

OPERATING MANUAL

Compressed Air Supply Systems

P440/P640/GH6L/GH12L/GH20L/GH40L



WIGGENS
THE MAGIC MOTION

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Congratulations!

You have made an excellent choice.

WIGGENS thanks you for the trust you have placed in us.

This operating manual has been designed to help you gain an understanding of the operation and possible applications of our instruments. For optimal utilization of all functions, we recommend that you thoroughly study this manual prior to beginning operation.

Unpacking and Inspecting

Please unpack the device carefully. Check that the package is right-side-up and then open it. Check that model of the product is one that you ordered. Check that there is no damage. If there is any damage, file a damage claim with the carrier. In the case of any damage a damage report should be requested immediately. These instructions must be followed fully for us to guarantee our full support of your claim for protecting against loss from concealed damage. The form required for filing such a claim will be provided by the carrier.

Changes without prior notification reserved

Important: keep operating manual for future use

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1. Important Notice

This instrument is designed for laboratory usage only.

Before setting up and operating the Compressor, please read these instructions carefully to familiarize with all installation and operation process. Any individual shall be well trained by reading the instructions or by technical people from authorized distributors before operating the instrument.

The instrument shall not be modified or altered in any way. Any modification or alteration will void the warranty, void the regulatory certifications and create potential safety hazard.

We are not responsible for any injury or damage caused by using the instrument for any non-intended purpose, or modifying the instrument by any person who is not authorized.

2. Unpacking

When unpacking, notice if the compressor is in good situation. If not, please contact the distributor or contact us by e-mail: info@WIGGENSci.com immediately for assistance.

CE Conformity



The products described in the operating instructions conform to the requirements of the following European guidelines:

Low voltage regulations with respect to legal harmonization of the member countries concerning electric devices for use within certain voltage limits.

EMC guideline with respect to legal harmonization of the member countries concerning electromagnetic compatibility.

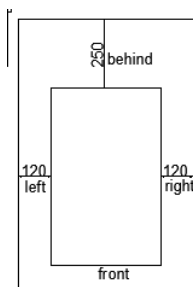
APPROVALS European	EN61326-1: 2013, 2014/30/EU EN61010-1: 2010, 2014/35/EU EN50581: 2012, 2011/65/EU
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3. Installation

- 1) Please check the Voltage/spec. label on the machine.
- 2) Check voltage specified on name-plate on the bottom. Make sure if it matches the line voltage in your location.
- 3) Install the instrument in a clean, dust-less and ventilated area under 40°C.

Installation space

The equipment should be carried out in a spacious, low humidity, well ventilated room.



Ambient temperature: 2-40°C

Warning

1. Avoid sunlight.
2. Avoid rain or high humidity.
3. Humidity: 30~80%.
4. Keep away from flammable materials
5. Make sure the surface is stable and firm.
6. Make sure the environment is clean and tidy

