

9

Cold Trap

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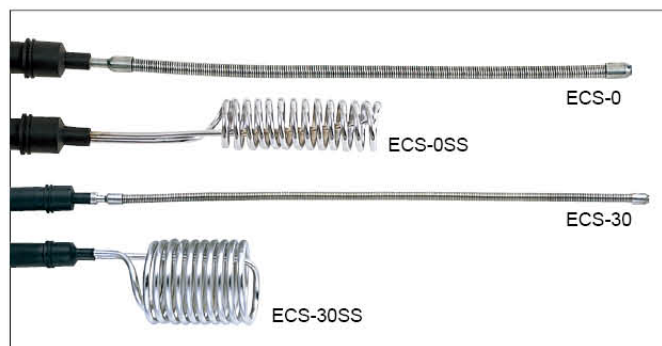
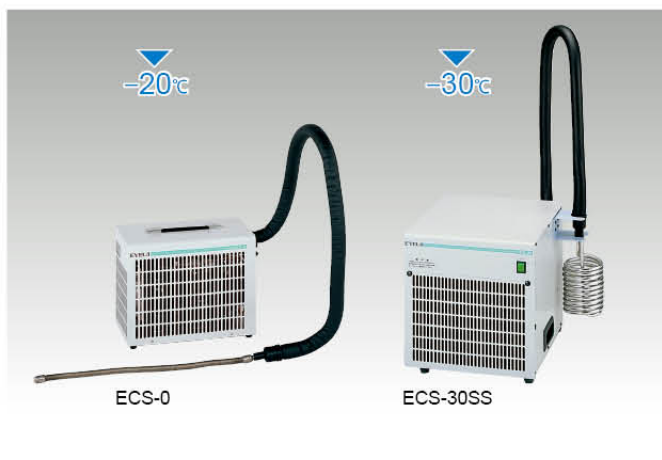


Immersion Cooler ECS-0·0SS·30·30SS

For maintaining liquid temperature below room temperature: -20 and -30°C

Features

- Desk top type light weight cooler.
- With holder for cooling part.
- High cooling capacity of 550·620W.



Product Name	Model	Cat. No.
Immersion Cooler	ECS-0SS	113360
Water Bath	NTT-2200	195420
Cooler Clamp	CHC-2	181840

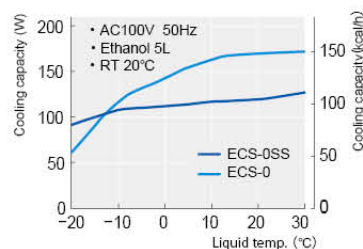
Specifications

Product Name	Immersion Cooler			
	ECS-0	ECS-0SS	ECS-30	ECS-30SS
Model	ECS-0	ECS-0SS	ECS-30	ECS-30SS
Cat. No.	113350	113360	113390	113410
Lowest temperature	-20°C		-30°C	
Cooling capacity at 10°C(50/60Hz)	160/160W	120/120W	550/550W	620/640W
Safety functions	Fuse, Refrigerator overload relay		Circuit protector, Refrigerator overload relay	
Refrigerator & coolant	Air cooling, 85W, R134a		Air cooling, 400W, R404a	
Maximum liquid temperature	30°C			
Cooling part material	SUS flexible	SUS spiral	SUS flexible	SUS spiral
Cooling part dimensions (mm)	OD15 x 500L	Wired OD40 x 140L	OD15 x 1100L	Wired OD115 x 140L
Bath dimensions (mm)	ID90 x 225H 1.4L		ID90 x 225H 1.4L	
Dimensions (mm) & Weight	340W x 194D x 265H 14kg		358W x 420D x 370H 27kg	
Power source	300VA AC100V		850VA AC100V	

