

A.R.I. D-46 P

Aquestia
Directing the Flow



Waterworks

Full-bore, Combination Air Valve Series

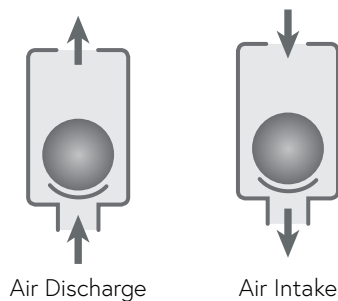
Description

A.R.I. D-46 P 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
 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" –3"
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

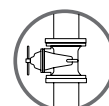
Upon ordering, please specify: model, size, working pressure, thread / flange standard and type of liquid

Valve Selection Options

Valve connection	Threaded male BSPT/NPT, Flanged ends to meet various requested standard
Standard materials	Reinforced nylon body
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 P air valves.
Additional Product Configurations	SB Underground Air Valve System

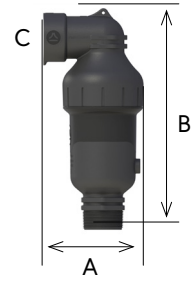
The isolation valve installed under the air valve must be fully open to prevent damage or malfunction and ensure performance within the specifications of the air valve.

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



Dimensions and Weight

Size	Dimensions (mm)		Connections	Weight (kg)	Orifice Area (mm ²)	
	max. A	B			C	A / V
2" (50mm) THR	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
3" (80mm) TRH	171	330	3" BSP/NPSM F	3.05	5027	14
3" (80mm) FL	208	336	3" BSP/NPSM F	3.85	5027	14

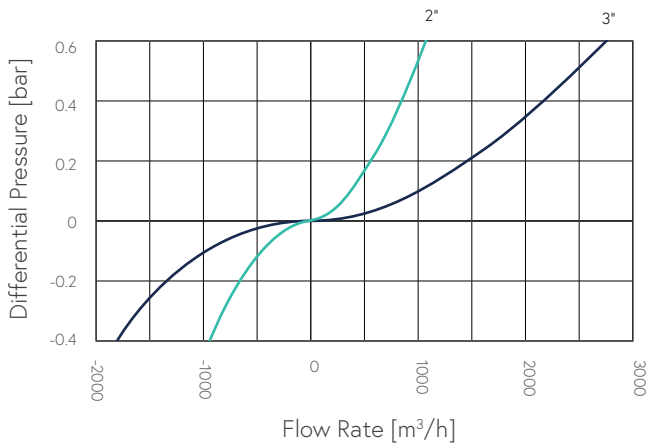


FL - Flanged THR - Threaded

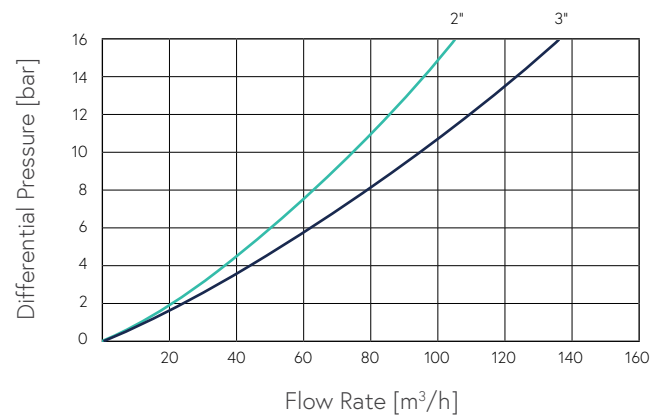
All product weights are approximate, due to the differences in flange standards, materials and variable accessories.

