

## Recirculating Coolers (Low Temp.)

### Powerful recirculating coolers.

Provide a wide range of cooling capacities with temperature reliability.



### Performance

- Temperature range from -20 °C to 40 °C.
- High cooling capacity up to 7.1kW at 20 °C.
- Powerful circulating pumps up to 70L/min., 6 bar.
- Refrigerating system is designed to reduce energy consumption and maximize refrigerating efficiency.

### Convenience

- Designed to simplify operation with a touch screen type display.
  - Easy-to-read VFD display with interactive touch keys.
  - Setting and resolution indication 0.1 °C/°F.
  - Quick keypad lock prevents accidental parameter changes.
  - Signal indicator for operation status.
- Bright LED water level indicator can be seen from a distance.
- Built in pressure gauge for checking pump pressure at a glance.
- High/low pressure gauges for condition diagnosis of refrigerating system at a glance. (for H type)
- Wide filling inlet for easy and safe pouring of solution into the unit.
- Double service valve prevents refrigerant leakage for easy maintenance.
- Removable gridded vent for easy maintenance of condenser.
- Built-in casters for easy transport and installation.

### Safety

- Self-diagnostic function identifying errors.
- Complete safety protection system with warning alarms.
  - Low fluid level and dry-running protection; when triggered shows an error symbol on the display and an audible buzzer sound.
  - Over-temperature protection; If the equipment operates at over maximum temperature due to external environment, user can simply identify the error with a visual signal or an audible buzzer sound.
  - Over-current circuit breaker.
- Eco-friendly R-404A / R-507 refrigerant use for environmental protection.
- Splash-proof keypad.

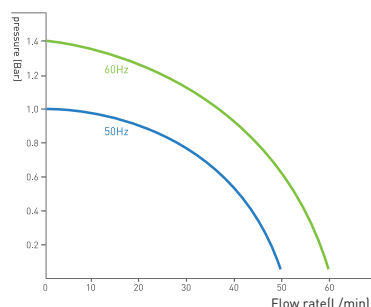
Testing in accordance with **DIN EN 12876**

