

# A.R.I. D-46



Irrigation

## Full-bore, Combination Air Valve Series **PATENTED**

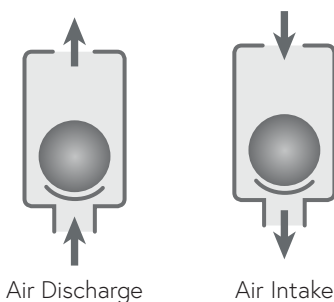
### Description

A.R.I. D-46 is a full-bore, single-body, Combination Air Valve Series. Installed on liquid transmission systems, the Air Valve is designed to improve hydraulic operation by protecting the pipeline, increasing pipeline efficiency and reducing energy requirements. The Air Valve provides high-capacity air release and intake.

### Installation

- Pump stations: after the pump and after the check valve
- Downstream (after) and upstream (before) of shut-off valves
- After deep-well pumps
- On long constant-sloped pipeline segments
- At peaks along the pipeline and at peaks relative to hydraulic gradient
- At end lines
- Before water meters
- On strainers and filters

### Operation



## Features and Benefits

Flow cross-sections	Equal to or greater than nominal port area
Single-body design	Easy to install and maintain, reduces downtime
Aerodynamic design	High-capacity air discharge, no premature closure
	Reduces water hammer impact
	Saves energy and increases system efficiency
Screen protected outlet	Prevents intrusion of insects and debris
Construction materials	Non-corrosive and durable
Automatic air release valve rolling seal	Leak-free sealing over a wide range of pressure differentials
Automatic air release valve orifice	High flow air release, lessens obstruction by debris

## Technical Specifications

Size range	2" –6"
Working pressure range	0.1-16 bar (PN 16) Testing pressure: 1.5 times maximum working pressure
Temperature	Maximum working temperature: 60° C Maximum intermittent temperature: 90° C
Metal valve coating	Fusion bonded epoxy coating in compliance with standard DIN 30677-2

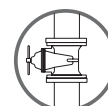
Upon ordering, please specify: model, size, working pressure, thread / flange standard and type of liquid

## Valve Selection Options

Valve connection	Threaded male BSPT/NPT (2"), Flanged ends to meet various requested standard (2"-6")
Standard materials	Reinforced nylon
Optional Add-on Components	One-way, Out-only attachment, allows for air discharge only, prevents air intake Adjustable Non-Slam disc, can also be optionally retrofitted on existing D-46 air valves.
Additional Product Configurations	SB Underground Air Valve System

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.

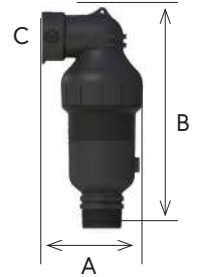
For complete installation instructions, please refer to the IOM document.



## Dimensions and Weight

Size	Dimensions (mm)		Connections	Weight (kg)	Orifice Area (mm <sup>2</sup> )	
	max. A	B			C	A / V
2" (50mm) TRH	150	327	2" BSP/NPT F	1.4	2122	15.0
2" (50mm) FL	170	367	2" BSP/NPT F	1.9	2122	15.0

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 cover direction.

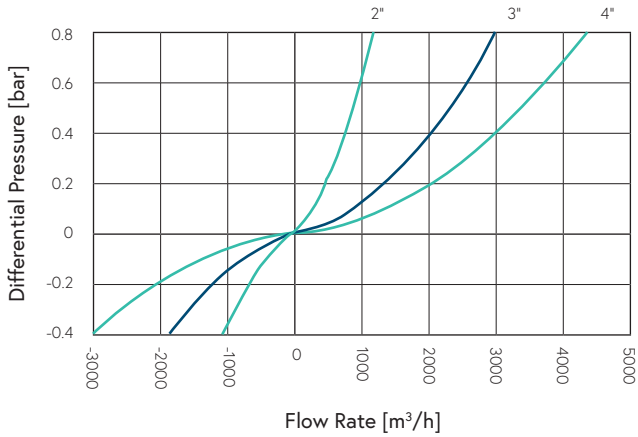
All product weights are approximate, due to the differences in flange standards, materials and variable accessories.

