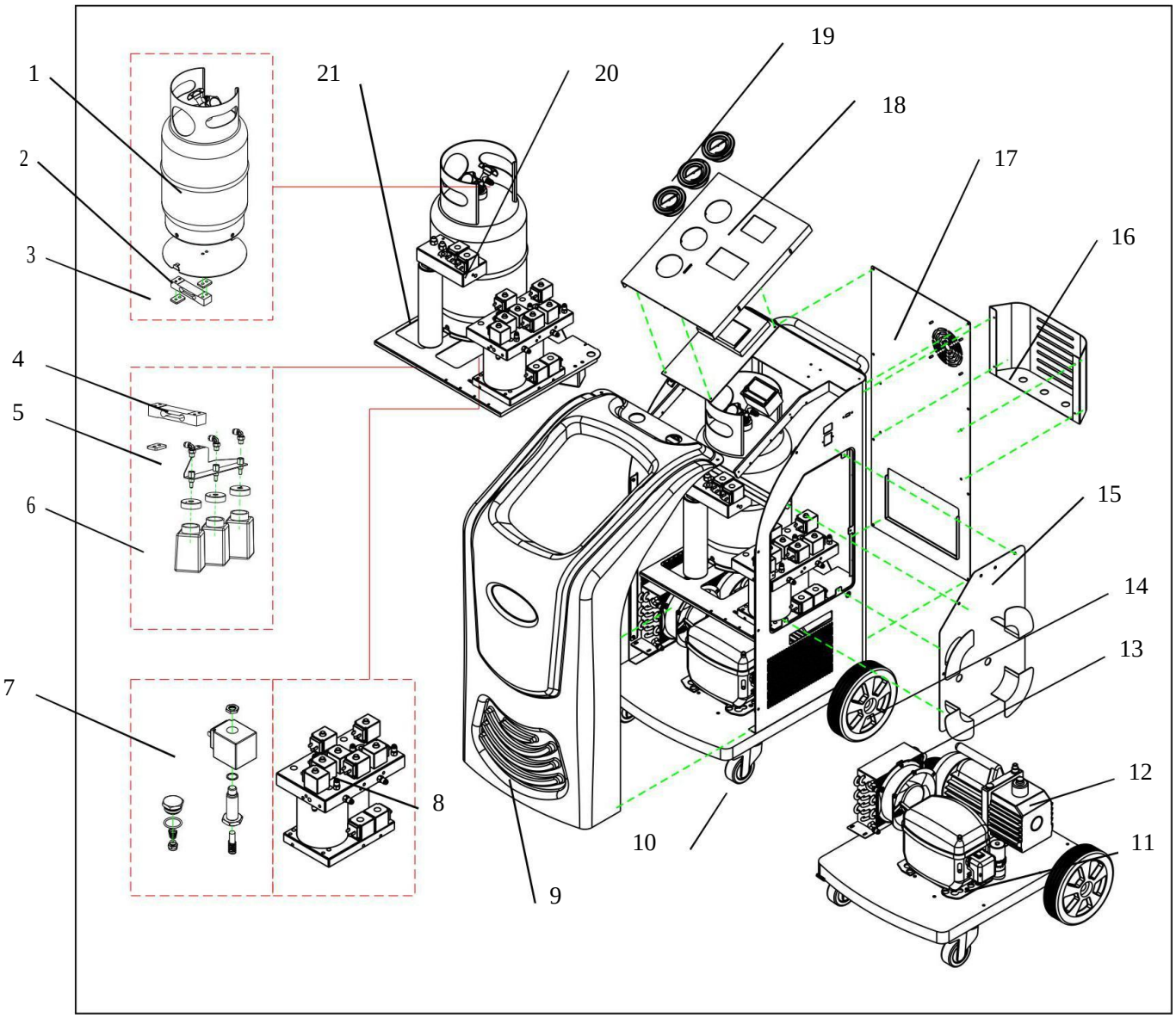
INDEX

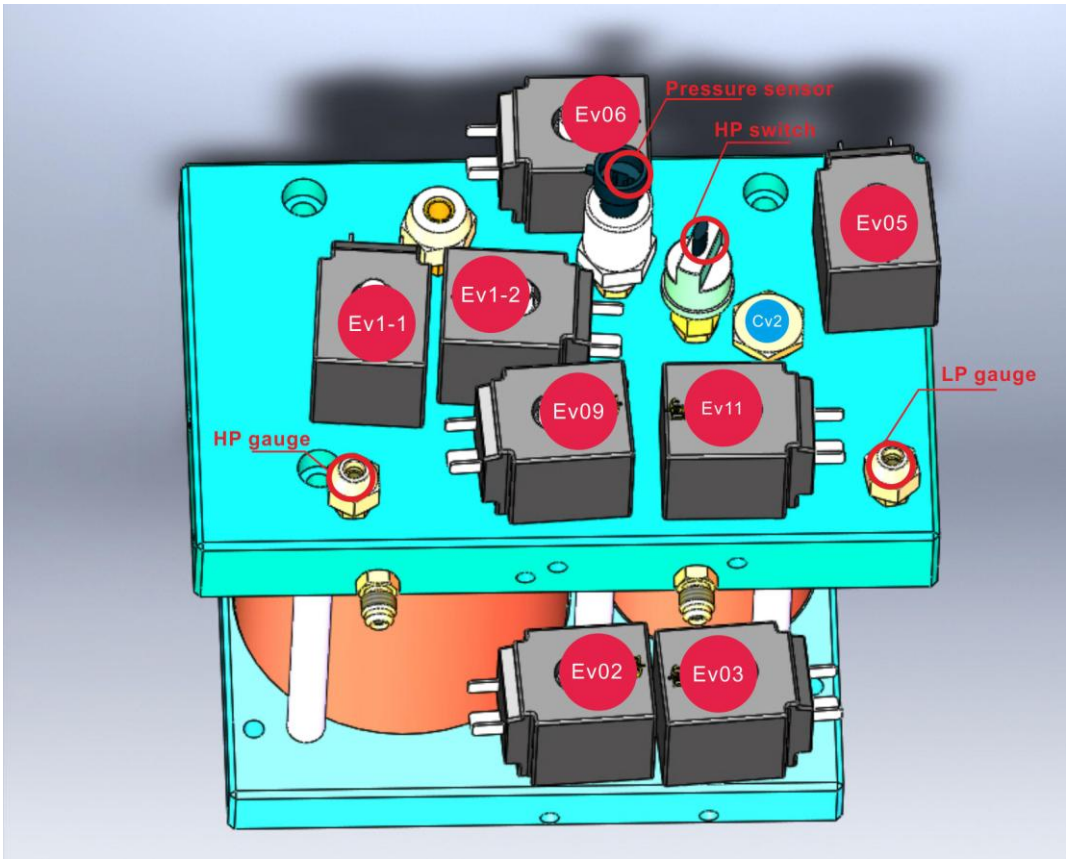
1. Equipment description

1.1 Part description

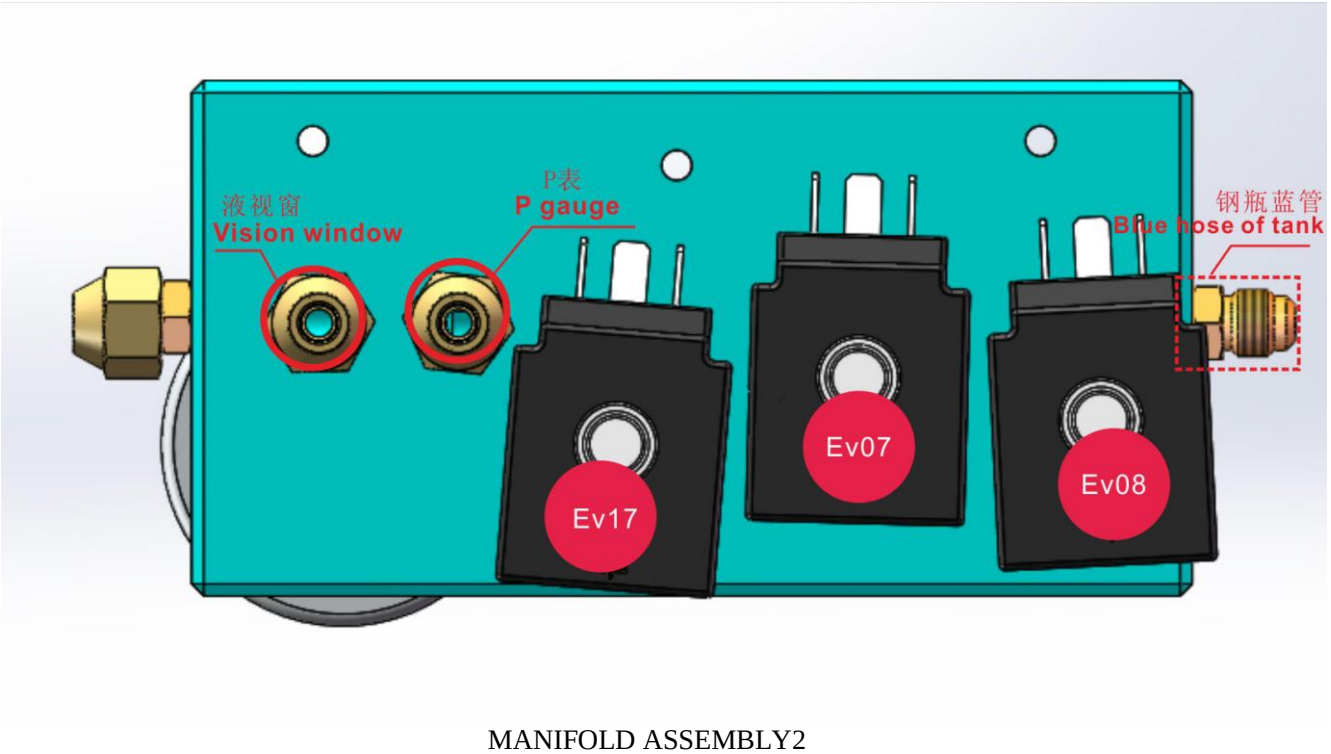


1) Refrigerant gas cylinder	2) Gas cylinder support plate	3) Gas cylinder load cell
4) Oil bottle load cell	5) Oil bottle support	6) Oil bottles
7) Assembly of solenoid valve and check valve	8) Manifold assembly 1	9) front cover (plastic)
10) Front wheel	11) Compressor	12) Vacuum pump
13) Condenser and cooling fan	14) Rear wheel	15) Side cover
16) Accessory holder	17) Back cover	18) Upper cover
19) Pressure gauges	20) Manifold 2	21) Drier-filter

