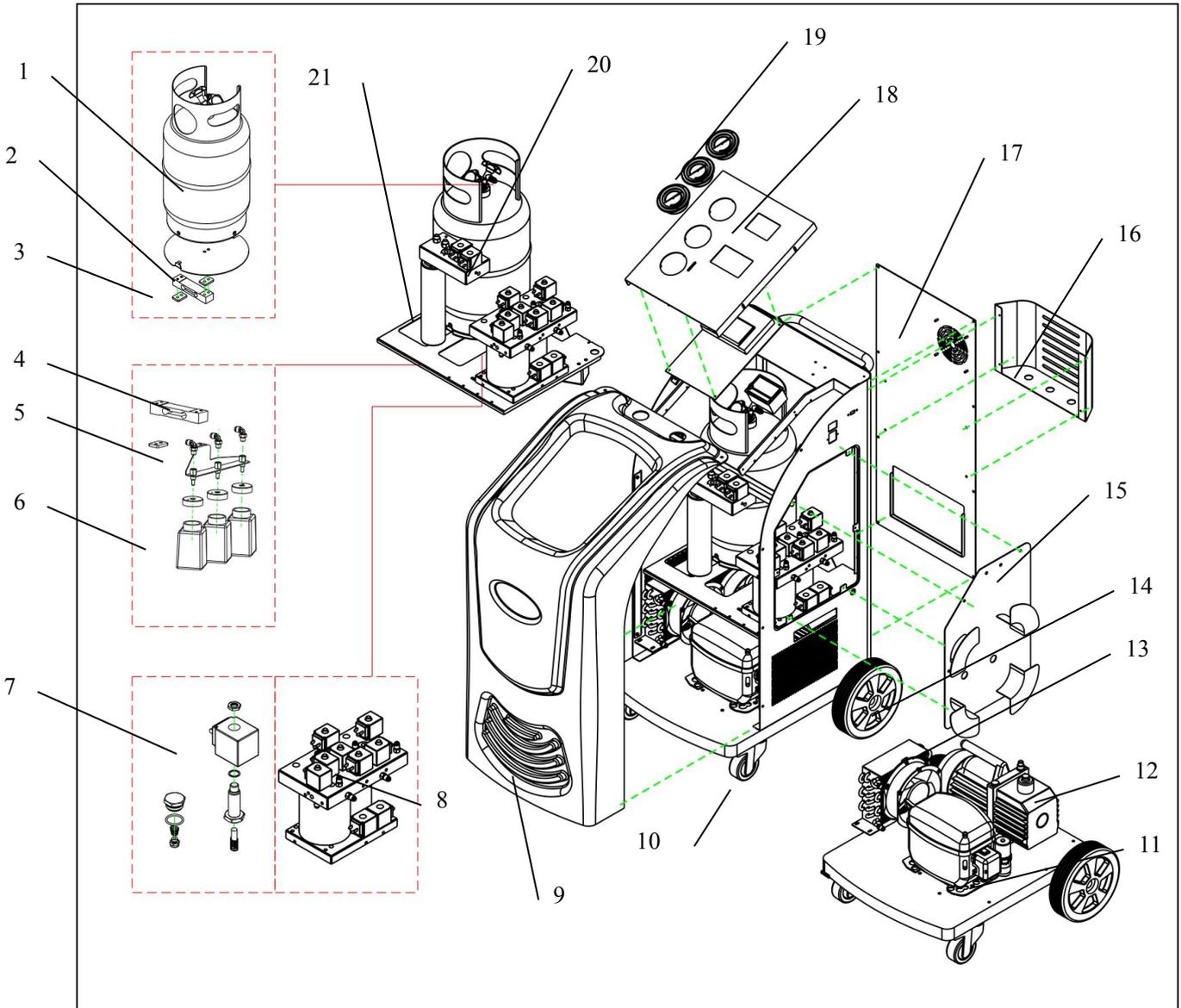


INDEX

1. Equipment description.....	1
Part description.....	1
Component layout on manifold.....	2
Pipeline diagram.....	3
PCA.....	4
2. Routine maintenance.....	5
Maintenance of vacuum pump.....	5
Change drier filter, evacuate drier filter and reset service interval time.....	7
Leak test.....	8
3. Troubleshooting.....	9

