

APCO ASR SEWAGE AIR RELEASE VALVES

(BODY STYLE 400, 450)

Specially Designed for Sewage & Waste Media

APCO ASR Sewage Air Release Valves are specially designed for sewage or other waste media. Sewage Air Release Valves have an elongated body and are designed to operate (open) while pressurized, allowing entrained air in a sewage force main line, sewage pump or wastewater system to escape through the air release orifice without spillage or spurting.

Float, Stem & Body Protect Venting Mechanism

The concave float, stem and body keep sewage or dirty fluids away from the valve venting mechanism. The float hangs freely in the center of the valve body and responds instantaneously to the fall and rise of the sewage media due to the concave float.

Concave Float Responds Instantly to Rising Media

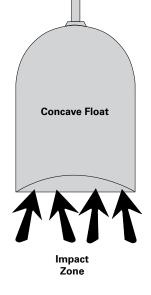
When sewage enters the valve, the float rises, forcing air out ahead of it. As sewage reaches the concave float, it raises the float and float stem instantly, due to the very sensitive impact zone. This fast action closes the venting mechanism, trapping the remaining air in the valve body. This entrapped air is initially at atmospheric pressure but it's compressed after the venting mechanism closes.

The sewage continues rising in the valve, until air and sewage are at the same pressure. The sewage then stops rising, leaving the venting mechanism free from contamination.

Opening Cycle Repeats Automatically

Additional gases given off by the sewage rise into the valve body, displacing and lowering the sewage





2-4" (50-100mm)

level until the float drops, opening the venting mechanism allowing gases to escape. Sewage again rises to occupy the space vacated by the escaped gas, lifts the float and closes the venting mechanism. This cycle is repeated frequently as air and gas collect in the valve without spillage or spurting, due to the sensitivity of the concave float.

Stainless Steel Parts Prevent Corrosion

The float, venting mechanism, plug and seat are constructed of 316 stainless steel as standard to provide both corrosion resistance and trouble-free performance.

Compact Height for Easier Installation

The height of APCO Sewage Air Release Valves has been optimized to provide the best separation from media, while maintaining compact dimensions to minimize the need for deeper pipeline trenches and bigger valve vaults, saving costs.

Accessories

Mushroom Cap (MRC)

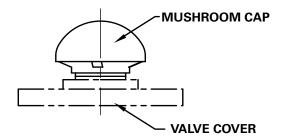
The Mushroom Cap prevents foreign debris from entering the valve outlet while providing wide openings for free expulsion of air. To order as part of a complete valve, add MRC to order code.

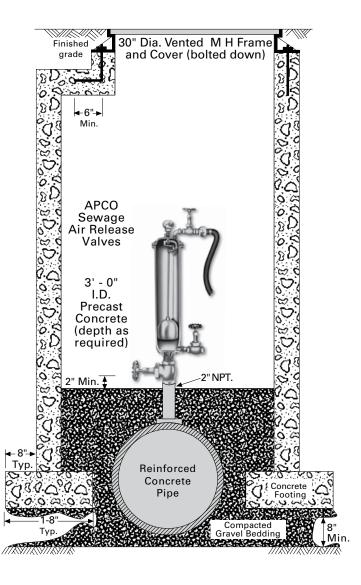
Ordering Example:

ASR,3,400,T1,DI,R316-NBR-S2-S2-S2*MRC

To order as a separate item, give order code from the table below.

| Order Code DI or CS Body Materials | Order Code S2 Material | Outlet Size | |
|--|---------------------------|-------------|--|
| ACC*MRC5 | ACC*MRCFB5 | 1/2" NPT | |
| ACC*MRC-1 | ACC*MRCFB-1 | 1" NPT | |





Backflush Kit (BFK)

The Backflush Kit is recommended for periodic cleaning of grease and scum from the Sewage Air Valve. The Backflush Kit is a separate item that includes two brass shut-off valves, 316 stainless steel piping, and 5 feet of hose with galvanized steel quick disconnect couplings. Contact DeZURIK if extra hose lengths are required. Maximum pressure of Backflush Kit is 200 psi. An isolation valve (not included) is required on the inlet port to isolate the valve while performing the backflush operation. Contact DeZURIK for recommendations.

To order as part of a complete valve, add BFK to the valve order code.

