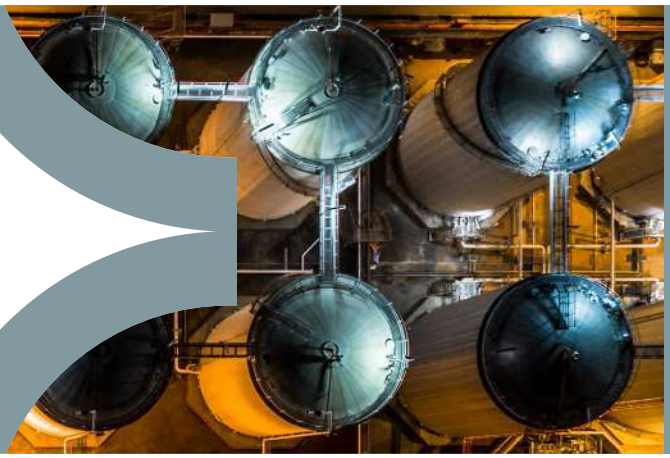
A.R.I. D-26

Aquestia
Directing the Flow



Industry

Full-bore, Combination Air Valve Series for Non-clean Water

Description

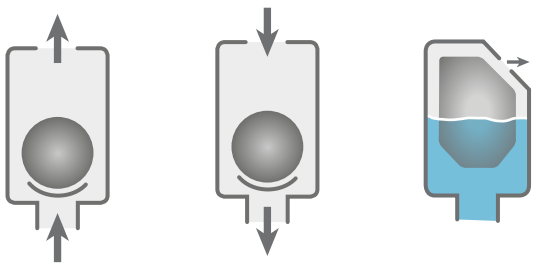
A.R.I. D-26 is a full bore, Combination Air Valve installed on non-clean water transmission systems. The Air Valve is designed to improve hydraulic operation by protecting the pipeline, increasing pipeline efficiency, and reducing energy requirements. The unique body shape of the valve, enables a continuous air gap that separates the non-clean water from the sealing mechanism and helps to avoid deposits or blockage.

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

Installation

- Industrial non clean water transmission lines and applications.
- Industrial wastewater & water treatment plants.

Operation



Air Discharge | Air Intake | Automatic Air Release

A.R.I. D-26

Aquestia
Directing the Flow

Features and Benefits

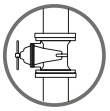
Conical body / funnel-shaped lower body	Maximum air gap, minimum body length
	Residue matter falls back into the system pipeline
Continuous air gap	Separates the liquid from the sealing mechanism
Aerodynamic float assembly	High velocity air will not close the valve under rapid filling operation
	Reduces accumulation of fat or grease buildup
	Free movement will not unseal the sealing mechanism
Sealing assembly	Provides smooth, reliable opening/closing, and leak-free sealing over a wide range of pressures
Cushioned spring connection	Cushioned joint allows continuous air discharge under vibration conditions related to turbulence from pump start and shut-off, or from flow fluctuations.
Ball valve	Releases pressure and drains valve prior to maintenance
Cover assembly	Allows complete drop-in replacement, reducing maintenance downtime
Spray Guard®	Flow enhancer, prevents spraying during rapid filling operation
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" - 8"
Working pressure range	2" 0.02 -10 bar (PN 10) 0.1-16 bar (PN 16) 3" 0.02 -10 bar (PN 10) 0.1-16 bar (PN 16) 0.2 -25 bar (PN 25) 4" - 8" 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
Valve coating	Fusion bonded epoxy coating in compliance with standard DIN 30677-2 (applied on Cast Steel and Cast Ductile Iron valves)
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.



A.R.I. D-26

Aquestia
Directing the Flow

Valve Selection Options

Valve connection	Threaded BSP/NPT or flanged ends to meet various requested standards
Optional covers (for air discharge direction and for add-on components)	2" models - two-directional cover is standard 3" models - optional one-directional or two-directional covers 4" models - one-directional elbow for horizontal discharge can be removed to allow for vertical discharge 6"-8" models - vertical or horizontal discharge outlets
Optional add-on components (2", 3", 4" Sizes only)	One-way Out - allows for air discharge only, prevents air intake One-way In - allows air intake only, prevents air discharge Non-slam - discharge-throttling attachment, allows full air intake, throttles air discharge
Additional product configurations	Model A.R.I. D-26 NS with a built-in Non-slam Disc (6" & 8" sizes only) SB Underground Air Valve System

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

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
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
4" (100mm)	1 orifice	100	78.5	10	Spring-loaded normally closed	150
	2 orifices	100	157	14.1		190
	3 orifices	100	235.5	17.3		233
6" (150mm)	1 orifice with graduated closure	150	706.9	30	0.025	1580
8" (200mm)		200	1641.3	45.7	0.025	1890

