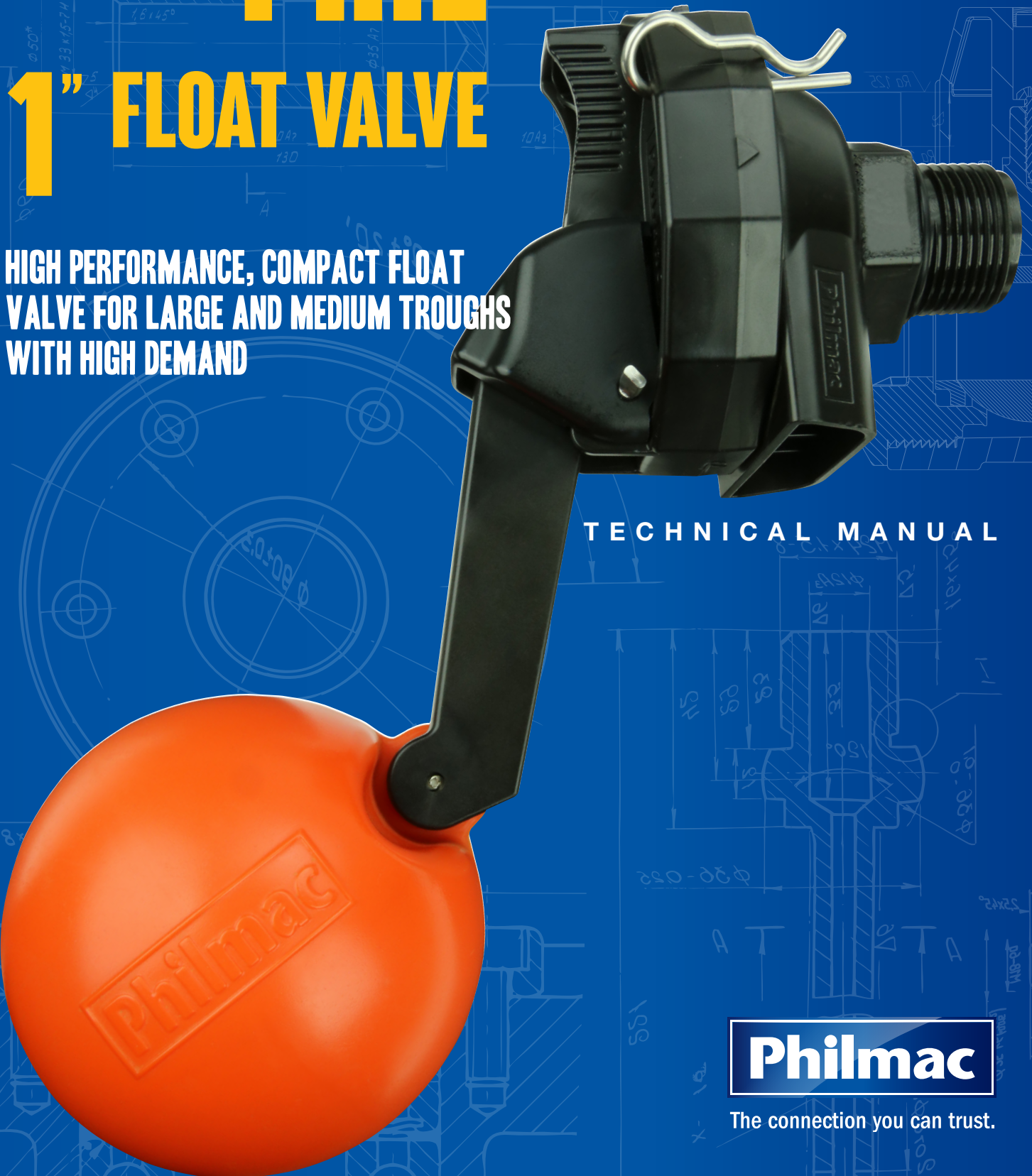


# OPTI PHIL 1" FLOAT VALVE

HIGH PERFORMANCE, COMPACT FLOAT  
VALVE FOR LARGE AND MEDIUM TROUGHS  
WITH HIGH DEMAND



TECHNICAL MANUAL



The connection you can trust.

# 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, minimizing float bounce, cutting water spray, and saving your pump.

### OPTI-FLO TECHNOLOGY

Patent protected, Opti-Flo technology, optimizes 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.

