



D-065 HF 580 PSI



Combination Air Valve for High Flow, 580 psi.

Description

The D-065 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.

Applications

- Municipal and industrial water conveyance systems.
- Fire-extinguishing systems.
- Water systems with pressure demands of 580 psi.

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 should 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 re-enter the system.

The smooth discharge of air prevents 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 re-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 destructive phenomena:

- Obstruction of effective flow and hydraulic conductivity of the system along with a throttling effect as would a partially closed valve. In extreme cases this will cause complete flow stoppage.
- Acceleration of cavitation damages.
- High-pressure surges.
- Acceleration of corrosion to metal parts.
- Danger of a high-energy burst of compressed air.
- Inaccuracies in flow metering.

As the system starts to fill, the valve functions according to the following stages:

1. Entrapped air in the pipeline is discharged by the valve.
2. Liquid enters the valve, lifting the float which pushes the sealing mechanism to its sealing position.
3. Entrapped air, which accumulates at peaks along the system (where combination air valves should be installed), rises to the top of the valve, which in turn displaces the liquid in the valve's body.
4. The float descends, unsealing the rolling seal. The air release orifice opens and the accumulated air is released.
5. Liquid penetrates into the valve and the float rises, pushing the rolling seal back to its sealing position.

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

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

Main Features

- Working pressure range: 3 - 580 psi
- Testing pressure for the air valve is 1.5 times its working pressure.
- 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 velocity air discharge while preventing premature closure.
- Special orifice seat design: Stainless Steel 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 international 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 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 580 psi), achieved by: A.R.I patented rolling seal mechanism.

Valve Selection

- Size Range: 2" - 8"
- These valves are manufactured with flanged ends to meet ASA 300, ASA 600 standard or any requested standard.
- **Valve coating:** FBE coating according to the international standard DIN 30677-2.

- Other coatings are available upon request.

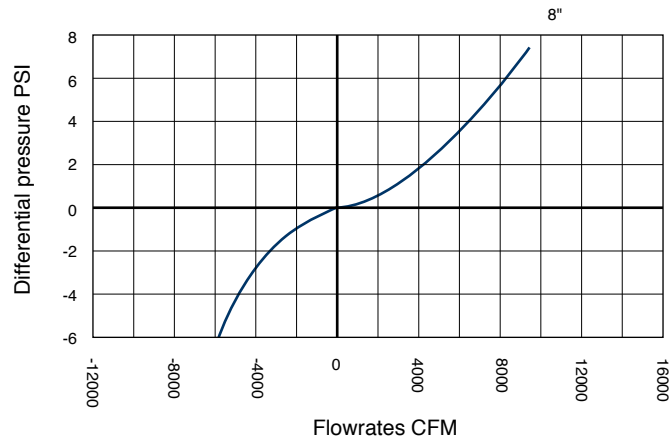
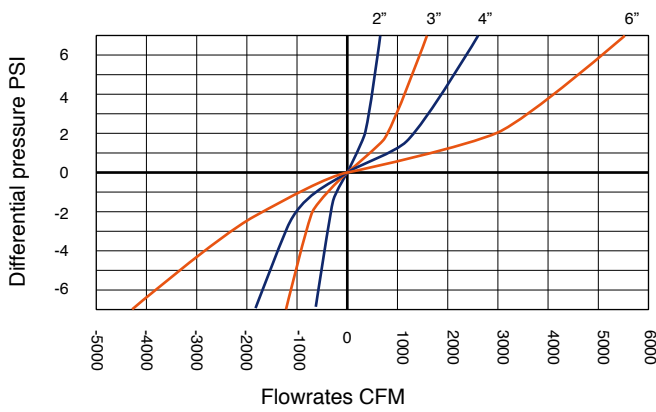
- The air release component and the air & vacuum component are available as separate units.

