

A.R.I. D-070 Q



Waterworks

Dynamic Combination Air and Pressure Relief Valve

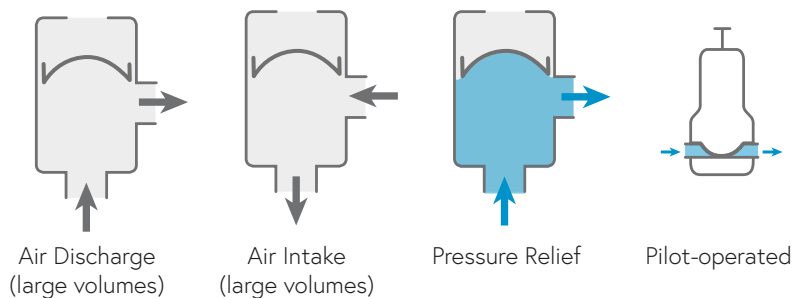
Description

A.R.I. D-070 Q is a Dynamic Combination Air and Pressure Relief Valve, combining two solutions in one, for maximum line protection. The Pressure Relief component allows quick-release of excessive line pressure while maintaining safe, gradual closing. When pressure rises above the set point, water is released from the valve outlet. The D-070 Q Valve prevents up-surge by discharging air from pressurized water lines in a gradual, controlled manner. When vacuum occurs, the valve emits air into the system to prevent impending down-surge. This solution protects the pipeline from excessive pressure, eliminating bursts and water loss.

Installation

- Pump stations
- Deep-well pumps
- Downstream and upstream of shut-off valves
- Systems prone to water hammer and local system surges
- End of a supply line
- On top of pressure vessels (filters)
- Downstream of a pressure reducing valve

Operation



Features and Benefits

Unique 2-in-1 Combination Air Valve and Pressure Relief	High-capacity air release and pressure relief for maximum system protection
System protection mechanism	Reduces local water hammer impact, saves energy and increases system efficiency
Pilot-operated valve	Continuously senses upstream pressure while also operating as a two-stage pressure relief valve
Rolling diaphragm	Normally closed air & vacuum orifice prevents the intrusion of debris and contaminants into the system
Construction materials	Non-corrosive and durable
Large automatic air release orifice	Reduces risk of blockage by debris
Rolling seal	Leak-free sealing over a wide range of pressure differentials
Dynamic combination air valve	Allows smooth, gradual valve closure unaffected by water flow, discharging all air from the system
Flow cross-sections	Equal to or greater than nominal port area

Technical Specifications

Size range	2"-4" Reinforced Nylon valves 3" Metal valves
Working pressure range	D-070 P Q (Reinforced Nylon) 0.2-10 bar (PN 10) 0.2-16 bar (PN 16) D-070 Q (Metal) 0.2-16 bar (PN 16) Testing pressure: 1.5 times maximum working pressure
Temperature	Maximum working temperature: 60° C Maximum intermittent temperature: 90° C
Metal valve coating	Fusion bonded epoxy coating in compliance with standard DIN 30677-2

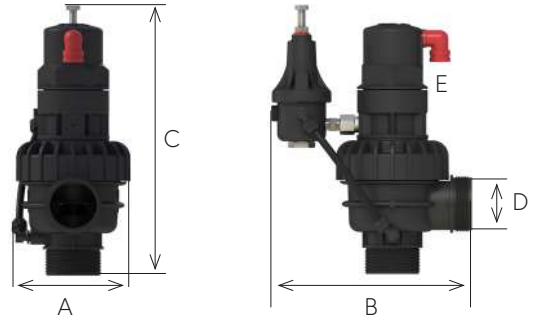
Upon ordering, please specify: model, size, working pressure, thread/flange standard and type of liquid

Valve Selection Options

Valve connection	Threaded BSP/NPT (Reinforced Nylon) or flanged ends to meet various requested standards
Bug Screen	Add-on prevents the intrusion of debris or insects into the air valve (2" – 3")



Dimensions and Weight



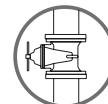
Model	Dimensions (mm)			Connection		Weight (kg)	Orifice area (mm ²)	
	A	B	C	D	E		A / V	Auto.
Nylon models								
2" (50 mm) THR	144	189	216	2" BSP Male	3/8" BSP Female	1.7	7.8	1963
2" (50 mm) FL	167	211	222	2" BSP Male	3/8" BSP Female	2.1	7.8	1963
3" (80 mm) THR	144	189	217	2" BSP Male	3/8" BSP Female	1.7	7.8	1963
3" (80 mm) FL	200	229	222	2" BSP Male	3/8" BSP Female	2.4	7.8	1963
4" (100 mm) FL	228	243	222	2" BSP Male	3/8" BSP Female	2.7	7.8	1963
Metal models								
3" (80 mm) FL	233	258	293	3" Vic / BSP / NPSM	3/8" BSP Female	15.2	7.8	5153

FL - Flanged THR - Threaded

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

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.

