

## HWR (HMWR) Pressure Actuated Water Regulating Valve

### Application:

The valve runs by pressure, used to control the cooling water flow rate. This valve can adjust the opening to make enough refrigeration flow by receipt the change of pressure from the circulation of cooling water, it will save a lot of refrigeration water.



**Type:** HWR (for fresh water) HMWR (for seawater)

Range of medium temperature: -25°C ~ +130°C

Material of valve body: bronze (5-5-5 tin bronze)

Material of valve disk: 316 stainless steel, 304 stainless steel

**A:** failure to read and follow all instructions carefully before installing or operating this water regulating valve could cause personal injury and property damages. Save these instructions for future use.

### B: NOTE FOR SAFETY

#### Warning!

- Be sure to read and follow all items before installing or operating this valve.
- Do not turn any other screws than adjusting spindle ① as it may cause water leakage.
- Water flow direction should follow arrow shown on the body. Reverse flow direction against the arrow may cause uncontrolled.
- Pressure applied inside Bellows cap should be less than MP indicated on label. Excessive pressure more than MP may cause pressure burst.
- Flange type model can not be used for seawater. Body will corrode because it is iron castings. Use flange type "HMWR" series for seawater application because the valve body is made of bronze castings.
- If some mis-handling deforms Bellow cap, do not use this valve absolutely as it may create gas leakage.
- Bellow cap should be free from pulsation. (Be sure to connect attached pressure damping capillary tube (fig.2) for the models of connection size of 2" and 2-1/2". Since union connection is not fastened enough on delivery, it should be fastened tightly before using.) Heavy pulsation may shorten the lifetime of bellows.
- Use the valve under the condition shown this note.
- Do not hold system pressure at near equal to valve opening pressure (within differential of 0.3 kgf/cm<sup>2</sup> (4.2 psi) from valve opening pressure). Otherwise, the valve disk will repeat to open-close heavily in short time and it may cause abnormal noise and lifetime shortening.
- Remove dust or foreign matter inside of pipe before installation. It may cause valve leakage and wrong working.

- Do not cause Water Hammer to inside of connected pipe as it may cause water leakage from the valve.
- In case of troubles, close all other valves around the valve and contact us without any decomposition. It will be dangerous because it is charged High Pressure Gas inside.

### C

9	Bellows Cap
8	Bellows
7	Rubber Diaphragm
6	Valve Disk
5	Body
4	Rubber Diaphragm
3	Spring
2	Cover
1	Adjusting Spindle
No.	PART NAME

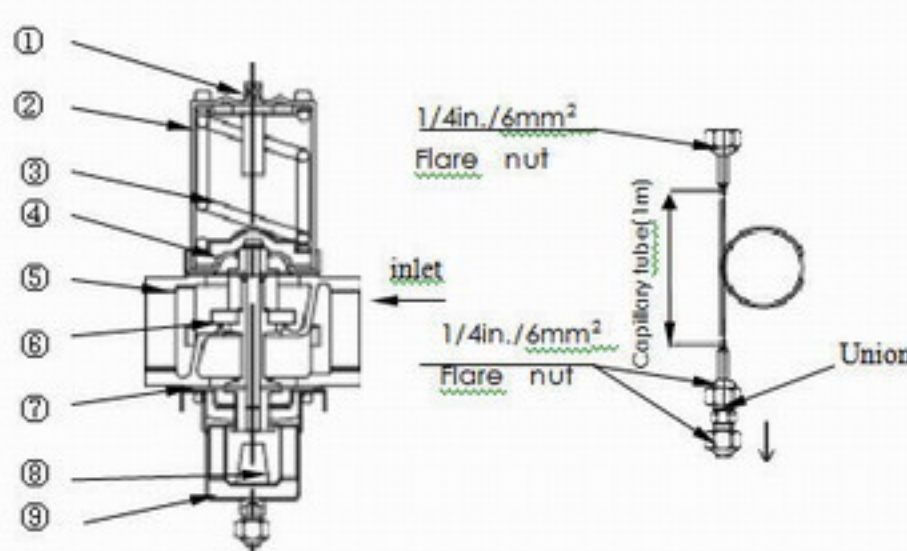


Fig.1 Sectional View HWR

Fig.2 Capillary tube assembly

### C.Specifications

type	Connection		Range of pressure (opening point)		Airproof pressure test	
	Water side ISO228/I	Condenser side	MIN	MAX	Valve body	Bellow cap
HWR15	G1/4	1/4in./6mm <sup>2</sup> Horn	6kgf/cm <sup>2</sup> (85.6psi)	18kgf/cm <sup>2</sup> (257psi)	10kgf/cm <sup>2</sup> (142psi)	24kgf/cm <sup>2</sup> (341psi)
HWR10	G3/8					
HWR20	G1/2					
HWR22	G3/4					
HWR25	G1	1/4in./6mm <sup>2</sup> Horn	6kgf/cm <sup>2</sup> (85.6psi)	18kgf/cm <sup>2</sup> (85.6psi)	10kgf/cm <sup>2</sup> (142psi)	26kgf/cm <sup>2</sup> (370psi)
HMWR15	G1/4					
HMWR 10	G3/8					
HMWR 20	G1/2					
HMWR22	G3/4					
HMWR25	G1					

### D.OPERATION

In fig.1 ,system pressure contracts the bellows ⑧ and the valve disk ⑥ moves upwards resisting to spring ③. Cooling water in the body ⑤ flows in the direction of arrow on the body when pressure in the bellows cap ⑨ increases.

### E. ADJUSTMENT

Turn the adjusting spindle counter clockwise to strengthen the compression spring ③.

This raises valve-opening point to start cooling water flow.

### F. MOUNTING

Mounting position (angle) has no restriction .In case this valve is applied to condenser cooling water of a refrigerating system, this valve can perform its function even if it is installed either inlet side or outlet side of a condenser.

Be sure to firmly tighten the nut. The proper tightening to torque is as follows.

	HWR (HMWR)	G1/4	G3/8	G1/2	G3/4	G1
Torque	Kgf.cm	300	300	350	500	600
	(Lbf.ft)	(22)	(22)	(26)	(37)	(44)

### G OPERATION CHECK

Install the Product correctly and then check its operation to confirm function of the whole system.

### H. LIMIT ON APPLICATION

The product is not designed and manufactured for such equipment or system that is intended to be used under such circumstances as to relate to human life. For application requiring specially high reliability, please contact company first.

### I.SCOPE OF WARRANTY

Unless otherwise agreed by the parties, warranty period of product shall be one year after delivery. In case of failure attributable to the company within such period, the product shall be repaired or replaced, provide that any one of followings is out of the warranty:

1. Improper handling or application by user.
2. Modification or repair by other than the company.
3. Any failure to be caused by acts of God, fire, storm or the like, war riot or the like and other causes beyond the control of the parties concerned.

**When install the water-regulating valve, the nut of Bellows and the tie-tin of the control must be screwed by two 10-inch spanners, so that the part of Bellows can avoid destroying.**