

# A.R.I. D-016 NS, D-100 NS Aquestia

Directing the Flow



Industry

## High Pressure, Non-slam Combination Air Valve

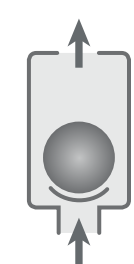
### Description

A.R.I. D-016 NS, D-100 NS, are non-slam, high-pressure, reduced bore, Combination Air Valves. Installed on liquid transmission systems, the Air Valves are designed to improve hydraulic operation by protecting the pipeline, increasing pipeline efficiency and reducing energy requirements.

### Installation

- Municipal and industrial water conveyance systems
- Water conveyance systems requiring high pressure valves

### Operation



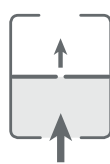
Air Discharge



Air Intake




Automatic  
Air Release



Non-slam

## Features and Benefits

|   |   |
|---|---|
| Simple product design   | No need to disconnect the valve from the main line for maintenance  |
|   | Reduces downtime  |
| Aerodynamic design  | High capacity air discharge, no premature closure   |
|   | Reduces water hammer impact   |
|   | Saves energy and increases system efficiency  |
| Unique orifice seat / seal design   | Long-term maintenance-free operation  |
| Screen protected outlet (6"-8")   | Prevents intrusion of insects and debris  |
| High strength construction materials  | Non-corrosive and durable up to 100 bar   |
|   | Performs in extreme working conditions  |
| Automatic air release valve rolling seal  | Leak-free sealing over a wide range of pressure differentials up to 100bar  |
| Large automatic air release valve orifice   | High-flow air release, lessens obstruction by debris  |
| Non-slam (NS) device  | Efficient surge suppression   |
|  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 |

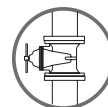
## Technical Specifications

|                        |  |
|------------------------|--|
| Size range             | 1" - 8"  |
| Working pressure range | A.R.I. D-016 NS: 0.2 - 64 bar (PN 64)<br>A.R.I. D-100 NS: 0.2 - 100 bar (PN 100)<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, flange standard and type of liquid

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.



## Valve Selection Options

|                            |  |
|----------------------------|--|
| Models                     | A.R.I. D-016 NS   A.R.I. D-100 NS  |
| Valve connection           | Flanged ends to meet various requested standards                           |
| Standard materials         | Cast Steel   |
| Optional add-on components | One-way Out attachment, allows for air discharge only, prevents air intake |
| Pressure rating            | PN64     A.R.I. D-016 NS<br>PN100    A.R.I. D-100 NS                       |

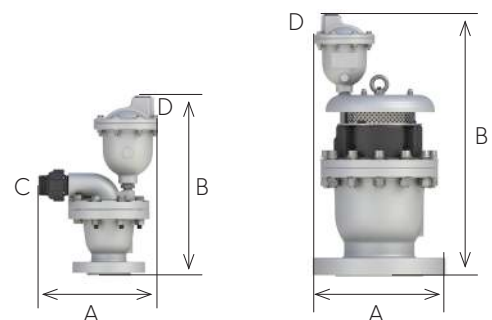
## Dimensions and Weight

| Model                           | Dimensions (mm) |     | Connections    |                 | Weight (kg) | Orifice Area (mm <sup>2</sup> ) |       |
|---------------------------------|-----------------|-----|----------------|-----------------|-------------|---------------------------------|-------|
|                                 | A               | B   | C              | D               |             | A / V                           | Auto. |
| <b>Horizontal outlet models</b> |                 |     |                |                 |             |                                 |       |
| 1" (25 mm) FL                   | 255             | 490 | 1½" BSP Female | 1/2" BSP Female | 18          | 794                             | 15    |
| 2" (50 mm) FL                   | 345             | 513 | 1½" BSP Female | 1/2" BSP Female | 37          | 794                             | 15    |
| 3" (80 mm) FL                   | 360             | 520 | 2" BSP Female  | 1/2" BSP Female | 45          | 1809                            | 15    |
| 4" (100 mm) FL                  | 420             | 565 | 3" BSP Female  | 1/2" BSP Female | 65          | 3318                            | 15    |
| <b>Screen cover models</b>      |                 |     |                |                 |             |                                 |       |
| 6" (150 mm) FL                  | 420             | 750 | -              | 1/2" BSP Female | 123         | 17662                           | 15    |
| 8" (200 mm) FL                  | 430             | 850 | -              | 1/2" BSP Female | 133         | 17662                           | 15    |

