



## TECHNICAL DATA

## BLADDER TANKS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

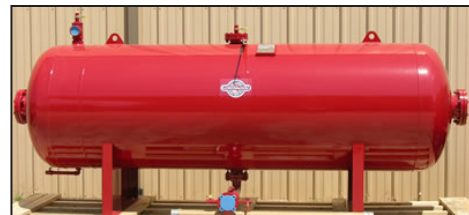
### 1. DESCRIPTION

The Chemguard Bladder Tank is one component in a balanced pressure foam proportioning system. It requires no external power, other than the water pressure to ensure correct operation. The vertical and horizontal bladder tanks are designed and constructed in accordance with the latest revisions to ASME code, Section VIII for unfired pressure vessels with a working pressure of 175 psi and tested to 1.3 times this pressure.

The tank shell is constructed of steel, complying with ASME specifications, possessing a tensile strength of not less than 70,000 psi. The circumferential, as well as the longitudinal body seam, are machine welded. The tank interior welds and edges are ground smooth.

The tank shell connections are screened to prevent bladder blow out or the entrapment of debris between the tank shell and the bladder.

The vertical tank assembly is supported by four legs with access to the bladder drain/fill valve and the tank shell drain/fill valve. Four feet are provided for anchoring the tank. The 50 to 100 gallon horizontal assemblies are supported by four legs. The 150 - 4500 gallon horizontal assemblies are supported on two saddles welded to the tank and fitted with anchoring holes.



#### Features

- Bladder is manufactured of a vinyl based polymer, or a polyester reinforced copolymer. The bladder material shall have an ASTM D-412 Tensile Strength of at least 3000 psi and an ASTM D-624 Graves Tear Strength of at least 420 lbs./in.
- Tanks are supplied with permanently mounted bronze trim valves with Teflon seats and stainless steel trim piping.
- All valves are labeled showing normal working position and function.
- Lifting lugs are permanently welded to the tank with eyes of approximately 2" diameter.
- Both the vertical and horizontal tanks contain a perforated PVC center tube that assures maximum agent discharge.
- All tanks are oversized to allow for any thermal expansion of the foam concentrate.
- All tanks are supplied with a label, which identifies the type of foam concentrate the system is designed for, the percentage ratio and the tank size.
- Tanks are painted red enamel on the exterior.

### 2. LISTINGS AND APPROVALS

UL Listed  
FM Approved

### 3. TECHNICAL DATA

#### Specifications:

See Table 1.

Flange Connections: ANSI Class 150 Flanges come standard.

#### Material Standards:

Tank: SA516-70 Carbon Steel

Flanges & Couplings: SA105 Carbon Steel

Trim and Fill Piping: 316 Stainless Steel & SA53B Schedule 40

Trim Valves: Stainless Steel with TFE seals

Sight Tube: Clear PVC Tube with Stainless Steel Valve

Exterior Coating: Red Enamel Finish

Interior: Unfinished, Ground Smooth

Bladder: Vinyl Based Polymer

#### Ordering Information:

Part Numbers:

Horizontal Tank - CHBT2-xxxx

Vertical Tank - CVBT2-xxxx, where xxxx is Tank Capacity

Viking Technical Data may be found on  
The Viking Corporation's Web site at  
<http://www.vikinggroupinc.com>.  
The Web site may include a more recent  
edition of this Technical Data Page.

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**4. INSPECTIONS, TESTS AND MAINTENANCE**

**NOTICE:** The owner is responsible for maintaining the fire protection system and devices in proper operating condition. For minimum maintenance and inspection requirements, refer to recognized standards such as those produced by NFPA, LPC, and VdS, which describe care and maintenance of sprinkler systems. In addition, the "Authority Having Jurisdiction" may have additional maintenance, testing and inspection requirements that must be followed.

**WARNING:** Any system maintenance or testing that involves placing a control valve or detection system out of service may eliminate the fire protection of that system. Prior to proceeding, notify all Authorities Having Jurisdiction. Consideration should be given to employment of a fire patrol in the affected area.

**5. AVAILABILITY**

Viking Foam Products are available through a network of domestic and international distributors. See the Viking web site for closest distributor or contact The Viking Corporation.

**6. GUARANTEE**

For details of warranty, refer to Viking's current list price schedule or contact Viking directly.