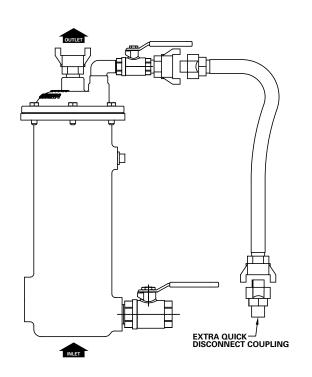
Ordering Example:

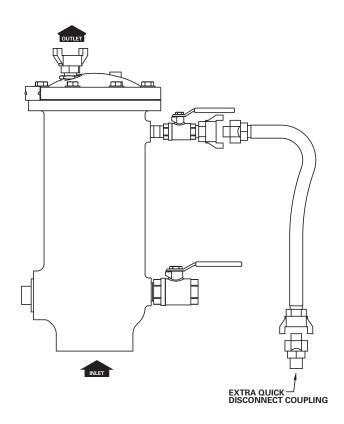
ASR,3,400,T1,DI,R316-NBR-S2-S2-S2*BFK

To order as a separate item, give order code ACC*BFK-ASR400 for valves with ½" outlet and order code ACC*BFK-ASR450 for valves with 1" outlet.

Ordering Example:

ACC*BFK-ASR400 ACC*BFK-ASR450





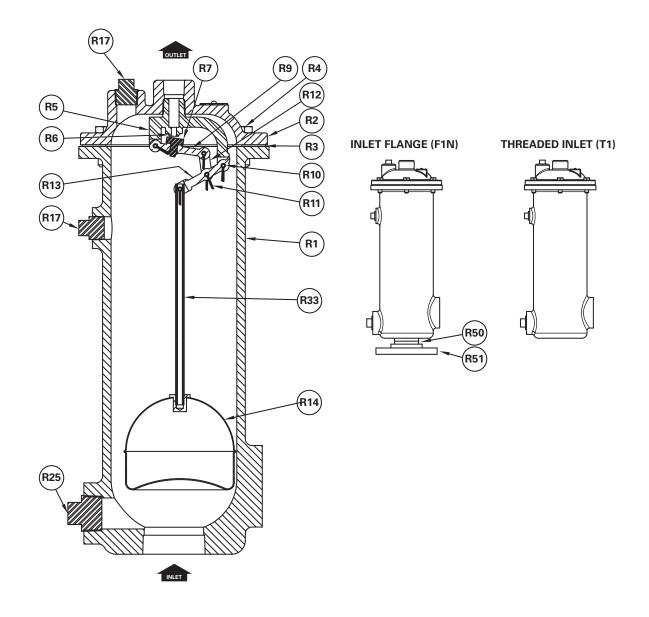
400 Backflush Kit

450 Backflush Kit

Materials of Construction

Body Style 400

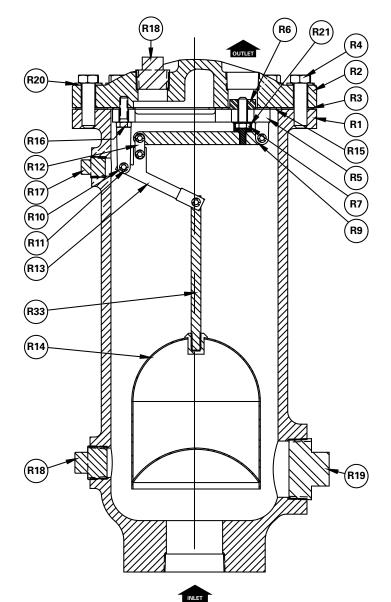
| Item | Description | Material |
|------|---------------------------|---|
| | • | Ductile Iron, ASTM A536 GR 65-45-12 |
| R1 | Body | Carbon Steel, ASTM A216 |
| | | 316 Stainless Steel, ASTM A351 |
| R2 | Cover | Same as body material |
| R3 | Cover Gasket | Cork Fiber |
| R4 | Cover Bolt | Carbon Steel, Zinc Plated |
| R5 | Leverage Frame | 316 Stainless Steel, ASTM A743 CF8M |
| R6 | Seat | Stainless Steel, ASTM A276, Type 316 |
| R7 | Needle | Acrylonitrile-Butadiene (NBR) |
| | | Terpolymer of Ethylene Propylene & A Diene (EPDM) |
| | | Fluoro Rubber (FKM) |
| R9 | Needle Lever | 316 Stainless Steel, ASTM A743 CF8M |
| R10 | Lever Pin | 316 Stainless Steel |
| R11 | Retaining Ring/Cotter Pin | Stainless Steel, ASTM A564/A693 Type 632 |
| R12 | Connecting Link | Stainless Steel, ASTM A276, Type 316 |
| R13 | Float Lever | 316 Stainless Steel, ASTM A743 CF8M |
| R14 | Float | 316 Stainless Steel ASTM A240 |
| R17 | 1/2" NPT Pipe Plug | Steel |
| R25 | 1" NPT Pipe Plug | Malleable Iron |
| R33 | Float Stem | 316 Stainless Steel ASTM A240 |
| R50 | Nipple | Steel |
| R51 | Flange | Steel |

