

Model PH8HH

pH Holder for High Purity Water

IM 12B07P01-01E 5th Edition

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1. Overview

The Model PH8HH Holder is used with the Model PH8EHP pH Sensor to configure a pH transmitter system for measuring the pH of high-purity water. The conductivity of high-purity water is very low, and so systems for measuring the pH of high-purity water are prone to environmental effects such as flow-related potentials and induced fields as well as the effect of atmospheric CO₂ and leaching of the electrode contact material. The combination of the Model PH8HH Holder with the Model PH8EHP pH Sensor is designed to minimize or eliminate these problems.

1.1 Standard Specifications

Materials :

Wet part ; Acrylic resin (holder), 316 SS, chloroprene rubber, NBR (Nitrilebutadien rubber)

Holder ; SUS304

Mounting bracket ; SUS304

Mounting : Bracket mounting

Pipe mounting (need to specify mounting bracket)

Wall mounting (mounting bracket is supplied with holder)

Weight : Body ; Approx. 1.7 kg

Mounting Bracket ; Approx. 0.7 kg

Process connection : Flow inlet ; Rc1/4 or 1/4 NPT

Flow outlet ; Rc1/2 or 1/2 NPT

Operating temperature (of measured liquid) : 0 to 50°C

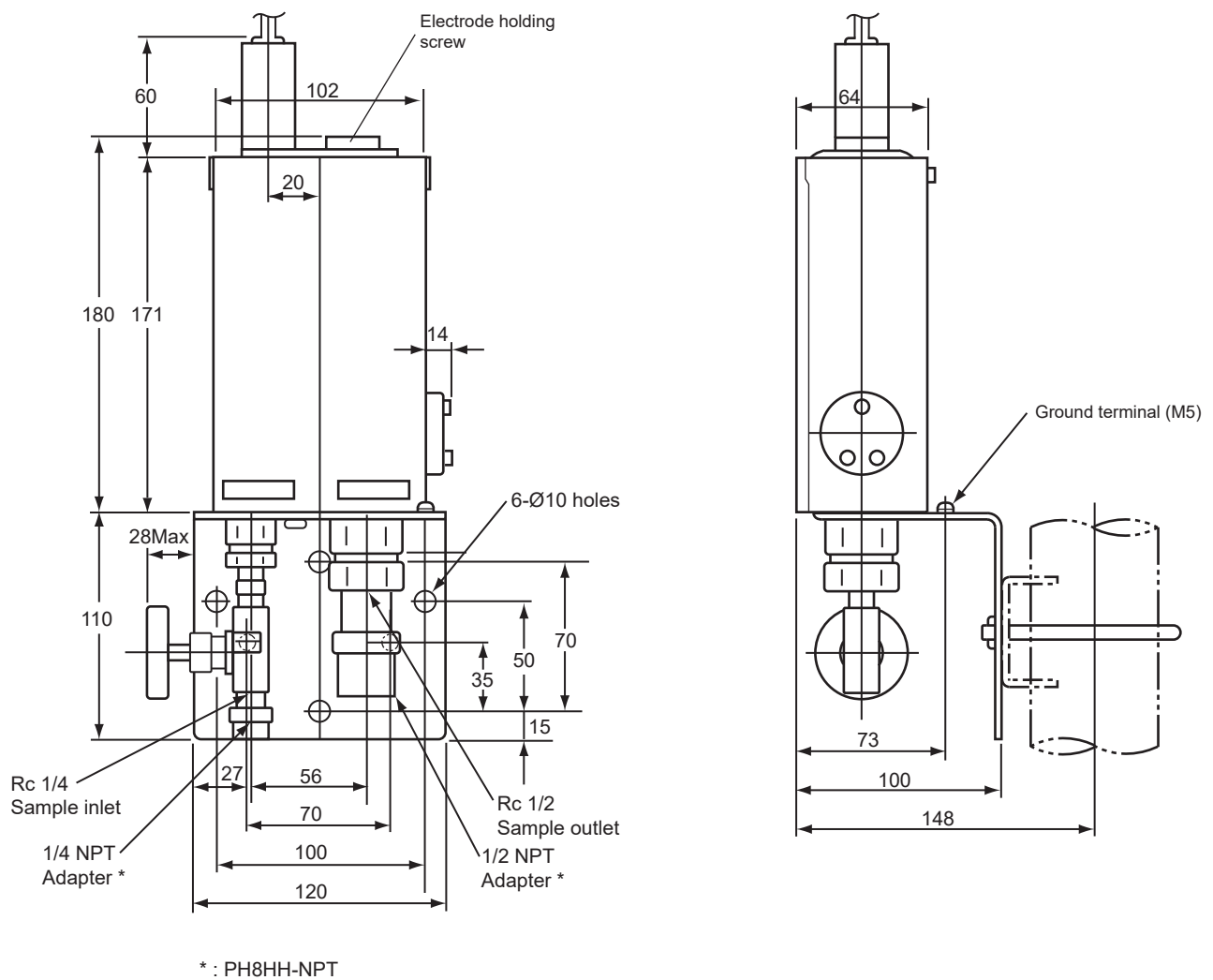
Sensor used with : PH8EHP pH sensor

1.2 Model and Suffix Codes

Model	Suffix Code	Option Code	Specifications
PH8HH	pH Holder for High Purity Water, wall-mount type
Connection ports	- JPT - NPT	Rc/1/4 (Inlet) , Rc1/2 (Outlet) 1/4NPT (Inlet), 1/2NPT (Outlet)
.....	- H	Always -H
Style	*A	Style A
Option	Mounting Bracket	/P	Pipe mounting bracket

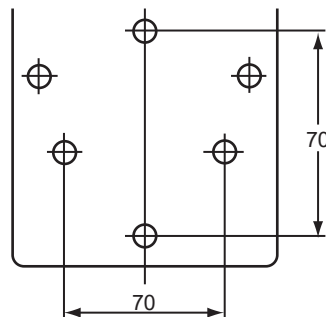
1.3 External Dimensions

Unit : mm

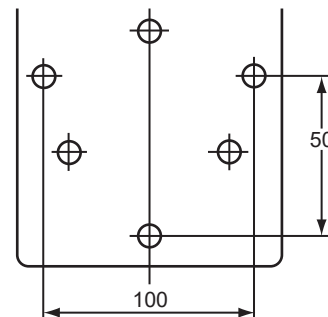


Holder mounting hardware

(1) Holes for pipe (2-inch) mounting



(2) Holes for wall mounting



2. Installation and Piping

2.1 Unpacking and Environment Check

When unpacking the PH8HH Holder, dispose of the packing materials with regard for the environment.

2.2 Installation Location

This holder can be (2-inch) pipe mounted or wall mounted. For pipe mounting special hardware is required, and this is supplied only when specified at order time.

The holder should be grounded to minimize the effect of induced fields. When it will not be grounded through the pipe it is mounted on, use the ground terminal on the bracket to ground to earth (up to 100 Ω).

