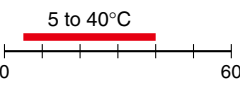
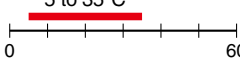
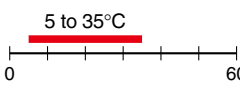
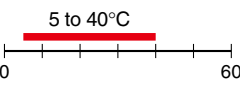
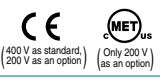
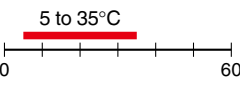
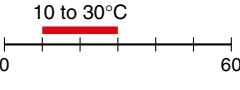
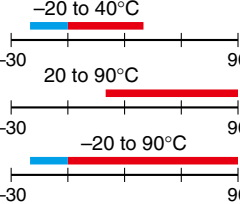
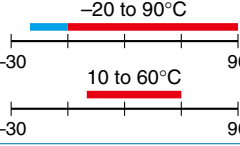
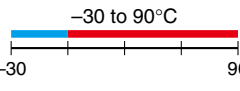
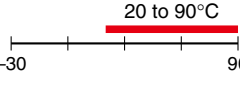


Thermo-chiller Variations

Series	Features	Temperature range setting	Cooling capacity	Cooling method	Temperature stability	Pump capacity
Thermo-chiller Standard type HRS Series  	p. 18 - With this chiller, cooling water can be obtained anywhere it is necessary because of easy installation and easy operation. - For a wide range of applications such as laser machine tool, analytical equipment, LCD manufacturing equipment, mold temperature control, etc. - Compact: W 377 x H 615 x D 500 mm, 40 kg (HRS012/018/024) - Timer operation function, Low level in tank, Power failure auto-restart, Anti-freezing operation function, etc. - Self diagnosis function - No heater required, circulating fluid is heated using heat exhausted by refrigerating circuit. - Low-noise design: 70 dB(A) (HRS100/150) - Outdoor installation: IPX4 (HRS100/150)		1.3 kW 1.9 kW 2.4 kW 3.2 kW 5.1 kW 5.9 kW (60 Hz)	Air-cooled Water-cooled	±0.1°C	42 L/min
Thermo-chiller Standard type HRS090 Series  	p. 66 - Timer operation function, Low level in tank, Power failure auto-restart, Anti-freezing operation function, etc. - Self diagnosis function - No heater required, circulating fluid is heated using heat exhausted by refrigerating circuit. - Low-noise design: 70 dB(A) (HRS100/150) - Outdoor installation: IPX4 (HRS100/150)		9 kW	Air-cooled Water-cooled	±0.5°C	68 L/min
Thermo-chiller Standard type HRS100/150 Series  	p. 94 - Power consumption reduced by 53% Outstanding energy saving due to the triple inverter! - Max. ambient temperature: W 377 x H 1080 x D 970 mm - Low-noise design: Max. 66 dB - Max. ambient temperature: 45°C		9.5 kW 14.5 kW (60 Hz)	Air-cooled Water-cooled	±1.0°C	68 L/min
Thermo-chiller Inverter type HRSH090 Series  	p. 130 - Outstanding energy saving due to the triple inverter! - Outdoor installation: IPX4 - Max. ambient temperature: 45°C - Space saving, Lightweight: 280 kg (25 kW type)		9.5 kW	Air-cooled Water-cooled	±0.1°C	60 L/min
Thermo-chiller Inverter type HRSH Series  	p. 160 - Simple function and performance. Thermo-chiller of the basic type. - Efficient energy saving due to the triple control! Power consumption reduced by 33% (Energy saving) - Compact/Lightweight 32 kg (100 VAC) - Maintenance free: Magnet pump - Low-noise design: 55 dB (A)		10 kW 15 kW 20 kW 25 kW 28 kW	Air-cooled Water-cooled	±0.1°C	180 L/min
Thermo-chiller Basic type HRSE Series  	p. 198 - Suitable for semiconductor processing equipment with a wide variety of features such as high temperature stability, wide temperature range, failure diagnosis, external communication, etc. - Can respond to change of process conditions flexibly, which is suitable for semiconductor equipment with a short innovation cycle. - Conforming to various safety standards - Inverter type is selectable. Energy saving is achieved through use of a DC inverter compressor.		1.2 kW 1.6 kW 2.2 kW (60 Hz)	Air-cooled	±2.0°C	25 L/min
Thermo-chiller High-performance type HRZ Series  	p. 220 - Temperature for two systems can be controlled separately by one chiller. - Double inverter: More effective energy-saving is achieved through use of a DC inverter compressor and an inverter pump. - Space saving: Footprint 23% reduction - Reduced wiring, piping and labor: Single power cable, single facility water piping system		1 kW 2 kW 4 kW 8 kW	Water-cooled	±0.1°C	40 L/min
Thermo-chiller High-performance type HRZ Series  	p. 220 - Temperature for two systems can be controlled separately by one chiller. - Double inverter: More effective energy-saving is achieved through use of a DC inverter compressor and an inverter pump. - Space saving: Footprint 23% reduction - Reduced wiring, piping and labor: Single power cable, single facility water piping system		10 kW	Water-cooled	±0.1°C	40 L/min
Thermo-chiller High-performance inverter type HRZD Series  	p. 254 - Direct heat exchanger for in-plant circulating fluid - Can control the temperature over a wide range since a compressor is not required. - Suitable for semiconductor processing equipment with a wide variety of features such as high temperature stability, wide temperature range, failure diagnosis, external communication, etc. - Inverter type is selectable.		9.5 kW x 2	Water-cooled	±0.1°C	40 L/min
Water-cooled Thermo-chiller High-performance type HRW Series  	p. 256 - Direct heat exchanger for in-plant circulating fluid - Can control the temperature over a wide range since a compressor is not required. - Suitable for semiconductor processing equipment with a wide variety of features such as high temperature stability, wide temperature range, failure diagnosis, external communication, etc. - Inverter type is selectable.		2 kW 8 kW 15 kW 30 kW	Water-cooled (Without compressor)	±0.3°C	50 L/min
Water-cooled Thermo-chiller High-performance inverter type HRW Series  	p. 256 - Direct heat exchanger for in-plant circulating fluid - Can control the temperature over a wide range since a compressor is not required. - Suitable for semiconductor processing equipment with a wide variety of features such as high temperature stability, wide temperature range, failure diagnosis, external communication, etc. - Inverter type is selectable.		2 kW 8 kW 15 kW 30 kW	Water-cooled (Without compressor)	±0.3°C	50 L/min

