

Electric Dehumidifier

ROSAHL

Instruction Manual

Humidity Controller Embedded Type RDHC-5J1 / RDHC-7J1 / RDHC-10J1 / RDHC-10J2

NOTICE

1. Please read this manual before you use ROSAHL and use it correctly.
2. Please keep this manual to the person who operates, manages and maintains ROSAHL.



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For Proper Usage

- Use ROSAHL with 100V AC (RDHC-10J1 & RDHC-10J2 can be used with 100/200V AC)
In order to avoid fire, electrical leakage and damage for ROSAHL.



Prohibited

- DO NOT expose the moisture discharging side of a membrane directly to the winds and rain.
When using outdoors, Please attach a rainproof cover (option parts) or a cover to protect a membrane from water.



Prohibited

- Keep the moisture discharging side of membrane well ventilated.



Prohibited

- DO NOT put pin or wire etc into the membrane. It may cause an electric shock and the membrane may be damaged or deteriorate.



Prohibited

- **DO NOT use a silicon-based sealing materials** to improve airtightness of a container.
Silicon-based sealing materials generate oxime gas and siloxane gas.
As a result, the performance of ROSAHL reduce in a short term.



Prohibited

- **DO NOT use ROSAHL with vapor phase corrosion inhibitor** or insect repellent.
Do not use ROSAHL in a place having high density of organic gas. The performance of ROSAHL reduce in a short term.



Prohibited

- DO NOT attempt to disassemble, repair or modify ROSAHL. It may cause an electric shock and the performance deterioration, as this may damage it.



Prohibited

Installation

Make a moisture discharging hole and installation hole for the following dimensions on the container and attach ROSAHL with screws.

Note 1) Processed dimensions for Moisture discharging hole and Installation hole, refer to Table 1.

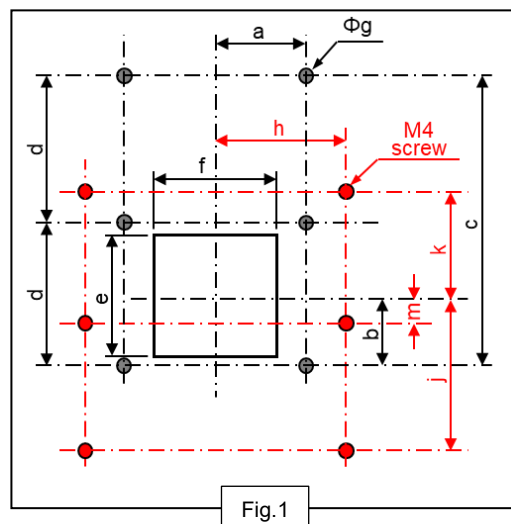
Note 2) Processed dimensions for Rainproof cover, refer to Table 2.

Table 1. Installation dimensions (mm)

| Model name | RDHC-5J1 | RDHC-7J1 | RDHC-10J1 | RDHC-10J2 |
|------------|----------|----------|-----------|-----------|
| Dim. a | 52.5 | 65 | 80 | 90 |
| Dim. b | 39 | 50 | 62.5 | 135 |
| Dim. c | 160 | 185 | 225 | 350 |
| Dim. d | - | - | - | 175 |
| Dim. e | 70 | 95 | 125 | 250 |
| Dim. f | 70 | 95 | 125 | 125 |
| Dim. g | 5 | 6 | 6 | 6 |

Table 2. Rainproof cover installation dimensions (mm) *Option parts

| Model name | RDHC-5J1 | RDHC-7J1 | RDHC-10J1 | RDHC-10J2 |
|----------------------------|-------------|-------------|--------------|--------------|
| Dim. h | 67.5 | 87.5 | 112.5 | 112.5 |
| Dim. j | 72.5 | 85 | 100.5 | 162.5 |
| Dim. k | 52.5 | 65 | 79.5 | 142.5 |
| Dim. m | - | - | - | 10 |
| Rainproof cover Model name | For RDH-5J1 | For RDH-7J1 | For RDH-10J1 | For RDH-10J2 |



