FLOAT VALVES AND ACCESSORIES

Product Booklet

BOSHART INDUSTRIES

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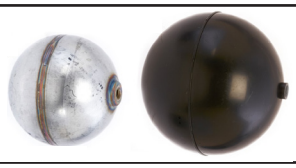

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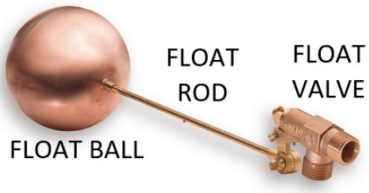
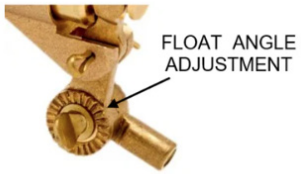




28-BFV(NL) & 28-BHFV(NL) SERIES - NO LEAD BRASS FLOAT VALVES

APPLICATIONS:

- Most commonly used to control the filling of livestock watering as well as many other automatic tank filling applications.

SPECIFICATIONS:

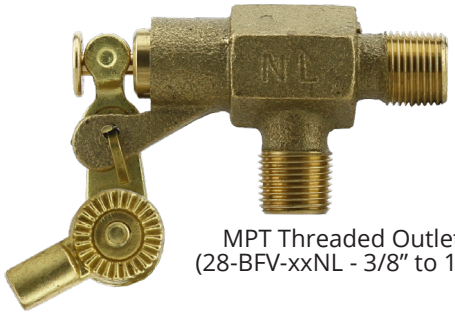
- No Lead Brass C89550
- Threads conform to ANSI/ASME B1.20.1
- Seat and O-ring lubricated with silicone lubricant
- Threaded Outlet models (28-BFV series 3/8" to 1" size) have Buna-N (NBR) plunger seals
- Faucet Outlet models (28-BFV series 1-1/4" to 2" size) have Buna-N (NBR) plunger seals
- Bulk head models (28-BHFV series 1/2" to 3/4" size) have internal (FPT) and external (SMT) on inlet connection. Complete with nut (SMT) and Buna-N (NBR) gasket to seal against the tank wall. Plunger seals are Buna-N (NBR).

RATINGS:

- Max Temperature Rating: 180°F (82°C)
- Max Operating Pressure Rating: 125 PSI

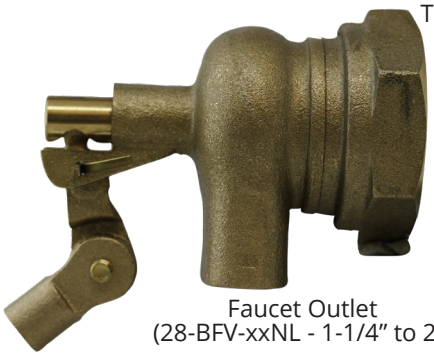
CERTIFICATIONS:

- NSF/ANSI Standard 372 Certified (Drinking Water System Components - Lead Content - NL test criteria <0.25% Pb by weighted average)



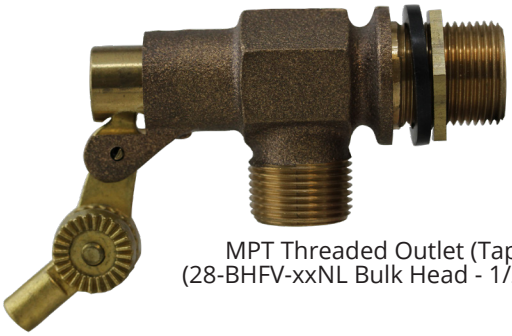
MPT Threaded Inlet

MPT Threaded Outlet
(28-BFV-xxNL - 3/8" to 1")B



FPT Threaded Inlet

Faucet Outlet
(28-BFV-xxNL - 1-1/4" to 2")



Inlet External Thread is straight thread (SMT)

Inlet Internal Thread is FPT connection

MPT Threaded Outlet (Tapered)
(28-BHFV-xxNL Bulk Head - 1/2" to 3/4")

C89550 Alloy Composition - Valve Bodies	
Element	**% min/max**
Cu	58.0 - 64.0
Pb	0.09 max
Sn	0.00 - 1.2
Zn	32.0 - 38.0
Fe	0.50 max
P	0.01 max
Ni[(2)]	1.0 max
Al	0.10 - 0.6
Bi	0.6 - 1.2
S	0.05 max
Sb	0.05 max
Si	0.25 max
Se	0.01 - 0.10

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25 Whaley Avenue, PO Box 310, Milverton, ON CANADA N0K 1M0
Tel: 800-561-3164

