

HRS-DP001 DI filter set

Thermo chiller

Applicable model: HRS Series

Read before using

Thank you for purchasing SMC's thermo-chiller (hereinafter referred to as the "product").
This DI filter set is a set of parts for DI filter piping for the circulating fluid used in the thermo-chiller HRS series.
Please confirm the following procedure before handling.

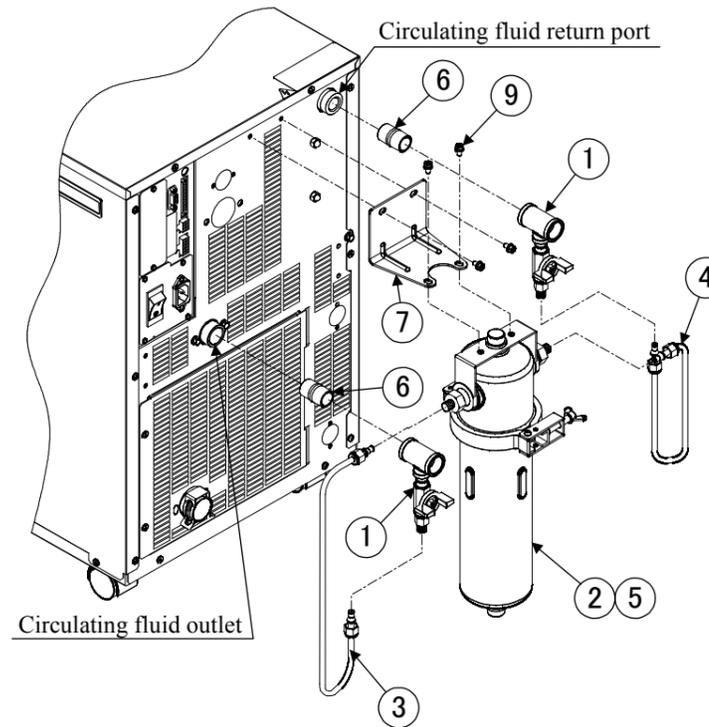
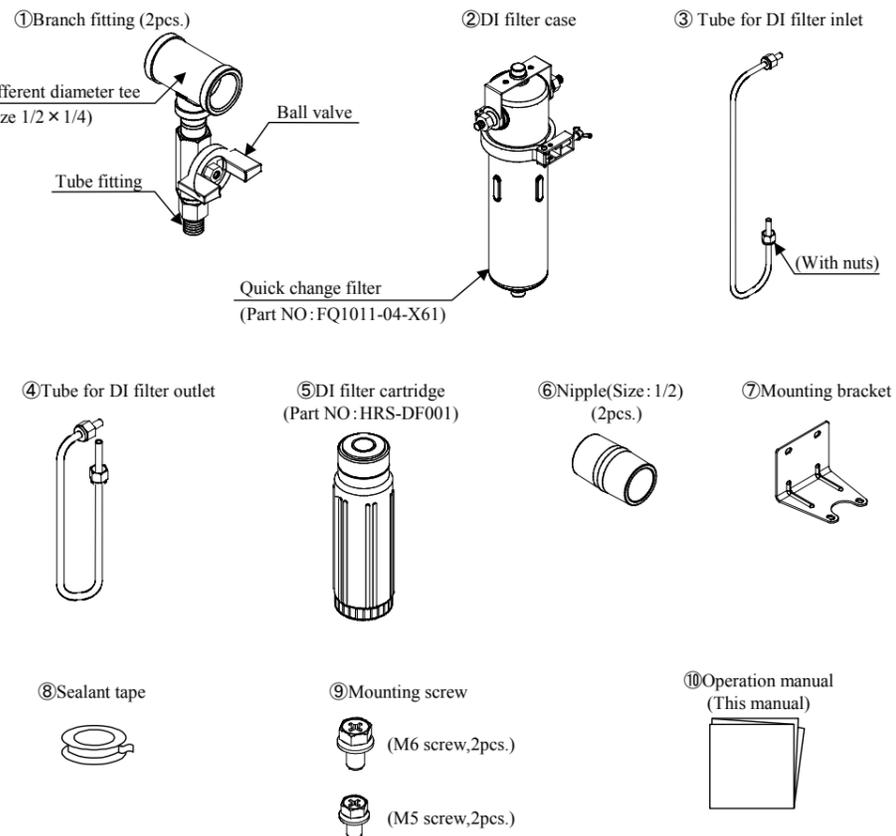
Safety Instructions

- Check that safety is assured and that the fitting is mounted by someone who has sufficient knowledge of general machinery and equipment.
- Read the thermo chiller operation manual thoroughly to understand the contents.
- Do not supply power during mounting. Be sure to check that the power supply is shut off.
- Start mounting before supplying circulating fluid or discharge all circulating fluid from the thermo chiller.
- Ensure no fluid leakage and condensation formation after mounting.

