

## Data Sheet

# ABV Thermo-Hydraulic Actuator Electronic Actuator

### Applications:



- Low voltage, 24 volt thermo-hydraulic actuator
  - Normally open or Normally closed versions
  - Power consumption 9VA
  - Built-in manual operation
  - Built in stem travel limiting
- ABV is recommended for flow temperature control as well as ON/OFF control in hot water systems. Applications include heat exchangers, zone control for mixed loop systems, and storage tanks
- Use with type RAV, VMT, and KOVM 3-way valve
- Used on flow temperature or floor heating systems

### Ordering:

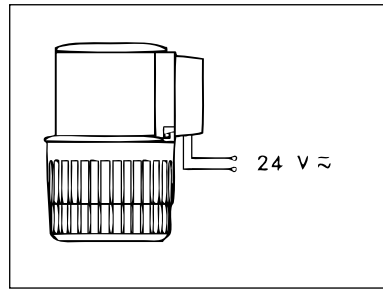
Type	Code No.	Without Power Actuator position	Installed on KOVM (port position without power)	
ABV-NO	082F0002	Normally open	Port A- AB	Port B-AB
			Closed	Open
ABV-NC	082F0052	Normally closed	Open	Closed

Valve	Ordering No.	Style	Pipe size	Cv	Connection type
VMT	065F8960	2-way	1/2"	3.3	Double solder unions
	065F8961		3/4"	5.9	
	065F1242		1"	9.4	Male NPT unions
KOVM	013U3017	3-way	1/2"	1.75	Female NPT
	013U3015				Compression fittings
	013U3020			2.34	

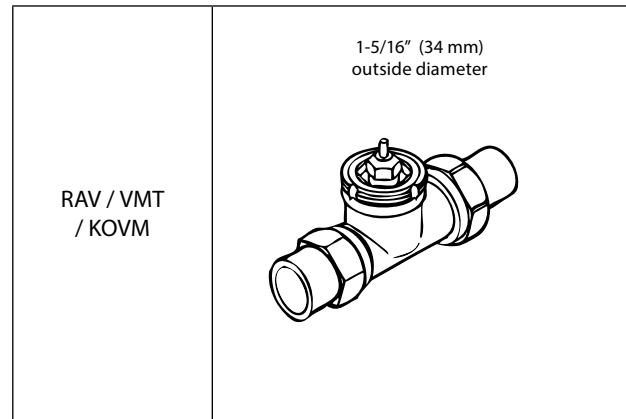
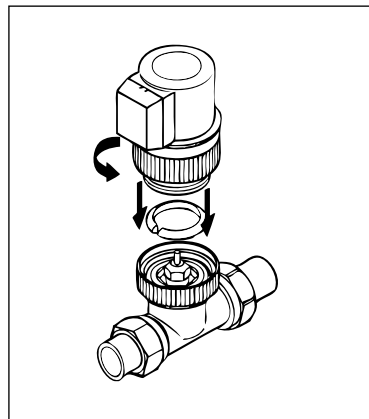
### Specifications:

Supply voltage	24 V ~ +30%, -15%
Frequency	50-60 Hz
Control signal	2-point (ON/OFF)
Consumption	9VA
Time for full spindle travel	< 9 min
Max. permissible spindle travel	ABV-NO: 4mm ABV-NC: 2.2mm
Ambient temperature	32-140°F (0-60°C)
Weight	0.6 lb
Actuator mounted onto	2-way: RAV, VMT / 3-way: KOVM
Mounted orientation	Any orientation, except upside down
Stem force	18 lbf (80N)

**Electrical Connections:**



**Mechanical Connection:**



**Manual Control:**

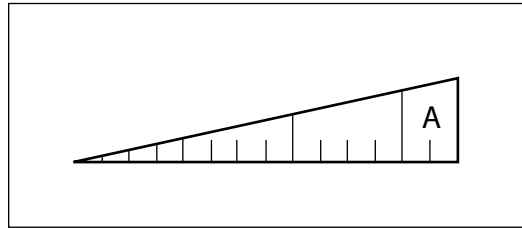
ABV has a collar that is marked with arrows indicating settings for manual and automatic operation.

