

ELECTROLYTIC DEHUMIDIFYING ELEMENT

ROSAHL

Instruction Manual

PD4 (Soldered) / PD5 (Insertion)

NOTICE

1. Please read this manual before you use a dehumidifying element and use it correctly.
2. The person who operates, manages and maintains the dehumidifying element must keep this manual.



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For Proper Usage

<ul style="list-style-type: none">● Supply DC (direct current) 3V to a dehumidifying element. DO NOT reverse the polarity. Inverting the polarity will reverse dehumidification and humidification, which will cause leading to damage of the dehumidifying element.	 Prohibited
<ul style="list-style-type: none">● Check the direction carefully before installation. Installing in the opposite direction will reverses dehumidification and humidification, which result in an adverse effect on the contents in the container.	 Prohibited
<ul style="list-style-type: none">● DO NOT expose the element directly to the weather. Please cover the element with a cover or moisture-permeable sheet to prevent it from getting wet when using outdoors.	 Prohibited
<ul style="list-style-type: none">● DO NOT put pin or wire etc. into a dehumidifying element. It may cause an electric shock and the element may be damaged or deteriorate.	 Prohibited
<ul style="list-style-type: none">● DO NOT use a silicon-based sealing materials to make a container airtight. They quickly degrades the performance of the dehumidifying element.	 Prohibited
<ul style="list-style-type: none">● DO NOT use with vapor phase corrosion inhibitor or insect repellent. DO NOT use in an environment with a lot of organic gas. They may degrade the performance of the dehumidifying element.	 Prohibited
<ul style="list-style-type: none">● DO NOT attempt to disassemble, repair or modify the dehumidifying element. It may cause an electric shock and the performance deterioration, as this may damage it.	 Prohibited

Installation

- 1 Attach an element in the center of the inner side surface of a container with a packing while keeping the airtightness of a container. (Do not attach it on a top or bottom surface.)
If you use a silicon rubber, you need to treat a packing with heat (150 deg C / 11 hours) not to quickly degrade the performance of the dehumidifying element.
Note : The silicon packing using for this element (parts of the element module) is vulcanized. (conditions : 150 deg C / 11 hours)
- 2 Confirm the dehumidifying / humidifying surface of an element not to get a wrong surface before installation. Attaching an element by mistake will adversely affect the things in the container.
- 3 Make a screw hole on the container which you will install the dehumidifying element. (Refer to the Fig.1~3)
- 4 Attach a protective cover as needed not to touch the dehumidifying / humidifying surface (the inside part which was surrounded in the white frame around the element) of an element with a hand and an object. In addition, when using outdoors, cover the element with a cover or moisture-permeable sheet to prevent it from getting wet. (Refer to the section 2 of Precautions for use)
- 5 Make a sealed moisture-impermeable container as much as possible to bring a high performance into the dehumidifying element.
- 6 Keep a moisture discharging hole a good state of the ventilation.