1. Parts and Accessories

- This [DI filter set] includes the following parts.
Please check that all required parts are included.

Parts list



Mounting

【Wetted materials】

Stainless steel, PFA, PTFE, EPDM, PP, PE, Carbon, Ion-exchange resin

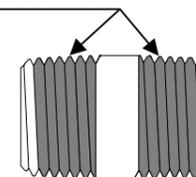
【Applicable models】

HRS01*-A*-10-**, HRS01*-W*-10-**
HRS01*-A*-20-**, HRS01*-W*-20-**
HRS024-A*-20-**, HRS024-W*-20-**

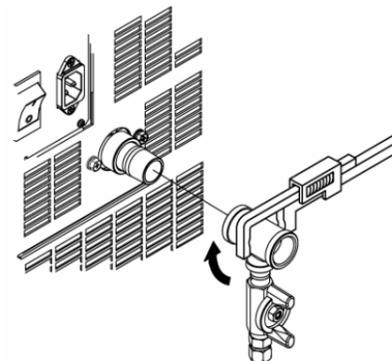
2. Mounting

- 1) Confirm that there is no foreign matter, including dust and dirt, stuck to the connection port, the piping, and the tube.
- 2) Apply the sealant tape to the nipple. Mount the piping to the outlet and the return of the circulating fluid.

Apply the sealant tape leaving one thread at the end. (Gray area)

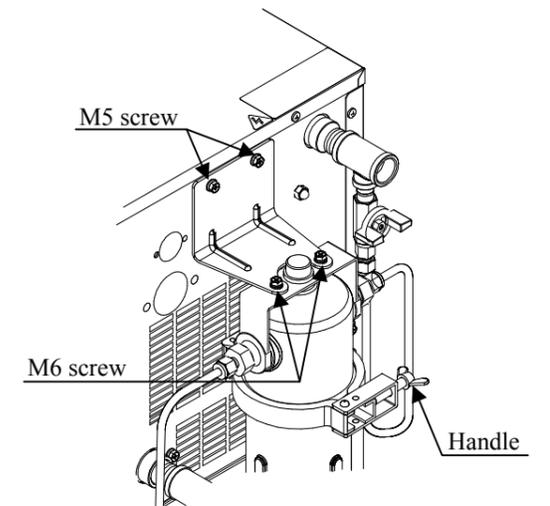


- 3) Mount the branch piping (part no.(1)) to the nipples which were mounted in step 2. (Tightening torque: 28 to 30Nm) (Tightening torque: 28 to 30N·m)

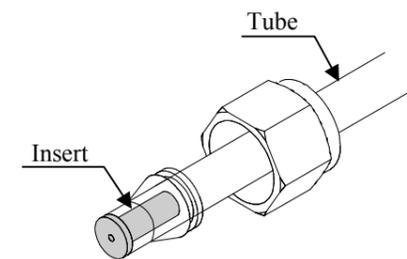


- 4) Mount the mounting bracket (part no.(7)) to the rear panel of the thermo-chiller using M5 screw(part no. 9). (Tightening torque: 3.0N·m)

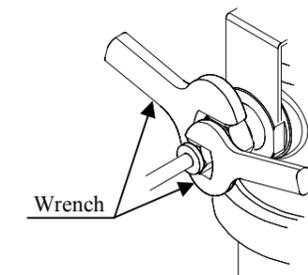
- 5) Mount the DI filter case (part no. (2)) with the handle side facing the front using M6 screw (part no. (9)). (Tightening torque: 5.2N·m)



- 6) Mount the tube for DI filter inlet (part no.(3)) and tube for DI filter outlet (part no.(4)).
 - Inserts to reduce the flow are mounted in the end of the tubes (4 places). Check before mounting the tube.



- Tighten the nut as much as it can be tightened by hand. Tighten by half to one turn from the hand tightened position using a wrench. Hold the fitting with a wrench so that it does not rotate before tightening the nut.



