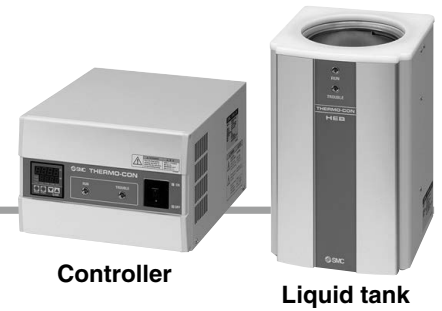


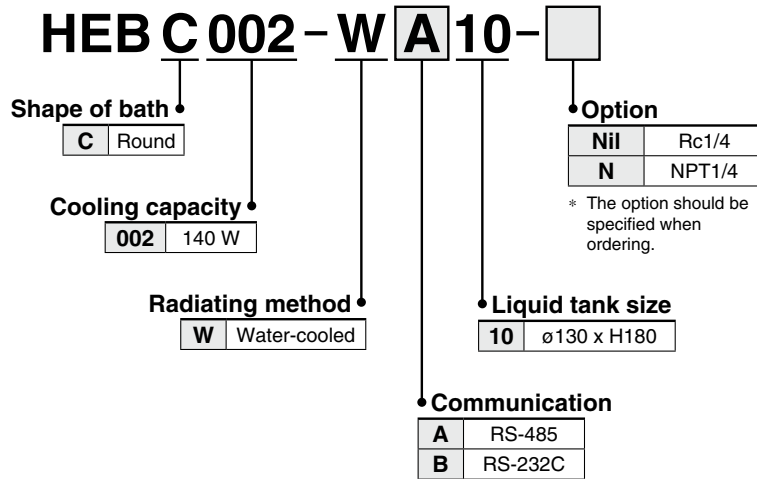
Peltier-Type Thermoelectric Bath

HEB Series

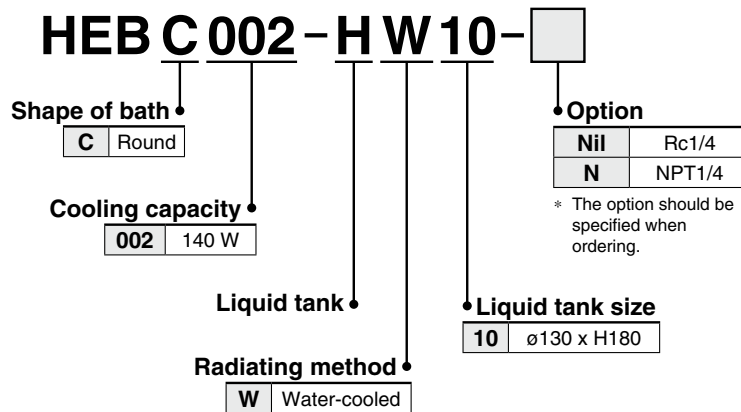


How to Order

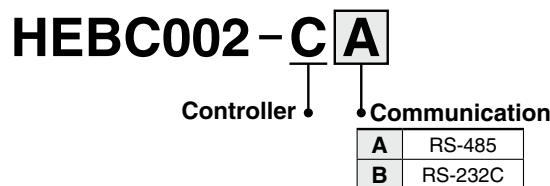
Combination (Controller + Liquid Tank)



