

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.

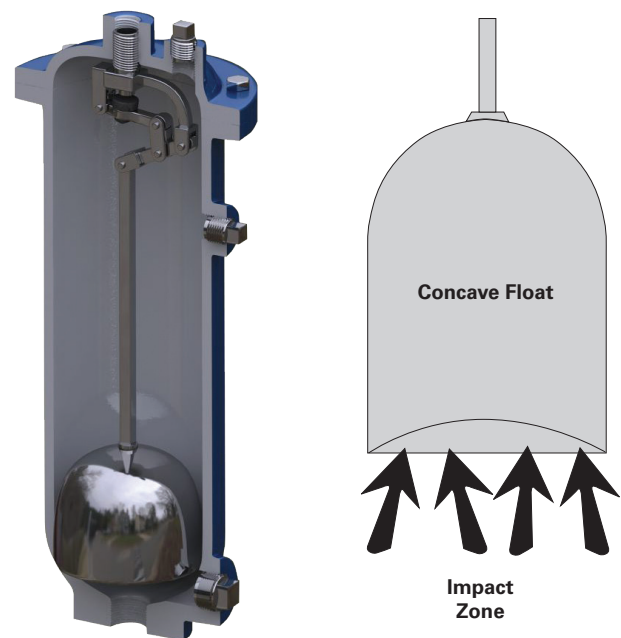
Concave Float Responds Instantly to Rising Media

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)

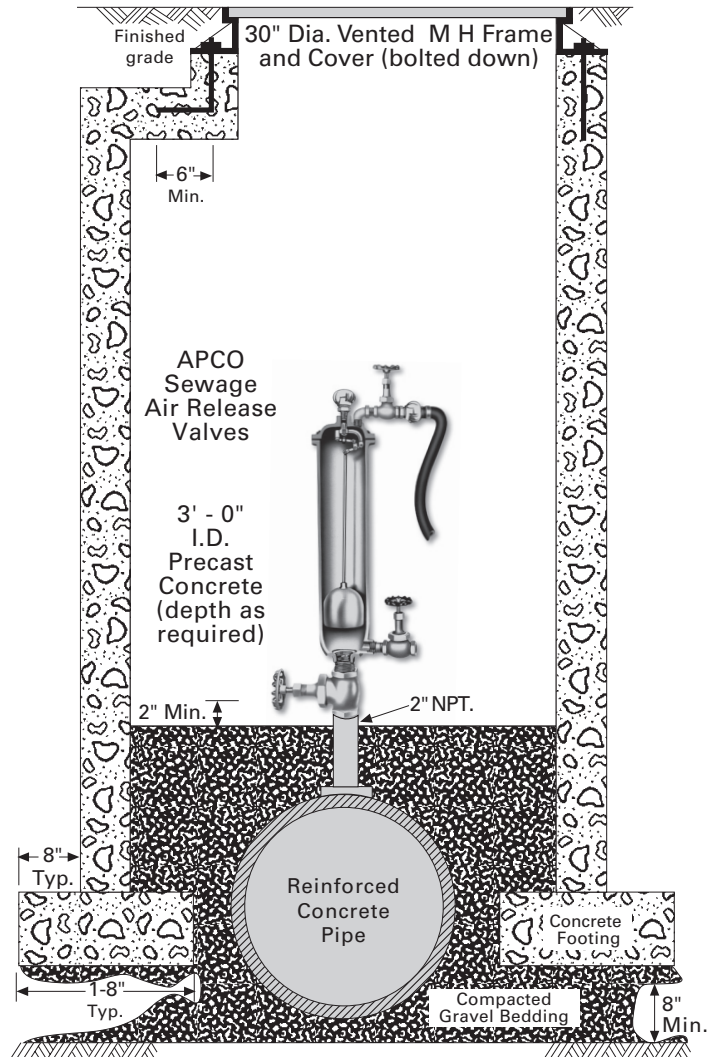
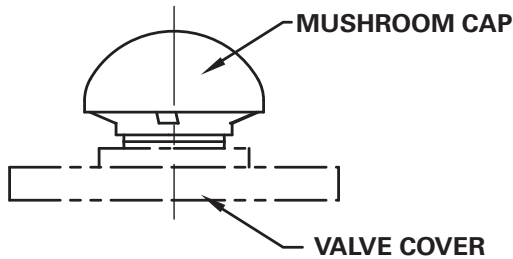
The Mushroom Cap prevents foreign debris from entering the valve outlet while providing wide openings for free expulsion of air. To order as part of a complete valve, add MRC to order code.