Option

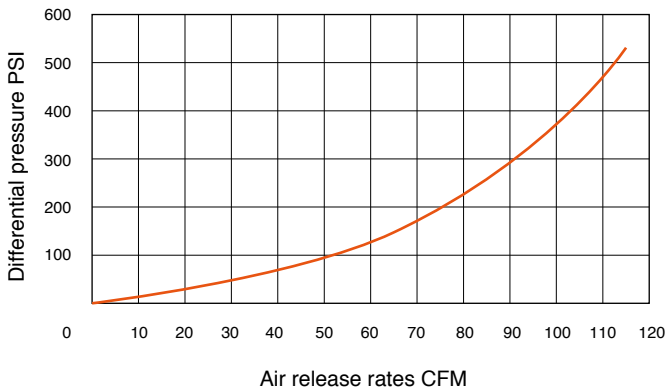
- Cover and screen can be removed for attaching ventilation pipe - to-surface. For instructions, please refer to the D-060-C HF page.
- For best suitability, it is recommended to send the fluid chemical properties along with the valve request.

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

AIR AND VACUUM FLOW RATE



AUTOMATIC AIR RELEASE

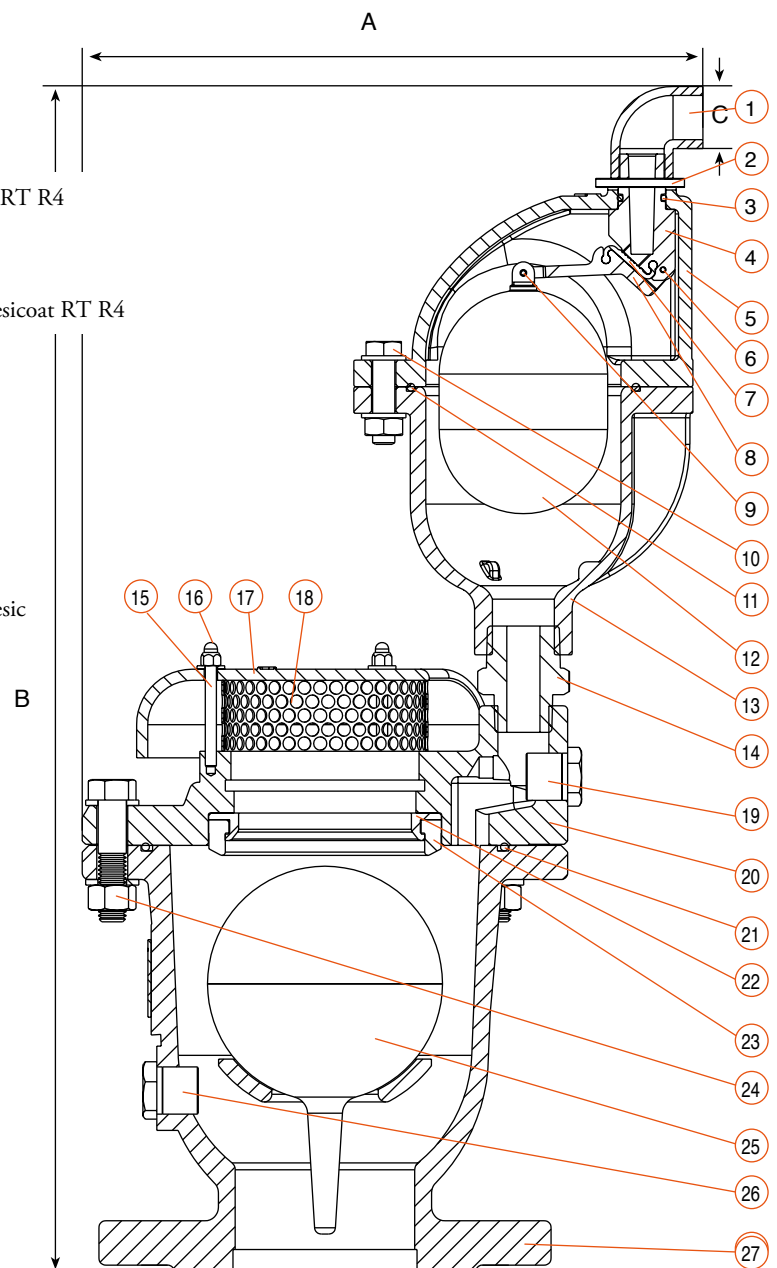


DIMENSIONS AND WEIGHT

Nominal Size	Dimensions inch				Weight Lbs.	Orifice Area Sq.in	
	A	B	internal C	external		Air & Vac.	Auto.
2"	9.7	19.7	1/4 NPT	0.7	34.7	3.038	0.0235
3"	11.0	21.1	1/4 NPT	0.7	50.2	7.796	0.0235
4"	12.5	22.8	1/4 NPT	0.7	65.2	12.167	0.0235
6"	15.3	30.5	1/4 NPT	0.7	72.2	27.376	0.0235
8"	20.3	23.4	1/4 NPT	0.7	268.4	48.670	0.0235