Liquid Tank

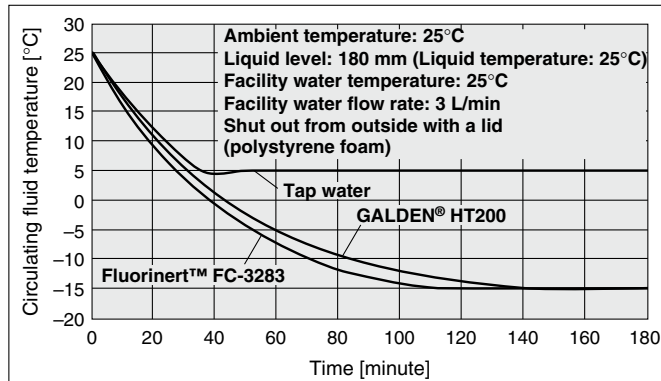


Controller

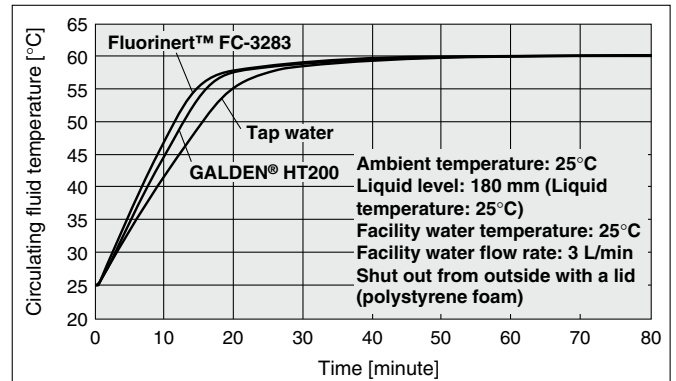


HEB Series

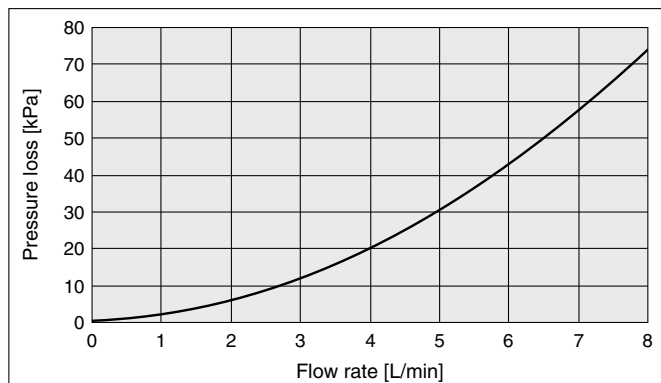
Cooling Capacity



Heating Capacity

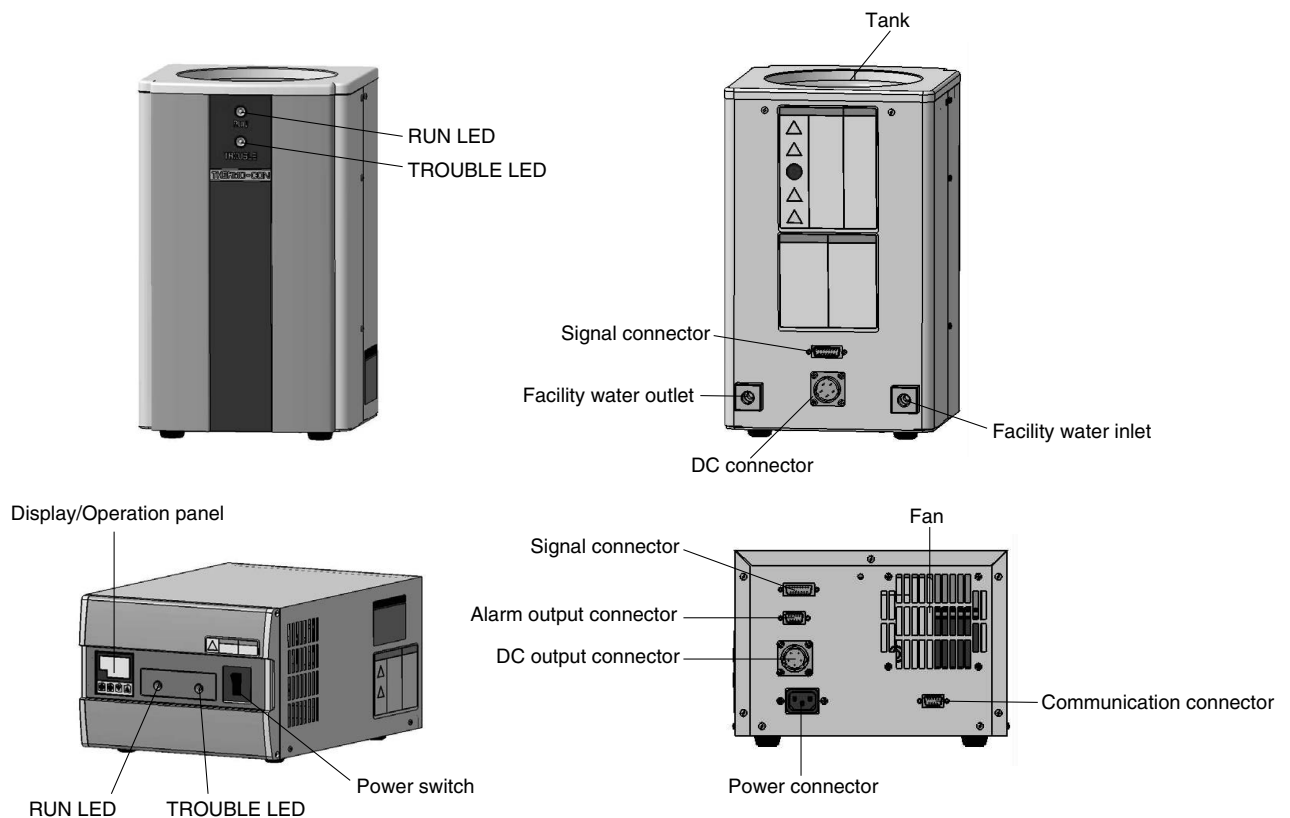


