

## 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)

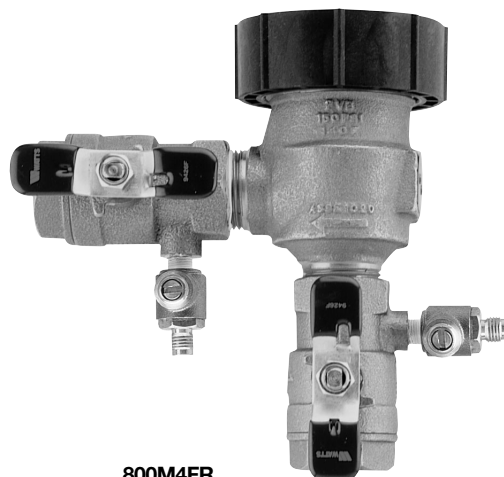
Series 800M4FR is designed to prevent back-siphonage of contaminated water under continuous pressure into the potable water supply. Its superior design protects the valve body and internal components during sudden freeze conditions. Water inside the PVB freezes from the outside-inward.

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



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.

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



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.

## 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

## Pressure - Temperature

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

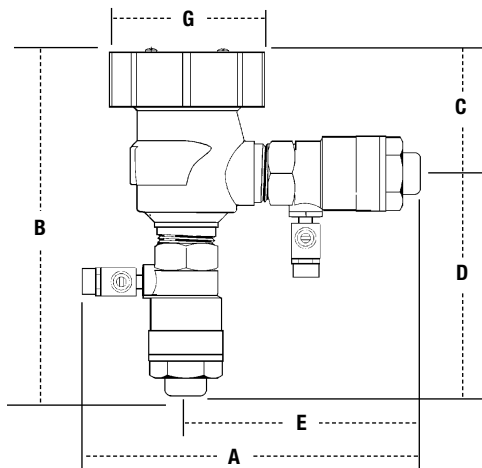
Maximum Working Pressure: 150psi (10.3 bar)

