

A.R.I. D-025



Mining

Reduced Bore, Combination Air Valve for Non-clean Water

Description

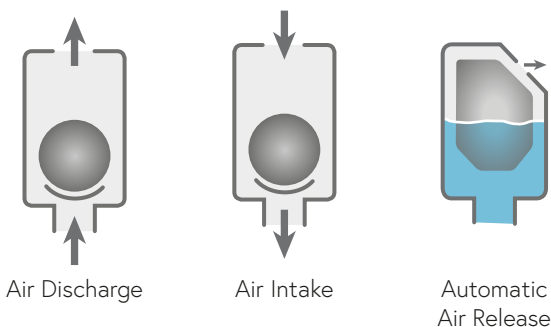
A.R.I. D-025 is a reduced bore, Combination Air Valve installed on non-clean water transmission systems. The Air Valve is designed to improve hydraulic operation by protecting the pipeline, increasing pipeline efficiency, and reducing energy requirements. The unique body shape of the valve, enables a continuous air gap that separates the non-clean water from the sealing mechanism and helps to avoid deposits or blockage.

Applicable for: Desalination & Seawater, Mines, Marine - Ballast Water, Oil & Gas, Food Industry, Power Plant Cooling, CBM, Hydro / Thermal Power.

Installation

- Industrial non clean water transmission lines and applications.
- Industrial wastewater & water treatment plants.

Operation



Features and Benefits

Conical body / funnel-shaped lower body	Maximum air gap, minimum body length
	Residue matter falls back into the system pipeline
Continuous air gap	Separates the liquid from the sealing mechanism
Aerodynamic float assembly	High velocity air will not close the valve under rapid filling operation
	Reduces accumulation of fat or grease buildup
	Free movement will not unseal the sealing mechanism
Sealing assembly	Provides smooth, reliable opening/closing, and leak-free sealing over a wide range of pressures
Cushioned spring connection	Cushioned joint allows continuous air discharge under vibration conditions related to turbulence from pump start and shut-off, or from flow fluctuations.
Ball valve	Releases pressure and drains valve prior to maintenance
Cover assembly	Allows complete drop-in replacement, reducing maintenance downtime
Screened threaded outlet (optional)	Compatible for vent pipe connection, prevents insect intrusion
 ATEX certified air valves	ATEX certified air valves are optional by customer request. Certification is conditional upon the customer connecting the designated part on the product to a dedicated ground connection point.

Technical Specifications

Size range	2" - 4"
Working pressure range	0.05 - 10 bar (PN10) Testing pressure: 1.5 times maximum working pressure
Temperature	Maximum working temperature: 60° C Maximum intermittent temperature: 90° C

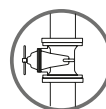
Upon ordering, please specify: model, size, working pressure, thread / flange standard and type of liquid

Valve Selection Options

Valve connection	Threaded BSP/NPT or flanged ends to meet various requested standards
Standard materials	Reinforced Nylon body, optional: Stainless Steel
Optional add-on components	One-way Out - allows for air discharge only, prevents air intake Non-slam - discharge-throttling attachment, allows full air intake, throttles air discharge
Additional product configurations	SB Underground Air Valve System ARISENSE Air Valve Monitoring System

The isolation valve installed under the air valve must be fully open to prevent damage or malfunction and ensure performance within the specifications of the air valve.

For complete installation instructions, please refer to the IOM document.



Non-slam Add-on Component Data Table for Variable Orifices

Size	Discharge orifice (mm)	Total NS area (mm ²)	NS orifice (mm)	Switching point (bar)	Flow at 0.4 bar (m ³ /h)
2" (50mm)	37.5	12.6	4	Spring-loaded normally closed	23
3" (80mm)					
4" (100mm)					

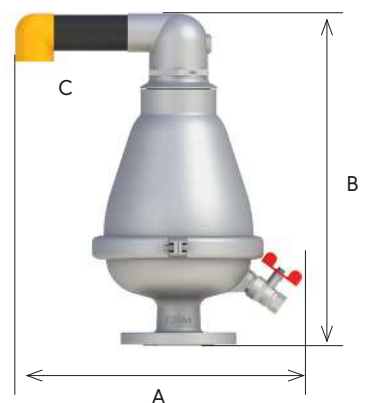
Dimensions and Weight

Size	Dimensions (mm)		Connections	Weight (kg)		Orifice area (mm ²)	
	A	B		RN	ST ST	A / V	Auto.
2" (50mm) THR	370	455	1½" BSP F	3.8	14.4	804	12
2" (50mm) FL	370	460	1½" BSP F	4.2	16.2	804	12
3" (80mm) THR	370	455	1½" BSP F	3.8	14.7	804	12
3" (80mm) FL	370	460	1½" BSP F	5.4	16.5	804	12
4" (100mm) THR	370	455	1½" BSP F	3.9	16.6	804	12
4" (100mm) FL	370	460	1½" BSP F	6.0	18.4	804	12

THR - Threaded FL - Flanged

NOTE

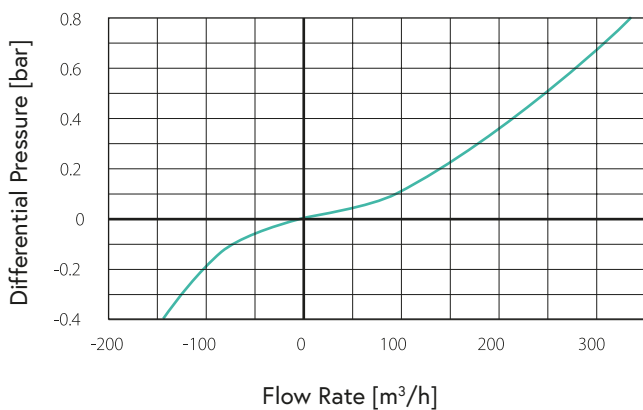
All product weights and dimensions are approximate, due to the differences in flange standards, materials and variable accessories.



