

ENGINEERING
TOMORROW



AB-QM™ Pressure Independent Balancing Control

AB-QM™ Quick Select Guide

Choose an option below:

Small Control Valves

Pipe sizes ½" to 1¼"



Large Control Valves

Pipe sizes 5" to 6"



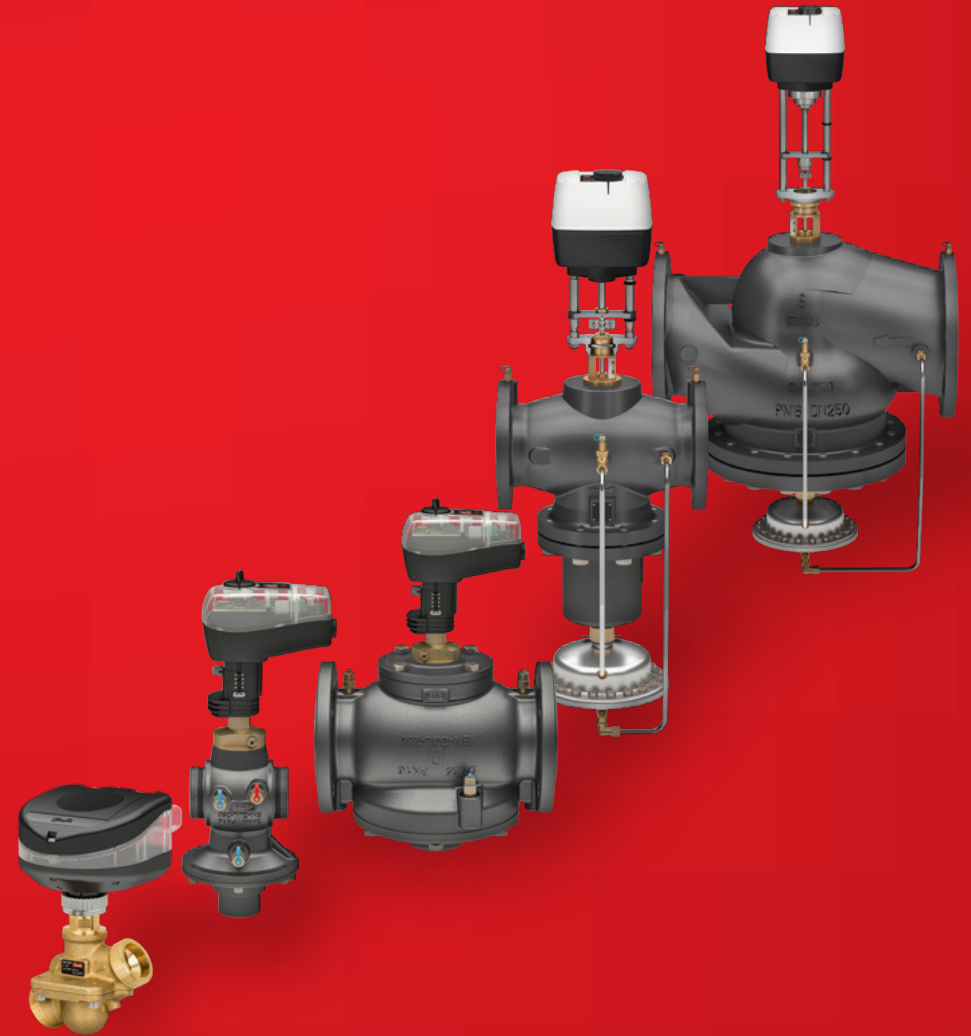
Medium Control Valves

Pipe sizes 1½" to 4"



X-Large Control Valves

Pipe sizes 8" to 10"



About AB-QM™ >

Achieve **Simple, Affordable, Comfort** with easy, energy saving **AB-QM™**.

Engineering Tomorrow since 1933

Through engineering excellence and application expertise, Danfoss offers a broad portfolio of innovative technologies that help meet the world's growing challenges of energy efficiency, and climate-friendly solutions.

