

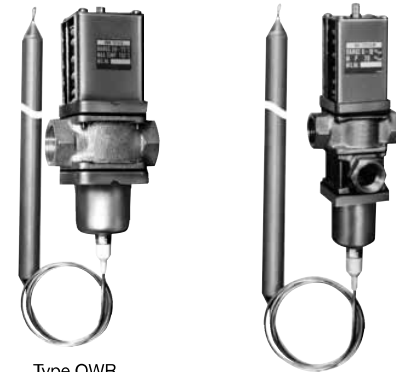
TEMPERATURE ACTUATED WATER REGULATING VALVES

Type OWR, HWR & XWR

SAGInoMIYA

GENERAL DESCRIPTION

- Type OWR: 2-way temp. actuated water regulating valves, open on temperature rise.
- Type HWR: 2-way temp. actuated water regulating valves, open on temperature decrease.
- Type XWR: 3-way temp. actuated water regulating valves.
- Temperature sensing element (type OWR, HWR & XWR)
Standard capillary tube: 1000mm×2.4
- Body material: Bronze for water and glycol, cast iron for water only



Type OWR

Type XWR

TYPE NUMBER SELECTION (SPECIFICATIONS)

TEMPERATURE ACTUATED VALVES 2-WAY

Unit: °C

| Catalog No. | Valve Body Material | Connection | | Temp. Range | Max. Water Temp. | Max. Water Press. MPa {kgf/cm ² } | Max. Bulb Temp. | Bulb Size (mm) | * Factory Setting | Wt. (kg) | | | | | | |
|-------------|---------------------|------------|--------|-------------|------------------|--|-----------------|----------------|-------------------|----------|------|-----|----------|----|--------|------|
| | | Size | Style | | | | | | | | | | | | | |
| OWR-HWR- | Bronze | 1/2" | Rc | 30 to 50 | 60 | 0.98 {10} | 80 | φ 19×150 | 40 | 1.0 | | | | | | |
| | | 5006G | | | | | | | | 3/4" | 1.2 | | | | | |
| | | 5010G | | | | | | | | 1" | 2.0 | | | | | |
| | | 5012G | | | | | | | | 1-1/4" | 2.2 | | | | | |
| | Cast Iron | 1-1/2" | Flange | 50 to 75 | 60 | 0.98 {10} | 100 | φ 19×320 | 60 | 11.5 | | | | | | |
| | | 5014F | | | | | | | | 2" | 18.3 | | | | | |
| | | 5020F | | | | | | | | 2-1/2" | 22.2 | | | | | |
| | | 5024F | | | | | | | | 2" | 22.2 | | | | | |
| | Cast Iron | Bronze | 1/2" | Rc | 50 to 75 | 60 | 100 | φ 19×150 | 60 | 1.0 | | | | | | |
| | | | P7506G | | | | | | | 3/4" | 1.2 | | | | | |
| | | | P7510G | | | | | | | 1" | 2.0 | | | | | |
| | | Cast Iron | 1-1/4" | Flange | | | | | | 50 to 75 | 60 | 100 | φ 19×320 | 60 | 2.2 | |
| | | | P7514F | | | | | | | | | | | | 1-1/2" | 11.5 |
| | | | P7520F | | | | | | | | | | | | 2" | 18.3 |
| P7524F | 2-1/2" | 22.2 | | | | | | | | | | | | | | |

* Pressure at which valve starts opening.

- OWR & HWR with flange connection are supplied with JIS 10K (0.98 MPa) round companion flanges (JIS B2220 2239) and bolt/nuts.
- Capillary tube ... Standard 1 meter, optional 1.5, 2 and 3 meters