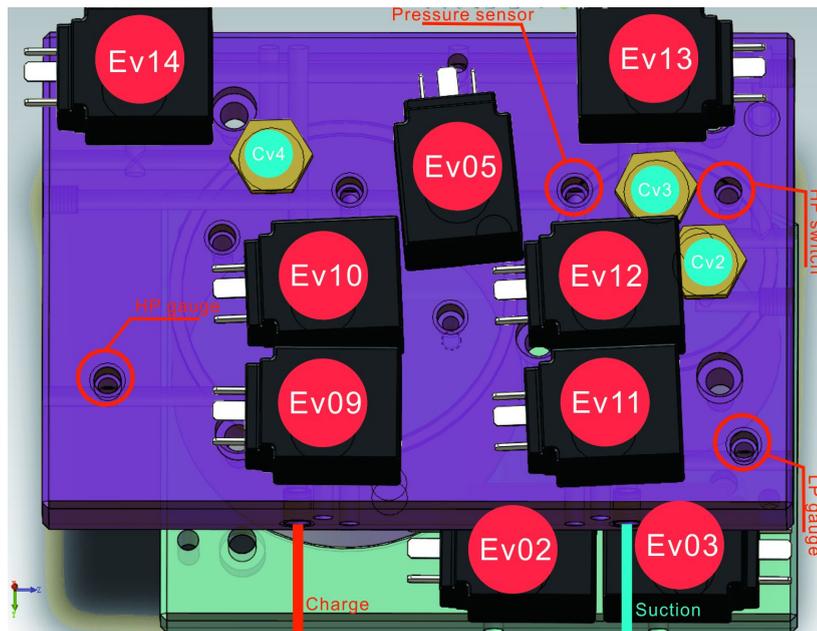
1. Equipment description

■ Part description

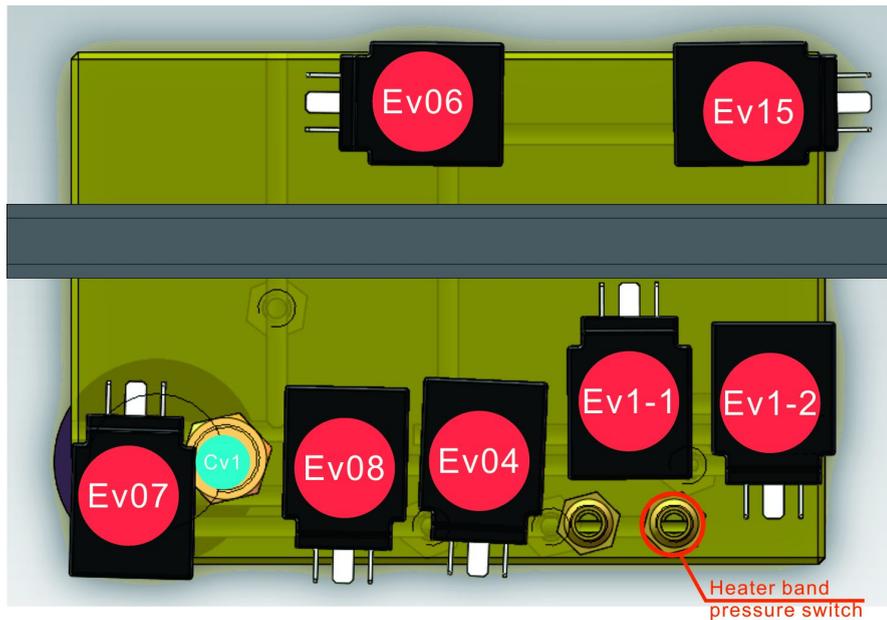


1) Refrigerant gas cylinder	2) Gas cylinder support plate	3) Gas cylinder load cell
4) Oil bottle load cell	5) Oil bottle support	6) Oil bottles
7) Assembly of solenoid valve and check valve	8) Manifold assembly 1	9) front cover (plastic)
10) Front wheel	11) Compressor	12) Vacuum pump
13) Condenser and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

