

D-060 LP HF 150/285 psi

Combination Air Valve for High Flow, Low Pressure



Description

The D-060 LP HF 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.

The D-060 LP Combination Air Valve is specifically designed to work with systems requiring low pressure air valves. These air valves will seal tight at very low pressures.

Applications

- Municipal and industrial water conveyance systems.
- Low pressure systems.

Operation

The air & vacuum component, with the large orifice, discharges air at high flow rates during the filling of the system and admits air into the system at high flow rates during its drainage and at water column separation.

High velocity air will not blow the float shut. Water will lift the float which seals the valve.

At any time during system operation, should internal pressure of the system fall below atmospheric pressure, air will enter the system.

The smooth discharge of air reduces pressure surges and other destructive phenomena.

The intake of air in response to negative pressure protects the system from destructive vacuum conditions and prevents damage caused by water column separation. Air entry is essential to efficiently drain the system.

The air release component releases entrapped air in pressurized systems.

Without air valves, pockets of accumulated air may cause the following hydraulic disturbances:

- Restriction of effective flow due to a reduction of the flow area. In extreme cases this will cause complete flow stoppage.
- Obstruction of efficient hydraulic transmission due to air flow disturbances.
- Acceleration of cavitation damages.
- Increase in pressure transients and surges.

- Internal corrosion of pipes, fittings and accessories.
- Dangerous high-energy bursts of compressed air.
- Inaccuracies in flow metering.

As the system fills and is pressurized, the combination air valve functions in the following stages:

1. Air in the pipeline is discharged by the air valve.
2. Liquid enters the air and vacuum component, lifting the float to its sealing position.
3. Water enters the air release component of the valve, lifting the float and pushing the rolling seal to its sealing position.
4. Entrapped air, accumulating at peaks and along the system, rises to the top of the air release valve, displacing the liquid in the valve's body.
5. The float drops, unsealing the rolling seal. The air release orifice opens and the accumulated air is released.
6. Liquid replaces the air released from the valve, buoying up the float and pushing the rolling seal back to its sealing position.

When internal pressure falls below atmospheric pressure (negative pressure):

1. The floats will drop down, immediately opening the air & vacuum and air release orifices.
2. Air will enter into the system.

Main Features

- Working pressure range: Polypropylene: 3 - 150 psi
Reinforced Nylon: 0.7 - 285 psi
- Maximum working temperature: 140° F.
- Maximum intermittent temperature: 194° F.
- 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 capacity 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.

Air Release Component

- Body made of high strength materials.
- All operating parts are made of specially selected corrosion-resistant

polymer materials.

- Large size 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 6 bar), achieved by the rolling seal mechanism.

Valve Selection

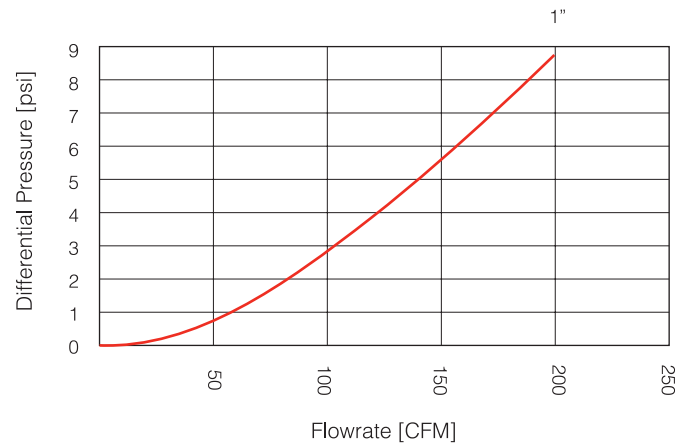
Size Range: 1" - 10"

- These valves are manufactured with flanged ends to meet any requested standard.
- The 1", 2" valves are also available with a threaded NPT connection.
- Valve coating: Fusion bonded epoxy coating in accordance with the standard DIN 30677-2.
- Other coatings are available upon request.
- The air release component and the air & vacuum component are available as separate units.

