

OPTI PHIL

Philmac

The connection you can trust.

1" Above Water & Under Water Float Valves

TECHNICAL MANUAL





PRODUCT NO.	DESCRIPTION	ORDER QUANTITY	CARTON QUANTITY
OptiPHIL Above Water Float Valve Includes Float, Adaptors			
93 6001 10	OptiPHIL Float Valve 1" with adaptors	1	9
OptiPHIL Under Water Float Valve Includes Float, Adaptors, Cord and Anti-Tangle Tube			
93 6001 20	OptiPHIL Float Valve 1" with adaptors	1	9
OptiPHIL Spare Parts & Components			
91 4700 02	3/4" Parallel Tail Adaptor (suits Versa & OptiPHIL)	1	20
91 4700 03	1" Parallel Tail Adaptor (suits Versa & OptiPHIL)	1	20
43 6111 13	S/P OptiPHIL Diaphragm	1	-
CODE	Cord	1	-
CODE	Anti-Tangle Tube	1	-

OPTI PHIL

Philmac OptiPHIL float valves are high-performance, compact, full-flow float valves that are designed for the automatic filling of medium to large, or high-demand troughs, tanks, and cisterns. They are suitable for installation above or below the waterline (side, bottom, and top).

OPTI PHIL

Product Features & Benefits

Smooth-Flo Design

Optimises water flow out of the valve, reducing turbulence, minimising float bounce, cutting water spray, and saving your pump.

Opti-Flo Technology

Patent protected, Opti-Flo technology, optimises water flow through the valve to help prevent blockages & improve performance in dirty water.

Soft-Close

Patent protected, soft closing design for reliable shut-off & preventing damaging water-hammer.

Full Flow

Full flow design, providing flows up to 847 L/min, and preventing pump short cycling, saving your pump and energy.

Flexible Water Level

New compact arm and arm extension provides fast, easy and flexible water level adjustments for all applications.

OPTI PHIL

Applications

Maintaining water levels in:

