A.R.I. D-020

Aquestia
Directing the Flow

Wastewater

Combination Air Valve for Wastewater

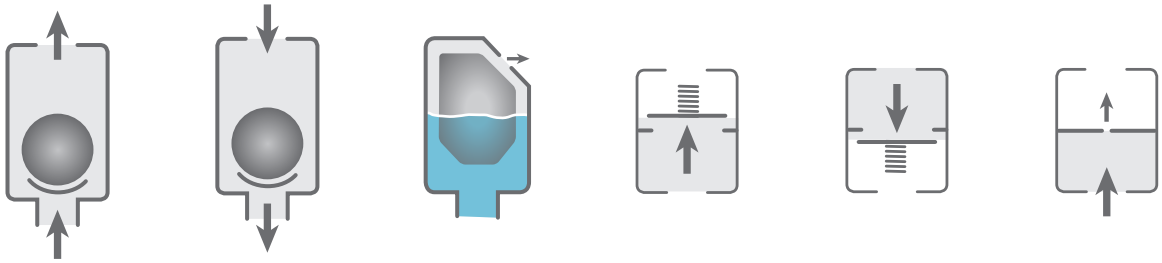
Description

A.R.I. D-20 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 and effluent water transmission lines

Operation



Air Discharge | Air Intake | Automatic Air Release | One Way Out | One Way In | Non Slam

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Features and Benefits

Conical body & external guide rod/disc arm	maximum air gap/ minimum body length
Continuous air gap	separates the liquid from the sealing mechanism
Float assembly and sealing mechanism linkage	free movement, turbulence will not unseal the sealing mechanism
Funnel-shaped lower body	residue matter falls back into the system pipeline
Rolling seal mechanism	leak-free sealing over wide range of pressure differentials
All internal parts - stainless steel 316, polymer, rubber materials	non-corrosive and durable
Screened threaded outlet	compatible for vent pipe connection, prevents insect intrusion
Dynamic design	high capacity air discharge, no premature closure
Ball valve	releases pressure and drains valve prior to maintenance

Technical Specifications

Size Range	2" –8"
Sealing 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

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

Valve Selection Options

Valve connection	Flanged ends to meet various requested standard 2", 3" valve connections: flanged or threaded BSP/NPT
Standard materials	Stainless steel body, optional: cast steel
Optional add-on Components	One-way Out attachment, allows for air discharge only, prevents air intake One-way in attachment, allows air intake only, not allowing 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

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

Size	Discharge orifice (inch)	Total NS area (Sq^2)	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

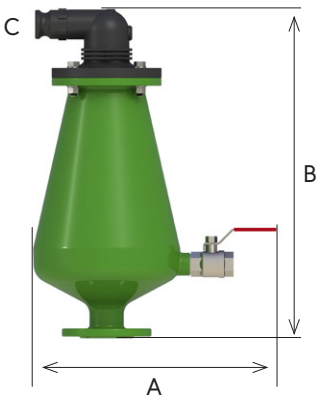
Size	Dimensions (inch)		Connections	Weight (Lbs)		Orifice Area (Sq^2)	
	max. A	B	C	Steel	ST ST	A / V	Auto.
2" (50mm) THR	18.1	25.4	Camlock 1½" NPT	36.4	34.9	1.25	0.018
2" (50mm) FL	18.1	23.8	Camlock 1½" NPT	38.6	37.5	1.25	0.018
3" (80mm) THR	18.1	25.4	Camlock 1½" NPT	38.6	37.5	1.25	0.018
3" (80mm) FL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

FL - Flanged THR - Threaded

NOTE

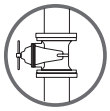
The cover assembly with the discharge elbow can be set in four directions. Dimension A in the picture and in the table shows the maximum product width. This width can be reduced by changing the direction.

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



The 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.