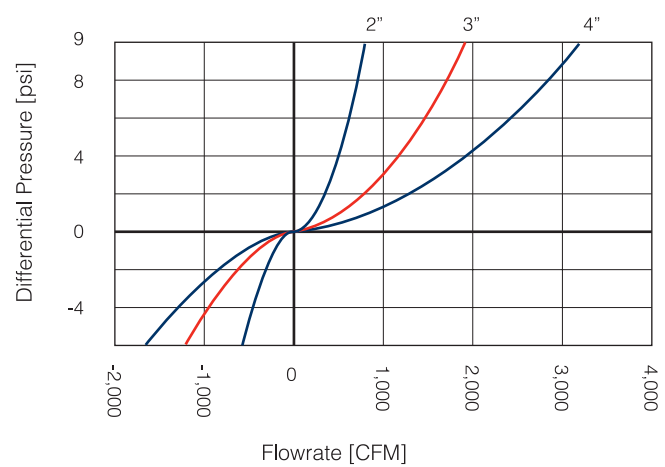
Note

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.

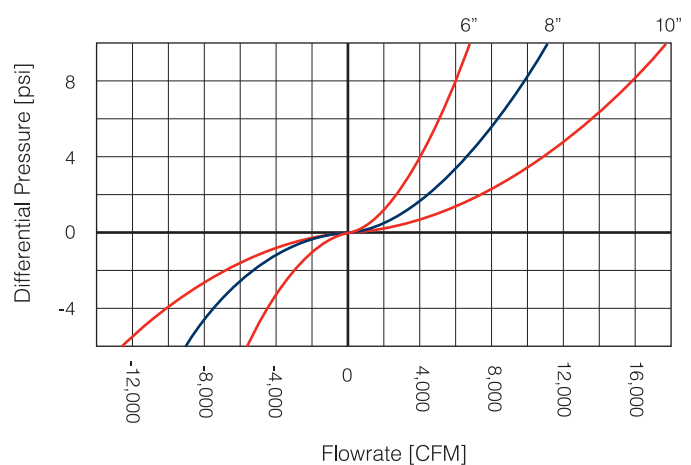
AIR & VACUUM FLOWRATE DISCHARGE



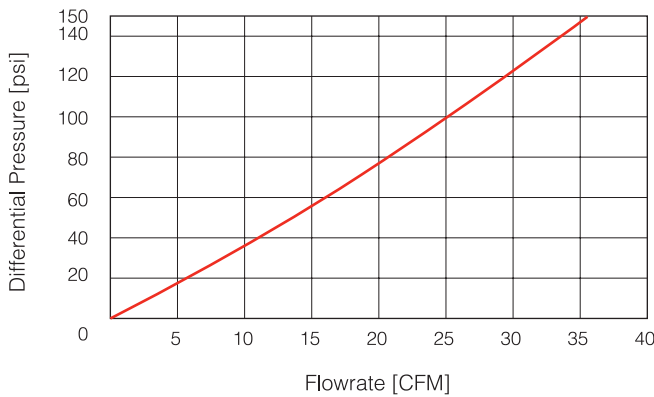
AIR & VACUUM FLOWRATE



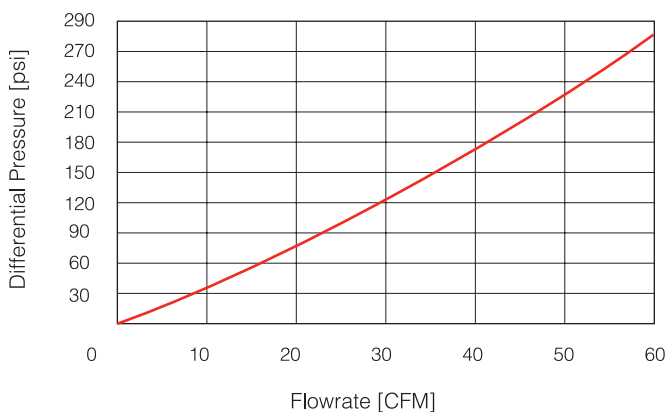
AIR & VACUUM FLOWRATE



150 PSI AIR RELEASE FLOWRATE



285 PSI AIR RELEASE FLOWRATE

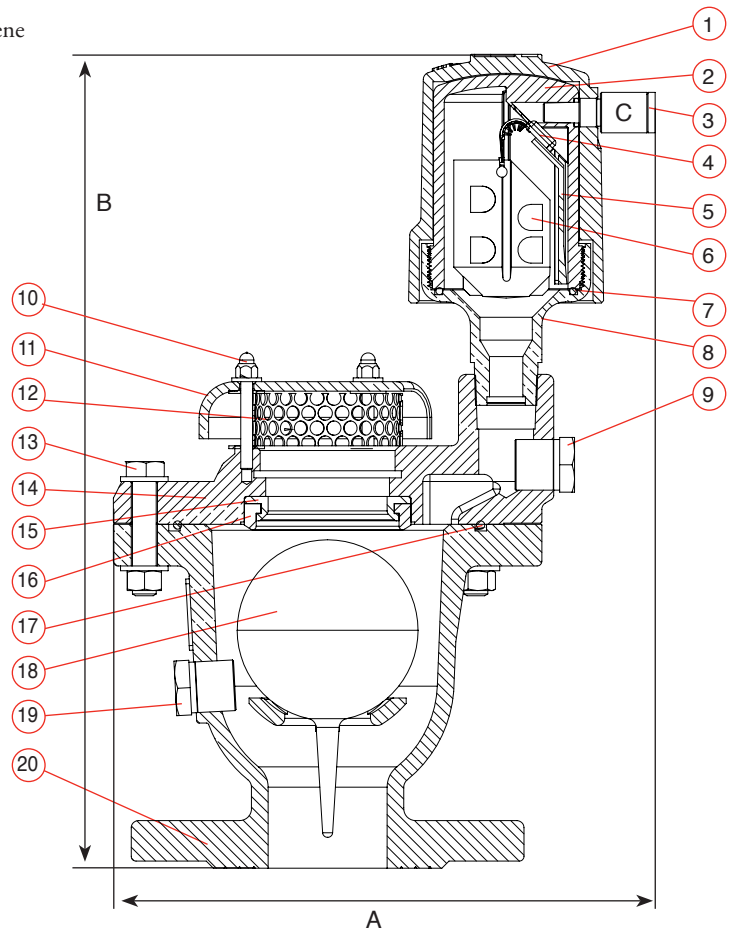


DIMENSIONS AND WEIGHT

Size	Dimensions Inch		Connection C	Weight Lbs.	A / V	Orifice Area Sq.In.	
	A	B				D-060 LP HF HF Air Rel.	D-062 HF
2" Threaded	8.3	14.0	1/8" NPT	22.0	3.04	0.018	0.014
2" Flanged	8.3	12.8	1/8" NPT	26.4	3.04	0.018	0.014

PARTS LIST AND SPECIFICATION FOR 2"

No.	Part	Material
1.	Shell S-050-C	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
	Shell S-052	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
2.	Body	NSF 61 Certified Reinforced Nylon
3.	One Way Out	Brass
4.	Rolling Seal	
	285/360 psi	NSF 61 Certified E.P.D.M
	87 psi	Silicone
5.	Clamping Stem	NSF 61 Certified Reinforced Nylon
6.	Float	NSF 61 Certified Foamed Polypropylene
7.	O-Ring	NSF 61 Certified NBR 70
8.	Base	Stainless Steel ASTM A744 CF8M
9.	Plug	Stainless Steel SAE 316 / UNS 31600
10.	Domed Nut & Washer	NSF 61 Certified STST UNS 31600
11.	Screen Cover	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
12.	Screen	NSF 61 Certified STST UNS 30400
13.	Bolt, Nut & Washer	NSF 61 Certified STST UNS 31600
14.	Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
15.	Orifice Seat	Stainless Steel SAE 316 / UNS 31600
16.	Orifice Seal	NSF 61 Certified E.P.D.M
17.	O - Ring	NSF 61 Certified NBR 70
18.	Float	NSF 61 Certified STST UNS 31600 /NSF 61 Certified polycarbonate
19.	Plug	Stainless Steel SAE 316 / UNS 31600
20.	Body	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4