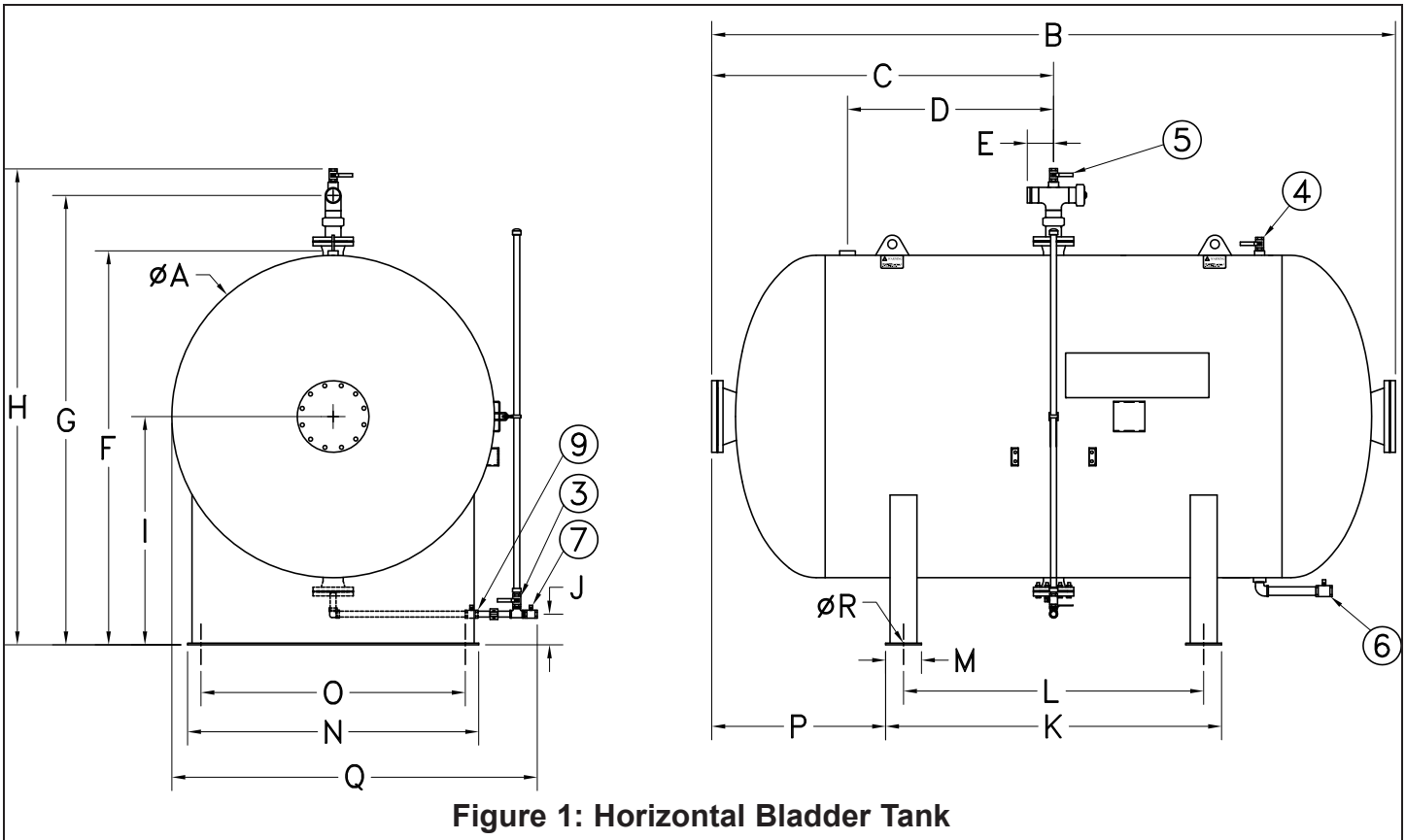


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**Figure 1: Horizontal Bladder Tank**

VALVE DESCRIPTION		NORMAL VALVE POSITION
Valve No.	Description	Automatic System
1	Manual Foam Concentrate Shut-Off (Not Shown)	N.O.
2	Water Supply Shut-Off (Not Shown)	N.O.
3	Sight Gauge Shut-Off	N.C.
4	Tank Shell Vent	N.C.
5	Bladder Vent	N.C.
6	Tank Shell Drain/Fill	N.C.
7	Bladder Drain/Fill	N.C.
8	Automatic Foam Concentrate Isolation (Not Shown)	N.C.
9	Fill Line Master Shut-Off	N.C.

N.O. - Normally Open; N.C. - Normally Closed

In this arrangement, Valves listed as "Not Shown" are supplied as loose ship items by Viking.

**NOTES:**

- Dimensions are approximate and subject to change without notice.
- Foam concentrate discharge pipe size:
  - Tank sizes 50 - 450 gallon.....2" NPT (F).
  - Tank sizes 500 - 4500 gallon.....3" Grooved.
- Water inlet pipe size:
  - Tank sizes 50 - 450 gallon.....2" NPT (F).
  - Tank sizes 500 - 4500 gallon.....3" NPT (F).
- When designing a building to store bladder tanks, steps shall be taken to allow for removal of the internal center tube(s). Center tubes are the full length and/or height of the bladder tank.
- \*Dimension E:** For tanks 500 gallons (1,893 Liters) and larger, Dimension E is 8" (203.2 mm) when brass foam piping is used.



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**Horizontal Bladder Tanks - Capacity, Dimensions & Weight Chart**

