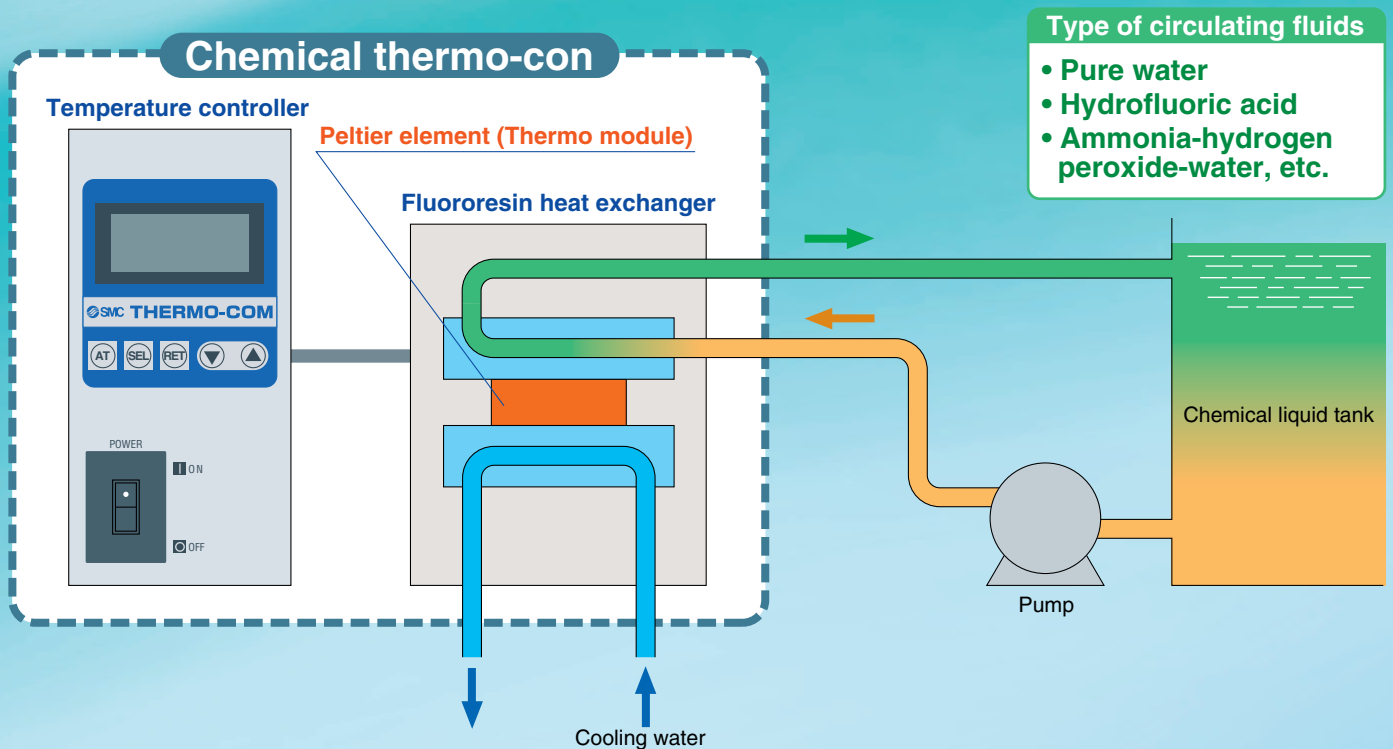


Peltier-Type Temperature Control Equipment for Chemicals

Chemical Thermo-con

Fluororesin heat exchanger allows direct control of chemical temperature!!



Top industry standards for high water-resistant pressure up to **0.35 MPa!!**

● Temperature set range: **10°C to 60°C**

● Temperature stability: **±0.1°C**

● Cooling performance (with water):
300 w, 500 w, 750 w

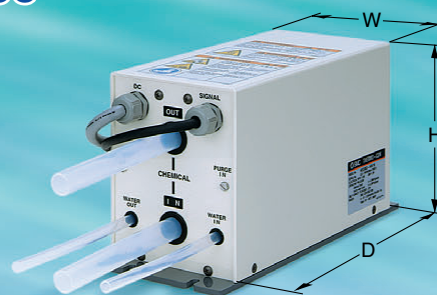
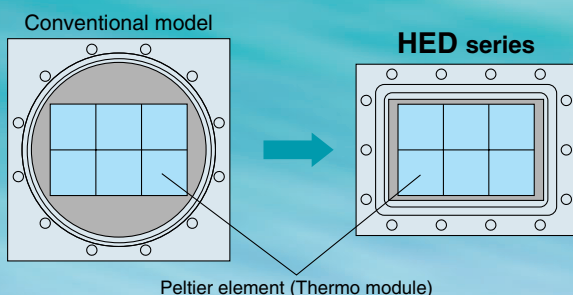
● Overseas standards:
CE, UL, (eti[®] NRTL) acquired

