the compressor immediately and inspect!.

4 Shut Down

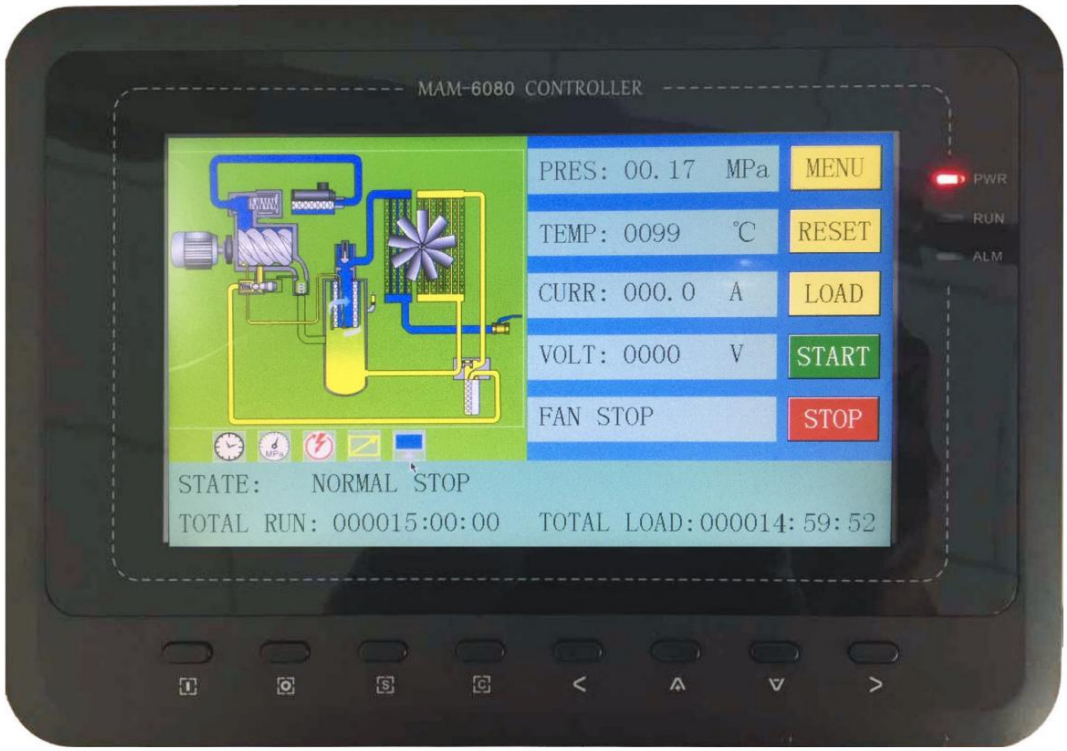
4.1 The Rocky compressor is designed for 7*24 constant working condition, if you need to shut down the system, you need to:

1) Switch off the desiccant air dryer(if equipped).
2) Turn off the compressor by pressing the Stop on the controller.
3) Switch off the refrigerated air dryer.
4) Power off the main power switch after the system is fully stopped.

Attention: Red Emergency Stop can be used only for the urgent situation, sudden power failure will damage system lifetime!

IV HMI INTRODUCTION

1 Button Introduction



——Start Button:

When compressor is at stop status, press this button to start the compressor.

When compressor is set as master (No.1) in block status ,press this button to start the compressor and activate block mode function at the same time.

——Stop Button：

When the compressor is at running status, press this button to stop the compressor；

When compressor is set as master (No.1) in block status, press this button to stop compressor and block function as well;

——Set Button; Load / unload Button:

When the compressor is at running status ,press this button to load or unload ;

When modifying data in text-box, press this button to save data and exist modification status

When cursor is at any page icon, press this button to execute the corresponding function.

 ——Return Button / Reset Button:

When the controller is at alarm and stop status, press this button for 5s to reset.
When modifying data, press this button to exist data setting mode;
When viewing the menu, press this button to return to previous menu;

 ——Move Left Button：

When checking data in text-box, press this button to enter data modifying mode, data starts to blink from right to left .
When modifying data in text-box, press this button to move the cursor to the left data
When modifying data in data set and display icon, press this button to modify and save the data
When cursor is in the page icon, press this data to move to the previous icon.

 ——Move Right Button/Enter Button:

When checking data in text-box, press this button to enter data modifying mode, data starts to blink from left to right .
When modifying data in text-box, press this button to move the cursor to the right data
When modifying data in data set and display icon, press this button to modify and save the data
When cursor is in the page icon, press this data to move to the next icon.

 ——Move Down Button / Decreasing Button:

When checking the data, press this button to move downward the cursor to next icon;
When modifying data in text-box, press this button to decrease the current data
When the current page is at run parameter, press this button to swift to the next page

 ——Move up button/Increasing button:

When checking the data, press this button to move downward the cursor to precious icon;
When modifying data in text-box, press this button to increase the current data

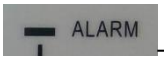
2 Indicator Introduction

——Power：

Indicator is alight when controller is powered on

——Run：

Indicator is alight when motor is running



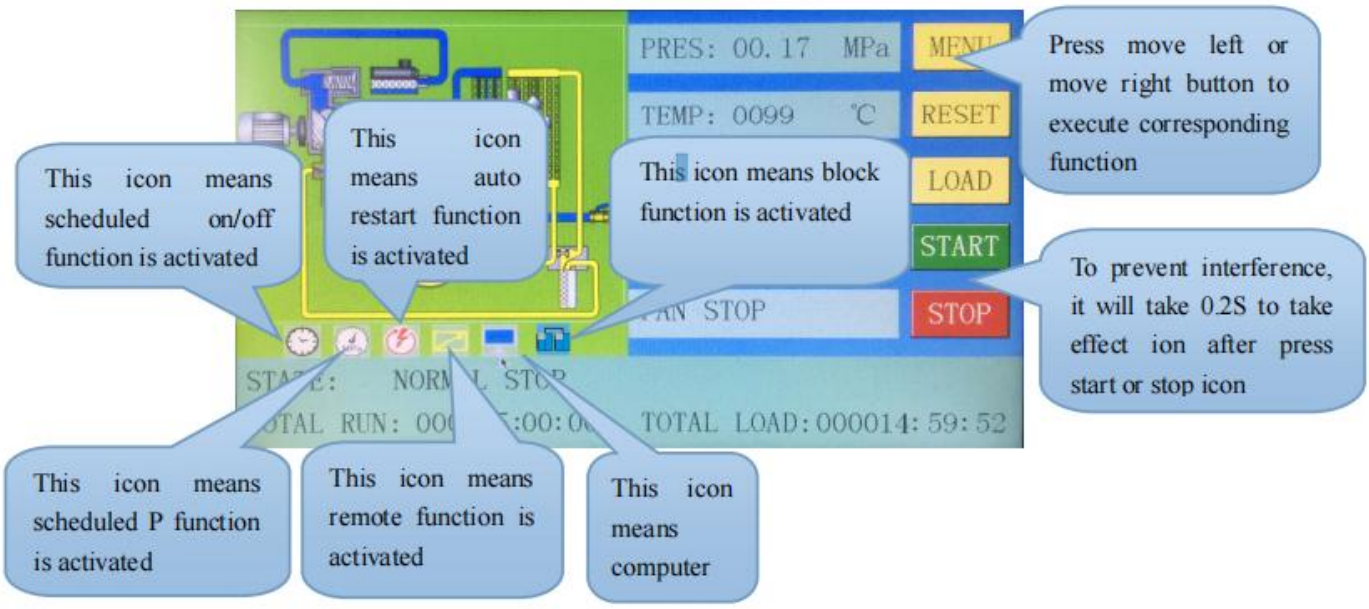
——Alarm：

Indicator is blinking when controller is alarming;
Indicator is alight when compressor is alarm and stop；
Indicator is off after error is cleared and reset.

