PRESSURE CONTROLLED WATER VALVES







■ Introduction

PWV series is essentially a water flow regulating valve. It is commonly used in refrigeration systems with water-cooled condensers. Its role is to maintain the condensing pressure within a normal range during the operation of the refrigeration system. If the condensing pressure is too high, it can cause damage to the refrigeration equipment and increase power consumption. On the other hand, if the condensing pressure is too low, it can affect the refrigerant's liquefaction process and interfere with the expansion valve's operation,resulting in the refrigeration system not functioning properly, leading to a significant reduction in cooling capacity.

■ Type & data

Symbol	Model	Condenser side				Liquid side			Factory setting opening pressure	Kv value m^3/h
		Refrigerant	Adjusting range	Max.working pressure	Max. testing pressure	Medium	Max. working pressure	Max. medium temp℃		
Low pressure	PWV3/8	R134a, R22 , R407C , R404A/507	0.5 ~ 1.8	2	2.4	Freshwater, neutral saline water, and seawater (suffix -SW).	1	60	0.75	0.8
	PWV1/2									2.5
	PWV3/4									3.2
	PWV1									5.0
	PWV1-1/4									8.0
	PWV1-1/2									10
	PWV2									20
	PWV2-1/2									25
High pressure	PWV3/8G		0.7 ~ 2.3	2.6	3				2	0.8
	PWV1/2G									2.5
	PWV3/4G									3.2
	PWV1G									5.0
	PWV1 1/4G		0.7 ~ 2.3	2.4	2.6				1.4	8.0
	PWV1 1/2G									10
	PWV2G									20
	PWV2 1/2G									25
410A	PWV3/8GL	R410A	1.5 ~ 2.9	3.8	4.5				2.6	0.8
	PWV1/2GL									2.5
	PWV3/4GL									3.2
	PWV1GL									5.0
	PWV1 1/4GL									8.0
	PWV1 1/2GL									10
	PWV2GL									20
	PWV2 1/2GL									25

ML indicates with capillaryand nut.

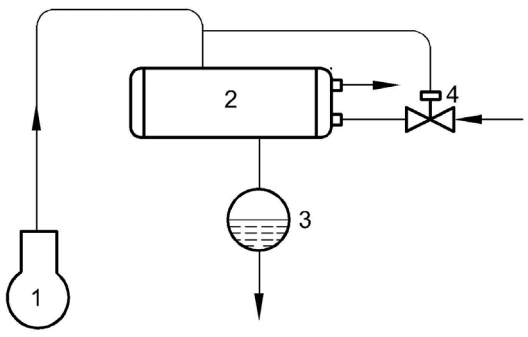
Kv value is the flow of water in m3/h at a pressure drop across valve of 0.1 MPa ρ = 1000kg/m^3.

■ Connection

Model	Condenser side	Liquid side	Dimensions（mm）	
			Length（L）	Height（H）
PWV3/8G(L) PWV3/8GLE	Inch Connection：1/4"Flare Nut 7/16"-20UNF Thread Metric connection：Φ6Flare Nut M12X1.25 Thread	(3/8") Flare	100	170
PWV1/2G(L) PWV1/2G(L)E		G1/2" Internal thread	84	204
PWV3/4G(L) PWV3/4G(L)E		G3/4" Internal thread	84	204
PWV1G(L) PWV1G(L)E		G1" Internal thread	100	220
PWV1-1/4G PWV1-1/4GE		G1¼" Internal thread	130	240
PWV1-1/2G PWV1-1/2GE		G1½" Internal thread	130	240
PWV2G(L) PWV2G(L)E		G2" Internal thread	125	250

■ Installation

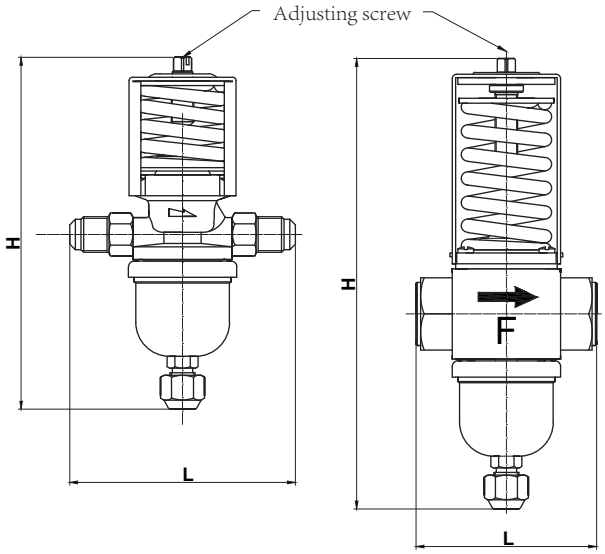
1.PWV valve is usually installed vertically in the horizontal inlet pipe of the system's condenser, as indicated by the direction of the arrow on the valve body.
2.The gas chamber connection at the top of the PWV valve is connected to the compressor discharge line via a capillary tube with a flare fitting.
3.A filter should be installed at the inlet end of the PWV valve to remove impurities from the pipeline before they enter the valve, ensuring proper valve operation.
4.When adjusting the PWV valve, the "adjustment screw" can be rotated. Turning it clockwise increases the controlled pressure, while turning it counterclockwise decreases the controlled pressure.

