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Service Manual

(Model : OV-11 / 12)

JEIO TECH
(주) 제이오 텍

INDEX

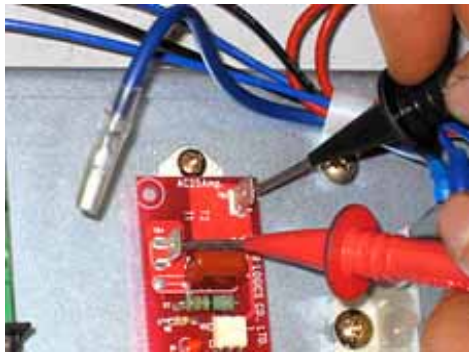
1. Service

1-1. Temperature

Classification	Symptom	Service Factor
Temperature	Temp doesn't increase	Heater Malfunction
Check point	1. After setting 100°C then press Start Button to operate the unit. 2. Check the Heater temp itself. (Be careful heater is very hot.) 3. Measure resistance checking positive terminal of heater using of the multi meter. → If resistance doesn't measure, it is a malfunction	
Solution	- Replace a heater. 1. "**2-1-8. Heater disassembly" Reference** (When replacing a Heater, Inner Chamber Jacket, Chamber Disassembly are very complicated, Do not replace the heater in the field.) 2. The assembly is reverse order of disjointing.(Heater should be checked resistance for inferiority.)	

Classification	Symptom	Service Factor
Temperature	Temp doesn't increase	Relay Malfunction
Check point	1. 1. Press the Start Button to operate the unit, Measure Voltage of Output terminal using of the multi meter. → If Voltage doesn't measure, it is a malfunction	
Solution	- Replace the Relay.	

	1. “**2-1-1. Side Cover panel disassembly” Reference** 2. “**2-1-5. Relay disassembly” Reference** 3. The assembly is reverse order of disjointing.

Classification	Symptom	Service Factor
Temperature	Temp doesn’t increase	SSR Malfunction
Check point	1. Set the SV value higher than PV, Press the Start Button. 2. Check the HEAT LED is lightning on Display. (No Flickering, Lightning) 3. Check Terminal Resistance using of the Multi meter. (Resistance MODE) → If resistance doesn’t measure, it is a malfunction.	
Solution	- Replace the SSR. 1. “**2-1-1. Side Cover panel disassembly” Reference** 2. “**2-1-4. SSR disassembly” Reference** 3. The assembly is reverse order of disjointing.	

<table>
<tr><td>Classification</td><td>Symptom</td><td colspan="2">Service Factor</td></tr>
<tr><td>Temperature</td><td>Temp doesn’t increase</td><td colspan="2">PCB Malfunction</td></tr>
<tr><td>Check point</td><td colspan="2">1. Set the SV value higher than PV, Press the Start Button.
2. Check the HEAT LED is lightning on Display. (No Flickering, Lightning)
3. Check Terminal Resistance using of the Multi meter. (DC MODE)
→ If resistance doesn’t measure, it is a malfunction.</td><td>  </td></tr>
<tr><td>Solution</td><td colspan="3">- Replace the PCB.
1. “2-1-1. Side Cover panel disassembly” Reference
2. “2-1-3. Main board PCB disassembly” Reference
3. The assembly is reverse order of disjointing.</td></tr>
</table>

Classification	Symptom	Service Factor
Temperature	Temp doesn't increase	Wire from heating parts disconnection
Check point	1. Check the wire from Heater to SSR. 2. "**2-2-9. Wiring disconnection " Reference** → If resistance is not measured, it is disconnection. 3. Check the end terminal connection of the wire. → If connection is not good, it is disconnection	
Solution	- If it is disconnection, replace the wire. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. Replace the wire. 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Temperature	Temp trembling	Wrong PID Value
Check point	1. Press Temp button with turning on the Main power switch at the same time. 2. Press Auto tuning Button to check the PID value. → If the unit PID value is different from a basis PID value, It's error.	
Solution	- Operate the Auto tuning. 1. Press Temp button to set the desired temp. 2. Press A/T button for a second, Auto Tune displayed on the temp display and A/T LED ON. 3. After pressing Start Button, RUN LED is ON. A/T LED flickers and then operates the Auto Tune. 4. Finishing Auto Tune, LED is off. The temp by Auto Tune keeps controlling temperature.	

Classification	Symptom	Service Factor
Temperature	Temp trembling	PCB Malfunction
Check point	1. Operate the Auto tuning. →, If the temp is trembling after Auto tuning, It is PCB Malfunction	
Solution	- Replace the PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. "**2-1-3. Main board PCB disassembly" Reference** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Temperature	Temp trembling	Temp Sensor connection inferiority
Check point	1. Check the temp sensor terminal bolts of PCB. → If bolts are loosening, it causes disconnection inferiority.	
Solution	- Tighten the temp sensor terminal bolts of PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. Tighten the temp sensor terminal bolts of PCB. 3. The assembly is reverse order of disjointing.	

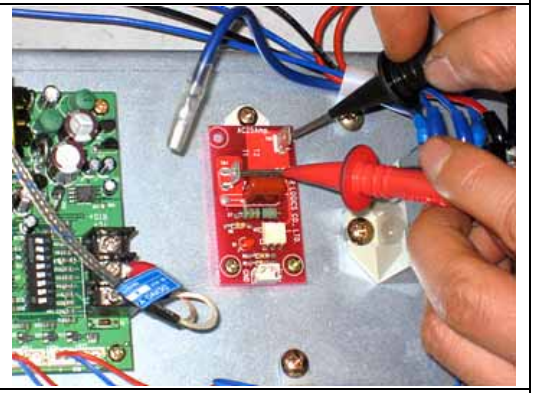
Classification	Symptom	Service Factor
Temperature	Variation Cause	PCB Malfunction
Check point	1. Replace the PCB to check the situation. → If Variation is not caused, it is PCB Malfunction.	
Solution	- Replace the PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. "**2-1-3. Main board PCB disassembly" Reference** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Temperature	Variation Cause	BIAS Value modification
Check point	1. Measure temp of the inner chamber using of A exterior temp detector installed in the middle. → If displayed temp and the temp detector value are different, Modify BIAS Value..	
Solution	- BIAS Value Modification - 1. Install A exterior temp detector verified inner chamber. 2. After setting the temp value, Wait for the temp that is stabilized.(About 2hours over) 3. Measure the temp detector installed inner chamber. 4. Press Temp Button six times to modify the Bias value. 5. Modify the BIAS value to set the temp is equal to the temp detector. And then press the ENTER Button to restore the value. 6. Modify the temp value.	