AB-QM™ pressure independent control valves deliver **simple affordable comfort** with easy to use, energy saving, reliable products.

Proven Reliability

A reason over seven million have been successfully installed worldwide.

Energy Saving

Through improved flow control performance, AB-QM™ eliminates overflow, solves low ΔT , and optimizes system efficiency, increasing savings.

Easy to Select, Specify & Use

Eliminate excessive design calculation and commissioning processes with AB-QM™.

Key Markets:

- Healthcare
- Education
- Government
- Retrofits



AB-QM™ Features & Benefits

5 Year WARRANTY

- **Mechanical pressure independent technology:**
Integrated differential pressure regulator for exceptional flow control
- **Easy to select and specify:**
No Cv calculations required
- **Energy saving:**
Maintain designed ΔT
- **Field adjustable flow setting:**
No tools required
- **Tight close-off/clog resistant:**
Unique two-stage close off resists debris
- **Unique serviceable design:**
With removable tailpieces

User Benefits



Improved tenant comfort for Building Owner



Reduced energy consumption for Facility Manager



Easy Installation for Contractor



Properly balanced system for Balancing Contractor

A Full Range of Solutions

Valves:

Danfoss offers a complete range of innovative solutions (½" to 10") to meet your HVAC system's needs for optimal flow control.

Actuators:

Danfoss actuators are designed specifically for AB-QM valves, working seamlessly to enhance performance & reliability while reducing total installed cost.

½" to 10" Valves



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The **Quick Select** Guide



The following guide showcases the full line of AB-QM™ products including which valves and actuators work together, as well as technical details to aide in selecting the correct product. Quickly find code numbers, control features, and required parts for your HVAC system's needs.

[Small Control Valves](#)

Small Control Valves

AB-QM™ Valves ½” to 1¼”



Small Control Valve pictured includes: ½” AB-QM™ valve with AME 120 NLX-1 actuator

Tailpiece (order 2 per valve)

Size	Max Flow	Code No.	Male NPT	Female Sweat
½”	1.2 GPM	003Z1321	003Z0282	003Z0292
½”	5.0 GPM	003Z1332	003Z0282	003Z0292
¾”	7.5 GPM	003Z1333	003Z0283	003Z0293
1”	12.0 GPM	003Z1334	003Z0284	003Z0294
1¼”	17.5 GPM	003Z1335	003Z0285	003Z0295

Actuators for ½” to 1¼”, selection & specification

The overview shows the most common used actuators for AB-QM™ PICVs.
For special needs or applications contact your local sales representative.

Control principle	Digital	Non-Spring Return			Spring Return Stem Up	Spring Return Stem Down	Spring Return Stem Up				Spring Return Stem Down				
Actuator principle	Step motor	Gear			Gear		Thermal				Thermal				
Actuator	NovoCon® S	AME 120 NLX-1	AMI 120 NL-1	AMV 120 NL-1	AME 13 SU-1	AME 13 SD-1	ABN A5	ABNM A5 LOG	ABNM A5 LIN		ABN A5	ABNM A5 LOG	ABNM A5 LIN		
															