4. Warning

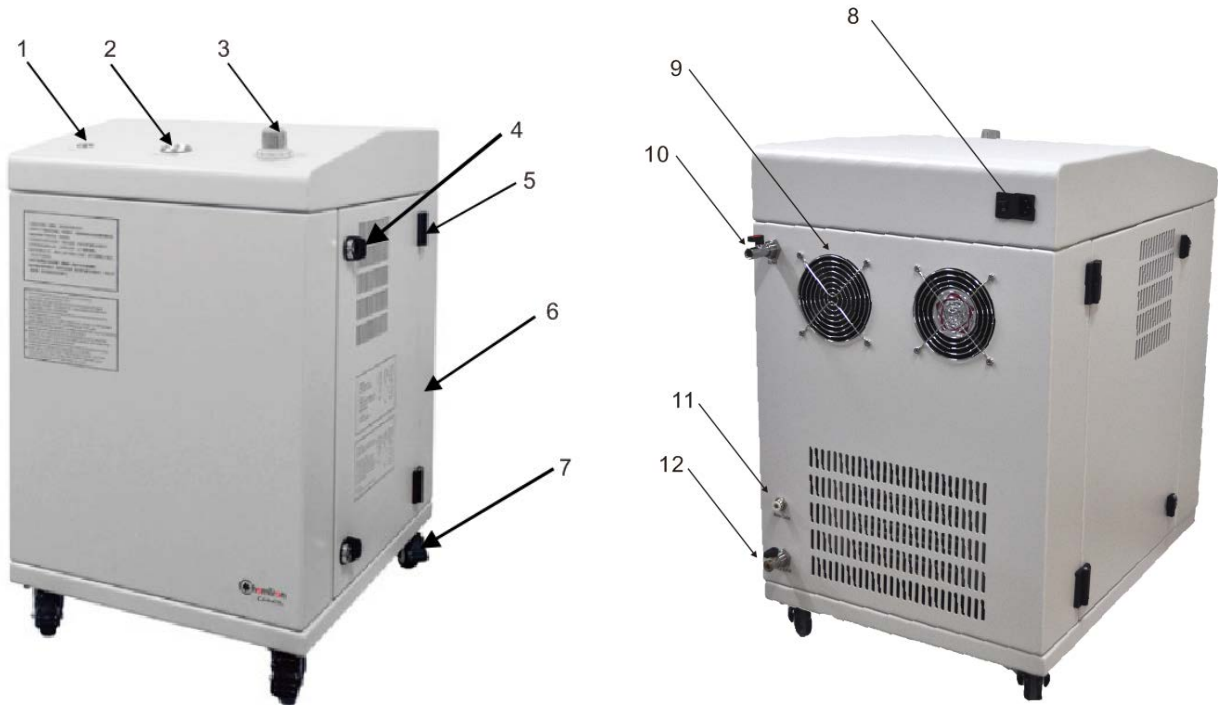
- 1) The compressor is not corrosion-proof. Please do not operate it in corrosive environment.
- 2) The filter cartridge is used to absorb moisture and dust. Please replace the cartridge to maintain proper pumping efficiency when it is saturated.
- 3) This compressor has a thermal switch that automatically shuts-off when it becomes overheated or lack of voltage.
- 4) Do not touch the compressor during working or just after use as motor is hot.
(70~80°C)
- 5) Do not use any lubricant, which may damage the compressor.
- 6) Use the compressor in a dry, clean well-ventilated area.
- 7) Never spray flammable or toxic materials.
- 8) If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a competent person in order to avoid hazard.
- 9) The equipment should be carried out in a spacious, low humidity, well ventilated room.
- 10) When there are gaps please set up on the ground with good horizontal strength, and adjust the rubber plates at the bottom of the casters as far as possible .
- 11) It is sure that the connection of the ground wire terminal is firm, and the ground is ensured.
- 12) When replacing parts or other inspections, please cut off the total power supply and drain the compressed air in the tank.
- 13) When the sound and vibration increase dramatically, stop immediately and contact the manufacturer for confirmation.
- 14) When the air compressor pressure regulating valve regulates pressure, the valve cover must be lifted upwards. After adjusting the pressure value, press the bonnet.
- 15) Drains should be connected to drain hoses and pipes should be connected to underground drainage or containers.
- 16) Drain valve must be closed. If the operation is over, drain the compressed air in the storage tank, release the drain valve, release condensate water and close the valve.

5. Application Precaution

- 1) Carefully unpack the machine and check if any part is damaged during transportation. Any damage should be reported immediately to the service agent
- 2) Plug the compressor into mains supply, making sure the voltage is correct. Screw one side of the air hose onto the compressor outlet and connect the other end to the airbrush. Make sure all connections are tightened
- 3) Turn on the machine and work in a well ventilated, clean area and away from wet surfaces
- 4) The compressor has a thermal switch that automatically shuts off itself when it becomes overheated or lacks voltage. Additionally, this model is equipped with an auto stop pressure switch. When the trigger of the airbrush is released, the compressor will stop automatically
- 5) Do not touch the air compressor during or soon after use as it may become hot
- 6) Do not use any lubricants, or spray flammable, toxic materials as they may damage the air compressor
- 7) When restarting the compressor during operation, always release the compressed air from the airbrush first and then turn on again
- 8) After finishing with the compressor, turn the switch to off position and depress the airbrush trigger to fully release the remaining air from the compressor
- 9) In case the auto stop pressure switch malfunctions, do not allow the motor to operate over 100 psi
- 10) Improper operation and dismantling of the parts might damage the compressor. If any parts of the machine are damaged, it must be sent to the service agent for replacement or repair to avoid hazard. Do not attempt to fix the machine without consulting the service agent first

6. Operation

P440/P640/GH6L/GH12L/GH20L/GH40L



1.ON/OFF	2.Output Pressure	3.Pressure regulator	4.Lock
5.Shaft	6. Steel cover	7.Casters	8.Power Switch
9. Cooler	10. Air Output Valve	11. Drain valve	12. Drain valve (Air tank)

Operating procedure

- 1) Schematic of the compressor system is shown as above.
- 2) Once all of tubes have been connected, press on/off switch button to start working.
- 3) To setup pressure, adjust the regulator.

