



2 1/2" – 4" 40/50 Air Gap Assembly Instructions

READ INSTRUCTIONS IN FULL BEFORE INSTALLATION.
QUESTIONS? CALL 916-760-4524 M-F 8:00 AM – 4:30 PM PST

At Backflow Direct we are committed to making our products as easy to install as possible. We design for most contingencies, but installation may be different based on your regional regulations or system design.

We are continually improving our products and instructions – please help us by providing recommendations as to how we can improve our products or instructions.

If you have any difficulties at all, please give us a call. Thank you for purchasing our product!

IMPORTANT NOTE: We use Stainless Steel Hardware where possible. Therefore, it is best to have Silver Anti-seize available to use on all non-wetted bolts—only a small amount is needed.

WARRANTY INFORMATION: Please visit our website for our official warranty www.backflowdirectwarranty.com

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Tools Required: This list is the recommended tools for ease of installation. Other versions of the same tool can be used. For example, Allen Wrenches instead of Allen Drive Sockets.



#2 Flathead Screwdriver

Backflow Direct Test Cock Wrench



7/16" Ratchet Wrench (x2)

Adjustable Wrench

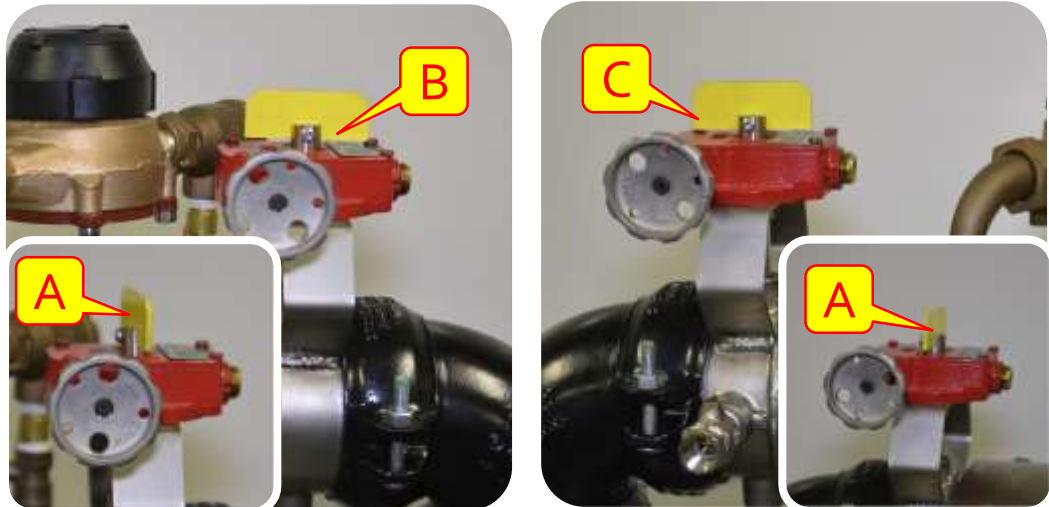
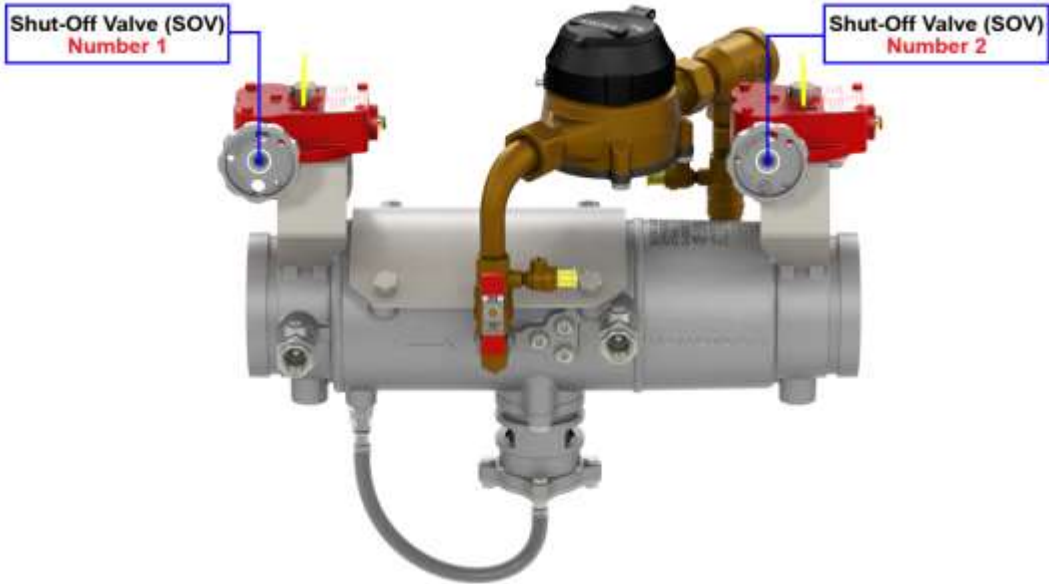