■ Component layout on manifold

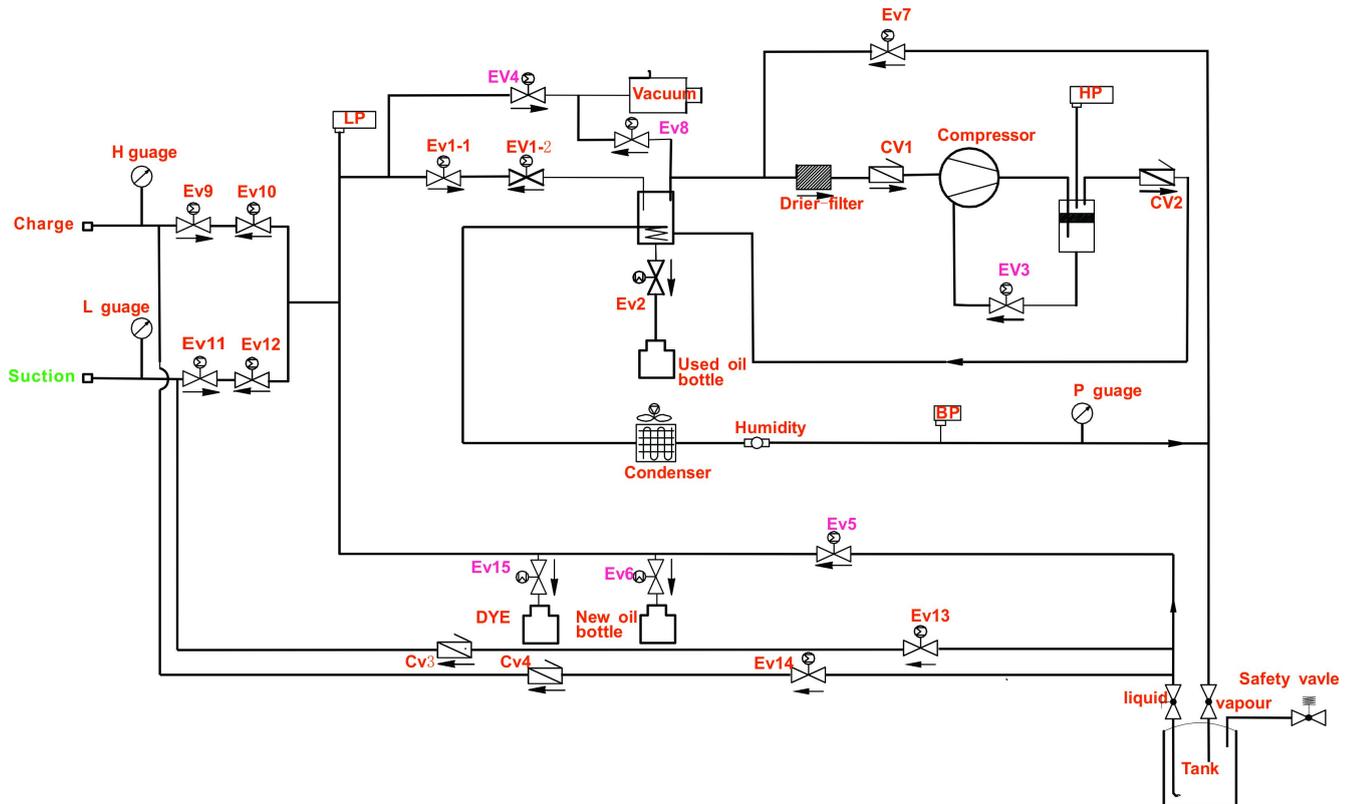


MANIFOLD ASSEMBLY 1



MANIFOLD ASSEMBLY 2

■ Pipeline diagram



