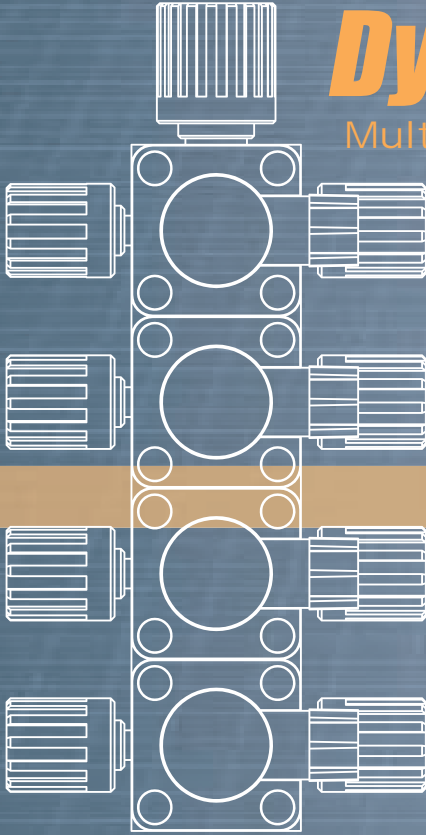


**Dymatrix™**  
Multiport Valve (MPV)



# MPV

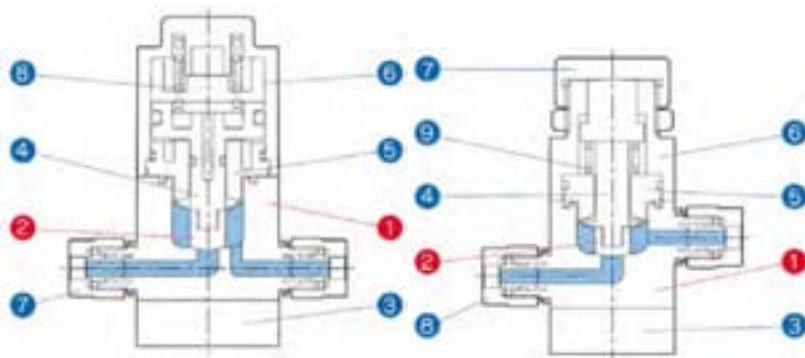


**SPECIFICATIONS**

Items	Unit	High Pressure Type	
Actuation	-	Normally Closed	Manual Type
Pressure Rating	PSI	72.5 psi	
Medium Temp.	F	40-175 F	
Back Pressure	PSI	72.5 psi	
Proof Pressure	PSI	145 psi	
Connections	-	Pillar™ S-300, Flare, FNPT, Flowell	
O-Rings	-	FKM, EPDM, KALREZ 6190	
Ambient Temp.	F	40-120 F	
Installation Direction	-	Any Direction	
Leakage Rate	cc / min	0 (Hydraulic Pressure)	
Frequency of Opening & Closing	cycle/min	<20	-
Pilot Pressure	PSI	58 - 72.5 psi	-
Pilot Air Consumption	L/Cycle (ANR)*	0.01	-
Pilot Port	-	1/8" NPT	-

Pillar™ is a registered trademark of Nippon Pillar Co.  
 \*The pilot air consumption is the value at 72.5 psi.

**Component Materials**



ACTUATED		
1	Body	PTFE
2	Diaphragm	PTFE
3	Base Plate	PPS
4	Piston	PPS
5	Bushing	PPS
6	Actuator Housing	PPS
7	Nut	PFA
8	Spring	SUS 304
Opt	Indicator	PP
Opt	Travel Stop	PP