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Closing Shut-Off Valves Prior to Maintenance

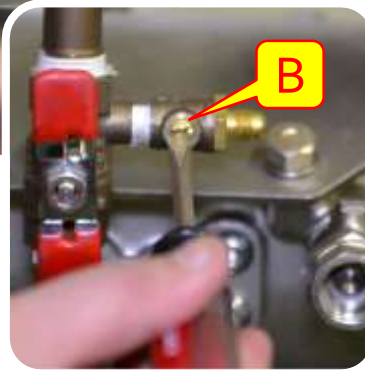
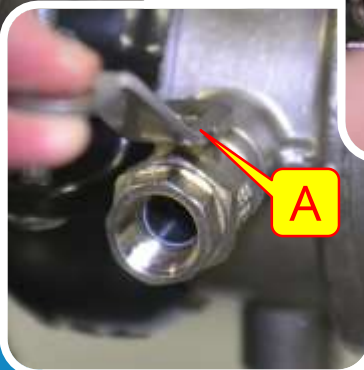
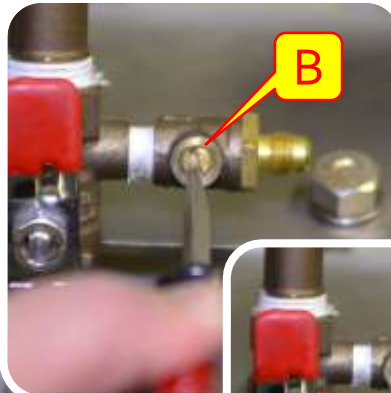
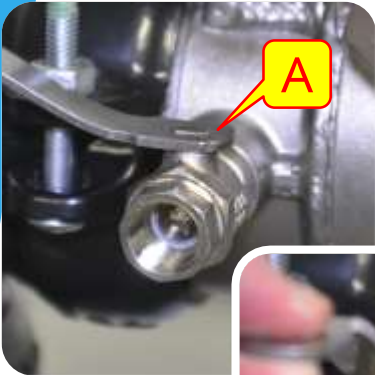
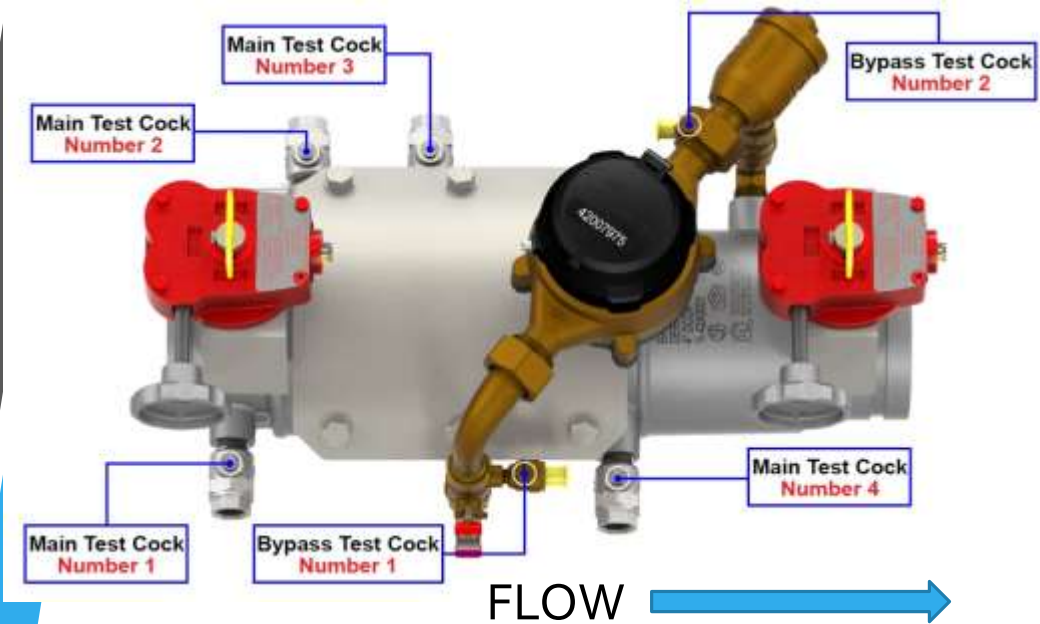
Note: When yellow/orange position indicator flags are parallel with the flow of water the shut-off valves are in the open position. Before doing any maintenance be sure the yellow or orange flow indicators (flags) are perpendicular to the flow of water valve body indicating shut-off valves are in the closed position (A).