FL - Flanged

### NOTE

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



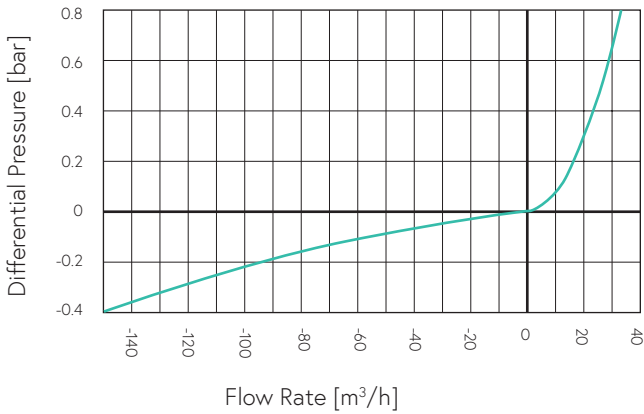
Horizontal Outlet models

Screen cover models

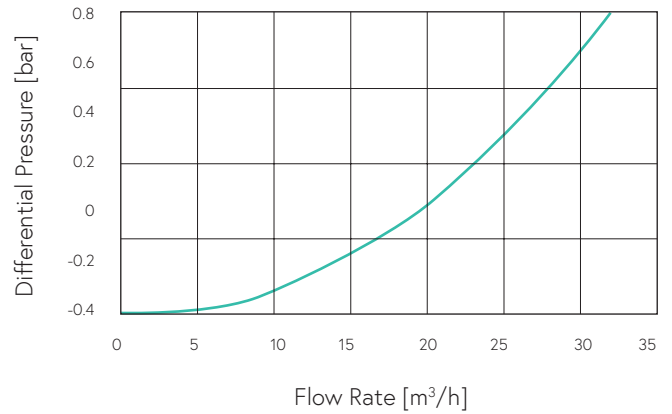
**Flow Charts**

**Horizontal Outlet Models**

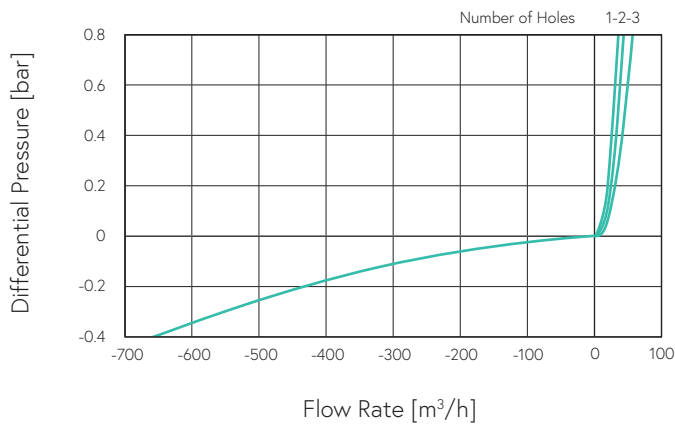
1"-2" Air & Vacuum Flow Rate



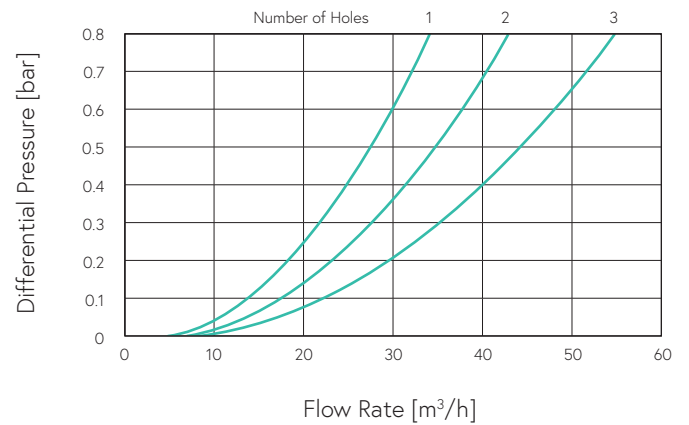
Air Discharge Flow Rate



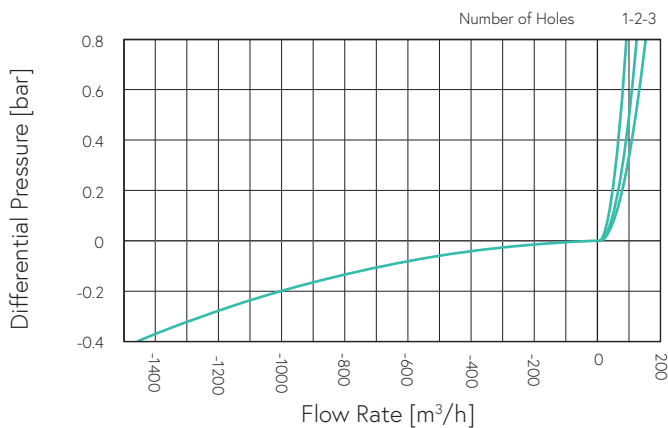
3" Air & Vacuum Flow Rate



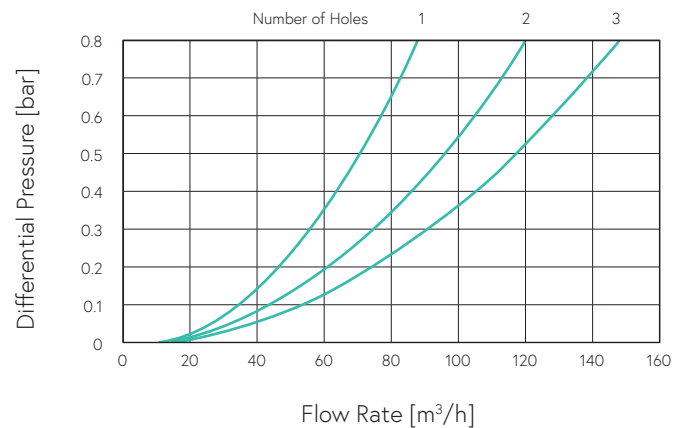
Air Discharge Flow Rate



4" Air & Vacuum Flow Rate

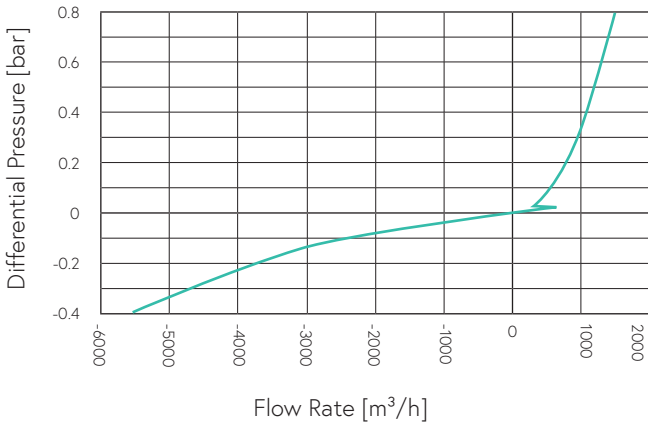


Air Discharge Flow Rate

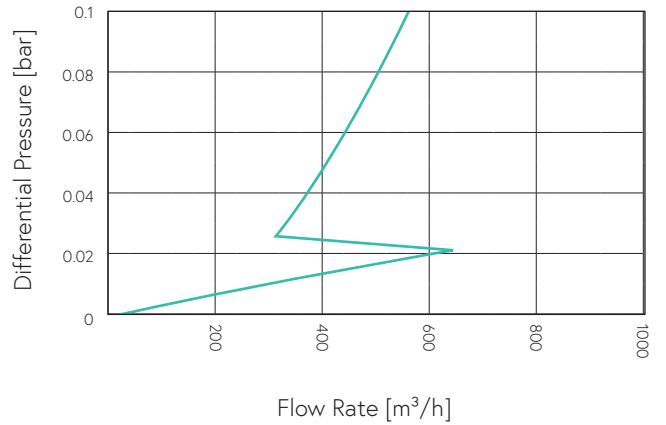


## Screen Cover Models

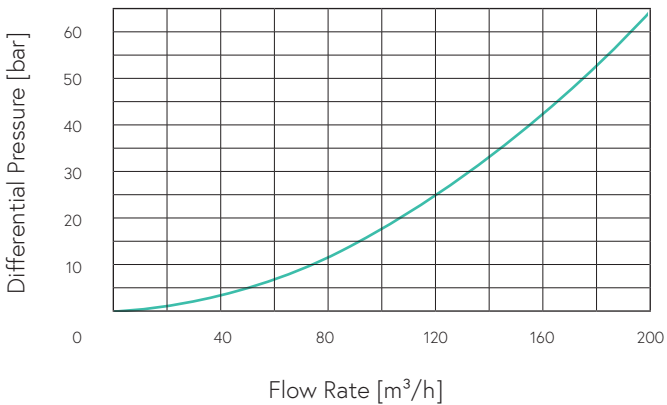
6"-8" Air & Vacuum Flow Rate



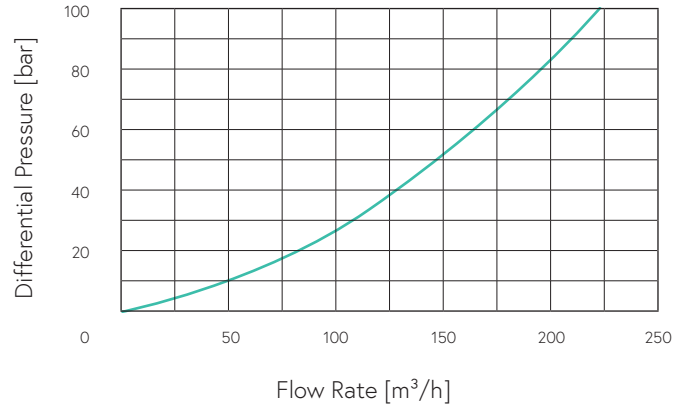
Air Discharge Switching Region



A.R.I. S-016 Automatic Air Release Flow Rate

