

A.R.I. D-96



Waterworks

Underground High Capacity Combination Air Valve

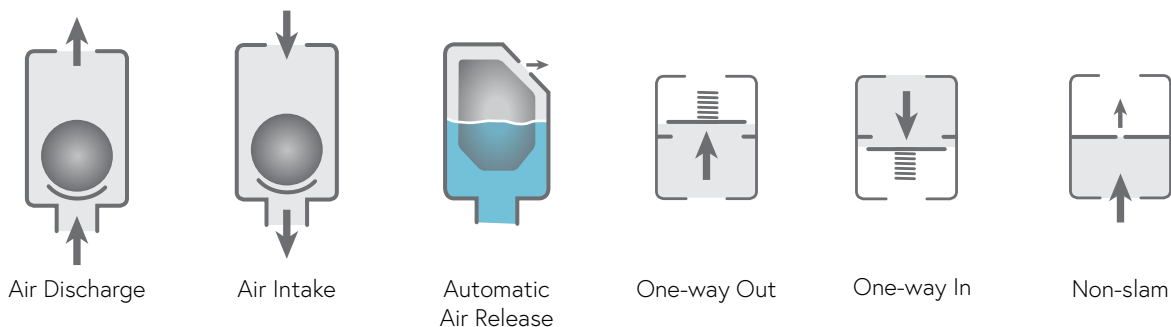
Description

A.R.I. D-96 Underground Combination Air Valve System integrates the D-46 2" valve model, featuring high-capacity air release and intake, encased within a specially designed, compact sub-surface housing for underground usage. Valve maintenance is performed above ground, reducing the hazards of confined space operation.

Installation

- Water distribution lines
- Areas susceptible to freezing
- Rural areas - provides protection against damage and vandalism
- Urban areas - integrated with existing sub-surface municipal infrastructures
- Public and private areas – keeps aboveground surfaces aesthetically unobstructed

Operation



Features and Benefits

D-46 2" Air Valve	High air capacity
	Durable reinforced composite materials
	Easy tool-free maintenance
	Non-corrosive materials
Compact Manhole	Eliminates large manhole excavation costs
	No need for large human-accessible manholes
	Compact, lightweight Valve, allows for easy installation/operation without heavy machinery or special tools
	Minimum manpower required for maintenance – procedures can be performed by a single maintenance person
Above-ground Maintenance	Reduced maintenance down-time and associated costs
	Removes safety hazards of operation in confined spaces
	No confined-space entry
	Tool-free Maintenance
Insulation Solutions (optional)	Simple tool-free maintenance
	Easy removal of valve from the pipeline
	Winterproof design - various vault sizes: 615mm-2440mm (2ft-8 ft) allows valve installation below permafrost levels
	Vertical Standpipe Connection (optional)
Submerged Installation	Improves hygiene by preventing cross-contamination in a submerged vault
Drainage Check Valve	Vandal-proof - provides protection against intentional damage or tampering
	Drains water from the vault/canister/box and prevents ground water from entering

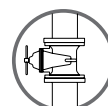
Technical Specifications

Size range	2" - 4"
Sealing pressure range	0.1 - 16 bar (PN16)
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

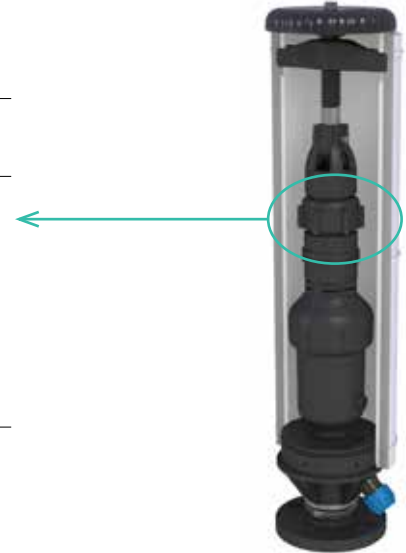
The valve installed under the air valve must be fully open to prevent damage or malfunction and ensure performance within the specifications of the air valve.

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



Valve Selection Options

Valve connection	Threaded male BSPT/NPT (2") Flanged ends to meet various requested standard (2", 3", 4")
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
	Non-slam, discharge-throttling attachment, allows full air intake, throttles air discharge



Dimensions and Weight

Length (mm)	2" (50mm) THR		2" (50mm) FL		3" (80mm) FL		4" (100mm) FL	
	Width (mm)	Weight (kg)	Width (mm)	Weight (kg)	Width (mm)	Weight (kg)	Width (mm)	Weight (kg)
625	202	6.5	202	6.1	202	6.8	228	7.2
755		6.9		7.3		7.6		8.1
1055		8.5		8.9		9.2		9.7
1305		9.5		9.9		10.2		10.7
1555		10.7		11.1		11.4		11.9
1830		12.0		12.4		12.7		13.2
2135		13.3		13.7		14.0		14.5
2440		14.6		15.0		15.3		15.8



Orifice Area (mm²) | A / V 2106 mm² | Auto. 15 mm²

NOTE

Dimension W in the picture and in the table shows the maximum product width. All product weights are approximate, due to the differences in flange standards, materials and variable accessories.

