Backflow Prevention & Flow Control for Waterworks



Valve Solutions from the Industry Leader



Delivering Water Safely, Securely, and Efficiently

Waterworks professionals safeguard one of our most valuable resources – our water. Whether to fill a glass or put out a fire, people need water that's clean, safe, and reliable. And it's up to our distribution system—and the people who design and maintain it—to get it to them.

Controlling Pressure – Too much pressure can result in leaks and damage to sensitive components. Too little won't be enough for everyday tasks.

Preventing Backflow – Water safety is paramount, and backflow prevention is a key component. By identifying and protecting cross connections—actual or potential— water works professionals do their part in ensuring that the water we all drink is safe and clean.

Removing Debris – Like it or not, debris gets in pipelines and can wreak havoc when it gets to smaller pipes and equipment. Ensuring that debris is removed from water protects the entire system from damage.

Isolating – The ability to isolate parts of the system with valves is vita to repairs and routine maintenance.

Typical Applications

Treatment

Storage







Distribution

Protection





Large Diameter Testable Backflow Preventers

Double Check Valve and Double Check Detector Assemblies

Double Check Valve and Double Check Detector Assemblies are used to prevent backflow of non-health hazard pollutants that are objectionable but not toxic from entering the potable water supply system. They may be installed under continuous pressure service and may be subjected to backpressure and backsiphonage. These valves consist of two independently operating check valves, two shutoff valves, and four test cocks, with an additional bypass with double check and meter in the case of double check detector assemblies.



LF709DCDA

Series LF709, 709DCDA

- Fused epoxy coated cast iron body
- · Designed for easy maintenance and repair
- 709DCDA furnished with 5%" x 34" bronze meter
- Non-health hazard applications
- Continuous pressure
- Size: 2½" 10"



- Unique tri-link spring check provides lowest pressure loss
- Unmatched ease of serviceability
- Available with grooved butterfly valve shutoffs
- May be used for horizontal, vertical, or N-pattern installation
- Replaceable check disc rubber
- Size: 21/2" 10"



757

Series LF850, LF856

- In-line serviceable assembly
- No special tools required for servicing
- Captured modular spring assembly
- Reversible and replaceable discs
- Field replaceable seats
- Ductile iron valve body design
- Stainless steel check components
- Winterization feature with disc retainers and valve body drain ports
- Clapper check assembly
- Commonality between first and second check components
- Captured O-ring design
- Size: 21/2" 10"



Series LF870V, LF876V

- In-line serviceable assembly
- Horizontal N-pattern installation
- Vertical Z-pattern installation
- No special tools required for servicing
- Captured modular spring assembly
- Reversible and replaceable discs
- Field replaceable seats
- Ductile iron valve body design
- Stainless steel check components
- Winterization feature with disc retainers and valve body drain ports
- Clapper check assembly
- Commonality between first and second check components
- Captured O-ring design
- Size: 21/2" 10"





Reduced Pressure Zone and Reduced Pressure Detector Assemblies

Watts Reduced Pressure Zone and Reduced Pressure Detector Assemblies are designed in accordance with water authority containment requirements to protect the potable water system from health hazard applications. They prevent the reverse flow of water due to backpressure or backsiphonage for applications where potential pollutants are toxic, such as fertilizer chemicals.

Series LF860-FS Large, LF866-FS

- Integrated sensor for flood detection
- Flood alert feature activated with add-on sensor connection kit
- In-line serviceable assembly
- No special tools required for servicing
- Captured modular spring assembly
- Reversible and replaceable discs
- Field replaceable seats
- Ductile iron valve body design
- Stainless steel check components and relief valve seat
- Modular pressure differential relief valve
- Repairable pressure differential relief valve
- Clapper check assembly
- Captured O-ring design
- Size: 2½" 10"







LF880V-FS

Series LF880V-FS, LF886V-FS

- Integrated sensor for flood detection
- Flood alert feature activated with add-on sensor connection kit
- In-line serviceable assembly
- No special tools required for servicing
- · Captured modular spring assembly
- Reversible and replaceable discs
- Field replaceable seats
- Ductile iron valve body design
- Stainless steel check components and relief valve seat
- Modular pressure differential relief valve
- Repairable pressure differential relief valve
- Clapper check assembly
- Captured O-ring design
- Size: 2½" 10"