Classification	Symptom	Service Factor
Temperature	Variation Cause	Measurement Inferiority
Check point	1. Check the temp detector position. → If the temp detector is not in the middle position, It's a malfunction.	
Solution	- Measuring position change. 1. The sensor of temp detector positioned in the middle of inner chamber. 2. Fixture and the sensor of temp detector should be intervals minimum 15mm. (Standard Test Guide Reference)	

Classification	Symptom	Service Factor
Temperature	Temp trembling	Temp Sensor connection inferiority
Check point	1. Check the temp sensor terminal bolts of PCB. → If bolts are loosen, it cause disconnection inferiority.	
Solution	- Tighten the temp sensor terminal bolts of PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. Tighten the temp sensor terminal bolts of PCB. 3. The assembly is reverse order of disjointing.	

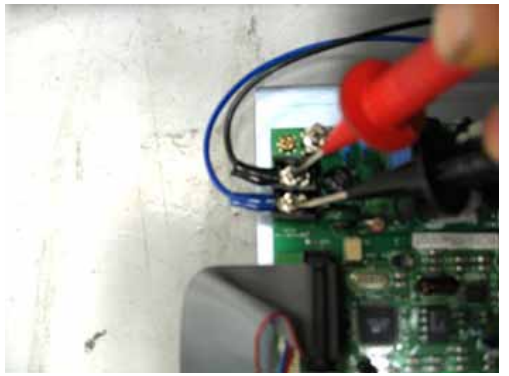
Classification	Symptom	Service Factor
Temperature	Temp keeps rising	PCB Malfunction
Check point	1. Replace the PCB to check the symptom. → If Variation is not caused, it is PCB Malfunction.	
Solution	- Replace the PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. "**2-1-3. Main board PCB disassembly" Reference** 3. The assembly is reverse order of disjointing.	

<table>
<tr><td>Classification</td><td>Symptom</td><td colspan="2">Service Factor</td></tr>
<tr><td>Temperature</td><td>Temp keeps rising</td><td colspan="2">SSR Malfunction</td></tr>
<tr><td>Check point</td><td colspan="2">1. Separate the Input SSR of Harness.
2. Measure resistance checking SSR output using of the multi meter. (Resistance MODE)
→ If resistance measure, it is SSR malfunction.</td><td>  </td></tr>
<tr><td>Solution</td><td colspan="3">- Replace the SSR
1. “2-1-1. Side Cover panel disassembly” Reference
2. “2-1-4. SSR disassembly” Reference
3. The assembly is reverse order of disjointing.</td></tr>
</table>

1-2. Power

Classification	Symptom	Service Factor
Power	No Power	Fuse disconnection
Check point	1. Check the Fuse using of the multi meter. → If Resistance is not measured, Fuse disconnection.	
Solution	- Replace the Fuse. 1. “” Reference 2. The assembly is reverse order of disjointing.	

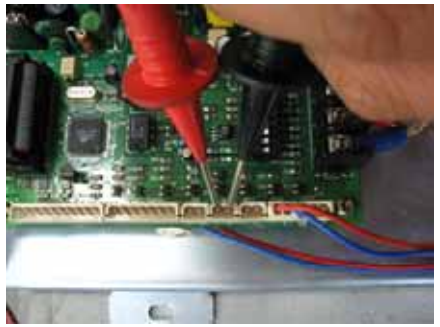
Classification	Symptom	Service Factor
Power	Replace the Fuse.	Replace the Fuse.
Check point	1. Measure output terminals No.2,5 When turning on the Main power. → If Power is not measured, Switch Malfunction	
Solution	- Replace the Switch. 1. “**2-1-1. Side Cover panel disassembly” Reference** 2. Separate Switch wiring. (When assembling, location is a caution.) 3. Pull out the parts which are involved in the Switch upper & bottom from the panel. 4. Assembly is in reverse disassembly.	

Classification	Symptom	Service Factor
Power	No Power	PCB Malfunction
Check point	1. Check Voltage from output terminal of AC in PCB. → If Voltage is measured without Power, PCB Malfunction.	
Solution	- Replace the PCB. 1. “**2-1-1. Side Cover panel disassembly” Reference** 2. “**2-1-3. Main board PCB disassembly” Reference** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Power	No Power	Laboratory power Malfunction
Check point	1. Check the electricity of socket with multi meter. → If power doesn’t measure or value is lower or higher, Laboratory power Malfunction.	
Solution	-Make Power of Laboratory stabilization.	

