

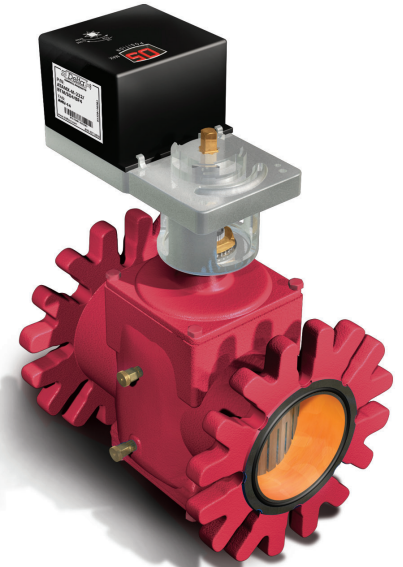
**AutoTouch Max Series (ATiMX)
 Flanged Control Valves
 Pressure Independent**

The Auto Touch Independent Max(ATiMX) valve brings pressure independent control technology to valves up to 6" and flow rates up to 469 GPM. It is a state-of-the-art control valve combining a high quality/high rangeability temperature control valve with a dynamically balanced flow regulator in the same space-saving housing. The result is a pressure independent control valve that maintains the desired flow rate irrespective of the pressure differential across the valve*.

Even the most controllable standard (pressure dependent) temperature control valve will allow a change in flow as the differential pressure in the system changes, which is an everyday occurrence. Any time a chilled water or hot water system is operating at less than design maximum load conditions – which is most of the time – differential pressures in the system tend to increase, resulting in overflow through the control valves. This overflow condition results in control instability, and higher pumping costs.

Balancing valves, either manual or automatic, can only prevent overflow at conditions above design maximum flow. At any flow condition less than design maximum, balancing valves do not fulfill any purpose.

The ATiMX valve provides a cost effective means of controlling hot water and chilled water flow in an accurate and stable manner while minimizing pumping, heating and cooling costs. And by combining the automatic temperature control function and the dynamic balancing function in a single device, installation costs are also be reduced.



ATi valves are also available with an optional strainer/drain with isolation valve to provide a complete and convenient solution for controlling and maintaining the coil.

FEATURES

BENEFITS

Provides accurate, pressure independent control at all levels of demand	More precise and stable control
Eliminates overflow at less than design demand conditions	Reduces pumping energy and contributes to higher chiller and boiler delta T
Combines flow control and dynamic balancing in a single space-saving device	Reduces field installation costs
Eliminates field balancing	Reduces total system costs and speeds the project towards completion faster

VALVE OPERATION

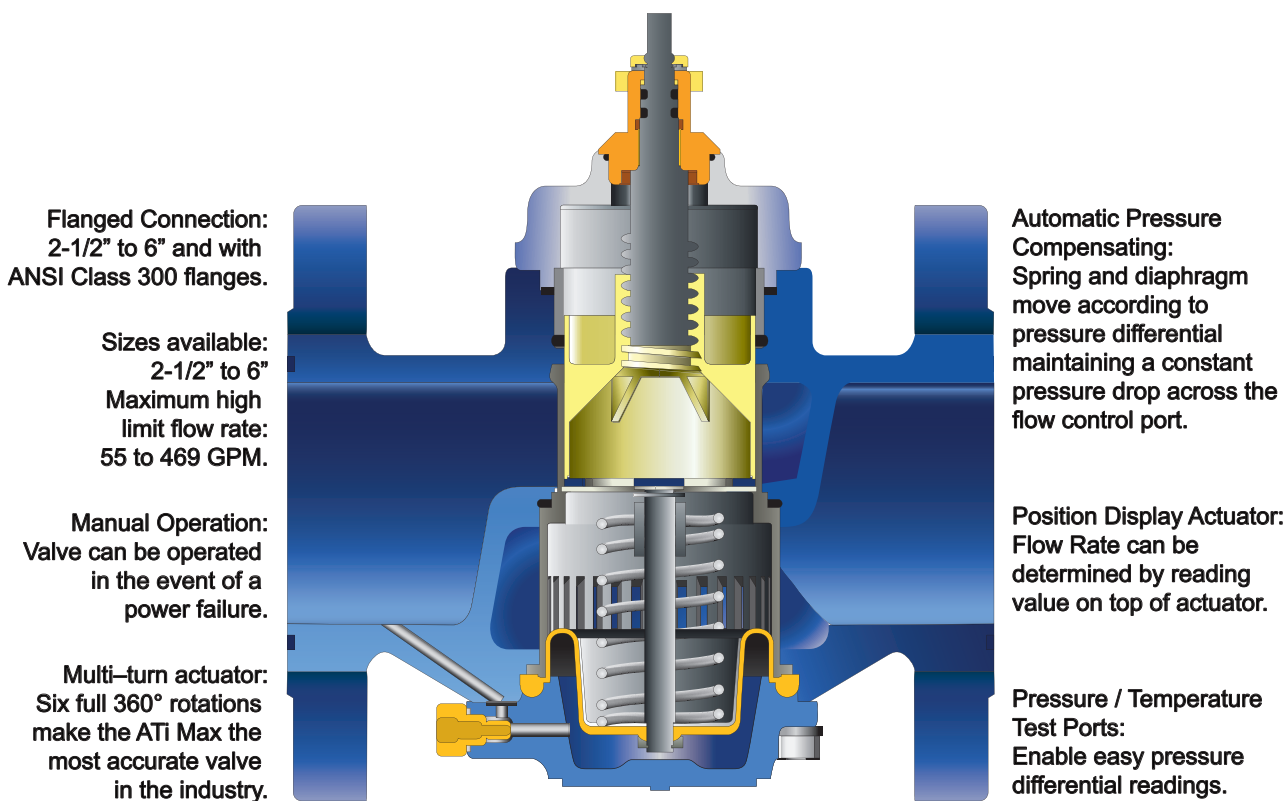
The plug of the valve is positioned by a multi-turn electric actuator in response to temperature controller or building automation system.