Animal Drinking Troughs

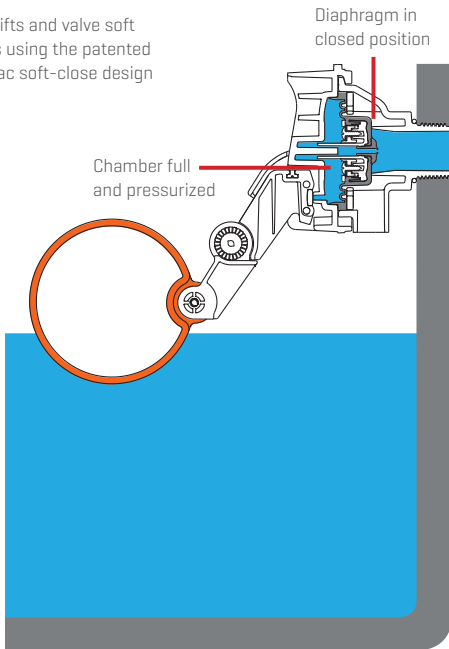
Irrigation Applications

Water storage tanks

OPTI PHIL Principles of Operation

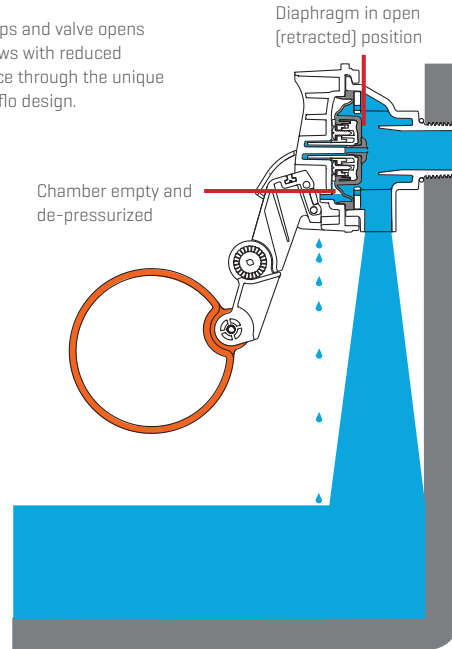
Closed

Float lifts and valve soft closes using the patented Philmac soft-close design

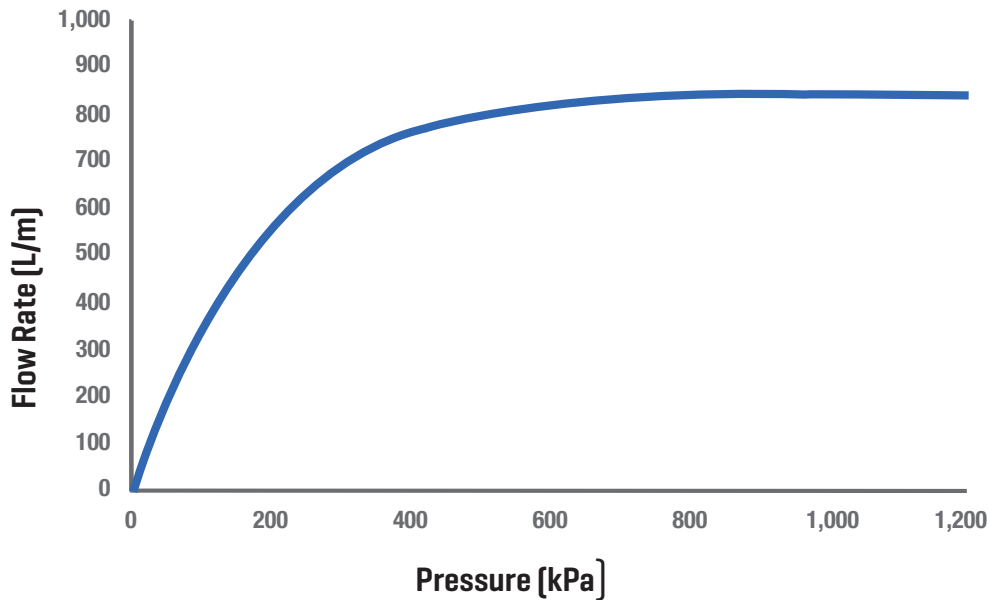


Open

Float drops and valve opens water flows with reduced turbulence through the unique smooth-flo design.



OPTI PHIL Performance Data



* Independently tested by University of South Australia (AFMG), NATA accredited laboratory



Flow Rate: 847 L/min @ 1,200 kPa



Static Shut-off: 1,200 kPa



Temperature: suitable for cold water applications [1° to 60° Celsius]



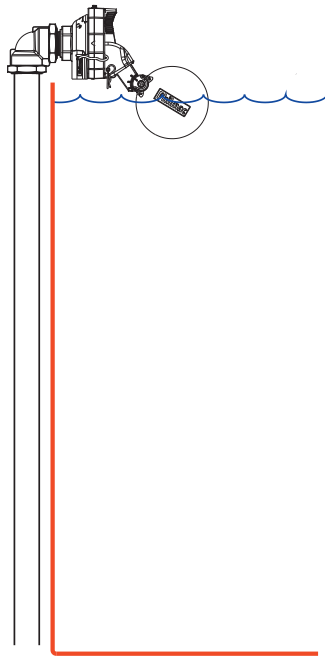
Working Pressure: 10 – 1,200 kPa [1.5 – 175 psi], with a minimum water flow of 1L/min



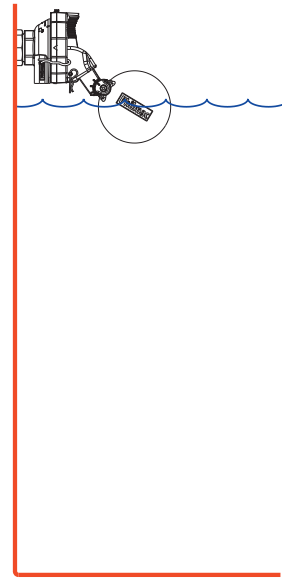
Large or high demand troughs



Mounting Positions - Above Water



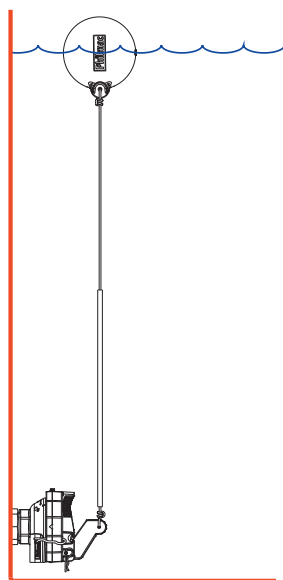
Above water - Overhead



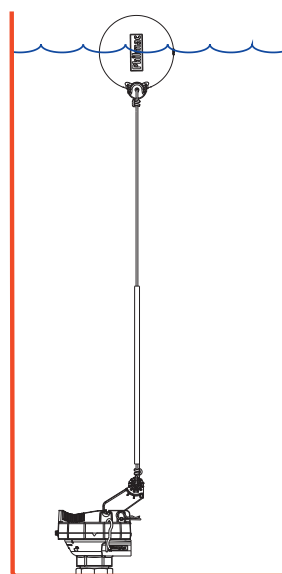
Above water - Side wall



Mounting Positions - Under Water



Below water - Side wall lever reverse*



Below water - Bottom mount

Note: OptiPHIL float valve has a mounting tolerance of +/-5° from the vertical

Compact lever above water installation

1

Valve is supplied pre-assembled for 1" compact lever above water installation. Apply PTFE thread tape to thread in a clockwise direction, ensuring thread is adequately covered.

2

Screw the float valve into the trough inlet, using the body, by hand until tight.

3

Valve body is suitable for final tightening with a wrench/multigrips to ensure perpendicular.

4

Using a Phillips head screwdriver adjust the float to one of the three positions on the lever to achieve desired water level

Float lever extension & adjustment

1

Unscrew the float using Phillips head screwdriver

2

Attach supplied lever extension to short lever

3

The lever has 3 positions for flexibility and easy adjustment of the water level

4

Attach the float which also has three positions of adjustment

5

Ensure valve is perpendicular and turn on the water supply

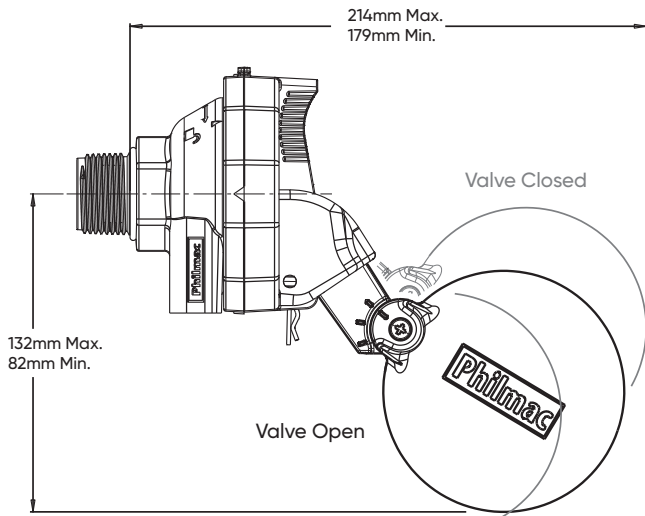
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Dimensions - Above Water Compact Lever