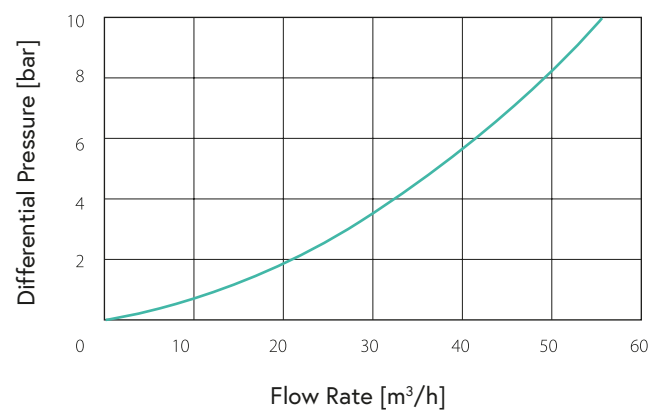
Flow Charts

A.R.I. D-025

Air & Vacuum Flow Rate

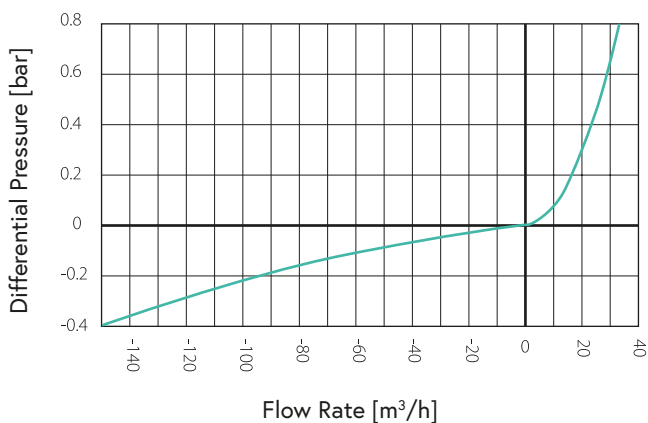


Automatic Air Release Flow Rate

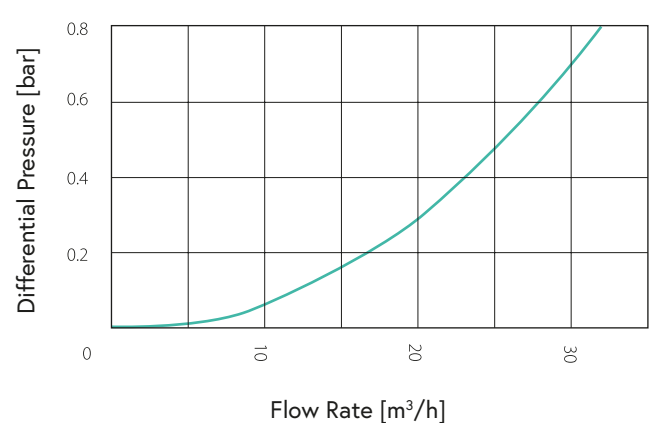


A.R.I. D-025 NS

Air & Vacuum Flow Rate



Air Discharge Flow Rate



Parts List and Specification

No.	Part	Material
1	Air Valve Body Assembly	
1a	Body	Reinforced Nylon
1b	Extension	Polypropylene
1c	Discharge Elbow	Polypropylene
1d	Camlock (optional)	Polypropylene
1e	Non-slam (optional)	Polypropylene + Stainless Steel
2	Seal Assembly	
2a	Rolling Seal Assembly	Nylon + EPDM + Stainless Steel
2b	Float Connector	Foamed Polypropylene
2c	Clamping Stem	Reinforced Nylon
3	Body Assembly	
3a	O-ring	NBR / EPDM / VITON
3b	Body	Reinfoced Nylon
4	Float Assembly	
4a	Domed Nut	Stainless Steel 316
4b	Stopper	Polypropylene
4c	Spring	Stainless Steel 316 / Hastelloy
4d	Float & Rod	Foamed Polypropylene + Stainless Steel 316 or Titanium
5	Base Assembly	
5a	O-ring	NBR / EPDM / VITON
5b	Clamp Assembly	Reinforced Nylon + Stainless Steel 316
5c	Base	Reinfoced Nylon
5d	Tap	Stainless steel 316
5e	Flange (optional)	Reinfoced Nylon



Parts List and Specification

No.	Parts	Material
1	Air Valve Body Assembly	
1a	Body	Stainless Steel 316
1b	Extension	Polypropylene
1c	Discharge Elbow	Polypropylene
1d	Camlock (optional)	Polypropylene
1e	Non-slam (optional)	Polypropylene + Stainless Steel
2	Seal Assembly	
2a	Rolling Seal Assembly	Nylon + EPDM / VITON + Stainless Steel
2b	Float Connector	Foamed Polypropylene
2c	Clamping Stem	Reinfoced Nylon / Polypropylene
3	Body Assembly	
3a	O-ring	NBR / EPDM / VITON
3b	Body	Stainless Steel 316
4	Float Assembly	
4a	Domed Nut	Stainless Steel 316
4b	Stopper	Polypropylene
4c	Spring	Stainless Steel 316 / Hastelloy
4d	Float & Rod	Foamed Polypropylene + Stainless Steel 316 or Titanium
5	Base Assembly	
5a	O-ring	NBR / EPDM / VITON
5b	Clamp Assembly	Stainless Steel 316
5c	Base	Stainless Steel 316
5d	Tap	Stainless steel 316
5e	Flange (optional)	Stainless steel 316

