

Immersion Constant Temperature Device

Thermomate BF Series

Operating temp. range

Room temp. +5~80°C
BF201/401/501

Room temp. +5~180°C
BF601

Multi-function immersion thermostatic device with improved performance, operability and safety



Basic
BF201

Multi-function
BF401

Multi-function
BF501

Oil / water compatible
BF601

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
- BF601 can be used for water or oil
- No protrusions, easy to set-up

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	BF201-115V BF201-220V	BF401-115V BF401-220V	BF601-115V BF601-220V
Temp. setting range	-20.0~90°C*1		0~200°C
Temp. control range	RT+5~80°C*2		RT+5~180°C*3
Temp. control accuracy	±0.05 / 0.1°C*4		±0.05 / 0.2°C*5
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	Measured / target temperature display: green 4-digit LED digital display Digital 7 segment display (Resolution: 0.1°C)	Target temperature display: orange 4-digit LED digital display (Resolution: 0.1°C, 1°C for BF601) Measured temperature display: green 4-digit LED digital display (Resolution: 0.1°C, 1°C for BF601)	
Timer	--	1min. to 99hrs.59min. and 100hrs. to 999hrs.	
Timer resolution	--	1min. and 1hr.	
Operation functions	Fixed temperature	Fixed temperature, Quick auto stop, Auto start, Repeat function Program operation: 3 patterns 10 steps	
Additional functions	Temperature presetting (10 points)	Temperature presetting (10 points), Calibration offset, Keypad lock, Auto resume function	
	--	--	External output terminal*6: temperature output, External alarm output, Time-up output, External communication
Heater circuit control	Triac Zero-cross type		
Sensor	Platinum resistance temperature detector (Pt100)		
Safety device	Self-diagnostics function (power supply frequency error, controller failure detection, sensor failure detection, heater interruption detection, triac (SSR) short circuit detection, main relay contact failure, automatic overheat prevention, measured temperature error detection), Independent overheat prevention device (IOPD), Circuit protector, Float level detection		
External dimension*7	W140 x D138 x H312mm		
Weight	~7kg		
Clamp available thickness	Up to 35mm		
Power source 50/60Hz	AC115V 10A with step-down transformer AC220V 5A with step-down transformer		AC115V 11.5A with step-down transformer AC220V 6A with step-down transformer
Included accessory	Testing bath model BY100 (Polypropylene)		

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

*2. When using testing bath BY100

*3. When using testing bath BZ100D and silicon oil with viscosity 50cSt silicon oil. Water cannot be used at temperature above 80°C

*4. Setting temperature 37°C/80°C, using testing bath BY100

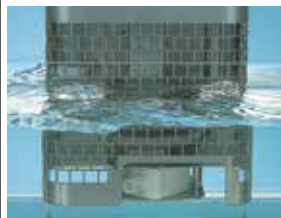
*5. Setting temperature 40°C/180°C, using testing bath BZ100D and silicon oil with viscosity 50cSt silicon oil

*6. Output by one output terminal

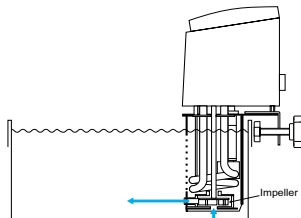
*7. Protrusions excluded

Function Chart

Model	BF201	BF401	BF501	BF601
Digital setting / display	●	●	●	●
Temperature preset	●	●	●	●
Program function		●	●	●
Water jet strength changeable function		●	●	
Propeller stirring	●			●
External output, communication function			●	
Oil temperature control				●



Water jet stirring (BF401/501)



Structure of water jet stirring

Optional items



1-Level controller



2-Cooling Pipe



3-Bath cover



4-External circulation nozzle

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.ø10mm Neoprene hose 3m (ø13 x ø9)
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 BF401/501 Neoprene hose I.D.9mm 3m Flow rate: ~8L/min Lift: ~1.8m
5	221871	OBF12	External communication adapter	USB-RS485 adapter, USB cable, RS485 connection cable. Compatible with BF501
6	221575	OBH10	Float for micro tubes	(For ø8mm) External dimension: 90×137mm Up to 24 pcs. can be attached
	221576	OBH20		(For ø11mm) External dimension: 90×137mm Up to 24 pcs. can be attached

Control Panel



BF201



BF401/501/601

Easy to Carry



OPD



Overheat Prevention Device

Testing Bath



Select according to purpose, sample amount and temperature

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	

Immersion Constant Temp. Device Combination Examples

Constant temperature		
BF201	BF201	BF401
Constant temp. water bath	Low temp. water bath + Neo cool dip	Shaking bath BW series
Thermomate BF201 + Testing bath BZ100D	Thermomate BF201 + Testing bath BZ100D + Neo cool dip BE201F	Thermomate BF401 + Shaking bath BW400