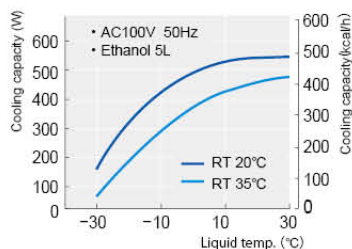
Data

■ Cooling Capacity

ECS-0-0SS

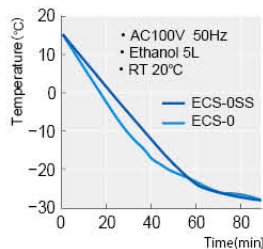


ECS-30

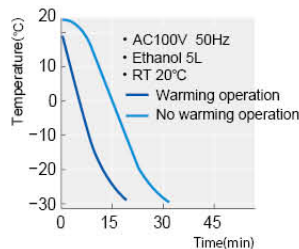


■ Cooling Curve

ECS-0-0SS



ECS-30



Immersion Cooler ECS-50·50SS·80

For maintaining liquid temperature below room temperature: -45 and -80°C

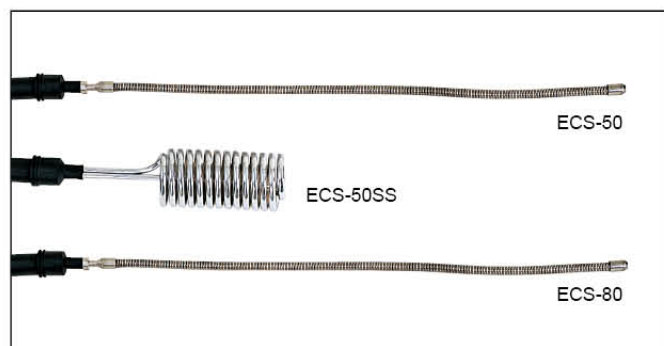


Features

- Long time, stable temperature control is possible thanks to high cooling capacity. Suitable for cold trap and synthesis, reaction process under cold temperature.
- Lowest temperature -45°C & -80°C.
- With holder for cooling part.



Product Name	Model	Cat. No.
Immersion Cooler	ECS-80	113450
Water Bath	SBC-11	114680
Temperature Controller	THD-100	114610
Stirring Pump	STR-1	114240
Cooler Clamp	CHC-2	181840
Immersion Heater	HPC-300	114740



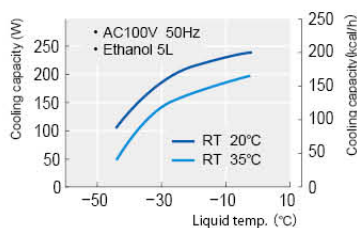
Specifications

Product Name	Immersion Cooler		
	ECS-50	ECS-50SS	ECS-80
Model	ECS-50	ECS-50SS	ECS-80
Cat. No.	113420	113440	113450
Lowest temperature	-45°C		-80°C
Cooling capacity (-30°C,60Hz)	160W	240W	240W
Refrigerator & coolant	Air cooling, 400W, R404A		Air cooling, 400W x 2, R404A,R23
Maximum liquid temperature	0°C		
Cooling part material	SUS flexible	SUS spiral	SUS flexible
Cooling part dimensions (mm)	OD15 x 700L	Wired OD75 x 200L	OD15 x 800L
Dimensions (mm) & Weight	358W x 420D x 370H 27kg		408W x 500D x 717H 50kg
Power source	850VA AC100V		1.4kVA AC100V

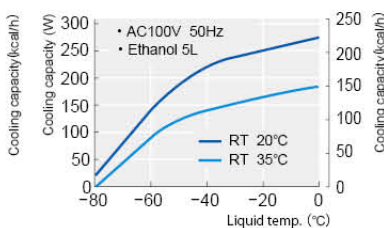
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■Cooling Capacity

ECS-50

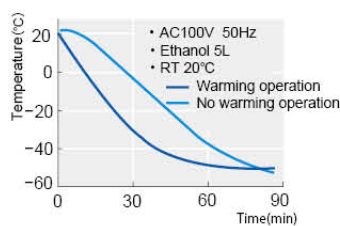


ECS-80

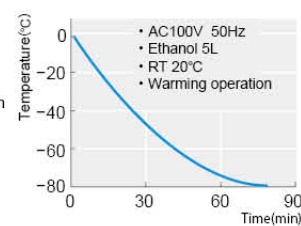


■Cooling Curve

ECS-50



ECS-80



Option & related products of immersion cooler

■ Bath



■ Immersion Heater



■ Immersion Cooler



■ System Example



Flexible system by combination of different temperature regulator, stirring pump, automatic water supply and immersion cooler.

