

## For Health Hazard Applications

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series 800M4FR

## Freeze-Resistant Pressure Vacuum Breakers

Sizes: 1/2" – 2" (15 – 50mm)

Series 800M4FR is designed to prevent back-siphonage 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 800M4FR 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 800M4FR is reusable with the relief valve designed to automatically re-seat. It will 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.)

### 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 1/2" – 1" (15 – 25mm). The 1 1/4" – 2" (32 – 50mm) feature lever handles
- No special tools required for servicing
- Bronze body for durability

### Available Models

Prefix: U – union connections (3/4" - 1" only)

Suffix: QC – Quick-Connect Adapters



800M4FR  
Patent #5551473

### Specifications

#### Pressure Vacuum Breakers

A pressure anti-siphon vacuum breaker shall be installed where indicated on the plans to prevent the back-siphonage of contaminated water. This assembly is not to be used where there is a possibility that a back pressure condition may develop. The assembly will 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 re-seating when the pressure within the valve is below the set point of the freeze relief valve.

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

The valve shall be a Watts Regulator Company Series 800M4FR.

**Now Available**  
**WattsBox Insulated Enclosures.**  
For more information, send for literature ES-WB.

## 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	Bronze

## Standards

ANSI, IAPMO, USC Manual Section 10

## Approvals

IAPMO



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

## Pressure - Temperature

Temperature Range: 33°F to 140° (1°C to 60°C)

Maximum Working Pressure: 150psi (10.3 bar)

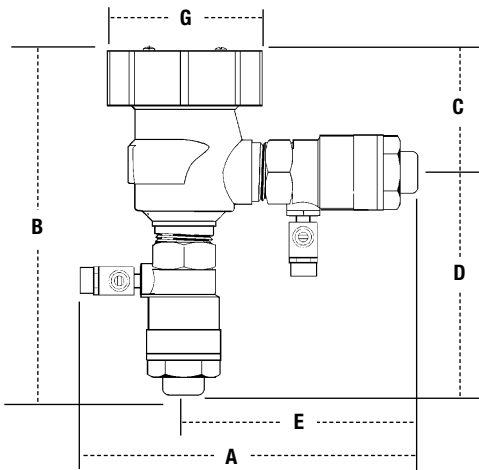
## Installations

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 will cause damage. Adequate drainage/freeze protection must be provided in cold weather applications. 1.5psi (.10 bar) must be exerted against the float spring to seal the float and air inlet. Do not undersize supply and discharge piping.

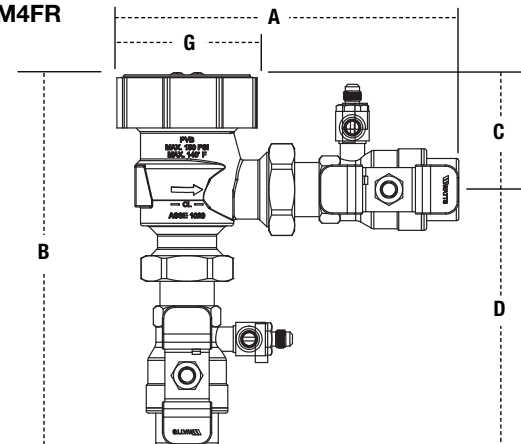
Important Note: Vacuum breakers are not designed, tested or approved to protect against backpressure backflow or water hammer shock. For protection against backpressure backflow, install Watts 909/009 Reduced Pressure Zone Backflow Preventer. For Protection against water hammer shock install a Watts Series 15 Water Hammer Arrestor utilizing good plumbing practice.

