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Constant Temperature Bath

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Dry Block Bath
MG-1200·2200·2300

For enzyme reaction, hydrolysis and heat insulation.
Precise sample temperature control by P.I.D.

Features

- Heating by aluminum block without contamination.
  MG-1200: 4～100℃
  MG-2200 • 2300: RT + 5～200℃
- MG-2200 can be changed to Pressured Gas Blowing Concentrator by adding optional independent gas blowing unit (PAT).
- Temperature sensor inserted directly into bath block enables accurate temperature control (option).
- Suitable for enzyme reaction study, hydrolysis and low temperature storage in the field of chemistry and biochemistry.

Specifications

Product Name	Dry Block Bath		
Model	MG-1200	MG-2200	MG-2300
Cat. No.	206659/206658	206669/206668	206679/206678
Temp. control range	4～100℃	RT + 5～200℃	
Temp. control accuracy	±0.1℃～0.2℃		
Timer & program	Auto start, Auto stop, 2 step program		
Safety functions	Alarm functions (Limit temp., Power failure, Temp. mal control, Watchdog), Fuse, Independent overheat protector		
Additional functions	Temp. indication compensation, Auto tuning, Switching of temp. sensor (option)		
Heater	170W	235W	390W
Sensor	Pt100 Ω		
Block	1	1	2
Block dimensions (mm)	85W x 120D x 30H	90W x 125D x 70H	
Dimensions (mm) & Weight	235W x 355D x 205H 9.5kg	200W x 310D x 125H 5kg	260W x 320D x 125H 6.5kg
Power source	449VA AC115V/858VA AC220V	288VA AC115V/550VA AC220V	449VA AC115V/858VA AC220V

Optinons

Temperature sensor

Model	MG-SENS1	MG-SENS2
Cat. No.	207920	207930
Protection tube	Φ1.6x35Lmm	Φ3.2x180Lmm
Vessel	Micro tube Micro plate	Test tube

MG-SENS1

MG-SENS2

Aluminum block

MGL
(MG-1200)

MGB
(MG-2200·2300)

■MGL (MG-1200)

Model	Cat. No.	Vessel	Hole	Hole depth(mm)
MGL-0096	207530	Microplate (96 well, flat bottom)	–	–
MGL-0296	207540	Microtube (0.2mL)	96	13
MGL-0548	207550	Microtube (8mm, 0.5mL)	48	25
MGL-1540	207560	Microtube (11mm, 1.5mL)	40	26

■MGB (MG-2200 • 2300)

Model	Cat. No.	Vessel	Hole	Hole depth(mm)
MGB-0548	207570	8mm (0.5mL microtube)	48	26
MGB-1540	207580	11mm (1.5mL microtube)	40	35
MGB-1240	207590	12mm test tube	40	60
MGB-1524	207600	15mm test tube	24	60
MGB-1624	207610	16.5mm test tube	24	65
MGB-1822	207620	18mm test tube	22	65
MGB-2116	207630	21mm test tube	16	65
MGB-2412	207640	24mm test tube	12	65
MGB-2512	207650	25mm test tube	12	65
MGB-3008	207660	30mm test tube	8	65

Compact Water Bath
NTT-2000

Mini bath/shaker for various uses. Economical and low power consumption.

NTT-2000

Features

- Compact (200Wx325Dmm) and low power consumption (4A).
- Mild stirring realizes low water level incubation as low as 40mm water surface level.
- Timer function is provided (Auto start, Auto stop).
- Safety functions include self diagnosis, float switch and independent overheat protector.

Specifications

Product Name	**Water Bath**
Model	**NTT-2000**
Cat. No.	**195400/195408**
Temp. control range	RT + 5～70℃
Temp. control accuracy	±0.07℃
Temp. control	Microprocessor P.I.D. control, SSR output
Safety functions	Self diagnosis (Temp. limit, Heater brake, Sensor brake), Empty heating protector, Independent overheat protector, Fuse
Additional functions	Alarm buzzer, Auto tuning
Heater	300W (SUS 316L Water only)
Dimensions (mm) & Weight	200W x 105D x 207H 2.5kg
Power source	400VA AC100V/880VA AC220V

Option

Bath cover SBK-2
Cat. No. 196200

Shaker SS-1000

Exclusive shaker for use with NTT-2000
By placing NTT-2000 on top of the SS-1000, the system functions as small stirring water bath.

Specifications

Product Name	**Shaker**
Model	**SS-1000**
Cat. No.	**195460**
Shaking method	Reciprocating shaker
Shaking speed	0～200 reciprocate/min
Shaking width	25mm
Dimensions (mm) & Weight	200W x 469D x 135H 6.6kg
Power source	40VA AC100V

Immersion Water Bath NTT-2100·2200·2400

With built-in timer and churn control.