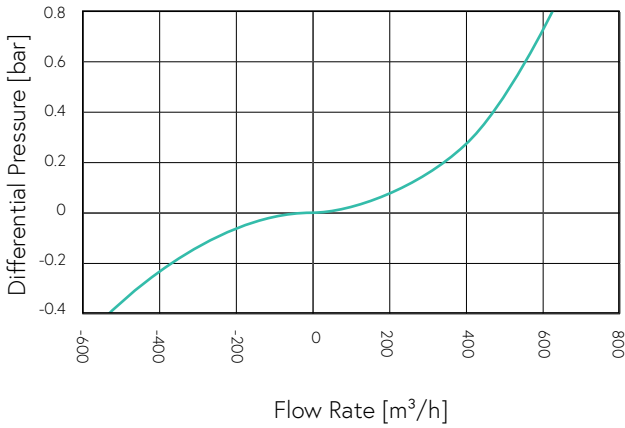
Non-slam Add-on Component Data Table for Variable Orifices

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

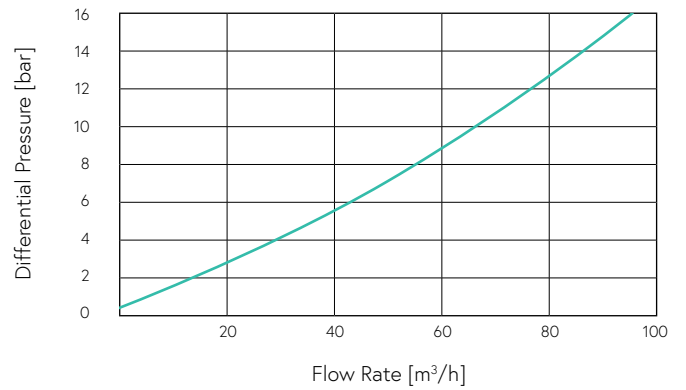
Flow Charts

D-96

Air & Vacuum Flow Rate

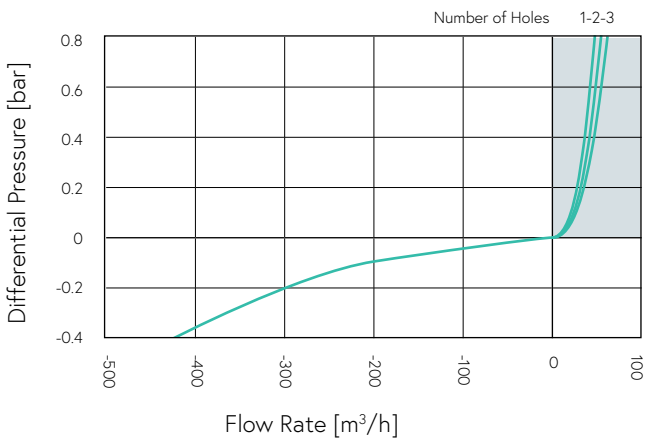


Automatic Air Release Flow Rate

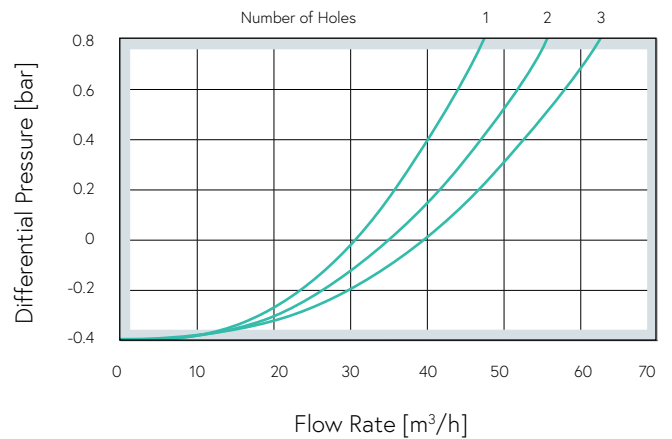


D-96 NS

Air & Vacuum Flow Rate



Air Discharge Flow Rate



Parts List and Specifications

	Part	Material
1	Valve Box Assembly	
1a	Cover	Polypropylene
1b	Air Valve Box	PVC
1c	Insulation Cover	Aluminum Coated Foamed PE
1d	Base	Reinforced Nylon
1e	Drainage Connector	Polypropylene + Acetal
1f	Check Valve	Acetal + NBR + Stainless Steel
1g	Adaptor	Stainless Steel 316
2	Bridge & Rod Assembly	
2a	Bridge Assembly	Reinforced Nylon
2b	Tightening Rod	Stainless Steel 304
3	D-46 2" Air Valve Assembly	
3a	Adaptor	Reinforced Nylon
3b	One-Way or NS Check Valve (Optional)	Polypropylene
3c	Socket (Optional)	Polypropylene
3d	Cover	Reinforced Nylon
3e	Air & Vacuum Seal	EPDM
3f	Air & Vacuum Cover	Reinforced Nylon
3g	Rolling Seal	EPDM
3h	Float	Polypropylene
3i	O-Ring	NBR
3j	Body	Reinforced Nylon
3k	Pusher	Reinforced Nylon
3l	O-Ring	NBR
4	Flange Assembly (Optional)	
4a	O-Ring	NBR
4b	Flange	Reinforced Nylon