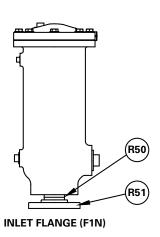


Materials of Construction

Body Style 450

| | I = | | |
|------|---------------------------|---|--|
| Item | Description | Material | |
| | | Ductile Iron, ASTM A536 GR 65-45-12 | |
| R1 | Body | Carbon Steel, ASTM A216 | |
| | | 316 Stainless Steel, ASTM A351 | |
| R2 | Cover | Same as body material | |
| R3 | Cover Gasket | Cork Fiber | |
| R4 | Cover Bolt | Carbon Steel, Zinc Plated | |
| R5 | Leverage Frame | 316 Stainless Steel, ASTM A743 CF8M | |
| R6 | Seat | Stainless Steel, ASTM A276, Type 316 | |
| | | Acrylonitrile-Butadiene (NBR) | |
| R7 | Needle | Terpolymer of Ethylene Propylene & A Diene (EPDM) | |
| | | Fluoro Rubber (FKM) | |
| R9 | Needle Lever | 316 Stainless Steel, ASTM A743 CF8M | |
| R10 | Lever Pin | 316 Stainless Steel | |
| R11 | Retaining Ring/Cotter Pin | Stainless Steel, ASTM A564/A693 Type 632 | |
| R12 | Connecting Link | Stainless Steel, ASTM A276, Type 316 | |
| R13 | Float Lever | 316 Stainless Steel, ASTM A743 CF8M | |
| R14 | Float | 316 Stainless Steel ASTM A240 | |
| R15 | Leverage Frame Gasket | Cork Fiber | |
| R16 | Leverage Frame Screw | Stainless Steel 18-8 | |
| R17 | 1/2" NPT Pipe Plug | Steel | |
| R18 | 1" NPT Pipe Plug | Malleable Iron | |
| R19 | 2" NPT Pipe Plug | Malleable Iron | |
| R21 | Leverage Frame Washer | 316 Stainless Steel | |
| R33 | Float Stem | 316 Stainless Steel ASTM A240 | |
| R50 | Nipple | Steel | |
| R51 | Flange | Steel | |





Valve Selection

Temperature Rating

All valves are rated to a maximum temperature of at least 250°F (121°C). Contact application engineering if the valve is required to operate above this temperature.

Weights

| Body Style | Plain | With Backflush Attachment |
|------------|------------------|---------------------------------|
| 400 | 4 <u>1</u> 19 | <u>55</u> 25 |
| 450 | <u>85</u> 39 | <u>118</u> 54 |

Lbs Kas

Pressure Ratings (Ambient Temperature) and Orifice Venting Capacity

Limiting factor for Working Pressure is the lowest pressure rating of the end connection, valve rated pressure and orifice pressure rating.

| Body Style | Valve Size | Body Material | End Connection | Orifice Code | Orifice Diameter | Minimum Rated Pressure (psi) | Maximum Rated Pressure (psi) | Venting Capacity (CFFAM) |
|---------------|---------------|------------------|-------------------|-----------------|---------------------|---------------------------------------|---------------------------------------|--------------------------------|
| | 2-4" | DI | T1 & F1N | L516 | 5/16" | 3 | 15 | 25 |
| | | | | R516 | 5/16" | 11 | 50 | 65 |
| 400 | | | | R14 | 1/4" | 11 | 75 | 65 |
| | | | | R316 | 3/16" | 11 | 150 | 60 |
| | | | T1 | R532 | 5/32" | 11 | 300 | 75 |
| | | DI* | F1N | R532 | 5/32" | 11 | 250* | 65 |
| 450 | 2-4" | DI | T1 & F1N | L12 | 1/2" | 3 | 15 | 60 |
| | | | | R12 | 1/2" | 11 | 75 | 225 |
| | | | | H12 | 1/2" | 51 | 150 | 450 |
| | | | T1 | R716 | 7/16" | 76 | 300 | 550 |
| | | DI* | F1N | R716 | 7/16" | 76 | 250* | 65 |

^{*}Valve maximum rated pressure at ambient temperature with a flanged inlet for Carbon Steel Valves is 285 psi; stainless steel valves is 275 psi.