TEMPERATURE ACTUATED VALVES 3-WAY

Unit: °C

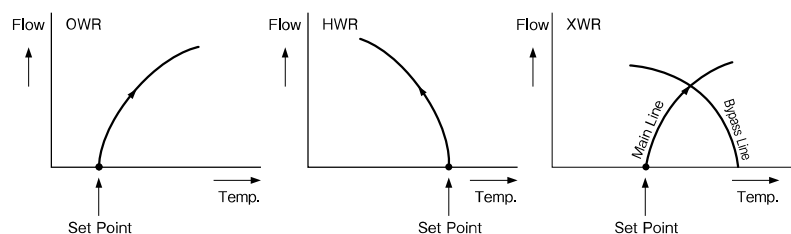
| Catalog No. | Valve Body Material | Connection | | Temp. Range | Max. Water Temp. | Max. Water Press. MPa {kgf/cm ² } | Max. Bulb Temp. | Bulb Size (mm) | * Factory Setting | Wt. (kg) | |
|-------------|---------------------|------------|--------|-------------|------------------|--|-----------------|----------------|-------------------|----------|-----|
| | | Size | Style | | | | | | | | |
| XWR- | Bronze | 1/2" | Rc | 30 to 50 | 60 | 0.98 {10} | 80 | φ 19×150 | 40 | 1.0 | |
| | | 5006G | | | | | | | | 3/4" | 1.5 |
| | | 5010G | | | | | | | | 1" | 2.5 |
| | | 5012G | | | | | | | | 1-1/4" | 3.0 |
| | Cast Iron | 1/2" | Flange | 50 to 75 | 60 | 0.98 {10} | 100 | φ 19×150 | 60 | 1.1 | |
| | | P7506G | | | | | | | | 3/4" | 1.5 |
| | | P7510G | | | | | | | | 1" | 2.5 |
| | | P7512G | | | | | | | | 1-1/4" | 3.0 |

* Pressure at which valve starts opening.

- Capillary tube ... Standard 1 meter, optional 1.5, 2 and 3 meters

VALVE ACTION

Set Point is pressure for valve opening. Each characteristic of valves is different as follows.



ADJUSTMENT

One full turn of adjusting screw changes temperature setting as shown below.

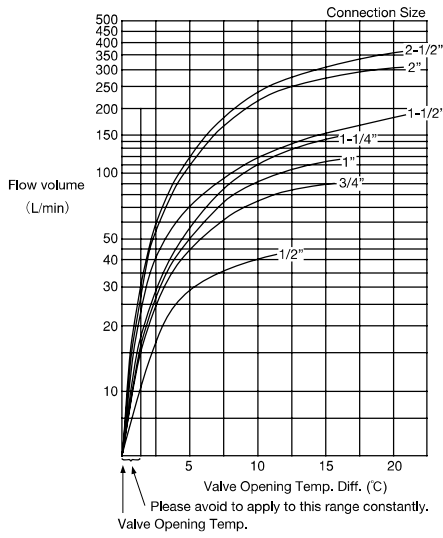
| Catalog No. | Change in Temp. Setting |
|---------------------|-------------------------|
| OWR-HWR-XWR- ** 04G | Approx. 4.0°C |
| ** 06G | |
| ** 10G | Approx. 3.0°C |
| ** 12G | |
| OWR-HWR- ** 14F | Approx. 4.0°C |
| ** 20F | |
| ** 24F | |

FLOW CAPACITY

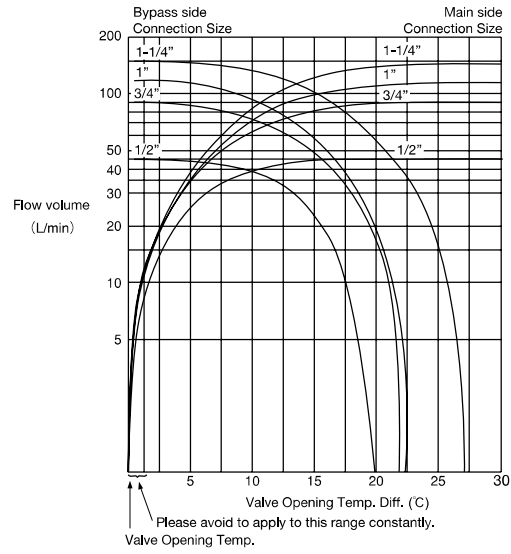
Flow Capacity shows respectively opening temp. diff. at horizontal axis and flow rate of cooling water at vertical axis considering water press. diff. before and behind a valve with 0,1 MPa. (press. diff. between inlet and outlet of valve)

In case of water press. diff. before and behind a valve is excepting for 0,1MPa, value is calculated multiplying by coefficient in compensation table.