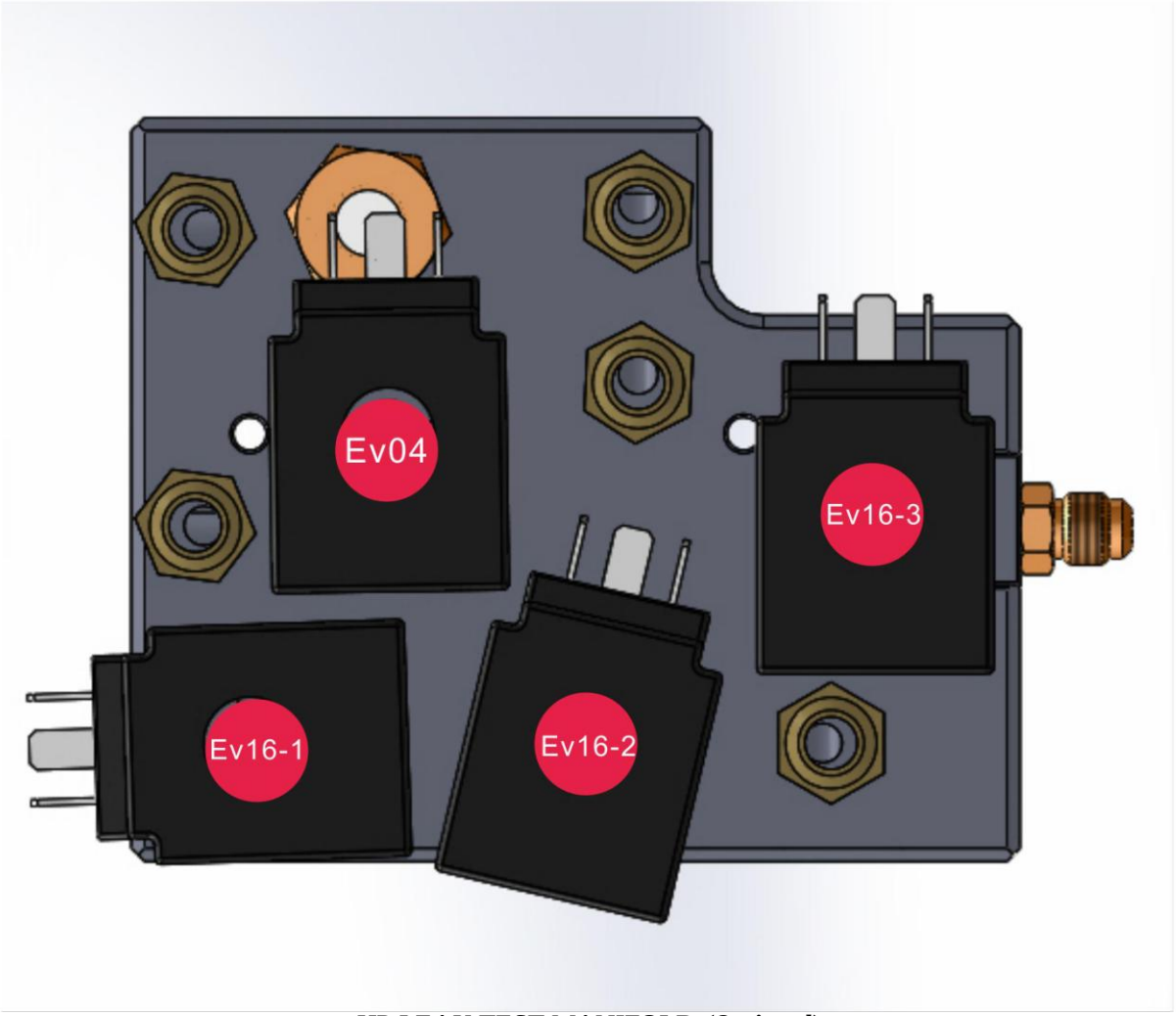
1.2 Component layout on manifolds



MANIFOLD ASSEMBLY 1

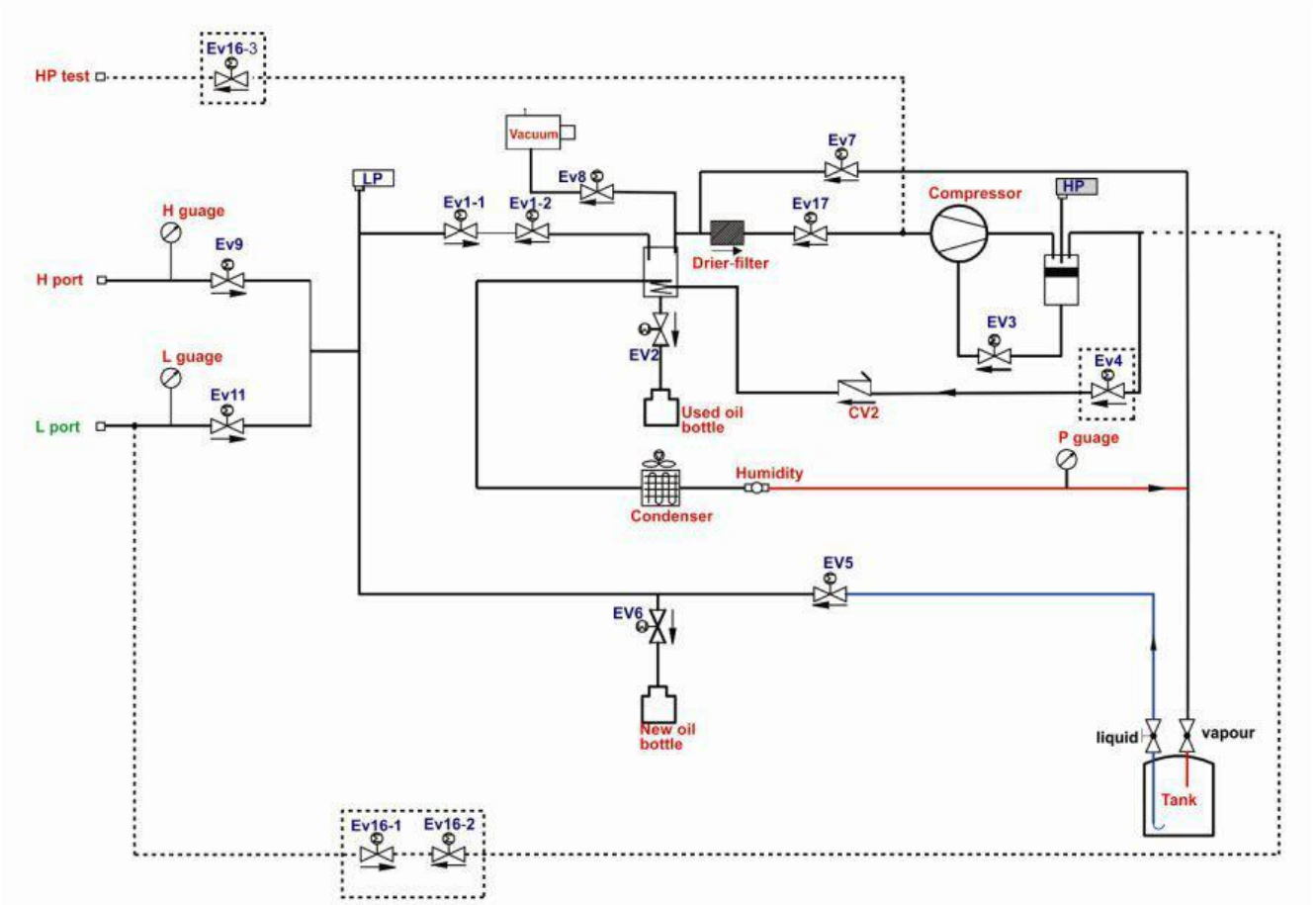


MANIFOLD ASSEMBLY2



HP LEAK TEST MANIFOLD ***(Optional)***

1.3 Pipeline diagram



EV: Solenoid
LP: Low pressure switch (or pressure sensor, if machine has vacuum leak test function)
HP: High pressure switch
CV: non-return valve

Solenoid function list

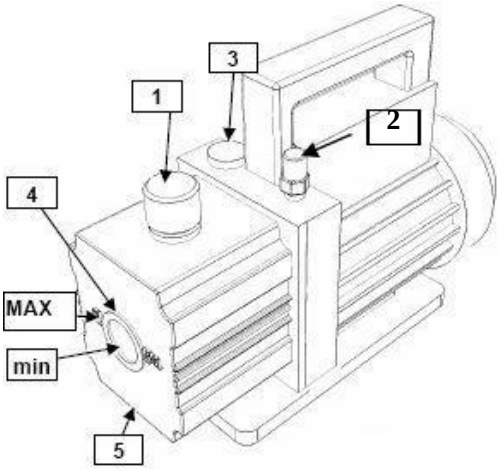
EV1: Recovery (2 for bidirectional isolation)	EV2: Used oil discharge
EV3: Compressor oil return	EV4: Isolation of tank from HP leak test gas
EV5: Charge	EV6: New oil injection
EV7: Air purge	EV8: Vacuum
EV9: HP side	EV11: LP side
EV16: HP leak test	EV17: Isolation of compressor from oil separator/Pressurization for used oil discharge

Remarks: For RCC-8A+, an additional temperature is mounted at tank liquid port side, and a pressure sensor is mounted at tank vapor port side, for monitoring the temperature-pressure inside the tank.