LF909-FS

Series LF909-FS, 909RPDA-FS

- Integrated sensor for flood detection
- Flood alert feature activated with add-on sensor connection kit
- Body construction fused epoxy coated cast iron
- Replaceable bronze seats
- Maximum flow at low pressure drop
- Compact, for economy combined with performance
- Design simplicity to ease maintenance
- 909RPDA-FS furnished with 5/8" x 3/4" meter
- Continuous pressure
- Size: 2½" 10"



Series 957-FS, 957RPDA-FS, LF957RPDA-FS

- Integrated sensor for flood detection
- Flood alert feature activated with add-on sensor connection kit
- Replaceable check disc rubber
- Extremely compact design
- 70% Lighter than traditional designs
- 304 (Schedule 40) stainless steel housing and sleeve
- Groove fittings allow integral pipeline adjustment
- Patented torsion spring checks provide lowest pressure loss
- Unmatched ease of serviceability
- Bottom mounted cast stainless steel relief valve
- Available with grooved butterfly valve shutoffs
- Available in N and Z patterns
- Size: 21/2", 3", 4" available with quarter turn ball valve shutoffs

Small Diameter Testable Backflow Preventers

Double Check Valve Assemblies

Series LF007

Series LF007 compact Double Check Valve Assemblies are built to protect potable water from backsiphonage in non-health hazard applications. They feature in-line modular checks and a single access cover.

- For non-health hazard applications
- Ease of maintenance only one cover and top entry
- Size: 1/4" 2" Lead Free* cast bronze; 21/2" and 3" fused epoxy coated cast iron
- Size: ½" 2" available with press end connections



LF007

Reduced Pressure Zone Assemblies

Series LF009, LF009-FS

Series LF009 and LF009-FS Reduced Pressure Zone Assemblies are designed to protect high hazard applications from backpressure and backsiphonage.

- Single access cover and modular check construction for ease of maintenance
- Internal relief valve for reduced installation clearances
- Large body passages provide low pressure drop
- Health hazard applications
- Continuous pressure
- Size: ¼" 2" Lead Free* cast bronze; sizes 2½" and 3" fused epoxy coated cast iron
- Size: ½" 2" contain an integrated sensor for flood detection; flood alert feature activated with add-on sensor connection kit (Also available with press end connections.)



LF009-QT-FS

Series LF909

Series LF909 Reduced Pressure Zone Assemblies are designed to provide superior cross-connection protection.

- Dual cover check access
- Independent relief valve section
- Y pattern
- Air-in/water-out relief valve for maximum safety
- Lead Free*
- Modular design
- Replaceable seats
- Compact for installation ease
- Approved for vertical up flow on sizes 3/4" and 1"
- No special tools required for servicing
- Health hazard applications
- Continuous pressure
- Size: 3/4" 2"



LF909





Series 825Y, 825YA

Series LF825YA and LF825Y Reduced Pressure Zone Assemblies provide superior protection of potable water against hazardous (toxic) fluids with enhanced features such as a modular relief valve for ease of maintenance.

- Large, robust relief valve for increased reliability
- YA design option configurable into N or Z pattern
- Individually serviceable checks
- Lead Free* available
- Size: 3/4" 2"



LF7R

Dual Checks/Dual Checks with Atmospheric Vents

Series LF7R

Series LF7R Dual Check Valves are designed for non-health hazard residential water system containment and continuous pressure applications, such as the drinking water supply service entrance or individual outlets. Series LF7R uses two compact check modules and is typically installed immediately downstream of the residential water meter. The LF7R features Lead Free* construction to comply with Lead Free* installation requirements.

- Designed for residential water system containment, such as drinking water supply service lines
- Continuous pressure
- For non-health hazard applications
- Available with a variety of inlet/outlet connection options
- Size: ½" 1"

Detector Check Valves

Check valves are designed to protect drinking water supplies from dangerous cross-connections when installed in accordance with national plumbing codes and/or water authority requirements for non-potable service applications such as irrigation, fire line, or industrial processing. Detector Check Valves detect any leakage or unauthorized use of water from fire or automatic sprinkler systems.