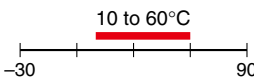
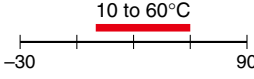
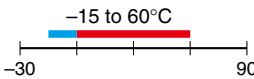
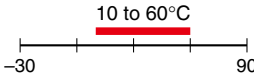
Accessories List

●: Standard ◆: Option ★: Optional accessories

	Pump type	Power supply	Circulating fluid
	Magnet pump (Mechanical seal pump for high pressure pump mounted type)	Single-phase 100 VAC (50/60 Hz) Single-phase 115 VAC (60 Hz) Single-phase 200 to 230 VAC (50/60 Hz)	Tap water Deionized water Ethylene glycol aqueous solution (15%)
	Mechanical seal pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 230 VAC (60 Hz) 3-phase 380 to 415 VAC (50/60 Hz)	Tap water Deionized water Ethylene glycol aqueous solution (15%)
	Mechanical seal pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 230 VAC (60 Hz) 3-phase 380 to 415 VAC (50/60 Hz)	Tap water Deionized water Ethylene glycol aqueous solution (15%)
	Immersion pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 230 VAC (60 Hz) 3-phase 380 to 415 VAC (50/60 Hz)	Tap water Deionized water Ethylene glycol aqueous solution (15%)
	Magnet pump	Single-phase 100 VAC (50/60 Hz) Single-phase 200 VAC (50/60 Hz) Single-phase 230 VAC (50/60 Hz)	Tap water Ethylene glycol aqueous solution (15%)
	Immersion pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 208 VAC (60 Hz)	Fluorinated fluid Tap water Deionized water Ethylene glycol aqueous solution (60%)
	Immersion pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 208 VAC (60 Hz)	Fluorinated fluid Tap water Deionized water Ethylene glycol aqueous solution (60%)
	Immersion pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 208 VAC (60 Hz)	Fluorinated fluid Ethylene glycol aqueous solution (60%)
	Immersion pump	3-phase 200 VAC (50 Hz) 3-phase 200 to 208 VAC (60 Hz)	Fluorinated fluid Tap water Deionized water Ethylene glycol aqueous solution (60%)

	HRS	HRS090	HRS100/150	HRSH090	HRSH	HRSE	HRZ	HRZD	HRW
Heating function	●	●	●	●	●		●	●	●
Fan inverter				●	●				
Compressor inverter				●	●		●	●	
Pump inverter				●	●		●	●	●
PID control	●	●	●	●	●		●	●	●
ON/OFF control						●			
Error diagnostic function	●	●	●	●	●	●	●	●	●
Flow sensor/switch						●	●	●	●
RS-232C	●	●	●	●	●				
RS-485	●	●	●	●	●		●	●	●
Analog I/O (Contact input/output)	●/★	●	●	●	●		●	●	●
Analog communication	★						◆	●	◆
DeviceNet communication							◆		◆
With earth leakage breaker	◆	◆	◆	◆	◆				
With earth leakage breaker with handle					◆		●	●	●
With heater							●	●	●
With external switch inlet	●	●	●	●	●				
With water leakage sensor							●	●	●
Drain pan set (With water leakage sensor)	★	★		★					
With automatic water fill function	◆	◆	●		●				
With fluid fill port	●	●	◆	●	◆	●	●	●	●
Applicable to deionized water piping	◆	◆		◆					●
High pressure pump mounted	◆					◆			
High temperature environment specification	◆								
With caster adjuster-foot			◆/★		◆/★		●	●	●
Circulating fluid automatic recovery							◆		◆
DI control kit/Electric resistance control set	★						◆		◆
Electric resistance sensor set	★								
Electric conductivity control set		★	★	★	★				
DI filter set	★						★		★
Insulating material for DI filter							★		★
Anti-quake bracket	★	●		●	●	★	★		★
Piping conversion fitting (NPT thread or G thread)	◆/★	◆/★	◆/★	◆/★	◆/★				
NPT fitting							◆		◆
Bypass piping set	★	★	★	★	★	★	★	★	★
Power supply cable	★								
Particle filter set	★	★	★	★	★	★			
Contaminant filter									★
Connector cover	★								
Replacement type dustproof filter set	★					★			
Separately installed power transformer	★								
Relief valve set			★						
Snow protection hood			★		★				
4-port manifold							★		★
60% ethylene glycol aqueous solution							★		★
Ethylene glycol aqueous solution concentration meter	★	★	★	★	★	★	★	★	★
	p. 18	p. 66	p. 94	p. 130	p. 160	p. 198	p. 220	p. 254	p. 256

