

## Composite Vessels

### Product Features

- For commercial and industrial water treatment and storage
- 100% composite fiberglass construction
- Outstanding performance and durability in harsh chemical environments
- Absolutely will not - and cannot - rust
- Requires little or no maintenance
- Capacities up to 2500 gallons
- Factory-backed five-year warranty

### Materials of Construction

- Polyethylene inner shell (PVDF available)

### Operating Parameters

- Maximum operating pressure: 150 psi
- Maximum operating temperature:  
150°F (flanged) 120°F (threaded)

### Pentair Design Parameters

- Safety factor: 4:1
- Minimum burst at 600 psi
- Tested to 250,000 cycles without leakage

### NSF Design Parameters

- Safety factor: 4:1
- Minimum burst at 600 psi
- Tested to 100,000 cycles without leakage

### ASME Design Parameters

#### Top/bottom flange:

- Safety factor: 5:1
- Minimum burst at 750 psi
- Tested to 33,000 cycles without leakage

#### Side flange:

- Safety factor: 6:1
- Minimum burst at 900 psi
- Tested to 100,000 cycles without leakage



Specifications

|          | Part No. | Description | Height w/ base<br>Inches / mm | Height w/o base<br>Inches / mm | Capacity<br>Gallons / Liters | Cubic<br>Feet | Top<br>Open | Bottom<br>Open | Top<br>Side | Bottom<br>Side | Base      | Ship<br>Weight |
|----------|----------|-------------|-------------------------------|--------------------------------|------------------------------|---------------|-------------|----------------|-------------|----------------|-----------|----------------|
| 18" Dia. | 30948    | 18 x 65     | 67.1 / 1704                   | 66.5 / 1689                    | 62.4 / 236                   | 8.3           | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 67.7           |
|          | 31343    | 18 x 65     | 79.8 / 2027                   | 63.3 / 1608                    | 62.4 / 236                   | 8.3           | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | tripod    | 79.7           |
|          | 31693    | 18 x 65     | 84.4 / 2144                   | 70.0 / 1778                    | 62.4 / 236                   | 8.3           | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 79.7           |
| 21" Dia. | 30949    | 21 x 36     | 41.7 / 1059                   | 38.2 / 970                     | 45.3 / 171                   | 6.1           | 2.5" NPSM   | N/A            | N/A         | N/A            | SMC       | 46             |
|          | 30950    | 21 x 36     | 41.7 / 1059                   | 38.2 / 970                     | 45.3 / 171                   | 6.1           | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 46             |
|          | 31573    | 21 x 36     | 54.5 / 1386                   | 38.2 / 970                     | 45.3 / 171                   | 6.1           | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | tripod    | 46             |
|          | 30953    | 21 x 62     | 66.9 / 1699                   | 62.6 / 1590                    | 82.4 / 312                   | 11.0          | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 90             |
|          | 30954    | 21 x 62     | 79.0 / 2006                   | 62.6 / 1590                    | 82.4 / 312                   | 11.0          | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | *tripod   | 90             |
| 24" Dia. | 31043    | 24 x 38     | 42.0 / 1059                   | 38.5 / 978                     | 61.0 / 231                   | 8.2           | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 46             |
|          | 31053    | 24 x 50     | 55.6 / 1412                   | 51.5 / 1308                    | 83.5 / 316                   | 11.2          | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 83.5           |
|          | 31611    | 24 x 50     | 68.4 / 1738                   | 52.9 / 1344                    | 83.5 / 316                   | 11.2          | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | *tripod   | 83.5           |
|          | 32049    | 24 x 65     | 64 / 1626                     | 60.5 / 1537                    | 100 / 378                    | 13.4          | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 100            |
|          | 32129    | 24 x 65     | 66.5 / 1689                   | 62.6 / 1590                    | 100 / 378                    | 13.4          | 6" FLG      | N/A            | N/A         | N/A            | SMC       | 100            |
|          | 32139    | 24 x 65     | 79.0 / 2008                   | 65.0 / 1651                    | 100 / 378                    | 13.4          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 100            |
|          | 32481    | 24 x 65     | 75.7 / 1924                   | 60.0 / 1524                    | 100 / 378                    | 13.4          | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | *tripod   | 100            |
|          | 31153    | 24 x 72     | 74.1 / 1882                   | 70.6 / 1793                    | 119 / 450                    | 15.9          | 4"- 8" UN   | N/A            | N/A         | N/A            | SMC       | 139            |
|          | 31154    | 24 x 72     | 84.5 / 2147                   | 69.0 / 1753                    | 119 / 450                    | 15.9          | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | *tripod   | 139            |
|          | 31155    | 24 x 72     | 76.8 / 1951                   | 73.3 / 1862                    | 119 / 450                    | 15.9          | 6" FLG      | N/A            | N/A         | N/A            | SMC       | 149            |
|          | 31157    | 24 x 72     | 87.9 / 2232                   | 74.5 / 1892                    | 119 / 450                    | 15.9          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 149            |
| 30" Dia. | 31161    | 30 x 72     | 85.9 / 2182                   | 70.2 / 1783                    | 187 / 708                    | 25.0          | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | *tripod   | 234            |
|          | 31162    | 30 x 72     | 80.8 / 2052                   | 73.0 / 1854                    | 187 / 708                    | 25.0          | 6" FLG      | N/A            | N/A         | N/A            | SMC       | 240            |
|          | 31163    | 30 x 72     | 88.3 / 2242                   | 74.7 / 1897                    | 187 / 708                    | 25.0          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 240            |
