A.R.I. D-020

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Directing the Flow

Wastewater

Combination Air Valve for Wastewater

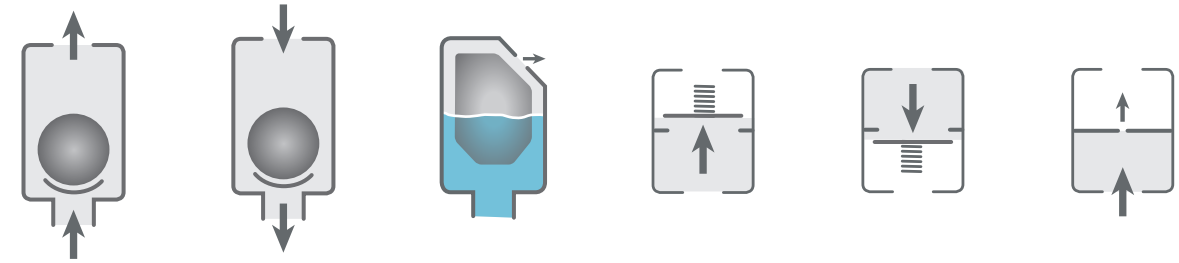
Description

The D-020 is a reduced bore combination air valve installed on a wastewater transmission system to increase pipeline efficiency and reduce energy requirements by improving the hydraulic operation of the system. A continuous air gap in the valve body separates the wastewater from the sealing mechanism.

Installation

- Pump stations for sewage, wastewater & water treatment plant
- 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	0.05-16 bar (PN 16) Testing pressure: 1.5 times maximum working pressure
Temperature	Maximum working temperature: 60° C Maximum intermittent temperature: 90° C
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 connection: flanged or threaded BSP/NPT
Standard materials	welded/cast steel body, optional: stainless steel
Optional Add-on Components	One-way, Out-only attachment, allows for air discharge only, prevents air intake Vacuum Breaker, In-only attachment, allows for air intake only, prevents air discharge Non-Slam discharge-throttling attachment, allows for free 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 (mm)	Total NS area (mm^2)	NS orifice (mm)	Switching point (bar)	Flow at 0.4 bar (m^3/h)
2"-8" all sizes	37.5	12.6	4	Spring loaded normally closed	23

Dimensions and Weight

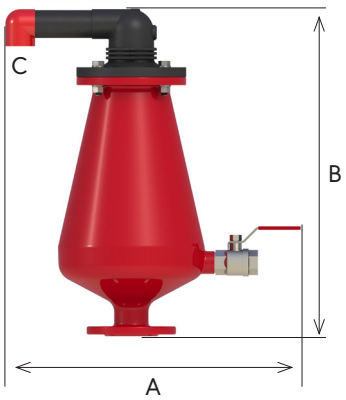
Size	Dimensions (mm)		Connections	Weight (kg)		Orifice Area (mm^2)	
	max. A	B	C	Steel	ST ST	A / V	Auto.
2" (50mm) THR	550	644	1½" BSP F	16.5	15.8	804	12
2" (50mm) FL	550	605	1½" BSP F	17.5	17.0	804	12
3" (80mm) THR	550	649	1½" BSP F	16.9	16.4	804	12
3" (80mm) FL	550	605	1½" BSP F	18.5	18.5	804	12
4" (100mm) FL	550	605	1½" BSP F	19.5	19.5	804	12
6" (150mm) FL	550	610	1½" BSP F	21.0	21.0	804	12
8" (200mm) FL	550	610	1½" BSP F	24.0	22.0	804	12

FL - Flanged THR - Threaded

NOTE

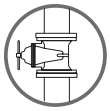
The cover assembly with the discharge elbow can be set in four directions.
Dimension A in the picture and in the table shows the maximum product width.
This width can be reduced by changing the direction.