Peltier-type Thermo-con Variations

Series	Features	Temperature range setting	Cooling capacity	Cooling method	Temperature stability	Power supply	Circulating fluid	Option
Thermo-con Rack mount type HECR Series   	- Mountable in a 19-inch rack. Saves space by mounting multiple equipment together in a rack. - Learning control function - Low vibration, Low noise		200 W 400 W 510 W 800 W 1 kW	Peltier-type air-cooled	± 0.01 to 0.03°C	Single-phase 100 to 240 VAC (50/60 Hz) Single-phase 200 to 240 VAC (50/60 Hz)	Tap water Ethylene glycol aqueous solution (20%)	With feet and no rack mounting brackets With flow switch
Thermo-con HEC Series    	- For applications requiring high-precision temperature control - High-precision, refrigerant-free temperature control equipment employing Peltier elements - Highly-reliable simple construction - Easy installation in equipment with a compact, low-vibration body		230 W 600 W 140 W 320 W 600 W 1200 W	Peltier-type air-cooled Peltier-type water-cooled	± 0.01 to 0.03°C	Single-phase 100 to 240 VAC (50/60 Hz) Single-phase 200 to 220 VAC (50/60 Hz)	Tap water Ethylene glycol aqueous solution (20%) Fluorinated fluid Tap water	With flow switch NPT thread With level switch
Thermoelectric Bath HEB Series    Made to Order 	- High-precision temperature control bath with a Peltier device - Compact and low noise - Minimal up-down temperature distribution with a unique agitation method		140 W 280 W 140 W 320 W 220 W	Round type Peltier-type water-cooled Square type Peltier-type water-cooled Square type Peltier-type air-cooled	$\pm 0.01^{\circ}\text{C}$ $\pm 0.03^{\circ}\text{C}$	Single-phase 100 to 240 VAC (50/60 Hz) Single-phase 200 to 220 VAC (50/60 Hz) Single-phase 100 to 240 VAC (50/60 Hz)	Fluorinated fluid Tap water Tap water Ethylene glycol aqueous solution (50%)	NPT thread
Chemical Thermo-con HED Series   	- Heat exchanger for direct temperature control with a Peltier device - Compatible with a wide range of chemical liquids by use of a fluororesin heat exchanger		300 W 500 W 750 W	Peltier-type water-cooled	$\pm 0.1^{\circ}\text{C}$	Single-phase 200 to 220 VAC (50/60 Hz)	Deionized water Fluorinated fluid Ammonia hydrogen peroxide solution, etc.	

SMC's Unique Chiller Control — A Challenge to Downsizing

Temperature stability $\pm 0.1^{\circ}\text{C}$ /Compact

The precision temperature control method by expansion valve and temperature sensor, realized high temperature stability of $\pm 0.1^{\circ}\text{C}$ and a small-size tank.

Applicable model



Standard type/
HRS012 to 060

p. 18



Inverter type/
HRSH090

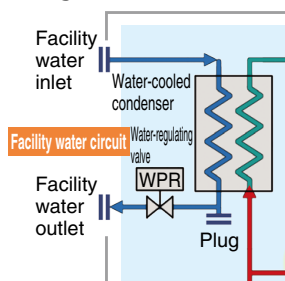
p. 130



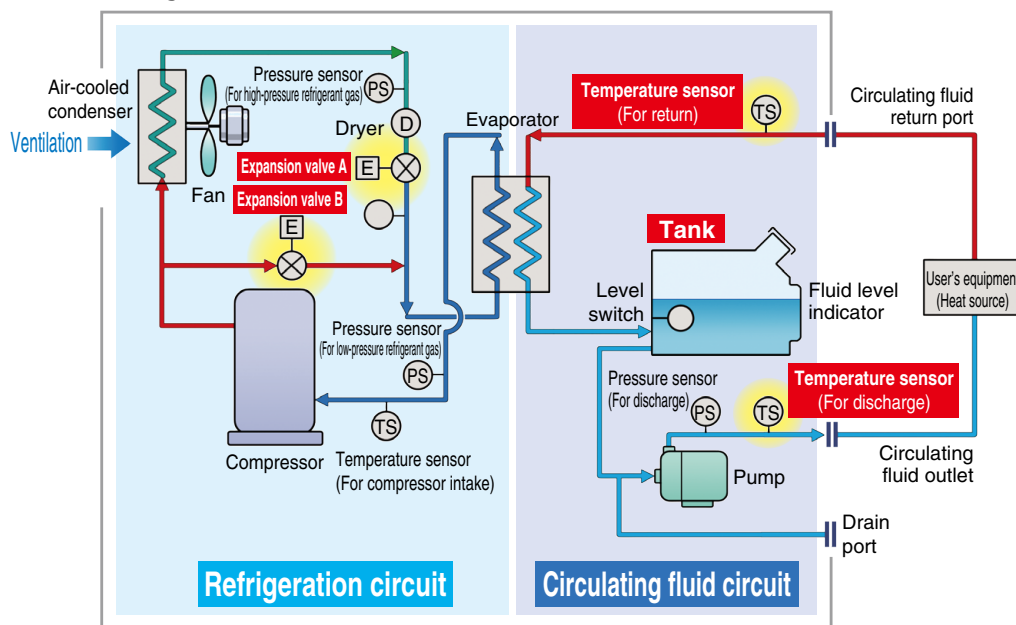
Inverter type/
HRSH100 to 300

p. 160

Water-cooled HRS□-W-□



Air-cooled HRS□-A-□



* The flow diagram shown above is for standard type HRS012 to 060.

Refrigeration circuit

- The compressor compresses the refrigerant gas, and discharges the high temperature and high pressure refrigerant gas.
- In the case of air-cooled refrigeration, the high temperature and high pressure refrigerant gas is cooled down by an air-cooled condenser with the ventilation of the fan, and becomes a liquid. In the case of water-cooled refrigeration, the refrigerant gas is cooled by a water-cooled condenser with the facility water in the facility water circuit, and becomes a liquid.
- The liquefied high pressure refrigerant gas expands and its temperature lowers when it passes through expansion valve A and vaporizes by taking heat from the circulating fluid in the evaporator.
- The vaporized refrigerant gas is sucked into the compressor and compressed again.
- When heating the circulating fluid, the high pressure and high temperature refrigerant gas is bypassed into the evaporator by expansion valve B, to heat the circulating fluid.

Point The combination of precise control of **expansion valve A** for cooling, and **expansion valve B** for heating realized high temperature stability.