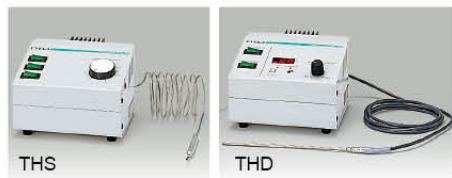
Specifications

Product name	Water Bath							
Model	SB-24	SB-15	SB-11	SB-6	SBC-24	SBC-16	SBC-11	SB-9
Cat. No.	114630	164520	114650	164510	114660	114670	114680	114700
Bath material	SUS 304				SUS 304, Coolant packing			
Bath capacity (L)	24.7	12.8	9.7	5.9	24.7	12.8	9.7	9.5
Bath dimensions (mm)	275Wx245Dx162H	275Wx245Dx150H	245Wx185Dx147H	260Wx150Dx151H	459Wx255Dx162H	275Wx245Dx150H	245Wx185Dx147H	337Wx194Dx157H

Specifications

Product name	Immersion Heater								
Model	HPC-300	HPC-500	HPC-1000	HPS-300	HPS-500	HPS-1000	HPT-300	HPT-500	HPT-1000
Cat. No.	114740	114750	114760	164770	114780	114790	114800	114810	114820
Heating part material	Copper chrome coating (Water)			SUS 316L (Water/oil)			Titanium (Water/oil)		
Heating capacity (W)	300	500	1000	300	500	1000	300	500	1000
Heater dimensions (mm)	OD100 x 8	OD100 x 8	OD138 x 20	OD100 x 8.5	OD100 x 8.5	OD139 x 20	OD100 x 10	OD100 x 10	OD140 x 30

■ Temperature Controller (THS•THD)



- Wide temperature control range from -99~50°C.
- Refrigerator ON-OFF control is possible (THS).
- By connecting immersion cooler, direct temperature control is possible.
- Up to -80°C temperature control is possible (THD).

Specifications

Product name	Temperature Controller				
Model	THS-10	THS-40	THS-60	THD-50	THD-100
Cat. No.	114570	114580	114590	114600	114610
Temp. control range	-10~50°C	-40~20°C	-60~-10°C	-50~50°C	-99~0°C
Temp. control	Heater, ref. ON-OFF			Heater	
Heater capacity	AC100V, 300W~1.4kW				
Dimensions (mm)	180W x 150D x 123H				
Power source	1.5kVA AC100V				

■ Stirring Pump STR-1



Model	STR-1
Cat. No.	114240
Motor	AC motor 5.5W
Pump Capacity	12L/min
Temp. Capacity	-80~100°C
Dimensions (mm)	90W x 135D x 223H

■ Automatic Water Supplier



Model	AFU-1
Cat. No.	114290
Control	Electrical magnetic valve
Sensor	Floating surface sensor
Temp. Capacity	0~80°C
Depth adjustment	75mm
Dimensions (mm)	145W x 67D x 290H

Cold Trap UT-500A・500B

Compact, tabletop type cold trap for centrifugal evaporator and small evaporator.



UT-500A

UT-500B

Features

- Can be used as cold trap for centrifugal evaporator CVE-1010 and small evaporator SE-1000.
- Compact size of 183Wx282mm allows installation on top of lab table or in fume hood.
- Glass condenser for low boiling point solvents and bath cover to prevent solvents vaporization are provided. Acid or organic solvents vapor can be trapped.
- Leak connector is provided as standard; realizing high recovery ratio of organic solvents.

