



D-060-C HF

D-062 HF



Combination Air Valve for High Flow

Description

The Combination Air Valve has the features of both an Air-release valve and an Air/vacuum valve. The Air-release component of the valve was designed to automatically release to the atmosphere small pockets of air as they accumulate along a pipeline when the pipeline or piping system is full and operating under pressure. The Air/vacuum component was 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.

Operation

The Air & Vacuum component, with the large orifice, exhausts air at high flow rates during the filling of the system and admits air at high flow rates during its drainage and at water column separation. High velocity air, or even air mixed with a mist of water spray, cannot blow the float shut. Water entry will cause the sealing of 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 release of air prevents pressure surges and other destructive phenomena.

Admitting 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 automatic Air Release component, releases entrapped air from peaks of pressurized systems where the valve should be installed.

Without air valves pockets of accumulated air may cause the following destructive phenomena:

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

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

1. Entrapped air is released by the valve.
2. Liquid enters the valve lifting the floats and sealing
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, peeling the rolling seal, the orifice opens and the accumulated air is released.
5. Liquid penetrates into the valve, the float rises, rolling the rolling seal to its sealing position.

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

1. The float will immediately drop away from the orifice.
2. Air is admitted to the system.

Main Features

- Working pressure range: D-060-C HF 3-285 psi, D-062 HF 3-360 psi.
- Testing pressure for the air valve is 1.5 times its working pressure.
- Working Temperature: 140° f.
- Maximum working temperature for short time period: 194° f.
- Aerodynamic design enables high flow rates of air (Inflow and outflow).
- All flow cross-sections are equal or greater than the nominal port area.
- Reliable operation reduces water hammer incidents. Dynamic design allows high velocity air discharge; Preventing premature closing.
- Special orifice seat design: Stainless steel SAE 316 and E.P.D.M. rubber, assures long-term maintenance free operation.
- Screen protected outlet.
- The upper screen is protected with protective "umbrella".
- 250 micron inside & out NSF 61 approved FBE coating.

Automatic component

- Large orifice:
Dramatically reduces the possibility of obstruction by debris. Discharges high air flow rates, as much as 14 times more than any other existing Automatic Air Release valve. One size orifice for a wide pressure range (up to 360 psi). Achieved by: A.R.I. patent, Rolling Seal Mechanism.
- Body made of high strength materials.
- All operating parts are made of specially selected corrosion resistant composite materials.

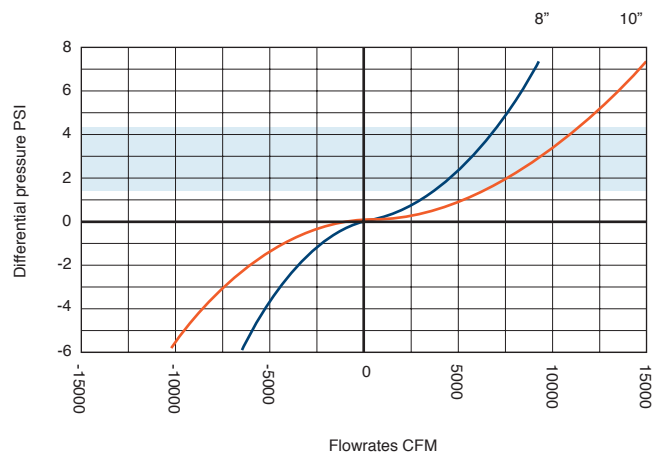
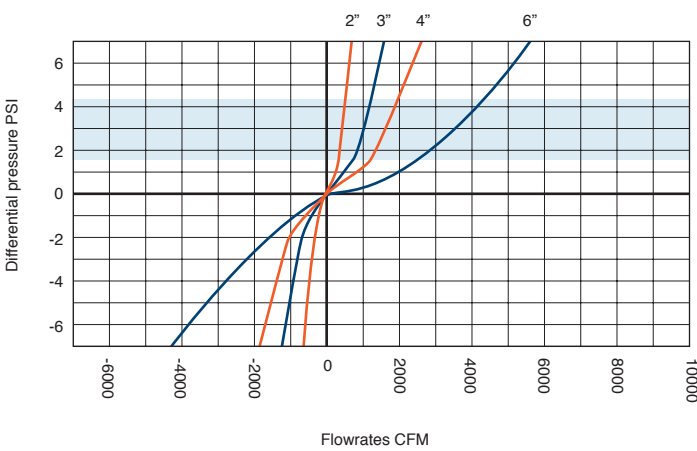
Option

Cover and screen can be removed for attaching ventilation pipe-to-surface. For instructions, please refer to the last page.

