VILLAGE OF WINDSOR
BOARD RESOLUTION 2018-82

AUTHORIZING CONTRACT AND APPROVING FUNDS TO COMPLETE THE REPLACEMENT OF FIVE (5) AIR VALVES ON THE MORRISONVILLE SANITARY SEWER FORCEMAIN

WHEREAS, the Village Utility Engineer and Utility Staff recommend replacement of all five (5) air valves on the Morrisonville sanitary sewer forcemain; and

WHEREAS, Dorner Company, has provided a proposal, dated August 27, 2018 in the amount of $14,840 to replace all five (5) air valves on the Morrisonville sanitary sewer forcemain; and

WHEREAS, the Village Utility Engineer and Utility Staff recommend budgeting for a second day of installation by the Dorner Company technicians, in the amount of $2,400; and

WHEREAS, on September 11, 2018, the Utility Commission recommended approval of the expenditure of up to $17,500 for the recommended replacement of all five (5) air valves on the Morrisonville sanitary sewer forcemain.

NOW, THEREFORE, BE IT RESOLVED, by the Village Board of the Village of Windsor, the Village Attorney, Village President and Village Staff are authorized to negotiate and execute a contract with Dorner Company, to replace of all five (5) air valves on the Morrisonville sanitary sewer forcemain as outlined in the September 11, 2018 proposal, in an amount not to exceed $17,500; and

The above and foregoing resolution was duly adopted by the Village Board of the Village of Windsor, Dane County, Wisconsin at a meeting held on September 20, 2018, by a vote of 4 in favor and 0 opposed.

VILLAGE OF WINDSOR

Robert E. Wipperfurth

Robert E. Wipperfurth, President

Attested by:

Christine Capstran

Christine Capstran, Clerk

INCORPORATED BY REFERENCE:
Dorner Company Proposal dated August 27, 2018

Jamie Rybarczyk

From: Mike Barreau <mike@dornerco.com>
Sent: Monday, August 27, 2018 3:55 PM
To: Jeff Bartosiak
Cc: Jon Claas; Jamie Rybarczyk; Gerald D. Groth; Tina Butteris; Everett Russell; Ben Russell
Subject: RE: Air Valves
Attachments: Windsor Air Valve Summary 082718.pdf; Apco ASU Sales 2016.pdf; Windsor Air Valve Cover 082718.docx

Jeff

Good afternoon. Hope you had a nice weekend.

Summary report and supporting data attached. Unfortunately, our inspections resulted in finding that although 4 of 5 isolation ball valves are currently operable, their condition (and the condition of the associated piping and air valves themselves), suggest full replacement due to corrosion. No way to escape the fact that air valve manholes are an extremely nasty environment and experience has taught us to use stainless wherever possible for best long term performance.

Please review and let me know if additional information required. Thank you.

Mike Barreau
Dorner Company
N61 W23043 Silver Spring Drive (shipping)
PO Box 189 (mailing)
Sussex, WI 53089-0189
Cell: (608) 444-2511
Ph: (262) 932-2100 Ext 120
Fax: (262) 932-2101

From: Jeff Bartosiak [mailto:Jeff@windsorwi.gov]
Sent: Friday, August 24, 2018 11:57 AM
To: Mike Barreau
Cc: Jon Claas; Jamie Rybarczyk; Gerald D. Groth; Tina Butteris; Everett Russell; Ben Russell
Subject: RE: Air Valves

Good morning Mike,

Have you had a chance to put some cost numbers together for us on replacement / rebuild of the air valve, isolation valve assemblies based upon you technicians assessment? If possible, we would like some round numbers by Sept. 6, 2018, so this matter can be discussed at the Sept. 11, 2018 Windsor Utility Commission meeting.

Thanks,

Jeff Bartosiak
Village of Windsor Utilities

DORNER

VALVES & AUTOMATION

August 27, 2018

Mr. Jeff Bartosiak
Village of Windsor Utilities
Via Email: 2 pages total

Re: Air Valve Manholes

Jeff

This is a quick note to summarize our inspection visit of 8/14/18. Individual reports are attached herewith. Also attached is a data sheet on the proposed replacement air valve.

OVERVIEW

Four of five total stations have working isolation valves. However, even the working units are severely corroded and hard to operate. Unknown how much longer they would actually function. Therefore, we'd firmly recommend full replacement of all valves and associated piping with those of Stainless Steel construction. That would obviously provide the best long term performance and corrosion resistance.

Unfortunately, the need to replace all appurtenances requires the line to be drained and bypass pumping from the lift station wetwell during this installation. That's the bad news. Good news is that this actual work would only take about an hour per station to replace all components. As long as we can start right away after the line is drained, we can complete the entire scope of work rather quickly.

Replacement method would consist of: Removal of the existing saddle and associated piping, wire brush cleaning of existing pipe, installation of a new saddle, SS nipple, SS ball valve, SS nipple and SS air valve. We would even have the SS nipple, SS ball valve and SS nipple already assembled to expedite the overall installation time.

Continued Next Page

Morrisonville Road Station #1

This location had a working isolation valve but all associated piping and air valve severely corroded. Air valve too corroded to function in current state. Unknown if rebuild possible.

Morrisonville Road Station #2

Condition same as Station #1 above.

Corner Hahn & Morrisonville Roads

Isolation valve will not operate. Air valve discharging sewage upon every pump cycle.

Corner Hahn & Smith Roads

Isolation valve working and associated piping corroded. Air valve probably in salvageable condition but unknown until disassembled and inspected.

Tech Road

Like others, isolation valve working but associated piping/air valve severely corroded.

SUMMARY

As noted on Page 1, with the lone exception of one station (Corner Hahn & Morrisonville), all isolation ball valves are currently operable. However, may be difficult, if not impossible, to remove existing air valves without damage. As such then, we would respectfully recommend full replacement of all components within every manhole. If you need to do it for one station, might as well do it for all while you're at it....

