

# Thermo-chiller Circulating Fluid for Semiconductor Industries **Ethylene Glycol** **Compatible Model Guide**

## Advantages of Ethylene Glycol

### Availability

The circulating fluid can be supplied by SMC.

### Initial cost

Cheaper than that for fluorinated fluids

### Energy saving

CO<sub>2</sub> (power consumption) emissions equal to or less than fluorinated fluids





\* Because the specific gravity of the circulating fluid is light with respect to the pump

### Temperature range

Set temperature range  
-20 to 90°C

# 40 years of progress

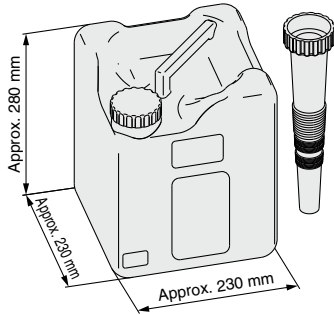
In 1978, we began developing temperature control equipment for the medical and semiconductor industries. Since then, we have continued to provide thermo-chillers to customers worldwide. In addition, our ethylene glycol compatible models have maintained a proven track record of reliability for many years.

Series	Channel	Features	Cooling capacity [kW]	Temperature range setting [°C]					
				-20°C	0°C	20°C	40°C	60°C	80°C
<b>HRZ Series</b>  	Single	Improved energy-saving efficiency through the use of a DC inverter compressor and an inverter pump	2, 4, 8, 10	-20 <span style="background-color: #e91e63; color: white; padding: 2px 10px;">90</span>					
<b>HRW Series</b>  	Single	Improved energy-saving efficiency through the use of an inverter pump	2, 8, 15, 30	30 <span style="background-color: #e91e63; color: white; padding: 2px 10px;">90</span>					
<b>HRD Series</b> * Please contact SMC for further details.	Dual	Allows for the temperatures of 2 fluid channel systems to be controlled individually by a single chiller	10 x 2	-20 <span style="background-color: #e91e63; color: white; padding: 2px 10px;">90</span>					

# Circulating Fluid and Peripheral Equipment

## 1 60% ethylene glycol aqueous solution circulating fluid/HRZ-BR001

This solution can be used as a circulating fluid for ethylene glycol compatible thermo-chillers. (Capacity: 10 L)



## 2 DI control kit/HRZ-□-□-Y (For HRZ) HRW-□-□-Y (For HRW)

Keeps the electrical resistivity (DI level) of the circulating fluid constant. [MΩ·cm]

DI level display range		0 to 20
DI level set range	HRZ	0 to 2.0*1
	HRW	0 to 20*1
DI level drop alarm set range	HRZ	0 to 2.0
	HRW	0 to 20

\*1 The 3 DI filter is needed to control the DI level.

## 3 DI filter/HRZ-DF001

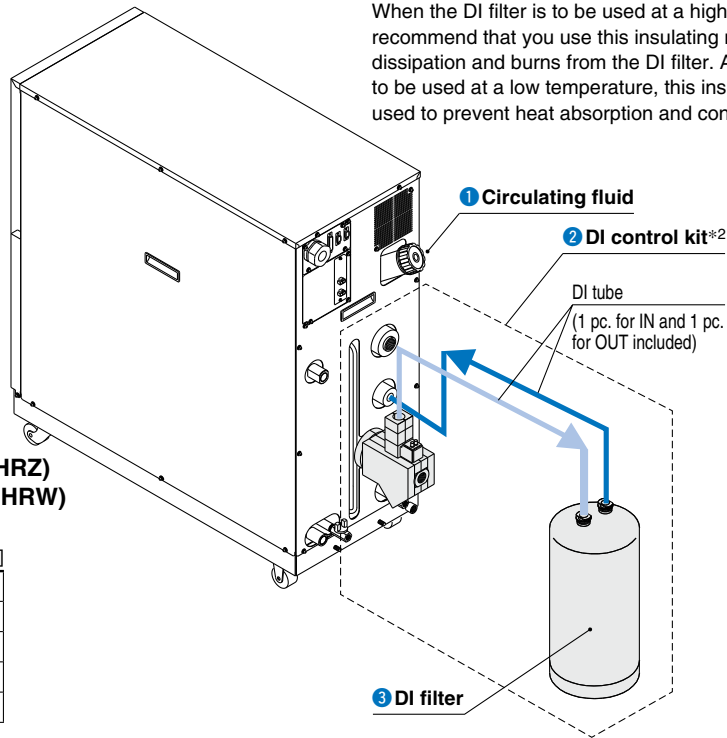
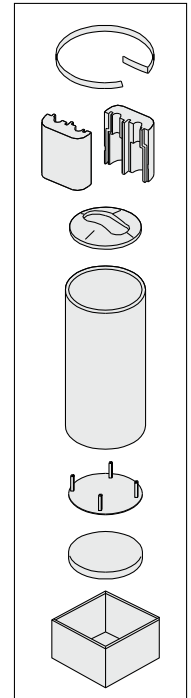
The DI filter uses ion-exchange resin to maintain the electrical resistivity of the circulating fluid. Users who selected the DI control kit need to purchase the DI filter separately.