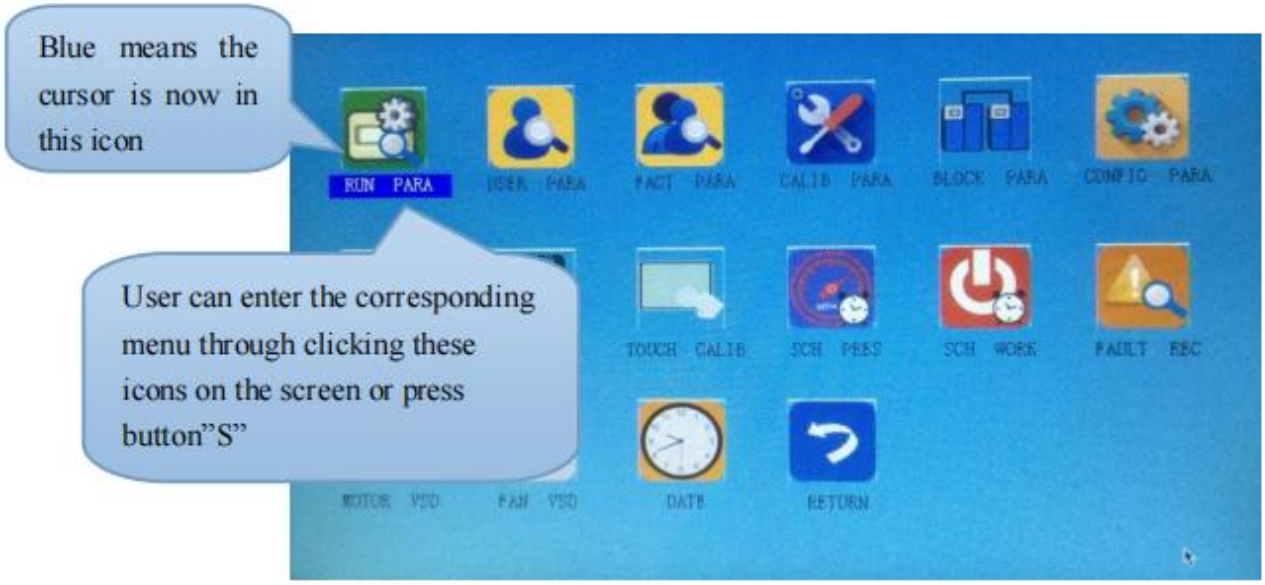
3 Status Display and Operation

The Controller screen will show as below after power on and display “MAM-6080 ”for a while：

After 5 seconds, the menu will switch as below:

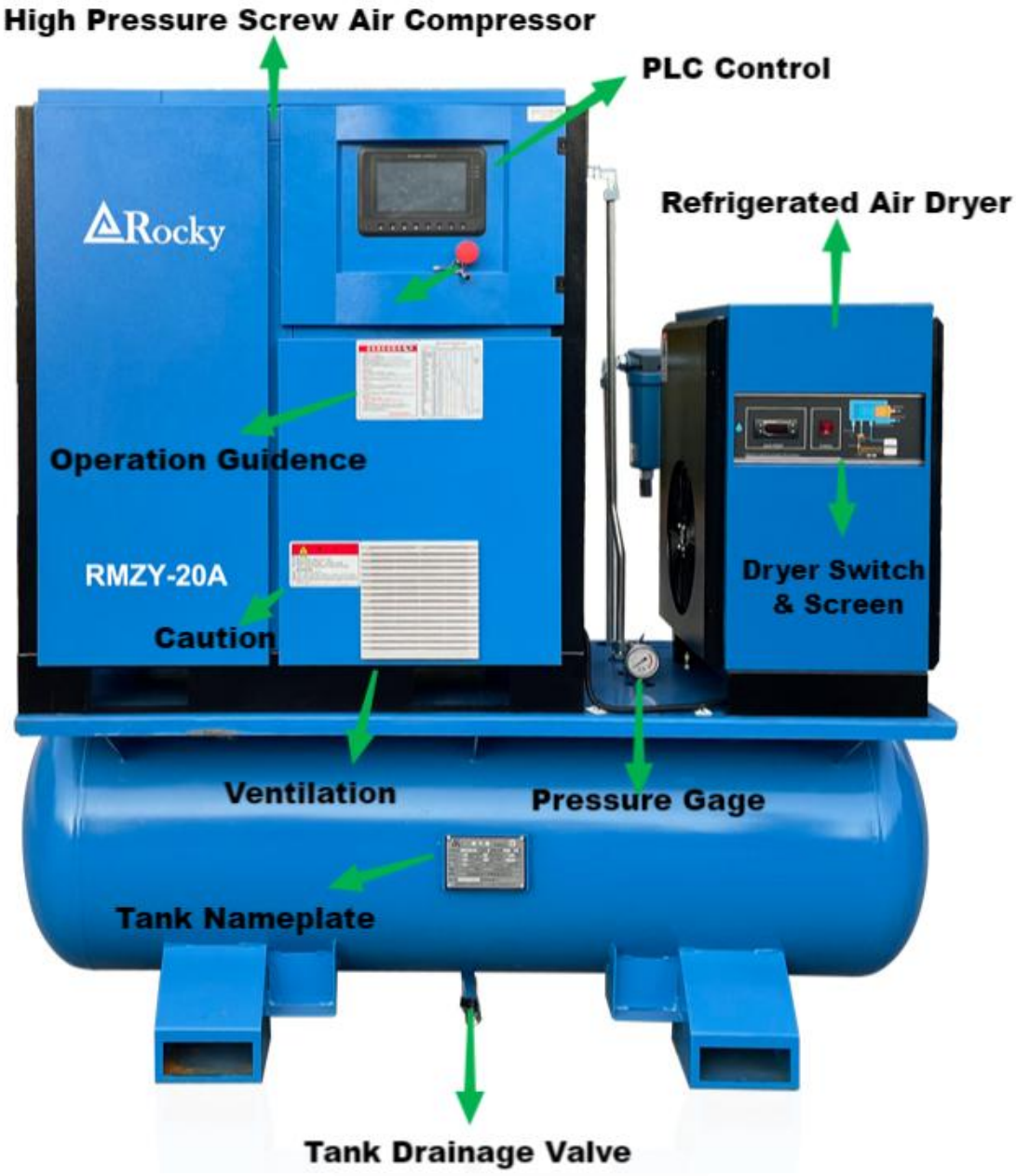


User can enter the below menu through clicking MENU icons on the screen or press button"  "

