# Baths

# Cold Trap Bath

## Summary

In vacuum applications,a cold trap is a device that condenses all vapors(except the permanent gases) into a liquid or solid. The main purpose is to prevent vapors being produced by an experiment from entering the vacuum pump where they would condense and contaminate it. Clod traps can also cool surfaces or baffles to prevent oil vapors flowing from a pump into a chamber. In such a case,a baffle or section of pipe containing a number of cooled vanes, will be attached to the inlet of an existing pumping system.

## Features

## Improve pump working efficiency

- The low temperature of the cold trap can condense the water vapor directly in the cold trap, thus greatly improving the working efficiency of the vacuum pump.

## Protect vacuum pump

- Pumps that use oil either as their working fluid (diffusion pumps), or as their lubricant (mechanical rotary pumps), are often the sources of contamination in vacuum systems. Placing a cold trap at the mouth of such a pump greatly lowers the risk that oil vapors will back stream into the cavity.

## LCD PID controller

- P.I.D temperature controller provides accurate and reliable temperature control.
- Large LCD display screen and interface provides for user-friendly operation.

## Energy conservation and environmental protection

- non-freon refrigeration improve cooling efficiency, lower noise, longer life time ensures the stability for long time running.

## Safety

- Temperature deviation alarm.
- Compressor over current , over heat, over load protection.

## Design with

- 3 glass trap installation.
- Upside opened Glass Trap.
- Easy internal observation with PC Transparent Cover.
- Drain valve for easy discharge of collected liquid.
- S304 internal bath can be used to do water or ethanol cooling experiments. If equipped with glass condenser, it also can be used to deal with acid or organic solvents.

## Option

- RS 485 connector and USB connector can connect computer to save the data.

