

A.R.I. D-060 NS



Waterworks

Full-bore, Non-slam, Combination Air Valve Series

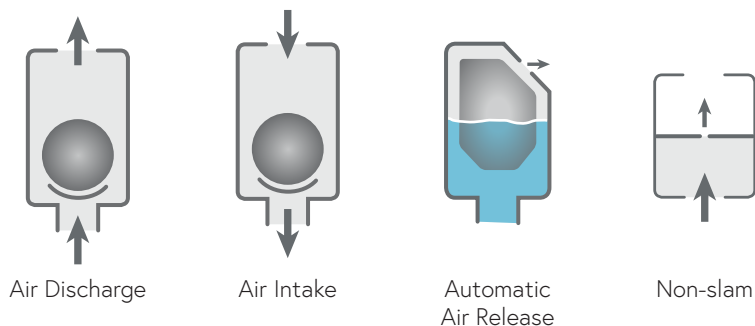
Description

A.R.I. D-060 NS is a non-slam, full-bore, surge-dampening 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 both high-capacity vacuum protection and efficient surge suppression.




Installation

- Pump stations: downstream of the pump and 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 peaks relative to hydraulic gradient
- At end lines
- Before water meters
- On strainers and filters
- Municipal and industrial water conveyance systems

Operation



Features and Benefits

Flow cross-sections	Equal to or greater than nominal port area
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
Non-slam (NS) device	Efficient surge suppression
 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
 AWWA C512	Meets air valve design standard

Technical Specifications

Size range	1" - 10" 2" - 8" (D-065 only)																		
Working pressure range	<table border="0"> <tr> <td>3-285 psi</td> <td>A.R.I. D-060 C HF N</td> <td>A.R.I. D-060 HF SS NS</td> </tr> <tr> <td>3-360 psi</td> <td>A.R.I. D-062 C HF NS</td> <td>A.R.I. D-062 HF SS NS</td> </tr> <tr> <td>3-580 psi</td> <td>A.R.I. D-065 HF NS</td> <td>A.R.I. D-065-HF SS NS</td> </tr> <tr> <td>0.3-150 psi</td> <td>A.R.I. D-060 L LP HF NS</td> <td>A.R.I. D-060 L LP HF SS</td> </tr> <tr> <td>0.7-250 psi</td> <td>A.R.I. D-060 L HF NS</td> <td>A.R.I. D-060 L HF SS NS</td> </tr> <tr> <td>1.5-360 psi</td> <td>A.R.I. D-062 L HF SS NS</td> <td></td> </tr> </table>	3-285 psi	A.R.I. D-060 C HF N	A.R.I. D-060 HF SS NS	3-360 psi	A.R.I. D-062 C HF NS	A.R.I. D-062 HF SS NS	3-580 psi	A.R.I. D-065 HF NS	A.R.I. D-065-HF SS NS	0.3-150 psi	A.R.I. D-060 L LP HF NS	A.R.I. D-060 L LP HF SS	0.7-250 psi	A.R.I. D-060 L HF NS	A.R.I. D-060 L HF SS NS	1.5-360 psi	A.R.I. D-062 L HF SS NS	
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1.5-360 psi	A.R.I. D-062 L HF SS NS																		
Testing pressure	1.5 times maximum working pressure																		
Temperature	Maximum working temperature: 140° F Maximum intermittent temperature: 194° F																		
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

