



Valve Accessories



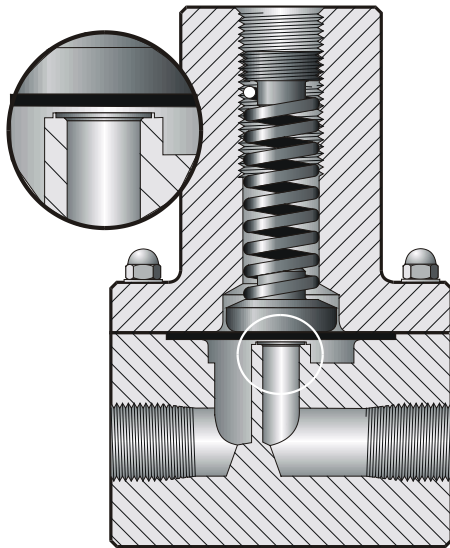
Back Pressure Valves

Diaphragm Back Pressure Valves enhance the performance of precision metering systems by applying a continuous back pressure to the EPM pump. They also act as an anti-siphon valve for chemical line and supply tank.

Features:

- Robust construction ensures reliability in the rigorous service of municipal and industrial applications
- Polypropylene, PVDF, 316 SST and Hastelloy C wetted materials
- Vulcanized PTFE/EPDM diaphragm
- Compact size
- Adjustable pressure ranges from 10 to 150 psi or 50 to 350 psi
- Built in air release port with priming valve

Operation



Wanner Diaphragm Back Pressure Valves apply positive discharge pressure to a precision metering pump system to prevent siphoning and to eliminate varying flow rates caused by fluctuating downstream pressure. The diaphragm is held against the valve seat by an internal spring. When the preset pressure is exceeded, the diaphragm is forced up and chemical flows through the valve to the injection point.

The valves are preset for 50 psi, however, they are field adjustable from 10 to 150 psi or 50 to 350 psi via the adjustment screw. Installation should be as close to the injection point as possible to prevent chemical line drainage. Most importantly, all precision metering equipment such as pulsation dampeners and pressure gauges should be located between the pump and the back pressure valve.

Valve Selection Process

- Determine P Series Pump size using the chart below. Cross reference to pump selection requirements from Calibration Cylinder brochure as well. (Refer to P Series Pump brochure for complete pump specifications.)
- Use application RPM to select the appropriate valve port size from the chart below:

Valve Port Size

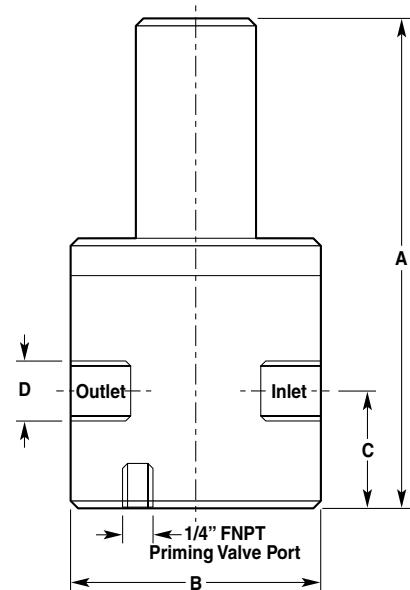
FNPT	3/8"	1/2"	3/4"	1" StdFlo	1" HiFlo	2"
Maximum Valve Capacity						
GPH	120	210	480	480	1050	2220
LPH	450	800	1800	1800	3975	8400
Pump Model	Maximum Pump RPM					
P100	1750	-	-	-	-	-
P200	1200	1750	-	-	-	-
P300	1200	1750	-	-	-	-
P400	300	600	1450	-	-	-
P500	200	400	900	-	1450	-
P600	-	-	-	400	900	1050
P700	-	-	-	250	500	1050

Back Pressure Valves

Port D (FNPT)	Materials* Wetted	Pressure (psi) Range	MWP	Temp	Part
				°F Max	
3/8"	Polypropylene	10-150	375	140	111-101
	PVDF	10-150	375	140	111-103
	316 SST	10-150	375	140	111-106
	Hastelloy C	10-150	375	140	111-110
	316 SST	50-350	2250	300	111-107
	Hastelloy C	50-350	2250	300	111-111
1/2"	Polypropylene	10-150	375	140	111-121
	PVDF	10-150	375	140	111-123
	316 SST	10-150	375	140	111-126
	Hastelloy C	10-150	375	140	111-130
	316 SST	50-350	2250	300	111-127
	Hastelloy C	50-350	2250	300	111-131

*Diaphragm material is PTFE on all models.

