09

Recirculating Coolers (chillers)

General Recirculating Coolers

Low Temp. Recirculating Coolers

Advanced Low Temp. Recirculating Coolers

High Temp. Recirculating Coolers

Compact Recirculating Cooler

» General Applications

Recirculating Cooler (HX)

Warming reagents, Routine laboratory applications, Coliform determinations, Sample thawing, Bacteriological examinations, Microbiological assays, Cell cultivation.

Recirculating Cooler (HL/HS/HH)

Temperature control, Incubations, Material testing, Increasing solubility rates, Corrosion tests, Cell cultivation, Histological studies.

Recirculating Cooler (RC)

Viscosity measurements, Fecal coliform testing, Plasma thawing, Histological studies.

Product Name		General Recirculating Coolers		Low Temp. Recirculating Coolers	
Model		HX	HX-H	HL	HL-H
Description		-		-	
Temp. control (℃/℉)		3 to 40 / 37.4 to 104		-20 to 40 / -4 to 104	
Temp. stability at 15℃ (±℃/℉)		1 / 1.8		1 / 1.8	
Cooling capacity at 20℃ (Kw)		1.9, 2.4	1.9, 2.4, 3.6, 4.7, 7.1	0.6, 0.7, 1.45, 1.8	1.45, 1.8, 2.5, 3.3, 6.5, 7.1
Heating capacity at 20℃ (Kw)		-	-	-	-
Pump (50Hz)	Max. flow rate (L / min)	40	28	50	40, 70
	Max. pressure (bar)	1.58	4.3	1	3.3, 6
Dimension	Max. filling capacity (L)	35, 45		7.5, 13.5, 25, 39	
	for tubing dia. (mm / inch)	20		20	
Control	Display & Control interface	VFD, Buttons		VFD, Touch buttons, Knob	
	Computer interface	-		-	
Safety	Over temp. limit	-		-	
	Low fluid level alarm	O		O	
	External sensor	-		-	

» Technical Benefits

Wide model selection covers all of your application needs

- Excellent heating and cooling control from -20 to 80℃.
- Cooling capacity of up to 7.7kW
- Circulating pumps up to 70 L/min and 6 bar.
- Energy-effective by-pass model and cost-effective general model.

Stand alone cooling performance

Adjusting amount of refrigerant evaporation loss

Microprocessor PID heating control

HH models

- Broad cooling and heating task from -20℃ to 80℃.
- Quick heat up time with the intergrated heater.
- Superb temperature stability of ±0.1℃ by microprocessor PID control.

Microprocessor PID cooling control

HS models

- Smart cooling performance from with high temperature stability.
- No heater equipped, high temperature stability of ±0.2℃ is guaranteed with only using a refrigerating system.

- Cooling capacity of refrigerator is adjustable from 1% to 100% by high-tech microprocessor PID control. (patent pending)

Advanced Low Temp. Recirculating Coolers		High Temp. Recirculating Coolers		Compact Recirculating Cooler
HS	HS-H	HH	HH-H	RC
• Precise temperature stability without heater.		• Broad temp. range. • Quick heat up time and precise temp. stability with intergrated heater.		• Compact size.
-20 to 40 / -4 to 104		-20 to 80 / - 4 to 176		-20 to 30 / -4 to 86
0.2 / 0.36		0.1 / 0.2		1 / 1.8
1.45, 1.8, 2.5, 3.3, 6.5, 7.1	6.5, 7.1	1.45, 1.8, 2.5, 3.3	6.5, 7.1	0.58
-	-	2, 4	8.4	-
40	70	40	70	26
3.3	6	3.3	6	0.7
13.5, 25, 39		13.5, 25, 39		5
20		20		9.5
VFD, Touch buttons, Knob		VFD, Touch buttons, Knob		LCD, Buttons
RS-232 port, Alarm output port		RS-232 port, Alarm output port		-
-		O		-
O		O		O
O (optional)		O (optional)		-

Providing a constant temperature control and high cooling efficiency.

