

Pressure-regulated Control Valves

Wafer Flanged Dynamic Pressure-regulated Control Valves



The VRW2 two-way dynamic pressure-regulating control valves maintain constant flow of hot and chilled water in closed-loop heating, ventilating, and air conditioning (HVAC) systems regardless of head pressure fluctuations above minimum specified pressure drop. These valves come complete with proportional, stay-in-place or electronic fail-safe actuators.

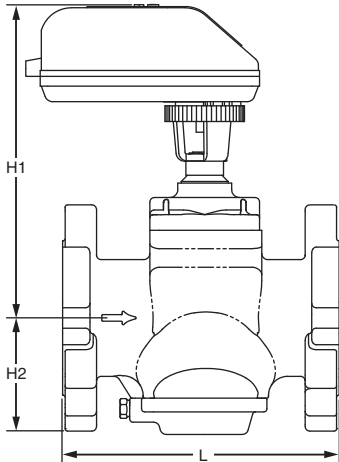
The built-in differential pressure regulator makes fluid flow through the valve independent of changes in supply pressure, eliminating “hunting” by the control system, even at low coil flow. The pressure regulator

virtually eliminates cavitation in the valve, and decouples the control valve from the effects of piping components such as reducers and elbows.

Pressure independent control valves are sized to match design coil flow regardless of coil size. VRW2 valves eliminate the need to balance the system for proper flow, and allow chillers to be operated at design temperature differential for maximum efficiency at every load condition. When used in a system with variable speed pump drives, 3-way valves and coil bypass lines are not required.

- Multi-sized bodies from 2 1/2 to 6 inch pipes with wafer flanged connections
- Combination ANSI/ASME Class 150/300 pressure rating
- Controls hot or chilled water with up to 50% glycol
- Regulated flow rates available from 39 to 469 gpm
- Stainless steel pressure regulator maintains constant pressure drop across valve seat
- Positive pressure, rolling diaphragm regulator design provides flow control accuracy of $\pm 5\%$ over specified pressure range
- Equal percentage flow characteristic using multi turn, non-rising, characterized plug
- High close-off rating
- 50 discrete, selectable flow rates available per valve size
- Stainless steel trim
- Six-turn actuator with floating or modulating inputs available with stay-in-place or electronic fail-safe action
- Fail-safe actuators field-configurable for normally open or normally closed power failure return position
- Two Test Ports for venting or pressure gauge attachment

Dimensions in inches (millimeters)



MODEL (SIZE)	L IN. (MM)	H1 IN. (MM)	H2 IN. (MM)
VRW2J... (2-1/2 & 3)	8 3/4 (224)	9 3/4 (246)	3 3/4 (95)
VRW2K... (3 & 4)	12 5/8 (320)	11 3/8 (290)	5 1/4 (135)
VRW2L... (5 & 6)	16 5/8 (422)	13 1/4 (338)	7 1/8 (180)

M34706

Valve Type: Wafer flanged dynamic pressure-regulated control valve

Body Pattern: 2-way, straight-through

Flow Characteristic: Equal Percentage

Connection Type: Wafer flange

Controlled Medium: Chilled or hot water with up to 50% Glycol; not for use with steam or fuels

Valve Action: Multi-turn linear

Leakage Rating: 0.2% max

Maximum Safe Operating Pressure: 580 psig (4000 kPa)

Maximum Safe Operating Temperature: 248 F (120 C)

Maximum Close-off Pressure: 101 psid (700 kPa)

Fluid Temperature Range: -4 F to 248 F (-20 C to 120 C)

Ambient Temperature Range: 14 F to 131 F (-10 C to 55 C)

Accuracy: ($\pm 5\%$ over specified pressure range)

Stem Travel: 1 to 6 Rotations in 51 equal, field-selectable increments

ANSI/ ASME Class: 150/300

Comments: 2 - 10V position feedback signal

Materials

(Body): Ductile Iron, ASTM A536ñ65T, Class 60-45-18

(Stem): Stainless Steel

(Seat): 316 Stainless steel

(Regulator): 316 Stainless steel

(Plug/Ball/Disc): 316 stainless steel

(Packing): EPDM and Nitrile O-rings

(Diaphragm): EPDM

Pressure-regulated Control Valves

Valve, Regulated	Pipe fitting	Body Pattern	Valve Size ^a	Flow Rating	Pressure Rating	Valve Trim	Actuator Secondary Spec	Actuator Control Form	Description
VR	Dynamic pressure regulated control valve								
	W	Combination-size wafer flange							
		2	2-way						
			J	Valve size, 2-1/2 and 3 in. (DN65 and DN80)					
			K	Valve size, 3 and 4 in. (DN80 and DN100)					
			L	Valve size, 5 and 6 in. (DN125 and DN150)					
			V	Adjustable, low minimum differential pressure					
			W	Adjustable, high minimum differential pressure					
				4	ANSI/ASME 150/300				
					S	Stainless steel trim, dual Test Ports			
						M	Multi-turn valve		
							B	Modulating actuator	
							D	Modulating fail-safe actuator	
VR	W	2	K	V	4	S	M	B	= 2-way, 3 & 4" wafer flanged dynamic pressure-regulated valve, SS trim, 55-147 gpm, modulating electronic fail safe.

^a Wafer-style flanges for each model fit between 2 pipe flange sizes, of either ANSI/ASME Class 150 or Class 300. Valve is suspended from the rods joining the flanges attached to the pipes.

Replacement stainless steel regulator for VRN valves

Product Number	Description	Used With
8615-031/U	Replacement SS regulator for VRN 1-1/2 to 3 in *VRN literature/Griswold literature	VRN
8615-100/U	Replacement SS regulator for VRN2A low gpm	VRN
8615-101/U	Replacement SS regulator for VRN 1/2 to 1 in	VRN
8615-102/U	Replacement SS regulator for VRN 1 to 1-1/2 in	VRN

Replacement stem assembly for VRN2 valves

Product Number	Description
5112-34/U	Brass stem kit for 1/2" -1" Small VRN2 valves
5112-35/U	Brass stem kit for 1" Large - 1-1/2" Small VRN2 valves
5112-36/U	Brass stem kit for 1-1/2" Large - 3" VRN2 valves
5112-37/U	SS stem kit for 1/2" -1" Small VRN2 valves
5112-38/U	SS stem kit for 1 Large- 1-1/2" Small VRN2 valves
5112-39/U	SS stem kit for 1-1/2" Large - 3" VRN2 valves