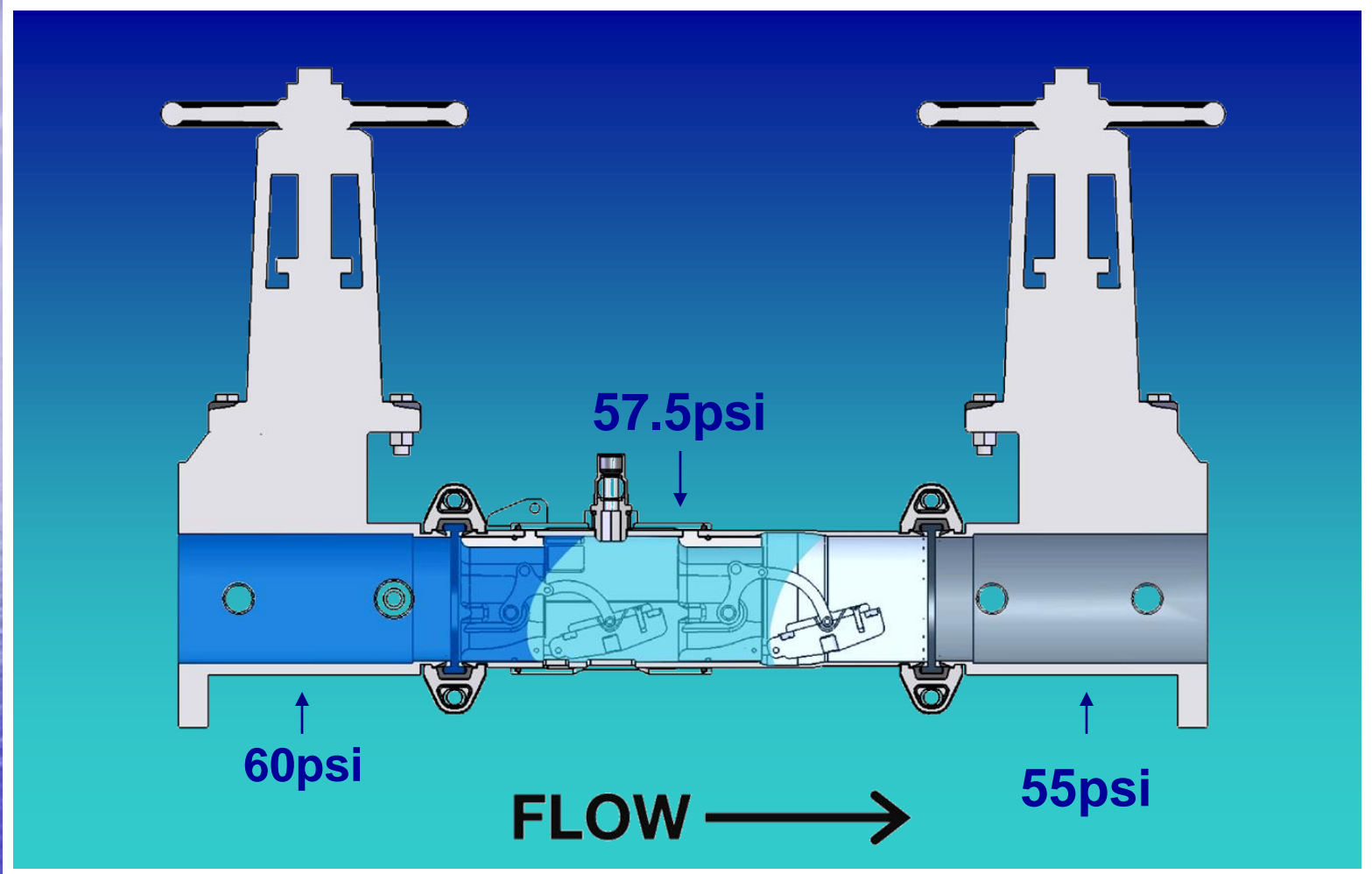
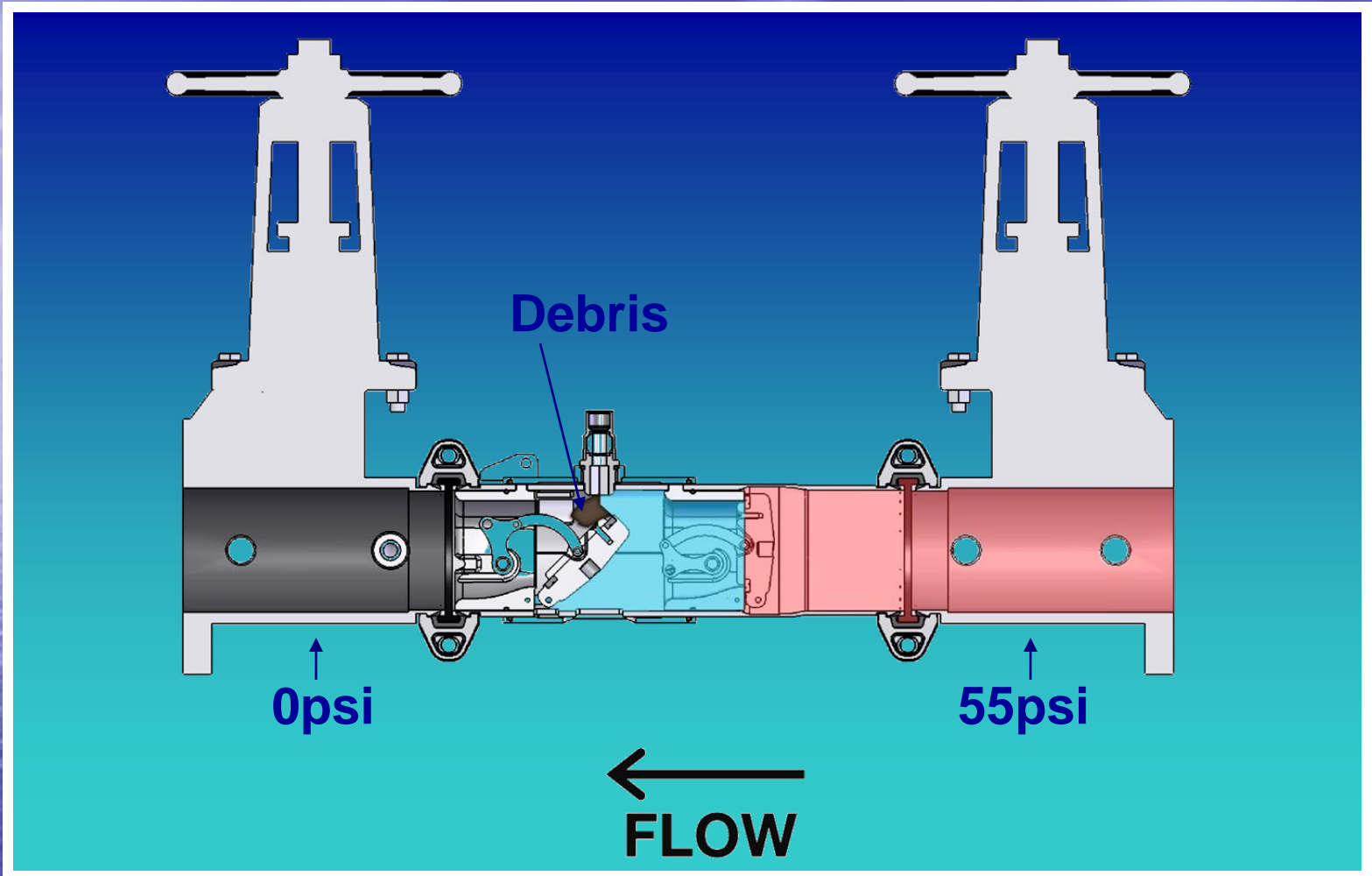


Configurations





Flow



Backsiphonage

Double Check Valve Assembly

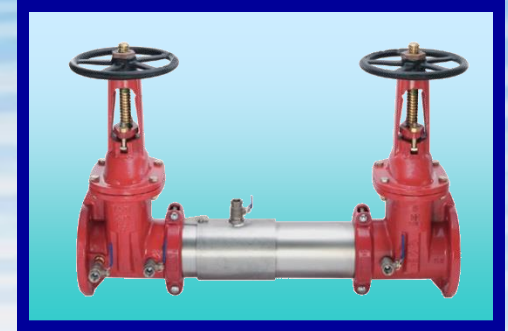
ASSE 1015

CSA B64.5

AWWA C510-92

UL/FM

-
- **Vertical or horizontal installation**
 - **Non-health hazard**
 - **Single top access cover** 
 - **Stainless steel construction provides corrosion protection and maximum strength**
 - **No special tools required**




Double Check Detector Assembly

- ASSE 1048 CSA B64.5
 - AWWA C510-92 UL/FM
-
- **70% Lighter than traditional designs**
 - **304 stainless steel housing & sleeve**
 - **Groove fittings allow integral pipeline adjustment**
 - **Available with grooved butterfly valve shutoffs**
 - **May be used for horizontal, vertical or N pattern installations**
 - **Replaceable check disc rubber**



Double Check Detector Assembly

- Backsiphonage / backpressure application
- Non-health hazard 
- Continuous pressure
- Testable
- Monitors unauthorized water usage
- Install allowing for normal testing and maintenance




Fabricated Stainless Steel Double Check Detector Assembly

- ASSE 1048 UL/FM
 - AWWA C510-92 CSA B64.5
 - USC-FCCCHR (2 1/2"– 10")
-
- **Corrosion resistant, lightweight, stainless steel construction**
 - **Balanced mainline / bypass**
 - **Monitors unauthorized water usage**
 - **Short end-to-end dimension for retrofit installation**
 - **Low head loss at fire flows**



Fabricated Stainless Steel Double Check Detector Assembly

- **Backsiphonage / backpressure application**
- **Non-health hazard**  A red circle with a diagonal slash over a white skull and crossbones symbol, indicating that the assembly is not a health hazard.
- **Continuous pressure**
- **Testable**
- **Install allowing for normal testing and maintenance**
- **Torsion spring check valve provides low head loss**
- **No special tools for servicing**



Health Hazard (Contaminant) Applications

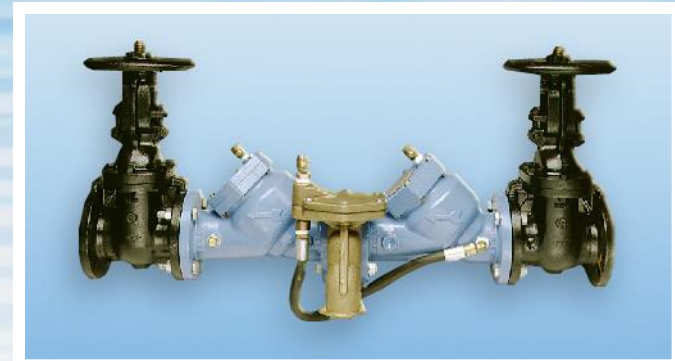
- Reduced Pressure Zone Assemblies for health hazard backflow prevention.