**Standard accessories** • 3/4" male to 3/4" male adapters (2ea)  
see page 120-121 • Ball valves (2ea)

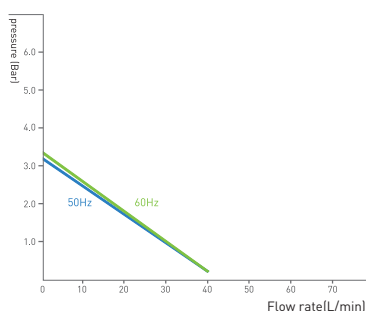


## Pumping capacities (Bath fluid : ethylene glycol mix 1:1 water)

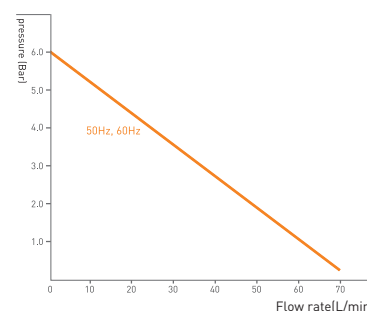
### Submersible pump



- HL -05, 10, 15, 2



- HL - 15H, 20H, 25H, 35H



- HL -45H, 55H

Model		HL-05	HL-10	HL-15	HL-20	HL-15H	HL-20H	HL-25H	HL-35H	HL-45H <sup>2)</sup>	HL-55H <sup>2)</sup>	
Temperature <sup>1)</sup> (bath fluid : ethylene glycol mix 1:1 water)	Working temp. range (°C / °F)	-20 to 40 / -4 to 104										
	Temp. stability at 15°C, (±°C / °F)	1 / 1.8										
Cooling capacity (bath fluid : ethylene glycol mix 1:1 water)	at 20°C (kw)	0.6	0.7	1.45	1.8	1.45	1.8	2.5	3.3	6.5	7.1	
	at 10°C (kw)	0.5	0.6	1.15	1.5	1.15	1.5	1.8	2.3	4.5	6	
	at 0°C (kw)	0.35	0.42	0.86	1.15	0.86	1.15	1.1	1.7	3	4.1	
	at -10°C (kw)	0.18	0.32	0.62	0.85	0.62	0.85	0.65	1	2.1	2.5	
	at -20°C (kw)	0.04	0.14	0.3	0.40	0.3	0.4	0.4	0.55	1.2	1.5	
Pump	Max. flow rate (L / min, gal / min)	50 / 13.2				40 / 10.57				70 / 18.49		
	Max. pressure (bar / psi)	1 / 14.5				3.3 / 47.9				6 / 87		
Dimension	Max. filling Capacity (L, cu ft)	75 / 0.26		13.5 / 0.47				25 / 0.88		39 / 1.37		
	For tubing dia. (mm / inch)	20 / 3/4										
	Filling inlet (Ø, mm / inch)	120 / 4.7										
	Overall (WxLxH, mm / inch)	405×620×710 / 15.9×24.4×28			515×715× 835 / 20.3×28.1×32.9				550×900×1140 / 21.7×35.4×44.9		605×1045×1300 / 23.8×41.4×51.2	
	Net weight (kg / lbs)	62.85 / 138.6	64.85 / 143	86.5 / 190.7	87.35 / 192.9	91.8 / 202.4	92.65 / 204.3	141.3 / 310.9	146.3 / 321.9	171 ±10 / 377 ±22	176 ±10 / 388 ±22	
Electric requirement (230V, 60Hz)		5A	5.5A	6.5A	7.5A	6.5A	7.5A	9.5A	13.5A			
Cat. No.		AAH65001K	AAH65011K	AAH65021K	AAH65031K	AAH65121K	AAH65131K	AAH65141K	AAH65151K	-	-	
Electric requirement (230V, 50Hz)		4.5A	5A	6A	7A	6A	7A	7.5A	12.5A			
Cat. No.		AAH65002K	AAH65012K	AAH65022K	AAH65032K	AAH65122K	AAH65132K	AAH65142K	AAH65152K	-	-	
Electric requirement (120V, 60Hz)		10A	11A	13A	15A							
Cat. No.		AAH65003U	AAH65013U	AAH65023U	AAH65033U	-	-	-	-	-	-	
Electric requirement (380V, 60Hz)										5.5A	7A	
Cat. No.		-	-	-	-	-	-	-	-	AAH65169K	AAH65179K	
Electric requirement (380V, 50Hz)										5A	6A	
Cat. No.		-	-	-	-	-	-	-	-	AAH65168K	AAH65178K	

1) Technical data according to DIN 12876.

2) HL-45H, 55H is recorded by 380V, 60Hz.

\* Above specification value is recorded by 50Hz.

\* Product performance may be affected by ambient temperatures.

\* CE except for HL-45H/55H.

\* FDA establishment registered company. FDA listed products.

# Accessories & Options

## Barbed fittings

Cat. No.	Description
HXE1066	3/4" male to barbed fitting for tubing 1" inner dia.
HXE1067	3/4" male to barbed fitting for tubing 3/4" inner dia.
HXE1068	3/4" male to barbed fitting for tubing 5/8" inner dia.
HXE1069	3/4" male to barbed fitting for tubing 1/2" inner dia.
HXE1070	3/4" male to barbed fitting for tubing 3/8" inner dia.
AAA64501	1" barbed fittings set with ball valve
AAA64502	3/4" barbed fittings set with ball valve
AAA64503	5/8" barbed fittings set with ball valve
AAA64504	1/2" barbed fittings set with ball valve
AAA64505	3/8" barbed fittings set with ball valve
AAA64506	1" barbed fittings set with gate valve
AAA64507	3/4" barbed fittings set with gate valve
AAA64508	5/8" barbed fittings set with gate valve
AAA64509	1/2" barbed fittings set with gate valve
AAA64510	3/8" barbed fittings set with gate valve



### Barbed fittings

Geared for quick connecting of various size type tubes using pipe fittings, tube fittings, and hose fittings without tools.

## Connectors / Adapters

Cat. No.	Description
HXE1105	3/4" male to 3/4" female
HXE1106	3/4" male to 5/8" female
HXE1107	3/4" male to 1/2" female
HXE1108	3/4" male to 3/8" female
HXE1109	3/4" male to 3/4" male
HXE1110	3/4" male to 5/8" male
HXE1111	3/4" male to 1/2" male
HXE1112	3/4" male to 3/8" male



### Connectors / Adapters

Connect tubing or other devices.

## One touch adapters set

Cat. No.	Description
HXE1075	12mm one touch adapter ID. 9mm, OD. 12mm
HXE1076	10mm one touch adapter ID. 6.5mm, OD. 10mm
HXE1077	8mm one touch adapter ID. 5.5mm, OD. 8mm
HXE1078	6mm one touch adapter ID. 4mm, OD. 6mm
AAA64531	12mm adapters set with ball valve
AAA64532	10mm adapters set with ball valve
AAA64533	8mm adapters set with ball valve
AAA64534	6mm adapters set with ball valve



### One touch adapters set

Convenient to connect and exchange tubing.