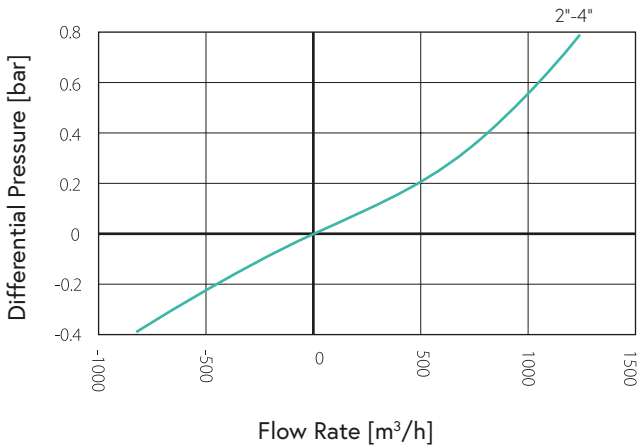
For complete installation instructions, please refer to the IOM document.



Flow Charts

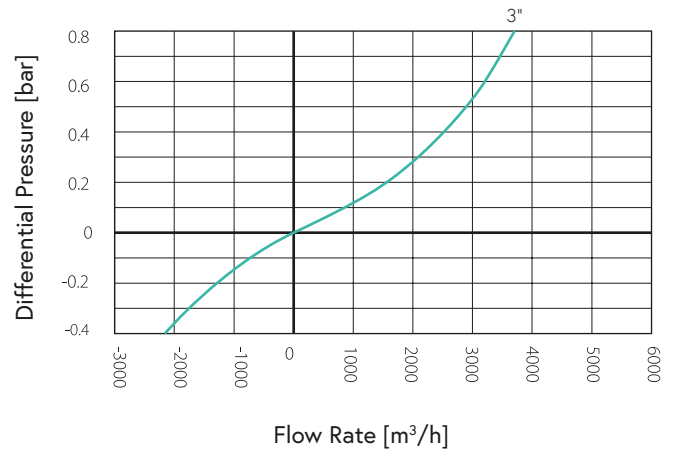
Nylon Models

Air & Vacuum Flow Rate

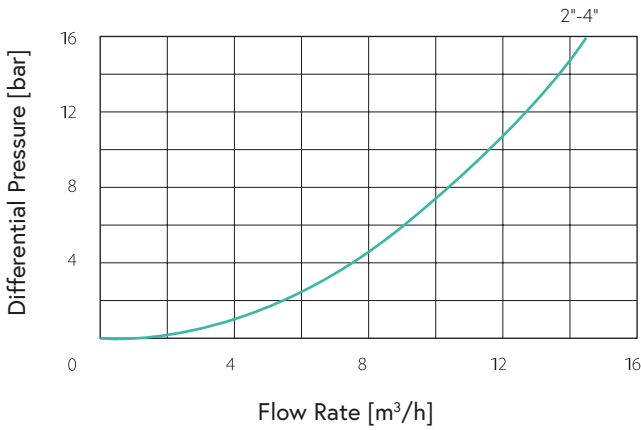


Metal Models

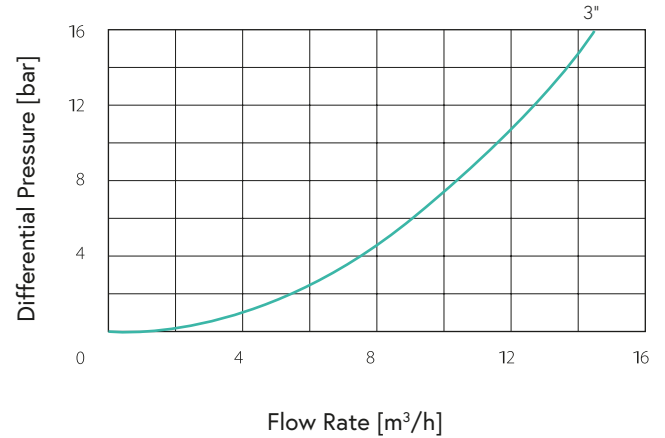
Air & Vacuum Flow Rate



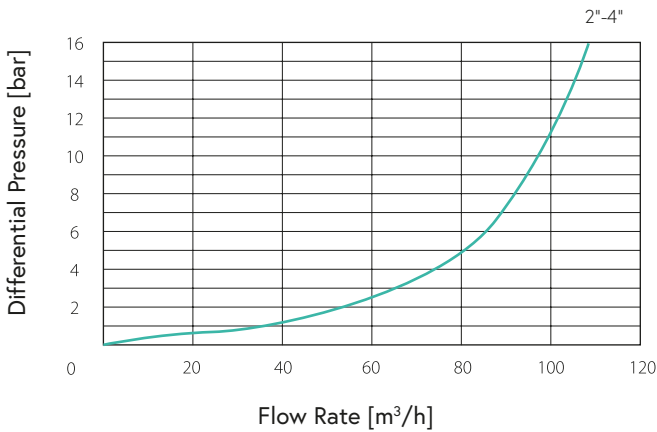
Automatic Air Release Flow Rate



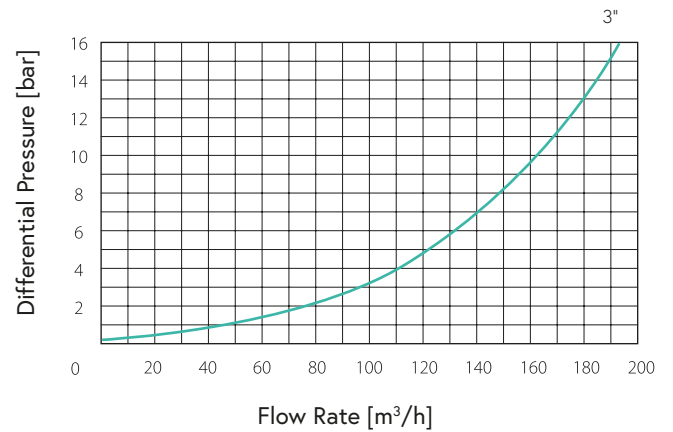
Automatic Air Release Flow Rate



Pressure Relief



Pressure Relief



Parts List and Specifications | Nylon Models

No.	Part	Material
1	Air Valve Body Assembly	
1a	Discharge Elbow	Polypropylene
1b	Body	Reinforced Nylon
2	Pilot Seal Assembly	
2a	Clamping Stem	Reinforced Nylon
2b	Pilot Float Assembly	Polypropylene + Stainless Steel 316
2c	Rolling Seal	EPDM
3	Extension Assembly	
3a	O-ring	NBR
3b	Body	Reinforced Nylon
4	Adaptor Assembly	
4a	O-ring	NBR
4b	Locking Ring	Reinforced Nylon
5	Seal Assembly	
5a	Adaptor	Reinforced Nylon
5b	Rolling Diaphragm Sealing Assembly	Reinforced Nylon + EPDM + Stainless Steel 316