How to replace cartridge

- 1) You are recommended to replace the cartridge when it is exhausted with moisture or particle.
- 2) First, remove the moisture trap cup by rotating it counterclockwise. Second, remove the cartridge in the same way, and then replace a new one.
- 3) Pour the water out of the moisture trap cup when it is filled with water

7. Packing List

Compare the contents of the shipment with the items listed below to ensure all parts are received with the controller. Do not discard the container and packing materials until all parts are accounted. It is recommended that the original packing materials are retained for transportation and storage.

Name / Description	Quantity	Remarks
P440/P640/GH6L/GH12L/GH20L/GH40L	1	
Power Cord	1	
Operating Manual	1	
QC Report	1	
Packing list	1	
Pagoda joint	1	(P440/P640)
Key	2	(GH6L NO)
Quick connector	1	
6mm Tube (m)	5	
8mm Tube (m)	2	

8. Specifications

Model	P440	P640	GH20L	GH40L
Power(W)	750	550	600	600
Mains	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Running type	Switch: auto stop, start at 3bar and stop at 5bar.	Switch: auto stop, start at 3bar and stop at 6bar.	Switch: auto stop, start at 7.5bar and stop at 9.5bar.	Switch: auto stop, start at 7.5bar and stop at 9.5bar.
safety valve:	release the air pressure automatically when the pressure over 8bar in the air tank	release the air pressure automatically when the pressure over 8bar in the air tank	release the air pressure automatically when the pressure over 10bar in the air tank	release the air pressure automatically when the pressure over 10bar in the air tank
Max. Airflow (L/min)	30	60	20	40
Max. Pressure (bar)	5	8	9.5	9.5
Motor Rate (rpm)	1380	1380	1450	1450
Air tank (L)	30	30	20	40
Dimension L×W×H (mm)	680×340×720	640×470×720	640×420×550	640×470×720
Connection (mm)	6mm quick connector or G1/4Male	6mm quick connector or G1/4Male	6mm quick connector or G1/4 Male	6mm quick connector or G1/4 Male
Noise (dB)	69	69	63	63
Order number	167440-22	167640-22	16720000-22	16740000-22

Model	GH40L	GH6L	GH12L
Power (W)	600	400	400
Mains	220-240V/50Hz	220-240V/50Hz	220-240V/50Hz
Running type	Switch: auto stop, start at 7.5bar and stop at 9.5bar.	Switch: auto stop, start at 7.5bar and stop at 8.5bar.	Switch: auto stop, start at 7.5bar and stop at 8.5bar.
Safety valve:	Release the air pressure automatically when the pressure over 10bar in the air tank	Release the air pressure automatically when the pressure over 8.5bar in the air tank	Release the air pressure automatically when the pressure over 8.5bar in the air tank
Max. Airflow (L/min))	40	6	12
Max. Pressure (bar)	9.5	8.5	8.5
Motor Rate (rpm)	1450	1450	1450
Air tank (L)	40	5	8
Dimension L×W×H (mm)	640×470×720	550×220×450	550×300×560
Connection (mm)	6mm quick connector or G1/4 Male		
Noise (dB)	63	57	57

9. Fitting Description

Model	P440	P640	GH20L
Fitting description	Pump, Tank Pressure gauge, Filter, Drain hose, Pressure regulator	Pump, Tank Pressure gauge, Filter, Drain hose, Pressure regulator, cooling equipment	Pump, Tank(20L), Pressure gauge, Filter, Drain hose, Pressure regulator, cooling equipment, Membrane separation, Triple filter

Model	GH40L	GH6L	GH12L
Fitting description	Pump, Tank(40L), Pressure gauge, Filter, Drain hose, Pressure regulator, cooling equipment, Membrane separation, Triple filter	Pump, Tank(5L), Pressure gauge, Filter, Drain hose, Pressure regulator, cooling equipment, Membrane separation, Triple filter	Pump, Tank(8L), Pressure gauge, Filter, Drain hose, Pressure regulator, cooling equipment, Membrane separation, Triple filter

