

A.R.I. D-050

 **Aquestia**
Directing the Flow



Industry

Reduced Bore, Combination Air Valve Series

Description

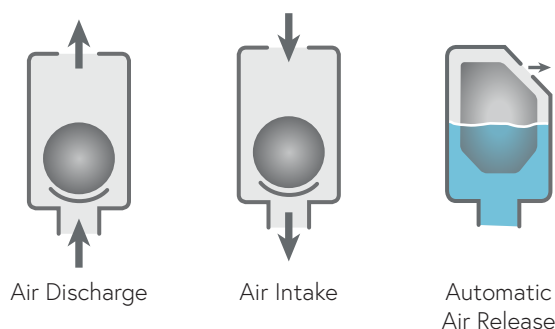
A.R.I. D-050 is a reduced bore Combination Air Valve Series. Installed on liquid transmission systems, the Air Valve is designed to improve hydraulic operation by protecting the pipeline, increasing pipeline efficiency and reducing energy requirements.

Applicable for: Desalination & Seawater, Mines, Marine - Ballast Water, Oil & Gas, Food Industry, Power Plant Cooling, CBM, Hydro / Thermal Power.


Installation

- Pump stations: downstream of the pump and the check valve
- Downstream and upstream of shut-off valves
- Downstream of deep-well pumps
- On long constant-sloped pipeline segments
- At peaks along the pipeline and at peaks relative to hydraulic gradient
- Municipal and industrial water conveyance systems

Operation



Features and Benefits

Simple product 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
Unique orifice seat / seal design	Long-term maintenance-free operation
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

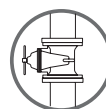
Technical Specifications

Size range	2" –12"
Working pressure range	A.R.I. D-050 L 0.05 - 16 bar (PN16) A.R.I. D-050 0.2 - 16 bar (PN16) A.R.I. D-052 0.2 - 25 bar (PN25) A.R.I. D-055 0.2 - 40 bar (PN40)
Testing pressure	1.5 times maximum working pressure
Temperature	Maximum working temperature: 60° C 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

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-050 A.R.I. D-050 L A.R.I. D-052 A.R.I. D-055
Valve connection	Threaded male BSPT/NPT (2") Flanged ends to meet various requested standard (2"-12")
Standard materials	Cast Ductile Iron, Cast Steel, Cast Stainless Steel 316, Cast Super Duplex, Cast Nickel aluminum bronze, additional materials upon request
Optional add-on components	One-way out attachment, allows for air discharge only, prevents air intake One-way In attachment, allows air intake only, not allowing air discharge
Pressure rating	PN16 A.R.I. D-050 A.R.I. D-050 L PN25 A.R.I. D-052 PN40 A.R.I. D-055
Additional product configurations	SB Underground Air Valve System