LCD display

Pressure gauge

Level indicator

Performance

- Temperature range from 3℃to 40℃.
- High cooling capacity up to 7.1kW at 20℃.
- Powerful circulating pumps up to 40L/min., 4.3 bar.
- Refrigerating system is designed to reduce energy consumption and maximize refrigerating efficiency.
- Pump pressure can be controlled using a by-pass function. (for H type)

Convenience

- Clear and easy-to-use LCD display. (resolution 0.1℃)
- 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.
- Suitable model is selectable between magnetic pump, centrifugal pump.
- 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 refrigerant use for environmental protection.
- Splash-proof keypad.

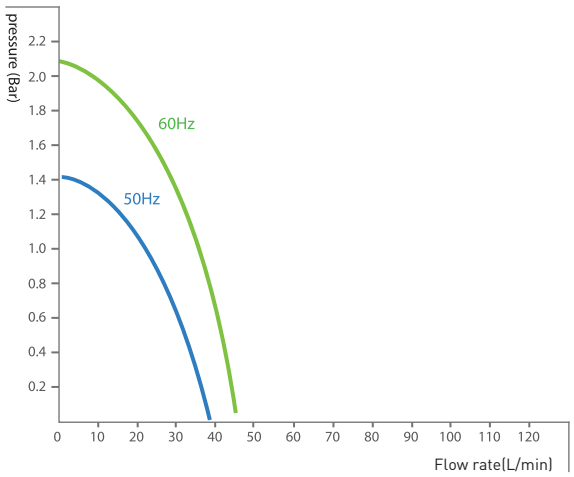
Testing in accordance with **DIN EN 12876**

Standard accessories **see page 120-121**

- 3/4" male to 3/4" male adapters (2ea)
- Ball valves (2ea)

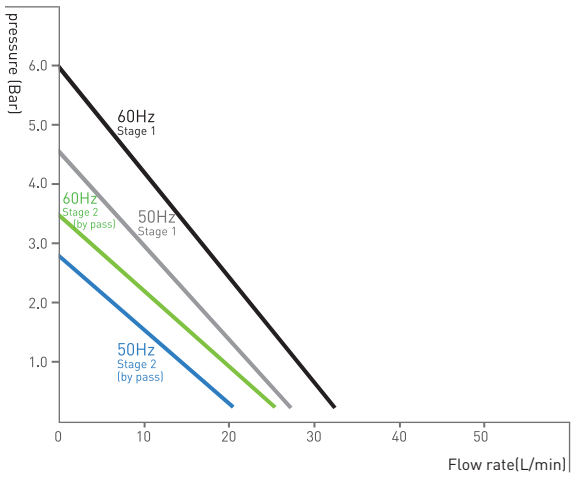
Pumping capacities (bath fluid: water)

Magnetic pump



• HX-20, 25

Centrifugal pump



• HX-20H, 25H, 35H, 45H, 55H

Model		HX-20	HX-25	HX-20H	HX-25H	HX-35H	HX-45H[2]	HX-55H[2]
Temperature[1] (bath fluid : water)	Working temperature range (℃ / ℉)	+3 to 40 / +37.4 to 104						
	Temperature stability at 15℃ (±℃ / ℉)	1 / 1.8						
Cooling capacity (bath fluid : water)	at 20℃ (kW)	1.9	2.4	1.9	2.4	3.6	4.7	7.1
	at 10℃ (kW)	1.4	1.7	1.4	1.7	3.1	3.6	5.1
	at 5℃ (kW)	1	1.4	1	1.4	2.4	2.9	4.2
Pump	Max. flow rate (L / min, gal / min)	40 / 10.6		28 / 7.39				
	Max. pressure (bar / psi)	1.43 / 20.74		4.3 / 62.37				
Dimension	Max. filling capacity (L / cu ft)	35 / 1.24				45 / 1.59		
	For tubing dia. (mm / inch)	20 / 3/4						
	Filling inlet (Ø, mm / inch)	50 / 1.9						
	Overall (W×L×H, mm / inch)	620×785×990 / 24.4×30.9×39				745×800×1095 / 29.3×31.5×43.1		
	Net weight (kg / lbs)	93 / 205	101 / 223	97 / 214	105 / 231	120 / 265	130 / 287	140 / 309
Electrical requirements (230V, 60Hz)		8.5A	9A	9.3A	9.8A	15A	19A	
Cat. No.		**AAH64011K**	**AAH64021K**	**AAH64111K**	**AAH64121K**	**AAH64131K**	**AAH64141K**	-
Electrical requirements (230V, 50Hz)		7A	7.6A	7.9A	8.8A	14A		
Cat. No.		**AAH64012K**	**AAH64022K**	**AAH64112K**	**AAH64122K**	**AAH64132K**	-	-
Electrical requirements (120V, 60Hz)		17A	22A					
Cat. No.		**AAH64013U**	**AAH64023U**	-	-	-	-	-
Electrical requirements (380V, 60Hz)							10A	11.5A
Cat. No.		-	-	-	-	-	**AAH64149K**	**AAH64159K**
Electrical requirements (380V, 50Hz)							7A	8.5A
Cat. No.		-	-	-	-	-	**AAH64148K**	**AAH64158K**