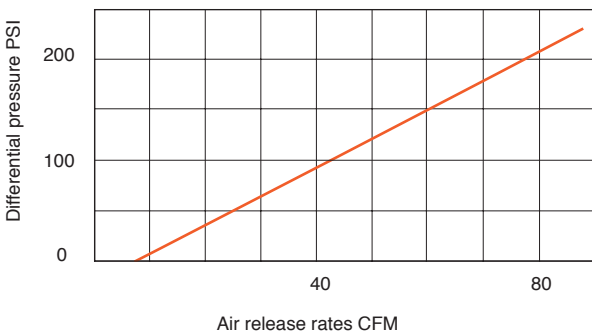
Valve Selection

D-060-C HF Vandalism protect by metal casting body, for 285 psi.
 D-062 HF Vandalism protect by metal casting body for 360 psi.
 - These valves are manufactures with flanged ends to meet ASA standard (D-060-C HF -ASA 150, D-062 HF -ASA 300) or any requested standard. The 2" valve is also available with NPT male threads.

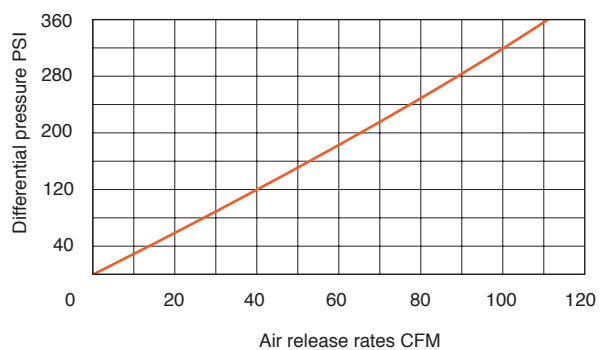
AIR & VACUUM FLOWRATE reccomended range



D-060-C HF AUTOMATIC AIR RELEASE



D-062 HF AUTOMATIC AIR RELEASE

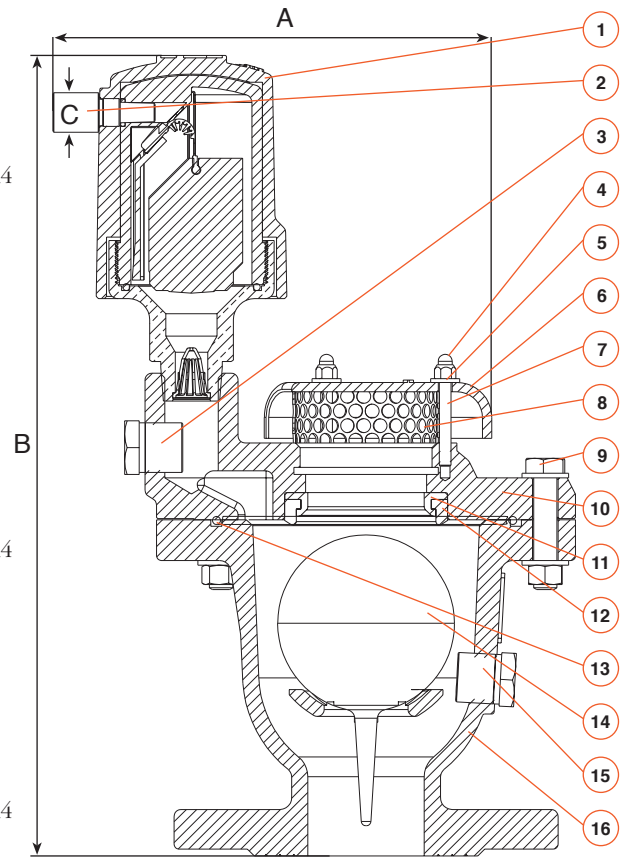


DIMENSIONS AND WEIGHTS

| Nominal size | Dimensions | | | | Weight Lbs. | Orifice Area Sq.in | | |
|-----------------|------------|------|------------|----------|-------------|--------------------|------------------|----------|
| | A | B | internal C | external | | Air & Vacu. | D-060-C HF Auto. | D-062 HF |
| 1", 2" Threaded | 8.8 | 13.3 | 1/4 | 0.7 | 24.7 | 3.038 | 0.0186 | 0.014 |
| 2" Flanged | 8.8 | 12.8 | 1/4 | 0.7 | 26.7 | 3.038 | 0.0186 | 0.014 |
| 3" | 9.6 | 15.5 | 1/4 | 0.7 | 43.2 | 7.796 | 0.0186 | 0.014 |
| 4" | 11.0 | 17.2 | 1/4 | 0.7 | 62.2 | 12.167 | 0.0186 | 0.014 |
| 6" | 14.8 | 25.0 | 1/4 | 0.7 | 173.3 | 27.376 | 0.0186 | 0.014 |
