Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE*

Series LF800M4FR

Freeze-Resistant Pressure Vacuum Breakers

½" – 2"

⚠ WARNING

Freeze sensor solely provides alerts about a possible freeze event and cannot prevent a freeze event from occurring. User action is required to prevent freeze conditions from causing product and/or property damage.

Series LF800M4FR prevents 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. Water inside the PVB freezes from the outside inward.

As the ice forms and expands, causing a buildup of pressure, the device relieves the pressure through a unique relief valve built into the plastic float.

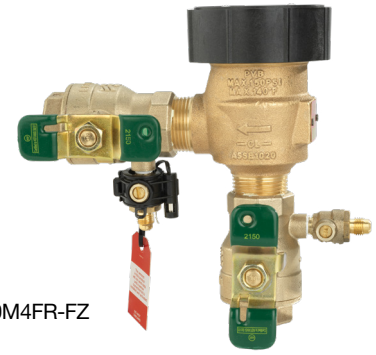
Test cocks are positioned at the lowest point of the valve for winterization draining. The device is reusable with the relief valve designed to automatically reseat. It does not discharge through the relief valve during normal operation. (The built-in relief valve is not designed to provide freeze protection for the entire irrigation system.) The device features Lead Free* construction to comply with Lead Free* installation requirements.

Series LF800M4FR includes a freeze sensor to indicate when temperature nears the freezing point. The sensor relays a signal that triggers notification to facility personnel to take preventive action, thus reducing or eliminating equipment replacement or repair.

NOTICE

An add-on connection kit is required to activate the freeze sensor. Without the connection kit, the sensor is a passive component that has no communication with any other device. (For more information download RP/IS-FZ-800M4.)

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



LF800M4FR-FZ

Features

- Unique built-in relief valve relieves pressure caused by ice formation
- Replaceable plastic seat
- Easy maintenance of internal parts
- O-ring bonnet seal for less possibility of fouling
- Silicone seat disc for durability
- Test cocks positioned for easy testing and winterization
- Compact space saving design
- Standardly equipped with tee handle quarter turn ball valve shutoffs (sizes ½" to 1") and with lever handles (sizes 1¼" to 2")
- No special tools required for servicing
- Lead Free* cast copper silicon alloy body for durability
- Sensor included to indicate temperature at freeze threshold
- Freeze alerts feature activated with add-on sensor connection kit, compatible with building and irrigation management systems

NOTICE

Use of the freeze sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide protection against a freeze event.

Watts is not responsible for the failure of alerts due to connectivity or power issues.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

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Specification

An antisiphon pressure vacuum breaker shall be installed where indicated on the plans to prevent the backsiphonage of contaminated water. This assembly is not to be used where a backpressure condition can develop. The assembly shall incorporate an acetal bonnet with silicone rubber O-ring seal and silicone rubber seat disc. The valve shall have replaceable seats. Check assembly shall be guided over its full stroke by 'V' notch guides.

The assembly shall include an internal, built-in relief valve designed to protect the internal components and the backflow body from freezing. The relief valve shall be repeatable, automatically reseating when the pressure within the valve is below the set point of the freeze relief valve. The Lead Free* Freeze-Resistant Pressure Vacuum Breakers shall comply with state codes and standards, where applicable, requiring reduced lead content.

The assembly shall meet the requirements of ANSI/ASSE Standard 1020.

The valve shall be a Watts Series LF800M4FR, and shall include a freeze sensor.

Model/Option

FZ	Freeze sensor

Materials

Springs	Stainless steel
Bonnet	Celcon®
Vent Disc	Silicone rubber
Disc Holder Float	Polypropylene
Check Valve Disc	Silicone rubber
Check Valve Seat	Noryl® plastic
Body	Lead Free* copper silicon alloy

Pressure - Temperature

Temperature Range: 33°F to 140°F (0.5°C to 60°C)

Maximum Working Pressure: 150 psi (10.3 bar)

Standards

ANSI, IAPMO, USC Manual Section 10

Approvals

1020 B64.12

IAPMO

Approved by the foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California, Manual Section 10.

Installation

This valve is designed for installation in a continuous pressure potable water supply system 12" above the highest point of the downstream piping. The valve must be installed with the supply connected to the bottom and in a vertical position. Allow adequate space for periodic inspection, servicing, or testing. The valve should not be installed in an area where freezing or spillage can cause damage. Adequate drainage/freeze protection must be provided in cold weather applications. Pressure at 1.5 psi (.10 bar) must be exerted against the float spring to seal the float and air inlet. Do not undersize supply and discharge piping.

NOTICE

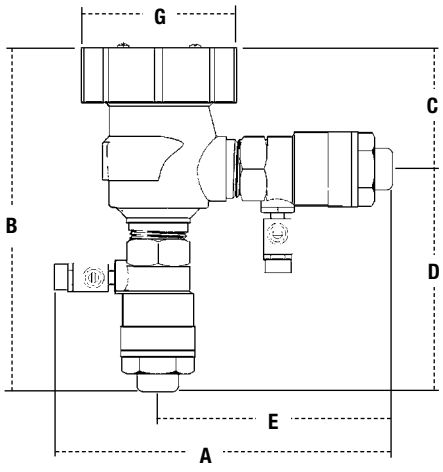
Vacuum breakers are not designed, tested, or approved to protect against backpressure backflow or water hammer shock. For protection against backpressure backflow, install Watts LF009 Reduced Pressure Zone backflow preventer. For protection against water hammer shock, install a Watts Series LF15 Water Hammer Arrestor using good plumbing practice.