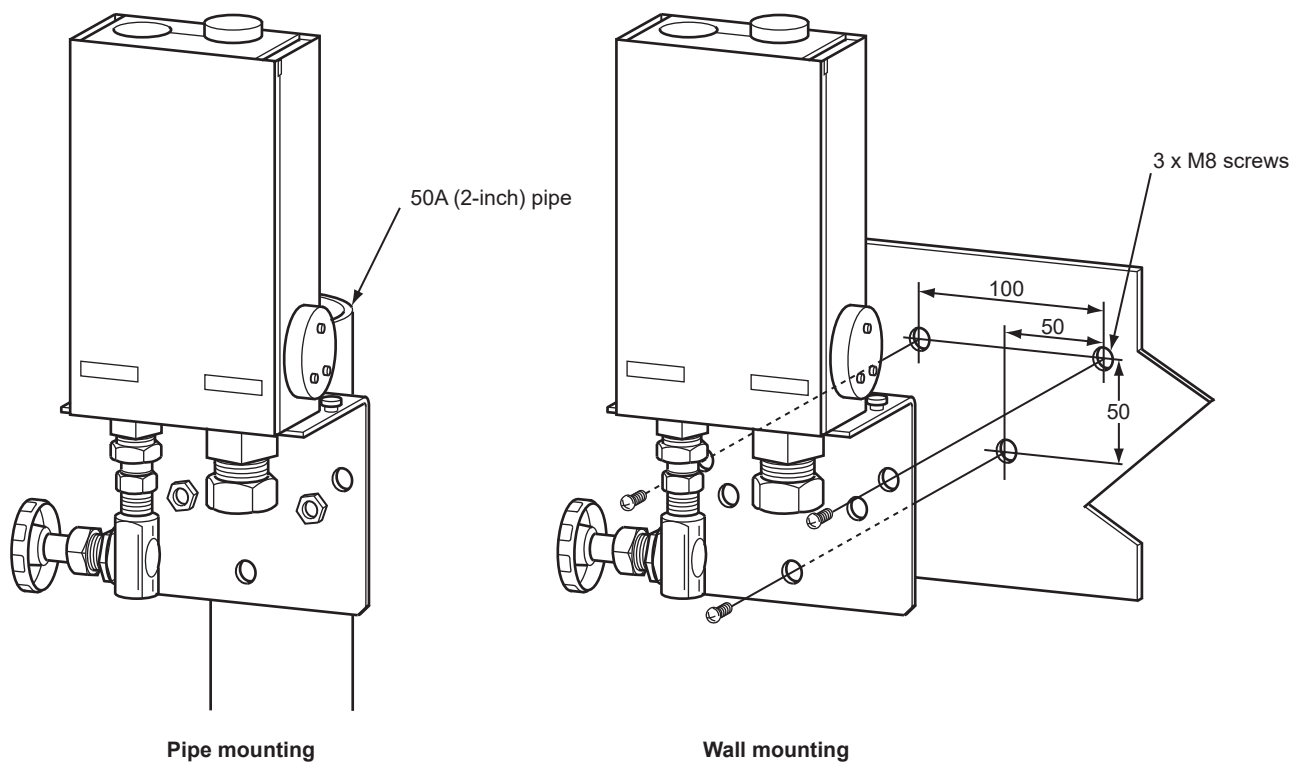


Figure 2.1 Mounting the Holder

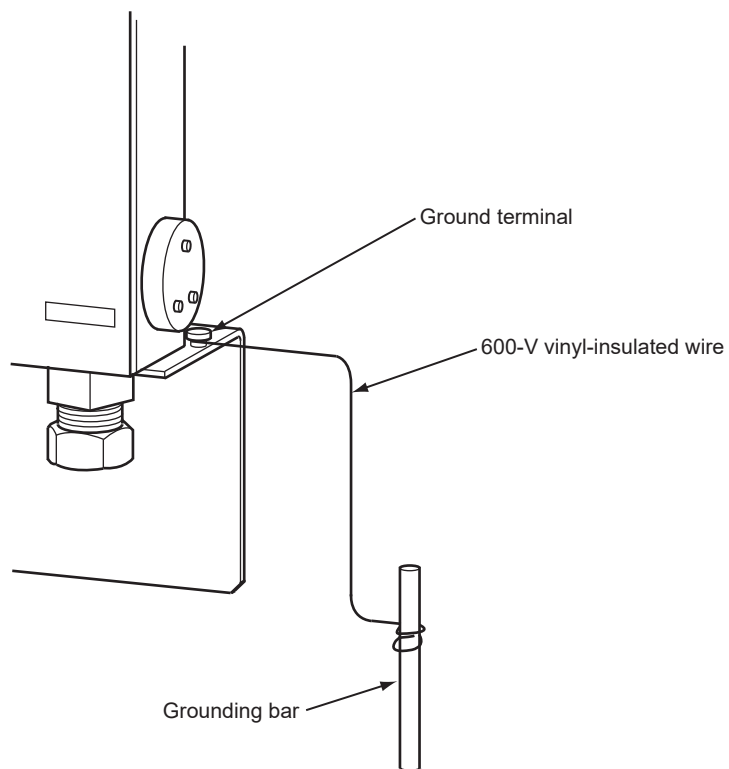


Figure 2.2 Example of Ground Wiring

2.3 Piping

The piping is used to carry the liquid to be measured to the holder.

2.3.1 Main Cautions regarding Piping

(1) Temperature of Liquid to be Measured

The temperature of the liquid supplied to the holder should not exceed 50°C. If there is a possibility that it will, provide cooling.