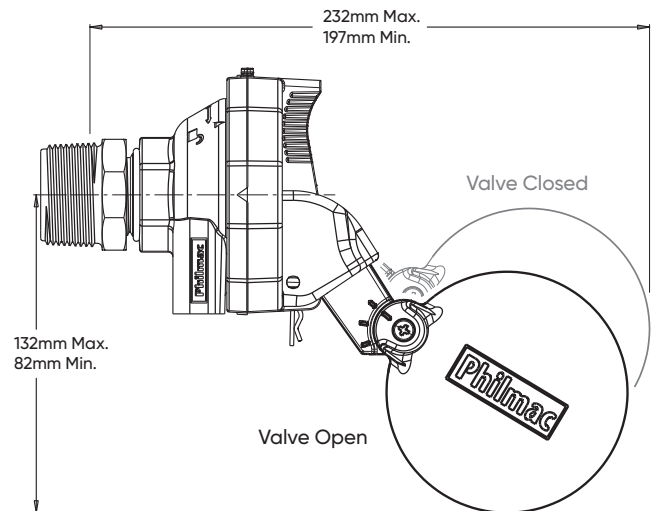
Compact Lever Float Valve

Side View Dimensions



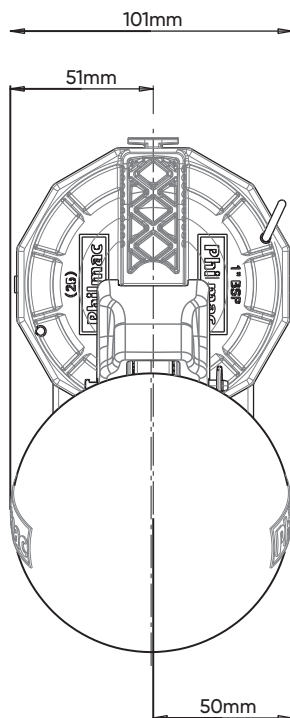
Compact Lever Float Valve

Side View Dimensions 1-1/4" Adaptor



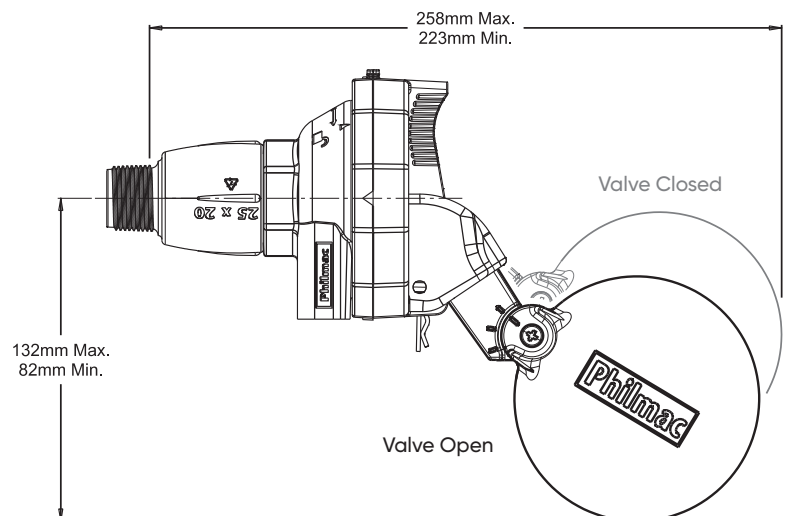
Compact Lever Float Valve

Front View Dimensions



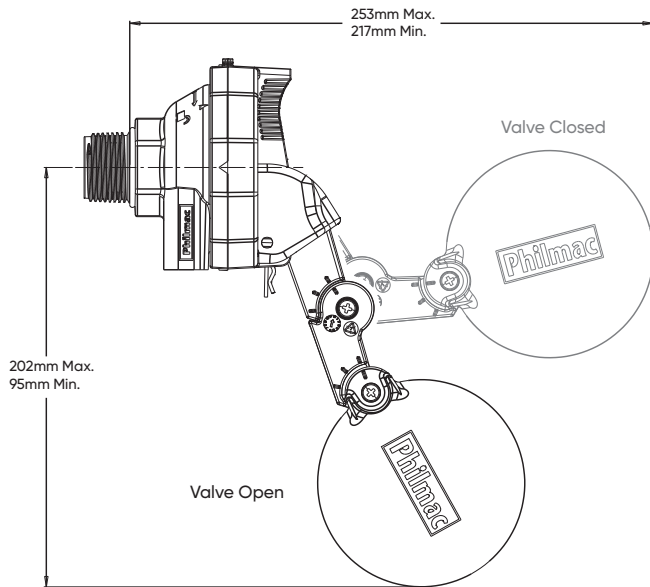
Compact Lever Float Valve

Side View Dimensions 3/4" Adaptor



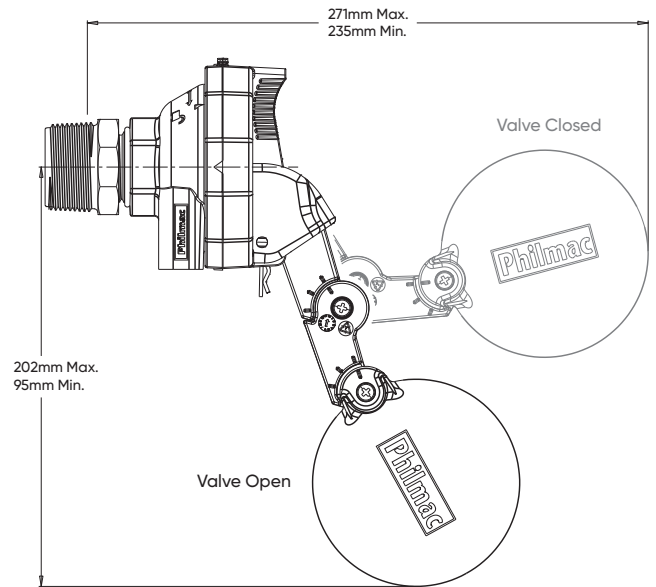
Extended Lever Float Valve

Side View Dimensions



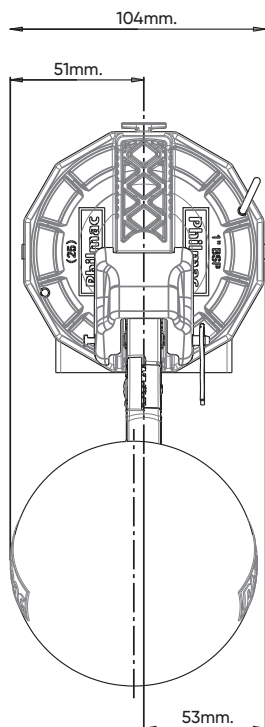
Extended Lever Float Valve

Side View Dimensions 1-1/4" Adaptor



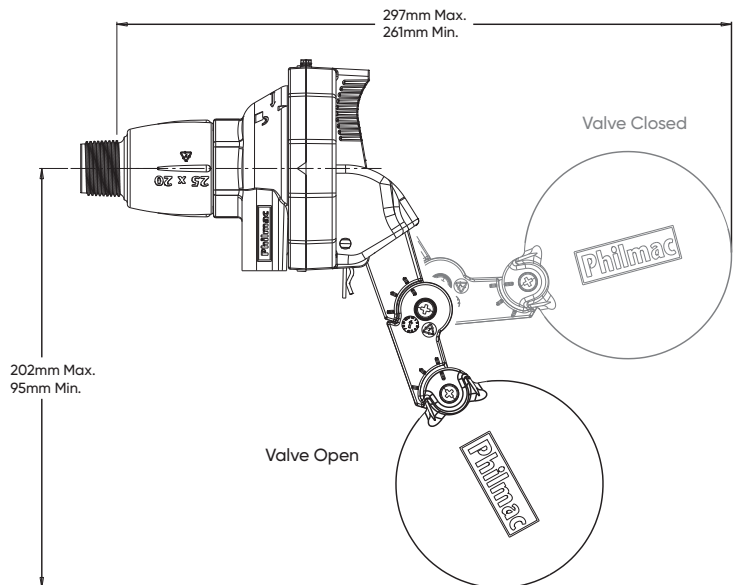
Extended Lever Float Valve

Front View Dimensions



Extended Lever Float Valve

Side View Dimensions 3/4" Adaptor



Under water side entry installation



Secure one end of cord to the float arm.



Apply PTFE Tape in clockwise direction, ensuring thread is adequately covered.