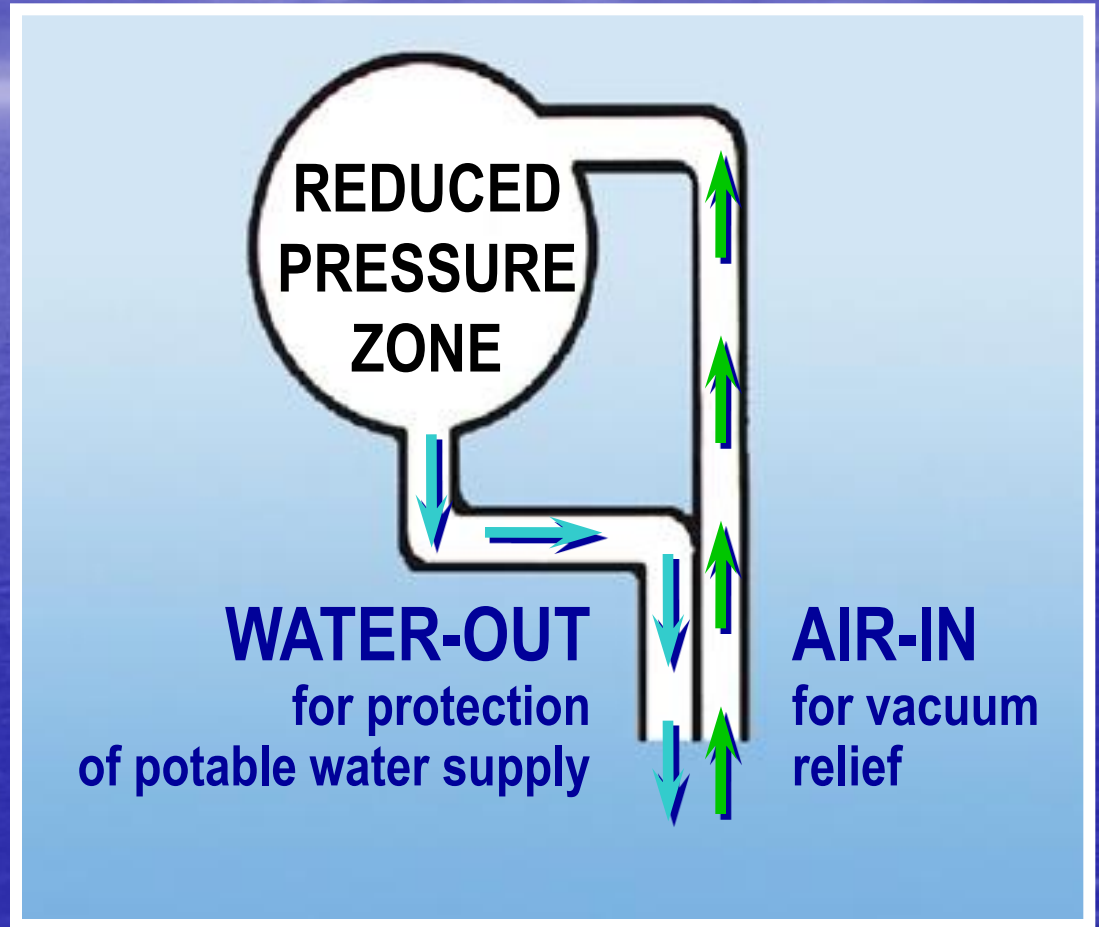
- *For protection against backpressure and backsiphonage.*

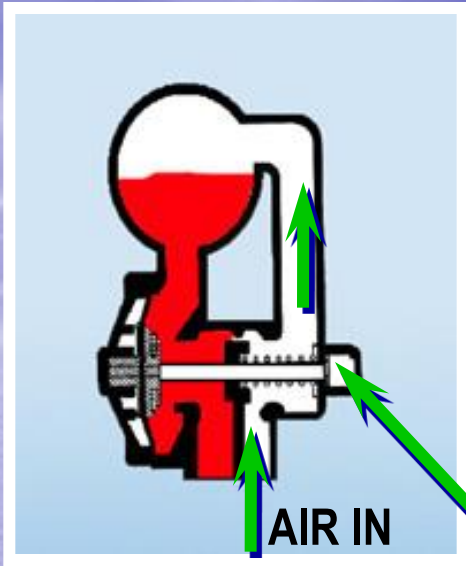
Reduced Pressure Zone Assembly

- AWWA 1013, AWWA C511
 - CSA B64.5, USC-FCCCHR
 - IAPMO Listed, UL/FM (2 1/2" – 10")
-
- **Bronze body 3/4" – 3"**
 - Polymer coating optional
 - **Fused epoxy iron body 2 1/2" – 10"**
 - **Captured spring assemblies**
 - **Replaceable seats / seat discs**
 - **High capacity relief valve**
 - **Bottom mounted relief valve 3/4" – 2"**
 - **Field reversible side mounted relief valve, 2 1/2" – 10"**
 - **No special tools for servicing**

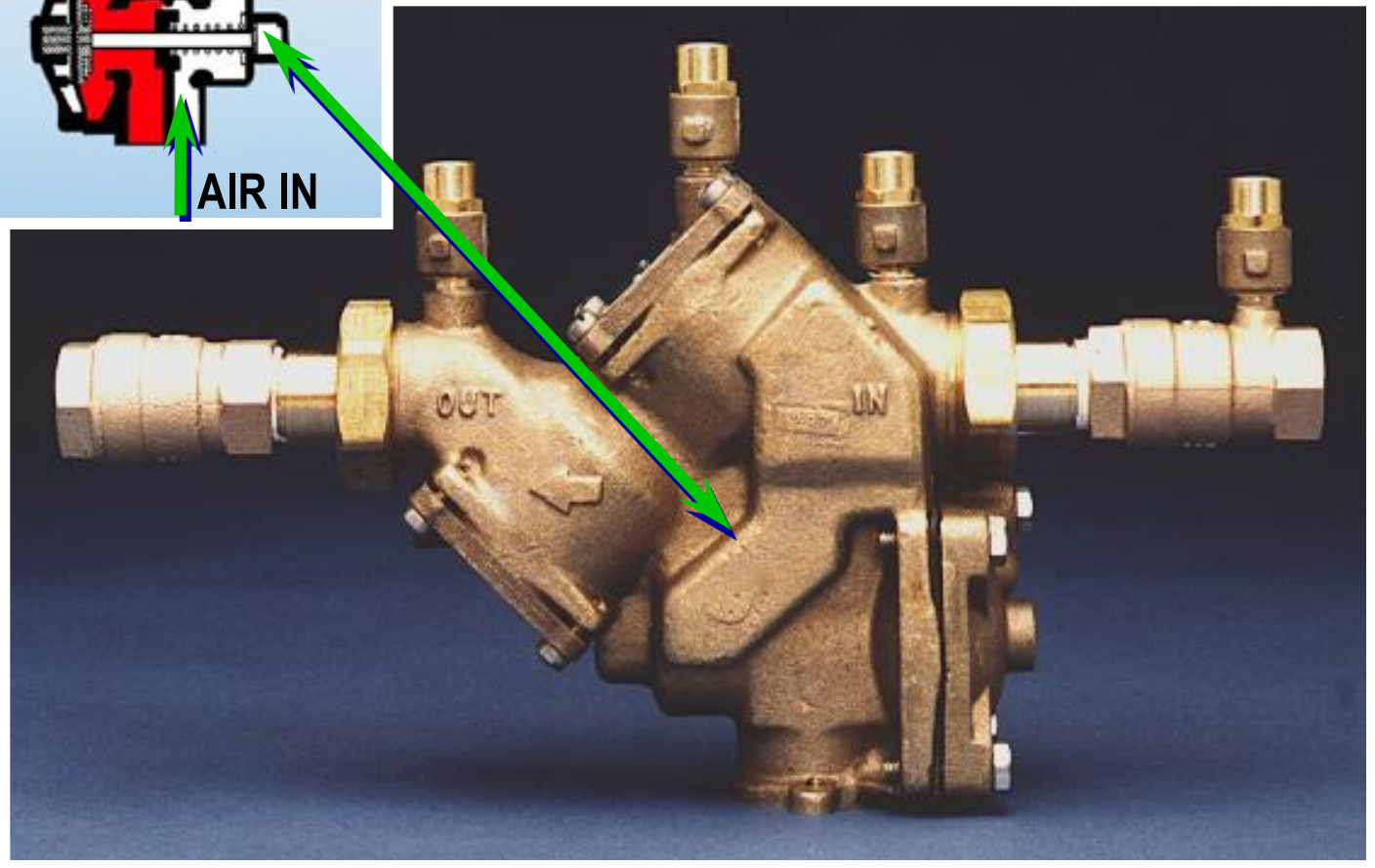


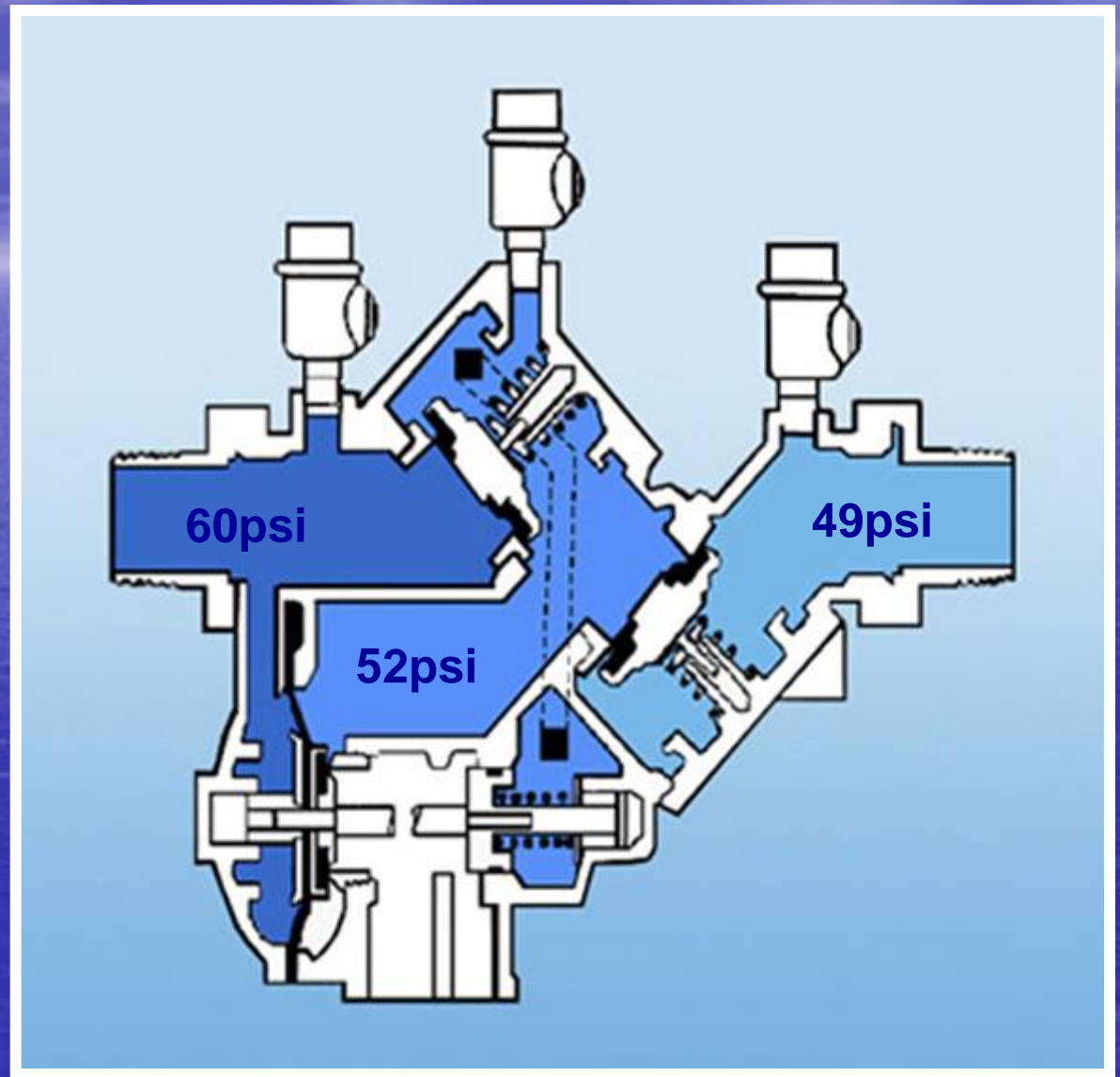
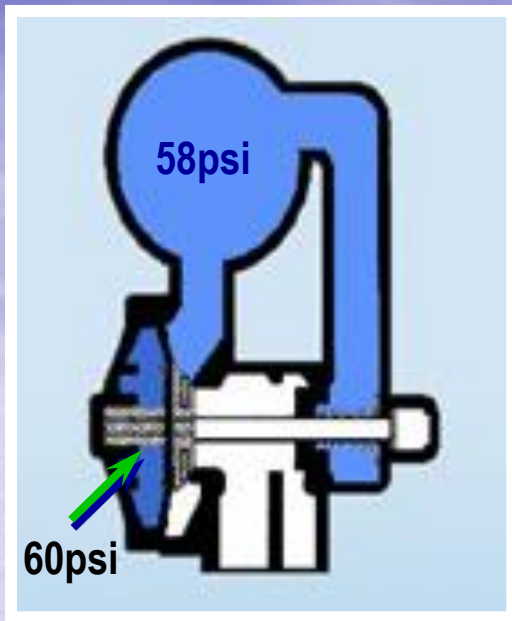
Engineered For High Capacity Relief