## 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



## Standards

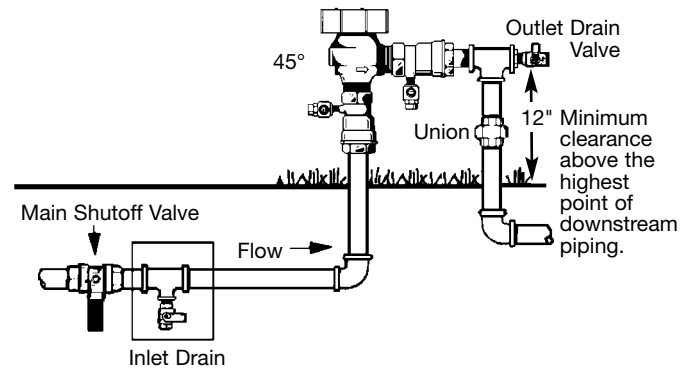
ANSI, IAPMO, USC Manual Section 10

## Approvals

IAPMO



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



## Freeze Protection Guidelines

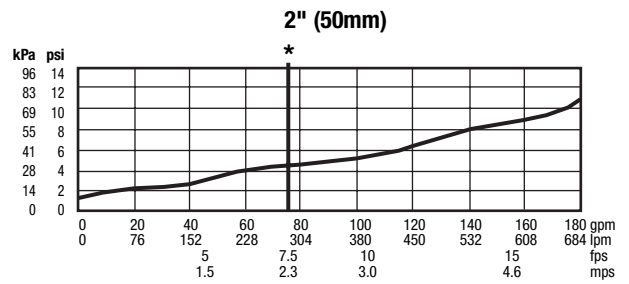
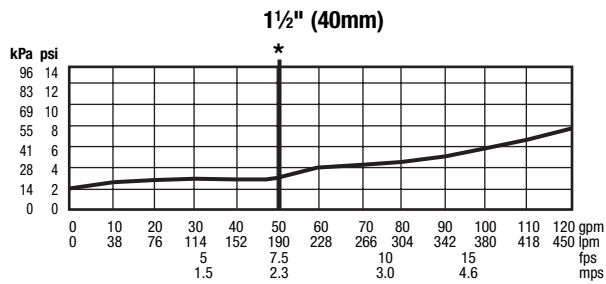
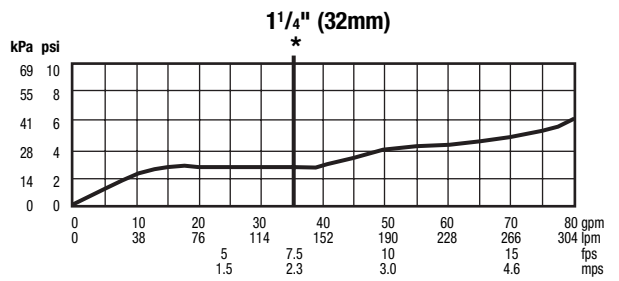
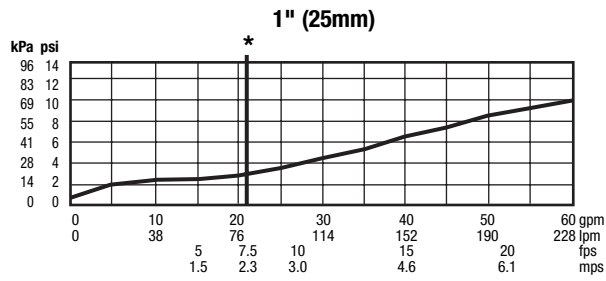
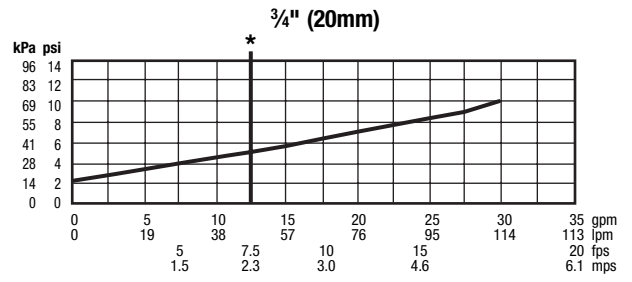
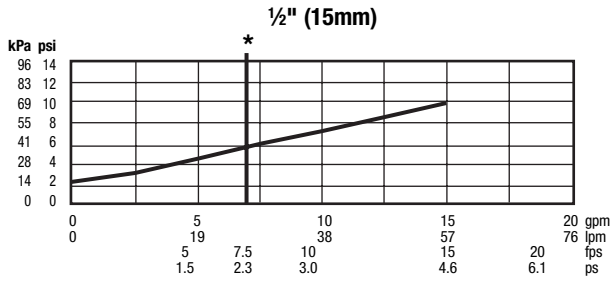
1. Close main shutoff valve.
2. Open upstream drain, test cocks and isolation ball valves to depressurize line.
3. Purge with air.
4. Leave test cocks and isolation ball valve handles in 45° angle to drain ball valves and prevent casting damage.

SIZE (DN)		DIMENSIONS								WEIGHT					
in.	mm	A		B		C		D		E		G		lbs.	kg.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
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
3/4	20	6 1/2	165	6 1/2	165	2 9/16	65	3 15/16	100	4 1/8	105	2 1/4	57	4	1.8
1	25	7 1/2	191	7 1/2	191	2 3/4	70	4 3/4	121	4 7/8	124	3 7/16	87	6	2.7
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
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
2	50	10 5/8	270	9 5/8	245	3 1/4	83	6 5/8	162	7	178	5	127	19	8.6