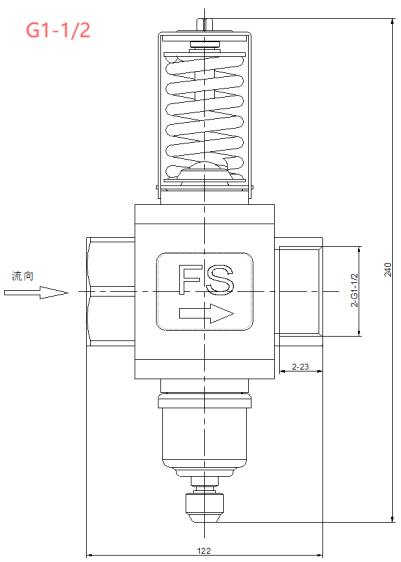


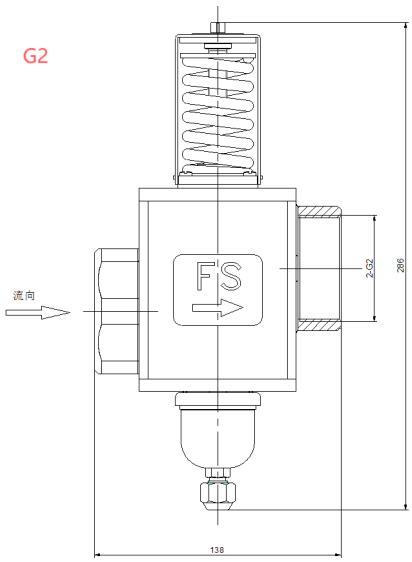
1, Compressor 2, Condenser
3, Reservoir 4, Pressure controlled water valves