Specifications

Product Name	Cold Trap	
	UT-500A	UT-500B
Model	UT-500A	UT-500B
Cat. No.	257440	257450
Trap	Glass condenser for low boiling point solvents, Direct trap	
Condensing capacity	Max. 150mL (liquid recovery)	
Lowest temperature	-30°C	
Safety functions	Leak/overcurrent braker, Refrigerator overload relay, Refrigerator high pressure switch	
Refrigerator	Air cooling, 100W	Water cooling 100W
Coolant	R134a	R134a
Bath dimensions (mm)	ID90 x 145H 0.85L	
Dimensions (mm) & Weight	183W x 282D x 376H 15kg	
Power source	540VA AC100V	460VA AC100V

■Applicable units:

Centrifugal evaporator CVE-1010
Small evaporator SE-1000



Glass condenser can be placed without using clamp.

Option



Glass condenser set
Cat. No. 258000
For trapping acid and organic solvents.

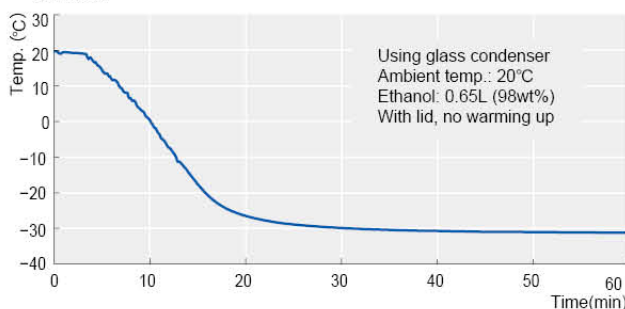


Lid with nozzle B3
Cat. No. 258130
For trapping water solvents.

Data

■Cooling curve

UT-500A



System example



Product name	Model	Cat. No.
Centrifugal evaporator	CVE-1010	260540
Rotar	R-1100B	260610
Cold trap	UT-500A	257440
Diaphragm vacuum pump	EVP-1000	241940

Rotary Evaporator

1

Rotary Pump & Aspirator

2

Organic Synthesizer

3

Freeze Dryer, Spray Dryer

4

Shaker

5

Stirrer

6

Tube Pump

7

Low Temperature Controller

8

Cold Trap

9

Constant Temperature Bath

10

Incubator

11

Oven

12

Fermentor

13

Cold Trap UT-1000·2000

Compactly designed trap for collection of harmful vapors.



Features

- Desk top type compact cold trap with highly efficient trap capacity thanks to lowest temperature of -50°C(UT-1000) and -100°C(UT-2000).
- Minimizes solvents drainage from aspirator and prevents water pollution.
- Variety of lids and condensers are available according to the nature of solvents.
- Trapped solvents can be drained easily thanks to bath cooling system. It also realizes easy cleaning of the bath.

Specifications

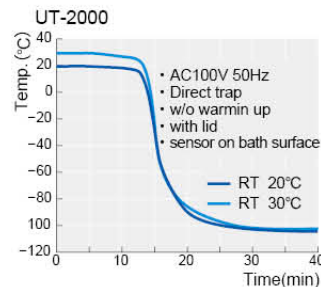
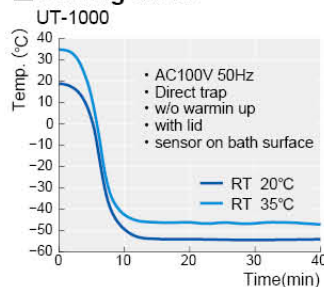
Product Name	Cold Trap	
Model	UT-1000	UT-2000
Cat. No.	189200	189219/189218
Trap	Direct trap by bath cooling, Glass condenser	
Condensing capacity	Max. 0.5kg (water)	Max. 0.4kg (water)
Lowest temperature	-50°C	-100°C
Safety functions	Leak/overcurrent braker, Refrigerator overload relay, Refrigerator high pressure switch	
Refrigerator	Air cooling, 400W	Air cooling, 450W+450W
Coolant	R507A	R404A, R1150
Bath dimensions (mm)	ID90 x 225H 1.4L	
Dimensions (mm) & Weight	183W x 282D x 376H 27kg	1420W x 510D x 475H 56kg
Power source	700VA AC100V	700VA AC115V/1.5kVA AC220V



Vacuum pump can be placed on top.

