



Wastewater

Reduced Bore, Combination Air Valve for Wastewater

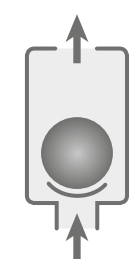
Description

A.R.I. D-020 is a reduced bore, Combination Air Valve installed on wastewater 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 wastewater from the sealing mechanism and helps to avoid deposits or blockage.

Installation

- Pump stations for sewage, wastewater & water treatment plants
- Wastewater & effluent water transmission lines

Operation



Air Discharge





Air Intake



Automatic
Air Release

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.
 AIS / BABA compliant	Domestic availability based on size & material

Technical Specifications

Size range	2" - 8"
Discharge orifice size	1.25 sq.in
Working pressure range	0.7 - 250 psi
Testing pressure	1.5 times maximum working pressure
Temperature	Maximum working temperature: 140° F Maximum intermittent temperature: 194° F
Valve coating	Fusion bonded epoxy coating in compliance with standard DIN 30677-2 (applied on Cast Steel valves)

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

Valve Selection Options

USA models	A.R.I. D-020 - Wastewater combination air valve, from a Cast Steel body and Reinforced Nylon cover and top, rated for 250 psi.
	A.R.I. D-020 NS – Non-slam Wastewater combination air valve, from a Cast Steel body and Reinforced Nylon cover and top, rated for 250 psi.
	A.R.I. D-020 ST - Wastewater combination air valve, from a Stainless Steel body and Reinforced Nylon cover and top, rated for 250 psi.
	A.R.I. D-020 ST NS - Non-slam Wastewater combination air valve, from a Stainless Steel body and Reinforced Nylon cover and top, rated for 250 psi.
	A.R.I. D-020 STST - Wastewater combination air valve from a Stainless Steel body, cover and top, rated for 250 psi.
	A.R.I. D-020 STST NS - Non-slam Wastewater combination air valve from a Stainless Steel body, cover and top, rated for 250 psi.
Valve connection	Flanged ends to meet various requested standards 2", 3" valve connections: flanged or threaded BSP/NPT
Optional add-on components	One-way Out - allows for air discharge only, prevents air intake One-way In - allows air intake only, prevents air discharge 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



A.R.I. D-020



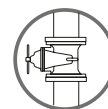
A.R.I. D-020 ST



A.R.I. D-020 STST

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 (inch)	Total NS area (sq.in)	NS orifice (inch)	Switching point (psi)	Flow at 5.8 psi (CFM)
2"-8" all sizes	1½" NPT	0.03	0.20	Spring-loaded normally closed	10.3

➤ Dimensions and Weight

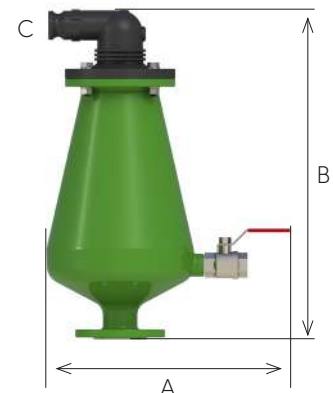
Size	Dimensions (inch)		Connections	Weight (lbs)			Orifice Area (sq.in)	
	max. A	B		C	Steel	ST	ST ST	A / V
2" (50mm) THR	18.1	25.4	Camlock 1½" NPT	36.4	34.9	52.4	1.25	0.018
2" (50mm) FL	18.1	23.8	Camlock 1½" NPT	38.6	37.5	55	1.25	0.018
3" (80mm) THR	18.1	25.4	Camlock 1½" NPT	38.6	37.5	55	1.25	0.018
3" (80mm) FL	18.1	23.8	Camlock 1½" NPT	40.8	39.8	57.3	1.25	0.018
4" (100mm) FL	18.1	23.8	Camlock 1½" NPT	43	41.8	59.3	1.25	0.018
6" (150mm) FL	18.1	24	Camlock 1½" NPT	46.3	44.9	62.4	1.25	0.018
8" (200mm) FL	18.1	24	Camlock 1½" NPT	52.9	49.2	66.7	1.25	0.018

FL - Flanged THR - Threaded

NOTE

The cover assembly with the discharge elbow can be set in four directions. Dimension A in the picture and in the table shows the maximum product width. This width can be reduced by changing the direction.

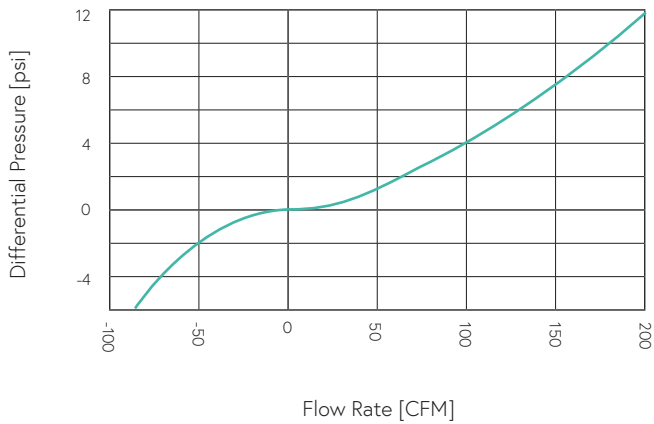
All product weights and dimensions are approximate, due to the differences in flange standards, materials and variable accessories.



