

Large Capacity Constant Temperature Oil Bath

BOA201-115V BOA201-220V / BOA311

Temperature control range

RT+10°C~200°C
BOA201

RT+10°C~270°C
BOA311

Bath capacity

37L

Large capacity 37L oil bath with temperature control of up to 200°/270°C



Specifications

Model	BOA201-115V BOA201-220V	BOA311
Temp. control range*1	RT+10~200°C	RT+10~270°C
Temp. control accuracy*1	±0.1°C (at 200°C Silicone Oil)	
Temp. fluctuation*1	0.2°C (at 200°C Silicone Oil)	
Temp. distribution accuracy*1	±0.2°C (at 200°C Silicone Oil)	
Temp. gradient*1	0.5°C (at 200°C Silicone Oil)	
Temp. rise time*1	~120 min.	~70 min.
Temp. control system	PID control by microcomputer	
Temp. setting system	Digital setting with menu keys and the ▲ ▼ keys	
Temp. display system	Temp. reading display: Green 4-digit LED digital Temp. setting display: Red 4-digit LED digital	
Sensor	Platinum sensor Pt100Ω (for temperature control), Type-K thermocouple (for overheat prevention)	
Operation mode	Fixed operation (with operation indicator lamp)	
Stirring method	Jet agitation	
Heat insulator	Ceramic fiber	
Heater type / capacity	SUS316 Pipe Heater 2kW	SUS316 Pipe Heater 4.5kW
Agitator type / capacity	Vertical propeller agitation, induction motor 25W	
Safety device	Self-diagnostic functions (automatic overheat prevention, temperature sensor failure, heater disconnection, SSR short circuit, main relay failure, memory error, internal communication error, abnormal temperature reading, abnormal water level), overcurrent leakage breaker, overheating protector, independent overheating preventor, emergency stop button	
Other functions	Drain valve / operation indicator lamp / external alarm output terminal / temperature output terminal (with 1-5V, 4-20mA changeover switch) / external communication function (RS485) / calibration offset function / set value lock function / power failure recovery mode selection function	
External dimensions *2	531 x 520 x 578 mm (oil bath depth 397 mm)	
Inner bath dimensions *2	W296 x D340 x H270 mm (height when the lowest shelf board is installed from the upper edge in the bath)	
Bath capacity	~37L (when amount of oil is up to 50 mm from the upper edge of the bath)	
Effective bath capacity	~31.9L (when bottom shelf board is installed)	
Power source	AC115V 18.5A AC220V 10A	AC220V 21A with external transformer
Weight	~37kg	
Included accessories	Shelf 1pc., lid 1pc.	

*1 Performance data above based on 23 ±5 °C room temperature, 65%RH ±20% humidity, and no process load.
Temperature control accuracy, temperature fluctuation, temperature distribution accuracy, and temperature gradient are the values measured using Toshiba Silicone TSF485-50.

Performance varies depending on the environmental temperature, type of medium (water, silicone oil) used, and operating temperature.

*2 Protrusions excluded

Operation and functions

- High temperature distribution accuracy thru jet stirring
- Advanced supportive functions
Standard equipped with external alarm output, temperature output terminal (4~20mA, 1~5V adjustable) RS485 communication function, key lock function, calibration offset function

Safety features

- Triple overheating prevention function (heater shuts off automatically at set temperature + 6°C, overheating prevention device, independent overheating prevention device)
- Emergency stop switch. Forcibly cuts off the overcurrent leakage breaker in an emergency
- Float switch to prevent empty heating and oil overflow
- Operation panel is protected by glass from liquid dripping
- Large indicator lamp lights up during operation
- Self diagnostic function, overheat prevention device, overcurrent leakage breaker, key lock function, power failure compensation function



Oil smoke such as silicone oil is flammable, recommended to use in a place with an exhaust device such as a fumehood.

Recommended silicone oil

Silicone oil is one of the heat transfer media. Please select silicone oil (heat resistant dimethyl silicone oil, viscosity 100mm² / s [cSt] or less)

Manufacturer	Toshiba Silicone (or equivalent)	
Product name	TSF458-50	TSF458-100
Recommended temp.	Below 200°C	200°C~270°C
Appearance	Light yellow transparent	Light yellow transparent
Specific gravity (25°C)	0.961	0.963
Viscosity (25°C)	50mm ² /s (cSt)	100mm ² /s (cSt)
Volatilization (150°C, 24h)	0.3%	0.3%
Viscosity temperature coefficient	0.59	0.59
Flash point	325°C	342°C
Pour point	-50°C or less	-50°C or less
Viscosity increase rate (300°C, 168h)	40%	35%

Degradation rate (change in viscosity) of silicone oil varies depending on temperature used. Especially in the case of TSF485-100 used at a temperature exceeding 200°C, as a guide, almost no change in viscosity is seen at 200°C, but it is about 1000 hours at 250°C and 100 hours at 270°C.

For further details, please inquire with silicone oil manufacturer when purchasing.



Lid (standard accessory)