

Float Valve

Philmac
VERSA
PHIL

Technical Manual



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Philmac is well renowned for quality products and services. Philmac manufactures pipe fittings and valves under a Quality Assurance System assessed and approved to ISO 9001. Philmac has a NATA accredited laboratory and tests fittings and valves to international and national standards. Third party accreditation is carried out by SAI Global.

Disclaimer

Please note that the information, opinions, recommendations and advice given in this manual are supplied only to provide an improved understanding of the technical aspects of fitting systems.

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System Design Considerations

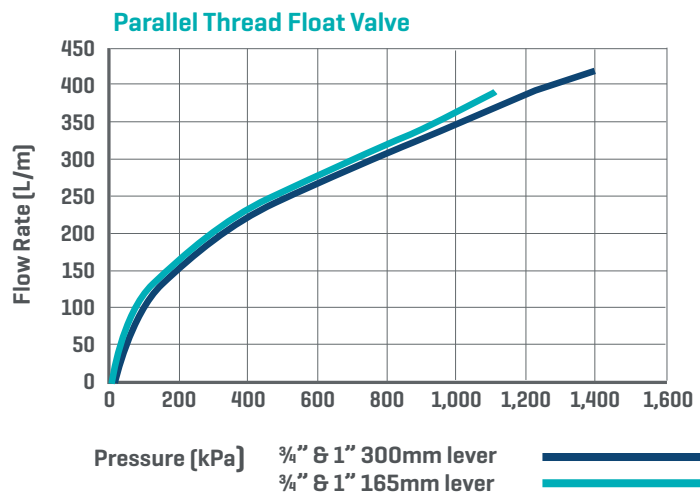
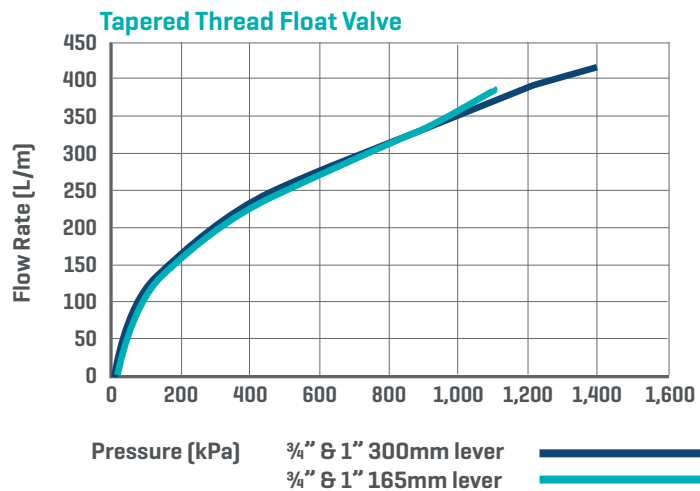
Floats (balls)

Plastic – cold water rated

Weathering: Brass components are UV resistant. For floats refer to the accessories section on the Philmac website.

Mounting Positions: Top and side.

Philmac VersaPHIL Float Valve Performance Data



Recommended Float Size^A

Inlet Size [BSP]	Lever Length	AS1910 ^B	Agricultural ^C
3/4"	165mm	-	6" [150]
1"	300mm	-	6" [150]

A. Recommended floats are plastic unless designated otherwise. CU = copper.

B. To comply with AS1910 valves the recommended float size provides a shut-off pressure of 1400 kPa

C. For agricultural purposes the recommended float size achieves at least a shut-off pressure of 1250 kPa

Chemical Resistance

Philmac's VersaPHIL Float valve has been designed to convey water. However there may be occasions where the water contains chemicals and/or alternative fluids need to be controlled. The following table is provided as a guide only for the compatibility of various chemicals to Philmac's VersaPHIL Float valve. The mixing together of chemicals may affect the compatibility.