1) Technical data according to DIN 12876
2) HX-45H, 55H is recorded by 380V, 60Hz.
※ Above specification value is recorded by 50Hz.
※ Product performance may be affected by ambient temperatures.
※ FDA establishment registered company. FDA listed products.

Powerful recirculating coolers.

Provide a wide range of cooling capacities with temperature reliability.

Performance

- Temperature range from -20℃ to 40℃.
- High cooling capacity up to 7.1kW at 20℃.
- Powerful circulating pumps up to70L/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℃/°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.

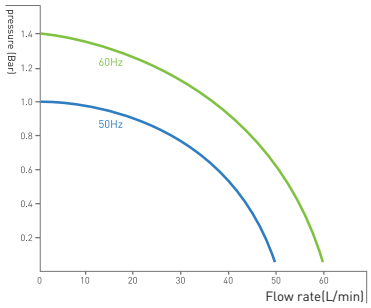
Testing in accordance with **DIN EN 12876**

Standard accessories **see page 120-121**

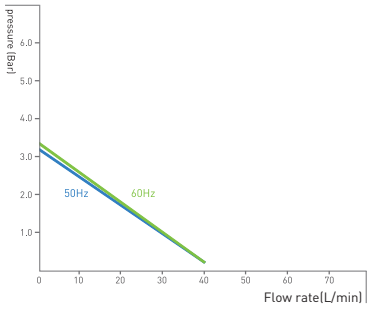
- 3/4" male to 3/4" male adapters (2ea)
- Ball valves (2ea)

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

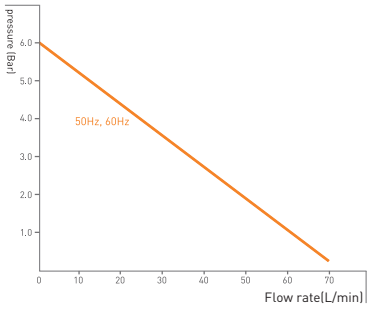
Submersible pump



• HL-05, 10, 15, 2



• HL-15H, 20H, 25H, 35H



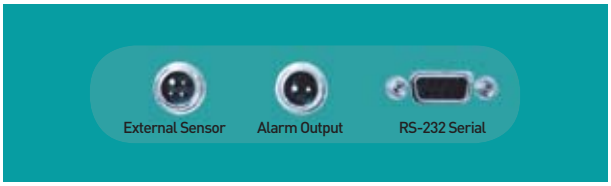
• HL-45H, 55H

Model		HL-05	HL-10	HL-15	HL-20	HL-15H	HL-20H	HL-25H	HL-35H	HL-45H[2]	HL-55H[2]
Temperature[1] (bath fluid : ethylene glycol mix 1:1 water)	Working temp. range (℃ / ℉)	-20 to 40 / -4 to 104									
	Temp. stability at 15℃, (±℃ / ℉)	1 / 1.8									
Cooling capacity (bath fluid : ethylene glycol mix 1:1 water)	at 20℃ (kw)	0.6	0.7	1.45	1.8	1.45	1.8	2.5	3.3	6.5	7.1
	at 10℃ (kw)	0.5	0.6	1.15	1.5	1.15	1.5	1.8	2.3	4.5	6
	at 0℃ (kw)	0.35	0.42	0.86	1.15	0.86	1.15	1.1	1.7	3	4.1
	at -10℃ (kw)	0.18	0.32	0.62	0.85	0.62	0.85	0.65	1	2.1	2.5
	at -20℃ (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)	7.5 / 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.

