



# Aluminum block Bath

## Minisize Bath

■ Model Selection Guide.....	098
■ Aluminum block Bath (Thin block, Compact, Cooling type available)	
Dry Thermo Unit DTU-Mini.....	100
Cool Thermo Unit CTU-Mini.....	100
■ Aluminum block Bath (Thin block, programmable, Cooling type available)	
Dry Thermo Unit DTU-Neo.....	101
Cool Thermo Unit CTU-Neo.....	101
■ Aluminum block Bath (Deep block, Compatible with Nitrogen gas spraying unit)	
Dry Thermo Unit DTU-1BN/2BN/1CN/2CN.....	102
■ Nitrogen gas spraying unit	
Evaporation Head EN1 series.....	103
■ Minisize Bath	
e-Bucket EIB/ECB/EHB/ETB/EFBN.....	104
eB-ShakerUnit.....	105
e-ThermoBucket WTB.....	106
WTB-ShakerUnit.....	107

## Selection guide

Constant temperature incubator shaker

CO<sub>2</sub> incubator shaker

Shaker

Mixer Rotator Stirrer

Bead beater Ultrasonic homogenizer

Aluminum block bath Minimize bath

Water bath Shaking water bath Immersion cooler

Hybridization oven Constant temperature chamber

Centrifugal concentrator Cold trap

Freeze dryer

Electrophoresis and blotting apparatus

Constant temperature water circulating system [Chiller]

Appendix

## Aluminum block Bath

## Dry Thermo Unit DTU-Mini



## Cool Thermo Unit CTU-Mini



## Dry Thermo Unit DTU-Neo



## Cool Thermo Unit CTU-Neo



## Dry Thermo Unit DTU-1BN



## Dry Thermo Unit DTU-2BN



## Dry Thermo Unit DTU-1CN



## Dry Thermo Unit DTU-2CN



## e-IceBucket EIB



## e-CoolingBucket ECB



## e-HeatingBucket EHB



## e-ThermoBucket ETB



## e-FreezingBucket EFBN



## e-ThermoBucket WTB



## Prompt temp transition with thin block.

Page	Model	Compatible with various vessels by exchanging optional blocks.
P.100	DTU-Mini	0.2 (8-Tube strip included)/0.5/1.5/2.0ml Microtubes, Microplates, PCR plates 15ml Disposable centrifuge tubes, 5ml Eppendorf tubes, Micro vials. Blocks compatible with $\phi 16.5$ mm Test tubes available. 1 pc "Half block" can be mounted on DTU/CTU-Mini and 2 pcs "Half block" mounted on DTU/CTU-Neo. "Full block" is thin type block that 1pc can be mounted on DTU/CTU-Neo.
P.100	CTU-Mini	
P.101	DTU-Neo	
P.101	CTU-Neo	



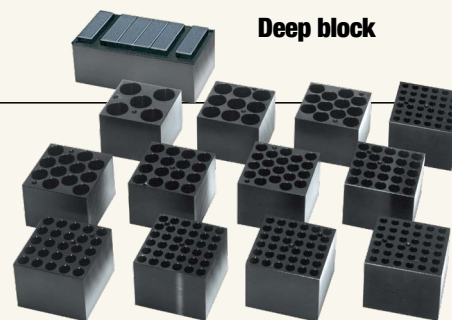
Half block



Full block

## Deep type block with large capacity. Compatible

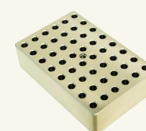
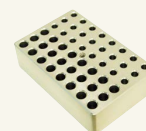
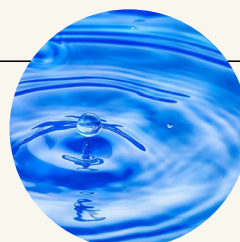
Page	Model	Compatible with various vessels by exchanging optional blocks.
P.102	DTU-1BN	"Deep block" compatible with 0.5/1.5/2.0ml Microtubes, 15ml/50ml Disposable and various dia. of Test tubes. 1 pc can be mounted on DTU-1BN/1CN and 2pcs mounted on DTU-2BN/2CN (common all models). Also blocks compatible with Microplates/Slide glasses dedicated DTU-2BN/2CN available.
P.102	DTU-2BN	
P.102	DTU-1CN	
P.102	DTU-2CN	



Deep block

## Focuses on Easy and Usability. Compatible with

Page	Model	Enables to use Miracle beads, Aluminum blocks and Water properly according to the application and vessels.
P.104	EIB	e-Bucket series has unique features compatible with three types of heat medium. "Miracle beads bath", "Hetero block" and "Dual side block" can be selected according to the container. "Water" can be used in WTB only when optional shaking unit used.
P.104	ECB	
P.104	EHB	
P.104	ETB	
P.104	EFBN	
P.106	WTB	

Miracle beads bath  
Various shapes can be put in.Dual side block  
For micro tube, Dual-sided use.Hetero block  
For micro tube, There are two types of holes. (One side only)How to use as a Water bath  
(Other than EFBN)

## Cooling type also available.

	Features	Applications	Cooling method	Temp. control accuracy	Temperature range	Page
●	•For 1pc "Half block".Changeable block (Option). •Easy to use. Frequently used Temp can be memorized.	•Enzyme reactions and Heat denaturation of DNA and RNA. •Incubation etc. in ELISA.	—	• $\pm 0.1^{\circ}\text{C}$ to $\pm 0.2^{\circ}\text{C}$ (Set per $0.1^{\circ}\text{C}$ )	• $3^{\circ}\text{C}$ above Room temperature to $105^{\circ}\text{C}$	P.100
●	•For 1pc "Half block".Changeable block (Option). •Easy to use. Frequently used Temp can be memorized. •Possible for Temp control from $0^{\circ}\text{C}$ .	•Enzyme reactions and Heat denaturation of DNA and RNA. •DNA Ligation at low temp. •Incubation etc. in ELISA.	Peltier element		• $0^{\circ}\text{C} \sim +105^{\circ}\text{C}$	P.100
●	•For 2pcs "Half block" and 1pc "Full block" •The prograble temperature operation. Changeable block (Option).	•Enzyme reactions and Heat denaturation of DNA and RNA.	—		• $3^{\circ}\text{C}$ above Room temperature to $105^{\circ}\text{C}$	P.101
●	•For 2pcs "Half block" and 1pc "Full block" •The prograble temperature operation. Changeable block (Option). •Possible for Temp. control from $0^{\circ}\text{C}$ .	•Gene amplification with LAMP. •DNA Ligation at low temp. •Enzyme reactions and Heat denaturation of DNA and RNA.	Peltier element		• $0^{\circ}\text{C} \sim +105^{\circ}\text{C}$	P.101

Simple operation,  
Compact sized (Mini)

As memory setting can be made, the frequent used temp can be invoked. The footprint is about 40% of our conventional one.



## Temperature program function (Neo)

Equipped with Waiting function that starts counting time after reaching a specified temp. Coupled with the improved temp. transfer rate, it can be utilized for isothermal gene amplification etc.