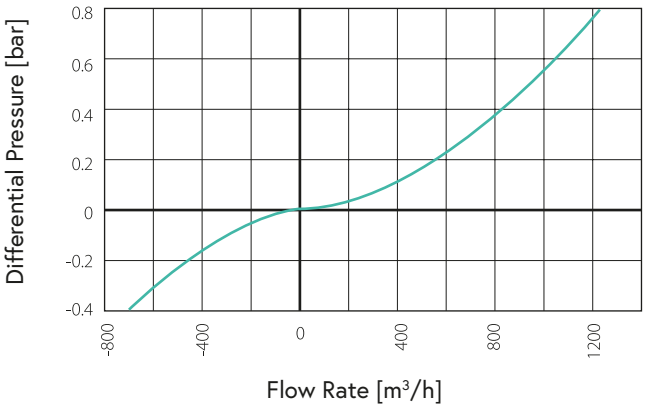
A.R.I. D-26

Aquestia
Directing the Flow

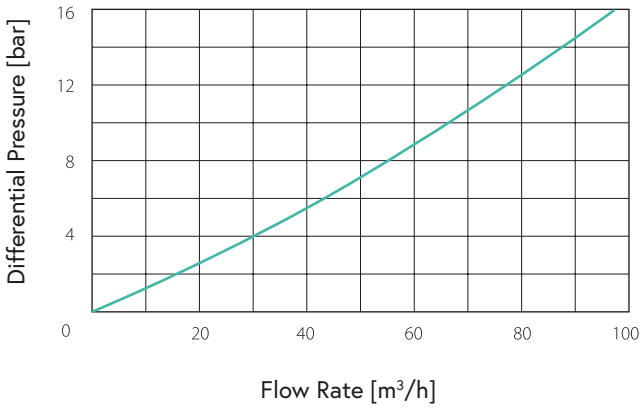
Flow Charts

A.R.I. D-26 2"

Air & Vacuum Flow Rate

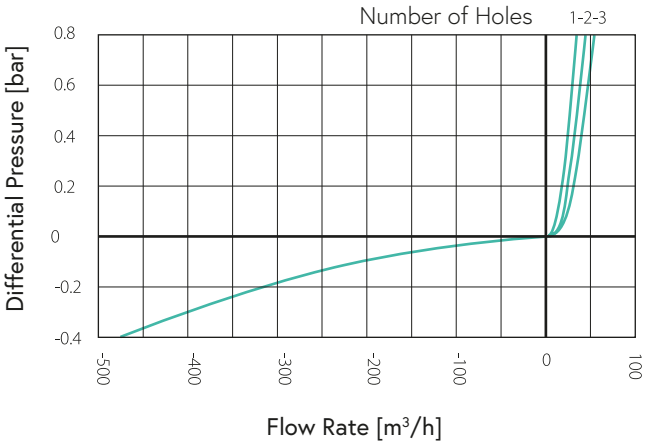


Automatic Air Release Flow Rate

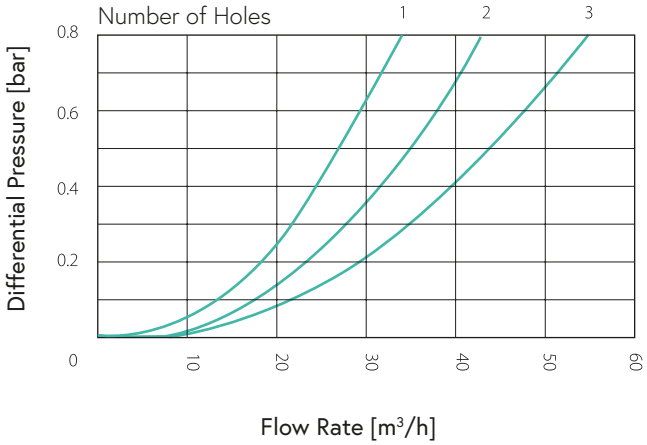


A.R.I. D-26 NS 2"

Adjustable NS Check Valve



Adjustable NS Check Valve



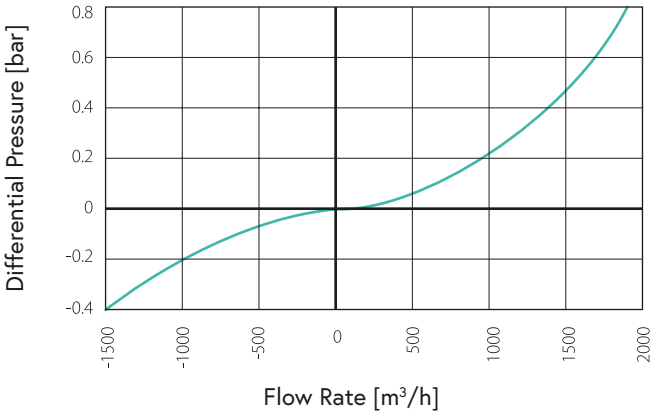
A.R.I. D-26

Aquestia
Directing the Flow

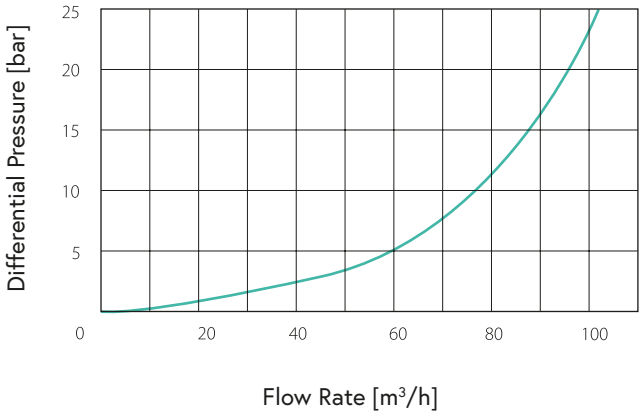
Flow Charts

A.R.I. D-26 3"