Capacity Gallons	Tank Dimensions - Inches																	Approx. Wt. Lbs.		
	Liters	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P		Q	R
50	189	24.0	45.5	22.8	7.5	2.3	40.0	47.2	53.2	27.0	6.9	19.0	12.0	4.5	23.0	20.0	13.3	33.6	0.56	470
75	284	24.0	60.5	30.3	15.0	2.3	40.0	47.2	53.2	27.0	6.9	27.0	20.0	4.5	23.0	20.0	16.8	33.6	0.56	600
100	379	24.0	75.5	37.8	20.0	2.3	40.0	47.2	53.2	27.0	6.9	33.0	29.5	3.5	34.0	28.0	24.3	33.6	0.56	720
150	568	36.0	58.5	29.3	9.5	2.3	52.0	59.2	65.2	33.0	6.9	33.0	29.5	3.5	34.0	28.0	12.8	45.6	0.56	1,050
200	757	36.0	72.5	36.3	16.5	2.3	52.0	59.2	65.2	33.0	6.9	30.0	25.0	5.0	34.0	28.0	25.3	45.6	0.56	1,320
250	946	36.0	85.5	42.8	23.0	2.3	52.0	59.2	65.2	33.0	6.9	35.0	30.0	5.0	34.0	28.0	25.3	45.6	0.56	1,480
300	1,136	36.0	99.5	49.8	30.0	2.3	52.0	59.2	65.2	33.0	6.9	48.0	43.0	5.0	34.0	28.0	25.8	45.6	0.56	1,600
350	1,325	36.0	112.5	56.3	36.5	2.3	52.0	59.2	65.2	33.0	6.9	61.0	56.0	5.0	34.0	28.0	25.8	45.6	0.56	1,800
400	1,514	36.0	126.5	63.3	43.5	2.3	52.0	59.2	65.2	33.0	6.9	74.0	69.0	5.0	34.0	28.0	26.3	45.6	0.56	2,000
450	1,703	36.0	139.5	69.8	50.0	2.3	52.0	59.2	65.2	33.0	6.9	87.0	82.0	5.0	34.0	28.0	26.3	45.6	0.56	2,175
500	1,893	48.0	95.5	47.8	24.0	5.9*	64.5	76.4	82.4	39.0	6.9	32.0	26.0	6.0	44.0	38.0	31.8	57.6	0.69	2,350
600	2,271	48.0	111.5	55.8	32.0	5.9*	64.5	76.4	82.4	39.0	6.9	40.0	34.0	6.0	44.0	38.0	35.8	57.6	0.69	2,800
700	2,650	48.0	126.5	63.3	39.5	5.9*	64.5	76.4	82.4	39.0	6.9	54.0	48.0	6.0	44.0	38.0	36.3	57.6	0.69	3,050
800	3,028	48.0	141.5	70.8	47.0	5.9*	64.5	76.4	82.4	39.0	6.9	68.0	62.0	6.0	44.0	38.0	36.8	57.6	0.69	3,400
900	3,407	48.0	156.5	78.3	54.5	5.9*	64.5	76.4	82.4	39.0	6.9	82.0	76.0	6.0	44.0	38.0	37.3	57.6	0.69	3,720
1,000	3,785	48.0	171.5	85.8	62.0	5.9*	64.5	76.4	82.4	39.0	6.9	96.0	90.0	6.0	44.0	38.0	37.8	57.6	0.69	3,900
1,100	4,164	60.0	125.0	62.5	34.5	5.9*	76.5	88.4	94.4	45.0	6.9	60.0	54.0	6.0	54.0	48.0	32.5	69.6	0.69	4,150
1,200	4,542	60.0	134.0	67.0	39.0	5.9*	76.5	88.4	94.4	45.0	6.9	69.0	63.0	6.0	54.0	48.0	32.5	69.6	0.69	4,370
1,300	4,921	60.0	143.0	71.5	43.5	5.9*	76.5	88.4	94.4	45.0	6.9	78.0	72.0	6.0	54.0	48.0	32.5	69.6	0.69	4,550
1,400	5,300	60.0	152.0	76.0	48.0	5.9*	76.5	88.4	94.4	45.0	6.9	87.0	81.0	6.0	54.0	48.0	32.5	69.6	0.69	4,760
1,500	5,678	60.0	162.0	81.0	53.0	5.9*	76.5	88.4	94.4	45.0	6.9	96.0	90.0	6.0	54.0	48.0	33.0	69.6	0.69	4,940
1,600	6,057	72.0	129.0	64.5	33.5	5.9*	88.5	100.4	106.4	51.0	6.9	51.0	43.0	8.0	65.0	59.0	39.0	81.6	0.81	5,130
1,700	6,435	72.0	135.0	67.5	36.5	5.9*	88.5	100.4	106.4	51.0	6.9	57.0	49.0	8.0	65.0	59.0	39.0	81.6	0.81	5,330
1,800	6,814	72.0	141.0	70.5	39.5	5.9*	88.5	100.4	106.4	51.0	6.9	63.0	55.0	8.0	65.0	59.0	39.0	81.6	0.81	5,510
1,900	7,192	72.0	148.0	74.0	43.0	5.9*	88.5	100.4	106.4	51.0	6.9	69.0	61.0	8.0	65.0	59.0	39.5	81.6	0.81	5,690
2,000	7,571	72.0	154.0	77.0	46.0	5.9*	88.5	100.4	106.4	51.0	6.9	75.0	67.0	8.0	65.0	59.0	39.5	81.6	0.81	6,030
2,100	7,949	84.0	124.0	62.0	28.0	5.9*	100.5	112.4	118.4	57.0	6.9	39.0	31.0	8.0	75.0	69.0	42.5	93.6	0.81	6,200
2,200	8,328	84.0	128.0	64.0	30.0	5.9*	100.5	112.4	118.4	57.0	6.9	44.0	36.0	8.0	75.0	69.0	42.0	93.6	0.81	6,400
2,300	8,706	84.0	133.0	66.5	32.5	5.9*	100.5	112.4	118.4	57.0	6.9	49.0	40.0	8.0	75.0	69.0	42.5	93.6	0.81	6,610
2,400	9,085	84.0	137.0	68.5	34.5	5.9*	100.5	112.4	118.4	57.0	6.9	54.0	46.0	8.0	75.0	69.0	41.5	93.6	0.81	6,780
2,500	9,464	84.0	142.0	71.0	37.0	5.9*	100.5	112.4	118.4	57.0	6.9	59.0	51.0	8.0	75.0	69.0	41.5	93.6	0.81	6,850
2,600	9,842	84.0	147.0	73.5	39.5	5.9*	100.5	112.4	118.4	57.0	6.9	65.0	55.0	10.0	75.0	67.0	41.0	93.6	1.06	7,200
2,700	10,221	84.0	151.0	75.5	41.5	5.9*	100.5	112.4	118.4	57.0	6.9	69.0	59.0	10.0	75.0	67.0	41.0	93.6	1.06	7,350
2,800	10,599	84.0	156.0	78.0	44.0	5.9*	100.5	112.4	118.4	57.0	6.9	74.0	64.0	10.0	75.0	67.0	41.0	93.6	1.06	7,500
2,900	10,978	84.0	161.0	80.5	46.5	5.9*	100.5	112.4	118.4	57.0	6.9	78.0	68.0	10.0	75.0	67.0	41.5	93.6	1.06	7,700
3,000	11,356	84.0	165.0	82.5	48.5	5.9*	100.5	112.4	118.4	57.0	6.9	81.0	71.0	10.0	75.0	67.0	42.0	93.6	1.06	7,900
3,100	11,735	84.0	170.0	85.0	51.0	5.9*	100.5	112.4	118.4	57.0	6.9	87.0	77.0	10.0	75.0	67.0	41.5	93.6	1.06	8,125
3,200	12,113	84.0	174.0	87.0	53.0	5.9*	100.5	112.4	118.4	57.0	6.9	92.0	82.0	10.0	75.0	67.0	41.0	93.6	1.06	8,350
3,300	12,492	84.0	179.0	89.5	55.5	5.9*	100.5	112.4	118.4	57.0	6.9	96.0	86.0	10.0	75.0	67.0	41.5	93.6	1.06	8,575
3,400	12,870	84.0	183.0	91.5	57.5	5.9*	100.5	112.4	118.4	57.0	6.9	101.0	91.0	10.0	75.0	67.0	41.0	93.6	1.06	8,800
3,500	13,249	84.0	188.0	94.0	60.0	5.9*	100.5	112.4	118.4	57.0	6.9	105.0	95.0	10.0	75.0	67.0	41.5	93.6	1.06	9,025
3,600	13,627	84.0	193.0	96.5	62.5	5.9*	100.5	112.4	118.4	57.0	6.9	111.0	99.0	12.0	75.0	67.0	41.0	93.6	1.06	9,250
3,700	14,006	84.0	197.0	98.5	64.5	5.9*	100.5	112.4	118.4	57.0	6.9	115.0	103.0	12.0	75.0	67.0	41.0	93.6	1.06	9,475
3,800	14,385	84.0	202.0	101.0	67.0	5.9*	100.5	112.4	118.4	57.0	6.9	120.0	108.0	12.0	75.0	67.0	41.0	93.6	1.06	9,700
3,900	14,763	84.0	206.0	103.0	69.0	5.9*	100.5	112.4	118.4	57.0	6.9	124.0	112.0	12.0	75.0	67.0	41.0	93.6	1.06	9,925
4,000	15,142	84.0	211.0	105.5	71.5	5.9*	100.5	112.4	118.4	57.0	6.9	129.0	117.0	12.0	75.0	67.0	41.0	93.6	1.06	10,150
4,100	15,520	84.0	216.0	108.0	74.0	5.9*	100.5	112.4	118.4	57.0	6.9	133.0	121.0	12.0	75.0	67.0	41.5	93.6	1.06	10,375
4,200	15,899	84.0	221.0	110.5	76.5	5.9*	100.5	112.4	118.4	57.0	6.9	138.0	126.0	12.0	75.0	67.0	41.5	93.6	1.06	10,500
4,300	16,277	84.0	225.0	112.5	78.5	5.9*	100.5	112.4	118.4	57.0	6.9	142.0	130.0	12.0	75.0	67.0	41.0	93.6	1.06	10,725
4,400	16,656	84.0	229.0	114.5	80.5	5.9*	100.5	112.4	118.4	57.0	6.9	147.0	135.0	12.0	75.0	67.0	41.0	93.6	1.06	10,925
4,500	17,034	84.0	234.0	117.0	83.0	5.9*	100.5	112.4	118.4	57.0	6.9	151.0	139.0	12.0	75.0	67.0	41.5	93.6	1.06	11,200