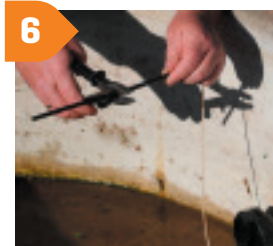
Screw the float valve into the trough inlet, using the body, by hand until tight.



Valve body is suitable for final tightening with a wrench/multigrrips to ensure valve is perpendicular.



Apply anti-tangle tubing to the cord.



Trim the anti-tangle tube if required and secure loose end of cord to float.



Check float position against side of trough.



Water level can be adjusted by adjusting the length of cord at the float end. When desired level is set trim excess cord.

Inverting the lever for bottom entry installation



Using pliers remove R-clip that secures the pivot pin.



Using pliers remove the pivot pin.



Take the lever arm from its supplied position.



Invert the lever arm ensuring the lever points to the bottom of the valve.



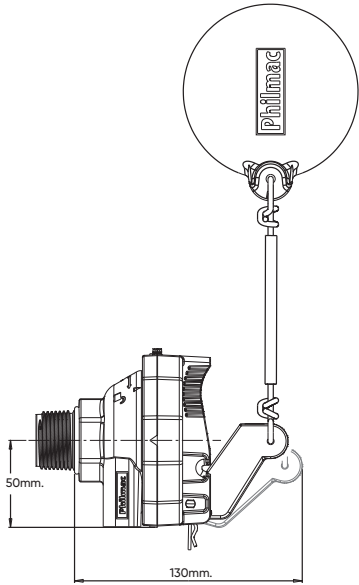
Replace the pivot pin.