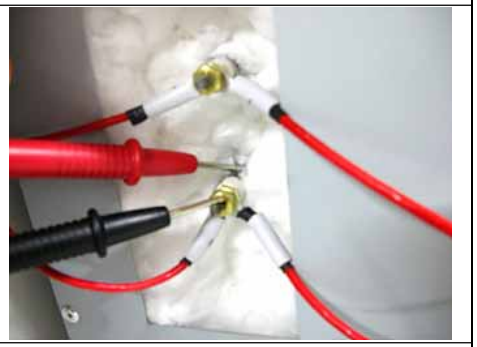
Classification	Symptom	Service Factor
Power	No Power	Power code line disconnection inferiority
Check point	1. Check between Fuse holder and Soldering part of power code line. → If Soldering part is separated, disconnection inferiority	
Solution	- Replace the relay. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. After soldering between Main cord and fuse holder, Tube it with Shirking tube. 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Power	No power	Short circuit of power or disconnection
Check point	1. "**2-2-9 Wiring short circuit Inspection" Reference** → If resistance is not measured, it is short circuit. 2. Check the end terminal of wire. → If wire connection is not good, disconnection Malfunction.	
Solution	- If it's short circuit, replace the wire. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. Replace the wire. 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Power	Power shut off during operation	PCB Malfunction
Check point	1. Turn on the Main power Switch. 2. Set the SV value 100°C, Press the Start Button to operate. 3. Check DC Voltage from heater output terminal in PCB. → If Voltage is not measured, PCB Malfunction. 4. Check DC Voltage from Relay output terminal in PCB. → If Voltage is not measured, PCB Malfunction.	 
Solution	- Replace the PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. "**2-1-3. Main board PCB disassembly" Reference** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Power	Power shut off during operation	Over current
Check point	1. Check the fuse and then replace it. 2. Check an electric current both ground terminal and Wire using of the multi meter. (Check the polar terminal of Wiring) 3. Check Heater leakage. → 1. If fuse is down, replace it. If heater is not leakage and 2. If current Ground terminal and wire doesn't apply current during measurement, It's Over current.	
Solution	- Over current is possible, but check shot circuit for all wires and electric parts.	

Classification	Symptom	Service Factor
Power	Power shut off during operation.	Electric capacity over in Multi outlet
Check point	1. Check an electric outlet capacity connected the unit. 2. Check total units connected the multi electric outlet. → If total units connected the multi electric outlet is over than the outlet capacity, multi electric outlet malfunction.	
Solution	- Use the multi electric outlet under capacity.	

Classification	Symptom	Service Factor
Power	Power shut off after turning on	Heater leakage
Check point	1. Check the fuse. 2. Separate the heater terminal and wire. 3. Measure Resistance both the heater terminal and heater exterior. → If fuse is down and heater resistance is measured, Heater leakage.	
Solution	- Replace the heater. 1. "**2-1-8. Heater disassembly" Reference** (When replacing a Heater, Inner Chamber Jacket, Chamber Disassembly are very complicated, Do not replace the heater in the field.) 2. The assembly is reverse order of disjointing.(Heater should be checked resistance for inferiority.)	

Classification	Symptom	Service Factor
Power	Power shut off during operation.	Wiring insulation malfunction
Check point	1. Check the fuse. 2. If fuse is down, replace it.. 3. Check Resistance both ground wire and Main plug using of the multi meter. → If resistance is measured, it is Wiring insulation malfunction.	
Solution	- Replace the wire. (“**2-2-9. Wiring short circuit Inspection” Reference**)	

Classification	Symptom	Service Factor
Power	Power shut off after turning on	Electric capacity over in Multi outlet
Check point	1. Check the fuse. 2. Check an electric outlet capacity connected the unit. 3. Check total units connected the multi electric outlet. → If total units connected the multi electric outlet is over than the outlet capacity, multi electric outlet malfunction.	
Solution	- Use the multi electric outlet under capacity.	

1-3. DISPLAY

Classification	Symptom	Service Factor
Display	Push buttons error	DISPLAY PCB error
Check point	1. Disconnect Display board from the panel, test pushing all buttons one by one → If you don't detect any reaction from button, the Display board is out of order	
Solution	- Replace the Display board 1. Refer to "**2-1-1. Display Panel disassembly**" 2. Refer to "**2-1-9. Display PCB disassembly**" . 3. The assembly is reverse order of disjointing	

Classification	Symptom	Service Factor
Display	Push buttons error	Assembly error on Display board
Check point	1. Check Display board is installed firmly. 2. Disconnect Display board from the panel, test pushing all buttons one by one. → If all buttons works good, while there is some space on installing the Display board, this means assembly error	
Solution	- Replace the Display board 1. Refer to "**2-1-1. Display Panel disassembly**" 2. Refer to "**2-1-9. Display PCB disassembly**" . 3. The assembly is reverse order of disjointing	

Classification	Symptom	Service Factor
Display	Display error	DISPLAY PCB error
Check point	1. Disassemble the Harness on the Display board, and re-assemble correctly. → If you still notice display error, the Display board is out of order	
Solution	- Replace the Display board 1. Refer to "**2-1-1. Display Panel disassembly**" 2. Refer to "**2-1-9. Display PCB disassembly"** . 3. The assembly is reverse order of disjointing	

Classification	Symptom	Service Factor
Display	Display error	Main PCB error
Check point	1. Disassemble the Harness on the Display board, and re-assemble correctly. 2. Replace a new Display Panel. → → If you still notice display error, the Main PCB is out of order	
Solution	- Replace main PCB 1. Refer to "**2-1-1. Side Cover panel disassembly"** 2. Refer to "**2-1-3. Main board PCB disassembly"** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Display	Display error	Temp Sensor error
Check point	1. Replace a new Temp. Sensor. → If display is OK, the previous Sensor is out of order	
Solution	- Replace a temp sensor. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. "**2-1-10. Temperature control Sensor disassembly" Reference** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Display	Display error	Temp. sensor contact error
Check point	1. Check the bolts of Temp. Sensor on the Main control board. → If you detect bolting is loose, contact error	
Solution	- Fasten the bolts of Temp. Sensor on the Main control board. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. Fasten the blots of Temp. Sensor on the Main control board 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Display	Display error	Harness contact error
Check point	1. Disassemble the Harness on the Display board, and re-assemble correctly. → If Display turns OK, Harness contact was error	
Solution	- Replace DISPLAY PCB 1. Refer to "**2-1-1. Side Cover panel disassembly"** 2. Disconnect Harness and reassemble. 3. The assembly is reverse order of disjointing.	