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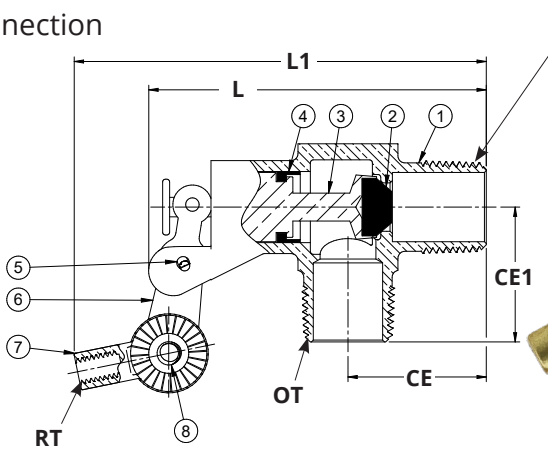
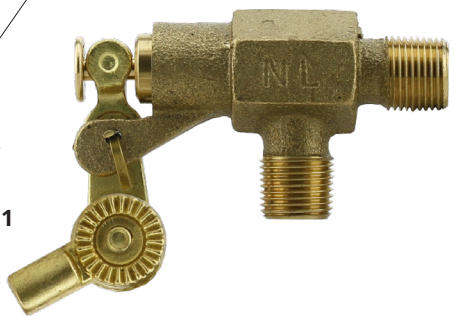
BII-28-BFV(NL)-1124(81P100)V2

THREADED OUTLET TYPE:

■ Inlet and outlet have MPT threaded connection

MATERIAL LIST		
No.	**Name**	**Material**
1	Body	NL Brass C89550
2	Shut off Seal	NBR Rubber
3	Plunger Barrel	NL Brass C6802
4	O-Ring/Cylinder Seal	NBR Rubber
7	Float Rod End Adapter	NL Brass C6802
6	Pivot Arm	NL Brass C6802
8	Thumb Screw (1/4-20 X 5/8 Type A, regular)	Brass C2600
5	Cotter Pin (1/8 x 7/8)	Brass C2600



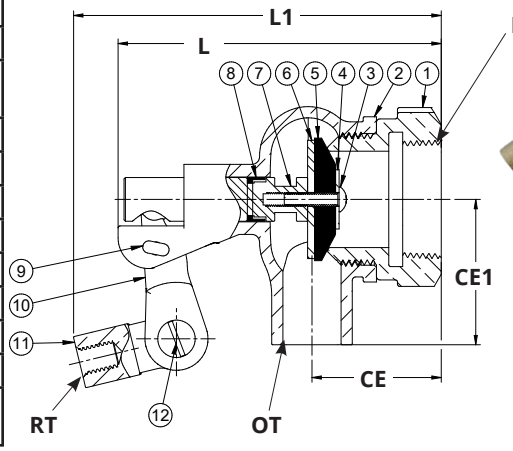


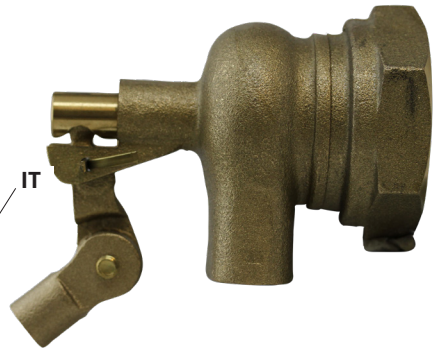
DIMENSIONS													
Part No.	**Inlet (IT)**	**Outlet (OT)**	**Rod Connection (RT)**	**CE**		**CE1**		**L**		**L1 (max closed)**		**Weight**	
	MPT	**MPT**	**Tapped**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**lb**	**gram**
28-BFV-03NL	3/8"	3/8"	1/4" -20 UNC	1.34	34.00	1.32	33.50	3.35	85.0	4.13	105.0	0.55	250
28-BFV-05NL	1/2"	1/2"	1/4" -20 UNC	1.46	37.00	1.38	35.00	3.35	85.0	3.94	100.0	0.62	280
28-BFV-07NL	3/4"	3/4"	1/4" -20 UNC	1.54	39.00	1.42	36.00	3.54	90.0	4.57	116.0	0.80	363
28-BFV-10NL	1"	1"	1/4" -20 UNC	1.81	46.00	1.75	44.50	4.06	103.0	4.92	125.0	1.21	550

FAUCET OUTLET TYPE:

■ Inlet has FPT connection, outlet is faucet connection

MATERIAL LIST		
No.	**Name**	**Material**
1	Hex End Part (NPT)	NL Brass C89550
2	Body	NL Brass C89550
3	Plunger Gasket Screw (10-32 UNC x 3/4, full thread	Brass C2600
4	Small Washer	Brass C2680
5	Shut off Seal	NBR Rubber
6	Large Washer	NL Brass C6802
7	Plunger Barrel	NL Brass C6802
8	Cylinder Seal	NBR Rubber
9	Cotter Pin (3/16 x 1-5/16)	Brass C2700
10	Pivot Arm	NL Brass C89550
11	Float Rod End Adapter	NL Brass C89550
12	Screw (5/16-18UNC x 3/4, full thread, slotted round head)	Brass C2600