6	Body Assembly	
6a	Support Ring	Reinforced Nylon
6b	Body	Reinforced Nylon
6c	O-ring	NBR
6d	Flange	Reinforced Nylon
7	P-31U Pilot Assembly	
7a	P-31U Pilot	Reinforced Nylon / Polypropylene, NR/EPDM + Stainless Steel 302/304/316 + POM
7b	Tube	HD Polyethylene



Parts List and Specifications | Metal Model

No.	Part	Material
1	Air Valve Body Assembly	
1a	Discharge Elbow	Polypropylene
1b	Body	Reinforced Nylon
2	Pilot Seal Assembly	
2a	Rolling Seal	EPDM
2b	Pilot Float Assembly	Polypropylene + Stainless Steel 316
2c	Clamping Stem	Reinforced Nylon
3	Adaptor Assembly	
3a	O-ring	NBR
3b	Body	Reinforced Nylon
4	Cover Assembly	
4a	O-ring	NBR
4b	Cover	Reinforced Nylon
5	Rolling Diaphragm Sealing Assembly	Reinforced Nylon + EPDM + Stainless Steel 304 + Natural Rubber + Fabric
6	Body Assembly	
6a	Bolt, Nut & Washer	Steel Zinc Cobalt Coated
6b	Body	Ductile Iron
7	P-96Q Pilot Assembly	
7a	P-96Q Pilot	Brass + NR/EPDM + Stainless Steel 302/304/316 + PTFE + Reinforced Nylon
7b	Tube	HD Polyethylene

