



# **Product Manual**

## **SMD AIR DRYER**

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**SMD Co.,LTD**

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## Ch 1: Shipping and Installation

### 1. Shipping

Please follow below instruction when shipping this product.

- 1) When carrying the product, please hold it from bottom in order to prevent falling.  
Do not lean down on a side.
- 2) When carrying the product upside down or by the side, there could be possibility of getting damage on the product.
- 3) Do not hang this product when shipping.

### 2. Installation

Please do not keep this product in following places. The product will not work properly and below are the reasons of future damage on your product.

- Near raindrops, vapor, brine, and oil
- Near dusts or particles
- Near flammable gas
- Under direct sunlight
- Temperature at 2~40C when operating the product, 0~50C when not operating  
(Only if there is no condensed water in the pipe)
- A place where there is drastic changes in temperature
- A place where there is electric noise
- A place where there might be static electricity
- Shipping by cars or ship
- Altitude higher than 2,000 meters
- Avoid any shocks
- Limited space where it disturbs its maintenance
- A place where cannot be ventilate
- A place where another ventilator or air compressor is
- A place where high frequency happens

### **3. Air-Pipe**

- Use union for air compressor entrance and out, and allow it to be disassembled
- When connecting a fitting air pipe on the body of a machine, tight it hard with wrench
- Do not apply too much power on pipe
- When air compressor temperature is higher than 40C please connect an after cooler on air compressor or install a dryer in place with temperature lower than 40C
- Always clean the pipe and avoid any sediments to get in
- Always check the connector so nothing is leaking
- Prepare bypass pipe, so it can always be inspected without stopping air compressor

### **4. Drain Tube**

- Polyurethane tube with 8mm external diameter is attached to Drain Tube. Let tube have open air pipe and let drain flow inlet flow.
- Drain uses pressure of air compressor and pumps periodically, therefore fix the tube way out tightly.
- Do not vertically fix the drain tube.
- Do not bend or break drain tube. May find drain tube from the base of the machine, therefore when installing be careful not to step on the tube.

## Ch 2. How to operate SMD Air Dryer

### 1. Checklist before running the machine

- Installation condition

Check that it is installed horizontally

Use anchor bolt to check it has fixed tightly

Do not apply any other force

- Cable Joint

Check if power cable and has connected properly

- Drain Tube

Check if Drain Tube has connected properly

- Air pipe

Check if air compressor pipe has connected properly. Check machine's In-Out and pi-pass pipe has connected properly.

- ball valve

Check Auto drain's ball valve is opened

### 2. Operation

Please follow below instructions to operate a machine

- Insert a main power breaker. Continue press switch on
- The light is on, soon condenser cooler runs, then warm air will blow out (toward fan motor)
- Slowly open the in-out valve. Check if pi-pass valve is closed completely.  
Check if there is no air leaking. (Do not operate the valve)
- Depends on the condition of Air compressor and the temperature, the cooler fan will operate and stop repeatedly. Freezer will run continuously, and refrigerant gauge will point between 3-5. If refrigerant gauge points at 6 or higher, please refer to chapter 3 (Check list before re-operation)
- Let compressed air flow in, then drain will excrete through drain tube.
- Please use machine continuously on.
- Turn on and off repeatedly will cause damage

### **3. Stop**

- Press off
- Light will go off and stop

### **4. Checklist before re-operation**

- Please allow 5 minutes when resuming the machine. Resuming within 5 minutes will cause Trip lamp to on (Check list before re-operation)

### **5. Check list before re-operation**

- When starting a machine, follow below instructions.

If something happens, stop the machine. Press OFF and shut off the main power.

- No compressed air leaking
- Pressure of compressed air, temperature, flux and room temperature is within the normal.
- Drain tube working properly
- Refrigerant Gauge pointing between 3-5

## Ch 3. Problems & Solutions

### 1. Reasons of abnormalities and How to handle

When there is an abnormality, please follow the instruction below. If there is still an abnormality on a machine after you made these actions, please contact the branch office.

