

ZONE VALVES

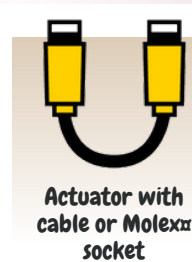
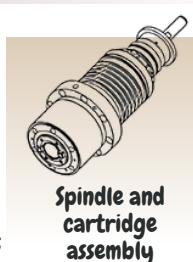
VC SERIES

BALANCED 2-WAY AND 3-WAY HYDRONIC VALVES

APPLICATION:

Honeywell VC Series balanced 2-position *hydraulic* valves are used in domestic and small commercial heating and cooling applications to control the flow of *hot and/or cold* water.

DESIGN:



PRODUCT'S MATERIALS:



- Valve housing made of bronze
- Spindle made of stainless steel
- Cartridge made of Ryton and Noryl
- O-ring seals made of EPDM rubber
- Actuator cover made of Noryl (94V-0)
- Actuator base made of Ryton (94V-0)

KEY FEATURES:



Rugged Design



Double Insulated Actuator



High Flow Rate Capacity



SPST or SPDT Controller



Pressure differential up to 4 bar connections

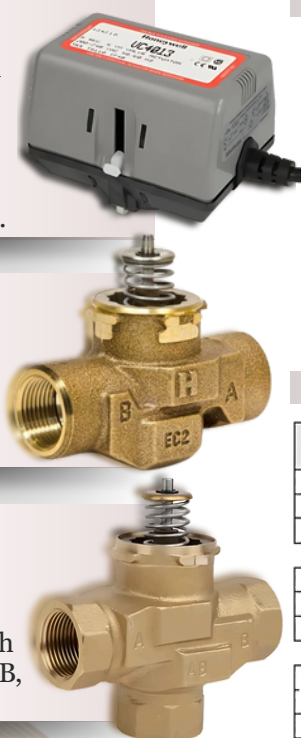


Quick electrical connections

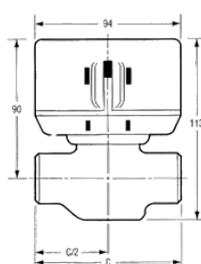
The **actuator** head is removable without affecting the integrity of the water system. All actuator versions are interchangeable with any valve body, offering the highest flexibility for boiler production line assembly, and maintenance.

2-way valves are designed for on-off zone control of domestic systems. Flow through the 2-way valve can be in either direction, so the ports are not designated.

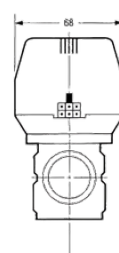
3-way valves can be piped for either diverting or mixing valve applications in domestic central heating and/or cooling systems. 3-way valves are suitable for both diverting water from AB to A or B, and from A or B to AB.



DIMENSIONS:



2-WAY VC VALVE



3-WAY VC VALVE

DIMENSIONS AND KVS-VALUE:

Body	2-way VC valve		3-way VC valve		
	C	Kvs-Value	C	D	Kvs-Value
15mm compression	98	3.4	98	136	4.3
22mm compression*	112	6.8	112	140	8.6
28mm compression*	112	7.7	112	140	8.6
1/2" BSPP (external)	98	3.4	98	136	4.3
3/4" BSPP	94	6.8	94	130	7.7
1" BSPP	94	7.7	94	136	8.6
1/2" sweat	98	3.4	98	136	4.3
3/4" sweat	94	6.8	94	132	8.6
1" sweat	94	8.6	94	136	8.6

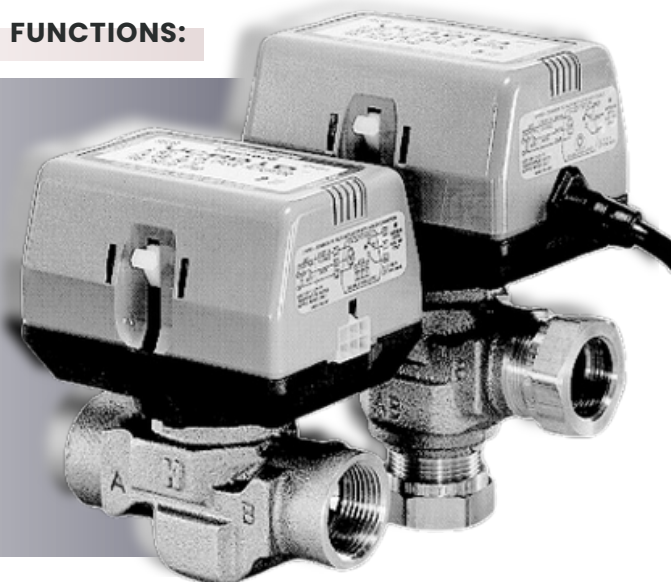
NOTE: All dimensions in mm

* Includes compression nuts and olives

FUNCTIONS:

VC Series 2-position hydronic valves are used in domestic and small commercial applications to control the flow of hot and/or cold water. They consist of an actuator, valve and a cartridge assembly. All moving and sealing parts of the valve are constructed in the cartridge assembly. The ports are sealed with O-rings on the outer surface of the piston.