DIMENSIONS													
Part No.	**Inlet (IT)**	**Outlet (OT)**	**Rod Connection (RT)**	**CE**		**CE1**		**L**		**L1 (max closed)**		**Weight**	
	FPT		**Threaded**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**lb**	**grams**
28-BFV-12NL	1-1/4"	Faucet	3/8" -16 UNC	1.85	47.0	2.15	54.5	4.57	116.0	5.24	133.0	2.87	1300
28-BFV-15NL	1-1/2"	Faucet	3/8" -16 UNC	1.85	47.0	2.15	54.5	4.65	118.0	5.35	136.0	2.76	1250
28-BFV-20NL	2"	Faucet	3/8" -16 UNC	2.24	57.0	2.15	54.5	5.04	128.0	5.67	144.0	3.31	1500

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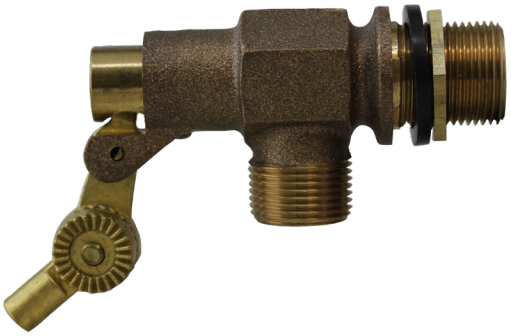
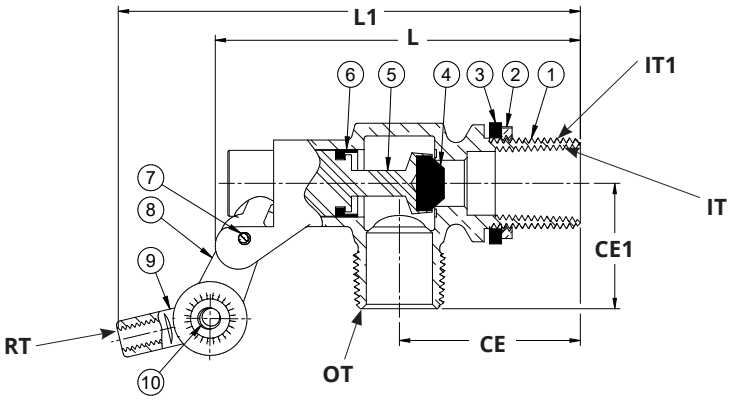
BII-28-BFV(NL)-1124(81P100)V2

BULKHEAD TYPE:

- Inlet external thread is straight thread (SMT)
- Inlet internal thread is FPT connection
- Outlet thread is tapered MPT



MATERIAL LIST		
No.	**Name**	**Material**
1	Body	NL Brass C89550
2	Nut	Brass C3604
3	Washer	NBR Rubber
4	Shut off Seal	NBR Rubber
5	Plunger Barrel	NL Brass C6802
6	O-Ring (AS568-111)	NBR Rubber
7	Cotter Pin (1/8 x 7/8)	Brass C3604
8	Pivot Arm	NL Brass C6802
9	Float Rod End Adapter	NL Brass C6802
10	Thumb Bolt (1/4-20 X 5/8 Type A, regular)	Brass C3604



DIMENSIONS														
Part No.	**Inlet Internal Thread (IT)**	**Inlet External Thread (IT1)**	**Outlet (OT)**	**Rod Connection (RT)**	**CE**		**CE1**		**L**		**L1 (max closed)**		**Weight**	
	FPT	**SMT**	**MPT**	**Internal Thread**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**lb**	**gram**
28-BHFV-05NL	3/8"	1/2"	1/2"	1/4" - 20 UNC	1.72	43.8	1.36	34.5	3.01	76.5	3.60	91.5	0.65	294.8
28-BHFV-07NL	1/2"	3/4"	3/4"	1/4" - 20 UNC	2.03	51.5	1.38	35.0	3.48	88.5	4.02	102.0	0.86	390.1

FLOAT VALVE REPLACEMENT PARTS:

LEVER ASSEMBLY:

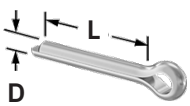
- Set and adjust float angle
- Includes; Pivot arm, cotter key, thumb bolt or round head slotted screw, float rod end adapter

Part No	Description	Adjustment Bolt	Cotter Pin			
			D		L	
			in	mm	in	mm
28-BFVP-LA0310	For 3/8" to 1" float valve	Thumb bolt (1/4-20 UNC x 1/2)	3.2	0.126	20	0.787
28-BFVP-LA1220	For 1-1/4" to 2" float valve	Round head Slotted Screw (5/16-18 UNC x 3/4)	4	0.157	32	1.260