# Cold Trap Diagram
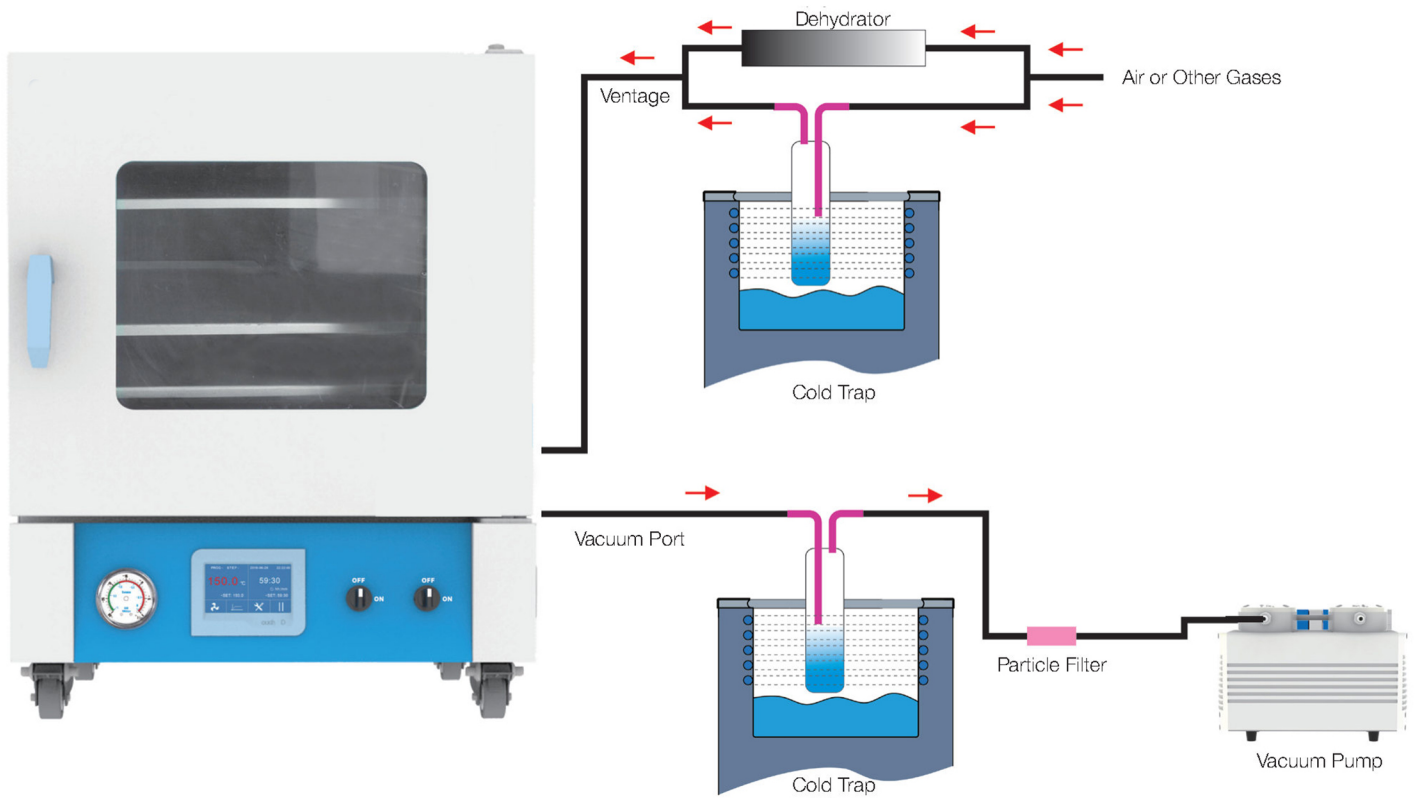


## Specification

| Model | GentianaBCT-05B | GentianaBCT-05D |
|---|---|---|
| Collection methods | Immersion of Glass Condenser | |
| Collection amount | Max.0.5Kg | Max.0.4Kg |
| Lowest temp | -40℃ | -80℃ |
| Safety function | Delayed Start of Compressor, Leakage, Overcurrent, Overvoltage Protection | |
| Refrigerating capacity | Air Cooling 400W R404A | Air Cooling 400W R404A，R23 |
| Cover interface material | Import PC | |
| Tank interior dimension（mm）<br>Capacity（L） | φ220mm×180mm<br>6.8L | |
| PC capping diameter | φ50.3mm  3 holes | |
| Condenser diameter | φ10mm（Match the Diaphragm Pump） | |
| Interior dimension W×D×H(mm) | 315×500×570 | 500×600×710 |
| Power | 115V/60Hz/850W | 115V/60Hz/1300W |

# Water Bath

Suitable for direct heating and auxiliary heating of biological, chemical, physical, plant, chemical and other experimental samples. Routine laboratory temperature control, Escherichia coli detection, sample thawing, bacterial detection, incubation microbial experiments, cell culture, food testing pretreatment, etc.

## Features

- PID temperature controller, large LCD display screen and interface provides for user-friendly operation.
- Easy to set Adjustable Timer. (1 minute to 5,999 minutes)
- Built-in circulating water pump to ensure uniform upper and lower temperature of bath lotion. (only for GentianaBW-22P)
- Maintenance-free operation with easy to clean surface.
- Both heater and bath chamber are made of corrosion-resistant stainless steel.
- No angle in bath chamber, easy to clean.
- The standard stainless-steel bottom plate, helps prevents direct contact by accessories and tubes to heating element and sensors.
- Drain valve makes emptying of bath water fast and easy for cleaning and moving.

## Safety

- Preset On/Off function.
- Built-in power interruption protection function, automatic run after power interruption.
- Independent Over-temperature protection meets DIN 12880 International standard requirements.
- Temperature deviation alarm.
- Over current protection alarm.

## Option

- Available RS-485 or USB ports for data collection.

water level sensor

Holed bottom plate

## Specification

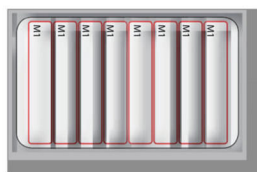| Model | GentianaBW-5 | GentianaBW-12 | GentianaBW-22 | GentianaBW-22P |
|---|---|---|---|---|
| Power requirements | AC220V-240V 60Hz | | | |
| Power (W) | 500W | 800W | 1000W | |
| Temperature range | RT+5～100℃ | | | |
| Temperature fluctuation | ±0.2℃ | | | |
| Temperature resolution | 0.1℃ | | | |
| Chamber volume | 5L | 12L | 22L | |
| Internal dimension W×D×H(mm) | 280×130×150 | 305×150×240 | 505×150×330 | |
| External dimension W×D×H(mm) | 345×200×340 | 353×340×265 | 558×340×342 | |
| Timer | 1～5999min | | | |
| Net weight | 5 Kg | 12 Kg | 18 Kg | 19 Kg |
| Porous cover(lid) | 2-hole | 4-hole | 6-hole | 6-hole |