PARTS LIST AND SPECIFICATION FOR 2", 3", 4"

No. Part	Material
1. Discharge Outlet	PVC
2. Rollpin	Stainless Steel SAE 304
3. O-RING	BUNA-N
4. Nozzle	Reinforced Nylon
5. Cover	Ductile Iron ASTM A536 60-40-18
6. Rollpin	Stainless Steel SAE 304
7. Rolling Seal	E.P.D.M.
8. Lever	Reinforced Nylon
9. Rollpin	Stainless Steel SAE 304
10. Bolt, Nut & Washer	Steel, Zinc Cobalt Coated
11. O-Ring	BUNA-N
12. Float	NSF 61 Certified Polycarbonate
13. Body	Ductile Iron ASTM A536 60-40-18
14. Adaptor	NSF 61 Certified STST UNS 30400
15. Nut	NSF 61 Certified STST UNS 30400
16. Bolt	NSF 61 Certified STST UNS 30400
17. Screen Cover	Cast Iron ASTM A48 CL.35B / Resicoat RT R4
18. Screen	NSF 61 Certified STST UNS 30400
19. Plug	NSF 61 Certified Reinforced Nylon
20. Cover	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
21. O - Ring	NSF 61 Certified NBR 70
22. Orifice Seat	NSF 61 Certified STST UNS 30400
23. Orifice Seal	NSF 61 Certified E.P.D.M
24. Bolt & Nut	NSF 61 Certified STST UNS 30400
25. Float	NSF 61 Certified STST UNS 31600 / NSF 61 Certified polycarbonate
26. Plug	NSF 61 Certified Reinforced Nylon
27. Body	Ductile Iron ASTM A-536 60-40-18 / Resic



PARTS LIST AND SPECIFICATION FOR 6", 8"

No. Part	Material
1. Discharge Outlet	PVC
2. Rollpin	Stainless Steel SAE 304
3. O-RING	BUNA-N
4. Nozzle	Reinforced Nylon
5. Cover	Ductile Iron ASTM A536 60-40-18
6. Rollpin	Stainless Steel SAE 304
7. Rolling Seal	E.P.D.M.
8. Lever	Reinforced Nylon
9. Rollpin	Stainless Steel SAE 304
10. Bolt, Nut & Washer	Steel, Zinc Cobalt Coated
11. O-RING	BUNA-N
12. Float	NSF 61 Certified Polycarbonate
13. Body	Ductile Iron ASTM A536 60-40-18
14. Lifting Ring	Carbon Steel
15. Bolt & Washer	NSF 61 Certified STST UNS 30400
16. Nut	NSF 61 Certified STST UNS 30400
17. Screen Cover	Cast Iron ASTM A48 CL.35B / Resicoat RT R4
18. Screen	NSF 61 Certified STST UNS 30400
19. Ring	Steel Din St.37
20. Bolt	NSF 61 Certified STST UNS 30400
21. Cover	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
22. Orifice Seat	NSF 61 Certified STST UNS 30400
23. Orifice Seal	NSF 61 Certified E.P.D.M
24. Float	NSF 61 Certified STST UNS 31600 / NSF 61 Certified polycarbonate
25. Body	Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4
26. Plug	NSF 61 Certified Reinforced Nylon
27. Adaptor	NSF 61 Certified STST UNS 30400
28. Nipple & Coupler	NSF 61 Certified STST UNS 30400
29. Bolt & Washer	NSF 61 Certified STST UNS 30400
30. O - Ring	NSF 61 Certified NBR 70
31. Bolt & Washer	NSF 61 Certified STST UNS 30400
32. Test Cock + Adaptor	Bronze & Chrome
33. O - Ring	NSF 61 Certified NBR 70