| 36" Dia. | 31417    | 36 x 57     | 70.5 / 1791                   | 60.0 / 1524                    | 205 / 776                    | 27.4          | 6" FLG      | N/A            | N/A         | N/A            | SMC       | 160            |
|          | 31418    | 36 x 57     | 77.0 / 1956                   | 63.0 / 1600                    | 205 / 776                    | 27.4          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 160            |
|          | 31712    | 36 x 72     | 89.0 / 2261                   | 75.0 / 1905                    | 264 / 999                    | 35.3          | 6" FLG      | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 292            |
|          | 31214    | 36 x 72     | 83.0 / 2108                   | 73.5 / 1867                    | 264 / 999                    | 35.3          | 6" FLG      | N/A            | N/A         | N/A            | SMC       | 292            |
|          | 31217    | 36 x 72     | 89.0 / 2261                   | 75.0 / 1905                    | 264 / 999                    | 35.3          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 292            |
|          | 31523    | 36 x 72     | 86.2 / 2190                   | 70.5 / 1791                    | 264 / 999                    | 35.3          | 4"- 8" UN   | 4"- 8" UN      | N/A         | N/A            | *tripod   | 292            |
| 42" Dia. | 31272    | 42 x 72     | 94.5 / 2401                   | 71.0 / 1803                    | 345 / 1306                   | 46.1          | 6" FLG      | N/A            | N/A         | N/A            | tripod    | 678            |
|          | 31272    | 42 x 72     | 72.0 / 1828                   | 71.0 / 1803                    | 345 / 1306                   | 46.1          | 6" FLG      | N/A            | N/A         | N/A            | short SMC | xxx            |
|          | 31276    | 42 x 72     | 94.6 / 2404                   | 73.0 / 1854                    | 345 / 1306                   | 46.1          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 678            |
| 48" Dia. | 31281    | 48 x 72     | 91.8 / 2332                   | 76.0 / 1930                    | 463 / 1753                   | 61.9          | 6" FLG      | N/A            | N/A         | N/A            | tripod    | 780            |
|          | 31283    | 48 x 72     | 96.6 / 2454                   | 80.8 / 2052                    | 463 / 1753                   | 61.9          | 6" FLG      | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 780            |
|          | 31285    | 48 x 72     | 92.8 / 2357                   | 77.0 / 1955                    | 463 / 1753                   | 61.9          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 780            |
|          | 31432    | 48 x 72     | 97.5 / 2477                   | 81.7 / 2075                    | 463 / 1753                   | 61.9          | 16" MWY     | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 780            |
|          | 31647    | 48 x 72     | 93.8 / 2383                   | 78.0 / 1981                    | 463 / 1753                   | 61.9          | 16" MWY     | 6" FLG         | N/A         | N/A            | tripod    | 780            |
| 63" Dia. | 31290    | 63 x 67     | 80.3 / 2344                   | 67.8 / 1722                    | 600 / 2271                   | 80.2          | 16" MWY     | 6" FLG         | N/A         | N/A            | tripod    | 900            |
|          | 31390    | 63 x 67     | 79.5 / 2324                   | 67.0 / 1702                    | 600 / 2271                   | 80.2          | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 900            |
|          | 32008    | 63 x 67     | 80.3 / 2344                   | 67.8 / 1722                    | 600 / 2271                   | 80.2          | 16" MWY     | 10" FLG        | N/A         | N/A            | tripod    | 900            |
|          | 31292    | 63 x 86     | 97.0 / 2769                   | 84.5 / 2146                    | 850 / 3218                   | 114           | 16" MWY     | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 1425           |
|          | 31326    | 63 x 86     | 96.6 / 2758                   | 84.1 / 2136                    | 850 / 3218                   | 114           | 6" FLG      | 6" FLG         | N/A         | N/A            | tripod    | 1425           |
|          | 31327    | 63 x 86     | 97.0 / 2769                   | 84.5 / 2146                    | 850 / 3218                   | 114           | 16" MWY     | 6" FLG         | N/A         | N/A            | tripod    | 1200           |
|          | 32253    | 63 x 86     | 96.6 / 2758                   | 84.1 / 2136                    | 850 / 3218                   | 114           | 10" FLG     | 6" FLG         | N/A         | N/A            | tripod    | 1200           |
|          | 32356    | 63 x 86     | 97.0 / 2769                   | 84.5 / 2146                    | 850 / 3218                   | 114           | 16" MWY     | 10" FLG        | N/A         | N/A            | tripod    | 1425           |
|          | 32678    | 63 x 86     | 96.6 / 2758                   | 84.1 / 2136                    | 850 / 3218                   | 114           | 6" FLG      | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 1425           |
|          | 31325    | 63 x 116    | 128.5 / 3264                  | 116.0 / 2946                   | 1250 / 4732                  | 167           | 16" MWY     | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 1775           |
|          | 32500    | 63 x 116    | 128.5 / 3264                  | 116.0 / 2946                   | 1250 / 4732                  | 167           | 16" MWY     | 6" FLG         | N/A         | N/A            | tripod    | 1425           |
|          | 31456    | 63 x 144    | 158.5 / 4026                  | 146.0 / 3708                   | 1600 / 6057                  | 214           | 16" MWY     | 6" FLG         | N/A         | N/A            | tripod    | 2025           |
|          | 31607    | 63 x 144    | 158.5 / 4026                  | 146.0 / 3708                   | 1600 / 6057                  | 214           | 16" MWY     | 6" FLG         | 4" FLG      | 4" FLG         | tripod    | 2025           |
|          | 31664    | 63 x 144    | 158.5 / 4026                  | 146.0 / 3708                   | 1600 / 6057                  | 214           | 16" MWY     | 10" FLG        | N/A         | N/A            | tripod    | 2025           |

