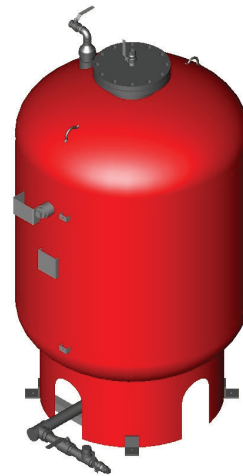


VERTICAL BLADDER TANK BALANCED PRESSURE FOAM SUPPLY DEVICE

NPR030

Approvals: UL, ULC

- Reliable Foam Supply Requiring Only Water Power
- Perfect For Tight Spaces
- UL & ULC Listed/ASME/National Board Registered
- Bladder UL162 Approved, Hi Tensile Pressure Formed Seams
- Interior Strainers And Flow Path Devices Integral To Tank
- Compatible With All Ratio Controllers



Description

The Bladder Tank is an integral component of the bladder tank proportioning system, which requires no external power other than an adequate water supply. A bladder tank, with an appropriate proportioner(s), injects foam concentrate into the water supply of a fire protection system and automatically proportions over a wide range of flows and pressures.

The National Foam bladder tank is a steel pressure vessel fitted with an internal bladder that stores foam concentrate. During operation, water supplied to the bladder tank displaces the foam concentrate and collapses the bladder until the concentrate is depleted. The bladder tank discharges foam concentrate at approximately the same pressure as the water supplied at the water inlet connection to the tank. Since the bladder tank is pressurized, the bladder cannot be refilled during operation.

Features

- Compatible with all foam concentrates
- Requires less floor space than horizontal tanks
- Bottom foam concentrate discharge keeps feed piping full, eliminating air pockets and preventing corrosion
- Permanently welded lifting lugs for easy tank movement and positioning
- Floor anchoring design

Applications

Frequently used in aircraft hangars, loading racks, sprinkler systems, and offshore platforms.

Technical Specifications

The bladder tank shall be an ASME code welded carbon steel pressure vessel with a working pressure of 175 psi (12 bar). The tank shall be supplied in the vertical configuration and shall be mounted on full skirt securely welded to tank shell, complete with four mounting clips. A flexible, thermoplastic vulcanized rubber internal bladder separates the foam concentrate from the incoming water. The bladder shall be manufactured with single piece nozzles and all seams shall be temperature/pressure high tensile strength using no adhesives. The tank shall have perforated PVC schedule 80 center discharge piping, located within the bladder, to ensure that foam concentrate flows to the bottom discharge. A section of 1-inch I.D. rubber hose installed between the bladder and tank shell, shall extend from the water vent to the water drain connection, preventing bladder obstruction at these openings.

All external piping shall be Schedule 40, and shall be brass for foam concentrate and carbon steel for water. Brass or bronze ball valves of the locking handle type, in accordance with NFPA requirements for valve supervision, shall be supplied, and shall be complete with identification labels on the handles. Tank shall include all necessary drain and vent valves, concentrate fill piping, fill cup, and tank content/identification labels. External surfaces of tank and piping shall be coated with red high solids acrylic polyurethane finish.

Approvals and Listings

- Underwriters Laboratories, Inc. (UL Listed)
- Underwriters Laboratories, Canada. (ULC Listed)

Technical Information

Materials of Construction:

Tank: Carbon steel, ASME code

Bladder: Welded Seam Thermoplastic

Internal Piping: Perforated PVC, Sch. 80

External Piping:

Water Side: Carbon Steel,
Sch. 40, Screwed

Fm. Conc. Side: Brass, Sch.
40, Screwed

Valves: Ball valve with locking
handle, bronze body, and
brass or chrome plated brass
ball

Fill Funnel: Polyethylene, 7½" diameter
cup x 1" male NPT spout

Exterior Finish:

Red high solids acrylic polyurethane
(NF Spec AS1-06-030)

