

VC2, VC4, VC60, VC8

On-Off Actuator for VC Series Balanced Hydronic Valves



These 2-position (open/close) control **actuators** are used with VCZ 1000, 1100, 6000 and 6100 series hydronic valves in a normal indoor environment to provide quick opening/closing to control the flow of hot and/or chilled water or glycol solution to 60% concentration. They are designed for on-off "zone" control of heating/cooling systems, or to control individual fan coil, baseboard radiator or convector applications.

Depending on the model selected, the actuator can be controlled by a low or line voltage SPST or SPDT controller, such as a room thermostat, aquastat or flow switch.

VC80 series valve actuators are designed to be used with hard-wired electronic thermostats with series anticipator or power-stealing thermostats. Recommended control thermostats include T8601D, T8401C, T8380 and T8360 families.

VC actuators use cam-operated cartridge travel to resist water hammer. Internal 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.

Voltage:

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

Label Colour Code

Blue
Black
Red

Power consumption:

6 Watts Max. at nominal Voltage (during valve position change).
Use 24 V Class 2 transformer.

Provide 6 VA per valve for transformer and connection wire sizing.

Maximum Duty Cycle: 15%

Nominal timing:

Valve opens in 6 seconds @ 60 Hz (20% longer @ 50 Hz).

VC8040 Series opens in 12 seconds @ 60 Hz (20% longer @ 50 Hz).

Electrical termination:

Available in 3 versions:

- (1) Molex™ (header # 39-30-1060). Requires mating connector (receptacle/housing # 39-01-2060). OR
- (2) integral 1 meter [nominal 39"] leadwire cable.
- (3) 5 feet [1.5 meter] plenum-rated cable per UL94-5V. Includes plastic adapter for use with 3/8" flexible conduit.

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

Operating ambient temperature:

0 to 65°C [32 to 150°F]

Except VC2114, VC2714, VC8114 & VC8714 are 0 to 60°C [32 to 140°F]

Humidity Rating:

5-95% RH (non-condensing)

Fluid temperatures:

34 to 203°F [1 to 95°C]

Shipping & storage temperature:

-40 to +65°C [-40 to +150°F]

Atmosphere:

non-corrosive, non-explosive

Nominal Dimensions (Actuator only):

3-23/32" width x 2-11/16" depth x 2-3/4" height

94 mm width x 68 mm depth x 70 mm height

Accessories:

272866B Valve Flushing Cap

MODELS:

Actuator Only: VC2, VC4, VC60, VC8 (See Table 1)

Bodies (Order Separately): VCZ..., (See 95C-10919)

Actuators				
Model No.	Power	Control Input	Auxiliary Switch	Special Features
INTERNATIONAL MODEL [3]				
VC2010zz00	24V~50Hz	SPDT	--	Molex
VC2011zz00	24V~50Hz	SPDT	--	Cable
VC2012zz00 [1]	24V~50Hz	SPDT	--	Molex
VC2611zz00	24V~50Hz	SPDT	Yes	Cable
VC4012zz00	200-240V~50-60Hz	SPST	--	Molex
VC4013zz00	200-240V~50-60Hz	SPST	--	Cable
VC4013zz11	200-240V~50-60Hz	SPST	--	Cable
VC4613zz00	200-240V~50-60Hz	SPST	Yes	Cable
VC6012zz00	200-240V~50-60Hz	SPDT	--	Molex
VC6013zz00	200-240V~50-60Hz	SPDT	--	Cable
VC6013zz11	200-240V~50-60Hz	SPDT	--	Cable
VC6612zz00	200-240V~50-60Hz	SPDT	Yes	Molex
VC6613zz00	200-240V~50-60Hz	SPDT	Yes	Cable
VC8011zz00	24V~50Hz	SPST	--	Cable
VC8611zz00	24V~50Hz	SPST	Yes	Cable
NORTH AMERICA MODELS [3]				
VC2114zz11	24V~60Hz	SPDT	--	Plenum[2]
VC2714zz11	24V~60Hz	SPDT	Yes	Plenum[2]
VC4011zz11	120V~60Hz	SPST	--	Cable
VC4013zz11	200-240V~50-60Hz	SPST	--	Cable
VC8111zz11	24V~60Hz	SPST	--	Cable
VC8114zz11	24V~60Hz	SPST	--	Plenum[2]
VC8711zz11	24V~60Hz	SPST	Yes	Cable
VC8714zz11	24V~60Hz	SPST	Yes	Plenum[2]