Chemical	Compatibility
Acetic acid (10%)	N
Acetic acid (50%)	N
Alcohol (ethanol)	N
Ammonium nitrate (10%)	R
Antifreeze	N
Brine	N
Calcium carbonate	R
Calcium chloride	N
Calcium nitrate	N
Calcium sulphate	N
Chlorine water	N
Citric Acid	N
Copper Sulphate >5%	N
Diesel (fuel)	N
Ethyl alcohol (ethanol)	N
Hydrochloric acid (10%)	N
Hydrochloric acid (30%)	N
Kerosene	R
Lubricating oils (not synthetic)	R
Magnesium nitrate	N
Magnesium sulphate	R
Mineral oils	N
Nitric acid (10%)	N
Nitric acid (40%)	N
Olive oil	R
Orange juice	
Petrol	N
Phosphoric acid (85%) N	N
Potable water	R
Potassium chloride	N
Potassium nitrate	R
Potassium sulphate	R
Sodium bicarbonate	R
Sodium hypochlorite (<10%)	
Sulphuric acid (10%)	N
Sulphuric acid (30%)	N
Urea	R
Zinc nitrate	N
Zinc sulphate	N

N=Not Recommended R=Resistant

Empty Cell=No data available

Note recommendations based on fluids at 20° C or less

VersaPHIL Float Valve Operation & Installation Instructions

Installing the Tapered Thread Float Valve



Apply PTFE tape to the thread to ensure a water tight seal.



Holding the valve by the body screw into the female thread by hand until firm. Adjust to perpendicular with a wrench if necessary.

3/4" Adaptor included



The Philmac VersaPHIL tapered float valve is supplied with a 1" to 3/4" adaptor. For 3/4" inlets follow installation instructions. For 1" inlets unscrew and remove the adaptor and follow the installation instructions.

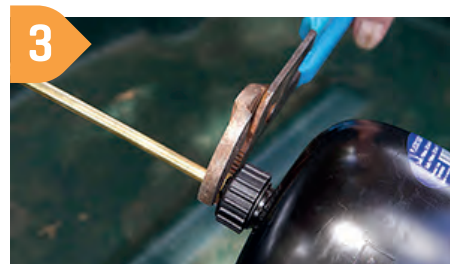
Installing the Parallel Thread Float Valve



Remove back nut (rubber washer remains) and slide the thread through the appropriate sized hole.



Screw the back nut on by hand and then tighten nut using multi-grips or adjustable wrench.

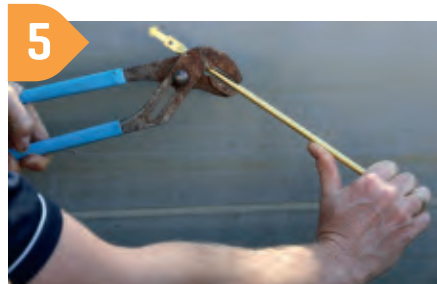


Attach the float to the threaded end of lever and tighten the locking nut with multi-grips or adjustable wrench.

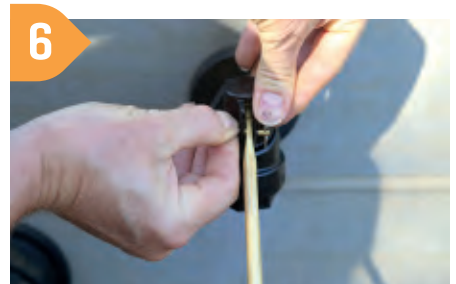
Adjusting the water level



Where necessary, adjust the water level by removing the R-clip and pivot pin and removing the lever arm.



Using a pair of multi-grips or over a solid surface bend the lever to the necessary angle, then replace the lever.



Re-insert the lever arm and slide the pivot pin back into place and replace the R-clip and secure the lever.

Benefits

Tapered Float Valve

Dual Inlet

The VersaPHIL tapered BSP Thread float valve comes standard with a 3/4" BSP male inlet and a 1" BSP male inlet. This means one valve suits troughs with 3/4" or 1" connections.

Body

High-performance thermoplastic material, with excellent UV, impact, corrosion, and chemical resistance

*High Pressure Shut-Off

Independently tested static shut-off up to 1,400 kPa using the standard lever and recommended float, making this valve suitable for a wide range of installation situations.

Outlet Cap

The outlet cap has engineered, moulded flow directors to minimize the rosette effect, helping to reduce unnecessary splashing & save water.

Dedicated Cam

Wider, stronger, dedicated cam to provide greater durability & resistance to damage

*High Flow Rates

Independently tested flow performance giving up to 426 L/min.