1. Slowly rotate Shut-Off Valve #2 Handle (B) clockwise to the closed position. Flag perpendicular to flow (A).
2. Slowly rotate Shut-Off Valve #1 Handle (C) clockwise to the closed position. Flag perpendicular to flow (A).

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Opening Test Cocks and Bleeding All Pressure from the Line Before Maintenance

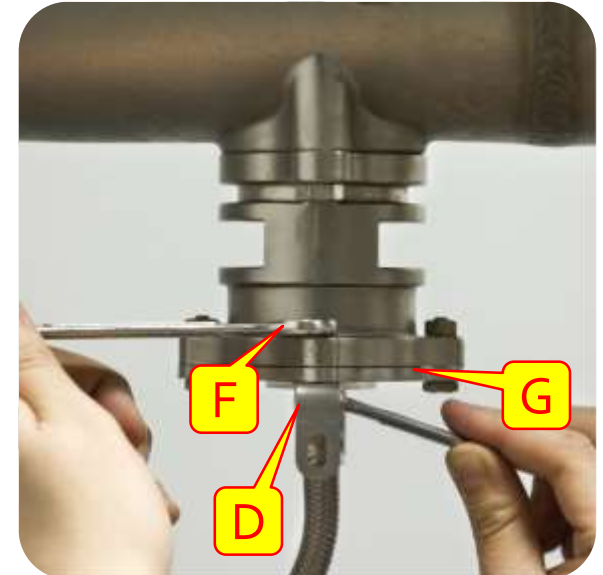
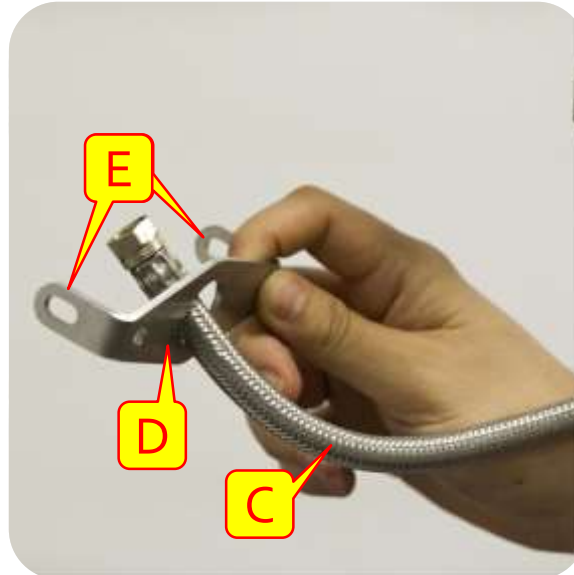
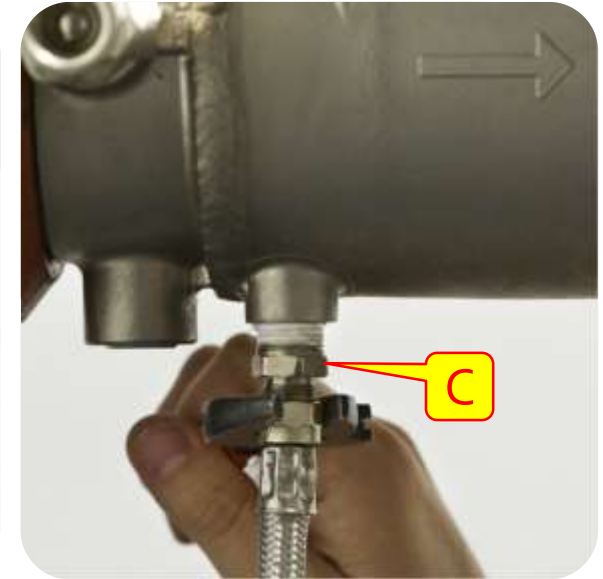
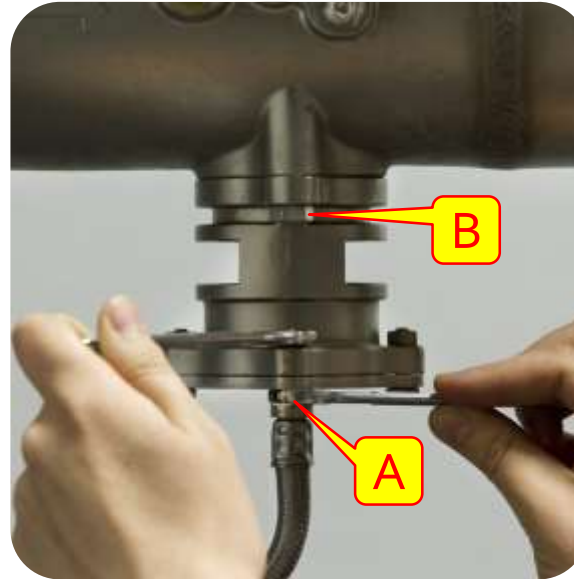


1. DO NOT OPEN Main Test Cock Number 1, as it is still subject to line pressure.
2. Using the Backflow Direct test cock wrench or a small adjustable wrench open (A) Main Test Cock Number 4. (Test Cock is open when wrench flats are parallel to water flow through test cock)
3. Using a #2 Flathead Screwdriver open Bypass Test Cock Number 2. (Test Cock is open when screwdriver slot is parallel to water flow through test cock (B))
4. Using the Backflow Direct test cock wrench or a small adjustable wrench open Main Test Cock Number 3.
5. Using a #2 Flathead Screwdriver open Bypass Test Cock Number 1.
6. Using the Backflow Direct test cock wrench or a small adjustable wrench open Main Test Cock Number 2.