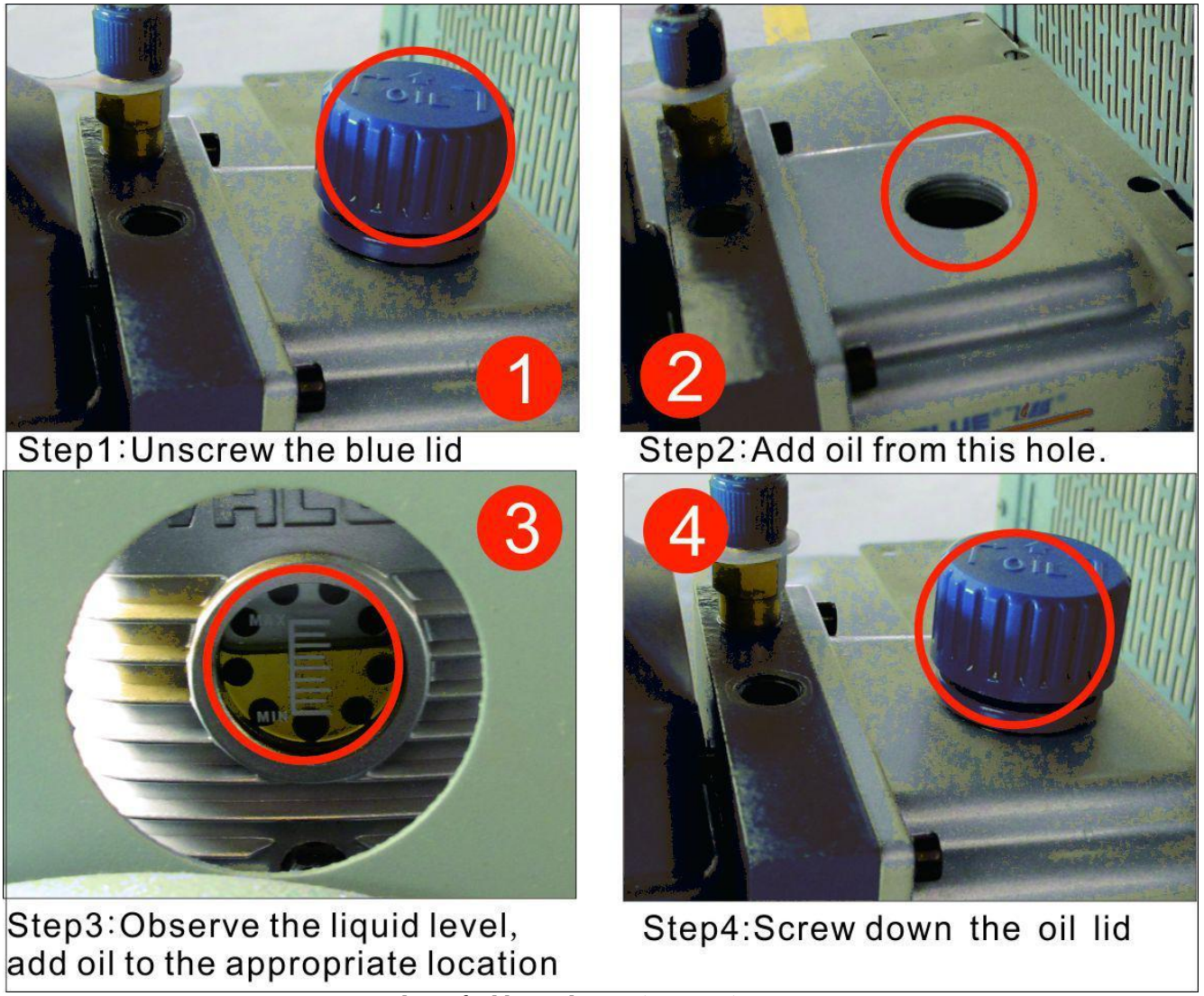
2. Routine maintenance

2.1 Maintenance of vacuum pump

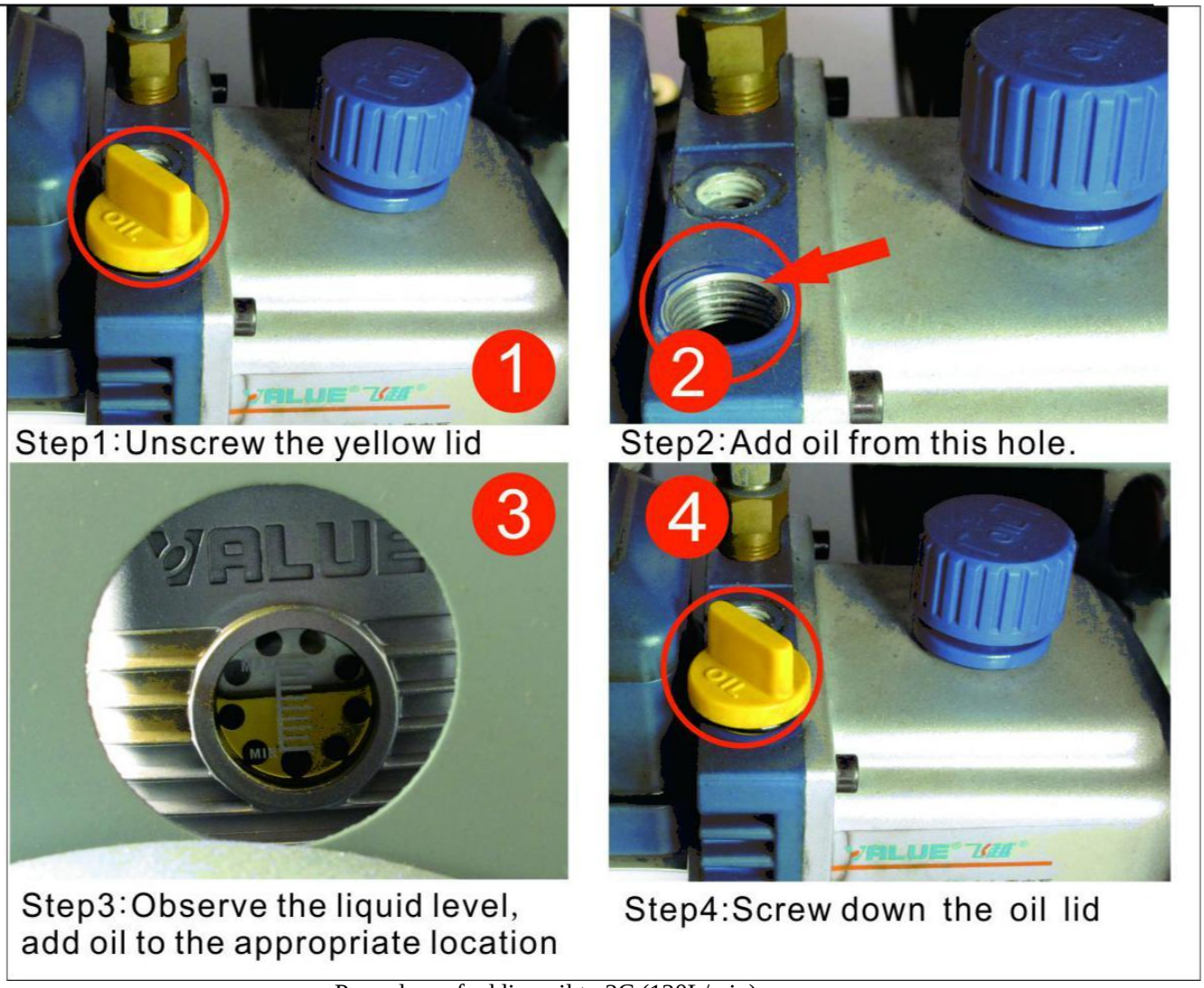
1) Vacuum pump description
1. Exhaust emission port
2. Suction port
3. Pump oil adding port
4. Oil level vision window
5 Oil discharge port



