Data sheet

KOVM
3-Way Mixing Valve

Application:

The Danfoss KOVM is a linear 3-way mixing valve with a unique bypass design allowing for constant system pressures and flow rates. When the KOVM is combined with either the RAVK non-electric thermostatic operator or the ABV 24VAC thermo-wax actuator the linear actuation of the valve results in the control of hot or chilled water flow to radiators, convectors, fan coil units, etc.

Features:
- Unique 3-way bypass design
- Linear valve actuation
- Provides constant zone or system flow
- Designed for use with RAVK/RA 2000 wall mount non-electric thermostatic operators or ABV 24VAC thermo-wax electronic actuators

Ordering Information:

KOVM Valve

Code No.	Size	Connection	Cv$^\lozenge$	Max. Differential Pressure		
				w/ By pass	w/o By pass	Δp$_c$ $^{2)}$
013U3017	½"	NPT	1.75	23 psi (1.6 bar)	12 psi (0.8 bar)	12 psi (0.8 bar)
013U301501	Rp ½" $^{1)}$	Compression	1.75	23 psi (1.6 bar)	7.25 psi (0.5 bar)	7.25 psi (0.5 bar)
013U302001			2.34			

$^\lozenge$Cv is the flow rate allowed by the valve in GPM with a pressure drop of 1 psi.
$^{1)}$ Rp ½" valves are supplied with compression rings and nuts
$^{2)}$ Δp$_c$ gives the max. differential pressure across the heat exchanger controlled by the valve

Non-Electric Operators

Code No.	Size	Connection	Cv$^\lozenge$
013U8063	RAVK, thermostatic operator	77-149°F (25-65°C)	6'6" (2 m)
013G8562	RA2000, wall mount operator with combined remote mounted sensor and dial	45-86°F (7-30°C)	6' (1.8 m)
013G8565			16' (4.9 m)
013G8568			26' (7.9 m)
013G8564	RA2000, wall mount operator with separate remote mounted sensor and dial	45-86°F (7-30°C)	2 x 6' (2 x 1.8 m)

Electronic Actuators

Code No.	Description	Type	Consumption
082F0002	ABV, thermo-wax 24VAC electronic actuator	Normally open	9VA
082F0052		Normally closed	

Spare Parts

Code No.	Description
013G4116	Spare compression fitting for KOVM (consist of compression ring and nut)
013U0070	Packing gland for KOVM
017-4370	½" Brass sensor well for RAVK

Technical Specifications:

Maximum operating pressure	145 psi (10 bar)	
Maximum operating temperature	180°F (90°C)	
Minimum operating temperature	36°F (2°C)	
Allowable fluid	For close loop systems	1) 100% water
		2) Glycol mixture max. 30%

Flow Diagram:

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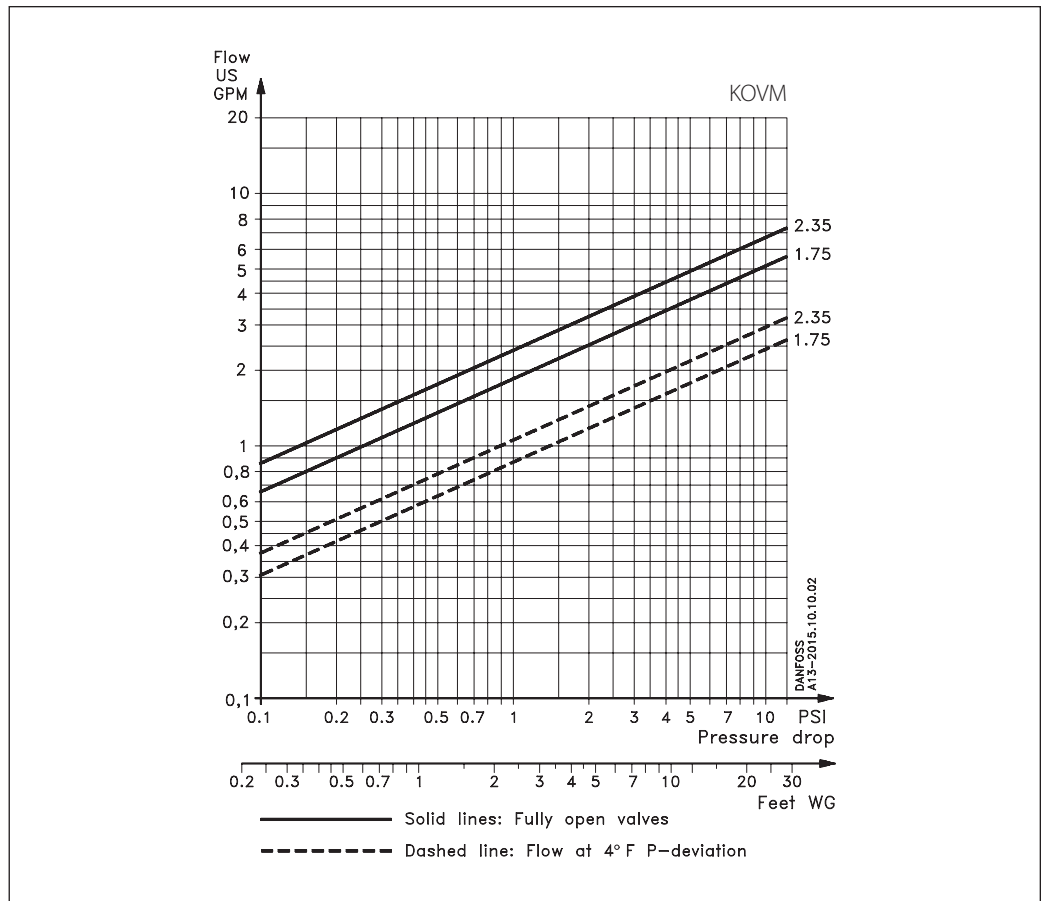
Typical Installations:

The unique piping of the KOVM allow for a variety of piping arrangements for heating and cooling applications with or without bypass.