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*MRC-5	ACC*MRFCB-5	1/2" NPT
ACC*MRC-1	ACC*MRFCB-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:

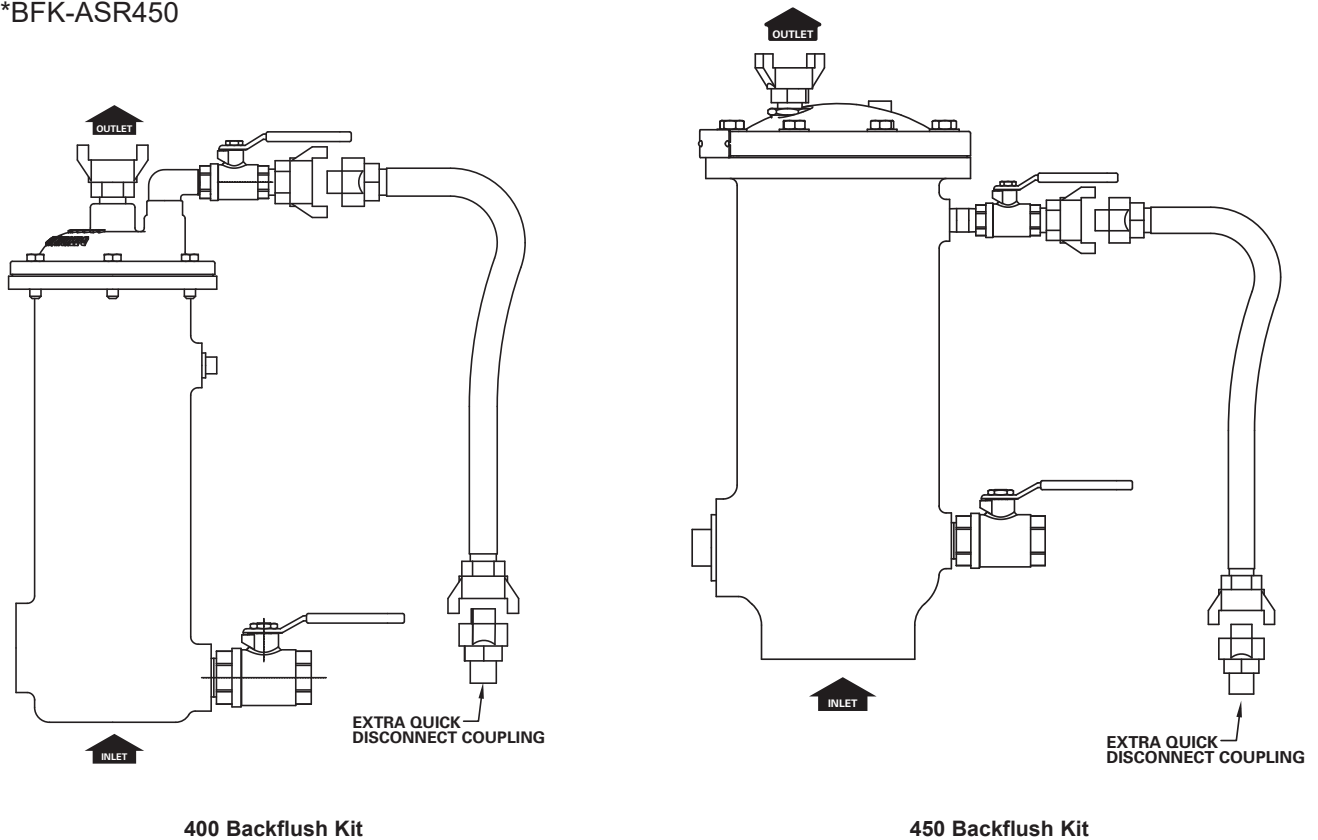
ASR,3,400,T1,DI,R316-NBR-S2-S2-S2*BFK

To order as a separate item, give order code ACC*BFK-ASR400 for valves with 1/2" outlet and order code ACC*BFK-ASR450 for valves with 1" outlet.

Ordering Example:

ACC*BFK-ASR400

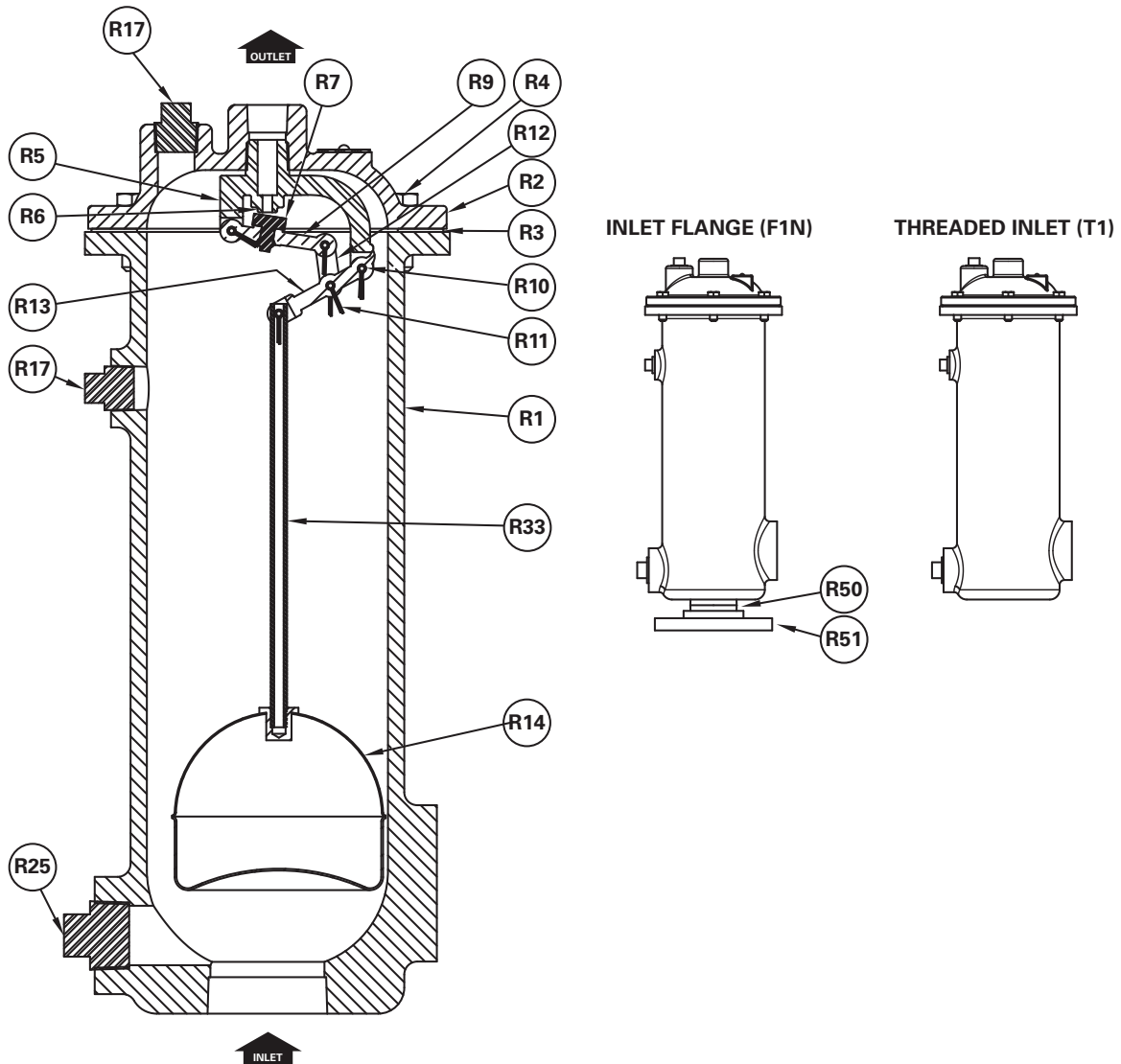
ACC*BFK-ASR450



Materials of Construction

Body Style 400

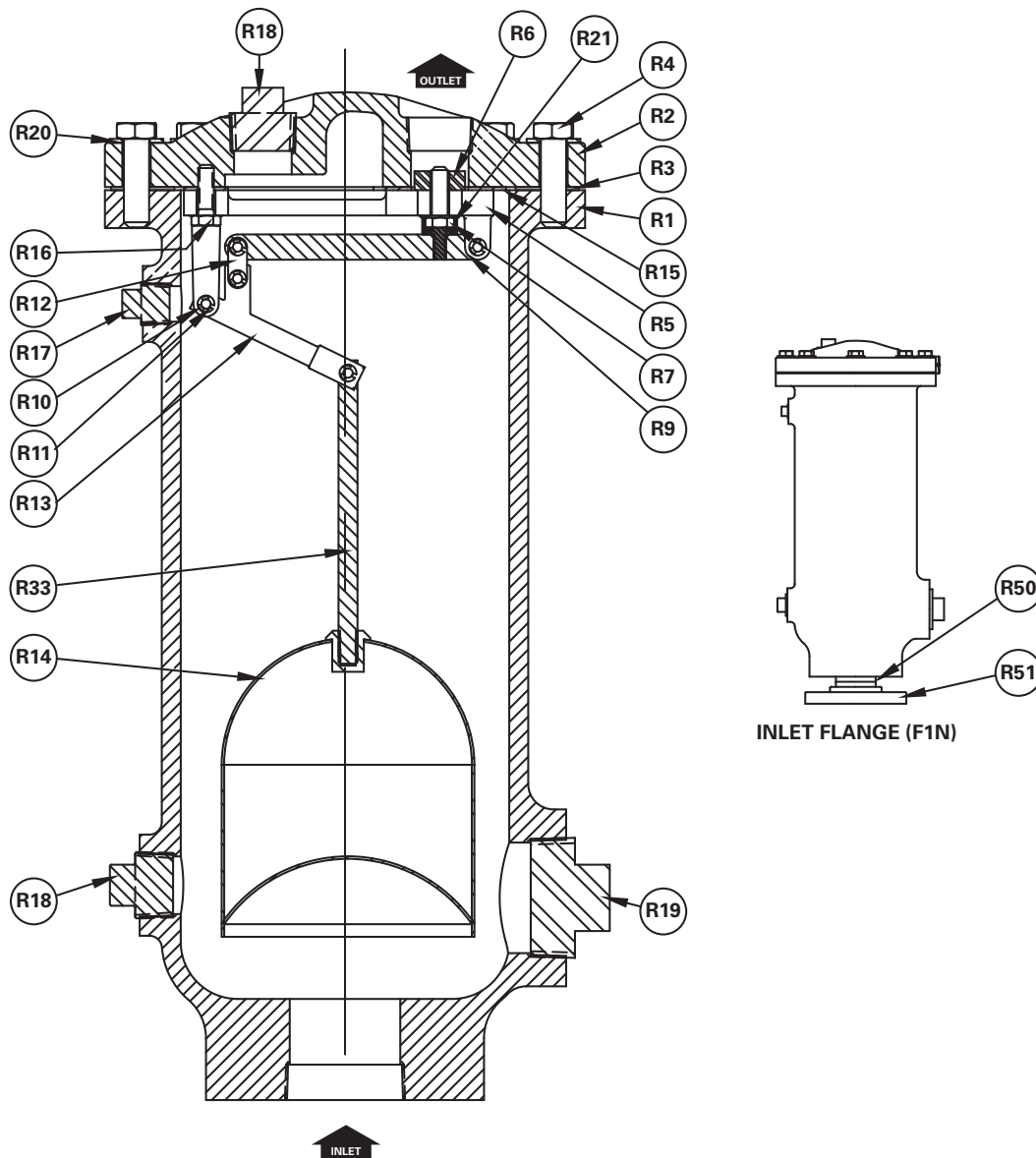
Item	Description	Material
R1	Body	Ductile Iron, ASTM A536 GR 65-45-12
		Carbon Steel, ASTM A216
		316 Stainless Steel, ASTM A351
R2	Cover	Same as body material
R3	Cover Gasket	Cork Fiber
R4	Cover Bolt	Carbon Steel, Zinc Plated
R5	Leverage Frame	316 Stainless Steel, ASTM A743 CF8M
R6	Seat	Stainless Steel, 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