### HIGH VIS FLOAT

High Vis orange float for fast easy identification of water level from a distance.

## OPTI PHIL APPLICATIONS

### Maintaining water levels in:

Animal Drinking Troughs

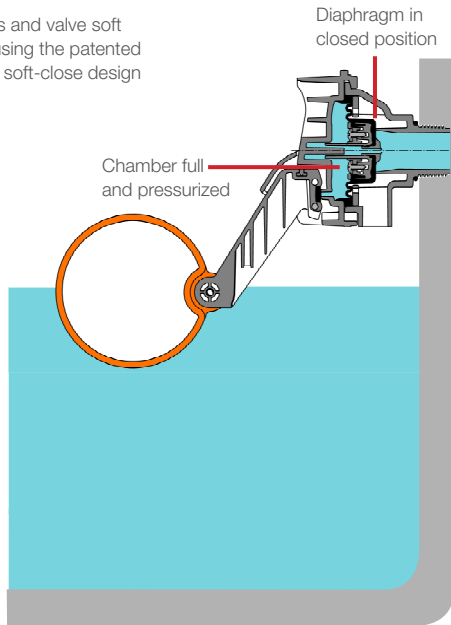
Irrigation Applications

Water storage tanks

# OPTI PHIL PRINCIPLES OF OPERATION

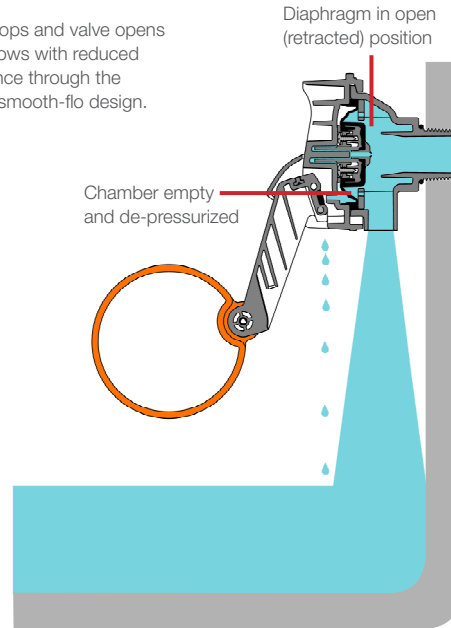
## Fully Closed

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

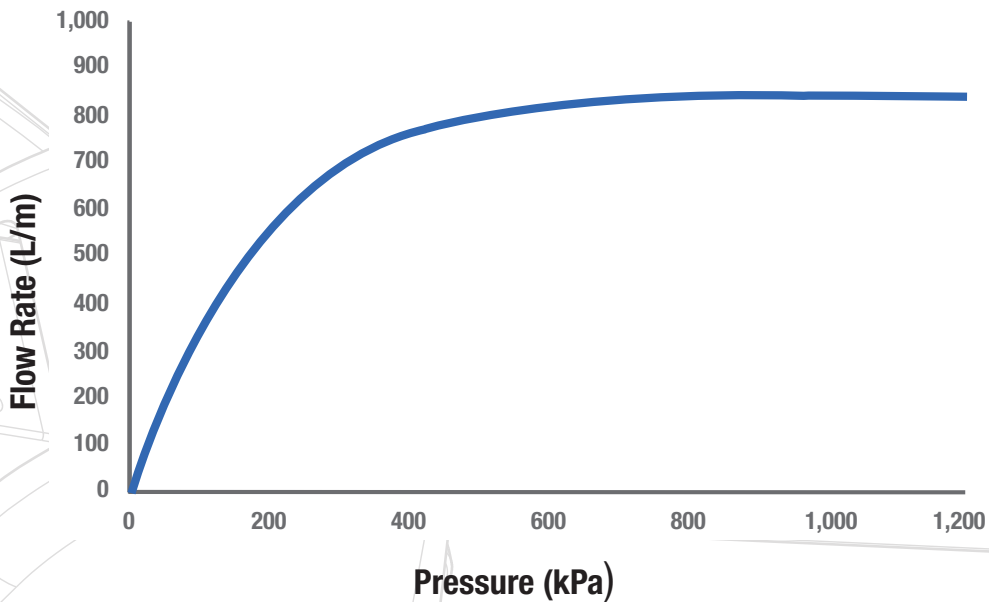