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Air Gap Assembly Installation

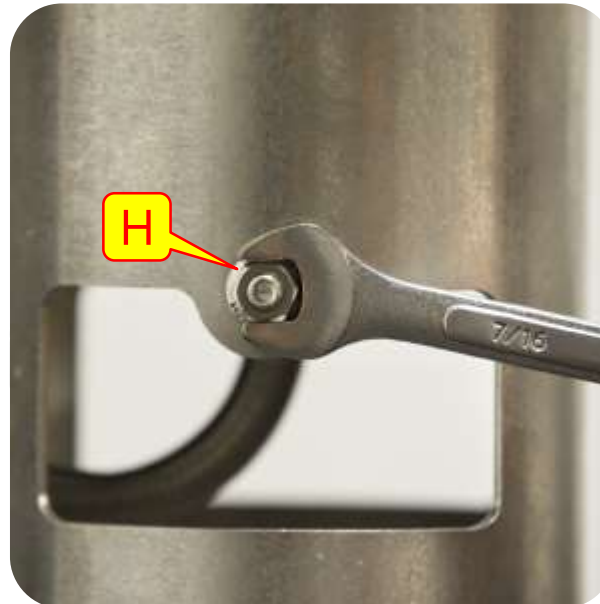
1. Using two 7/16" box wrenches loosen the two relief valve cover bolts (A) that are directly below the two relief valve mounting bolts (B).
2. Using an adjustable wrench disconnect the relief valve sensing line (C) from the valve body.
3. Insert the sensing line (C) through the hole on the Air Gap Mounting Bracket (D). Make sure the Tabs (E) on the Air Gap Mounting Bracket (D) are facing downwards.
4. Using two 7/16" box wrenches reinstall the relief valve cover bolts (F). Make sure the Air Gap Mounting Bracket (D) lays flush against the Relief Valve Cover (G).



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Air Gap Assembly Installation (continued)

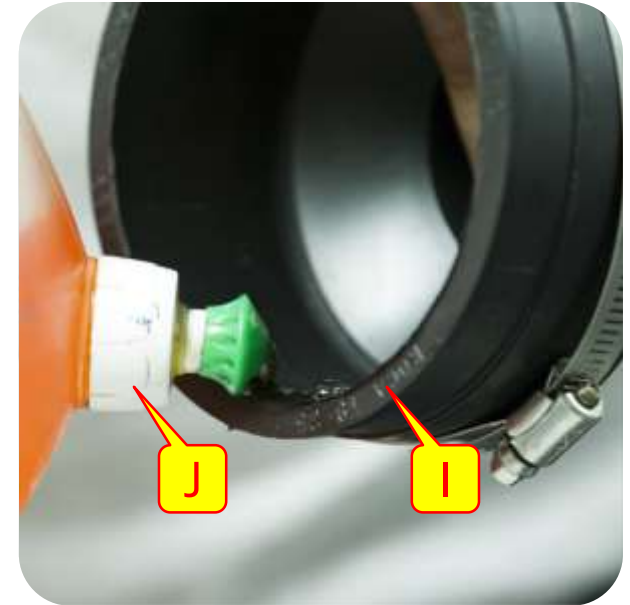
1. Insert the Sensing Line (C) through the circular hole in the Air Gap Cover (H).
2. Make sure the Air Gap Cover (H) lays flush against the valve body.
3. Attach the Air Gap Cover (H) to the Air Gap Bracket (D) Making sure the bolt heads are on the inside of the Air Gap Cover (H) and tighten with a 7/16" box wrench.
4. Using an adjustable wrench reinstall the Relief Valve Sensing Line (C).