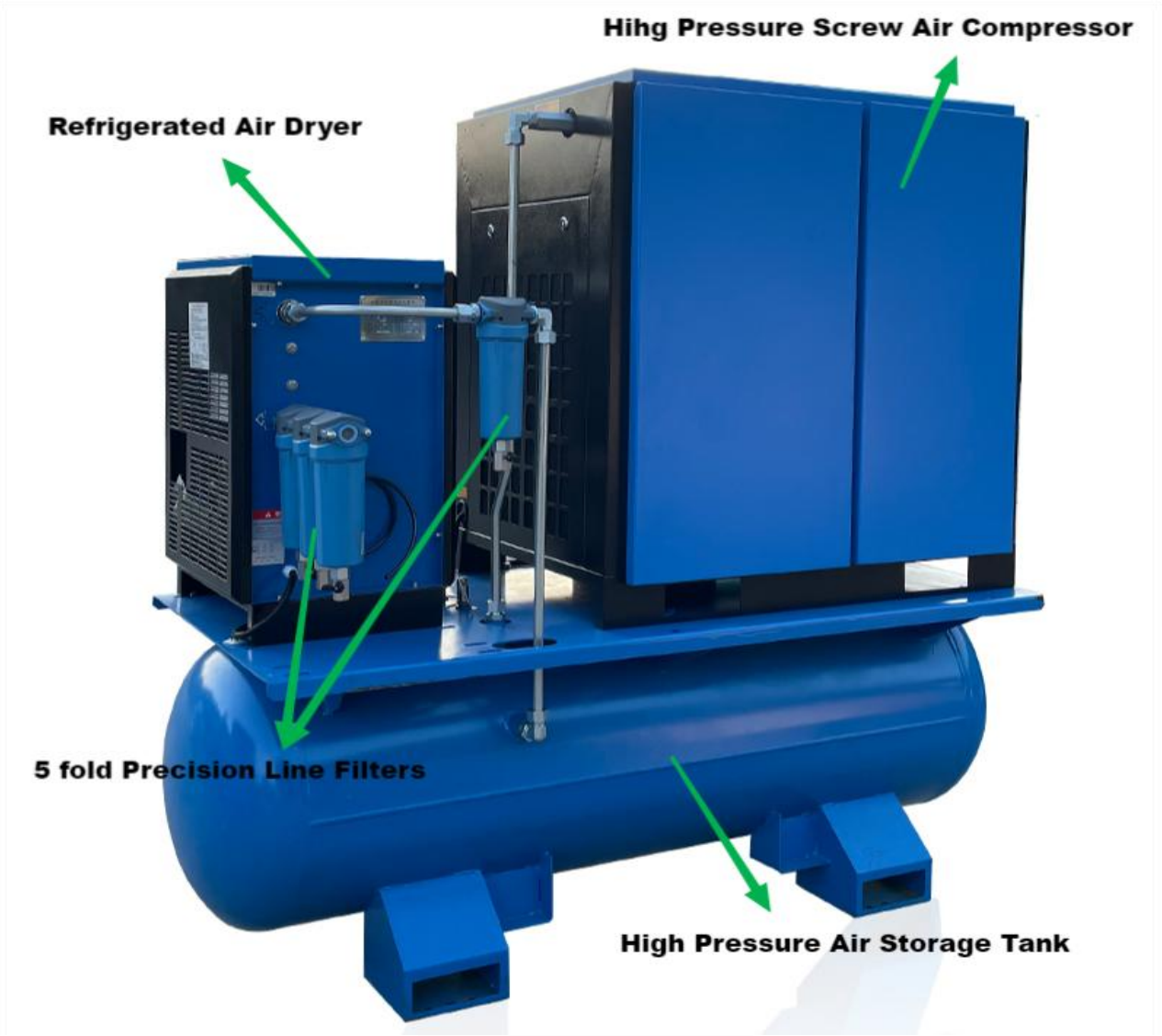


V SCHEMATIC DIAGRAM OF THE STRUCTURE

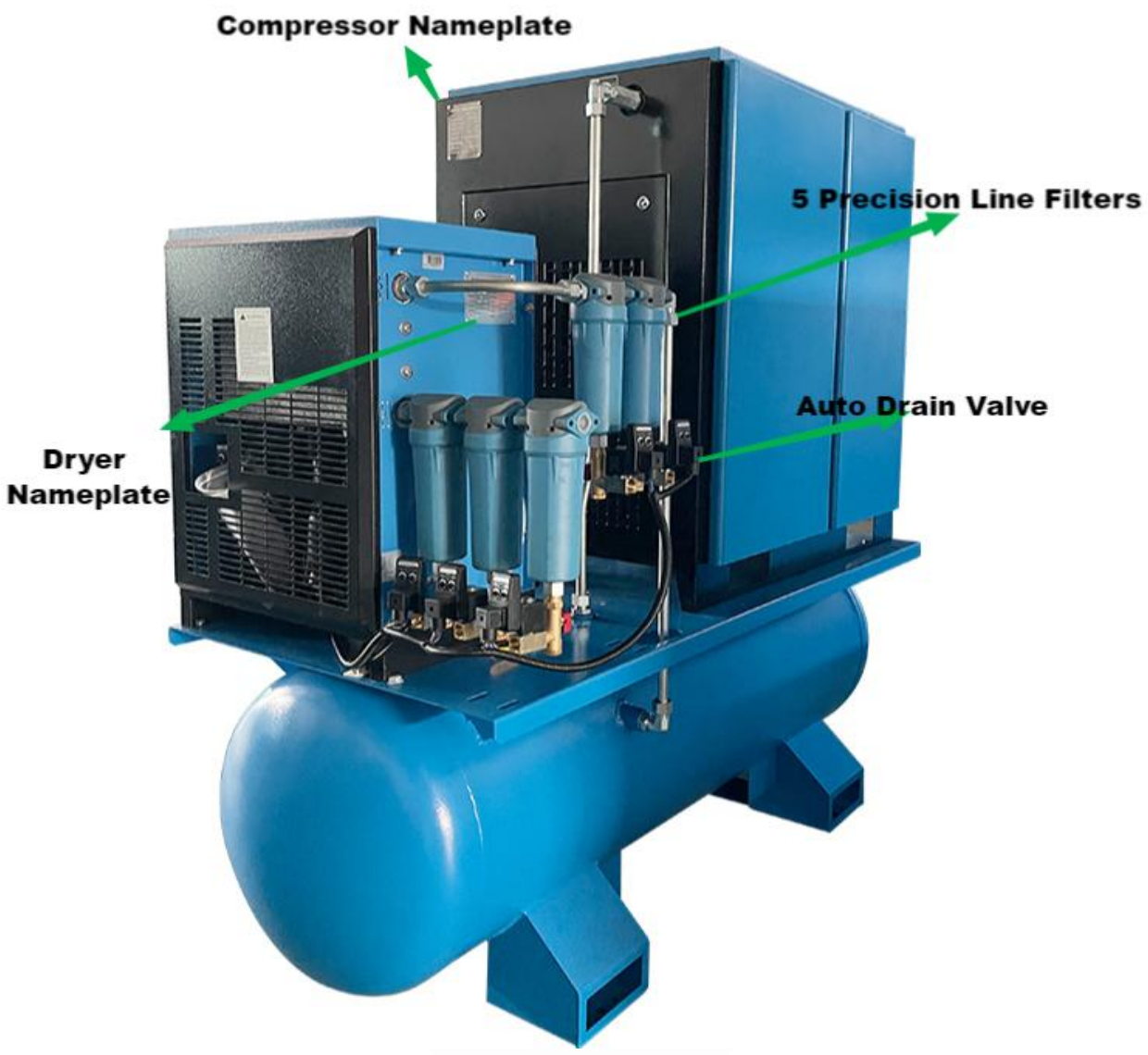
1 4-in-1 Tank-mounted Fiber Laser Screw Compressor- Externals



(Front)