## Dimensions – Weights

### 800M4FR



### U800M4FR

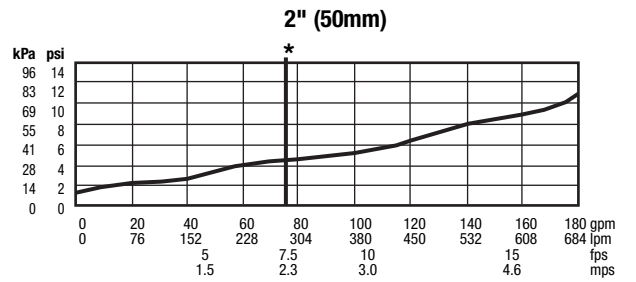
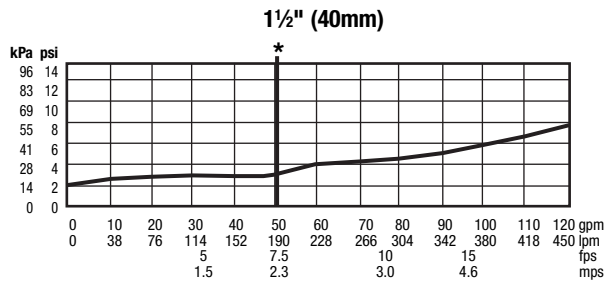
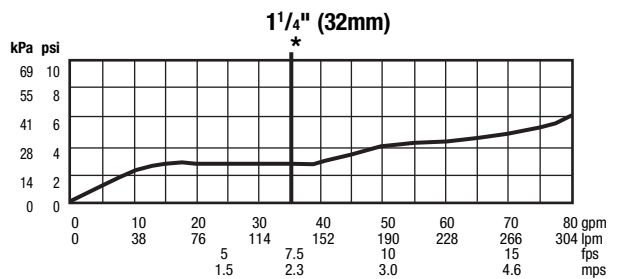
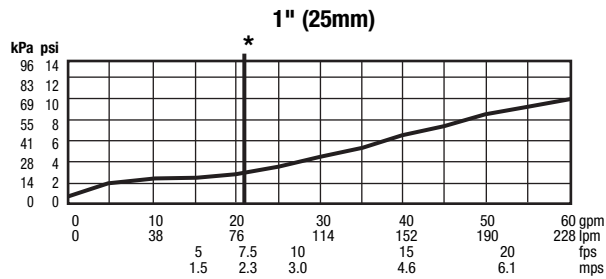
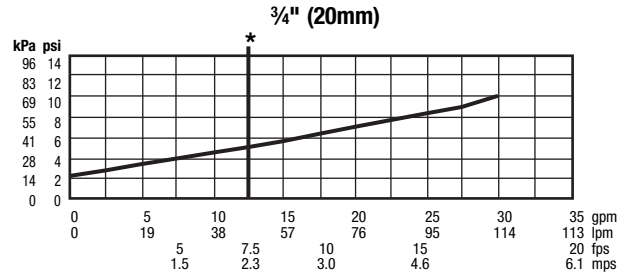
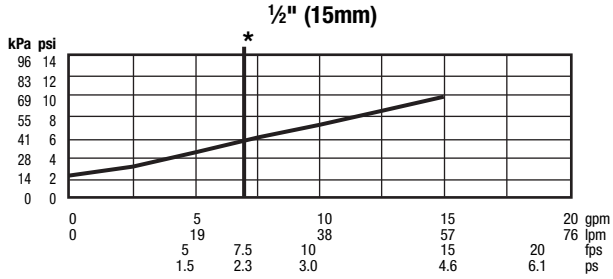


MODEL	SIZE (DN)		DIMENSIONS								WEIGHT					
	in.	mm	A		B		C		D		E		G		lbs.	kg.
800M4FR	1/2	15	6 1/8	156	6 1/4	159	2 9/16	65	3 1/16	94	3 7/8	98	2 1/4	57	4	1.8
800M4FR	3/4	20	6 1/2	165	6 1/2	165	2 9/16	65	3 9/16	100	4 1/8	105	2 1/4	57	4	1.8
800M4FR	1	25	7 1/2	191	7 1/2	191	2 3/4	70	4 3/4	121	4 7/8	124	3 1/16	87	6	2.7
800M4FR	1 1/4	32	8 7/8	225	9	229	3 1/4	83	5 3/4	146	6 1/8	156	5	127	11	5.0
800M4FR	1 1/2	40	9 1/4	235	9 1/2	241	3 1/4	83	6 1/4	159	6 3/8	162	5	127	14	6.3
800M4FR	2	50	10 5/8	270	9 5/8	245	3 1/4	83	6 3/8	162	7	178	5	127	19	8.6
U800M4FR	3/4	20	6 3/8	163	7 9/16	192	2 1/8	55	5 7/16	138	—	—	2 1/4	57	4	1.8
U800M4FR	1	25	8 3/16	211	9	229	2 13/16	71	6 3/16	158	—	—	3 1/16	87	6	2.7
800M4FRQC	1/2	15	7 7/8	199	8	203	2 13/16	71	5 7/16	138	5 5/8	144	3 1/16	87	4.5	2.0
800M4FRQC	3/4	20	8 1/2	216	8 1/2	216	2 13/16	71	5 11/16	144	6 1/8	156	3 1/16	87	4.7	2.1
800M4FRQC	1	25	9 1/2	241	9 1/2	241	2 13/16	71	6 3/4	171	6 7/8	175	3 1/16	87	6.6	3.0

# 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 feet/sec.)



For additional information, visit our web site at: [www.watts.com](http://www.watts.com)



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ES-800M4FR 0949



**USA:** 815 Chestnut St., No. Andover, MA 01845-6098; [www.watts.com](http://www.watts.com)  
**Canada:** 5435 North Service Rd., Burlington, ONT. L7L 5H7; [www.wattscanada.ca](http://www.wattscanada.ca)

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