Circulating fluid circuit

- The circulating fluid discharged from the pump, is heated or cooled by the user's equipment and returns to the thermo-chiller.
- The circulating fluid is controlled to a set temperature by the refrigeration circuit, to be discharged to the user's equipment side again by the thermo-chiller.

Point Since the refrigeration circuit is controlled by the signal from **2 temperature sensors (for return and discharge)**, precise temperature control of the circulating fluid can be performed. Therefore, there is no necessity of absorbing the temperature difference in the circulating fluid with a large tank capacity, and realizes high temperature stability even with a **small-size tank**. Also, contributes to space-saving.

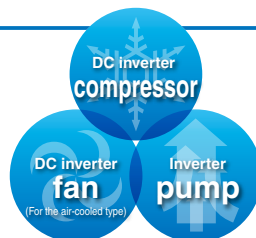
Facility water circuit

For water-cooled refrigeration HRS□-W-□

- The water-regulating valve opens and closes to keep the refrigerant gas pressure consistent. The facility water flow rate is controlled by the water-regulating valve.

Triple inverter

The inverter respectively controls the number of motor rotations of the compressor, fan and pump depending on the load from the user's equipment.



Applicable model



Inverter type/
HRS090
p. 130

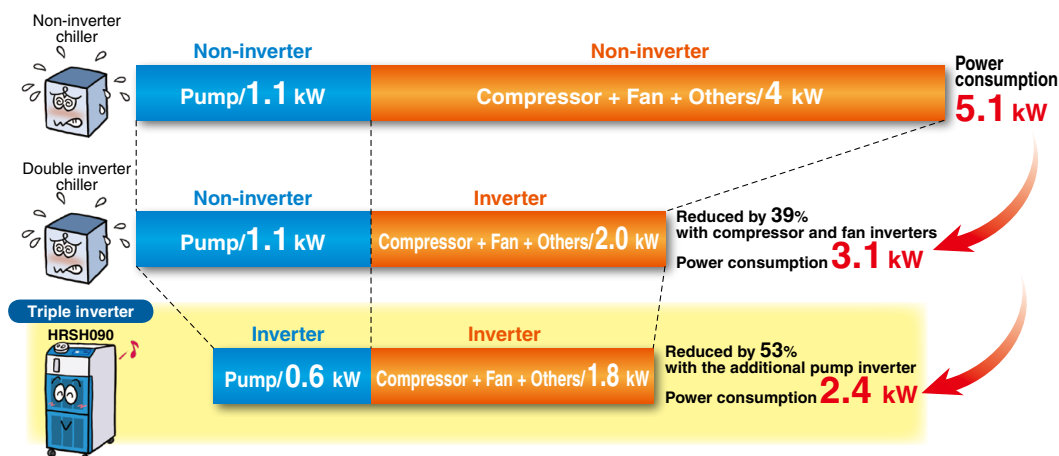


Inverter type/
HRS100 to 300
p. 160

Power consumption

reduced by 53%
compared with a non-inverter (HRS090)

With the inverter, it is possible to operate with the same performance even with the power supply of 50 Hz.



Operating ratio: Ratio of 9.5 kW (with heat load) to 0 kW (without heat load) Operating ratio: 50%, with heat load of 9.5 kW all the time

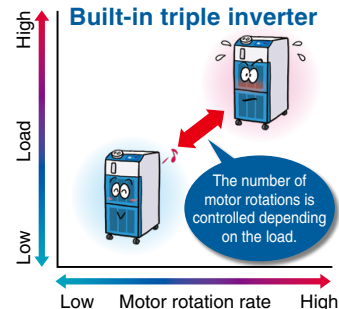
Conditions

Common conditions for non-inverter and triple inverter:

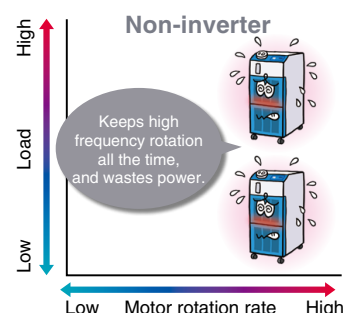
- Ambient temperature: 32°C
- Circulating fluid temperature: 20°C
- Circulating fluid flow rate: 35 L/min at 0.3 MPa (60 Hz)
- Heat load: 9.5 kW

Conditions for non-inverter chiller: Continuous operation of the compressor which can cool down 9.5 kW at 60 Hz. The pump shall be same as that of the HRSH.

Built-in triple inverter

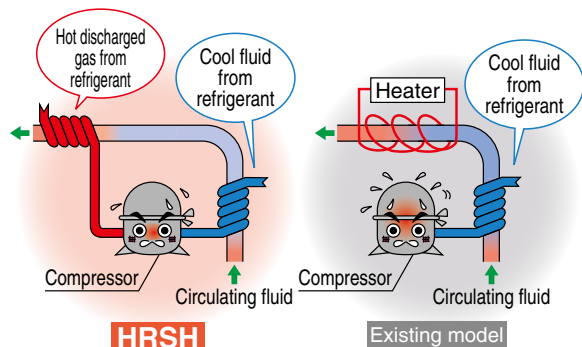


Non-inverter

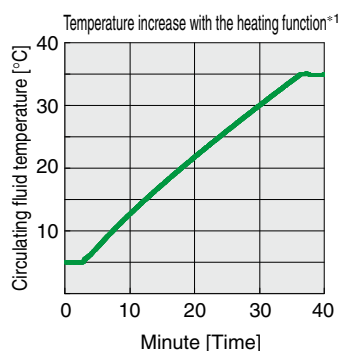


Circulating fluid can be heated without a heater.

Heating method using discharged heat makes a heater unnecessary.



* This is just an example diagram.



