A.R.I.

D-060 NS M1 PN 16
D-060-C NS M1 PN 16
D-062 NS M1 PN 25
D-065 NS M1 PN 40

Water Supply

Combination Air Valve - Non Slam

Description

The D-060 NS M1 series Combination Air Valve has the features of both an air release valve and an air & vacuum valve.
The air release component is designed to automatically release small pockets of air to the atmosphere as they accumulate along a pipeline or piping system when it is full and operating under pressure.
The air & vacuum component is designed to automatically discharge or admit large volumes of air during the filling or draining of a pipeline or piping system. This valve will open to relieve negative pressures whenever water column separation occurs.

Applications

- Water pipelines with anticipated conditions of surge and water hammer.
- On the peaks of water pipelines with steep slopes.
- Water pipelines where water column separation occurs.

D-060-C NS M1 - additional applications
- Water pipelines vulnerable to vandalism and/or water theft.
- Water systems found in remote areas.

D-062 NS M1 - additional applications
- Water systems with pressure demands of 25 bar (D-062 NS M1 respectively).

D-065 NS M1 - additional applications
- Water systems with pressure demands of 40 bar (D-065 NS M1 respectively).

Operation

The D-060 NS M1 series Combination Non Slam Air Valve is a surge-dampening, slam-preventing, 3-stage combination air valve. The air valve provides high capacity vacuum protection and, at the same time, efficient surge suppression. At sudden drainage and/or water column separation (sudden pump trips or valve closure, for instance), the air & vacuum orifice admits air at high flow rates, thus preventing vacuum. As the water column and/or pressure wave returns, large volumes of air are discharged at high velocities, raising the non-slam disc, partially closing the air & vacuum orifice and allowing air to exhaust slowly through the smaller orifice of the non-slam disc. This slowly exhausting air pocket dampens the slam of the returning water column, thus suppressing the pressure surge. As the water flow arrives at a much slower rate, dampened by the slower air discharge, it buoys up the main float, gently closing the air & vacuum component of the air valve.
The S-050, S-050-C, S-052, S-015 air release component continues releasing air while the pipeline and the air valve are pressurized.

Main Features

- Working pressure range:
  D-060 NS M1: 0.2-16 bar
  D-060-C NS M1: 0.2-16 bar
  D-062 NS M1: 0.2-25 bar
  D-065 NS M1: 0.2-40 bar
- Testing pressure for the air valve is 1.5 times its working pressure.
- Maximum working temperature: 60° C.
- Maximum intermittent temperature: 90° C.
- All main flow cross-sections are equal or greater than the nominal port area.
- Aerodynamic design enables high flow rates of air both at intake and at discharge.
- Reliable operation reduces water hammer incidents.
- Dynamic design allows for high velocity air discharge while preventing premature closure.
- Special orifice seat design: bronze and E.P.D.M. rubber, assures long-term maintenance-free operation.
- Screen protected outlet.
- The upper screen is protected with a protective cover.
- FBE coating, both interior & exterior, according to the standard DIN 30677-2.

Air Release Component
- Body made of high strength materials.
- All operating parts are made of specially selected corrosion-resistant polymer materials.
- Large sized air release orifice:
• Dramatically reduces the possibility of obstruction by debris.
• Discharges high air flow rates.
• One size orifice for a wide pressure range (up to 25 bar), achieved A.R.I patented rolling seal mechanism.