## with nitrogen gas spray.

	Features	Applications	Cooling method	Temp. control accuracy	Temperature range	Page
●	•For 1pc "Deep block". Changeable block (Option). •With Up to $110^{\circ}\text{C}$ .	•Enzymatic reactions, Heat denaturation of DNA and RNA. •Hydrolytic reaction of Sugar, Protein, Fatty acid etc. •Concentration of Solvent with Nitrogen gas spraying [option].	—	•Below $\pm 0.1^{\circ}\text{C}$ (Set per $0.1^{\circ}\text{C}$ )	• $5^{\circ}\text{C}$ above Room temperature to $110^{\circ}\text{C}$	P.102
●	•For 2pc "Deep block". Changeable block (Option). •With Up to $110^{\circ}\text{C}$ .					P.102
●	•For 1pc "Deep block". Changeable block (Option). •With Up to $110^{\circ}\text{C}$ . •With Temp. output				• $5^{\circ}\text{C}$ above Room temperature to $200^{\circ}\text{C}$	P.102
●	•For 2pc "Deep block". Changeable block (Option). •With Up to $110^{\circ}\text{C}$ . •With Temp. output					P.102

Concentration of Solvent with Nitrogen gas spraying.  
(Evaporation Head)

The nitrogen gas is blown while heating the sample with DTU-1/2 series to accelerate the evaporation of solvent. Insert the nozzle for the same qty as the sample and fix by turning the chuck of root in use. The gas blowout at the place not used can be stopped by the stopper. Blocks for vials dedicated to concentration drying also available.

## Beads, Blocks and Water.

	Features	Applications	Cooling method	Temp. control accuracy	Temperature range	Page
●	•Substitute for Ice bucket.	•Low temperature DNA ligation.	Peltier element	•Below $\pm 0.1^{\circ}\text{C}$ (Set per $0.1^{\circ}\text{C}$ )	• $3^{\circ}\text{C}$ only	P.104
●	•For Low Temp. range.	•Low temperature DNA ligation.	Peltier element		• $3^{\circ}\text{C}$ to $20^{\circ}\text{C}$	P.104
●	•For medium to high Temp. range.	•Enzymatic reactions, Heat denaturation of DNA and RNA.	—		•Around $30^{\circ}\text{C}$ to $70^{\circ}\text{C}$	P.104
●	•For low to high Temp. range.	•Low temperature DNA ligation.	Peltier element		• $3^{\circ}\text{C}$ to $70^{\circ}\text{C}$	P.104
●	•For below freezing to low temperature range. •Cold Shock and Low temp. response experiment.	•Cold Shock and Low Temp. response experiment.	Peltier element		• $-10^{\circ}\text{C}$ to $20^{\circ}\text{C}$	P.104
●	•For low to high Temp. range. •Incubation and preservation of samples and reagents, Enzyme reaction •Low temperature DNA ligation •Temp. control for Serum inactivation and pH adjustment object	•Incubation and preservation of samples and reagents, Enzyme reaction •Low temperature DNA ligation •Temp. control for Serum inactivation and pH adjustment object	Peltier element	•Within $\pm 1^{\circ}\text{C}$ (Other than beads bath)	• $4$ to $70^{\circ}\text{C}$ (Other than beads bath)	P.106

Shaking unit -->P.105  
(For EIB/ECB/EHB/ETB, option)

Water can be used in EIB/ECB/EHB/ETB only when optional shaking unit used.

Shaking unit -->P.107  
(For WTB, option)

Water can be used in WTB as standard. Dedicated shaking unit also available.



## Selection guide

Constant temperature incubator shaker

CO<sub>2</sub> incubator shaker

Shaker

Mixer Rotator Stirrer

Bead beater homogenizer Ultrasonic homogenizer

Aluminum block bath Minisize bath

Water bath Shaking water bath Immersion cooler

Hydrazation oven Constant temperature chamber

Centrifugal concentrator Cold trap

Freeze dryer

Electrophoresis and blotting apparatus

Constant temperature water circulating system [Chiller]

Appendix

## Dry Thermo Unit DTU-Mini/Cool Thermo Unit CTU-Mini

*The compact-sized aluminum block bath that heats and cools Microtubes and Centrifuge tubes. Fast temp. transition with thin block. Cooled-type CTU with CFC-free.*

"Guide to custom-made aluminum block" → P.108



Using with Aluminum blocks (option)



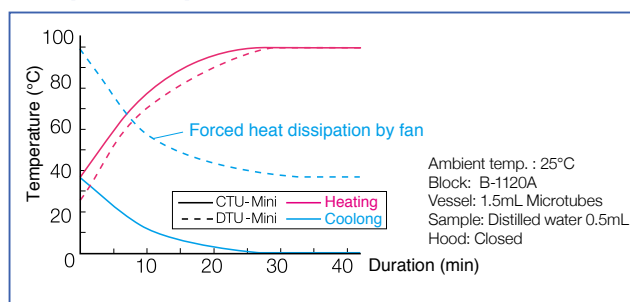
## Features

- For 1pc "Half block". Changeable block (Option).
- Easy to use. Frequently used temp. can be memorized
- Possible for Temp. control from 0 °C [CTU-Mini]

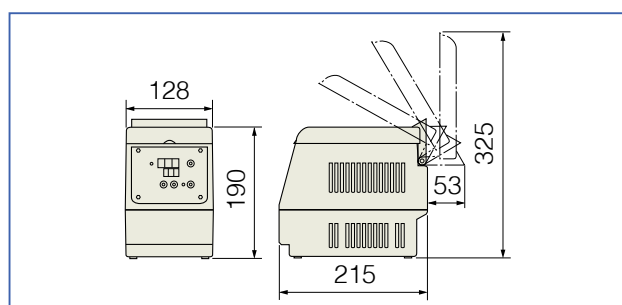
## Applications

- Enzyme reactions and Heat denaturation of DNA and RNA
- DNA Ligation at low temp. [CTU-Mini]
- Incubation etc. in ELISA

## Example of Temperature transition time



## Dimensions



## Optional parts: Half block for Microtubes

Model	Capacity	Hole depth	Dimensions/Remarks
<1>B-0648	48pcs x 0.2mL (8-Tube Strip)	15mm	67.5 x 93 x 35Hmm (<5>50Hmm) Some tubes might not be closely contacted to the holes depending on those sizes. Self-stand tubes can not be use
<2>B-0835	35pcs x 0.5mL	24.5mm	
<3>B-1120A	20pcs x 1.5mL	34mm	
<4>B-1120B	20pcs x 2.0mL	34mm	
<5>B-1515	6pcs x 5.0mL + 8pcs x 1.5mL	48mm 34mm	

## Optional parts: Half block for Micro Vials

Model	Capacity	Hole depth	Dimensions
<6>B-1220	20pcs x 1.5/2.0mL	25mm	67.5x93x35Hmm

