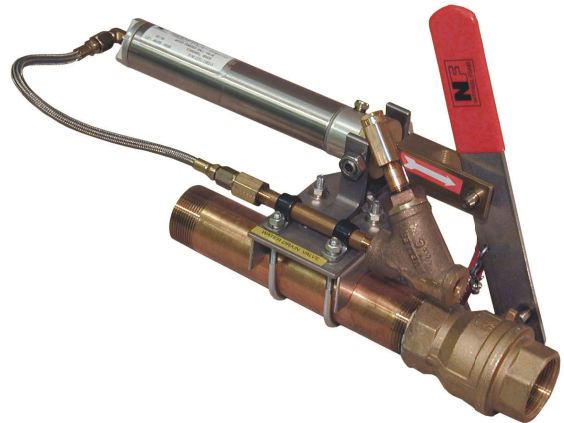


WATER POWERED BALL VALVES

MODEL WPBV-M2

NPR110

- Automatic Foam Discharge Valve
- Compatible With All Foam Concentrates
- Automation Options Available
- Full Port Non-Restrictive Design
- NFPA Compliant



Description

The water powered ball valve is designed for use in foam proportioning systems where automatic foam concentrate discharge is required. Actuation is accomplished by using the pressurized water supply as the actuation agent thus allowing operation of the valve without any additional power or control signal.

The pressurized water enters the water powered ball valve assembly through a ¼" FNPT inlet, passes through a wye strainer and is directed through a run of hose to the valve actuating cylinder. As the pressurized water enters the cylinder the piston and rod assembly are forced the full internal travel of the cylinder body. The piston and rod assembly in turn operates a clevis that is connected to the ball valve operating handle by a quick release pin. When the cylinder piston and rod have reached the end of their stroke, the ball valve is fully open. The pressurized water source can be supplied from the ratio controller sensing port or the alarm line of a deluge or alarm check valve thereby allowing operation to be initiated by the system water control valve or pressurization of the system. After operation, the valve must be manually closed.

The water powered ball valve assembly is capable of manual override by simply disengaging the cylinder from the ball valve. Remove the quick release pin from the rod clevis and the valve is ready for manual operation or resetting.

On systems where the water line is pressurized at all times, the water powered ball valve can still be used to control the foam concentrate discharge valve by the addition of a solenoid valve. The solenoid valve allows positive shutoff of the pressurized water source until energized by a remote signal.

Features

- Suitable for use with all foam concentrates.
- Water Inlet Strainer provided to keep debris from obstructing the supply line.
- Valve may be operated with pressures as low as 30 PSI (2 bar).
- Corrosion resistant materials of construction.
- Ease of operation for manual override.
- Automatic foam discharge capability without expensive control logic.
- Open & Closed positions clearly marked and easily identifiable.

Applications

- Automated foam concentrate discharge valve.
- Bladder tank systems where water source is constantly pressurized and it is desirable to keep pressure off the tank.

Specifications

The water powered ball valve shall consist of a ball valve with an actuator assembly designed to operate from

the system water supply. The ball valve shall be of the full port design and have a cast or forged brass body, Alloy CA377 or equal, with threaded ends and a minimum pressure rating of 400 WOG. The valve shall have a chrome plated brass ball and nickel plated brass stem with blowout proof design. Seats and seals used in the valve shall be PTFE or equal. Valve materials shall be compatible with all foam concentrates.

Actuation of the valve shall be by a hydraulic cylinder approved by the manufacturer for use with water. Construction of the cylinder shall be Type 304 stainless steel shell with mirror finish I.D. and high strength anodized aluminum alloy end caps. The rod shall be ground and burnished type 303 stainless steel with the piston threaded and riveted to the rod. Cylinder shall have a sintered bronze rod guide bushing and Buna N "U" cup seals. The actuating cylinder shall have a brass clevis threaded on the rod end and shall be connected to the valve handle by means of quick release pin. All mounting hardware and brackets shall be stainless steel and shall provide a stable secure mount to insure proper alignment of the actuator cylinder. Water shall be supplied to the cylinder through brass piping, which shall include a wye strainer with blow off valve and shall terminate in a ¼" FNPT connection. The piping shall be connected to the cylinder by teflon tubing, with a stainless steel outer braid, to allow for movement of the cylinder during actuation.

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NPR110

Specifications (cont.)

