



Reference Material for Temperature Regulating Valve

Selection of Temperature Regulating Valve

Please refer to following table to select the suitable Temperature Regulating Valve

In case of temperature sensing by bulb tube

Specification		Model	
Use	For heating	Normal flow T88, T88S, BW4	
	For cooling	Reverse flow T88R	
Fluid	Liquid (Heat exchanger, storage tank, oil tank, etc..)	For liquid service	Selection of bulb tube
	Gas (Room temperature control, etc..)	For gas service	
Valve seat	Standard	Double seat T88, T88R	
	Small capacity	Single seat T88S	
Bulb tube	Standard temperature range(¹)	Standard temperature service	
	Low temperature range	Low temperature service	
Valve inlet pressure (²)	Approx. 0.2MPa(³)	T88, T88R	
	High pressure	BW4	

Note ⁽¹⁾ : When the ambient temperature is 10°C lower than the set temperature or higher, please specify bulb tube for low temperature use which will have better controllability.

⁽²⁾ : Generally, differential pressure for sizing shall be 0.05MPa in case of inlet pressure 0.5MPa or lower and 10—20% of inlet pressure in case of inlet pressure higher than 0.5MPa .

Min. differential pressure of type BW4 is 0.07MPa.

⁽³⁾ : For maximum pressure, please refer to applicable catalogue.

In case of three way control valve

Specification		Model
Use ⁽⁴⁾	Control flow to cooler	Diverting
	Control mixing ratio with flow from cooler	Mixing
Maintenance without separating from piping		S(M)FH4, S(M)FH5A, S(M)FH6
Maintenance after separating from piping		S(M)FH3A
Direction of ASSEMBLY		STANDARD or REVERSE

Note ⁽⁴⁾ : Generally, differential pressure for sizing will be 0.03MPa or smaller.

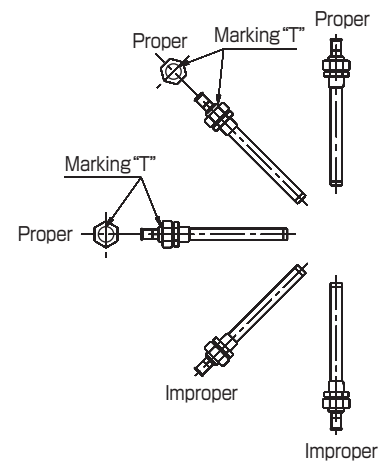
Notice for selection, installation

■ Notice for selection

- Normal operating temperature should be the middle of set temperature range.
- Standard length of capillary tube is 3m. 5m in length is available on request.
- When the ambient temperature is 10°C lower than the set temperature or higher, a bulb tube suitable for low temperatures should be used due to accurate control.
- In case of sizes 15–25, a single seat T88S is preferable.
- For high pressure fluids, please reduce pressure by providing pressure reducing valve before temperature regulating valve.