Color Options: AL - Almond

BL - Blue

BK - Black

GR - Gray

NA - Natural

NOTE: Flexible connections must be installed between hard piping and tank openings.  
Failure to install flex connection properly with the vessel will void the warranty.

\*Measurements are subject to change without notice and are for reference only.

Composite Vessels – Specifications



- Installation Tips:

  - Bolt base to floor
  - Calculate height for valve and base combined (see photo)

| Fleck Valve | Tank Dia.<br>Inches / mm | Adder Ht. (X)<br>Inches / mm |
|-------------|--------------------------|------------------------------|
| 2750        | 18 / 457                 | 6.5 / 165                    |
| 2850        | 21 / 533                 | 6.5 / 165                    |
| 2900        | 24, 30 / 610, 762        | 12 / 305                     |
| 3150        | 42 / 1067                | 10 / 254                     |
| 3900        | 48-63 / 1219-1600        | 15 /381                      |

Color Options: AL - Almond

BL - Blue

BK - Black

GR - Gray

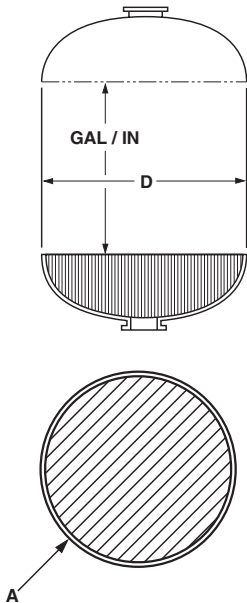
NA - Natural

\*Measurements are subject to change without notice and are for reference only.

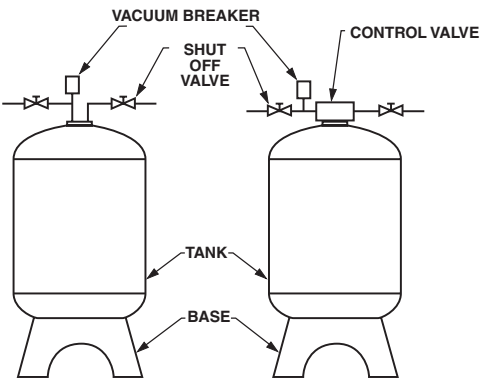
Dome Volume (gallons)  
and Straight Wall Gallon per Inch

| Nominal Diameter |                        |                            |                 |
|------------------|------------------------|----------------------------|-----------------|
| D<br>(inches)    | Gallons*<br>(One Dome) | Gallon / Inch<br>(Approx.) | A<br>(Sq. Feet) |
| 12               | 1.0                    | 0.5                        | 0.7             |
| 13               | 1.4                    | 0.5                        | 0.9             |
| 14               | 1.7                    | 0.6                        | 1.1             |
| 16               | 2.7                    | 0.8                        | 1.3             |
| 18               | 3.7                    | 1.0                        | 1.8             |
| 21               | 6.2                    | 1.4                        | 2.4             |
| 24               | 9.3                    | 1.9                        | 3.0             |
| 30               | 18                     | 2.9                        | 4.6             |
| 36               | 33                     | 4.2                        | 6.7             |
| 42               | 52                     | 5.7                        | 9.0             |
| 48               | 74                     | 7.5                        | 12.0            |
| 63               | 168                    | 13.0                       | 20.0            |