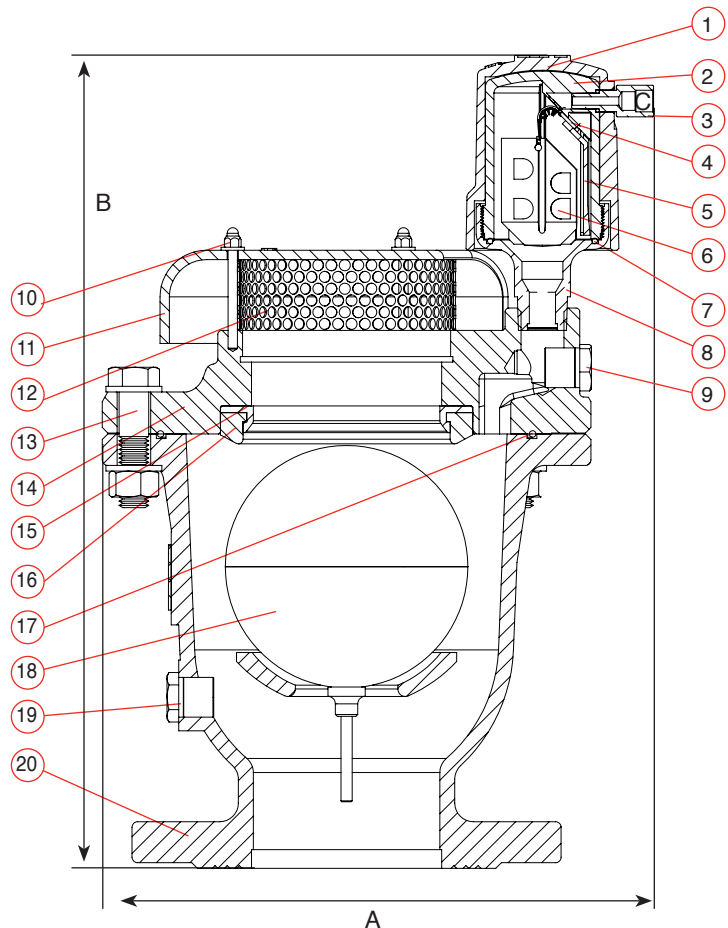


DIMENSIONS AND WEIGHT

Size	Dimensions Inch		Connection C	Weight Lbs.	A / V	Orifice Area Sq.In.	
	A	B				D-060 LP HF HF Air Rel.	D-062 HF
3" Flanged	9.6	15.5	1/8" NPT	41.9	7.80	0.018	0.014

PARTS LIST AND SPECIFICATION FOR 3"

No.	Part	Material
1.	Shell S-050-C	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
	Shell S-052	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
2.	Body	NSF 61 Certified Reinforced Nylon
3.	One Way Out	Brass
4.	Rolling Seal	
	285/360 psi	NSF 61 Certified E.P.D.M
	87 psi	Silicone
5.	Clamping Stem	NSF 61 Certified Reinforced Nylon
6.	Float	NSF 61 Certified Foamed Polypropylene
7.	O-Ring	NSF 61 Certified NBR 70
8.	Base	Stainless Steel ASTM A744 CF8M
9.	Plug	Stainless Steel SAE 316 / UNS 31600
10.	Domed Nut & Washer	NSF 61 Certified STST UNS 31600
11.	Screen Cover	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
12.	Screen	NSF 61 Certified STST UNS 30400
13.	Bolt, Nut & Washer	NSF 61 Certified STST UNS 31600
14.	Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
15.	Orifice Seat	Stainless Steel SAE 316 / UNS 31600
16.	Orifice Seal	NSF 61 Certified E.P.D.M
17.	O - Ring	NSF 61 Certified NBR 70
18.	Float	NSF 61 Certified STST UNS 31600 /NSF 61 Certified polycarbonate
19.	Plug	Stainless Steel SAE 316 / UNS 31600
20.	Body	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4