Table 1a: Horizontal Bladder Tank Dimensions - Inches



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**Horizontal Bladder Tanks - Capacity, Dimensions & Weight Chart**

Capacity Gallons	Tank Dimensions - Millimeters																			Approx. Wt. Kg.
	Liters	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	
50	189	609.6	1,155.7	577.9	190.5	58.4	1,016.0	1,198.9	1,351.3	685.8	175.3	482.6	304.8	114.3	584.2	508.0	336.6	853.4	14.3	213
75	284	609.6	1,536.7	768.4	381.0	58.4	1,016.0	1,198.9	1,351.3	685.8	175.3	685.8	508.0	114.3	584.2	508.0	425.5	853.4	14.3	272
100	379	609.6	1,917.7	958.9	508.0	58.4	1,016.0	1,198.9	1,351.3	685.8	175.3	685.8	508.0	114.3	584.2	508.0	616.0	853.4	14.3	327
150	568	914.4	1,485.9	743.0	241.3	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	838.2	749.3	88.9	863.6	711.2	323.9	1,158.2	14.3	476
200	757	914.4	1,841.5	920.8	419.1	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	762.0	635.0	127.0	863.6	711.2	641.4	1,158.2	14.3	599
250	946	914.4	2,171.7	1,085.9	584.2	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	889.0	762.0	127.0	863.6	711.2	641.4	1,158.2	14.3	671
300	1,136	914.4	2,527.3	1,263.7	762.0	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	1,219.2	1,092.2	127.0	863.6	711.2	654.1	1,158.2	14.3	726
350	1,325	914.4	2,857.5	1,428.8	927.1	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	1,549.4	1,422.4	127.0	863.6	711.2	654.1	1,158.2	14.3	816
400	1,514	914.4	3,213.1	1,606.6	1,104.9	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	1,879.6	1,752.6	127.0	863.6	711.2	666.8	1,158.2	14.3	907
450	1,703	914.4	3,543.3	1,771.7	1,270.0	58.4	1,320.8	1,503.7	1,656.1	838.2	175.3	2,209.8	2,082.8	127.0	863.6	711.2	666.8	1,158.2	14.3	987
500	1,893	1,219.2	2,425.7	1,212.9	609.6	149.9*	1,638.3	1,940.6	2,093.0	990.6	175.3	812.8	660.4	152.4	1,117.6	965.2	806.5	1,463.0	17.5	1,066
600	2,271	1,219.2	2,832.1	1,416.1	812.8	149.9*	1,638.3	1,940.6	2,093.0	990.6	175.3	1,016.0	863.6	152.4	1,117.6	965.2	908.1	1,463.0	17.5	1,270
700	2,650	1,219.2	3,213.1	1,606.6	1,003.3	149.9*	1,638.3	1,940.6	2,093.0	990.6	175.3	1,371.6	1,219.2	152.4	1,117.6	965.2	920.8	1,463.0	17.5	1,383
800	3,028	1,219.2	3,594.1	1,797.1	1,193.8	149.9*	1,638.3	1,940.6	2,093.0	990.6	175.3	1,727.2	1,574.8	152.4	1,117.6	965.2	933.5	1,463.0	17.5	1,542
900	3,407	1,219.2	3,975.1	1,987.6	1,384.3	149.9*	1,638.3	1,940.6	2,093.0	990.6	175.3	2,082.8	1,930.4	152.4	1,117.6	965.2	946.2	1,463.0	17.5	1,687
1,000	3,785	1,219.2	4,356.1	2,178.1	1,574.8	149.9*	1,638.3	1,940.6	2,093.0	990.6	175.3	2,438.4	2,286.0	152.4	1,117.6	965.2	958.9	1,463.0	17.5	1,769
1,100	4,164	1,524.0	3,175.0	1,587.5	876.3	149.9*	1,943.1	2,245.4	2,397.8	1,143.0	175.3	1,524.0	1,371.6	152.4	1,371.6	1,219.2	825.5	1,767.8	17.5	1,882
1,200	4,542	1,524.0	3,403.6	1,701.8	990.6	149.9*	1,943.1	2,245.4	2,397.8	1,143.0	175.3	1,752.6	1,600.2	152.4	1,371.6	1,219.2	825.5	1,767.8	17.5	1,982
1,300	4,921	1,524.0	3,632.2	1,816.1	1,104.9	149.9*	1,943.1	2,245.4	2,397.8	1,143.0	175.3	1,981.2	1,828.8	152.4	1,371.6	1,219.2	825.5	1,767.8	17.5	2,064
1,400	5,300	1,524.0	3,860.8	1,930.4	1,219.2	149.9*	1,943.1	2,245.4	2,397.8	1,143.0	175.3	2,209.8	2,057.4	152.4	1,371.6	1,219.2	825.5	1,767.8	17.5	2,159
1,500	5,678	1,524.0	4,114.8	2,057.4	1,346.2	149.9*	1,943.1	2,245.4	2,397.8	1,143.0	175.3	2,438.4	2,286.0	152.4	1,371.6	1,219.2	838.2	1,767.8	17.5	2,241
1,600	6,057	1,828.8	3,276.6	1,638.3	850.9	149.9*	2,247.9	2,550.2	2,702.6	1,295.4	175.3	1,295.4	1,092.2	203.2	1,651.0	1,498.6	990.6	2,072.6	20.6	2,327
1,700	6,435	1,828.8	3,429.0	1,714.5	927.1	149.9*	2,247.9	2,550.2	2,702.6	1,295.4	175.3	1,447.8	1,244.6	203.2	1,651.0	1,498.6	990.6	2,072.6	20.6	2,418
1,800	6,814	1,828.8	3,581.4	1,790.7	1,003.3	149.9*	2,247.9	2,550.2	2,702.6	1,295.4	175.3	1,600.2	1,397.0	203.2	1,651.0	1,498.6	990.6	2,072.6	20.6	2,499
1,900	7,192	1,828.8	3,759.2	1,879.6	1,092.2	149.9*	2,247.9	2,550.2	2,702.6	1,295.4	175.3	1,752.6	1,549.4	203.2	1,651.0	1,498.6	1,003.3	2,072.6	20.6	2,581