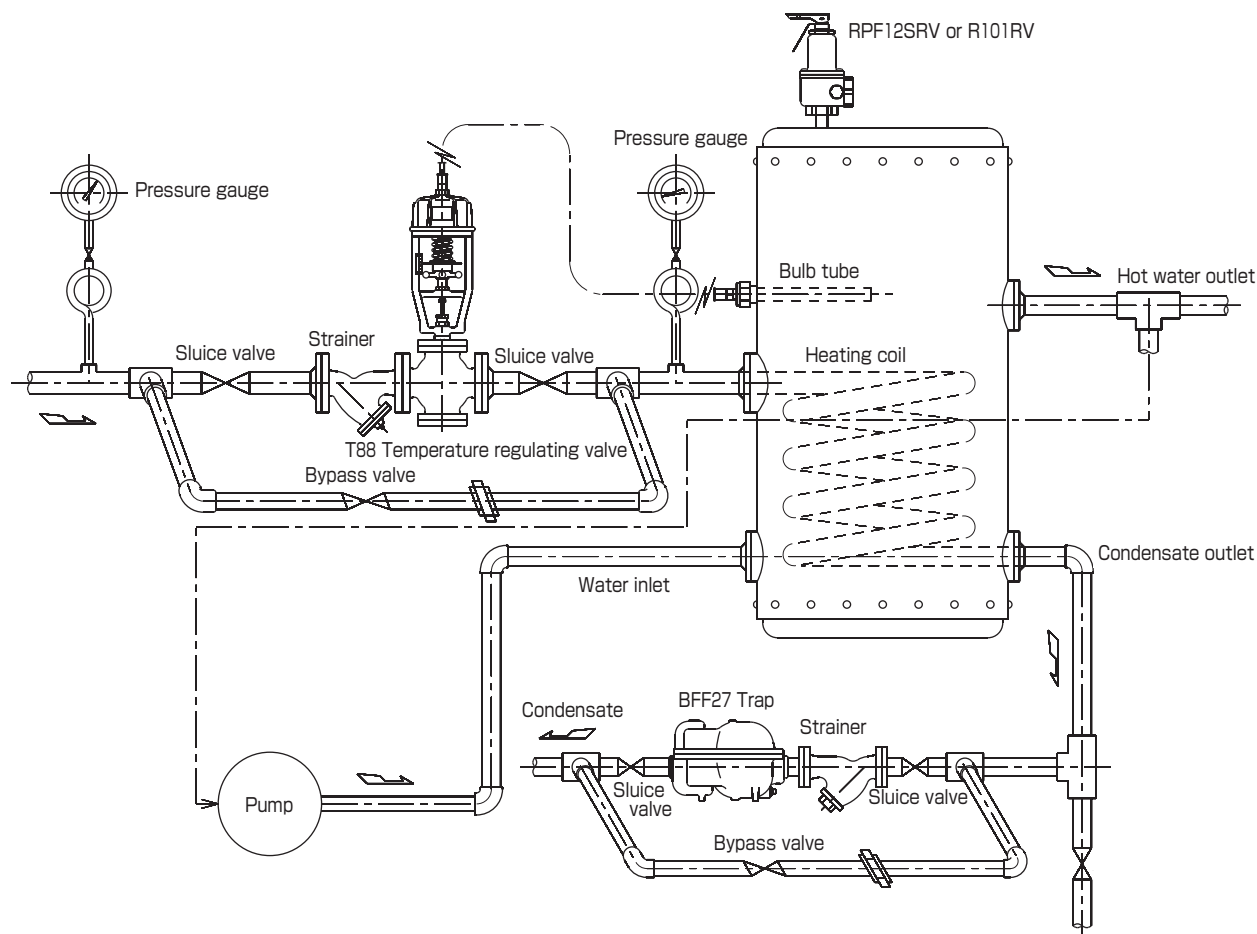
■ Notice for installation

- Temperature regulating valve T88 series and BW4 should be installed upright on horizontal piping.
- Provision of a pressure gauge, strainer, bypass valve and safety relief valve are requested on the piping line.
- Bulb tube should be in contact with fluid for over 3/4 of its length. In case bulb is inserted into piping, flow velocity after insertion shall be below 0.5m/s.
- When thermometers are provided, they should be located near the bulb tube.
- Toe of bulb tube should be installed at the level position or downwards position. Marking "T" should be located upwards.
- Capillary tube should not be bent sharply.