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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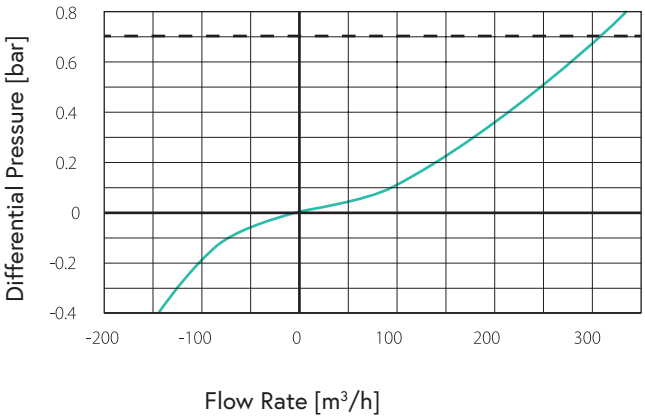
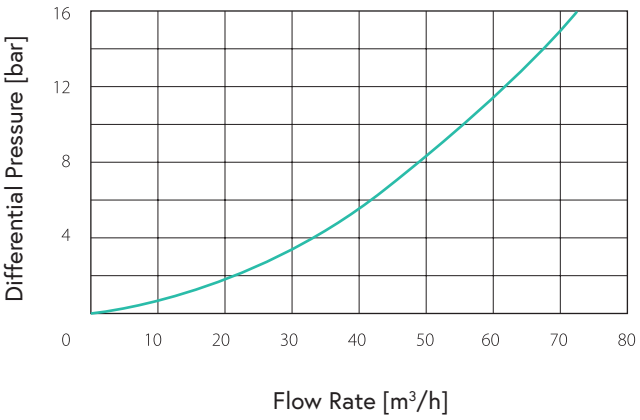
Flow Charts

Air & Vacuum Flow Rate



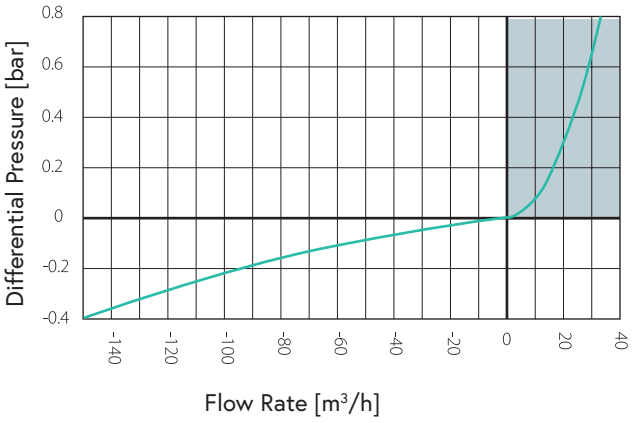
Automatic Air Release Flow Rate



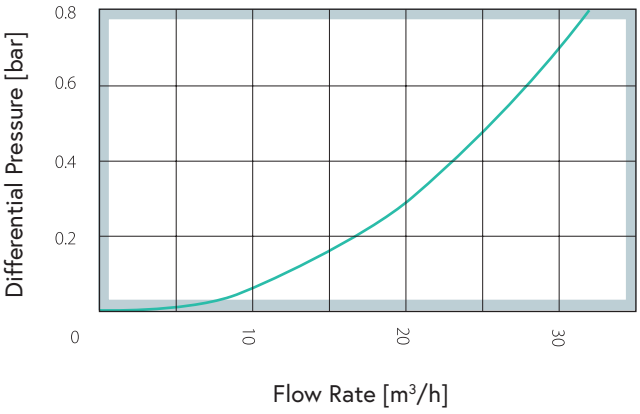
– – – – Max. recommended design air discharge

D-020 NS

Air & Vacuum Flow Rate



Air Discharge Flow Rate



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Parts List and Specification

Part	Material
1. Air Valve Body Assembly	
1a. Body	Reinforced Nylon / Stainless Steel 316
1b. Extension	Polypropylene
1c. Discharge Elbow	Polypropylene
1d. Non-Slam Component (Optional)	Reinforced Nylon / Polypropylene + Acetal + Stainless Steel
2. Cover Assembly	
2a. O-Ring	BUNA-N
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	BUNA-N
5b. Body	Carbon Steel / Stainless Steel 316
5c. Ball Valve	Brass / Stainless Steel 316

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