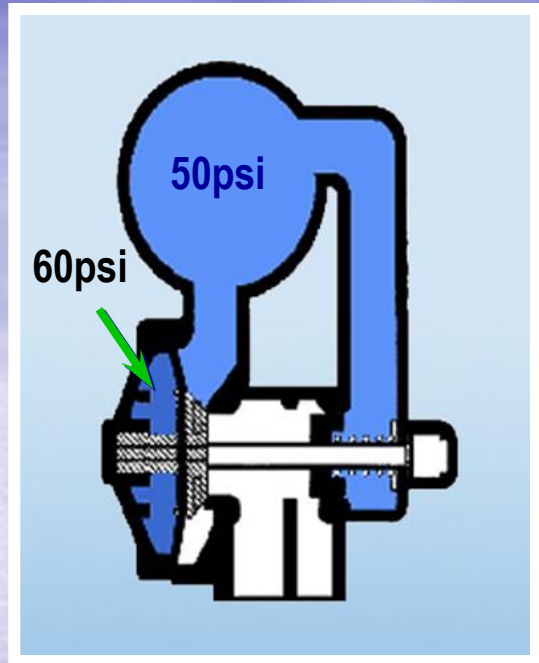
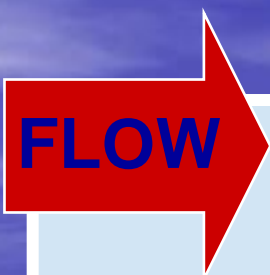


Internal Sensing Passageway

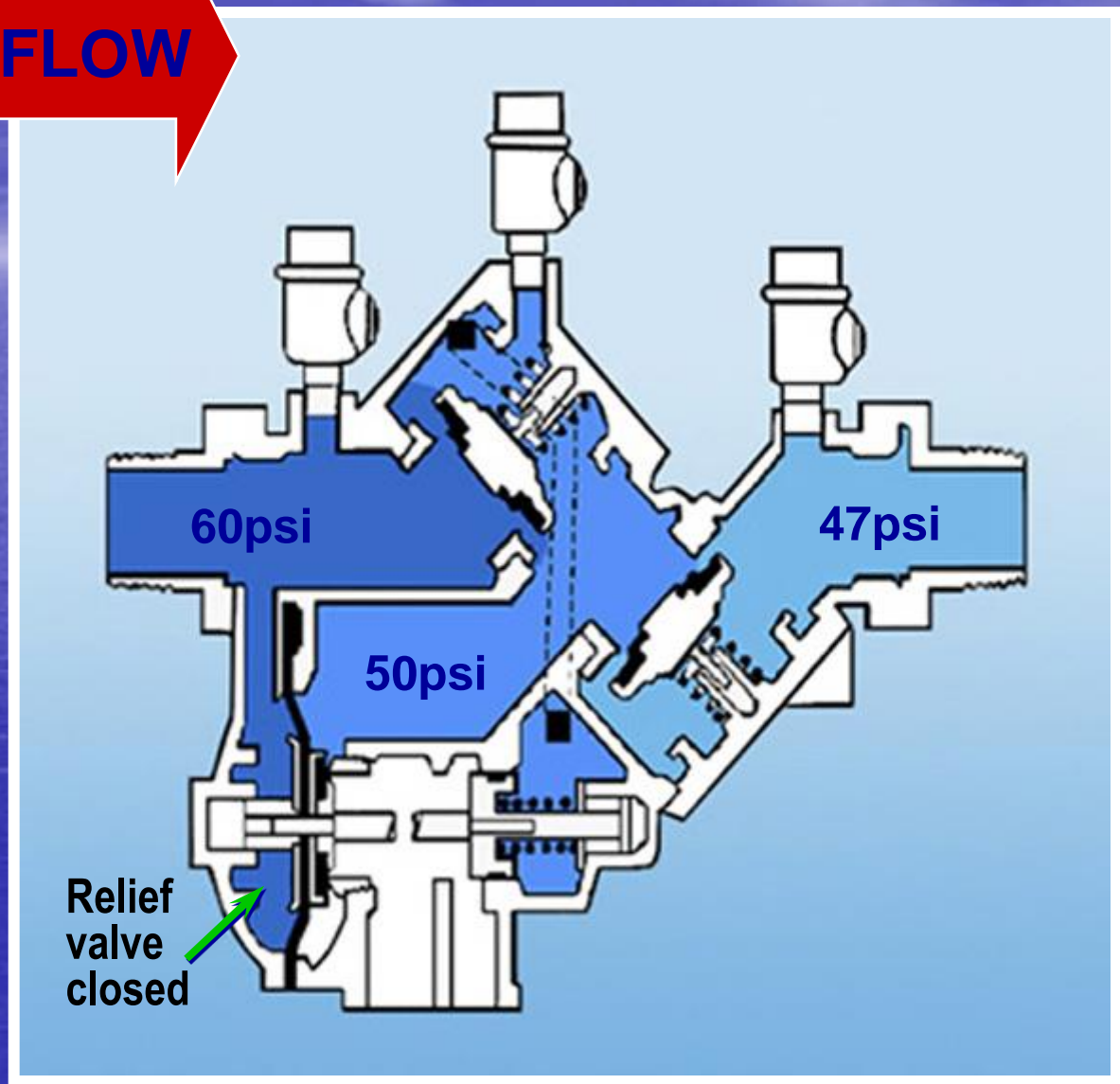


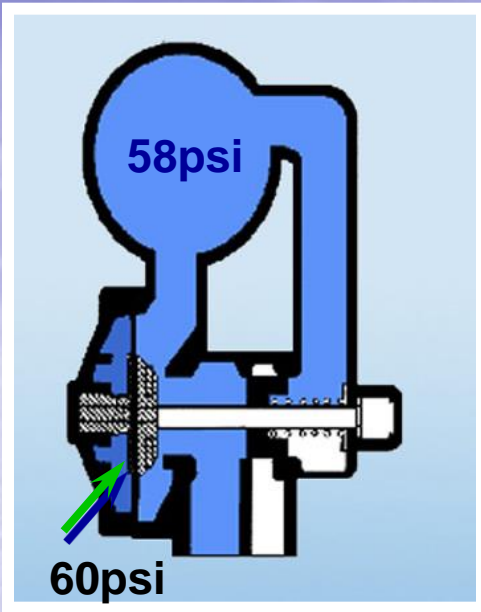


Static

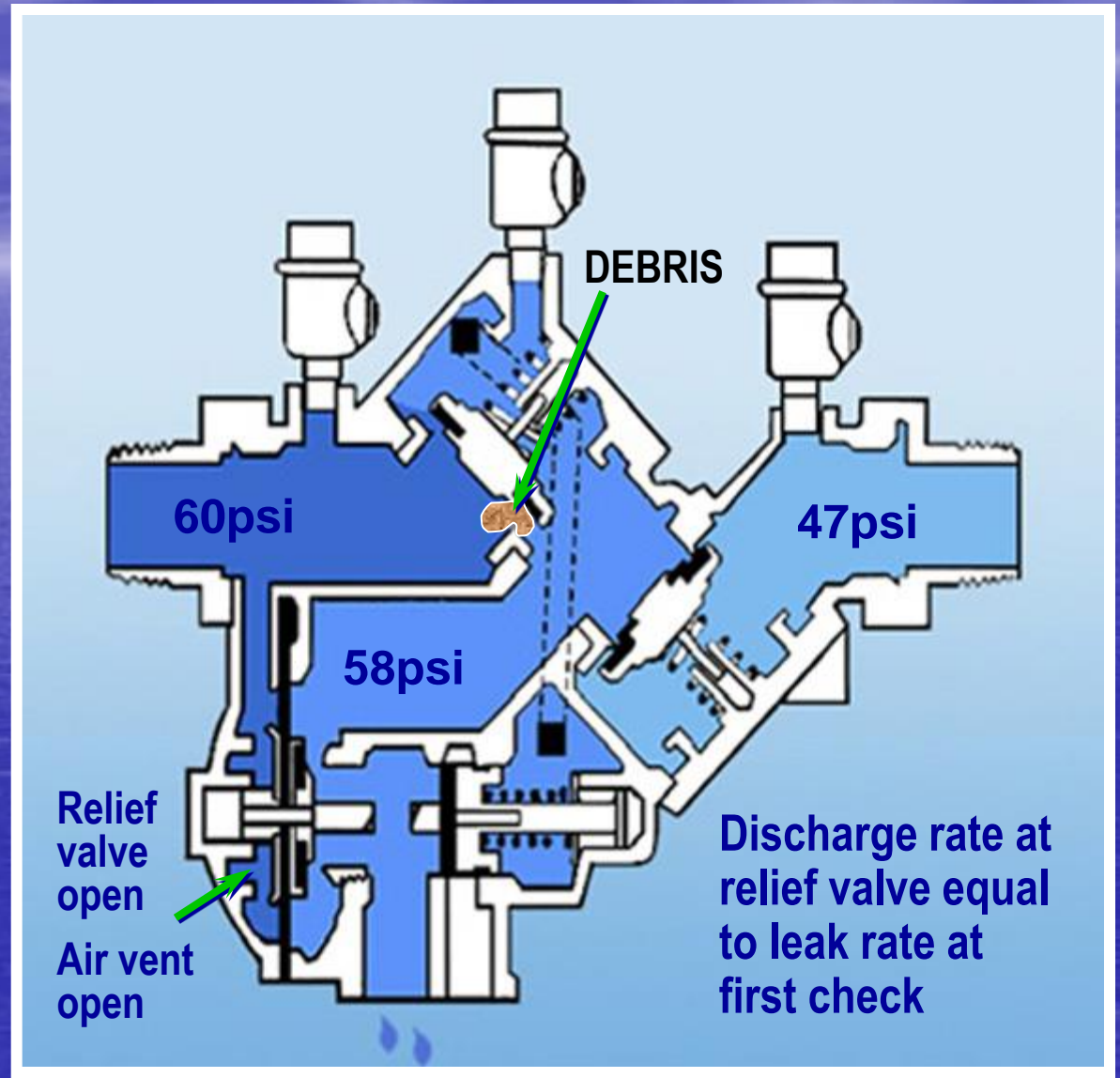


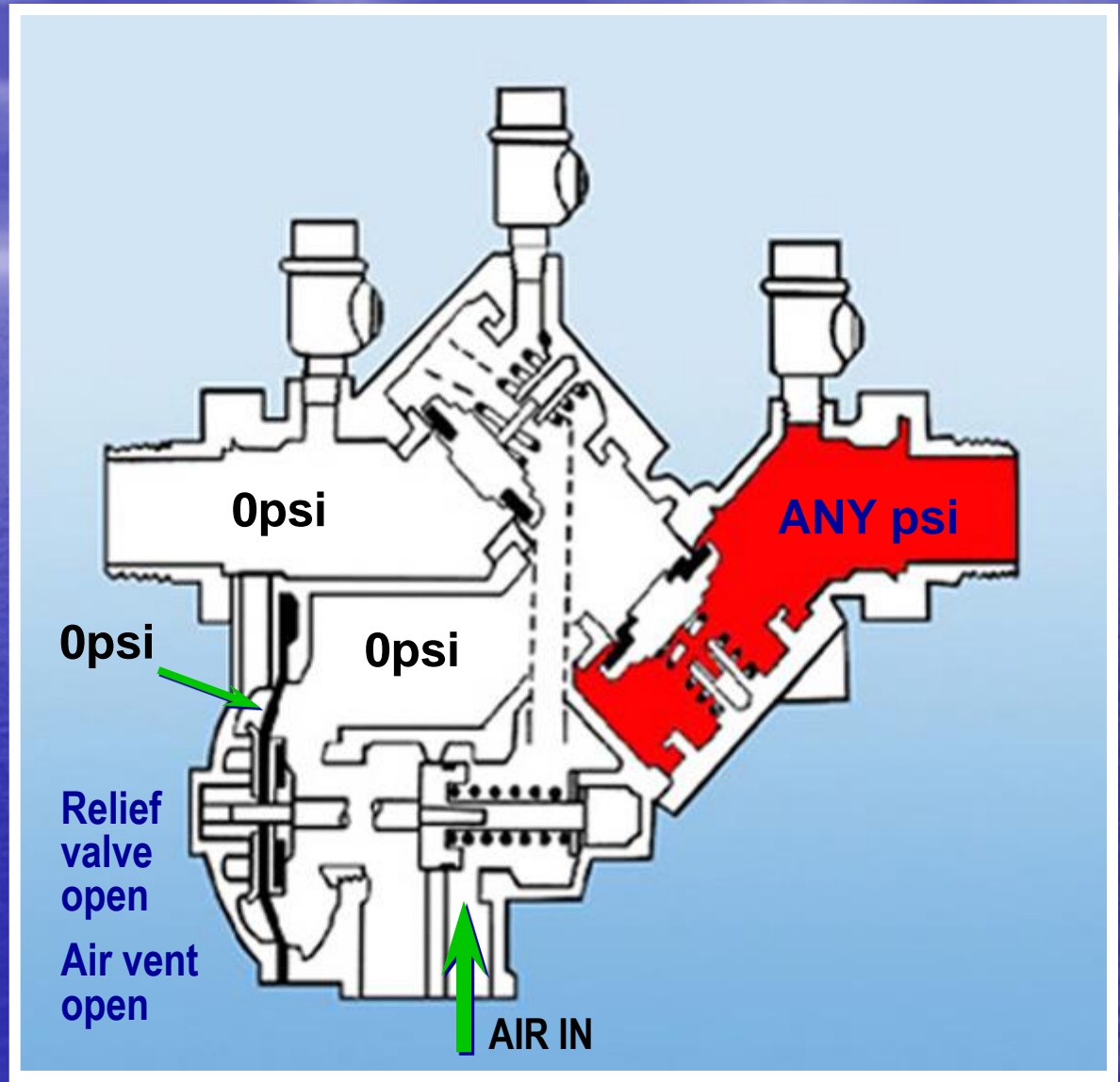
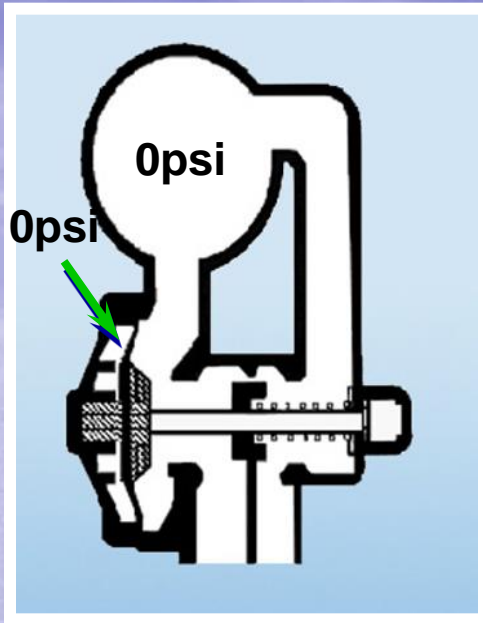
Flow