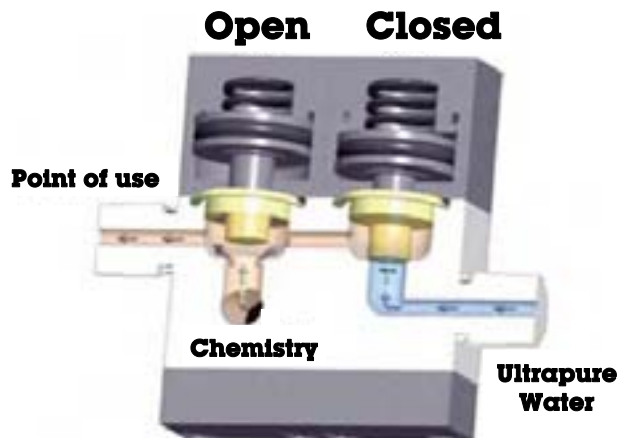
Items 1 & 2 are wetted parts.

MANUAL		
1	Body	PTFE
2	Diaphragm	PTFE
3	Base Plate	PP
4	Stem	PP
5	Bushing	PP
6	Bonnet	PP
7	Handle	PP
8	Nut	PFA
9	Spring	SUS 304

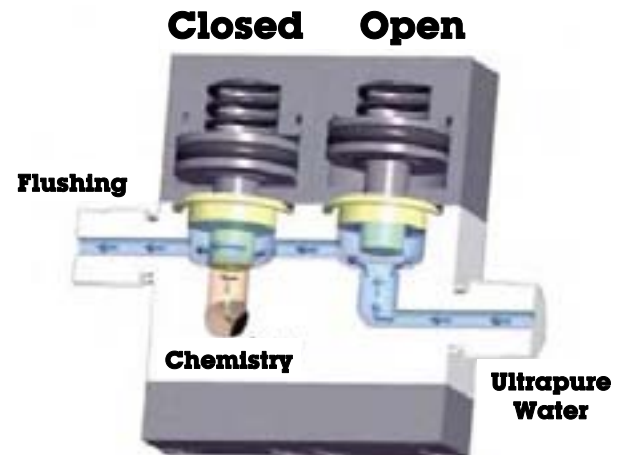
Items 1 & 2 are wetted parts.

**MPV24**

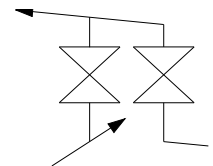
**Example Application**



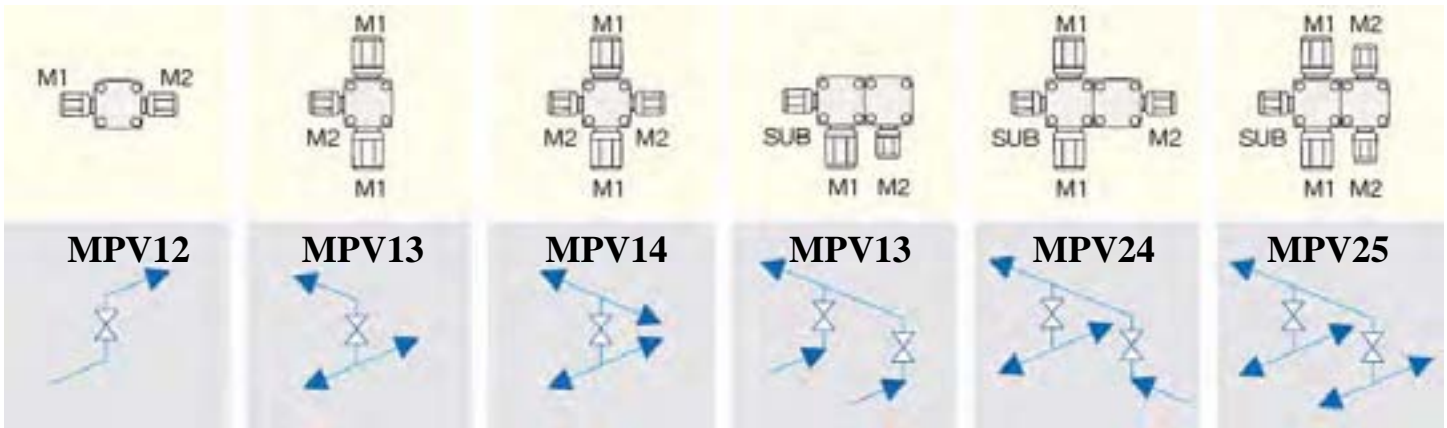
Recirculating chemistry is sent to the downstream point of use. The closed valve on the right prevents ultrapure water from flowing.



