

Bellows Type Steam Trap TS-7

TS-7/8 bellows type steam trap meets wide range of requirement as a thermostatic (bellows) type steam trap with by-pass function.

Hexagonal cover (switching part)

4 functions of "STOP", "BY-PASS", "TRAP", and "TEST" can be switched easily by spanner or monkey wrench.

Strainer

Equipped with built-in strainer.

By-pass valve

Built-in by-pass function allows reducing the cost for piping and construction remarkably. New design of by-pass valve has enabled to more compact body.

Bellows

TS-7/8 can be used in wide range of pressure thanks to welded bellows. The trap operates at the temperature 12degC lower than saturation point, and does not leak live steam.

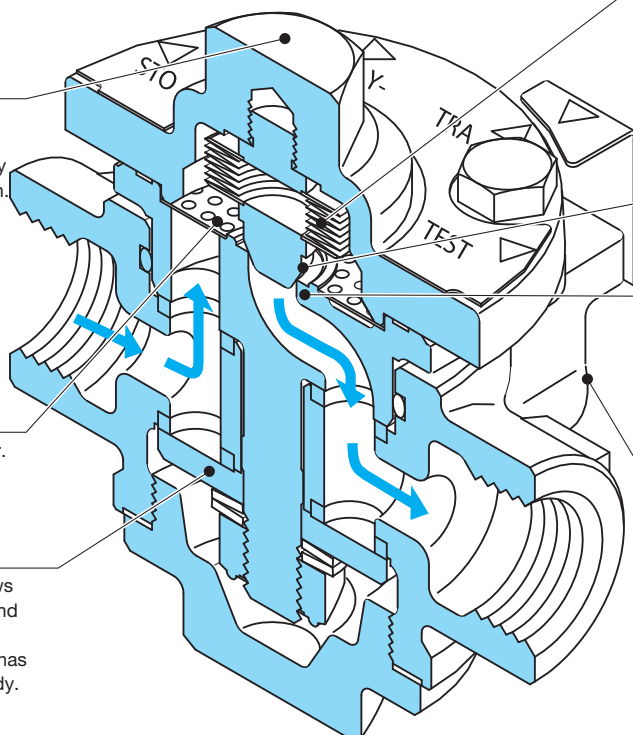
Valve

Cock (Valve seat)

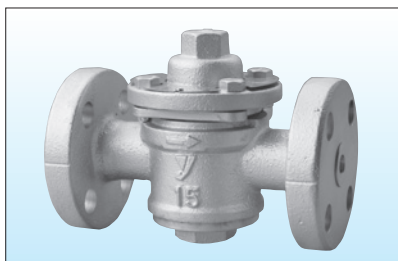
Cock and valve seat are made of stainless steel and integrated into one part.

Outlet screwed 3/8 for test

Operation of trap can be checked without effect of back pressure. (With "TEST" mode)



TS-7



TS-8

TS-7,8

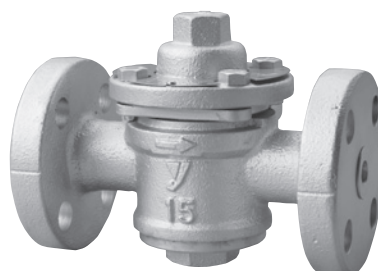
Bucket	Float	Disc	Bellows
Bimetal	Wafer	By-pass	Stainless steel
Connector	Right to Left	Down to Up	Up to Down

■Features

1. Four functions (STOP / BY-PASS / TRAP / TEST) can be switched easily with a spanner or monkey wrench.
2. The integrated bypass function helps reduce piping and construction work costs significantly.
3. Applicable in wide working pressure range due to welded bellows.
4. Works at a 12°C lower temperature than the saturating temperature and discharges no live steam.
5. Trap check can be performed without being affected by back pressure.
6. The cock and valve, both made of stainless steel, are integrated into one unit.
7. Equipped with built-in strainer.
8. Installable in any direction.