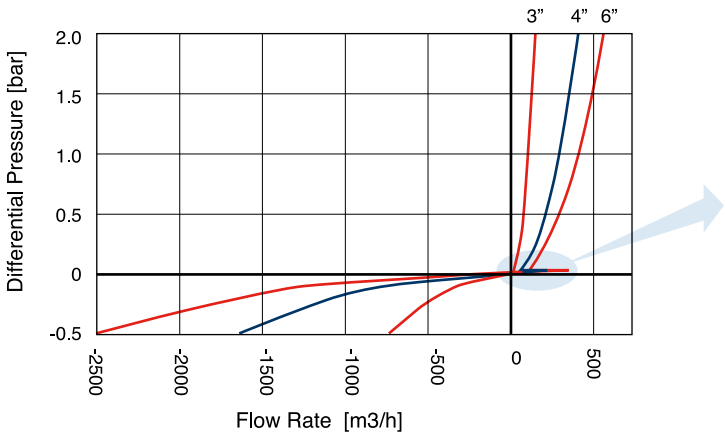
D-060 NS M1

Valve Selection

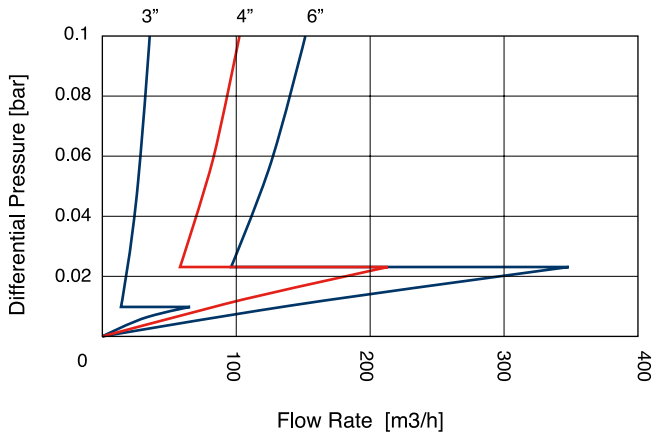
- Size Range: 3”- 12”
- D-060 NS M1 for 16 bar
- D-060-C NS M1 is vandalism protected by a cast metal air release component shell, made for 16 bar
- D-062 NS M1 is vandalism protected by a cast metal air release component shell, made for 25 bar
- D-065 NS M1 for 40 bar (3”-10”).
- These valves are manufactured with flanged ends to meet any requested standard.
- Valve coating: baked epoxy coating according to the standard DIN 30677-2.
- Other coatings are available upon request.
- The automatic air release component and the air & vacuum component are available as separate units.
- For best suitability, it is recommended to send the fluid chemical properties along with the valve request.

Upon ordering, please specify: model, size, working pressure, threads standard and type of liquid.