When the actuators reverse, Ultrapure water is used to flush the chemistry from the valve, tubing and point of use. The closed left valve prevents chemistry from contaminating the flushed valve. Water flows through the larger machined bowl around the poppet diaphragm.



**STANDARD PORT CONFIGURATIONS**



**Model Code**

**AVMPV** [ ] [ ] - [ ] **P** [ ] [ ] **I** **F** **V** **0** **1** - [ ] **N**

- Number of Actuators**  
# 1 - #
- Number of Ports**  
# 2 - #
- Actuation**  
2 Air to Open  
3 Manual  
4 Air to Close  
5 Air to Air
- Actuator Material**  
P Polypropylene
- Tubing Standard**  
I Inch
- Connection**  
F Flare (Standard)  
S Pillar™ S-300  
N FNPT  
Z Custom/Mixed
- O-Ring**  
V FKM (Standard)  
E EPDM
- Revision**  
1 Air to Open  
N/A Manual  
N/A Air to Close  
N/A Air to Air
- Option**  
0 None  
1 Indicator (Standard)  
2 Travel Stop
- Mounting**  
0 Threaded Bottom (Standard)  
1 Base Plate
- Connection Size**  
01-12 Refer to table at right

Pillar™ is a registered trademark of Nippon Pillar Co.

**Port Size Combinations**

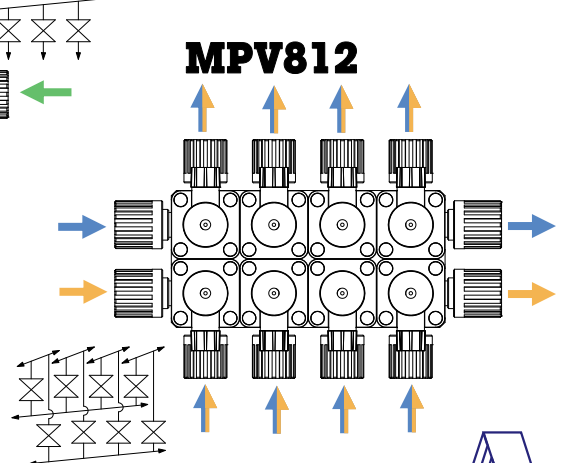
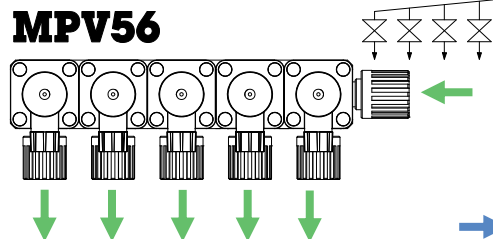
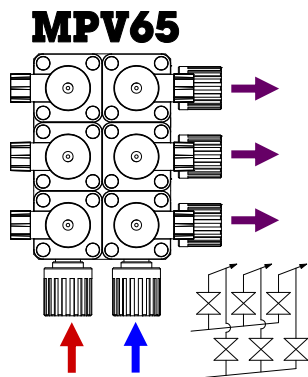
	M1 Port Inch	M2/Sub Port Inch	Cv
01	1/4"	1/4"	0.35
02	3/8"	1/4"	0.35
03	3/8"	3/8"	0.74
04	1/2"	1/4"	0.35
05	1/2"	3/8"	0.74
06	1/2"	1/2"	1.7
07	3/4"	1/4"	0.35
08	3/4"	3/8"	0.74
09	3/4"	1/2"	1.7
10	1"	1/4"	0.35
11	1"	3/8"	0.74
12	1"	1/2"	1.7
99	Other/Custom		

Consult Asahi/America for port size combinations not listed.