1-4. Door

Classification	Symptom	Service Factor
Door	Not closed	Keeper damage
Check point	1. After dismantling the keeper and then check it.	
Solution	1. “**2-1-12. Keeper disassembly” Reference** 2. The assembly is reverse order of disjointing.	

1-5. Current leakage

Classification	Symptom	Service Factor
Noise	Circuit breaker activates	Heater leakage
Check point	1. Check fuse status first. 2. Disconnect wiring on Heater contacts 3. Measure resistance value on Heater surface and contact by using TESTER. → If fuse blow and, any resistance is measured the heater is leaking..	
Solution	- Replace heater.. 1. "**2-1-8. Heater disassembly" Reference** (When replacing Heater, Do not disassemble Chamber Jacket ,and Chamber) 2. The assembly is reverse order of disjointing.(Be sure to check Heater resistance before finishing)	

Classification	Symptom	Service Factor
Noise	Circuit breaker activates	Wire insulation error
Check point	1. Check FUSE first.. 2. If Fuse blows, replace with a new one.. 3. Measure resistance on Main plug and Ground. → If any resistance is measure, the wire insulation is error.	
Solution	- Replace wire connection. (Refer to "**2-2-9.**")	

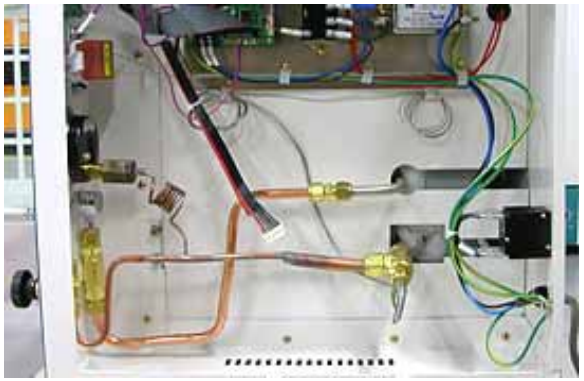
1-6. Communication

Classification	Symptom	Service Factor
Communication	Communication error	Communication Board error
Check point	1. Replace Communication Board → After replacing, if it works, the communication board is error.	
Solution	- Replace communication PCB. 1. "**2-1-1. Side Cover panel disassembly" Reference** 2. **"2-1-13. Communication Board disassembly" Reference** 3. The assembly is reverse order of disjointing.	

1-6. Vacuum

Classification	Symptom
Vacuum	Vacuum leakage
Check point	*** How to check the leaking point *** **- Easily error parts. -** 1. Check and replace Door packing with vacuum status. 2. Check if Vent Valve fixing bolt is loosen.(if loosens easily.) 3. Check Reducer's NUT on Temperature Controlling. **- If you still find any faulty on the above parts. -** 1. Fill water in the chamber by 1 cm. 2. Let the chamber vacuum status. 3. Turn the chamber left/right ,and up/down to find air leaking. 4. If Chamber is OK, but pipes are leaking, replace the leaking pipe.

Classification	Symptom	Service Factor
Vacuum	Unit can't have vacuum status	Packing error
Check point	1. With reference of "How to check leaking point", find the leaking point. 2. Check if there is dirty on the side of packing. 3. Check if the packing has any damage. → Remove the dirty, and replace the damaged packing	
Solution	- Replace a new packing. 1. **"2-1-2. Door packing disassembly" Reference** 2. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Vacuum	Unit can't have vacuum status	Vacuum line is stock
Check point	1. With reference of "How to check leaking point", find the leaking point. 2. Open vacuum line and blow checking with compressor air. → If you can't remove the line stock, replace a new one.	
Solution	- Replace vacuum line.	

	1. **“2-1-7. 3 way valve disassembly” Reference** 2. **“2-1-10. Temperature Sensor controller disassembly” Reference** 3. The assembly is reverse order of disjointing.

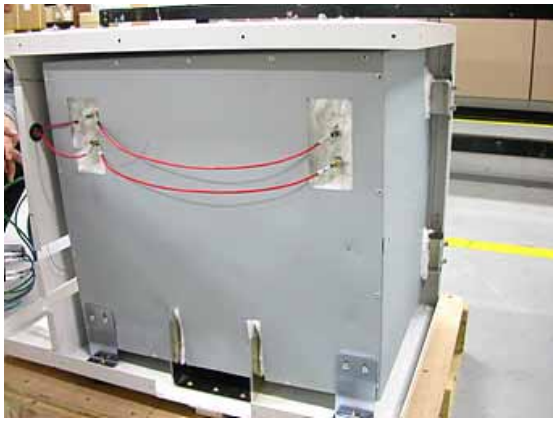
Classification	Symptom	Service Factor
Vacuum	Unit can’t have vacuum status	Door closing error
Check point	1. Check if there is dirty on the side of packing. 2. Check if Door is twisted. → Check Door closing.	
Solution	- Locate Door position correctly.	

Classification	Symptom	Service Factor
Vacuum	Vacuum is leaking	Packing error
Check point	1. With reference of “How to check leaking point”, find the leaking point. 2. Check if there is dirty on the side of packing. 3. Check if the packing has been damaged. → Remove the dirty, and replace the damaged packing	
Solution	- Replace a new packing. 1. **“2-1-2. Door packing disassembly” Reference** 2. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Vacuum	Vacuum is leaking	3 way valve error
Check point	1. With reference of “How to check leaking point”, find the leaking point. → If 3 way valve fixing nut is loosened, fasten them.	
Solution	- Replace a new 3 way valve. 1. **“2-1-1. Side Cover panel disassembly” Reference** 2. **“2-1-7. 3 way valve disassembly” Reference** 3. The assembly is reverse order of disjointing.	