# 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 Technical Assistance Call Your Authorized Watts Agent.

			Telephone #	Fax #
North East	<b>HEADQUARTERS:</b> Watts Regulator Company	815 Chestnut St., North Andover, MA 01845-6098 U.S.A.	978 688-1811	978 794-1848
	Edwards, Platt & Deely, Inc.	271 Royal Ave., Hawthorne, NJ 07506	973 427-2898	973 427-4246
	Edwards, Platt & Deely, Inc. W. P. Haney Co., Inc.	368 Wyandanch Ave., North Babylon, NY 11703 51 Norfolk Ave., South Easton, MA 02375	631 253-0600 508 238-2030	631 253-0303 508 238-8353
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	The Joyce Agency, Inc.	8442 Alban Rd., Springfield, VA 22150	703 866-3111	703 866-2332
	Vernon Bitzer Associates, Inc. WMS Sales, Inc. (Main office)	980 Thomas Drive, Warminster, PA 18974 9580 County Rd., Clarence Center, NY 14032	215 443-7500 716 741-9575	215 443-7573 716 741-4810
South East	Billingsley & Associates, Inc.	2728 Crestview Ave., Kenner, LA 70062-4829	504 602-8100	504 602-8106
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	Francisco J. Ortiz & Co., Inc.	Charlyn Industrial Pk., Road 190 KM1.9 - Lot #8, Carolina, Puerto Rico 00983	787 769-0085	787 750-5120
	Mid-America Marketing, Inc.	203 Industrial Drive, Birmingham, AL 35211	205 879-3469	205 870-5027
	Mid-America Marketing, Inc.	1364 Foster Avenue, Nashville, TN 37210	615 259-9944	615 259-5111
	Mid-America Marketing, Inc.	5466 Old Hwy. 78, Memphis, TN 38118	901 795-0045	901 795-0394
	Smith & Stevenson Co., Inc.	4935 Chastain Ave., Charlotte, NC 28217	704 525-3388	704 525-6749
	Harry Warren, Inc. Watts	1243 West Colonial Dr., Orlando, FL 32804 2861-B Bankers Industrial Drive, Atlanta, GA 30360	407 841-9237 770 209-3310	407 841-9246 770 447-4583
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	Dave Watson Associates	1325 West Beecher, Adrian, MI 49221	517 263-8988	517 263-2328
	Disney McLane & Associates	428 McGregor Ave., Cincinnati, OH 45206	800 542-1682	877 476-1682
	BWA Company	17610 S. Waterloo Rd., Cleveland, OH 44119	216 486-1010	216 486-2860
	Mid-Continent Marketing Services Ltd.	1724 Armitage Ct., Addison, IL 60101	630 953-1211	630 953-1067
	Soderholm & Associates, Inc. Stickler & Associates	7150 143rd Ave. N.W., Anoka, MN 55303 333 North 121 St., Milwaukee, WI 53226	763 427-9635 414 771-0400	763 427-5665 414 771-3607
South Central	Hugh M. Cunningham, Inc.	13755 Benchmark, Dallas, TX 75234	972 888-3808	972 888-3838
	Mack McClain & Associates	11132 South Towne Square, Suite 202, St. Louis, MO 63123	314 894-8188	314 894-8388
	Mack McClain & Associates, Inc.	1450 NE 69th Place, Ste. 56 Ankeny, IA 50021	515 288-0184	515 288-5049
	Mack McClain & Associates, Inc.	15090 West 116th St., Olathe, KS 66062	913 339-6677	913 339-9518
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	Phoenix Marketing, Ltd.	2416 Candelaria N.E., Albuquerque, NM 87107	505 883-7100	505 883-7101
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	Hollabaugh Brothers & Associates	3028 S.E. 17th Ave., Portland, OR 97202	503 238-0313	503 235-2824
	P I R Sales, Inc.	3050 North San Marcos Place, Chandler, AZ 85225	480 892-6000	480 892-6096
	Preferred Sales	31177 Wiegman Road, Hayward, CA 94544	510 487-9755	510 476-1595
	R. E. Fitzpatrick Sales, Inc.	4109 West Nike Dr. (8250 South), West Jordan, UT 84088	801 282-0700	801 282-0600
Canada	Watts Industries (Canada) Inc. (Watts Regulator Co. Division)	5435 North Service Road, Burlington, Ontario L7L 5H7	905 332-4090	905 332-7068
	Con-Cur West Marketing, Inc.	71B Clipper Street, Coquitlam, British Columbia V3K 6X2	604 540-5088	604 540-5084
	D.C. Sales Corporation Inc.	#10-6130 4th St. S.E., Calgary, Alberta T2H 2A6	403 253-6808	403 259-8331
	D.C. Sales Corporation Inc.	11420 142 Street, Edmonton, Alberta T5M 1V1	780 496-9495	780 496-9621
	GTA Sales Team.	Greater Toronto Area	888 208-8927	888 479-2887
	Hydro-Mechanical Sales, Ltd.	3700 Joseph Howe Drive, Suite 1, Halifax, Nova Scotia B3L 4H7	902 443-2274	902 443-2275
	Hydro-Mechanical Sales, Ltd.	P.O. Box 1445 (Mailing), 297 Collishaw St., Suite 7 (shipping) Moncton, New Brunswick E1C 9R2	506 859-1107	506 859-2424
	J.D.S. Sales Ltd.	4 Lancaster Street, St. John's, Newfoundland A1A 5P7	709 579-5771	709 579-1558
	Le Groupe B.G.T., Inc.	23 du Buisson, Pont Rouge, Quebec G3H 1X9	418 873-2500	418 873-2505
	Le Groupe B.G.T., Inc.	86 des Entreprises #208, Boisbriand, Quebec J7G 2T3	450 434-9010	450 434-9848
	Mar-Win Agencies, Ltd.	1333 Clifton St., Winnipeg, Manitoba R3E 2V1	204 775-8194	204 786-8016
	Northern Mechanical Sales	P.O. Box 280 (mailing) 163 Pine St. (shipping), Garson, Ontario P3L 1S6	705 693-2715	705 693-4394
	Palser Enterprises, Ltd.	P.O. Box 28136 (mailing), 1885 Blue Heron Dr., #4, London, Ontario N6H 5L9	519 471-9382	519 471-1049
RAM Mechanical Marketing Inc.	1401 St. John Street, Regina, Saskatchewan S4R 1S5	306 525-1986	306 525-0809	
RAM Mechanical Marketing Inc.	510 Ave M South, Saskatoon, Saskatchewan S7M 2K9	306 244-6622	306 244-0807	
Walmar Mechanical Sales	24 Gurdwara Rd., Nepean, Ontario K2E 8B5	613 225-9774	613 225-0673	
0513	<b>EXPORT Hdqtrs.:</b> Watts Regulator Co.	815 Chestnut St., North Andover, MA 01845-6098 U.S.A.	978 688-1811	978 794-1848



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