Cost of the new proposed DeZurik/Apco ASU with new saddle, SS nipples and SS isolation valve is $2,488 each. Installation would be 2 Dorner techs for one day/one trip at $2,400 total. Please note this cost assumes all work at all 5 stations is completed in one day with no delays waiting for line to drain. Coordination for line drain, pumper truck(s), etc. by others.

Please review and let me know what you think. Thank you.

Michael J. Barreau
Dorner Company

Detail #1594

Requested Date	
Valve Location	Morrisonville Road #1
Valve ID	Air release
Valve Manufacturer	
Valve Model #	
Valve Catalog #	
Valve Size	
Valve Type	
Valve Application	Wastewater
Isolation Valve	Yes
Strainer	
External Leaks	
External Coating Condition	
External Bolts Condition	
Position Indicator	
Pilot System	
Pilot System Notes	
PSI Inlet	
PSI Outlet	
Accessibility Notes	
Valve Photo1	P_20180814_135152.jpg
Valve Photo2	P_20180814_135157.jpg
Pilot Photo	
Internal Notes	
Repair Suggestions	SMS 8/14/18 inspected valve. Isolation valve is working but recommend replacing standpipe, isolation valve, and a new air release valve. The body of the air release valve is to corroded to be rebuilt. Recommend new valve. I am recommending we do the standpipe and isolation due to corrosion on the stand pipe and a very difficult to operate isolation valve.
Repair Date	
Repairs Made	
Request - Date Entered	07-16-2018
Request - Customer Number	
	(608) 888-0011

Detail #1595

Requested Date	
Valve Location	Morrisonville Road #2
Valve ID	Air release
Valve Manufacturer	
Valve Model #	
Valve Catalog #	
Valve Size	
Valve Type	
Valve Application	Wastewater
Isolation Valve	Yes
Strainer	
External Leaks	
External Coating Condition	
External Bolts Condition	
Position Indicator	
Pilot System	
Pilot System Notes	
PSI Inlet	
PSI Outlet	
Accessibility Notes	
Valve Photo1	P_20180814_142328.jpg
Valve Photo2	P_20180814_142334.jpg
Pilot Photo	
Internal Notes	
Repair Suggestions	SMS 8/14/18 inspected valve. Isolation valve is working but recommend replacing standpipe, isolation valve, and a new air release valve. The body of the air release valve is to corroded to be rebuilt. Recommend new valve. I am recommending we do the standpipe and isolation due to corrosion on the stand pipe and a very difficult to operate isolation valve.
Repair Date	
Repairs Made	
Request - Date Entered	07-16-2018
Request - Customer Number	
	(608) 888-0011

Detail #1596

Requested Date	
Valve Location	Near corner of Hahn & Morrisonville Road
Valve ID	Air release
Valve Manufacturer	
Valve Model #	
Valve Catalog #	
Valve Size	
Valve Type	
Valve Application	Wastewater
Isolation Valve	Yes
Strainer	
External Leaks	
External Coating Condition	
External Bolts Condition	
Position Indicator	
Pilot System	
Pilot System Notes	
PSI Inlet	
PSI Outlet	
Accessibility Notes	
Valve Photo1	P_20180814_144505.jpg
Valve Photo2	P_20180814_144516.jpg
Pilot Photo	
Internal Notes	
Repair Suggestions	SMS 8/14/18 inspected valve. Isolation valve will not move. There is heavy corrosion on the stand pipe. The body of the valve seems good enough to be rebuilt. Valve is not shutting properly and is sucking in air. Recommend replacing standpipe and isolation valve due to corrosion and operation.
Repair Date	
Repairs Made	
Request - Date Entered	07-16-2018
Request - Customer Number	
Request - Customer Phone #	(608) 888-0011

Detail #1597

Requested Date	
Valve Location	Near corner of Hahn and Smith Road
Valve ID	Air release
Valve Manufacturer	
Valve Model #	
Valve Catalog #	
Valve Size	
Valve Type	
Valve Application	Wastewater
Isolation Valve	
Strainer	
External Leaks	
External Coating Condition	
External Bolts Condition	
Position Indicator	
Pilot System	
Pilot System Notes	
PSI Inlet	
PSI Outlet	
Accessibility Notes	
Valve Photo1	P_20180814_150345.jpg
Valve Photo2	P_20180814_150350.jpg
Pilot Photo	
Internal Notes	
Repair Suggestions	SMS 8/14/18 inspected valve. The isolation valve is working properly. The standpipe is in good condition. Valve body appears to be rebuildable. Won't know for sure until we get it into the shop and sandblasted. Valve is sucking in air when it should be closed.
Repair Date	
Repairs Made	
Request - Date Entered	07-16-2018
Request - Customer Number	
Request - Customer Phone #	(608) 888-0011