Note:

[1] with Snubber circuit

[2] Plenum rated with 5 meter cable

[3] Some models are not available in all countries. Not all VC Actuator modes are shown.

Table 1 - Actuator Model Identifiers

VC Valve Assembled dimensions for reference (Figure 1 & Table 2):

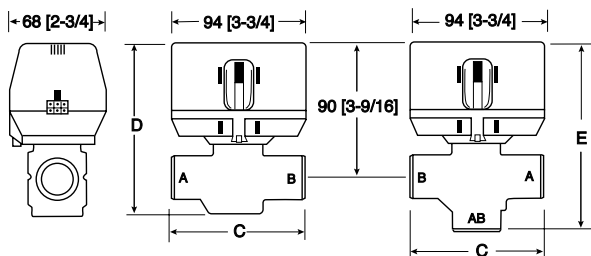


Figure 1 - Nominal dimensions in inches and millimetres

[4] Pipe Fitting Sizes	Dimension		C		D		E	
	mm	Inches	mm	Inches	mm	Inches	mm	Inches
1/2" BSPP (int.) [2]	98	3-7/8	111	4-3/8	136	5-11/32		
1/2" BSPT (int.)								
3/4" BSPP (int.)								
3/4" BSPT (int.)	94	3-11/16			113	4-7/16	130	5-1/8
3/4" BSPP (ext.)								
22mm Compression [3]	112	4-7/16					140	5-1/2
1" BSPP (int.)	94	3-11/16					136	5-11/32
1" BSPP (ext.)	95	3-11/17	114	4-7/17			137	5-11/33
1" BSPT (int.)	94	3-11/16			113	4-7/16	136	5-11/32
28mm Compression [3]	116	4-9/16					147	5-13/16
NORTH AMERICA STANDARD MODELS								
3/8" FLARE [1]	98	3-7/8					136	5-11/32
1/2" SWEAT	89	3-1/2					130	5-1/8
1/2" FLARE [1]			98	3-7/8	111	4-3/8		
1/2" INVERTED FLARE [1]							136	5-11/32
1/2" NPT (int.)								
3/4" NPT (int.)							130	5-1/8
3/4" SWEAT	94	3-11/16	113	4-7/16			132	5-3/16
1" NPT (int.)							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] No adapters

[2] Suitable for use as 15 mm compression fitting

[3] Dimensions shown with nuts and olives installed

[4] **Some models not available in all countries**

Table 2 - VC Valve assembled dimensions

MANUAL OPENER

The manual opener can be manipulated only when in the up position. The motorized valve can be opened by firmly pushing the red manual lever down to midway and in. This holds the valve in the open position. This "manual open" position may be used for filling, venting, draining the system or for opening the valve in case of power failure. The valve can be restored manually to the closed position by depressing the red manual lever lightly and then pulling the lever out. The valve and actuator will return to the automatic position when power is restored.

NOTE: If the valve is powered open (the lever is down), it can not be manually closed unless actuator is removed.

INSTALLATION

WHEN INSTALLING THIS PRODUCT:

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. Always conduct a thorough checkout when installation is completed.
5. While not necessary to remove the actuator from the body, it can be removed for ease of installation. The actuator can be installed in any position to suit the most convenient wiring mode.
6. An extra 1" (25 mm) head clearance is required to remove the actuator.



CAUTION:

Disconnect power supply before connecting wiring to prevent electrical shock and equipment damage.

On 24 V systems, **never** jumper the valve coil terminals, even temporarily. This may damage the thermostat.