Working Pressure:

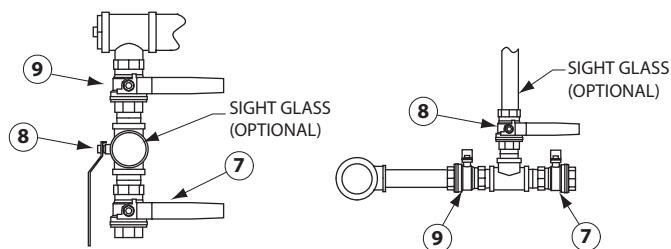
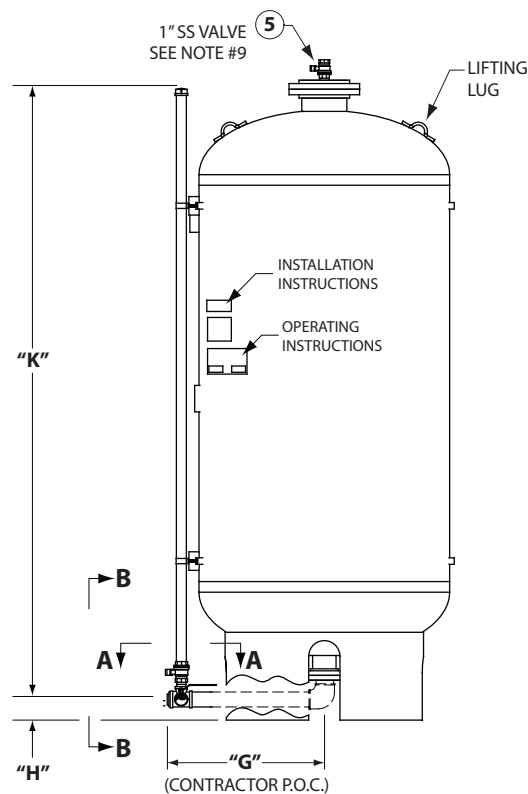
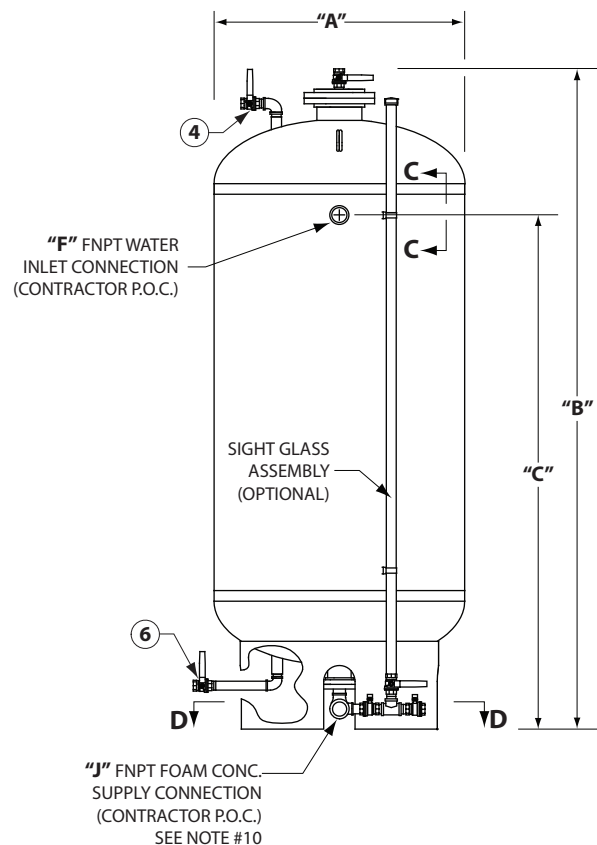
175 psi (12 bar)