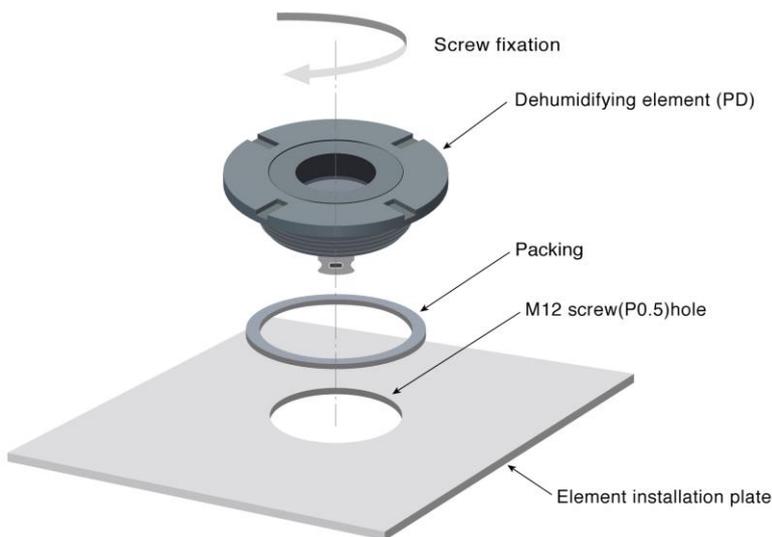


Fig.1 Image for installation

<Installation Method>

Make a screw hole for an M12 (P0.5) mm screw on the container which you will install the dehumidifying element. Insert packing in an element and turn an element slowly and attach an element to the hole.
(Specified torque : 0.25 to 0.39N.m)
The packing is not included.

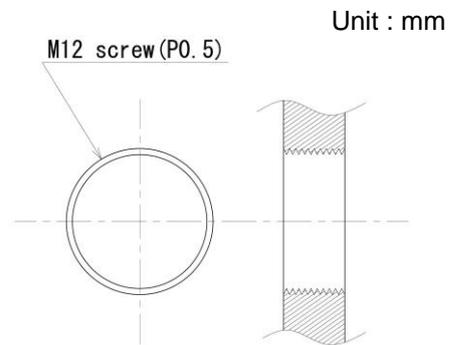


Fig.2 Dimensions of installation holes

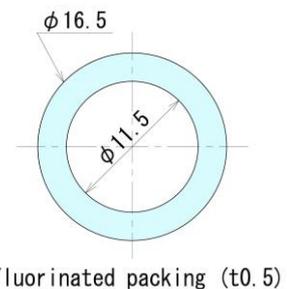


Fig.3 Processing example of packing

Usage

<Confirmation Items before Using>

Please confirm the following items surely before turning on the power.

- 1) Is the polarity of an element correct?
- 2) Is the power supply DC 3V?
- 3) Does not a dehumidifying element get wet?

<Usage>

- 1) Please supply DC 3V to a dehumidifying element.
- 2) Please adjust a supply voltage in the range of DC 2.9 - 3.1V between each terminals after 15-20 minutes turning on the power at the first time of installation. (The dehumidifying element usually causes a relatively big rush current when the power is turned on. But this is not abnormal.)

Specifications

Table 2 PD4/PD5 specifications

Items	Model Name	PD4	PD5
Dehumidifying capacity (mg/h) ^{*1}		1.75	
Applicable volume (cc) ^{*2}		Up to 1,000	
Element terminal voltage (V)		DC 3V	
Power consumption (mW) ^{*3}		60	
Dimensions (mm) ^{*4}		φ17×11	
Weight (g)		0.9	
Dimensions of installation hole (mm) ^{*5}		M12 screw (P0.5)	
Operating temperature (deg C)		-10 to 50	
Element connecting terminal type		Soldered ^{*6}	Insertion ^{*7}

Notes

- *1 The initial value at the temperature of 30 deg C and humidity 60%RH. (The dehumidifying capacity will degrade during use. How much it degrades depends on the operating environment and conditions. If any signs of abnormality are seen, early replacement is recommended.)
- *2 The applicable volume is for a sealed, moisture-impermeable container, and may vary depending on the material of the container, state of sealing and required humidity.
- *3 The annual average power consumption in average condition in Japan.
- *4 Refer to the Figure 4.
- *5 Refer to the Figure 1~3.
- *6 When you solder to PD4, twist an electric wire around an electrode and solder within 360 deg C, five seconds using the soldering iron. (Wire diameter : AWG28~26)
- *7 For an insertion type for PD5, use STO-01T-110N (JST Inc.) flat connecting terminal or equivalent. (Wire diameter : AWG28~20) The insertion type terminals may touch each other, as the element bodies are small. Refer to the following figure for installation.

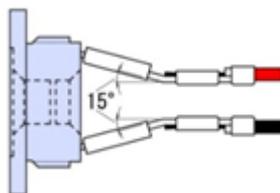


Fig.5 Example installation of insertion type