2,000	7,571	1,828.8	3,911.6	1,955.8	1,168.4	149.9*	2,247.9	2,550.2	2,702.6	1,295.4	175.3	1,905.0	1,701.8	203.2	1,651.0	1,498.6	1,003.3	2,072.6	20.6	2,735
2,100	7,949	2,133.6	3,149.6	1,574.8	711.2	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	990.6	787.4	203.2	1,905.0	1,752.6	1,079.5	2,377.4	20.6	2,812
2,200	8,328	2,133.6	3,251.2	1,625.6	762.0	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,117.6	914.4	203.2	1,905.0	1,752.6	1,066.8	2,377.4	20.6	2,903
2,300	8,706	2,133.6	3,378.2	1,689.1	825.5	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,219.2	1,016.0	203.2	1,905.0	1,752.6	1,079.5	2,377.4	20.6	2,998
2,400	9,085	2,133.6	3,479.8	1,739.9	876.3	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,371.6	1,168.4	203.2	1,905.0	1,752.6	1,054.1	2,377.4	20.6	3,075
2,500	9,464	2,133.6	3,606.8	1,803.4	939.8	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,498.6	1,295.4	203.2	1,905.0	1,752.6	1,054.1	2,377.4	20.6	3,107
2,600	9,842	2,133.6	3,733.8	1,866.9	1,003.3	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,651.0	1,397.0	254.0	1,905.0	1,701.8	1,041.4	2,377.4	27.0	3,266
2,700	10,221	2,133.6	3,835.4	1,917.7	1,054.1	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,752.6	1,498.6	254.0	1,905.0	1,701.8	1,041.4	2,377.4	27.0	3,334
2,800	10,599	2,133.6	3,962.4	1,981.2	1,117.6	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,879.6	1,625.6	254.0	1,905.0	1,701.8	1,041.4	2,377.4	27.0	3,402
2,900	10,978	2,133.6	4,089.4	2,044.7	1,181.1	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	1,981.2	1,727.2	254.0	1,905.0	1,701.8	1,054.1	2,377.4	27.0	3,493
3,000	11,356	2,133.6	4,191.0	2,095.5	1,231.9	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,057.4	1,803.4	254.0	1,905.0	1,701.8	1,066.8	2,377.4	27.0	3,583
3,100	11,735	2,133.6	4,318.0	2,159.0	1,295.4	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,209.8	1,955.8	254.0	1,905.0	1,701.8	1,054.1	2,377.4	27.0	3,685
3,200	12,113	2,133.6	4,419.6	2,209.8	1,346.2	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,336.8	2,082.8	254.0	1,905.0	1,701.8	1,041.4	2,377.4	27.0	3,787
3,300	12,492	2,133.6	4,546.6	2,273.3	1,409.7	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,438.4	2,184.4	254.0	1,905.0	1,701.8	1,054.1	2,377.4	27.0	3,890
3,400	12,870	2,133.6	4,648.2	2,324.1	1,460.5	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,565.4	2,311.4	254.0	1,905.0	1,701.8	1,041.4	2,377.4	27.0	3,992
3,500	13,249	2,133.6	4,775.2	2,387.6	1,524.0	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,667.0	2,413.0	254.0	1,905.0	1,701.8	1,054.1	2,377.4	27.0	4,094
3,600	13,627	2,133.6	4,902.2	2,451.1	1,587.5	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,819.4	2,514.6	304.8	1,905.0	1,701.8	1,041.4	2,377.4	27.0	4,196
3,700	14,006	2,133.6	5,003.8	2,501.9	1,638.3	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	2,921.0	2,616.2	304.8	1,905.0	1,701.8	1,041.4	2,377.4	27.0	4,298
3,800	14,385	2,133.6	5,130.8	2,565.4	1,701.8	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,048.0	2,743.2	304.8	1,905.0	1,701.8	1,041.4	2,377.4	27.0	4,400
3,900	14,763	2,133.6	5,232.4	2,616.2	1,752.6	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,149.6	2,844.8	304.8	1,905.0	1,701.8	1,041.4	2,377.4	27.0	4,502
4,000	15,142	2,133.6	5,359.4	2,679.7	1,816.1	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,276.6	2,971.8	304.8	1,905.0	1,701.8	1,041.4	2,377.4	27.0	4,604
4,100	15,520	2,133.6	5,486.4	2,743.2	1,879.6	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,378.2	3,073.4	304.8	1,905.0	1,701.8	1,054.1	2,377.4	27.0	4,706
4,200	15,899	2,133.6	5,613.4	2,806.7	1,943.1	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,505.2	3,200.4	304.8	1,905.0	1,701.8	1,054.1	2,377.4	27.0	4,763
4,300	16,277	2,133.6	5,715.0	2,857.5	1,993.9	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,606.8	3,302.0	304.8	1,905.0	1,701.8	1,054.1	2,377.4	27.0	4,865
4,400	16,656	2,133.6	5,816.6	2,908.3	2,044.7	149.9*	2,552.7	2,855.0	3,007.4	1,447.8	175.3	3,733.8	3,429.0	304.8						

