AQMATIC
Valves & Controls

MADE IN THE USA
OF FOREIGN & DOMESTIC PARTS

AQ MATIC METAL DIAPHRAGM VALVES

Versatile design for a wide variety of applications

Certified by IAPMO R&T to NSF/ANSI 61 and NSF/ANSI 372 for lead-free compliance.

FEATURES AND BENEFITS

- The unique Y-pattern design with large seat opening and high lift disc permits higher flow rates at lower pressure loss than other comparable valves
- Larger diaphragm area compared to seat area permits drip-tight closing without any springs
- All components can be serviced while the valve is in-line
- Separate flow and control chambers permit positive closing without springs
- Adaptable to a wide variety of control devices
- Pre-formed, stress-relieved diaphragm minimizes fatigue, maximizes valve responsiveness and diaphragm lifetime
- Cast iron, brass, stainless steel and nitrile elastomer components, for an unparalleled service
- Diaphragm acts as an actuator, eliminating the need for electric or pneumatic actuators, which minimizes initial investment and maintenance costs
- 3/4”- 3” threaded [NPT or BSP]
- 3”- 4” flange drilled in accordance with ASA16.1 class 125, or BSP4504
- Handles liquid and gases

OPTIONS

- Spring-assist closed
- Spring-assist open
- Position indicator
- Seal and diaphragm materials for special applications

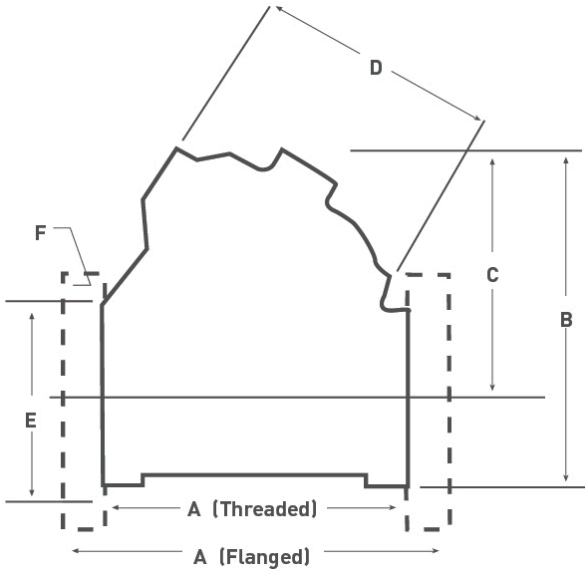
TYPICAL APPLICATIONS

- Agricultural
- Irrigation
- Air Control Systems
- Air Dryers
- Car Wash Systems
- Centrifugal Separators
- Conveyor Systems
- Cooling Control
- Cooling Towers
- Dust Suppression
- Fuel Handling
- HVAC Systems
- Laundry Equipment
- Level Control Systems
- Machine Hydraulic
- Machinery
- Nitrogen Handling
- Plastic Molding
- Process Water Systems
- Pump Controls
- Sand Blasting
- Street Cleaning Vehicles
- Turf Irrigation
- Vacuum Control Systems

