# COMPOSITE PRESSURE TANKS 

A storage home for your water needs

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# WELLMATE OFFERS DEALS WITH MORE ADVANTAGES AND MORE SOLUTIONS FOR MORE STEEL SUMP PUMP APPLICATIONS 

## A GROWING CUSTOMER BASE

In the residential, commercial, and agricultural markets of the world, Pentair Wellmate Composite Tanks have long been the tank of choice for their unmatched performance over steel. As the recognized leader in composite pressure tank design, Wellmate water systems give you more to sell.

With unique features that translate into real benefits for your customers, Wellmate sets you apart from the competition.

## A MATERIAL DIFFERENCE

From the high-density polyethylene inner liner, to the fiberglass-wound and epoxy resin-sealed outer shell, Wellmate tanks do not contain steel, so they will not rust. What they can do is make everything easier. Wellmate tanks require little or no maintenance because they won't dent and they do not have paint to scratch and touch up. Their light weight is half that of steel tanks, making installation easier and faster.


In fact, most can be handled by a single installer, keeping costs down. Wellmate tanks are certified to NSF/ ANSI std. 61 section 8 and Annex G and are 100\% lead-free with NSF-372 certification. In addition, they will not introduce undesirable chemicals or elements into the water.

## A PRODUCT THAT'S WORTH MORE

Innovative Wellmate solutions for water storage and pressure boosting applications offer you a world class product that's worth more. From initial design through promised delivery, quality is a hallmark of Wellmate tanks. State-of-the-art equipment, the best materials and an ISO-9001 certified manufacturing facility guarantee that our one-piece composite construction is second to none.

## ONGOING DEALER SUPPORT

As a Wellmate dealer, you'll enjoy total dealer support. Wellmate tanks are only sold through a network of select professional dealers, giving you a real opportunity to make your mark. In addition, Wellmate dealers enjoy the benefits of sales training programs, seminars and technical support, as well as marketing support and dealer incentive programs. Want to know more about Wellmate and the edge it gives its dealers? Call your Wellmate distributor or visit pentair.com/ wellmate for more information.


## CAPTIVE AIR TANKS WM SERIES (CLASSIC \& CLASSIC OUICK CONNECT)

## APPLICATIONS

Residential, light commercial, and pressure boosting.

## EASY TO INSTALL, MAINTAIN, AND SERVICE

Our WM Series offers features and benefits that steel tanks can't match. From their corrosion-proof composite construction to their lighter weight, easier maintenance and less expensive installation, WM Series pressure tanks are the preferred choice of professionals, especially when the following advantages are added to the mix.

- OUICK CONNECT style: drain assembly, heavy gauge polymer aircell.
- CLASSIC style: drain assembly, heavy gauge polymer aircell. Replaceable aircell for easier field servicing.
- Easy to carry.
- Easy and less costly to install. Usually requiring only one person and fewer man-hours.
- Greater drawdown than comparably-sized steel tanks for greater efficiency.
- Won't rust in corrosive environments, which is particularly important in agricultural, livestock applications, and coastal regions.