Specification summary															
Code No.	003Z8504	082H5004	082H5003	082H5005	082H5006	082H5007	082F1151	082F1157	082F1163	082F1165	082F1150	082F1154	082F1156	082F1160	082F1161
Input control signals	BACnet or Modbus, 0(2) to 10 VDC, 0(4) to 20 mA	0(2) to 10 VDC, 0(4) to 20 mA	on-off, 3-wire	floating point	floating point, 0(2) to 10 VDC, 0(4) to 20 mA		on-off	on-off	0 to 10 VDC	0 to 10 VDC	on-off	on-off	on-off	0 to 10 VDC	0 to 10 VDC
Power supply	24V AC/DC	24V AC			24V AC/DC		24V AC/DC	120V	24V AC	24V AC	24V AC/DC	24V AC/DC	120V	24V AC	24V AC
Feedback signal, output	BACnet; Modbus	0-10 VDC	position indication	terminal block	--		--	--	--	--	--	end switch	--	--	--
Travel speed selection	24 /12 /6 /3 s/mm	24 /12 s/mm			11.7 s/mm		60 s/mm		30 s/mm		60 s/mm		30 s/mm		
Characteristic	equal % / linear	equal % / linear	--	--	linear		--	--	equal %	linear	--		equal %		linear
Valve open/close detection	yes	yes			--		--	--	yes	yes	--		yes		yes
Electrical connection	plug-in	standard			--		PVC plug-in				PVC plug-in				
Options & accessories															
Required power cable lengths	3, 16, or 32.8 ft (1, 5, or 10 m)	--			--		3, 16, or 32.8 ft (1, 5, or 10 m)				--	36 in (1 m)	3, 16, or 32.8 ft (1, 5, or 10 m)	--	
Daisy-chain cable length	1.6, 5, 16, or 32.8 ft (0.5, 1.5, 5, 10 m)	--			--		--				--				
Safety function	non-spring return	non-spring return			open	closed	open				closed				
Expand features	energy cable, remote I/O cable	--			--		--				--				



Medium Control Valves

AB-QM™ Valves 1½” to 4”



Medium Control Valve pictured Includes: 2½” AB-QM™ valve with NovoCon® M actuator

Tailpiece (order 2 per valve)				
Size	Max Flow	Code No.	Male NPT	Female Sweat
1½”	33 GPM	003Z0780	003Z0286	003Z0296
2”	55 GPM	003Z0781	003Z0287	003Z0297
2½”	85 GPM	003Z0783	-	-
3”	120 GPM	003Z0784	-	-
4”	165 GPM	003Z0785	-	-

min. differential pressure across valve 4 psi

Size	Max Flow	Code No.
2½”	110 GPM	003Z0983
3”	176 GPM	003Z0984
4”	260 GPM	003Z0985

min. differential pressure across valve 8.7 psi

Actuators for 1½” to 4”, selection & specification

The overview shows the most common used actuators for AB-QM™ PICVs.
For special needs or applications contact your local sales representative.

Control principle	Digital		Non-Spring Return		Spring Return Stem Up / Open	Spring Return Stem Down / Closed
Actuator principle	Step motor		Gear		Gear	Gear
Actuator	NovoCon® M		AMV 435	AME 435 QM	AME 25 SU	AME 25 SD
Specification summary						
	003Z8540		082H0162	082H0171	082H3041	082H3038
	BACnet or Modbus, 0(2) to 10 VDC, 0(4) to 20 mA		floating point	0(2) to 10 VDC, 0(4) to 20 mA	floating point, 0(2) to 10 VDC, 0(4) to 20 mA	floating point, 0(2) to 10 VDC, 0(4) to 20 mA
	24V AC/DC		24V AC	24V AC/DC	24V AC	24V AC
	BACnet; Modbus		position indication	0-10 VDC	0-10 VDC	0-10 VDC
	24 /12 /6 /3 s/mm		15 /7.5 s/mm	15 /7.5 s/mm	12.5 s/mm	12.5 s/mm
	equal % / linear		--	equal % / linear	equal % / linear	equal % / linear
	yes		yes	yes	yes	yes
	terminal block		terminal block	terminal block	terminal block	terminal block
	non-spring return		non-spring return	non-spring return	open	closed
Options & accessories						
Safety function	non-spring return		non-spring return	non-spring return	open	closed
Expand features	3x temperature sensors; 1x analog input; 1x analog output		--	--	Requires brass neck adapter: 003Z0694	Requires brass neck adapter: 003Z0694

Large Control Valves

AB-QM™ Valves 5” to 6”



Large Control Valve pictured includes:
6" AB-QM™ valve with AME 658 SU-1 actuator

Size	Max Flow	Code No.
5"	395 GPM	003Z0905
6"	640 GPM	003Z0906

min. differential pressure across valve 4 psi

Size	Max Flow	Code No.
5"	485 GPM	003Z0915
6"	830 GPM	003Z0916

min. differential pressure across valve 8.7 psi

Actuators for 5” to 6”, selection & specification

The overview shows the most common used actuators for AB-QM™ PICVs.
For special needs or applications contact your local sales representative.