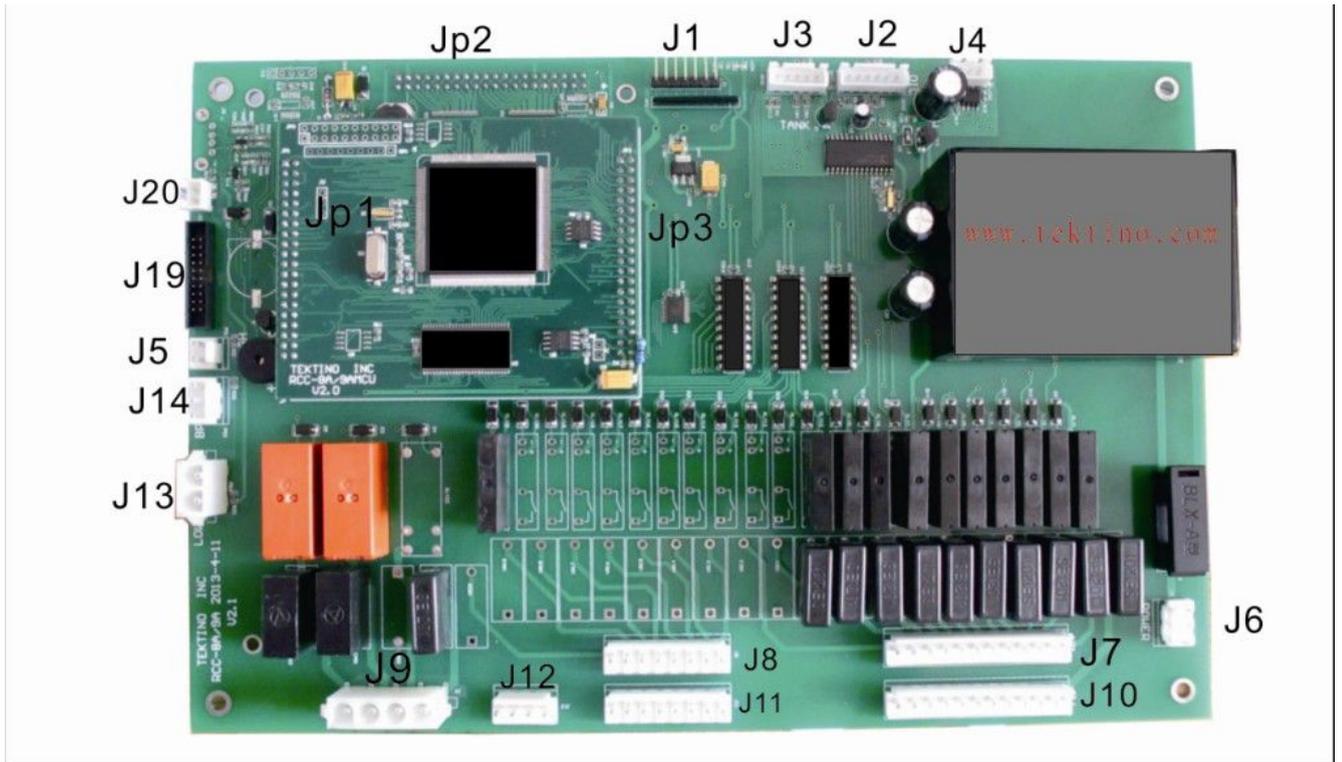
EV: Solenoid

LP: Low pressure switch (or pressure sensor, if machine has vacuum leak test function)