Also available: Mixed actuation manifold valves and upgrades for corrosive environments.

**Custom Designs Encouraged**

**EXAMPLE APPLICATIONS**



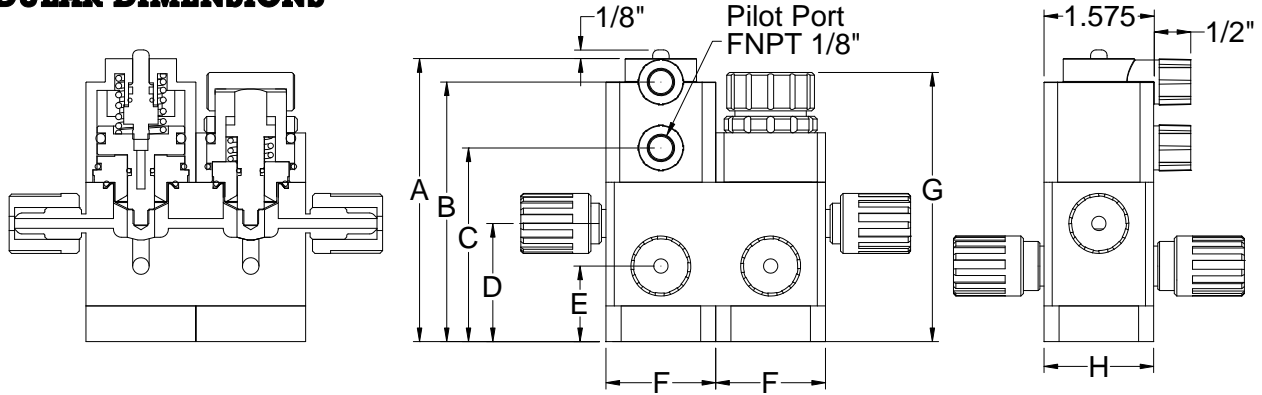
[www.asahi-america.com/Dymatrix-Multiport-Valves](http://www.asahi-america.com/Dymatrix-Multiport-Valves)