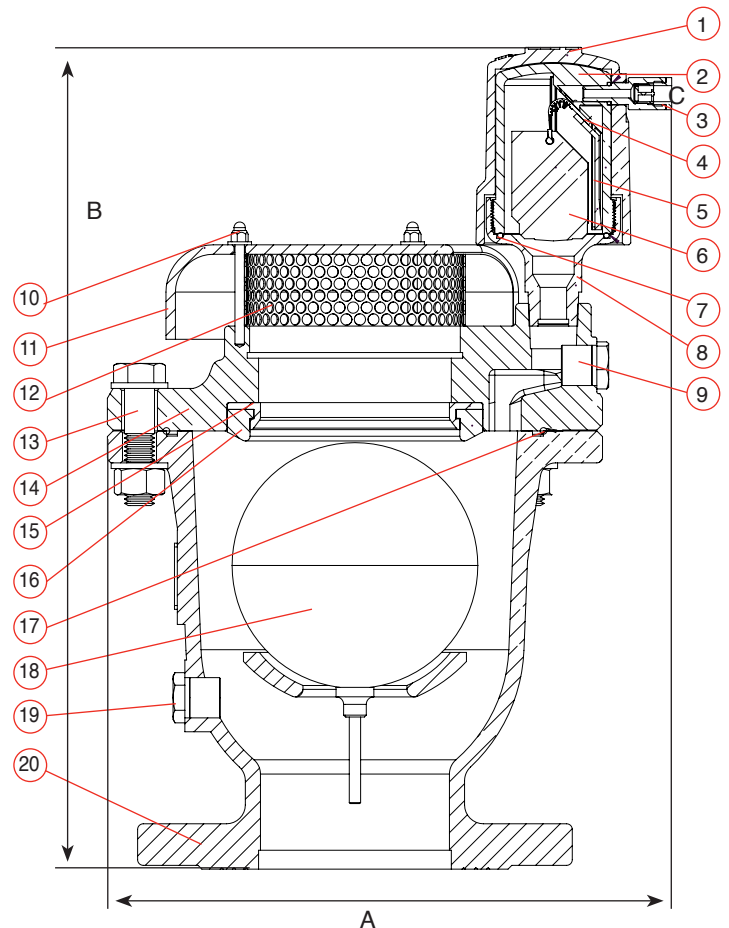


DIMENSIONS AND WEIGHT

Size	Dimensions Inch		Connection C	Weight Lbs.	A / V	Orifice Area Sq.In.	
	A	B				D-060 LP HF HF Air Rel.	D-062 HF
4" Flanged	11.0	17.2	1/8" NPT	57.3	12.17	0.018	0.014

PARTS LIST AND SPECIFICATION FOR 4"

No.	Part	Material
1.	Shell S-050-C	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
	Shell S-052	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
2.	Body	NSF 61 Certified Reinforced Nylon
3.	One Way Out	Brass
4.	Rolling Seal	
	285/360 psi	NSF 61 Certified E.P.D.M
	87 psi	Silicone
6.	Float	NSF 61 Certified Foamed Polypropylene
7.	O-Ring	NSF 61 Certified NBR 70
8.	Base	Stainless Steel ASTM A744 CF8M
9.	Plug	Stainless Steel SAE 316 / UNS 31600
10.	Domed Nut & Washer	NSF 61 Certified STST UNS 31600
11.	Screen Cover	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
12.	Screen	NSF 61 Certified STST UNS 30400
13.	Bolt, Nut & Washer	NSF 61 Certified STST UNS 31600
14.	Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
15.	Orifice Seat	Stainless Steel SAE 316 / UNS 31600
16.	Orifice Seal	NSF 61 Certified E.P.D.M
17.	O - Ring	NSF 61 Certified NBR 70
18.	Float	NSF 61 Certified STST UNS 31600 /NSF 61 Certified polycarbonate
19.	Plug	Stainless Steel SAE 316 / UNS 31600
20.	Body	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4

