A.R.I. D-050

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Directing the Flow

Waterworks

Combination Air Valve

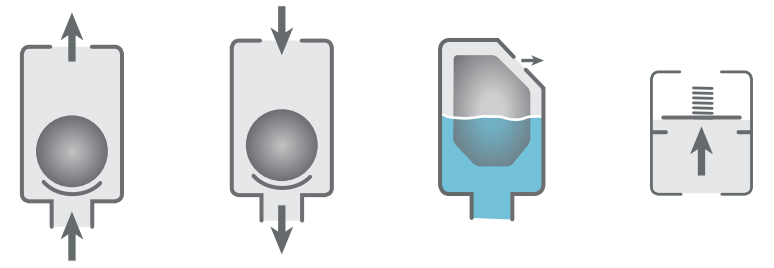
Description

A.R.I. D-050 Series, is a reduced bore Combination Air Valve. 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.

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
- At end lines
- Before water meters
- On strainers and filters
- Municipal and industrial water conveyance systems

Operation



Air Discharge | Air Intake | Automatic Air Release | One Way Out

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Features and Benefits

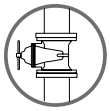
Reliable operation	reduces water hammer impact, saves energy and increases system efficiency
Dynamic design	high capacity air discharge
Installation and maintenance	easy to install and simple to maintain
Unique orifice seat/seal design	long-term maintenance-free operation
Accessible discharge outlet	for connecting a vent pipe
All internal operating parts - specially selected materials	non-corrosive and durable
Rolling Seal	leak-free sealing over a wide range of pressure differentials
Automatic air release orifice	high flow air release, lessens obstruction by debris

Technical Specifications

Size range	2" –12"
Sealing pressure range	A.R.I. D-050L 0.05 - 16 bar (PN16) A.R.I. D-050 0.2 - 16 bar (PN16) A.R.I. D-050-C 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 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.



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Valve Selection Options

Models	A.R.I. D-050 | A.R.I. D-050 C | 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 body
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 C | 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

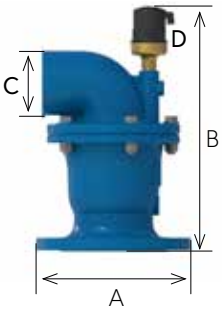
A.R.I. D-050

A.R.I. D-050 L

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

A.R.I. D-055

A.R.I. D-050



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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.

FL - Flanged THR - Threaded

Dimensions and Weight

Model	Size	Dimensions (mm)		Connections		Weight (kg)	Orifice Area (mm²)	
		max. A	B	C	D		A / V	Auto.
D-050								
Horizontal Outlet	2" (50mm) TRH	168	295	1.5" BSP Female	1/8" BSP Female	5.7	794	12
	2" (50mm) FL	173	305	1.5" BSP Female	1/8" BSP Female	7.8	794	12
	3" (80mm) FL	200	373	2" BSP Female	1/8" BSP Female	13	1960	12
	4" (100mm) FL	230	420	3" BSP Female	1/8" BSP Female	18	5030	12
	6" (150mm) FL	305	485	4" BSP Female	1/8" BSP Female	39	7850	12
	8" (200mm) FL	428	587	6" Grooved	1/8" BSP Female	82	17662	12
Screen Cover	3" (80mm) FL	225	334	-	1/8" BSP Female	10.7	1960	12
	4" (100mm) FL	250	381	-	1/8" BSP Female	17	5030	12
	6" (150mm) FL	307	428	-	1/8" BSP Female	35	7850	12
	8" (200mm) FL	375	588	-	1/8" BSP Female	73.5	17662	12
	10" (250mm) FL	463	645	-	1/8" BSP Female	141.5	31400	12
	12" (300mm) FL	586	846	-	1/8" BSP Female	150	49087	12
D-050-C / D-052								D-050-C | D-052
Horizontal Outlet	2" (50mm) TRH	162	301	1.5" BSP Female	1/8" BSP Female	7.7	794	12 | 9
	2" (50mm) FL	167	311	1.5" BSP Female	1/8" BSP Female	10.8	794	12 | 9
	3" (80mm) FL	195	379	2" BSP Female	1/8" BSP Female	15	1960	12 | 9
	4" (100mm) FL	225	426	3" BSP Female	1/8" BSP Female	20	5030	12 | 9
	6" (150mm) FL	305	485	4" BSP Female	1/8" BSP Female	41	7850	12 | 9
	8" (200mm) FL	428	587	6" Grooved	1/8" BSP Female	84	17662	12 | 9
Screen Cover	3" (80mm) FL	219	344	-	1/8" BSP Female	10.7	1960	12 | 9
	4" (100mm) FL	243	390	-	1/8" BSP Female	17	5030	12 | 9
	6" (150mm) FL	302	436	-	1/8" BSP Female	35	7850	12 | 9
	8" (200mm) FL	375	596	-	1/8" BSP Female	73.5	17662	12 | 9
	10" (250mm) FL	463	724	-	1/8" BSP Female	141.5	31400	12 | 9
	12" (300mm) FL	586	853	-	1/8" BSP Female	150	49087	12 | 9
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