Series 1000DCV, 1005DCV, 1010DCV

- Fabricated steel body provides a much lighter weight unit than cast steel or ductile iron
- · Approved for mounting in horizontal or vertical positions
- Prevents backflow from fire prevention systems
- Used to isolate fire systems from public main during pumper boost of fire system
- Ames-Guard™ epoxy coating is rust resistant and impervious to most chemicals
- Available with flanged (1000DCV), flange x groove (1005DCV), or grooved (1010DCV) end connections
- Size: 4" 10"



- Lightest weight in the industry
- Designed to meet NSF standards
- Lifting rings standard on 8" and 10" devices for ease of installation
- Optional bypass assembly available
- Approved for mounting in horizontal/vertical positions
- Custom tap sizes available upon request
- Non-corrosive stainless steel construction
- Size: 4" 10"

Hydrant Meter Backflow

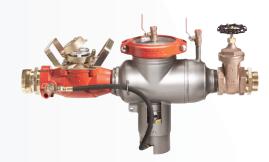
Series 6000HMB

- Designed to retrofit backflow protection onto fire hydrants used for temporary water service
- Heavy duty relief valve cover prevents vandalism and protects the valve from damage when the 994HMB is transported to another fire hydrant location
- In-line flow restrictor protects the meter measuring element and the backflow preventer components from damage due to excessive flow
- Stainless steel kicker bar supplied with each valve for support
- Meets AWWA C701 meter requirements
- Standardly supplied with 21/2"-7 NST fire hose swivel coupling on inlet
- Only weighs 66 lb total
- Backflow preventer manufactured from 300 Series stainless steel for corrosion resistance
- Accurately measure flow and protects the water supply from possible contamination
- Size: 4" 10"





1000SS-DCV



6000HMB



Accessories

Backflow Preventer Test Kits

Backflow preventer test kits such as the TK-9A, TK-99E, and TK-7 are for testing backflow preventers such as pressure vacuum breakers, double check valve assemblies, and reduced pressure zone assemblies. Designed for simplified operation and rugged reliability, each kit is compact for ease of handling and accessibility so you can get the job done.

Some features include:

- Color-coded valves and hoses, hose adapters, shock cord for easy mounting (TK-9A and TK-99E)
- Supply pressure gauge (TK-99E)
- Durable, shatterproof tubing (TK-7)
- Plastic carrying case to protect kit and ease transportation (TK-9A and TK-99E)
- Compact leather carrying case (TK-7)

Visit the Watts website to learn more about each backflow preventer test kit.



Series WVS

Series WVS Valve Setters are designed to augment the installation of the "N" series backflow prevention valves. Series WVS is available in three connection options, Flange by Flange, Mechanical Joint by Flange, and Mechanical Joint by Mechanical Joint.

- Corrosion resistant fusion epoxy coated.
- Eliminates the need for thrust blocks or other restraints at the point of installation.
- Flange: ANSI B16.1 Class 125 (Standard) ANSI AWWA C153 A21.53-88



Series W-SPL

Series W-SPL "Make Up" Spools are used when retrofitting a backflow preventer into an installation where an existing backflow preventer is being replaced. Available in Lightweight 300 Series Stainless Steel or Epoxy coated Carbon Steel. AWWA 150# Class "D" Carbon Steel Flanges offered as standard. 150# Class "D" Stainless Steel Flanges upon special request.



In-building risers are used to connect the main fire supply to the building fire suppression system. The fitting passes under the foundation without joints and extends up through the floor. Required by the California State Fire Marshal.

- Provided with installation tabs, lifting lugs, and a pressure test caps
- CIPS (cast iron pipe size) coupler for easy connection to the underground supply (AWWA C900 PVC) and ductile iron pipe
- Industry standard grooved end connection (AWWA C606) on the building side for easy connection to overhead fire sprinkler system
- Standard 6'x6' configuration with custom lengths from 3' to 20' available
- UL Listed, FM Approved, NSF 61 Certified
- Size: 4" 10" diameter



Pressure Reducing Valves

Series LF25AUB-Z3

Series LF25AUB-Z3 Water Pressure Reducing Valves are designed to reduce incoming water pressure to a sensible level to protect plumbing system components and reduce water consumption.