HP: High pressure switch

CV: non-return valve

■ PCA



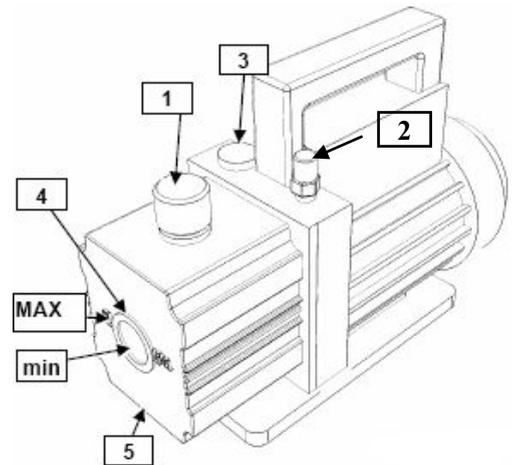
J1	Keypand membrane	JP1/JP3	connection to control board
J2	OIL bottle load cell	JP9/JP12	Compressor, vacuum pump, heater band
J3	Tank load cell	JP8/JP11	Solenoid No. 13-15
Jp2	Display	JP7/JP10	Solenoid No. 1-12
J20	power for printer	J6	Power supply
J19	printer date cable	J14	Tank pressure switch
J5	Hp switch	J13	Lp switch

2. Routine maintenance

■ Maintenance of vacuum pump

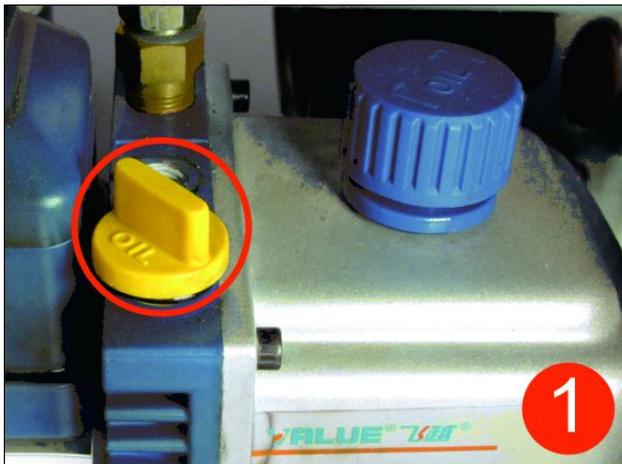
1) Vacuum pump description

1. Exhaust emission port
2. Suction port
3. Pump oil adding port
4. Oil level vision window
- 5 Oil discharge port

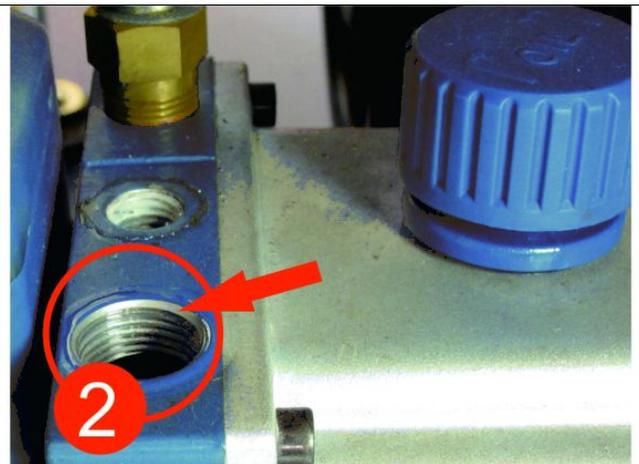


2) Change vacuum pump oil or add vacuum pump oil

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.