Product advantages

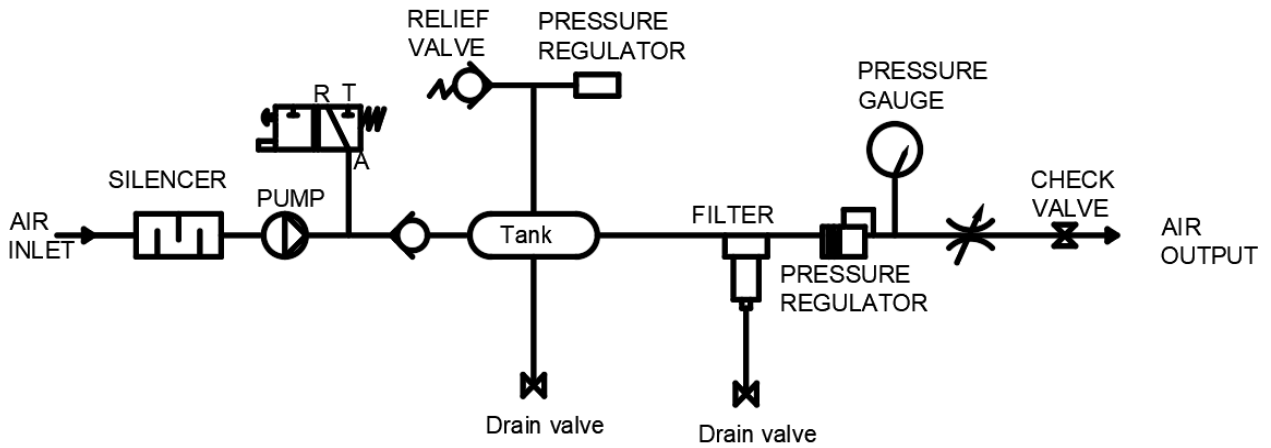
P440 small air compressor is suitable for compressed air supply in the laboratory with small flow and low pressure.

P640 is a small and medium-sized air compressor model, suitable for continuous use of compressed air in the laboratory, plus a condenser and filter to increase the output air purity.

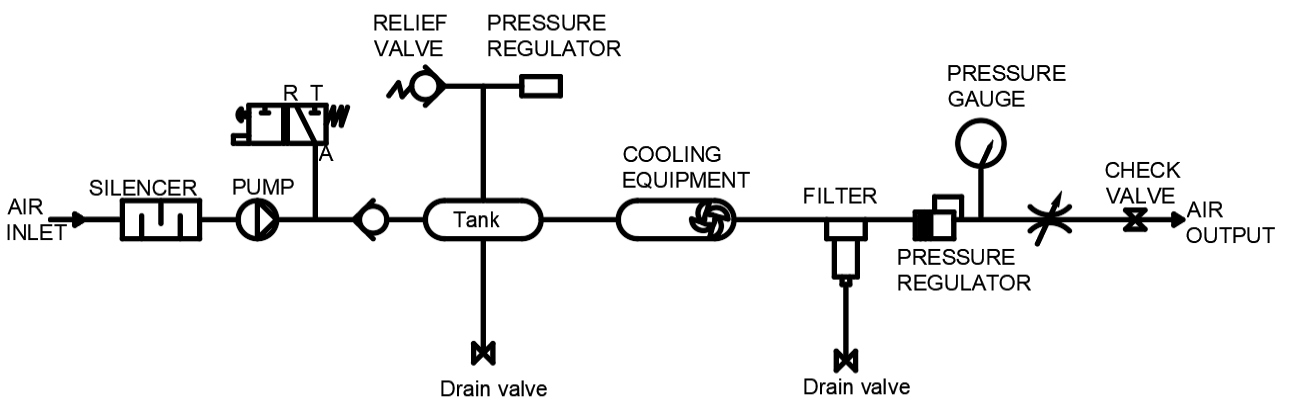
GH20L/40L series products are suitable for use under laboratory pressure and can work continuously. The maximum pressure can reach 9.5bar. The maximum output is guaranteed under the maximum pressure. The inside is equipped with a condenser, triple filter device and drying device. , To ensure the air filtration accuracy and water vapor filtration, the output of pure air dew point can reach -15 °C. Series products can adjust the output pressure and set the motor opening and closing pressure, can extend the pump life and maintenance cycle, reduce noise pollution, Energy saving and environmental protection.