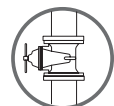
Valve Selection Options

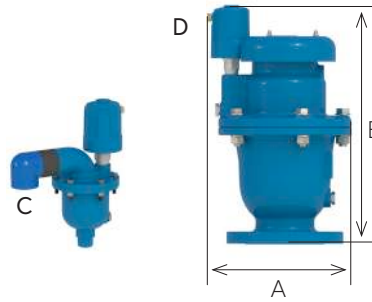
USA Models	A.R.I. D-060 C HF NS Anti-surge non-slam combination air valve from Ductile Iron, rated to 285 psi
	A.R.I. D-062 C HF NS Anti-surge non-slam combination air valve from Ductile Iron, rated to 360 psi
	A.R.I. D-065 HF NS High pressure anti-surge non-slam combination air valve from Ductile Iron, rated to 580 psi
	A.R.I. D-060 L HF NS Anti-surge non-slam combination air valve from Ductile Iron, with a long Reinforced Nylon air release valve, rated to 250 psi
	A.R.I. D-060 L LP HF NS Low pressure sealing anti-surge non-slam combination air valve from Ductile Iron, with a long Reinforced Nylon air release valve, rated to 150 psi
	A.R.I. D-060 HF SS NS Anti-surge non-slam combination air valve from Stainless Steel 316, rated to 285psi
	A.R.I. D-060 L HF SS NS Anti-surge non-slam combination air valve from Stainless Steel with a long Stainless Steel air release valve, rated to 285 psi
	A.R.I. D-062 HF SS NS Anti-surge non-slam combination air valve from Stainless Steel 316, rated to 360 psi
	A.R.I. D-062 L HF SS NS Anti-surge non-slam combination air valve from Stainless Steel with a long Stainless Steel air release valve, rated to 360 psi
	A.R.I. D-065 HF SS NS Anti-surge non-slam combination air valve from Stainless Steel 316, rated to 580 psi
Valve connection	Threaded male NPT (1"-2") Flanged ends to meet various requested standards (2"-10")
Additional product configurations	SB Underground Air Valve System



A.R.I. D-060 L NS A.R.I. D-060 C NS A.R.I. D-065 NS
 A.R.I. D-062 NS

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.





Dimensions and Weight

Size	Dimensions (inch)		Connections		Weight (lbs.)	Orifice Area (sq.in.)		
	max. A	B	C	D		A / V	Auto.	
A.R.I. D-060 C NS / A.R.I. D-062 NS					D-060 C NS D-062 NS			
1" (25mm) THR	10	12.2	1½" Female	1/8" Female	13.2	0.78	0.018	0.014
2" (50mm) THR	8.3	14.7		1/8" Female	33	3.04	0.018	0.014
2" (50mm) FL	8.3	14.2		1/8" Female	33	3.04	0.018	0.014
3" (80mm) FL	9.6	16.9		1/8" Female	48.5	7.8	0.018	0.014
4" (100mm) FL	11	18.6		1/8" Female	66.1	12.1	0.018	0.014
6" (150mm) FL	14.8	27.5		1/8" Female	205	27.4	0.018	0.014
8" (200mm) FL	18.2	31.5		1/8" Female	346	48.7	0.018	0.014
10" (250mm) FL	23	38.9		1/8" Female	644	76.08	0.018	0.014
A.R.I. D-065 NS								
2" (50mm) FL	10	19.9		1/2" Female	39.7	3.04	0.023	
3" (80mm) FL	11	22.6		1/2" Female	57.3	7.8	0.023	
4" (100mm) FL	12.5	24.3		1/2" Female	91	12.1	0.023	
6" (150mm) FL	17	33.5		1/2" Female	183	27.4	0.023	
8" (200mm) FL	20.5	38.5		1/2" Female	323	48.7	0.023	

FL - Flanged THR - Threaded

NOTE

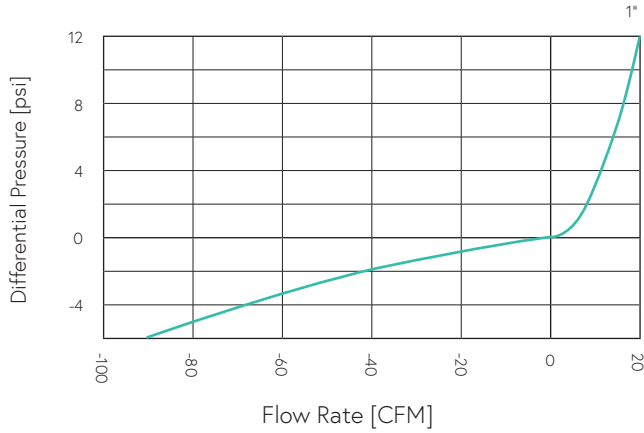
Dimension A in the picture and in the table shows the maximum product width. This width can be reduced by changing the cover direction. All product weights are approximate, due to the differences in flange standards, materials and variable accessories.