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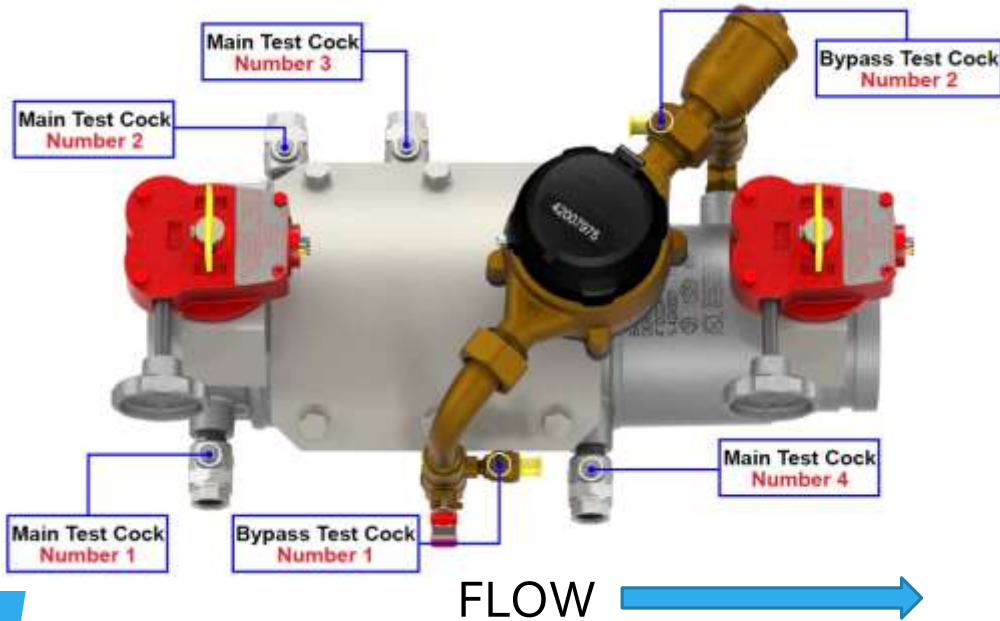
Air Gap Assembly Installation (continued)

1. Attach the 4" Rubber Retainer (I) to the bottom of the Air Gap Cover (H). For easier installation use liquid soap (J) to help lubricate the Rubber Retainer. (I)
2. Attach the bottom of the rubber retainer (I) to a 2" draining pipe (K). For easier installation use liquid soap (J) to help lubricate the Rubber Retainer (I).
3. Tighten Down the rubber retainer straps (L) with a flathead screw driver.

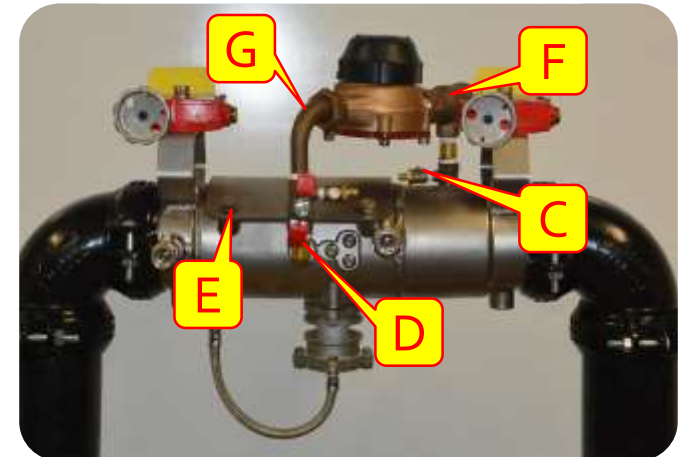
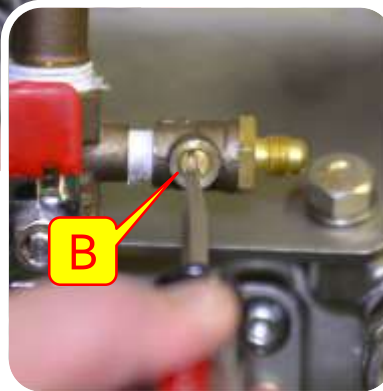
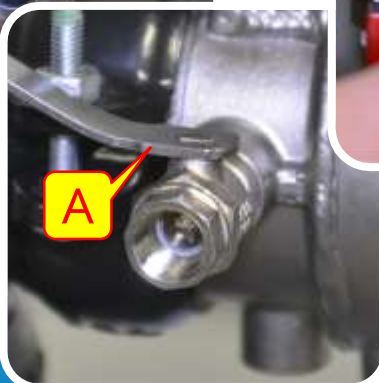
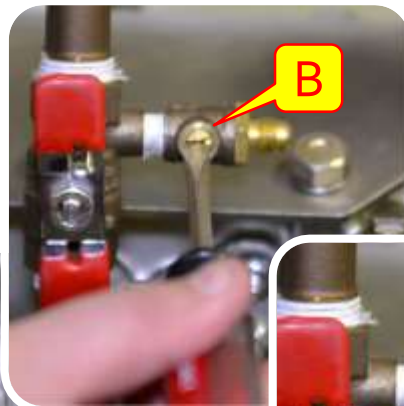