Detail #1598

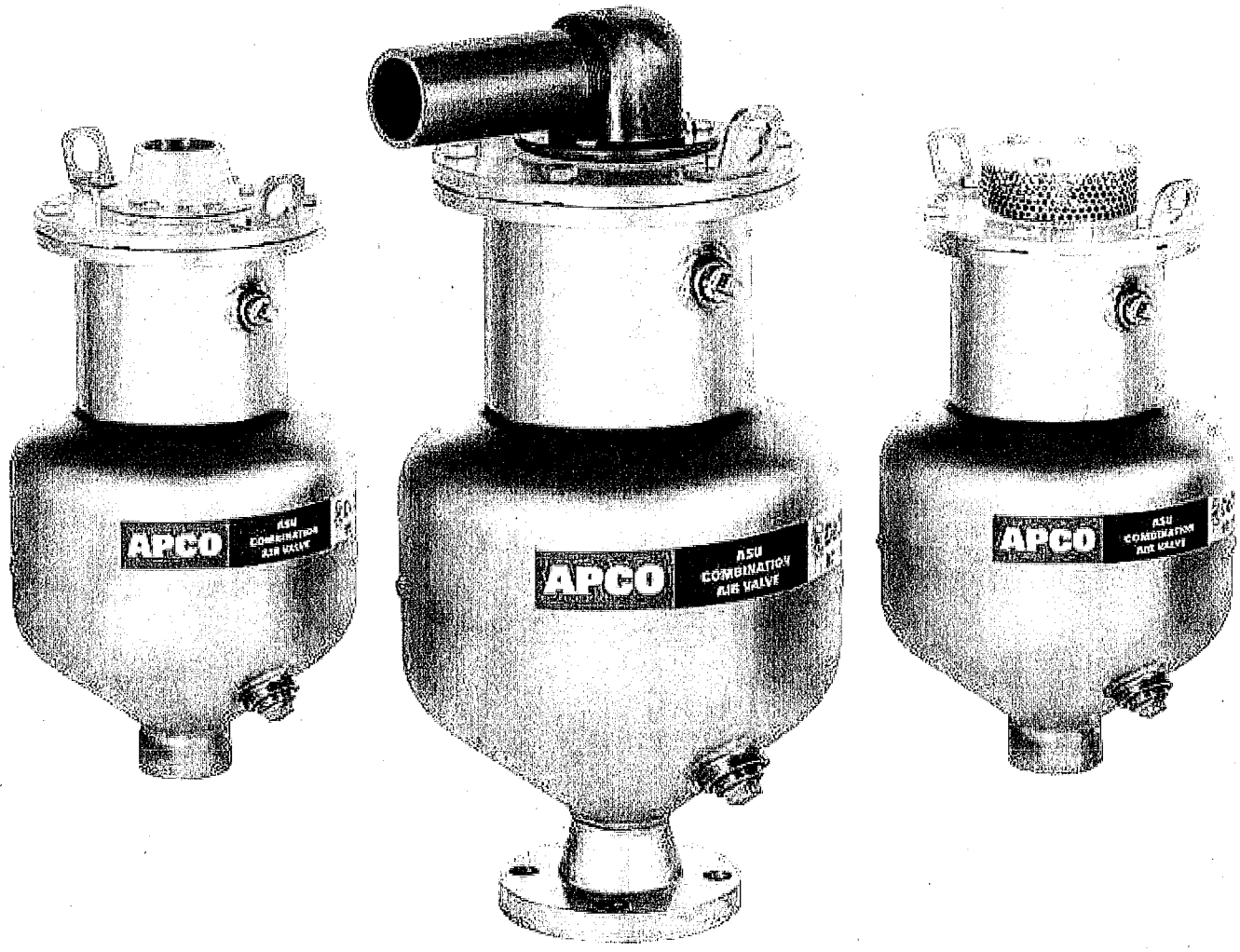
Requested Date	
Valve Location	Tech Road off dirt road in a houses backyard
Valve ID	Air release
Valve Manufacturer	
Valve Model #	
Valve Catalog #	
Valve Size	
Valve Type	
Valve Application	Wastewater
Isolation Valve	Yes
Strainer	
External Leaks	
External Coating Condition	
External Bolts Condition	
Position Indicator	
Pilot System	
Pilot System Notes	
PSI Inlet	
PSI Outlet	
Accessibility Notes	
Valve Photo1	P_20180814_153651.jpg
Valve Photo2	P_20180814_153714.jpg
Pilot Photo	P_20180814_151813.jpg
Internal Notes	
Repair Suggestions	SMS 8/14/18 it was full of groundwater. Drain pit to inspect valve. The isolation valve is working. Recommend replacing standpipe section. Valve body appears to be rebuildable. With overall pit conditions i recommend replacing standpipe ,isolation valve and attempting to rebuild body. Not sure if it will be rebuildable until it's in the shop and sandblasted. Valve is sucking in air.
Repair Date	
Repairs Made	
Request - Date Entered	07-16-2018
Request - Customer Number	
	(608) 888-0011

BULLETIN 300.00-1
JANUARY 2016

DeZURIK
APCO | HILTON

APCO ASU COMBINATION AIR VALVE

- Design
- Operation
- Performance



Innovative Air Valve Technology

The APCO ASU Combination Air Valve introduces an innovative concept in air valve technology. Proven with extensive field experience on tough applications, the ASU valve has demonstrated improved performance, reduced maintenance and lower cost for overall reliability on clean fluids or sewage and dirty service applications.

The APCO ASU Combination Air Valve is single body combination valve available in sizes 1-6" as standard. Larger sizes on application.

Unique, Multi-Stage Operation

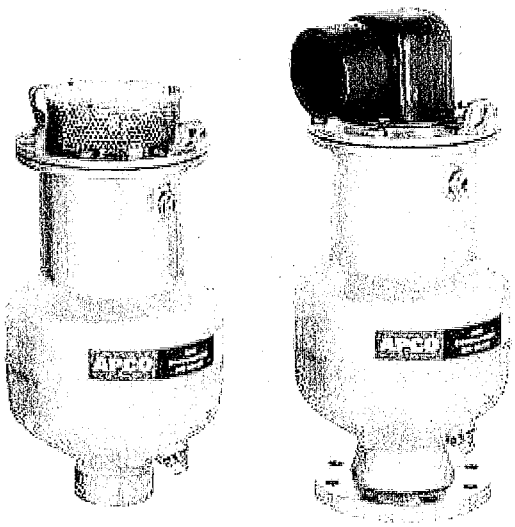
The unique venting design provides varied and predictable air flow over a wide range of air release and air/vacuum conditions. A large diameter Air/Vacuum Disc provides high volume air flow for rapid venting during pipeline filling and allows high volumes of air to enter the pipeline during draining. During normal pipeline flow conditions, the dual-range air release design prevents air build up and resultant flow restrictions under changing conditions and through the full flow range.