## CLASSIC OUICK CONNECT - SPECIFICATIONS

| MODEL (DOMESTIC/ INTERNATIONAL) | CATALOG \# <br> (DOMESTIC/ <br> INTERNATIONAL) | CAPACITY (GAL/LITER) | MAX OPERATING PRESSURE (PSI/KPA/BAR) | DRAWDOWN 30/50 SETTING** <br> (GALLONS / LITERS) | SYSTEM CONNECTION (INCH/CM) | DIAMETER (INCH/CM) | OVERALL* <br> HEIGHT <br> (INCH/CM) | HEIGHT* FROM <br> INLET TO <br> FLOOR <br> (INCH/CM) | WEICHT* <br> (LBS/KG) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WM-4 / WM0060 QC | CH34717 / CH34729 | 14.5/55 | 125 / 862 / 8.6 | 4.5 / 17.0 | 1" MNPT | 16 / 41 | 26/66 | 1.75 / 4.4 | 17 / 7.7 |
| WM-6 / WM0075 OC | 34718 / CH34730 | $19.8 / 75$ | $125 / 862$ / 8.6 | $6.1 / 23.1$ | 1" MNPT | 16 / 41 | $32 / 81$ | 1.75 / 4.4 | 21/9.5 |
| WM-9 / WM0120 OC | 34719 / CH34731 | 29.5/112 | $125 / 862$ / 8.6 | 9.1/34.4 | 1" MNPT | $16 / 41$ | 44/112 | 1.75 / 4.4 | $27 / 12.2$ |
| WM-12 / WM0150 OC | 34720 / CH34732 | 40.3/153 | $125 / 862$ / 8.6 | $12.5 / 47.3$ | 1" MNPT | 16 / 41 | $57 / 145$ | $1.75 / 4.4$ | 37 / 16.8 |
| WM-14WB / WM0180 OC | 34721 / CH34733 | 47.1/178 | 125 / 862 / 8.6 | 14.6 / 55.3 | 1-1/4" MNPT | $21 / 53$ | $41.3 / 105$ | 2.25 / 5.7 | $51 / 23.1$ |
| WM-20WB / WM0235 OC | CH34723 / CH34734 | $60.0 / 227$ | 125 / 862 / 8.6 | 18.5 / 70.0 | 1-1/4" MNPT | $24 / 61$ | 41.5 / 105 | $2.25 / 5.7$ | $61 / 27.7$ |
| WM-23 / WM0300 OC | CH34722 / CH34735 | 79.6 / 301 | 125 / 862 / 8.6 | 24.6/93.1 | 1-1/4" MNPT | 21/53 | 62 / 157 | $2.25 / 5.7$ | 66 / 30.0 |
| WM-25WB / WM0330 OC | 34724 / CH34736 | 86.7/328 | 125/862/8.6 | 26.8 / 101.5 | 1-1/4" MNPT | $24 / 61$ | $55.25 / 140$ | $2.25 / 5.7$ | $84 / 38.1$ |
| WM-35WB / WM0450 OC | 34725 / CH34737 | $119.7 / 453$ | $125 / 862 / 8.6$ | 37.0 / 140.1 | 1-1/4" MNPT | $24 / 61$ | 74.25 / 189 | $2.25 / 5.7$ | 108/49.0 |

NOTE: Maximum external operating temperature $120^{\circ} \mathrm{F}\left(49^{\circ} \mathrm{C}\right)$. Maximum internal operating temperature $100^{\circ} \mathrm{F}\left(38^{\circ} \mathrm{C}\right)$. Minimum operating temperature $40^{\circ} \mathrm{F}\left(4^{\circ} \mathrm{C}\right)$.

* Diameter, height and weight may vary slightly without notice.
** In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon system variables, including the accuracy and operation of the pressure switch and gauge and operating temperature of the system.

CLASSIC CONNECT - SPECIFICATIONS

| $\begin{gathered} \text { MODEL } \\ \text { (DOMESTIC/ } \\ \text { INTERNATIONAL) } \end{gathered}$ | CATALOG \# (DOMESTIC/ INTERNATIONAL) | CAPACITY <br> (GAL/LITER) | MAX OPERATING PRESSURE (PSI/KPA/BAR) | DRAWDOWN 30/50 SETTING** (GALLONS/ LITERS) | SYSTEM CONNECTION (INCH/CM) | DIAMETER <br> (INCH/CM) | $\begin{aligned} & \text { OVERALL* } \\ & \text { HEIGHT } \\ & \text { (INCH/CM) } \end{aligned}$ | HEIGHT* FROM <br> INLET TO <br> FLOOR (INCH/ <br> CM) | WEIGHT * <br> (LBS/KG) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WM-4 / WM0060 C | $\begin{gathered} \text { CH30837/ } \\ \text { CH31632 } \end{gathered}$ | 14.5/55 | 125 / 862 / 8.6 | 4.5 / 17.0 | $16 / 41$ | 26/66 | 1.75 / 4.4 | 1" MNPT | 17 / 7.7 |
| WM-6 / WM0075 C | $\begin{gathered} \text { CH30840 / } \\ \text { CH31633 } \end{gathered}$ | 19.8 / 75 | 125 / 862 / 8.6 | $6.1 / 23.1$ | $16 / 41$ | 32 / 81 | 1.75 / 4.4 | 1" MNPT | 21/9.5 |
| WM-9 / WM0120 C | $\begin{gathered} \text { CH30854 / } \\ \text { CH31634 } \end{gathered}$ | 29.5/112 | 125 / 862 / 8.6 | $9.1 / 34.4$ | $16 / 41$ | $44 / 112$ | 1.75 / 4.4 | 1" MNPT | $27 / 12.2$ |
| WM-12 / WM0150 C | $\begin{gathered} \text { CH30866 / } \\ \text { CH31635 } \end{gathered}$ | 40.3 / 153 | 125/862 / 8.6 | $12.5 / 47.3$ | 21/53 | $57 / 145$ | 2.25 / 5.7 | 1-1/4" MNPT | $37 / 16.8$ |
| WM-14WB / WM0180 C | $\begin{gathered} \text { CH30951/ } \\ \text { CH31636 } \end{gathered}$ | 47.1/ 178 | $125 / 862$ / 8.6 | 14.6 / 55.3 | $24 / 61$ | 41.3 / 105 | 2.25 / 5.7 | 1-1/4" MNPT | $51 / 23.1$ |
| WM-20WB / WM0235 C | $\begin{gathered} \text { CH31050 / } \\ \text { CH31637 } \end{gathered}$ | 60.0 / 227 | 125/862 / 8.6 | $18.5 / 70.0$ | $24 / 61$ | 41.5/105 | 2.25 / 5.7 | 1-1/4" MNPT | 61 / 27.7 |
| WM-23 / WM0300 C | $\begin{gathered} \text { CH32855 / } \\ \text { CH33237 } \end{gathered}$ | 79.6 / 301 | 125 / 862 / 8.6 | 24.6 / 93.1 | 21/53 | 62 / 157 | 2.25 / 5.7 | 1-1/4" MNPT | 66 / 30.0 |
| WM-25WB / WM0330 C | CH31056 / CH31638 | 86.7/328 | $125 / 862$ / 8.6 | 26.8 / 101.5 | 24/61 | 55.25/140 | $2.25 / 5.7$ | 1-1/4" MNPT | $84 / 38.1$ |
| WM-35WB / WM0450 C | CH31062 / CH31639 | 119.7/453 | 125/862/8.6 | 37.0 / 140.1 | 24/61 | 74.25 / 189 | $2.25 / 5.7$ | 1-1/4" MNPT | 108/49.0 |