28-BFVP-LA0310

28-BFVP-LA1220

Cotter Pin



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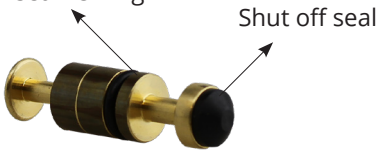
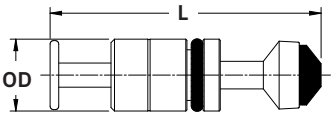
BII-28-BHFV(NL), 28-BFVP(LA)-1124(81P100)V2

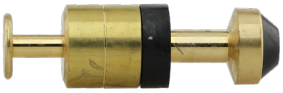
PLUNGER ASSEMBLY:

- Comes complete with brass plunger, NBR O-ring or cylinder seal (plunger body) and shut off seal (tip), and screw/washer for 28-BFVP-PA1220.



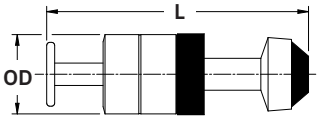
28-BFVP-PA0305



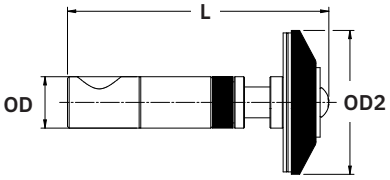


28-BFVP-PA07

28-BFVP-PA10



28-BFVP-PA1220



Part No	Description	OD		L		OD2	
		in	mm	in	mm	in	mm
28-BFVP-PA0305 Standard O-Ring (AS568-111)	For 3/8" to 1/2" float valve	0.628	15.95	2.365	60.07	N/A	
28-BFVP-PA07	For 3/4" float valve	0.747	18.97	2.478	62.94	N/A	
28-BFVP-PA10	For 1" float valve	0.875	22.23	2.540	64.52	N/A	
28-BFVP-PA1220 Screw: 10-32 x 3/4 UNC, full thread	For 1-1/4" to 2" float valve	0.625	15.88	3.178	80.72	1.750	44.45

REPLACEMENT SEAL KIT:

- Buna-N Rubber (NBR)

28-BFVP-SK0305

28-BFVP-SK07

Part No	Description
28-BFVP-SK0305	For 3/8" to 1/2" float valve
28-BFVP-SK07	For 3/4" float valve
28-BFVP-SK10	For 1" float valve
28-BFVP-SK1220	For 1-1/4" to 2" float valve

28-BFVP-SK10

28-BFVP-SK1220

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BII-28-BFVP(PA)(SK)-1124(81P100)V2

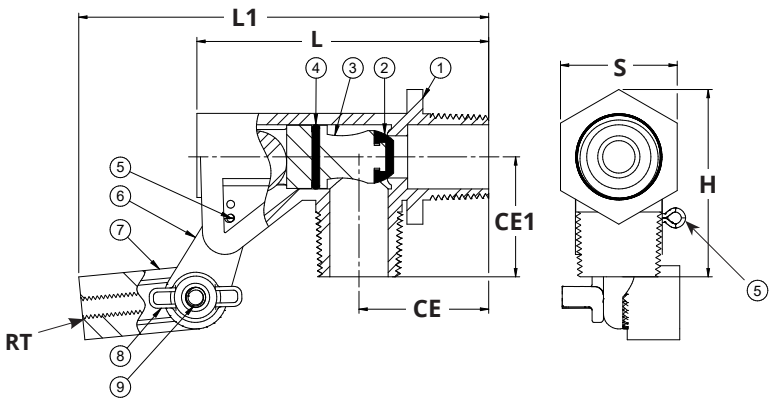
28-PFV SERIES - PVC FLOAT VALVES

FEATURES:
- Easy adjustable angle for liquid level control, dual fulcrum pin holes allow for two positions to set the lever

SPECIFICATION:
- MPT Threads conform to ANSI/ASME B1.20.1
- Heavy duty injection molded grey PVC body
- 304 Stainless Steel hardware

RATINGS:
- Max Pressure Rating: 100 PSI
- Working Temperature Rating: 140°F (60°C)

MATERIAL LIST		
No.	**Name**	**Material**
1	Body	PVC
2	Shut Off Seal	NBR Rubber
3	Plunger Body	PVC
4	O-ring/ Cylindar Seal	NBR Rubber
5	Cotter Pin (Location)	304 Stainless Steel
6	Pivot Arm	PVC
7	Float Rod End Adapter	PVC
8	Wingnut 1/4”-20 UNC for 1/2” to 1” 3/8”-16 UNC for 1-1/4” to 1-1/2”	304 Stainless Steel
9	Hex bolt 1/4”-20 UNC for 1/2” to 1” 3/8”-16 UNC for 1-1/4” to 1-1/2”	304 Stainless Steel



