

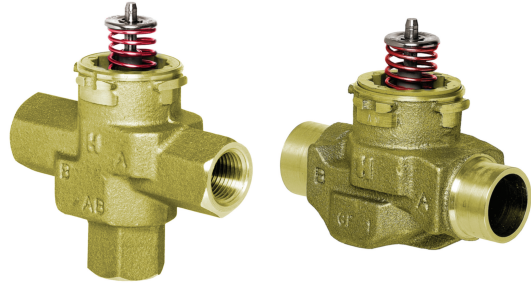
VCZA,B,M,N Series Cartridge Valve for Use with VC Series

The VC hydronic valve consists of a valve body and replaceable characterized cartridge assembly.

Depending on the valve model selected, they can be used with a VC2114 or VC8114 series actuator to provide on-off flow control, or with a VC6930 or VC7930 series actuator to provide proportional flow control. Two way bodies may be plumbed in either direction. Three-way bodies may be used in either diverting or mixing applications.

Replacing the cartridge rebuilds the valve. The valve body should be able to stay in the pipes indefinitely.

VC actuators, ordered separately, use cam-operated cartridge travel to resist water hammer. Limit switches prevent motor overrun.



SPECIFICATIONS

The specifications following are nominal and conform to generally accepted industry standards. Honeywell is not responsible for damages resulting from misapplication or misuse of its products or non-workmanlike installation practices.

Operating Ambient:

32 to 150°F [0 to +65°C].
5-95% RH (non-condensing)

Fluid temperatures:

34 to 203°F [1 to 95°C]

Shipping and Storage Temperature:

-40 to 150°F [-40 to +65°C]

Atmosphere:

Non-corrosive, non-explosive.

Valve Materials:

Body of bronze Cartridge of Ryton™ (polyphenylene sulphide) and Noryl™ (polyphenylene oxide)
O-ring seals of EPDM rubber
Stem of stainless steel

Pressure Rating:

Static - 300 psig [20 Bar] maximum.
Burst - 1500 psig [100 Bar]
Operating Differential and Close-off - 60 psi maximum [4 bar]

Stem Travel:

0.4 inches [10 mm]

Flow Characteristics:

Linear or equal percentage, per Table 2.

Spring Force:

1000 and 6000 Series(Silver): 14 lbf.

3000 and 7000 Series(Red): 20 lbf.

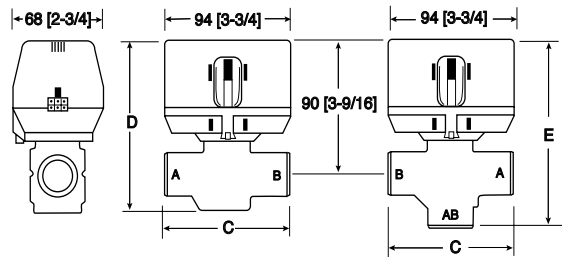


Figure 1 - Nominal dimensions in inches [millimetres]

[1] Pipe Fitting Sizes	Dimension C		Dimension D		Dimension E	
	mm	Inches	mm	Inches	mm	Inches
1/2" SWEAT	89	3-1/2	111	4-3/8	130	5-1/8
1/2" NPT (int.)	98	3-7/8			136	5-11/32
3/4" NPT (int.)					130	5-1/8
3/4" SWEAT					132	5-3/16
1" NPT (int.)	94	3-11/16	113	4-7/16	136	
1" SWEAT						5-11/32
1-1/4" SWEAT						
1-1/4" NPT (int.)	110	4-5/16	118	4-5/8	142	5-5/8

[1] All models not available in all countries

Table 1: VC Valve assembled dimensions

Accessories and Replacement Parts:

40007029-002: Cartridge installation wrench (included with all VCZZ replacement cartridges)

272866B: Valve caps for system flushing (10 per pack)

2-way Replacement Cartridges:

VCZZ1000: quick open

VCZZ1100: high Cv, linear flow

VCZZ3100: high Cv, linear flow

VCZZ3400: medium-high Cv, equal percentage flow

VCZZ3500: low Cv, equal percentage flow

VCZZ3600: medium-low Cv, equal percentage flow

VCZZ3800: medium Cv, equal percentage flow

MODELS:

BODIES: VCA,B,M,N ..., per table: 2

ACTUATORS (ORDER SEPARATELY)