(2) Pressure of Liquid to be Measured

Liquid in the holder should be at atmospheric pressure. Outlet piping should be level with outlet; outlet piping should not be run above level of outlet.

(3) Flow Rate of Measured Liquid

The optimum flow rate of the liquid to be measured depends on the conductivity of the liquid to be measured (see Fig. 2.3). Normally it is in the range 100 to 600 ml/min.

The length of the piping and the desired speed of response should also be taken into consideration.

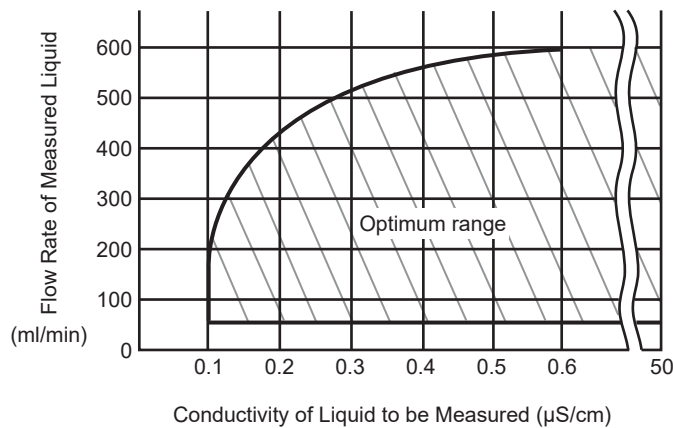


Figure 2.3 Optimum Flow Rate as a Function of Conductivity of Liquid to be Measured

2.3.2 Piping Requirements

<Piping Materials>

Piping materials on the inlet side can adversely affect the pH measurement if they contain corrosive material that may leach out into the measurement liquid.

The following materials are recommended:

