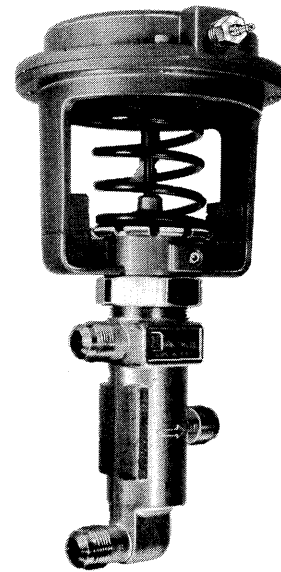


## VP522A & B Sequencing Water Valves



R1020

### GENERAL

The VP522 Sequencing Water Valve is a three-pipe, sequencing, pneumatically operated water valve for controlling both hot and cold water flow in fan-coil and induction units.

### FEATURES

- Corrosion resistant
- Molded-in composition discs for tight shutoff
- Flared connections for easy installation
- Operator rotatable 360 degrees for convenient air piping alignment

# VP522A & B Sequencing Water Valves

## DESCRIPTION

The VP522 Sequencing Water Valve is a three-pipe, sequencing, pneumatically operated water valve for controlling both hot and cold water flow in fan-coil and induction units.

## SPECIFICATIONS

### Models:

Model Number	√	Valve Size (In.)		Capacity Index (Cv)		Close-Off, psi (kPa)
		Nominal	O. D. Copper Tubing	Port A	Port B	
VP522A		3/8	1/2	1.5	1.5	50 (345)
Proportioning- Sequencing		3/8	1/2	0.9	0.5	50 (345)
		1/2	5/8	2.5	1.6	50 (345)
		3/4	7/8	4.0	2.5	45 (310)
		3/8	1/2	1.5	1.5	†
VP522B Diverting- Sequencing*		1/2	5/8	2.5	2.5	
		3/4	7/8	4.0	3.5	

\* Used with VP522A on four-pipe systems.

† VP522B close-off rating maintains closure against 15 psi (103 kPa) difference in return line pressures when used with VP522A. Combination is subject to maximum differential pressure limits of VP522A.

### Construction:

Body: Forged brass  
 Seats: Brass; upper seat replaceable, lower seat integral  
 Disc: Molded-in composition  
 Plug: Brass  
 Packing: Rubber V-ring, spring-loaded, self-adjusting  
 Stem: Stainless steel

### Flow Characteristics:

VP522A: Equal percentage through 5/16-in. lift for either port  
 VP522B: Quick opening through 3/16-in. lift for either port

### Body Pressure Rating (Nominal):

250 psi (1724 kPa)

### Controlled Medium Temperature:

35 to 250F (2 to 121C)

### End Connections:

45 degree SAE flare

### Actuator:

Molded neoprene, rolling-diaphragm type

### Air Connection:

Combination barb for 5/32-in. (4-mm) or 1/4-in. (6-mm) O.D. plastic tubing

### Maximum Safe Air Pressure:

25 psi (172 kPa)

### Maximum Safe Diaphragm Temperature:

160F (71C)

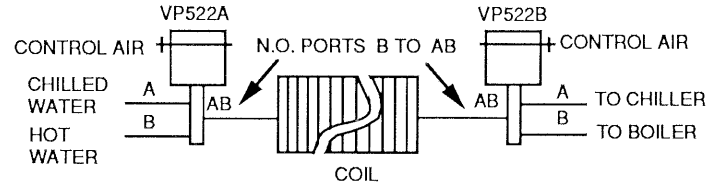
### Startpoint and Operating Range:

VP522A: Nonadjustable. Refer to Operation.  
 VP522B: Startpoint adjustable from 2.0 to 5.5 psi (14 to 38 kPa). Refer to Operation.

# VP522A & B Sequencing Water Valves

## Operation:

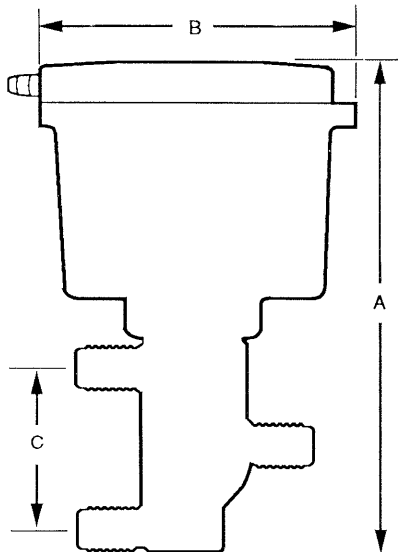
The VP522B is functionally a two-position valve coupled to the return side of the coil. The VP522B diverts the return water from the coil directly to the chiller or the boiler. During the dwell period of the VP522A, when both ports are closed but the valve is moving towards opening either the hot or cold port, the VP522B is actuated to open the proper port.



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VP522A		psi (kPa)	VP522B
3/8 in. Nominal	1/2 & 3/4 in. Nominal		All Sizes
Hot port open 100%	Hot port open 100%	0 (0)	Hot port open 100%
		1 (7)	
		2 (14)	
Hot port closes	Hot port closes	3 (21)	Hot port closes
		4 (28)	
Both ports closed	Both ports closed	5 (34)	Both ports closed
		6 (41)	
		7 (48)	
Cold port opens	Cold port opens	8 (55)	Cold port opens
		9 (62)	
		10 (69)	
Cold port open 100%	Cold port open 100%	11 (76)	Cold port open 100%
		12 (83)	
		13 (90)	
		14 (97)	
		15 (103)	

## Dimensions in Inches (Millimeters):



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Nominal Valve Size	A	B	C
3/8	9-13/16 (249)	5-1/8 (130)	3-5/8 (92)
1/2	9-15/16 (252)	5-1/8 (130)	3-5/32 (80)
3/4	9-15/16 (252)	5-1/8 (130)	3-5/32 (80)

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