Features

- Wide variation according to needs:
  NTT-2100: Plural units operation in water bath
  NTT-2200: External circulation or large capacity water bath
  NTT-2400: High temperature condition
- Timer function is provided (Auto start, Auto stop).
- Safety functions include self diagnosis, float switch and independent overheat protector.
- One touch clamp makes it easy to detach bath (NTT-2100•2200).
- Carrying slot is porvided at rear side.

Specifications

Product Name	Immersion Water Bath		
Model	NTT-2100	NTT-2200	NTT-2400
Cat. No.	195410	195420/195428	195430/195438
Temp. control range	RT + 5～80℃		RT + 5～180℃ (water～80℃)
Temp. control accuracy	±0.1℃	±0.05℃	±0.07℃
Temp. control	Microprocessor P.I.D. control, SSR output		
Temp. setting & display	Sheetkey input•digital display		
Timer function	Auto start, Auto stop		
Heater	500W (SUS 316L Water only)	1kW (SUS 316L Water only)	1kW (SUS 316L Water and oil)
Bath dimensions (mm)	194W x 337D x 157H	180W x 240D x 140H	–
Dimensions (mm) & Weight	194W x 337D x 157H covers NTT-2100 and NTT-2200 3.5kg		138W x 150D x 312H 3.5kg
Power source	600VA AC100V	1.1kVA AC100V/2.2kVA AC220V	

Point!

Operation panel

Bath can be dismounted by lever rotation.

Easy to handle stirring controller and independent overheat protector.

Carrying handle is provided.

Option

Cooling coil CC-1
Cat. No. 114250

External circulation nozzle

ON-1 (NTT-2200)
Cat. No. 114260

ON-2 (NTT-2400)
Cat. No. 114270

Bath cover SBK-1
Cat. No. 196190

Water Bath・Oil Bath for evaporators
SB・OSB・OHB Series

Features

- 8 different types offer wide application.
- SB • OSB are conventional water and oil bathes mainly used with evaporators.
- OHB is oil bath with precise temperature control of ±0.3℃. All models are provided with overheat protector to stop power supply in case of low water level.
- SB-350, when conbined with magnetic stirrer, can control temperature precisely during stirring.
- SB-1200 does not have heater or sensor inside bath and realizes stable temperature distribution. Temperature control is by P.I.D. and RUN/STOP key and prevents empty heating.
- OSB-2100 bath is coated by teflon and easy to clean. The unit can be used with water or oil.
- OHB has two types; With glass bath and with stainless bath equipped with protection cover. Operation panel can be detatched from main unit.

Specifications

Product Name	Constant Temperature Bath (Water Bath)			Constant Temperature Bath (Oil Bath)				
Model	SB-350	SB-1200	SSB-1000	OSB-2100	OHB-1000G	OHB-2000G	OHB-1000S	OHB-2000S
Cat. No.	180180/180188	245419/245418	256800	226700/226709	200650	200660	200670	200680
Temp. control range	RT+5～80℃	RT+5～90℃	RT+5～80℃	RT+5～180℃	RT+5～250℃	RT+5～200℃	RT+5～250℃	
Temp. control accuracy	±1.5℃	±1℃	±1.5℃	±1.5℃	±0.3℃ (200℃ setting)			
Heater	750W	1050W	300W	1000W	360W	500W	360W	500W
Temperature sensor	Liquid float	Thermistor	Liquid float	Thermistor	Pt100Ω			
Bath material	SUS 304			Aluminum(Teflon coating)	Glass		SUS 304	
Bath capacity	3.5L	4.3L	1.6L	5.4L	1.5L	4.2L	1.8L	4.7L
Bath dimensions (mm)	Φ228 x 94H	Φ220 x 120H	Φ160 x 100H	Φ240 x 120H	Φ142 x 96H	Φ192 x 146H	Φ153 x 100H	Φ200 x 150H
Dimensions (mm)	235W x 294D x 94H	260W x 300D x 240H	170W x 179D x 152H	282W x 298D x 240H	160W x 333D x 133H	282W x 298D x 240H	198W x 360D x 131H	240W x 415D x 185H
Weight	0.9kg	3.5kg	1.2kg	4kg	3.5kg	4.5kg	2.5kg	3.5kg
Power source	750VA AC100V 1.7kVA AC220V	1.2kVA AC115V 2.3kVA AC230V	300VA AC100V	1kVA AC100V 2.2kVA AC230V	370VA AC100V	510VA AC100V	370VA AC100V	510VA AC100V

Data

■Heating curve

Low Temperature Bath NCB Series
NCB-1200・1200P

Compact, 4L bath capacity

NCB-1200

Features

- Compact design allows installation on top or beneath table top.
- Wide temperature control range of -30℃～95℃.
- Rotating circulation nozzle.
- External temperature sensor and recorder output terminal are provided.
- Safety function includes alarm signal output terminal and independent overheat protector.
- Drain cock is equipped for easy draining.