## Optional parts: Half block for Disposable centrifuges

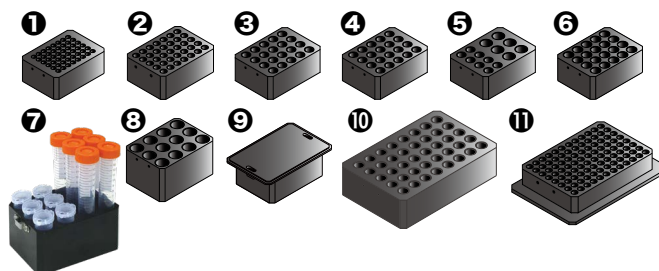
Model	Capacity	Hole depth	Dimensions
DB-1612L <sup>(*)</sup>	12pcs x 15mL <sup>(*)</sup>	48mm	67.5x93x50Hmm

## Optional parts: Half block for Test tubes

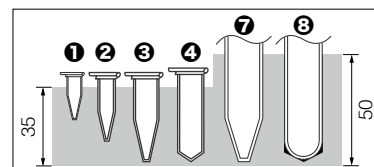
Model	Capacity	Hole depth	Dimensions
DB-1712L <sup>(*)</sup>	12pcs x φ16.5mL	48mm	67.5x93x50Hmm

## Optional parts: Half block for Microplate (for Mini)

Model	Capacity	Hole depth	Dimensions
DB-0001	1pc x Flat bottom <sup>(*)</sup>	-	77x116x39Hmm



The hole shape and fit condition of each vessel are as the figure below. Each hole shape almost fits the vessel shape except for ⑧. In ⑦ 15mL and 5mL Centrifuge tubes fit in around 5mL the scale marked.



<sup>(\*)</sup>1) The hood cannot be closed during use. <sup>(2)</sup> Eppendorf Safe-Lock Tubes can be used. <sup>(3)</sup> The temperature transfer is inferior in Flat bottom. We contribute to the development of research and industry.

# Dry Thermo Unit DTU-Neo/Cool Thermo Unit CTU-Neo

*The programmable aluminum block Bath that heats and cools Microtubes, Centrifuge tubes, etc. Fast temp. transition with thin block. Cooled-type CTU with CFC-free.*



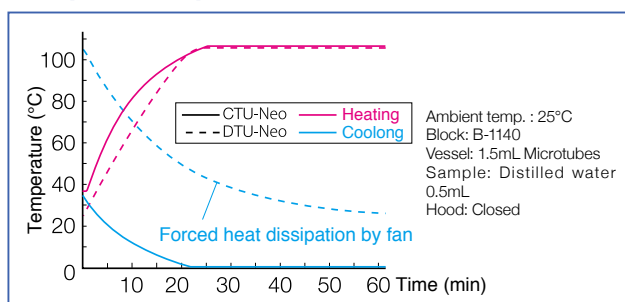
## Features

- For 2pcs "Half block" and 1pc "Full block"
- The prograde temperature operation. Changeable block (Option).
- Possible for Temp. control from 0 °C [CTU-Neo]

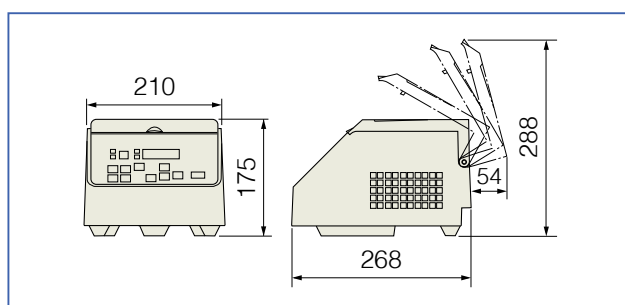
## Applications

- Gene amplification with LAMP [CTU-Neo]
- DNA Ligation at low temp. [CTU-Neo]
- Enzyme reactions and Heat denaturation of DNA and RNA

## Examples of Temperature transition time



## Dimensions



The hole shape and fit condition of ① to ③ are as the right below. The fit condition of <10> is the same as ③ and ① is almost the same (slightly shallow) as ①. ② (in left figure) cannot be used with DTU-Neo/CTU-Neo.

## Optional parts: Full block for Microplate

Model	Capacity	Hole depth	Dimensions/Remarks
<b>B-1140</b>	40pcs x 1.5mL	34mm	135.5x93x35Hmm

## Optional parts: Full block for Microplate/PCR plate

Model	Capacity	Hole depth	Dimensions/Remarks
<b>B-0696 (*)</b>	96pcs x 0.2mL or 1pc x PCR plate	14mm	135.5x93x35.5Hmm

(\*) Some PCR plates cannot be used. Thus, check if it can be used in advance.



DTU-Neo

CTU-Neo

Aluminum blocks (option) for use

Model	DTU-Neo	CTU-Neo
Temperature range (*)	3°C above Room temperature to 105°C	0°C to 105°C
Temp. control accuracy (*)	±0.1°C to ±0.2°C (Set per 0.1°C)	
Capacity	2pcs x Half block or 1pc x Full block	
Temp. transition time at 25°C (Left figure for details)(*)	25°C → 100°C: Approx. 20min	37°C → 100°C: Approx. 20min
	100°C → 25°C: Approx. 60min	37°C → 4°C: Approx. 20min
Temp. Display /Other functions	Digitally (Preset/Current value)	
Program function	2 programs, 9 segments, Setting time: 00h00min to 99h59min, Wait function (To start count time when reaching the preset temp.)	
Heating/Cooling method	Heater, Heat dissipation by fan	Cooling with Peltier element
Safe devices/protections	Overvoltage/Overcurrent/Overheat protection, Sensor error, Sample protection (High/Low temp.), Non-volatile memory error, High temp., Fuse	
Dimensions/Weight	210(W) x 268(D) x 175(H)mm, Approx. 4kg (Blocks not included)	
Power supply	AC100 to 240V/2A	
Standard accessories	1 x Block extraction hook handle a(Blocks sold separately)	

(\*) The specifications might not be met when the hood is open and/or ambient 30°C.

## Optional parts: Half block for Microtubes

Model	Capacity	Hole depth	Dimensions/Remarks
<b>&lt;1&gt;B-0648</b>	48pcs x 0.2mL(8-Tube Strip)	15mm	67.5 x 93 x 35Hmm (<5>50Hmm) Some tubes might not be closely contacted to the holes depending on those sizes. Self-stand tubes can not be used.
<b>&lt;2&gt;B-0835</b>	35pcs x 0.5mL	24.5mm	
<b>&lt;3&gt;B-1120A</b>	20pcs x 1.5mL	34mm	
<b>&lt;4&gt;B-1120B</b>	20pcs x 2.0mL	34mm	
<b>&lt;5&gt;B-1515</b>	6pcs x 5.0mL + 8pcs x 1.5mL	48mm 34mm	

## Optional parts: Half block for Micro Vials

Model	Capacity	Hole depth	Dimensions
<b>B-1220</b>	20pcs x 1.5/2.0mL	25mm	67.5x93x35Hmm

## Optional parts: Half block for Disposable centrifuge tubes

Model	Capacity	Hole depth	Dimensions
<b>B-1612L (*)</b>	12pcs x 15mL (*)	48mm	67.5x93x50Hmm

## Optional parts: Half block for Test tubes

Model	Capacity	Hole depth	Dimensions
<b>B-1712L (*)</b>	12pcs x φ16.5mL	48mm	67.5x93x50Hmm

(\*)The lid cannot be closed while in operation. (\*\*)Eppendorf 5mL tube(0030 119)can also be used.