2-way Valve Number	Cartridge Pipe Fitting Sizes [2]	Cartridge						
		1000	1100 [1]	3100	3400	3500	3600	3800 [5]
VCZ AA	1/2" SWEAT	Nominal Cv Rating						
VCZ BB	1/2" NPT (int.)							
VCZ AL	3/4" NPT (int.)	3.5	3.3	3.3	2.3	0.6	1.3	1.9
VCZ AM	3/4" SWEAT	6.2	4.7	4.7	3.9	4.2	0.7	1.5
VCZ AR	1" NPT (int.)	7.0	6.6	6.6	4.2			
VCZ AS	1" SWEAT	8.3	7.0	7.0	Equal Percentage			
VCZ BE	1-1/4" SWEAT	Quick Open		Linear				
VCZ BD	1-1/4" NPT (int.)	Quick Open		Linear		Proportional Control [4]		
Flow characteristic		Quick Open		Linear		Equal Percentage		
Application		2-position		Proportional Control [4]				

[1] "1200" series cartridge has the same Cv/kV rating as "1100" series.

Suitable for use in potable water situations

[2] Models are country specific. Not all models are available in all markets.

Cv values in greyed-out boxes are listed for reference only:

[3] A port is 5% higher, and B port is 5% lower in mixing configuration. B port is 5% higher, and A port is 5% lower in diverting configuration

3-way Replacement Cartridges:

VCZZ6000: quick open

VCZZ6100: high Cv, linear flow

VCZZ7100: high Cv, linear flow

VCZZ7400: medium-high Cv, linear flow

VCZZ7500: low Cv, linear flow

VCZZ7600: medium-low Cv, linear flow

VCZZ7800: medium Cv, linear flow

3-way Valve Number	Cartridge Pipe Fitting Sizes [2]	Cartridge						
		6000	6100	7100	7400	7500	7600	7800 [5]
VCZ MA	1/2" SWEAT	Nominal Cv Rating [3]						
VCZ NB	1/2" NPT (int.)							
VCZ MK	3/4" NPT (int.)	4.2	3.8	3.8	2.7	0.7	1.3	2.2
VCZ ML	3/4" SWEAT	8.0	6.6	6.6	4.2	4.2	0.8	1.5
VCZ MR	1" NPT (int.)	9.0	7.4	7.4	5.2			
VCZ MS	1" SWEAT	9.9	8.3	8.3	Linear			
VCZ NE	1-1/4" SWEAT	Quick Open		Linear				
VCZ ND	1-1/4" NPT (int.)	Quick Open		Linear		Proportional Control [4]		
Flow characteristic		Quick Open		Linear		Equal Percentage		
Application		2-position		Proportional Control [4]				

[4] Divide Cv value by 0.4 to obtain rangeability

[5] -800 Cartridge Cv ratings in larger bodies sizes are estimates at time of printing.

[6] O.S. Example: 1/2" 2-way NPT, 3.3Cv, for proportional control is VCZBB body with 3100 cartridge = VCZBB3100.

Table 2: VC Series Valve Bodies

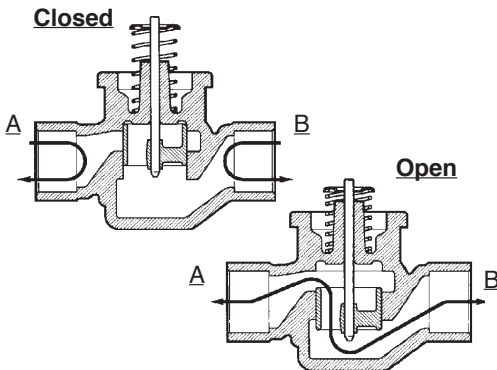


Figure 2 - Fluid flow of 2-way valves

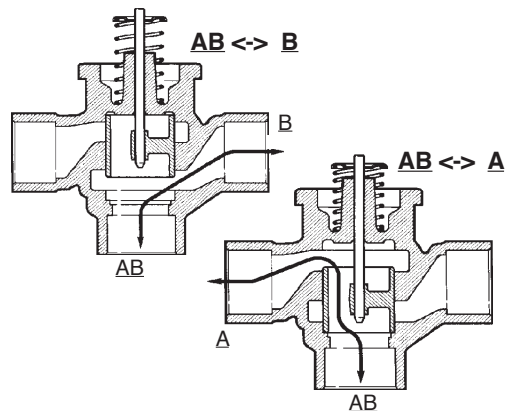


Figure 3 - Fluid flow of 3-way