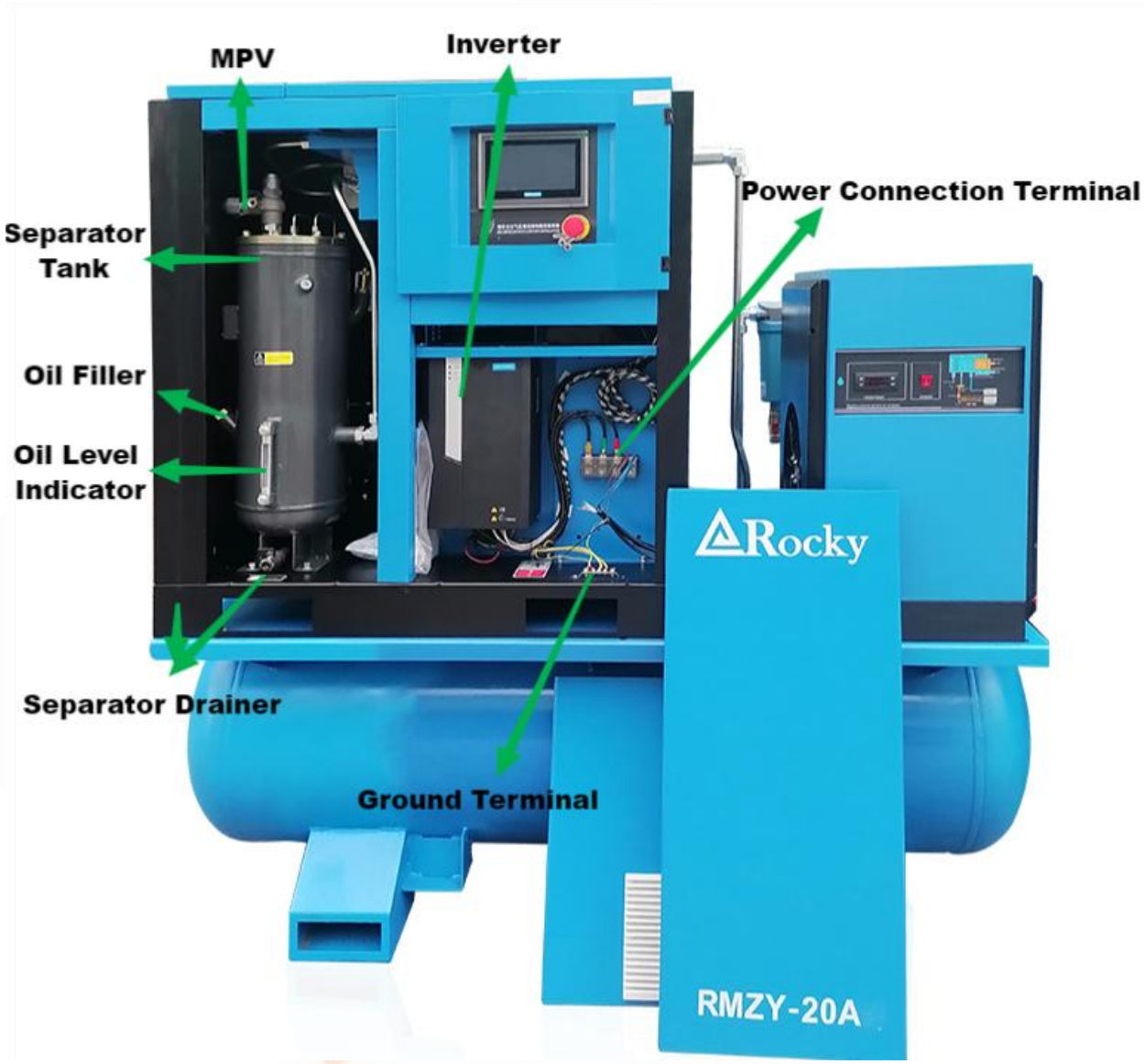

Hihg Pressure Screw Air Compressor
Refrigerated Air Dryer
5 fold Precision Line Filters
High Pressure Air Storage Tank

(Back)

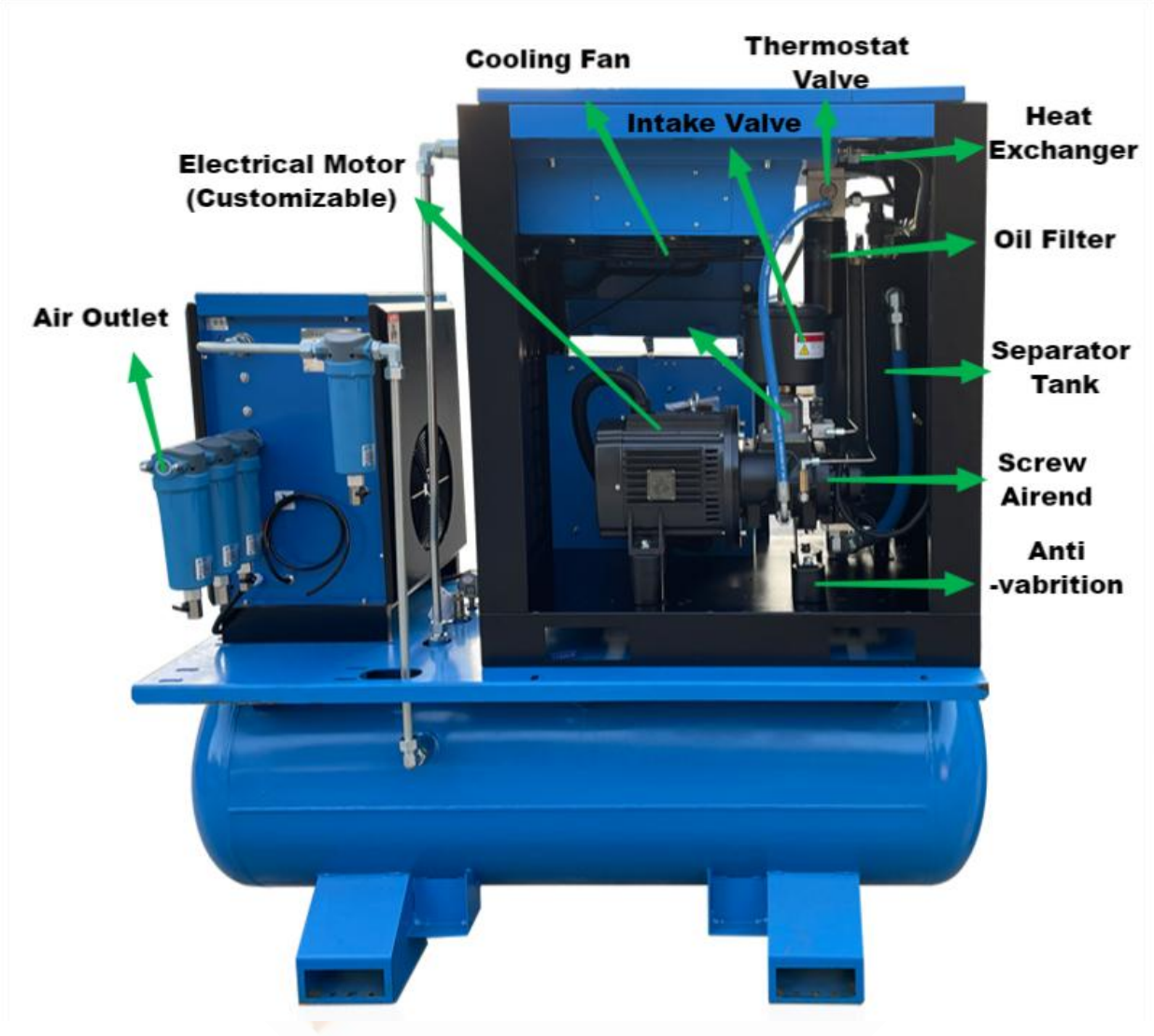


(Lateral View)

2 4-in-1 Tank-mounted Fiber Laser Screw Compressor- Internals



(Front)


Cooling Fan
Thermostat Valve
Intake Valve
Heat Exchanger
Electrical Motor (Customizable)
Oil Filter
Air Outlet
Separator Tank
Screw Airend
Anti -vabrition

(Back)

3 5-in-1 Tank-mounted Fiber Laser Screw Compressor- (With Adsorption Dryer)

