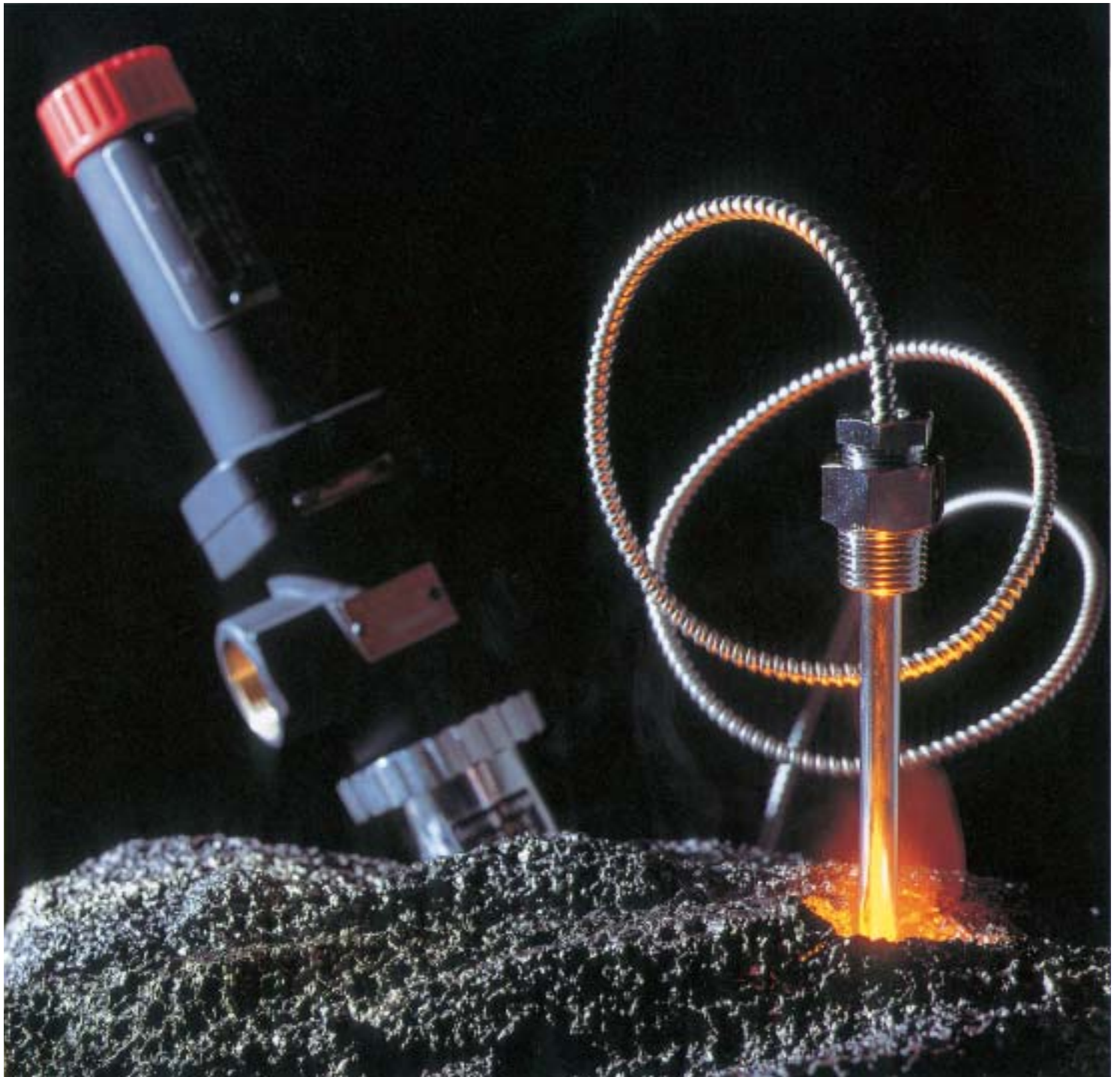




You can believe in.