TS-7



TS-8

■Specifications

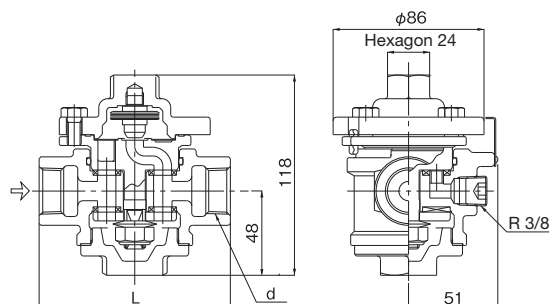
Model		TS-7	TS-8
Application		Steam condensate	
Maximum pressure		1.0 MPa *	
Minimum working differential pressure		0.03 MPa	
Max. temperature		183°C	
Material	Body	Ductile cast iron	
	Cock (Valve seat)	Stainless steel	
	Bellows (Valve)	Stainless steel	
	Strainer	Stainless steel	
Connection		JIS Rc screwed	JIS 10K FF flanged

* When performing an airtightness test using water or air, keep the pressure at 0.5 MPa or less.

■Dimensions (mm) and Weights (kg)

· TS-7

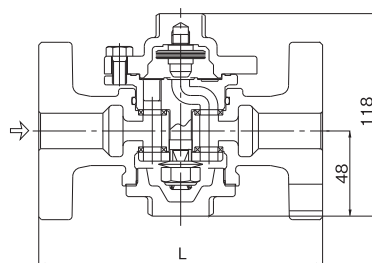
Nominal size	d	L	Weight
15A	Rc 1/2	107	2.3
20A	Rc 3/4	109	2.4
25A	Rc 1	115	2.5



TS-7

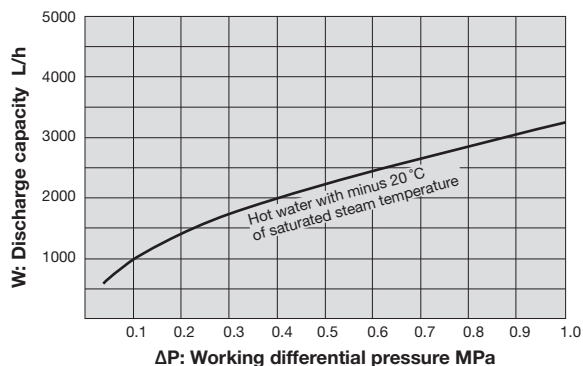
· TS-8

Nominal size	L	Weight
15A	156	3.9
20A	160	4.4
25A	160	5.5



TS-8

■Maximum Continuous Discharge Capacity Chart



■Maximum Continuous Discharge Capacity Table

Differential pressure MPa	0.03	0.05	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Hot water with minus 20 °C of saturated steam temperature	560	730	1020	1450	1780	2050	2300	2500	2700	2900	3100	3250

(L/h)

The discharge capacities shown in the chart and table above are the maximum values. In designing a system, select a steam trap with a sufficient safety factor (at least three times the regular level).

■Switching Mechanism and Operation

	STOP	BY-PASS	TRAP	TEST
Position				
Operation				
Conventional piping				

Steam
 Condensate

· All steam traps are set at the "STOP" position when delivered.

1. STOP: Fluid does not flow into the trap and out of the bypass because the inlet, the outlet, and the bypass are closed, and the strainer can be cleaned and the bellows can be inspected.
2. BY-PASS: Fluid flows through the bypass directly to the outlet. Select this position when blowing the piping during plumbing or discharging a large quantity of condensate before starting operation. Since fluid does not flow to the trap, the strainer can be cleaned and the bellows can be inspected.
3. TRAP: In this position, the steam trap performs regular trap operation, and condensate flows from the inlet to the outlet through the trap. It does not flow out of the bypass.
4. TEST: In this position, condensate is discharged from the inlet to the outlet for testing through the trap, and the operation of the trap can be checked. This check can be carried out with the outlet closed and without being affected by back pressure. Fluid does not flow out of the bypass.

■Precaution for Installation

1. Carefully blow the piping before connecting the steam trap.
2. Connect the steam trap to the piping according to its arrow indicating the direction of flow.
3. Slope the piping and place the product at as a low position as possible in order to make condensate flow into the product by its own weight.
4. Do not insulate the piping inlet and the steam trap.
5. To install the product in a main steam pipe, provide a drip leg at the inlet side of the product.
6. Secure enough space for switching operation of the cock and maintenance (such as cleaning the strainer and inspection of the bellows).
7. If discharge capacity is not enough, install more than one trap. In this case, connect the traps to the piping so that their inlets are in the same level.
8. Do not install the steam trap in a place where ambient temperature is higher than the condensate to be discharged.

■Piping Example