Dimensions – inches



Port D (FNPT)

	A	B	C
Polypropylene/PVDF Models			
3/8"	3.9	2.35	0.75
1/2"	4.6	2.35	1.125
3/4"	5.85	3.5	1.25
1"StdFlo	5.85	3.5	1.25
1"HiFlo	7.5	4.5	1.13
2"	9.0	5.0	2.1
316 SST Models			
3/8"	3.5	2.35	0.75
1/2"	4.2	2.35	1.125
3/4"	5.85	3.5	1.25
1"StdFlo	5.85	3.5	1.25
1"HiFlo	7.5	4.5	1.13
2"	9.0	5.0	2.1
Hastelloy C Models			
3/8"	3.5	2.375	0.75
1/2"	4.2	2.375	1.125
3/4"	5.85	3.5	1.25
1"StdFlo	5.5	3.5	0.95
1"HiFlo	7.5	4.5	1.13
2"	9.0	5.0	2.1

Pressure Relief Valves

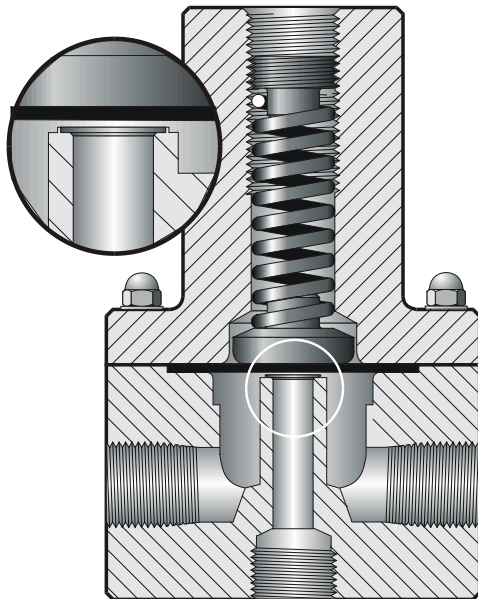
Diaphragm Pressure Relief Valves protect precision metering systems from over pressure situations created by defective equipment or a blockage in the chemical feed line including injection valve.

Features

- Robust construction ensures reliability in the rigorous service of municipal and industrial applications
- Polypropylene, PVDF, 316 SST and Hastelloy C wetted materials
- Vulcanized PTFE/EPDM diaphragm
- Compact size
- Adjustable pressure ranges from 10 to 150 psi, 50 to 350 psi, or 200 to 2000 psi



Operation



Wanner Diaphragm Back Pressure Valves operate when the pressure in the precision metering system exceeds the preset pressure of the valve. The diaphragm is held against the valve seat by an internal spring. When the preset pressure is exceeded, the diaphragm is forced up and chemical flows out the relief port and back to the chemical tank or to the suction side of the pump.

The valves are preset for 50 psi, however, they are field adjustable from 10 to 150, 50 to 350 psi, or 200 to 2000 psi via the adjustment screw. The relief valve should be set a minimum of 15 psi higher than the system pressure. Installation should be as close to the pump without any valves or accessories between the relief valve and the pump.

Valve Selection Process

- Determine P Series Pump size using the chart below. Cross reference to pump selection requirements from Calibration Cylinder brochure as well. (Refer to P Series Pump brochure for complete pump specifications.)
- Use application RPM to select the appropriate valve port size from the chart below:

Valve Port Size

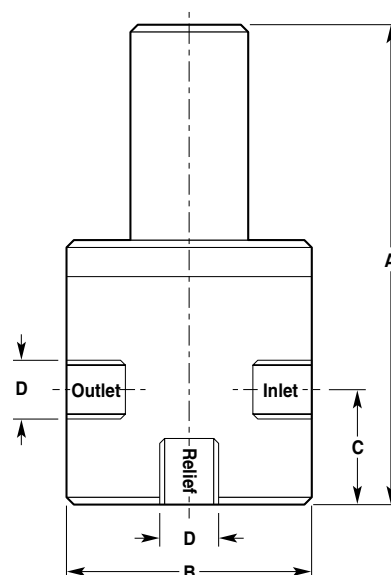
FNPT	3/8"	1/2"	3/4"	1" StdFlo	1" HiFlo	2"
Maximum Valve Capacity						
GPH	120	210	480	480	1050	2220
LPH	450	800	1800	1800	3975	8400
Pump Model						
	Maximum Pump RPM					
P100	1750	-	-	-	-	-
P200	1200	1750	-	-	-	-
P300	1200	1750	-	-	-	-
P400	300	600	1450	-	-	-
P500	200	400	900	-	1450	-
P600	-	-	-	400	900	1050
P700	-	-	-	250	500	1050

Pressure Relief Valves

Port D (FNPT)	Materials* Wetted	Pressure (psi)		Temp	Part Number
		Range	Max	°F Max	
3/8"	Polypropylene	10-150	150	140	111-401
	PVDF	10-150	150	140	111-403
	316 SST	10-150	150	140	111-406
	Hastelloy C	10-150	150	140	111-410
	316 SST	50-350	350	300	111-407
	Hastelloy C	50-350	350	300	111-411
	316 SST	200-2000	2000	300	111-706
	Hastelloy C	200-2000	2000	300	111-710
1/2"	Polypropylene	10-150	150	140	111-421
	PVDF	10-150	150	140	111-423
	316 SST	10-150	150	140	111-426
	Hastelloy C	10-150	150	140	111-430
	316 SST	50-350	350	300	111-427
	Hastelloy C	50-350	350	300	111-431
	316 SST	200-2000	2000	300	111-726
	Hastelloy C	200-2000	2000	300	111-730

*Diaphragm material is PTFE on all models.