Pressure Loss in Facility Water Circuit



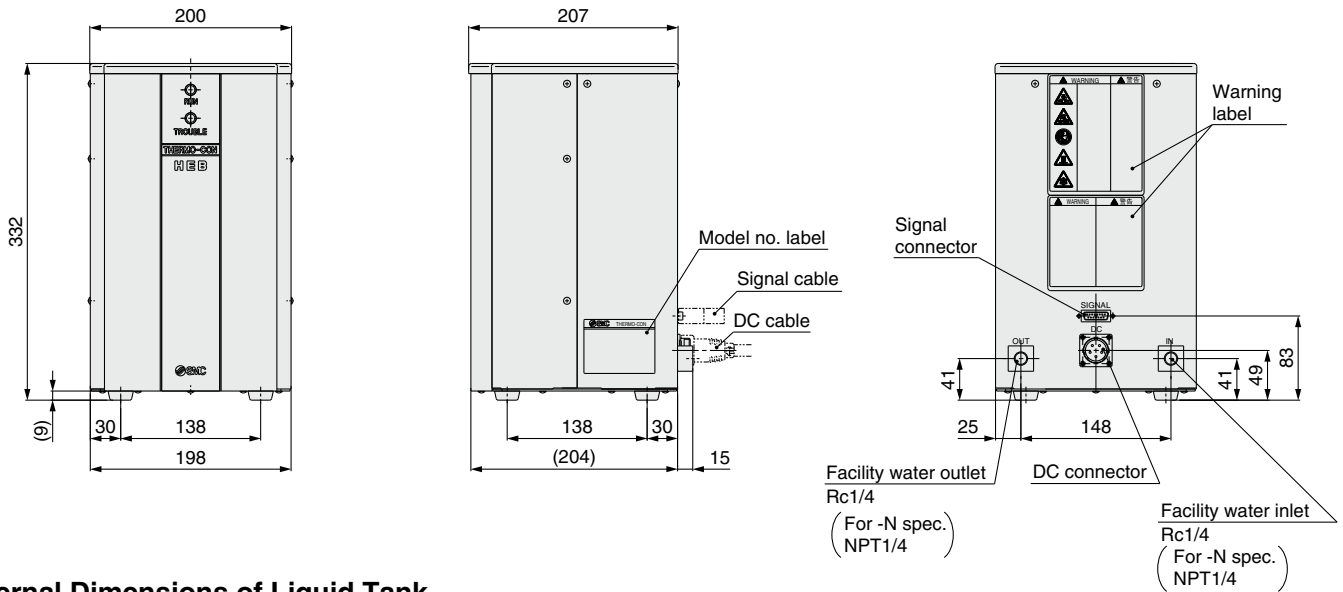
The values shown on the performance chart are not guaranteed, but typical. Allow margins for safety when selecting the model.