Easy Maintenance

The valves have been designed for easy disassembly, by simply removing the pivot pin and lever assembly which allow servicing in place. A full range of spare parts is available.

Locking Nut

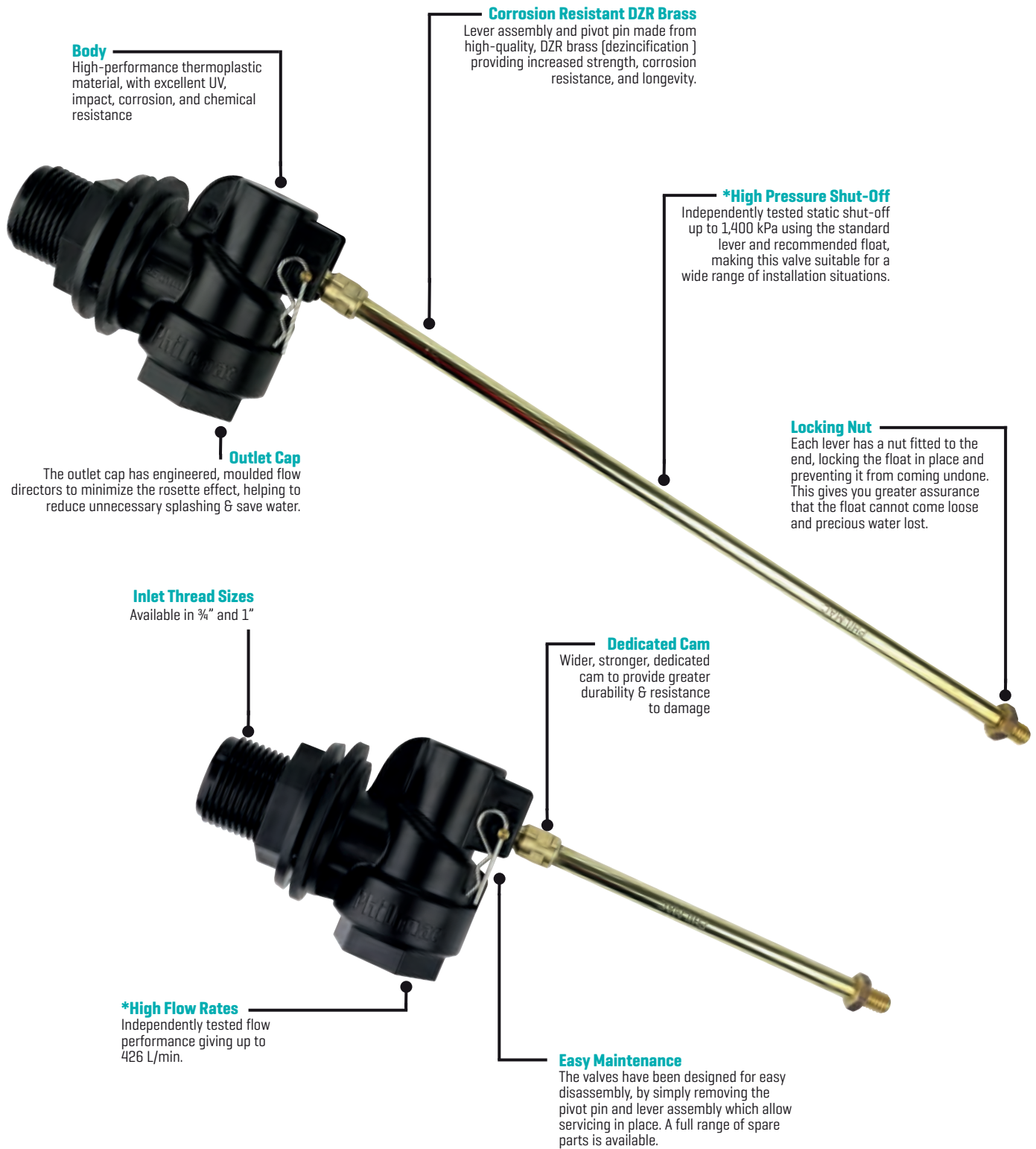
Each lever has a nut fitted to the end, locking the float in place and preventing it from coming undone. This gives you greater assurance that the float cannot come loose and precious water lost.