*1 For HRSH250-A-20

- Ambient temperature: 5°C
- Power supply: 200 V 60 Hz
- Circulating fluid flow: 125 L/min at 0.5 MPa
- External piping: Bypass piping

Conditions

Applicable model



Standard type/
HRS012 to 060
p. 18



Standard type/
HRS090
p. 66



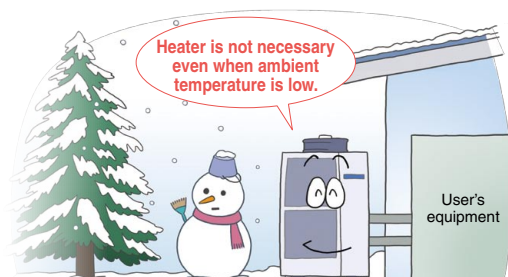
Standard type/
HRS100/150
p. 94



Inverter type/
HRS090
p. 130



Inverter type/
HRS100 to 300
p. 160



Inverter pump

Power reducing effect of the inverter pump

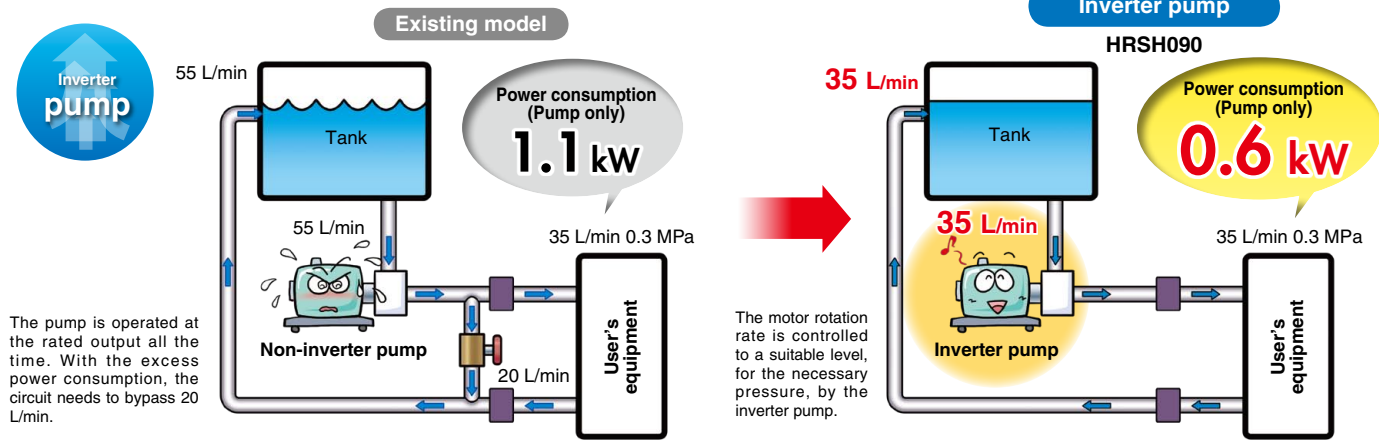
Applicable model



Inverter type/
HRSH090
p. 130



Inverter type/
HRSH100 to 300
p. 160

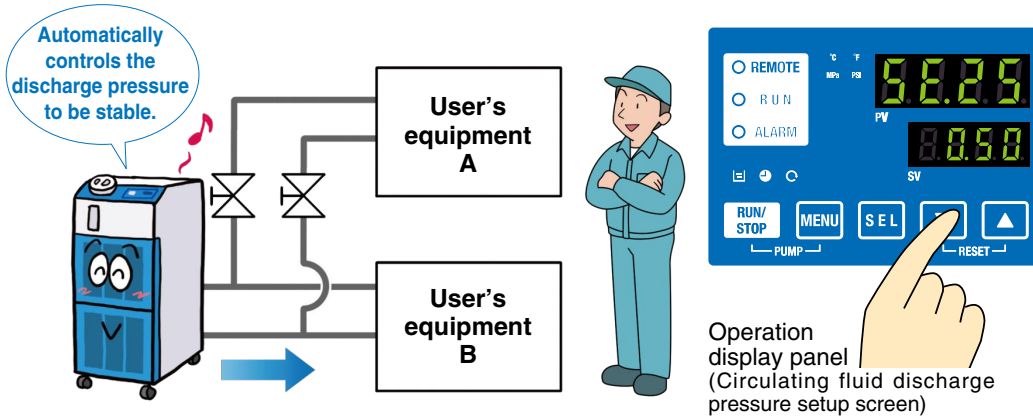


* Immersion pump is used for the inverter type HRSH100 to 300.

Circulating fluid pressure adjustable

Discharge pressure of the circulating fluid can be set with the operation panel. The inverter pump automatically controls the discharge pressure to the set pressure without adjusting the bypass piping*1 under various piping conditions. Power consumption can be reduced by this control. (Operation to the set pump operating frequency is also possible.)

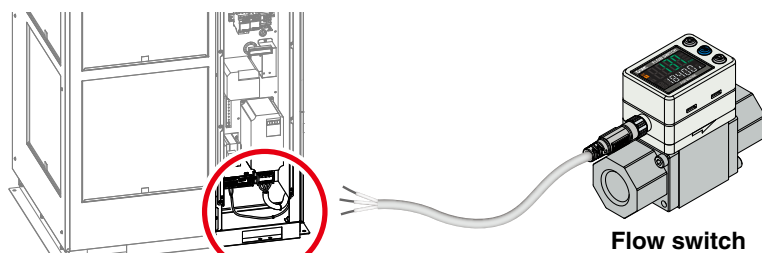
*1 Bypass piping is required depending on the flow rate.



When the product is used with the flow path switched for maintenance, the pressure adjusting function controls the discharge pressure to be stable. (Secure the specified minimum flow for each branch circuit.)

Power supply (24 VDC) available

Power can be supplied from the terminal block on the rear side to external switches, etc.