Operation of the valve to the open position shall occur when water pressure is applied to the actuator inlet port. Valve shall operate with pressures as low as 30 PSI (2 bar) or as high as 250 PSI (17 bar). The water powered ball valve assembly shall have the "Open" & "Closed" positions clearly marked. The valve shall remain in the open position until manually reset. The water powered ball valve assembly shall be capable of manual override. This shall be accomplished by removing the quick release pin from the rod clevis, which disengages the cylinder from the ball valve.

Units requiring the solenoid operation option shall meet the preceding specification. In addition it shall have a two way solenoid with a stainless steel body and plunger, and Viton seals. The solenoid coil shall be epoxy molded, either 24 VDC or 120 VAC and mounted in a NEMA 1 enclosure. A shut off valve shall be installed at the water supply inlet and a vent valve shall be installed between the solenoid and the cylinder. Pressure range of the water powered with solenoid option is 30 PSI (2 bar) to 200 PSI (14 bar).

Options

- Solenoid operation, 24 VDC or 120 VAC
- Various solenoid enclosure ratings available
- 4 way solenoid to provide on/off operation of valves
- Stainless Steel construction available upon request (Refer to NF Data Sheet NPR115)
- Flanged connections available upon request

Technical Data

Material of Construction:

Valve Body	Brass or Bronze
Valve Ball	Chrome Plated Brass
Valve Seat	PTFE
Valve Stem	Nickel Plated Brass
Valve Handle	Carbon Steel (Powdercoat)
Cylinder	Stainless Steel / Aluminum Alloy
Strainer	Bronze
Pipe & Fittings	Brass
Mounting Hardware	Stainless Steel
Tubing	Teflon Tubing w/ Stainless Steel Outer Braid

Solenoid Valve (Optional):

Body	Stainless Steel
Plunger	Stainless Steel
Seals	Buna N

Operating Pressure:

Standard	30 PSI (2 bar) to 250 PSI (17 bar)
Solenoid Option	30 PSI (2 bar) to 200 PSI (14 bar)

Finish:

All Components	Natural Finish
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Weight:

	<u>Standard</u>	<u>Solenoid</u>
1"	19 lbs. (9 Kg.)	21 lbs. (10 Kg.)
1-1/2"	17 lbs. (8 Kg.)	19 lbs. (9 Kg.)
2"	20 lbs. (9 Kg.)	22 lbs. (10 Kg.)
2-1/2"	34 lbs. (15 Kg.)	36 lbs. (16 Kg.)

C_v:

1"	54 GPM
1-1/2"	92 GPM
2"	224 GPM
2-1/2"	390 GPM

Power Consumption (Solenoid Option):

120 VAC, 60 Hz	0.16 amps holding 0.26 amps inrush
24 VDC	0.38 amps holding 0.38 amps inrush

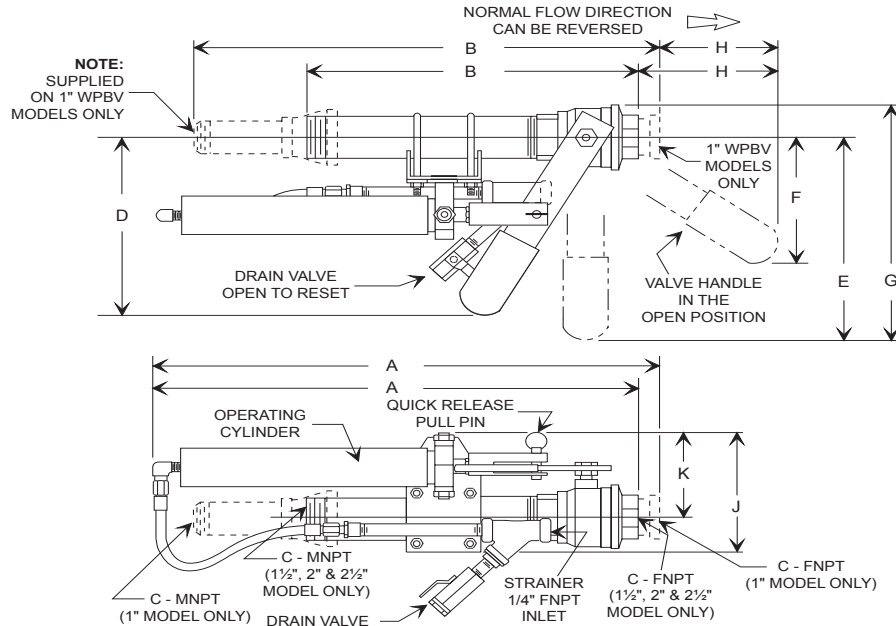
Enclosure Rating:

Solenoid Valve (Optional)	NEMA 1
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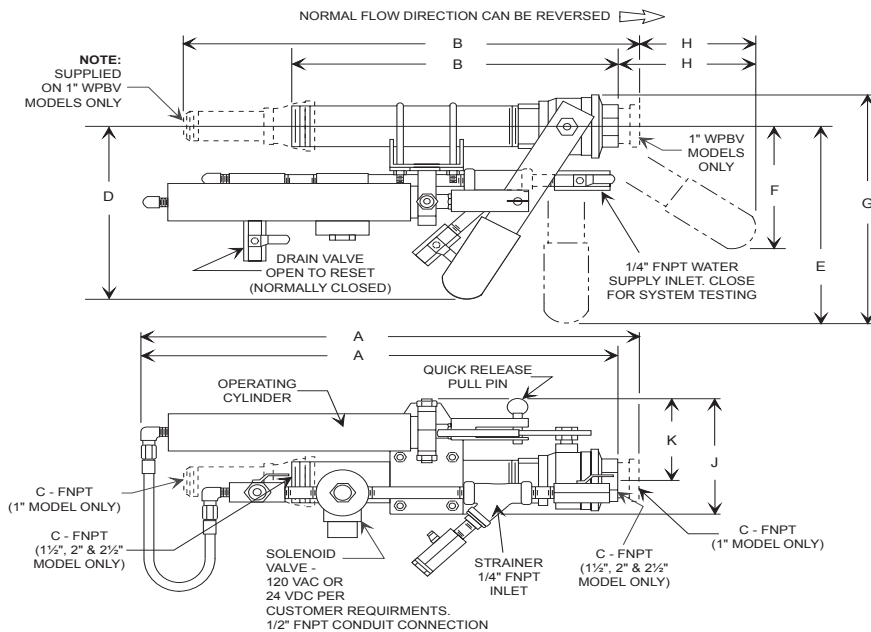
WATER POWERED BALL VALVES

MODEL WPBV-M2

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MODEL WPBV-M2 STANDARD WATER POWERED BALL VALVES



MODEL WPBV-M2S SOLENOID RELEASE WATER POWERED BALL VALVES

SIZE	A	B	C	D	E	F	G	H	J	K
1"	20 (508)	14-9/16 (370)	1 (25)	8-3/4 (222)	10 (254)	5-1/2 (140)	11-1/2 (292)	6 (152)	5-5/8 (143)	4 (102)
1-1/2"	20 (508)	12-1/4 (311)	1-1/2 (38)	8-3/4 (222)	10 (254)	5-1/2 (140)	11-1/2 (292)	6-5/8 (168)	5-5/8 (143)	4 (102)
2"	20-1/2 (521)	12-3/4 (324)	2 (51)	8-3/4 (222)	10 (254)	5-1/2 (140)	11-3/4 (298)	6-1/2 (165)	6-1/4 (159)	4-3/8 (111)
2-1/2"	21-1/2 (546)	14-5/8 (371)	2-1/2 (64)	10-1/4 (260)	11-1/2 (292)	6-3/8 (162)	13-5/8 (346)	7-1/4 (184)	7-1/4 (184)	5-1/4 (133)

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When ordering please specify the following information: Valve size, solenoid voltage if required.

ORDERING INFORMATION	
Part Number:	Description:
1231-1082-0	1" Water Powered Ball Valve, Model WPBV-M2
1231-1082-5	1-1/2" Water Powered Ball Valve, Model WPBV-M2
1231-1082-6	2" Water Powered Ball Valve, Model WPBV-M2
1231-1082-4	2-1/2" Water Powered Ball Valve, Model WPBV-M2
1231-1084-0	1" Water Powered Ball Valve w/24VDC solenoid, Model WPBV-M2S
1231-1084-5	1-1/2" Water Powered Ball Valve w/24VDC solenoid, Model WPBV-M2S
1231-1084-6	2" Water Powered Ball Valve w/24VDC solenoid, Model WPBV-M2S
1231-1084-4	2-1/2" Water Powered Ball Valve w/24VDC solenoid, Model WPBV-M2S
1231-1083-0	1" Water Powered Ball Valve w/120VAC solenoid, Model WPBV-M2S
1231-1083-2	1-1/2" Water Powered Ball Valve w/120VAC solenoid, Model WPBV-M2S
1231-1083-3	2" Water Powered Ball Valve w/120VAC solenoid, Model WPBV-M2S
1231-1083-4	2-1/2" Water Powered Ball Valve w/120VAC solenoid, Model WPBV-M2S