

**A. Failure to read and follow all instruction carefully before installing or operating this water regulating valve could cause personal injury and/or property damage. 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.
- Gas usage pressure on Bellows cap side should be less than MP indicated on label. Excessive pressure more than MP may be fear of pressure burst.
- Flange type can not be used for seawater. Body will be corrode because of iron castings made. Use flange type of "MWR" series for seawater application because the valve body is made of bronze castings.
- If Bellows cap is deformed by some mis-handing, do not use this valve absolutely as it may be fear of Gas leakage.
- Bellows 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 of "Installation and Instruction".
- Do not keep applying pressure at around valve opening (within differential of 0.029 MPa from valve opening pressure) to the valve.  
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.

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

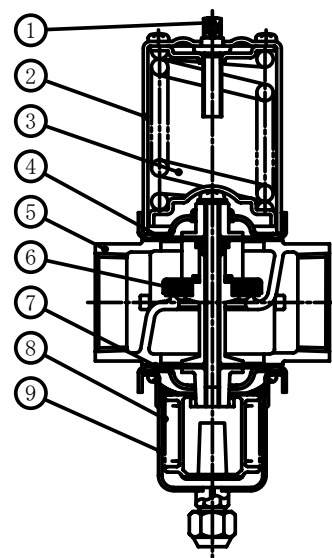


Fig.1 Sectional View AWR-3212GLW

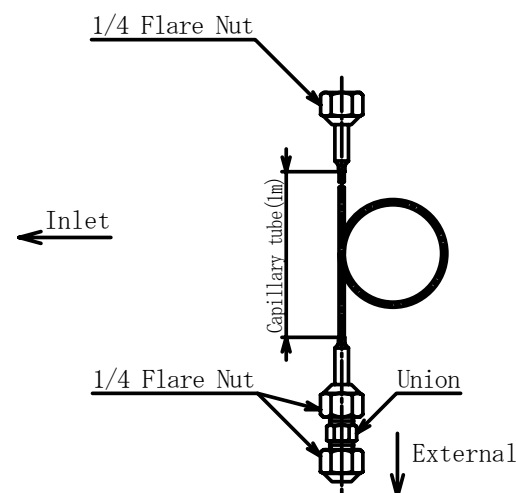


Fig.2 Capillary tube assembly

**C. SPECIFICATIONS**

TYPE	CATALOG NUMBER	CONNECTION		PRESSURE RANGE (OPENING POINT)		AIRTIGHT (WATERTIGHT) TEST PRESSURE	
		SIZE	STYLE	MIN.	MAX.	BODY	BELLOWS CAP
AWR-	1203BLW	3/8	Flare	0.78 MPa { 8 kgf/cm <sup>2</sup> }	1.78 MPa { 18 kgf/cm <sup>2</sup> }	0.98 MPa { 10 kgf/cm <sup>2</sup> }	2.55 MPa { 26 kgf/cm <sup>2</sup> }
	1204BLW	1/2					
	1203GLW	3/8	Rc (FPT)	0.59 MPa { 6 kgf/cm <sup>2</sup> }	1.77 MPa { 18 kgf/cm <sup>2</sup> }		
	1504GLW	1/2					
	2006GLW	3/4					
	2510GLW	1					
	3212GLW	1 1/4					
AWR- MWR-	4014FLW	1 1/2	Flange	0.59 MPa { 6 kgf/cm <sup>2</sup> }	1.77 MPa { 18 kgf/cm <sup>2</sup> }	2.35 MPa { 24 kgf/cm <sup>2</sup> }	
	5020FLWR	2		0.59 MPa { 6 kgf/cm <sup>2</sup> }	1.18 MPa { 12 kgf/cm <sup>2</sup> }		
	5020FLWH			1.08 MPa { 11 kgf/cm <sup>2</sup> }	1.77 MPa { 18 kgf/cm <sup>2</sup> }		
	6524FLWR	2 1/2		0.59 MPa { 6 kgf/cm <sup>2</sup> }	1.18 MPa { 12 kgf/cm <sup>2</sup> }		
	6524FLWH			1.08 MPa { 11 kgf/cm <sup>2</sup> }	1.77 MPa { 18 kgf/cm <sup>2</sup> }		

**D. OPERATION**

In Fig.1, it contracts the bellows ⑧ and the valve disk ⑥ is moved upwards resisting to spring ③ and cooling water in the body ⑤ flows in direction of arrow on the body when pressure in the bellows cap ⑨ increases.

**E. ADJUSTMENT**

Looking adjusting spindle ① of the left drawing from over view, turn the adjusting spindle counter clockwise to strengthen the compression spring ③. This raises valve opening point by gas pressure to start cooling water flow.

**F. MOUNTING**

Mounting position (angle) is free from a restriction. In case apply this valve to condenser cooling water of a refrigerating system, this valve can be achieved its function even it is installed either inlet side or outlet side of a condenser.

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

Style	Flare		Taper Pipe Threads					
	AWR-	1203BLW	1204BLW	1203GLW	1504GLW	2006GLW	2510GLW	3212GLW
Torque	N·m	38	55	30	35	50	60	80
	(kgf·cm)	{380}	{550}	{300}	{350}	{500}	{600}	{800}

**G. OPERATION CHECK**

Install the Product correctly and then check its operation to confirm collect 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 the 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, provided that any one of followings are out of the warranty :

1. Unproper 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.

Warranty described in this paragraph means the warranty for the Product itself and does not include warranty for any consequential damage arising out of or occasioned by a defect or failure of the Product.