Maximum external operating temperature $120^{\circ} \mathrm{F}\left(49^{\circ} \mathrm{C}\right)$. Maximum internal operating temperature $100^{\circ} \mathrm{F}\left(38^{\circ} \mathrm{C}\right)$. Minimum operating temperature $40^{\circ} \mathrm{F}\left(4^{\circ} \mathrm{C}\right)$.

* Diameter, height and weight may vary slightly without notice.
** In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon system variables, including the accuracy and operation of the pressure switch and gauge and operating temperature of the system.Durable interior air cell is fully replaceable and constructed of heavy-gauge engineered polymer.One-piece seamless inner shell is molded of high-density polyethylene.Outer shell is composed of continuous fiberglass strands sealed with high-grade epoxy resin.Sturdy, molded polymeric base is corrosion- and impact-proof.

Quick connect, bottom inlet/outlet assembly is custom molded of high-impact engineered polymer.

5B Bottom inlet/outlet one-piece drain is custom molded of high-impact PVC.


## UNIVERSAL RETENTION TANKS UT SERES

## APPLICATIONS

Water treatment and hydropneumatic with purchased accessories.

## DO YOU HAVE CONTACT WITH CHEMICALS, CHLORINE \& HYDROGEN SULFIDE? GO WITH THE PROS AND CHOOSE UT

There's no better tank choice for water treatment than our UT-Quick Connect Series. Composite construction makes the entire line impervious to the chemicals found in aggressive water. The advantages give our UT-Quick Connect Series the kind of application versatility dealers want.

## FEATURES

- Inlet/Outlet PVC Pipe Connections allows straight through T connection on bottom of tank for ease of piping.
- Blowdown Valve for easy removal of sludge from bottom of tank.
- Hydropneumatic Convertible optional air volume control assembly and micronizer allow for quick and easy tank conversion.

Standard 1" ID / 1-1/4" Quick Connect Socket.
One piece, seamless inner shell molded of premium high-density polyethylene which provides impact and corrosion resistance.Miles of fiberglass filament covered with epoxy resin produce superior strength in a lightweight design.Additional drain port.Curved bottom dome design maximizes contact time and facilitates sludge removal.

1-1/4" socket inlet/outlet PVC pipe connections offer maximum application flexibility (vacuum breaker required).



