

# PLASTIC FOOT VALVES

Foot valves are also referred to as one-way or non-return valves. Foot valves are commonly used with shallow/deep well jet, piston, centrifugal pump installations and various other applications. Their purpose is to prevent reverse flow and maintain system pressure in pressurized pumping systems. They are installed on the end of the suction line of any suction pump. The foot valve not only prevents fluid / water from flowing backward when the pump is off, the valve also keeps the fluid trapped in the suction pipe when the pump stops, sustaining the prime for the pump, and preventing pump burnout. Foot valves work automatically, opened by the pump's suction pulling the valve poppet/flapper open against a low tension spring or with gravity, normally ½ PSI or less cracking pressure (cracking pressure is the pressure it takes to open the valve). When the pump stops, the valve starts closing automatically with assistance of the spring or gravity as the flow slows, and is completely sealed before it comes to a full stop. This eliminates flow reversal which would cause the poppet/flapper to slam against the seat causing hydraulic shock or water hammer. Without a foot valve, gravity would cause the water or fluid to flow in the reverse direction resulting in the loss of prime and system pressure.



Available in 3/4"-2" sizes



Available in 2-1/2"-6" sizes



Available in 3/8" and 1/2" sizes

**\*When selecting a valve it is crucial to maintain flow velocity that does not exceed 5-7 feet per second.**

**\*\*In horizontal applications, check for "This side up" and place at the top and centered when installed\*\***

**For use with ASTM-D2239 Polyethylene (PE) pipe**

Flow Rate/Velocity Chart For Foot Valve Selection*					
Nominal		Min 5ft./sec.		Max 7ft./sec.	
in	mm	GPM	LPM	GPM	LPM
3/4	19.05	7.00	26.50	9.00	34.07
1	25.40	13.00	49.21	17.00	64.35
1-1/4	31.75	19.00	71.92	27.00	102.21
1-1/2	38.10	28.00	105.99	39.00	147.63
2	50.80	49.00	185.49	69.00	261.19
2-1/2	63.50	77.00	291.48	107.00	405.04
3	76.20	110.00	416.40	154.00	582.95
4	101.60	196.00	741.94	274.00	1037.20
6	152.40	441.00	1669.37	617.00	2335.60

**Flow Coefficient (CV)** is the flow rate through a valve in the fully open position, which will produce a differential pressure of 1 PSI.

It is defined as the volume of water in US gallons per minute (GPM) at 60°F (15.5°C)

## TEMPERATURE CORRECTION FACTOR FOR PVC VALVES

As temperature increases, working pressure decreases. The optimal working pressure for PVC valves is 150 PSI @ 73°F (22°C)

If the temperature increases above 73°F (22°C), use the PVC correction factor to determine working pressure.

Multiply the maximum working pressure by the correction factor.

Temperature	73°F (22°C)	90°F (32°C)	100°F (38°C)	110°F (38°C)	120°F (49°C)	130°F (54°C)	140°F (60°C)
PVC Correction Factor	1.00	1.00	1.00	0.83	0.66	0.50	0.33

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# 17PFV(B)(M) SERIES - POPPET TYPE PLASTIC FOOT VALVES (SPRING ASSIST CLOSING)

## FEATURES:

- Heavy duty PVC valve body
- Stemless acetal poppet guide for long-lasting, quiet, trouble free operation in both vertical and horizontal installations
- Stainless Steel spring closes valve against pressure, eliminating flow reversal & minimizing water hammer/hydraulic shock
- Polypropylene tapered screen with rounded nose cone prevents hang-ups on casing during installation
- Screen has small holes to prevent flat pieces of debris/scale from passing through and into the pumps impeller
- The screens high open area ensures flow is not restricted
- Can be installed horizontally or vertically - will perform better and last longer if installed in vertical orientation

## SPECIFICATIONS:

- One-piece Extra Heavy Duty valve body molded from Rigid PVC
- FPT threads conform to ASME /ANSI B 1.20.1 Pipe Threads, General Purpose, Inch
- Robust 304 stainless steel/acetol poppet and hardware
- Stainless steel spring and hardware
- NBR Sealing Gasket ensures a positive seal

## CERTIFICATIONS:

- NSF/ANSI Standard 372 Certified (Drinking Water System Components - Lead Content)

## RATINGS:

- Max Working Pressure: 150 PSI at 73°F (1034 kPa at 22°C) (For anything over 150 PSI @ 73°F, refer to the Temperature Correction Factor Chart)
- Cracking Pressure is equal to or less than 1/2 PSI
- Max temperature rating: 140°F (60°C)



MATERIAL LIST		
No	Part Name	Material
1	Body	Polyvinyl Chloride (PVC)
2	Spring	Stainless Steel
3	O-Ring	NBR (Nitrile Butadiene Rubber)
4	Nut	Polyvinyl Chloride (PVC)
5	Valve Body	Polyvinyl Chloride (PVC)
6	Poppet	Polyvinyl Chloride (PVC)
7	Gasket	NBR (Nitrile Butadiene Rubber)
8	Screen	Polyvinyl Chloride (PVC)