DIMENSIONS																		
Part No.	**Description**		**Rod Connection (RT)**	**CE**		**CE1**		**L**		**L1**		**H**		**S**		**Weight**	
	Inlet (MPT)	**Outlet (MPT)**	**Self Threading for**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**in**	**mm**	**lb**	**g**
28-PFV-05	1/2"	1/2"	1/4”-20 UNC	0.51	13.00	0.51	13.00	3.14	79.80	4.375	111.13	2.19	55.50	1.38	35.00	0.24	110
28-PFV-07	3/4"	3/4"	1/4”-20 UNC	0.75	19.00	0.71	18.00	3.54	90.00	4.980	126.49	2.19	55.50	1.38	35.00	0.35	160
28-PFV-10	1"	1"	1/4”-20 UNC	0.87	22.00	0.87	22.00	4.84	123.00	6.200	157.48	2.86	72.70	1.77	45.00	0.42	190
28-PFV-12	1-1/4"	1-1/4"	3/8”-16 UNC	1.22	31.00	1.30	33.00	6.91	175.60	8.563	217.50	3.57	90.60	2.17	55.00	1.28	580
28-PFV-15	1-1/2"	1-1/2”	3/8”-16 UNC	1.42	36.00	1.30	33.00	6.93	176.00	9.000	228.60	3.58	91.00	2.17	55.00	1.32	600

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 (44°C)	120°F (49°C)	130°F (54°C)	140°F (60°C)
PVC Correction Factor	1.00	0.75	0.62	0.51	0.40	0.31	0.22

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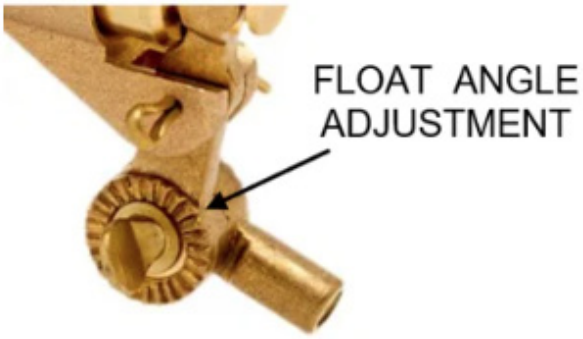
BII-28-PFV-1124(81LD)V2

HOW TO SELECT A FLOAT ROD AND FLOAT BALL:

The Float Valve - Rod and Ball Sizing guide is to be used as a guide only to assist in selecting appropriately sized float valve components. There may be unforseen factors such as turbulence or pressure surges in your system which may affect the float valve's performance. There may be instances where you need to either increase the length of the rod for more mechanical leverage or increase the float ball diameter for additional buoyancy. The longer the rod and larger the float ball, the greater the closing pressure of the plunger against the float valve seat.



<table>
<tr><th colspan="22">Float Valve - Rod and Float Ball Sizing Guide</th></tr>
<tr><th rowspan="2">Valve Size</th><th colspan="21">Inlet Pressure (PSI)</th></tr>
<tr><td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td><td>40</td><td>45</td><td>50</td><td>55</td><td>60</td><td>65</td><td>70</td><td>75</td><td>80</td><td>85</td><td>90</td><td>95</td><td>100</td><td>105</td><td>110</td><td>115</td><td>120</td><td>125</td></tr>
<tr><td>3/8”</td><td colspan="10">4” Dia. Float with 1/4” x 10” L.Rod</td><td colspan="5">4” x 5” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="4">5” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="5">6” Dia. Float with 1/4” x 10” L. Rod</td></tr>
<tr><td>1/2”</td><td colspan="4" rowspan="2">4” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="5" rowspan="2">4” x 5” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="6" rowspan="2">5” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="7">6” Dia. Float with 10” L. Rod</td></tr>
<tr><td>3/4”</td><td colspan="4">6” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="3">8” Dia. Float with 1/4” x 12” L. Rod</td><td colspan="5" rowspan="4">Not recommended for use with inlet pressure exceeding 100 PSI</td></tr>
<tr><td>1”</td><td colspan="4">8” Dia. Float with 1/4” x 10” L. Rod</td><td colspan="6">8” Dia. Float with 1/4” x 3/8” x 12” L. Rod</td><td colspan="7">10” Dia. Float with 1/4” x 3/8” x 12” L. Rod</td></tr>
<tr><td>1-1/4”</td><td colspan="8" rowspan="3">8” Dia. Float with 3/8” x 12” L. Rod</td><td colspan="10" rowspan="3">10” Dia. Float with 3/8” x 12” L. Rod</td></tr>
<tr><td>1-1/2”</td></tr>
<tr><td>2”</td></tr>
<tr><td colspan="22">Example: When using a 1” float valve with an inlet pressure of 60 PSI a minimum 8” diameter float ball and 12” long rod is required to close the valve. NOTE: Special reducing rods are available when installing 8” & 10” floats which have 3/8”-16 threaded connection spuds on to float valves 1” and smaller which have short arm with standard 1/4”-20 thread. CAUTION: Do not exceed the max. pressure rating of the valve, the chart is a guide only in accessory selection, however the sizing is minimum sizing for properly desinged systems, surface turbulance and other factors can cause issues which may result in the need to move up to the next size of rod and/or float, especially when the inlet pressure is close to the maximum range for the selection shown.</td></tr>
</table>