Problem	Reason:	Solution
Switch is on, but no light. Not working.	The power cord is loosened or disconnected	Please reconnect the power
	Electric Leakage breaker is off	1. Please check Electric Leakage breaker.  2. Turn on electric leakage breaker.  3. Check if machine five minutes after you stopped a machine whether it is working properly again.
The power lamp turns off while operating and refrigerant condenser stops.  - High light on	Lack of ventilation	1. Please allow ventilation and lower the temperature. The temperature is too high. 2. Refer to [3-2 DPS pressure switch reset] High light on
	Vent is covered with dust.	Please place the vent at least 40cm away from the wall Light on  1. Please clean the vent once a month.  2. Refer to [3-2 DPS pressure switch reset]

	Fan motor is not working	Force start the fan magnet. If fan motor starts, check magnet and fan control switch. Install after cooler behind the air compressor. 2. Refer to [3-2 DPS pressure switch reset]
	Temperature of condensed air is too high.	Allow a ventilation in where air compressor has installed and lower the temperature.
The power lamp turns off while operating and refrigerant condenser stops. - Low light on	Refrigerant gauge points 0.	Refrigerant pipe line leakage. Request for a service. 2. Refer to [3-2 DPS pressure switch reset]
The power lamp turns off while operating and refrigerant condenser stops. - Trip light on	Voltage variation is too high.	Install power trans or inspect the power. Power voltage variation is in between $\pm 10\%$
Moisture is formed in the lower air compressor line.	Bypass valve is open	Please close all the bypass when operating
	Drain is not discharged from auto drain	Please check that drain is not folded. Check auto drain. Check if ball valve is opened properly.
	Extra pipe is connected without air dryer after the air dryer	Install an air dryer where there is no air dryer. Install pipes separately.
	When passing through the pipe below the dew point temperature or Winter, exposed piping outside	Out Pipe heat insulation and the indoor temperature rise
Drop in compressed air	In-Out valve at dryer pipe is all closed	Open the valves
	Air filters on air compressor pipe is	Change the air filter



pressure is too high.	all closed	
	Super cooling affects refrigerant  Fan motor does not stop  (in winter periods)	1. Check hot gas valves. 2. Refer to 3-3 Hot gas valve control. Change fan control switch.

## 2. DPS pressure switch reset

When lamps turns off and refrigerative compressor stops, manual reset is need to protect refrigerative compressor due to DPS and THR is on.

Please dismiss any reasons of starting THR and DPS

### - Method of THR Relay reset

- ① pen the electric panel, THR relay in the lower part
- ② ress the reset switch
- ③ Close the panel
- ④ Press switch on

### - Method of DPS Reset (Highlight)

- ① Open the electric panel, and right DPS pressure switch is located
- ② Press red reset button
- ③ Close the panel
- ④ Press switch ON

### - Method of DPS Reset (Lowlight)

- ① When refrigerant gauge needle points lower than 2, it will work
- ② Replenish refrigerant
- ③ Request for service.

## 3. Hot Gas Bypass Valve Control

Refrigerant control valve, super cooling and super heating, please follow instruction below.

1. When super cooling, turn the valve clockwise  $\frac{1}{2}$  and check refrigerantline after 10 minutes.  
Do not repeat more than 10 times.
2. When super heating, turn the valve counter clockwise  $\frac{1}{2}$  and check refrigerantline after 10 minutes. Do not repeat more than 10 times.



## Product Warranty

**We warrants as written in below.**

1. This product has been manufactured after detailed quality verification inspection.
2. If the product breakdowns during the period of warrants, we provide a free service.
3. Warrants do not cover all circumstances. There might be a charge in some cases.

Product			Warrant period
Manufacture number			1 year
Date of sale			

Name of Customer	Address		Name of Business	
			Tel	
Name of Branch	Address		Name of Business	
			Tel	

**Followings are the services at charge**

1. If a warrant has expired
2. Mishandling failure
3. When proper power was not used
4. When unauthorized technician has repaired the machine
5. Any breakdown due to natural disaster
6. When the product was replaced or moved after it has been installed
7. When the parts are wasted