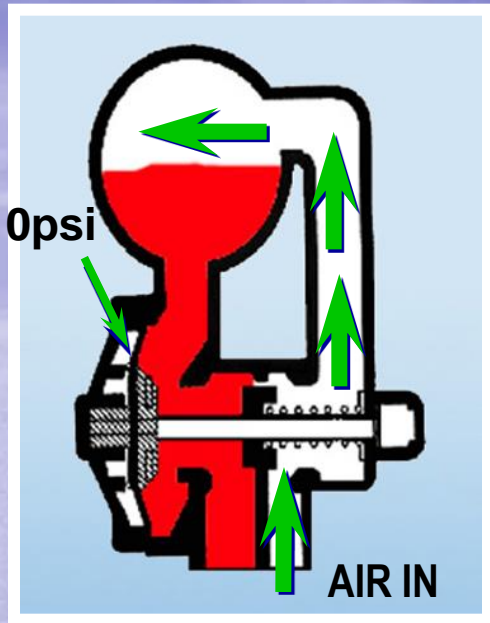


Static
With Fouled First
Check

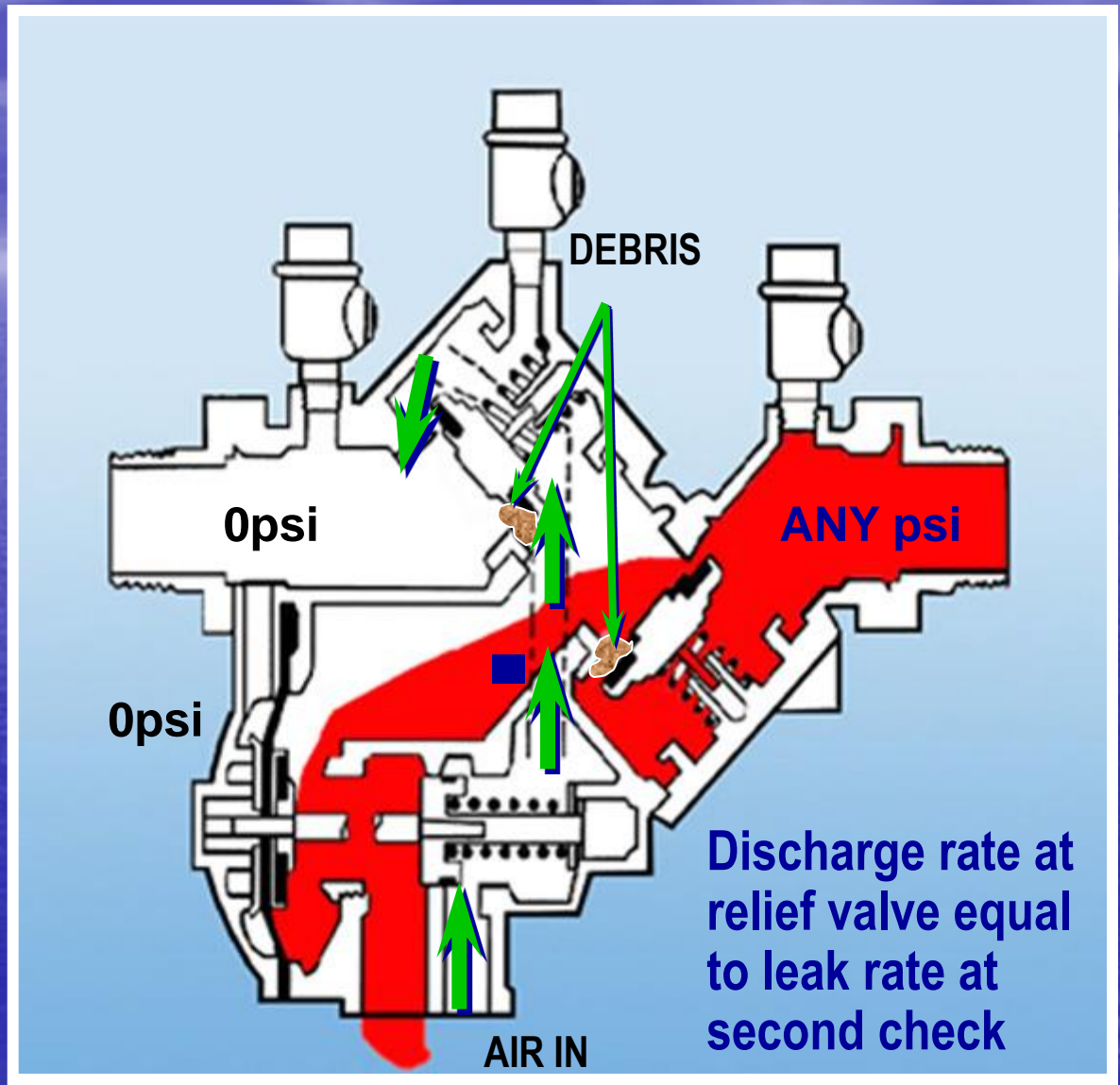


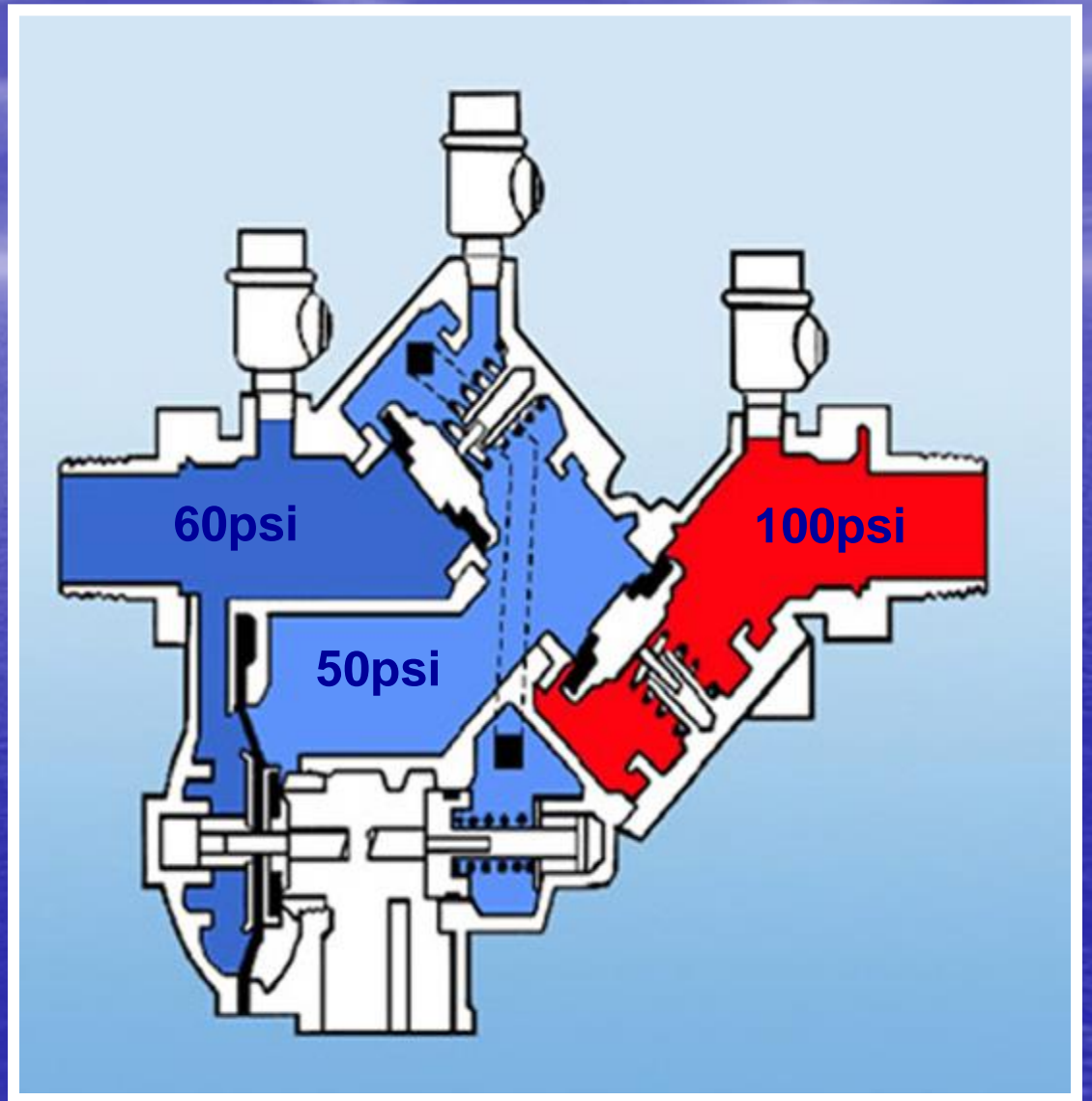
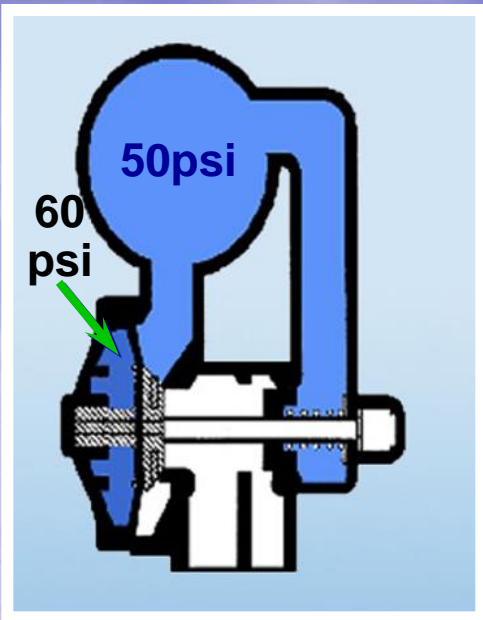


