

# Flow Control for Irrigation

Valve Solutions from the Industry Leader



# Your Partner in Water Safety

**P**lumbers and engineers are the hidden heroes of the community, keeping it safe from dangers of backflow. From hose bibbs to sprinkler heads and fertilizer injectors, irrigation systems present ample opportunities for cross connections to occur.

Without sufficient safeguards, backflow can introduce undesirable or hazardous substances into the potable plumbing through the irrigation system, and it's irrigation professionals that protect the public from the threats that lurk at every cross connection.

## Maintain safe water standards by:

- Identifying and diagnosing potential backflow situations
- Examining plumbing systems and city design
- Inspecting existing preventers
- Ensuring they are up to code
- Providing the highest-quality backflow prevention devices in new buildings and projects
- Staying up-to-date on local regulations

## Typical Applications for FEBCO Valves

### Residential

Single family, apartments, condominium buildings

### Commercial

Hotels, convention centers, office buildings



# Setting the standard for reliability and performance in flow control

**F**EBCO® backflow preventers have been protecting the nation's water supply as part of irrigation systems since 1924. With expanded offerings including ACVs, full port ball valves, strainers, and relief valves, FEBCO is the industry-proven and trusted supplier of flow control solutions.

## What sets our products apart

- Time-tested reliability and quality
- Unmatched flow performance
  - Designed for ease of maintenance
  - Complete solutions for irrigation flow control
  - Lower cost of ownership
    - Stainless steel components for harsh conditions
    - Sensor sentinels for flood protection and freeze detection
    - Multiple agency approvals and listings
    - Largest selection of products

### Agricultural

Drip irrigation, sprinkler irrigation, center pivot

### Golf and Recreation

Golf courses, athletic fields, parks



# Backflow Irrigation Control (BIC) Station

Irrigation systems are rarely designed with repairability and failure prevention in mind. Components are often buried where they are difficult to access, are not testable or repairable, and fail to prevent overpressure or water-hammer events that damage components and cause leaks.

Watts® BIC Station provides one simple solution to all of these problems. By placing commonly repaired items above ground you no longer have to spend time digging to isolate and service system components. The use of a pilot controlled automatic control valve rather than a direct acting regulator allows for accurate pressure regulation at a wide range of flows, and prevents water hammer and overpressure. The BIC station can help you save time and money on your irrigation system.