Data

Cooling curve



Option

Glass condenser

For trapping acid and organic solvents.



Glass condenser

Glass condenser for low boiling point

Glass condenser set B

Cat. No. 199740

Glass condenser set B for low boiling point

Cat. No. 19750

Glass condenser

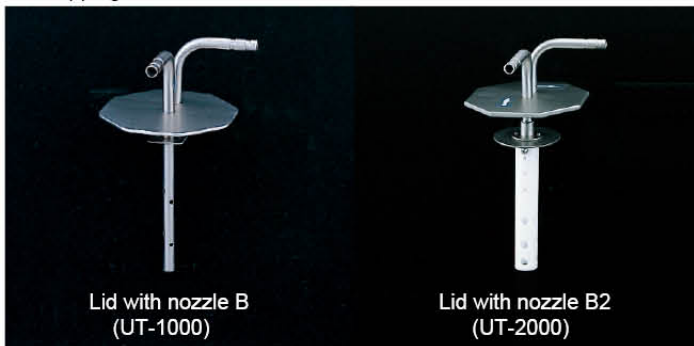
Cat. No. 199700

Glass condenser for low boiling point

Cat. No. 199710

Lid with nozzle

For trapping water solvents.



Lid with nozzle B (UT-1000)

Lid with nozzle B2 (UT-2000)

Lid with nozzle B (UT-1000)

Cat. No. 192410

Lid with nozzle B2 (UT-2000)

Cat. No. 193600

Base with caster

Cat. No. 192420 (UT-1000)

Cat. No. 192430 (UT-2000)

Cold Trap

UT-3000A · 4000A · 4000L

Cold trap featuring variety of new functions and digital display of trap temperature.



Features

- Floor type trap features big condensing capacity of Max. 4kg.
- Equipped with drain cock which enables one touch draining.
- Piping is compactly arranged to minimize stress on hose and pipes.
- Transparent lid with nozzle can rotate 360° to eliminate bending stress on vacuum hose.
- SUS 304 trap bath allows use with water or alcohol liquids. Optional glass condenser expands application to acid or organic solvents.

Specifications

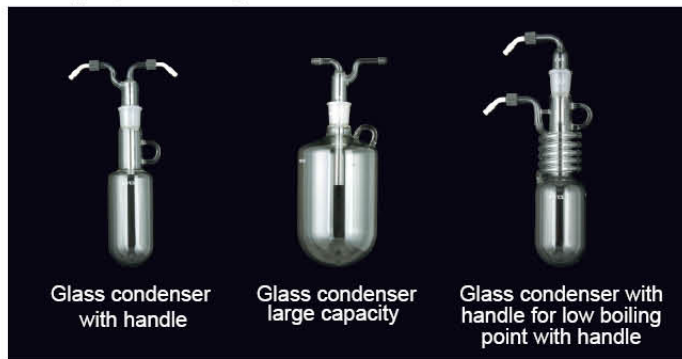
Product Name	Cold Trap		
Model	UT-3000A	UT-4000A	UT-4000L
Cat. No.	216159/216158	216179/216178	216189/216188
Trap	By bath cooling (glass condenser), Option: direct trap		
Condensing capacity	Max.1kg (water)	Max.1kg (water)	Max.4kg (water)
Lowest temperature	-50°C	-80°C	
Display	Trap temp. display (digital display)		
Safety functions	Leak/overcurrent braker, Refrigerator overload, Refrigerator high pressure switch Self diagnosis (Refrigerator mal function, power failure, sensor brake)		
Refrigerator	Air cooling, 450W	Air cooling, 450W x 2	
Coolant	HFC R404A	HFC R404A/R23 (HFC)	
Bath dimensions (mm)	Φ153 x 225H 3.9L	Φ153 x 225H 3.9L	Φ200 x 310H 9.1L
Dimensions (mm) & Weight	300W x 350D x 838H 33kg	330W x 470D x 838H 60kg	340W x 520D x 835H 65kg
Power source	805VA AC115V/1.54kVA AC220V	1.5kVA AC115V/2.9kVA AC220V	1.7kVA AC115V/3.3kVA AC220V