- Standard construction includes Z3 sealed spring cage and stainless steel corrosion resistant adjusting and cage screws
- Union inlet connection
- Integral stainless steel strainer
- End Connection options include threaded, solder, PEX, Quick-connect, CEF, and Press
- Replaceable seat module
- Lead Free* cast copper silicon alloy construction
- Serviceable in-line
- High temperature resistant reinforced diaphragm for hot water



LF25AUB-Z3

Series LFN223B, LFN223BS

Series LFN223B and LFN223BS Lead Free* High Capacity Water Pressure Reducing Valves are used in commercial, industrial, and institutional applications to reduce both incoming water pressure for protection of plumbing system components and water consumption. The series consists of a triple-coated corrosion preventative Lead Free* cast copper silicon alloy body construction, an enlarged diaphragm, spring cage and seat orifice for super capacity performance, sealed spring cage for waterworks pit installations, and thermal expansion bypass.

- Enlarged diaphragm, spring cage and seat orifice for super capacity performance
- Lead Free* cast copper silicon alloy body construction
- Serviceable in-line
- Series LFN223BS furnished with separate Lead Free* strainer
- Standard bypass feature controls thermal expansion pressure**
- Sealed spring cage on all models for accessible outdoor or pit installations
- Size: 21/2" 3" diameter



LFN223B

Series LFN45B-M1

Series LFN45B-M1 Water Pressure Reducing Valves are designed to reduce incoming water pressure to a sensible level to protect plumbing system components and reduce water consumption. The LFN45B features Lead Free* construction to comply with Lead Free* installation requirements.

- Integral stainless steel strainer
- Thermoplastic seat and cage
- Lead Free* cast copper silicon alloy body construction
- Serviceable in-line
- Bypass feature controls thermal expansion pressure**
- End Connection options include threaded, solder, PEX, Quick-connect, CEF, Press, and CPVC
- Sealed spring cage on all models for accessible outdoor or pit installations
- Size: 1/2" 2" diameter



LFN45B-M1

^{*}The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

^{**}The bypass feature does not prevent the pressure relief valve from opening on the hot water supply system with pressure above 150 psi (10.3 bar).

Automatic Control Valves

LFM115

Series LFM115

Series LFM115 Pressure Reducing Automatic Control Valves reduce high inlet pressure to constant, lower, outlet pressure across a broad range of flow.

- Valves can be installed in parallel or series configurations for extended flow range or staged pressure reduction
- Field-adjustable downstream pressure set point
- Common feature combinations include pressure reducing with hydraulic check, solenoid on/off, downstream surge protection, or upstream pressure sustaining



LFM116

Series LFM116

Series LFM116 Pressure Relief/Sustaining Automatic Control Valves open when inlet pressure is above the set point, and throttle when pressure is below the field-adjustable set point.

- Valves maintain desired settings with close pressure tolerances
- UL Listed fire versions available
- Multiple set pressures
- Differential relief version available

Series LFM electric positions of the closed to

LFM113

Series LFM113

Series LFM113 Solenoid Automatic Control Valves can be configured for either on/off or electric positioning service.

- Electric positioning type valve interfaces with SCADA systems and throttles open or closed to maintain desired process variable
- Valves can be configured to open, close, or hold-last-position with loss of electrical signal
- Common applications include pressure, level, or flow control
- Valves can be equipped with limit switches or 4-20 mA position feedback device



Series Large Diameter ACV

Large Diameter Automatic Control valves expand the Watts/Ames portfolio to include large valves for Municipal and other large water distribution systems.

- For 20" and 24" sizing
- All existing Watts/Ames ACV series can be configured in Large Diameter sizes
- Available in single and dual chamber full port configurations for all your large project distribution needs



Series ACV Assure

- Continuously monitor system pressure and flow
- Get insight into operating conditions with instant text and email alerts
- Access your full alert history
- Set up service reminders
- Register to set up geo-locations so you can map your water distribution system monitoring equipment

Strainers

Small Diameter Strainers, Brass and Bronze

Series LF777, LF77S, LF777SI

Series LF777, LF777S, and LF777SI Wye-pattern, Lead Free* Cast Copper Silicon Alloy Strainers are designed to protect system components from dirt, rust and other damaging debris in the piping system. This series features a solid retainer cap with gasket. Series LF777 and LFS777 feature Lead Free* construction to comply with Lead Free* installation requirements.