10. Schematic Diagram

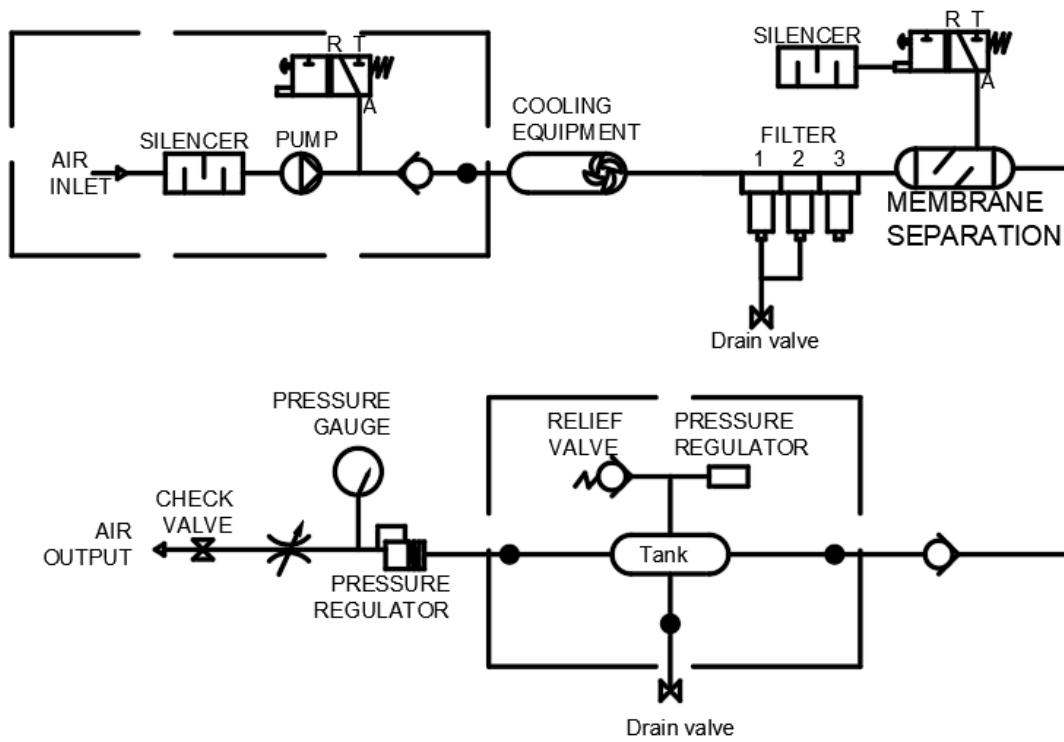
P440



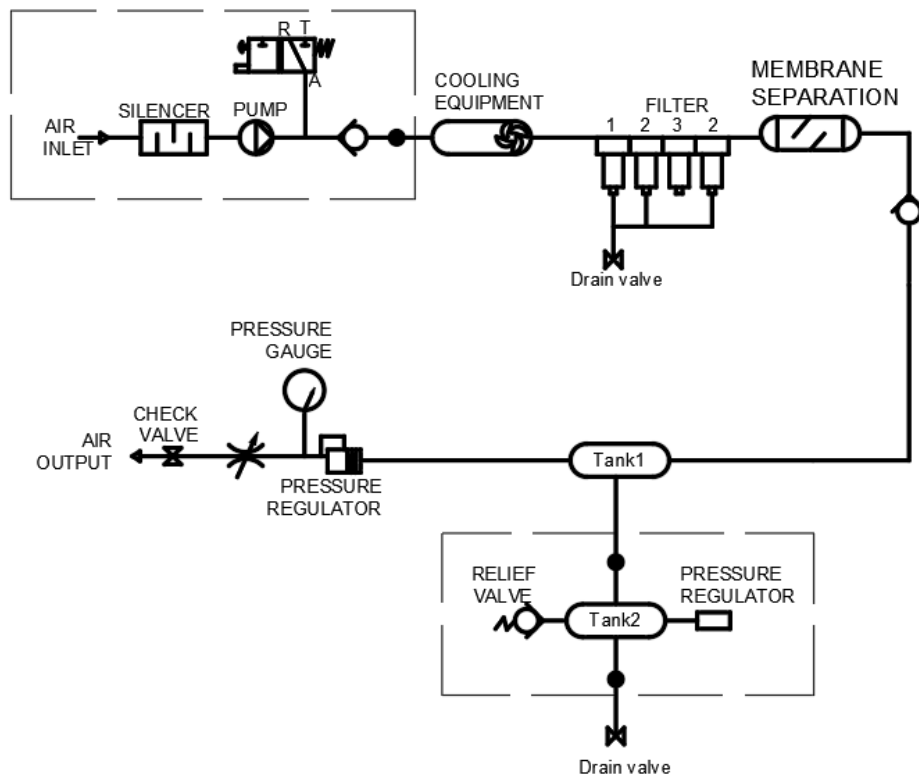
P640



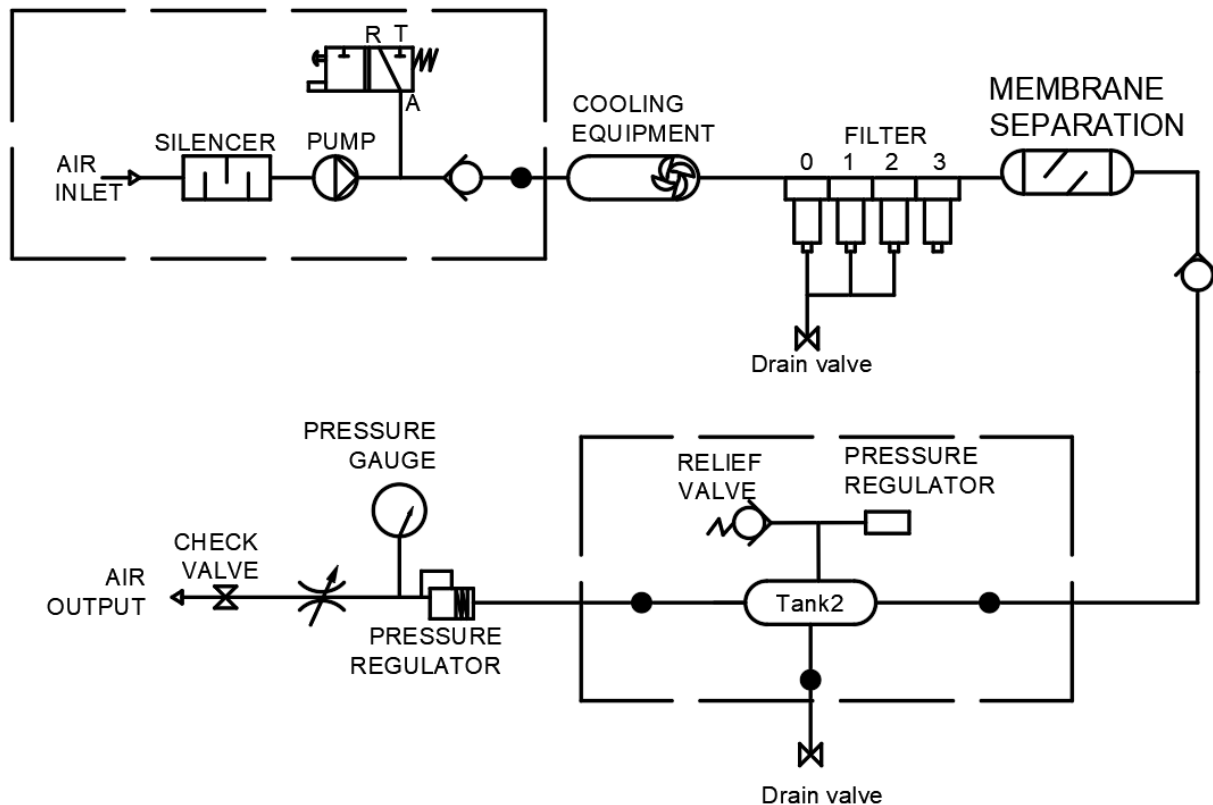
GH6L/GH12L



GH20L



GH40L



The lower part of the device is in the dotted line.

Outside the dotted line is in upper part of the device.

To separate the upper and the lower part, the marked tubes have to be disconnected.