## Fully Open

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

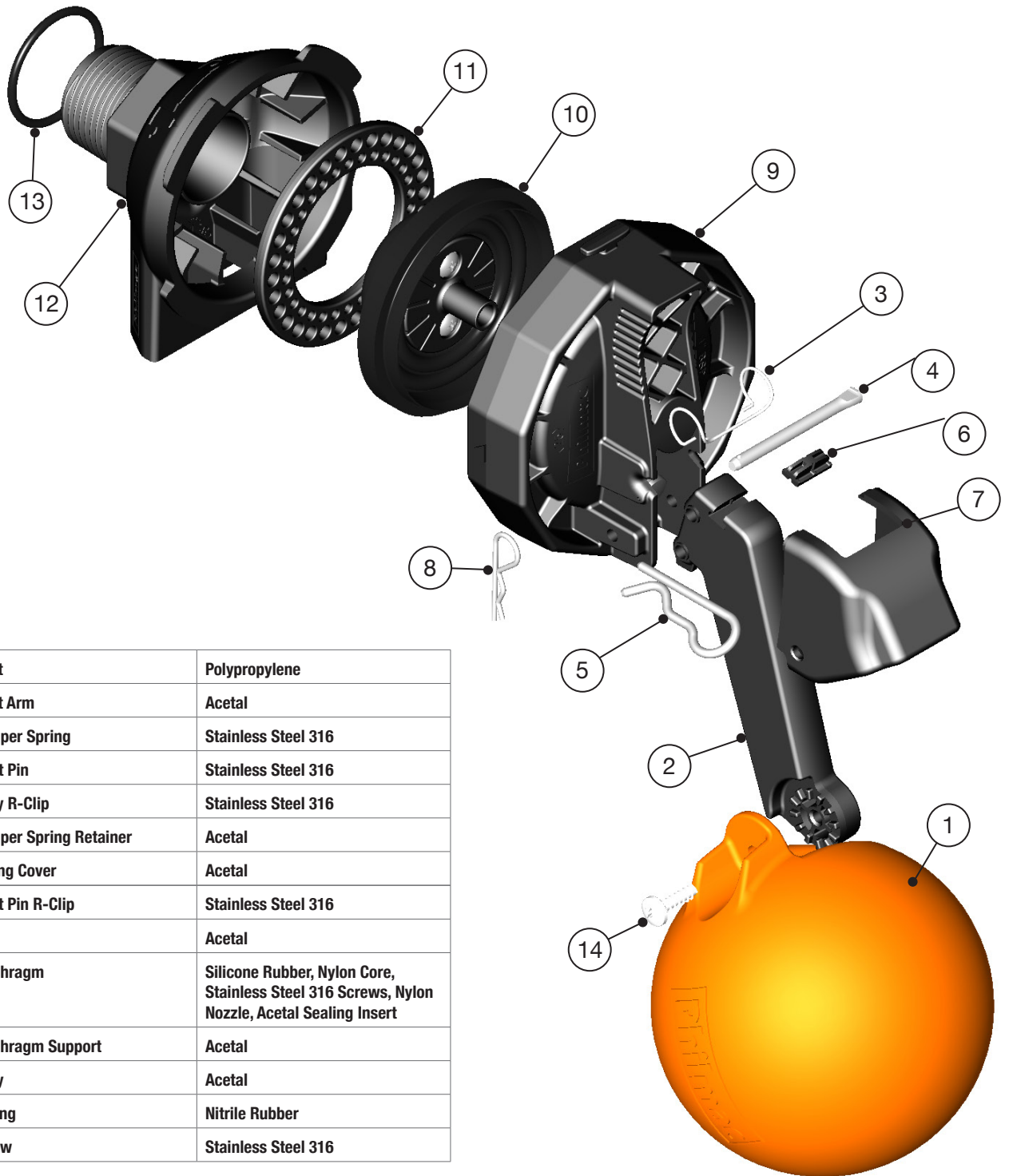


**Temperature:** suitable for cold water applications (1° to 60° Celsius)



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

# OPTI PHIL PARTS & MATERIALS



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	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

## OPTI PHIL WARRANTY

Pilmac 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.