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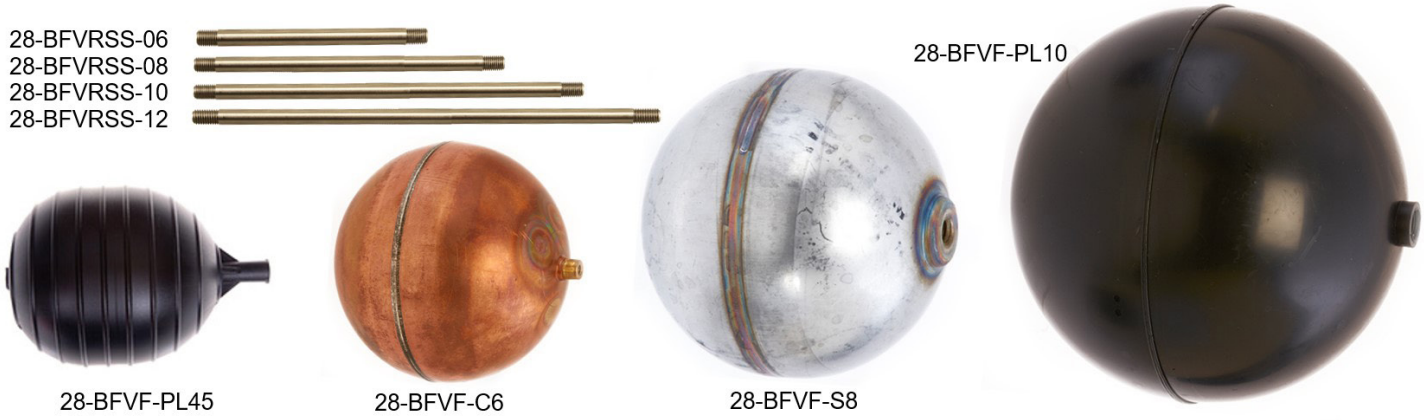

FLOAT RODS AVAILABLE (Sold Separately):

See separate technical data sheets for more information

	Part No.	Rod Length	Fits Valve	Thread Size
	28-BFVRSS-045	4.5"	Use to connect 3/8" through 1" float valves with float balls up to and including 6" diameter.	1/4” -20 UNC X 1/4” -20 UNC
	28-BFVRSS-06	6"		
	28-BFVRSS-08	8"		
	28-BFVRSS-10	10"		
	28-BFVRSS-12	12"		
	28-BFVRSS3814-10	10"	Use to connect 3/8" through 1" float valves with 8" or larger float balls; or 1-1/4" through 2" float valves with 6" or smaller float balls.	3/8” -16 UNC X 1/4” -20 UNC
	28-BFVRSS3814-12	12"		
	28-BFVRSS3814-14	14"		
	28-BFVRSS3814-16	16"		
	28-BFVRSS38-10	10"	Use to connect 1-1/4" through 2" float valves with 8" and larger float balls.	3/8” -16 UNC X 3/8” -16 UNC
	28-BFVRSS38-12	12"		
	28-BFVRSS38-14	14"		
	28-BFVRSS38-16	16"		

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FLOAT BALLS AVAILABLE (Sold Separately):

*Note: It is not recommended to use less than an 8" diameter float with 1-1/4" to 2" valves. Due to a lack of buoyancy - 6" & smaller floats can be used where inlet pressure is very low

See separate technical data sheets for more information

	Part No.	Material & Application	Float Diameter	Buoyancy (Lb/CU.FT)	External Connection
	28-BFVF-S3	Stainless Steel; suitable for use in corrosive fluids where high pressure or extreme temperature may exist.	3"	0.21	1/4" -20 UNC
	28-BFVF-S4		4"	0.65	
	28-BFVF-S5		5"	1.55	
	28-BFVF-S6		6"	2.15	
	28-BFVF-S8		8"	6.50	3/8" -16 UNC
	28-BFVF-C3	Copper; for open tank service only.	3"	0.34	1/4" -20 UNC
	28-BFVF-C4		4"	0.80	
	28-BFVF-C5		5"	1.73	
	28-BFVF-C6		6"	3.26	
	28-BFVF-C8		8"	8.03	3/8" -16 UNC
	28-BFVF-P5	Polyprolylene; NSF/ANSI 372, for open tank service only, corrosion resistant.	5"	1.20	1/4" UNC (Self- Tapping)
	28-BFVF-P6		6"	3.40	
	28-BFVF-P8		8"	8.40	
	28-BFVF-PL10	Polyethylene; temp range up to 150°F (66°C), corrosion & abrasion resistant, not to be used in applications where they are fully submersed.	10"	N/A at this time	3/8" -16 UNC
	28-BFVF-PL4.5		5"		1/4" UNC (Self- Tapping)
	28-BFVF-PL5		5"		
	28-BFVF-PL6		6"		
	28-BFVF-PL8		8"		3/8" -16 UNC