Manual Operation	Return to Automatic Operation	
<p>Lift collar up. Rotate base counter clockwise until right arrow (▶) aligns with A on the collar.</p>	<p>Lift collar up. Rotate base clockwise until triangle (▲) aligns with A on collar.</p>	<p>Push collar down.</p>

For the ABV-NC, the valve can be opened manually by turning the collar in a counterclockwise direction as indicated. Likewise when fitted with ABV-NO, the valve can be manually closed by turning the collar in a clockwise direction

**Automatic control settings:**

The ABV when mounted to the VMT has the unique ability of provide automatic control with or without stem travel limitation. When the collar is raised, the scale setting is exposed.

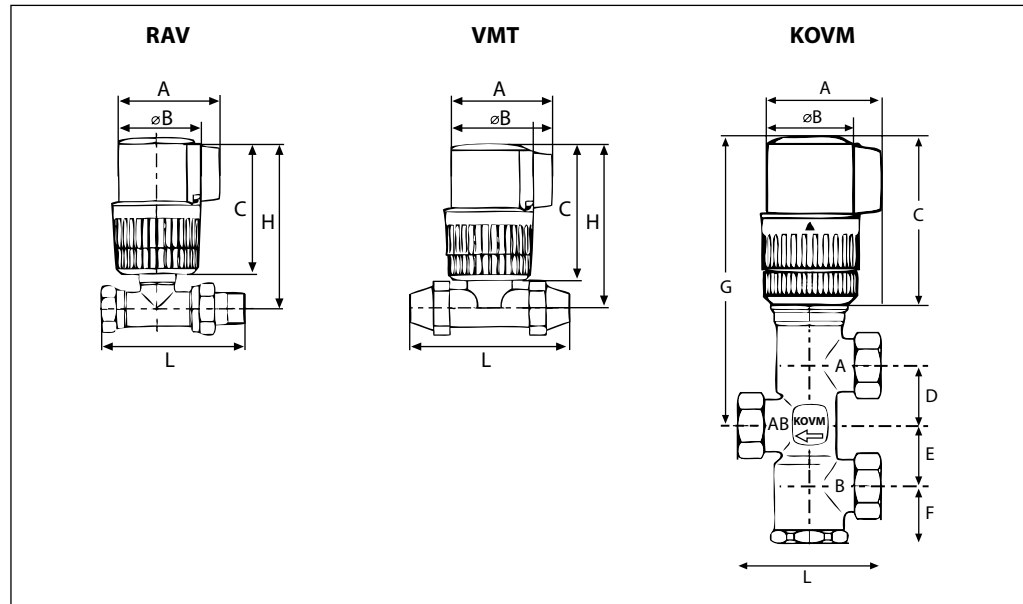


With the right triangle (▲, AUTO) set to "A" on the collar's scale, there will be a full flow rate through the valve, i.e. the entire travel of the valve stem and 100% of the valve's Cv. If the triangle (▲) is set to any other position along the collar's scale, the maximum stem travel will be reduced resulting in a reduced flow rate and Cv value.

**Operation:**

	Normally closed actuator	Normally open actuator
RAV/ VMT		
KOVM		

**Dimensions:**



Size	Type	H	L
1/2"	RAV	4.4"	3.7"
3/4"		4.4"	4.2"
1"		4.9"	4.9"
1/2"	VMT	4.4"	4.1"
3/4"		4.4"	4.8"
1"		4.9"	5.7"

<b>A</b>	2.8"
<b>B</b>	2.0"
<b>C</b>	3.6"

		L	D	E	F	G
1/2"	<b>KOVM</b>	2.3"	1.1"	1.1"	1.0"	4.6"

**Typical specification:**

The electronic actuator shall be a 2-wire thermo-wax actuator powered by 24 volts AC. The signal to the actuator shall be ON/ OFF. The actuator shall have manual operator and integrated Cv limitation for control in hot water

systems. The applications for the actuator shall be for linear actuation for 2-way and 3-way valves for normally open or normally closed applications. The electronic actuator shall be an ABV thermo-wax actuator.

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