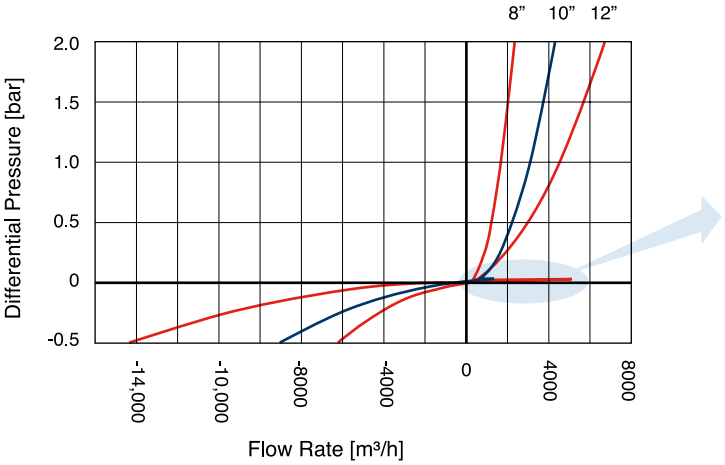
AIR & VACUUM FLOW RATE



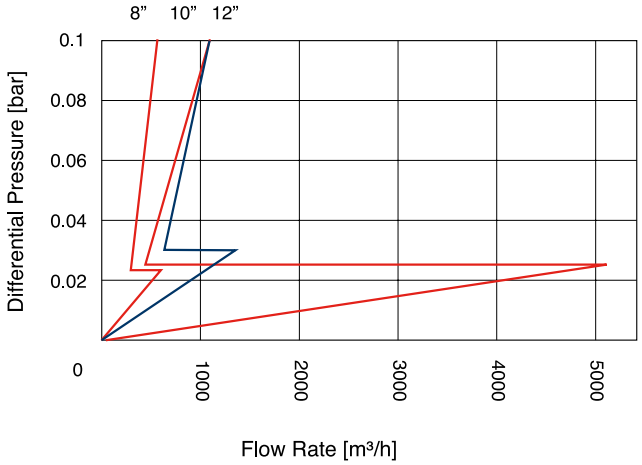
AIR DISCHARGE SWITCHING REGION



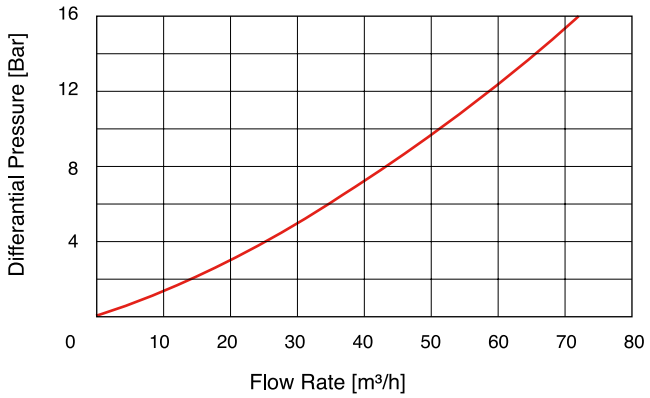
AIR & VACUUM FLOW RATE



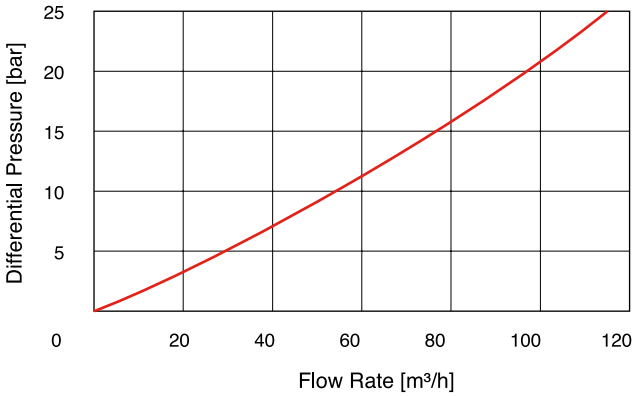
AIR DISCHARGE SWITCHING REGION



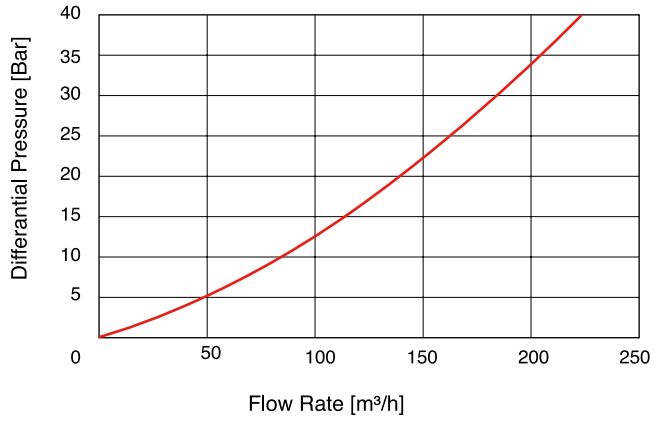
D-060 NS M1 / D-060-C NS M1
AUTOMATIC AIR RELEASE FLOW RATE



D-062 NS M1
AUTOMATIC AIR RELEASE FLOW RATE



D-065 NS M1
AUTOMATIC AIR RELEASE FLOW RATE



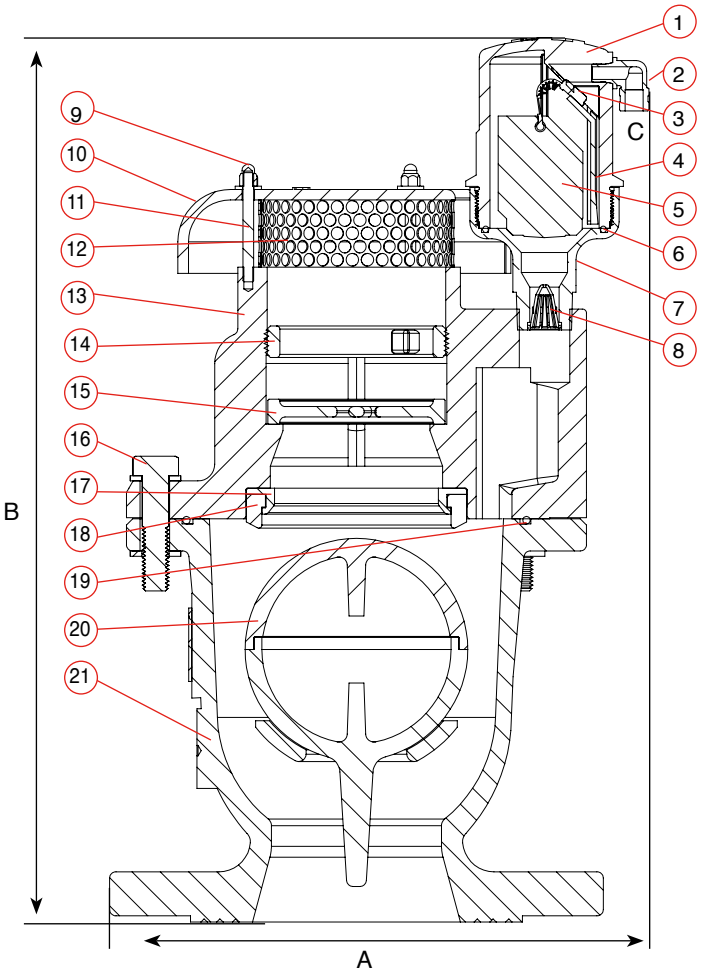
D-060 NS M1

A.R.I.