Air & Vacuum Flow Rate

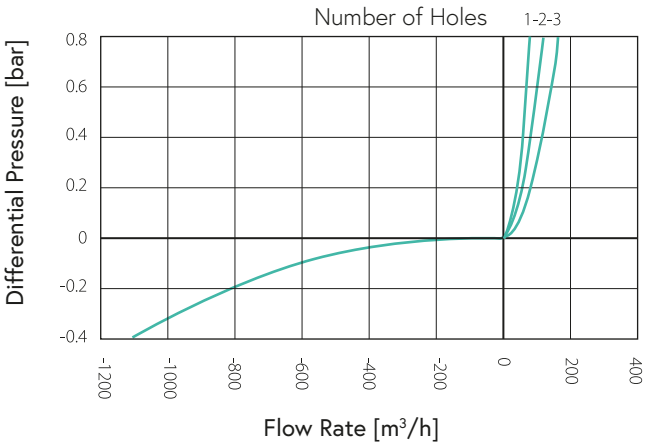


Automatic Air Release Flow Rate

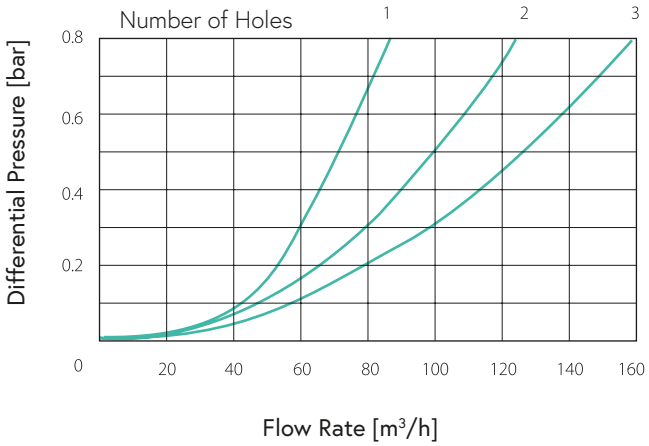


A.R.I. D-26 NS 3"

Adjustable NS Check Valve



Adjustable NS Check Valve



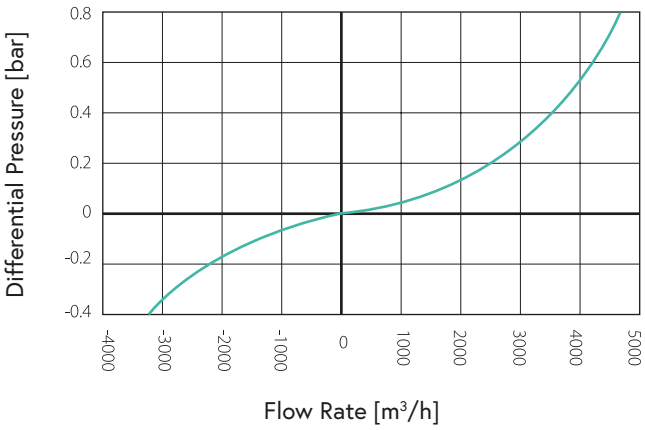
A.R.I. D-26

Aquestia
Directing the Flow

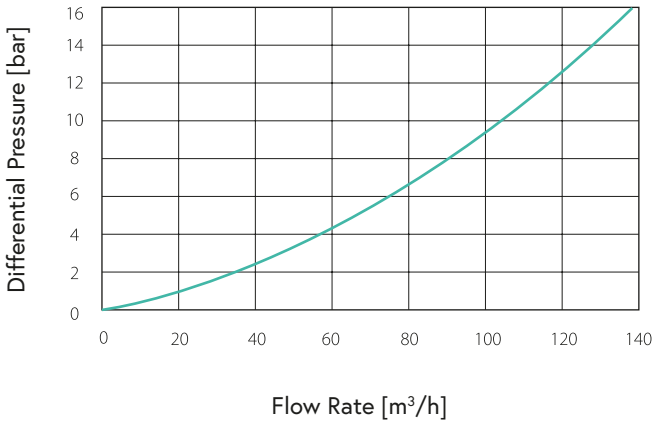
Flow Charts

A.R.I. D-26 4"