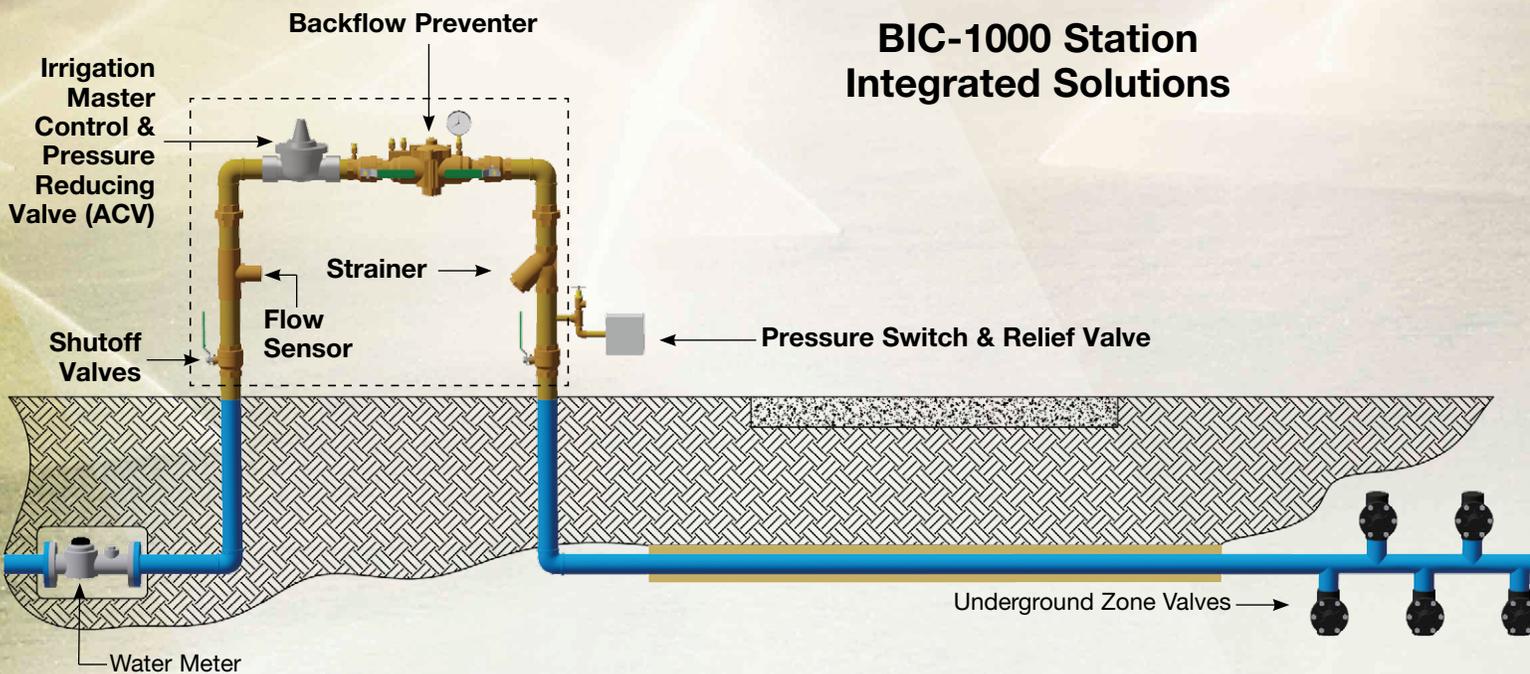


## How the BIC station saves you \$\$

- Above ground components means you don't have to dig to repair or replace
- Repairs are easier, take less time, and are less likely to get fouled with mud or debris
- Excessive pressure switch guards against damage from overpressure or water hammer
  - Testable, repairable regulator instead of components you have to cut out and replace



## BIC-1000 Station Integrated Solutions



### Backflow Preventer

- Provides protection of the potable water system and satisfies code requirements
- Factory installed and tested to assure compliance and performance

### ACV

- Irrigation master control valve and pressure reduction to protect downstream components from high pressure supplies
- Provides consistent pressure regulation at a broader range of flows
- Reduces water hammer events
- Multiple set points eliminate operator adjustment
- Field testable and repairable

### Shutoff Valves

- For isolation to service station components
- Ball or butterfly options

### Flow Sensor

Allows user to track excessive flow rates to save water and detect line breaks

### Strainer

- Protects downstream components from clogging or damage from debris
- Bronze, stainless steel, and epoxy coated options
- Field serviceable
- Optional

### Pressure Switch & Relief Valve

- Protects from overpressurization
- Gives a visual indication of overpressure

### Optional LF Pressure Gauge



LF850



LF886V-FS

# Backflow Preventers

## Large Diameter Double Check/Reduced Pressure

### MasterSeries

MasterSeries is the most versatile line of backflow prevention assemblies on the market, with a shorter lay length, the lowest head loss, and newly redesigned components for even better performance and higher cost savings. Sensor technology on select devices does not affect assembly function or certification.

Available as Double Check (LF850 and LF870V), Double Check Detector (LF856 and LF876V), Reduced Pressure Zone (LF860 Large and LF880V), and Reduced Pressure Zone Detector (LF-866 and LF886V) assemblies.

Series LF860 Large, LF880V, LF-866, and LF886V each include a sensor on the relief valve for flood protection. Add-on activation kit required for use. Compatible with BMS and cellular communication for real-time notification.