Switch

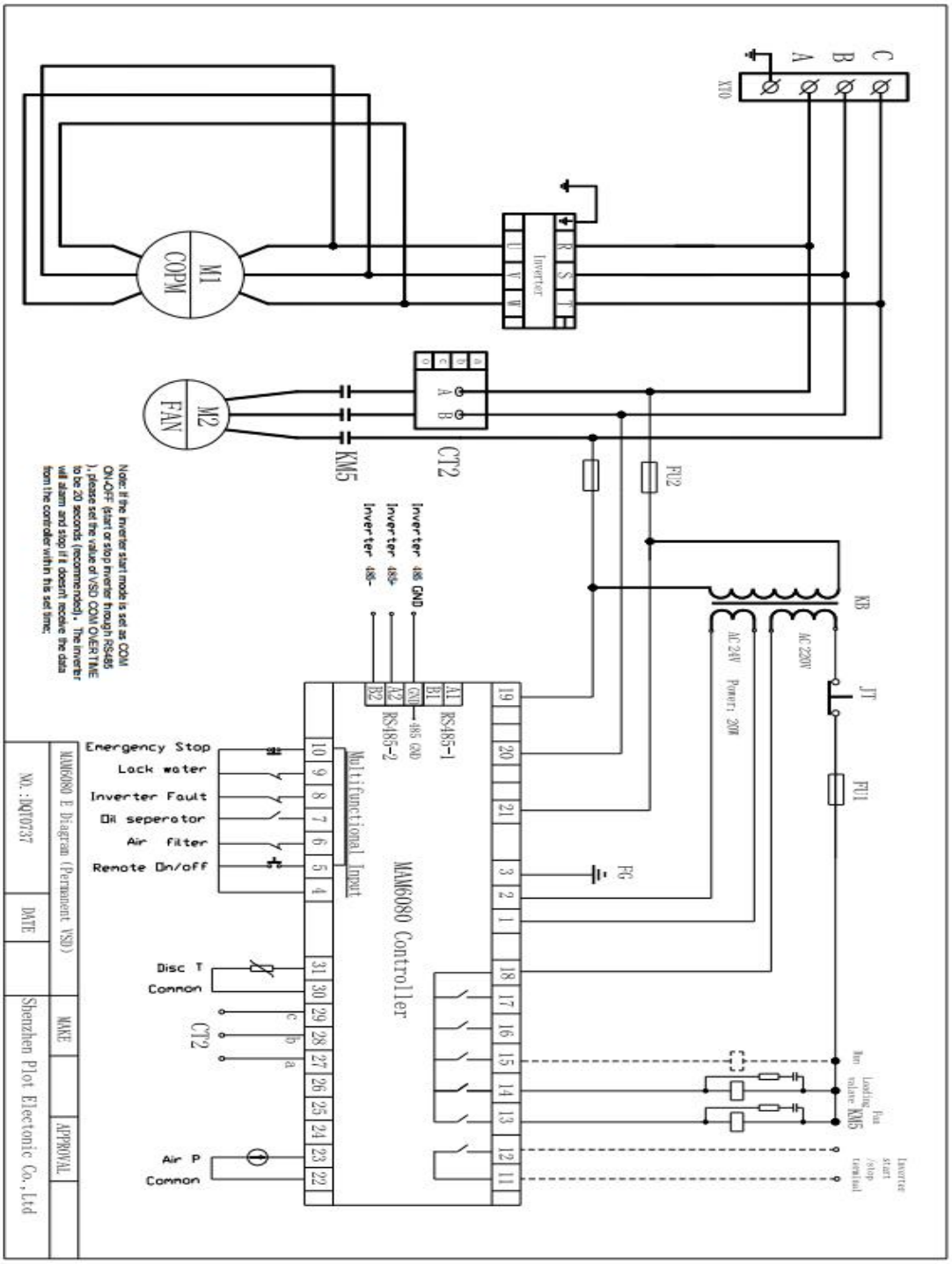
Tower A Pressure Gauge

Tower B Pressure Gauge

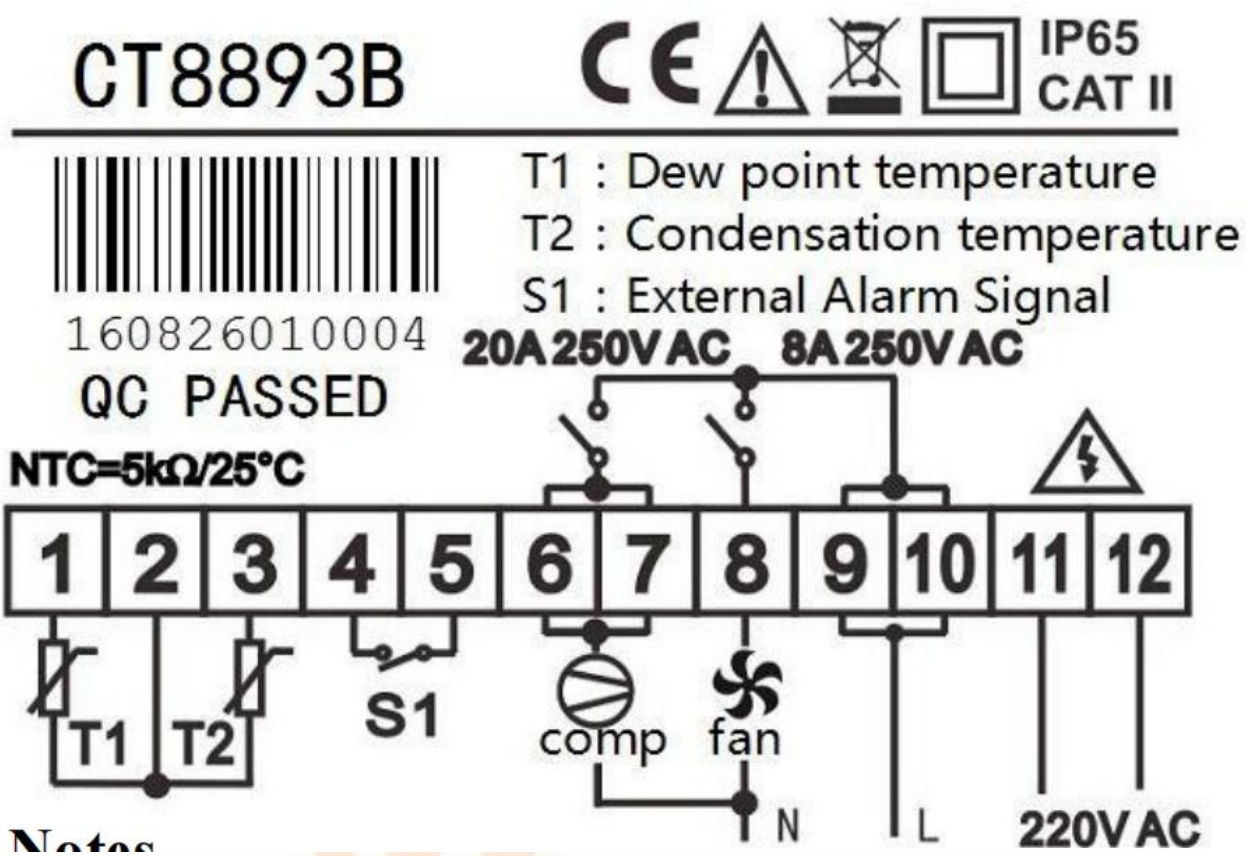
VI SCHEMATICS & DIAGRAMS

1 Compressor Controller (HMI) Diagram

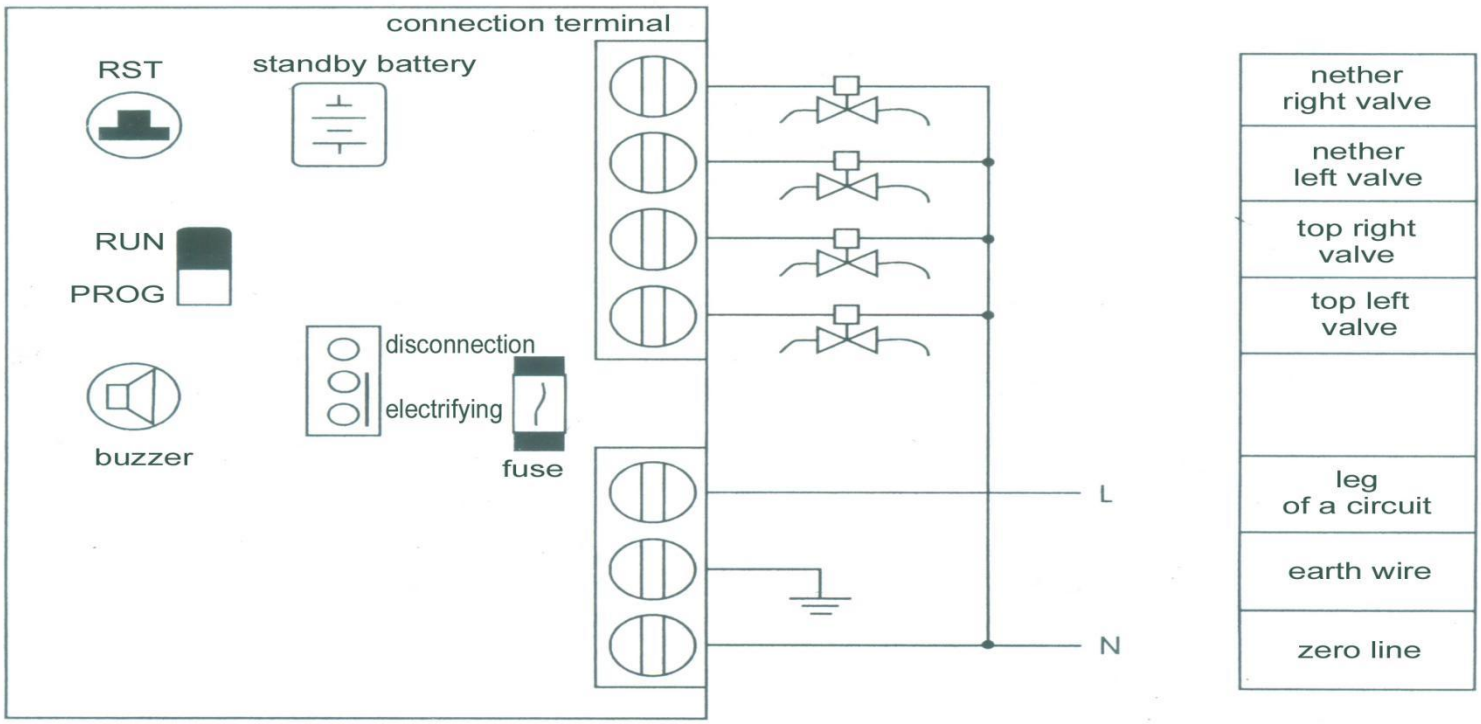
PERM MAGNET VSD, MOTOR VSD



2 Refrigerated Air Dryer Diagram



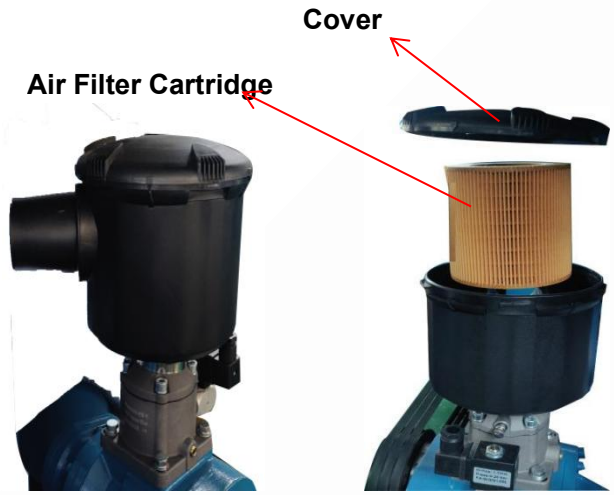
3 Desiccant Air Dryer Diagram



VI MAINTENANCE GUIDE

1 Air Filter Maintenance

1.1 The air filter cartridge in the intake valve should be replaced every 2000 working hours, our smart control will record and remind users to do service.(New Compressor should replace the air filter at first 500hours). Reset the filter time in the controller and shorten the service interval if the working environment is dusty.



Unscrew the air intake filter cover, take off the air filter cartridge and replace with a new one, put cover back as the way it was.

Note: Regular blow/clean the air filter cartridge can optimize the filtration effect and prolong the service life

2 Oil Filter Maintenance

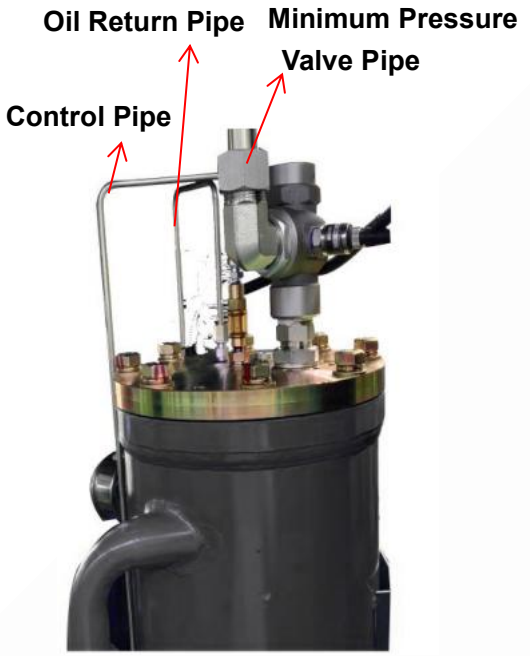
2.1 The oil filter cartridge should be replaced every 2000 working hours, our smart control will record and remind users to do service.(New Compressor should replace the oil filter at first 500hours). Reset the filter time in the controller and shorten the service interval if the working environment is dusty.

Unscrew the oil filter, take off the oil filter cartridge and replace with a new one.

Note: When replacing, please use a bag to contain the oil that may drip from the base. Clean properly before starting the machine

3 Oil/air Separator Maintenance

