APCO ASC SINGLE BODY SEWAGE COMBINATION AIR VALVES

(BODY STYLE 440)

APCO ASC Single Body Sewage Combination Air Valves are a single body, double orifice valve that provide both air release and air/vacuum functions. ASC Valves are designed to:

- Emit small volumes of air during normal operating conditions.
- Allow large volumes of air to escape or enter when filling or draining a pipeline.

When the pipeline is filled and pressurized, the large air/vacuum orifice stays closed. The smaller diameter air release orifice opens to allow small pockets of accumulated air to escape automatically and independently of the large orifice.

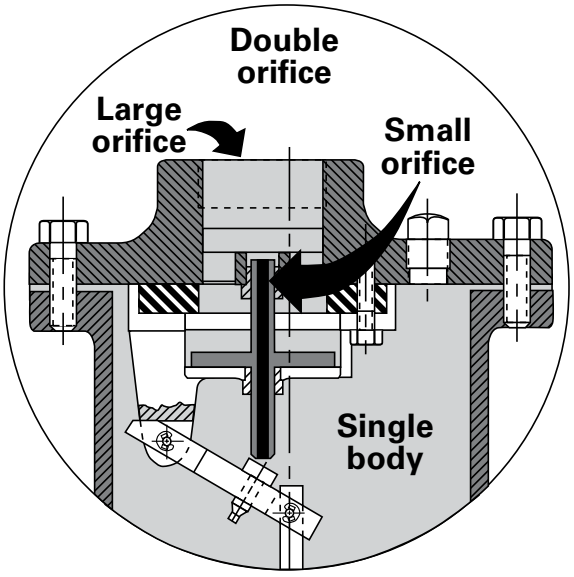
When filling or draining the pipeline, the large air/vacuum orifice opens to allow large volumes of air to escape or enter. When the free floating-center guided plug is raised into the orifice by the lifting force of the concave-bottom float, the large orifice shuts off without spilling or spurting.

The ASC Sewage Air Valve provides both high efficiency and reliability in a single elongated body. The elongated body prevents sewage or dirty wastewater from fouling the venting mechanism.

316 Stainless Steel Internal Components Resist Corrosion

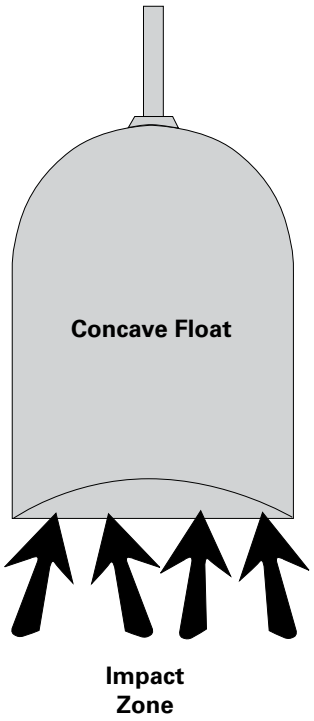
The float, venting mechanism, and plug are constructed of 316 stainless steel as standard to provide both corrosion resistance and trouble-free performance.

1-6" (25-600mm)



Concave Float

The concave float is designed for optimum performance and reliability. The concave float has a unique impact zone which is extremely sensitive to sewage media entering the valve body. The impact zone causes instantaneous and upward movement of the float to shut off the discharge orifice as soon as media contacts the float. No spilling or spurting occurs even with low pressure (below 20 psi, 138 kpa).



NBR Seat Provides Tight Shutoff

The standard Acrylonitrile-Butadiene (NBR) seat is fastened to the valve cover to prevent distortion and provide drop-tight shut-off. Optional seat/needle materials are EPDM (Terpolymer of Ethylene Propylene & A Diene) and FKM (Fluoro Rubber).