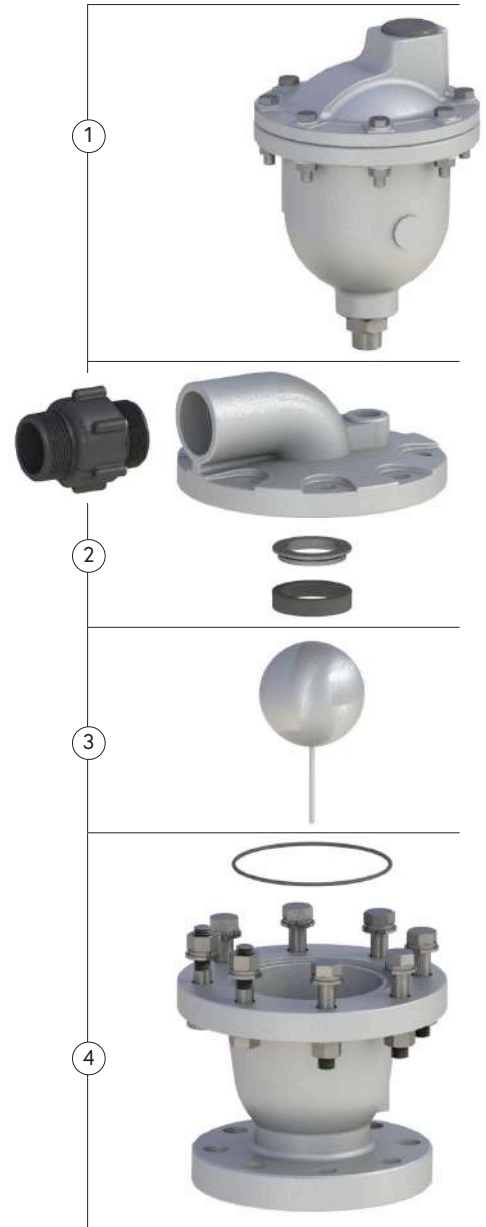


A.R.I. S-100 Automatic Air Release Flow Rate



**Parts List and Specifications | 1"-4" Horizontal Outlet Models**

| No. | Part                       | Material                                      |
|-----|----------------------------|---|
| 1   | Automatic Assembly Options |   |
|     | A.R.I. S-016               | Stainless Steel 316, Cast Steel, Super Duplex |
|     | A.R.I. S-100               | Stainless Steel 316, Cast Steel, Super Duplex |
| 2   | Cover Assembly             |   |
| 2a  | Cover                      | Stainless Steel 316, Cast Steel, Super Duplex |
| 2b  | Non-slam                   | Reinforced Nylon                              |
| 2c  | Orifice Seat               | Stainless Steel 316, Super Duplex             |
| 2d  | Orifice Seal               | Viton / EPDM                                  |