Classification	Symptom	Service Factor
Vacuum	Vacuum is leaking	Vacuum Pipe has crack
Check point	1. With reference of “How to check leaking point”, find the leaking point.	
Solution	- Replace vacuum pipe. 1. **“2-1-7. 3 way valve disassembly” Reference** 2. **“2-1-10. Temperature control Sensor disassembly” Reference** 3. The assembly is reverse order of disjointing.	

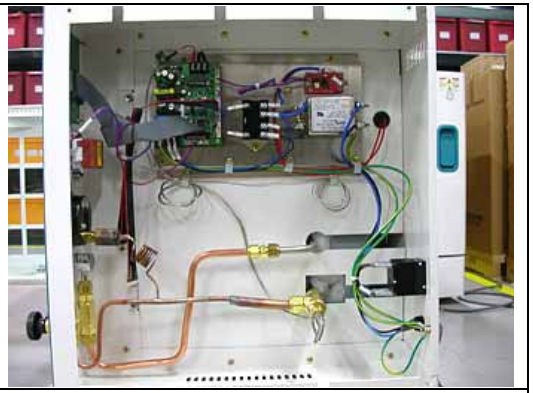
Classification	Symptom	Service Factor
Vacuum	Vacuum is leaking	Fitting has been loosened on vacuum pipe
Check point	1. With reference of “How to check leaking point”, find the leaking point.	
Solution	- Fasten the loosened fitting. 1. **“2-1-7. 3 way valve disassembly” Reference** 2. **“2-1-10. Temperature control Sensor disassembly” Reference** 3. The assembly is reverse order of disjointing.	

<table>
<tr><td>Classification</td><td>Symptom</td><td colspan="2">Service Factor</td></tr>
<tr><td>Vacuum</td><td>Vacuum is leaking</td><td colspan="2">Inner chamber has crack</td></tr>
<tr><td>Check point</td><td colspan="2">1. With reference of “How to check leaking point”, find the leaking point.</td><td>  </td></tr>
<tr><td>Solution</td><td colspan="3">- Replace the inner chamber.
* This job is hard to be performed at site.</td></tr>
</table>

2. Disassembly & Inspection

2-1. Disassembly

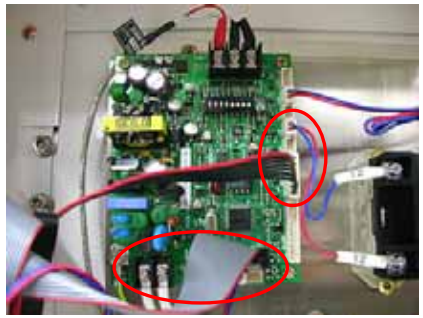
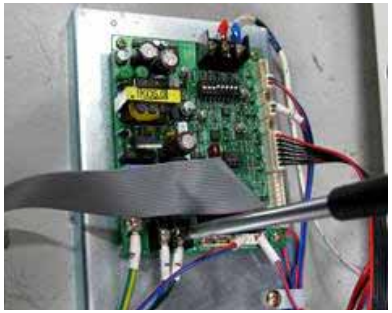
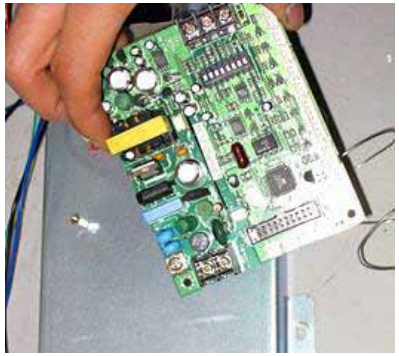
2-1-1. Side Cover panel disassembly

		
“+” Loosen the circled blots by using ”+” driver.	Disconnect harness on the side	Disassembly has been done.

2-1-2. Door packing disassembly.

			
Pull out the packing to the arrow way		Done	***When reassembling, be careful of the packing direction.**

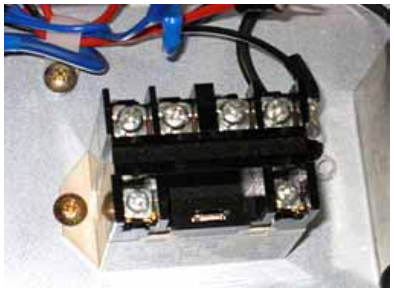
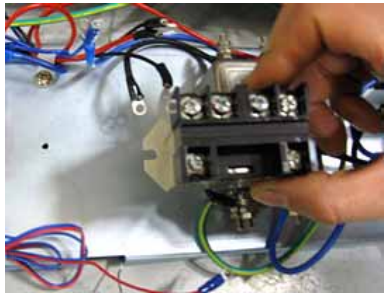
2-1-3. Main board PCB disassembly

			
Disconnect the circled harness.		Loosen fixing bolt by using “+” driver.	
			
Loosen fixing bolt by using “+” driver.	Done	**※ Warning : carefully connect Temperature sensor.**	

2-1-4. SSR disassembly

		
Disconnect wires on SSR	Loosen blots by using “+” driver	Disconnect SSR

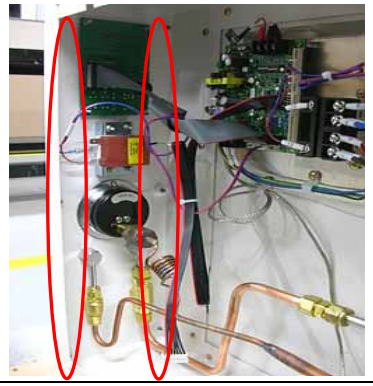
2-1-5. Relay disassembly

			
Disconnect the circled.		Loosen blots by using “+” driver	Done

2-1-6. Noise Filter disassembly

	
Disconnect the bolts by using 7mm vox driver.	Loosen blots by using “+” driver

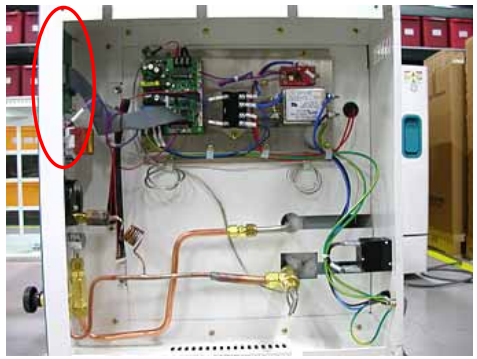
2-1-7. 3 way valve disassembly

			
Remove the circled headless bolts.	Remove handle	Loosen the circled bolts.	Disconnect control panel.
			