Item	Description	Material
R1	Body	Ductile Iron, ASTM A536 GR 65-45-12
		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
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	$\frac{41}{19}$	$\frac{55}{25}$
450	$\frac{85}{39}$	$\frac{118}{54}$

Lbs
Kgs

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)
400	2-4"	DI	T1 & F1N	L516	5/16"	3	15	25
				R516	5/16"	11	50	65
				R14	1/4"	11	75	65
			T1	R316	3/16"	11	150	60
				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
				F1N	R716	7/16"	76	250*
		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) 4 = 4" (100mm)
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Body Style Give body style code as follows: 400 = 1/2" NPT Outlet 450 = 1" NPT Outlet
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End Connection Give end connection code as follows: T1 = Threaded Inlet NPT F1N = Flanged Inlet ASME 125/150 Carbon Steel Nipple & Flange
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Body Material Give body material code as follows: DI = Ductile Iron CS = Carbon Steel S2 = 316 Stainless Steel
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Orifice Size Give orifice code as follows: Body Styles 400 L516 = 5/16" 3-15 psi R516 = 5/16" 11-50 psi R14 = 1/4" 11-75 psi R316 = 3/16" 11-150 psi R532 = 5/32" 11-300 psi Body Styles 450 L12 = 1/2" 3-15 psi R12 = 1/2" 11-75 psi (Standard) H12 = 1/2" 51-150 psi R716 = 7/16" 76-300 psi Note: Limiting Factor for Working Pressure is lowest Pressure Rating of end connection or orifice size.
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Needle Material Give needle material code as follows: NBR = Acrylonitrile-Butadiene EPDM = Terpolymer of Ethylene Propylene & A Diene FKM = Fluoro Rubber

Seat Material Give seat material code as follows: S2 = 316 Stainless Steel
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Float Material Give float material code as follows: S2 = 316 Stainless Steel
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Float Lever/Leverage Frame Give float lever material code as follows: S2 = 316 Stainless Steel
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Options Give option code as follows if required: DTR = 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.
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Accessories Give accessory code as follows if required: BFK = Backflush Kit (200 psi maximum) MRC = Mushroom Cap