Options

- Sight gauge: 1½" (38 mm) O.D. polycarbonate with bronze ball shut-off valve
- Higher tank working pressures
- Coal tar epoxy internal coating
- Special finishes
- Pressure relief valve
- Type 304 or 316 stainless steel piping, screwed or welded
- Fill kit
- Seismic mounting ring
- Prepiped
- Alternate flow directions

VERTICAL BLADDER TANK

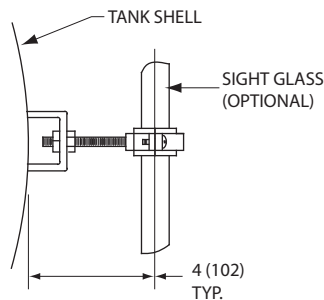
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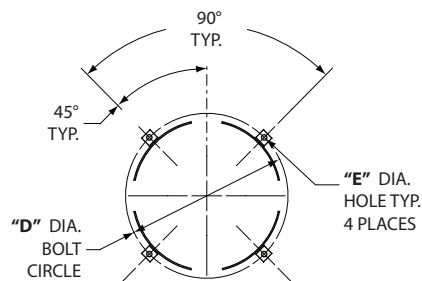
DETAIL A - A

DETAIL B - B

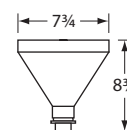
VALVE DESCRIPTION		
Valve No.	Description	Normal Position
4	Tank Water Vent	Closed
5	Concentrate Vent/Fill	Closed
6	Water Drain/Fill	Closed
7	Concentrate Drain/Fill	Closed
8	Sight Glass (Optional)	Closed
9	Sight Glass Supply (Optional)	Open