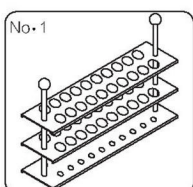Note: GentianaBW-22P built-in circulating water pump

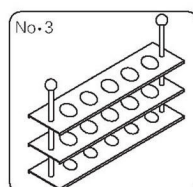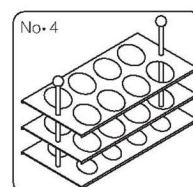GentianaBW-05    GentianaBW-12    GentianaBW-22/22P    Porous cover(lid)
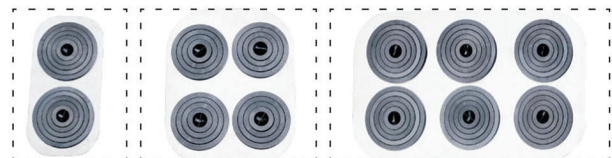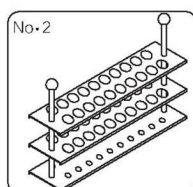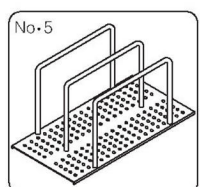
No·1 Φ13mm×20    No·2 Φ18mm×20    No·3 Φ31mm×5    No·4 Φ56mm×8    No·5 For blood bags

# Circulating Bath (Heating)

Provided for precise and constant temperature and auxiliary heating in colleges industrial and mining enterprises and scientific research departments. It is suitable for the temperature control of electronic components, material test, chemical synthesis and process.

## Features

- Microprocessor temperature controller with LCD screen ensures precise and reliable control, easy to operate.
- No angle in bath chamber, easy to clean.
- With interface to external water bath.
- Easy to set Adjustable Timer. (1 minute to 5,999 minutes)
- Maintenance-free operation with easy to clean surface.
- Both heater and bath chamber are made of corrosion-resistant stainless steel.
- Drain valve makes emptying of bath water fast and easy for cleaning and moving.
- Programming setting function with 7 periods and 9 steps for each period, which means there are 63 programmable steps in total.

## Safety

- Audible and visible alarm for temperature and water level.
- Preset On/Off function.
- Built-in power interruption protection function, automatic run after power interruption.
- Heater alarm, sensor alarm, upper and lower temperature alarm.
- Temperature deviation alarm.
- Over current protection alarm.

## Option

- Available RS-485 or USB ports for data collection.

## Specification

| Model | Temperature range | Precision | Liquid tank opening depth (mm) | Chamber volume | Power requirements | Pump (flux) | Power Consumption |
|---|---|---|---|---|---|---|---|
| Gentiana BP-5H | RT+5 ~ 150℃ | ±0.1 | 150×160/150 | 6.7L | | 8L/min | 1050W |
| Gentiana BP-13H | RT+5 ~ 150℃ | ±0.1 | 240×170/150 | 10.9L | AC220-240V, 60Hz | 8L/min | 1050W |
| Gentiana BP-19H | RT+5 ~ 150℃ | ±0.1 | 330×300/150 | 22.5L | | 8L/min | 1050W |
| Gentiana BP-31H | RT+5 ~ 150℃ | ±0.2 | 240×170/200 | 14.5L | | 8L/min | 1050W |

GentianaBP-5

GentianaBP-13H
GentianaBP-19H

Over-temperature protection

GentianaBP-31

# Circulating Bath (Cooling and Heating)

Provided for precise and constant temperature and auxiliary heating in colleges industrial and mining enterprises and scientific research departments.

## Features

- Microprocessor temperature controller with LCD screen ensures precise and reliable control, easy to operate.
- No angle in bath chamber, easy to clean.
- Programming setting function with 7 periods and 9 steps for each period, which means there are 63 programmable steps in total.
- R134a refrigerant.
- With interface to external water bath.
- Easy to set Adjustable Timer. (1 minute to 5,999 minutes)
- Maintenance-free operation with easy to clean surface.
- Both heater and bath chamber are made of corrosion-resistant stainless steel.
- Drain valve makes emptying of bath water fast and easy for cleaning and moving.

## Safety

- Audible and visible alarm for temperature and water level.
- Heater alarm, sensor alarm, upper and lower temperature alarm.
- Preset On/Off function.
- Built-in power interruption protection function, automatic run after power interruption.
- Temperature deviation alarm.
- Over current protection alarm.