Non-slam Orifice Data Table

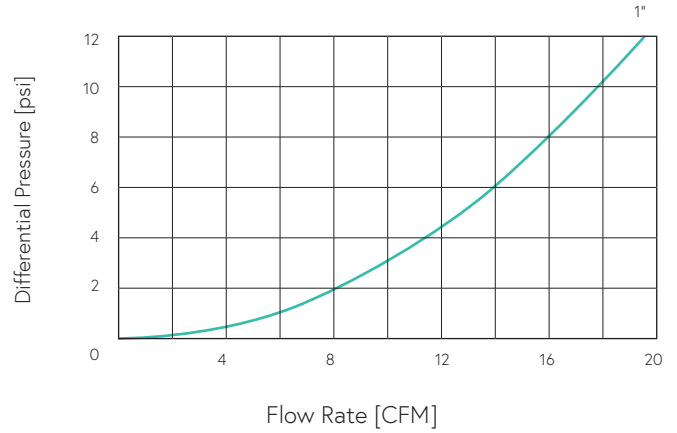
Size	Discharge orifice	Total NS area	NS orifice	Differential pressure	Flow at psi differential pressure
	inch	sq.in.	inch	psi	CFM
1"	1"	0.019	0.15	Spring-loaded NC	10.3
2"	2"	0.098	0.35	0.25	40
3"	3"	0.27	0.59	0.35	110
4"	4"	0.74	0.96	0.35	160
6"	6"	1.4	1.3	0.35	627
8"	8"	2.63	1.8	0.45	1200
10"	10"	2.44	1.8	0.36	1483

