

A.R.I. D-46 2"



Waterworks

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

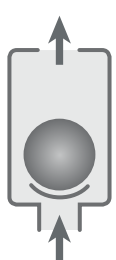
Description

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) 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






Air Discharge



Air Intake

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
 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
 NSF/ANSI/CAN 61 certified & listed	For drinking water system component
 NSF/ANSI 372 certified & listed	Conforms with lead content requirements for "lead-free" plumbing

Technical Specifications

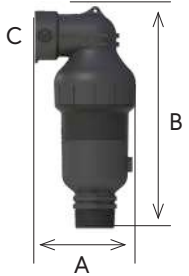
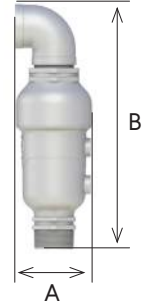
Size range	2"
Working pressure range	1.5 - 250 psi - Nylon models 3 - 360 psi : Stainless Steel models
	Testing pressure: 1.5 times maximum working pressure
Temperature	Maximum working temperature: 140° F Maximum intermittent temperature: 194° F

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
Models	D-46 P Reinforced nylon D-46 ST Stainless Steel body & cover , Polypropylene drainage outlet D-46 STST Stainless Steel body, cover & drianage outlet
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

Dimensions and Weight

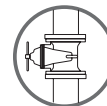
Size	Dimensions (Inch)		Connections	Weight (lbs)	Orifice Area (sq.in)		
	max. A	B			C	A / V	Auto.
Nylon Models							
2" (50mm) THR	5.91	13	2" NPT F	3.08	3.3	0.023	
2" (50mm) FL	6.7	14.4	2" NPT F	4.18	3.3	0.023	
Stainless Steel Models							
2" (50mm) TRH	4.8	14.25	2" NPT F	9.25	3.3	0.023	
2" (50mm) FL	6.5	14.5	2" NPT F	10.2	3.3	0.023	

FL - Flanged THR - Threaded

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

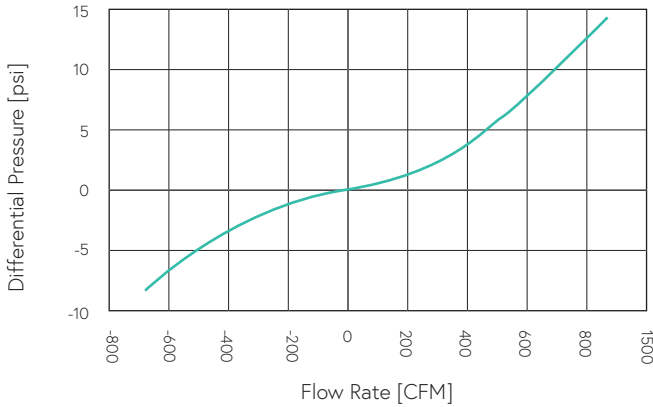
The isolation valve installed under the air valve must be fully open to prevent damage or malfunction and ensure performance within the specifications of the air valve.

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

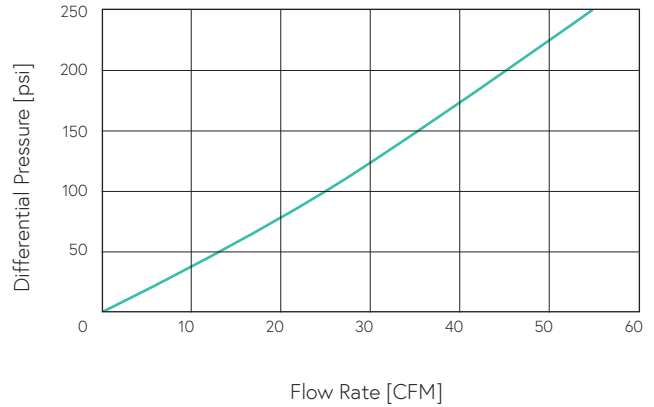


Flow Charts

Air & Vacuum Flow Rate

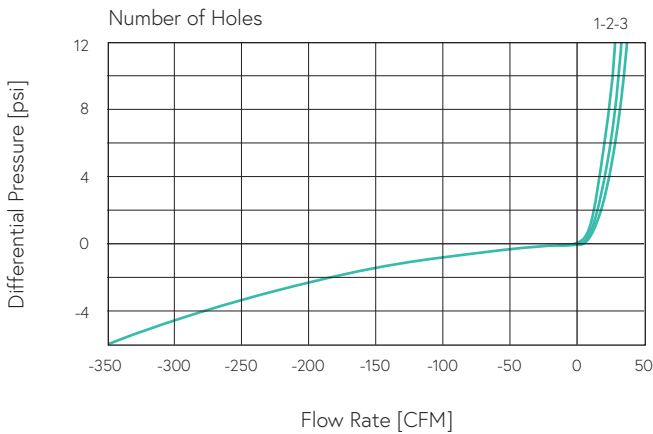


Automatic Air Release Flow Rate

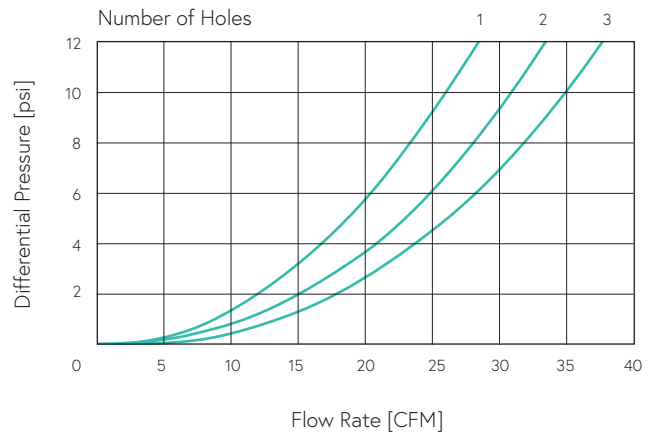


NS Models

Air & Vacuum Flow Rate



Air Flow Rate



Non-slam Add-on Component Data Table for Variable Orifices

Nylon / Stainless Steel Models

Size	Number of orifices	Discharge orifice (Inch)	Total NS area (Sq.In)	NS orifice (Inch)	Switching point (psi)	CFM (5.8 psi)
2" (50mm)	1 orifice	2"	0.024	0.18	Spring loaded normally closed	14
	2 orifices	2"	0.049	0.25		19
	3 orifices	2"	0.074	0.31		24

Parts List and Specifications | Nylon

No.	Part	Material
1	Cover Assembly	
1a	Cover	Reinforced Nylon
1b	Non-slam (optional)	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
2e	O-ring	NBR
3	Body Assembly	
3a	Body	Reinforced Nylon
3b	Plug	Reinforced Nylon
4	Flange Assembly (optional)	
4a	O-ring	NBR
4b	Flange	Reinforced Nylon



Parts List and Specifications | Metal

No.	Part	Material
1	Cover Assembly	
1a	Cover	Stainless Steel 316
1b	Elbow (optional)	Stainless Steel 316 / Polypropylene
1c	Non-slam (optional)	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
2e	O-ring	NBR
3	Body Assembly	
3a	Body	Stainless Steel 316
3b	1/2" Plug	Stainless Steel 316
4	Flange Assembly (optional)	
4a	O-ring	NBR
4b	Flange	Stainless Steel 316