Specifications

Product Name	Low Temperature Bath	
Model	NCB-1200	NCB-1200P
Cat. No.	195590	212480
Temperature control range	-30～95℃	
Temperature control accuracy	±0.1℃	±0.2℃
Cooling capacity	200W (172kcal/h) at 10℃	
External circulation (50/60HZ)	Max. flow 5/6L/min, max pressure 1.2/1.5m	Max. flow 5.5/6.5L/min, max pressure 1.4/1.9m
Safety functions	Self diagnosis function (Limit temp. sensor, Heater brake, Sensor error) Emputy heating, Leak/over current braker, Overload relay, Independent overheat protector	
Additional functions	Auto tuning, Timer (Auto start, Auto stop), Offset	
Heater	500W (SUS 316L)	
Refrigerator・coolant	Air cooling 300W R507A	
Bath Dimensions (mm)	140W x 260D x 150H 4L	
Dimensions (mm) & Weight	210W x 430D x 627H 25kg	210W x 430D x 639H 25kg
Power source	1kVA AC100V	

■Operation Panel

Data

■Cooling curve

■Heating curve

■Cooling capacity

■Temp. control accuracy

NCB-2500・2600

Bath capacity 13・22L standard type

NCB-2500 NCB-2600

Features

- Microprossesor control realizes refrigerator automatic operation and accurate temperature control.
  Frost caused by power failure or heater brake can be prevented.
- Large bath capacity 22L (NCB-2600).
- Auto start function is provided.
- External circulation nozzle is provided.

Specifications

Product Name	Low Temperature Bath	
Model	**NCB-2500**	**NCB-2600**
Cat. No.	**197120**	**197130**
Temperature control range	-30～80℃	
Temperature control accuracy	±0.1～0.2℃	
Cooling capacity (at 20℃)	400W (344kcal/h)	550W (473kcal/h)
External circulation	Max. flow 5/6L/min, max pressure 1.2/1.5m (50/60Hz)	
Heater	850W (SUS 316L)	1.1kW (SUS 316L)
Refrigerator・coolant	Air cooling 450W R404A	Air cooling 675W R404A
Bath Dimensions (mm)	245W x 315D x 180H 13L	310W x 400D x 180H 22L
Dimensions (mm) & Weight	330W x 410D x 925H 40kg	404W x 515D x 925H 56kg
Power source	1.4kVA AC100V	1.9kVA AC100V

Point! **Easy to use design**

External circulation nozzle

Circulation nozzle can rotate 360°

Bath

NCB-2500: 300mL triangular flask 3
NCB-2600: 300mL triangular flask 6

■External sensor terminal

Sensor selector for inside and outside bath sensors is provided. Recorder and alarm input is also provided.

Option

Output lead wire ROL

ROL-100 (1m)	Cat. No. 114230
ROL-500 (5m)	Cat. No. 225890
ROL-1000 (10m)	Cat. No. 225900

External circulation pump

For NCB-2500	Cat. No. 199470
For NCB-2600	Cat. No. 199480

External temp. sensor STP-300

Cat. No. 196730

Clamp set

Cat. No. 164500

Cooling hose set

1m	Cat. No. 112690
2m	Cat. No. 112700
5m	Cat. No. 174420

NCB-3100·3300

Bath capacity 13·41L
Programmable low temperature precision bath
Highly accurate tenperature control of ±0.03℃

Features

- Highly accurate temperature control for wide temperature range.
- Temperature remote control by PC is possible via RS-232 cable and trend data can be manipulated.
- Different type and pattern user program is available.

Operation pattern

■User program

Specifications

Product Name	Low Temperature Bath	
Model	NCB-3100	NCB-3300
Cat. No.	112450	112470
Temperature control range	-30～80℃	
Temperature control accuracy	±0.03℃	
Cooling capacity (at 20℃)	370W (318kcal/h)	610W (524kcal/h)
External circulation	Max. flow 6.7L/min, max pressure 2.9m(50Hz)	
Temp. control	Micro processor P.I.D control, SSR output	
Heater	1.2kW (SUS 316L)	
Refrigerator•coolant	Air cooling 450W R404A	Air cooling 400W R404A
Bath Dimensions (mm)	250W x 295D x 180H 13L	430W x 517D x 180H 41L
Dimensions (mm)	620W x 390D x 464H	510W x 627D x 898H
Weight	46kg	59kg
Power source	2kVA AC100V	

Data

■Heating & cooling time

NCB-3100

NCB-3300

■Cooling capacity curve

NCB-3100

NCB-3300