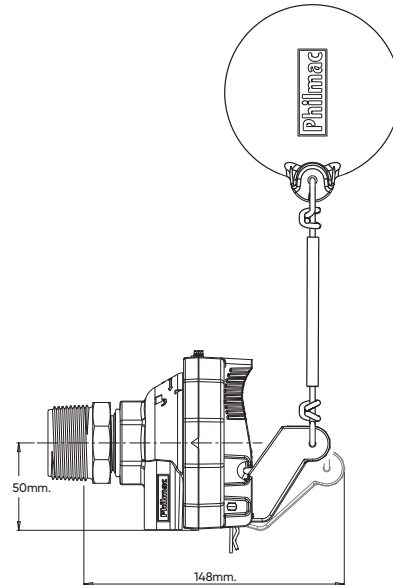
Replace the R-clip securing the lever, then follow steps 1-8 above.

Note: OptiPHIL float valve has a mounting tolerance of +/-5° from the vertical

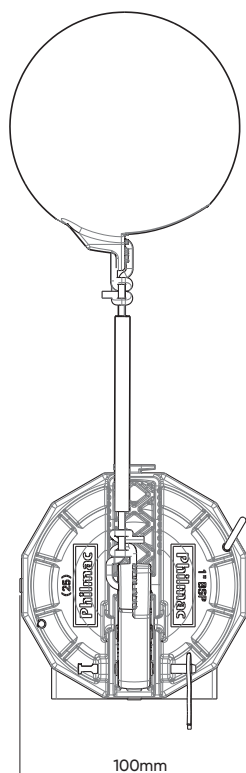
Under Water Float Valve
Side View Dimensions



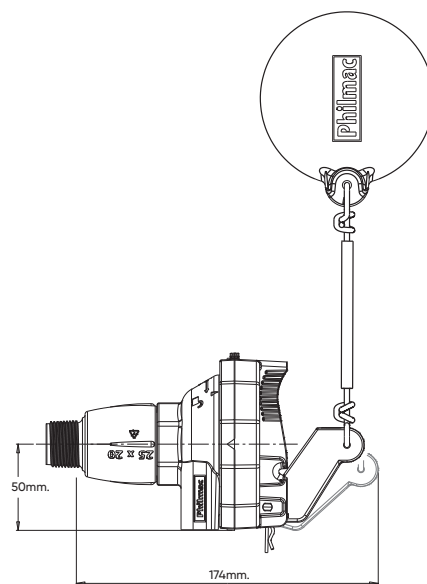
Under Water Float Valve
Side View Dimensions 1-1/4" Adaptor



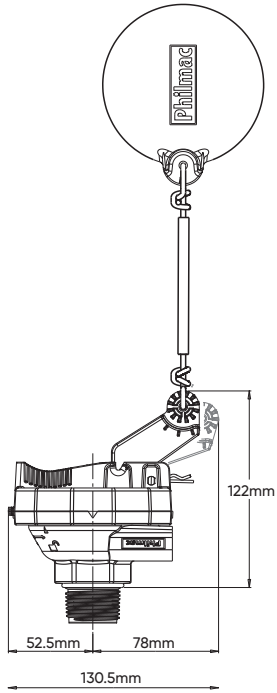
Under Water Float Valve
Front View Dimensions



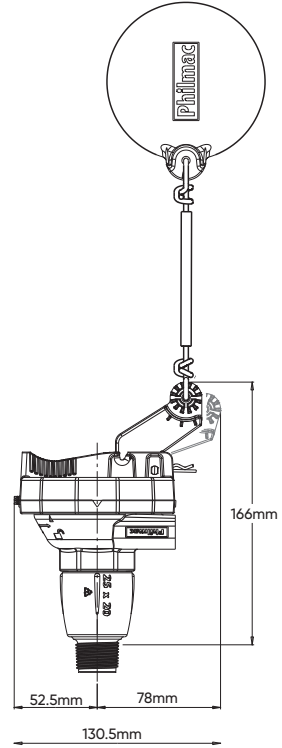
Under Water Float Valve
Side View Dimensions 3/4" Adaptor



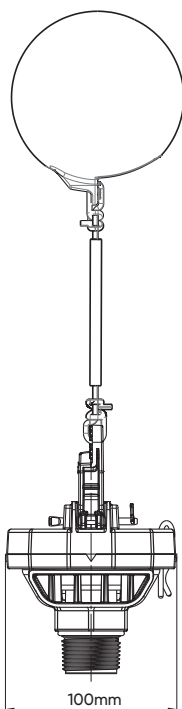
Under Water Float Valve
Side View Dimensions



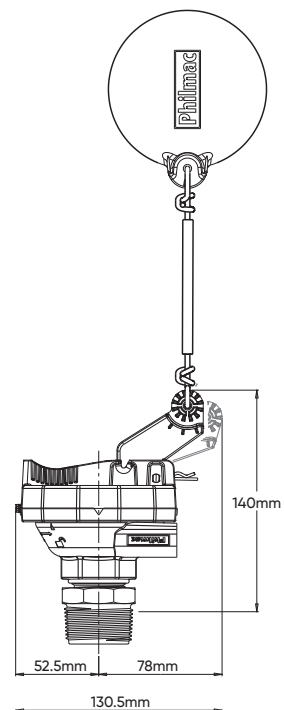
Under Water Float Valve
Side View Dimensions 1- $\frac{1}{4}$ " Adaptor