We contribute to the development of research and industry.  
[ 2019-2020 General Catalog ] **TATEC**

● Protuberances not included in Dimensions. ● Vessels of photo not included.

Selection guide

Constant temperature incubator shaker

CO<sub>2</sub> incubator shaker

Shaker

Mixer Rotator Stirrer

Bead beater homogenizer

Aluminum block bath Minimize bath

Water bath Staking water bath Immersion cooler

Hybridization oven Constant temperature chamber

Centrifugal concentrator Cold trap

Freeze dryer

Electrophoresis and blotting apparatus

Constant temperature circulating water system [Chiller]

Appendix

## Dry Thermo Unit DTU-1BN/2BN/1CN/2CN

**The aluminum block Bath that heats and cools Microtubes, Centrifuge tubes and Test tubes. The block that the vessels can be inserted deeply that enables the temp. control accuracy like Constant temperature water bath. Compatible with nitrogen gas spraying unit**

"Guide to custom-made aluminum block" → P.108



DTU-1CN

DTU-2BN

Using with Aluminum blocks (Sold separately)

Model	DTU-1BN	DTU-2BN	DTU-1CN	CTU-2CN
Temperature range	5°C above Room temperature to 110°C		5°C above Room temperature to 200°C	
Temp. control accuracy	Below ±0.1°C (Set per 0.1°C )			
Capacity	1BN/1CN: 1pc x Deep block 2BN/2CN: 2pcs x Deep block			
Other functions	Automatic tuning, ON/OFF timer (1 min to 99h59min), Setting time notification timer, reaching temp. setting buzzer, 3 x Temp. memoryx 3, temp. Output (DC 0V to 1V: 1CN/2CN)(*)			
Speed display	Digitally (Preset/Current value)			
Heater	100W	150W	180W	250W
Safe devices /protections	Fuse, Sensor open/short circuit alarm, High/Low temp absolute value alarm, Memory error, Automatic tuning error			
Dimensions (W x D x H)	1BN/1CN: 210 x 318 x 130mm, Approx. 4kg			
Weight	2BN/2CN: 318 x 318 x 130mm, Approx. 6kg			
Power supply	AC100V/1.3A	AC100V/1.8A	AC100/2A	AC100V/2.8A
Standard accessories	1 x Block extraction hook handle (Blocks are sold separately)			

(\*) The current temperature can be outputted ("Alarm Out Cable AOC-2" is required for use).

### Optional parts: Deep block for Disposable centrifuge tubes

Model	Capacity	Hole depth	Dimensions
<1>AL-1616F	16pcs x 15mL	70mm	108 x 108 x 80Hmm
<2>AL-2909F	9pcs x 50mL		
<3>AL-5011F	8pcs x 15mL + 3pcs x 50mL		

### Optional parts: Deep block for Microtubes

Model	Capacity	Hole depth	Dimensions/Remarks
<4>AL-0836	36pcs x 0.5mL	25mm	108 x 108 x 80Hmm Some tubes might not be closely contacted to the holes depending on those sizes. Self-stand tubes can not be used.
<5>AL-1136	36pcs x 1.5mL	35mm	
<6>AL-1136B	36pcs x 2.0mL	39mm	
<7>AL-8136	18pcs x 0.5mL + 18pcs x 1.5mL	25mm 35mm	

### Optional parts: Deep block for Microplate/Microscope slide (for 2BN/2CN)

Model	Capacity	Dimensions
⑮AL-96MP	1pc x Flat bottom (*) or 6pcs x Microscope slide	108x216x80Hmm

(\*) The current temperature can be outputted ("Alarm Out Cable AOC-2" is required for use).

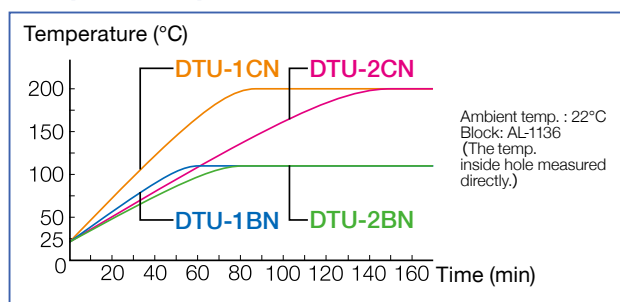
## Features

- For "Deep block". Changeable block (Option).
- "BN" with Up to 110°C, "CN" with Temp. output and Up to 200°C
- Equipped Temp. memory and Compatible with Nitrogen gas spraying unit

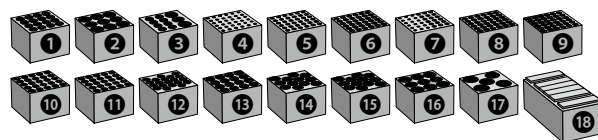
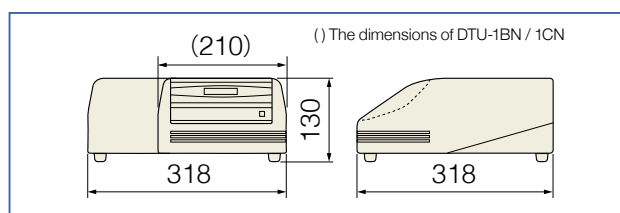
## Applications

- Enzymatic reactions, Heat denaturation of DNA and RNA
- Hydrolytic reaction of Sugar, Protein, Fatty acid etc.
- Concentration of Solvent with Nitrogen gas spraying [option]

## Examples of Temperature transition time



## Dimensions



## Optional parts: Deep blocks for Test tubes

Model	Capacity	Hole depth	Dimensions/Remarks
<8>AL-1236	36pcs x φ12mm	75mm	108 x 108 x 80Hmm The hole bottom is not Round shape but Mortar shape. See the right figure for details.
<9>AL-1336	36pcs x φ13mm		
<10>AL-1525	25pcs x φ15mm		
<11>AL-1625	25pcs x φ16.5mm		
<12>AL-1820	20pcs x φ18mm		
<13>AL-2116	16pcs x φ21mm		
<14>AL-2412	12pcs x φ24mm		
<15>AL-2512	12pcs x φ25mm		
<16>AL-3009	9pcs x φ30mm		
<17>AL-3505	5pcs x φ35mm		

(\*) The temperature transfer is inferior in Flat bottom.



# Optional parts

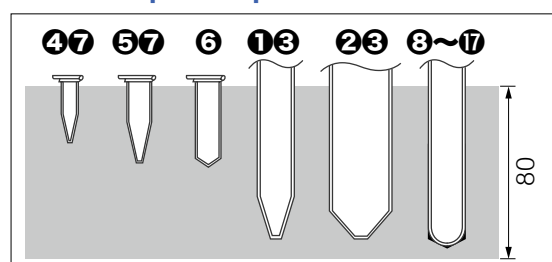
## Optional parts: Deep block for Vials (for Concentrating Drying)

It has a slit on the side to check easily the degree of evaporation when Nitrogen gas sprayed with EN1. Further easily can be checked with Raising block.