Universal Valve Design, Wide Operating Range & Low Pressure Sealing Down to 2 psi

Venting design and technology allows application on an almost universal range of flow conditions with effective sealing and operation available in two pressure ranges: 2 psi to 150 psi or 2 psi to 300 psi for high pressure service.

Meets AWWA C-512 Performance Specifications

The ASU Combination Air Valve meets performance requirements of the AWWA C-512 standard "Air Valves for Water & Wastewater Service."



All Stainless Steel Construction

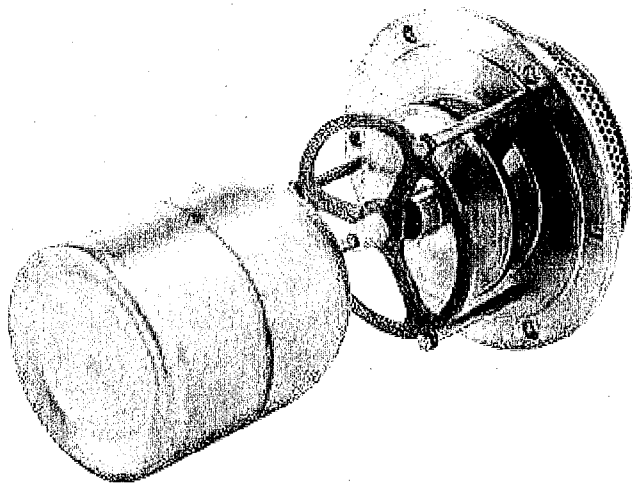
The ASU Combination Air Valve is ideally suited to corrosive conditions with a 316 Stainless Steel body and float. Internal parts are corrosion resistant high strength stainless steel.

Light Weight, Low Profile Body Design

The compact design of the ASU Combination Air Valve allows installation in piping systems with limited space and in vaults with low ceiling heights. Fabricated ASU construction meets full pressure class ratings and minimizes weight for ease of installation and for retrofit replacement of other air valves.

Matched Inlet & Outlet Sizes

The equal size inlet and outlet area of the ASU valve fully meets the defined requirement of AWWA C-512 providing high capacity and a broad operating range. The ASU Combination air valve is available with flanged or threaded NPT inlet connections.



Reliability Without Constant Maintenance

Clean interior design and the direct shaft mounted float eliminates troublesome linkages that can lead to frequent maintenance. The light weight, one-piece internal assembly can be easily lifted out of the valve body by the top cover.

The shape of the upper valve body creates an air compression chamber to limit fluid level and solids interference. The funnel shaped lower body reduces solids buildup on sewage or other services where solids may interfere with operation, yet it still allows for maximum outflow and self-cleaning.

For applications where standard practice calls for periodic maintenance, back flush ports are strategically located for ease of flushing with an optional back flush kit.

Larger Sizes, Higher Pressures

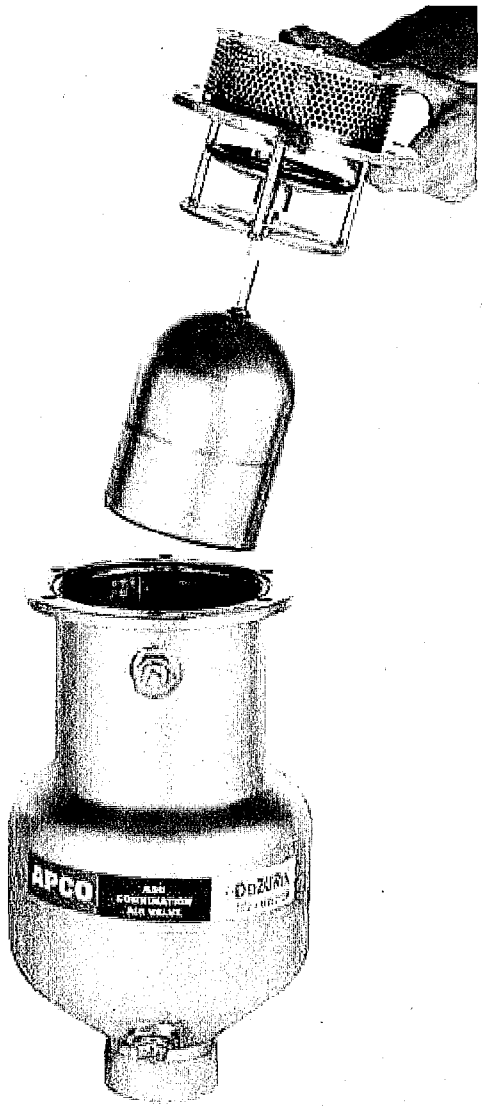
Valves to 300 psi are available in sizes 1" through 4" with 150 psi valve sizes available through 6" as standard. Contact DeZURIK for information and recommendations on other sizes and pressures.

Float Shape Designed for Stability

The unique float shape reduces the ballistic effect of high speed liquid flow into the valve, further adding to float stability. The float shaft is fully guided to provide smooth, long lasting operation.

No Troublesome Linkage

Unique disc air release venting concept eliminates linkages that can foul on dirty service applications.



For Water/Wastewater or Industrial Service

All materials and seals are proven as long life components for continuous duty service. Seals and all parts are suitable for use on water, wastewater or industrial media containing hydrocarbons, chemicals, solvents and volatiles. Recommendations available on application.