A.R.I. D-050
A.R.I. D-052



A.R.I. D-050 L



A.R.I. D-055

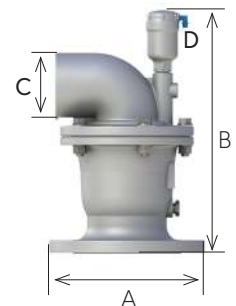
Dimensions and Weight

Model	Size	Dimensions (mm)		Connections		Weight (kg)	Orifice Area (mm²)	
		max. A	B	C	D		A / V	Auto.
D-050/D-052								
Horizontal Outlet	2" (50mm) TRH	162	301	1.5" BSP Female	1/8" BSP Female	7.7	794	12
	2" (50mm) FL	167	311	1.5" BSP Female	1/8" BSP Female	10.8	794	12
	3" (80mm) FL	195	379	2" BSP Female	1/8" BSP Female	15	1960	12
	4" (100mm) FL	225	426	3" BSP Female	1/8" BSP Female	20	5030	12
	6" (150mm) FL	305	485	4" BSP Female	1/8" BSP Female	41	7850	12
	8" (200mm) FL	428	587	6" Grooved	1/8" BSP Female	84	17662	12
Screen Cover	3" (80mm) FL	219	344	-	1/8" BSP Female	10.7	1960	12
	4" (100mm) FL	243	390	-	1/8" BSP Female	17	5030	12
	6" (150mm) FL	302	436	-	1/8" BSP Female	35	7850	12
	8" (200mm) FL	375	596	-	1/8" BSP Female	73.5	17662	12
	10" (250mm) FL	463	724	-	1/8" BSP Female	141.5	31400	12
	12" (300mm) FL	586	853	-	1/8" BSP Female	150	49087	12
D-055								
Horizontal Outlet	2" (50mm) TRH	168	446	1.5" BSP Female	1/2" BSP Female	10	794	15
	2" (50mm) FL	173	456	1.5" BSP Female	1/2" BSP Female	13.1	794	15
	3" (80mm) FL	200	524	2" BSP Female	1/2" BSP Female	18.1	1960	15
	4" (100mm) FL	230	571	3" BSP Female	1/2" BSP Female	23.1	5030	15
	6" (150mm) FL	305	636	4" BSP Female	1/2" BSP Female	43.3	7850	15
	8" (200mm) FL	428	738	6" Grooved	1/2" BSP Female	46.3	17662	15
Screen Cover	3" (80mm) FL	225	485	-	1/2" BSP Female	12.6	1960	15
	4" (100mm) FL	250	532	-	1/2" BSP Female	19.3	5030	15
	6" (150mm) FL	307	579	-	1/2" BSP Female	26.3	7850	15
	8" (200mm) FL	375	739	-	1/2" BSP Female	75.8	17662	15
	10" (250mm) FL	463	796	-	1/2" BSP Female	141.5	31400	15

FL - Flanged THR - Threaded

NOTE

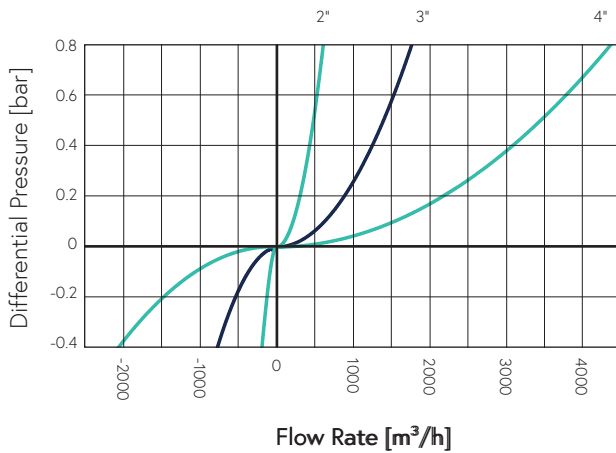
Dimension A in the picture and in the table shows the maximum product width. This width can be reduced by changing the cover direction. All product weights are approximate, due to the differences in flange standards, materials and variable accessories.