Insulated Enclosure

WattsBox Insulated Enclosure can be used for additional freeze protection. For more information, refer to ES-WB at watts.com.

Dimensions – Weights

MODEL	SIZE	DIMENSIONS													WEIGHT	
		A		B		C		D		E		G				
	in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		lb	kg
LF800M4FR	½	6⅛	156	6¼	159	2⁹⁄₁₆	65	3¹¹⁄₁₆	94	3⅞	98	2¼	57		4	1.8
LF800M4FR	¾	6½	165	6½	165	2⁹⁄₁₆	65	3¹⁵⁄₁₆	100	4⅛	105	2¼	57		4	1.8
LF800M4FR	1	7½	191	7½	191	2¾	70	4¾	121	4⅞	124	3⅜	87		6	2.7
LF800M4FR	1¼	8⅞	225	9	229	3¼	83	5¾	146	6⅛	156	5	127		11	5.0
LF800M4FR	1½	9¼	235	9½	241	3¼	83	6¼	159	6⅜	162	5	127		14	6.3
LF800M4FR	2	10⅝	270	9⅝	245	3¼	83	6⅜	162	7	178	5	127		19	8.6



Celcon is a registered trademark of Celanese Corporation.

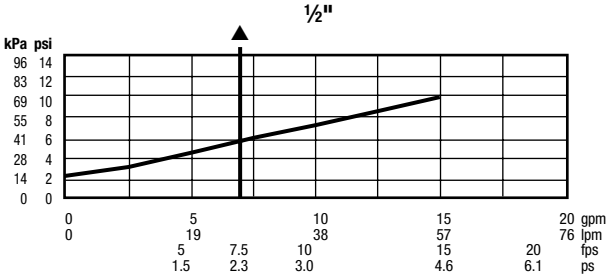
Noryl is a registered trademark of SHPP Global Technologies B.V.

Capacity

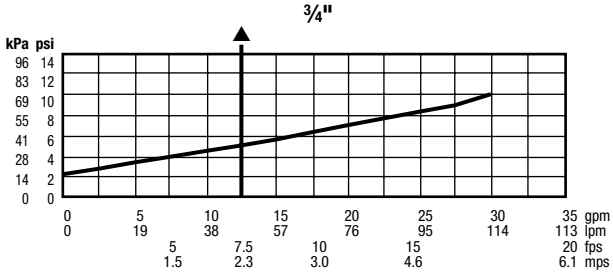
As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California lab tests.

▲Typical maximum flow rate (7.5 ft/s)

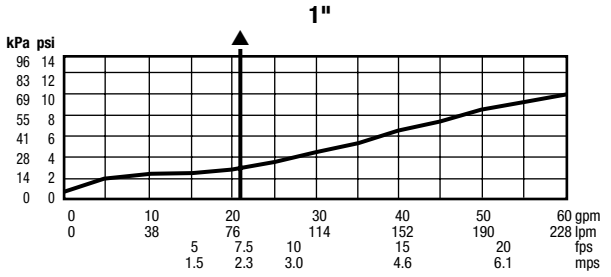
½"



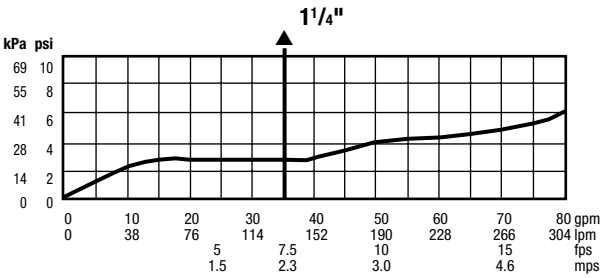
¾"



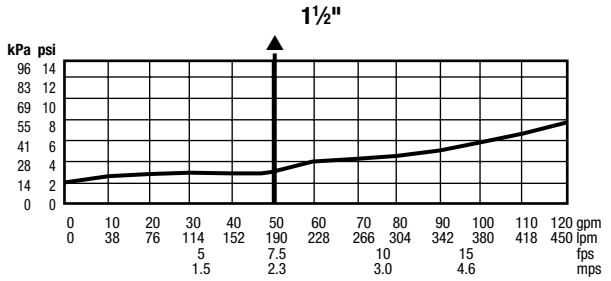
1"



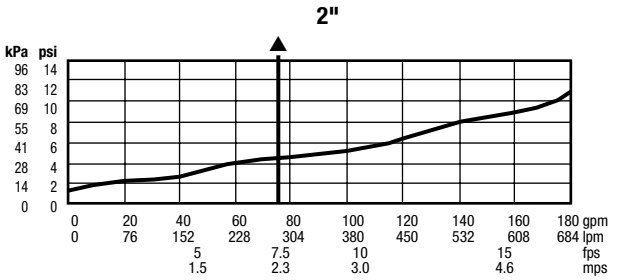
1¼"



1½"



2"



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