● Planned **RoHS** compliance



Series **HED**

- PFA wetted parts prevents contamination from metal ion elution.
- Self-developed heat exchanger matched to the configuration of the Peltier element (Thermo module). Compact, but high-cooling performance



Applicable Fluid Examples

Chemical	Operating temperature range	Chemical	Operating temperature range
Pure water	10 to 60°C	Ammonia-hydrogen peroxide-water	10 to 60°C
Hydrofluoric acid	10 to 40°C	Sodium hydroxide	10 to 60°C
Sulfuric acid (not including oleum)	10 to 50°C	Ozone water	10 to 60°C
Copper sulfate aqueous solution	10 to 50°C		

Compact/Lightweight Heat Exchanger

Model	W	D	H	Weight
HED003	130	263	170	8 kg
HED005	150	294	222	14 kg
HED007	150	294	222	15 kg

Specifications (For details please consult with SMC.)

Model		HED003-W2	HED005-W2	HED007-W2
Control method		Cooling/Heating auto-switch PID control		
Cooling/Heating method		Peltier element (electronic cooling element, thermo module)		
Cooling method		Water-cooled		
Temperature set range		10.0 to 60.0°C (with no condensation)		
Cooling performance (Water) ^{Note 1)}		300 W	500 W	750 W
Heating performance (Water) ^{Note 1)}		600 W	1000 W	1800 W
Temperature stability ^{Note 2)}		Within ±0.1°C		
Circulating fluid	Applicable fluid ^{Note 3)}	Pure water, Hydrofluoric acid, Ammonia-hydrogen peroxide-water, etc.		
	Wetted parts material	PFA		
	Operating pressure ^{Note 4)}	0 (atmospheric pressure) to 0.35 MPa		
Port size		IN/OUT: 1/2" x 3/8" or 3/4" x 5/8" PFA tube		
Cooling water	Temperature	10 to 35°C (with no condensation)		
	Wetted parts material	FEP, Stainless steel 304, Stainless steel 316		
	Max. operating pressure	0.5 MPa		
	Port size	IN/OUT: 3/8" x 1/4" FEP tube		
Flow rate		5 to 10 l/min		
Main features		Auto-tuning, Sensor fine adjustment, Offset, Learning control, External sensor control, Set value memory Warning system for upper/lower limit of temperature, Remote ON/OFF, Leakage detection, Serial transmission (RS-485 or RS-232C)		
Ambient environment		Temperature: 10 to 35°C, Humidity: 35 to 80%RH (with no condensation)		
^{Note 5)} Dimension	Heat exchanger	W130 x D263 x H170	W150 x D294 x H222	W150 x D294 x H222
	Temperature controller	W100 x D320 x H215	W140 x D350 x H215	W165 x D447 x H215
Power supply	Voltage	Single-phase, 180 to 242 V AC, 50/60 Hz		
	Rated current	3 A	5 A	14 A
Weight	Heat exchanger	Approx. 8 kg	Approx. 14 kg	Approx. 15 kg
	Temperature controller	Approx. 6 kg	Approx. 8 kg	Approx. 13 kg

Note 1) Conditions: Set temperature 25°C, Circulating flow rate 15 l/min, Cooling water temperature 25°C, Flow rate 5 l/min, Ambient temperature 25°C (not including a heat-generation load by a pump circulation)

Note 2) Value under stable-load status with no external turbulence. Value may go beyond the specifications depending on operating conditions.

Note 3) For material compatibility of circulating fluid, please consult with SMC.

Note 4) Install the heat exchanger in the discharge side of a circulating pump. Do not use at location where a negative pressure is applied.

Note 5) The foot bracket and the protrusion part are not included for the outside dimensions.

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Specifications are subject to change without prior notice and any obligation on the part of the manufacturer.

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