- Wire-reinforced flexible PVC tube
- SUS 304 or SUS 316 stainless tube

<Piping example>

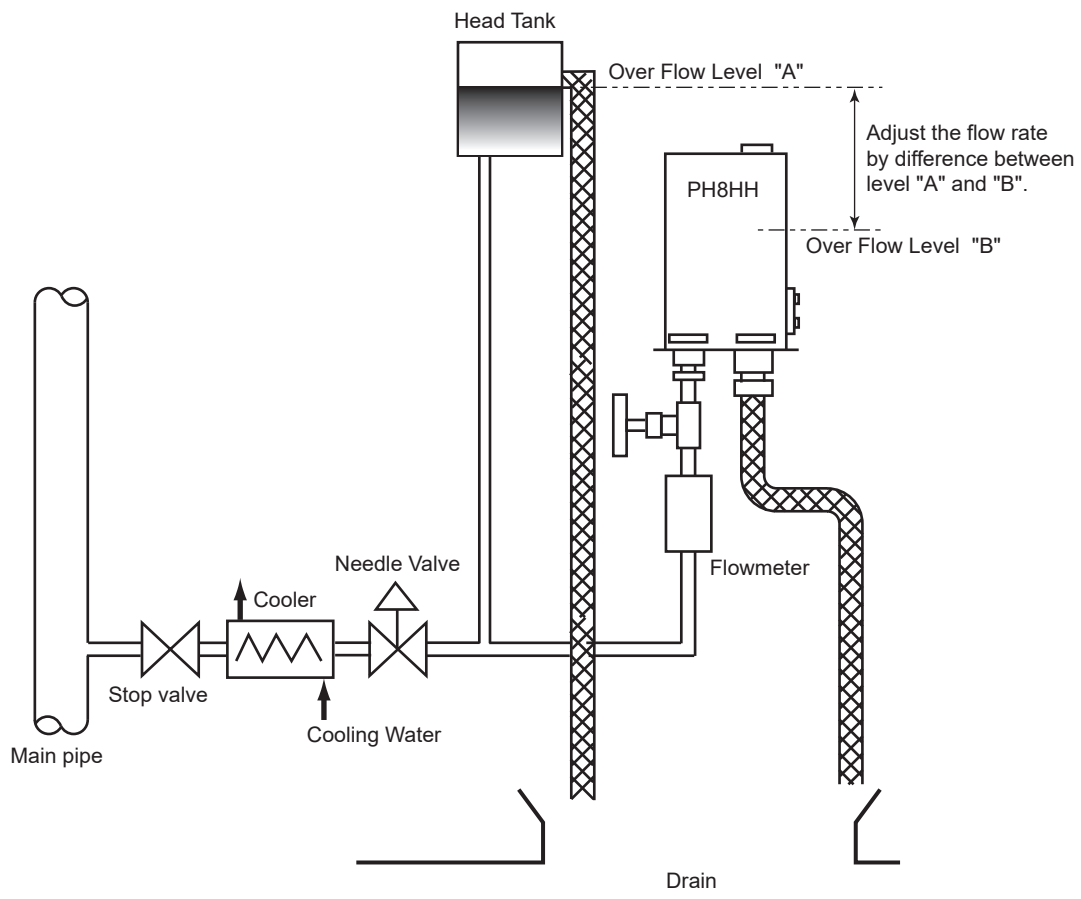


Figure 2.4 Piping example

3. Operation and Maintenance

3.1 Names of Components

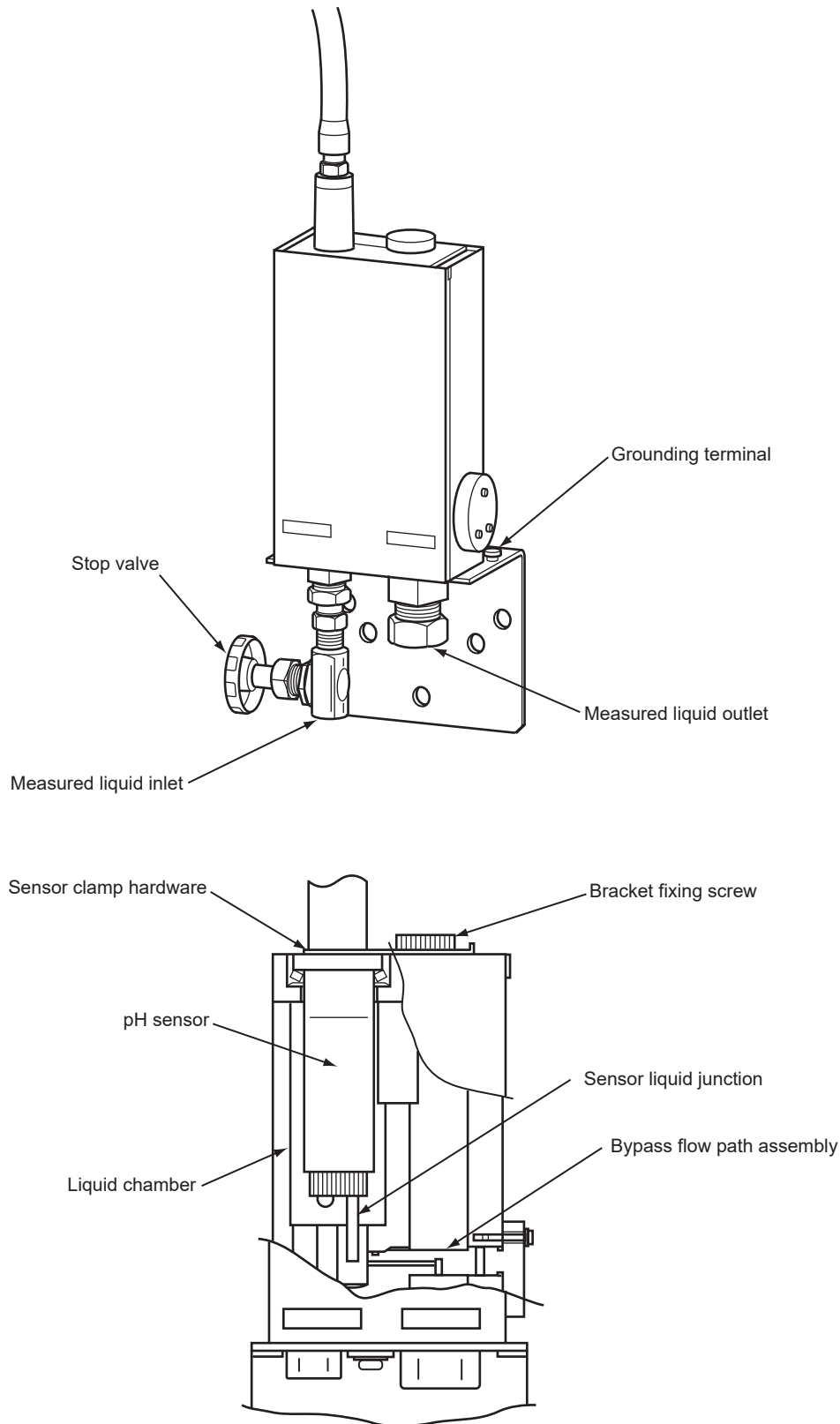


Figure 3.1 Names of Components of PH8HH Holder for High Purity Water

3.2 Operation

3.2.1 Cautions regarding Operation

The liquid to be measured should meet the cautions listed above (see Sec. "1.1 Standard Specifications")

In particular, the flow should be set so as to minimize measurement error.

3.2.2 Cautions regarding Stopping Operation for a long period

If stopping operation for a long period, its desirable that you continue to let liquid flow through the holder. If this is not possible, then in principle the sensor should be removed from the holder and the tip of the sensor immersed in liquid in its container.