This warranty is subject to the terms and conditions found on our website:

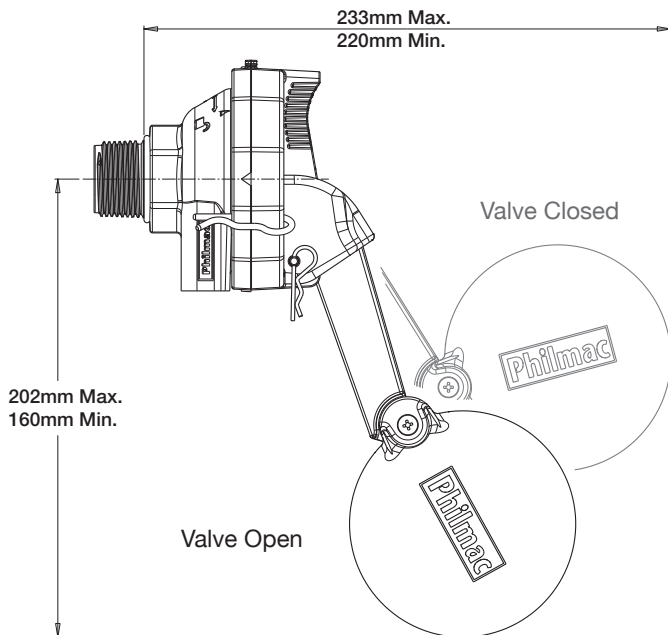
<https://www.pilmac.com.au/warranty-statement/>

# OPTI PHIL CHEMICAL RESISTANCE

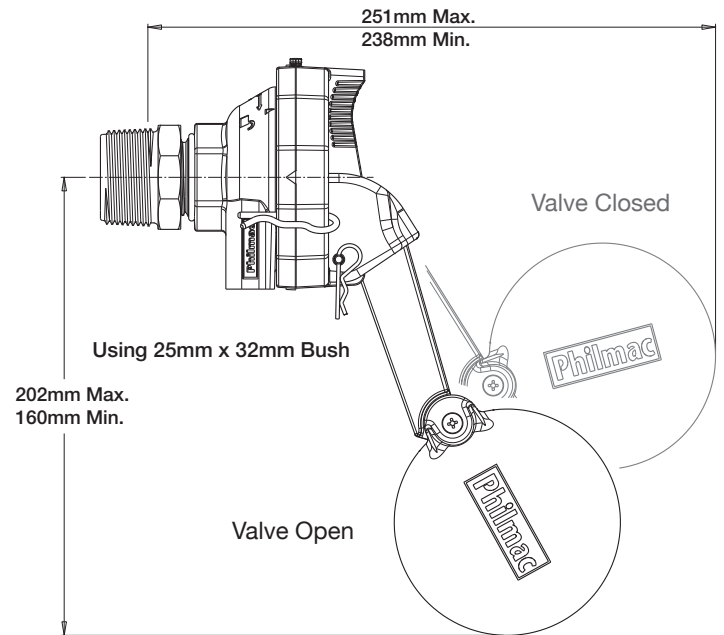
Chemical	Suitable	Not Recommended
Fresh Water	x	
Sea Water	x	
Brine	x	
Chlorine Water (5-10 ppm)		x
Acetic Acid (10%)		x
Acetic Acid (50%)		x
Alcohol (ethanol)	x	
Ethyl Alcohol (ethanol)	x	
Ammonium Nitrate		x
Calcium Carbonate	x	
Calcium Chloride		x
Calcium Nitrate		x
Calcium Sulphate		x
Citric Acid	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.

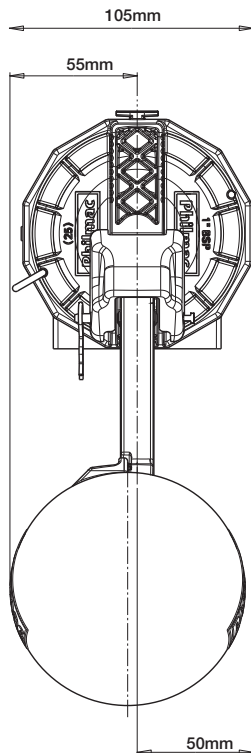
**Standard Float Valve Side View Dimensions**