Refer to the Best Pneumatics No. 8 for details of how to use the flow switch.

Applicable model



Standard type/
HRS012 to 060
p. 18



Standard type/
HRS090
p. 66



Standard type/
HRS100/150
p. 94



Inverter type/
HRSH090
p. 130



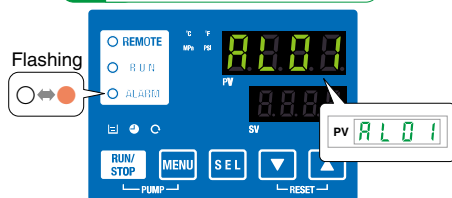
Inverter type/
HRSH100 to 300
p. 160

Easy maintenance with the check display of the operation panel

Alarm codes notify of checking times.

Notifies when to check the **pump** and **fan motor**.
Helpful for facility maintenance.

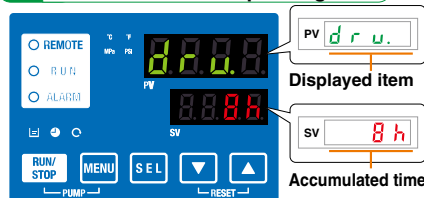
Ex. AL01 "Low level in tank"



Check display

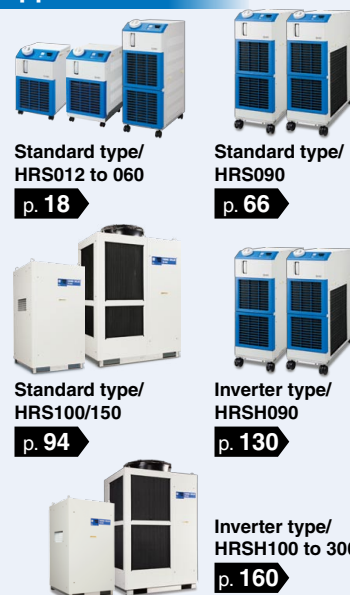
The internal temperature, pressure and operating time of the product are displayed.

Ex. drv. "Accumulated operating time"



Displayed item			
Temperature	Circulating fluid outlet temperature	Operating time	Accumulated operating time
	Circulating fluid return temperature		Accumulated operating time of pump
	Compressor gas temperature		Accumulated operating time of fan*2
Flow rate	Circulating fluid flow rate*1		Accumulated operating time of compressor
	Circulating fluid outlet pressure		Accumulated operation time of dustproof filter*2
Pressure	Compressor gas discharge pressure	*1	This is not measurement value. Use it for reference. (Except standard type HRS012 to 060)
	Compressor gas return pressure	*2	These are displayed only for air-cooled refrigeration.

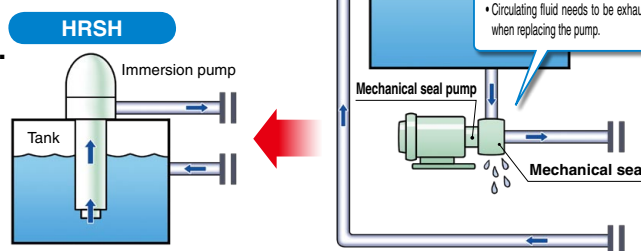
Applicable model



Reduces the maintenance hours for the pump.

A mechanical sealless immersion pump is used.

As the pump has no external leakage of the circulating fluid, a periodic check of the pump leakage and replacement of the mechanical seal are not necessary. There is no need to exhaust the circulating fluid when removing the pump.



Applicable model



IPX4

Applicable model



IP (International Protection) is the industrial standard for "Degrees of protection provided by outer defensive enclosures of electric equipment (IP Code)" according to IEC 60529 and JIS C 0920.

IPX4: No harmful influence by water splash is acceptable from every direction.

Can be installed outdoors.



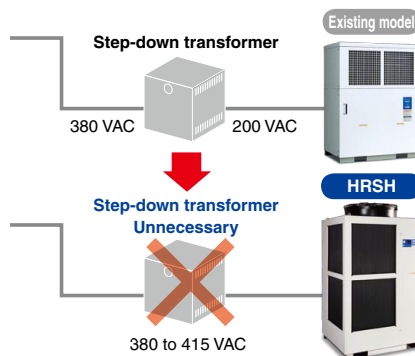
Global compatibility

(Europe, Asia, Oceania, Central and South America)

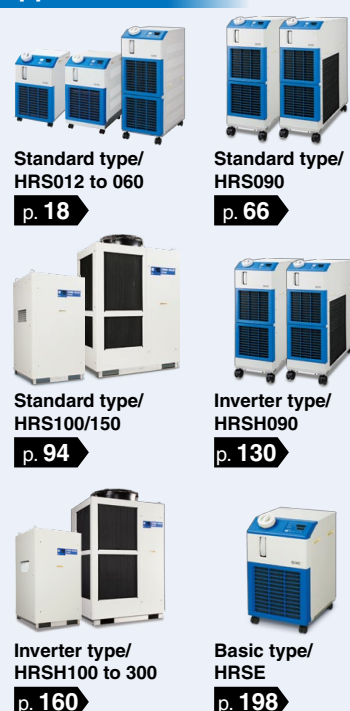
Transformer unnecessary

Power supply Applicable to 200 to 230 VAC, or 380 to 415 VAC

Transformers are unnecessary even when used overseas.



Applicable model



Conforming to international standards



p. 1, 3 Refer to the variations table.

Thermo-chiller/High-performance Type *HRZ/HRZD/HRW* Series



HRZ

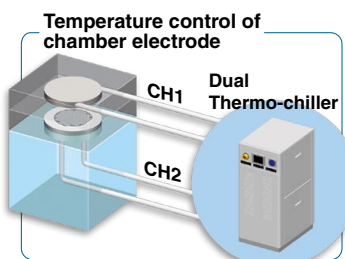
HRW

- Temperature stability $\pm 0.1^{\circ}\text{C}$, temperature range from -20°C to $+90^{\circ}\text{C}$. Full array of features and equipment.
- A double inverter type is also available, saving energy more effectively through use of a DC inverter compressor and an inverter pump.