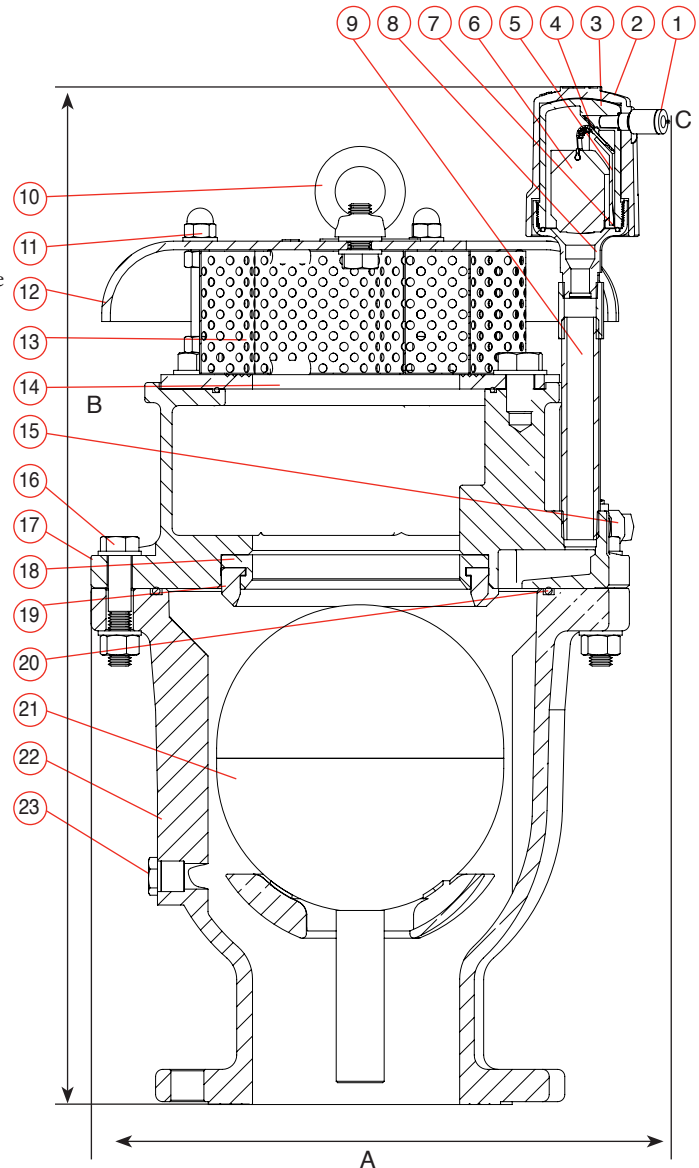


DIMENSIONS AND WEIGHT

Size	Dimensions Inch		Connection C	Weight Lbs.	A / V	Orifice Area Sq.In.	
	A	B				D-060 LP HF HF Air Rel.	D-062 HF
6" Flanged	14.8	23.5	1/8" NPT	174.2	27.38	0.018	0.014

PARTS LIST AND SPECIFICATION FOR 6"

No.	Part	Material
1.	One Way Out	Brass
2.	Shell S-050-C	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
	Shell S-052	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
3.	Body	NSF 61 Certified Reinforced Nylon
4.	Rolling Seal 285/360 psi 87 psi	NSF 61 Certified E.P.D.M Silicone
6.	Float	NSF 61 Certified Foamed Polypropylene
7.	O-Ring	NSF 61 Certified NBR 70
8.	Base	Stainless Steel ASTM A744 CF8M
9.	Nipple & Coupling	NSF 61 Certified STST UNS 31600
10.	Lifting Ring	NSF 61 Certified STST UNS 31600
11.	Domed Nut & Washer	NSF 61 Certified STST UNS 31600
12.	Screen Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
13.	Screen	NSF 61 Certified STST UNS 30400
14.	Ring	Steel Din St.37
15.	Test Cock + Adaptor	Test Cock + Adaptor
16.	Bolt, Nut & Washer	NSF 61 Certified STST UNS 31600
17.	Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
18.	Orifice Seat	Stainless Steel SAE 316 / UNS 31600
19.	Orifice Seal	NSF 61 Certified E.P.D.M
20.	O - Ring	NSF 61 Certified NBR 70
21.	Float	NSF 61 Certified STST UNS 31600 /NSF 61 Certified Polycarbonate
22.	Body	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
23.	Plug	Stainless Steel SAE 316 / UNS 31600