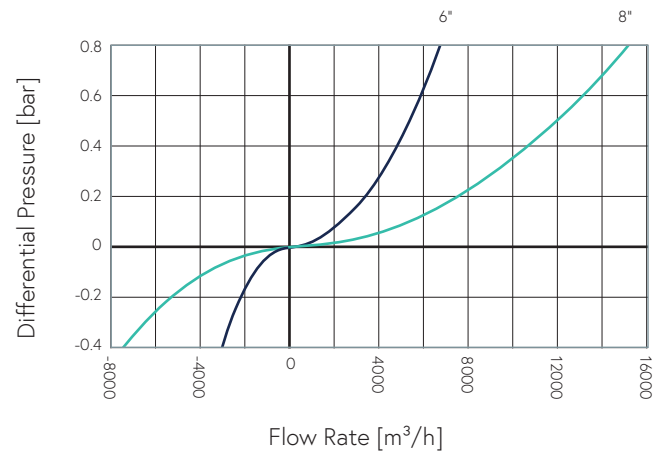
Flow Charts

Horizontal Outlet Models

Air & Vacuum Flow Rate

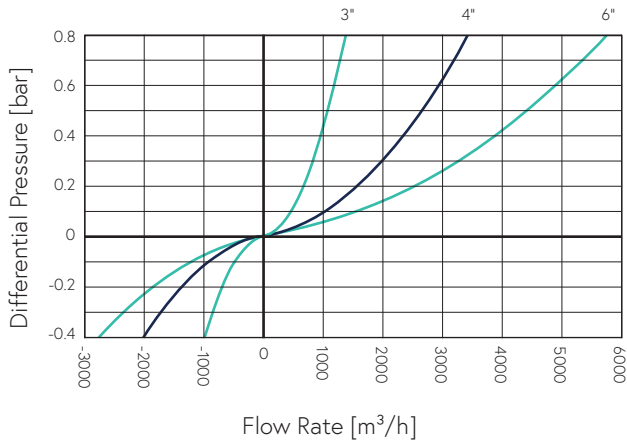


Air & Vacuum Flow Rate

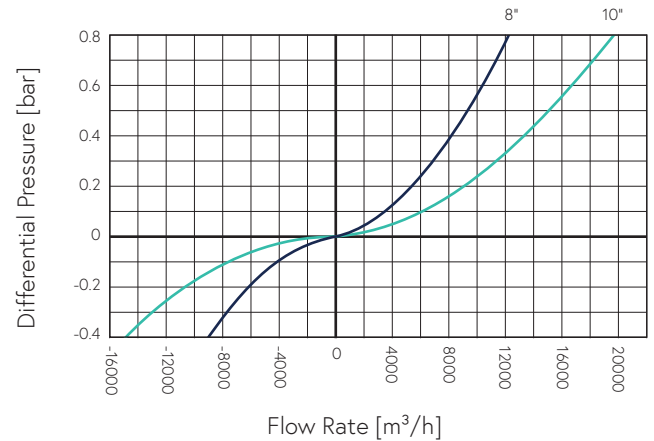


Screen Cover Models

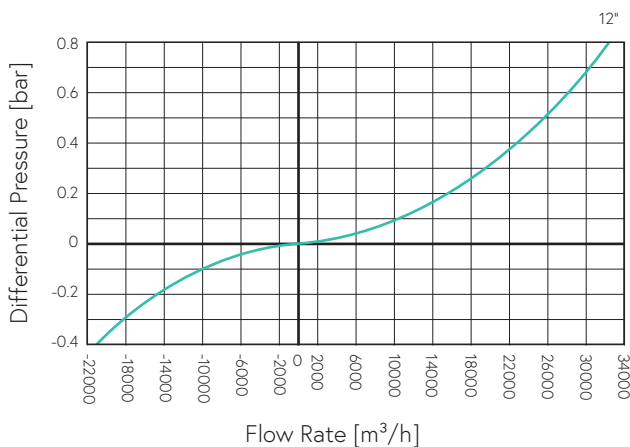
Air & Vacuum Flow Rate



Air & Vacuum Flow Rate

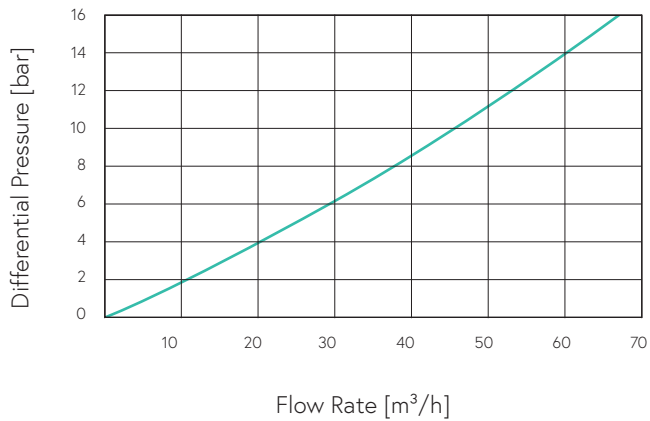


Air & Vacuum Flow Rate

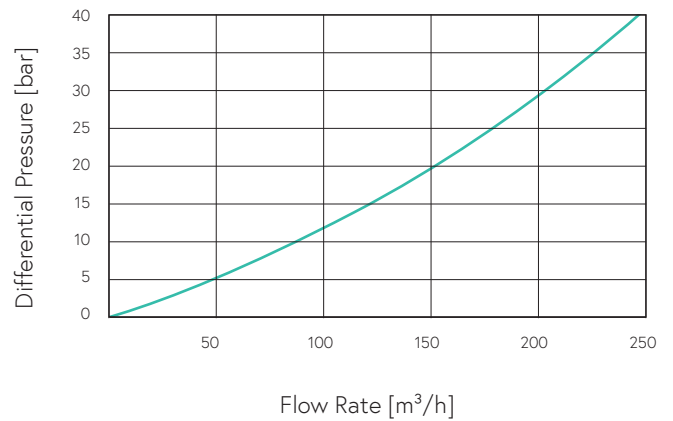


Flow Charts

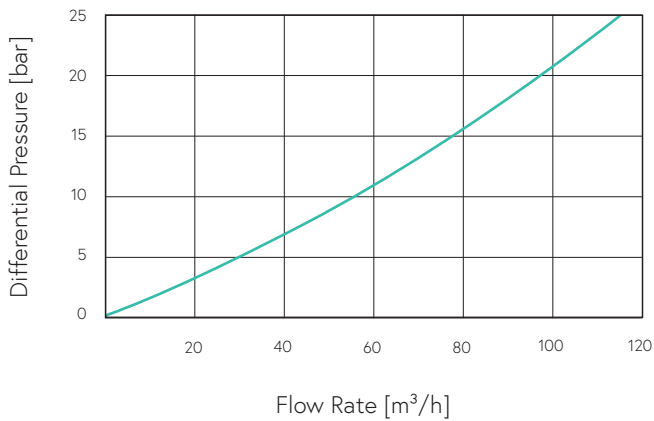
PN16 Automatic Air Release Flow Rate



PN40 Automatic Air Release Flow Rate

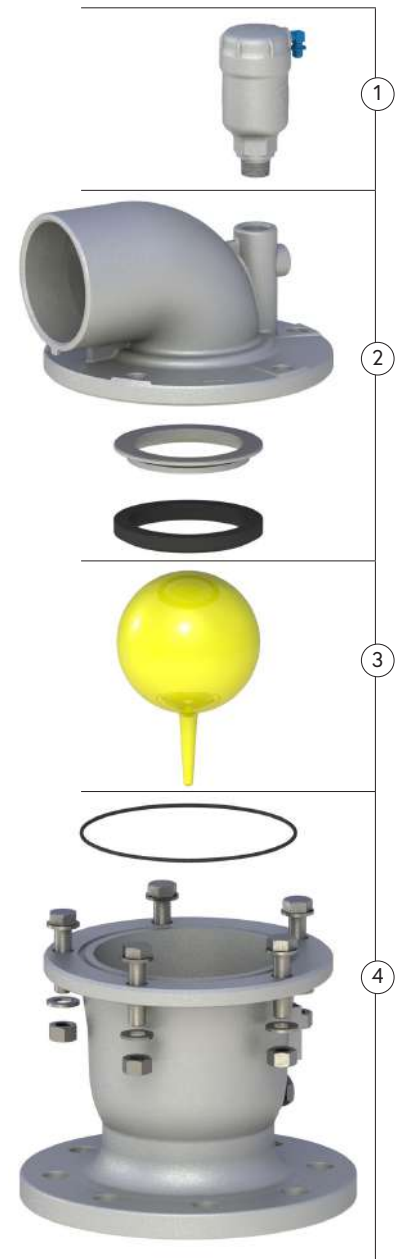


PN25 Automatic Air Release Flow Rate



Parts List and Specifications | 2"-8" Horizontal Outlet Models

No.	Part	Material
1	Automatic Assembly Options:	
	A.R.I. S-050	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
	A.R.I. S-050 L	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
	A.R.I. S-052	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
	A.R.I. S-015	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
2	Cover Assembly	
2a.	Cover	Stainless Steel 316 / Super Duplex