35 Green Street, Malden, MA 02148 • Tel: (781) 321-5409  
www.asahi-america.com • asahi@asahi-america.com

Rev. 0409

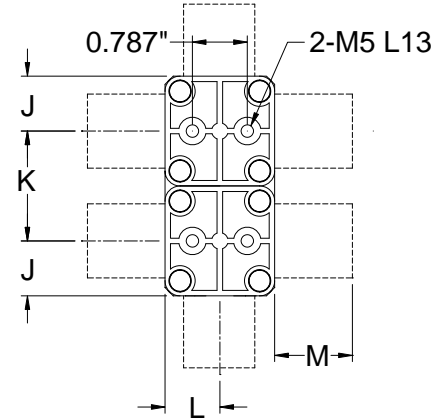


## MODULAR DIMENSIONS

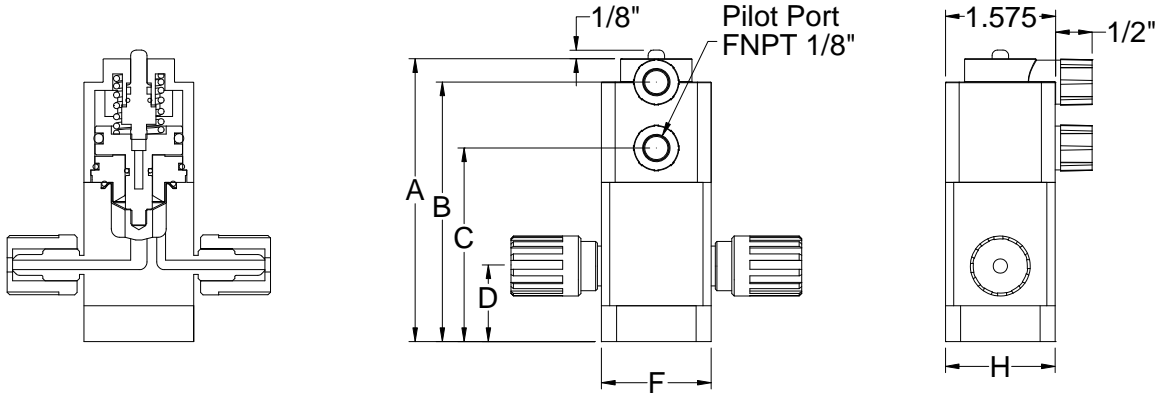


## MPV Multiport Dimensions

	1/4"	3/8"	1/2"	3/4"	1"
<b>A</b>	3.661	4.055	4.055	NA	NA
<b>B</b>	3.327	3.720	3.720	NA	NA
<b>C</b>	2.402	2.795	2.795	NA	NA
<b>D</b>	1.299	1.693	1.693	NA	NA
<b>E</b>	1.535	1.713	1.713	1.791	2.008
<b>F</b>	1.575	1.575	1.575	1.575	1.969
<b>G</b>	3.287	3.681	3.681	NA	NA
<b>G MAX</b>	3.406	3.799	3.799	NA	NA
<b>H</b>	1.575	1.575	1.575	1.575	1.969
<b>J</b>	0.787	0.787	0.787	0.787	0.984
<b>K</b>	1.575	1.575	1.575	1.575	1.969
<b>L</b>	0.787	0.787	0.787	0.787	0.984
<b>M Flare</b>	1.102	1.220	1.299	1.496	1.850
<b>S-300</b>	0.748	0.984	1.142	x	x
<b>FNPT</b>	x	x	x	x	x

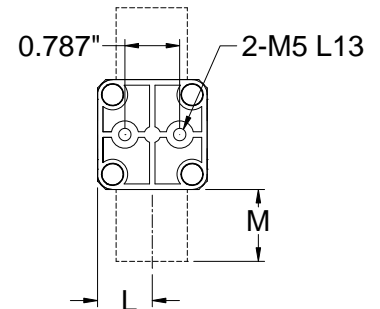


All dimensions are in inches



## MPV12 2-Way Dimensions

	1/4"	3/8"	1/2"	3/4"	1"
<b>A</b>	3.661	4.055	4.055	-	-
<b>B</b>	3.327	3.720	3.720	-	-
<b>C</b>	2.402	2.795	2.795	-	-
<b>D</b>	1.299	1.693	1.693	-	-
<b>F</b>	1.575	1.575	1.575	1.575	1.969
<b>H</b>	1.575	1.575	1.575	1.575	1.969
<b>L</b>	0.787	0.787	0.787	0.787	0.984
<b>M Flare</b>	1.102	1.220	1.299	1.496	1.850
<b>S-300</b>	0.748	0.984	1.142	x	x
<b>FNPT</b>	x	x	x	x	x



All dimensions are in inches



[www.asahi-america.com/Dymatrix-Multiport-Valves](http://www.asahi-america.com/Dymatrix-Multiport-Valves)