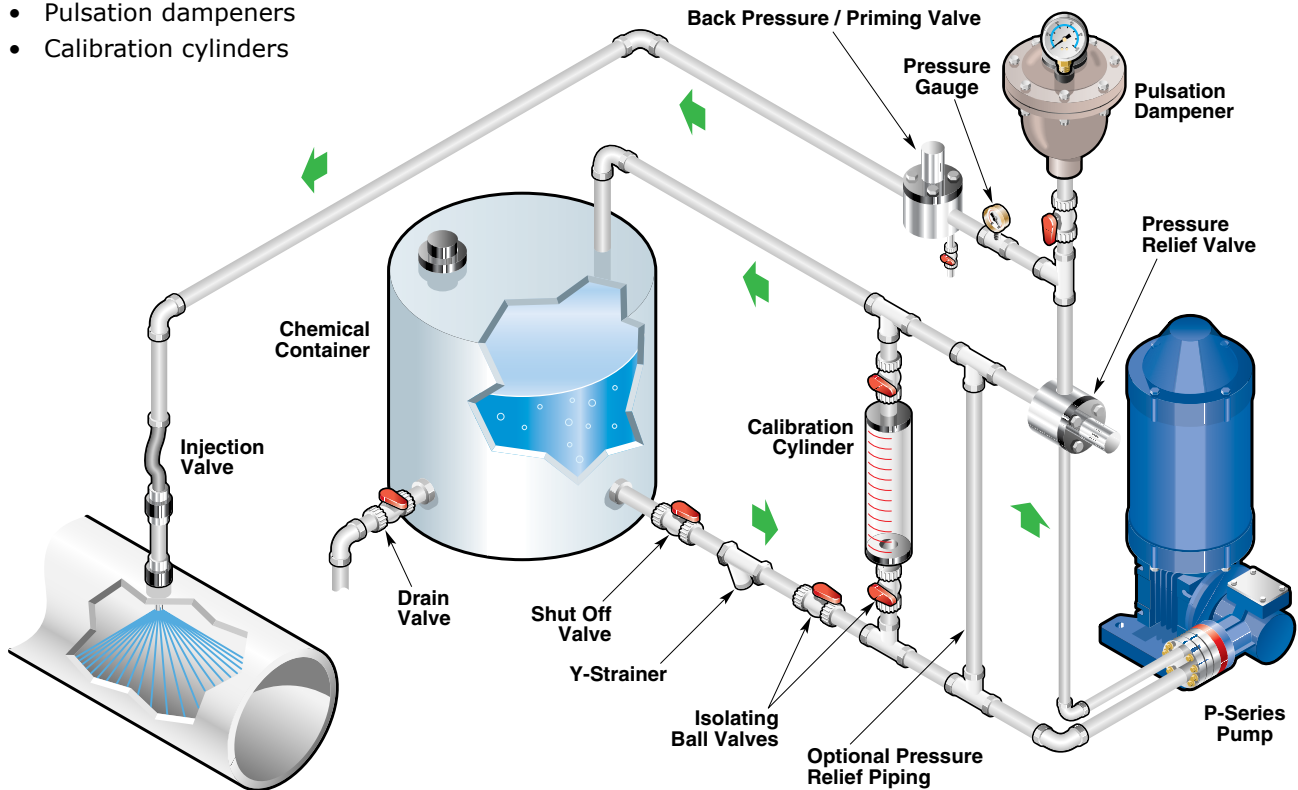
Dimensions – inches




Port D (FNPT)	A	B	C
Polypropylene/PVDF Models			
3/8"	3.9	2.35	0.75
1/2"	4.6	2.35	1.125
3/4"	5.85	3.5	1.25
1"StdFlo	5.85	3.5	1.25
1"HiFlo	7.5	4.5	1.13
2"	9.0	5.0	2.1
316 SST Models			
3/8"	3.5	2.35	0.75
1/2"	4.2	2.35	1.125
3/4"	5.85	3.5	1.25
1"StdFlo	5.85	3.5	1.25
1"HiFlo	7.5	4.5	1.13
2"	9.0	5.0	2.1
Hastelloy C Models			
3/8"	3.5	2.375	0.75
1/2"	4.2	2.375	1.125
3/4"	5.85	3.5	1.25
1"StdFlo	5.5	3.5	0.95
1"HiFlo	7.5	4.5	1.13
2"	9.0	5.0	2.1

Back pressure and pressure relief valves are among the many components of a complete Wanner Engineering EPM solution including:

- P Series Pumps and controls
- Pulsation dampeners
- Calibration cylinders



 **Wanner Engineering, Inc.**
1204 Chestnut Avenue, Minneapolis, MN 55403 USA
(612) 332-5681 FAX (612) 332-6937
Toll Free FAX (USA only) (800) 332-6812
Email: sales@wannereng.com
Website: www.epmpump.com

 **Wanner International Ltd.**
Units 8 & 9, Fleet Business Park
Sandy Lane
Church Crookham, Hampshire GU52 8BF, England
Tel +(44) 01252 816847
FAX Tel +(44) 01252 629242
Email: sales@wannerint.com