

Solid polymer Electrolytic Dehumidifying Element

ROSAHL

Product Specification

Model : RD4

(Attached from the inside)

RYOSAI TECHNICA CO., LTD.

RB-PS12011A

## 1. Application

This specification document is applied to model RD4 of Solid polymer Electrolytic Dehumidifying Element "ROSAHL".

## 2. Outline

Drawing No : RB-R06X0015 (Refer to page 5)

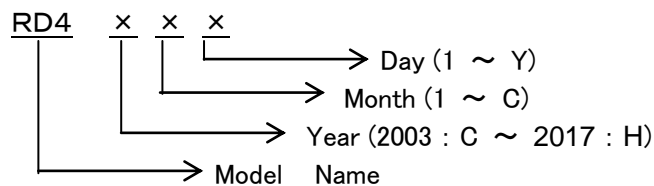
## 3. Specifications

- 1). Dehumidifying capacity before shipment : 84mg/day (at 30°C, 60%RH)
- 2). Applicable volume : ~2,000cc
- 3). Element terminal voltage : 3VDC±0.1V
- 4). Annual average power consumption : 80mW (at 20°C, 65%RH)
- 5). Weight : Approx. 1.9g
- 6). Operating temperature : -10~50°C
- 7). Operating humidity : ~90%RH
- 8). Storage temperature : -20~60°C
- 9). Storage humidity : ~95%RH
- 10). Element connecting type : Soldered or Insertion type
- 11). RoHS compliant product

## 4. Indication

Indicated the following items. (Refer to the drawing)

- 1). Model Name
- 2). Lot Number (Three columns of alphanumeric characters, 1Lot: 126 pieces)



- 3). (+), (-) (Polarity indicator)

## 5. Delivery Inspection

Tested the following inspection items.

- 1). Appearance : Visual inspection for all quantity
- 2). Dehumidifying capacity : Operation check for all quantity  
Ability measurement (sample inspection, 1 piece of 1 Lot)

## 6. Packaging

The products are packed 50~100 pieces individually and fill the box with them to avoid breakage failure while transport.

## 7. Accessory

Instruction manual 1 piece

## 8. Precautions for Use of Dehumidifying element

- 1). Attach a protective cover when necessary to prevent hands or objects from coming into contact with the dehumidifying / humidifying surface of the element.
- 2). Check the installation direction carefully before installation. Installing in the opposite direction will reverse dehumidification and humidification, which may result in an adverse effect on the contents in the container.

- 3). Strictly follow the following instructions about power supply to the element.
  - (1) DO NOT reverse the polarity. Please check the indication of polarity for the product.  
(Attach a polarity indication LED on the outside if necessary.)  
Inverting the polarity will reverse dehumidification and humidification, which may result in an adverse effect on the contents in the container and also will cause chemical reaction consuming the porous electrode at the cathode side and leading to damage of the element.
  - (2) The dehumidifying element naturally causes a relatively large starting current when the power is turned on. Therefore, the specifications below are recommended for the power supply.
  - (3) Use a dedicated power supply for each dehumidifying element  
(When multiple dehumidifying elements are connected in series or parallel, the breakage of one element may cause all other elements to be disabled.)

Recommended power supply specifications

	RD4
Rated output voltage	3VDC
Rated output current	500mA
Overcurrent protection function (constant or fold-back current limiting)	Required Note: When fold-back current limiting is employed, the dehumidifying element may not function correctly.
Overvoltage 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

- 4). The container must have a sealed structure. If the container is made of moisture permeable material, the results may not be satisfactory.
- 5). It is preferable that the element is installed in the center of the inner side surface of the Container with packing to ensure airtightness of the container.  
( Do not install on the top or bottom surface )
- 6). If there is rubber packing or a similar material that contains an antioxidant, crystalline substances may form on the element. Careful evaluation of material is necessary when selecting a packing.
- 7). Sealing agents should not be silicon-based, as they affect the airtightness of the container.  
(Silicon-based sealing agents generate oxime gas and siloxane gas during hardening, which quickly degrades the performance of the dehumidifying element.)  
Consult us if any questions.
- 8). When using outdoors, be sure to attach a cover (moisture-permeable sheet etc) to protect from water or insects.
- 9). Keep the moisture discharging side unsealed and well ventilated.
- 10). DO NOT use with vapor phase corrosion inhibitor or insect repellent. DO NOT use in an environment with a lot of organic gas.
- 11). Consult us if there is dust or oil mist in the environment where the product will be used.
- 12). DO NOT attempt to disassemble, repair or modify the product, as this may damage it.

9. Element Connecting

1). Soldering

This is a Pb Free product.