Problem Solving Design for Improved Performance & Reliability on Dirty Service Applications

Innovative air release technology provides improved valve performance and operating capability with characterisitics specifically designed to deal with clean fluids or media with the presence of grit, solids and grease.

Lifting Lugs
Lifting lugs for ease of valve installation.

Top Access Cover
Allows easy access to the internal air valve assembly.

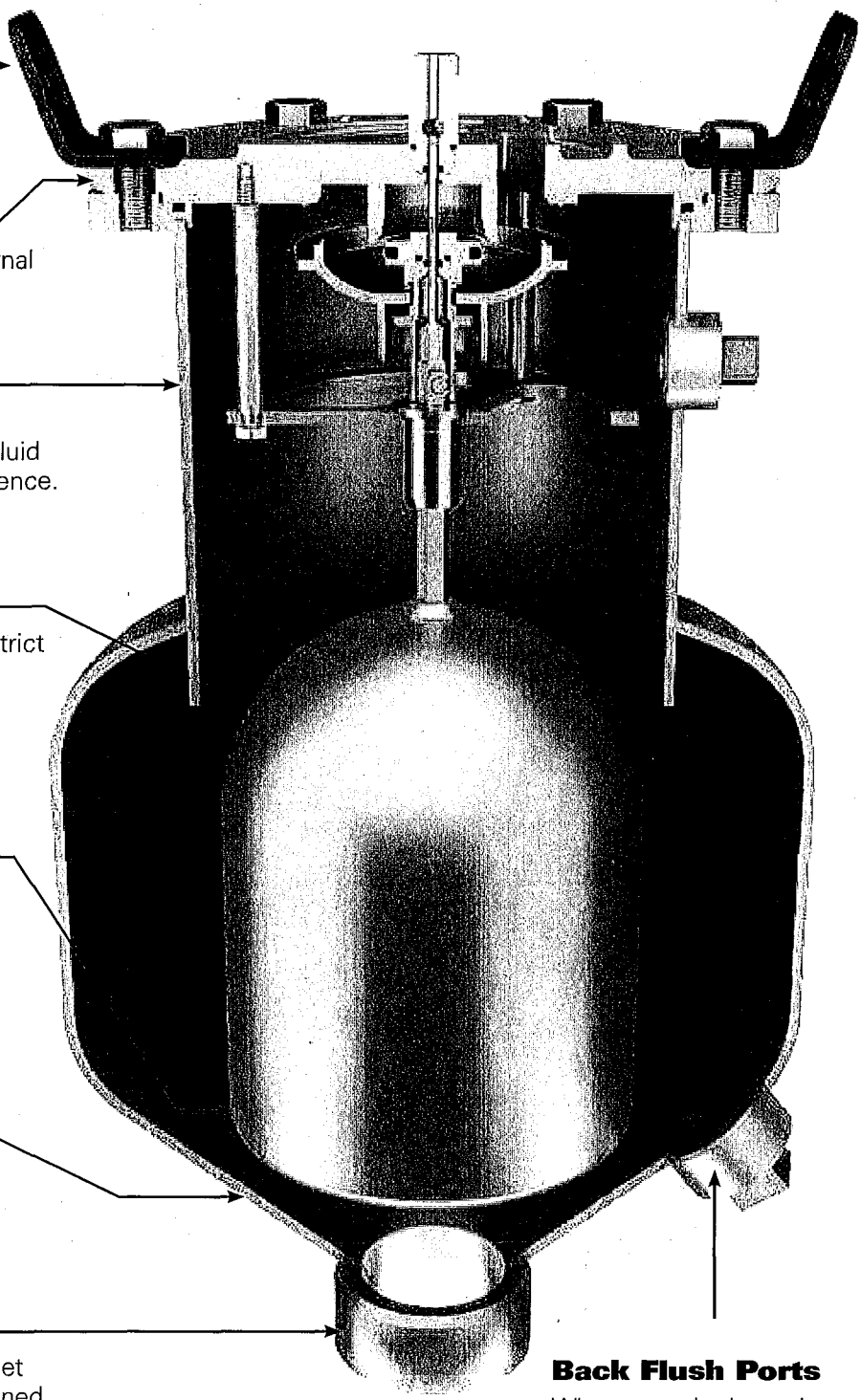
Upper Body Shape
Upper body creates an air compression chamber to limit fluid level and restrict solids interference.

Flow Deflector/Splash Reduction Ring
Built into the upper body to restrict solids entry and minimize flow effect and fluid splash that can cause float instability.

Hydraulics Based Float Design
Unique float shape increases float stability at all flow rates. Large float size provides increased bouyancy as needed on dirty service.

True Funnel Shaped Body
Conical shaped body allows for complete draining.

Matched Inlet and Outlet Sizes
Per AWWA C512, same size inlet and outlet meets the clearly defined requirement, and provides high capacity and a broad operating range in a nearly universal valve design.



Back Flush Ports
Where standard practice calls for periodic backflushing, optional back flush kits are available.

Multi-Stage Operation Provides Dual-Range Air Release

High Capacity Multi-Stage Operation

Features high capacity air venting and inflow during filling and draining; dual range air release during normal pipeline flow conditions.