Parts Description

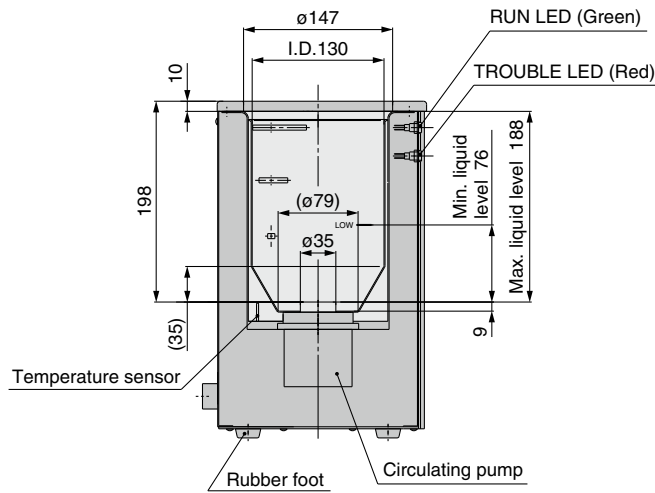


Dimensions

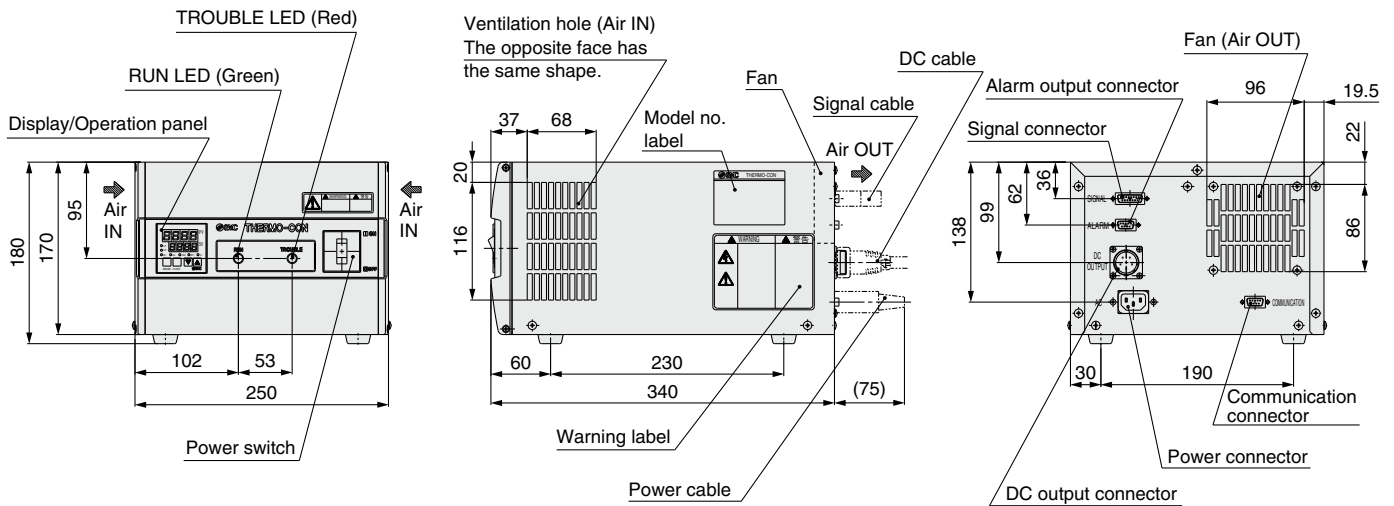
Liquid Tank



Internal Dimensions of Liquid Tank



Controller



- HRS
- HRS-R
- HRS090
- HRS 100/150
- HRS200
- HRS090
- HRSH
- HRSE
- HRR
- HRL
- HRZ
- HRZD
- HRW
- HECR
- HEC
- HEB
- HED
- Technical Data

Connectors

Water Bath and Controller Connection

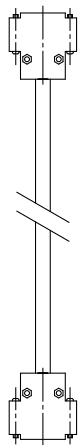
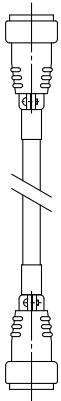
■ Connector for water baths