Corrosion Resistant DZR Brass

Lever assembly and pivot pin made from high-quality, DZR brass (dezincification) providing increased strength, corrosion resistance, and longevity.

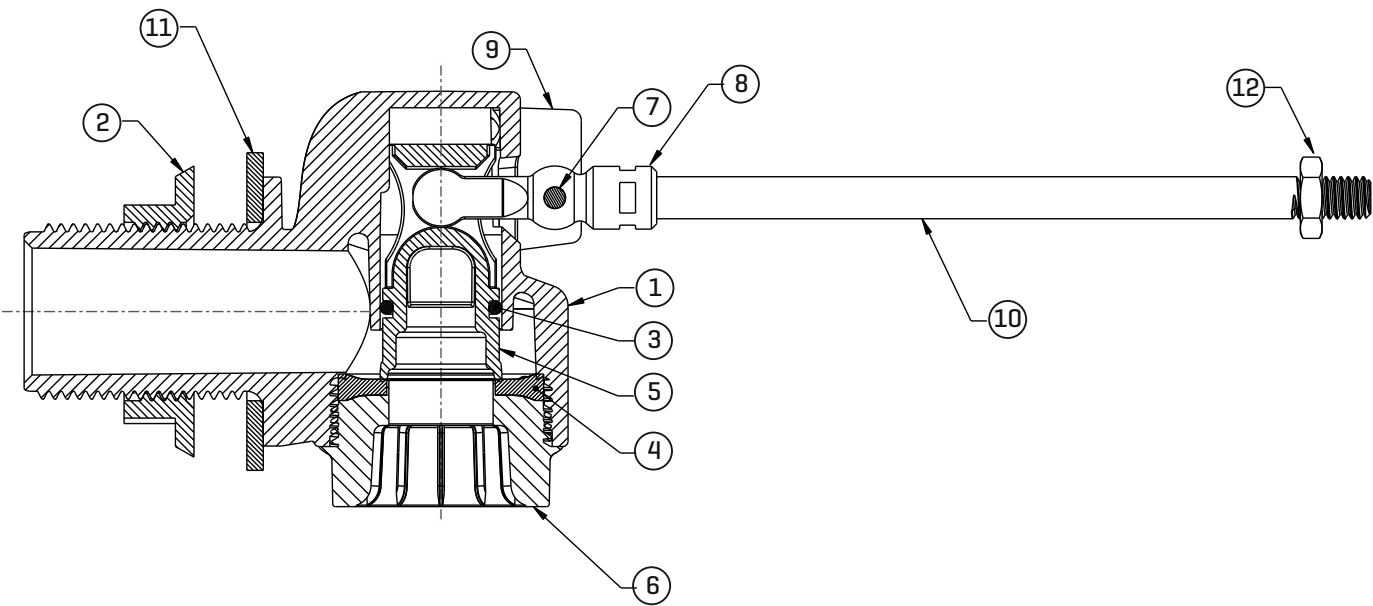
Benefits

Parallel Float Valve



VersaPHIL Float Valve Materials & Components

Parallel Thread Float Valve



