

Electrolysis type Dehumidifying element

[PD4 / PD5]

Features

World's first electrolytic method

Energy Saving

Lightweight

Noiseless

Compact

Drainless

Easy to Install



Dimensions are same as existing products PD2/PD3.

*Target is a further small container
Good cost performance!!*

*Just right for dehumidification
of the container less than 1L.*

■ Specification

型名	PD4 / PD5 (NEW)	PD2 / PD3 (Existing Products)
Dehumidifying capacity (mg/day) *1	42	84
Applicable volume (cc) *2	Up to 1000	Up to 2000
Element terminal voltage (V)		3V DC
Power consumption (mW) *3	60	80
Dimensions (mm)		Φ17 × 11
Weight (g)		0.9
Operating temperature (°C)		-10 to 50
Element connecting terminal type *4	STO-01T-110N (J.S.T. Mfg. Co.,Ltd.) or equivalent	

Notes *1 The initial value at the temperature of 30°C and humidity of 60%.

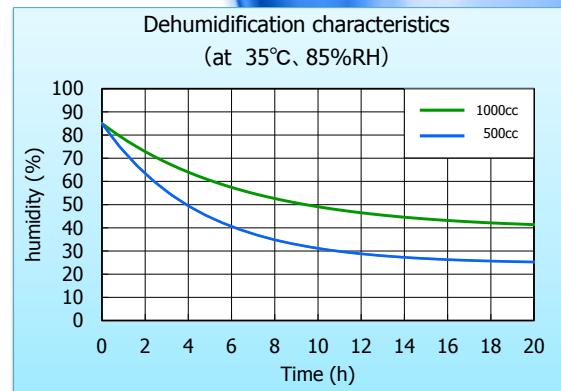
(The dehumidifying capacity will degrade during use. How much it degrades depends on the operating environment and conditions. If any signs of abnormality are seen, early replacement is recommended.)

*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 conditions in Japan.

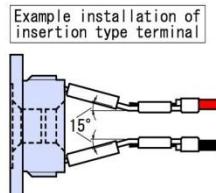
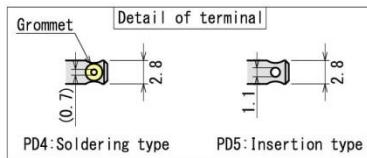
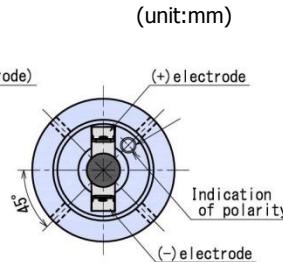
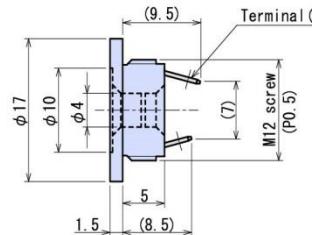
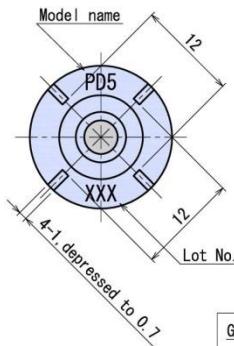
*4 Only PD5 and PD3. PD4 and PD2 are soldering type.

■ Test Data



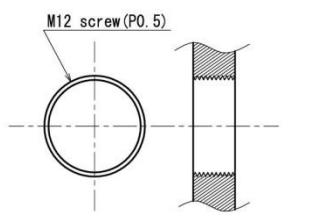
Notes Characteristics of the graph may vary depending on the material of the container and the degree of airtightness.

Dimensions



Installation

(unit:mm)



Make a screw hole for an M12 (P0.5) mm screw on the container on 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.

Precautions for use of dehumidifying element

1. Attach a protective cover as needed not to touch the dehumidifying / humidifying surface (the inside part which was surrounded in the frame around the element) of an element with a hand and an object.
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. Keep strictly the following about power supply to an element.
 - (1) Do not reverse the polarity. Confirm a polarity indication of an element. Humidification is reversed to dehumidification when you get a wrong polarity, which may result in an adverse effect on the things in the container. It causes a chemical reaction in a porous electrode of cathode side and it causes the trouble of an element.
 - (2) A dehumidifying element usually has a big rush current when the power is turned on. Therefore, we recommend the following power supply.
 - (3) Use a dedicated power supply for each dehumidifying element. When multiple dehumidifying elements are connected in series or parallel, the trouble of one element may cause all other elements to be disabled.

Recommended power supply specifications

Type Name	PD4 / PD5
Rated output voltage	3V DC
Rated output current	500mA
Overshoot protection function * Note	Required
Overshoot protection function	Required
Output voltage variation	0.1V or less
Ripple noise	0.2V or less
Others	In accordance with the specifications of commercially available power supply

Note : Use a constant or fold-back current limiting about overcurrent protection function. You cannot use the power supply of the Hiccup mode because the voltage more than 2V is necessary for an element when an overcurrent protection function worked. About a fold-back current limiting, also an element may not work correctly in the case of strong current restraint.

4. A container must be an airtightness container. If a container has low airtightness and moisture-permeable material, the results may not be what you expected.
5. 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 bake it (150°C/11hours) not to quickly degrade the performance of the dehumidifying element.
6. If you use an element with a rubber packing or a similar material that contains an antioxidant, crystal materials may occur on the surface of an element.
When you choose a packing, evaluate it enough.
7. Do not use silicon-based sealing materials to improve the airtightness of the container. (Silicon-based sealing materials generate oxime gas and siloxane gas during hardening. As a result, performance of the dehumidifying element decreases in a short term.)
[Recommended products] : modified silicon caulk (Konishi) or acrylic caulk (Konishi) * Modified silicon caulk is mainly composed of polyurethane.
8. Do not expose the moisture discharging hole to water. Please attach the cover to protect an element from water as needed.
9. Attach a moisture-permeable sheet to an element to protect it in the place with much dust or oil mists.
[Recommended products] : Vent Filter TEMISH S-NTF2131A-S06 (Nitto)
10. Keep a moisture discharging hole a good state of the ventilation.
11. Do not use an element with vapor phase corrosion inhibitor or insect repellent. Do not use an element in a place having high density of organic gas.
12. Do not do remodeling. An element may break down.