Typical installation diagram of pressure controlled water valves

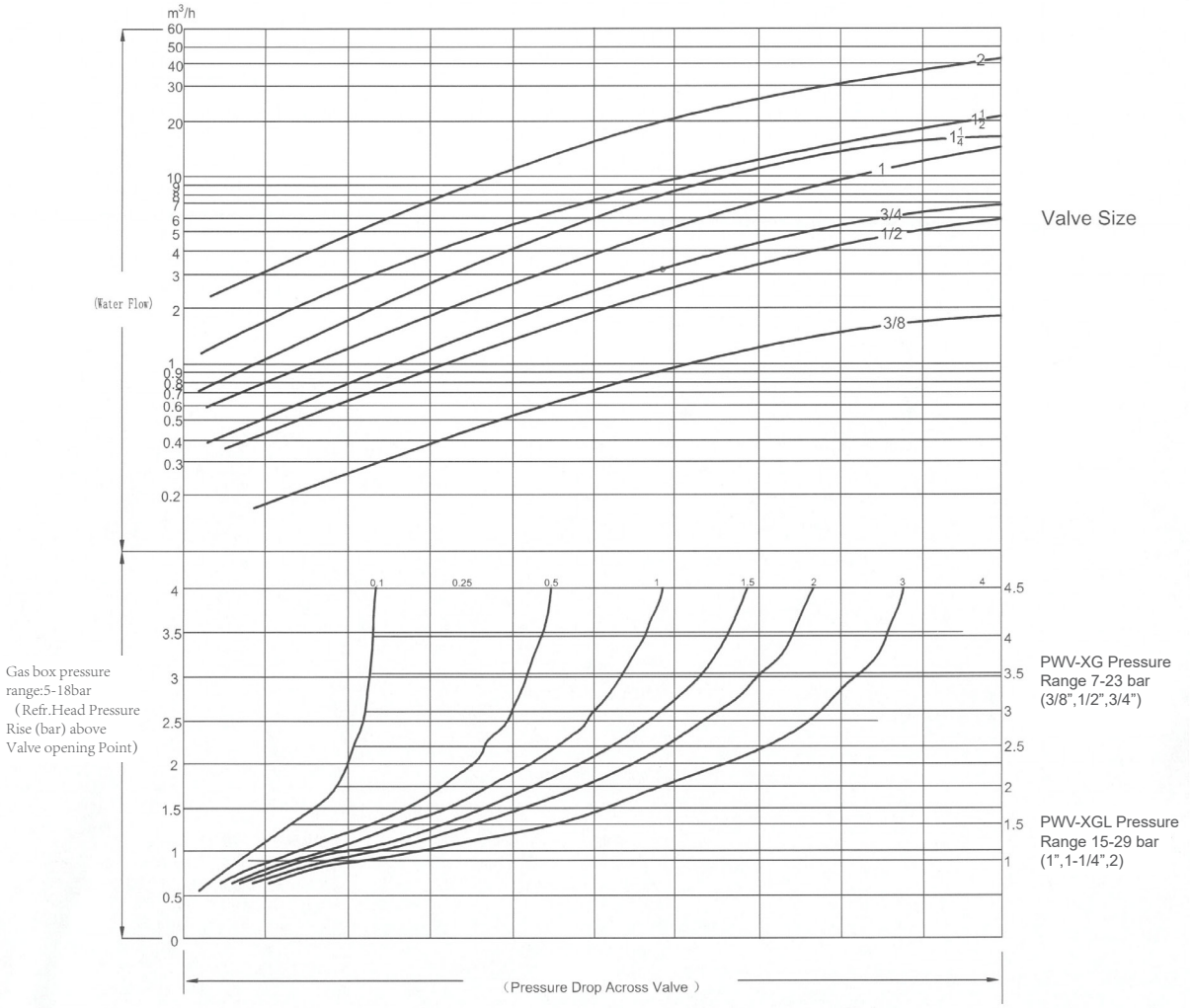
■ Dimensions

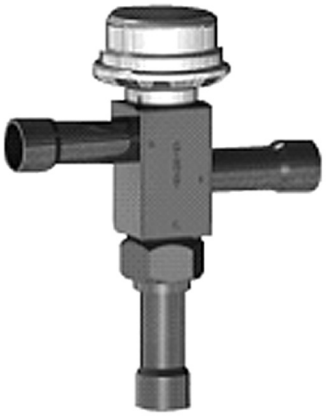

Adjusting screw
H
L
H
F
L

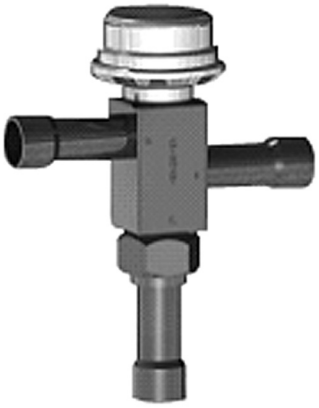

G1-1/2
流向
FS
2-G1-1/2
240
2-23
122


G2
流向
FS
2-G2
206
138

■ Flow diagram



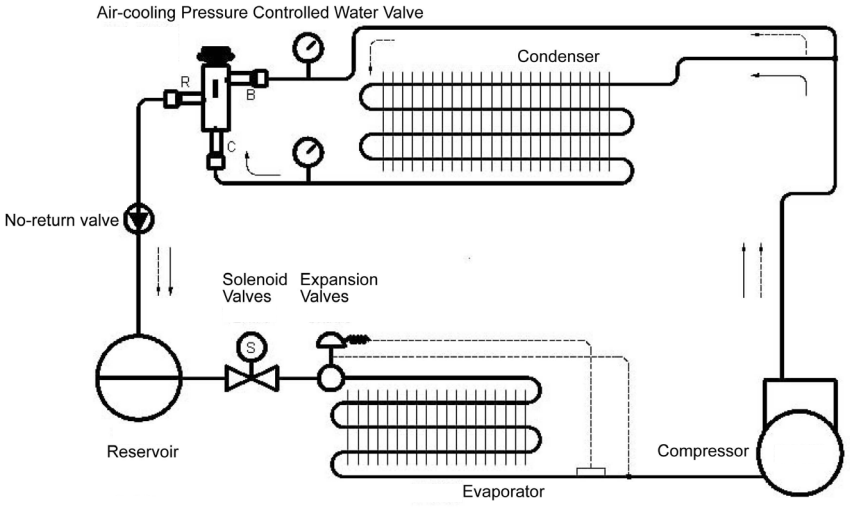




■ Introduction

Air-cooling pressure controlled water valves can be used in condenser or air-conditioning unit to maintain pressure of constant condenser and liquid reservoir. It can apply to the change of outdoors, control the pressure, prevent pressure drop in winter, steady working all years. Also, it keeps the right inlet pressure of expansion valves, prevent the decrease in cold. Otherwise, it can be used in hot gas defrosting.

■ System Diagram



■ Explanation: Usage Condition

C→R Summer

B→R Winter

■ Temperature factory setting

medium	R134a	R22	R404a
Temperature	30℃	25℃	25℃

■ Factory setting temperature can be reset according to customers' requirement.