

AIR RELEASE VALVES

Australian made, Philmac air release valve offers solutions to the agricultural and irrigation industry by providing an economic and reliable solution for removing air from a pipeline.

These valves play a vital role in the performance of a pipe system as they ensure air is dispelled from the system at start up and allow full flow of water through the pipe. This prevents air gaps which restrict flow of water; and protect against the formation of a vacuum during drainage which can collapse the pipe.

A simple and effective design, with longevity of service, Philmac's air release valve is designed for harsh outdoor conditions.

APPLICATIONS

Agriculture: Installation on elevated pipelines.

Irrigation: Installation on elevated pipelines.

BENEFITS

Fast and Easy Installation

- **Single-position Installation:** The valves have been designed to work in a vertical position to maximise the discharge of air.
- **BSP Inlet Threads:** The Rural, Irrigation and Plumbing sectors use British Standard Pipe (BSP) threads as a standard. Philmac also uses these thread types across the valve range to ensure compatibility with other threaded fittings and make installation easy.
- **Flow Identification:** The body is clearly marked with an arrow to indicate the directional flow of the air.
- **Outlet:** The outlet is fitted with a protective cap which can be removed to access a 1" BSP thread. This allows a pipe to be connected so that any water that escapes when purging air can be directed away from the valve.

Complete Security

- **Reliable Operation:** Consistent high quality injection moulded plastic bodies and components plus Nitrile O-rings and a stainless steel spring means years of reliable operation.
- **Corrosion Resistant:** Manufactured using a plastic body and components, nitrile O-rings and a 316 stainless steel spring ensures the valve has a high degree of corrosion resistance.

High Performance Materials

- **Manufactured from advanced thermoplastic materials:** Philmac air release valves are manufactured from lightweight high performance thermoplastic materials, which have excellent impact, UV and corrosion resistance. The material is non-toxic and taint free.
- **High pressure rating:** Air release are rated to a pressure of 1400 kPa (200 psi) (static shutoff) at 20° Celsius to meet the requirements of high pressure systems.



STANDARDS & TESTS

Philmac's range of air release valves are designed to comply with the following standards and undertake a range of tests to ensure they comply with these standards.

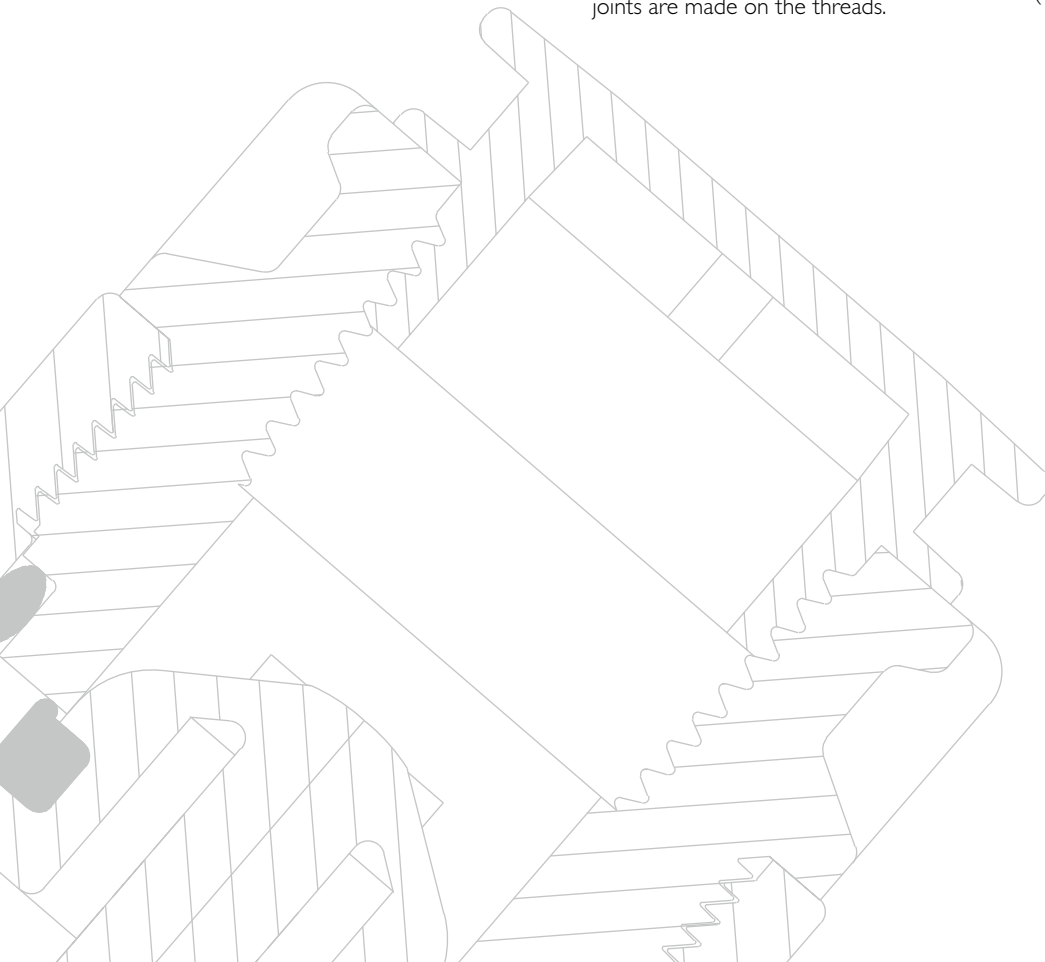
Standards

AS 1722.1: Pipe threads of Whitworth form part 1: sealing pipe threads.