## Small Diameter Double Check/Reduced Pressure

Sensor technology on select devices does not affect assembly function or certification.

### Series 850, 860

Small diameter 850 Double Check and 860 Reduced Pressure Zone assemblies are economical options for protection of the potable water system and compliance with national and local regulation.

- Series 850 includes a sensor on one test cock for freeze detection; freeze alerts feature activated with add-on connection kit
- Series 860 includes a sensor on the relief valve for flood protection; flood alerts feature activated with add-on connection kit
- In-line design
- Top entry for easy access and serviceability
- Union end option available
- Lead Free\* available
- Size: ½" to 2"



850-FZ



860-FS



LEARN MORE ABOUT  
FREEZE DETECTION



825Y-FS

### 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.

- Sensor beneath the relief valve for flood protection; flood alerts feature activated with add-on connection kit
- Large, robust relief valve for increased reliability
- "YA" design option configurable into "N" or "Z" patterns
- Individually serviceable checks
- Lead Free\* available
- Size: ¾" to 2"



825YA-FS



LEARN MORE ABOUT  
FLOOD PROTECTION

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

## Pressure Vacuum Breakers

Sensor technology on select devices does not affect assembly function or certification.

### Series 765

Series 765 Pressure Vacuum Breakers are designed to provide protection against backsiphonage of toxic or non-toxic liquids. They feature a durable bronze body and a check valve and air opening port in one assembly.

- Sensor mounted to test cock signals when temperature nears the freezing point
- Freeze alerts feature available with add-on connection kit for building/irrigation management system
- Simple to service
- All bronze body
- Union end option
- Size: ½" to 2"



U765-QT-FZ



LEARN MORE ABOUT  
FREEZE DETECTION

### Series LF767FR

Series LF767FR Lead Free\* Freeze-Resistant Pressure Vacuum Breakers are designed to prevent backsiphonage of contaminated water under continuous pressure into the potable water supply. Its superior design protects the valve body and internal components during sudden freeze conditions.

- Unique built-in relief valve relieves pressure caused by ice formation
- Easy maintenance of internal parts
- Lead Free\*
- More models available, check online for detail
- Size: ½" to 2"



LF767FR

## Atmospheric Vacuum Breakers

### Series 710, 715

Series 710 and 715 Atmospheric Vacuum Breakers are designed for use in multiple water applications to prevent backsiphonage when there are no shutoffs downstream.

- Meets all specifications of ASSE
- Documented flow curves established by The Twining Labs, Inc.
- Simple service procedures
- Lightweight plastic poppets
- Resilient rubber poppet discs designed for positive closure
- Cold water applications
- End Connections – NPT ANSI/ASME B1.20.1
- Size: ½" to 2"



710



715

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

## Strainers

### Series 758A

Series 758A "Y" Pattern Strainers are installed in water piping systems to protect expensive equipment (such as backflow preventers) from damage or failure that can be caused by foreign material in the pipeline.

- Recessed screen seats assure accurate screen alignment
- Stainless steel screen
- Size: 2½" to 10"



758A

### Series LF650A

Series LF650A "Y" Strainers are installed in water piping systems to protect expensive equipment (such as backflow preventers) from damage or failure that can be caused by foreign material in the pipeline.

- Tapped retainer cap with closure plug
- Stainless steel screen
- Lead Free\* construction
- Size: ½" to 2"



LF650A

## Wall Hydrants

### Series FPHB-1

Series FPHB-1 Key Operated Wall Hydrants have been specifically designed to provide outside access to a building water supply for start-up, winterizing, and servicing of irrigation sprinkler systems.

- Allows for winterization of sprinkler system from outside the home
- Provides single location for supply shutoff valve and drain connection
- Tamper-resistant key operation
- Chrome finish
- Size: ¾" to 1"



FPHB-1

### Series LFFHB

Series LFFHB Frost-Proof Automatic Self-Draining Wall Hydrants are designed to provide freeze protection of the external water supply as well as backflow protection to the potable water supply.