Precautions for Use of ROSAHL

- 1) Confirm the dehumidifying / humidifying surface of a membrane not to get a wrong direction before installation. Attaching ROSAHL by mistake will adversely affect several things in the container.
- 2) Attach ROSAHL in the center of the inner side surface of a container with a gasket.
(Do not attach it on a top or bottom surface.)
- 3) 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.
- 4) The water vapor go through a membrane of ROSAHL. If you switch off a power supply, outside water vapor is returned into a container and the humidity is restored.
- 5) If you use ROSAHL with a gasket that contains an antioxidant, crystal materials may be generated on the surface of a membrane. When you choose a gasket, evaluate it enough.
- 6) Do not use silicon-based sealing materials to improve airtightness of a container.
(Silicon-based sealing materials generate oxime gas and siloxane gas.
As a result, the performance of ROSAHL reduce in a short term.)
Additionally, when using any other sealing materials, ROSAHL must be attached after sealing materials are completely cured. Volatile substances generated during curing affect the performance of ROSAHL.
[Recommended products] : modified silicon caulk (Konishi Co., Ltd.)
- 7) Do not expose a moisture discharging side of a membrane to water. When using outdoors, be sure to attach a rainproof cover (option parts) or a cover to protect a membrane from water or insects.
- 8) Attach a moisture-permeable sheet to a membrane to protect ROSAHL from much dust or oil mists.
[Recommended products] : Vent Filter TEMISH S-NTF2131A-S06 (Nitto Denko Corporation)
- 9) Keep the moisture discharging side of a membrane well ventilated.
- 10) Do not use ROSAHL with vapor phase corrosion inhibitor or insect repellent.
Do not use ROSAHL in a place having high density of organic gas.
- 11) Do not do remodeling. ROSAHL may break down.

Usage

- 1** Please set the knob of humidity controller as the right side of it as possible.
(Low humidity side)
- 2** Please turn on the AC power supply and get energized. (Please use 100V AC *)
*Note : RDHC-10J1 & RDHC-10J2 can be used with 100/200V AC
- 3** Please confirm lighting of the LED.* (It is a usage state)
*Note : It might take 3-5 minutes to light the LED on the initial stage of turning on the power supply.
This is not abnormal.

●Please confirm the following matters when LED doesn't light.

- (1) Is the power supply correctly connected?
- (2) Is the input voltage correct?
- (3) Does not the moisture discharging side of a dehumidifying element get wet?
(In this case, the overcurrent protection circuit of the power supply functions and LED does not light. If the wet state is canceled, it returns to normal state.)

- 4** Please set the knob of humidity controller at the value you want.

●Precautions for Humidity Controller

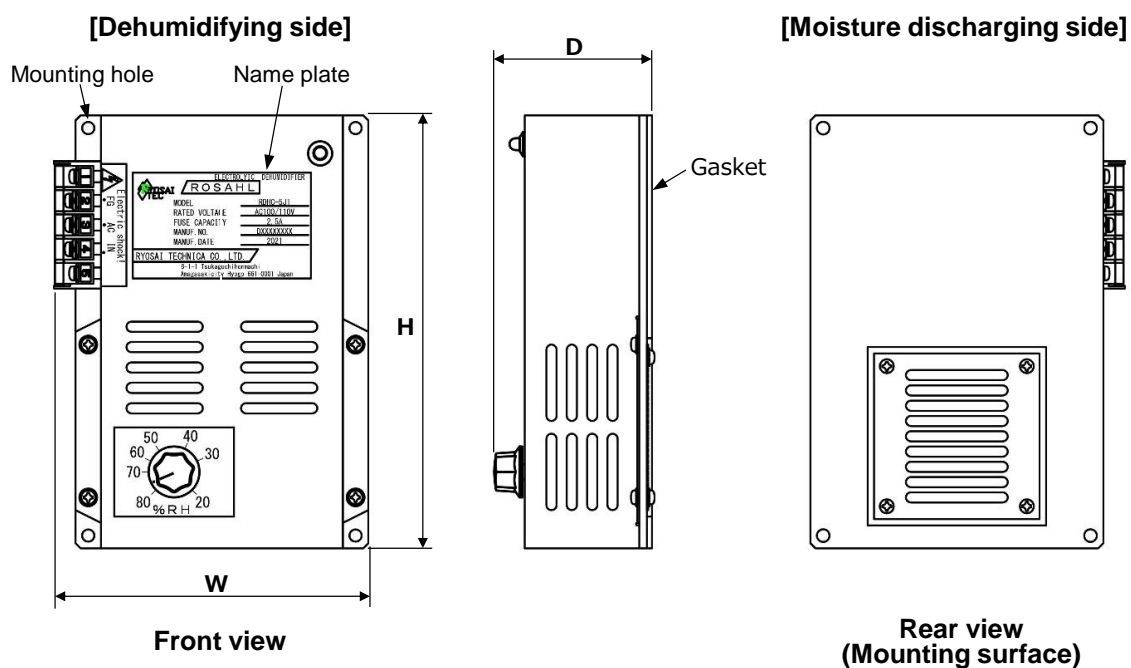
- (1) The humidity controller only turns on / off the dehumidification function, and does not have the function that keeps inside of a container at the specified humidity.
- (2) There may be a gap about $\pm 10\%$ from the set value. Also, the conditions of use and depending on changes in the surrounding environment, the gap may become even larger. So please consider the set value as a guide only. We do not guarantee the accuracy.
- (3) Please turn the knob of humidity controller slowly.