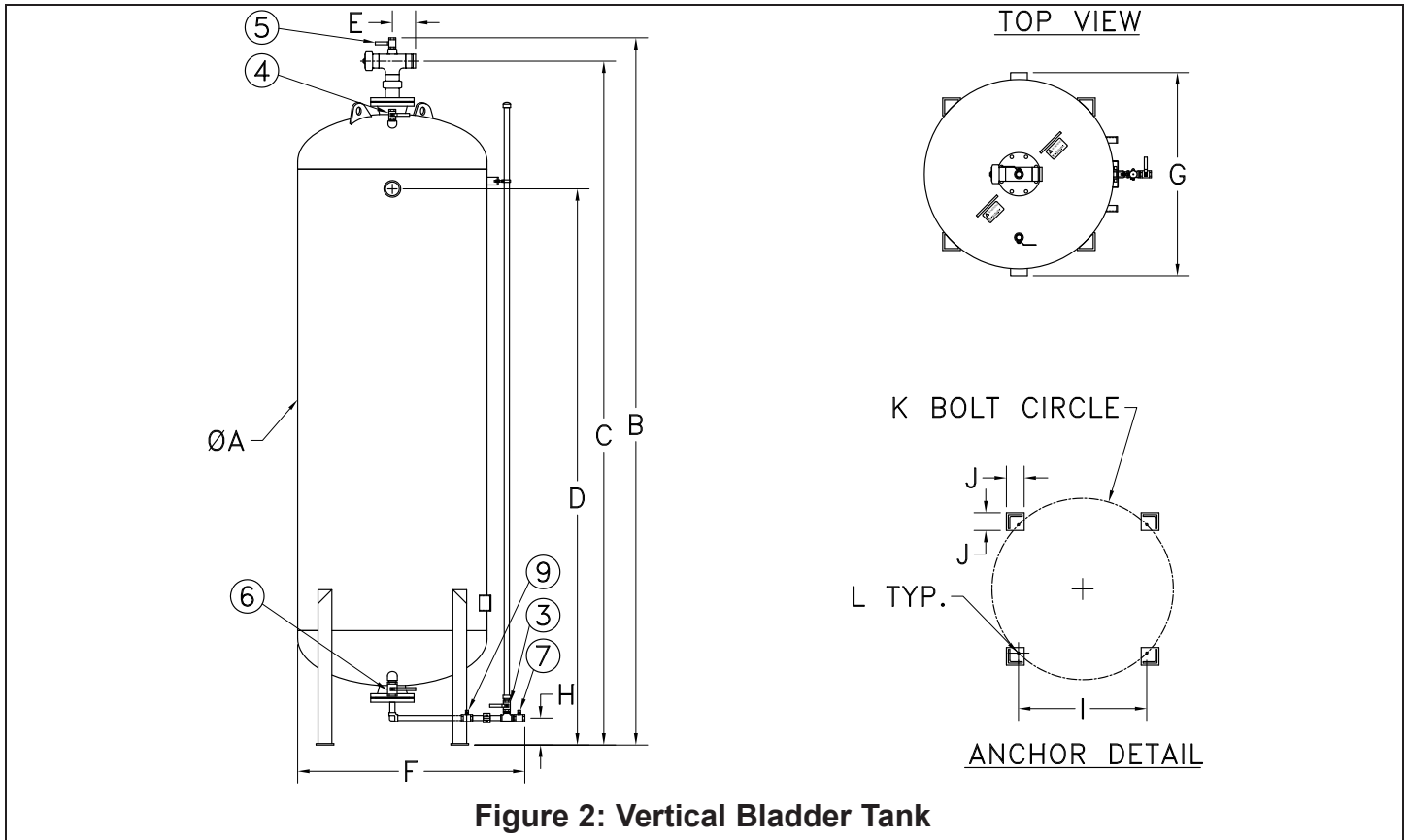


**TECHNICAL DATA**

**BLADDER TANKS**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com



**Figure 2: Vertical Bladder Tank**

VALVE DESCRIPTION		NORMAL VALVE POSITION
Valve No.	Description	Automatic System
1	Manual Foam Concentrate Shut-Off (Not Shown)	N.O.
2	Water Supply Shut-Off (Not Shown)	N.O.
3	Sight Gauge Shut-Off	N.C.
4	Tank Shell Vent	N.C.
5	Bladder Vent	N.C.
6	Tank Shell Drain/Fill	N.C.
7	Bladder Drain/Fill	N.C.
8	Automatic Foam Concentrate Isolation (Not Shown)	N.C.
9	Fill Line Master Shut-Off	N.C.

N.O. - Normally Open; N.C. - Normally Closed

In this arrangement, Valves listed as "Not Shown" are supplied as loose ship items by Viking.

**NOTES:**

- Dimensions are approximate and subject to change without notice.
- Foam concentrate discharge pipe size:
  - Tank sizes 25 - 450 gallon.....2" NPT (F).
  - Tank sizes 500 - 4500 gallon.....3" Grooved.
- Water inlet pipe size:
  - Tank sizes 25 - 450 gallon.....2" NPT (F).
  - Tank sizes 500 - 4500 gallon.....3" NPT (F).
- When designing a building to store bladder tanks, steps shall be taken to allow for removal of the internal center tube(s). Center tubes are the full length and/or height of the bladder tank.