This is to prevent drying out of the glass electrode, or KCl in the liquid junction crystallizing and blocking the bypass part.

3.2.3 Returning to Operation

Normally the flow through the bypass flow path is 20 ml/min. If this part is blocked, or liquid cannot flow into this part, then it will affect the flow of KCl from the sensor.

After operation has been stopped for some time, you should clean it and check that this bypass area is not blocked, and that the inside of the holder is not dirty.

3.3 Maintenance

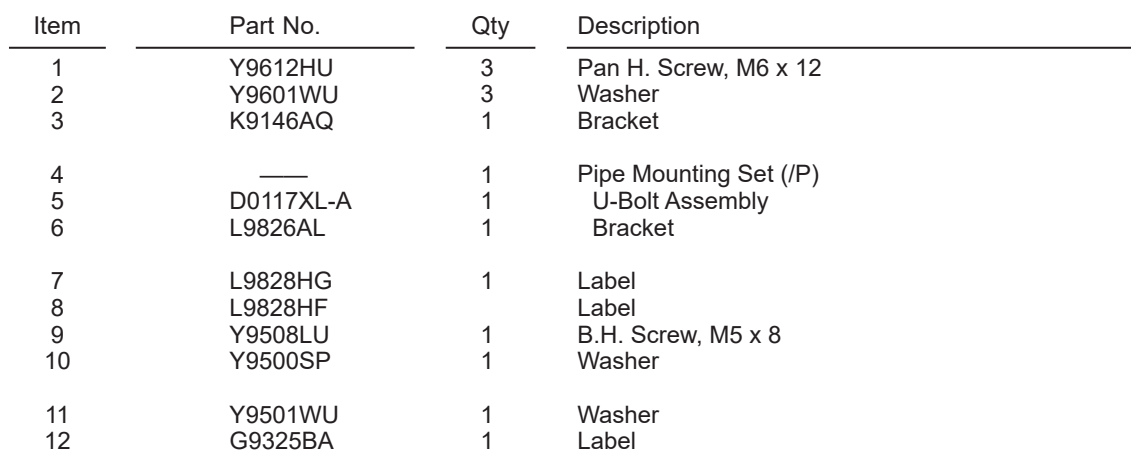
Under normal conditions, unless there is a problem, the holder does not require maintenance. If operation is stopped and KCl from the liquid junction stains the inside of the holder, you should perform the following maintenance.