# *Temperature Regulator*

**OB-30  
SERIES**



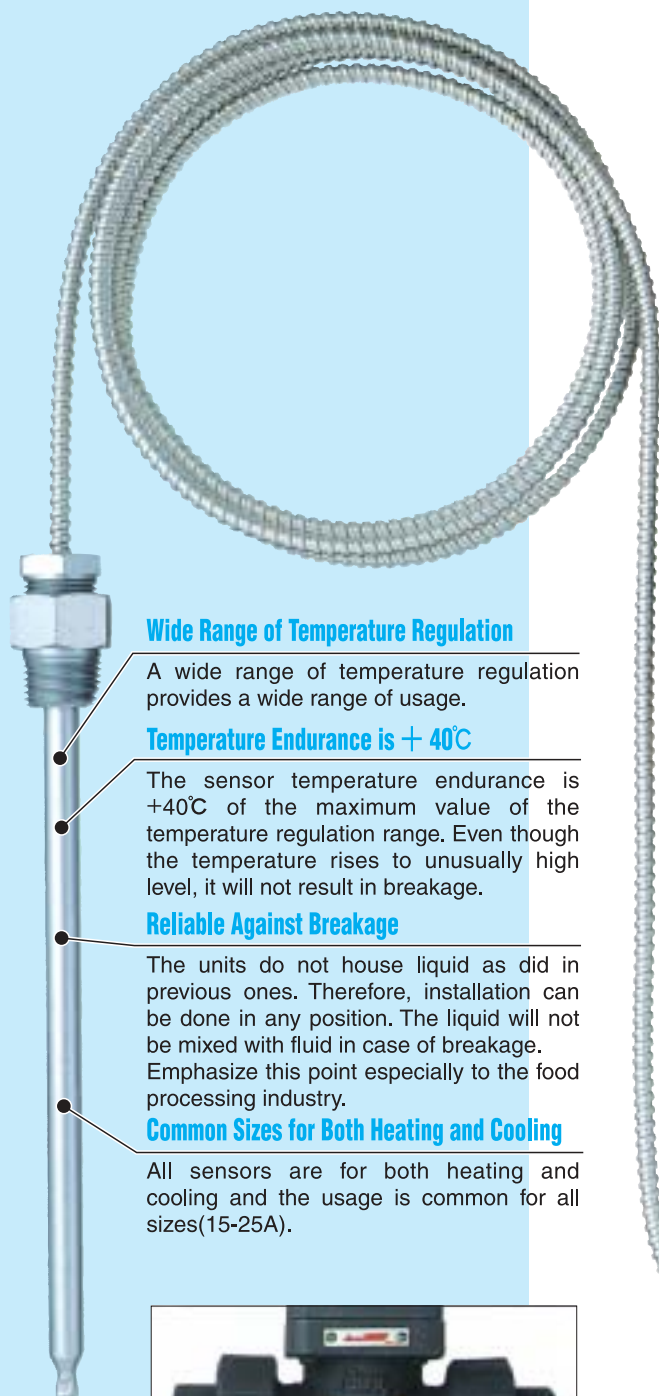
**Yoshitake**  
INC.

# COMPACT SIZE AND HIGH PERFORMANCE

Steady Temperature Regulation.

High Temperature Endurance and Durability.

Wide Range of Temperature Regulation.



## Wide Range of Temperature Regulation

A wide range of temperature regulation provides a wide range of usage.

## Temperature Endurance is + 40°C

The sensor temperature endurance is +40°C of the maximum value of the temperature regulation range. Even though the temperature rises to unusually high level, it will not result in breakage.

## Reliable Against Breakage

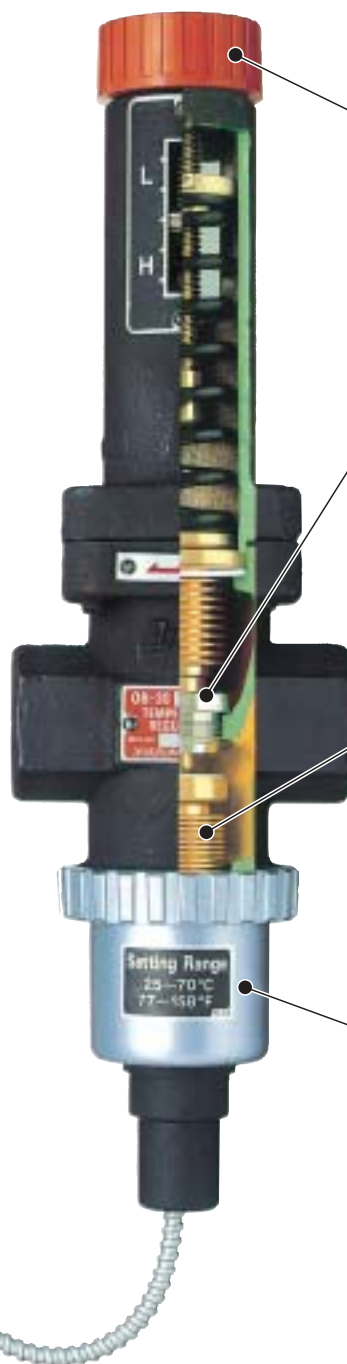
The units do not house liquid as did in previous ones. Therefore, installation can be done in any position. The liquid will not be mixed with fluid in case of breakage. Emphasize this point especially to the food processing industry.