Backsiphonage

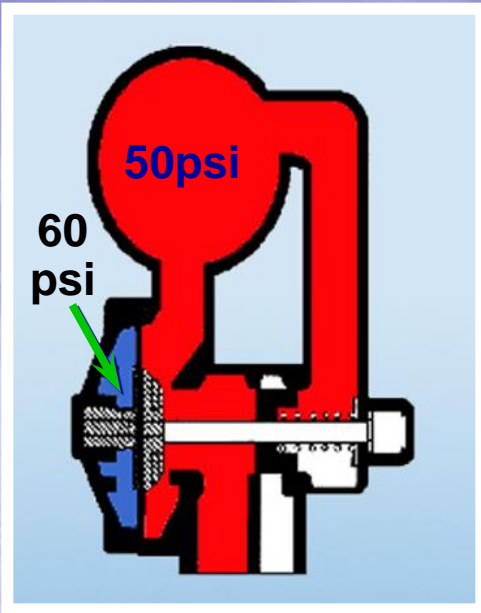


Backsiphonage
With Both
Checks Fouled

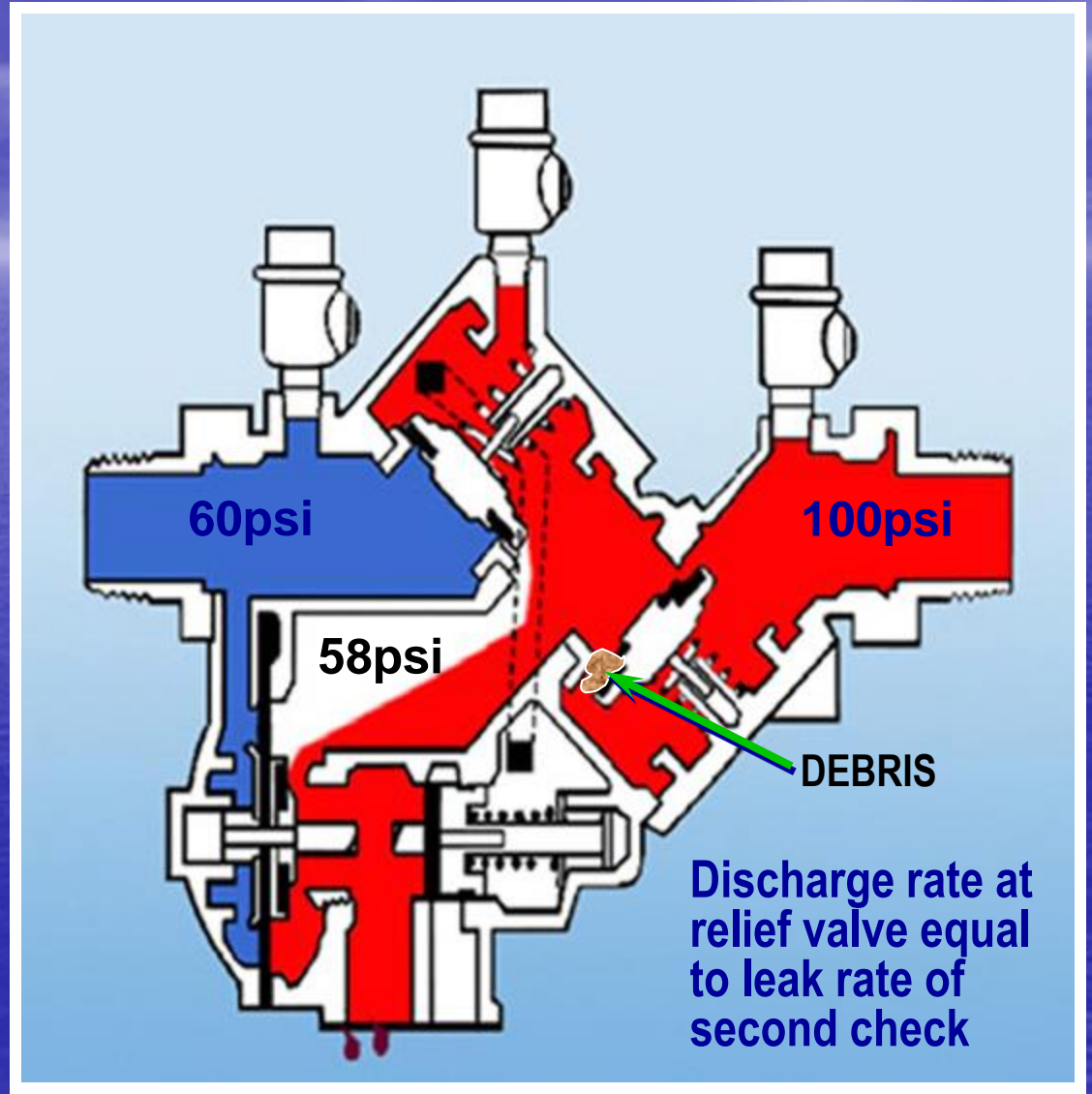


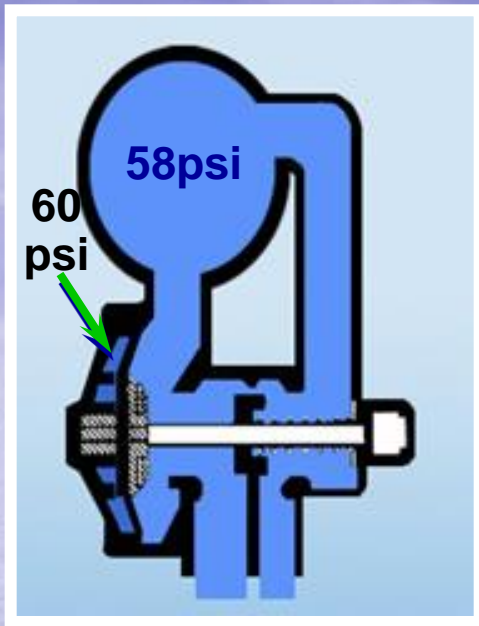


Backpressure

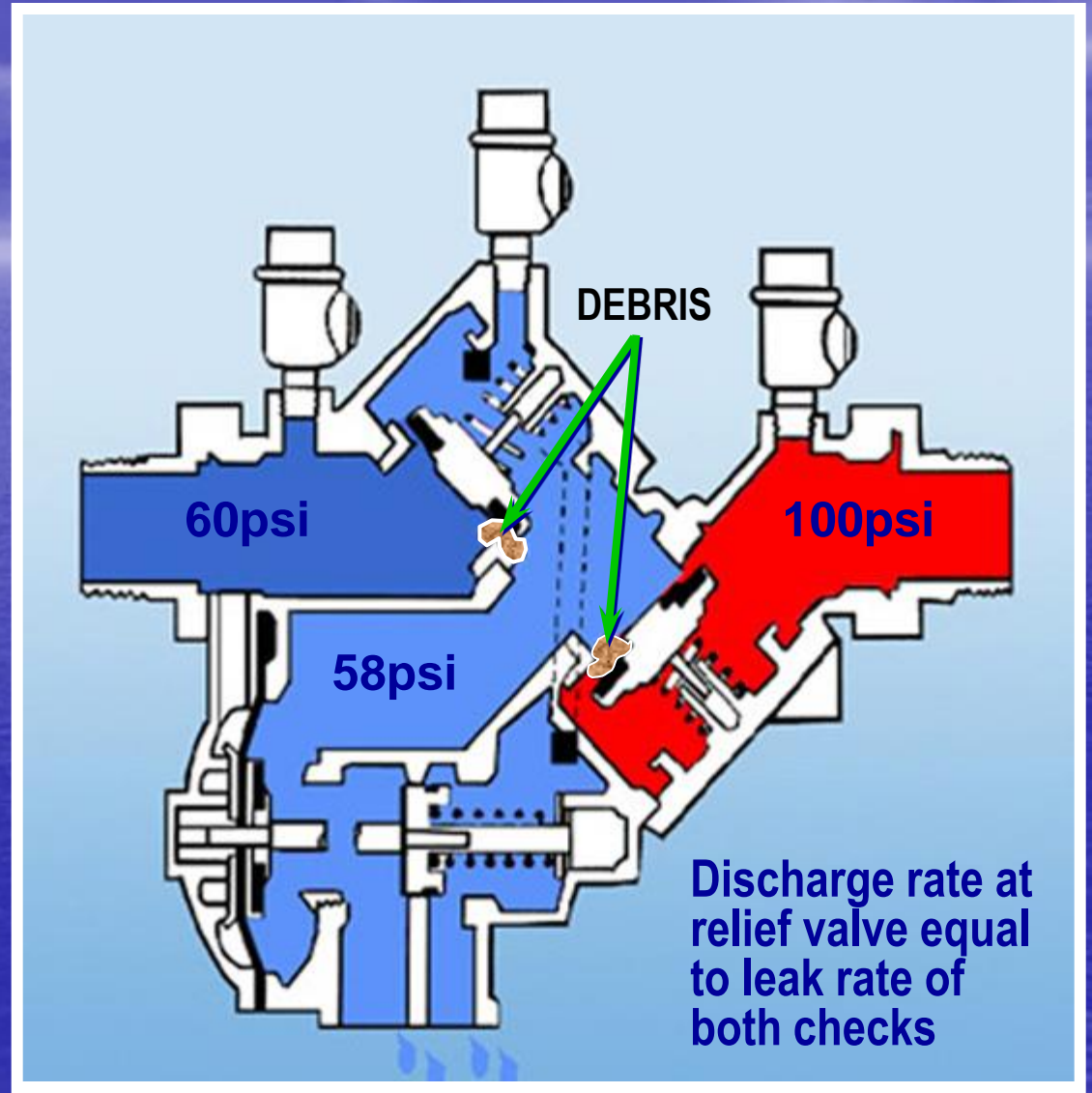


Backpressure
With Fouled Second
Check




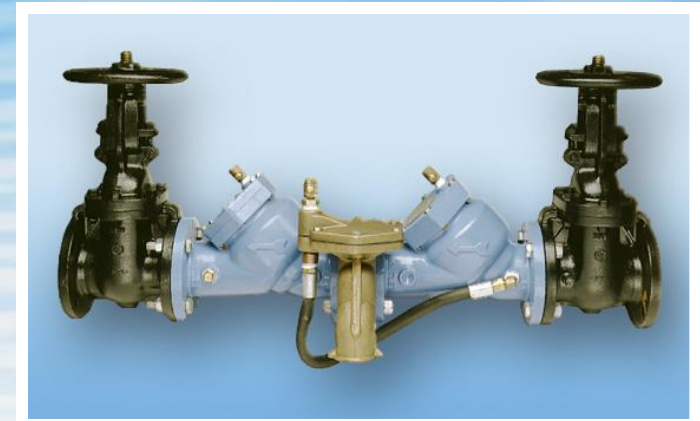


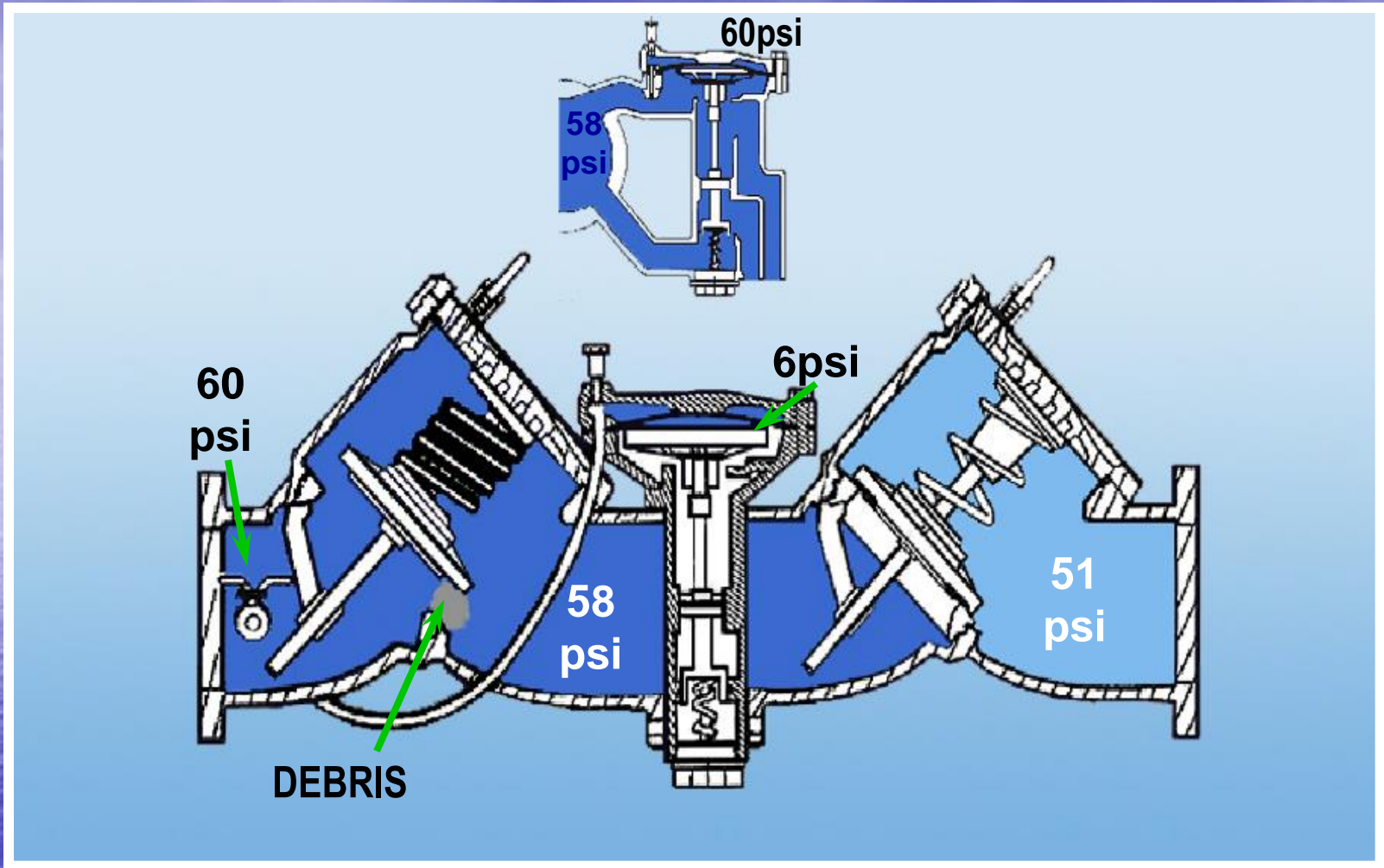
Backpressure
With Both
Checks Fouled



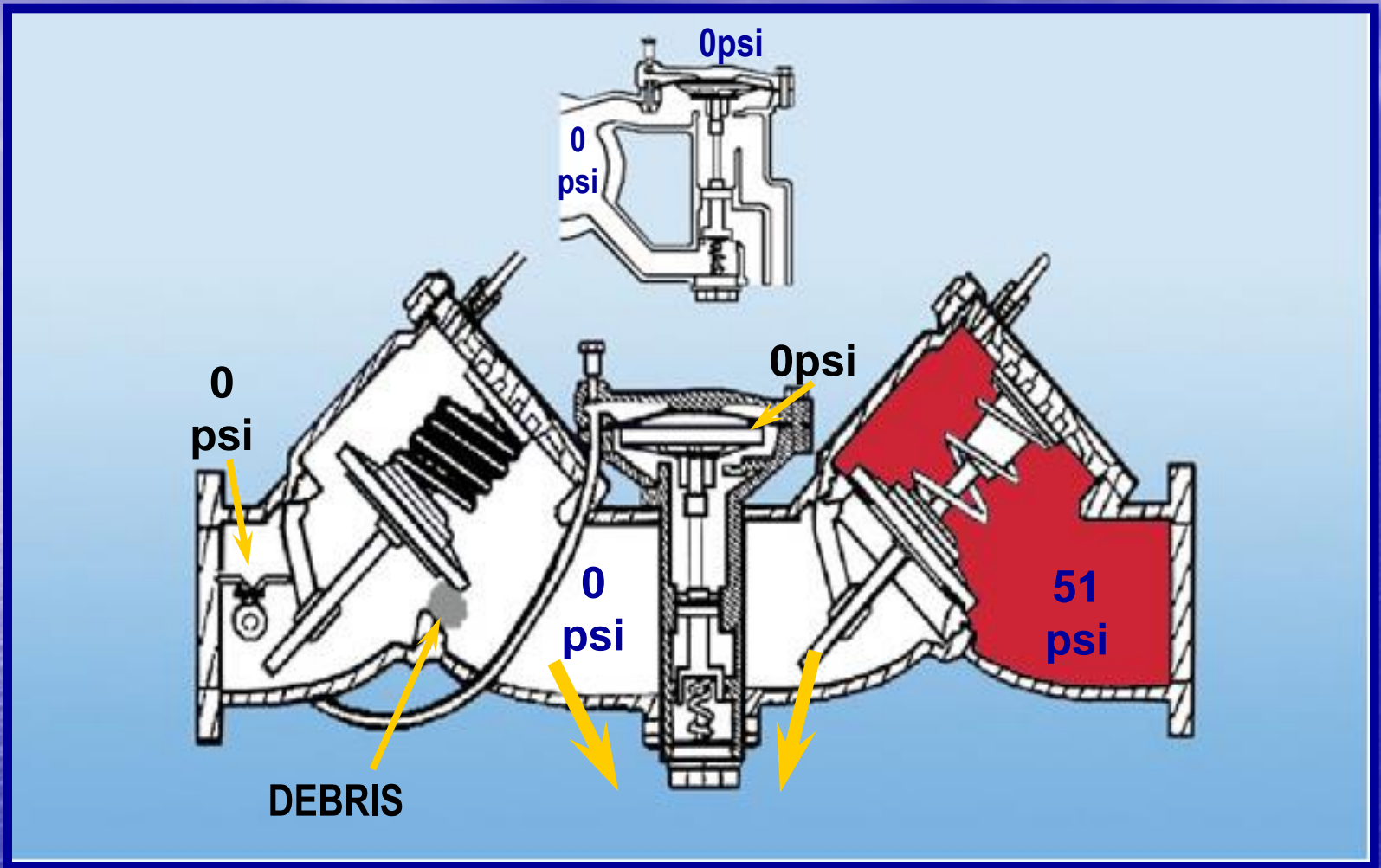