DC connector (male connector) Nanaboshi Electric Mfg. Co., Ltd.: NJC-245-RM UL CSA	Signal connector (male connector) HIROSE ELECTRIC CO., LTD.: CDA-15P Holding screw M2.6
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■ Connection cable

DC cable Nanaboshi Electric Mfg. Co., Ltd.: NJC-245-PF UL CSA Female connector	Signal cable HIROSE ELECTRIC CO., LTD.: CDA-15S Holding screw M2.6 Female connector
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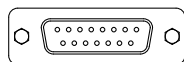
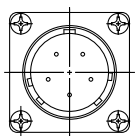
Male connector
Nanaboshi Electric Mfg. Co., Ltd.
NJC-245-PM UL CSA

Male connector
HIROSE ELECTRIC CO., LTD.:
CDA-15P
Holding screw M2.6



■ Connector for controllers

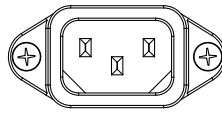
DC connector (female connector) Nanaboshi Electric Mfg. Co., Ltd.: NJC-245-RF UL CSA	Signal connector (female connector) HIROSE ELECTRIC CO., LTD.: CDA-15S Holding screw M2.6
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Power Cable Connection

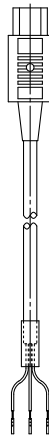
■ Connector for controllers

Power connector IEC 60320 C-14 or equivalent Male connector



■ Power cable

Connector side IEC 60320 C-13 or equivalent Female connector
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AWG14

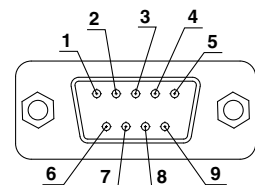
	Signal contents
Black 1	100 to 240 VAC (L)
Black 2	100 to 240 VAC (N)
Green/Yellow	PE

Connector for External Equipment

Connectors that fit with a communication connector and an alarm output connector should be prepared by user.

■ Alarm output connector HIROSE ELECTRIC CO., LTD.: CDE-9P Holding screw M2.6 Fitting connector: CDE-9S or equivalent

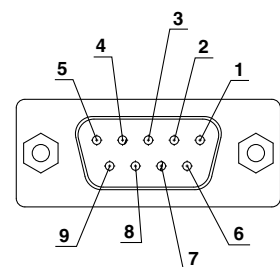
Pin No.	Signal contents
1	Contact for upper/lower temperature limit deviation alarm (open when alarm occurs)
2	Upper/lower temperature limit deviation alarm common
3-4	Unused
5	Contact for output cut-off alarm (open when alarm occurs)
6	Common for output cut-off alarm
7-9	Unused



Alarm output connector
D-sub 9 pin (male type)

■ Communication connector HIROSE ELECTRIC CO., LTD.: CDE-9S Holding screw M2.6 Fitting connector: CDE-9P or equivalent

Pin No.	Signal contents	
	HEBC002-WA10	HEBC002-WB10
1	RS-485 T/R (A)	Unused
2	RS-485 T/R (B)	RS-232C RX
3	Unused	RS-232C TX
4	Unused	Unused
5	Unused	RS-232C SG
6-9	Unused	Unused



Communication connector
D-sub 9 pin (female type)

Maintenance

Maintenance of this unit is performed only in the form of return to and repair at SMC's site. As a rule, SMC will not conduct on-site maintenance. Separately, the following parts have a limited life and need to be replaced before the life ends.

Parts Life Expectation

Description	Expected life	Possible failure
Circulating pump	3 to 5 years	The circulating fluid cannot be fed due to worn bearing and/or insufficient capacity of electrolytic capacitor, which results in temperature controlling failure.
Fan	5 to 10 years	The capacity of the fan lowers due to the end of lubricating performance of the bearing, which results in increase of internal temperature of the controller. The overheat protective function at the inside of the power supply starts, the output stops and the display goes off.
DC power supply	5 to 10 years	Abnormal voltage is generated and the display goes off due to insufficient capacity of electrolytic capacitor.