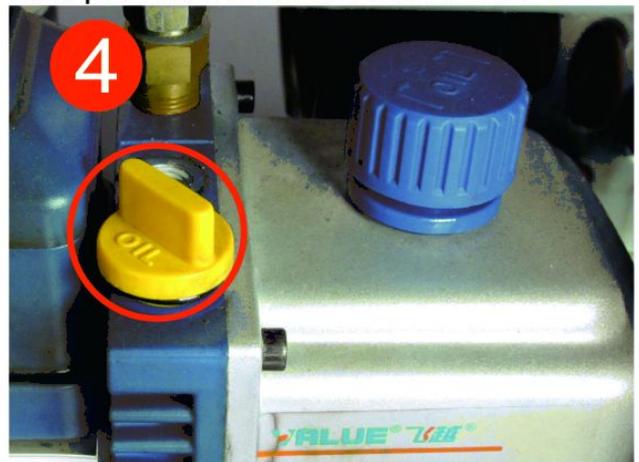
Step1: Unscrew the yellow lid



Step2: Add oil from this hole.



Step3: Observe the liquid level, add oil to the appropriate location



Step4: Screw down the oil lid

■ **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:

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

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.



■ 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, V9, V10, V11 and V12. 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, as pic. 9.



Pic. 9

- f) Tighten the connection and make leakage test again.

3. Main troubleshooting

Malfunction	Reasons	Solution
Low vacuum degree	<ol style="list-style-type: none"> 1. Insufficient vacuum pump oil. 2. Pump oil emulsion, dirty 3. Pump oil inlet plugged. 4. Leakage in pump connection. 5. Components worn out. 	<ol style="list-style-type: none"> 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.	<ol style="list-style-type: none"> 1. Excessive oil volume. 2. Entrance pressure too high. 	<ol style="list-style-type: none"> 1. Discharge oil to central line 2. Run Recovery function first.
No display	<ol style="list-style-type: none"> 1. Fused (in Power cable connection box, or PCA) 2. PCA burnt. 3. Power cable loosened. 4. LCD not work 	<ol style="list-style-type: none"> 1. Change fuses. 2. Change PCA. 3. Connect power cable reliably. 4. Change LCD.
Recovery does not stop	<ol style="list-style-type: none"> 1. Leakage in automotive A/C or equipment pipeline. 2. Compressor not work <p>Remarks: In winter, it is normal that recovery takes longer time.</p>	<ol style="list-style-type: none"> 1. Make leakage test. Machine leakage test with referenc to service manual. 2. Change compressor.
No change in recovery volume	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 4. Open RCC-6A HP/LP hand valves
While auto A/C has refrigerant, equipment displays alarm 005	<ol style="list-style-type: none"> 1. Low pressure switch plug disconnected from PCA socket. 2. For RCC-6A, hand valves closed 	<ol style="list-style-type: none"> 1. Fasten low pressure switch plug. 2. Open RCC-6A HP/LP hand valves
High pressure alarm 004 but gas cylinder gauge does not show excessive pressure value	<ol style="list-style-type: none"> 1. High pressure switch plug disconnected from PCA socket. 2. Pipeline connecting compressor exit blocked. 	<ol style="list-style-type: none"> 1. Fasten high pressure switch plug. 2. Change compressor exit side hoses.
No charge or slow charge.	<ol style="list-style-type: none"> 1. Insufficient refrigerant in equipment 2. System has pressure. 3. Charge solenoid not work. 	<ol style="list-style-type: none"> 1. Add refrigerant to 5kg. 2. Run recovery first. 3. Check solenoid No5.

During recovery, vacuum pump is pressurized. After period too much oil in vacuum pump

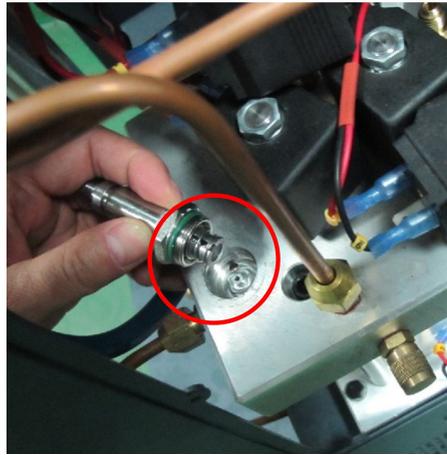
The contact between solenoid valve No.4 and valve base is not well sealed.



Remove solenoid No.4 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.