| 8" | 18.3 | 28.5 | 1/4 | 0.7 | 260.1 | 48.670 | 0.0186 | 0.014 |
| 10" | 23.0 | 38.9 | 1/4 | 0.7 | 584.0 | 76.08 | 0.0186 | 0.014 |

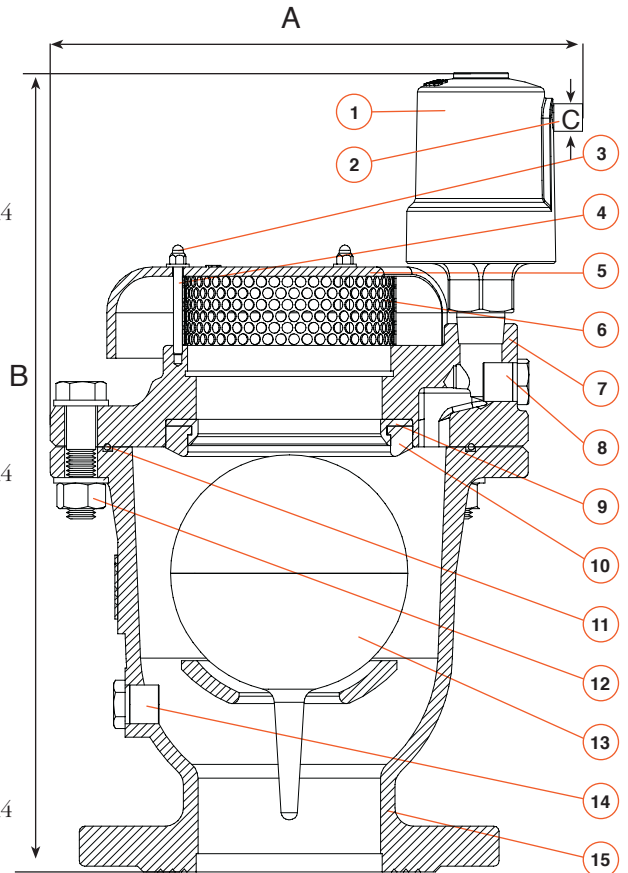
PARTS LIST AND SPECIFICATION FOR 2"

| No. | Part | Material |
|-----|---------------|---|
| 1. | S-050-C | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | S-052 | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 2. | One Way Out | Brass |
| 3. | Plug | NSF 61 Certified Reinforced Nylon |
| 4. | Nut | NSF 61 Certified STST UNS 30400 |
| 5. | Washer | NSF 61 Certified STST UNS 30400 |
| 6. | Screen Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| 7. | Bolt | NSF 61 Certified STST UNS 30400 |
| 8. | Screen | NSF 61 Certified STST UNS 30400 |
| 9. | Bolt & Nut | NSF 61 Certified STST UNS 30400 |
| 10. | Cover 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 11. | Nozzle Seat | Stainless Steel SAE 304 / UNS 30400 |
| 12. | Nozzle Seal | NSF 61 Certified E.P.D.M |
| 13. | O - Ring | NSF 61 Certified NBR 70 |
| 14. | Float | NSF 61 Certified STST UNS 31600 / polycarbonate |
| 15. | Plug | NSF 61 Certified Reinforced Nylon |
| 16. | Body 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |



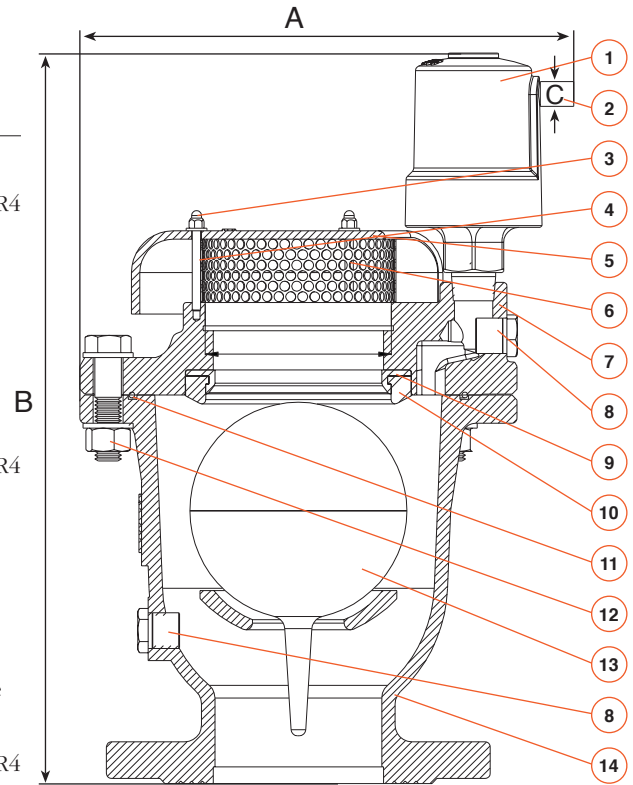
PARTS LIST AND SPECIFICATION FOR 3"

| No. | Part | Material |
|-----|---------------|---|
| 1. | S-050-C | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | S-052 | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 2. | One Way Out | Brass |
| 3. | Nut | NSF 61 Certified STST UNS 30400 |
| 4. | Bolt | NSF 61 Certified STST UNS 30400 |
| 5. | Screen Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| 6. | Screen | NSF 61 Certified STST UNS 30400 |
| 7. | Cover 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 8. | Plug | NSF 61 Certified Reinforced Nylon |
| 9. | Nozzle Seat | NSF 61 Certified STST UNS 30400 |
| 10. | Nozzle Seal | NSF 61 Certified E.P.D.M |
| 11. | O - Ring | NSF 61 Certified NBR 70 |
| 12. | Bolt & Nut | NSF 61 Certified STST UNS 30400 |
| 13. | Float | NSF 61 Certified STST UNS 31600 / polycarbonate |
| 14. | Plug | NSF 61 Certified Reinforced Nylon |
| 15. | Body 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |



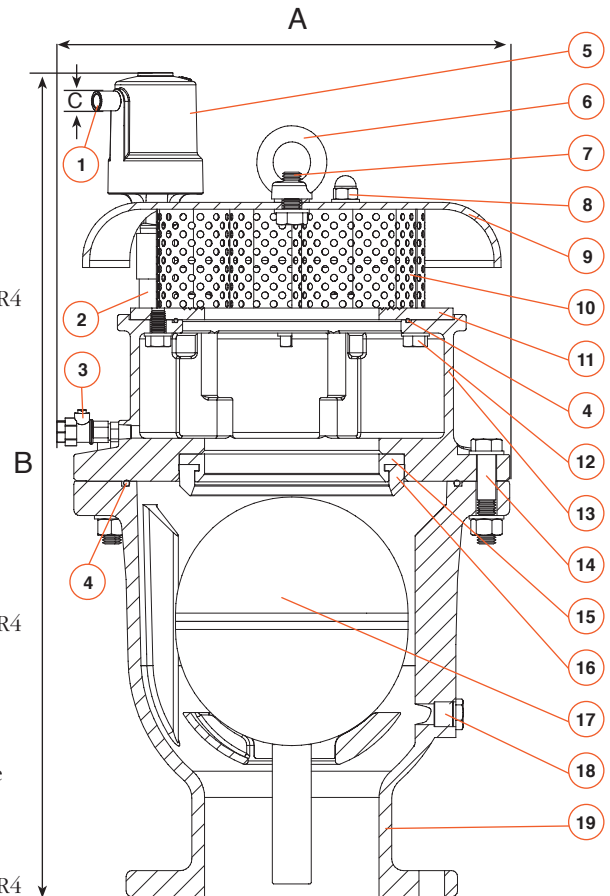
PARTS LIST AND SPECIFICATION FOR 4"