Adjustable, precise PID temperature controller beneficial for various cooling tasks in the science, research, and industrial laboratories.

Digital controller



RS-232 serial port & etc

Testing in accordance with **DIN EN 12876**

Standard accessories
see page 120-121

- 3/4" male to 3/4" male adapters (2ea)
- Ball valves (2ea)

Performance

- Temperature range from -20℃ to 40℃.
- High cooling capacity up to 7.1kW at 20℃.
- Powerful circulating pumps up to70L/min., 6 bar.
- Precise temperature stability ± 0.2℃ (at 15℃) without heater.
  - Innovative and exclusive controller can adjust the cooling capacity from 1% to 100%.
- Refrigerating system is designed to reduce energy consumption and maximize refrigerating efficiency.

Convenience

- Designed to simplify operation with a touch screen type display.
  - Setting and resolution indication 0.1℃/°F.
  - Quick keypad lock prevents accidental parameter changes.
- Bright LED water level indicator can be seen from a distance.
- Optional external sensor can be connected for more actual temperature control.
- 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.
- RS-232 interface for external control and data collection.

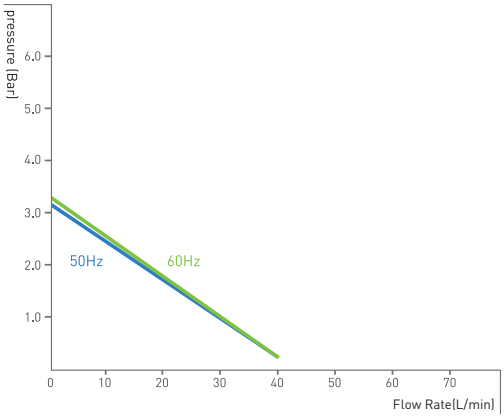
Safety

- 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.

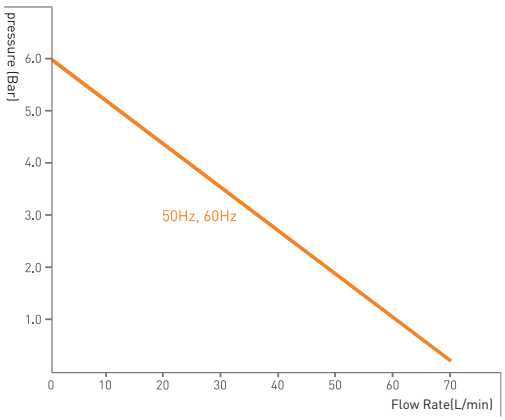
Green CFC-Free | Computer Interface | Full Start Level Indicater

Pumping capacities (bath fluid: water)