Reduced Pressure Zone Assembly

- Highest capacity relief valve
- Backsiphonage / backpressure application
- Health hazard application 
- Continuous pressure
- Testable
- Occasional water discharge
- Install 12" above grade and allow space for normal testing and maintenance



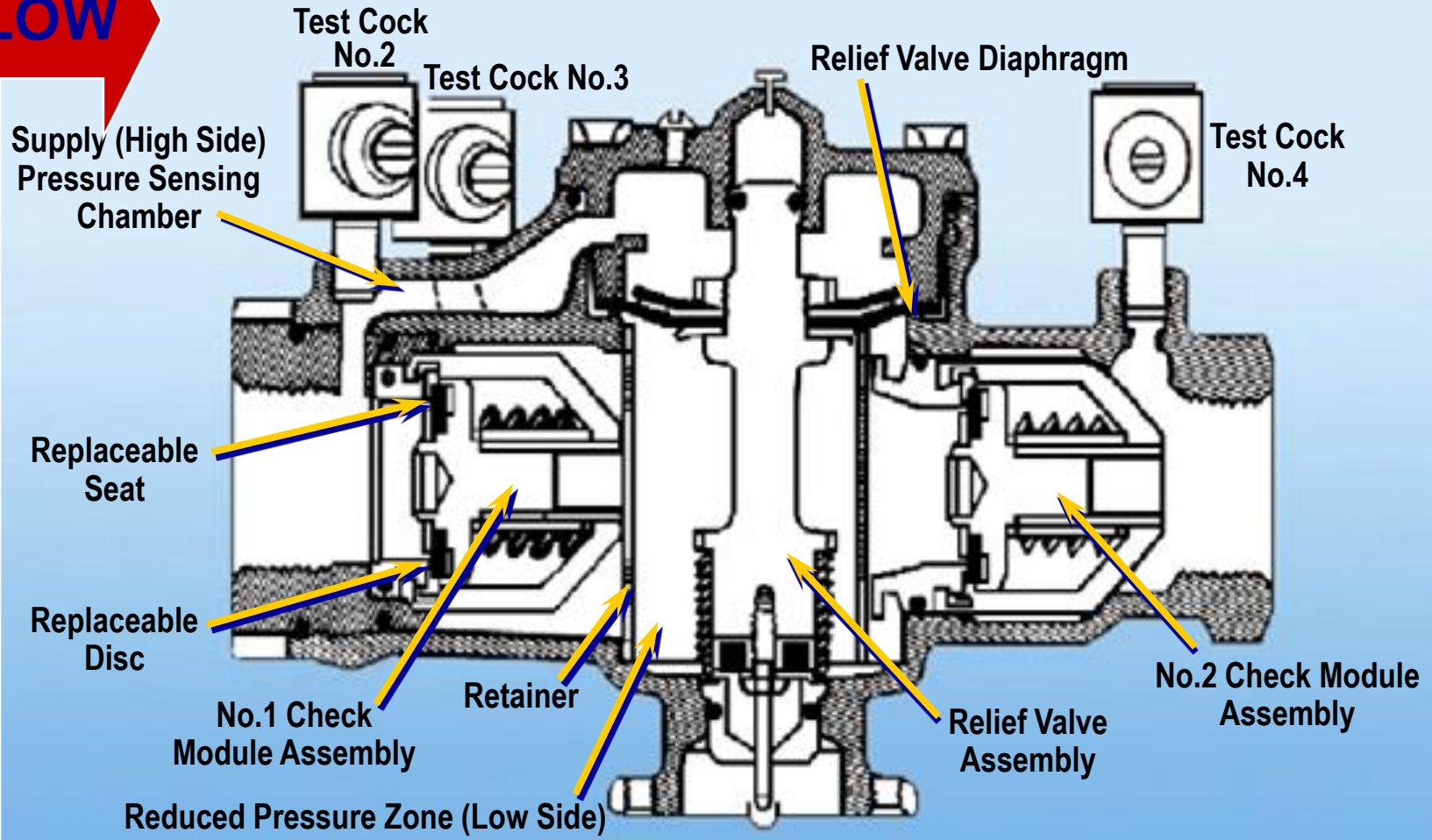


Static With Fouled First Check



Backsiphonage With Fouled First Check

FLOW 



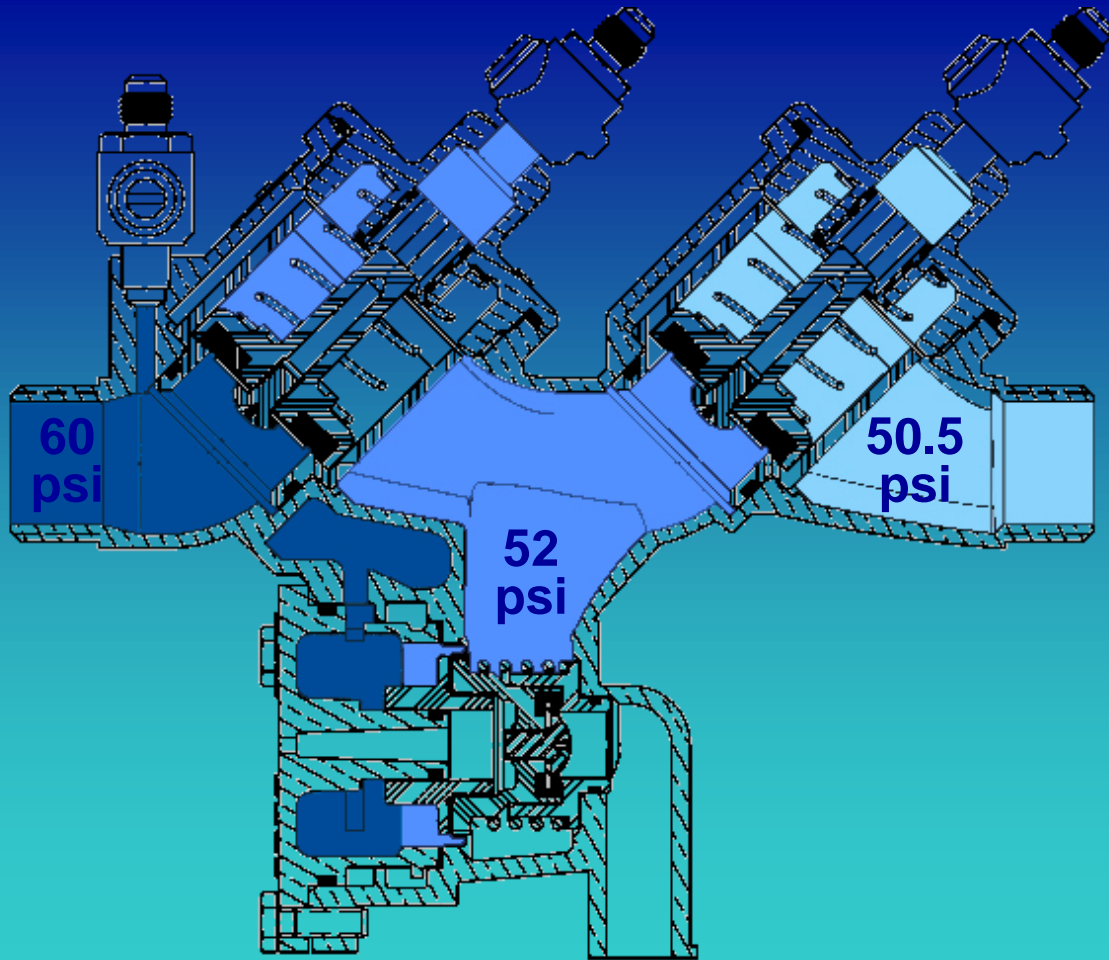
Major Components (1/4" - 2")