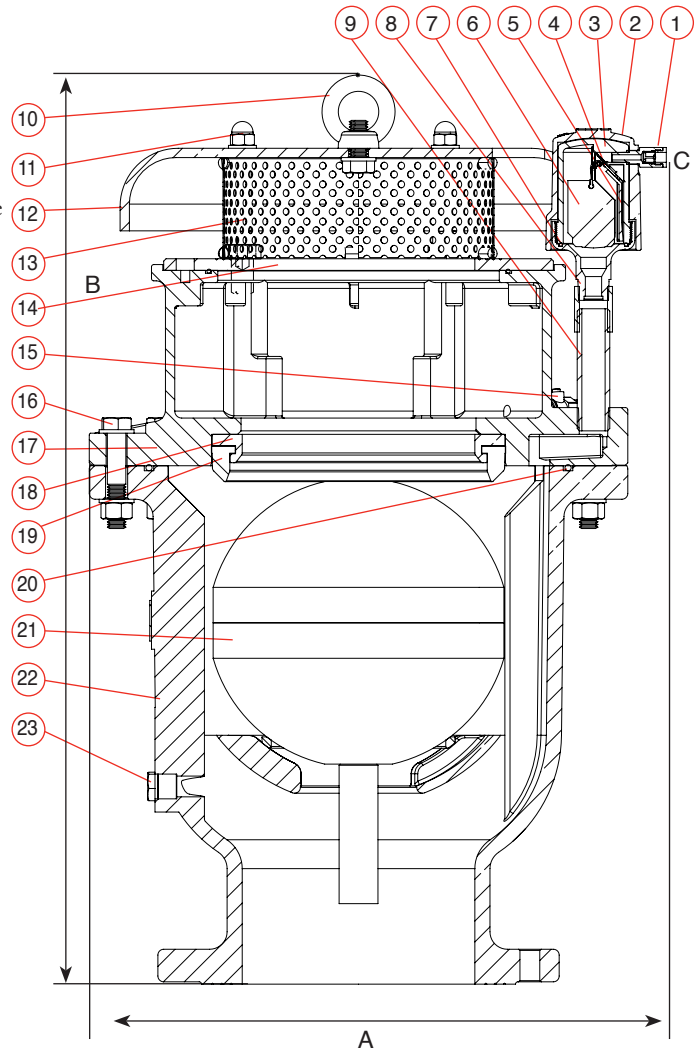


DIMENSIONS AND WEIGHT

Size	Dimensions Inch		Connection C	Weight Lbs.	A / V	Orifice Area Sq.In.	
	A	B				D-060 LP HF HF Air Rel.	D-062 HF
8" Flanged	18.2	25.1	1/8" NPT	260.1	48.67	0.018	0.014

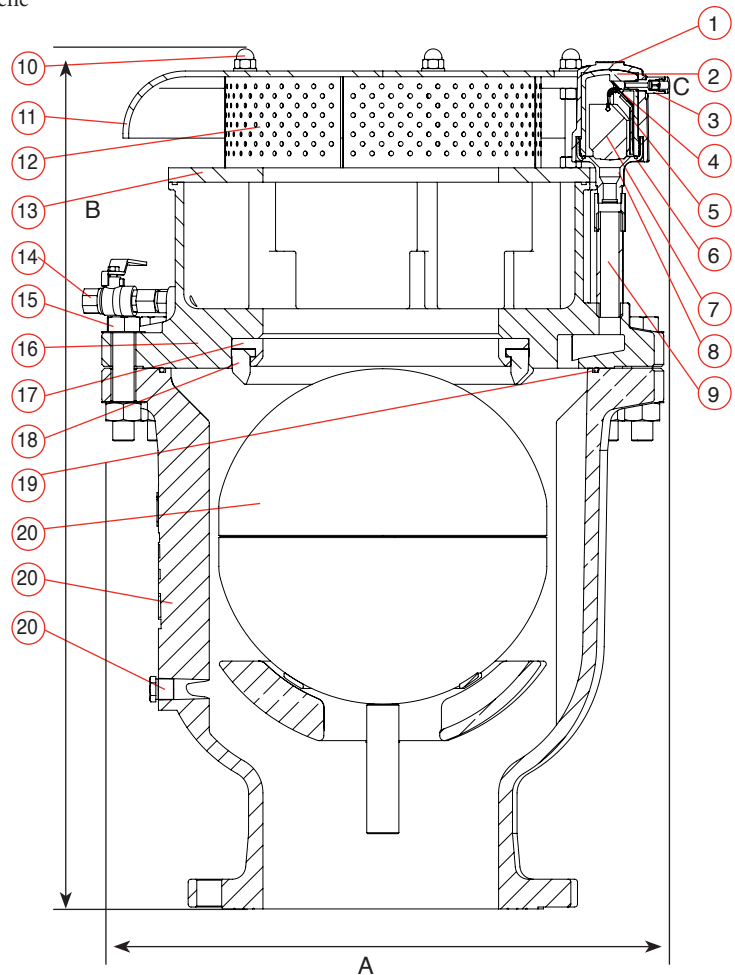
PARTS LIST AND SPECIFICATION FOR 8"