3.1 The oil/air separator is inside of the separator tank, should be replaced every 4000 working hours, our smart control will record and remind users to do service.(New Compressor should replace the oil filter at first 500hours). Reset the filter time in the controller and shorten the service interval if the working environment is dusty.



Take off all the bolts on the separator tank cover, also the control pipe, oil return pipe & MPV pipe, replace with a new separator cartridge and put back everything as the way it was.

Note: The staple on the gasket is used to avoid static fire, please don't remove.

4 Precision Line-filter Maintenance

4.1 The precision line-filter (5pcs in total, only 4 need to replace as 1 of them is Vortex Water Separation - W grade) cartridge should be replaced every 6000~8000hours, that depending on the working environment.

Twist the filter housing and take off, replace the the filter cartridge and put back the housing as the way it was.

Note: If the auto-drainer timer is equipped, please unscrew the timer and replace.

5 Lubricant (Super Coolant)

5.1 The lubricant for fiber laser cutting air compressor is super important, as it's high pressure system, please make sure you use correct oil!

User could purchase locally 46# synthetic High Pressure Screw Air Compressor oil: Shell Corena Grades- Compressor Oil, S3 at least, S4 better.

6 Heat-exchanger Maintenance

6.1 Keeping the Heat-exchanger clean is very effective way to prevent system away from overheat, simply purge it from the bottom.

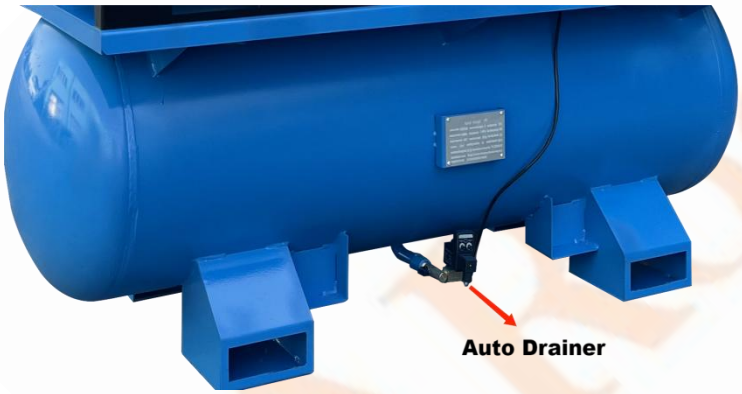
Note: Generally, clean the heat-exchanger every quarter. Shorten the service interval if the working environment is dusty.

7 Air Receiver Tank Maintenance

7.1 Drain the air receiver tank after you shut down the unit or before starting at next day, the more frequent the better but twice a day is not necessary.