Reduced Pressure Zone Assembly

● **ASSE 1013**

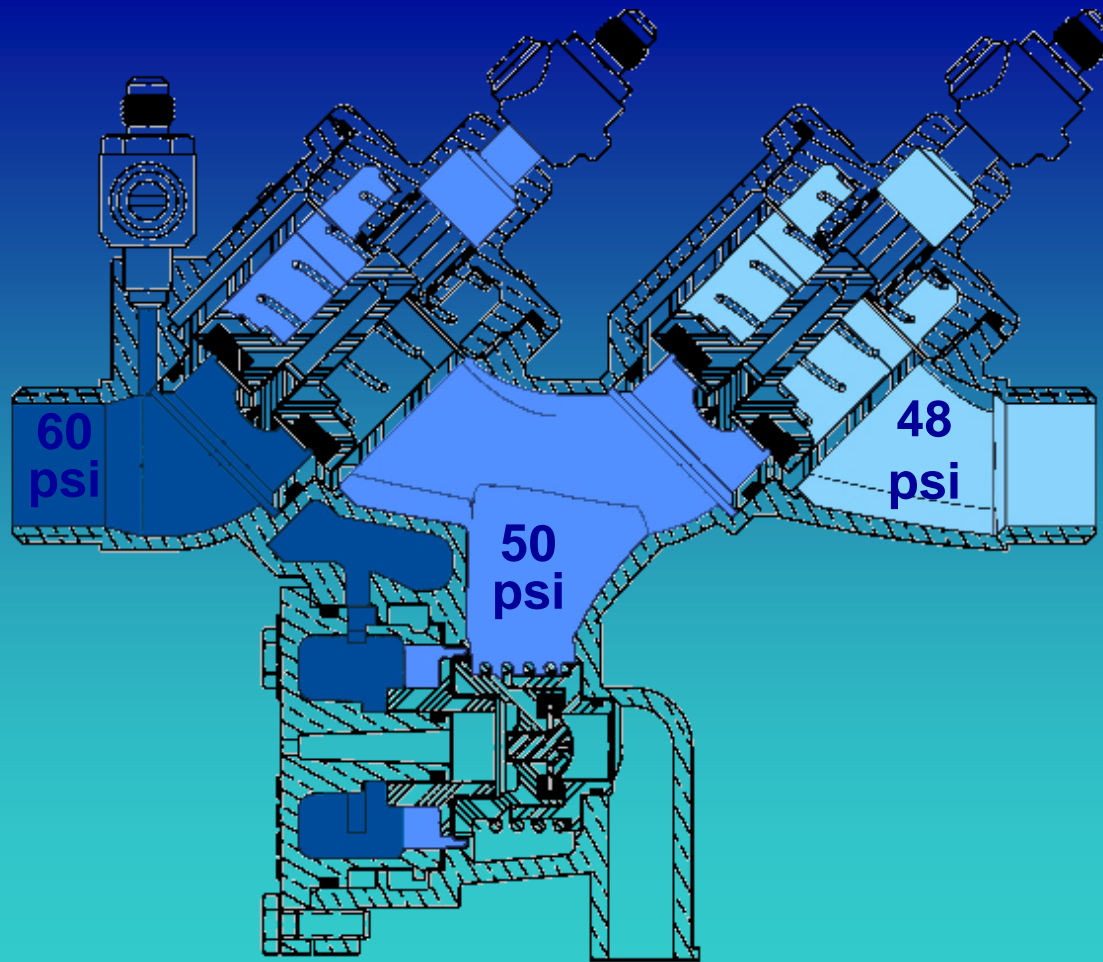
- Separate access covers for the check valves and relief valve
- All rubber elastomers of chloramine resistant material
- Check valve poppet assemblies are fully guided by innovative plastic seat guide
- Replaceable push-in check valve and relief valve seats
- EZ twist relief valve cover
- Compact, space saving design
- No special tools required for servicing



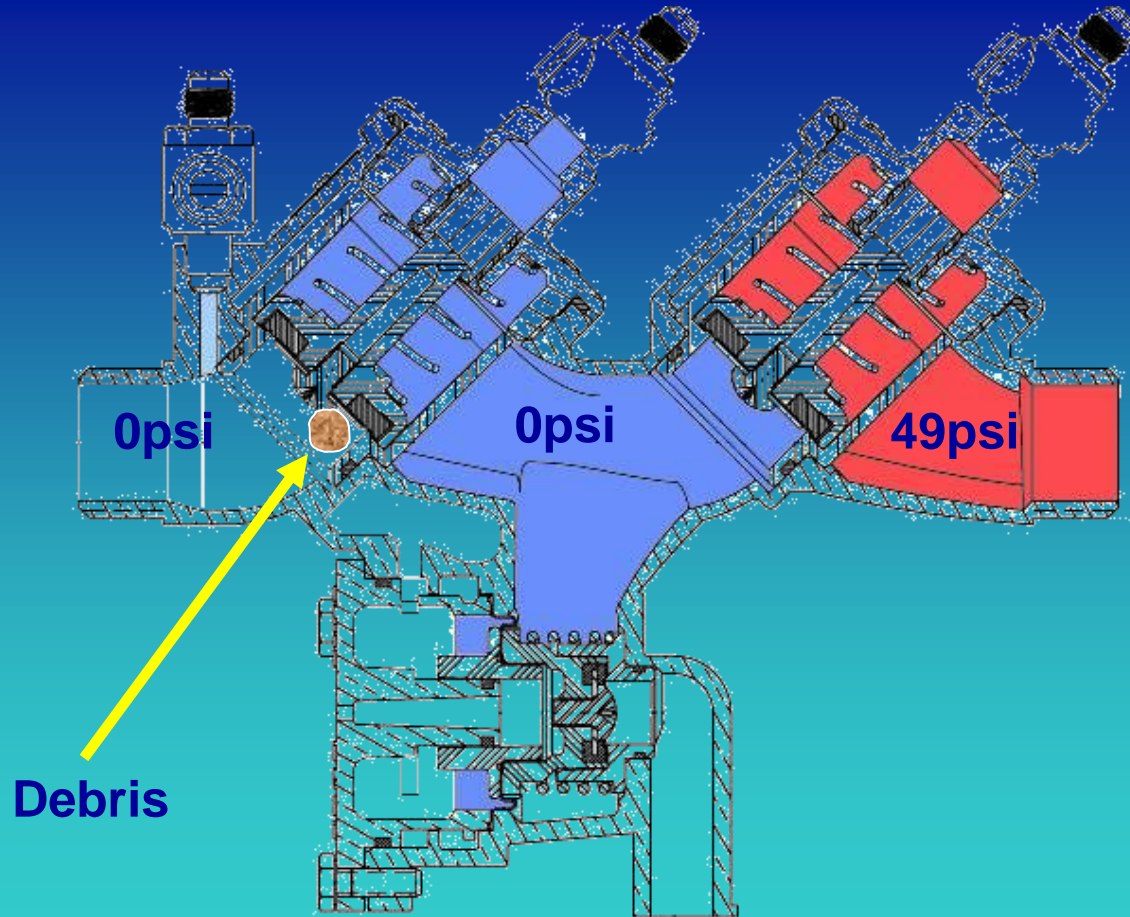


Static

FLOW



Flow

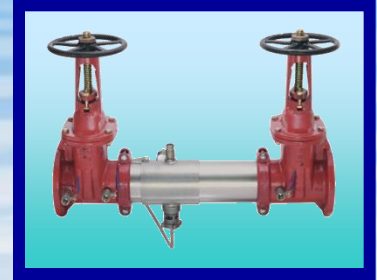


**Backsiphonage
With Fouled First Check**

Fabricated Stainless Steel Reduced Pressure Zone Assembly

- ASSE 1013 UL/FM
 - AWWA C511 CSA
-

- 70% lighter than traditional designs
- Groove fittings allow integral pipeline adjustment
- Available with grooved butterfly valve shutoffs
- Replaceable check disc rubber
- Bottom mounted cast stainless steel relief valve
- 2 1/2" – 3" sizes available with quarter-turn ball valve shutoffs





Reduced Pressure Detector Assembly

- ASSE 1047 CSA B64
 - AWWA C511 USC-FCCCHR
 - UL/FM
-
- **Iron body, fused epoxy coating**
 - **Captured spring assemblies**
 - **Replaceable seats / seat discs**
 - **Balanced mainline / bypass**
 - **Monitors unauthorized water usage**
 - **No special tools for servicing**



Reduced Pressure Detector Assembly

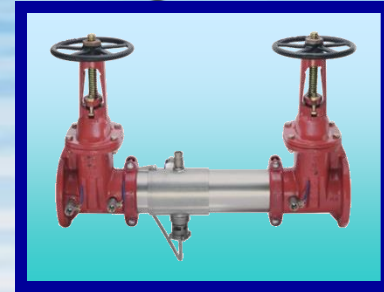
- **Backsiphonage / backpressure application**
- **Health hazard application** ☠
- **Continuous pressure application**
- **Testable**
- **Occasional water discharge**
- **Install 12" above grade and allow space for normal testing and maintenance**
- **Hydraulically balanced mainline and bypass**
- **Monitors unauthorized water usage**



Fabricated Stainless Steel Reduced Pressure Detector Assembly

- ASSE 1047 CSA
 - AWWA C511 UL/FM
-

- 70% lighter than traditional designs
- 304 stainless steel housing & sleeve
- Groove fittings allow integral pipeline adjustment
- Replaceable check disc rubber
- Available with grooved butterfly valve shutoffs
- Bottom mounted cast stainless steel relief valve
- Metered bypass to detect leakage or theft of water from the fire sprinkler system



Reduced Pressure Detector Assembly

- **Backsiphonage / backpressure application**
- **Health hazard application** ☠
- **Continuous pressure application**
- **Testable**
- **Occasional water discharge**
- **Install 12" above grade and allow space for normal testing and maintenance**
- **Monitors unauthorized water usage**