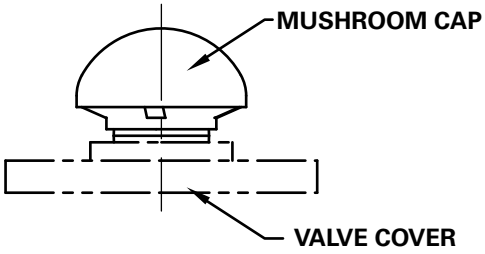
Compact Height

The height of the APCO Sewage Air Release Valve 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. Available on 1-4" (25-100mm) only. To order as part of a complete valve, add MRC to order code.



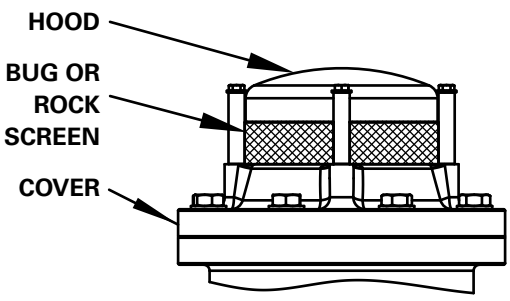
Ordering Example:
ASC,2,440,T1,DI,R732-NBR-S2-S2-S2*MRC

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

Order Code	Outlet Size
ACC*MRC-1	1" NPT
ACC*MRC-2	2" NPT
ACC*MRC-3	3" NPT
ACC*MRC-4	4" NPT

Bug Screen or Rock Screen for Hood

A hood comes standard on 6" valves. For additional protection, a 304 stainless steel bug screen or rock screen is available as an option. To order, add option code HSB for bug screen or HSR for rock screen to complete valve order code.

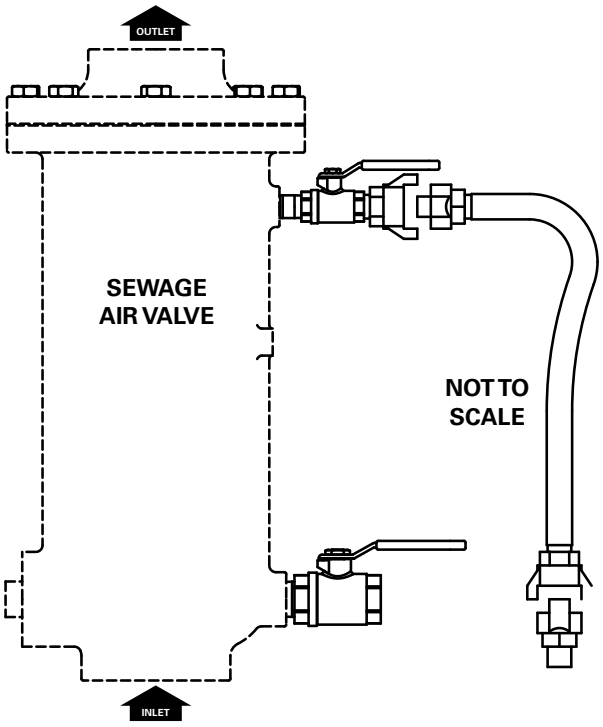


HSB, HSR - BUG & ROCK SCREEN OPTION

Ordering Example:
ASC,6,440,F1,CI,R732-NBR-S2-S2-S2*HSR

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 (1380 kPa). An isolation valve is required on the inlet port to isolate the valve while performing the back-flushing operation, but is not included. Contact DeZURIK for recommendations.



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

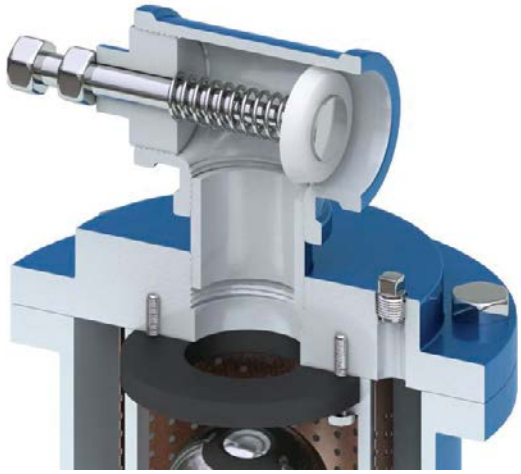
Ordering Example:
ASC,6,440,F1,CI,R732-NBR-S2-S2-S2*BFK