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Wall mounted RA2000 Operator, 013G8564, Emitter, KOVM Valve	Heating application with bypass controlled by thermostatic operator. When temperature is satisfied water is bypassed via port A to AB on the KOVM.
Wall mounted RA2000 Operator, 013G8562, Emitter, KOVM Valve	Cooling application controlled via thermostatic control. As temperature rises within the room, port B is closed allowing chilled water to flow from port A to AB. As the temperature is met, port B opens bypassing the emitter.
Thermostatic radiator operator, Radiator, Storage Tank, KOVM Valve, RAVK, thermostatic operator	Dual application; storage tank and heating. Diverting occurs through the storage tank when the temperature within the tank is below the set point of the RAVK thermostatic operator, which is mounted on the KOVM.
Wall mounted RA2000 Operator, 013G8564, Emitter, KOVM valve, Supply, Diverting, Thermostatic Mixing Valve, 065B8939, 060-007066 ¼" Flare Capillary "Bleed" Tubes, Return	2-pipe Heating / Cooling application with changeover. Depending on the temperature of the supply water to the unit, the thermostatic mixing valve will direct the water to either the A or B port of the KOVM.
Return, ABV, 24Vac acutuator, Electronic thermostat, Zone Controller, Radiant, Supply, KOVM valve	Heating application. The KOVM and ABV 24VAC actuator assembly is controlled via a zone controller to provide low temperature water for the radiant application when there is a call from the electronic thermostat.

Construction:
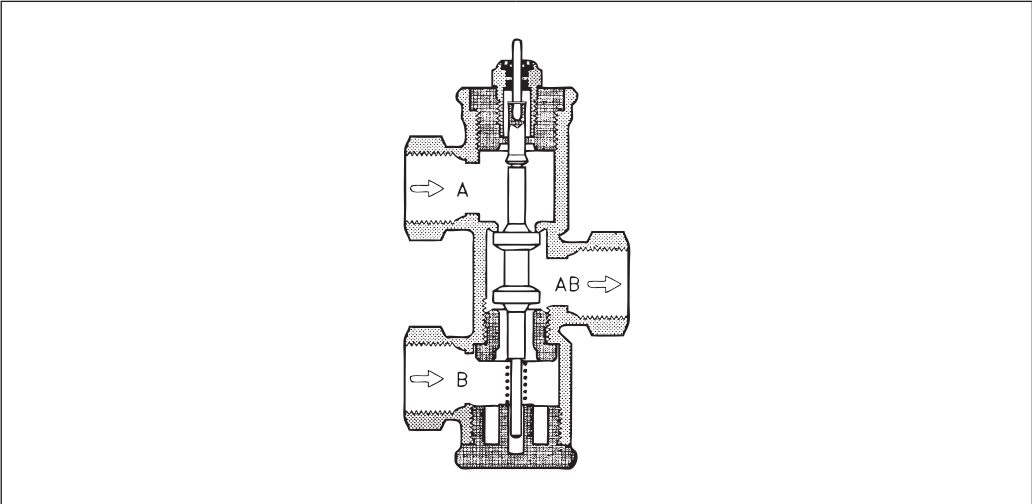
Valve body	Brass
Pressure pin and spindle	Stainless steel 18/8
Valve cone	EPDM
O-rings	EPDM

Dimensions:

mm
inches
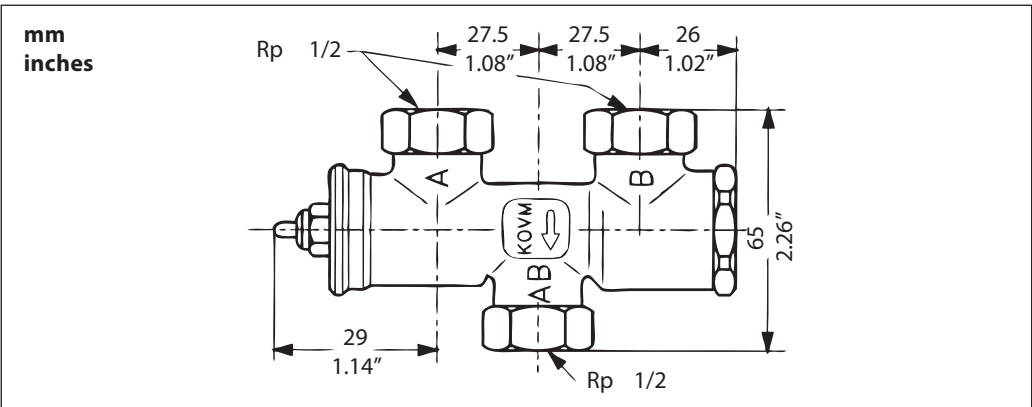
Typical Specification:

The 3-way valve shall be made of a brass construction and have a linear actuation. The valve shall be capable of mixing or diverting applications and controlled via thermostatic operator or actuated via 24VAC electronic actuator. The valve shall be available with female pipe threads or copper compression fittings.

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