Air & Vacuum Flow Rate

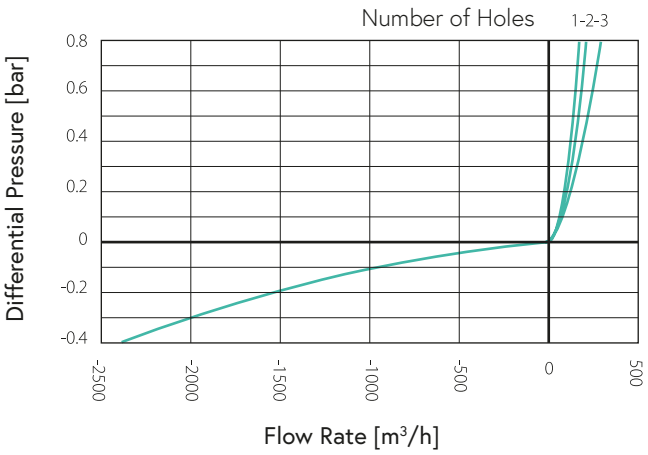


Automatic Air Release Flow Rate

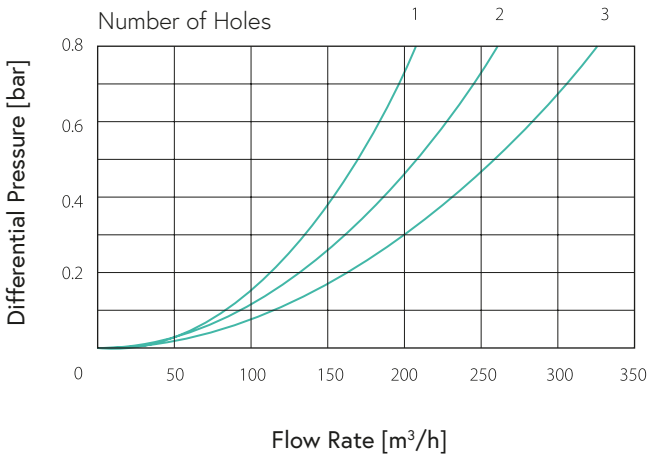


A.R.I. D-26 NS 4"

Adjustable NS Check Valve



Adjustable NS Check Valve



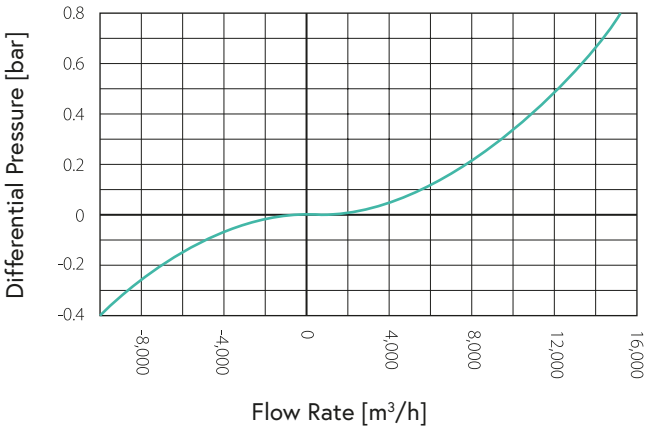
A.R.I. D-26

Aquestia
Directing the Flow

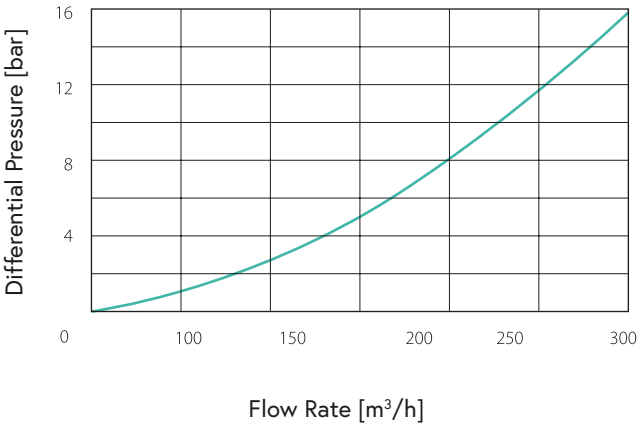
Flow Charts

A.R.I. D-26 6"