● — Break Mark

11. Ordering Information

167440-22	P 440	Compressor, AC220V/50Hz
167640-22	P 640	Compressor, AC220V/50Hz
16706000-22	GH6L	Compressor, AC220V/50Hz
16712000-22	GH12L	Compressor, AC220V/50Hz
16720000-22	GH20L	Compressor, AC220V/50Hz
16740000-22	GH40L	Compressor, AC220V/50Hz

12. Maintenance Check

Please follow the time below for each inspection item.

Moreover, the following table lists the standard usage conditions during each maintenance period, so when the conditions of use are harsh, please perform the inspection work as soon as possible.

The ambient temperature is below 40 ° C, and the annual average temperature is based on 30 ° C.

Maintenance inspection								
ITEM	Check the content	Maintenance time						NOTE
		Every day	Every 200h	Every 1500h	Every 3000h	Every 6000h	Every 10000h	
Drainage		○						
Abnormal	Noise, vibration	○						
Filter	Check and replace			○	●			Replace if dirt is serious
Safety valve	Action check		○					
Pressure sensor	Action check		○					
Solenoid valve	Action check			○			●	
Check valve	Reverse ventilation		○					
Condenser	dust				○			
Cooling fan	Smooth rotation				○			
Compressor	Exhaust pressure and flow					○		
Silencer	Pressure drop; replace			○	●			Replace if dirt is serious
PU pipe	Air leakage		○					
Fastening	No loose			○				

○: marked as inspection; ●: marked for replacement. The annual operating time benchmark of the equipment is 5000hoursWhen the maintenance benchmark is operating under normal conditions and the environment and load conditions are bad, please shorten the period of implementation plan.

*GH series filters will drain water automatically during operation. If the machine is not running for 100 hours, the residual water in the filter must be drained manually.

13.Trouble Shooting

When an abnormality occurs in the air compressor, please refer to the following solutions.

To find out the status and cause of the exception, perform the appropriate processing before proceeding.

If you cannot find the reason, please contact the store of purchase or our branch or sales office.

phenomenon		cause of issue	Solution
Not running	Pressure gauge shows zero	Power off	Check power
		Compressor damaged	Check compressor and capacitor
		Disconnected or broken hose	Replace tubing or connect properly
		Filter clogged	Inspection, repair or replacement
		Switch connector disconnected	Inspection and repair
		Electronic pressure switch setting error	Reset according to standard parameters
	Pressure gauge is displayed but not running	Filter clogged	Inspection, repair or replacement
		Damaged pressure reducing valve	Inspection, repair or replacement
run	Unstable pressure	Compressor air supply is unstable or insufficient	Inspection, repair or replacement
		Filter clogged	Inspection, repair or replacement
		Damaged pressure gauge	Inspection, repair or replacement
		Damaged regulator	Inspection, repair or replacement
		Damaged or leaking pipes	Inspection, repair or replacement
	Moisture	Filter does not drain	Water outlet
		Filter is damaged	Inspection, repair or replacement
	Non-stop	Compressor air supply is insufficient	Inspection, repair or replacement
		Damaged or leaking pipes	Check air tightness, repair or replace
		Air film damage	Inspection, repair or replacement
		Damaged governor valve	Inspection, repair or replacement
		Damaged mechanical valve	Inspection, repair or replacement
		Broken electronic pressure switch	Inspection, repair or replacement
	Tired timer not shown	Electronic pressure switch parameters are not standard	Reset according to standard parameters
		Defective timer or connector off	Inspection, repair or replacement

Note: In order to ensure safety, the instrument must be turned off and unplugged during maintenance and debugging, and the gas in the instrument should be evacuated, that is, the pressure indication number is zero.

14. Safety Notes for the User

14.1 Explanation of Safety Notes



- In addition to the safety warnings listed, warnings are posted throughout the operating manual. These warnings are designated by an exclamation mark inside an equilateral triangle. "Warning of a dangerous situation (Attention! Please follow the documentation)."
- The danger is classified using a signal word.
- Read and follow these important instructions for averting dangers.



Warning !

Describes a possibly highly dangerous situation. If these instructions are not followed, serious injury and danger to life could result.



Caution !

Describes a possibly dangerous situation. If this is not avoided, slight or minor injuries could result. A warning of possible property damage may also be contained in the text.



Notice !

Describes a possibly harmful situation. If this is not avoided, the product or anything in its surroundings can be damaged.

14.2 Explanation of Other Notes



Note!