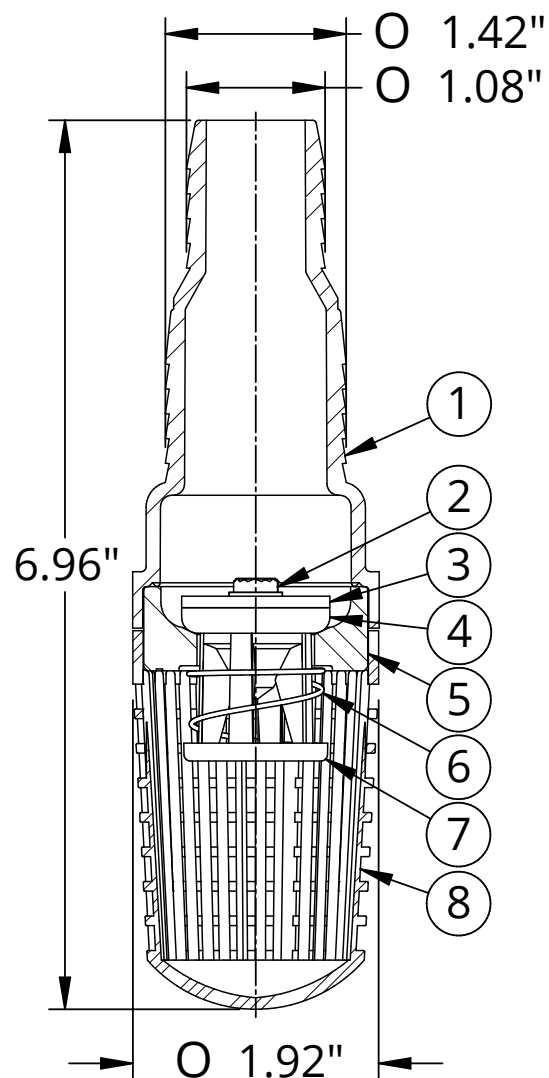
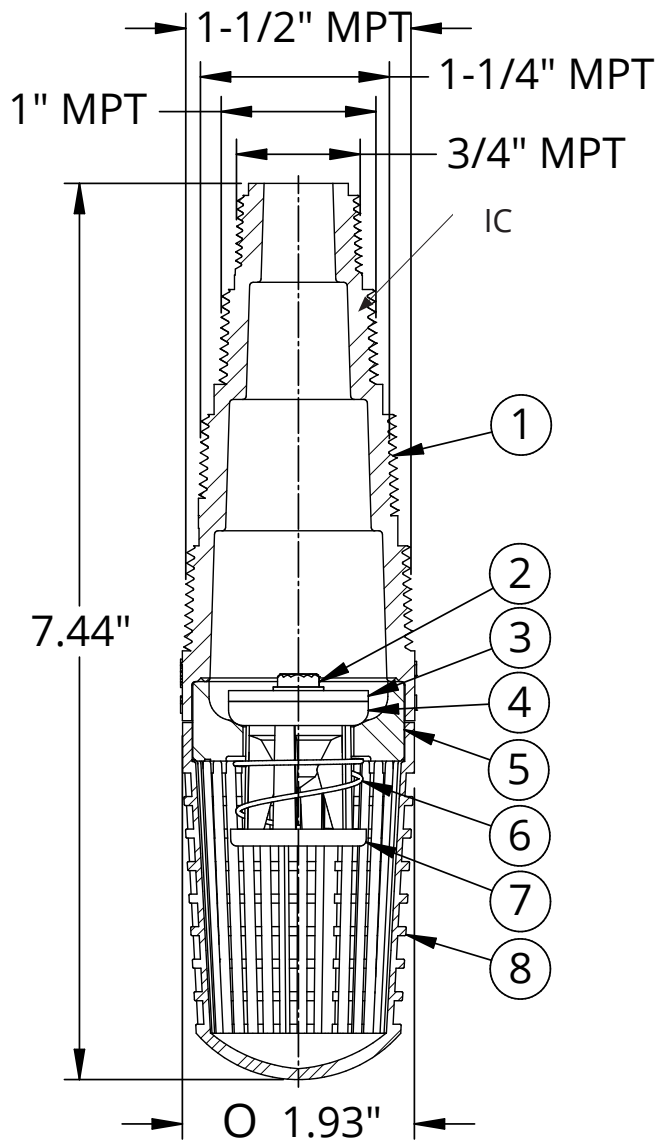
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■ 4 in 1 Threaded Valve can easily be adapted from 3/4" to 1", 1-1/4" or 1-1/2" MPT thread connections by cutting off smaller thread.

■ 2 in 1 Barbed Valve allows for quick and easy installation into Poly Pipe without the need for additional fittings. Can easily be adapt to 1-1/4" by cutting off 1" barb.

Installer can keep only one valve on service truck and utilize cut off points to adapt to desired size.

SPECIFICATIONS				
Part No.	Inlet Connection (IC)	Flow Coefficiency (CV)	Weight	
			lbs	grams
17PFVB100125	1" OR 1 1/4" INSERT	Not currently available	0.24	108.86
17PFVM075150	3/4' - 1 1/4' MPT		0.31	140.61

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