## Common Sizes for Both Heating and Cooling

All sensors are for both heating and cooling and the usage is common for all sizes(15-25A).



Union Type Also Available



## Color Coated Handles for Easy Identification

Red handle for heating and blue handle for cooling. These color coated handles make identification easy.

## High Durability and Sealing function

Stainless Steel and Teflon materials are used for the main valve which ensure high durability and sealing function.

## Pressure Balancing Mechanism Ensures Stable Temperature Regulation

A single valve with bellows and balancing mechanism ensures stable temperature regulation as it is not affected by inlet pressure fluctuation.

## Easy Changing of Temperature Specifications

Temperature range can be changed easily just by changing the sensor.

# THE IDEAL COMPANION FOR SMALL-CAPACITY HEAT EXCHANGERS, AIR-CONDITIONERS, AND PLATING EQUIPMENT.

Until now, users of small-capacity heat exchangers, air-conditioners, and metal plating equipment, etc., have had no choice but to use large-size temperature regulators with capacities exceeding that of the equipment with which they were being used. Unable to perform the fine temperature adjustments which are required, these regulators have often been responsible for unstable temperature conditions, resulting in valve leakage, excessive temperature rises, and a host of other problems.

Designed specially to eliminate these problems, OB-30 Series temperature regulators are the direct result of listening to the customers' needs. Combining high performance with a compact size, and offering delicate regulation of even the smallest flow volumes, these regulators mark the beginning of a new era in the field of temperature regulation systems.

## ●OB-30

OB-30 For Heating With Red Handle



## ●OB-30U(Union Joint)



### Performance and Specifications

#### ●Main Body

Type	OB-30	OB-31
Service	For Heating	For Cooling
Applications	Steam, Hot water	Water, Coolant
Max. Pressure	1.7MPa(Steam:1.0MPa)	1.7MPa
Max. Differential Pressure	1.0MPa{ 10kgf/cm <sup>2</sup> }	
Valve Seat Leakage	Below 0.05% of Rated Flow Rate	
Max. Temperature	185°C	
Materials	Body	Bronze
	Main Valve	Brass with Teflon Disc
	Valve Seat	Stainless Steel
Connection	JIS Rc	

※Connections conforming to NPT standard are also available.

#### ●Temperature Regulation Range Division

Temperature Regulation Range (°C)	Temperature Endurance (°C)
0~35	75
25~70	110
40~100	140
60~130	170
70~150	190

#### ●Sensor

Heated Fluid		Water, Oil, Liquid
Cooled Fluid		
Max. Pressure		1.0MPa{ 10kgf/cm <sup>2</sup> G }
Materials	Thermal Buld	Copper (Nickle Chrome Plated)
	Capillary Tube	Copper Tube
	Spiral Tube	Stainless Steel
Capillary Tube Length		2m
Connection		JIS R <sup>1</sup> / <sub>2</sub>

※Connections conforming to NPT standard are also available.

#### ●Sensor Options

\* Capillary Tube Length:3m \* Capillary Tube Length:5m

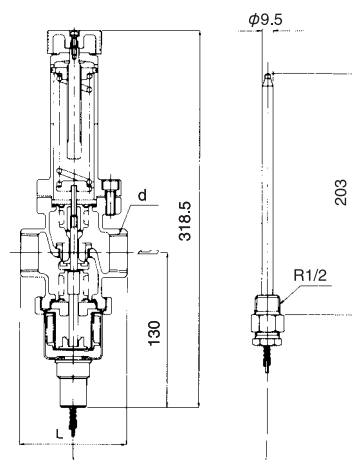
\* Thermal well:Stainless Steel

#### ●Main Body/Dimensions and Weight

Nominal Size	d	OB-30·OB-31	
		L(mm)	Main Body Weight (kg)
15A	Rc <sup>1</sup> / <sub>2</sub>	75	2.1
20A	Rc <sup>3</sup> / <sub>4</sub>	80	2.2
25A	Rc1	90	2.4