Model	Capacity/Remarks
<19>AL-1336V	36pcs x 1.5/2mL (φ12 x 32Hmm), Dimensions 108 x 108 x 80Hmm
<20>AL-1525V	25pcs x 4mL (φ15 x 45Hmm), Dimensions 108 x 108 x 80Hmm
<21>AL-2412V	12pcs (18pcs (*))x 10mL (φ22.5 x 46Hmm), Dimensions 108 x 108 x 80Hmm
<22>AL-0030V	"Raising block" enables easily check inside vials. Dimensions 108 x 108 x 80Hmm

(\*)The vials fit about half the height of those in the hole. -In consideration of dimensional errors, the hole dia are slightly larger.

## The hole shape of Deep block



The hole shape and fit condition are as the above figure. Each hole shape of vessel almost fits to that of Deep block except for ⑧ to ⑰. In ① and ③ 15mL Centrifuge tubes fits in around 8 to 9mL the scale marked, ② and ③ fit in around 30 to 35mL the scale marked.

## Optional parts: Heat-proof Hood for DTU

Model	Applicable to	Usable temp.	Applicable vessels	Remarks
PF-1B	DTU-1BN	Max. 110°C at the setting of DTU	Test tubes (Below 120mm) 15/50mL Disposable centrifuge tubes etc.	Dimensions 170 x 160 x 85Hmm, Max height inside Chamber 60mm
PF-2B	DTU-2BN			Dimensions 170 x 268 x 85Hmm, Max height inside Chamber 60mm



# Evaporation Head EN1 series

## Nitrogen gas spraying unit used in combination with DTU-1BN/2BN/1CN/2CN.

Nitrogen gas Generator "N2 GENESIS 200" that Nitrogen gas cylinder unnecessary. --> P.043

## Features

- 1 set of EN1 for DTU-1 and 2 sets of that for DTU-2 in combination.
- For Test tubes, Vials and Block for Vials (Option).

## Applications

- Concentration of Solvent with Nitrogen gas spraying

## Correspondence table

Model	Nozzle	Applicable to	Applicable vessels outer dia.
EN1-36	36 pcs	DTU-1BN DTU-2BN (*1) DTU-1CN DTU-2CN (*1)	φ8, 11, 12, 13mm
EN1-25	25 pcs		φ15, 16.5mm
EN1-20	20 pcs		φ18mm
EN1-16 (*3)	16 pcs		φ21mm
EN1-12 (*3)	12 pcs		φ24, 25mm
EN1-9 (*3)	9 pcs		φ30mm
EN1-5 (*3)	5 pcs		φ35mm

(\*1) 2 sets (Different models mixed) can be attached. (\*2) Each gus can be stopped by attaching the accessory stopper instead of the nozzle. (\*3) Custom made - Nozzles are available singly [SUS Needle set for EN (10pcs)] - Disposable nozzles also available [PP Needle set for EN (20pcs)]

● Protuberances not included in Dimensions. ● Vessels of photo not included.

Combination e.g.: DTU-2CN  
+ 2pcs x Evaporation head EN 1-25 \*  
+ 2pcs x Deep block for Vials AL-1525V \*  
+ 2pcs x Raising block AL-0030V  
\* Possible for combine different types



## Standard specifications

Model	EN1 series
Applicable to	DTU-1BN/2BN/1CN/2CN
Spray nozzle length	Effective length 88mm (Nozzles made of stainless steel)
Number of Spray nozzle	5pcs to 36pcs (depends on the model)
Gus supply connection Dia.	Inner dia. φ6mm Hose or Outer dia. φ6mm Pisco tube
Head Dimensions	105 x 105 x 15mm

We contribute to the development of research and industry.  
[ 2019-2020 General Catalog ] **TATEC**

## Selection guide

Constant temperature incubator shaker  
OD-Monitor

CO<sub>2</sub> incubator shaker

Shaker

Mixer  
Rotator  
Stirrer

Bead beater  
homogenizer  
ultrasonic homogenizer

Aluminum block bath  
Minimize bath

Water bath  
Shaking water bath  
Immersion cooler

Hybridization oven  
Constant temperature chamber

Centrifugal concentrator  
Cold trap

Freeze dryer

Electrophoresis and blotting apparatus

Constant temperature circulating system [Chiller]

Appendix

## e-Bucket series

**CFC-free Minisize Bath that can easily heat and cool Microtubes etc. on bench top. User-oriented Miracle beads bath and aluminum block.**



[EIB/ECB/ETB/EFBN]



e-IceBucket EIB



e-CoolingBucket ECB



e-HeatingBucket EHB



e-ThermoBucket ETB



e-FreezingBucket EFBN

### Features

- 5 models in the temp. range -10°C to +70°C
- CFC free and Operation at Low temperature (EHB for Heating only)
- User-oriented "Miracle beads bath (Option: Except for EFBN)"


### Applications

- Ice bucket substitution [EIB], Enzyme reaction etc.
- Low temperature DNA ligation [Except for EHB]
- Cold Shock and Low temp. response experiment [EFBN]

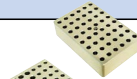

Model	EIB	ECB	EHB	ETB	EFBN
Temperature range	3°C (Fixed)	3°C to 20°C (*1)	Around 30°C to 70°C (*1,2,3)	3°C to 70°C (*1,2,3)	-10°C to 20°C (*4)
Temp. control accuracy	Below ±1°C				
Standard Bath	Miracle beads bath (BMB-17)		Hetero block (BAL-8148)		-
Speed display	Digitally (Preset/Current value)				
Cooling/Heating method	Cooling with Peltier element		Heater	Heating/Cooling with Peltier element	Cooling with Peltier element
Safe devices/protections	Fuse, Overheat/Overcurrent/Overvoltage protection				
Dimensions (W x D x H)	170 x 240 x 220mm				
Weight	Main unit: Approx. 2.2kg + Miracle beads bath Approx. 1.8kg		Main unit: Approx. 2.2kg + Hetero block Approx. 1.2kg		Main unit: Approx. 2.2kg + Aluminium block
Power supply	AC100 to 240V/1A				
Applicable Bath/Block	Miracle beads bath, Hetero block, Dual side block				4 kinds of Block (See for details below)

(\*1) The specifications might not be met ambient temp. above 30°C or below 5°C. (\*2) Miracle beads cannot be used stably over 50°C. The specifications might not be met below 20°C (\*3) When used as a water bath (eb-ShakerUnit used with) in EHB, the upper limit temp. is up to 50°C and that of ETB is up to 55°C. (ambient temp. 5°C to 30°C) (\*4) The specifications might not be met ambient temp. above 35°C or below 5°C.