Ordering

Orders must specify quantity and order code identification, in proper sequence, as shown.

Valve Style

Give valve style code as follows:

ASR = Sewage Air Release Valves

Valve Size

Give valve size code as follows:

2 2" (50mm) 3 3" (80mm) (100mm)

Body Style

Give body style code as follows:

1/2" NPT Outlet 1" NPT Outlet 450

End Connection

Give end connection code as follows:

Threaded Inlet NPT

Flanged Inlet ASME 125/150 Carbon Steel Nipple & Flange

Body Material

Give body material code as follows:

Ductile Iron CS Carbon Steel 316 Stainless Steel

Orifice Size

Give orifice code as follows:

Body Styles 400

5/16" 3-15 psi 5/16" 11-50 psi 1/4" 11-75 psi 3/16" 11-150 psi R516 = R14 = R316 =

R532 = 5/32" 11-300 psi

Body Styles 450

L12 = R12 =

1/2" 3-15 psi 1/2" 11-75 psi (Standard) 1/2" 51-150 psi H12 = 7/16" 76-300 psi R716 =

Note: Limiting Factor for Working Pressure is lowest Pressure Rating of end connection or orifice size.

Needle Material Give needle material code as follows:

NBR = Acrylonitrile-Butadiene

Terpolymer of Ethylene Propylene & A Diene

FKM = Fluoro Rubber

Seat Material

Give seat material code as follows: = 316 Stainless Steel

Float Material

Give float material code as follows:

316 Stainless Steel

Float Lever/Leverage Frame Give float lever material code as follows:

316 Stainless Steel

Options Give option code as follows if required:

DeZURIK Standard Certified Production Hydrostatic Shell & Seat Test Report

SB16 = 316 Stainless Steel Bolting

Standard Coating is Fusion Bonded Epoxy on interior and exterior. Contact DeZURIK if alternate coatings are required.

Accessories Give accessory code as follows if required:

Backflush Kit (200 psi maximum)

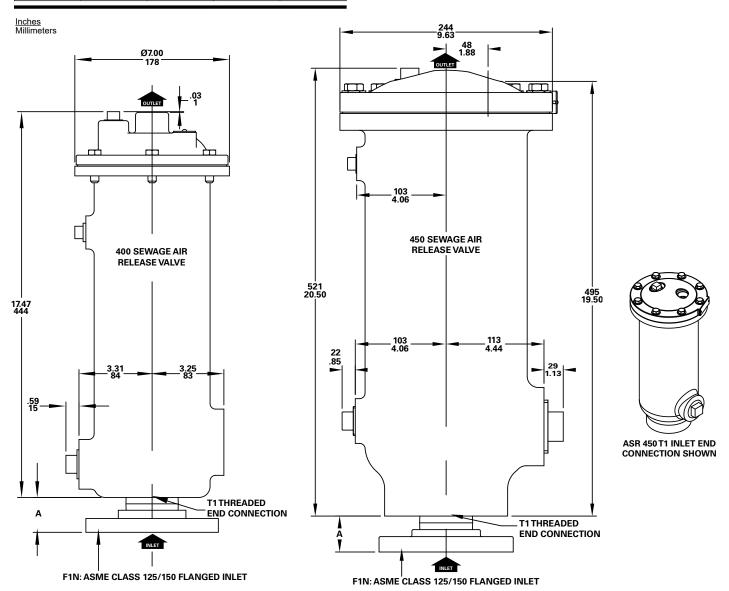
MRC Mushroom Cap

Ordering Example:

ASR,3,400,T1,DI,R316-NBR-S2-S2-S2,SB16*MRC

Dimensions

| | Body S | tyle 400 | Body Style 450 | | |
|--------------------|----------------|-------------------|----------------|-------------------|--|
| Inlet Size | Outlet Size | A (F1N) | Outlet Size | A (F1N) | |
| <u>2"</u> 50mm | 1/2" | <u>1.69</u> 43 | 1" | <u>1.69</u> 43 | |
| <u>3"</u> 80mm | 1/2" | <u>1.88</u> 48 | 1" | <u>1.88</u> 48 | |
| <u>4"</u> 100mm | 1/2" | <u>2.06</u> 52 | 1" | <u>2.06</u> 52 | |



Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:

Web Site: <u>DeZURIK.com</u> E-Mail: <u>info@DeZURIK.com</u>



250 Riverside Ave. N. Sartell, Minnesota 56377 • Phone: 320-259-2000 • Fax: 320-259-2227