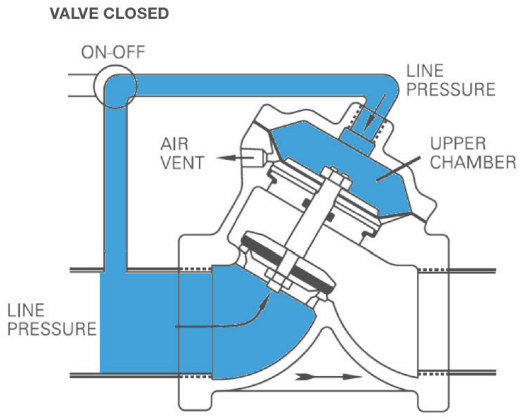
DIMENSIONS

MODEL #		ENDS	PIPE SIZE	Cv*	DIMENSIONS (APPROXIMATE)					
420 SERIES	VAV SERIES				A	B	C	D	E[2]	F[3]
V42B	VAVB	Threaded	3/4"	11.4	3.69" (94 mm)	4.25" (108 mm)	3.75" (95 mm)	2.75" (70 mm)	–	–
V42C	VAVC	Threaded	1"	12.8	3.69" (94 mm)	4.25" (108 mm)	3.75" (95 mm)	2.75" (70 mm)	–	–
V42D	N/A	Threaded	1-1/4"	26.5	4.75" (121 mm)	5.37" (137 mm)	4.00" (102 mm)	3.50" (89 mm)	–	–
V42E	VAVE	Threaded	1-1/2"	32.5	4.75" (121 mm)	5.37" (137 mm)	4.00" (102 mm)	3.50" (89 mm)	–	–
V42F	VAVF	Threaded	2"	56	6.62" (168 mm)	7.25" (184 mm)	5.37" (137 mm)	4.87" (124 mm)	–	–
V42G	VAVG	Threaded	2"	68	7.37" (187 mm)	8.00" (203 mm)	5.75" (146 mm)	5.50" (140 mm)	–	–
V42H	VAVH	Threaded	2-1/2"	84	7.37" (187 mm)	8.00" (203 mm)	5.75" (146 mm)	5.50" (140 mm)	–	–
V42J	VAVJ	Threaded	3"	134	9.00" (229 mm)	9.75" (248 mm)	6.75" (171 mm)	7.25" (184 mm)	–	–
V42J	VAVJ	Flanged	3"	134	10.62" (270 mm)	10.75" (273 mm)	7.00" (178 mm)	7.25" (184 mm)	6.00" (152 mm)	0.75" (19 mm)
V42K	VAVK	Flanged	4"	275	11.75" (298 mm)	14.75" (375 mm)	10.00" (254 mm)	8.75" (222 mm)	7.50" (191 mm)	0.75" (19 mm)
V42L	N/A	Flanged	6"	680	17.00" (432 mm)	19.00" (483 mm)	13.50" (343 mm)	15.75" (402 mm)	9.50" (241 mm)	0.87" (22 mm)

*Cv = Flow rate in gpm of water at 60°F @ 1psi pressure drop

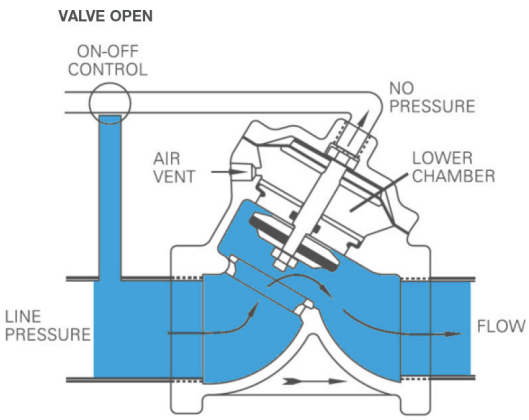


PRINCIPLES OF OPERATION



DRIP-TIGHT CLOSING

Closure is obtained by directing line pressure or equivalent independent pressure into the upper chamber. This pressure on the large diaphragm area causes the valve disc to seal against the seat.



FULL OPEN OPERATION

When the closing pressure in the upper chamber is relieved by venting the pilot line, the valve opens positively, by line pressure on the disc.