Submersible pump



• HS -15, 20, 25, 35, 45, 55



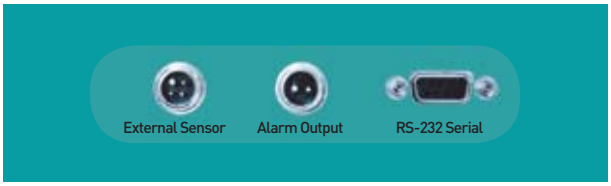
• HS - 45H, 55H

Model		HS-15	HS-20	HS-25	HS-35	HS-45	HS-55	HS-45H[2]	HS-55H[2]
Temperature[1] (bath fluid : ethylene glycol mix 1:1 water)	Working temperature range (℃ / ℉)	-20 to 40 / -4 to 104							
	Temperature stability at 15℃, (±℃ / ℉)	0.2 / 0.36							
Cooling capacity (bath fluid : ethylene glycol mix 1:1 water)	at 20℃ (kw)	1.45	1.8	2.5	3.3	6.5	7.1	6.5	7.1
	at 10℃ (kw)	1.15	1.5	1.8	2.3	4.5	6	4.5	6
	at 0℃ (kw)	0.86	1.15	1.1	1.7	3	4.1	3	4.1
	at -10℃ (kw)	0.62	0.85	0.65	1	2.1	2.5	2.1	2.5
	at -20℃ (kw)	0.3	0.4	0.4	0.55	1.2	1.5	1.2	1.5
Pump	Max. flow rate (L / min, gal / min)	40 / 10.57						70 / 18.49	
	Max. pressure (bar / psi)	3.3 / 47.86						6 / 87	
Dimension	Max. filling Capacity (L, cu ft)	13.5 / 0.47		25 / 0.88		39 /1.37			
	For tubing dia. (mm / inch)	20 / 3/4							
	Filling inlet (Ø, mm / inch)	37 / 1.4							
	Overall (WxLxH, mm / inch)	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)	91.8 / 202.4	92.65 / 204.3	141.3 / 310.9	146.3 / 321.9	168 ±10 / 370 ±22	173±10 / 381 ±22	171 ±10 / 377 ±22	176 ±10 / 388 ±22
Electric Requirement (230V, 60Hz)		6.5 A	7.5 A	9.5 A	13.5 A				
Cat. No.		**AAH66011K**	**AAH66021K**	**AAH66031K**	**AAH66041K**	-	-	-	-
Electric Requirement (230V, 50Hz)		6 A	7 A	7.5 A	12.5 A				
Cat. No.		**AAH66012K**	**AAH66022K**	**AAH66032K**	**AAH66042K**	-	-	-	-
Electric Requirement (380V, 60Hz)						5.5 A	7 A	5.5 A	7 A
Cat. No.		-	-	-	-	**AAH66259K**	**AAH66469K**	**AAH66359K**	**AAH66569K**
Electric Requirement (380V, 50Hz)						5 A	6 A	5 A	6 A
Cat. No.		-	-	-	-	**AAH66258K**	**AAH66468K**	**AAH66358K**	**AAH66568K**

1) Technical data according to DIN 12876.
2) HS-45H, 55H is recorded by 380V, 60Hz.
※ Above specification value is recorded by 50Hz.
※ Product performance may be affected by ambient temperatures.
※ FDA establishment registered company. FDA listed products.

Broad temperature ranging up to 80℃ for various applications. Also integrated heaters greatly provides high temperature stability.

Digital controller



Temp. limit & RS-232 serial & etc

Performance

- Wide temperature range from -20℃ to 80℃.
- High cooling capacity up to 7.1kW at 20℃.
- Powerful circulating pumps up to to70L/min., 6 bar.
- Precise temperature stability ± 0.1℃ (at 15℃) with integrated heaters.
- Refrigerating system is designed to reduce energy consumption and maximize refrigerating efficiency.

Convenience

- Designed to simplify operation with a touch screen type display.
  - Setting and resolution indication 0.1℃/°F.
  - Quick keypad lock prevents accidental parameter changes.
- Bright LED water level indicator can be seen from a distance.
- Optional external sensor can be connected for more actual temperature control.
- 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.
- RS-232 interface for external control and data collection.

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.

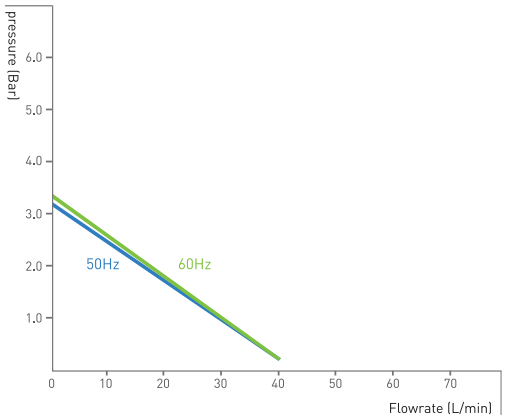
Testing in accordance with **DIN EN 12876**