Type OWR, HWR
water pressure difference before and behind a valve: 0,1MPa

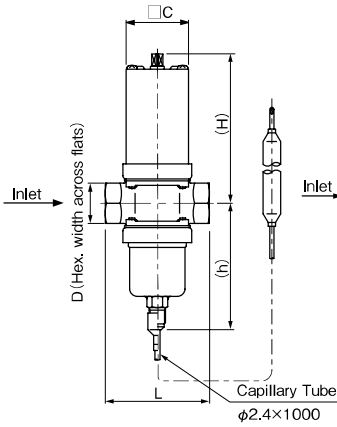


Type XWR
water pressure difference before and behind a valve: 0,1MPa

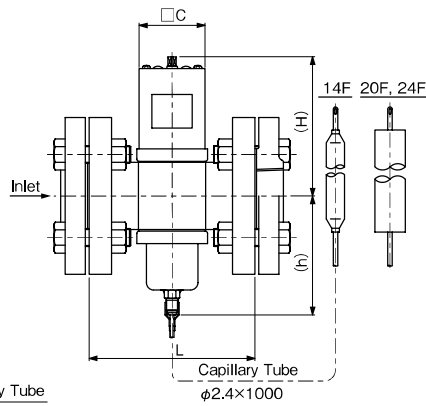


DIMENSIONS

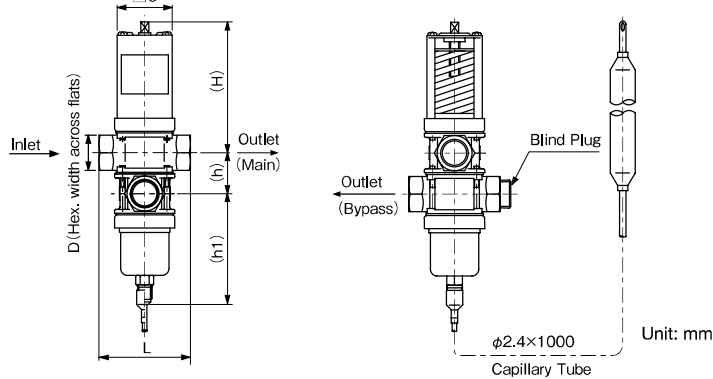
Type OWR-G, HWR-G



Type OWR-F, HWR-F



Type XWR



COMPENSATION COEFFICIENTS

| Press. Drop Across Valve: MPa {kgf/cm ² } | Coefficient |
|--|-------------|
| 0.2 {2} | 1.4 |
| 0.1 {1} | 1 |
| 0.03 {0.3} | 0.55 |
| 0.05 {0.5} | 0.7 |
| 0.07 {0.7} | 0.8 |

| Catalog No. | Unit: mm | | | | |
|-------------|----------|-----|-----|-----|----|
| | D | L | H | h | □C |
| 5004G | 27 | 70 | 100 | 83 | 42 |
| 5006G | 32 | 80 | 104 | 87 | |
| 5010G | 40 | 90 | 116 | 97 | |
| 5012G | 50 | 100 | 121 | 102 | |
| 5014F | — | 148 | 125 | 105 | 59 |
| 5020F | — | 173 | 180 | 155 | |
| 5024F | — | 179 | 180 | 155 | 89 |
| P7504G | 27 | 70 | 100 | 83 | 42 |
| P7506G | 32 | 80 | 104 | 87 | |
| P7510G | 40 | 90 | 116 | 97 | |
| P7512G | 50 | 100 | 121 | 102 | |
| P7514F | — | 148 | 125 | 106 | 59 |
| P7520F | — | 173 | 180 | 155 | |
| P7524F | — | 179 | 180 | 155 | 89 |

| Catalog No. | Unit: mm | | | | | |
|-------------|----------|-----|-----|----|----------------|----|
| | D | L | H | h | h ₁ | □C |
| 5004G | 27 | 70 | 100 | 31 | 83 | 42 |
| 5006G | 32 | 80 | 104 | 39 | 87 | |
| 5010G | 40 | 90 | 116 | 44 | 97 | |
| 5012G | 50 | 100 | 121 | 54 | 102 | |
| P7504G | 27 | 70 | 100 | 31 | 83 | 42 |
| P7506G | 32 | 80 | 104 | 39 | 87 | |
| P7510G | 40 | 90 | 116 | 44 | 97 | |
| P7512G | 50 | 100 | 121 | 54 | 102 | |