2) Change vacuum pump oil or add vacuum pump oil
The pump works over 100 hours, or turbidity or emulsion is found, the oil should be changed. Prepare a container with capacity bigger than 500ml to hold used oil. OIL No ISO100.



Procedure of adding oil to 1C(60L/min) pump.



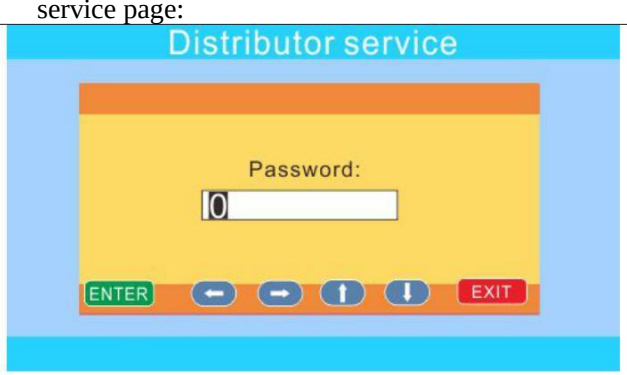
Procedure of adding oil to 2C (120L/min) pump.

2.2 Change drier filter, evacuate drier filter and reset service interval time

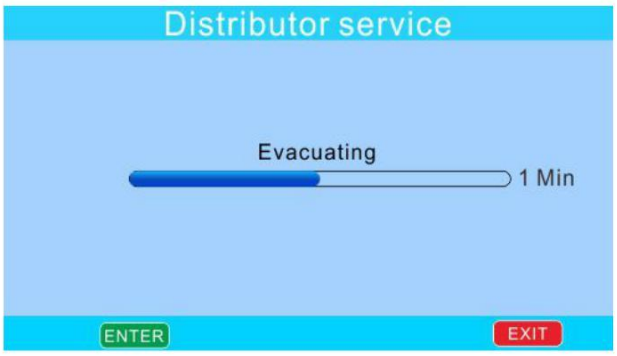
When a drier filter is replaced, the moisture may enter into equipment pipeline and affects quality of refrigerant in the equipment tank. Thus it is mandatory to evacuate the drier filter each time a drier filter is replaced.

a) Remove the used drier filter, and mount the new one.

b) By pressing ← and ENTER key, turn on the machine, the machine requests password to enter distributor service page:



Up/down arrow: increase/decrease number
Left/right arrow: move digit
Password: 441329



c) Turn off the machine and turn it on again, to check if service interval time has been set successfully. The machine should be permitted to operate 1200 time again.

2.3 LEAK TEST

Under the following situations, it is possible that the machine has leakage in pipeline connections, thus need to make leakage test:

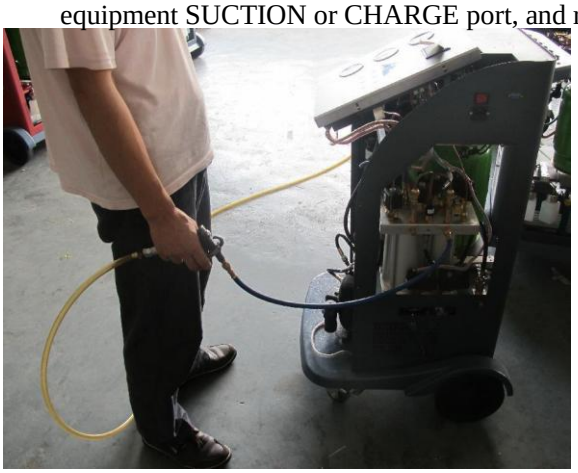
1. The refrigerant volume in equipment tank reduces, without operations;
2. Compressor and Solenoids work well, while recovery works too slow or can not work normally;
3. Any operations or equipment maintenance that needs to disconnect and connect the pipelines or adaptors that may cause leakage. For example, change drier-filter.