To order as a separate item, give order code ACC*BFK-ASCASV

Ordering Example:
ACC*BFK-ASCASV

Double Acting Throttling Device (DAT)

The APCO Double Acting Throttling Device (DAT) is designed to regulate and restrict air venting in and out on the discharge orifice of the ASC Combination Air Valve. The DAT features an exclusive throttling air-out/full flow air-in design. On pump start, the device establishes a pressure load on the rising column of media to eliminate shock to the pump, controls and check valve. On pump stop, the DAT device automatically opens to allow full line, unrestricted air reentry to prevent a vacuum and water column separation.



The DAT is fusion bonded epoxy coated. The DAT can be ordered as part of a complete valve, or as a separate item. The DAT is not a stand-alone device and cannot be installed directly to the pipeline. The DAT must be installed in the outlet port (top) of the Combination Air Valve. To order as part of a complete valve, add DAT to the order code.

Ordering Example:
ASC,2,445,T1,DI,R732-NBR-S2-S2-S2*DAT

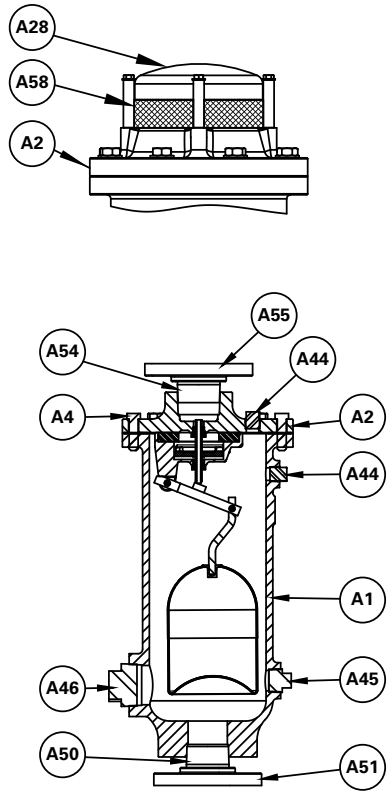
To order as a separate item, give order code from the table below.

Valve Size	Order Code
1.2" 25mm	ACC*DAT-1.2
2" 50mm	ACC*DAT-2
3" 80mm	ACC*DAT-3
4" 100mm	ACC*DAT-4
6" 150mm	ACC*DAT-6