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Vertical Bladder Tanks - Capacity, Dimensions & Weight Chart														
Capacity Gallons	Tank Dimensions - Inches													Approx. Wt. Lbs.
	Liters	A	B	C	D	E	F	G	H	I	J	K	L	
25	95	24.0	51.1	45.1	26.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	300
36	136	24.0	57.1	51.1	30.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	390
50	189	24.0	65.1	59.1	38.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	470
75	284	24.0	80.1	74.1	53.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	600
100	379	24.0	95.1	89.1	68.0	2.3	33.6	26.0	6.9	16.2	3.0	22.9	0.56	720
150	568	36.0	76.1	70.1	47.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,050
200	757	36.0	90.1	84.1	61.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,320
250	946	36.0	103.1	97.1	74.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,480
300	1,136	36.0	117.1	111.1	88.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,600
350	1,325	36.0	130.1	124.1	101.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	1,800
400	1,514	36.0	144.1	138.1	115.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	2,000
450	1,703	36.0	157.1	151.1	128.0	2.3	45.6	38.0	6.9	24.1	4.0	34.0	0.56	2,175
500	1,893	48.0	118.5	112.5	80.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	2,350
600	2,271	48.0	134.5	128.5	96.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	2,800
700	2,650	48.0	149.5	143.5	111.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,050
800	3,028	48.0	164.5	158.5	126.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,400
900	3,407	48.0	179.5	173.5	141.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,720
1,000	3,785	48.0	194.5	188.5	156.0	5.9*	57.6	51.0	6.9	32.5	4.5	46.0	0.56	3,900
1,100	4,164	60.0	149.5	143.5	107.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,150
1,200	4,542	60.0	158.5	152.5	116.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,370
1,300	4,921	60.0	167.5	161.5	125.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,550
1,400	5,300	60.0	176.5	170.5	134.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,760
1,500	5,678	60.0	186.5	180.5	144.0	5.9*	69.6	63.0	5.9	39.6	5.0	56.0	0.56	4,940
1,600	6,057	72.0	153.5	147.5	108.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,130
1,700	6,435	72.0	159.5	153.5	114.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,330
1,800	6,814	72.0	165.5	159.5	120.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,510
1,900	7,192	72.0	172.5	166.5	127.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	5,690
2,000	7,571	72.0	178.5	172.5	133.0	5.9*	81.6	75.0	5.9	48.6	5.0	68.8	0.56	6,030
2,100	7,949	84.0	148.5	142.5	100.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,200
2,200	8,328	84.0	152.5	146.5	104.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,400
2,300	8,706	84.0	157.5	151.5	109.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,610
2,400	9,085	84.0	161.5	155.5	113.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,780
2,500	9,464	84.0	166.5	160.5	118.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	6,850
2,600	9,842	84.0	171.5	165.5	123.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,200
2,700	10,221	84.0	175.5	169.5	127.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,350
2,800	10,599	84.0	180.5	174.5	132.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,500
2,900	10,978	84.0	185.5	179.5	137.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,700
3,000	11,356	84.0	189.5	183.5	141.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	7,900
3,100	11,735	84.0	194.5	188.5	146.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,125
3,200	12,113	84.0	198.5	192.5	150.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,350
3,300	12,492	84.0	203.5	197.5	155.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,575
3,400	12,870	84.0	207.5	201.5	159.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	8,800
3,500	13,249	84.0	212.5	206.5	164.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,025
3,600	13,627	84.0	217.5	211.5	169.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,250
3,700	14,006	84.0	221.5	215.5	173.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,475
3,800	14,385	84.0	226.5	220.5	178.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.56	9,700
3,900	14,763	84.0	230.5	224.5	182.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	9,925
4,000	15,142	84.0	235.5	229.5	187.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,150
4,100	15,520	84.0	240.5	234.5	192.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,375
4,200	15,899	84.0	245.5	239.5	197.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,500
4,300	16,277	84.0	249.5	243.5	201.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,725
4,400	16,656	84.0	253.5	247.5	205.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	10,925
4,500	17,034	84.0	258.5	252.5	210.0	5.9*	93.6	87.0	5.9	55.5	7.0	78.5	0.69	11,200

**Table 2a: Vertical Bladder Tank Dimensions - Inches**





**TECHNICAL DATA**

**BLADDER TANKS**

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com

Vertical Bladder Tanks - Capacity, Dimensions & Weight Chart														
Capacity Gallons	Tank Dimensions - Millimeters													Approx. Wt. Kg.
	Liters	A	B	C	D	E	F	G	H	I	J	K	L	
25	95	609.6	1298.6	1146.2	660.4	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	136
36	136	609.6	1451.0	1298.6	762.0	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	177
50	189	609.6	1654.2	1501.8	965.2	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	213
75	284	609.6	2035.2	1882.8	1346.2	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	272
100	379	609.6	2416.2	2263.8	1727.2	58.4	853.4	660.4	175.3	411.5	76.2	581.7	14.3	327
150	568	914.4	1933.6	1781.2	1193.8	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	476
200	757	914.4	2289.2	2136.8	1549.4	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	599
250	946	914.4	2619.4	2467.0	1879.6	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	671
300	1,136	914.4	2975.0	2822.6	2235.2	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	726
350	1,325	914.4	3305.2	3152.8	2565.4	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	816
400	1,514	914.4	3660.8	3508.4	2921.0	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	907
450	1,703	914.4	3991.0	3838.6	3251.2	58.4	1158.2	965.2	175.3	612.1	101.6	863.6	14.3	987
500	1,893	1219.2	3009.9	2857.5	2032.0	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,066
600	2,271	1219.2	3416.3	3263.9	2438.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,270
700	2,650	1219.2	3797.3	3644.9	2819.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,383
800	3,028	1219.2	4178.3	4025.9	3200.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,542
900	3,407	1219.2	4559.3	4406.9	3581.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,687
1,000	3,785	1219.2	4940.3	4787.9	3962.4	149.9*	1463.0	1295.4	175.3	825.5	114.3	1168.4	14.3	1,769
1,100	4,164	1524.0	3797.3	3644.9	2717.8	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	1,882
1,200	4,542	1524.0	4025.9	3873.5	2946.4	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	1,982
1,300	4,921	1524.0	4254.5	4102.1	3175.0	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	2,064
1,400	5,300	1524.0	4483.1	4330.7	3403.6	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	2,159
1,500	5,678	1524.0	4737.1	4584.7	3657.6	149.9*	1767.8	1600.2	149.9	1005.8	127.0	1422.4	14.3	2,241
1,600	6,057	1828.8	3898.9	3746.5	2743.2	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,327
1,700	6,435	1828.8	4051.3	3898.9	2895.6	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,418
1,800	6,814	1828.8	4203.7	4051.3	3048.0	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,499
1,900	7,192	1828.8	4381.5	4229.1	3225.8	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,581
2,000	7,571	1828.8	4533.9	4381.5	3378.2	149.9*	2072.6	1905.0	149.9	1234.4	127.0	1747.5	14.3	2,735
2,100	7,949	2133.6	3771.9	3619.5	2540.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	2,812
2,200	8,328	2133.6	3873.5	3721.1	2641.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	2,903
2,300	8,706	2133.6	4000.5	3848.1	2768.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	2,998
2,400	9,085	2133.6	4102.1	3949.7	2870.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,075
2,500	9,464	2133.6	4229.1	4076.7	2997.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,107
2,600	9,842	2133.6	4356.1	4203.7	3124.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,266
2,700	10,221	2133.6	4457.7	4305.3	3225.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,334
2,800	10,599	2133.6	4584.7	4432.3	3352.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,402
2,900	10,978	2133.6	4711.7	4559.3	3479.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,493
3,000	11,356	2133.6	4813.3	4660.9	3581.4	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,583
3,100	11,735	2133.6	4940.3	4787.9	3708.4	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,685
3,200	12,113	2133.6	5041.9	4889.5	3810.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,787
3,300	12,492	2133.6	5168.9	5016.5	3937.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,890
3,400	12,870	2133.6	5270.5	5118.1	4038.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	3,992
3,500	13,249	2133.6	5397.5	5245.1	4165.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,094
3,600	13,627	2133.6	5524.5	5372.1	4292.6	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,196
3,700	14,006	2133.6	5626.1	5473.7	4394.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,298
3,800	14,385	2133.6	5753.1	5600.7	4521.2	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	14.3	4,400
3,900	14,763	2133.6	5854.7	5702.3	4622.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,502
4,000	15,142	2133.6	5981.7	5829.3	4749.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,604
4,100	15,520	2133.6	6108.7	5956.3	4876.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,706
4,200	15,899	2133.6	6235.7	6083.3	5003.8	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,763
4,300	16,277	2133.6	6337.3	6184.9	5105.4	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,865
4,400	16,656	2133.6	6438.9	6286.5	5207.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	4,955
4,500	17,034	2133.6	6565.9	6413.5	5334.0	149.9*	2377.4	2209.8	149.9	1409.7	177.8	1993.9	17.5	5,080