## Option

- Available RS-485 or USB ports for data collection.

## Specification

| Model | GentianaBP-05L | GentianaBP-05A | GentianaBP-05B | GentianaBP-13L | GentianaBP-13A | GentianaBP-13B |
|---|---|---|---|---|---|---|
| Temperature range | -10～100℃ | -20～100℃ | -40～100℃ | -10～100℃ | -20～100℃ | -40～100℃ |
| Precision | ±0.2 | | | | | |
| Liquid tank opening/depth (mm) | 150×160/150 | 150×160/150 | 150×160/150 | 240×170/200 | 240×170/200 | 240×170/200 |
| Chamber volume | 4.5L | 4.5L | 4.5L | 13L | 13L | 13L |
| Power requirements | AC 220V-240V, 60Hz | | | | | |
| Pump (flux) | 8L/min | 8L/min | 8L/min | 8L/min | 8L/min | 8L/min |
| Power Consumption | 2300W | 2300W | 3150W | 2300W | 2300W | 3100W |

# Shaking Water Bath

Widely applicable for laboratory researches on bacteria cultivation, fermentation, hybridization, chemical and biochemical reaction, enzymes and tissues research, which have a high requirement on precision of shaking speed and temperature.

## Features

- Microprocessor temperature controller with LCD screen ensures precise and reliable control, easy to operate.
- Both heater and bath chamber are made of corrosion-resistant stainless steel.
- No angle in bath chamber, easy to clean.
- Programming setting function with 7 periods and 9 steps for each period, which means there are 63 programmable steps in total.
- Easy to set Adjustable Timer. (1 minute to 5,999 minutes)
- Maintenance-free operation with easy to clean surface.
- Drain valve makes emptying of bath water fast and easy for cleaning and moving.

## Safety

- Audible and visible alarm for temperature and water level.
- Heater alarm, sensor alarm, upper and lower temperature alarm.
- Preset On/Off function.
- Built-in power interruption protection function, automatic run after power interruption.
- Temperature deviation alarm.
- Over current protection alarm.

## Option

- Available RS-485 or USB ports for data collection.
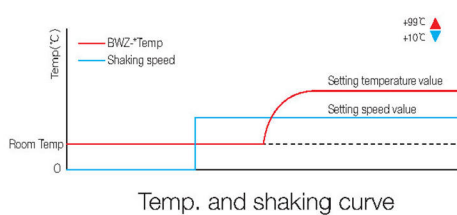
Temp. and shaking curve

## Specification

| Model | GentianaBWZ-10 | GentianaBWZ-30 |
|---|---|---|
| Temperature range | RT+5~99℃ | |
| Display resolution | 0.1℃ | |
| Temperature uniformity | ±1℃ | |
| Shaking speed range | 30~180 rpm | |
| Amplitude | 30mm (Standard) or 40mm (Option) | |
| Interior dimension W×D×H(mm) | 438×310×250 | 618×310×250 |
| Exterior dimension W×D×H(mm) | 643×350×353 | 823×350×355 |
| Chamber volume | 33L | 47L |
| Power requirements | AC 220V-240V, 60Hz | |
| Power consumption | 1250W | 1650W |

# Circulating Bath

## LCD Microprocessor Controller (with timing function)

Provided for precise and constant temperature and auxiliary heating in colleges industrial and mining enterprises and scientific research departments.

## Features

- Microprocessor temperature controller.
- Audible and visible alarm for temperature and water level.
- R134a refrigerant, imported compressor.
- With interface to external water bath.
- RS485 connector is option which can connect computer to record the parameters and the variations of temperature.(option)