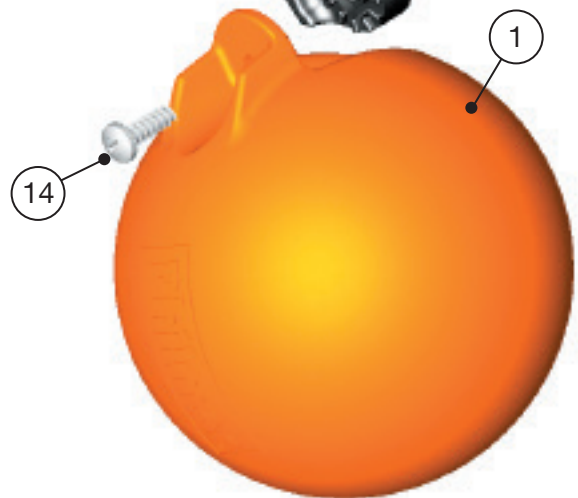
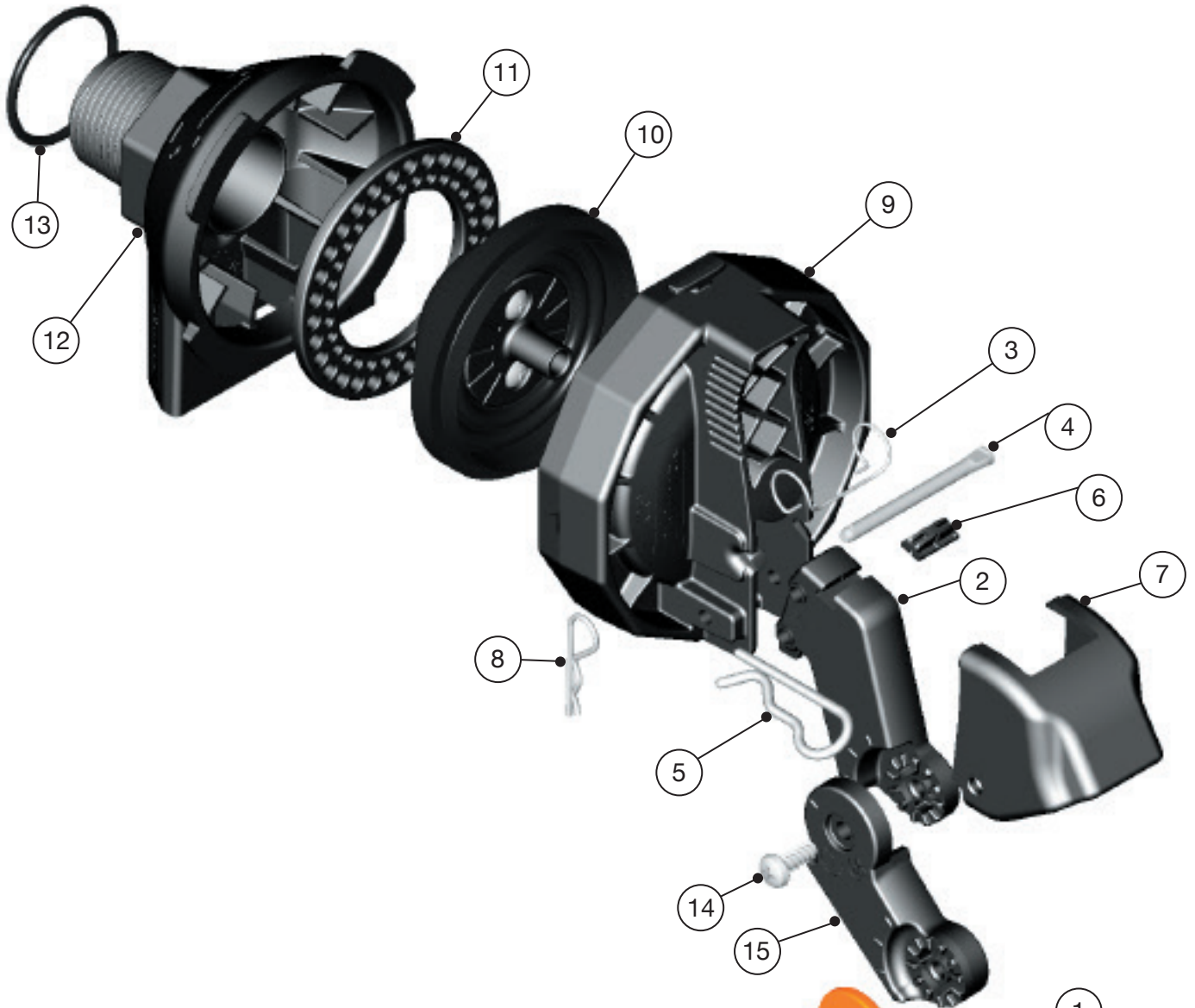