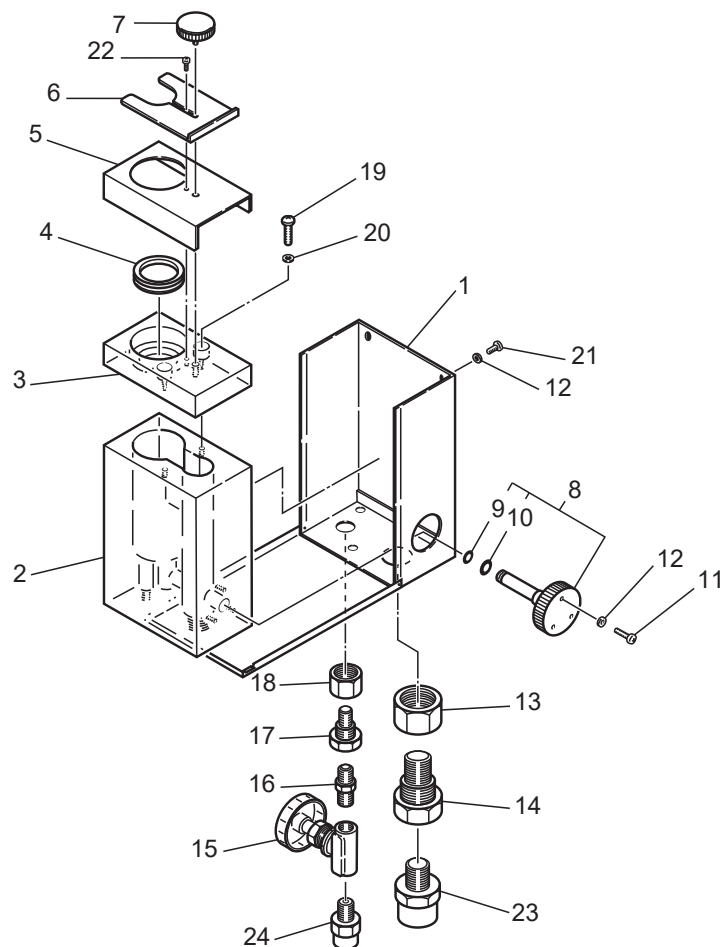
■ Cleaning the Bypass Flow Path

If the bypass flow path is blocked, clean it as follows:

- (1) Remove the bypass flow assembly from the inside of the holder. The bypass flow assembly is fixed to the inside of the holder by three screws, so remove them then pull out the bypass flow assembly.
- (2) Clean any blockage from the bypass flow assembly, using a wire about 0.8 mm dia. If the KCl crystals have dried and solidified, soak the assembly in water first.
- (3) Install the bypass flow assembly. The flow path is not to be reversed; to minimize the possibility of accidental reversal, do not secure the bypass flow assembly by only one fixing screw.

Model PH8HH
pH Holder for High Purity Water





Item	Part No.	Qty	Description
1	K9146AJ	1	Case Assembly
2	K9146AA	1	Cell
3	K9146AB	1	Plate
4	L9817QC	1	V-Ring
5	K9146AP	1	Cover
6	K9146AR	1	Plate
7	—	1	Knob Assembly
8	K9146AD	1	Pipe Assembly
9	G9303NE	1	O-Ring
10	G9303NG	1	O-Ring
11	Y9416JU	3	Pan H. Screw, M6 ×16
12	Y9401WU	5	Washer
13	L9800LX	1	Nut
14	L9832BL	1	Nipple (Rc 1/2 Female)
15	L9852CB	1	Valve
16	L9832AA	1	Nipple (Rc 1/4 Female)
17	L9832AG	1	Screw
18	L9800LE	1	Nut
19	Y9520JU	2	Pan H. Screw, M6 ×20
20	Y9500SU	2	Washer
21	Y9410JU	2	Pan H. Screw, M6 ×10
22	Y9308JU	1	Pan H. Screw, M3 ×8
23	L9832AT	1	Nipple (1/2NPT Female)
24	G9612BK	1	Nipple (1/4NPT Female)

Revision Information

- Title: Model PH8HH pH Holder for High Purity Water
- Manual No.: IM 12B07P01-01E

Edition	Date	Remark (s)
5th	July 2023	CMPL 12B05P01-01E: Revised to 6th edition.
4th	Dec. 2021	CMPL 12B05P01-01E: Revised to 5th edition.
3rd	Jul. 2015	Page 1-1, Some revision of Sec.1-1 Standard Specifications. Page 1-1, Some revision of MS-code ("W" option deleted). Page 2-1, Some revision of Sec.2.2 Installation Location. CMPL 12B05P01-01E: Revised to 4th edition.
2nd	Jul. 2006	Introduction and CPML are added, and all over revised.
1st	Oct. 2001	Newly published

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