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Close Test Cocks and Double Check all Closing/Sealing Mechanisms



1. Using the Backflow Direct Test Cock Wrench or a small adjustable wrench slightly close Main Test Cocks Number 2, 3 and 4 (A) to allow excess air to be released before closing the test cocks completely.
2. Using a #2 Flathead Screwdriver Close Bypass Test Cock Number 1 and 2 (B). (Test Cock is closed when screwdriver slot on stem is perpendicular to water flow through Test Cock)
3. Use the "T" handles to open bypass Ball Valve Number 1 (C) and then open bypass Ball Valve Number 2 (D). (Ball Valve is open when "T" handle is parallel to water flow through Ball Valve)
4. Double check to be certain of the following:
 - All Cover Bolts are Tightened (E)
 - Bypass Check Valve Cover is Tightened (F)
 - Bypass Meter Coupling Nuts are Tightened (G)

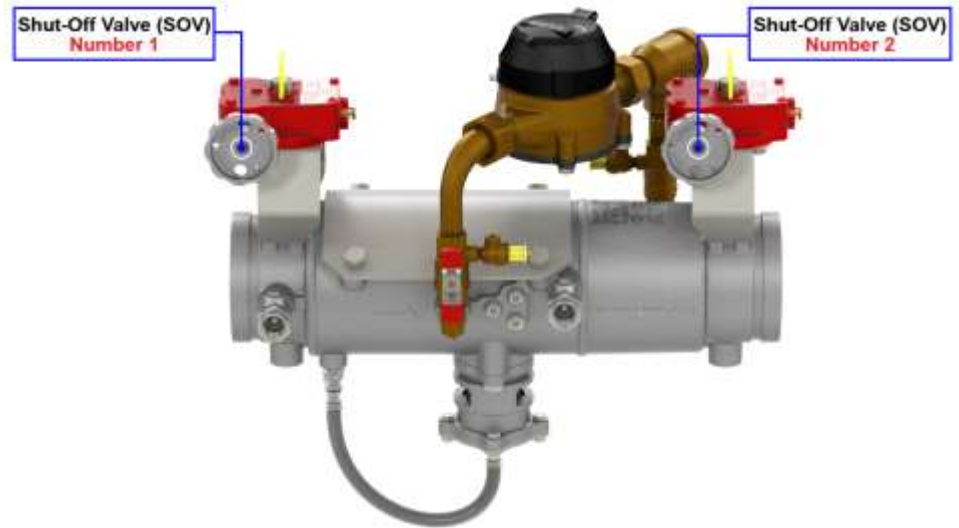


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Open Shut-Off Valves to make Backflow Preventer Functional

1. Slowly rotate the Number 1 Shut-Off Valve Operation Handle (A) counter clockwise to the open position. (Shut-Off Valve is open when yellow/orange position indicator flags are parallel to the mainline water flow)
2. As the valve fills with water air will be pushed through the Test Cocks. Once a steady flow of water is released from the Test Cocks close in order (2, 3 Then 4. Test Cock is closed when wrench flats on stem are perpendicular to water flow through Test Cock).
3. Slowly rotate the Number 2 Shut-Off Valve Operation Handle (B) counter clockwise to the open position.

Note: Yellow/Orange Position Indicator Flags must be parallel to mainline water flow for Backflow Valve to be functional (C).



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