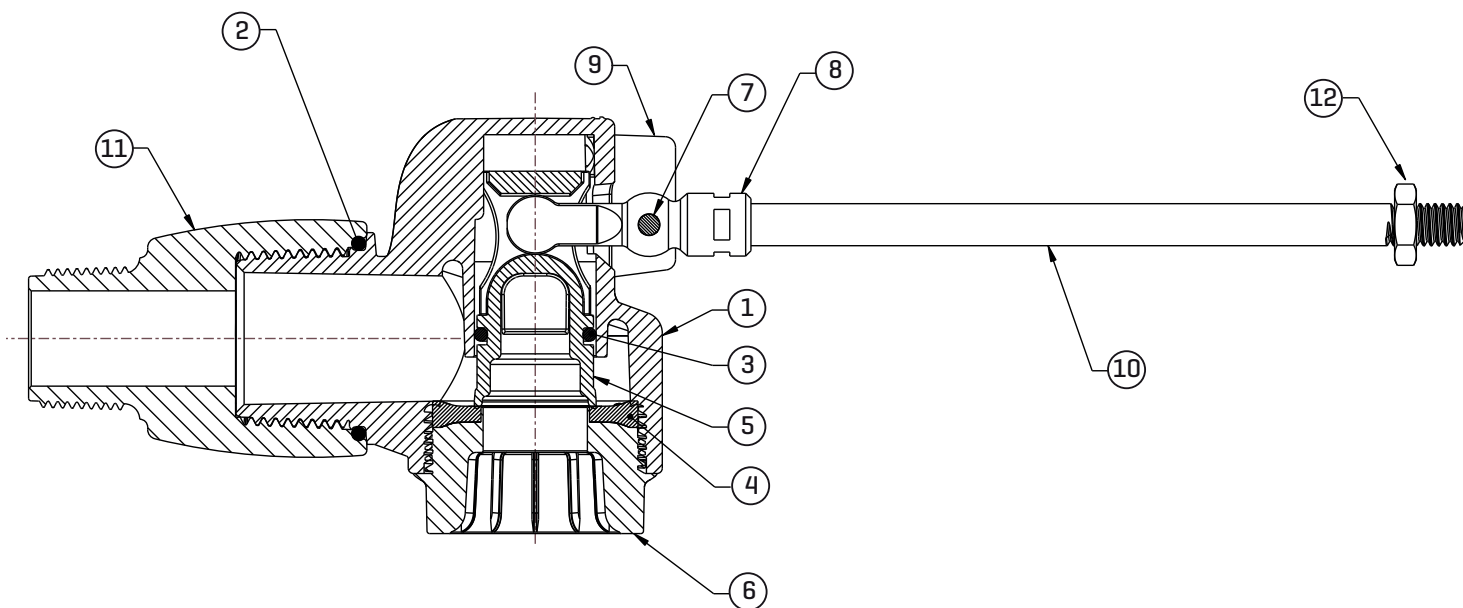
Parallel Float Valve

1	Body	Acetal
2	Back Nut [Body]	Noryl GTX 10% GF
3	O-Ring	Nitrile Rubber
4	Washer	Nitrile Rubber
5	Piston	Acetal
6	Cap	Nylon

7	Piston	DZR Brass
8	Cam	DZR Brass
9	R-Pin	316 Stainless Steel
10	Lever Assembly	DZR Brass
11	Washer [Thread]	Nitrile Rubber
12	Lever Back Nut	DZR Brass