## Specifications

| Model | Temperature Range | Precision | Interior Dimension | Chamber volume | Electrical Requirements | Pump (flux) | Power Consumption |
|---|---|---|---|---|---|---|---|
| GentianaMP-5H | RT+5~100℃ | ±0.1 | 150×160×150 | 6.7L | AC 220V-240V, 60Hz | 8L/min | 1050W |
| GentianaMP-13H | | | 240×170×150 | 10.9L | | | 1050W |
| GentianaMP-19H | | | 330×300×150 | 22.5L | | | 1050W |
| GentianaMPG-100H | RT+5~100℃ | | 240×170×200 | 14.5L | | | 1050W |
| GentianaMP-501A | RT+5~100℃ | | | | | | 1050W |
| GentianaMP-10C | -10~100℃ | ±0.2 | 150×160×150 | 4.5L | | | 2300W |
| GentianaMP-20C | -20~100℃ | | | | | | 2300W |
| GentianaMP-30C | -30~100℃ | | | | | | 2800W |
| GentianaMP-40C | -40~100℃ | | | | | | 3150W |
| GentianaMP-50C | -50~100℃ | | | | | | 3100W |
| GentianaMPG-10C | -10~100℃ | | 240×170×200 | 13L | | | 2300W |
| GentianaMPG-20C | -20~100℃ | | | | | | 2300W |
| GentianaMPG-40C | -40~100℃ | | | | | | 3100W |
| GentianaMPG-50C | -50~100℃ | | | | | | 3100W |
| GentianaMP-5 (controller) | -100~200℃ | 0.1 | 130×150×330 | ≤50L | | | 1050W |

※ **When setting temperature is above 80℃ , liquid medium should be mineral oil.**
※ **When setting temperature is below 5℃ , liquid medium should be antifreeze (Absolute alcohol or absolute glycol)**
※ **Ambient temperature: +5~35℃**

## Specification test condition

- Ambient temperature: 20℃
- Electrical requirements: AC 220V-240V, 60Hz
- Liquid medium: pure water

GentianaMP-13H
GentianaMP-19H

GentianaMPG-100H

# Heating&Cooling Circulating Bath

## Features
● High precision temperature controller.

## Specifications

| Model | Temperature Range | Precision | Peristome Dimension (WxDxH) | Chamber volume | Pump(flux) | Power |
|-------|-------------------|-----------|-----------------------------|----------------|------------|-------|
| GentianaMPE-20C | -20~100℃ | | | | | |
| GentianaMPE-30C | -30~100℃ | ±0.02 | 240×170×200 | 13L | 15L/min | 2850W |
| GentianaMPE-40C | -40~100℃ | | | | | |

# Heating Oil Bath

Corrosion resistant stainless steel with microprocessor controller heating oil bath, provides you best security and stability, and easy to operate.

## Features
● PID controller with timing function ensures precise and reliable control.
● Stainless steel working chamber and shell, anti-corrosion and easy to clean.
● Audible and visible alarm for temperature ensures experiments run safely.
● Magnetic stirring oil bath with microcomputer servo control of stirring speed, to ensure the constant speed in the case of constantly changing stirring viscosity.
● Magnetic stirring output torque is large, making the temperature in the oil bath more accurate and uniform.

## Option

Intelligent programmable LCD temperature controller
RS485 connector

GentianaDU-20/DU-30

GentianaDU-30G

## Specifications

| Model | Electrical Requirement | Power | Temperature Range | Temperature Stability | Deviation Alarm | Volume | Interior Dimension (W×H×D,mm) | Timer Range |
|-------|------------------------|-------|-------------------|-----------------------|-----------------|--------|-------------------------------|-------------|
| Gentiana DU-20 | | 1000W | | | | 12L | 250×250×200 | |
| Gentiana DU-30 | AC 220V-240V 60Hz | 1600W | RT+20~200℃ | ±0.5℃ | ±2℃ | 20L | 400×250×200 | 0~9999 |
| Gentiana DU-30G | | 1000W | | | | | | |

# Shaking Water Bath/Water Bath

## LED Microprocessor Controller (with timing function)

Widely applicable for laboratory researches on bacteria cultivation, fermentation, hybridization, chemical and biochemical reaction, enzymes and tissues research, which have a high requirement on precision of shaking speed and temperature.

## Specifications

| Model | GentianaDKZ-1 | GentianaDKZ-2B | GentianaDKZ-3 GentianaDKZ-3B | GentianaDKZ-1C |
|---|---|---|---|---|
| Temperature Range | RT+5~100℃ | | | 10~100℃ |
| Display Resolution | 0.1℃ | | | |
| Temperature Uniformity | ±1℃ | | | |
| Shaking Speed Range | 30~150rpm | | | |
| Amplitude | 30mm (Standard) or 40mm (Option) | | | |
| Power Consumption | 1250W | | 1650W | 1500W |
| Interior Dimension(W×D×H)mm | 438×310×250 | | 618×310×250 | 440×300×250 |
| Exterior Dimension(W×D×H)mm | 643×350×353 | | 823×350×355 | 710×410×710 |