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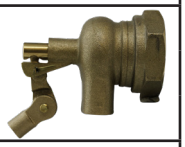
FLOW & VELOCITY RATES:

Excessive flow velocity can result in a number of issues, including water turbulence in the tank which can result in the float ball bouncing around and being unable to seal off the valve properly. The GPM rating at the suggested 5 fps velocity limits the capacity of the valves from what they could potentially deliver at higher inlet pressures indicated in the flow capacity chart.

28-BFV Series - Brass Float Valves Flow Capacity
The flow capacity of 28-BFV brass float valves at various inlet pressures is indicated in the flow capacity chart below. See the following charts which are **guides only**.

Brass Float Valve Flow Capacity Guide								
Part Number	Connection		Free Flow discharge Capacity					Body Type
	Inlet	Outlet	35 PSI	50 PSI	65 PSI	75 PSI	85 PSI	
28-BFV-03NL	3/8" MPT	3/8" MPT	8.7	9.85	11	12.1	13.2	
28-BFV-05NL	1/2" MPT	1/2" MPT	11.8	14.9	18	19.9	21.8	
28-BFV-07NL	3/4" MPT	3/4" MPT	20.7	26.35	32	35.9	39.8	
28-BFV-10NL	1" MPT	1" MPT	43.2	51.6	60	64.1	68.2	
28-BFV-12NL*	1-1/4" FPT	Spout	110	130♦	150	164		
28-BFV-15NL*	1-1/2" FPT	Spout	110	130♦	150	164		
28-BFV-20NL*	2" FPT	Spout	110	130♦	150	164		
* The 1-1/4", 1-1/2" and 2" valves all have the same diameter of port, therefore the flow capacity does not increase as the inlet size increases, however a larger supply line will reduce friction loss in the transfer of the fluid from the source.								
NOTE: This chart is to be used as a guide only! Flow capacity results may vary depending on the length of pipe runs and the number of tees and elbows in the supply line all of which will increase friction loss and result in lower free discharge capacity.								
Flow velocity must be taken into account, a flow rate of 5 fps is widely accepted by system designers. See "Brass Float Valve Flow Capacity by Velocity Guide" Below.								
♦ 1-1/4" and larger valves are well over the ideal flow velocity at 35 PSI. Consider using multiple float valves where the GPM rate exceeds the 23-25 GPM threshold.								

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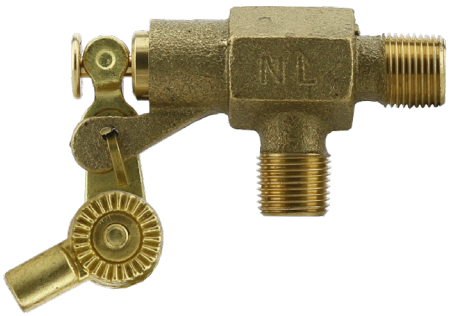
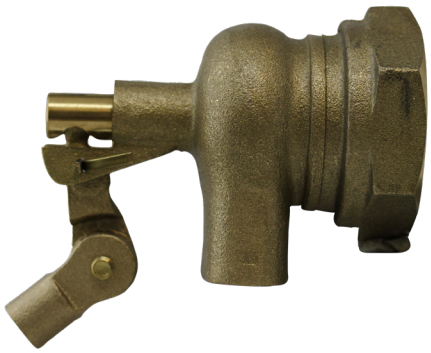
28-BFV Series - Brass Float Valves Flow Capacity by Velocity