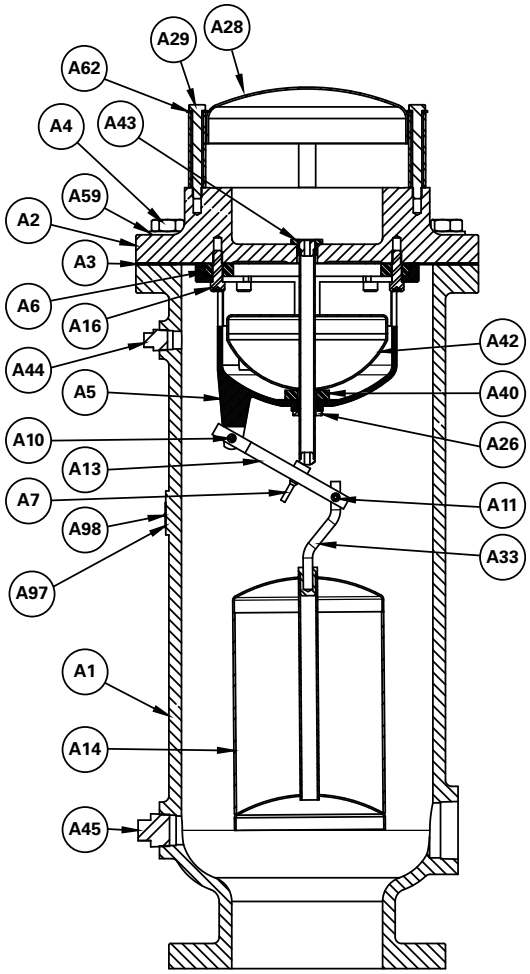
Ordering Example:
ACC*DAT-2

Materials of Construction

Item	Description	Material
A1	Body	Ductile Iron, ASTM A536
		Cast Iron, ASTM A126, Grade B
A2	Cover	Same as body material
A3	Cover Gasket	Cork Fiber
A4	Cover Bolts	Steel, ASTM A307, Grade B
A5	Leverage Frame	Ductile Iron, ASTM A536
A6	Seat	Acrylonitrile-Butadiene (NBR)
		Terpolymer of Ethylene Propylene & A Diene (EPDM)
		Fluoro Rubber (FKM)
A7	Needle	Acrylonitrile-Butadiene (NBR)
		Terpolymer of Ethylene Propylene & A Diene (EPDM)
		Fluoro Rubber (FKM)
A10	Lever Pin	Stainless Steel, ASTM A581, Type 303
A11	Retaining Ring	Stainless Steel, PH15-7MO
A13	Float Lever	Brass, ASTM B16
A14	Float	Stainless Steel, ASTM A240, Type 304
A16	Frame Screw	Stainless Steel 18-8
A26	Guide Bushing	Brass, ASTM B16
A28	Hood (6" only)	Steel, AISI 1010
A29	Hood Screw (6" only)	Steel, ASTM A307, Grade B
A33	Float Stem	Stainless Steel, ASTM A581, Type 303
A40	Bumper (6" Only)	Buna-N
A42	Plug	316 Stainless Steel ASTM A743 (1.2-4") A240 (6")
A43	Top Guide Bushing (2-6" only)	Stainless Steel , ASTM A276, Type 316
A44	1/2" NPT Pipe Plug (1.2" & 2" only)	Stainless Steel , ASTM A276, Type 316
A45	1" NPT Pipe Plug	Iron
A46	2" NPT Pipe Plug (1.2" & 2" only)	Iron
A50	Inlet Nipple (1.2-4" F1N only)	Steel
A51	Inlet Flange (1.2-4" F1N only)	Steel
A54	Outlet Nipple (1.2-4" FL Option only)	Steel
A55	Outlet Flange (1.2-4" FL Option only)	Cast Iron, ASTM A126, Grade B
A58	Bug Screen (6" HSR/HSB Options Only)	304 Stainless Steel, ASTM A240/276
A59	Cover Washers (special coatings only)	Carbon Steel, Zinc Plated
A62	Hood Washers (6" & special coatings only)	Carbon Steel, Zinc Plated



2" ASC WITH F1N END CONNECTION AND FL OPTION SHOWN



6" ASC SHOWN

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.

Pressure Ratings (Ambient Temperature) & Venting Capacities

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

End Connection	Body Material	Valve Size	Orifice Order Code	Orifice Diameter	Valve Minimum Rated Pressure (psi)	Valve Maximum Rated Pressure (psi)	Venting Capacity (CFFAM)
T1 & F1N	DI	1.2-4"	L732	7/32"	3	15	12
			R732	7/32"	11	150	85
T1	DI	1.2-4"	R532	5/32"	11	300	75
F1N	DI	1.2-4"	R532	5/32"	11	250*	65
F1	CI	6"	L732	7/32"	3	15	12
			R732	7/32"	11	150	85
			R532	5/32"	11	200*	55

* Pressure rating is below maximum pressure rating of 300 psi

Weights

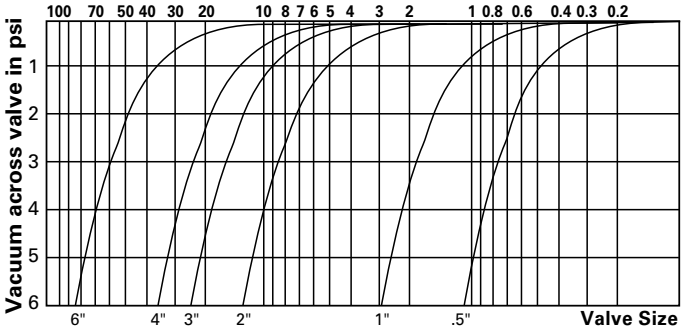
Valve Size	Valve Only	With Backflush Attachment
1" 25mm	87 39	95 43
2" 50mm	93 42	100 45
3" 80mm	147 67	157 71
4" 100mm	150 68	175 79
6" 150mm	242 110	297 135