Auto drainer is available, if equipped, it drains the condensate aromatically.

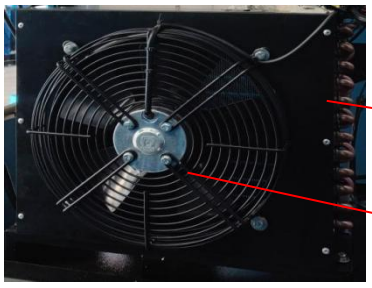
7.2 Auto drainer is available, if equipped, it drains the condensate aromatically.



Note: Clean the filter mesh inside of the auto-drainer weekly.

8 Refrigerated Air Dryer Maintenance

8.1 The working environment temperature should never lower than 0℃, otherwise the air dryer compressor will be damaged due to short of lubrication. Check the drainer pipe frequently, see if it's working properly. Purge the condensator if it's getting dirty.



When the air dryer alarms short of refrigerant after years of working, please add it at once.

Note: Please add the refrigerant according to the dryer's nameplate

9 Desiccant Air Dryer Maintenance

9.1 Check the programmed timing in the controller, see if the shift timing of A tower & B tower is correct.

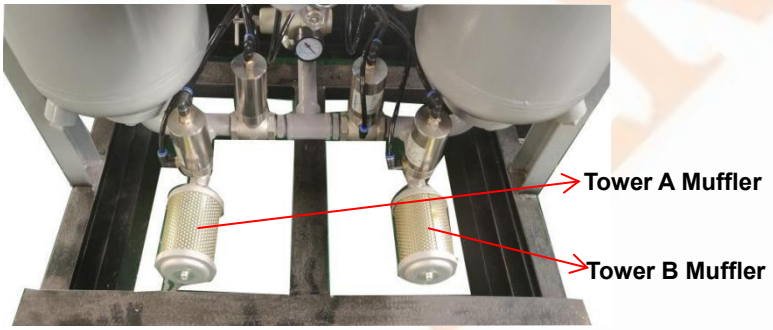
9.2 Check every year the desiccant, see if it's polluted by oil or dusted, take necessary action by following condition:

1) High speed airflow caused by improper operation or low pressure operation could break the desiccant into dust, take out all desiccant and refill after sieving.

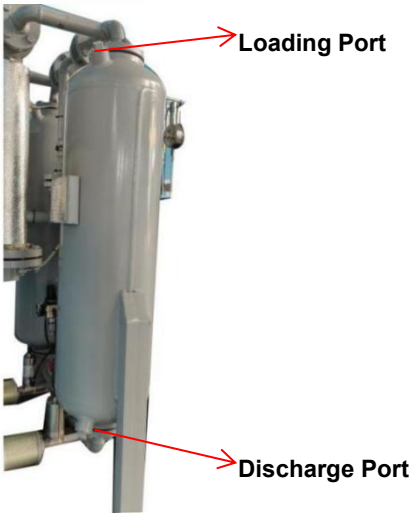
2) Due to the high intake air temperature, liquid water impact or overtime work without switching action, the desiccant is oversaturated or even soaked in water, please immediately troubleshoot and measures should be taken to reduce the amount of treated air and expand the amount of regeneration gas (open the throttle valve large)), gradually dehumidify in the power-on state until the original dryness is restored (Do not adjust the regeneration valve without the guidance and permission of supplier, or you will be responsible for the consequences). Note: If the desiccant is in a state of oversaturation or immersion in water for a long time, it will form hardening and became useless;

3) Due to the failure of the filter or the lack of a oil filter, the lubricating oil enters the drying tower and blocks the capillary channel on the surface of the adsorbent, resulting in the decrease or loss of the adsorption capacity of the adsorbent, then the adsorbent must be replaced;

9.3 Wash the muffler every quarter with warm soap water, put back after drying. Change the muffler once a year.



9.4 Every 6000~8000 working hours should do replace the desiccant in both towers, depending on the working environment.



VII TROUBLE SHOOTING

⚠ **The power supply of the air compressor must be cut off before troubleshooting, and the air compressor system pressure is released to 0.**

1 Air Compressor Troubleshooting

Failure Phenomenon	Reason	Solution
The compressor cannot start	1. Blown fuse 2. Start electrical failure 3. Poor contact of start button 4. Poor circuit connection 5. Voltage is too low 6. Power phase loss 7. Fan motor overload 8. Main motor failure 9. Main unit failure (the main unit has abnormal sound, local hot)	Ask the electrician to cooperate with the maintenance or replacement
High operating current, the compressor automatically stops (Main motor overheating alarm)	1. Voltage is too low 2. Exhaust pressure is too high 3. Blockage of oil and gas separation core 4. Compressor air end failure 5. circuit failure	1. Ask an electrician to check 2. Check/adjust pressure parameters 3. Replace with new parts 4. Body disassembly inspection (notify our company) 5. Ask an electrician to check
Exhaust temperature is too low	1. Temperature control valve malfunction 2. Unloaded for too long 3. Exhaust temperature sensor malfunction 4. The intake valve is malfunctioning and the intake port is not fully opened 5. Inlet water flow is too large or water temperature is too low (water-cooled type)	1. Overhaul 2. Increase gas consumption or stop 3. Check and replace 4. Clean and replace 5. Check and adjust the water inlet system
If the exhaust temperature is too high, the compressor will automatically stop (alarm if the exhaust temperature is too high)	1. Insufficient lubricant 2. The lubricant specification/model is wrong 3. Oil filter blocked 4. Oil cooler blocked 5. Temperature sensor failure 6. Temperature control valve out of control 7. The exhaust fan is not running 8. Too little water or too high temperature	1. Check add lubricant 2. Replace with new oil as required 3. Check for new parts 4. Check cleaning 5. Replace with new parts 6. Check and clean, replace with new parts 7. Check or replace the fan 8. Check and adjust the water inlet system
Exhaust gas contains high oil content	1. Damaged oil and gas separation core 2. One-way throttle valve or oil return pipe blocked 3. Excessive lubricant	1. Replace with new parts 2. Clean the one-way valve or return pipe 3. Discharge part of the cooling oil

The compressor displacement is lower than the normal requirement	1. Air filter is clogged 2. Blockage of oil and gas separation core 3. Solenoid valve leaks 4. Leakage of air line components 5. The belt is slipping or too loose 6. The intake valve cannot be fully opened	1. Blow off impurities or replace with new ones 2. Replace with new parts 3. Replace with new parts 4. Check repair 5. Replace new parts, tension belts 6. Clean and replace damaged parts
Spit oil from the air filter after shutdown	The check valve spring in the intake valve fails or the check valve sealing ring is damaged	Replace damaged components
Safety valve action jet	1. The safety valve is used for a long time and the spring is fatigued 2. Pressure control failure, high working pressure 3. Blockage of oil and gas separation core	1. Replace or reset 2. Check and reset 3. Replace the oil and gas separation core

2 Troubleshooting of Refrigerated Air Dryer

Failure Phenomenon	Reason	Solution
Too much pressure drop	The pipeline valve is not fully opened	Fully open the valve
	Pipe diameter is too small	Increased pipe diameter
	The pipeline is too long, too many elbows and joints	Piping system redesign
	The filter in the pipeline is blocked	Filter cleaning or replacement filter element
	Too much air leakage at the pipe connection	Check the elbow joint
	Exceeding the rated flow of the air dryer, the pressure drop will naturally increase	1. Replace the cold dryer with a larger capacity 2. Reduce air flow
	Pressure switch failure	Renew, check circuit, correct switch
	Failure of expansion valve and hot gas bypass valve	Replace with a new one, check whether the pipeline is blocked, correct the switch
Poor dewatering condition of air dryer	Bypass valve is not fully closed	Close the bypass valve
	Air does not pass through the air dryer	Close the bypass valve tightly and open the inlet and outlet valves of the dryer
	The air dryer is not leveled	Flat
	Automatic drain tilt	Flat
	The drain line is higher than the auto drain	Redesign of drain line
	Heat load is too high	Air source redesign
	Drainer failure	Clean or renew
	Dew point temperature is too low or too high	Adjust pressure switch, water volume control valve, expansion valve, hot gas bypass valve
	The ambient temperature or inlet temperature is too low	It doesn't matter much, you can continue to use the dryer
	Inlet temperature is too high	Add a rear cooler or improve the inlet air temperature
	Leakage of refrigerant, poor cooling effect	Repair leaks, add refrigerant
	Dew point temperature indication is abnormal	Renewed
Unable to start	Fuse blown or no fuse trip	Confirm whether the power supply is under-phase open circuit or grounding phenomenon, and check whether the fuse switch is damaged
	Disconnected	Find out the disconnection and repair it
	Control switch failure	Renewed
	Abnormal voltage	Please refer to the rated voltage indication on the nameplate, the allowable range is ±5%