DETAIL C - C



DETAIL D - D
FLOOR ANCHORING DETAIL



FILL FUNNEL
TO BE SCREWED INTO VALVE 5
SEE NOTE #9

VERTICAL BLADDER TANK

NPR030

CAPACITY AND DIMENSIONS CHART											
Capacity gal. (liters)	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"J"	"K"	Empty Weight lb (kg)
25 (95)	20 (508)	49 (1245)	29 (737)	22-3/4 (578)	9/16 (14)	2 (51)	15-1/4 (387)	4 (102)	2 (51)	36 (914)	150 (68)
36 (136)	24 (610)	50 (1270)	25 (635)	22-3/4 (578)	9/16 (14)	2 (51)	17-1/4 (438)	4 (102)	2 (51)	37 (940)	220 (100)
50 (189)	24 (610)	58 (1473)	33 (838)	22-3/4 (578)	9/16 (14)	2 (51)	17-1/4 (438)	4 (102)	2 (51)	45 (1143)	307 (139)
100 (379)	24 (610)	87 (2210)	62 (1575)	22-3/4 (578)	9/16 (14)	2 (51)	17-1/4 (438)	4 (102)	2 (51)	74 (1880)	465 (211)
150 (568)	30 (762)	86 (2184)	59 (1499)	27-3/4 (705)	9/16 (14)	2 (51)	20-1/4 (514)	4 (102)	2 (51)	73 (1854)	620 (281)
200 (757)	30 (762)	104 (2642)	77 (1956)	27-3/4 (705)	9/16 (14)	2 (51)	20-1/4 (514)	4 (102)	2 (51)	91 (2311)	757 (343)
300 (1136)	36 (914)	108 (2743)	80 (2032)	32-3/4 (832)	9/16 (14)	2 (51)	23-1/4 (591)	4 (102)	2 (51)	95 (2413)	1101 (499)
400 (1514)	48 (1219)	91 (2311)	59-1/2 (1511)	41-1/2 (1054)	11/16 (17)	2 (51)	29-1/4 (743)	4 (102)	2 (51)	78 (1981)	1504 (682)
500 (1892)	48 (1219)	105 (2667)	73-1/2 (1867)	41-1/2 (1054)	11/16 (17)	2 (51)	29-1/4 (743)	4 (102)	2 (51)	92 (2337)	1560 (709)
600 (2271)	48 (1219)	120 (3048)	88-1/2 (2248)	41-1/2 (1054)	11/16 (17)	3 (76)	29-1/4 (743)	4 (102)	2 (51)	107 (2718)	1669 (757)
700 (2649)	48 (1219)	134 (3404)	102-1/2 (2604)	41-1/2 (1054)	11/16 (17)	3 (76)	29-1/4 (743)	4 (102)	3 (76)	121 (3073)	1799 (816)
750 (2839)	48 (1219)	142 (3607)	110-1/2 (2807)	51-1/2 (1308)	11/16 (17)	3 (76)	29-1/4 (743)	8 (203)	3 (76)	125 (3175)	1900 (862)
800 (3028)	60 (1524)	113 (2870)	78-1/2 (1994)	51-1/2 (1308)	11/16 (17)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	96 (2438)	2004 (909)
900 (3407)	60 (1524)	122 (3099)	87-1/2 (2223)	51-1/2 (1308)	11/16 (17)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	105 (2667)	2334 (1059)
1000 (3785)	60 (1524)	132 (3353)	97-1/2 (2477)	51-1/2 (1308)	13/16 (21)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	115 (2921)	2730 (1238)
1100 (4164)	60 (1524)	141 (3581)	106-1/2 (2705)	51-1/2 (1308)	13/16 (21)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	124 (3150)	3823 (1734)
1200 (4542)	60 (1524)	150 (3810)	115-1/2 (2934)	51-1/2 (1308)	13/16 (21)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	133 (3378)	3221 (1461)
1300 (4921)	60 (1524)	160 (4064)	125-1/2 (3188)	51-1/2 (1308)	13/16 (21)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	143 (3632)	3340 (1515)
1400 (5300)	60 (1524)	169 (4293)	134-1/2 (3416)	51-1/2 (1308)	13/16 (21)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	152 (3861)	3459 (1569)
1500 (5678)	60 (1524)	178 (4521)	143-1/2 (3645)	51-1/2 (1308)	13/16 (21)	3 (76)	35-3/4 (908)	8 (203)	3 (76)	161 (4089)	3510 (1592)
1600 (6057)	72 (1829)	144 (3658)	109-1/2 (2781)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	127 (3226)	3600 (1633)
1700 (6425)	72 (1829)	150 (3810)	115-1/2 (2934)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	133 (3378)	3725 (1690)
1800 (6814)	72 (1829)	157 (3988)	122-1/2 (3112)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	140 (3556)	3850 (1746)
1900 (7192)	72 (1829)	163 (4140)	128-1/2 (3264)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	146 (3708)	3975 (1803)
2000 (7571)	72 (1829)	170 (4318)	135-1/2 (3442)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	153 (3886)	4100 (1860)
2100 (7949)	72 (1829)	176 (4470)	141-1/2 (3594)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	159 (4039)	4225 (1916)
2200 (8328)	72 (1829)	183 (4648)	148-1/2 (3772)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	166 (4216)	4350 (1973)
2300 (8706)	72 (1829)	189 (4801)	154-1/2 (3924)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	172 (4369)	4475 (2030)
2400 (9085)	72 (1829)	196 (4978)	161-1/2 (4102)	57-1/2 (1461)	13/16 (21)	3 (76)	41-3/4 (1060)	8 (203)	3 (76)	179 (4547)	4600 (2087)

NOTES:

1. All dimensions are approximate and may vary slightly.
2. Weights listed apply to empty tanks.
3. All tank and valve openings will be plugged for shipping.
4. Optional sight glass assembly includes:
 - Polycarbonate sight glass tube, 1½" (38) O.D. open to atmosphere (vented cap)
 - Ball shutoff valve
 - Split pipe clamp w/ threaded rod
5. Fill funnel and optional sight glass tube will be packed and shipped separately.
6. Optional sight glass level check cannot be performed with alcohol type AFFF concentrates. Refer to the operating and maintenance manual for further instructions.
7. Contents label will be supplied to customer by NF with foam concentrate order and applied by customer.
8. When designing a building to house bladder tanks, provisions must be to allow for the removal of the internal piping and bladder. These items are the full height of tank.
9. Concentrate vent valve #5 will also be used to top off the concentrate level. A fill funnel will be provided with each tank for this purpose.
10. End user shall supply isolation valve at connection point "J".
11. For non-standard or special tanks, refer to the tank's specific outline assembly drawing for details.