Lbs
Kgs

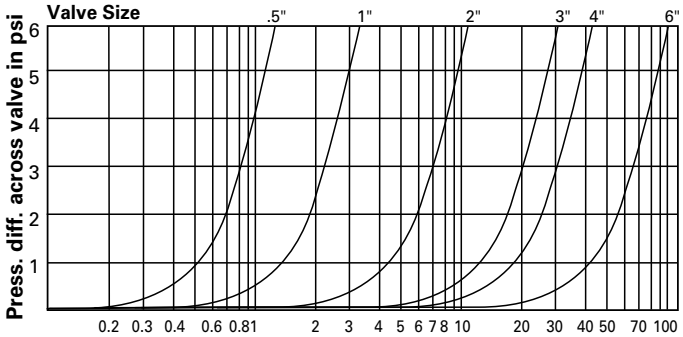
Performance Graphs For Air/Vacuum Valve

Graphs show air inflow/outflow through valve in standard cubic feet of free air per second (scfs). Curves shown are actual flow capacities at 14.7 psi barometric pressure and 70°F temperature based on actual test data. These figures are not merely flow capacities across the orifice, but flow capacities across the entire valve. In the test set-up, air approach velocity is negligible, therefore actual flow capacity exceeds the values shown on the chart.

Inflow



Outflow



Note: Size 1.2 is a 1" valve with a 2" NPT inlet and a 1" NPT Outlet.

Ordering

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

Valve Style
Give valve style code as follows:

ASC	=	Single Body Sewage Combination Air Valve

Valve Size
Give valve size code as follows:

1.2	=	1"	(25mm)	4	=	4"	(100mm)
2	=	2"	(50mm)	6	=	6"	(150mm)
3	=	3"	(80mm)				

Note: Size 1.2 is a 1" valve with a 2" NPT Inlet and a 1" NPT Outlet

Body Style
Give body style code as follows:

440	=	1.2-4" single body, NPT outlet 6" Plain outlet with hood

End Connection
Give end connection code as follows:

T1	=	Threaded Inlet NPT (1.2-4")
F1N	=	Flanged Inlet ASME 125/150 (1.2 - 4") Carbon Steel Nipple & Flange
F1	=	Flanged Inlet ASME 125/150, (6") Cast (CI Body Material Only)

Body Material
Give body material code as follows:

DI	=	Ductile Iron (1.2-4")
CI	=	Cast Iron (6")

Trim Combination

Orifice Size
Give orifice code as follows:

L732	=	7/32" 3-15 psi
R732	=	7/32" 11-150 psi
R532	=	5/32" 11-300 psi

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

Seat/Needle Material
Give seat/needle material code as follows:

NBR	=	Acrylonitrile-Butadiene
EPDM	=	Terpolymer of Ethylene Propylene & A Diene
FKM	=	Fluoro Rubber

Plug & Float Material
Give plug & float material code as follows:

S2	=	316 Stainless Steel

Float Level Material
Give float level material code as follows:

S2	=	316 Stainless Steel

Leverage Frame Material
Give leverage frame material code as follows:

S2	=	316 Stainless Steel

Options
Give option code as follows if required:

DTR	=	DeZURIK Standard Certified Production Hydrostatic Shell & Seat Test Report
FL	=	Flanged Outlets ASME 125/150. 1.2-4" valves have a carbon steel nipple & cast iron flange with ductile iron body; 6" valves have cast iron nipple and flange with cast iron body.
HSB	=	Bug Screen for Hood (6") - 304 Stainless Steel
HSR	=	Rock Screen for Hood (6") - 304 Stainless Steel
TH	=	Threaded Outlet NPT (6")
SB16	=	316 Stainless Steel Bolting
—	=	Coatings. Standard coating is fusion bonded epoxy on interior and exterior. Contact DeZURIK for other coating options.