No.	Part	Material
1.	One Way Out	Brass
2.	Shell S-050-C	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
	Shell S-052	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
3.	Body	NSF 61 Certified Reinforced Nylon
4.	Rolling Seal 285/360 psi 87 psi	NSF 61 Certified E.P.D.M Silicone
6.	Float	NSF 61 Certified Foamed Polypropylene
7.	O-Ring	NSF 61 Certified NBR 70
8.	Base	Stainless Steel ASTM A744 CF8M
9.	Nipple & Coupling	NSF 61 Certified STST UNS 31600
10.	Lifting Ring	NSF 61 Certified STST UNS 31600
11.	Domed Nut & Washer	NSF 61 Certified STST UNS 31600
12.	Screen Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
13.	Screen	NSF 61 Certified STST UNS 30400
14.	Ring	Steel Din St.37
15.	Test Cock + Adaptor	Test Cock + Adaptor
16.	Bolt, Nut & Washer	NSF 61 Certified STST UNS 31600
17.	Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
18.	Orifice Seat	Stainless Steel SAE 316 / UNS 31600
19.	Orifice Seal	NSF 61 Certified E.P.D.M
20.	O - Ring	NSF 61 Certified NBR 70
21.	Float	NSF 61 Certified STST UNS 31600 /NSF 61 Certified Polycarbonate
22.	Body	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
23.	Plug	Stainless Steel SAE 316 / UNS 31600



PARTS LIST AND SPECIFICATION FOR 10"

No.	Part	Material
1.	Shell S-050-C	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
	Shell S-052	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
2.	Body	NSF 61 Certified Reinforced Nylon
3.	One Way Out	Brass
4.	Rolling Seal	
	285/360 psi	NSF 61 Certified E.P.D.M
	87 psi	Silicone
6.	O-Ring	NSF 61 Certified NBR 70
7.	Float	NSF 61 Certified Foamed Polypropylene
8.	Base	Stainless Steel ASTM A744 CF8M
9.	Nipple & Coupling	NSF 61 Certified STST UNS 31600
10.	Domed Nut & Washer	NSF 61 Certified STST UNS 31600
11.	Screen Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
12.	Screen	NSF 61 Certified STST UNS 30400
13.	Ring	Steel Din St.37
14.	Test Cock + Adaptor	Test Cock + Adaptor
15.	Bolt, Nut & Washer	NSF 61 Certified STST UNS 31600
16.	Cover	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
17.	Orifice Seat	Stainless Steel SAE 316 / UNS 31600
18.	Orifice Seal	NSF 61 Certified E.P.D.M
19.	O - Ring	NSF 61 Certified NBR 70
20.	Float	NSF 61 Certified STST UNS 31600 /NSF 61 Certified Polycarbonate
21.	Body	Ductile Iron ASTM A536 60-40-18 / Resicoat RT R4
22.	Plug	Stainless Steel SAE 316 / UNS 31600



DIMENSIONS AND WEIGHT

Size	Dimensions Inch		Connection	Weight Lbs.	Orifice Area Sq.In.		
	A	B			C	A / V	D-060 LP HF HF Air Rel.
10" Flanged	23.0	31.0	1/8" NPT	332.9	76.08	0.018	0.014

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