



VC Series Balanced Hydronic Valve with Flat Mount VCZPA6000 Body

PRODUCT DATA



GENERAL

VC Series hydronic valves are used in domestic and small commercial boiler/boiler manifold applications to control the flow of hot and/or cold water. The VC valve consists of an actuator, valve body (made of Ryton™ material) and cartridge assembly.

The 3-way flange mounting plastic valve is designed for either diverting or mixing valve applications in central heating and/or cooling systems.

It can be used as a 2-way valve by blocking either Port A or Port B.

Depending on the model selected, they can be controlled by a low or line voltage SPST or SPDT controller, such as a room thermostat, aquastat or flow switch. VC Series hydronic valves are designed to provide sinusoidal valve actuator travel, and therefore operate silently and resist water hammer. Through an internal switching mechanism, the actuator takes power only while driving the valve to the commanded position.

The actuator head is removable without affecting the integrity of the water system. All actuator models are interchangeable with any VC valve body, offering the highest flexibility for production line assembly and maintenance. The valve piston construction allows for port sealing that is independent of the differential pressure across the valve. The 3-way valve is suitable for both diverting water from Port AB to A or B, and from A or B to AB.

FEATURES

- The flat mount VCZPA6000 body is ideal for integration with hydronic boiler or system manifold with or without integral circulator. Such integration will result in a streamlined and cost effective design by eliminating all pipe fittings and connections.
- The VCZPA6000 body is interchangeable and suitable for use with all on-off, floating and modulating type VC actuators to provide maximum installation flexibility and minimum stocking requirements.
- In this balanced valve design, the internal piston moves up and down, across the water flow. The actuator provides sinusoidal piston travel action for "soft" shut-off, to eliminate water hammer in most applications.
- In 3-way valves, flow can be mixing or diverting.
- The valve can be used as a 2-way valve by blocking either Port A or Port B. When used as a 2-way valve, the flow may be in either direction. The valve can be used as either normally open or normally closed depending on which Port is blocked.
- A locking tab secures the actuator to the body of the valve.
- Multi-directional actuator mount allows for 4 different wiring orientations, thus providing ease of wiring and service in compact appliances.
- Actuator is constructed of moisture and humidity resistant materials.
- Long service life because the actuator motor de-energised when not in motion.
- Manual opener and position indicator. This "manual opener" position may be used for filling, venting, and draining the system.
- Bayonet-mount for actuator head. Actuator can be installed after plumbing work has been completed, which makes for more efficient on-site installation.



SPECIFICATIONS

ACTUATOR

Voltage:

24V 50Hz; 24V 60Hz
100-130V 50-60Hz
200-240V 50-60Hz

Colour coded label

Blue
Black
Red

Power Consumption: 6 Watts Max. at nominal voltage (during valve position change).

Note: Use 6 VA for transformer and connection wire sizing.
Maximum Duty Cycle: 15%

End Switch Rating:

2.2 A inductive from 5 to 110 Vac,
1.0 A inductive above 110 to 277 Vac.
Min. DC switching capability: 5 mA @ 24 Vdc
Note: Use cable models for mixed line and low voltage applications

Nominal Timing: Opens in approximately 7 seconds @ 50 Hz (6 seconds @ 60Hz)

Electrical Termination: 2 Versions Available:

- 1) Molex™ (header #39-30-1060). Requires mating connector (receptacle/housing #39-01-2060). Contacts: Mini-Fit 5556 Series OR
- 2) With integral 1 meter (nominal 39") leadwire cable

Maximum Ambient Temperature: 0 to 65 °C (32 to 150 °F)

Shipping and Storage Temperature:

-40 to +65 °C (-40 to 150 °F)

Atmosphere: Non-corrosive, non-explosive

Actuator cover of Noryl™ (94V-0)
Actuator base of Ryton™ (94V-0)

VALVE

Valve Connections, Dimensions- see Figures 1 & 2

Minimum & Maximum fluid temperatures:

1 to 95 °C (34 to 203 °F)
(Short duration peak: 120 °C [248 °F])

Maximum Operating Pressure Differential: 4 bar (60 psi)

Pressure Rating: Static - 5 Bar (72.5 psi)

Valve Material:

Body of Ryton®
Cartridge of Ryton® (polyphenylene sulphide),
Noryl® (polyphenylene oxide) and Forton®
O-ring seals and mounting gasket supplied of EPDM rubber
Stem of stainless steel

Stem Travel: 10 mm (0.4 inches)

Flow rate: 3.5 Kv to 5.0 Kv depending on direction of flow.

Flow:

2-way: Flow can be either direction. Valve can be normally open or closed dependent on which port is blocked.
3-way: Flow can be diverting (AB to A or B) or mixing (A or B to AB). Port A is closed without the actuator mounted.

The specifications above are nominal and conform to generally acceptable industry standards. Resideo is not responsible for damages resulting from misapplication or misuse of its products.

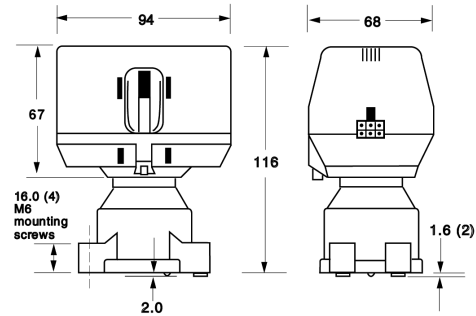


Fig. 1. VC actuator with VCZPA6000 valve dimensions (in mm)

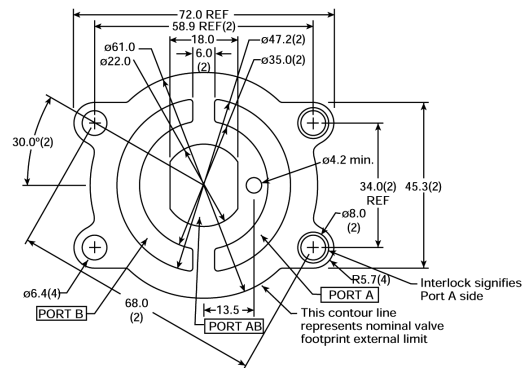


Fig. 2. Flange mounting dimensions (in mm) for VCZPA6000 valve.

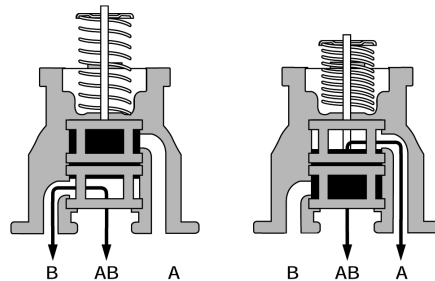


Fig. 3. Fluid flow of VCZPA6000 valve.



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