Nominal Size	Dimensions mm A	B	Connection C	Weight Kg.	Orifice Area mm² A / V	Auto.
3" (80mm)	225	354	1/8" BSP Female	21	1960	12
4" (100mm)	257	422	1/8" BSP Female	29	5030	12
6" (150mm)	307	464	1/8" BSP Female	78	7850	12
8" (200mm)	375	689	1/8" BSP Female	156	17662	12
10" (250mm)	463	790	1/8" BSP Female	291	31400	12
12" (300mm)	586	987	1/8" BSP Female	300	49087	12

PARTS LIST AND SPECIFICATION

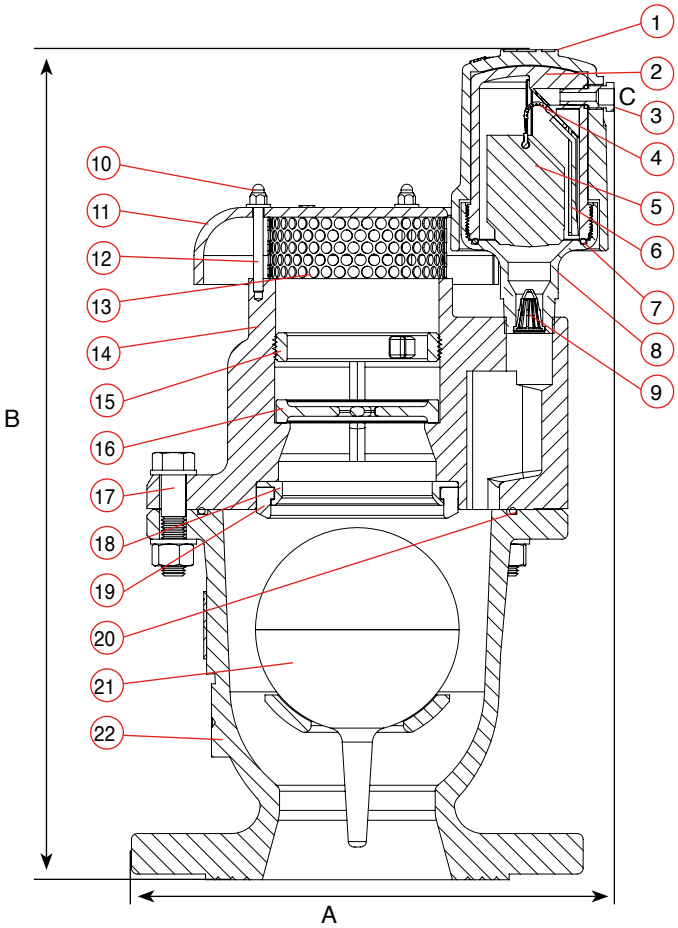
No.	Part		Material
1.	Body		Reinforced Nylon
2.	Discharge Outlet		Polypropylene
3.	Rolling Seal		E.P.D.M.
4.	Clamping Stem		Reinforced Nylon
5.	Float		Foamed Polypropylene
6.	O-Ring		BUNA-N
7.	Base		Brass ASTM B-124
8.	Strainer		Nylon
9.	Domed Nut & Washer		Stainless Steel SAE 304
10.	Screen Cover	3"-6"	Ductile Iron/ Cast Iron
		8"-12"	Polyethylene / Cast Iron / Ductile Iron
11.	Threaded Rod		Stainless Steel SAE 304
12.	Screen		Stainless Steel SAE 304
13.	Cover		Ductile Iron ASTM A-536 60-40-18
14.	Ring	3"-6"	Stainless Steel SAE 316
		8"-12"	Steel DIN ST.37
15.	Flap	3"-6"	Stainless Steel SAE 316
		8"-12"	Cast Iron ASTM A-48 CL.35B / Ductile Iron
16.	Bolt, Nut & Washer		Steel, Zinc Cobalt Coated
17.	Orifice Seat		Bronze
18.	Orifice Seal		E.P.D.M.
19.	O-Ring		BUNA-N
20.	Float		Polycarbonate / Stainless Steel
21.	Body		Ductile Iron ASTM A-536 60-40-18



D-060-C NS M1/ D-062 NS M1

A.R.I.