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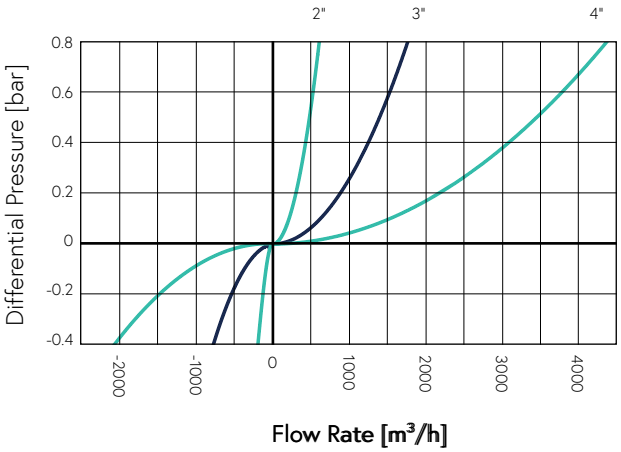
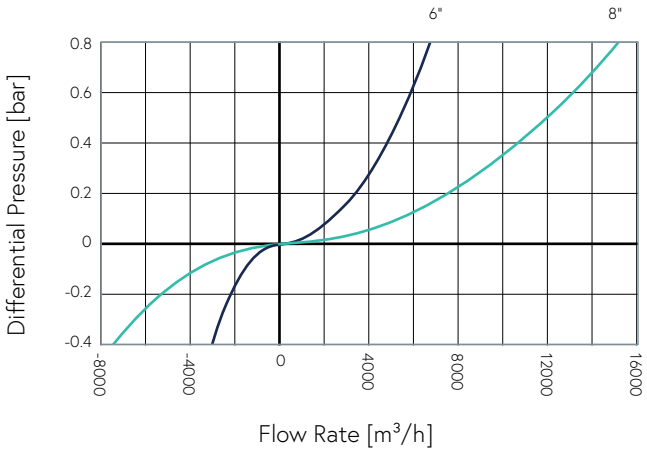
Flow Charts

