# A.R.I. S-020 HC VB

Aquestia
Directing the Flow

Wastewater

## High Capacity Automatic Air Release Valve with Vacuum Breaker

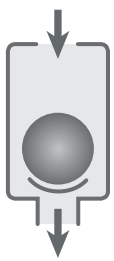
## Description

A.R.I.  S-020, 022 HC VB are high capacity automatic Air Release and Vacuum Breaker valves installed on pressurized wastewater transmission systems. They release accumulated air, improving pipeline hydraulic efficiency by reducing head losses and improving flow and open to intake of air from the atmosphere to protect the system from vacuum conditions. A continuous air gap in the valve body separates the wastewater from the sealing mechanism.

## Installation

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

## Operation



Air Intake

Automatic
Air Release

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## Features and Benefits

| | |
|---|---|
| Conical body shape & unique design | maximum air gap / minimum body length |
| Continuous air gap | separates the liquid from the sealing mechanism |
| Float assembly & sealing mechanism linkage | free movement, turbulence will not unseal the sealing mechanism |
| Large orifice area | high capacity air release |
| Funnel-shaped lower body | residue matter falls back into the system pipeline |
| Rolling seal | leak-free sealing over a wide range of pressure differentials |
| One-size orifice | covers a wide pressure range (up to 25 bar) |
| All internal parts - stainless steel 316, polymer, rubber materials | non-corrosive and durable |
| Ball valve | releases pressure and drains valve prior to maintenance |
| Normally closed vacuum breaker automatically opens under vacuum conditions | protects the pipeline |

## Technical Specifications

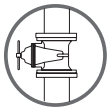
| | |
|---|---|
| Size range | 2" - 4" |
| Sealing pressure range | S-020 HC VB 0.05 - 16 bar (PN 16)<br>S-022 HC VB 0.05 - 25 bar (PN 25)<br>Testing pressure: 1.5 times maximum working pressure |
| Temperature | Maximum working temperature: 60° C.<br>Maximum intermittent temperature: 90° C. |
| Valve 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

- 2", 3" valve connections: threaded BSP/NPT or flanged
- Flanged ends to meet any requested standard
- Welded/cast bodies: Steel or stainless steel
- Valve coating: Fusion bonded epoxy coating in compliance with standard DIN 30677-2
  Other coatings are available upon request

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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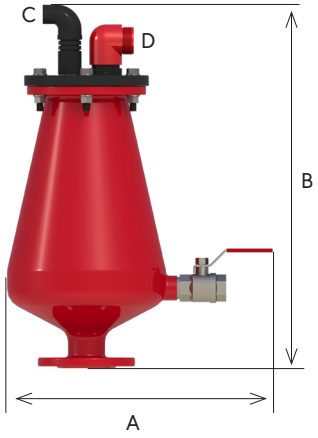
## Dimensions and Weight

| Size | Dimensions (mm) | | Connections | | Weight (kg) | Orifice Area ($mm^2$) |
|---|---|---|---|---|---|---|
| | A | B | C | D | | |
| 2" (50 mm) THRD | 271.8 | 584.2 | 1" | 1 ½" | 17.3 | 40 |
| 2" (50 mm) FL | 271 | 603 | 1" | 1 ½" | 16.5 | 40 |
| 3" (80 mm) THRD | 271 | 603 | 1" | 1 ½" | 16.2 | 40 |
| 3" (80 mm) FL | 271 | 603 | 1" | 1 ½" | 16.7 | 40 |
| 4" (100 mm) THRD | 271 | 603 | 1" | 1 ½" | 17.2 | 40 |