Nominal Size	Dimensions mm A	B	Connection C	Weight Kg.	Orifice Area mm² A / V	D-060-C Auto.	D-062
3" (80mm)	225	354	1/8" BSP Female	17	1960	12	9
4" (100mm)	257	422	1/8" BSP Female	26	5030	12	9
6" (150mm)	307	464	1/8" BSP Female	43.5	7850	12	9
8" (200mm)	375	689	1/8" BSP Female	91	17662	12	9
10" (250mm)	463	798	1/8" BSP Female	165	31400	12	9
12" (300mm)	586	989	1/8" BSP Female	301	49087	12	9



PARTS LIST AND SPECIFICATION

No.	Part		Material
1.	Shell		
	D-060-C HF		Cast Iron ASTM A-48 CL35B
	D-060-C HF, D-062 HF		Ductile Iron ASTM A-536-60-40-18
2.	Body		Reinforced Nylon
3.	Discharge Outlet		Brass ASTM B-124
4.	Rolling Seal		E.P.D.M.
5.	Float		Foamed Polypropylene
6.	Clamping Stem		Reinforced Nylon
7.	O-Ring		BUNA-N
8.	Base		Brass ASTM B124
9.	Strainer		Nylon
10.	Domed Nut & Washer		Stainless Steel SAE 304
11.	Screen Cover	3"-6"	Ductile Iron / Cast Iron
		8"-12"	Polyethylene / Cast Iron / Ductile Iron
12.	Threaded Rod		Stainless Steel SAE 304
13.	Screen		Stainless Steel SAE 304
14.	Cover		Ductile Iron ASTM A-536 60-40-18
15.	Ring	3"-6"	Stainless Steel SAE 316
		8"-12"	Steel DIN ST.37
16.	Flap	3"-6"	Stainless Steel SAE 316
		8"-12"	Cast Iron ASTM A-48 CL.35B / Ductile iron
17.	Bolt, Nut & Washer		Steel, Zinc Cobalt Coated
18.	Orifice Seat		Bronze
19.	Orifice Seal		E.P.D.M.
20.	O-Ring		BUNA-N
21.	Float		Polycarbonate / Stainless Steel
22.	Body		Ductile Iron ASTM A-536 60-40-18

D-065 NS M1

A.R.I.

DIMENSIONS AND WEIGHTS

Nominal Size	Dimensions mm A	B	Connection C	Weight Kg.	Orifice Area mm² A / V	Auto.
3" (80mm)	256	506	1/2" BSP Female	12.6	1960	15
4" (100mm)	290	572	1/2" BSP Female	20.6	5030	15
6" (150mm)	340	616	1/2" BSP Female	36	7850	15
8" (200mm)	389	854	1/2" BSP Female	95	17662	15
10" (300)	476	973	1/2" BSP Female	152	31400	15

PARTS LIST AND SPECIFICATION

No.	Part		Material
1.	Discharge Outlet		PVC
2.	Orifice		Reinforced Nylon
3.	Rollpin		Stainless Steel SAE 304
4.	O-Ring		BUNA-N
5.	Rolling Seal		E.P.D.M.
6.	Rollpin		Stainless Steel SAE 304
7.	Lever		Reinforced Nylon
8.	Rollpin		Stainless Steel SAE 304
9.	Cover		Ductile Iron ASTM A536 60-40-18
10.	O-Ring		BUNA-N
11.	Bolt Nut & Washer		Steel, Zinc Cobalt Coated
12.	Float		Polycarbonate / Stainless Steel
13.	Body		Ductile Iron ASTM A536 60-40-18
14.	Adaptor		Brass
15.	Domed Nut & Washer		Stainless Steel SAE 304
16.	Screen Cover	3"- 6"	Ductile Iron / Cast Iron
		8", 10"	Polyethylene / Cast Iron / Ductile Iron
17.	Threaded Rod		Stainless Steel SAE 304
18.	Screen		Stainless Steel SAE 304
19.	Cover		Ductile Iron ASTM A-536 60-40-18
20.	Ring	3"- 6"	Stainless Steel SAE 316
		8", 10"	Steel DIN ST.37
21.	Flap	3"- 6"	Stainless Steel SAE 316
		8", 10"	Cast Iron ASTM A-48 CL.35B / Ductile Iron
22.	Bolt, Nut & Washer		Steel, Zinc Cobalt Coated
23.	Orifice Seat		Bronze
24.	Orifice Seal		E.P.D.M.
25.	O-Ring		BUNA-N
26.	Float	3"-6"	Polycarbonate / Stainless Steel SAE 304
		8"-10"	Stainless Steel
27.	Body		Ductile Iron ASTM A-536 60-40-18