Air & Vacuum Flow Rate

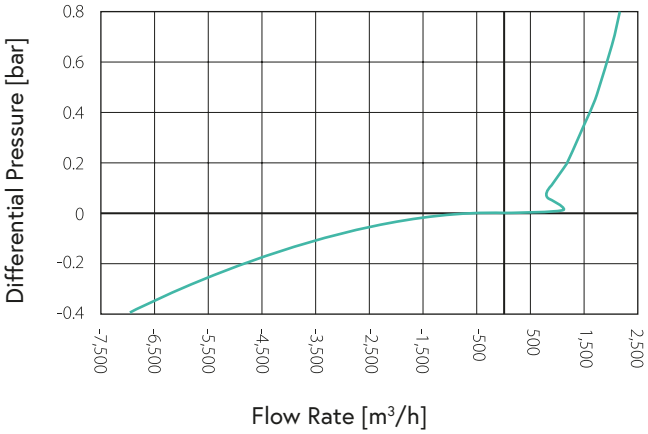


Automatic Air Release Flow Rate

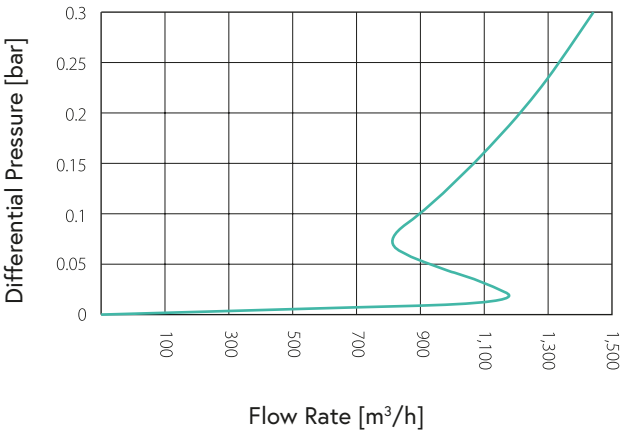


A.R.I. D-26 NS 6"

Air & Vacuum Flow Rate



Air Discharge Switching Region



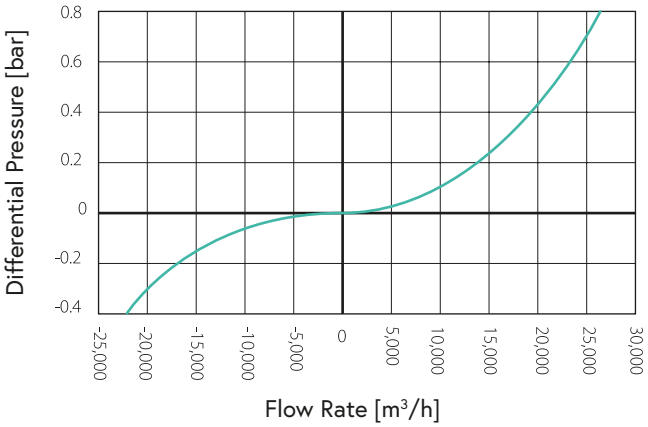
A.R.I. D-26

Aquestia
Directing the Flow

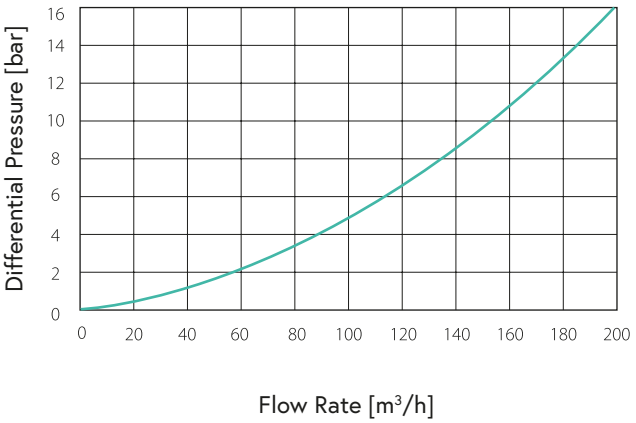
Flow Charts

A.R.I. D-26 8"

Air & Vacuum Flow Rate

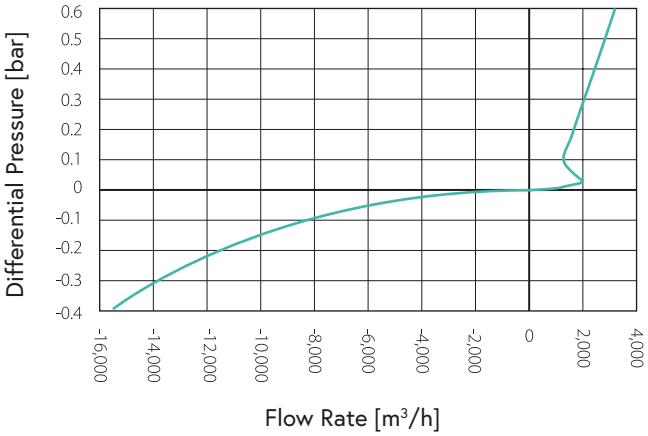


Automatic Air Release Flow Rate

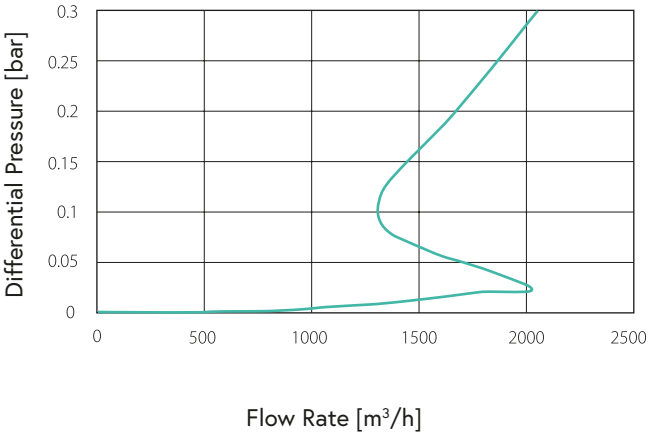


A.R.I. D-26 NS 8"