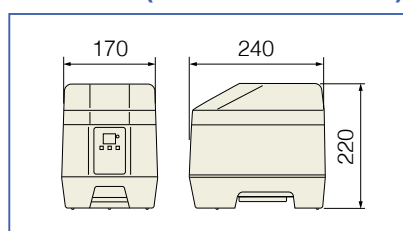
### Optional parts: Miracle beads bath (for EIB/ECB/EHB/ETB)

Model	Capacity	Accessory beads	Bucket inner dimensions
 <b>Miracle beads bath BMB-17</b> *Standard accessories in EHB/ETB	Tray with dia 2mm beads fully filled. Various shapes can be put in. The beads can be washed in water and autoclaved.	Diameter approx. 2mm 1.7kg	Opening 101 x 158mm Bottom 94 x 143mm Depth 74mm





### Optional parts: Aluminum block (for EIB/ECB/EHB/ETB)

Model	Vessels / Capacity	Bucket inner dimensions
 <b>Dual side block BAL-8188</b>	48pcs x 0.5mL Microtube or 40pcs x 1.5mL Microtube (One face 0.5mL and the other 1.5mL. Dual-sided use)	98 x 150 x 39Hmm
 <b>Hetero block BAL-8148</b> *Standard accessories in EHB/ETB	24pcs x 0.5mL Microtube or 24pcs x 1.5mL Microtube (0.5mL and 1.5mL can be used simultaneously.)	98 x 150 x 39Hmm

### Dimensions (Common in all models)



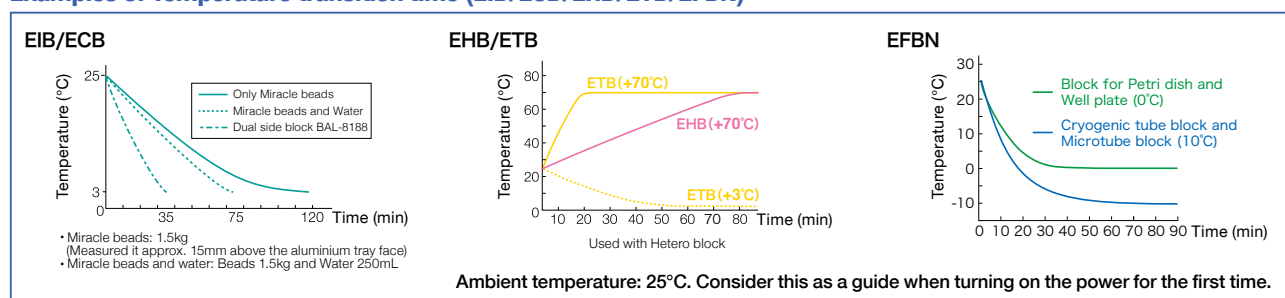
### Optional parts: Aluminum block (for EFBN)

Model	Vessels / Capacity	Bucket inner dimensions
 <b>Microtube block BAL-1120</b>	20pcs x 1.5mL Microtube	67.5 x 93 x 35Hmm
 <b>Cryogenic tube block BAL-1320</b>	20pcs x 2.0mL Cryogenic tube	67.5 x 93 x 35Hmm
 <b>Block for Petri dish BAL-6002</b>	2pcs x φ60mm Petri dish	84 x 136 x 43Hmm
 <b>Block for Well plate BAL-0001</b>	1pc x Well plate	84 x 136 x 43Hmm

• The outer dimensions the same as those of aluminum blocks. Each comes with Styrofoam heat insulation (Approx. 100 x 150 x 45Hmm)



## Examples of Temperature transition time (EIB/ECB/EHB/ETB/EFBN) \*See the specifications on the previous page.



# eB-ShakerUnit

To attach to E-Bucket series EIB/ECB/EHB/ETB to enable it as a shaking water bath used. For when the shaking required in e-Bucket.

Minisize Bath "e-Bucket" series --> P.104 Unit Water bath with Plastic water bath "Thermominder" series --> P.114/116

## Features

- Combined with EIB/ECB/EHB/ETB for use
- Shaking speed 150r/min, width 10mm
- Spring net shaking platform comes with

## Applications

- Incubation such as Enzyme reaction
- Conditioned culture after Transformation of E. coli
- Incubation of dissolved culture medium



Combined with e-ThermoBucket ETB (Sold separately)

## Effective use on Plastic water bath C-type

Required to use "e-Bucket" series except for WTB and EFBN as a shaking water bath. Shaking with this unit effective of stirring the water in the tank to eliminate temp bias. Note that Beads bath and Aluminum blocks cannot be used when this unit combined. Use Spring net shaking table (included).



Spring net shaking table (included)

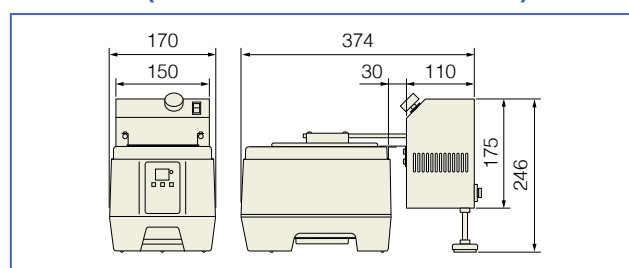
## Dimensions (Combined with EIB/ECB/EHB/ETB)

To attach "Plastic Water bath C-type" to Unit water bath (114,116 page) with the attachments (PCA-1 \*option) can make "Thermominder" a shaking water bath.



Combined with Plastic water bath C-type (Sold separately)

## Dimensions (Combined with EIB/ECB/EHB/ETB)



Model	eB-ShakerUnit
Applicable to	EIB, ECB, ETB37 (Discontinued), EHB, ETB (*1)
Shaking motion/speed	Reciprocal shaking, 30 to 150r/min
Shaking width	10mm
Capacity	20pcs x 1.5/2.0mL Microtube (approx. 30° tilted)(*2) 4pcs x 50mL Disposable Centrifuge tubes (approx. 30° tilted)(*3)
Platform size (W x D x H)	85 x 115 x 20mm (Changeable height to Max. approx. 70mm)(*3)
Maximum Load	Approx. 0.5kg (Platform 0.29kg included )
Other function	1 x Service outlet (Max. 14A)
Safety devices/protections	Fuse, Overcurrent/Overvoltage protection
Dimensions (W x D x H)	Main unit: 150 x 110 x 175mm (Platform and Protrusions not included) Combined: 170 x 374 x 246mm
Weight	Approx. 3kg (Combined: Approx. 5.2kg)
Power supply	AC100V/0.25A (Power consumption: approx. 4Wh at 150r/min)(*4)
Standard accessories	1 x Spring net shaking platform, 1 x Aluminium tray

(\*1) Cannot used with EFBN

(\*2) 24pcs of Microtube can be loaded vertically stand.

(\*3) When using long vessels such as 50mL Disposable centrifuge tube raise the position of Spring net of the platform(Default setting height 20 mm from the bottom plate. Changeable height: Max. approx. 70mm)

(\*4) Increases according to the amount of service outlet use. Applied for only when using e-Bucket series as a water bath.

• Please note the lid of e-Bucket unit cannot be used when this unit combined to e-Bucket. Temp. range of EHB is up to 50°C and that of ETB is up to 55°C.