| No. | Part | Material |
|-----|--------------|---|
| 1. | S-050-C | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | S-052 | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 2. | One Way Out | Brass |
| 3. | Nut & Washer | NSF 61 Certified STST UNS 30400 |
| 4. | Bolt | NSF 61 Certified STST UNS 30400 |
| 5. | Screen Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| 6. | Screen | NSF 61 Certified STST UNS 30400 |
| 7. | Cover | 285 psi Cast Iron ASTM A48 CL.35B / Resicoat RT R4 360 psi Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 8. | Plug | NSF 61 Certified Reinforced Nylon |
| 9. | Nozzle Seat | NSF 61 Certified STST UNS 30400 |
| 10. | Nozzle Seal | NSF 61 Certified E.P.D.M |
| 11. | O - Ring | NSF 61 Certified NBR 70 |
| 12. | Bolt & Nut | NSF 61 Certified STST UNS 30400 |
| 13. | Float | NSF 61 Certified STST UNS 31600 / polycarbonate |
| 14. | Body | 285 psi Cast Iron ASTM A48 CL.35B / Resicoat RT R4 360 psi Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |



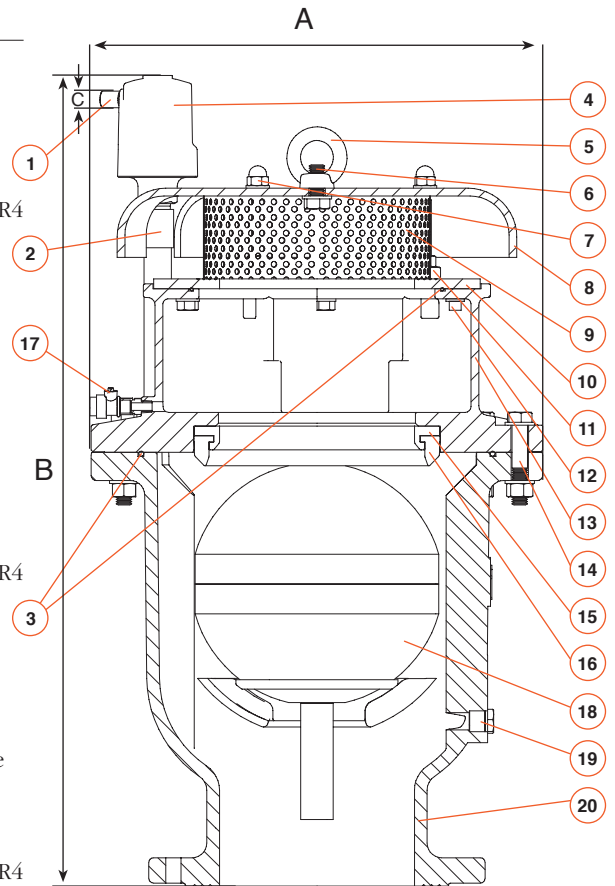
PARTS LIST AND SPECIFICATION FOR 6"

| No. | Part | Material |
|-----|---------------------|---|
| 1. | One Way Out | Brass |
| 2. | Nipple & Coupling | NSF 61 Certified STST UNS 30400 |
| 3. | Test Cock + Adaptor | Bronze & Chrome |
| 4. | O - Ring | NSF 61 Certified NBR 70 |
| 5. | S-050-C | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | S-052 | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 6. | Lifting Ring | Carbon Steel |
| 7. | Bolt And Washer | NSF 61 Certified STST UNS 30400 |
| 8. | Nut | NSF 61 Certified STST UNS 30400 |
| 9. | Screen Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| 10. | Screen | NSF 61 Certified STST UNS 30400 |
| 11. | Ring | Steel Din St.37 |
| 12. | Bolt & Washer | NSF 61 Certified STST UNS 30400 |
| 13. | Cover | 285 psi Cast Iron ASTM A48 CL.35B / Resicoat RT R4 360 psi Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 14. | Bolt | NSF 61 Certified STST UNS 30400 |
| 15. | Nozzle Seat | NSF 61 Certified STST UNS 30400 |
| 16. | Nozzle Seal | NSF 61 Certified E.P.D.M |
| 17. | Float | NSF 61 Certified STST UNS 31600 / polycarbonate |
| 18. | Plug | NSF 61 Certified Reinforced Nylon |
| 19. | Body | 285 psi Cast Iron ASTM A48 CL.35B / Resicoat RT R4 360 psi Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |