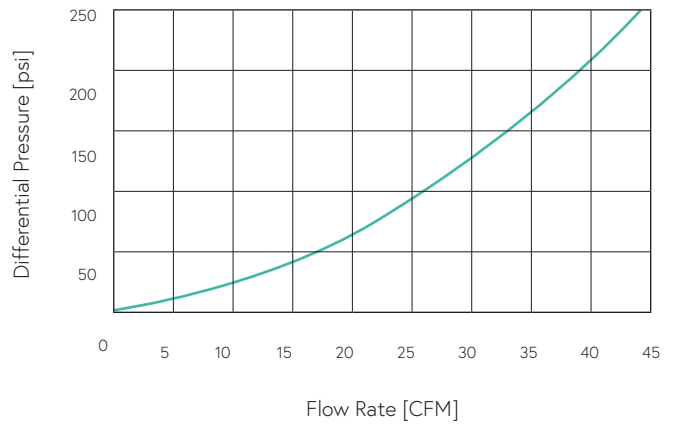
Flow Charts

A.R.I D-020

Air & Vacuum Flow Rate

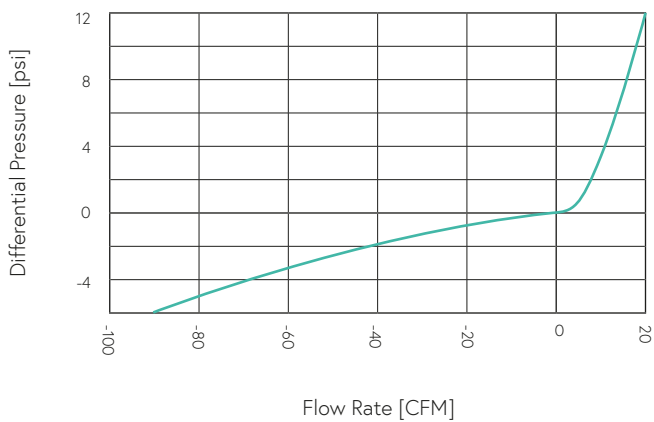


Automatic Air Release Flow Rate

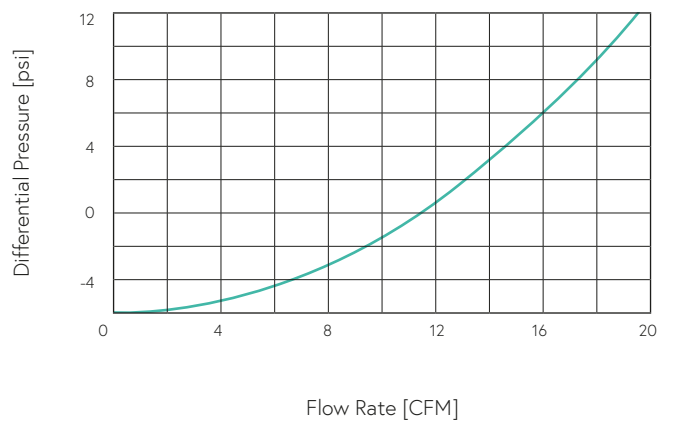


A.R.I D-020 NS

Air & Vacuum Flow Rate



Air Discharge Flow Rate



Parts List and Specifications

No.	Part	Material
1	Air Valve Body Assembly	
1a	Body	Reinforced Nylon
1b	Camlock	Polypropylene
1c	Non-slam (optional)	Polypropylene + Stainless Steel
2	Cover Assembly	
2a	O-ring	NBR / EPDM
2b	Cover	Reinforced Nylon + Stainless Steel 316
3	Seal Assembly	
3a	Rolling Seal Assembly	Nylon + EPDM + Stainless Steel
3b	Float Connector	Foamed Polypropylene
3c	Clamping Stem	Reinforced Nylon
4	Float Assembly	
4a	Domed Nut	Stainless Steel 316
4b	Stopper	Polypropylene
4c	Spring	Stainless Steel 316
4d	Float & Rod	Polypropylene + Stainless Steel 316 / Stainless Steel 316
5	Body Assembly	
5a	O-ring	NBR / EPDM
5b	Body	Carbon Steel / Stainless Steel 316
5c	1" Ball Valve	Stainless Steel 316



Parts List and Specifications

No.	Part	Material
1	Air Valve Body Assembly	
1a	Camlock	Polypropylene
1b	Shell	Stainless Steel 316
1c	Body	Reinforced Nylon
1d	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	Cover Assembly	
3a	O-ring	NBR / EPDM / VITON
3b	Cover	Stainless Steel 316
4	Float Assembly	
4a	Domed Nut	Stainless Steel 316
4b	Stopper	Polypropylene
4c	Spring	Stainless Steel 316
4d	Float & Rod	Polypropylene + Stainless Steel 316 / Stainless Steel 316
5	Body Assembly	
5a	O-ring	NBR / EPDM
5b	Body	Stainless Steel 316
5c	Ball Valve	Stainless Steel 316
5d	Bolts, Nuts	Stainless Steel 316