Inlet pressure is transferred through an internal channel to a diaphragm in the “pressure compensating” section. This diaphragm is opposed by a spring. The force-balance principle moves the pressure compensating cartridge to create a constant ΔP across the control section, which results in constant flow at any valve position, irrespective of pressure changes in the system.

The maximum flow rate is established by controlling the stroke of the actuator. Dip switches in the actuator allow for 50 distinct flow rates for each size of valve.

VALVE SIZING

Unlike conventional control valve sizing where valves are sized to a Cv, the ATi valves are simply sized for flow and pipe size. See the ordering table for the wide range of flow values available.



SPECIFICATIONS

Valve Body

Housing	2-1/2" – 6"
Static Pressure Rating	580 PSI (40 bar)
Media Temperature	-4°F to 248°F (-20°C to 120°C)
Ambient Temperature	14°F to 131°F (-10°C to 55°C)
Body Material	Ductile Iron, ASTM A536-65T, Class 60-45-18
Flow Regulation Unit	316 Stainless Steel
Diaphragm	EPDM
End Connections	ANSI Class 300 (2-1/2"– 6")
Stem Seals	EPDM and Nitrile O-Rings
Test Ports	1/4" NPT
Max. Close-Off Pressure	58 PSID (400 kPa)
Leakage	0.02 % of Cv

Actuator

Supply Voltage	22-26 VAC or 28-32 VDC
Power Consumption	10 VA
Frequency	50-60 Hz
Control Input	2-10VDC; 4-20mA; 3-Point Floating
Position Output	2-10 VDC; 4-20 mA
Stroke Time	150 seconds (from closed to fully open)
Electrical Connection	Grommet Connection
Direction of Rotation	Bi-directional
Humidity Rating	5 to 95% RH, non-condensing
Housing Insulation	NEMA 2, IP 42

Strainer

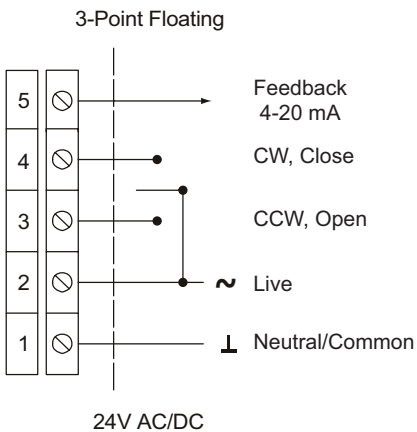
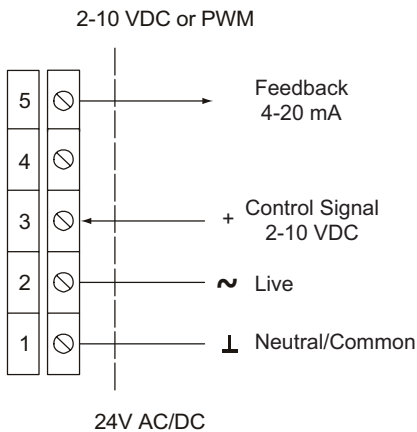
Pressure Rating:	175 PSI (12 bar)
Temperature Rating:	150°F (65°C)
Body Material:	Cast Iron ASTM A126 Class B
End Connections:	Flanges ANSI B16.1 Class 125
Strainer:	Stainless Steel 304 ASTM A167

The performance specifications are nominal and conform to acceptable industry standards. For application at conditions beyond these specifications, consult the local Bray office. Bray, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.