## Optional accessories

Descriptions	Remarks
<b>Plastic Water bath C-type</b>	Min. Inner size: 180 x 320 x 155Hmm Heatproof temp.: 70°C
<b>C-type Attachment PCA-1</b>	For attachment of eB-ShakerUnit to Plastic Water bath C-type

# e-ThermoBucket WTB

*The industry's smallest electrically cooled water bath that can heating and cooling. Even water at 4°C can be used. Used also as a block water bath and a miracle beads bath.*

"Deep block" --> P.102 Shaking unit for WTB "WTB-ShakerUnit" --> P.107



## Features

- Used also as a constant temp. water bath and ablock water bath.
- Energy saving with Peltier, CFC Free, Antifreeze unnecessary even at 4°C.
- Used also as a shaking water bath combined with WTB-ShakerUnit.

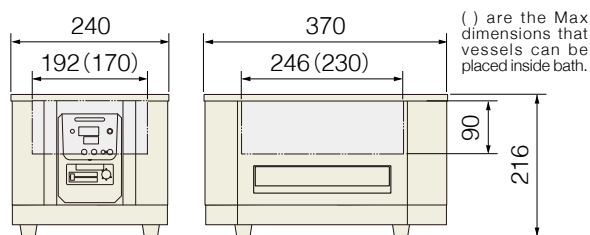
## Applications

- Incubation and preservation of samples and reagents, Enzyme reaction
- Low temperature DNA ligation
- Temp. control for Serum inactivation and pH adjustment object

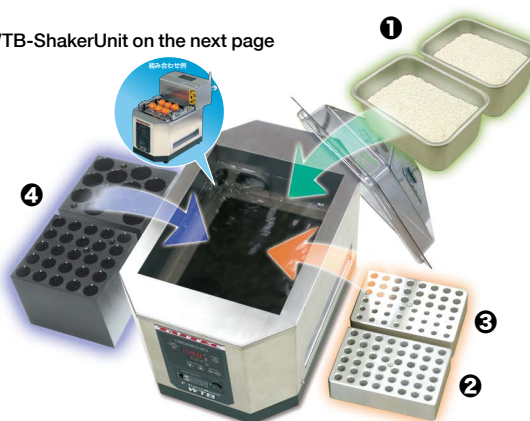
Model	WTB
Temperature range	4°C to 70°C (*1, 2, 3)
Temp. control accuracy	±0.1 to 0.2°C
Capacity	70% water level for Water 3 L (Max. 2L when WTB-ShakerUnit combined)
Speed display	Digitally
Cooling/Heating method	Cooling/Heating with with Peltier element
Other function	Stirrer bar (not used with WTB-ShakerUnit in combination)
Safe devices/protections	Fuse, Overheat/Overcurrent/Overvoltage protection, Sample protection (High/Low temp.), Non-volatile memory error, Sensor error, Automatic tuning error, Alarm setting error
Dimensions (W x D x H) /Weight	240 x 370 x 216mm (Lid not included), Approx. 9kg
Power supply	AC100V/4A
Applicable bath/blocks	Miracle beads bath, Hetero block, Dual side block, Deep block *2pcs can be put in each.

(\*1) The specifications might not be met ambient temp. above 30°C or below 5°C. (\*2) Miracle beads cannot be used stably over 50°C. The specifications might not be met below 20°C (\*3) Since the lid of WTB-ShakerUnit unit cannot be used when this unit combined to WTB-ShakerUnit, Max. temp. will be 60°C and Min. temp. will be -20°C.

## Dimensions (Common)



WTB-ShakerUnit on the next page

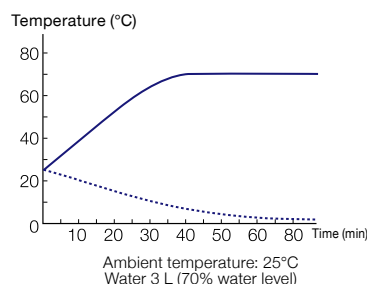


## USER'S VOICE

How useful this is because various blocks put into and furthermore can be used as a water bath.

## Examples of Temperature transition time

Consider this as a guide when turning on the power for the first time.



## Optional parts: Miracle beads bath

Model	Capacity	Accessory beads	Bucket inner dimensions
<b>①Miracle beads bath BMB-17</b> *Standard accessories in EIB/ECB	Any that can be placed inside the bath.	Diameter approx. 2mm 1.7kg	Opening 101 x 158mm Bottom 90 x 143mm Depth 74mm

## Optional parts: Aluminum block

Model	Vessels / Capacity	Bucket inner dimensions
<b>&lt;2&gt;Dual side block BAL-8188</b>	48pcs x 0.5mL Microtube or 40pcs x 1.5mL Microtube	98 x 150 x 39Hmm
<b>&lt;3&gt;Hetero block BAL-8148</b> *Standard accessories in EHB/ETB	24pcs x 0.5mL Microtube or 24pcs x 1.5mL Microtube	98 x 150 x 39Hmm
<b>&lt;4&gt;Deep block</b>	Available for various vessels. See 102 page for details	

# WTB-ShakerUnit

**Attach this unit with e-Bucket series WTB to realize a minisize shaking water bath that controls from low temp. to high temp. with "Water". Easily drain with equipped pump.**

Minisize Bath "e-ThermoBucketWTB" --> P.106

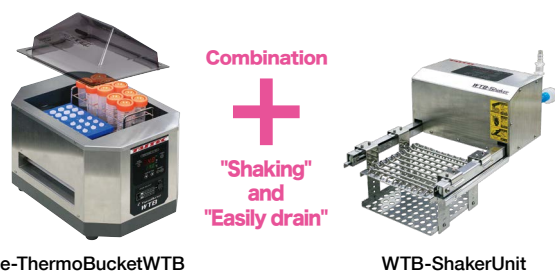
## Features

- Combined with Minisize water bath WTB that can chill
- Reciprocal shaking with width 25mm same as "Bio ShakerR"
- The temp. range 4°C to 60°C and Shaking water bath 200 r/min realized

## Applications

- Low-temp. culture of Protein expression E coli
- Conditioned culture after Transformation of E. coli
- Enzyme reaction and Incubation of dissolved culture medium

CFC Free and From low temp to high temp. with "Water" realized.

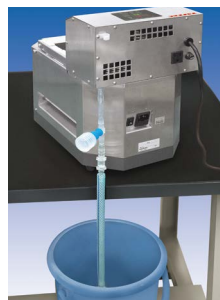


e-ThermoBucketWTB

WTB-ShakerUnit

Energy saving and CFC free by electronic cooling with Peltier element. The conventional one requires antifreeze to prevent freezing of the heat exchange part when used at 7°C whereas WTB controls from 4°C (\*Ambient temp. 20°C) with "Water".

## Equipped with Drainage pump



The exterior of WTB and WTB-ShakerUnit are stainless steel made. The inside bath of WTB is Teflon treated that makes it easy to maintain cleanliness.

### USER'S VOICE

Press it several times to start drainage; This is the principle of siphon! Enables you drain easier.



## Exterior is Clean Stainless Steel

Not equipped with the drain due to its construction. To use Drainage pump of WTB-ShakerUnit to drastically avoid the effort of troublesome drainage.