Air & Vacuum Flow Rate



Air Discharge Switching Region



A.R.I. D-26

Aquestia
Directing the Flow

FL - Flanged
THR - Threaded
RN - Reinforced Nylon
DI - Ductile Iron

Dimensions and Weight

Model	Dimensions (mm)		Connections	Weight (kg)		Orifice area (mm^2)	
	A	B	C	RN	ST ST	A / V	Auto.
A.R.I. D-26 2" (50 mm) THR	258	547	2" BSP / NPSM Female	8.1	13.2	1963	8.6
A.R.I. D-26 2" (50 mm) FL	258	554	2" BSP / NPSM Female	8.5	16.1	1963	8.6
A.R.I. D-26 NS 2" (50 mm) THR	330	547	2" BSP / NPSM Male	8.3	13.6	1963	8.6
A.R.I. D-26 NS 2" (50 mm) FL	330	554	2" BSP / NPSM Male	8.7	16.5	1963	8.6
One-directional cover				Cast Steel	ST ST		
A.R.I. D-26 3" (80 mm) THR	526	580	3" BSP / NPSM Female	21.0	21.6	5024	15.7
A.R.I. D-26 3" (80 mm) FL	526	580	3" BSP / NPSM Female	21.6	24.6	5024	15.7
A.R.I. D-26 NS 3" (80 mm) THR	548	580	3" BSP / NPSM Male	21.8	22.5	5024	15.7
A.R.I. D-26 NS 3" (80 mm) FL	548	580	3" BSP / NPSM Male	24.7	25.5	5024	15.7
Two-directional cover				Cast Steel	ST ST		
A.R.I. D-26 3" (80 mm) THR	495	620	3" BSP / NPSM Female	21.8	22.5	5024	15.7
A.R.I. D-26 3" (80 mm) FL	495	620	3" BSP / NPSM Female	24.2	25.0	5024	15.7
A.R.I. D-26 NS 3" (80 mm) THR	605	620	3" BSP / NPSM Male	22.7	23.4	5024	15.7
A.R.I. D-26 NS 3" (80 mm) FL	605	620	3" BSP / NPSM Male	24.7	25.4	5024	15.7
Two-directional cover (RN)				RN			
A.R.I. D-26 3" (80 mm) THR	350	613	3" BSP / NPSM Female	14.6	-	5024	15.7
A.R.I. D-26 3" (80 mm) FL	350	625	3" BSP / NPSM Female	15.4	-	5024	15.7
A.R.I. D-26 NS 3" (80 mm) THR	436	613	3" BSP / NPSM Male	15.4	-	5024	15.7
A.R.I. D-26 NS 3" (80 mm) FL	436	625	3" BSP / NPSM Male	16.1	-	5024	15.7
				DI	ST ST		
A.R.I. D-26 4" (100 mm) FL	420	830	4" Flanged BSP / NPSM F	43.6	45	7854	31.14
A.R.I. D-26 NS 4" (100 mm) FL	607	849	4" Flanged BSP / NPSM F	48.5	50	7854	31.14
Vertical cover				DI	ST ST		
A.R.I. D-26 6" (150 mm) FL	497	827	6" Flanged / Grooved	93.4	97.5	17671	31.14
A.R.I. D-26 8" (200 mm) FL	617	1081	8" Flanged / Grooved	148.8	156.5	31400	31.14
Horizontal cover				DI	ST ST		
A.R.I. D-26 6" (150 mm) FL	532	942	6" Flanged / Grooved	99.9	105.7	17671	31.14
A.R.I. D-26 8" (200 mm) FL	646	1242	8" Flanged / Grooved	158.4	163.9	31400	31.14

NOTE

The cover assembly with the discharge elbow can be set in four directions.
Dimension A in the picture and in the table shows the maximum product width.
This width can be reduced by changing the direction.

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

A.R.I. D-26 2" 3"

Aquestia
Directing the Flow

Parts List and Specifications | 2"-3"

No.	Parts	Material
1	Cover Assembly	
1a	Orifice Plug	Polypropylene
1b	Cover	Stainless Steel 316 / Super Duplex
1c	Bolt Assembly	Stainless Steel 316 + Reinforced Nylon
1d	Non-slam Component (optional)	Reinforced Nylon / Polypropylene + Stainless Steel
2	Seal Assembly	
2a	Disc Arm	Stainless Steel 316 / Super Duplex
2b	Air & Vacuum Disc	Reinforced Nylon / Polypropylene
2c	Air & Vacuum Seal	EPDM / Viton
2d	Air Release Seal & Seat	EPDM / Viton + Reinforced Nylon / Polypropylene
2e	Seal Cover	Reinforced Nylon / Polypropylene
3	Body Assembly	
3a	O-ring	NBR / EPDM / VITON
3b	Spray Guard®	Polypropylene
3c	Body	Reinforced Nylon / Stainless Steel 316 / Super Duplex
4	Float Assembly	
4a	Domed Nut	Stainless Steel 316 / Super Duplex
4b	Stopper	Polypropylene
4c	Spring	Stainless Steel 316 / Hastelloy
4d	Float & Rod	Polypropylene + Stainless Steel 316 / Polypropylene + Titanium
5	Base Assembly	
5a	O-ring	NBR / EPDM / VITON
5b	Clamp Assembly	Stainless Steel 316 / Super Duplex
5c	Base	Reinforced Nylon / Stainless Steel 316 / Super Duplex
5d	Tap	Stainless Steel 316 / Super Duplex