Specifications

| Model Name | | RDHC-5J1 | RDHC-7J1 | RDHC-10J1 | RDHC-10J2 |
|---------------------------|---------------------------------|-----------------|--------------|---------------------|--------------|
| Items | | | | | |
| Dehumidifying Performance | (g/day)* ¹ | 8 | 16 | 29 | 58 |
| Applicable Volume | (m ³)* ² | ~ 1 | ~ 2 | ~ 4 | ~ 8 |
| Rated Voltage | (V) | 100 AC (85~132) | | 100/200 AC (85~264) | |
| Power Consumption | (W)* ³ | 4 | 8 | 14 | 28 |
| Dimensions | (mm)* ⁴ | 170×123.5×62 | 200×148.5×62 | 245×178.5×68 | 370×198.5×68 |
| Humidity Set Range | (%RH) | 20 ~ 80 | | | |
| Weight | (kg) | 0.9 | 1.1 | 1.4 | 2.1 |
| Operating Temperature | (deg C) | -10 ~ 50 | | | |

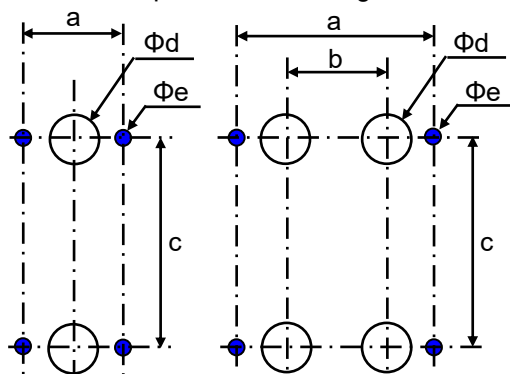
Notes

- *1 The initial value at the temperature of 30 deg C and humidity 60%RH.
(The dehumidifying performance will reduce 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 Dimensions show the values of H × W × D in the figure on next page.



Adapter Installation Method

This method is usually used when it is not possible to make a square moisture discharging hole on the surface itself, for example when installing to an existing panel.



[Fig. 3]

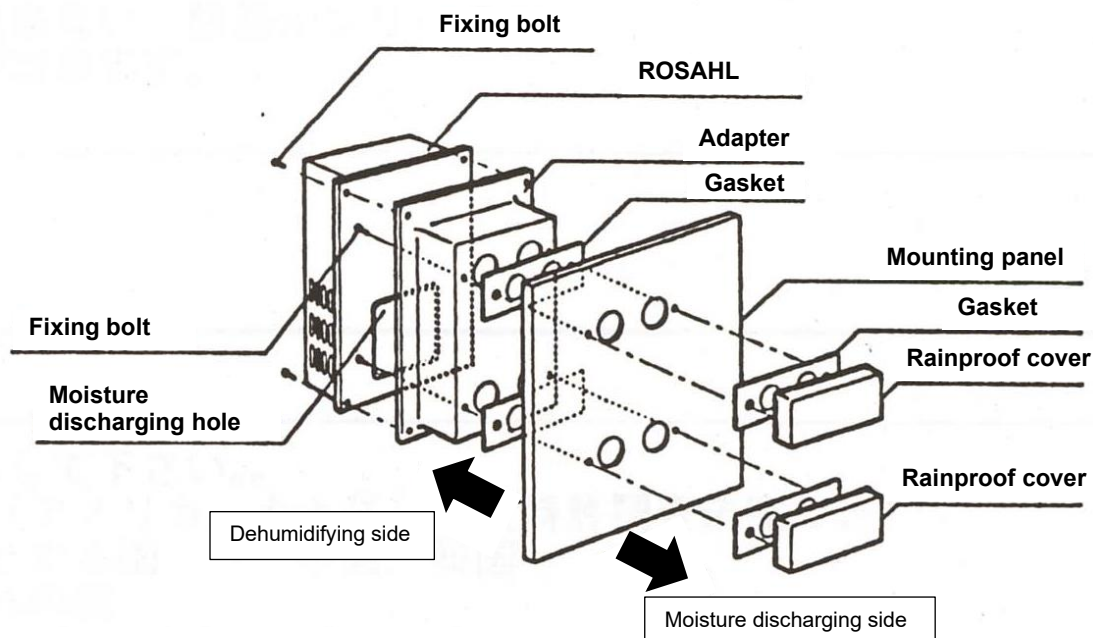
[Fig. 4]

[Panel boring dimensions]

| Model name | ROSAHL installation dimensions | | | | | Reference |
|------------|--------------------------------|----|-----|----|-----|-----------|
| | a | b | c | d | e | |
| RDHC-5J1 | 40 | — | 100 | 18 | 6.5 | Figure 3 |
| RDHC-7J1 | 90 | 45 | 115 | 25 | 7.5 | Figure 4 |
| RDHC-10J1 | 90 | 45 | 150 | 25 | 7.5 | |
| RDHC-10J2 | 90 | 45 | 260 | 30 | 7.5 | |

• Installation Image (Refer to figure below)

*Note : Adapter, Gasket, Rainproof cover and Fixing bolt are option parts.