Air/Vacuum Disc

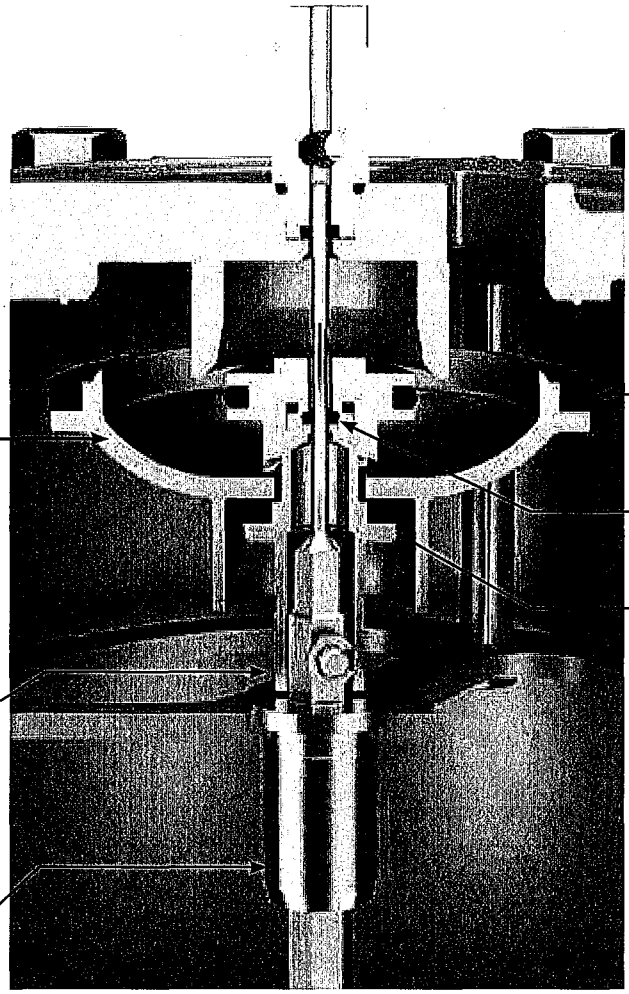
The unique Air/Vacuum Disc opens to assure high flow air venting during pipeline filling and for quick vacuum relief during pipeline draining.

No Troublesome Linkage

The internal design of the ASU valve eliminates troublesome linkage that can trap solids and interfere operation and affect reliability

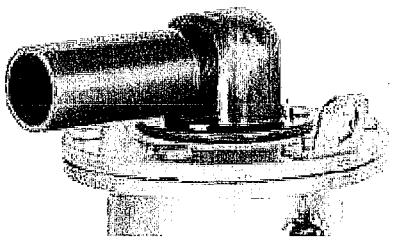
Guided Float Shaft

The float shaft is fully guided to provide smooth, long-life operation. Guides prevent float misalignment and contact with the valve body.



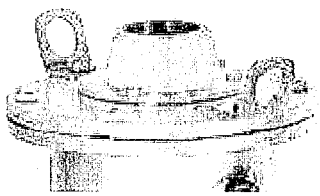
Outlet Configurations

ASU outlet configurations in all valve sizes are designed for full rated air flow.



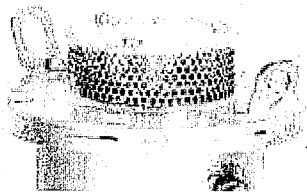
Standard Outlet - Threaded 90° Elbow

Furnished with pipe extension with drip line beyond the valve body.



Optional Vertical Threaded Outlet (VTO)

Outlet is threaded to allow plant piping of discharge. The VTO must be specified.



Optional Mushroom Cap (MRC)

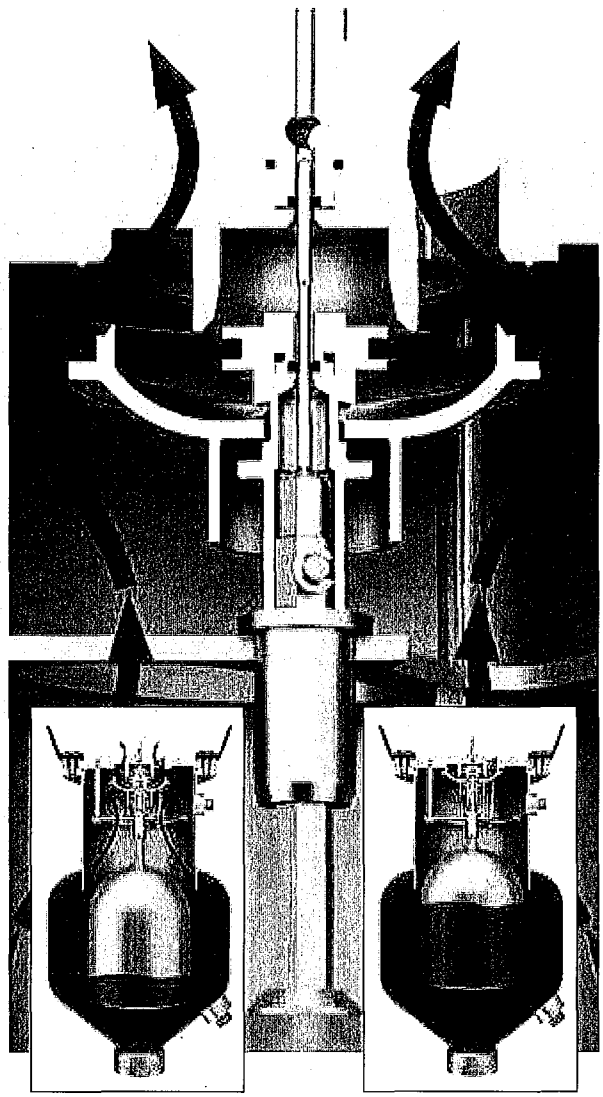
Screened vertical outlet keeps debris from entering the valve outlet.The MRC must be specified.

Valve Operation

Unique Combination Air Valve Technology

The patent pending design of the ASU Combination Air Valve features multi-stage air release operation and air/vacuum service provided by the Air/Vacuum Disc.