Loosen the circled bolts.		Loosen the circled valve fixing nut.	Loosen the circled nut to the arrow way.

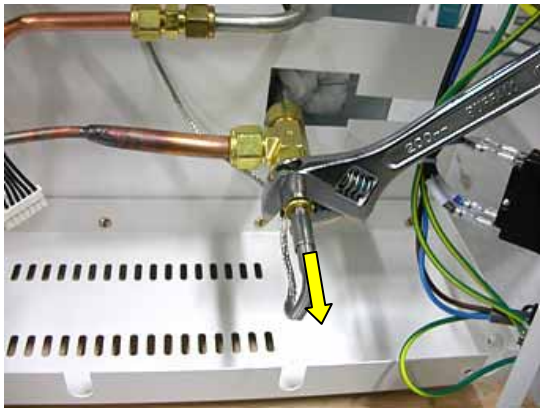
2-1-8. Heater disassembly.

			
Loosen and remove fixing port on the right and left.		Loosen and remove the fixing bolt on the rear.	When replacing Heater, it is not recommended to disassemble Chamber Jacket, and Chamber, because this procedure is quite complicate.

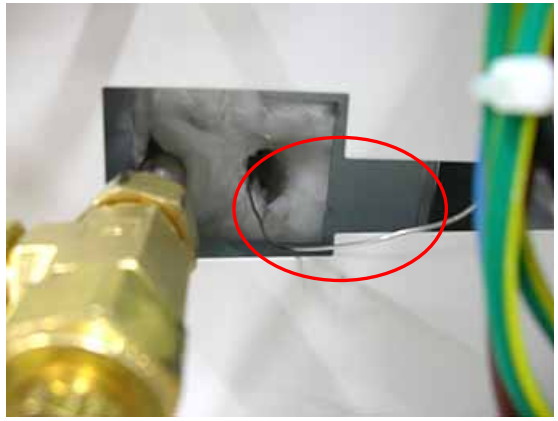
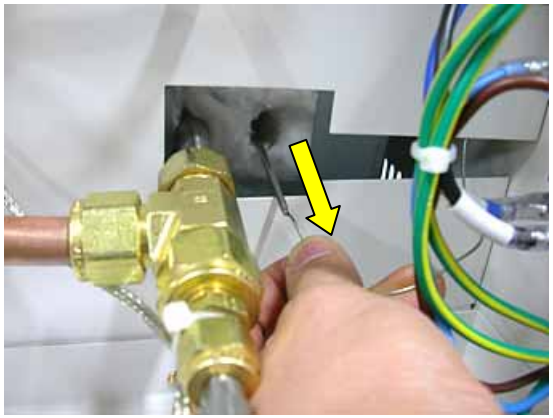
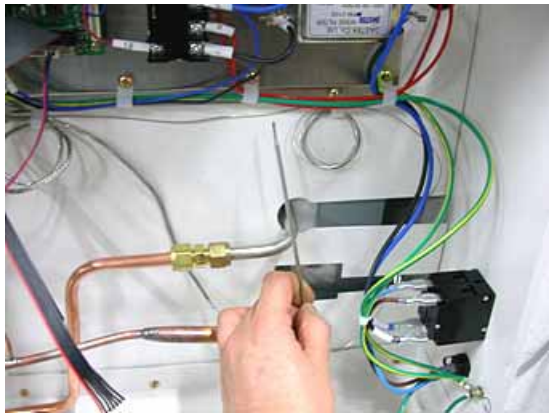
2-1-9. Display PCB disassembly

	
The circled is Display PCB.	Loosen the circled bolts.

2-1-10. Temperature control Sensor disassembly

		
The circled is Temperature control Sensor	Remove all Shelf	Loosen the circled bolt and remove bottom shelf.
		
Loosen the circled bolt to remove Temp Sensor Block		Loosen nut on the Reducer, remove out to the arrow direction.

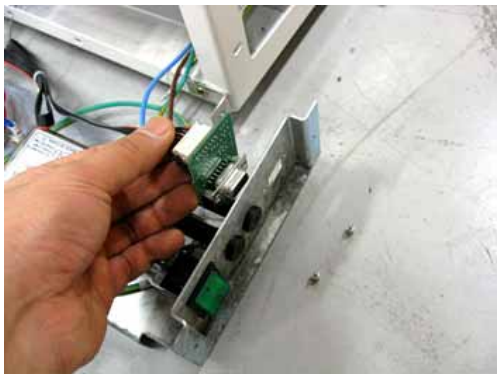
2-1-11. High Temp Limit Sensor disassembly.

		
The circled is Sensor wire.	Pull out to the arrow direction.	Done.

2-1-12. Keeper disassembly.

