

OB-30,30U

OB-31,31U

Direct acting type

Pilot operated type

Heating

Cooling

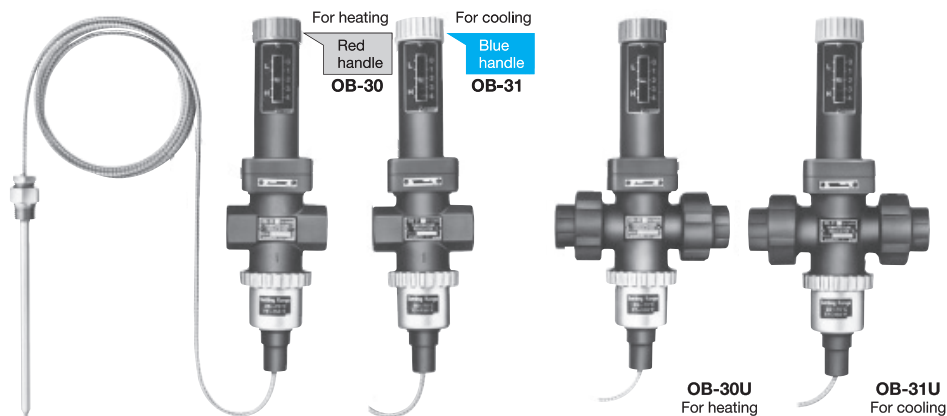
Bellows

Diaphragm

Single valve

Double valve

Soft seat



■Features

1. Red handle type is for heating and blue handle type for cooling. It is possible to identify their application at a glance.
2. Excellent durability and high sealability ensured by valve part of stainless steel and fluororesin.
3. Single valve and balance bellows structure offers stable temperature control without being affected by inlet pressure fluctuations.
4. Easy changeable thermal specification by easy attachment and detachment of the body and thermal bulb.
5. Wide temperature adjusting range, applicable to wide variety of applications.
6. The thermal bulb is usable for heating and cooling, which is common for all sizes (15 to 25A). It is possible to select models considering the temperature adjusting range only.
7. Easy setting of the initial temperature by handle operation.

■Specifications

• Body

Model	OB-30	OB-30U	OB-31	OB-31U
Purpose	For heating		For cooling	
Application	Steam, Hot water		Cold water, Refrigerant	
Maximum pressure	1.0 MPa (1.7 MPa for hot water)		1.7 MPa	
Max. differential pressure	1.0 MPa			
Valve seat leakage	0.05% or less of rated flow rate			
Max. temperature	185°C			
Material	Body	Bronze		
	Valve	Brass (PTFE)		
	Valve seat	Stainless steel		
Connection	JIS Rc screwed	JIS Rc screwed (union joint)	JIS Rc screwed	JIS Rc screwed (union joint)

· Sensor

Heated fluid		Cold and hot water, Oil, Liquid
Cooled fluid		
Maximum pressure		1.0 MPa
Material	Thermal bulb	Copper pipe (nickel chrome plated) *
	Capillary	Copper pipe
	Capillary tube	Stainless steel
Standard capillary length		2 m
Connection		JIS R 1/2

· Available with thermal well (stainless steel made). Please refer to P.18-37.

* In the case of attached to thermal bulb, the bush of thermal bulb will be unnecessary. Please refer to P.18-36.

· Available with capillary of 3 or 5 meter.

■ Temperature Adjusting Range

Temperature adjusting range (°C)	Withstand temperature (°C)
0-35	75
25-70	110
40-100	140
60-130	170
70-150	190

* The term “withstand temperature” means the temperature from pressure resistance of the bellows.

* The maximum temperature of the thermal bulb for cooling is 100°C.