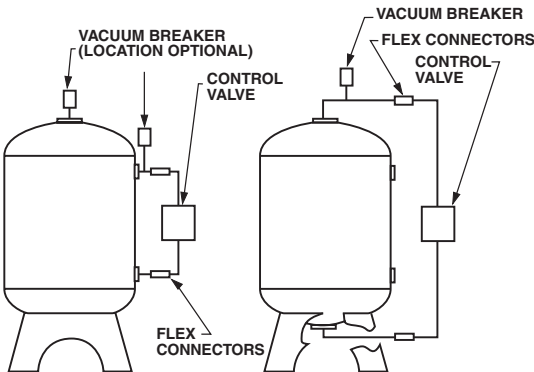
\*Cubic Ft. = 0.1337 x Gallons



Vacuum Breaker Installation



Flex Connectors Installation

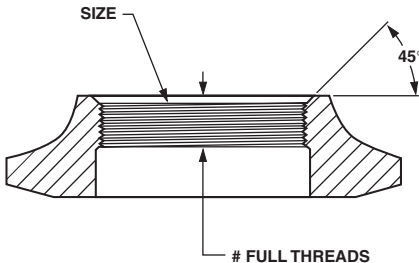


NOTE: Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are rated for an internal negative pressure of 5” HG (17 Pa) vacuum below atmospheric. If negative pressure could ever exceed 5” Hg (17 Pa), an adequate vacuum breaker must also be properly installed. Failure to install flex connection properly, or improper installation of a vacuum breaker when required, may void the warranty.

## Composite Vessels – Specifications

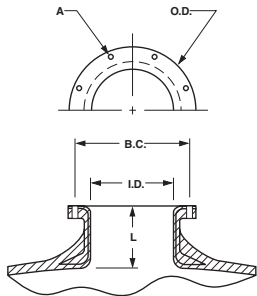
### Top and Bottom Opening Threads

| Size              | Composite/<br>Polyglass | Number of Full<br>Threads | Composite |
|-------------------|-------------------------|---------------------------|-----------|
| 2.5"- 8" NPSM     | 6                       | 3 min                     | 6         |
| 4"- 8" UN         | 7                       | 3 min                     | 7         |
| 4.5"- 8" Buttress | 7                       | 3 min                     | 7         |



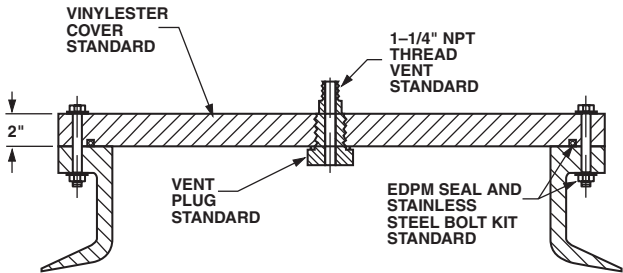
### Top and Bottom Opening Flanges/Manway

| Size           | L    | I.D.  | B.C.  | O.D.  | A<br>Bolt Dia. | Number<br>of Holes | Weight<br>(lbs.) |
|----------------|------|-------|-------|-------|----------------|--------------------|------------------|
| 6" SNA         | 3.6" | 5.9"  | 8.5"  | 9.4"  | 0.31"          | 12                 | 5.8              |
| 10" ANSI       | 3.7" | 10.0" | 14.3" | 16.0" | 0.88"          | 12                 | 17.8             |
| 16" Manway SNA | 4.3" | 16.0" | 20.4" | 21.3" | 0.50"          | 24                 | 34.0             |



### Manway Cover

| Material | Pressure<br>Rating | Tapping       |
|----------|--------------------|---------------|
| CPVC     | 100 psi            | As requested  |
| VE       | 150 psi            | As shown only |



### Side Flange

| Size    | L    | I.D. | B.C. | O.D. | B<br>Bolt Dia. | Number<br>of Holes | Weight<br>(lbs.) |
|---------|------|------|------|------|----------------|--------------------|------------------|
| 4" ANSI | 4.1" | 4.0" | 7.5" | 9.0" | 0.63"          | 8                  | 6.4              |