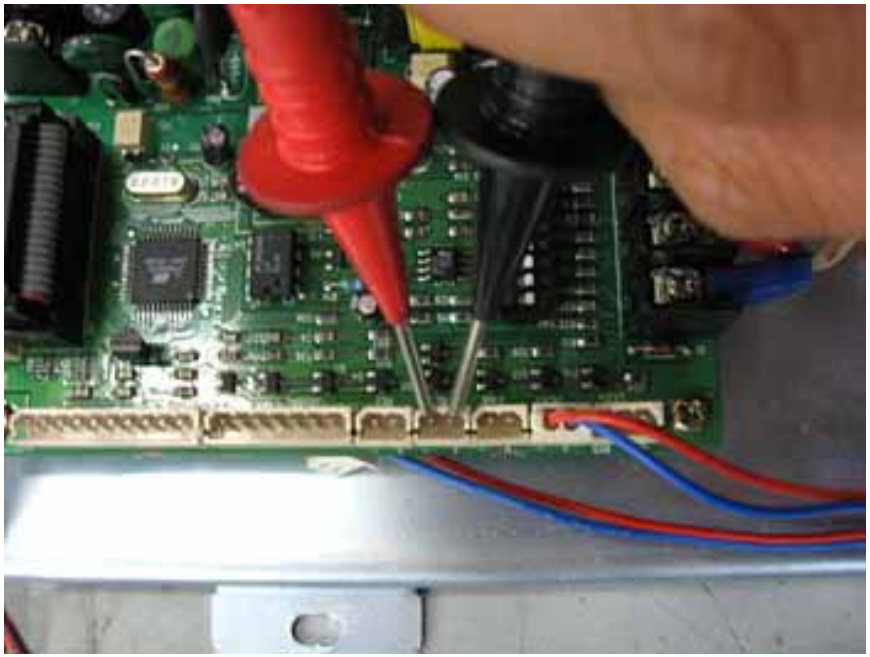
	
Loosen the fixing bolts	Done.

2-1-14. Communication Board disassembly.

		
Disconnect harness.	Loosen bolts by using 5mm vox wrench.(Refer to OF disassembly.)	Done.

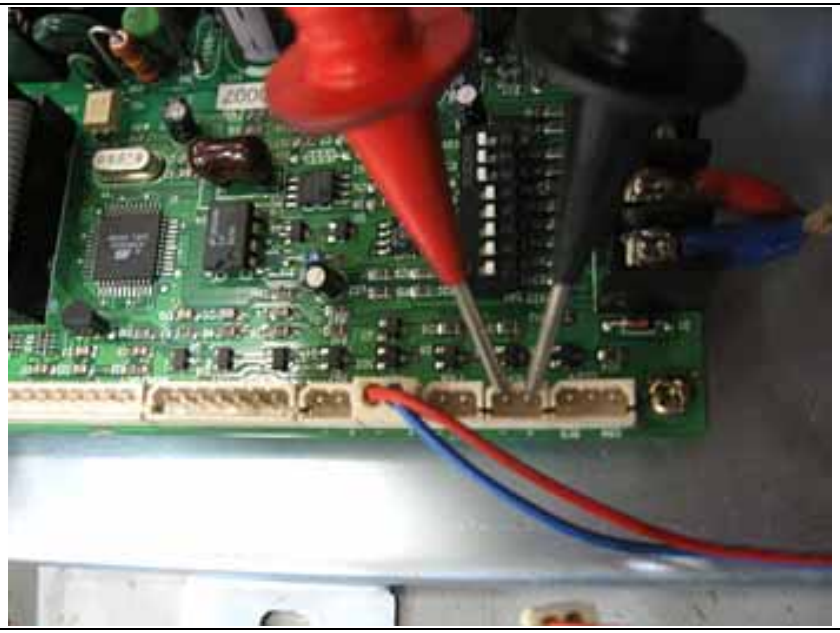
2-2. Inspection

2-2-1. Output voltage of Relay on Main Control Board



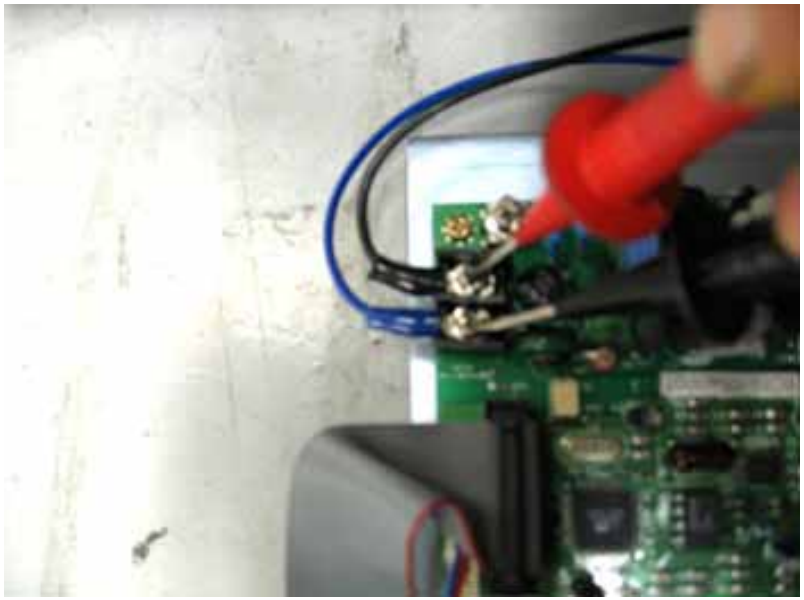
1. Press “START” key to operate unit.
2. Measure output voltage of terminal with voltage meter (DC MODE)

2-2-2. Output voltage of Heater on Main Control Board



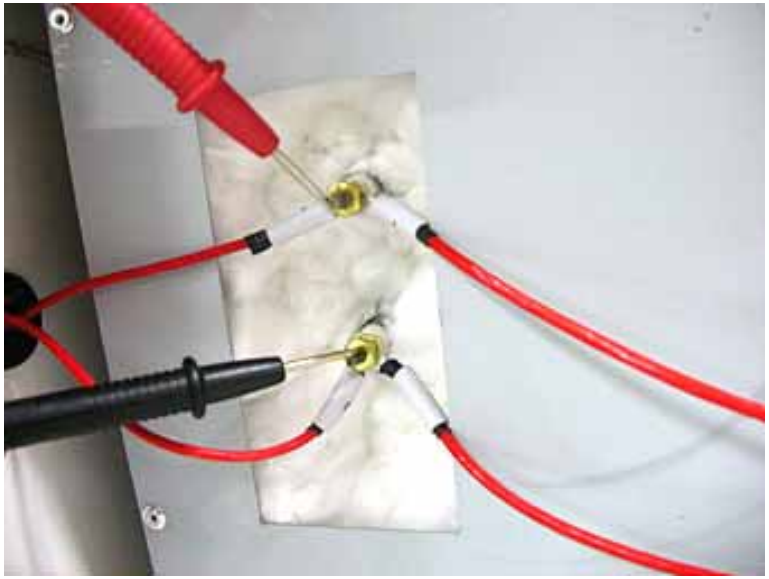
1. Set temperature above PV(actual value) and press “START” key.
2. Check out HEAT LED on display. (It should be ON.)
3. Measure output voltage of terminal with voltage meter. (DC MODE)