## Flexible fittings

Cat. No.	Description
HXE1071	3/4" male to 3/4" flexible fitting
HXE1072	3/4" male to 1/2" female with 1/2" male to 1/2" flexible fitting
AAA64521	3/4" flexible fittings set with ball valve
AAA64522	1/2" flexible fittings set with ball valve
AAA64523	3/4" flexible fittings set with gate valve
AAA64524	1/2" flexible fittings set with gate valve

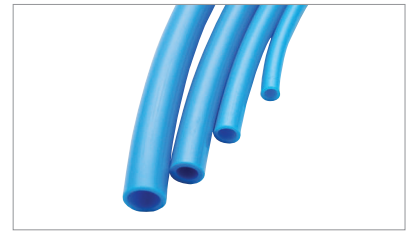


### Flexible fittings

Stainless steel tubing designed for superior flexibility and with good chemical resistance.

### Tubings

Cat. No.	Description	
HXE1079	1m 12mm urethane tubing	ID. 9mm, OD. 12mm
HXE1080	1m 10mm urethane tubing	ID. 6.5mm, OD. 10mm
HXE1081	1m 8mm urethane tubing	ID. 5.5mm, OD. 8mm
HXE1082	1m 6mm urethane tubing	ID. 4mm, OD. 6mm
HXE1083	1m 1" PVC tubing with thread	ID. 25mm, OD. 31mm
HXE1084	1m 3/4" PVC tubing with thread	ID. 19mm, OD. 24mm
HXE1085	1m 5/8" PVC tubing with thread	ID. 16mm, OD. 20.5mm
HXE1086	1m 1/2" PVC tubing with thread	ID. 12mm, OD. 16.0mm
HXE1087	1m 3/8" PVC tubing with thread	ID. 10mm, OD. 14mm
HXE1088	1m 1" PVC tubing with wire	ID. 25mm, OD. 33mm
HXE1089	1m 3/4" PVC tubing with wire	ID. 19mm, OD. 26mm
HXE1090	1m 5/8" PVC tubing with wire	ID. 15mm, OD. 22mm
HXE1091	1m 1/2" PVC tubing with wire	ID. 12mm, OD. 18mm
HXE1092	1m 3/8" PVC tubing with wire	ID. 9mm, OD. 15mm



Tubings

Excellent heat resistance and corrosion resistance urethane tubing.

### Tubing insulations

Cat. No.	Description	
HXE1093	EPDM insulation, 16mm inner dia. (9T)	
HXE1094	EPDM insulation, 19mm inner dia. (9T)	
HXE1095	EPDM insulation, 25mm inner dia. (9T)	
HXE1096	EPDM insulation, 28mm inner dia. (9T)	
HXE1097	EPDM insulation, 35mm inner dia. (9T)	



Tubing insulations

EPDM insulation is used to reduce heat loss and condensation from cold water plumbing, chilled water, and refrigeration lines.

### Flexible tubing

Cat. No.	Description	
HXE1073	3/4" flexible tubing (SUS 304, m)	
HXE1074	1/2" flexible tubing (SUS 304, m)	

### Tube clamps

Cat. No.	Description	
HXE1098	1" clamp	
HXE1099	3/4" clamp	
HXE1100	5/8" clamp	
HXE1101	1/2" clamp	
HXE1102	3/8" clamp	



Tube clamps

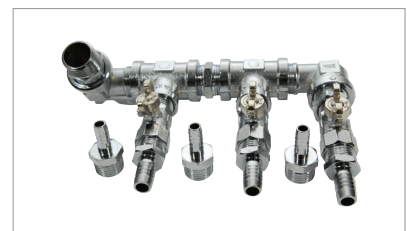
Corrosion resistant stainless steel clamps

### Bath fluid

Cat. No.	Description	
HXE1113	Distilled water (20L)	
HXE1114	Ethylene glycol (4L)	
HXE1115	Ethylene glycol (20L)	

### Distributing fittings

Cat. No.	Description	
AAA64541	3-way distributing barbed fittings set (1/4")	
AAA64542	3-way distributing barbed fittings set (3/8")	



Distributing fittings

Distributing fittings connect even with small tubes with barb fittings.

### External sensor (for HS, HH)

Cat. No.	Description	
CFA1946	3m cable for Pt 100 sensor	