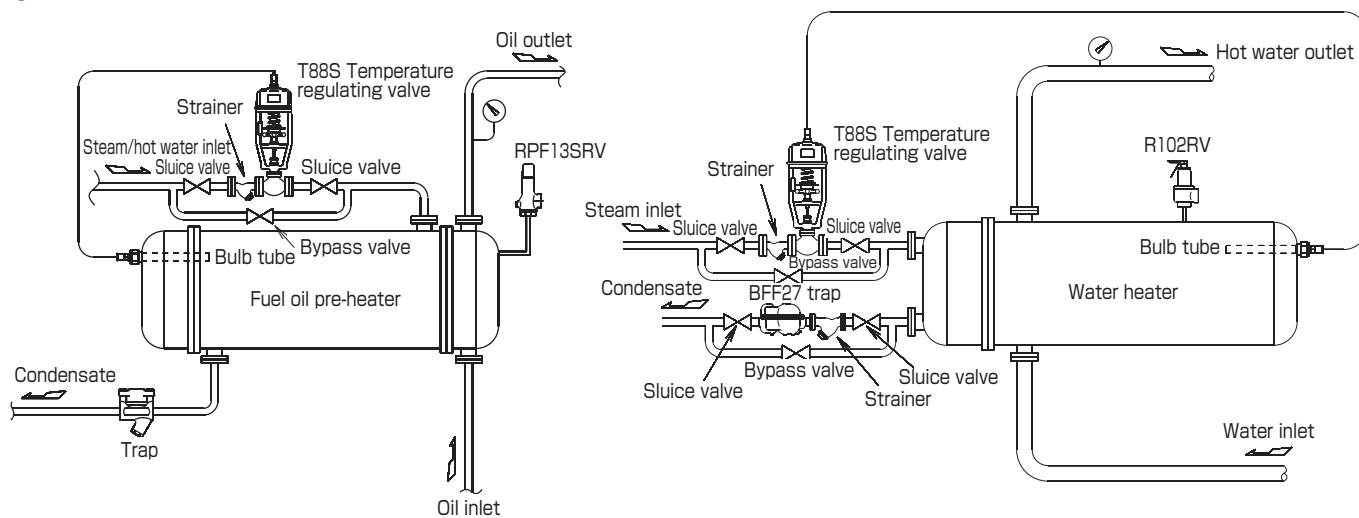


Installation example

● T88



● T88S

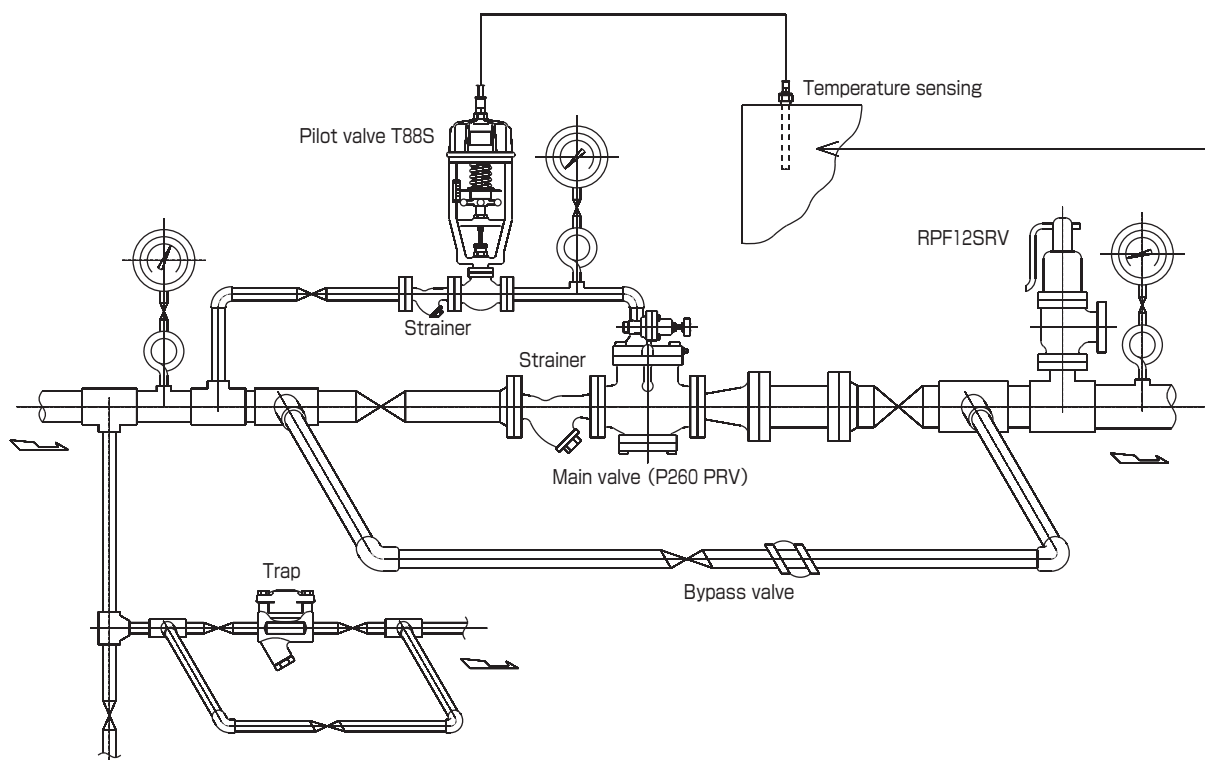


• Temperature regulating for fuel oil heater

• Temperature regulating for hot water storage

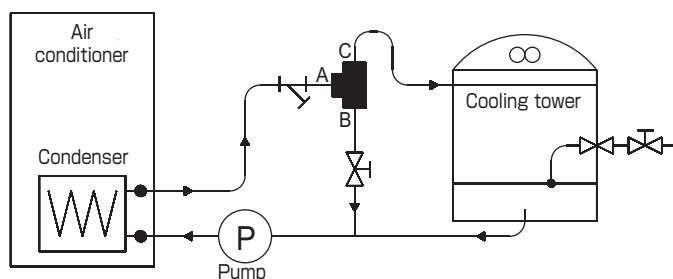
Installation example

● BW4

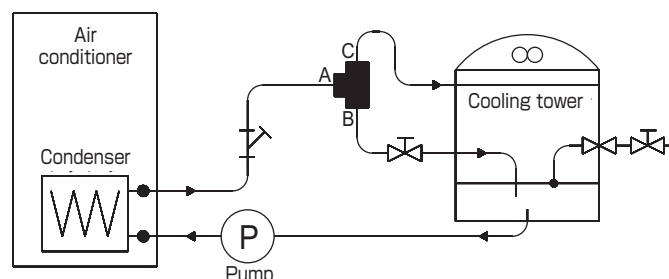


● Wax type

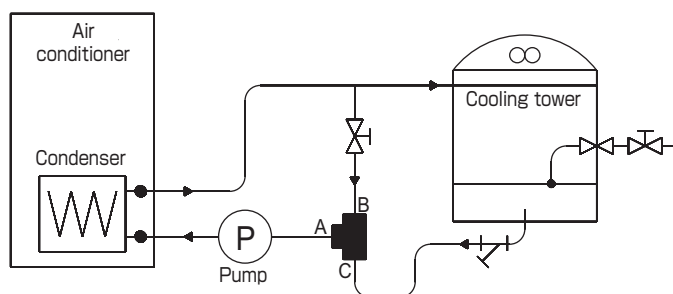
- Cooling water outlet temperature regulating (Diverting)



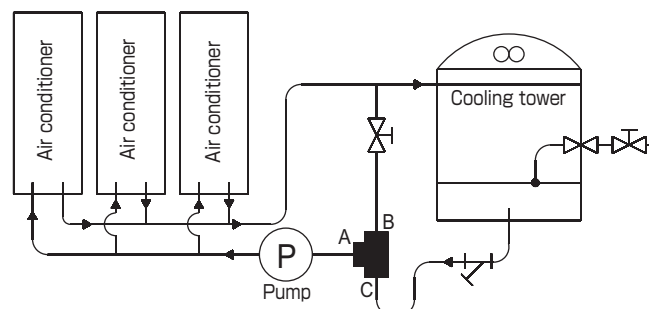
- Cooling water outlet temperature regulating (Diverting)



- Cooling water outlet temperature regulating (Mixing)



- To regulate cooling water temperature of a few air conditioners by one cooling tower (Mixing)



Note : Please provide strainer to prevent incorporating foreign matters to temperature regulating valve.