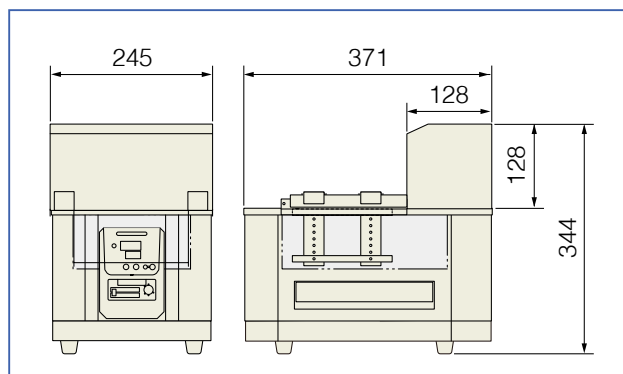
Combined with e-ThermoBucket WTB

Model	WTB-ShakerUnit
Applicable to	WTB
Shaking motion/speed	Reciprocal shaking, 20 to 200r/min
Shaking width	25mm
Capacity	8pcs x 50mL Disposable centrifuge tubes (approx. 30° tilted) 1pc x 250mL Erlenmeyer flask/Medium bottle
Platform size (W x D x H)	170 x 150 x 80mm
Maximum Load	Approx. 1kg (Platform 0.5kg included)
Speed display	Digitally
Other function	1 x Speed memory, Drainage pump, 1 x Service outlet (Max. 10A)
Safe devices/ protections	Fuse, Overcurrent/Overvoltage protection, Motor Overload protection, Speed limit error
Dimensions (W x D x H)	Main unit: 245 x 128 x 128mm (Protrusions not included) Combined: 245 x 371 x 344mm
Weight	Approx. 4.2kg (Combined: Approx. 13.2kg)
Power supply	AC100V/1A (Power consumption: approx. 5Wh at 200r/min)(*)
Standard accessories	1 x Spring net shaking platform

(\*) Increases according to the amount of service outlet use.

• Applied for only when using WTB as a water bath. The limitation of specs in WTB will occur when combined with this unit so be sure to refer and confirm the below specs and notes in WTB.

## Dimensions ( Combined with WTB )





## Guide for Custom-made aluminum blocks

*We can craft Custom-made aluminum blocks with various numbers, diameters, depths and bottom-shaped holes according to your specified vessels.*

Standard "Deep block" --> P.102 Dry Thermo Unit DTU-1BN/2BN/1CN/2CN --> P.102

Dry Thermo Unit DTU-1BN/2BN/1CN/2CN are Aluminum block water bath that heat Microtubes, Centrifuge tubes and Test tubes. The blocks that can be inserted deep into the vessels and the temp. control accuracy like Constant temp. water bath. Also compatible with nitrogen gas spraying.



### USER'S VOICE

Hi, Team of TAITEC; We are going to use a particularly shaped vessel but can we use them with our Aluminum block water bath?!



Deep block  
(For DTU series)

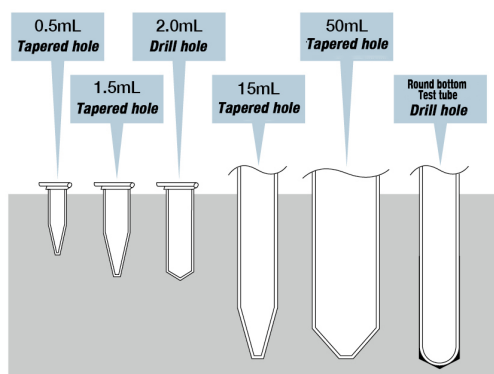
### Hole-shaped Fitting vessels (except for Round bottom test tube)

- Compatible with almost all small vessels.
- Hole-shaped that fits vessels (except for Round bottom Test tube)
- Optimized number of holes

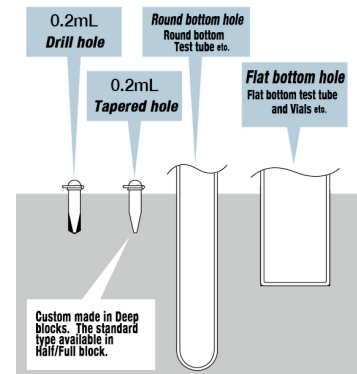
### Custom-made Aluminum block

- For vessels of non-standard dia. and depth
- When Flat bottom hole or Round bottom hole required
- Combination of different num of vessels and different types not included in standard.

### Hole shape of Standard block



### Hole shape of Custom-made block (example)



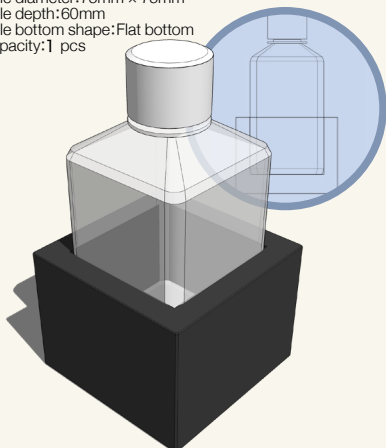
### TAITEC VOICE

Our blocks for Aluminum block bath compatible with almost all generally vessels. (See left figure) If you cannot find the one compatible with the vessels, we can craft custom-made vessels. (See right figure). Even the special specs shown in below figure can be made!!

### Example of Custom-made block

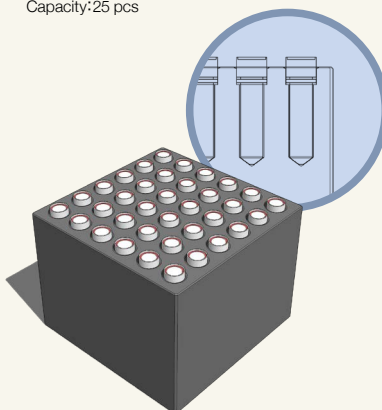
#### Aluminum block for 1pc 500mL square media bottle

Hole diameter: 75mm x 75mm  
Hole depth: 60mm  
Hole bottom shape: Flat bottom  
Capacity: 1 pcs



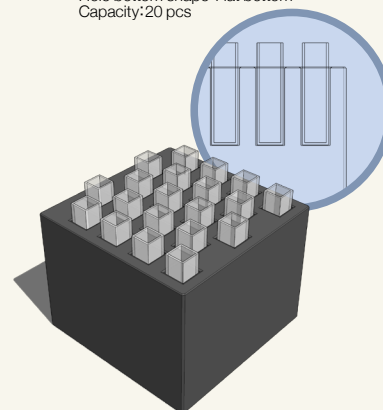
#### Aluminum block that screw lid 2mL Microtubes fit until its cap.

Hole diameter: 11mm (Min. dia. in hole 10.5mm)  
Hole depth: 34mm  
Hole bottom shape: Drill hole  
Capacity: 25 pcs



#### Aluminum block for square cells for spectrophotometer

Hole shape: 12.5mm x 12.5mm  
Hole depth: 35mm  
Hole bottom shape: Flat bottom  
Capacity: 20 pcs



**We also have crafted various ones other than these. Please contact us when you desire custom-made one.**