



Submittal - AB-QM™ Pressure Independent Balancing Control Valves

# 2.5" - 4" AB-QM™ Valves

ANSI flange, High Flow, (2nd gen.)

Date	Spec. Section	Page	
Project	<b>Approvals</b>		
	Agency	Representative	Date
	Architect/ Engineer	Architect	
	Supplier	Engineer	
	Contractor	Contractor 1	
	Order No.	Contractor 2	
Notes			


**Description**

The AB-QM™ temperature control valve provides pressure independent regulation of flow while also providing flow limiting system balance. The unique differential pressure regulator dynamically adjusts to normal changes in system pressure from valves opening and closing or changing of pump speed.

- Constant differential pressure across control valve, resulting in 100% valve authority
- Balancing valve dynamic adjustment to maintain constant flow
- Variety of actuator signal combinations: modulating, 3 point floating
- Adjustment collar and locking mechanism for flow setting

**Specification**

The valve shall be pressure independent and control pressure across the control valve orifice. The regulation of pressure shall be through an integrated EPDM diaphragm design, stainless steel spring, pressure control disc and require no internal maintenance or replaceable cartridges. Pressure control seat shall be brass construction with vulcanized EPDM. The adjustment method shall indicate percentage of valve flow range and utilize spring locked mechanism for adjustment. The valve assembly shall provide 100% control valve authority and maintain a linear flow characteristic. The valve shall accurately control the flow with an operating pressure differential range of 4 to 60psi for valve sizes 2½" to 4".

	Valve	Number	Unit Tag	Qty.
	2½"			
	3"			
	4"			

Nominal Diameter	2½"	3"	4"
Code No.	003Z0983	003Z0984	003Z0985
Max Flow (GPM)	110	176	260
Connection	ANSI Flange, 1/16" Raised Face (ANSI Standard B16.1)		
Connection rating	ANSI Class 125		
Controlled ΔP range	8.7 thru 60 psi (.66 thru 4.0 bar)		
Differential pressure loss of open valve	8.7 psi		
Control valve characteristics	Linear		
Max. close off differential pressure <sup>1</sup>	Dependent on actuator selected for valve size		
Max. static (hold) pressure	300 psi (20 bar)		
Medium temperature	15°F to 250°F (-10°C to 120°C)		
Allowable fluid	Water and secondary refrigerant additives such as glycol		
Shut off function	Acc. to ISO 5208 class A - no visible leakage		

<sup>1</sup> across the valve

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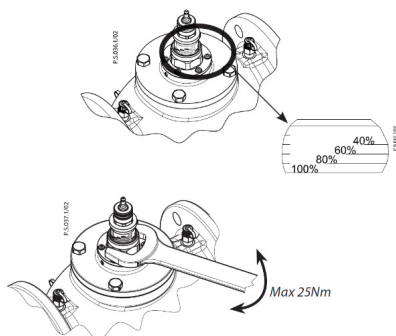
### Electric Actuators for 2½" to 4" AB-QM™ Valves

Style	Code No.	Power	Input Signal		Output Signal (0-10VDC)	Safety Function	
			Floating	Modulating		Up	Down
AME435QM	082H0171	24VAC		●	●		
AMV435	082H0162	24VAC	●		●		
AME 25SU <sup>1</sup>	082H3041	24VAC	●	●	●	●	
AME 25SD <sup>1</sup>	082H3038	24VAC	●	●	●		●

<sup>1</sup> Adapter required (Code no. 003Z0694)

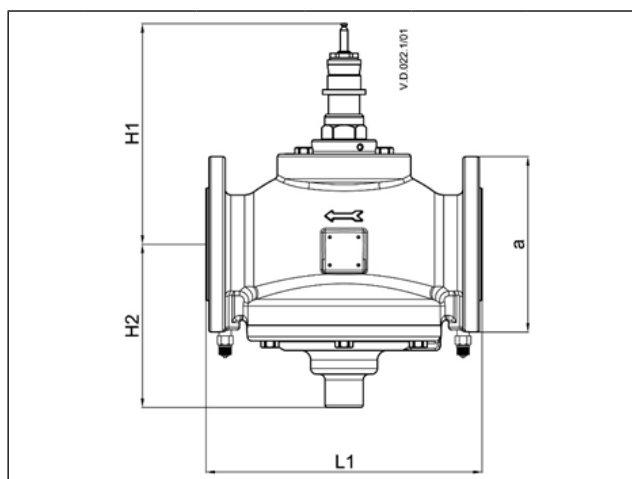
### Flow Adjustment

On site flow adjustment of the valve can be done by rotation of the AB-QM™ valve neck to the flow percentage requirement and then locking the position via integrated allen key screw. Note: 1 turn = 10%.



Flow (GPM)	Valve (Max Flow)		
	2.5" (110)	3" (176)	4" (260)
<b>Setting</b>			
<b>40%</b>	44.0	70.4	104.0
<b>45%</b>	49.5	79.2	117.0
<b>50%</b>	55.0	88.0	130.0
<b>55%</b>	60.5	96.8	143.0
<b>60%</b>	66.0	105.6	156.0
<b>65%</b>	71.5	114.4	169.0
<b>70%</b>	77.0	123.2	182.0
<b>75%</b>	82.5	132.0	195.0
<b>80%</b>	88.0	140.8	208.0
<b>85%</b>	93.5	149.6	221.0
<b>90%</b>	99.0	158.4	234.0
<b>95%</b>	104.5	167.2	247.0
<b>100%</b>	110.0	176.0	260.0

### Dimensions/ Weight



Valve size	Dimensions in(mm)				Weight lb (kg)
	L1	H1	H2	a (ANSI B16.1)	
2½"	11.42(290)	8.66(220)	6.77(172)	7.08(180)	83.77(38)
3"	12.20(310)	8.85(225)	6.96(177)	7.48(190)	99.20(45)
4"	13.78(350)	9.44(240)	7.36 (187)	9.05(230)	125.66(57)

### Materials in Contact with Water

<b>Valve bodies</b>	Grey iron EN-GJL-250(GG25)
<b>Membranes/ bellow</b>	EPDM
<b>O-rings</b>	EPDM
<b>Springs</b>	W.Nr. 1.4568, W.Nr. 1.4310
<b>Cone (Pc)</b>	CuZn40Pb3 -CW 614N, W.Nr. 1.4305
<b>Seat (Pc)</b>	W.Nr. 1.4305
<b>Cone (Cv)</b>	CuZn40Pb3 -CW 614N
<b>Seat (Cv)</b>	W.Nr. 1.4305
<b>Screw</b>	Stainless Steel (A2)