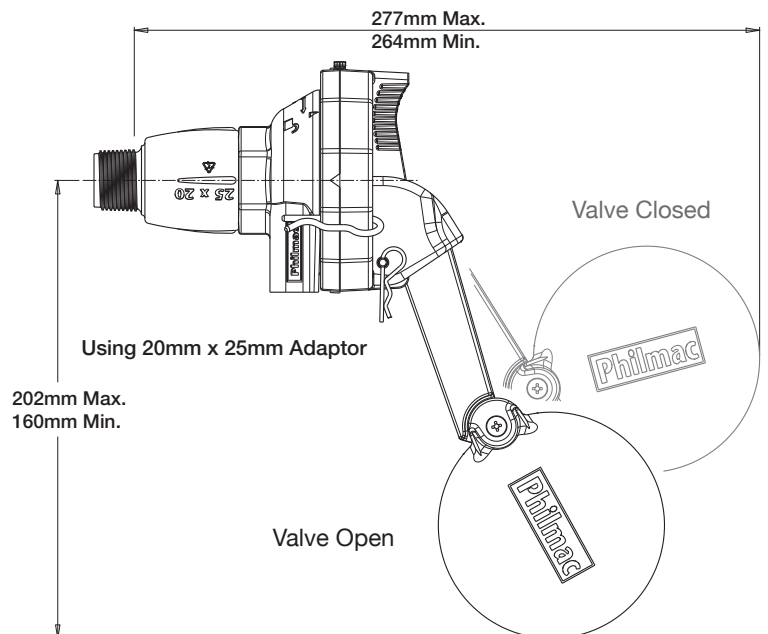
**Standard Float Valve Side View Dimensions 1-1/4" Adaptor**



**Standard Float Valve Front View Dimensions**

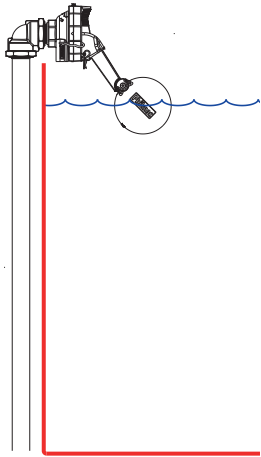


**Standard Float Valve Side View Dimensions 3/4" Adaptor**

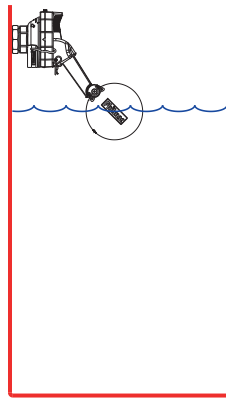


# OPTI PHIL INSTALLATION INSTRUCTIONS

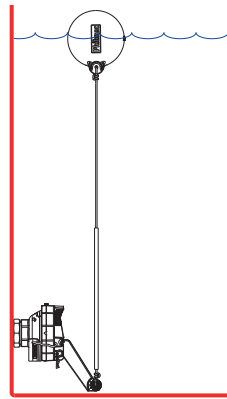
## MOUNTING POSITIONS



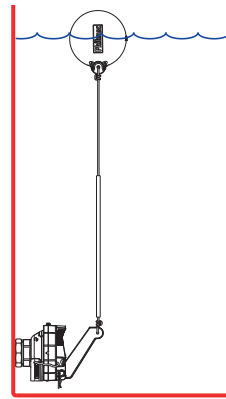
Above water - Overhead



Above water - Side wall



Below water - Side wall



Below water - Side wall  
lever reverse\*



Below water - Bottom  
mount

\* Water outlet position can be adjusted by removing the cap and rotating the body 90°

## ABOVE WATER INSTALLATION



1 Apply PTFE tape in a clockwise direction



2 Screw in the float valve by hand, valve is suitable for final tightening with a wrench



3 Ensure float valve is in the vertical position

## BELOW WATER INSTALLATION



6 Remove small R-Pin that holds the pivot pin in place



7 Remove pivot pin, dispose of spring cover



8 Unclip damper spring from cap



9 Remove spring retainer from float arm and remove damper spring



5 Spring retainer and damper spring are not required for underwater installation



6 Reinstall float arm using pivot pin and replace the R-Pin



7 Using a Phillips head screwdriver unscrew Float



8 Attach float to float arm using supplied cord and anti-tangle tube (trimmed to suit)



9 Screw float valve into position and thread string through plastic tube and attach to float



10 Adjust length of Cord to suit application

## Sales & Contact Centre

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[www.philmac.com.au](http://www.philmac.com.au)

## Online Resources

[www.philmac.com.au](http://www.philmac.com.au)

[www.youtube.com/user/PhilmacAustralia](https://www.youtube.com/user/PhilmacAustralia)