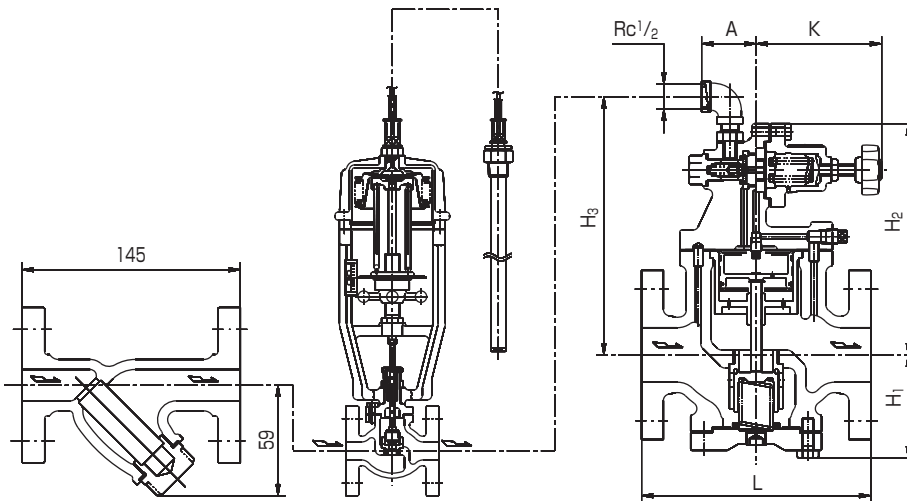
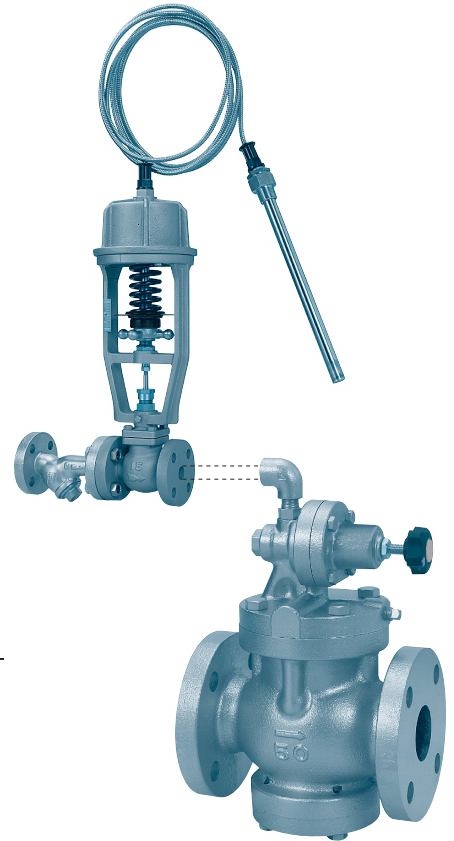
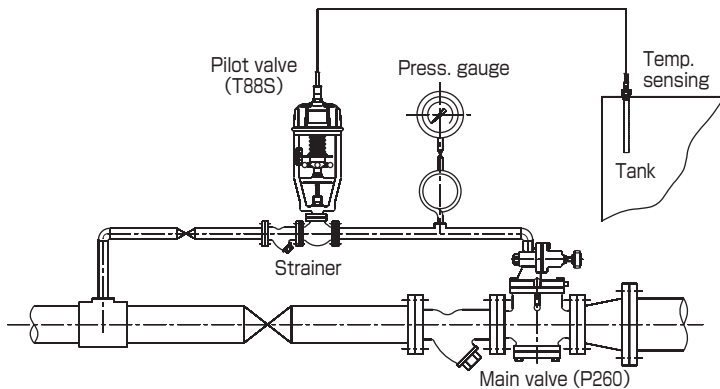


BW4

Type BW4 Temperature Regulating Valve



Type BW4 temperature regulating valve consist of P260 pressure reducing valve as main valve, T88S temperature regulating valve as pilot valve and Y strainer.

5
Temperature Regulating Valves

Specifications

Type		For heating										
Set temperature range		15—120°C (Refer to standard set temperature range)										
Size		15	20	25	32	40	50	65	80	100	125	150
Valve	Main valve	Pilot valve acting, single seat										
	Pilot valve	T88S (single seat) temp. regulating valve, size:15										
Pressure (¹)	Inlet of main valve	0.1—1.0MPa										
	Outlet of main valve	0.03—0.2, 0.1—0.8, 0.5—0.9MPa										
Connection		Flanged JIS10KFF										
Fluid through valve		Steam (max. 220°C)										
Bulb tube pressure (MPa)		Max. 1.0										
Bulb tube connection		Screwed										
Capillary tube		3m (max. 5m)										

Note (¹) : Steam pressure shall be as followings.

(a) Outlet pressure shall be lower than 90% of inlet pressure (min. 0.03MPa).

(b) Max. pressure reducing ratio shall be 20 : 1.

(c) Min. differential pressure shall be 0.07MPa.

Type BW4 Temperature Regulating Valve

Main parts material for main valve

Part name	Material
Body, cover	Cast iron (²)
Valve disc, seat	Stainless steel
Piston, cylinder	Stainless steel

Main parts material for strainer

Part name	Material
Body	Cast iron
Cap	Brass
Screen	Stainless steel

Note (²) : Body material for size 15—40 is Spheroidal graphite cast iron.

Dimensions and weights for main valve

(mm, kg)

Class \ Size	15	20	25	32	40	50	65	80	100	125	150
L	145	150	160	175	190	210	235	265	310	360	400
H ₁	81	76	74	79	85	95	112	123	150	174	202
H ₂	171	176	178	188	198	212	231	248	305	337	367
H ₃	196	201	203	213	223	237	256	273	320	352	382
K	115	115	115	115	111	111	111	111	162	162	162
A	46	46	46	45	50	50	50	50	58	58	58
Weight	8	8.5	10	12	14	18	26	32	51	71	105

Standard set temperature range

Category	Set temperature range	Max. allowable temperature
Low temperature	15°C — 30°C	45°C
	20°C — 40°C	50°C
	35°C — 55°C	70°C
Standard temperature	40°C — 60°C	70°C
	50°C — 70°C	80°C
	60°C — 80°C	90°C
	70°C — 90°C	100°C
	80°C — 100°C	110°C
	90°C — 110°C	120°C
	100°C — 120°C	130°C

Cv value for main valve

$$C_v = A d^2$$

where : d = Nominal valve size (inch)

$$A = \frac{16.2 \times P_2^{0.52}}{P_1 + 0.101} = \frac{16.2 \sqrt{P_2}}{P_1 + 0.101} \quad (\text{But max. 4.5})$$

where P₁ : Inlet pressure MPaG

P₂ : Outlet pressure MPaG

In case of A=4.5, Cv is as follows

Size	15	20	25	32	40	50	65	80	100	125	150
Cv	1.1	2.5	4.5	7.0	10.1	18	28.1	40.5	72	112.5	162

Type BW4 Temperature Regulating Valve

Sizing

Use the following chart to select the suitable valve size.

Example

Fluid : saturated steam

Inlet pressure : 0.5MPa

Set pressure : 0.25MPa

Flow : 700kg/h

Draw a vertical line from intersecting point of 0.5MPa inlet pressure line and 0.25MPa set pressure line down to 700kg/h flow line.

As the intersecting point is between 40 line and 50 line, the required valve size is 50.