	AC contactor or thermal relay failure	Renewed
	High and low pressure switch failure	Renewed
	Not reset after high and low voltage trip, electromagnetic switch not reset	After finding out the cause of the trip, reset
	Loose wires	Find out where the wire is not locked and tighten it
	Air compressor failure	Renewed
Bad after startup	Shortly after starting, the wires are short-circuited, producing a burning smell	Reconfiguration of lines and switches to find out the cause of the abnormality
	High voltage trip switch failure	Switch replacement
	Overload trip	Turn on the relay
	Too much dirt on the wind condenser fins	Blow
	Continuous start	Every start must be separated for more than 3 minutes
	Power phase loss	Bad fuse or power switch contact
	Air compressor overload	Dryer overload, reducing air handling capacity
	The inlet temperature of the dryer is too high	Add a rear cooler or improve the cooling conditions of the air compressor
	Thermal relay setting value is	Adjust the set value
	Bad electrical station contact	Clean up or renew
	Contactor failure or bad contact	Clean up or renew
	Pressure switch failure	Renewed
	Fan motor failure	Renewed
	Fan blades are stuck or loose	Overhaul to make it run smoothly
Dew point indication is too low	Bad temperature sensor	Renewed
	Throttle valve or hot gas bypass	Renewed
	Refrigeration system leaks	Fill the refrigerant after the leak
	Clogged refrigerant	Change the desiccant, re-evacuate, and charge refrigerant
	Improper setting of condensing	Condensing temperature setting value 42℃
	The ambient temperature is too low	The ambient temperature shall not be lower than 10℃
Dew point indication is too high	The inlet temperature is too high (over 45°C)	Add a rear cooler or improve the cooling conditions of the air compressor
	Failure of expansion valve or hot	Renewed

	Too much fouling of wind	Compressed air blowing fins
	The environment is too high or poor ventilation	Improve cooling conditions and strengthen environmental ventilation
	The air handling capacity is too	Control the displacement
	Improper setting of condensing	Adjust the set value
	Sensor failure	Renewed
	Fan blades are stuck or loose	Overhaul to make it run smoothly

3 Trouble Shooting Desiccant Air Dryer

Phenomenon	Reason	Method of exclusion
No response at boot	The power supply is abnormal	Check the power supply line
	Blown fuse	Replace the fuse
The silencer keeps getting frustrated	A tower regeneration solenoid valve is broken	Replace solenoid valve
	B tower regeneration solenoid valve failure	Clean the valve plug, valve stem or replace the solenoid valve
Twin towers do not switch	Main controller failure	Overhaul the main controller
	The main solenoid valve fails	Repair or replace the solenoid valve
Pressure reset of regeneration tower is abnormal	Excessive regeneration gas	Adjust the throttle valve to reduce the amount of regeneration (completed under the company's technical guidance, private operation at your own risk)
	The check valve is broken or leaking	Replace leakage valve or spool parts
	Leakage of main solenoid valve	
High dew point	Regenerative gas volume is too small	Adjust the throttle valve to appropriately increase the regeneration gas volume (to be completed under the company's technical guidance, and operate at your own risk)
	Improper switching cycle of twin towers	Reset the switching cycle
	The adsorbent is contaminated	Replace the adsorbent to eliminate the cause of contamination
Too much pressure	Broken adsorbent	Replace adsorbent
	Filter filter layer blocked	Release the adsorbent, clean or replace the filter
	System leaks	Find out the leak and eliminate

No signal from smart controller Or part of no signal, the signal does not match the actual work	No power output or loose terminals	Check whether the power cord and fuse are in good condition, otherwise replace (see the wiring diagram of the controller).
	No output at all or part of the output	Correct wrong wiring
	Output terminal wiring error	Correct the wrong power supply
	Electric pressure fluctuates too much	Power Supply
Dew point is not up to the requirement	Insufficient adsorbent or broken failure	Add adsorbent or replace
	Insufficient regeneration gas volume or abnormal switching of Tower A and B	Adjust to a reasonable gas volume, adjust the A and B towers to switch normally
	Intake air temperature is too high	Adjust the process configuration and improve the cooling effect of the cooler
	Adsorbent failure with high oil content in intake air	Improve oil filtering effect, replace adsorbent
	The working pressure is so low that the adsorption capacity is low	Increase intake pressure appropriately
	Switching cycle is too long	Reasonably adjust the switching cycle
The pressure drop is too large (more than 3% MPa of the inlet pressure)	The adsorbent is seriously damaged	Remove and replenish broken adsorbent
	Filter clogged	Check and clean the clogged filter
	The adsorbent is overdue or broken into powder prematurely	Screen or replace adsorbent
Large flow loss	The outlet pipe diameter is not up to the requirements	Replace
	Poor air outlet	Cleaning and sewage
	Regenerative gas volume is too large	Appropriately reduce the amount of regeneration gas
The pressure of the regeneration tower does not return to zero or the pressure of both towers drops at the same time	The muffler or muffler pipe is blocked	Clean the muffler (replace the filter element) or clean the muffler pipe
	Pneumatic valve malfunction or serious leakage	Check and replace damaged parts (diaphragm seals, etc.)
	Regenerative gas volume is too large	Appropriately reduce regeneration air
	Regeneration gas outlet pipeline is not smooth	Check the air outlet pipe, muffler, etc.

VIII MAINTENANCE SCHEDULE

○Clean ◎Adjust and check ●Replace

Item	Content	Daily	Weekly	500 hours	1500 hours	2000~3000 hours	6000~8000 hours	Remarks
				Per month	Quarterly	Semi-annually	Yearly	
HMI Indicator	Any abnormal or alarm	◎						
Discharge Temp.	Temperature range 85~110℃	◎						
Separator Tank	Drain condensate until oil out	◎						
Lubricant Level	Check oil level indicator	◎						
Intake Valve	Check if bolt loose					◎		
Piping (rubber & metal)	Check if leaking		○			◎		
Connector & valves	Check if loose		○			◎		
Heat-ex-changer	Cleaning					○		
Cooling Fan	Cleaning					○		
Wiring connection	Check if loose		○					
Air Filter	Clean/replace		○	New●		●		
Inhale Mesh	Cleaning		○					
Oil return valve	Clean/replace			○	○	○	○	
Oil filter	Replace			New●		●		
Lubricant	Change/refill			New●		●		#46 synthetic
Oil & air separator	Check/replace			New●		●		
Safety valve	Check/replace					◎		
Minimum Pressure Valve	Check/replace					◎		
Pressure Sensor	Check/replace					◎		
Air compressor bearing	Check/replace						◎	
Precision filter element	Replace						●	

Note: Service Interval above is only a recommendation, please consider in the working environment of the compressor, consult our representative if you need.

Use all the filter cartridges supplied by manufacturer, fit-in does not mean you are using the right filters, as size filter has low-pressure, medium-pressure & high pressure models.

Any problem caused by using substandard spare/maintenance part is not a quality problem of the air compressor itself. If the relevant unqualified accessories cause damage to the machine, our company will not be included in the scope of the warranty, please be informed.