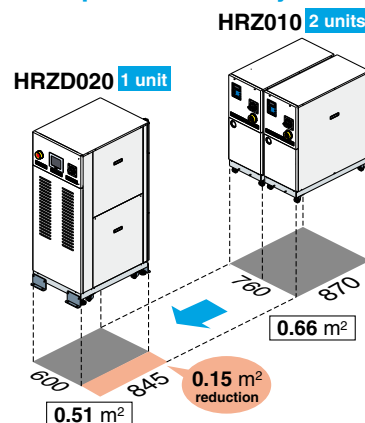
HRZD

- Dual Thermo-chiller, HRZD series can control temperature for two systems separately by one chiller. Energy-saving thanks to reduced wiring, piping and labor, and double inverter type.



Space saving

Footprint reduced by **23%**



Peltier-type Thermo-con Lineup

Thermo-con *HECR/HEC* Series

Temperature stability: ± 0.01 to 0.03°C



Rack mount type *HECR* Series



HEC Series

Thermoelectric Bath *HEB* Series

Accurately controls the temperature of liquid in the bath.

Temperature stability: $\pm 0.01^{\circ}\text{C}$

Temperature distribution in the bath: $\pm 0.02^{\circ}\text{C}$



This equipment precisely controls the temperature of the fluid in the constant temperature tank.
Users can control the temperature by placing a container in the tank.

INR

Made to Order



Chemical Thermo-con *HED* Series

Fluororesin heat exchanger allows direct temperature control for chemical liquids!!

Industry-leading withstand pressure **0.35 MPa!!**



Thermo-chiller/High-performance Type *HRZ/HRZD/HRW* Series



HRZ

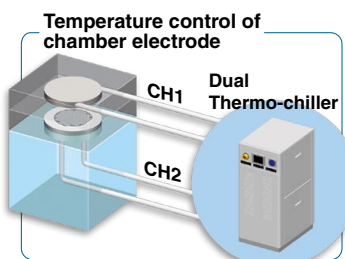
HRW



HRZD

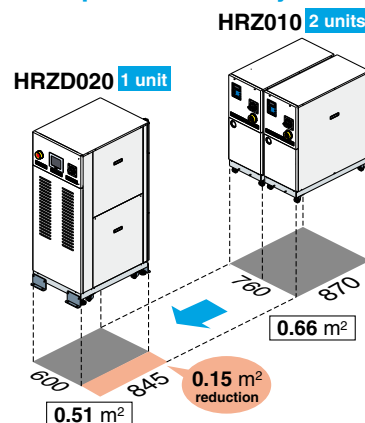
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Global Supply Network

SMC has a comprehensive network in the global market.

We now have a presence of more than 500 branch offices and distributors in 83 countries world wide such as Asia, Oceania, North/Central/South America, and Europe. With this global network, we are able to provide a global supply of our substantial range of products with the best service. We also provide full support to local factories, foreign manufacturing companies and Japanese companies in each country.



Applications

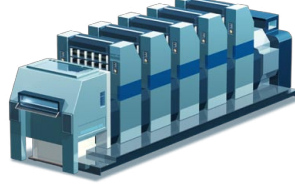
Laser beam machine/Laser welding machine

Cooling of the laser oscillation part and power source



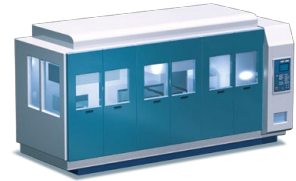
Printing machine

Temperature control of the roller



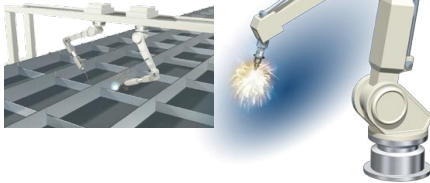
Cleaning machine

Temperature control of cleaning solution



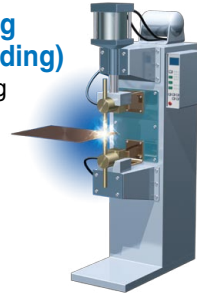
Arc welding machine

Cooling of the torch



Resistance welding machine (spot welding)

Cooling of the welding head electrodes, transformers and transistors (thyristors)



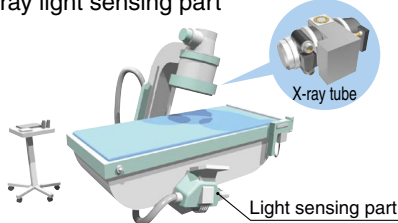
High frequency induction heating equipment

Cooling of the heating coils, high frequency power source and around inverters



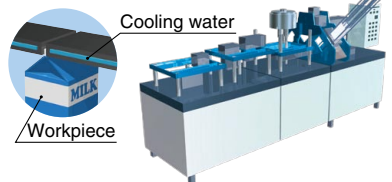
X-ray (digital) instrument

Temperature control of X-ray tube and X-ray light sensing part

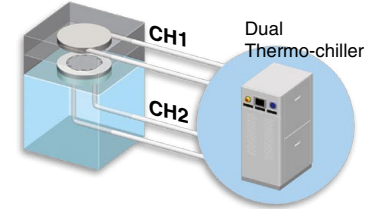


Packaging line (sealing of film and paper package)

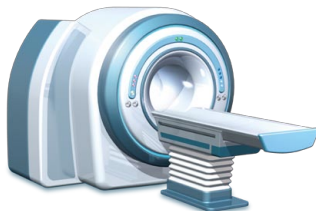
Cooling of work pieces for bonding



Temperature control of chamber electrode



MRI



Injection molding



Atomizing device (food and cosmetics)

Temperature control of sample and device



Crushing machine

Cooling of the jacket



Makes cooling water easily available, anytime, anywhere.