ATi MODEL SELECTION TABLE

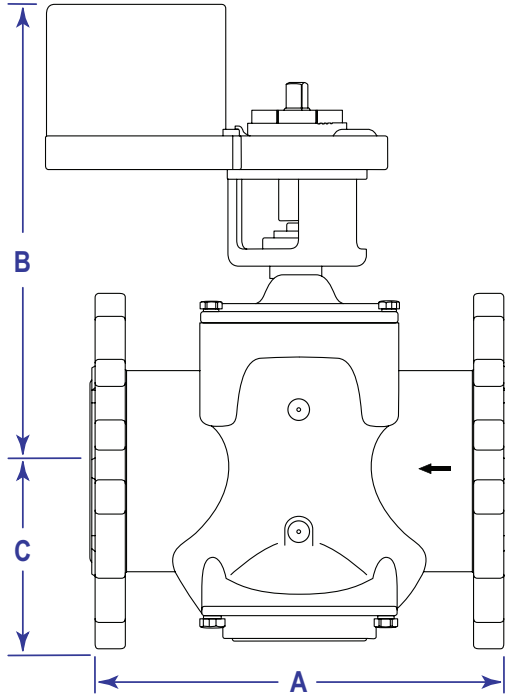
	ATiMX	M	222	BMT	SD4	BF4						
Return	Small, Medium, or Large											
	<table border="1"> <tr><td>S = 2.5" - 3"</td></tr> <tr><td>M = 3" - 4"</td></tr> <tr><td>L = 5" - 6"</td></tr> </table>		S = 2.5" - 3"	M = 3" - 4"	L = 5" - 6"							
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Max GPM		<table border="1"> <tr><td>S = 112</td></tr> <tr><td>M = 147 or 222</td></tr> <tr><td>L = 469</td></tr> </table>	S = 112	M = 147 or 222	L = 469							
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	Actuator			<table border="1"> <tr><td>BMT = Non Fail Safe</td></tr> <tr><td>BMTFS = Fail Safe</td></tr> </table>	BMT = Non Fail Safe	BMTFS = Fail Safe						
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Supply	Strainer/Drain Valve			<table border="1"> <tr><td>N = No Strainer/Drain Valve</td></tr> <tr><td>SD250 = 2.5"</td></tr> <tr><td>SD3 = 3"</td></tr> <tr><td>SD4 = 4"</td></tr> <tr><td>SD5 = 5"</td></tr> <tr><td>SD6 = 6"</td></tr> </table>	N = No Strainer/Drain Valve	SD250 = 2.5"	SD3 = 3"	SD4 = 4"	SD5 = 5"	SD6 = 6"		
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Manual	Manual Shutoff Valve			<table border="1"> <tr><td>N = No Shutoff Valve</td></tr> <tr><td>BF250 = 2.5"</td></tr> <tr><td>BF3 = 3"</td></tr> <tr><td>BF4 = 4"</td></tr> <tr><td>BF5 = 5"</td></tr> <tr><td>BF6 = 6"</td></tr> </table>	N = No Shutoff Valve	BF250 = 2.5"	BF3 = 3"	BF4 = 4"	BF5 = 5"	BF6 = 6"		
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WIRING



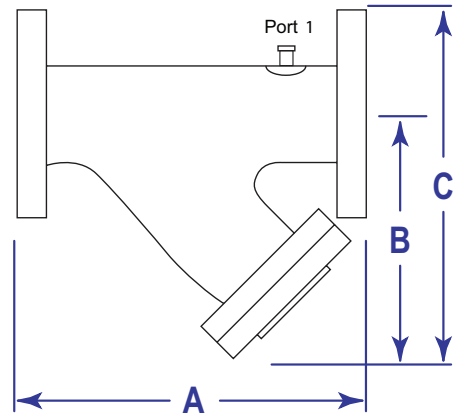
DIP Switch Function		
1	Normally Open	Normally Closed
2	Fail Open	Fail Closed
3	PWM Mode 0.1..5 Sec.	PWM Mode 0.1..25 Sec.

DIMENSIONS



Model # Prefix	Size (in)	A	B	C	Act. Width	Weight (lb)
ATiMX-S	2.5 & 3	8.8	9.7	3.7	4.0	28
ATiMX-M	3 & 4	12.6	11.4	5.3	4.0	75
ATiMX-L	5 & 6	12.6	13.3	7.1	4.0	148

Size (in)	A	B	C	Hole Dia.	No. Holes	Drain Size (in)	Weight (lb)
2.5	11.3	7.6	10.4	0.75	4	1	36
3	12.5	8.3	11.3	0.75	4	1	44
4	14.9	10.1	13.8	0.88	8	1-1/4	68
5	17.9	12.5	18.0	0.88	8	1-1/4	117
6	20.4	14.3	19.1	0.88	8	1-1/2	147



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