Horizontal Outlet Models

Air & Vacuum Flow Rate

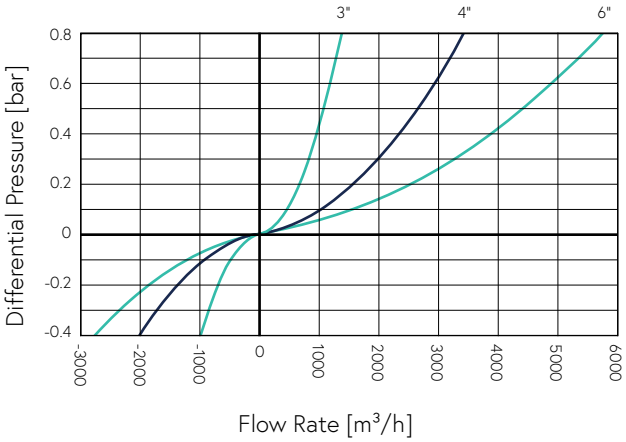


Air & Vacuum Flow Rate

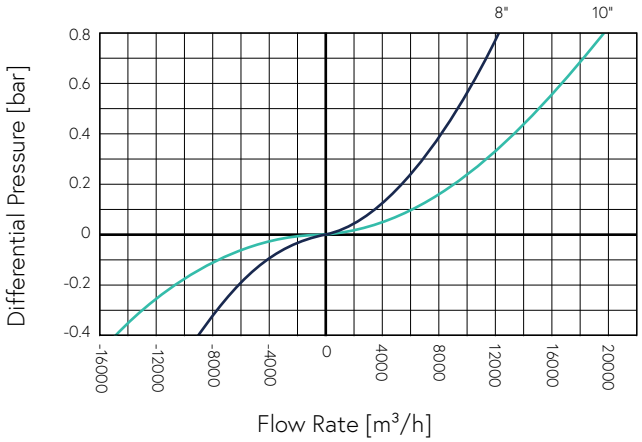


Screen Cover Models

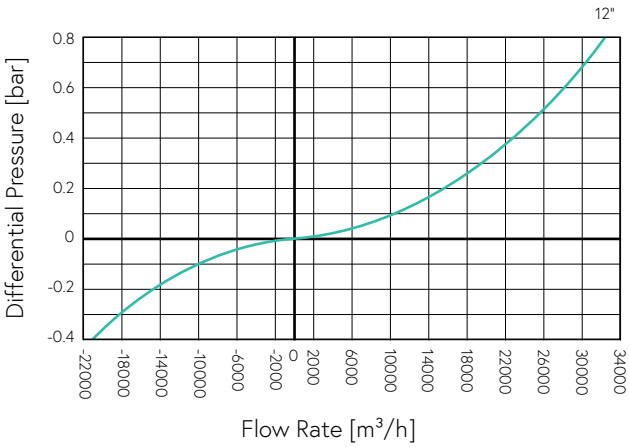
Air & Vacuum Flow Rate



Air & Vacuum Flow Rate



Air & Vacuum Flow Rate



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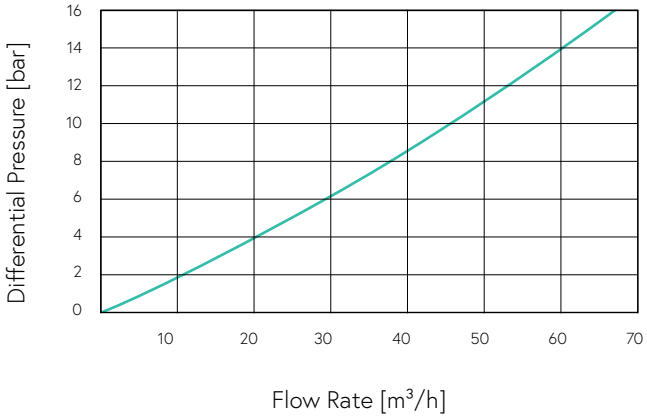
Flow Charts