Pipeline Filling



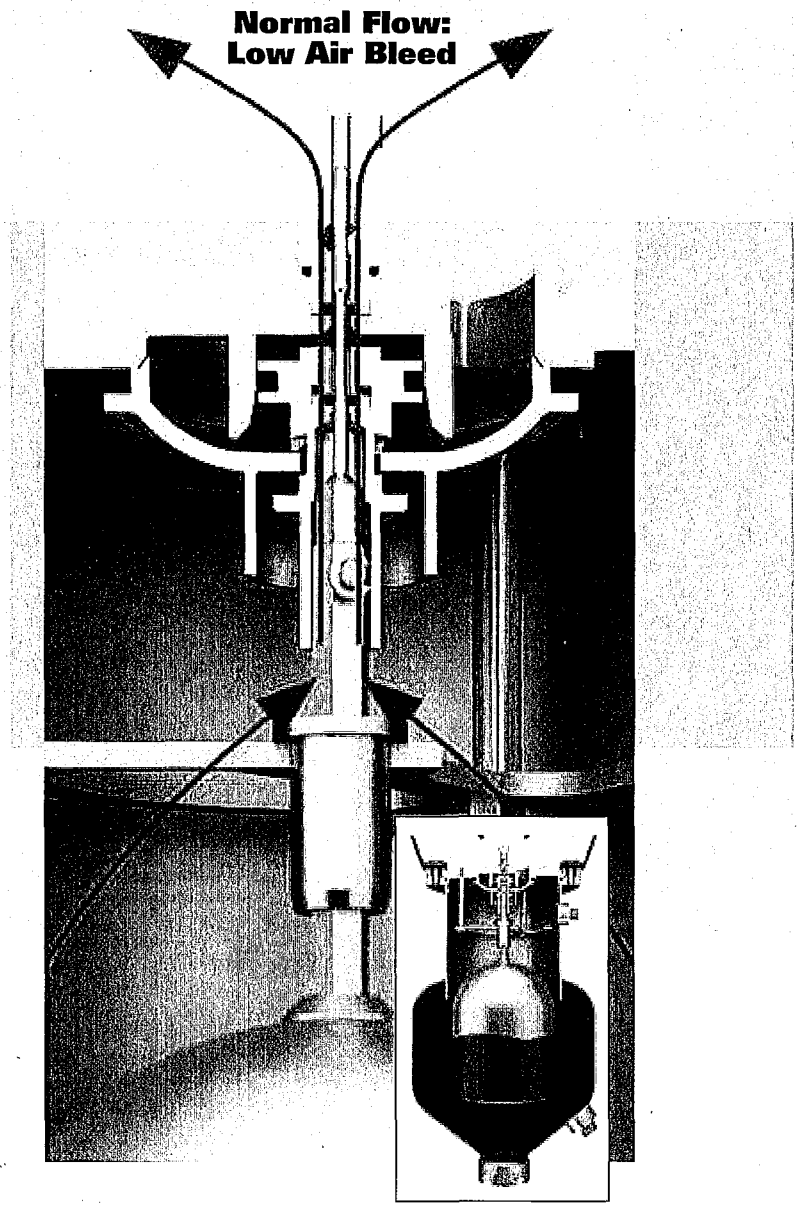
Pipeline Filling

Pipeline Full

During pipeline filling, the Air/Vacuum Disc remains open allowing high volumes of air to escape.

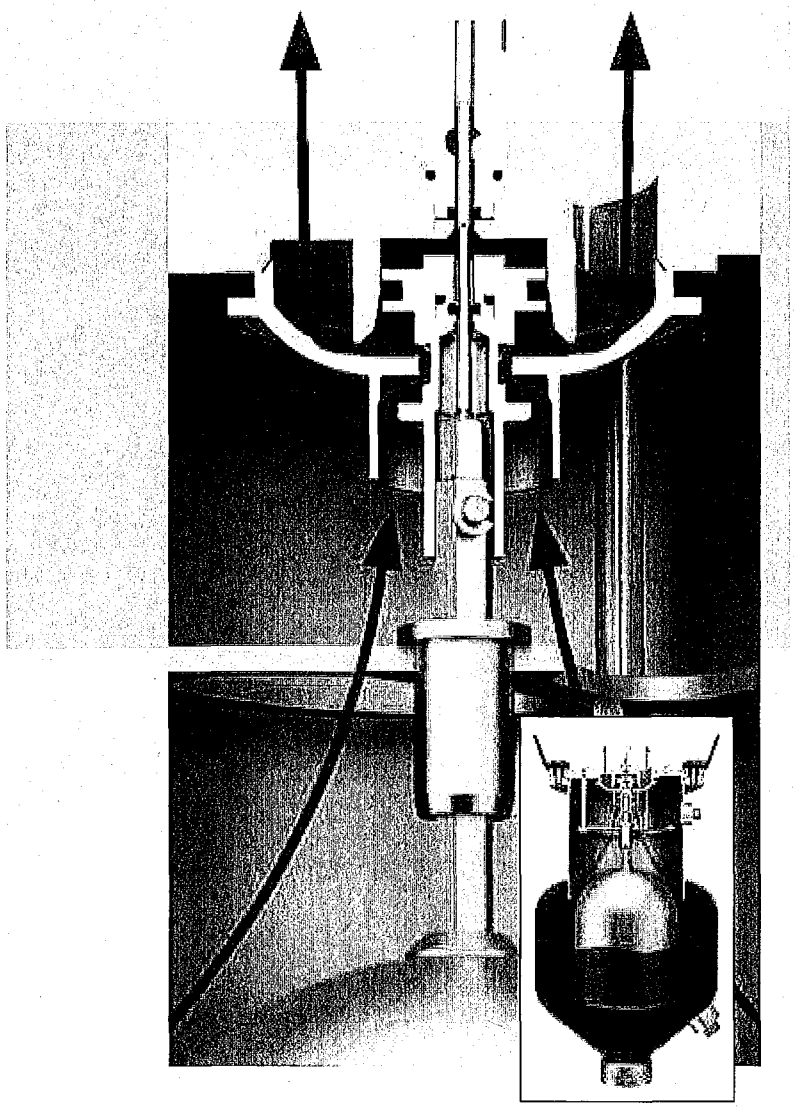
When the pipeline is full, fluid enters the valve which raises the float and lifts the Air/Vacuum Disc into the closed position. Valve is completely sealed; Air/Vacuum Disc seat, piston stem seat and float shaft seals are all in the closed position.