Soldering bit temperature: 360 degree Celsius, Soldering time: 5 sec or less

2). Insertion

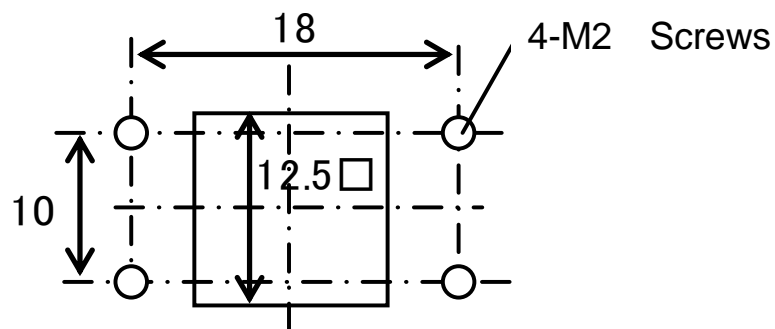
Use a STO-01T-110N (JST, Inc.) flat connecting terminal or equivalent.

10. Installation

Make a square hole 12.5mm x 12.5mm on the container, Insert the included packing and attach the dehumidifying element with four M2 screws.

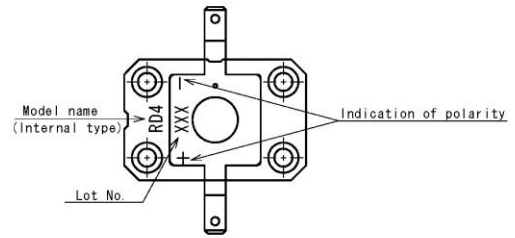
(Specified torque: MAX. 0.18 N· m)

When dehumidifying the inside of a container, attach RD4 from the inside.

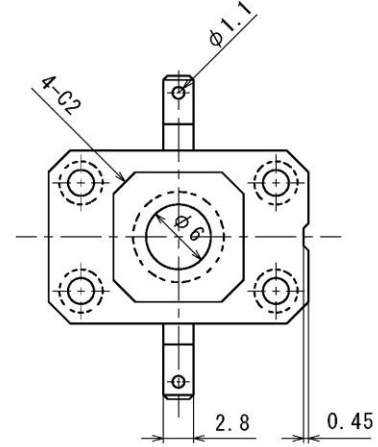
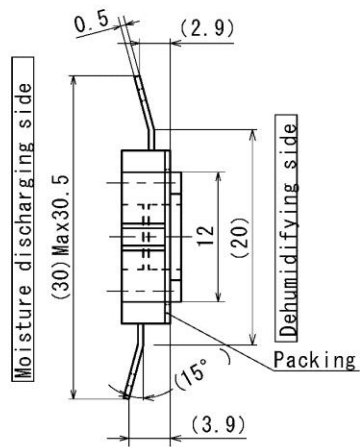
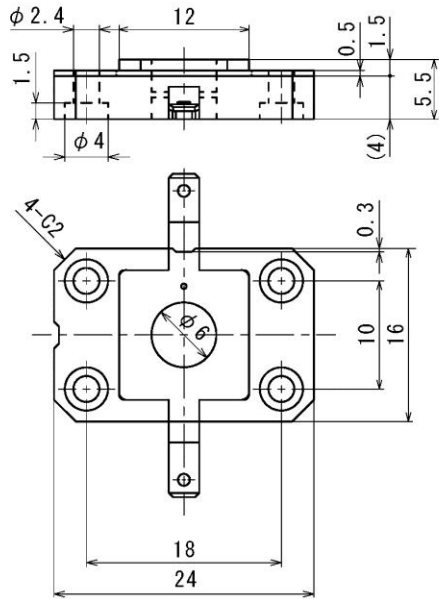


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Element connecting terminal type : Soldered type  
or Insertion type (Use a ST0-01T-110N(JST)  
flat connecting terminal or equivalent.)



Indication



指定以外ノ寸法許容差		
削り加工		
呼び寸法	中級	粗級
0.5 ~ 3	±0.1	—
3 ~ 6	±0.1	±0.2
6 ~ 30	±0.2	±0.5
30 ~ 120	±0.3	±0.8
120 ~ 315	±0.5	±1.2
315 ~ 1000	±0.8	±2.0
1000 ~ 2000	±1.2	±3.0
2000 ~ 4000	±1.8	±4.5

Paper size : A3

RYOSAI TECHNICA CO., LTD.

TITLE

RD4

出 図 先  
WO 1

DRAWN  
作成 Kobayashi

Outline drawing

DIM. IN  $\phi$   
CHECKED  
照査 lwata

SCALE : NTS  
尺 度 : 設計 Yamaguchi

DWG NO.

RB-R06X0015

DATE  
作成日付 '12-12-25  
APPROVED  
検 認 lwata

改 定 CHANGE