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

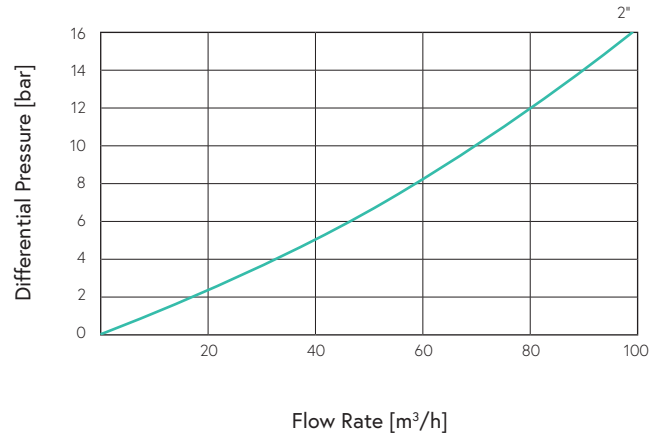
Size	Number of orifices	Discharge orifice (mm)	Total NS area (mm <sup>2</sup> )	NS orifice (mm)	Switching point (bar)	Flow at 0.4 bar (m <sup>3</sup> /h)
2" (50mm)	1 orifice	50	15.9	4.5	Spring loaded normally closed	23
	2 orifices	50	31.8	6.4		32
	3 orifices	50	47.7	7.8		40

## Flow Charts

Air & Vacuum Flow Rate

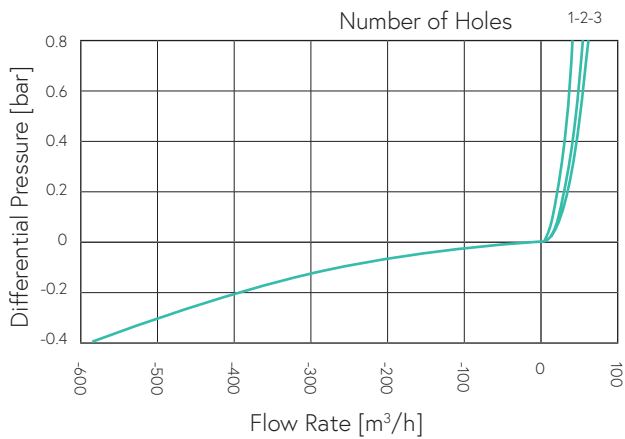


Automatic Air Release Flow Rate

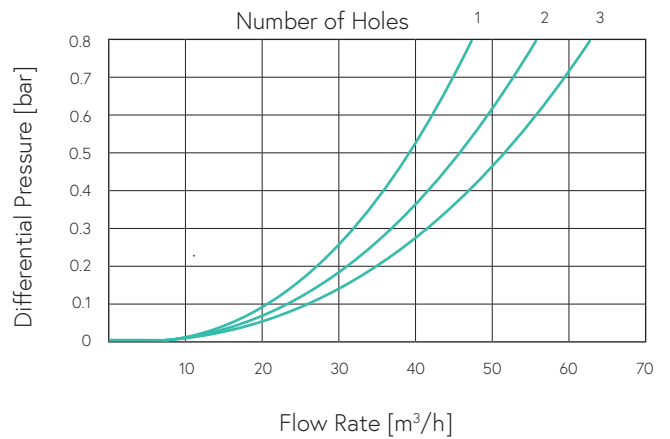


## D-46 NS

Adjustable NS Check Valve



Adjustable NS Check Valve



## Parts List and Specification

No.	Part	Material
1	Cover Assembly	
1a	Cover	Reinforced Nylon
1b	NS	Reinforced Nylon
2	Air Release / Air & Vacuum Assembly	
2a	Air & Vacuum Seal	EPDM
2b	Air Release Cover	Reinforced Nylon
2c	Rolling Seal	EPDM
2d	Float	Polypropylene
2f	O-ring	NBR
3	Body	Reinforced Nylon
4	Optional Flange Assembly	
4a	O-ring	NBR
4b	Flange	Reinforced Nylon + Stainless Steel 316