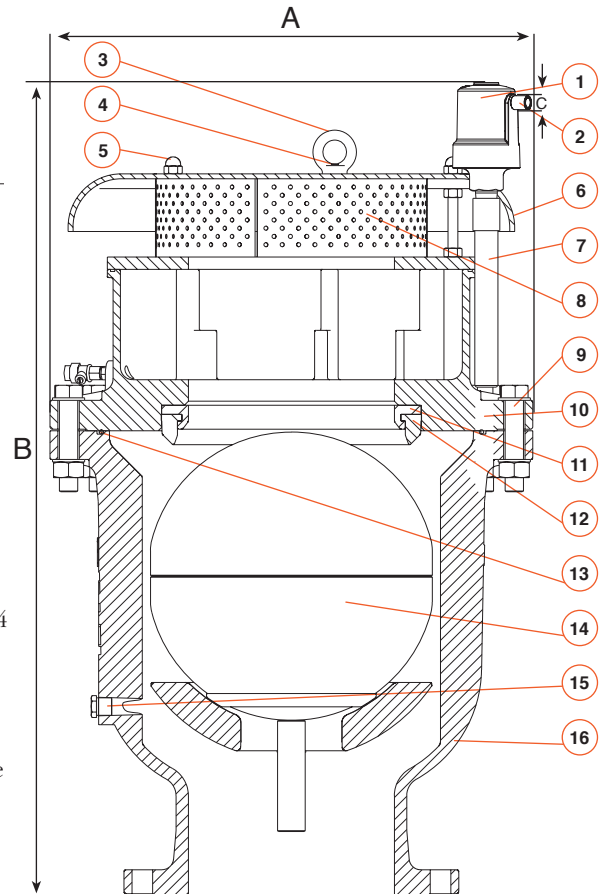
PARTS LIST AND SPECIFICATION FOR 8"

| No. | Part | Material |
|-----|---------------------|---|
| 1. | One Way Out | Brass |
| 2. | Nipple & Coupling | NSF 61 Certified STST UNS 30400 |
| 3. | O - Ring | NSF 61 Certified NBR 70 |
| 4. | S-050-C | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | S-052 | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 5. | Lifting Ring | Carbon Steel |
| 6. | Bolt & Washer | NSF 61 Certified STST UNS 30400 |
| 7. | Nut | NSF 61 Certified STST UNS 30400 |
| 8. | Screen Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| 9. | Screen | NSF 61 Certified STST UNS 30400 |
| 10. | Ring | Steel Din St.37 |
| 11. | Bolt & Washer | NSF 61 Certified STST UNS 30400 |
| 12. | Bolt & Washer | NSF 61 Certified STST UNS 30400 |
| 13. | Cover 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 14. | Bolt | NSF 61 Certified STST UNS 30400 |
| 15. | Nozzle Seat | NSF 61 Certified STST UNS 30400 |
| 16. | Nozzle Seal | NSF 61 Certified E.P.D.M |
| 17. | Test Cock + Adaptor | Bronze & Chrome |
| 18. | Float | NSF 61 Certified STST UNS 31600 / polycarbonate |
| 19. | Plug | NSF 61 Certified Reinforced Nylon |
| 20. | Body 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |



PARTS LIST AND SPECIFICATION FOR 10"

| No. | Part | Material |
|-----|-------------------|---|
| 1. | S-050-C | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | S-052-C | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 2. | One Way Out | Brass |
| 3. | Lifting Ring | Carbon Steel |
| 4. | Bolt & Washer | NSF 61 Certified STST UNS 30400 |
| 5. | Nut | NSF 61 Certified STST UNS 30400 |
| 6. | Screen Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| 7. | Nipple & Coupling | NSF 61 Certified STST UNS 30400 |
| 8. | Screen | NSF 61 Certified STST UNS 30400 |
| 9. | Bolt & Nut | NSF 61 Certified STST UNS 30400 |
| 10. | Cover | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 / Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |
| 11. | Nozzle Seat | Stainless Steel SAE 304 / UNS 30400 |
| 12. | Nozzle Seal | NSF 61 Certified E.P.D.M |
| 13. | O - Ring | NSF 61 Certified NBR 70 |
| 14. | Float | Stainless Steel SAE 316L / UNS 31600 / polycarbonate |
| 15. | Plug | NSF 61 Certified Reinforced Nylon |
| 16. | Body 285 psi | Cast Iron ASTM A48 CL.35B / Resicoat RT R4 |
| | 360 psi | Ductile Iron ASTM A-536 60-40-18 / Resicoat RT R4 |



A.R.I. USA, Inc. A.R.I. FLOW CONTROL ACCESSORIES <http://www.arivalves.com> e-mail: ariususa@ari.co.il Tel: (559) 269-9653

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