- 1 Rotary Evaporator
- 2 Vacuum Pump & Aspirator
- 3 Organic Synthesizer
- 4 Freeze Dryer, Spray Dryer
- 5 Shaker
- 6 Stirrer
- 7 Tube Pump
- 8 Low Temperature Cooler
- 9 Cold Trap
- 10 Constant Temperature Bath
- 11 Incubator
- 12 Oven
- 13 Fermentor

Option for UT-3000 • 4000

Glass condenser

For trapping acid and organic solvents.



Glass condenser with handle

Glass condenser large capacity

Glass condenser with handle for low boiling point

Glass condenser set C

Cat. No. 217540 500mL

Large capacity glass condenser C

Cat. No. 217580 180mL

Glass condenser set C for low boiling point

Cat. No. 217560 500mL

Glass condenser

Cat. No. 217510 500mL

Glass condenser, large capacity with handle

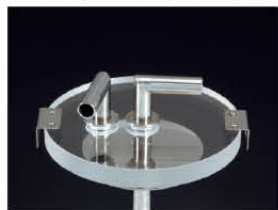
Cat. No. 182470 1800mL

Glass condenser for low boiling point

Cat. No. 217520 500mL

Lid with nozzle (Transparent)

For trapping water solvents.



Cat. No. 216210 (UT-3000A • 4000A)
Cat. No. 216220 (UT-3000L • 4000L)

Lid with nozzle (SUS)

For trapping water solvents.



Cat. No. 148940 (UT-3000A • 4000A)
Cat. No. 185890 (UT-3000L • 4000L)

Trap monitor UT-M

Cat. No. 216400



Lump indication of bath overflow before reaching to maximum dehumidication. Suitable for continuous condensation by vacuum dryer or evaporator.

Vacuum pump control unit UT-C

Cat. No. 216230

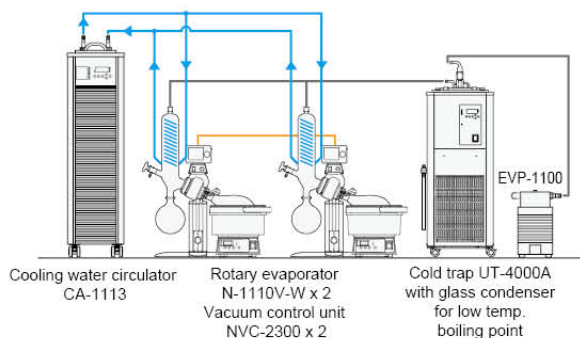


Vacuum pump operation can be stopped by switch attached to Vacuum pump main unit.



Data

System Combination

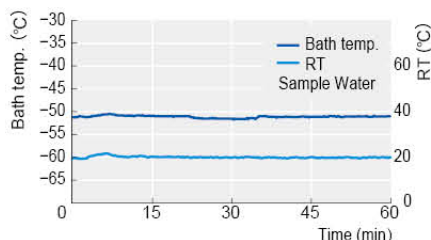


Cooling water circulator CA-1113

Rotary evaporator N-1110V-W x 2
Vacuum control unit NVC-2300 x 2

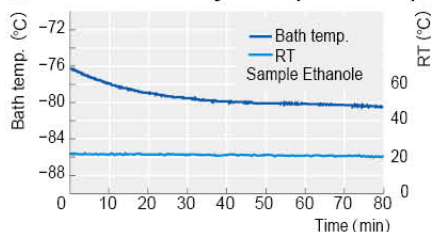
Cold trap UT-4000A with glass condenser for low temp. boiling point

Water recovery ratio (UT-3000A)



Recovery ratio:
Total 99.3%
N-1110: 989.5g
UT-3000A: 3.9g

Ethanol recovery ratio (UT-4000A)



Recovery ratio:
Total 99.96%
N-1110 x 2: 780.95g
UT-4000A: 18.8g