Model BH400/500

Model	
400	500

Operating Temperature Range (Room Temp.+15℃~)	
100℃	200℃

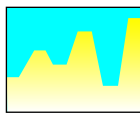| Temp. Adjustment Accuracy |
|---|
| ±0.01℃~±0.02℃ |

Bath Capacity
13ℓ

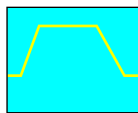### Constant temperature circulation systems. Compact and integral-type.

These models represent compact circulators of a new type, combining the cooling and heating part and the power source controlling part in one unit, and capable of high precision control of constant temperature near room temperature.

- An integrated control is available by a personal computer.
- There are two thermal radiation methods; water cooling and air-cooling.
- There are several kinds of system with different pump capabilities.
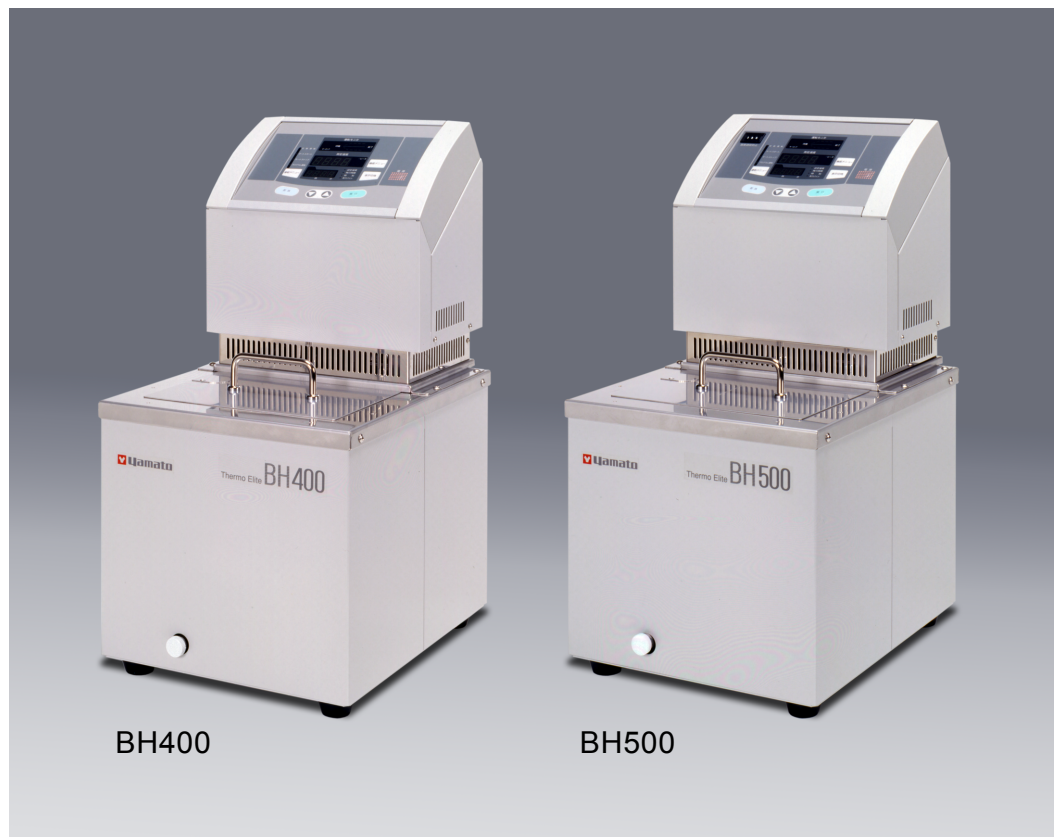- Constant low temperature circulators of running-cost-saving.

● Control panel ●

Programing operation
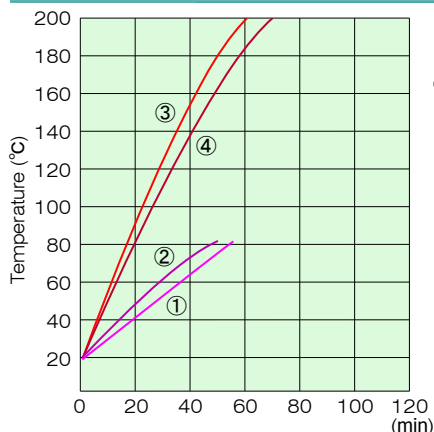
Automatic start & stop