A.R.I. D-26

Aquestia
Directing the Flow

Parts List and Specifications | Two-directional Cover Model 3"

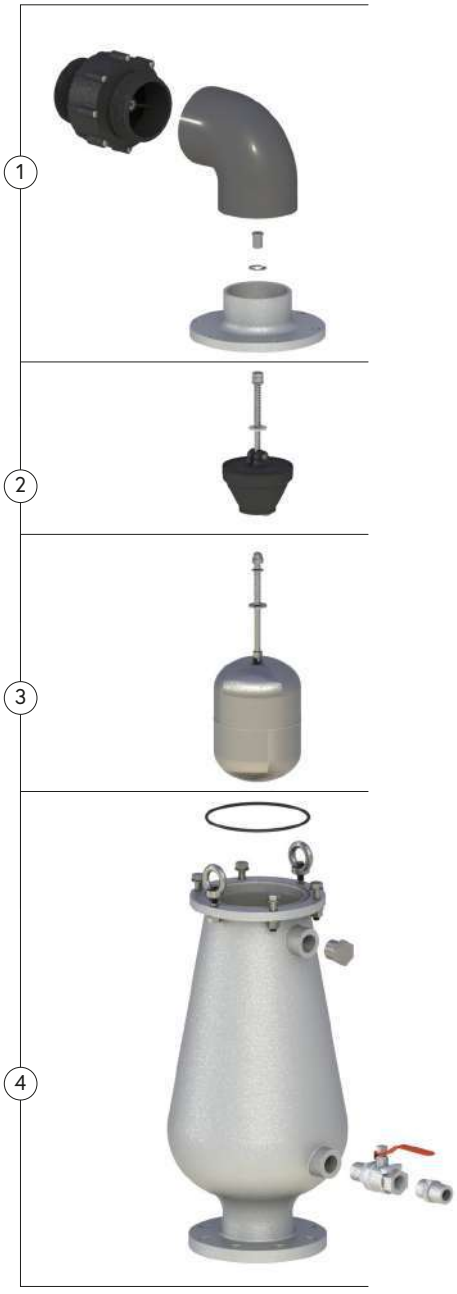
No.	Parts	Material
1	Cover Assembly	
1a	Orifice Plug	Polypropylene / Stainless Steel 316
1b	One /Two-directional Cover	Stainless Steel 316 / Super Duplex
1c	Bolt Assembly	Stainless Steel 316 + Reinforced Nylon
1d	Orifice Seat	Stainless Steel 316 / Super Duplex
1e	Non-slam Component (optional)	Reinforced Nylon / Polypropylene + Stainless Steel
2	Seal Assembly	
2a	Disc Arm	Stainless Steel 316 / Super Duplex
2b	Air & Vacuum Disc	Reinforced Nylon / PVDF
2c	Air & Vacuum Seal	EPDN / Viton
2d	Air Release Seal & Seat	EPDM / Viton + Reinforced Nylon / PVDF
2e	Seal Cover	Reinforced Nylon / PVDF
3	Float Assembly	
3a	Domed Nut	Stainless Steel 316 / Super Duplex
3b	Stopper	Polypropylene
3c	Spring	Stainless Steel 316 / Hastelloy
3d	Float & Rod	Polypropylene + Stainless Steel 316 / Polypropylene + Titanium
4	Body Assembly	
4a	Spray Guard®	Polypropylene
4b	O-ring	EPDN / Viton
4c	Body	Cast Steel / Stainless Steel 316 / Super Duplex
4d	Ball Valve	Stainless Steel 316 / Super Duplex

A.R.I. D-26

Aquestia
Directing the Flow

Parts List and Specifications | 4"

No.	Parts	Material
1	Cover Assembly	
1a	Non-slam Component (optional)	Reinforced Nylon / Polypropylene + Stainless Steel
1b	Discharge Elbow	PVC / Stainless Steel 316
1c	Cover	Ductile Iron / Stainless Steel 316
1d	Orifice Seat	Stainless Steel 316
2	Seal Assembly	
2a	Guide Rod Assembly	Stainless Steel 316 + Acetal
2b	Air & Vacuum Disc	Reinforced Nylon / Reinforced Polypropylene
2c	Air & Vacuum Seal	EPDM
2d	Air Release Seal & Seat	EPDM & Reinforced Nylon
2e	Seal Cover	Reinforced Nylon
2f	Flow Enhancer	Polypropylene
3	Float Assembly	
3a	Domed Nut	Stainless Steel 316
3b	Stopper	Polypropylene
3c	Spring	Stainless Steel 316
3d	Float & Rod	Stainless Steel 316
4	Body Assembly	
4a	O-ring	NBR
4b	Body	Ductile Iron / Stainless Steel 316
4c	Plug	Stainless Steel 316
4d	Ball Valve	Stainless Steel 316