Prohibited Substances and Recommended Materials for ROSAHL

1. Prohibited substances

The substances which adversely affect ROSAHL and harm in response to ROSAHL are as follows.

The anode side is affected mainly. Even the additives of materials may be affected.

Please evaluate enough when a new substance is adopted or a maker is changed.

| Classification | Substance Name | State | Notes |
|------------------|---|---------------|--|
| Inorganic Matter | hydrochloric acid gas | gas | |
| | nitric acid gas | gas | |
| | other corrosion gases | gas | |
| | SOx gas | gas | |
| | NOx gas | gas | |
| | chlorine gas | gas | |
| | sulfurous acid gas | gas | |
| | other pollution gases | gas | |
| | concentrated hydrochloric acid | liquid | |
| | concentrated nitric acid | liquid | |
| | substance which produces other corrosion gas | liquid | |
| | divalent metal ion | liquid | |
| Organic Matter | siloxane gas | gas | |
| | oxime gas | gas | |
| | lamp black | gas | |
| | diethylamine | gas | |
| | other amine-based gas | gas | |
| | amide-based low molecular weight compound | gas, liquid | |
| | methylene chloride | liquid | |
| | perchloroethylene | liquid | |
| | trichloroethylene | liquid | |
| | perchloroethylene | liquid | |
| | tetrachloroethylene | liquid | |
| | other chlorinated solvent | liquid | |
| | oil mist | liquid | |
| | dimethyl sulfoxide | liquid | |
| | other sulfur based organic solvent | liquid | |
| | silicone sealant | solid | These substances produce siloxane gas. Heat treatment (bake) is necessary to remove low molecule siloxane of non-reaction. |
| | silicone grease | solid | |
| | silicone rubber | solid | |
| | silicone-based sealing compound | solid | |
| | other siloxane chemical compound | solid | |
| | pran-ace | solid | |
| | camphor | solid | |
| | other insect repellent | solid | |
| | paradichlorobenzene | gas, liquid | |
| | other chlorine-based insect repellent | gas, liquid | |
| | vapor phase inhibitor | liquid, solid | |
| | corrosion inhibitor which is added in materials | liquid, solid | |
| | cigaret tar constituent | gas, liquid | |
| | 2,6-Di-tert-butyl-4-methylphenol (BHT) | liquid | The antioxidant which was added in packing |

2. Recommended Materials

The recommended materials in a range understanding in us are as follows.

| Classification | Material Name | Notes |
|------------------|---|---|
| Frame | Glass , Metal , Acrylic , Plastic | The acrylic and plastic resin has moisture permeability. Please thicken the board thickness when using them. |
| Sealing Compound | the material which does not include "Silicon group" [Recommended products] modified silicon caulk (Konishi Co., Ltd.) | Do not use silicon-based sealing compounds. In addition, about the recommendation product, please operate ROSAHL after completely cured. (Please avoid operating ROSAHL before curing.) |
| Adhesive | the material which does not include "Silicon group" [Recommended products] Silex, SL220W, SL220LB (Konishi Co., Ltd.) | Do not use silicon-based adhesives. |
| Gasket | Silicon rubber (secondary vulcanization finished) EPT rubber [Ethylene-propylene] (single bubble) PTFE rubber [Polytetrafluoroethylene] | About the silicon rubber, please perform secondary vulcanization by all means. (ex. 200 deg C / 6 hours) In addition, we don't evaluate all silicon rubber, EPT rubber, PTFE rubber. Please evaluate enough when using them. |

The above are just as of April 1, 2021 but not all of them. Please verify in advance and evaluate enough when using our electric dehumidifier "ROSAHL". We don't take any responsibility or liability for any damage or loss caused through the unknown phenomenon and the wrong usage.

Precautions in the Use for the Storage Cabinet

1. When you use ROSAHL to dehumidify into the storage cabinet, do not store volatile rust preventive or things that organic gas volatilizes. The volatile gas which is released from goods reacted at a membrane's anode and new harmful gas is produced.
As a result, not only it causes decrease in performance of ROSAHL, but also it might adversely affect on goods in the storage cabinet. We cannot guarantee even if harm occurs to the stored valuables under the influence of new produced gas. Please evaluate enough when you use ROSAHL for the storage cabinet.
2. The maker who produces and sells storage cabinet equipped with ROSAHL should explain that enough for end users using the storage cabinet.