ISO7: Pipe threads where pressure tight joints are made on the threads.

Tests

Shut Off Test: Valves are tested for shut off against a hydrostatic water pressure of 16 kPa (2.3 psi) or 0.16 bar and 200 kPa (29 psi) or 2 bar.



AIR RELEASE VALVES OPERATION & INSTALLATION INSTRUCTIONS

The Philmac air release valve has been designed to allow air to be discharged from pipelines during filling to ensure there are no air pockets which reduce the flow of water. The valve is a kinetic type of valve which means it will expel air when a pipeline is filled but once sealed will expel no more air while the system remains pressurised.

They also admit air into pipelines during drainage to prevent possible pipe collapse due to a vacuum. The direction of air flow is clearly marked by an arrow on the body of the valve.

Philmac's air release valve can be connected to both plastic and metal threaded fittings. PTFE tape or an approved sealant is required.



1. Apply PTFE tape or approved sealant to the male thread the air relief valve is to be screwed into. Sufficient tape needs to be applied to ensure a watertight seal.



2. Screw onto a male thread or screw male thread into the valve by hand until firm.



3. Using a pipe wrench or multigrips on the end caps only, further screw the air relief valve into the male thread until tight. Where necessary ensure the male thread is held stationary to avoid it from moving.

SYSTEM DESIGN CONSIDERATIONS

Minimum Sealing Pressure: 20 kPa (3 psi) or 2 m or 0.2 bar of head at 20°C.

Maximum Operating Pressure: 1400 kPa (200 psi) at 20°C.

Threads: All threads are BSP (Whitworth form).

Sealing threads: Philmac recommends sealing threads with PTFE tape. Other approved sealants for plastic materials can be used providing the sealant does not enter the valve where it may cause damage.

Operating temperature: Connection is cold water (less than 20°C) rated.

Weathering: All plastic materials used contain pigments to provide excellent protection against degradation from ultra-violet (UV) radiation. However long-term continuous exposure to UV is not recommended and plastic components should ideally be protected.

CHEMICAL RESISTANCE

Philmac's air release valve is primarily designed to expel air from water pipelines. 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 and/or alternative fluids to the Philmac air release valve. The mixing together of chemicals may affect the compatibility. The **Philmac air release valve is NOT suited for acids.**

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

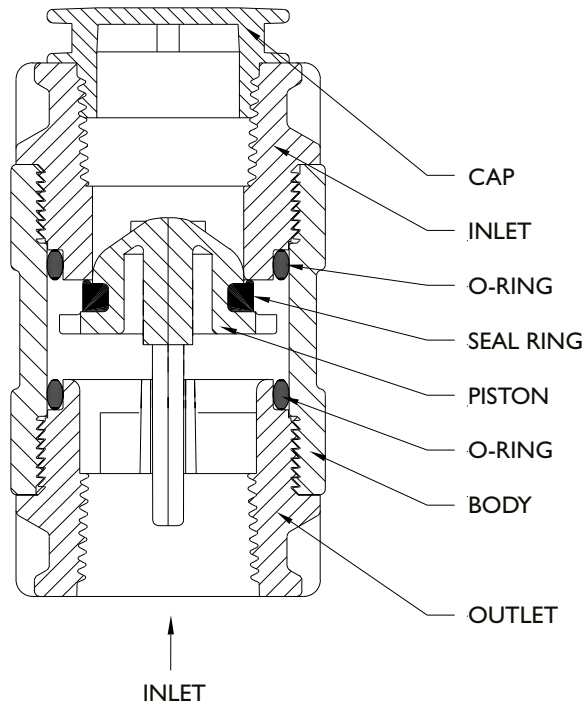
N = Not Recommended

R = Resistant

Empty Cell = No data available

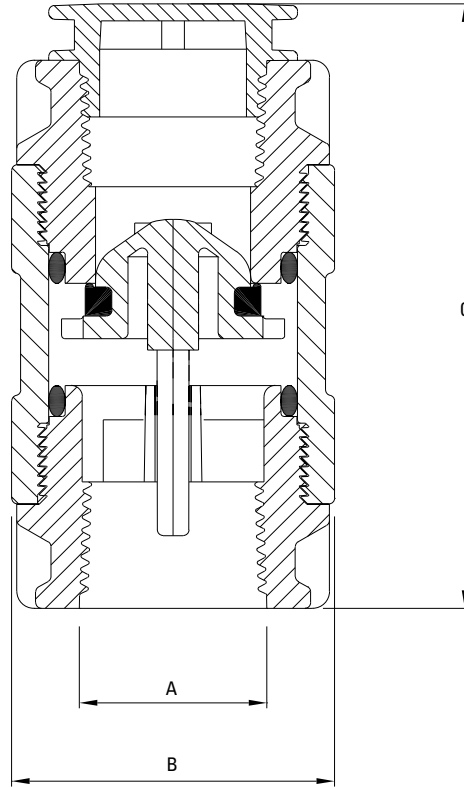
Note recommendations based on fluids at 20° C or less

AIR RELEASE VALVES MATERIAL & COMPONENTS



Size	Nominal Size	Part Number	Body	Inlet/Outlet	Piston	Seal Ring	O-rings	Cap
1"	DN25	95503300	GF Nylon	GF Nylon Alloy	Acetal	Nitrile	Nitrile rubber	Nylon

AIR RELEASE VALVES RANGE & DIMENSIONS



Size (A)	Nominal Size	Part Number	B	C
1"	DN25	95503300	57.5	107.6

All dimensions in millimetres unless otherwise stated