⚠ CAUTION

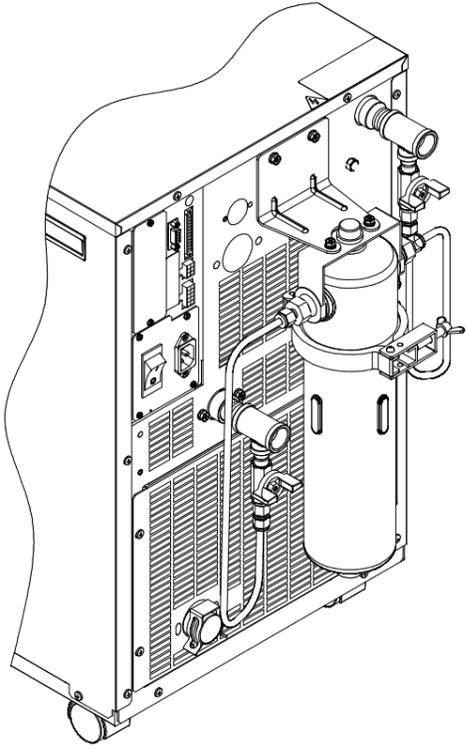
- Mount so that the tube does not contact other parts. If the tube contacts other parts, the tube may be damaged by friction.
- Be careful not to scratch, dent or squash the tube during mounting.

- 7) Mount the DI filter cartridge (part no(5)). Mount DI filter cartridge and exhaust air from the DI filter case, referring [3. Replacement of DI filter cartridge].

⚠ CAUTION

When the product is delivered, there is no DI filter cartridge in the filter case. Mount DI filter cartridge referring [3. Replacement DI filter cartridge] to exhaust air in DI filter case.

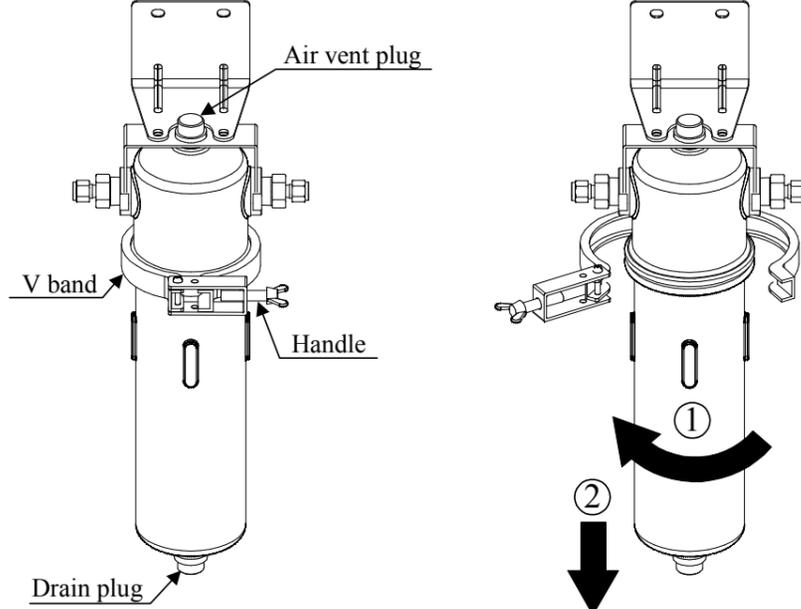
8) After mounting the fitting, operate the thermo-chiller to check that liquid does not leak.