- LF777 Lead Free* Wye-pattern, Lead Free* bronze strainer, 1/4" 4"
- LF777S Lead Free* Wye-pattern, bronze strainers, ½" 4"
- LF777SI Lead Free* brass, Wye-pattern, strainers with tapped retainer cap, 3/8" and 3"

Large Diameter Strainers, Cast Iron and Ductile Iron

Series LF77F-DI-125, LF77F-DI-250, LF77F-DI-FDA

Series LF77F-DI-125, LF77F-DI-250, LF77F-DI-FDA-125 Flanged, Wye-pattern, Cast Iron Strainers feature 304 stainless steel perforated screens, a cast iron flanged retainer cap and a drain/blowoff connection furnished with a closure plug. Series 77F-DI-FDA-125 also features a double coated, heat fused epoxy coating on the interior and exterior for FDA Approved sanitary applications.

- LF77F-DI-125 Cast iron, Class 125 flanged end, Wye-pattern strainers, 2" - 12"
- LF77F-DI-250 Ductile iron, Class 250 flanged end, Wye-pattern strainers, 2" - 12"
- LF77F-DI-FDA-125 Cast iron, Class 125 flanged end, Wye-pattern strainers with FDA epoxy coating, 2" - 12"

Large Diameter Strainers, Steel

Series 7001, 7002

Series 7001 and 7002 UL/FM Fire Service Strainers are used in non-potable applications in conjunction with a water spray system to protect the system against clogging that can be caused by particles fouling the small discharge opening of the sprinkler heads.

- Epoxy coated fabricated steel strainer, flange x flange, groove x groove, or groove x flange with single or dual cleanouts
- Large solids trap to minimize screen blockage
- 304 stainless steel strainer element
- Size: 3" 10"

Series 8000F, 8000G

Series 8000F and 8000G Stainless Steel Strainers are lightweight, fabricated Wye-pattern strainers designed to remove dirt and other debris from fluid systems.

- 304 stainless steel body exhibits superior corrosion resistance compared to cast iron; eliminates casting porosity problems, complies with NSF 61 and FDA requirements
- 50% lighter than cast iron valves, reducing handling and installation equipment costs
- Lead Free* construction
- Single, two-bolt, grooved style cover provides quick and easy access, saving disassembly/assembly time
- Screen retainer cover is tapped for strainer clean out by opening a blow-off valve, or the standardly furnished closure plug
- Size: 2½" 12"



LF777



LF777SI



LF77F-DI-125



LF77F-DI-250

LF77F-DI-FDA-125





8000G (Flanged)

8000G (Grooved)



LFB6081G2



LFB6080G2

Shutoff Valves

Series LFB6080G2, LFB6081G2

Series LFB6080G2 and LFB6081G2 ball valves are used in commercial and industrial applications for a full range of liquids and gases. They feature a blowout-proof pressure full-port orifice which ensures minimal pressure drop. Model LFB6080G2 has threaded NPT end connections and Model LFB6081G2 has solder end connections. Pressure rating for ½" to 2": 600 psi WOG (non-shock) 150 psi WSP.

- Lead Free*, forged bronze body and adapter
- Stainless steel ball-and-stem option
- Minimal pressure drop due to large ports
- Blowout-proof, pressure-retaining stem
- · Adjustable stem packing gland
- Size: 1/4" 2"





S-FBV-1

Series LFFBV-3C, LFFBVS-3C, LFFBV-3C-QC

Standard material FBV-3C and FBVS-3C are available for non-potable applications.