2-2-3. AC input voltage of Main Control Board



1. Switch ON.
2. Measure AC input voltage with voltage meter (AC MODE).

2-2-4. Short-circuit of Heater



Measure resistance of heater with resistance meter.

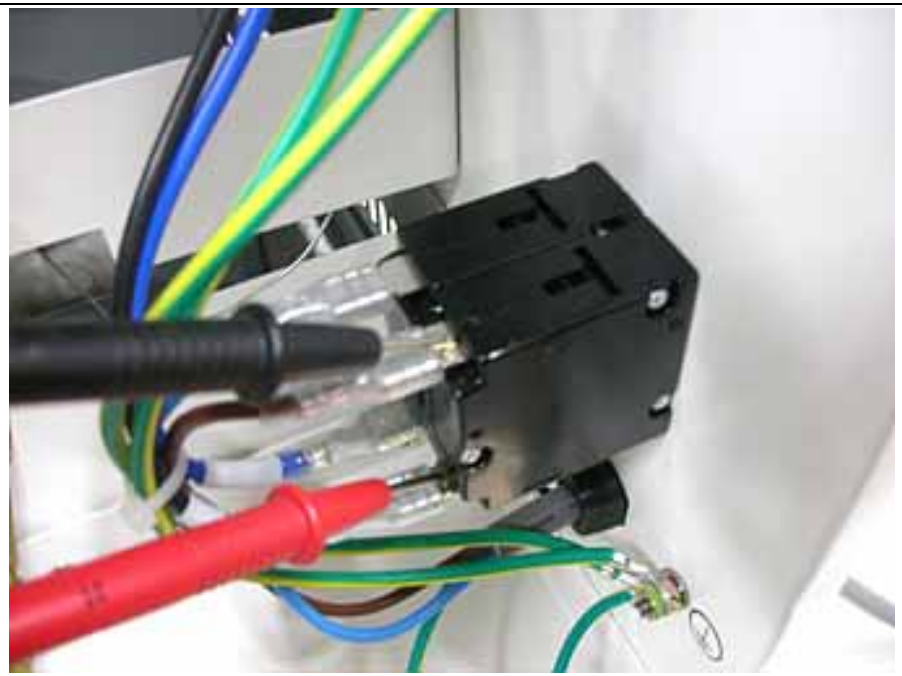
2-2-5. Current leakage of Heater

Measure resistance with resistance meter.

2-2-6. Noise Filter defect

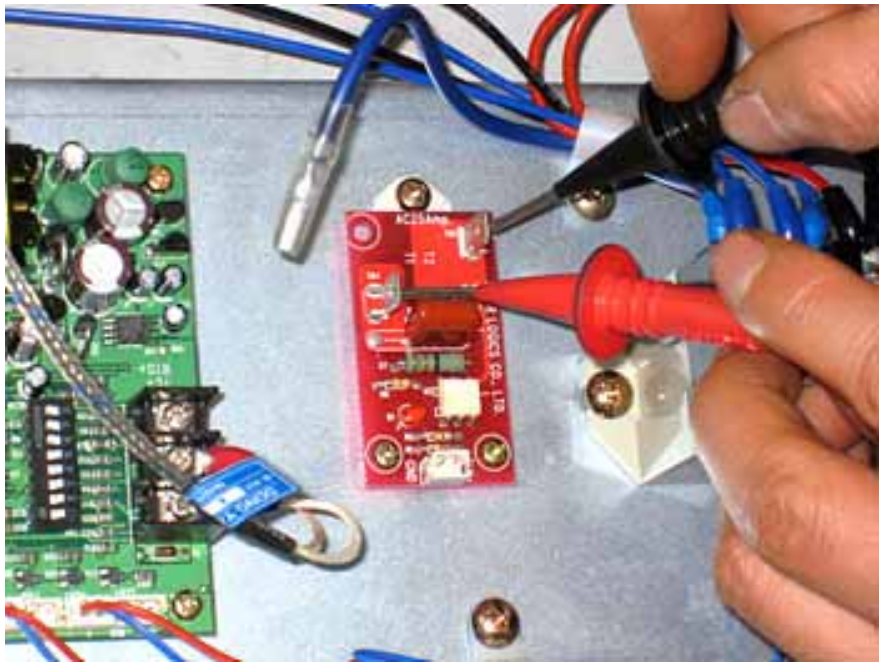
1. Switch ON.
2. Measure output voltage with voltage meter.(AC MODE)

2-2-7. Main Power Switch defect



1. Switch ON.
2. Measure output voltage with voltage meter(AC MODE).

2-2-8. SSR Board defect



1. Take out harness of SSR input.
2. Measure resistance of SSR output with resistance meter.

2-2-9. Wire snap

			
1. Resistance meter. 2. Measure resistance between plug and fuse holder.	1. Switch ON. 2. Measure output between plug and main power switch.	Measure between plug and Input of Noise filter.	Measure between plug and output of Noise Filter.
			
Measure between plug and Relay.	Measure between plug and input voltage (AC) of Main Board PC B.		