VersaPHIL Float Valve Materials & Components

Tapered Thread Float Valve



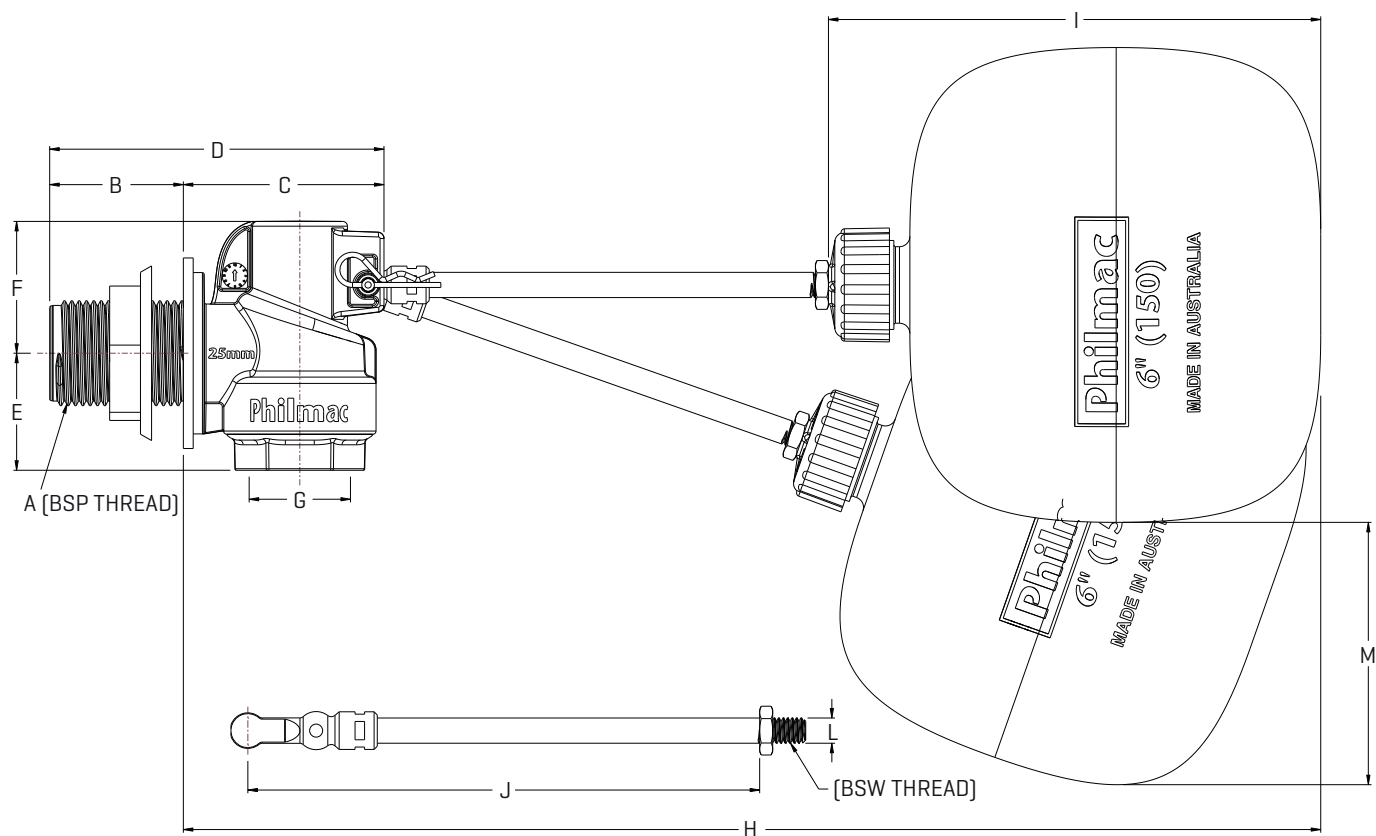
Tapered Float Valve

1	Body	Acetal
2	O-Ring [Thread]	Nitrile Rubber
3	O-Ring	Nitrile Rubber
4	Washer	Nitrile Rubber
5	Piston	Acetal
6	Cap	Acetal

7	Pivot Pin	DZR Brass
8	Cam	DZR Brass
9	R-Pin	316 Stainless Steel
10	Lever Assembly	DZR Brass
11	Adaptor	Polypropylene
12	Lever Back Nut	DZR Brass