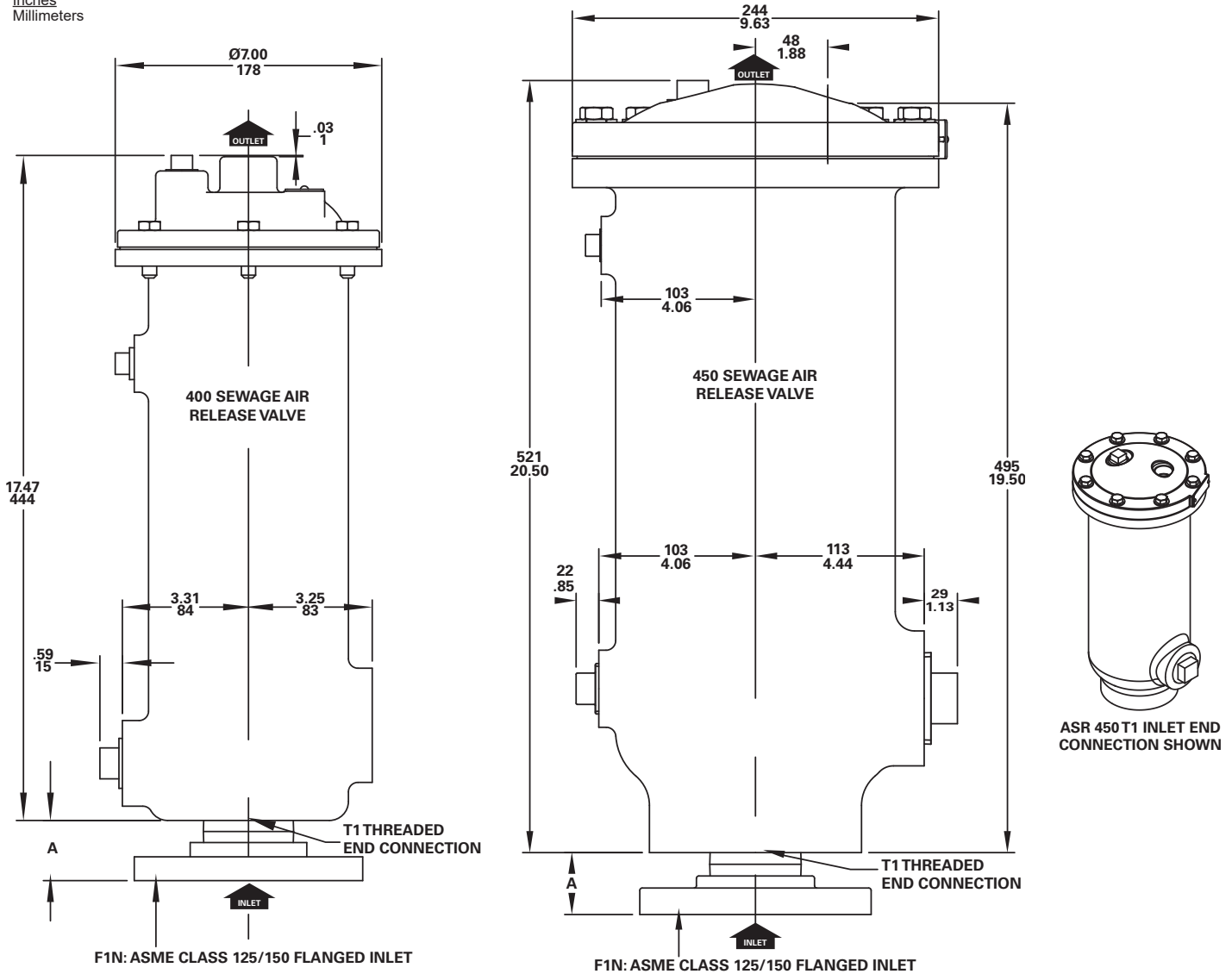
Ordering Example:

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

Dimensions

Inlet Size	Body Style 400		Body Style 450	
	Outlet Size	A (F1N)	Outlet Size	A (F1N)
2" 50mm	1/2"	1.69 43	1"	1.69 43
3" 80mm	1/2"	1.88 48	1"	1.88 48
4" 100mm	1/2"	2.06 52	1"	2.06 52

Inches
Millimeters



Sales and Service

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

Web Site: DeZURIK.com E-Mail: info@DeZURIK.com



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