VERTICAL BLADDER TANK

NPR030

ORDERING INFORMATION											
Capacity		Part Number w/o sight gauge	Part Number w/ sight gauge	Approx. Shipping Weight		Approx. Shipping Package Dimensions					
gal.	liters			lb	kg	L		W		H	
						in.	mm	in.	mm	in.	mm
25	95	1218-2133-6	1218-2132-6	760	345	34	864	34	864	55	1397
36	136	1218-2133-7	1218-2132-7	770	350	36	914	36	914	56	1422
50	189	1218-2128-0	1218-2130-0	800	363	36	914	36	914	64	1626
100	379	1218-2128-1	1218-2130-1	950	431	93	2362	41	1041	50	1270
150	568	1218-2128-2	1218-2130-2	1095	497	92	2337	38	965	52	1321
200	757	1218-2128-3	1218-2130-3	1225	556	110	2794	38	965	52	1321
300	1136	1218-2128-4	1218-2130-4	2000	908	114	2896	43	1092	57	1448
400	1514	1218-2128-5	1218-2130-5	2200	999	97	2464	55	1397	69	1753
500	1892	1218-2128-6	1218-2130-6	2350	1067	109	2769	55	1397	69	1753
600	2271	1218-2128-7	1218-2130-7	2500	1135	124	3150	55	1397	69	1753
700	2649	1218-2128-8	1218-2130-8	2650	1203	138	3505	55	1397	69	1753
750	2839	1218-2133-8	1218-2132-8	2800	1271	146	3708	55	1397	69	1753
800	3028	1218-2128-9	1218-2130-9	2900	1316	119	3023	67	1702	82	2083
900	3407	1218-2129-0	1218-2131-0	3250	1475	128	3251	67	1702	82	2083
1000	3785	1218-2129-1	1218-2131-1	3600	1634	138	3505	67	1702	82	2083
1100	4164	1218-2129-2	1218-2131-2	3950	1793	147	3734	67	1702	82	2083
1200	4542	1218-2129-3	1218-2131-3	4300	1952	156	3962	67	1702	82	2083
1300	4921	1218-2129-4	1218-2131-4	4650	2111	166	4216	67	1702	82	2083
1400	5300	1218-2129-5	1218-2131-5	5000	2270	175	4445	67	1702	82	2083
1500	5678	1218-2129-6	1218-2131-6	5350	2428	184	4674	67	1702	82	2083
1600	6057	1218-2129-7	1218-2131-7	5550	2519	150	3810	79	2007	94	2388
1700	6435	1218-2129-8	1218-2131-8	5750	2610	156	3962	79	2007	94	2388
1800	6814	1218-2129-9	1218-2131-9	5950	2701	163	4140	79	2007	94	2388
1900	7192	1218-2133-0	1218-2132-0	6150	2791	169	4293	79	2007	94	2388
2000	7571	1218-2133-1	1218-2132-1	6350	2882	176	4470	79	2007	94	2388
2100	7949	1218-2133-2	1218-2132-2	6550	2973	182	4623	79	2007	94	2388
2200	8328	1218-2133-3	1218-2132-3	6750	3064	189	4801	79	2007	94	2388
2300	8706	1218-2133-4	1218-2132-4	6950	3155	195	4953	79	2007	94	2388
2400	9085	1218-2133-5	1218-2132-5	7150	3245	202	5131	79	2007	94	2388