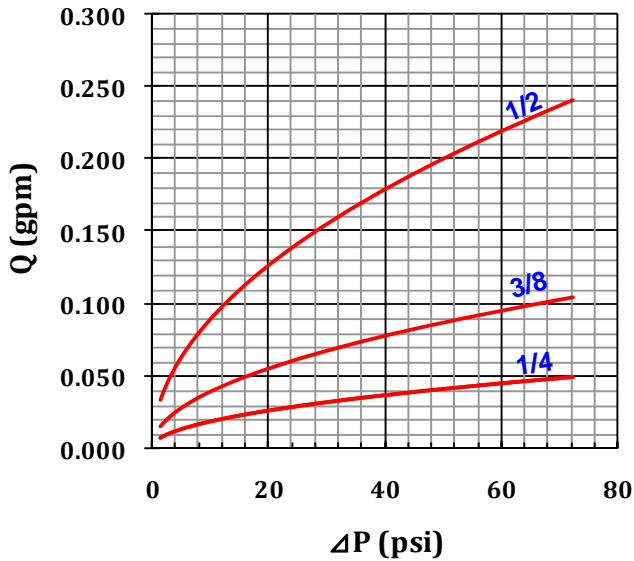
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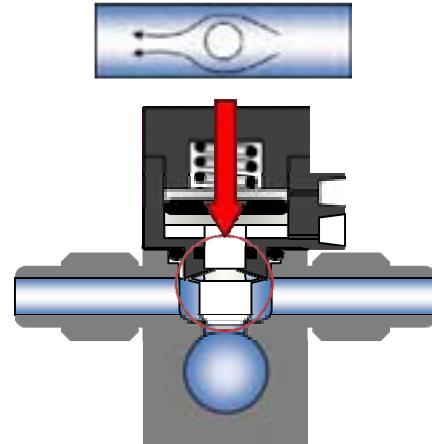




**Flow At Differential Pressure**

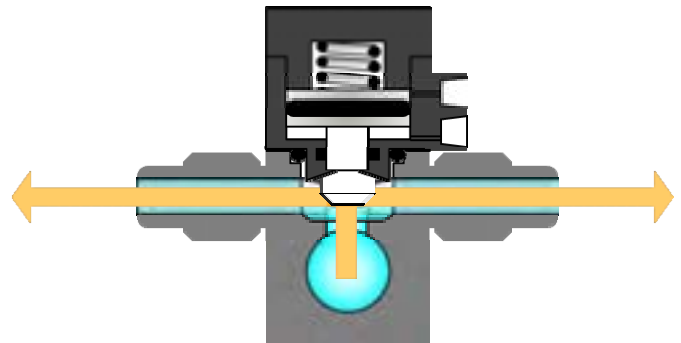


**Poppet Diaphragm**



**Closed**

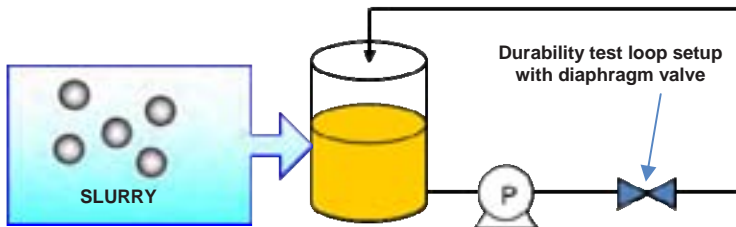
The poppet style diaphragm allows both lines to continuously recirculate.



**Open**

**High Durability**

- Cycle tested without pressure loss to millions of cycles
- Excellent sealing performance at high cycles, even in aggressive chemistry or slurry



**Cycle Test Results**

Cycles	0	50,000	100,000	200,000	350,000	500,000	1,000,000
MPV	Good	Good	Good	Good	Good	Good	Good
Comp A	Good	Good	Good	Fail (29 psi)	Fail (20 psi)	Fail (11.5 psi)	Fail (3 psi)
Comp B	Good	Good	Good	Fail (37.5 psi)	Fail (23 psi)	Fail (11.5 psi)	Fail (14.5 psi)





**PV3**



**PVM**



**PVEL**



**PVSL**

**Pinch Valves** - Our Pinch Valve design provides superior durability and eliminates particle generation in CMP slurry applications.



**SDV**



**HDV  
AD16**



**HDVW**

**Diaphragm Valves** - We engineer the diaphragm valves for high cycle life and a compact design.



**CFV**



**NVM**

**Flow Control Valves** - Accurate and reliable control of flow rate for point of use and blend applications.



**HPRS**



**HPRL**

**Pressure Regulators** - Provide precise, accurate and highly stable control of pressure fluctuations for flow control applications.