Dual Range Air Release



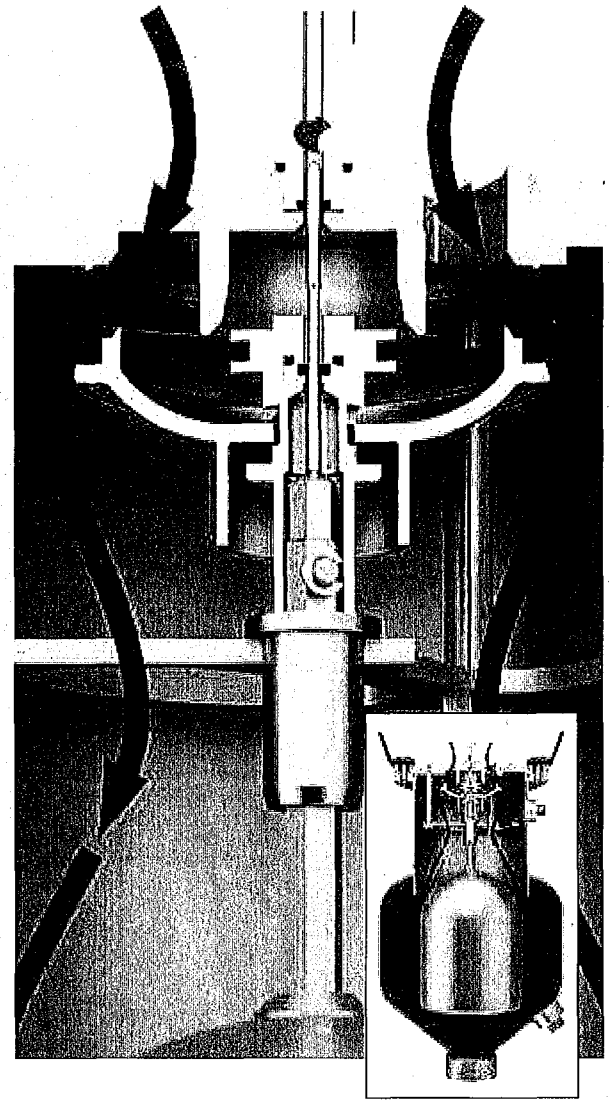
During normal system operation, air escapes from the fluid, collects at high points in the pipeline, and enters the valve. When enough air collects in the valve, it causes the float and float shaft to move down. In this minimal air release mode, the float position allows the valve to release a small amount of air past the float shaft seals. The released air is replaced by fluid entering the valve inlet, raising the float to the valve's closed position.

Normal Flow:
High Air Bleed



If a larger amount of air collects in the pipeline during normal operation and enters the valve, it causes the float and float shaft to move down even farther causing the upper part of the float shaft to seal off the piston chamber. Trapped air continues to accumulate in the piston chamber, causing a pressure imbalance. The piston moves down, allowing the valve to release a larger amount of air past the piston stem and seat.

Pipeline Draining

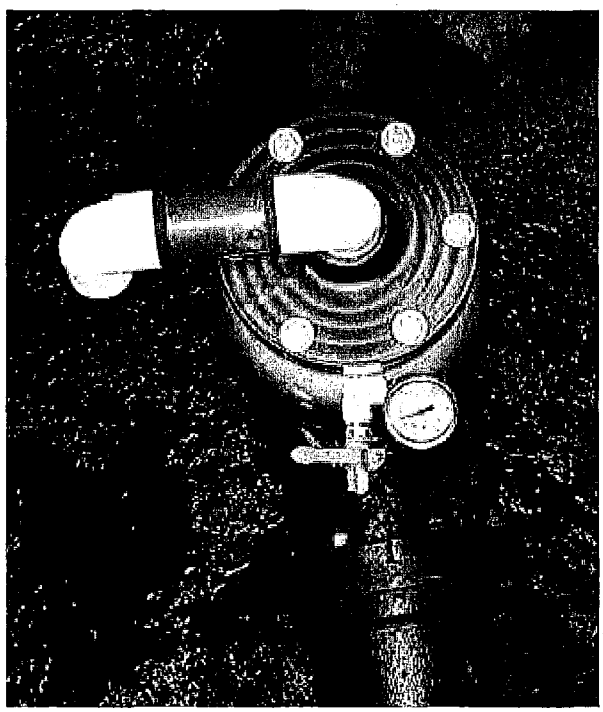


When the pipeline is drained, or if a sudden break occurs, the valve quickly opens allowing high volumes of air to enter the pipeline. As fluid level in the valve drops, the float and float shaft move down, which allows the Air/Vacuum Disc to drop down, opening the pathway for high volume air to be pulled through the valve, reducing the risk of pipeline collapse due to excessive vacuum.

Field-Proven Performance

The APCO ASU Combination Air Valve was developed with 2 years of design and development testing and extensive field experience. In the field, users were consistently impressed with the performance and improved reliability of the ASU, which far exceeded other valves previously installed in the same location.

The ASU resisted clogging from grease, grit and debris meaning less maintenance, improved system reliability with reduced cost.



Sales and Service

For information about our worldwide locations, approvals, certifications and local representative:
Web Site: www.dezurik.com E-Mail: info@dezurik.com

DeZURIK
APCO | HILTON

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