■ Dimensions (mm) and Weights (kg)

· Body (OB-30-31)

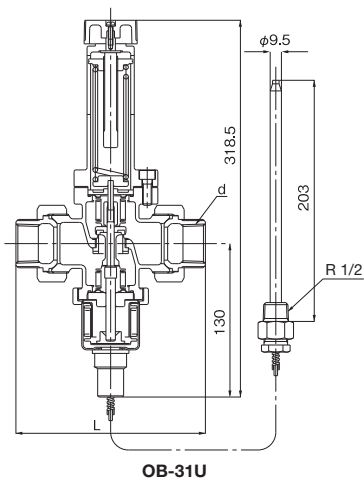
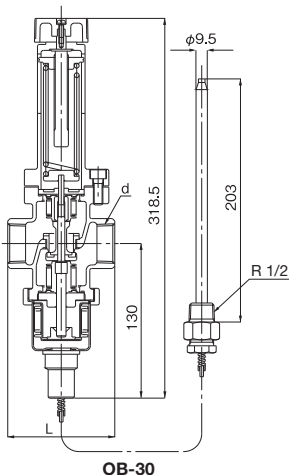
Nominal size	d	OB-30-31	
		L	Body weight
15A	Rc 1/2	75	2.1
20A	Rc 3/4	80	2.2
25A	Rc 1	90	2.4

· Body (OB-30U-31U)

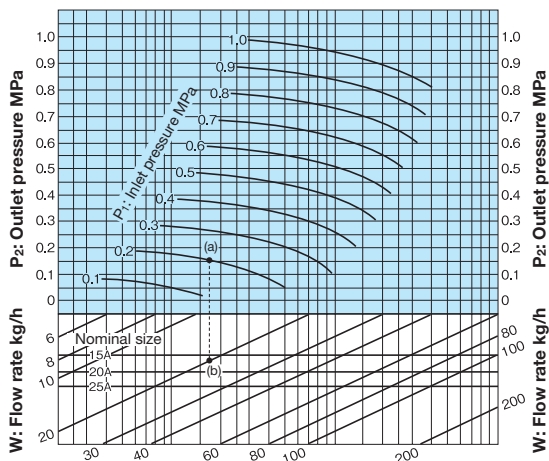
Nominal size	d	OB-30U-31U	
		L	Body weight
15A	Rc 1/2	160	3.1
20A	Rc 3/4	160	3.1
25A	Rc 1	160	3.1

· Sensor (Common to OB-30-31-30U-31U)

Capillary length	2 m
Weight	0.6 kg



OB-30-30U Nominal Size Selection Chart (For Steam)



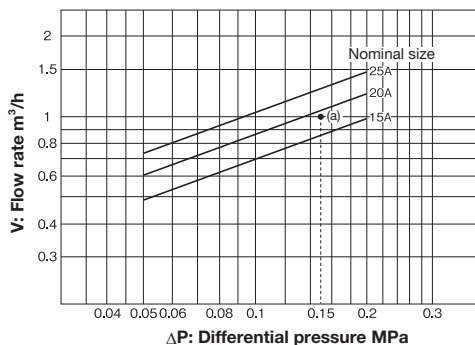
How to use the chart

When selecting the nominal size of a temperature regulator whose inlet pressure (P_1), outlet pressure (P_2), and steam flow rate are 0.2 MPa, 0.15 MPa, and 20 kg/h, respectively, first find intersection point (a) of the inlet pressure of 0.2 MPa and the outlet pressure of 0.15 MPa. Trace down vertically from this intersection point (a) to find intersection point (b) with the flow rate of 20 kg/h.

Since this intersection point (b) lies between nominal sizes 15A and 20A, select the larger one, 20A.

* Chart of the flow rate is a reference value.

OB-31-31U Nominal Size Selection Chart (For Water)



How to use the chart

When selecting the nominal size of a temperature regulator whose inlet pressure, outlet pressure, and flow rate are 0.3 MPa, 0.15 MPa, and 1 m³/h, respectively, first find intersection point (a) of the differential pressure (ΔP) of 0.15 MPa (0.3 MPa – 0.15 MPa) before and after the valve and the flow rate of 1 m³/h. Since this intersection point (a) lies between nominal sizes 15A and 20A, select the larger one, 20A.

· When the OB-30 or OB-30U is used and the fluid is hot water, use the selection chart shown above.

* Chart of the flow rate is a reference value.