#### ●Sensor/Dimensions and Weight

Capillary Tube Length	2m
Thermal Bulb Length	203mm
Weight	0.6kg



### Performance and Specifications

#### ●Main Body

Type	OB-30U	OB-31U
Service	For Heating	For Cooling
Applications	Steam, Hot water	Water, Coolant
Max. Pressure	1.7MPa(Steam:1.0MPa)	1.7MPa
Max. Differential Pressure	1.0MPa{ 10kgf/cm <sup>2</sup> }	
Valve Seat Leakage	Below 0.05% of Rated Flow Rate	
Max. Temperature	185°C	
Materials	Body	Bronze
	Main Valve	Brass with Teflon Disc
	Valve Seat	Stainless Steel
Connection	JIS Rc (Union Joint)	

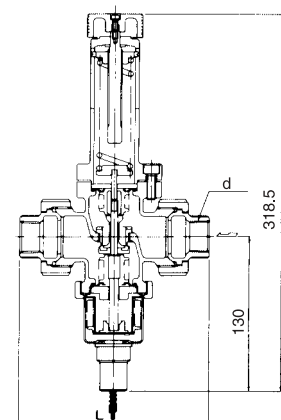
※Connections conforming to NPT standard are also available.

#### ●Main Body/Dimensions and Weight

Nominal Size	d	OB-30U·OB-31U	
		L(mm)	Main Body Weight (kg)
15A	Rc <sup>1</sup> / <sub>2</sub>	160	3.1
20A	Rc <sup>3</sup> / <sub>4</sub>	160	3.1
25A	Rc1	160	3.1

#### ●Sensor/Dimensions and Weight

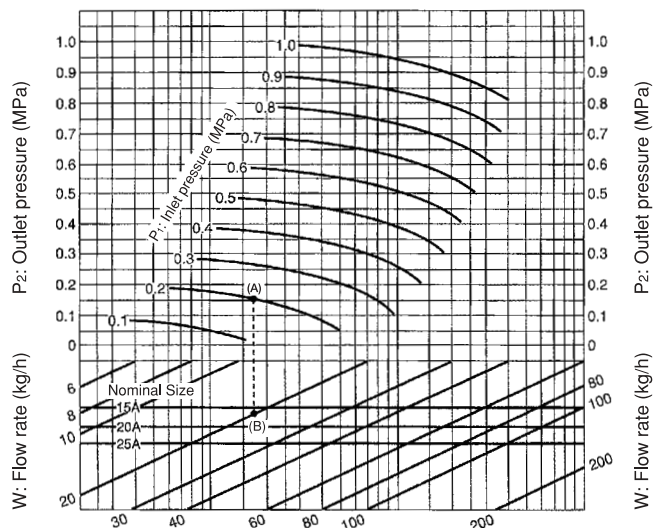
Capillary Tube Length	2m
Thermal Bulb Length	203mm
Weight	0.6kg





## OB-30, 30U Nominal Size Selection Chart (for Steam)

● For Steam



### How to read the chart

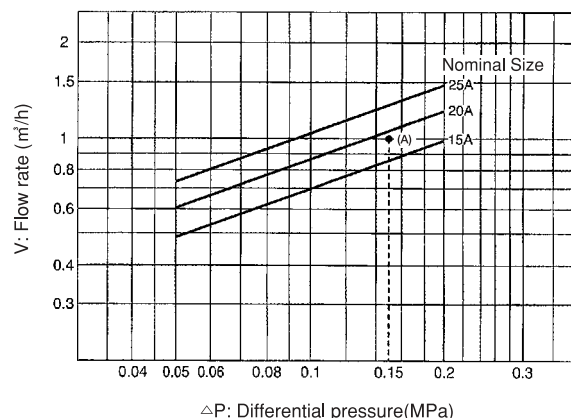
The nominal size selection method for the temperature regulator with inlet pressure (P1) 0.2MPa, outlet pressure (P2) 0.15MPa and a steam flow rate of 20kg/h are to find the intersecting point (A) at inlet pressure 0.2MPa and outlet pressure 0.15MPa, From Point (A), descend perpendicularly and find the intersecting point (B) at flow rate 20kg/h.

The point (B) is located between the nominal size 15A and 20A.

Choosing a larger number makes the nominal size 20A.

## OB-31, 31U Nominal Size Selection Chart (for Water)

● For Water



### How to read the chart

The nominal size selection method for the temperature regulator with inlet pressure 0.3MPa, outlet pressure 0.15MPa and a flow rate of 1m³/h is to find the intersecting point (A) at differential pressure (ΔP) 0.15MPa (0.3MPa-0.15MPa) and flow volume 1m³/h. The point (A) is located between nominal size 15A and 20A.

Choosing a larger number makes 20A nominal size.

## OB-30, 30U (for Heating) Piping Example