Standard accessories
see page 120-121

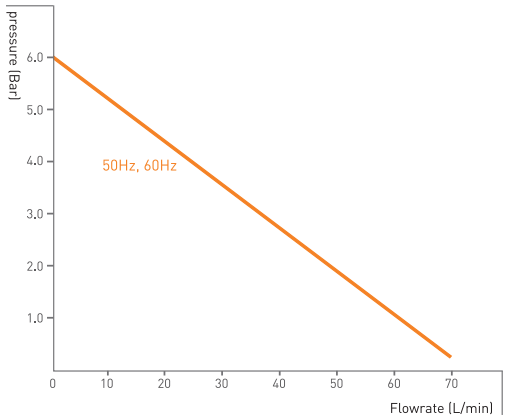
- 3/4" male to 3/4" male adapters (2ea)
- Ball valves (2ea)

Pumping capacities (bath fluid : ethylene glycol mix 1:1 water)

Submersible pump



• HH-15, 20, 25, 35



• HH- 45H, 55H

Model		HH-15	HH-20	HH-25	HH-35	HH-45H[2]	HH-55H[2]
Temperature[1] (bath fluid : ethylene glycol mix 1:1 water)	Working temperature range (℃ / °F)	-20 to 80 / - 4 to 176					
	Temperature stability at 15℃ (±℃ / °F)	0.1 / 0.2					
Cooling capacity (bath Fluid : ethylene glycol mix 1:1 water)	at 80℃ (kw)	2	2.5	3.5	4	6	7.5
	at 40℃ (kw)	0.9	1	2.4	2.5	4.5	5
	at 20℃ (kw)	1.45	1.8	2.5	3.3	6.5	7.1
	at 0℃ (kw)	0.86	1.15	1.1	1.7	3	4.1
	at -20℃ (kw)	0.3	0.4	0.4	0.55	1.2	1.5
Heating capacity(kw)		2		4		8.4	
Pump	Max. flow rate (L / min, gal / min)	40 / 10.6				70 / 18.5	
	Max. pressure (bar / psi)	3.3 / 47.9				6 / 87.02	
Dimension	Max. filling capacity (L, cu ft)	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 (WxDxH, mm / inch)	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)	92 / 202.8	93 / 205	142 / 313	147 / 324	171±10 / 377±22	176±10 / 388±22
Electric requirement (230V, 60Hz)		15A	16A	27A	31A		
Cat. No.		**AAH67011K**	**AAH67021K**	**AAH67031K**	**AAH67041K**	-	-
Electric requirement (230V, 50Hz)		14.5A	15.5A	25A	30A		
Cat. No.		**AAH67012K**	**AAH67022K**	**AAH67032K**	**AAH67042K**	-	-
Electric requirement (380V, 60Hz)						18.3	19.8
Cat. No.		-	-	-	-	**AAH67159K**	**AAH67169K**
Electric requirement (380V, 50Hz)						17.8	19.3
Cat. No.		-	-	-	-	**AAH67158K**	**AAH67168K**

1) Technical data according to DIN 12876.
2) HH-45H, 55H is recorded by 380V, 60Hz.
※ Above specification value is recorded by 50Hz.
※ Product performance may be affected by ambient temperatures.
※ Under the condition of no-load operation, cooling capacity should be lower than heating capacity.
※ FDA establishment registered company. FDA listed products.

This compact designed model is ideal for cooling small laboratory equipment in daily use.

Performance

- Temperature range from -20℃ to 30℃.
- Refrigerating system is designed to reduce energy consumption and maximize refrigerating efficiency.

Convenience

- Clear and easy-to-use LCD display. (resolution 0.1℃)
- Bright LED water level indicator can be seen from a distance.
- 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.
- Compact design for space saving. The unit is suitable for stable temperature cooling compact devices such as rotary evaporators in laboratory.
- Variety of accessories are available to meet application demands.

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-507 refrigerant use for environmental protection.
- Splash-proof keypad.

