

# A.R.I. D-025



Wastewater

## Combination Air Valve for Wastewater - Short Version

### Description

The D-025 Series are reduced bore compact combination air valves 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

- 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

## 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 and sealing mechanism linkage                                     | free movement, turbulence will not unseat 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 parts - high-strength UV resistant reinforced composite and 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               |
| Tap                                                                              | releases pressure and drains valve prior to maintenance         |

## Technical Specifications

|                        |                                                                               |
|------------------------|-------------------------------------------------------------------------------|
| Size Range             | 2" - 4"                                                                       |
| Sealing pressure range | 0.05 - 10 bar (PN10)<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           |

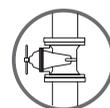
Upon ordering, please specify: model, size, working pressure, thread / flange standard and type of liquid

## Valve Selection Options

- Connections: threaded BSP/NPT, flanged
- Flanged ends to meet any requested standard
- Standard: reinforced nylon body, optional: stainless steel and ductile iron
- Optional Covers (for air discharge direction and for 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

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.



## Non-Slam Add-on Component Data Table for Variable Orifices

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

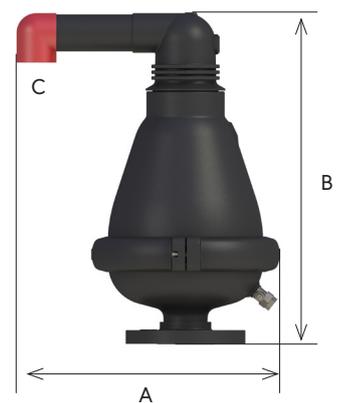
## Dimensions and Weight

| Size           | Dimensions (mm) |     | Connections | Weight (kg) |      | Orifice Area (mm <sup>2</sup> ) |       |
|----------------|-----------------|-----|-------------|-------------|------|---------------------------------|-------|
|                | A               | B   |             | C           | RN   | ST ST                           | A / V |
| 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

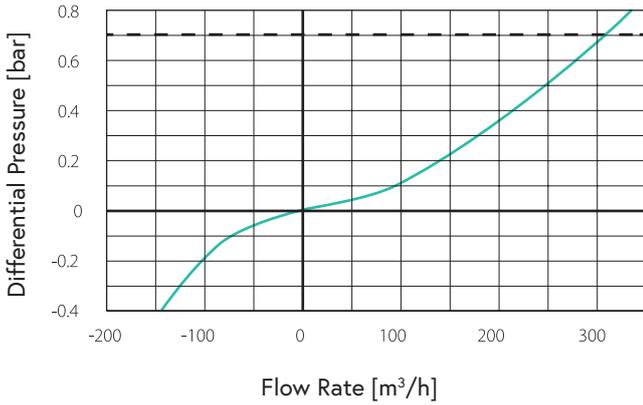
### NOTE

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



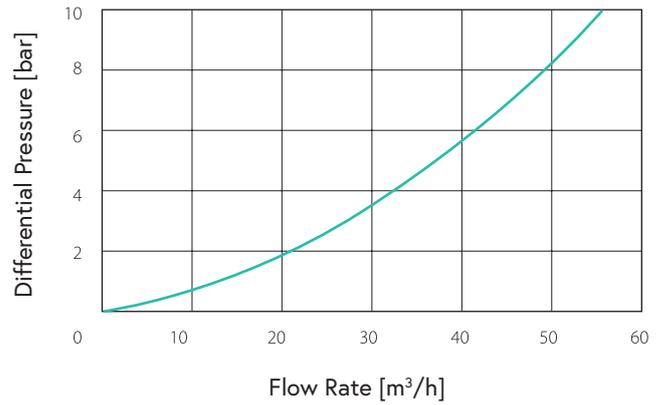
## Flow Charts

Air & Vacuum Flow Rate



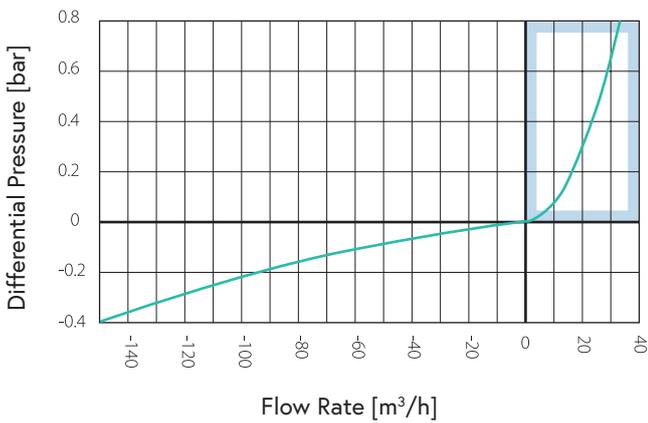
--- Max. recommended design air discharge

Automatic Air Release Flow Rate

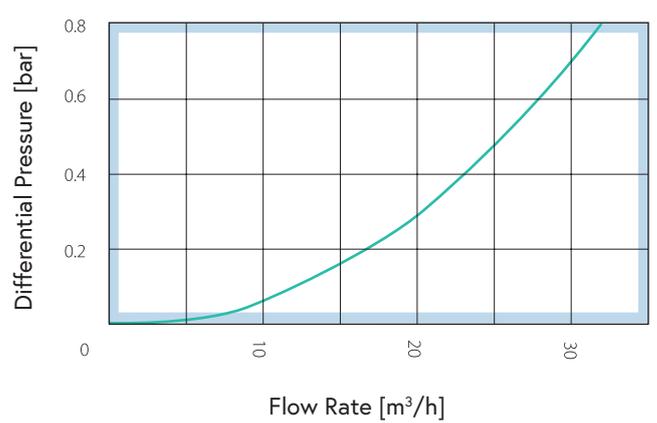


## D-025 NS

Air & Vacuum Flow Rate



Air Discharge Flow Rate



## Parts List and Specification

| Part                              | Material                                                    |
|-----------------------------------|-------------------------------------------------------------|
| <b>1. Air Valve Body Assembly</b> |                                                             |
| 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 |
| <b>2. Seal Assembly</b>           |                                                             |
| 2a. Rolling Seal Assembly         | Nylon + EPDM + Stainless Steel                              |
| 2b. Float Connector               | Foamed Polypropylene                                        |
| 2c. Clamping Stem                 | Reinforced Nylon                                            |
| <b>3. Body Assembly</b>           |                                                             |
| 3a. O-Ring                        | BUNA-N                                                      |
| 3b. Body                          | Reinforced Nylon / Stainless Steel 316                      |
| <b>4. Float Assembly</b>          |                                                             |
| 4a. Domed Nut                     | Stainless Steel 316                                         |
| 4b. Stopper                       | Polypropylene                                               |
| 4c. Spring                        | Stainless Steel 316                                         |
| 4d. Float & Rod                   | Foamed Polypropylene + Stainless Steel 316                  |
| <b>5. Base Assembly</b>           |                                                             |
| 5a. O-Ring                        | BUNA-N                                                      |
| 5b. Clamp Assembly                | Reinforced Nylon + Stainless Steel 316                      |
| 5c. Base                          | Reinforced Nylon / Stainless Steel 316                      |
| 5d. Tap                           | Brass / Stainless Steel                                     |
| 5e. Flange (Optional)             | Reinforced Nylon / Ductile Iron / Stainless Steel 316       |