Brass Float Valve Flow Capacity by Velocity Guide									
Part Number	Connection		Flow (GPM) & (LPM) at Fluid Velocities 3, 5 & 7 Feet Per Second / Meters Per Second						Body Type
	Inlet	Outlet	3 fps	.944 mps	5 fps	1.524 lps	7 fps	2.134 lps	
			GPM	LPM	GPM	LPM	GPM	LPM	
28-BFV-03NL	3/8" MPT	3/8" MPT	1.78	6.74	2.97	11.24	4.16	15.75	
28-BFV-05NL	1/2" MPT	1/2" MPT	2.84	10.75	4.74	17.94	6.63	25.10	
28-BFV-07NL	3/4" MPT	3/4" MPT	4.99	18.89	8.31	31.46	11.64	44.06	
28-BFV-10NL	1" MPT	1" MPT	8.08	30.59	13.47	50.99	18.86	71.39	
28-BFV-12NL*	1-1/4" FPT	Spout	13.99	52.96	23.31	88.24	32.63	123.52	
28-BFV-15NL*	1-1/2" FPT	Spout	13.99	52.96	23.31	88.24	32.63	123.52	
28-BFV-20NL*	2" FPT	Spout	13.99	52.96	23.31	88.24	32.63	123.52	
* The 1-1/4", 1-1/2" and 2" valves all have the same diameter of port, therefore the flow capacity does not increase as the inlet size increases, however a larger supply line will reduce friction loss in the transfer of the fluid from the source.									
NOTE: This chart is to be used as a guide only! Flow capacity results may vary depending on the length of pipe runs and the number of tees and elbows in the supply line all of which will increase friction loss and result in lower free discharge capacity.									
CAUTION: It is recommended to size piping and valves to maintain a water velocity of 5 ft/second (1.524 LPM). Five feet per second is a threshold that is widely accepted by engineers and designers because beyond this velocity, the friction losses, danger of water hammer, and pipe movement due to water momentum changes are deemed to be too high.									



Threaded Outlet:
- Inlet and outlet have MPT threaded connection



Faucet Outlet:
- Inlet has FPT connection, outlet is faucet connection

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28-PFV Series - PVC Float Valves

The chart below is a **guide only** to provide the flow capacity information in both GPM (gallons per minute) and LPM (litres per minute). Note that this information is based on labratory testing data and actual values may vary due to operating conditions.

Threaded Outlet:

- Inlet and outlet have MPT threaded connection

28-PFV Series PVC Float Valve Flow Chart				
Size	**Flow Rate**		**System Pressure**	
Inch	**GPM**	**LPM**	**PSI**	**kPa**
1/2"	22	83	30	207
	30	114	60	414
3/4"	28	106	30	207
	39	148	60	414
1"	47	178	30	207
	61	231	60	414
1-1/4"	79	299	30	207
	103	390	60	414
1-1/2"	105	397	30	207
	137	519	60	414
2"	205	776	30	207
	254	961	60	414
2-1/2"	288	1090	30	207
	376	1423	60	414
3"	426	1613	30	207
	555	2101	60	414
Labratory testing data, actual values may vary due to operating conditions.				

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Installation Instructions for Trouble Free Operation:

Ensure that the valve, stem and float used are rated for your maximum inlet pressure and GPM flow rate. Check minimum stem length and minimum float ball size. This may vary according to your application and maximum inlet pressure.

A float valve must have a suitable stem (rod) length and float diameter sizes for reliable and accurate lequid level control up to the maximum rated pressure. Sometimes you can use a shorter stem with a larger float or vice versa; however, not all combinations are reliable at all pressures.

Ensure the valve body, disc, cup, stem, and float materials are compatible with the temperature and type of liquid controlled.

A float that is completely submerged without sutting off, or a float that 'bounces' all by itself without stopping usually means that the float is too small or the stem is too short to work reliably at that pressure. A pressure regulator can be used to compensate for a reduction in the inlet pressure. Please note, by reducing the inlet pressure or selecting a smaller orifice size the GPM flow rate will be reduced. To avoid a reduction, consider using two smaller valves instead of one large valve to meet both your GPM and space requirements.

Changes in inlet pressure cause changes in water level, related to the volumetric displacement of the float. This is normal of propery float valves. Maximum accuracy and repeatability are obtained when the inlet pressure remains constant. If varying inlet pressures are expected, be sure that your application design allows for slight changes in the water level at shut-off.

Vibrations, oscillating or 'singing' sounds may mean that the float vlave is not mounted correctly. Ensure the float valve is mounted ridgidly with respect to the water surface to prevent this.

The tank or reservoir should always include provisions for some kind of overflow drain system capable of handling the maximum GPM flow rate. Dirt, physical damage, excess pressure, loose or improper adjustment, normal wear, or mineral deposit buildup over time may prevent the valve from fully closing. An overflow drain system will prevent the possibility of unexpected flooding, should this occur.

Normal wear over the life of the valve may cause the water level setting at shut off to gradually increase slightly, resulting in occasional readjustment.

Slight leakage or dripping around the valve plunger or cup seal when the valve is in the open position is normal for all float valves of this type. If the cup seal was tight enough to prevent any leakage or dripping at the plunger, the plunger may bind and stick open or closed. The cup seal prevents excessive spray from occurring around the plunger and directs the flow to the valve outlet without causing the plunger to bind. Water cannot drip from around the plunger when the valve is fully closed.

Consider carefully where the valve will be mounted. It is best to avoid bending the stem, if possible. Bending the stem too much shortens the effective length of the stem reducing the amount of leverage available to close the valve. Instead, adjust the liquid level with a short arm and a thumb screw or an adjusting screw. This may vary according to your particular application and maximum inlet pressure. Custom bent stems can be purchased if exact requirements are provided.

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