VersaPHIL Float Valve Range and Dimensions

Parallel Float Valve

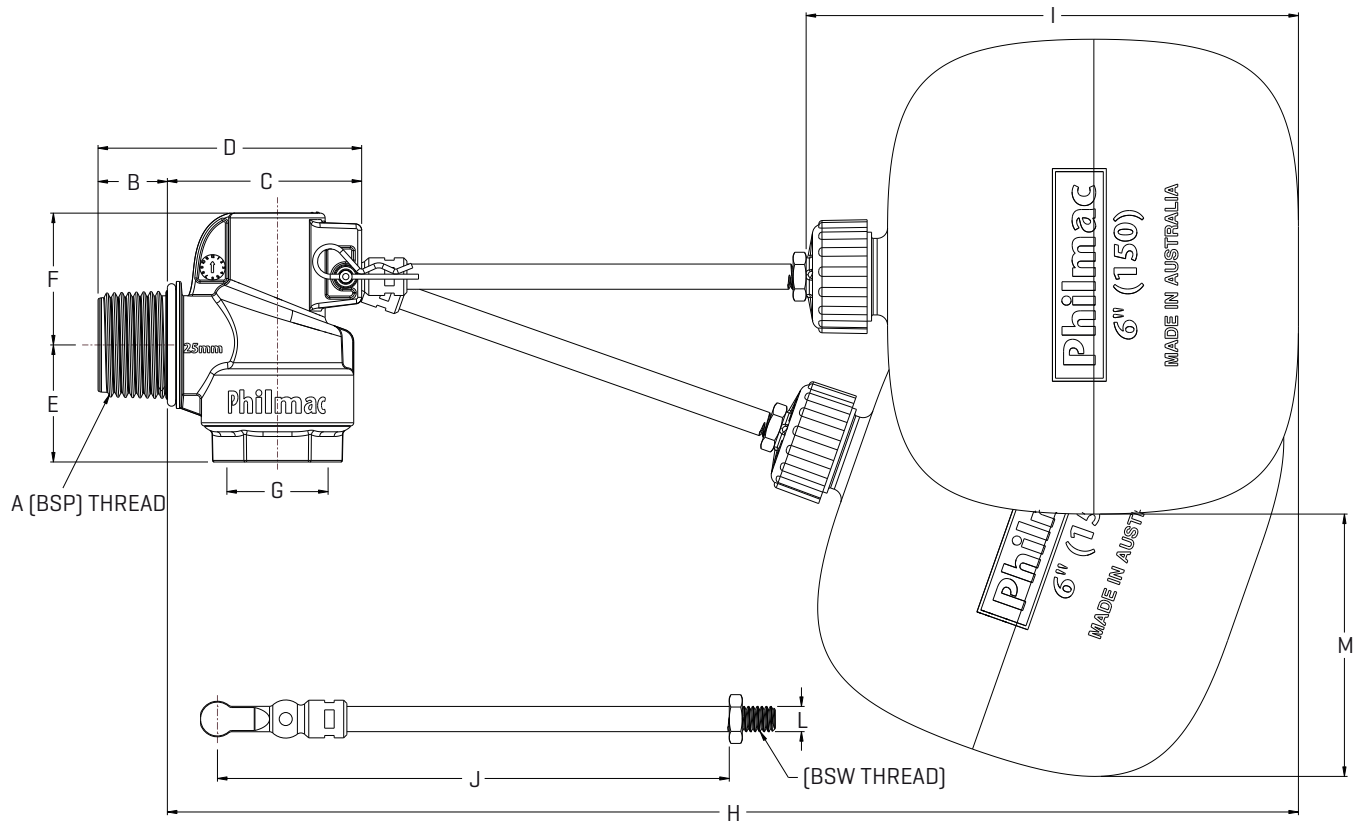


Nominal Size [A]	Part Number	Thread Type	B	C	D	E	F	G [Dia]	H	I	J	K	L [Dia]	M	Seat Orifice [Dia]
3/4" - DN020	91 4203 00	Parallel	42.1	63.2	105.3	36.9	41.5	31.9	513	155	317	5/16"†	7.9	134	19.7
3/4" - DN020	91 4201 00	Parallel	42.1	63.2	105.3	36.9	41.5	31.9	358	155	161	5/16"†	7.9	83	19.7
1" - DN025	91 4253 00	Parallel	42.1	63.2	105.3	36.9	41.5	31.9	513	155	317	5/16"†	7.9	134	19.7
1" - DN025	91 4251 00	Parallel	42.1	63.2	105.3	36.9	41.5	31.9	358	155	161	5/16"†	7.9	83	19.7

All dimensions in millimetres unless otherwise stated
† British Standard Whitworth Thread

VersaPHIL Float Valve Range and Dimensions

Tapered Float Valve



Nominal Size [A]	Part Number	Thread Type	B	C	D	E	F	G [Dia]	H	I	J	K	L [Dia]	M	Seat Orifice [Dia]
3/4" - DN020	91 4703 20	Tapered	21	101.2	122.2	36.9	41.5	31.9	551	155	317	5/16"†	7.9	134	19.7
1" - DN025	91 4703 21	Tapered	21.9	61.2	83.1	36.9	41.5	31.9	511	155	317	5/16"†	7.9	134	19.7
3/4" - DN020	91 4703 20	Tapered	21	101.2	122.2	36.9	41.5	31.9	396	155	161	5/16"†	7.9	83	19.7
1" - DN025	91 4703 21	Tapered	21.9	61.2	83.1	36.9	41.5	31.9	356	155	161	5/16"†	7.9	83	19.7

All dimensions in millimetres unless otherwise stated

† British Standard Whitworth Thread



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