Control principle	Digital			Non-Spring Return	Spring Return Stem Up / Open	Spring Return Stem Down / Closed
Actuator principle	Step motor			Gear	Gear	Gear
Actuator	NovoCon® L	NovoCon® L SU	NovoCon® L SD	AME 655-1	AME 658 SU-1	AME 658 SD-1
Specification summary						
	003Z8560	003Z8561	003Z8562	082H5010	082H5012	082H5011
	BACnet or Modbus, 0(2) to 10 VDC, 0(4) to 20 mA			floating point, 0(2) to 10 VDC, 0(4) to 20 mA	floating point, 0(2) to 10 VDC, 0(4) to 20 mA	floating point, 0(2) to 10 VDC, 0(4) to 20 mA
	24V AC/DC			24V AC/DC	24V AC/DC	24V AC/DC
	BACnet; Modbus			0-10 VDC	0-10 VDC	0-10 VDC
Travel speed selection	24 /12 /6 /3 s/mm			6 /2 s/mm	6 /4 s/mm	6 /4 s/mm
Characteristic	equal % / linear			equal % / linear	equal % / linear	equal % / linear
Valve open/close detection	yes			yes	yes	yes
Electrical connection	M16x1.5/ M20x1.5/ ½" conduit			M16x1.5/ M20x1.5/ ½" conduit	M16x1.5/ M20x1.5/ ½" conduit	M16x1.5/ M20x1.5/ ½" conduit
Options & accessories						
Safety function	non-spring return	open	closed	non-spring return	open	closed
Expand features	3x temperature sensors; 1x analog input; 1x analog output					



X-Large Control Valves

AB-QM™ Valves 8” to 10”



X-Large Control Valve pictured Includes:
10” AB-QM™ valve with AME 685-1 actuator

Size	Max Flow	Code No.
8”	830 GPM	003Z0707
10”	1235 GPM	003Z0708

min. differential pressure across valve 4 psi

Size	Max Flow	Code No.
8”	1100 GPM	003Z0717
10”	1600 GPM	003Z0718

min. differential pressure across valve 8.7 psi

Flanges / Gaskets (Free gasket included with flange purchase)

8”	ISO PN16	D2576-16-200
10”	ISO PN16	D2576-16-250

Actuators for 8” to 10”, selection & specification

The overview shows the most common used actuators for AB-QM™ PICVs.
For special needs or applications contact your local sales representative.

Control principle	Digital	Non-Spring Return
Actuator principle	Step motor	Gear
Actuator	NovoCon® XL	AME 685-1
		
Specification summary		
Code No.	003Z8563	082H5013
Input Control signals	BACnet or Modbus, 0(2) to 10 VDC, 0(4) to 20 mA	floating point, 0(2) to 10 VDC, 0(4) to 20 mA
Power supply	24V AC/DC	24V AC/DC
Feedback signal, output	BACnet; Modbus	0-10
Travel speed selection	24 /12 /6 /3 s/mm	6 /3 s/mm
Characteristic	equal % / linear	equal % / linear
Valve open/close detection	yes	--
Electrical connection	M16x1.5/ M20x1.5/ ½” conduit	M16x1.5/ M20x1.5/ ½” conduit
Options & accessories		
Safety Function	non-spring return	non-spring return**
Expand features	3x temperature sensors; 1x analog input; 1x analog output	** * available through external battery AM-PBU 25; 082H7090

Danfoss offers the full portfolio of products for HVAC system optimization...

Danfoss has been engineering pressure independent control excellence for over 30 years. In addition, Danfoss also offers a wide array of energy saving products to compliment AB-QM™ valves. Our products have proven to help improve overall HVAC system efficiency, enhance comfort and save energy.

- Sondex® Heat Exchangers
- District Energy Solutions
- Thermostatic Radiator Valves
- VLT® & VACON® Drives
- Turbocor® Centrifugal Compressors

Learn more at:
www.ABQMvalves.com