There are two methods to make leakage tests: Leakage detector and high pressure test:

1. **Leakage test with refrigerant detector:** When equipment pipeline is full of refrigerant, for example, during running recovery, use refrigerant detector to find out the leakage points.

2. **High pressure leakage test:**

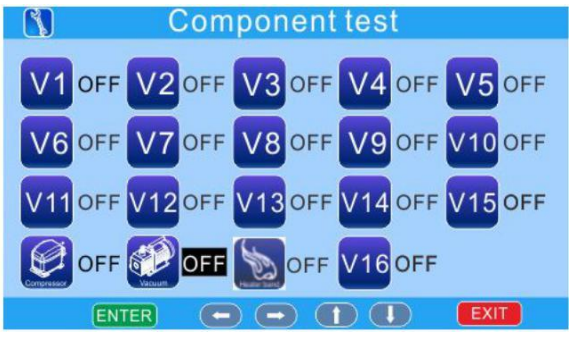
a) Connect Nitrogen generator (In case no nitrogen generator can be found, can use air compressor) to equipment SUCTION or CHARGE port, and run recovery until it stops with high pressure alarm



b) Block the SUCTION and CHARGE ports with nut caps.

c) Enter “Component test” page by following procedure

P.W.: 111111



d) In “Component test” page, turn on V1, V5,V17, V9 and V10. Wait until the pressure shown in 3 pressure gauges become equal, turn off the equipment.

d) Write down the pressure of each gauge, shut down the equipment. After 4 hours, check pressure of the three gauges. If any gauge shows more than 0.1 BAR pressure down, means the pipeline related to that pressure gauge has leakage (refer to pipeline diagram of this manual).

e) Use soapy water to find the exact connection that causes leakage.

f) Tighten the connection and make leakage test again.

3. Main troubleshooting

Ma lf u n cti on	Reasons	So lu t ion
Low vacuum degree	1. Insufficient vacuum pump oil. 2. Pump oil emulsion, dirty 3. Pump oil inlet plugged. 4. Leakage in pump connection. 5. Components worn out.	1. Add oil to central line 2. Put new oil 3. Clean oil inlet. 4. Check connection 5. Put new pump.
Vacuum pump inject oil.	1. Excessive oil volume. 2. Entrance pressure too high.	1.Discharge oil to central line 2.Run Recovery function first.
No display	1. Fused (in Power cable connection box, or PCA) 2. PCA burnt. 3. Power cable loosened. 4. LCD not work	1. Change fuses. 2. Change PCA. 3. Connect power cable reliably. 4. Change LCD.
Recovery does not stop	1. Leakage in automotive A/C or equipment pipeline. 2. Compressor not work ***Remarks: In winter, it is normal that recovery takes longer time.***	1. Make leakage test. Machine leakage test with referenc to service manual. 2. Change compressor.
No change in recovery volume	1. No refrigerant in A/C. 2. Support screw of gas cylinder load cell not loosened. 3.Gas cylinder load cell not work or PCA failure. 4.For RCC-6A, hand valves not opened.	1. Stop recovery. 2. Unsrew the support screw in the bottom of the weight sensor. 3. Calibrate gas cylinder load cell, or change the load cell, or change PCA.
While auto A/C has refrigerant, equipment displays alarm 005	1. Low pressure switch plug disconnected from PCA socket. 2. For RCC-6A, hand valves closed	Fasten low pressure switch plug.
High pressure alarm 004 but gas cylinder gauge does not show excessive pressure value	1. High pressure switch plug disconnected from PCA socket. 2. Pipeline connecting compressor exit blocked.	1. Fasten high pressure switch plug. 2. Change compressor exit side hoses.
No charge or slow charge.	1.Insufficient refrigerant in equipment 2.System has pressure. 3.Charge solenoid not work.	1. Add refrigerant to 5kg. 2. Run recovery first. 3.Check solenoid No5.

During recovery, vacuum pump is pressurized. After period too much oil found in vacuum pump	The contact between solenoid valve No.8 and valve base is not well sealed.	 Remove solenoid No.8 from valve base, clean the solenoid valve and valve base.
During vacuum, there is suction in old oil bottle.	The contact between solenoid valve No.2 and valve base is not well sealed.	 Remove solenoid No.2 from valve base, clean the solenoid valve and valve base.