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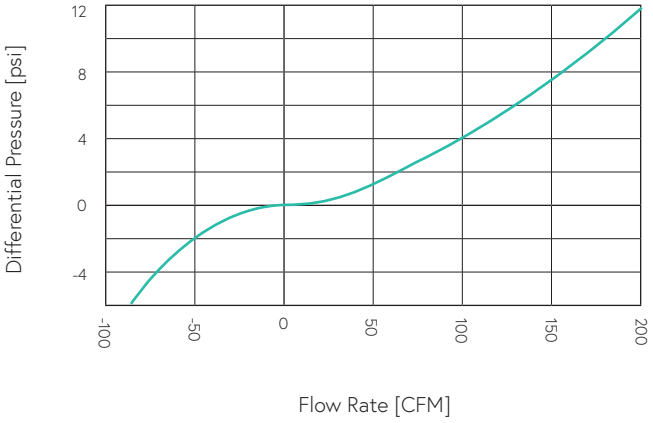
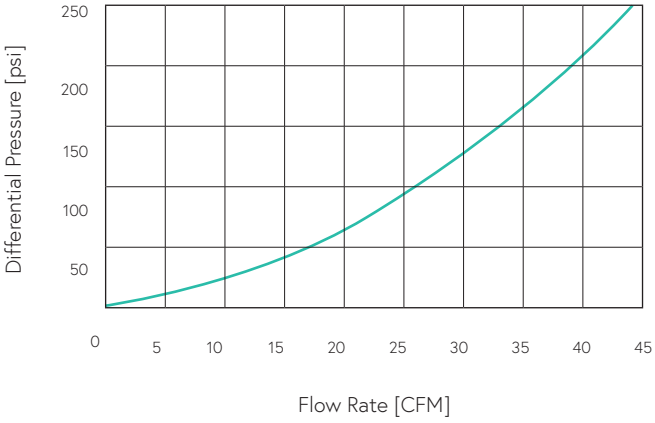
Flow Charts

Air & Vacuum Flow Rate

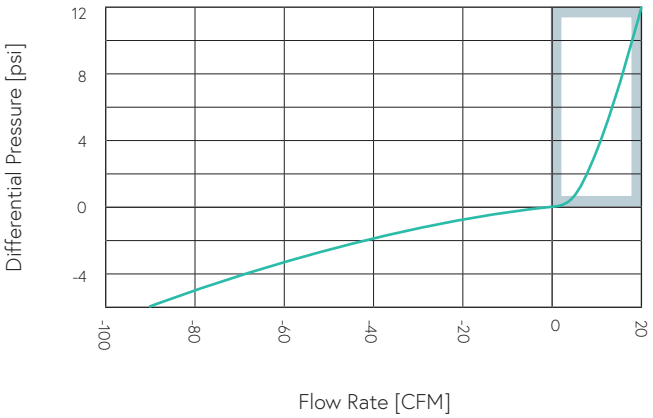


Automatic Air Release Flow Rate

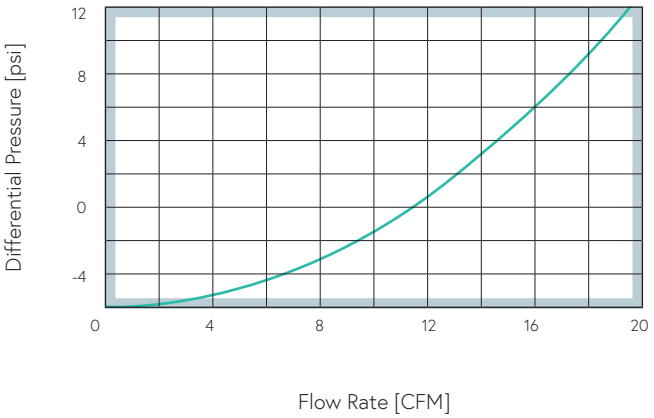


D-020 NS

Air & Vacuum Flow Rate



Air Discharge Flow Rate



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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
5	Body Assembly	
5a	O-ring	NBR / EPDM
5b	Body	Carbon Steel / Stainless Steel 316
5c	Ball Valve	Brass / Stainless Steel 316

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