| 3   | Float                      | Polycarbonate / Stainless Steel 316 / Duplex  |
| 4   | Body Assembly              |   |
| 4a  | O-ring                     | Viton / EPDM                                  |
| 4b  | Bolts, Nuts & Washers      | Stainless Steel 316 / Steel                   |
| 4c  | Body                       | Stainless Steel 316, Cast Steel, Super Duplex |



**Parts List and Specifications | 6"-8" Screen Cover Models**

| No.  | Part                  | Material  |
|------|-----------------------|---|
| 1    | Automatic Assembly    |   |
| 1a.1 | A.R.I. S-016          | Cast Steel, Reinforced Nylon, Polypropylene, Stainless Steel 316, Brass, EPDM |
| 1a.2 | A.R.I. S-100          | Cast Steel, PVDF, Polypropylene, Stainless Steel 316, Duplex, EPDM            |
| 1b   | Nipple                | Stainless Steel 316   |
| 1c   | Coupling              | Stainless Steel 316   |
| 2    | Cover Assembly        |   |
| 2a   | Screen Cover          | Polypropylene, Ductile Iron   |
| 2b   | Screen                | Stainless Steel 316   |
| 2c   | Bolts, Nuts & Washers | Stainless Steel 316   |
| 2d   | Screen Ring           | Carbon Steel  |
| 2e   | Non-slam Disc         | Stainless Steel 316, Ductile Iron   |
| 2f   | Cover                 | Stainless Steel 316, Cast Steel, Super Duplex                                 |
| 2g   | Orifice Seat          | Stainless Steel 316, Super Duplex   |
| 2h   | Orifice Seal          | Viton / EPDM  |
| 3    | Float                 | Stainless Steel 316 / Duplex  |
| 4    | Body Assembly         |   |
| 4a   | O-ring                | Viton / EPDM  |
| 4b   | Bolts, Nuts & Washers | Stainless Steel 316   |
| 4c   | Body                  | Stainless Steel 316   |