2b.	Orifice Seat	Stainless Steel 316 / Super Duplex
2c.	Orifice Seal	EPDM / VITON
3	Float	Polycarbonate / Stainless Steel 316 / Super Duplex
4	Body Assembly	
4a.	O-ring	EPDM / VITON
4b.	Bolts, Nuts & Washers	Steel/Stainless Steel 316
4c.	Body	Stainless Steel 316 / Super Duplex



Parts List and Specifications | 3"-12" Screen Cover Models

No.	Part	Material
1	Automatic Assembly Options:	
	A.R.I. S-050	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
	A.R.I. S-050 L	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
	A.R.I. S-052	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
	A.R.I. S-015	Stainless Steel 316 / Super Duplex / Polypropylene, EPDM
2	Cover Assembly	
2a	Screen Cover	Polypropylene/Stainless Steel 316
2b	Screen	Stainless Steel 316
2c	Bolts, Nuts & Washers	Stainless Steel 316
2d	Cover	Stainless Steel 316 / Super Duplex
2e	Orifice Seat	Stainless Steel 316 / Super Duplex
2f	Orifice Seal	EPDM / VITON
3	Float	Polycarbonate / Stainless Steel 316 / Super Duplex
4	Body Assembly	
4a	O-Ring	EPDM / VITON
4b	Bolts, Nuts & Washers	Steel/Stainless Steel 316
4c	Body	Stainless Steel 316 / Super Duplex