- Frost-proof design drains automatically
- Plastic vacuum breaker prevents contamination of the potable water supply from backsiphonage and backpressure
- Metal handle
- 0.8mm copper tube thickness, thicker wall than competitors
- Size, length indication printed on cap for easy field service or repair
- Size: ½" copper/IPS or PEX x ¾" hose connection



LFFHB-1

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## Hose Bib Vacuum Breakers

### Series 8

Series 8 is a line of unique vacuum breakers specially made to permit the attachment of portable hoses to hose thread faucets. Designed to prevent the flow of contaminated water back into the potable water supply, these devices require no plumbing changes, and screw directly onto a sill cock.

Available in the following models:

- 8 – Standard set screw
- 8A – Nonremovable model
- 8B – Breakaway set screw
- NF8 – Permits manual draining
- 8P – Reinforced thermoplastic, tamper-proof
- 8FR – Freeze relief feature
- 8C/8AC/8BC/NF8C – Chromed versions
- Standard and Lead Free\* available
- Size: 3/4" hose thread



**LF8A**  
Nonremovable Model



**LF8**



**LFNF8**  
Permits Manual Drain



**LF8B**



**8P**  
Tamper-proof Feature



**LF8FR**

## Irrigation Master Control & Pressure Reducing Valve (ACV)

### Series LF115

#### Pressure Reducing Control

Watts ACV Pressure Reducing 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



**LF115**

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## Ball Valves

### Series LFFBV-3C, LFFBVS-3C

Series LFFBV-3C, LFFBVS-3C Lead Free\* 2-Piece, Full Port, Brass Ball Valves are used in commercial and industrial applications for a full range of liquids and gases. Model LFFBV-3C has threaded end connections. Model LFFBVS-3C has solder end connections.

- Lead Free\* forged copper silicon alloy body and adapter
- Certified to NSF/ANSI standard 61/8
- CSA approved threaded valves only ¼" – 3"
- UL Listed and FM Approved threaded valves ¼" – 2"
- FM Approved solder valves ½" – 2"  
UL Listed solder valves ½" – 2"
- 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
- Valves comply to MSS-SP-110 standard
- Size: ¼" to 4"



LFFBV-3C

## Pressure Reducing Valves

### LFN45B

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.

- 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\*\*
- Sealed spring cage on all models for accessible outdoor or pit installations
- Size: ½" to 1"



LFN45B

### LF223

Series LF223 High Capacity Water Pressure Reducing Valves are designed to reduce incoming water pressure to a sensible level to protect plumbing system components and reduce water consumption.

- Enlarged diaphragm, spring cage and seat orifice for super capacity performance
- Lead Free\* brass body construction (except 2½" which is iron)
- Serviceable in line
- Series LF223S furnished with separate strainer
- Optional bypass feature controls thermal expansion pressure\*\*
- Sealed spring cage on all models for accessible outdoor or pit installations
- Size: ½" to 2½"



LF223

\*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).



## Superior Backflow for Irrigation Solutions

FEBCO backflow prevention products have been installed with confidence in irrigation systems since 1924. Make FEBCO your choice for all your irrigation specialties.

### Approvals



1047

\*\*Assembly configured with UL Classified and FM Approved OS&Y RW Gate Valves. Less gate valve assemblies are not UL Classified and FM Approved configurations.

Backflow preventer assemblies Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCHR-USC).

Refer to product specification sheets for the full list of industry certification and approvals.

## 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.



A **WATTS** Brand

USA: T: (800) 767-1234 • [FEBCOonline.com](http://FEBCOonline.com)

Canada: T: (888) 208-8927 • [FEBCOonline.ca](http://FEBCOonline.ca)

Latin America: T: (52) 55-4122-0138 • [FEBCOonline.com](http://FEBCOonline.com)