When the valve stem is driven down to open port A the water will flow through the hollow piston to the other port. In case of a 3-way valve with the piston driven down port B is sealed, allowing flow between port AB and port A. With the stem up the flow is between port AB and port B.



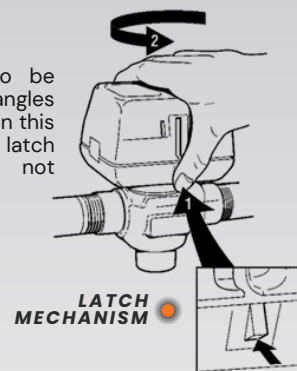
SPECIFICATIONS:

Medium	Water or water-glycol mixture (max. 50% glycol content), quality to VDI 2035	Voltage	24 V, 50-60 Hz (blue label) 200-240 V, 50-60 Hz (red label)
pH-value	8...9.5	Power consumption	4 VA (when valve position changes)
Operating temperature	1...95°C (34...203°F) 120°C (248°F) short duration peak	Auxiliary switch rating	1.0 A @ 250 V, 50-60 Hz (minimum 0.05 A @ 24 Vdc)
Ambient temperature	max. 65°C (149°F)	Nominal timing	Valve opens in 7 seconds (20% faster for 60 Hz)
Operating pressure	max. 20 bar (290 psi) static max. 100 bar (1,450 psi) burst	Electrical termination	1. Molex™ socket: requires mating connector, alternatively 2. With integral 1 m leadwire
Differential pressure	max. 4 bar (58 psi)	Shipping temperature	-40...65°C (-40...149°F)
Kvs (cv)-values	see chapter "Dimensions" below	Humidity rating	5...95% RH (non-condensing)
Flow	2-way: flow can be in either direction. When actuator is not mounted valve is in closed position 3-way: bottom port is marked AB. End ports are marked A and B. When actuator is not mounted port A is closed.	Atmosphere	non-corrosive, non-explosive

APPLICATIONS:

TO INSTALL A REPLACEMENT ACTUATOR HEAD:

NOTE:
Actuator can also be installed at right angles to valve body but in this position latch mechanism is not engaged.



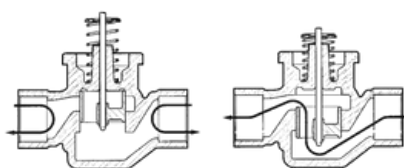
WITH AN SPST (2-WIRE AND COMMON) ACTUATOR

On a call for heat, the controller contacts close, RLY1 is energized making the NO contacts in switch SW3 causing the valve to open. When the valve reaches the fully open position the cam closes switch SW1 and opens switch SW2. When the need for heat is satisfied, the controller contacts open, RLY1 is de-energized and the valve motor is driven through SW1 and the NC contacts of SW3. When the valve reaches the fully closed position, the cam closes SW2 and opens SW1. The valve is ready for the next call for heat.

WITH AN SPDT (3-WIRE) ACTUATOR

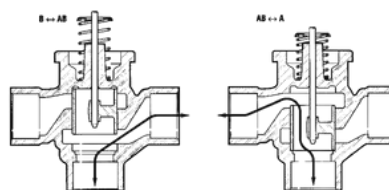
On a call for heat, the NO controller contacts close and the valve opens. When the valve is fully open, the cam closes switch SW1 and opens switch SW2. When the need for heat is satisfied the NC controller contacts close, energising the valve through SW1 and closing the valve. When the valve is fully closed, the cam closes SW2 and opens SW1. The valve is ready for the next call for heat.

2-WAY VALVE



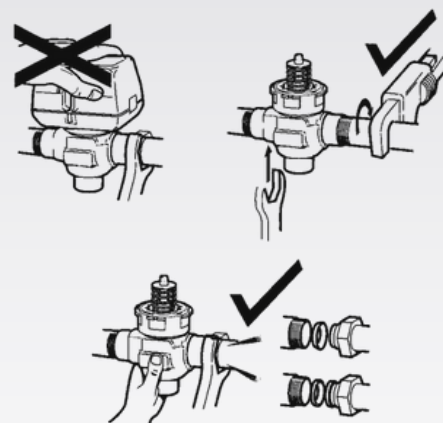
FLUID FLOW THROUGH 2-WAY VC VALVE

3-WAY DIVERTER VALVE



FLUID FLOW THROUGH 3-WAY VC VALVE

FOR PLUMBING:



The valve may be plumbed in any angle but preferably not with the actuator head below the horizontal level of the valve body. Make sure there is enough room around the actuator head for servicing or replacement.

Mount the valve directly in the tube or pipe. Do not grip actuator head while making and tightening plumbing connections. Either hold valve body in your hand or attach adjustable spanner across the hexagonal or flat faces on the valve body.

NOTE:

Honeywell hydronic valves are designed and tested for silent operation in properly designed and installed systems. However, water noises may occur as a result of excessive water velocity. Piping noises may occur in high temperature (over 100° C) systems with insufficient water pressure.