When...

There is no cooling tower.
Tap water is being used.

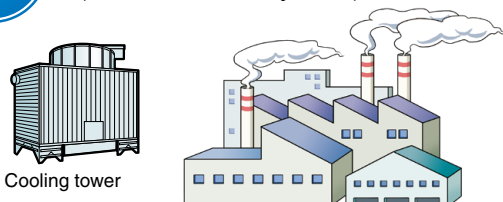


Even without a cooling tower, an air-cooled refrigerated chiller can be used to easily supply cooling water.



When...

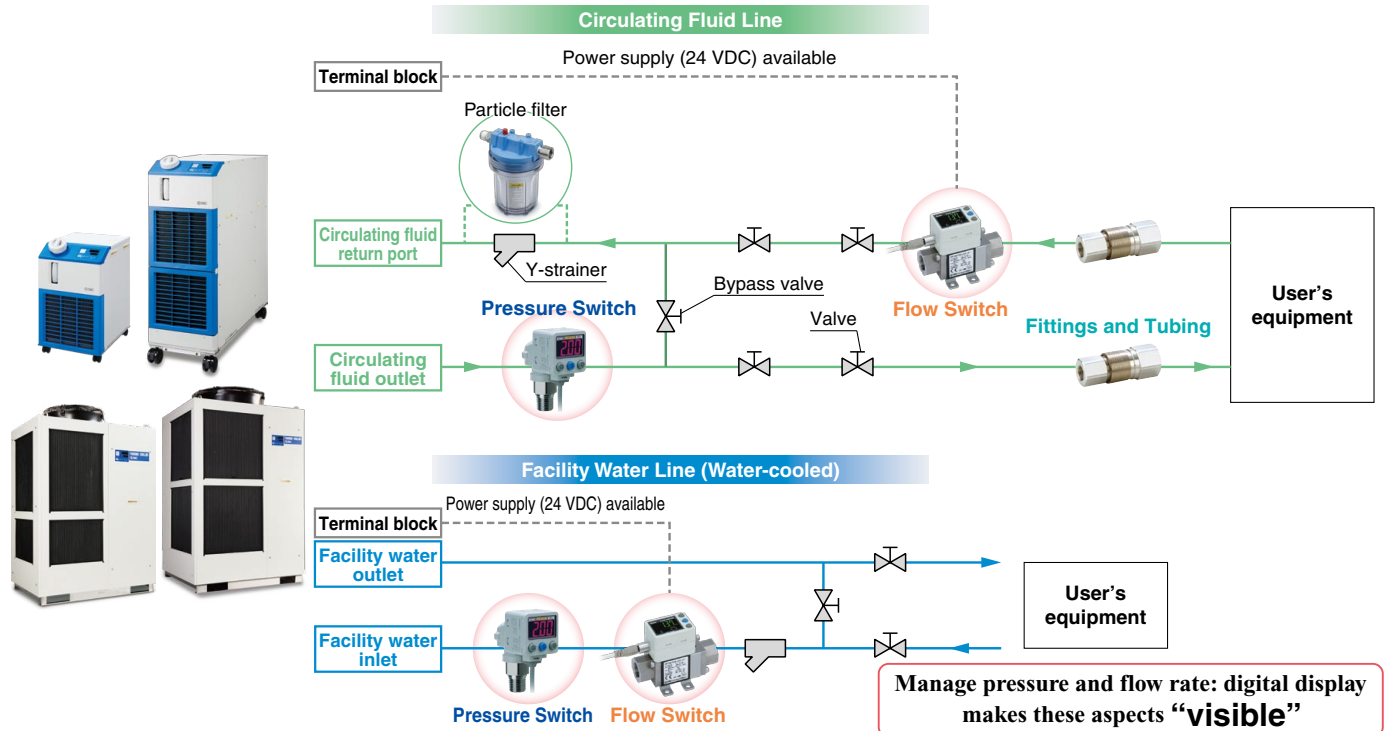
There is a cooling tower, but high temperatures in summer or low (freezing) temperatures in winter make cooling water temperatures unstable.



Cooling water at a consistent temperature can be supplied regardless of the season.



Circulating Fluid/Facility Water Line Equipment



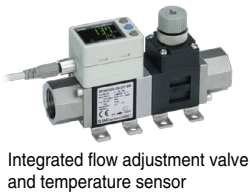
Flow Switch: Monitors flow rate and temperature of the circulating fluid.

Refer to the Best Pneumatics No. 8 for details.

3-Color Display Digital Flow Switch for Water **PF3W**

3-Color Display Electromagnetic Type Digital Flow Switch **LFE**

Digital Flow Switch for Deionized Water and Chemical Liquids **PF2D**
4-Channel Flow Monitor **PF2□200**



Pressure Switch: Monitors pressure of the circulating fluid.

Refer to the Best Pneumatics No. 8 for details.

Particle Filter



2-Color Display High-Precision Digital Pressure Switch **ISE80**



Pressure Sensor for General Fluids **PSE56□**
Pressure Sensor Controller **PSE200,300**



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Fittings and Tubing

Refer to the Best Pneumatics No. 7 for details.

S Coupler **KK**



S Coupler/Stainless Steel (Stainless Steel 304) **KKA**



Tubing **T□**



Metal One-touch Fittings **KQB2**



Stainless Steel 316 One-touch Fittings **KQG2**



Series	Material
T	Nylon
TU	Polyurethane
TH	FEP (Fluoropolymer)
TD	Modified PTFE (Soft fluoropolymer)
TL	Super PFA
TLM	PFA

Stainless Steel 316 Insert Fittings **KFG2**



Fluoropolymer Fittings **LQ**



Refer to the Best Pneumatics No. 7 and 8 for details.