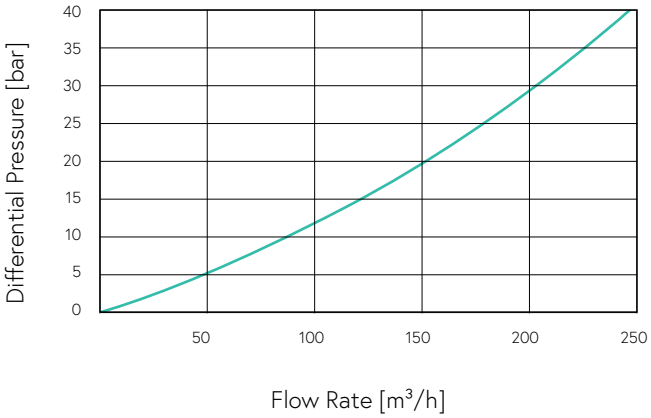
A.R.I. D-050 / A.R.I. D-050 C

Automatic Air Realease Flow Rate



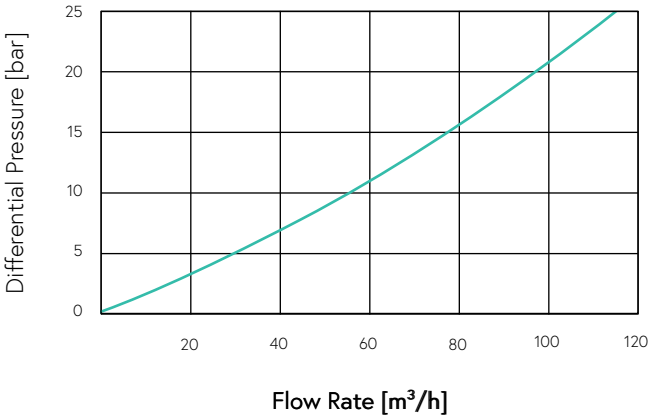
A.R.I. D-055

Automatic Air Realease Flow Rate



A.R.I. D-052

Automatic Air Realease Flow Rate



A.R.I. D-050

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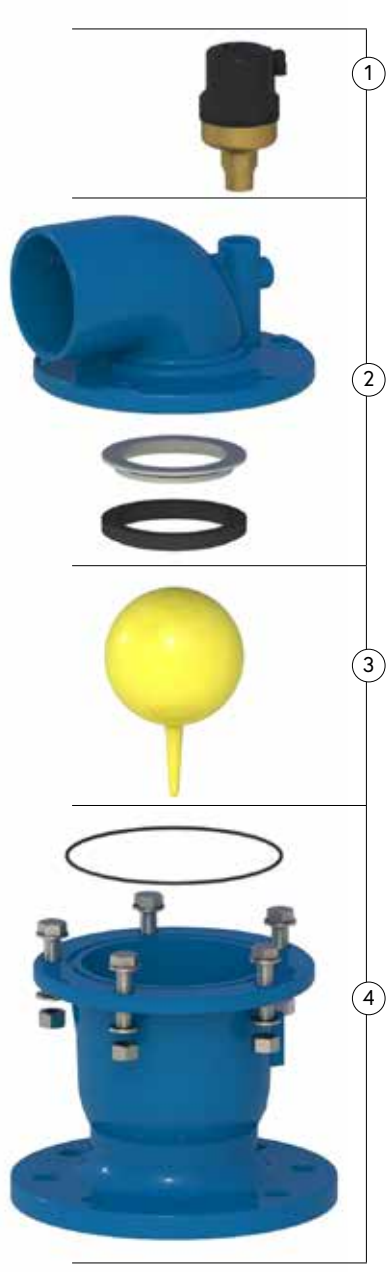
2"-8" Horizontal Outlet Models

Parts List and Specifications

No.	Part	Material
1	Automatic Assembly Options:	
	A.R.I. S-050	Brass, Reinforced Nylon,Polypropylene, EPDM
	A.R.I. S-050 L	Brass, Reinforced Nylon,Polypropylene, EPDM
	A.R.I. S-050 C	Ductile Iron, Brass, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-052	Ductile Iron, Brass, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-015	Ductile Iron, Reinforced Nylon, Polypropylene, Stainless Steel 316, EPDM
2	Cover Assembly	
2a.	Cover	Ductile Iron
2b.	Orifice Seat	Stainless Steel 316
2c.	Orifice Seal	EPDM
3	Float	Polycarbonate/Stainless Steel 316
4	Body Assembly	
4a.	O-Ring	EPDM
4b.	Bolts, Nuts & Washers	Steel/Stainless Steel 316
4c.	Body	Ductile Iron



A.R.I. D-050

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3"-12" Screen Cover Models

Parts List and Specifications

No.	Part	Material
1	Automatic Assembly Options:	
	A.R.I. S-050	Brass, Reinforced Nylon,Polypropylene, EPDM
	A.R.I. S-050 L	Brass, Reinforced Nylon,Polypropylene, EPDM
	A.R.I. S-050 C	Ductile Iron, Brass, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-052	Ductile Iron, Brass, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-015	Ductile Iron, Reinforced Nylon, Polypropylene, Stainless Steel 316, EPDM
2	Cover Assembly	
2a.	Screen Cover	Polypropylene/Ductile Iron
2b.	Screen	Stainless Steel 316
2c.	Bolts, Nuts & Washers	Stainless Steel 316
2.d	Cover	Ductile Iron
2.e	Orifice Seat	Stainless Steel 316
2.f	Orifice Seal	EPDM
3	Float	Polycarbonate/Stainless Steel 316
4	Body Assembly	
45a.	O-Ring	EPDM
4b.	Bolts, Nuts & Washers	Steel/Stainless Steel 316
4c.	Body	Ductile Iron

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