

Immersion Constant Temperature Device

Thermomate® BF Series

Operating
temp. range

Room temp. +5~80°C
BF200/400/500

Room temp. +5~180°C
BF600

Multi-function immersion thermostatic device for various usage



Basic
BF200



Multi-function
BF400



Multi-function
BF500



Oil / water compatible
BF600

Immersion constant temperature device with improved performance, operability and safety

■ Variation

- No protrusions, easy to set up
Can be used as constant temperature water bath, shaking incubator (when combined with bath with shaker) or oil bath (when combined with bath made of different material)

■ Operation and functions

- Four models including basic model with only fixed temperature operation and multi-function models with segment programming function, external output and external communication function
- Water jet strength can be adjusted in 10 patterns
- Temperature preset function enables memory and read out of temperature
- BF600 can be used for water or oil

■ Safety features

- Self-diagnostic functions, circuit protector, water level detection sensor and buzzer alarm for errors

■ Specifications

Type	Basic		Multi-function		Oil/water compatible
Model	BF200		BF400	BF500	BF600
Temp. setting range	-20.0~100°C*1				0~200°C
Temp. control range	RT+5~80°C*2				RT+5~180°C*4
Temp. control accuracy	±0.05~0.1°C*3		±0.02~0.05°C*2		±0.05~0.2°C*4
Stirrer	Propeller stirring		Water jet stirring		Propeller stirring
Heater	Stainless pipe heater 1.0kW				1.2kW
Temp. control system	PID control by microprocessor				
Temp. setting	Digital setting by ▲ ▼ keys				
Temp. display	Digital display by green LED				
	Minimum display indication: 0.1°C				Display indication:1°C
	Switch between setting temperature and measured temperature	Displayed on main indicator (setting temperature displayed on sub indicator)			
Timer	--		1min. to 99hrs.59min. and 100hrs. to 999hrs.		
Timer resolution	--		1min. and 1hr.		
Operation functions	Fixed temperature operation		Fixed temperature operation: Continuous operation at set temp., Quick Auto stop Program operation: 1~3 patterns, maximum 5 segment patterns (Repeat, gradient operation)		
Additional functions	Temperature presetting (temperature memory / recall)		Temperature presetting (up to 10 temperature memory / recall), operation time accumulation function (up to 49999 hours), key lock function		
			Water jet strength 10 patterns changeable function. Pump discharge port variable function		
	--		--	Temp. output (10mV/°C)*5*6	--
	--		--	External alarm output*5*6	--
	--		--	Time up output*5*6	--
	--		--	External communication function*5	--
Heater circuit	Triac Zero-cross type				
Sensor	Thermister				Pt Sensor
Safety device	Self-diagnostic functions (Automatic overheating prevention, Temperature sensor abnormal, Heater disconnection*, Triac short circuit*, Main relay defect*), Circuit protector, Water level detection sensor (float type), Buzzer alarm for abnormal condition				
External dimension*8	W140 x D138 x H305mm ~7kg				
Clamp available thickness	Up to 35mm				
Power source 50/60Hz	AC115V 10A / AC220V 5A				AC115V 11.5A / AC220V 6A
Included accessory	Testing bath model BY100 (Polypropylene)				

*1. When using under room temperature +5°C, please combine with constant low temperature water bath or neo cool dip BE model

*2. When using testing bath BY100

*3. Setting temperature 60°C, using testing bath BY100

*4. Setting temperature 100°C, using testing bath BZ100D, viscosity 50cst silicon oil

*5. Output by one output terminal

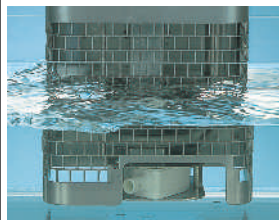
*6. Connection cable optional item

*7. BF200 not tested

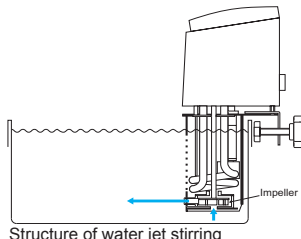
*8. Protrusions not included

Function Chart

Model	BF200	BF400	BF500	BF600
Digital setting / display	●	●	●	●
Temperature preset	●	●	●	●
Program function		●	●	●
Water jet strength changeable function		●	●	
Propeller stirring	●			●
External output, communication function			●	
Oil temperature control				●



Water jet stirring (BF400/500)



Structure of water jet stirring

Control Panel



BF200



BF400/500

Optional items



1-Level controller 2-Cooling pipe



3-Bath cover



4-External circulation nozzle



5-Float for micro tubes



Testing bath: select according to purpose, sample amount and temperature



Combination of Thermomate BF600 and BZ series testing bath

Material	Product code	Bath dimension	Capacity	Permissible operating temperature
Stainless steel plate	BZ100	230×390×150mm	12L	Room temperature to +200°C Use for high temperature and oil bath
	BZ100D	240×300×200mm	13L	
	BZ200	300×500×150mm	20L	
	BZ300	300×500×200mm	27L	
Polypropylene	BY100	327×185×156mm	8L	+5°C~+80°C
	BY200	455×300×160mm	18L	
Acrylic	BX100	230×390×150mm	12L	≤50°C Dedicated for water
	BX100D	240×300×200mm	13L	
	BX200	300×500×150mm	20L	

No.	Product code	Model	Product Name	Specifications
1	221570	OBF10*	Level controller (Automatic water supply unit)	Directly connected to tap water (Electromagnetic valve open / close) Equipped with float type water level detection function Fixed to testing bath by clamp
2	221572	OBJ10	Cooling pipe	SUS304 O.D.φ10mm Neoprene hose 3m (φ13 x φ9)
3	221578	OBI11	Bath cover (Additional process needed when combined with cooling pipe and external circulation nozzle)	Polycarbonate cover for testing bath BY100 (Cover cannot be used together with Automatic water supplier, external circulation nozzle, and Cooling pipe)
4	221573	OBG10	External circulation nozzle	External closed circulation available by connecting to BF400/500 I.D.9mm Neoprene hose 3m Flow rate: ~8L/min Lift: ~1.8m
5	221575	OBH10	Float for micro tubes	(For ø8mm) External dimension: 90×137mm
	221576	OBH20		(For ø11mm) External dimension: 90×137mm
6	221574	OBL10	Cable for BF500	Temperature output, External alarm output, Time up output
	221577	OBK10		Cable for external communication
	281257	RC23		Interface for computer connection (with AD adapter)

*Supply water pressure 50~500kPa (0.5~5kgf/cm²).

Immersion Constant Temp. Device Combination Examples

Constant temperature		
BF200	BF200	BF400
Constant temp. water bath	Low temp. water bath + Neo cool dip	Shaking bath BW series
Thermomate BF200 + Testing bath BZ100D	Thermomate BF200 + Testing bath BZ100D + Neo cool dip BE201F	Thermomate BF400 + Shaking bath BW400