※ **Remark: Shell and chamber are all stainless steel with an "B"**      **Options：Intelligent programmable temperature controller**

# Microprocessor controller (with timing function)

## Features

- A stamping molding stainless steel tank, easy to clean.
- LCD screen, multiple data display with timing function, easy to operate.
- Stainless steel shelves cover heater and sensor to avoid damage during using.
- Once-forming stainless steel lid.
- Cut off heater automatically in case of lack of water, meanwhile visible and audible alarm ensures to remind users in time.
- Independent temperature-limiting alarm system.
- temperature error alarm.
- Test tube holder can be placed. (Option)
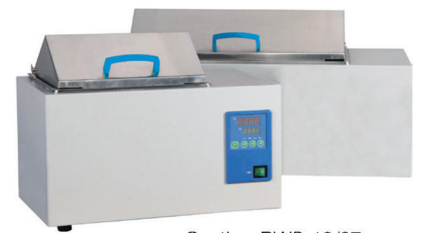
GentianaBWS-12/27

GentianaBWS-20

GentianaBWS-10

## Specifications

| Model | Gentiana BWS-5 | Gentiana BWS-10 | Gentiana BWS-20 | Gentiana BWS-0505 | Gentiana BWS-0510 | Gentiana BWS-12 BWS-12G | Gentiana BWS-27 BWS-27G |
|---|---|---|---|---|---|---|---|
| Electrical Requirement | AC 220V-240V, 60Hz | | | | | | |
| Power Consumption | 500W | 1000W | 2050W | 500W+500W | 500W+1000W | 800W | 1000W |
| Temperature Range | RT+5~100℃ | | | | | RT+5~100℃ RT+5~80℃ | |
| Temperature Stability | ±0.3℃ | | | | | ±0.2℃ | |
| Temp Alarm | ±2℃ | | | | | 0.1℃ | |
| Interior Dimension(W×D×H)mm | 130×280×150 | 220×280×150 | 290×490×150 | 130×280×150 | 130×280×150 290×490×150 | 300×240×200 | 500×300×200 |
| Exterior Dimension(W×D×H)mm | 396×250×260 | 396×330×260 | 600×390×260 | 450×395×260 | 526×395×260 | 480×300×480 | 680×360×390 |
| Timing Range | 1~5999min | | | | | | |
| Chamber Volume | 2holes Φ112mm | 4holes Φ92mm | 6holes Φ92mm | 2holes+2holes | 2holes+4holes | 11L | 20L |

※ **Remark: With electromagnetic-pump is marked with an "G"**

# Circulating Bath, Water Bath

## Microprocessor controller (with timing function)

### Summary

- Provided for precise and constant temperature and auxiliary heating in colleges industrial and mining enterprises and scientific research departments.

### Features

- Microprocessor control with timing function.
- Digital display.
- Audible and visible alarm for over temperature.

GentianaDK

GentianaDKB-CU

GentianaDK-8D

## Specifications

| Model | Water Bath | Water Bath (all stainless steel) | Circulating Bath (with electromagnetic-pump) | Water Bath (three holes) |
|---|---|---|---|---|
| | GentianaCU-420 GentianaCU-600 (GentianaDK-600A) | GentianaDK-8AXX GentianaDK-8AX GentianaDK-8AD | GentianaDK-8AB GentianaDKB-600B | GentianaDK-8D |
| Electrical Requirement | AC 220V-240V, 60Hz | | | |
| Power Consumption | 500W 1000W | 400W 600W 1000W | 1000W | 750W |
| Temperature Range | RT+5~100℃ | | RT+5~70℃ | RT+5~99℃ |
| Temperature Stability | ±0.5℃ | | ±0.3℃ | |
| Display Resolution | 0.1℃ | | | |
| Chamber volume | 11L 34L | 12L 22L 30L | 22L 30L | 2.1L×3 |
| Interior Dimension (W×D×H, mm) | 420×180×150 600×300×190 | 300×240×160 450×300×190 600×300×190 | 500×300×150 600×300×190 | 150×125×110 |
| Exterior Dimension (W×D×H, mm) | 570×220×260 750×350×300 | 460×280×190 610×340×260 760×340×280 | 660×340×200 770×370×280 | 490×245×310 |
| Timing Range | 1~999min | | | |

## Options:

- Intelligent programmable temperature controller