Flow Charts

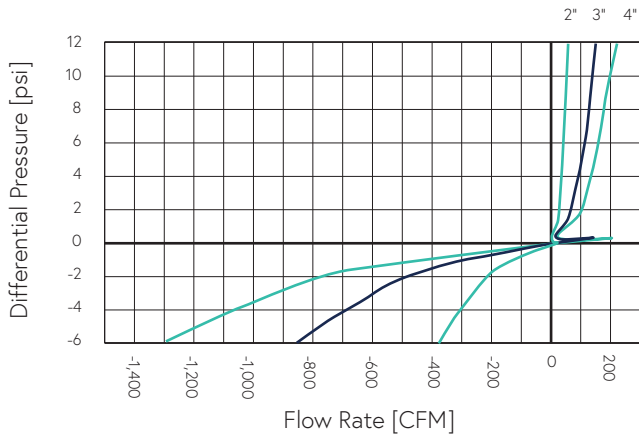
Air & Vacuum Flow Rate



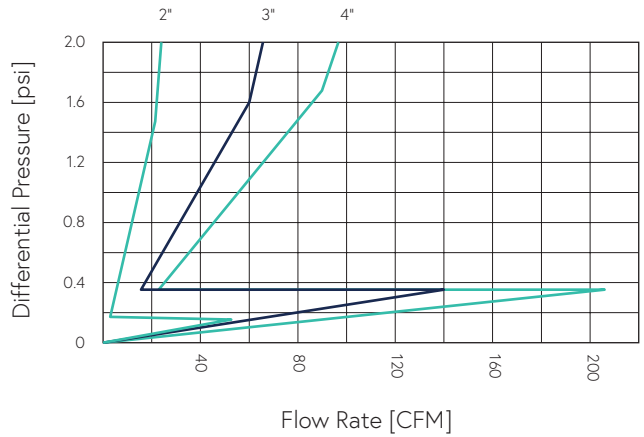
Air Discharge Flow Rate



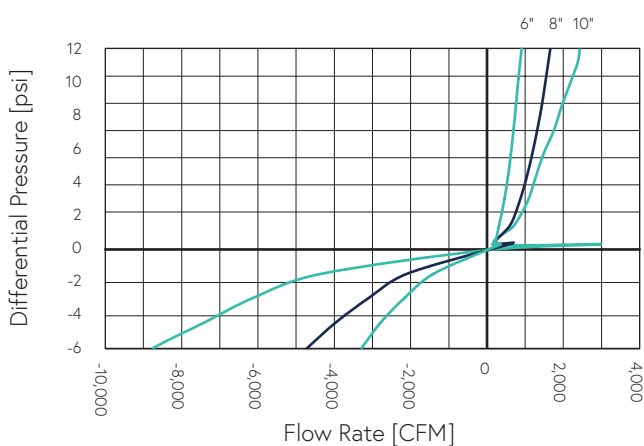
Air & Vacuum Flow Rate



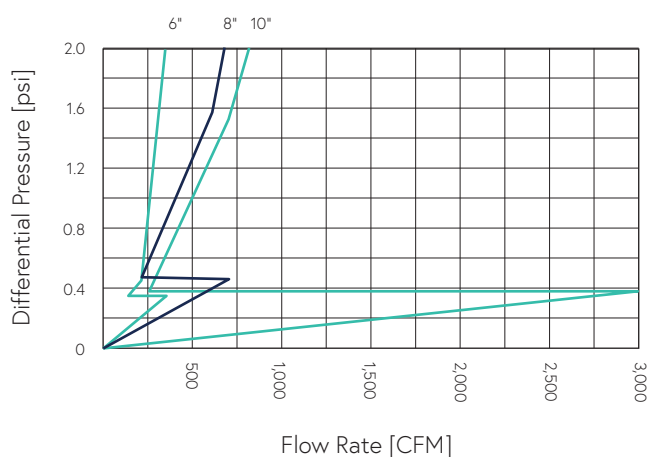
Air Discharge Switching Region



Air & Vacuum Flow Rate

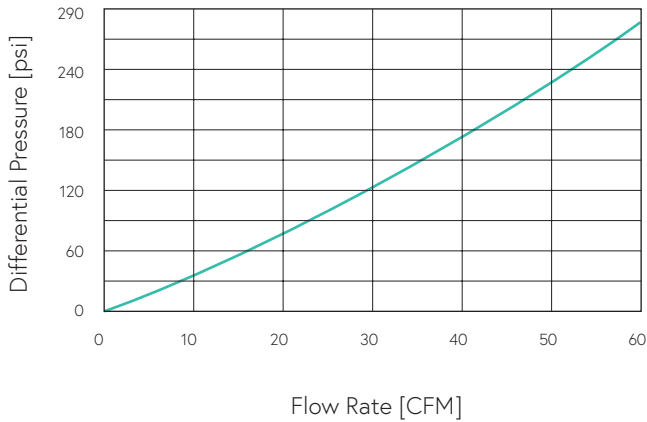


Air Discharge Switching Region

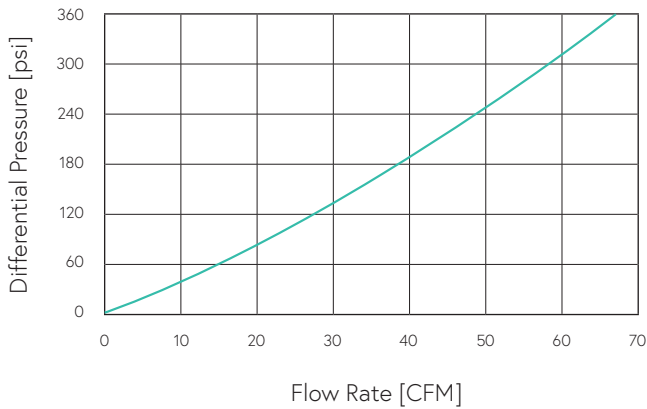


Flow Charts

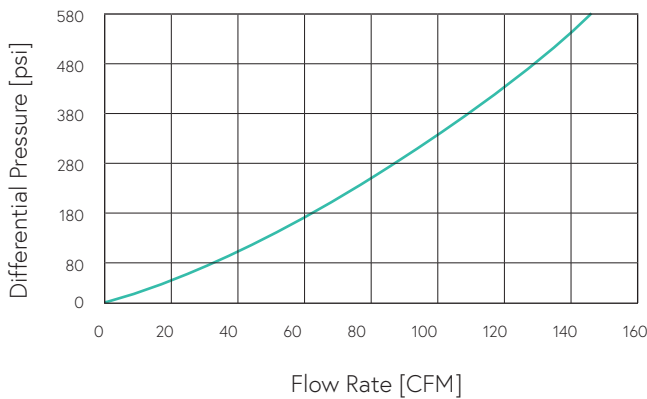
285 psi Automatic Air Release Flow Rate



360 psi Automatic Air Release Flow Rate



580 psi Automatic Air Release Flow Rate



Parts List and Specifications | 1" Horizontal Outlet Model

No.	Part	Material
1	Automatic Assembly Options	
	A.R.I. S-050 L	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	Discharge Outlet	Polypropylene
2b	Non-slam Assy.	Reinforced Nylon
2c	Cover	Ductile Iron
2d	Orifice Seat	Stainless Steel 316
2e	Orifice Seal	EPDM
3	Float	Stainless Steel SAE316
4	Body Assembly	
4a	O-ring	NBR / EPDM
4b	Bolts, Nuts & Washers	Stainless Steel 316
4c	Plug	Stainless Steel 316
4d	Body	Ductile Iron



Parts List and Specifications | 2"-4" Screen Cover Models

No.	Part	Material
1	Automatic Assembly Options	
	A.R.I. S-050 L	Stainless Steel 316, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-050 C	Ductile Iron, Stainless Steel 316, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-052	Ductile Iron, Stainless Steel 316, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-015	Ductile Iron,, Reinforced Nylon, Polypropylene, Stainless Steel 316, EPDM