## 4 Insulating material for DI filter/HRZ-DF002

When the DI filter is to be used at a high temperature, we recommend that you use this insulating material to prevent heat dissipation and burns from the DI filter. And when the DI filter is to be used at a low temperature, this insulating material can be used to prevent heat absorption and condensation generation.

## 4 Insulating material for DI filter



## 5 Concentration meter/HRZ-BR002

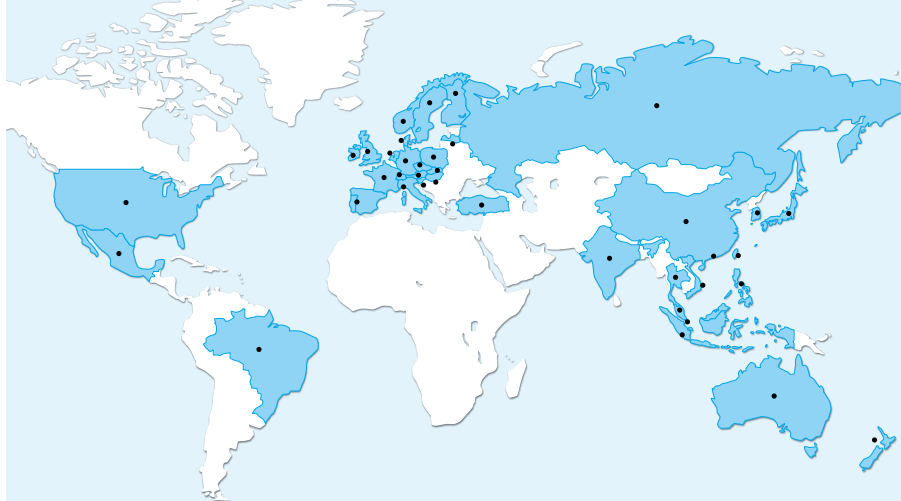
This meter can be used for the periodic control of the ethylene glycol aqueous solution concentration.

\*2 The DI control kit is optional.

Options have to be selected when ordering the thermo-chiller. It is not possible to add them after purchasing the unit.

## SMC's Global Maintenance Network

Thanks to a solid inventory of maintenance parts and an experienced chiller support team capable of conducting repairs and replacements, SMC is able to respond to customers' issues quickly and precisely. As SMC's high-quality services are available to customers all over the world, you can rest assured that you'll have our continued support long after purchase.



### Americas

Brazil Mexico U.S.A.



### Europe

Austria Czech Republic Denmark Finland France Germany Hungary Ireland Italy Latvia Netherlands Norway Poland Russia Slovakia Slovenia Spain/Portugal Sweden Switzerland Turkey U.K.

### Asia and Oceania

Australia China Hong Kong India Indonesia Japan Korea Malaysia New Zealand Philippines Singapore Taiwan Thailand Vietnam

\* The names of countries and regions listed in each area are alphabetically indexed

**⚠ Safety Instructions** Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.

## SMC Corporation

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