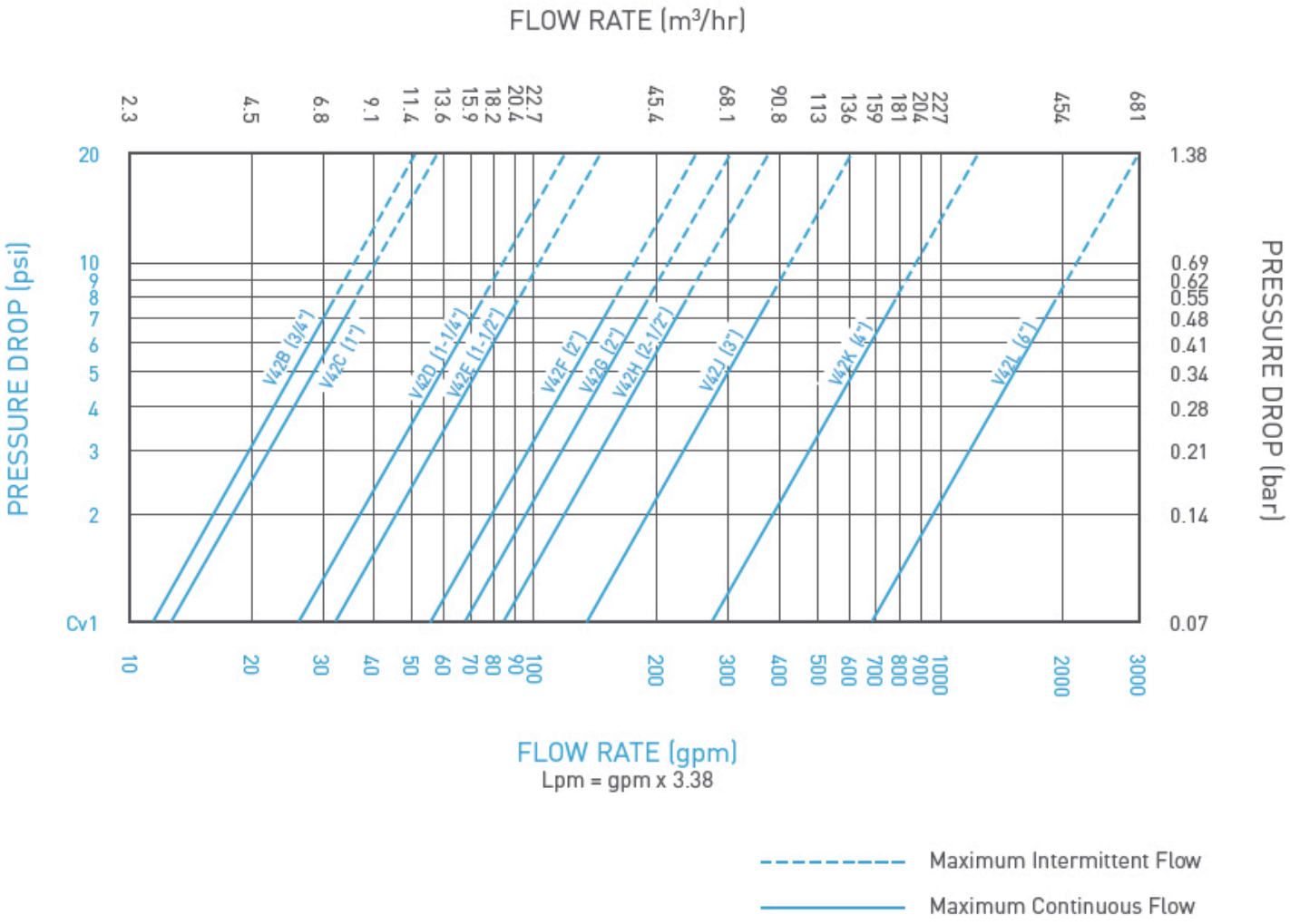
OPERATING SPECIFICATIONS

MODEL #	PIPE SIZE	Standard Temperature Rating	Optional Temperature Ratings	
		150°F/65°C	200°F/93°C	250°F/121°C
V42B	3/4"	200 psi / 13.8 Bar	175 psi / 12.1 Bar	165 psi / 11.4 Bar
V42C	1"	200 psi / 13.8 Bar	175 psi / 12.1 Bar	165 psi / 11.4 Bar
V42D	1 1/4"	175 psi / 12.1 Bar	150 psi / 10.3 Bar	140 psi / 9.7 Bar
V42E	1 1/2"	175 psi / 12.1 Bar	150 psi / 10.3 Bar	140 psi / 9.7 Bar
V42F	2"	175 psi / 12.1 Bar	150 psi / 10.3 Bar	140 psi / 9.7 Bar
V42G	2"	175 psi / 12.1 Bar	150 psi / 10.3 Bar	140 psi / 9.7 Bar
V42H	2 1/2"	175 psi / 12.1 Bar	150 psi / 10.3 Bar	140 psi / 9.7 Bar
V42J	3"	150 psi / 10.3 Bar	125 psi / 8.6 Bar	125 psi / 8.6 Bar
V42K	4"	150 psi / 10.3 Bar	125 psi / 8.6 Bar	125 psi / 8.6 Bar
V42L	6"	125 psi / 8.6 Bar	100 psi / 6.9 Bar	100 psi / 6.9 Bar

PER MSS SP88 CLASS 125, CATAGORY B

†IAPMO R&T NSF/ANSI 61 and NSF/ANSI 372 certifications are limited to restrictions below. Other options were not tested for certification:
Cold water applications below 73°F (23°C).
Normally Open valves.
Buna-N seal material (seal option #0).

OPERATING SPECIFICATIONS



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