Under Water Float Valve
Front View Dimensions

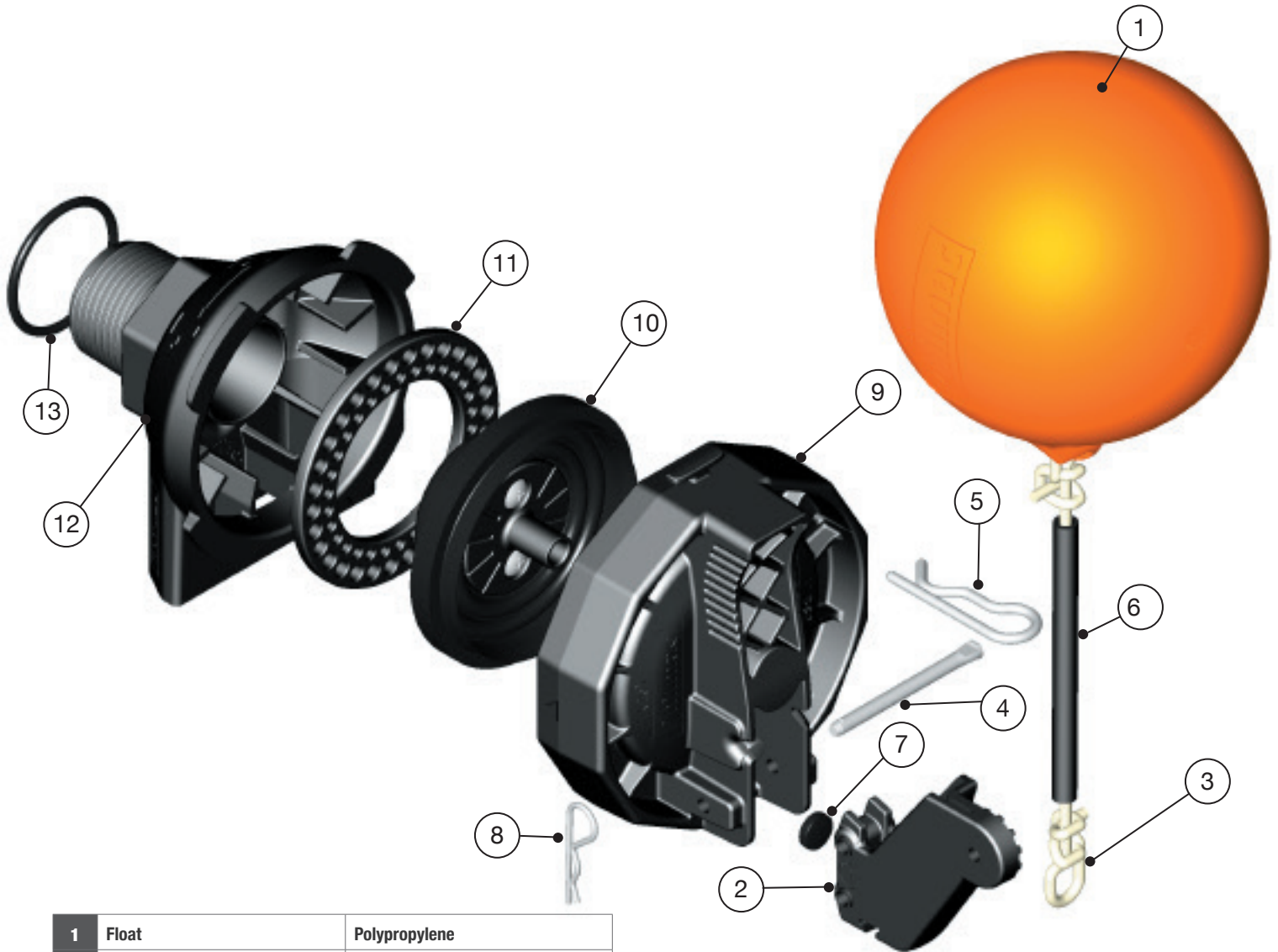


Under Water Float Valve
Side View Dimensions $\frac{3}{4}$ " Adaptor





1	Float	Polypropylene
2	Float Arm	Acetal
3	Damper Spring	Stainless Steel 316
4	Pivot Pin	Stainless Steel 316
5	Body R-Clip	Stainless Steel 316
6	Damper Spring Retainer	Acetal
7	Spring Cover	Acetal
8	Pivot Pin R-Clip	Stainless Steel 316
9	Cap	Acetal
10	Diaphragm Assembly	Silicone Rubber, Nylon Core, Stainless Steel 316 Screws, Nylon Nozzle, Acetal Sealing Insert
11	Diaphragm Support	Acetal
12	Body	Acetal
13	O-Ring	Nitrile Rubber
14	Screw	Stainless Steel 316
15	Float Arm Extension	Acetal



1	Float	Polypropylene
2	Float Arm	Acetal
3	Float Cord	Polyester
4	Pivot Pin	Stainless Steel 316
5	Body R-Clip	Stainless Steel 316
6	Anti-Tangle Tube	LDPE
7	Seat	Nitrile Rubber
8	Pivot Pin R-Clip	Stainless Steel 316
9	Cap	Acetal
10	Diaphragm Assembly	Silicone Rubber, Nylon Core, Stainless Steel 316 Screws, Nylon Nozzle, Acetal Sealing Insert
11	Diaphragm Support	Acetal
12	Body	Acetal
13	O-Ring	Nitrile Rubber