Shutoff Valve Versatility

■ Inlet Options

BFG Shutoff

OSY GxG

OSY FxG

NRS FxG

NRS GxF

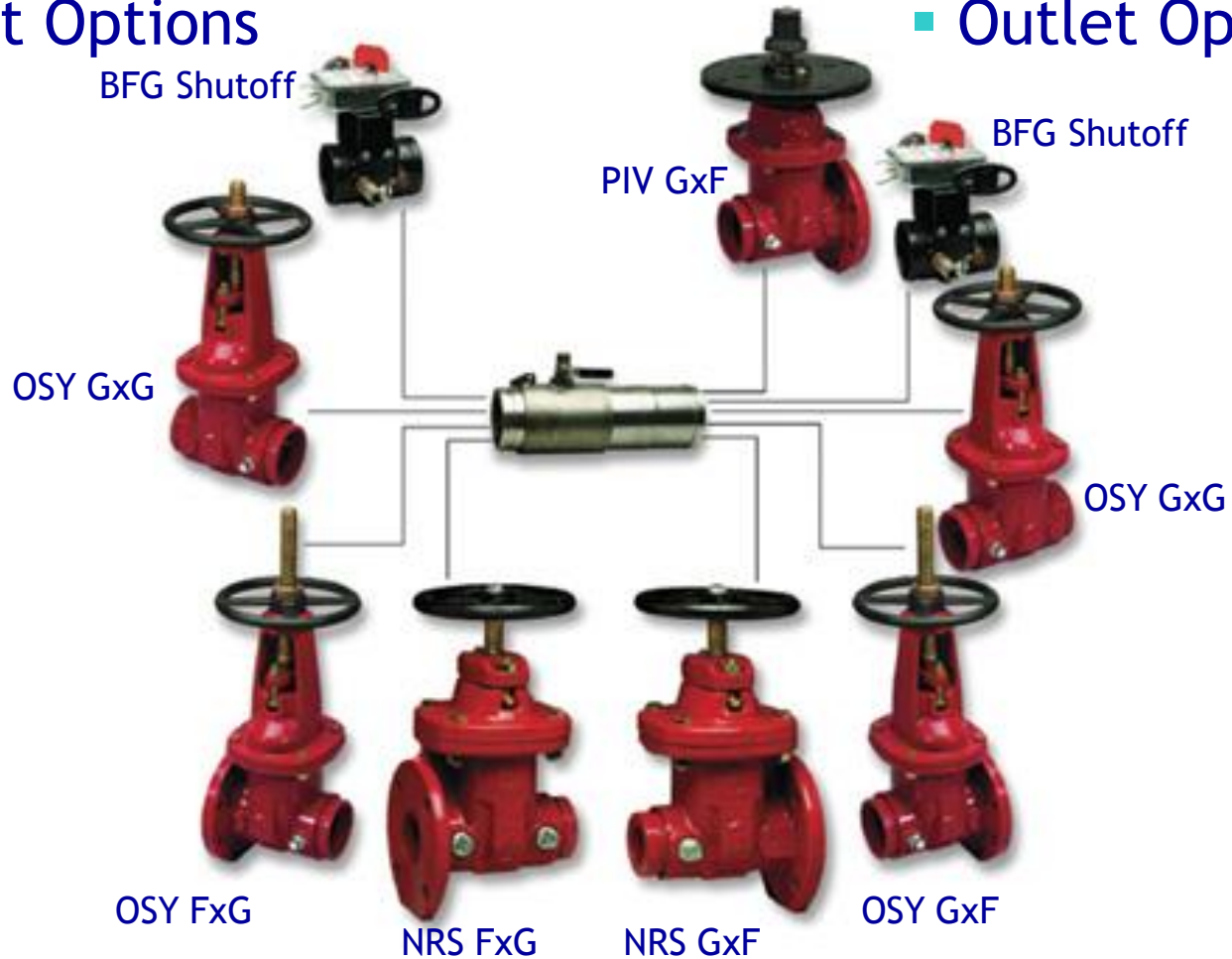
OSY GxF

■ Outlet Options

BFG Shutoff

PIV GxF

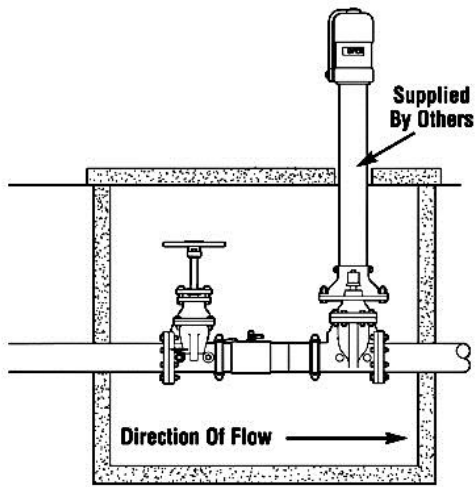
OSY GxG



Typical PIV Installations

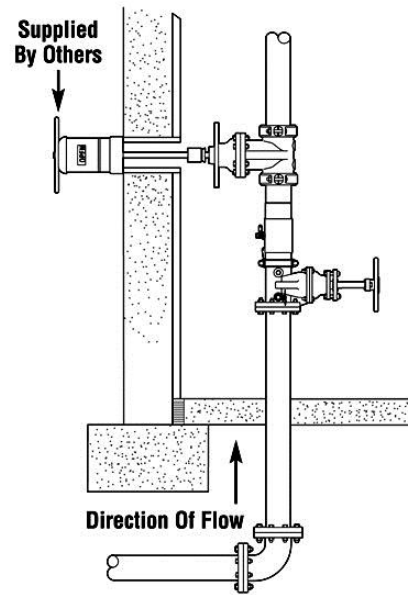
Post Indicator

Typical Installation Series 757
Double Check Valve Assembly



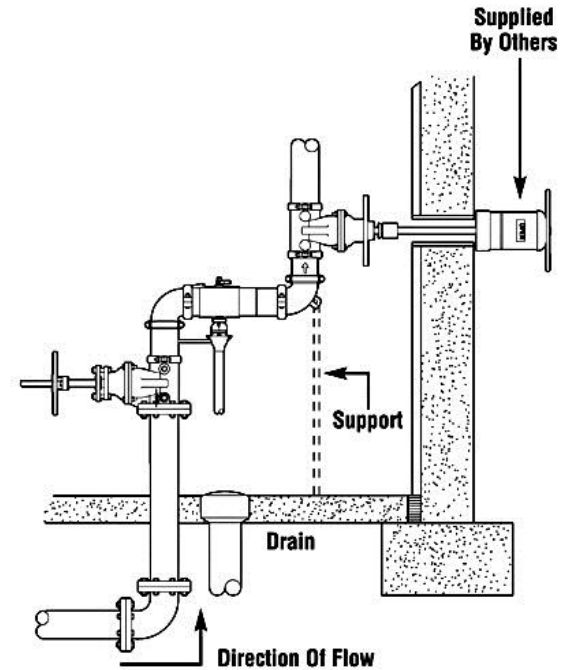
Wall Post

Typical Installation Series 757
Double Check Valve Assembly



Wall Post

Typical Installation Series 957Z
Reduced Pressure Zone Assembly



Valve Setter

Features:

- Compact design
- Corrosion resistant epoxy coating
- Eliminates thrust blocks at the backflow
- Custom lay lengths available



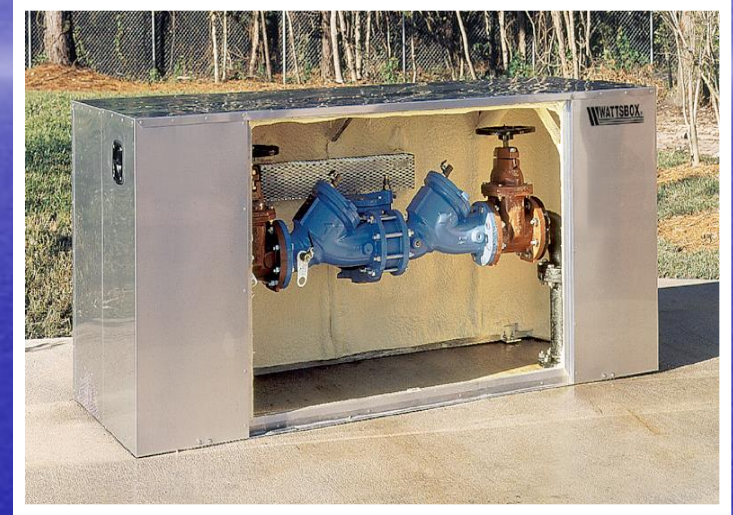


Vertical Installation Testing Methods Approval Requirements

...Check with local jurisdiction authorities for installation, testing, approval requirements.

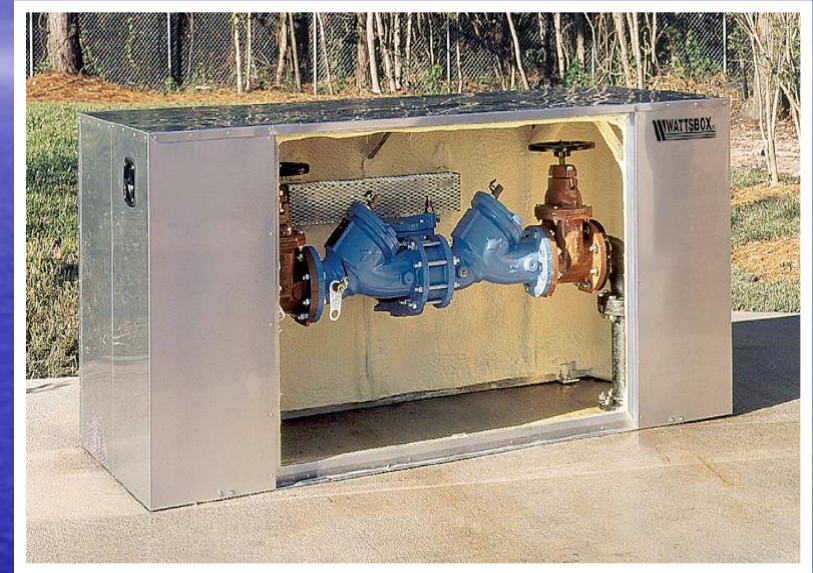
Box Insulated Enclosures

- **Minimum 18 gauge aluminum or fiberglass construction**
- **Structural uncellular insulation**
- **Lockable**
- **Relief ports at enclosure grade level meets NFPA guidelines (NFPA3-3.1.8, 3.6.1.3.2)**
- **Strategically placed doors**
- **Interlocking panels - strength and installation ease**
- **Exposed or enclosed OS&Y gate valve handles**
- **Two variations**
 - Standard box
 - Tall box



Box Insulated Enclosures

- **Allows for backflow preventer installation at service connections**
- **Eliminates potential drainage constraints**
- **Protects to -30°F**
- **Minimum R8**
- **Saves valuable floor space**
- **No structural wood or particle board for long life**



Lockable access doors and/or lid prohibiting theft/vandalism

Rock Enclosures

- **Durable Polyethylene Shell**
- **Drain Sizing for full Port Discharge**
- **Vandal Protection**
- **Lifelike shape & Coloring**
- **Testing/Maintenance Access**



Installation and Testing

- **Installation must comply with state and local codes**
- **Test upon initial installation and annually thereafter**
- **Some manufacturers have vertical approvals**

Installation Considerations RPZ

- **Install in high visibility areas**
- **Locate to facilitate testing and repair**
- **Protect against freezing**
- **Never install in a pit or vault**
 - **EPA Installation Requirements**
- **Install air gap fitting**

Installations (*continued*)

- **Install a strainer**
- **If fluctuating supply pressures exist, a soft seated spring-loaded check valve should be installed upstream of the RPZ (dead end service)**
- **Consult manufacturer's relief valve discharge curve**

Clearance Requirements

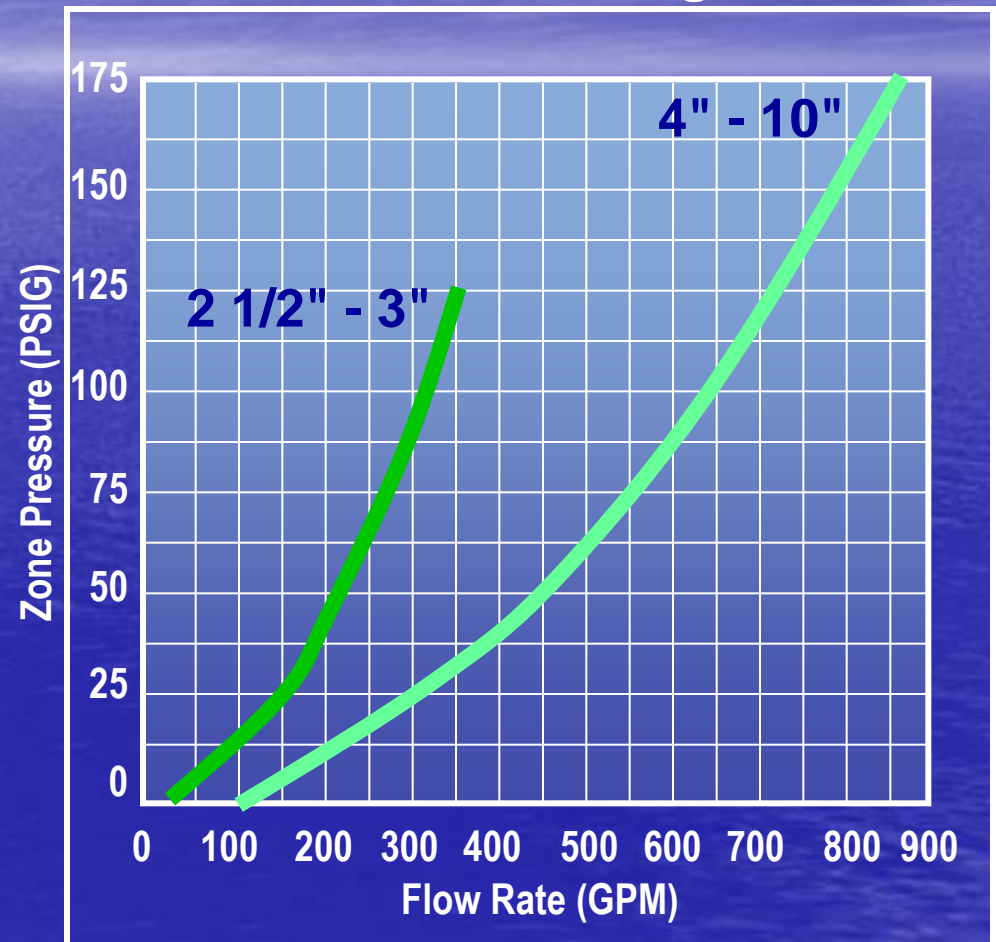
- **Minimum one foot above finished floor**
- **Above 5 feet – permanent platform**

Relief Valve Discharge Rates

- Catastrophic rates
- Due to #1 check spring breaking
- Due to relief valve diaphragm failure
- Fouled #1 check

- Ohio Plumbing Code 608.14.2.1

Relief Valve Discharge Rates



Relief Valve Discharge (*continued*)

- **Install flow switch in drain line**
- **Install flood protection system**
- **Ensure drains are of proper size**
- **Install outdoors in an enclosure**

Parallel Installations

- **Purpose**

- Increased capacity
- Redundancy
- Not for reduced pressure loss

- **Limitations**

- Must exercise to ensure operation