Level indicator

LCD display

Testing in accordance with **DIN EN 12876**

Optional accessories
see page 120-121

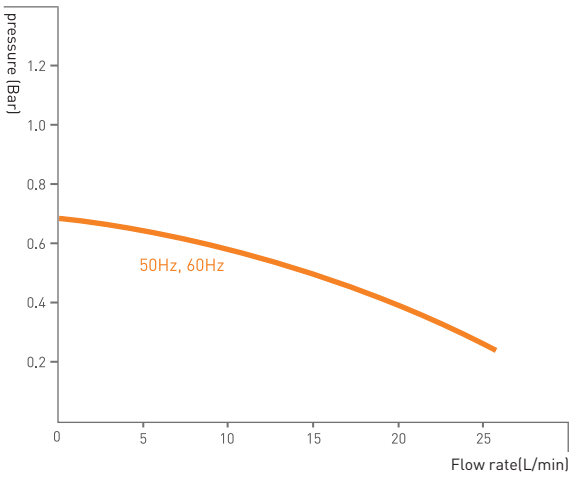
- Adapters
- Tubing, Insulations
- Tube clamps
- Bath fluid

Green CFC-Free

Full Start Level Indicater

Pumping capacities (bath fluid: ethanol)

Magnetic pump



• RC-05

Model		RC-05
Temperature[1]	Working temperature range (℃ / °F)	-20 to 30 / -4 to 86
	Temperature stability at 15℃ (±℃ / °F) (bath fluid : water)	1 / 1.8
Cooling capacity (bath fluid : ethanol)	at 20℃ (kW)	0.58
	at 10℃ (kW)	0.45
	at 0℃ (kW)	0.35
	at -10℃ (kW)	0.27
	at -20℃ (kW)	0.11
Pump	Max. flow rate (L / min, gal / min)	26 / 6.87
	Max. pressure (bar / psi)	0.7 / 10.15
Dimension	Max. filling capacity (L / cu ft)	5 / 0.18
	For tubing dia. (mm / inch)	9.5 / 3/8
	Filling inlet (Ø, mm / inch)	37 / 1.4
	Overall (WxLxH, mm / inch)	300×550×530 / 11.8×21.7×20.9
	Net weight (kg / lbs)	45 / 99.2
Electrical requirements (230V, 60Hz)		4A
Cat. No.		**ACH651011K**
Electrical requirements (230V, 50Hz)		4A
Cat. No.		**ACH651012K**

1) Technical data according to DIN 12876.
※ Above specification value is recorded by 60Hz.
※ Product performance may be affected by ambient temperatures.

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

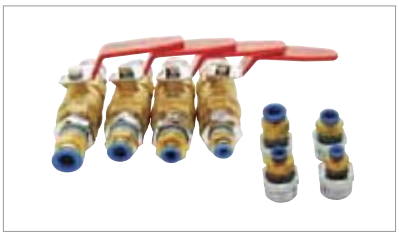
Cat. No.	Description
HXE1105	3/4" male to 3/4" female
HXE1106	3/4" male to 5/8" female
HXE1107	3/4" male to 1/2" female
HXE1108	3/4" male to 3/8" female
HXE1109	3/4" male to 3/4" male
HXE1110	3/4" male to 5/8" male
HXE1111	3/4" male to 1/2" male
HXE1112	3/4" male to 3/8" male

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

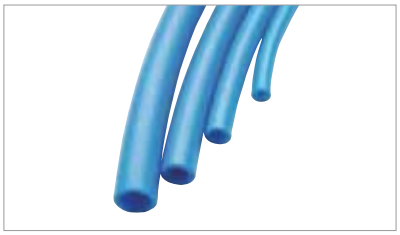
Cat. No.	Description
HXE1071	3/4" male to 3/4" flexible fitting
HXE1072	3/4" male to 1/2" female with 1/2" male to 1/2" flexible fitting
AAA64521	3/4" flexible fittings set with ball valve
AAA64522	1/2" flexible fittings set with ball valve
AAA64523	3/4" flexible fittings set with gate valve
AAA64524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

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