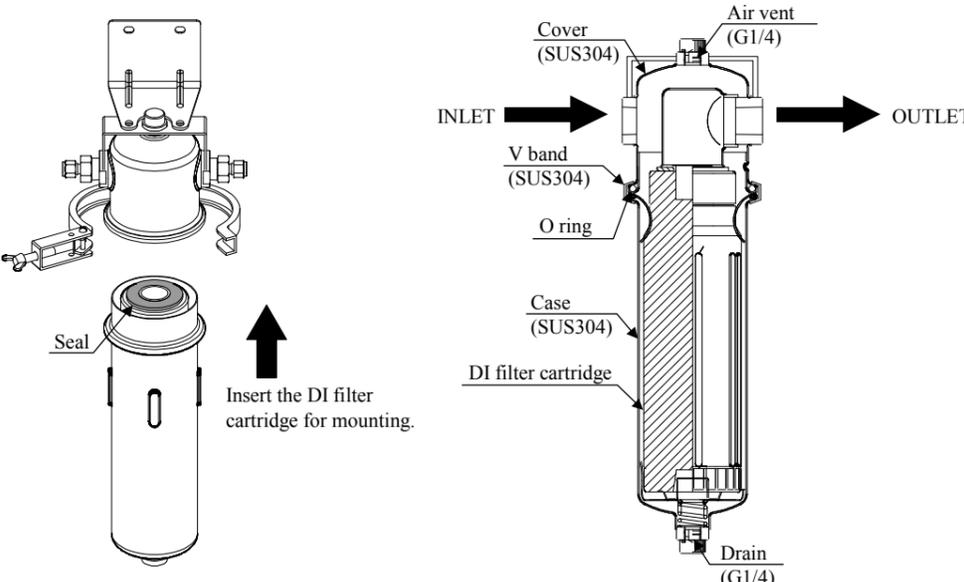
Completion drawing

3. Replacement of DI filter cartridge

- 1) Close the ball valve on the DI filter inlet side.
- 2) Close the ball valve on the DI filter outlet side.
- 3) Loosen the air vent plug to discharge the pressure in the filter.
- 4) Remove the drain plug to discharge the liquid in the filter.
- 5) Loosen the V band handle, and remove the stopper.
- 6) After rotating the case by approx. 20° counterclockwise, pull out the case downwards. Remove the DI filter cartridge from the case.



7) Put a new DI filter cartridge into the case. Place the DI filter cartridge so that the seal faces upward. Mount the case by step 6 in reverse.



- 8) Mount V band so that the whole circumference of the flange of the case is encircled. Tighten the handle.
- 9) Tighten the drain plug.
- 10) Close the air vent plug.
- 11) Open the ball valve of the DI filter outlet with the thermo-chiller operating. Fill the case with fluid. Open the air vent plug to exhaust air from the case. Close the air vent plug after air is discharged.
- 12) Open the ball valve on the DI filter inlet side.
- 13) Check there is no fluid leakage.

CAUTION

The fluid level of the thermo-chiller will be reduced when the air in the case is discharged during the replacement of DI filter cartridge. Refill the circulating fluid in advance. If the fluid level becomes too low, it will cause the alarm "AL01; Low level in tank", which will stop the product.

4. Opening / closing of the ball valve

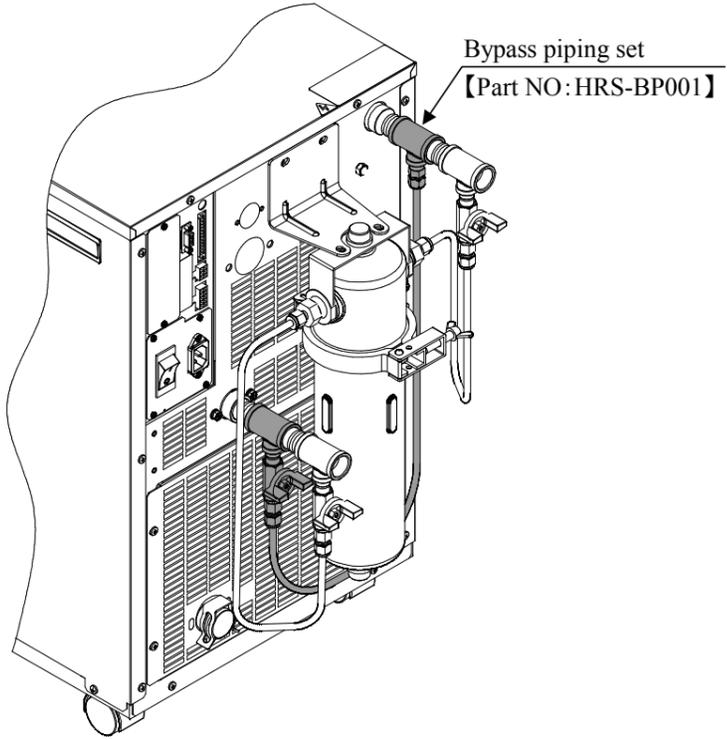
This DI filter is used to apply constant flow rate to the DI filter cartridge. It does not automatically control electric resistance (DI level) at a specific value. To indicate the electric resistance (DI level), the separate electric resistance sensor set (HRS-DI001), is necessary.

CAUTION

- This product does not automatically control electric resistance (DI level). Adjust the valve on the DI filter inlet side as necessity.
- Use the ball valve on the inlet side to adjust the DI filter flow. If the flow is reduced on the outlet side, the DI filter cartridge may be broken.

5. Related products

- DI filter cartridge for replacement【Part NO: HRS-DF001】
- Electric resistance sensor set【Part NO: HRS-DI001】
- Bypass piping set【Part NO: HRS-BP001】



Completion drawing
(Combined with the bypass piping)

6. Flow chart

