AQUAMATIC®
METAL DIAPHRAGM VALVES

VERSATILE DESIGN FOR A WIDE VARIETY OF APPLICATIONS

MADE IN THE USA OF FOREIGN & DOMESTIC PARTS

FEATURES/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

Flow Control Limit Stop

Position indicator

Seal and diaphragm materials for special applications†

TYPICAL APPLICATIONS

Agricultural Irrigation

Air Control Systems

Air Dryers

Car Wash Systems

Centrifugal Separators

Cooling Towers

Dust Suppression

Fuel Handling

Laundry Equipment

Level Control Systems

Hydraulic Machinery

Nitrogen Handling

Plastic Molding

Process Water Systems

Pump Controls

Sand Blasting

Street Cleaning Vehicles

Vacuum Control Systems

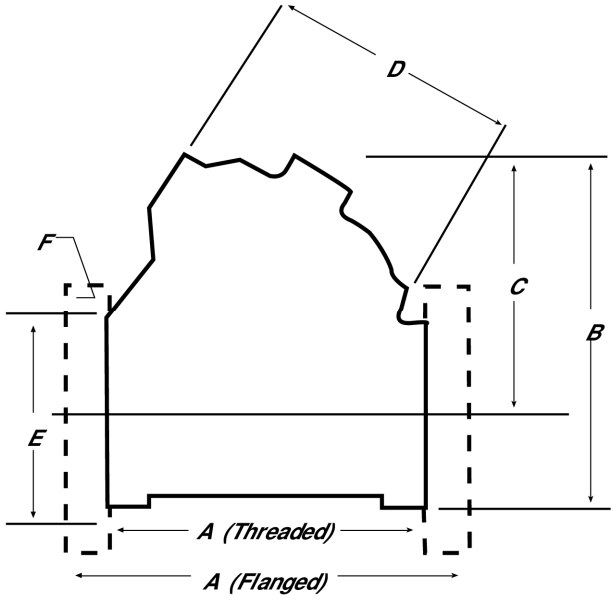
IAPMO R&T

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

DIMENSIONS

MODEL #		ENDS	PIPE SIZE	Cv*	DIMENSIONS (APPROXIMATE)					
420 SERIES	VAV SERIES				A	B	C	D	E[1]	F[2]
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)

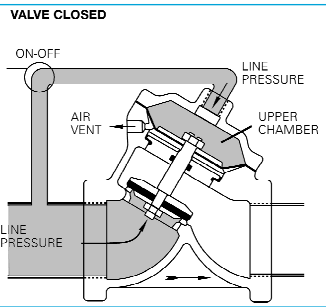
*Cv = Flow rate in gpm of water at 60°F @ 1psi pressure drop
(1) Bolt circle diameter for ASTM flange [ISO/Metric flanges also available]
(2) Bolt hole diameter for ASTM flange [ISO/Metric flanges also available]



PRINCIPLES OF OPERATION

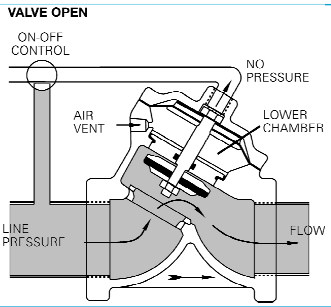
DRIP-TIGHT CLOSING

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.

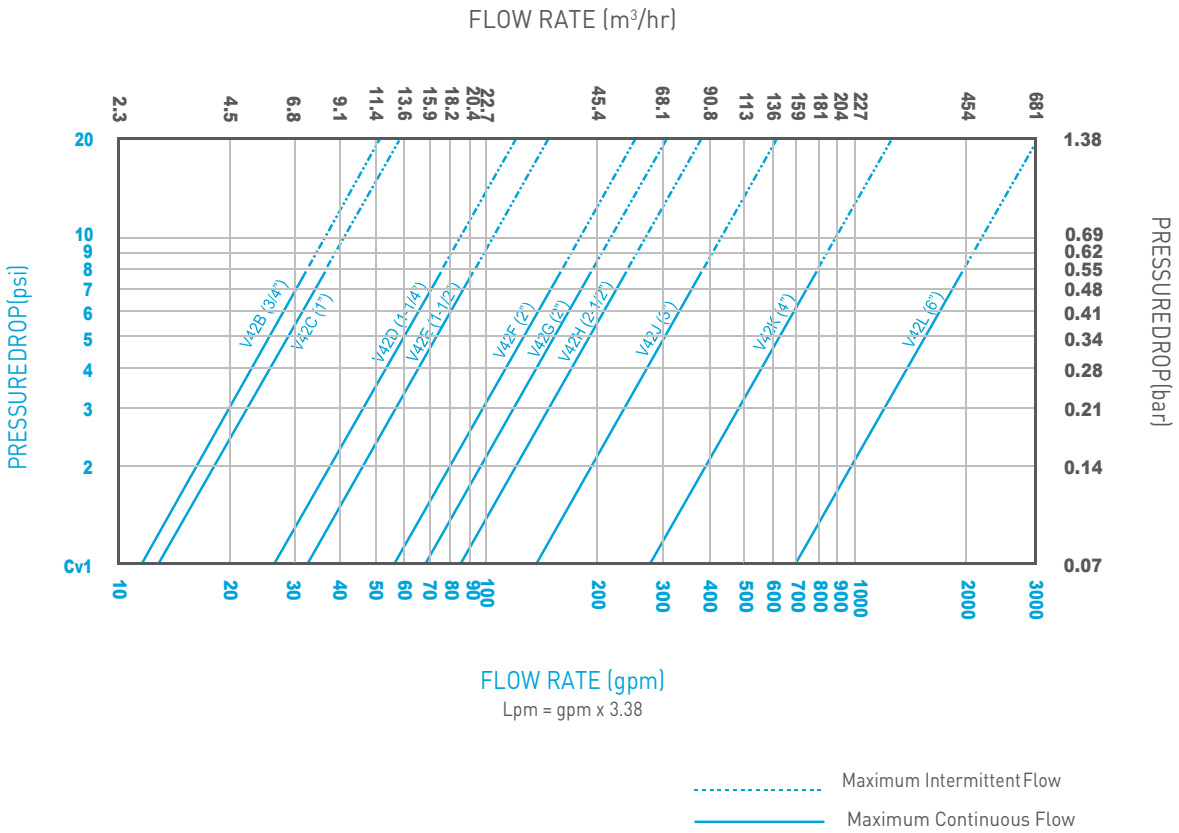


OPERATING SPECIFICATIONS

Max Pressure	125 psi (8.6 bar)
Max Temperature†	140°F (60°C)
	250°F (120°C) (optional)

†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).

PERFORMANCE DATA



16605 West Victor Rd. New Berlin, WI 53151

P: 262-326-0100 | www.aq-matic.com | techsupport@aq-matic.com

1163574 REV E AP2019