**Table 2b: Vertical Bladder Tank Dimensions - Millimeters**



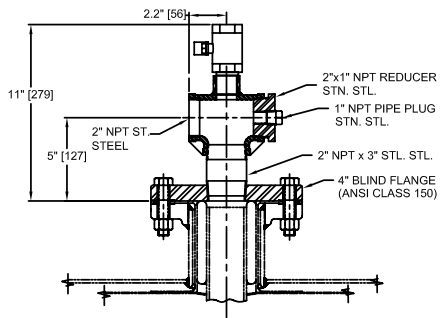


# TECHNICAL DATA

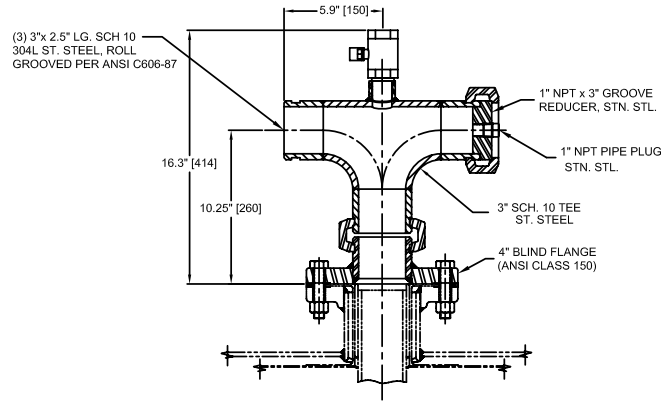
# BLADDER TANKS

The Viking Corporation, 210 N Industrial Park Drive, Hastings MI 49058

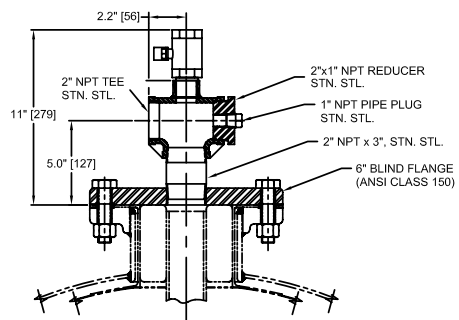
Telephone: 269-945-9501 Technical Services: 877-384-5464 Fax: 269-818-1680 Email: techsvcs@vikingcorp.com



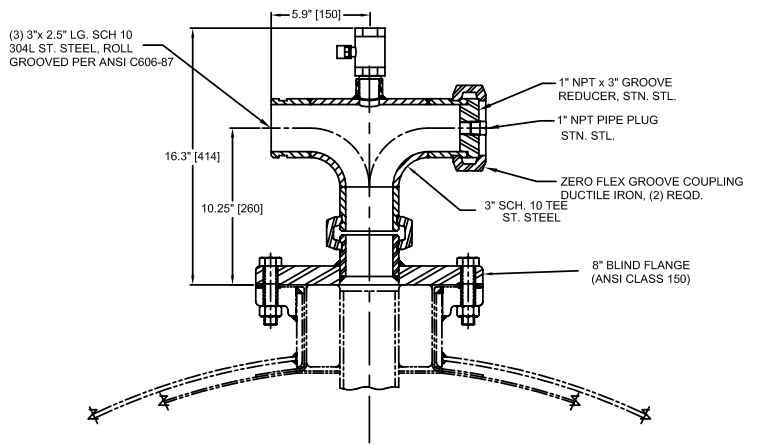
50 - 450 GALLON HORIZONTAL TANKS & 25 - 100 GALLON VERTICAL TANKS



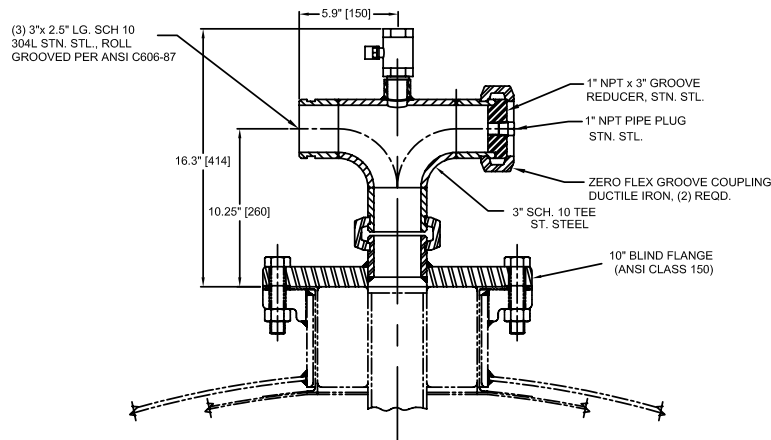
500 - 4500 GALLON HORIZONTAL TANKS



150 - 1000 GALLON VERTICAL TANKS



1100 - 2000 GALLON VERTICAL TANKS



2100 - 4500 GALLON VERTICAL TANKS

Figure 3 - Discharge Detail

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