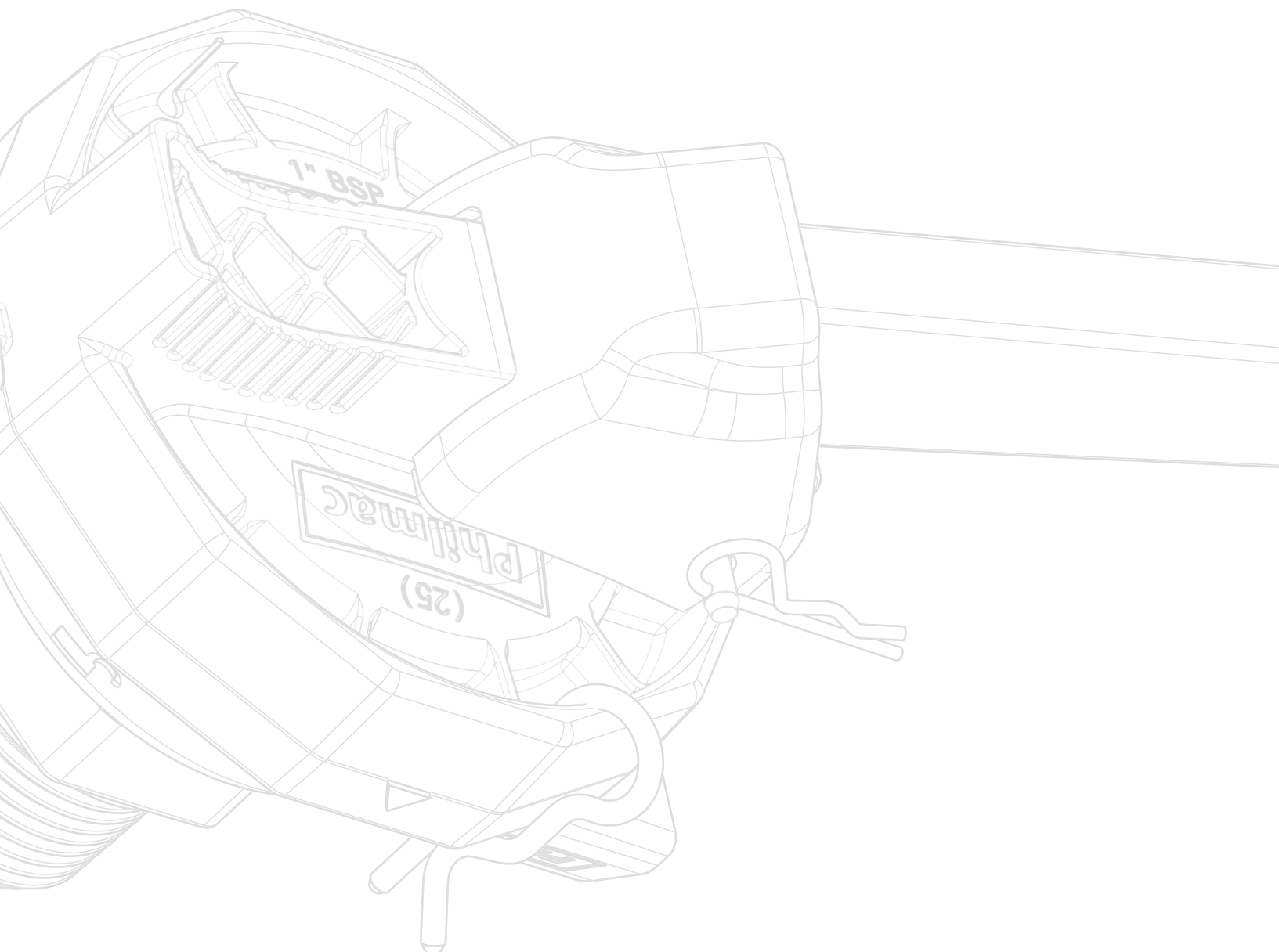
OPTI PHIL Chemical resistance

Chemical	Suitable	Not Recommended
Fresh Water	x	
Sea Water	x	
Brine	x	
Chlorine Water (5-10 ppm)		x
Acetic Acid (10%)		x
Acetic Acid (50%)		x
Alcohol (ethanol)	x	
Ethyl Alcohol (ethanol)	x	
Ammonium Nitrate		x
Calcium Carbonate	x	
Calcium Chloride		x
Calcium Nitrate		x
Calcium Sulphate		x
Citric Acid	x	
Copper Sulphate >5%		x
Silicone Oil	x	
Diesel (fuel)		x
Petrol		x
Kerosene		x
Fuel Oil (Diesel)		x
Fuel Oil		x
Turbine Oil		x
Hydraulic Oil (Petro)	x	
Hydraulic Oil (Synthetic)	x	
Mineral Oil	x	
Hydrochloric Acid (10%)		x
Hydrochloric Acid (30%)		x
Magnesium Nitrate	x	
Magnesium Sulphate	x	
Nitric Acid (10%)		x
Nitric Acid (40%)		x
Phosphoric Acid (85%)		x
Potassium Chloride	x	
Potassium Nitrate	x	
Potassium Sulphate	x	
Sodium Bicarbonate	x	
Sodium Hypochlorite (<10%)		x
Sulphuric Acid (10%)		x
Sulphuric Acid (30%)		x
Urea	x	
Zinc Nitrate	x	
Zinc Sulphate	x	

* The OptiPHIL Float valve is intended for use in agricultural stock watering and other water applications. The advice provided above is general in nature only and not intended to replace specific chemical guidance. Philmac makes every endeavour to ensure the accuracy of its information. For any specific questions or chemical advice, please contact Philmac.

OPTI PHIL Warranty

Philmac warrants OptiPHIL against defects in material and workmanship for a period of 2 years starting upon the later of the date of manufacturing stamped on the product or the date of purchase of the products.



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