2	Cover Assembly	
2a	Screen Cover	Ductile Iron
2b	Screen	Stainless Steel 316
2c	Bolts, Nuts & Washers	Stainless Steel 316
2d	Locking Ring	Stainless Steel 316
2e	Non-slam Disc Assy.	Stainless Steel 316
2f	Cover	Ductile Iron
2g	Plug	Stainless Steel 316
2h	Orifice Seat	Stainless Steel 316
2i	Orifice Seal	EPDM
3	Float	Stainless Steel 316
4	Body Assembly	
4a	O-ring	NBR / EPDM
4b	Bolts, Nuts & Washers	Stainless Steel 316
4c	Plug	Stainless Steel 316
4d	Body	Ductile Iron



Parts List and Specifications | 6"-10" Screen Cover Models

No.	Part	Material
1	Automatic Assembly Options	
	A.R.I. S-050 L	Stainless Steel 316, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-050 C	Ductile Iron, Stainless Steel 316, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-052	Ductile Iron, Stainless Steel 316, Reinforced Nylon, Polypropylene, EPDM
	A.R.I. S-015	Ductile Iron, Reinforced Nylon, Polypropylene, Stainless Steel 316, EPDM
2	Cover Assembly	
2a	Screen Cover	Ductile Iron
2b	Screen	Stainless Steel 316
2c	Bolts, Nuts & Washers	Stainless Steel 316
2d	Screen Ring	Steel St. 37
2e	Non-slam Disc	Ductile Iron
2f	O-ring	NBR
2g	Cover	Ductile Iron,
2h	Test Cock	Stainless Steel 316
2i	Orifice Seat	Stainless Steel 316
2j	Orifice Seal	EPDM
3	Float	Stainless Steel 316
4	Body Assembly	
4a	O-ring	NBR / EPDM
4b	Bolts, Nuts & Washers	Stainless Steel 316
4c	Plug	Stainless Steel 316
4d	Body	Ductile Iron,



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