Flow Charts

Air & Vacuum Flow Rate

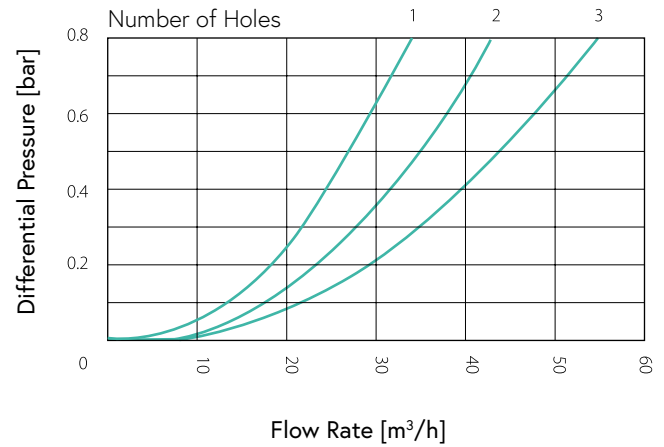
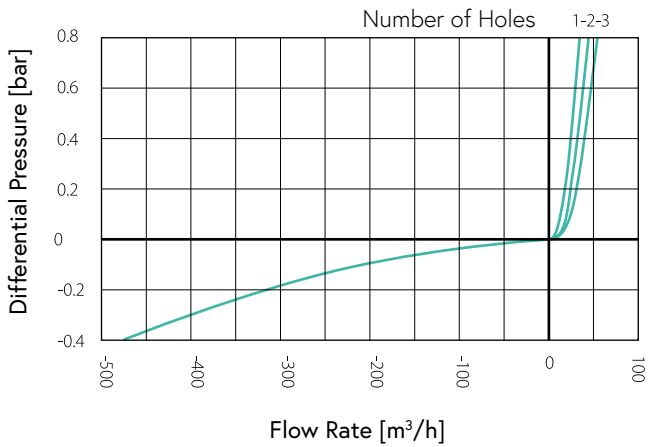


Automatic Air Release Flow Rate



A.R.I. D-46 P NS 2"

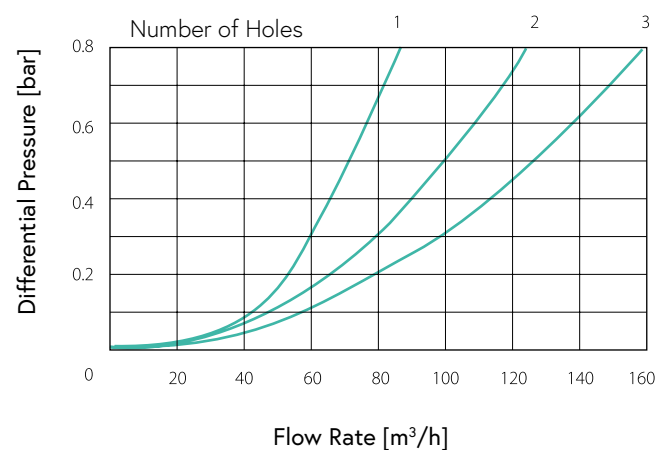
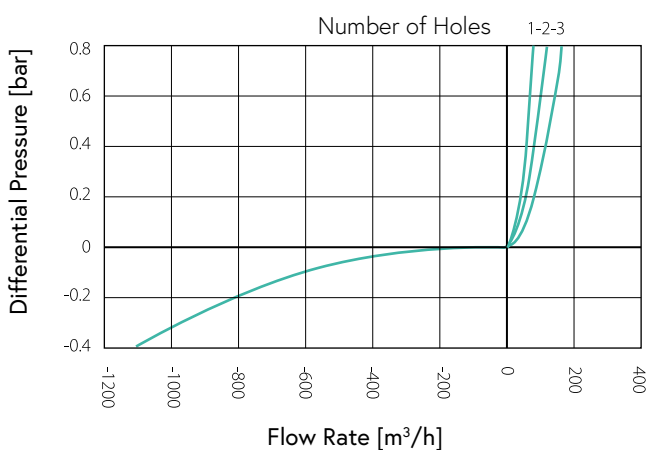
Adjustable NS Check Valve



Size	Number of orifices	Discharge orifice (mm)	Total NS area (mm ²)	NS orifice (mm)	Switching point (bar)	Flow at 0.4 bar (m ³ /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

A.R.I. D-26 NS 3"

Adjustable NS Check Valve



Size	Number of orifices	Discharge orifice (mm)	Total NS area (mm ²)	NS orifice (mm)	Switching point (bar)	Flow at 0.4 bar (m ³ /h)
3" (80mm)	1 orifice	75	50.3	8	Spring-loaded normally closed	65
	2 orifices	75	100.5	11.3		88
	3 orifices	75	150.8	13.9		106

Parts List and Specification | 2"

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 Assembly	Reinforced Nylon
3a	Body	Reinforced Nylon
3b	Pressure Release Port (optional)	
4	Optional Flange Assembly	
4a	O-ring	NBR
4b	Flange	Reinforced Nylon + Stainless Steel 316



Parts List and Specification | 3"

No.	Part	Material
1	Body Assembly	
1a	Body	Reinforced Nylon
1b	NS	Reinforced Nylon
1c	Pressure Release Port (optional)	
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	Base Assembly	Reinforced Nylon
3a	Base	Reinforced Nylon
3b	Pressure Release Port (optional)	
4	Optional Flange Assembly	
4a	O-ring	NBR
4b	Flange	Reinforced Nylon + Stainless Steel 316