Accessories
Give accessory code as follows if required:

BFK	=	Backflush Kit (200 psi maximum)
DAT	=	Double Acting Throttling Device (6" must use TH option)
MRC	=	Mushroom Cap (1.2-4"). Not Available with FL Option

Ordering Example:

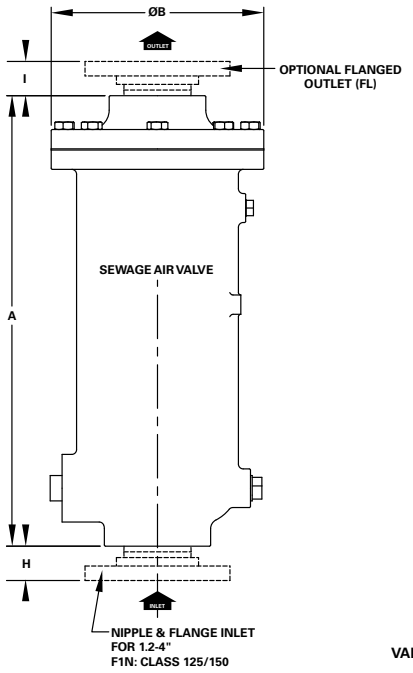
ASC,2,440,T1,DI,R732-NBR-S2-S2-S2*BFK-MRC

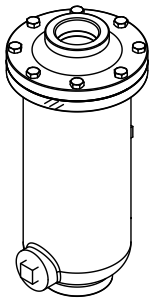
Dimensions

Valve Size	Inlet Size	Dimensions			
		A	B	H	I
1" 25mm	2" NPT	19.13 486	9.50 241	1.69 43	0.94 24
2" 50mm	2" NPT	20.38 518	9.50 241	1.69 43	1.69 43
3" 80mm	3" NPT	23.38 594	11.00 279	1.88 48	1.88 48
4" 100mm	4" NPT	23.38 594	11.00 279	2.06 52	2.06 52
6" 150mm	4" NPT	See Drawing			

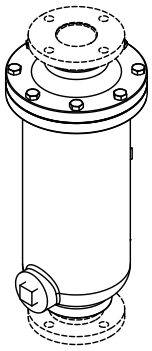
Inches
Millimeters

1-4"
25-100mm



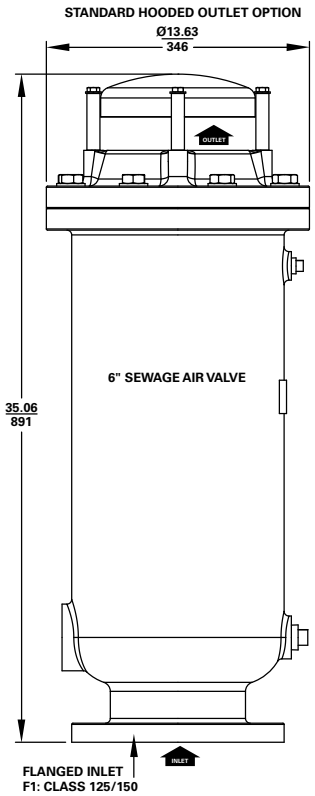


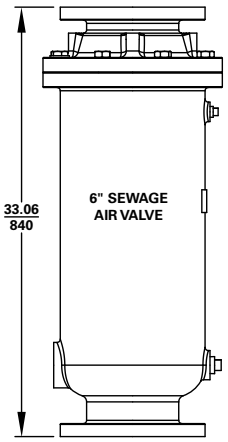
VALVE WITH THREADED INLET AND OUTLET



VALVE WITH F1N FLANGED INLET END CONNECTION AND FL FLANGED OUTLET OPTION

6"
150mm





FL (FLANGED OUTLET) OPTION SHOWN

Sales and Service

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