Draws attention to something special.



Important!

Indicates usage tips and other useful information.

14.3 General Instructions

Follow the general safety recommendations to prevent damage to persons or property.

Further, the valid safety instructions for working places must be followed.



- Connect the instrument to a power socket with earth contact (PE-protective earth)!
- The power supply plug serves as a safe disconnecting device from the line and must always be easily accessible.
- Do not stay in the area below the instrument.
- Make sure you read and understand all instructions and safety precautions listed in this manual before installing or operating your instrument.
- Never operate damaged equipment.
- Always turn off the instrument and disconnect the mains cable from the power source before performing any service or maintenance procedures, or before moving the instrument.
- Sudden drops may cause damage in the interior of the instrument.
- Transport the instrument with care.
- Never operate instruments with damaged mains power cables.
- Observe all warning labels.
- Never remove warning labels.
- Repairs are to be carried out only by qualified service personnel

14.4 Safety Recommendations

All operators must be familiar with the controller and should read this entire manual.



Do not expose the controller to a high temperature and an environment of high electric volatility.

- Ensure that the tubes are in good condition and well connected.
- Press the power button to interrupt the controller, rather than disconnect the main power plug directly.
- When in an emergency, disconnect the main power plug.

15. Service

15.1. Warranty

- In accordance with WIGGENS warranty conditions, the warranty period is 24 months. For claims under the warranty please contact your local dealer. You may also send the machine direct to our works, enclosing the delivery invoice and giving reasons for the claim. You will be liable for freight costs. The warranty does not cover wearing parts, nor does it apply to faults resulting from improper use or insufficient care and maintenance contrary to the instructions in this operating manual.
- WIGGENS reserves the right to decide the validity of any warranty claim. In case of faults arising either due to faulty materials or workmanship, parts will be repaired or replaced free of charge.
- Any other compensation claims, such as consumables, damages caused by corrosion or accidental breakage, are excluded from this guarantee.
- This warranty may only be altered by a specifically published amendment. No individual has authorization to alter the provisions of this warranty policy or its amendments.
- This warranty covers all parts and components of the instrument except those normally requiring frequent replacement, such as tubing, gasket, O-rings, etc. We will not be liable for any personal injury, bodily injury, improper maintenance, negligence of accident.
- Important Notes
- For the filter group: Check if it works normally every month. Replace the filter element every 6 month
- For the filter group, Replacement method: Please make sure the air pressure of the whole system is released, the air pressure can be read from the pressure gauge of the buffer vessel and the output pressure gauge. And open the side door and find the group filters.
- For the new filter: Please Purchase from your equipment supplier

15.2. Contact /Technical Service

If your device is not working properly:

⇒ Please inform *WIGGENS* Instruments by using our contact information.

You have contacted *WIGGENS* Instruments?

⇒ Copy and complete the Confirmation of condition of unit from these operating instructions.

⇒ Please repack the device appropriately for transport and send to *WIGGENS* Instruments together with the Confirmation of condition of unit.

Our contact details

WIGGENS GmbH

Add: Gässlesweg 22-24, 75334 Straubenhardt, Germany

Tel.: 0049 7248 4529088

Wiggens Co., Ltd.

Room 426, Hall A, Office Building M8, No.1 Jiuxianqiao East Road, Chaoyang District, Beijing 100015, China

Tel: +86 400-809-2068

Fax: +86 400-809-2068-112

info@wiggens.com

service@wiggens.com

www.wiggens.com

Confirmation of condition of unit

In the case of repair, copy and complete the Confirmation of condition of unit and send it to *WIGGENS* Instruments.

1. Details about the unit

Product number

Serial number

Reason for repair

2. Has the device been cleaned, decontaminated/sterilized?

Yes

No

3. Is the unit in a condition which does not represent any health threats for the staff of our service department?

Yes

No

If not, which substances has the unit come into contact with?

4. Legally binding declaration

The customer is aware of being legally liable to *WIGGENS* Instruments for any damages arising from incomplete and incorrect information.

Date

Signature

Company stamp

Please Note

The shipper is responsible for the return of the goods in well-packed condition, suitable for the mode of transport.

Sender information

Name

Company

Department, research group Street

Zip code, city

Country

Phone

E-mail



WIGGENS GmbH

Gässlesweg 22-24, 75334 Straubenhardt, Germany

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