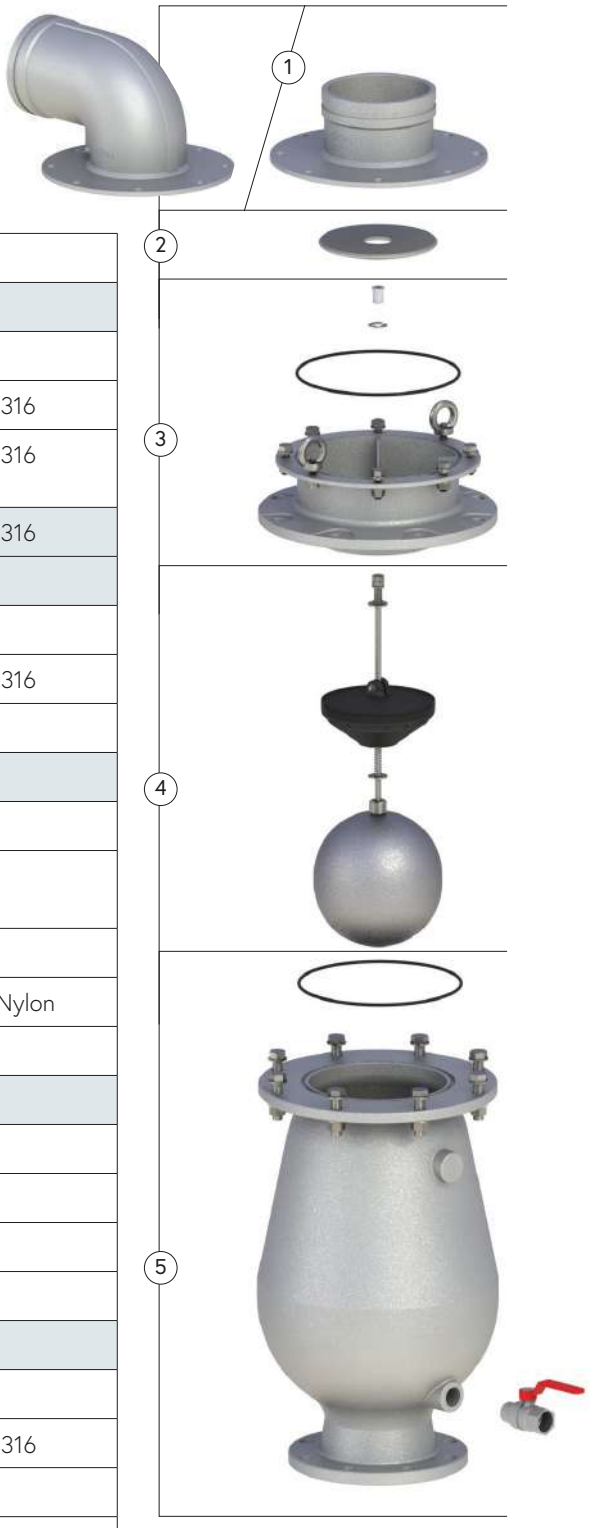


A.R.I. D-26

Aquestia
Directing the Flow

Parts List and Specifications | 6"-8"

No.	Parts	Material
1	Discharge Assembly	
1a	Flange Seal (optional)	NBR
1b	Grooved Flange (optional)	Ductile Iron / Stainless Steel 316
1c	Horizontal Discharge / Vertical Discharge	Ductile Iron / Stainless Steel 316
2	Non-slam Disc (optional)	Ductile Iron / Stainless Steel 316
3	Cover Assembly	
3a	O-ring	EPDN / Viton
3b	Cover	Ductile Iron / Stainless Steel 316
3c	Orifice Seat	Stainless Steel 316
4	Seal Assembly	
4a	Guide Rod Assembly	Stainless Steel 316 + Acetal
4b	Air & Vacuum Disc	Reinforced Nylon / Reinforced Polypropylene
4c	Air & Vacuum Seal	EPDN / VITON
4d	Air Release Seal & Seat	EPDM / VITON + Reinforced Nylon
4e	Seal Cover	Reinforced Nylon
5	Float Assembly	
5a	Domed Nut	Stainless Steel 316
5b	Stopper	Stainless Steel 316
5c	Spring	Stainless Steel 316
5d	Float & Rod	Stainless Steel 316
6	Body Assembly	
6a	O-ring	EPDN / VITON
6b	Body	Ductile Iron / Stainless Steel 316
6c	Plug	Stainless Steel 316
6d	Ball Valve	Stainless Steel 316



www.aquestia.com
info@aquestia.com