- Lead Free* forged copper silicon alloy body and adapter
- Certified to NSF/ANSI Standard 61/8
- CSA Approved threaded valves only ¹/₄" 3"
- Fluorocarbon elastomer stem O-ring prevents stem leaks
- Adjustable stem packing gland
- PTFE stem packing seal, thrust washer, and seats
- Bottom-loaded blowout-proof stem
- Machined chrome-plated Lead Free* brass ball
- Size: 1/4" 4"

Series S-FBV-1

Series S-FBV-1 2-Piece, Full Port, Stainless Steel Ball Valves are suitable for a full range of liquids and gases. The S-FBV-1 full port orifice ensures maximum flow capacity, while reinforced PTFE seats, PTFE stem packing, thrust washer and body seal provide maximum safety and high operating pressure/temperature limits.

- Pressure rated at 1000 psi (69 bar) WOG non-shock and 125 psi (8.6 bar) WSP
- Adjustable stem packing
- Bottom loaded, blowout proof stem
- Drilled and tapped mounting pads
- Standard Latch-Lok handle to lock in open or close position
- PTFE stem packing, thrust washer and body seal
- Reinforced PTFE seat
- Vinyl insulator on heavy duty 304SS handles
- Low operating torque
- · Each valve factory tested
- Conforms to MSS-SP-110 and API-598
- Size: 1/4" 3"

Series BF-03-M2 Full Lug, BF-04-M2 Wafer

Series BF butterfly valves are designed and manufactured for use with ANSI 125 or 150 Class flanges and comply with API 609 and MSS-SP 67 standards to meet the stringent requirements of HVAC, irrigation, OEM, commercial, institutional, and industrial applications.

- 200 psi (13.8 bar) pressure rating for 2" 12" and 150 psi (10.3 bar) pressure rating for 14" – 24"
- Standard ductile iron body; options: aluminum bronze and 316 stainless steel discs and 416 stainless steel or 316 stainless steel shaft
- Phenolic-backed seat 2"- 12" or aluminum-backed seat 14" - 24" that prevents the seat from collapsing or dislodging
- Size: 2" 24" in wafer or lug body design



Series 405-NRS-RW Non-Rising Stem Resilient Wedge Gate Valves are available in sizes 2" to 12" flanged by flanged and 2½" to 10" flanged by grooved configurations. The valve body is epoxy coated internally and externally. The valve is operated by a Handwheel or an operating nut and valve key. The resilient wedge disc design offers both positive seating and resistance against high differential pressure. Series 405-NRS-RW is best suited for service in either the fully open or closed position but is suitable for use as a throttling valve. This series is recommended for irrigation, potable water, water distribution service, feed lines, and sewage disposal facilities.

- ASTM A126 Class B Iron (flanged x flanged)
- ASTM A536 65-45-12 Ductile Iron (flanged x groove)
- Full port flow, low head loss
- · Epoxy coated, internal and external
- · Vulcanized encapsulated resilient wedge
- In-line serviceable
- Boss-tapped and plugged
- Size: 2" 12" (epoxy coated)



Series BF-03-M2

Full Lug

Series BF-04-M2

Wafer

405-NRS-RW

Series 408-OSYRW

Series 408-OSYRW Outside Stem and Yoke Resilient Wedge Flanged Gate Valves are fusion bonded powder coated cast iron and operated by a handwheel. The resilient wedge disc design offers positive seating and resistance against high differential pressure. Series 408-OSYRW is best suited for service in either the fully open or closed position. It is also suitable for use as a throttling valve. This series is recommended for fire main shutoff and distribution service. The 408-OSYRW features Lead Free* construction to comply with Lead Free* installation requirements.

- ASTM A126 Class B Cast Iron
- Full port flow, low head loss
- Fusion bonded coating, internal and external
- Encapsulated resilient wedge
- Easy in-line service
- Replaceable disc
- Boss tapped and plugged
- MSS-SP-70 conformance
- Size: 2½" 12" (epoxy coated)



405-OSY-RW



Watts Family of Brands

Watts designs, manufactures, and sells an extensive line of flow control, water safety, water filtration and treatment, drainage, and PEX plumbing products.

The Watts family of companies provides a single source for solutions used to safely convey, conserve, and manage water.

Making Watts your single source for plumbing-related solutions will streamline your operations, save you money, and reduce the variety of repair parts needed for maintenance.





