BH400

BH500

● Temp.Rising Curve

Condition :
①BH400
  Solvent : Water
  Room temp. : 5℃
②BH500
  Solvent : Water
  Room temp. : 5℃
③BH500
  Solvent : Silicone oil KF96
  Room temp. : 5℃ /with top cover
④BH500
  Solvent : Silicone oil KF96
  Room temp. : 5℃ /without top cover

● Back View

Yamato

Circulators, Constant Temperature

● Specifications

Model	BH400	BH500
■ Performance		
Temp. setting method	−30.0～＋120℃	−30.0～＋220℃
Operating temperature range	room temp.＋15～100℃	room temp.＋15～200℃
Temp. adjustment accuracy ※1	±0.01℃～±0.02℃	
Ability of circulating pump ※2	Max. stream flow : 16 (liter／min.)	
	Max. pump head : 29kPa (3mH₂0)	
■ Components		
Heater	Stainless pipe heater, 1.0kW	Stainless pipe heater, 1.2kW
Stirring mechanism	Stirring by jet stream	
Other composition	Drain entrance (with stopping), Stainless flexibility tube for circulation	
■ Controller		
Temp. controller	PID control by microprocessor	
Temp. setting method	Digital setting with ▲▼ key	
Temp. display method	Digital display by LED	
Other display	Operation monitor (operation condition graphic display by LED patterns)	
Timer	1 min.～99 Hrs. 59 min. and 100 Hrs.～999 Hrs.	
Timer resolution	1 min. or 1 Hrs.	
Operation function	Fixed Temp. Operation : Continuous operation at setting temp.	
	Automatic Start Operation : Continuous operation starts automatically at setting time.	
	Automatic Stop Operation : Continuous operation stops automatically at setting time.	
	Program Operation : Max. up to 16 segments (dividable, repetition, gradient operation, etc.)	
Supplementary Function	Backup memory, Key lock, Calculation time function (up to 49999 hours)	
	Changeable function for Jet stream strength (10 steps changeable), Hold function,	
	Calendar timer function, Time display, Analog output function ※3, Outside warning	
	output function ※3, Time-up output function ※3, Outside communication function (correspond to RS422A) ※4	
Heater circuit control	Triac zero-cross control	
Temp. sensor	Pt resistance thermometer bulb, A-class(3 wire)	
■ Safe Device		
Safety countermeasures	Self-diagnosis function (Automatic overheat protector, Warning buzzer for sensor abnormal, Breaking of heater wire, Triac short circuit and Main relay trouble) ,Short-circuit breaker, Float type solvent level detector ※5, Thermal protector (Stirring motor), Independent over-heat preventer (only for model 500)	
■ Standard		
Internal dimensions(W×D×Hmm)	239×299×200	
Effective dimensions(W×D×Hmm)	227×150×200(Frontage corner : R34mm)	
External dimensions※6(W×D×Hmm)	310×379×605	
Reservoir capacity	13 liter	
Circulation port	Rc1/2 (IN, OUT)	
Power source 50/60Hz	AC100V／230V, Single phase,　11A／5 A	AC100V／230V, Single phase,　13A／6 A
Weight	Aprox.16 kg	Aprox.18 kg

■ Standard Accessories

Connection port for outside circulation hose(R1/2 x (b 14mm), 2 pcs.

■ Optional Accessories

① Exclusive Cable for Outputs (Analog／Outside warning／Time-up), Multi conductor cable model OBL10
　Outside communication cable, model OBK10
② Interface for PC(RC23) with AC adapter　　　③ Independent overheat preventer (for BH400)
④ Bypass tube for outside circulation (O.D. 1 6mmφ), model OBH30　⑤ Outside circulation hose (2.1m×2pcs.). model OBH40 ※7

※1 : ±0.01～±0.02℃: Solvent/Water, Room temp. 25℃ (unload), Water Temp. Room temp. ±15～80℃
　　±0.05～±0.1℃ : Solvent/Silicone oil KF96 (50cs), unload, Fluid temp. 70～200℃
※2 : Solvent : Water temp. 25℃
※3 : All output is mixed into single output terminal (Cable is optional accessory).
※4 : Exclusive cable is optional accessory.
※5 : Detection for upper and lower level's limit of fluid (Heat-prevention function for empty bath operates by detecting lower level limit).
※6 : Overall dimension doesn't include the protection.
※7 : This hose can't be used for high temp. fluid circulation more than 100℃ because this hose is insulation hose for cooling water circulation.