NOTE

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



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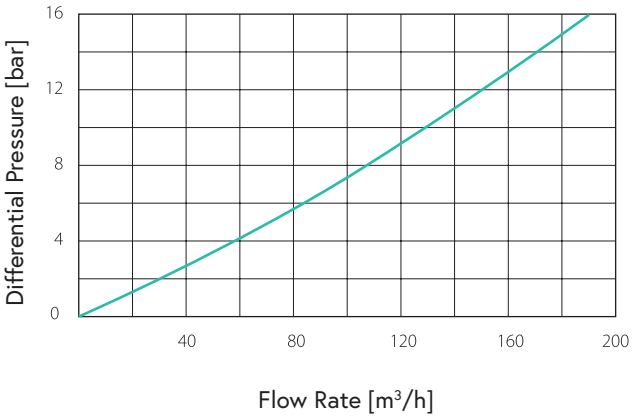
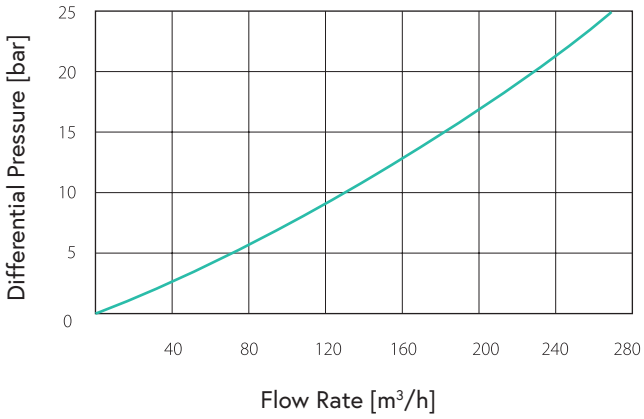
## Flow Charts

PN 16 Automatic Air Realease Flow Rate

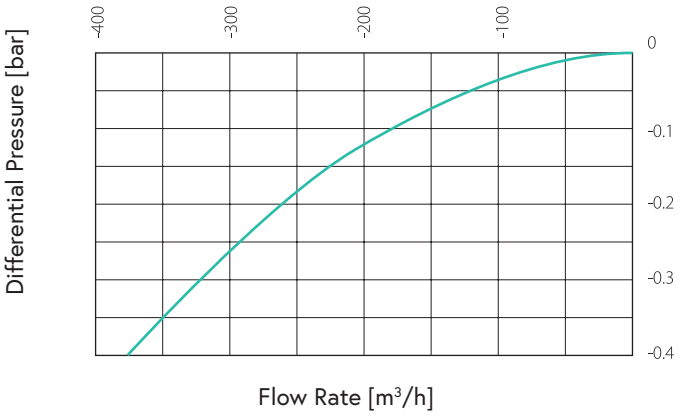



PN 25 Automatic Air Realease Flow Rate




– – – – Max. recommended design air discharge

Air Intake



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## Parts List and Specifications

| Part | Material |
|---|---|
| 1. Cover Assembly | |
| 1a. Air Release Elbow | Polypropylene |
| 1b. Nipple | Polypropylene |
| 1c. Coupling | Polypropylene |
| 1d. Circlip | Stainless Steel 316 |
| 1e. Air Intake Elbow | Polypropylene |
| 1f. Guide | Stainless Steel 316 |
| 1g. Cover | Steel DIN ST. 37 / Stainless Steel 316 |
| 1h. Orifice Seat | Stainless Steel 316 |
| 1i. Orifice Seal | EPDM |
| 2. VB Seal Assembly | |
| 2a. Nut & Washer | Stainless Steel 316 |
| 2b. Spring | Stainless Steel 316 |
| 2c. Sealing Dome & Rod | Stainless Steel 316 |
| 3. Air Release Seal Assembly | |
| 3a. Air Release Orifice | Reinforced Nylon |
| 3b. Lever | Reinforced Nylon |
| 3c. Rolling Seal | EPDM |
| 4. Float Assembly | |
| 4a. Nut & Washer | Stainless Steel 316 |
| 4b. Spring | Stainless Steel 316 |
| 4c. Float & Rod | Polypropylene + Stainless Steel 316 |
| 5. Body Assembly | |
| 5a. O-Ring | BUNA-N |
| 5b. Body | Cast Steel / Cast Stainless Steel |
| 5c. Ball Valve | Brass, Chrome Coated / Stainless Steel 316 |




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