## SPECIFICATIONS

| $\begin{gathered} \text { MODEL } \\ \text { (DOMESTIC/ } \\ \text { INTERNATIONAL) } \end{gathered}$ | CATALOG \# (DOMESTIC/ INTERNATIONAL) | CAPACITY <br> (GAL/LITER) | MAX OPERATING PRESSURE (PSI/KPA/BAR) | DRAWDOWN 30/50 SETTING** (GALLONS/ LITERS) | SYSTEM CONNECTION (INCH/CM) | DIAMETER <br> (INCH/CM) | OVERALL* <br> HEIGHT <br> (INCH/CM) | HEICHT* FROM <br> INLET TO <br> FLOOR <br> (INCH/CM) | WEICHT * <br> (LBS/KG) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { UT-30 / } \\ \text { WM-UT-110 CE } \end{gathered}$ | $\begin{gathered} \text { CH31385-1/ } \\ \text { CH32193-1 } \end{gathered}$ | 30.0 / 114 | 75/500 / 5.0 | $16 / 41$ | $46 / 116.8$ | 1.5 / 3.8 | $\begin{gathered} \text { 1-1/4" Socket } \\ \text { OC } \end{gathered}$ | 1-1/4" Socket | $23 / 10.4$ |
| $\begin{gathered} \text { UT-40 / } \\ \text { WM-UT-150 CE } \end{gathered}$ | $\begin{gathered} \text { CH31301-1 / } \\ \text { CH32194-1 } \end{gathered}$ | 40.0 / 151 | $75 / 500$ / 5.0 | $16 / 41$ | $58.7 / 149.2$ | 1.5 / 3.8 | $\begin{gathered} 1-1 / 4^{\prime \prime} \text { Socket } \\ \text { OC } \end{gathered}$ | 1-1/4" Socket | $31 / 14.1$ |
| $\begin{gathered} \text { UT-4OSQ / } \\ \text { WM-UT150-SQ CE } \end{gathered}$ | $\begin{gathered} \text { CH31433-1/ } \\ \text { CH32195-1 } \end{gathered}$ | 40.0 / 151 | $75 / 500 / 5.0$ | 21/53 | 37.5 / 95.2 | 2 / 5.1 | 1-1/4" Socket QC | 1-1/4" Socket | $33 / 15.1$ |
| $\begin{aligned} & \text { UT-80 / } \\ & \text { WM-UT-300 CE } \end{aligned}$ | $\begin{gathered} \text { CH31309-1/ } \\ \text { CH32196-1 } \end{gathered}$ | 80.0 / 303 | $75 / 500 / 5.0$ | 21/53 | 64.2 / 163.2 | 2 / 5.1 | 1-1/4" Socket OC | 1-1/4" Socket | $53 / 24.0$ |
| $\begin{gathered} \text { UT-120 / } \\ \text { WM-UT-450 CE } \end{gathered}$ | $\begin{aligned} & \text { CH31312-1/ } \\ & \text { CH32197-1 } \end{aligned}$ | 120.0 / 454 | $75 / 500 / 5.0$ | $24 / 61$ | 74.3 / 188.7 | $2 / 5.1$ | 1-1/4" Socket OC | 1-1/4" Socket | $77 / 34.9$ |

Maximum external operating temperature $120^{\circ} \mathrm{F}\left(49^{\circ} \mathrm{C}\right)$. Maximum internal operating temperature $100^{\circ} \mathrm{F}\left(38^{\circ} \mathrm{C}\right)$. Minimum operating temperature $40^{\circ} \mathrm{F}\left(4^{\circ} \mathrm{C}\right)$.
*Diameter, height and weight may vary slightly without notice.

## ACCESSORIES

(For hydropneumatic conversion)

| PART \# | PART DESCRIPTION | AIR VOLUME CONTROL ASSEMBLY PART \# | TANK MODEL \# |
| :---: | :---: | :---: | :---: |
| CH3929-5 | Micronizer | CH2O287 | UT-30 |
| CH19426 | Vacuum Breaker 1/4" NPT | CH2O289 | UT-40 |
|  |  | CH2O288 | UT-40SO |
|  |  | CH2O290 | UT-80 |
|  |  | CH2O291 | UT-120 |

NOTE: Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are rated for an internal negative pressure of 5 " $\mathrm{HG}(17$ Pa) vacuum below atmospheric. If negative pressure could ever exceed $5 \mathrm{Hg}(17 \mathrm{~Pa})$, 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.


## HYDROPNEUMATIC AIR/WATER TANKS HP SERIES

## APPLICATIONS

Sulfur and iron water treatment, hydrochloride environments, tank for water treatment, and methane or other well gas release.

## TOUGHEST TANKS FOR MOST DIFFICULT INSTALLS

The HP-Quick Connect Series hydropneumatic tanks can be used for aggressive water, or as an open system where air is introduced to oxidize and aerate.
$1 / 4^{\prime \prime}$ vent line, $360^{\circ}$ rotating thread-less connectionTop-mounted air volume control provides $50 \%$ or more drawdown than similar sized conventional tanks

3 Miles of fiberglass filament covered with epoxy resin produce superior strength in a light-weight designSelf-adjusting air volume control

- a Pentair Wellmate exclusiveOne piece, seamless inner shell molded of premium high-density polyethylene provides impact and corrosion resistanceConvex bottom design with top-mounted air volume control maximizes drawdown1-V4" socket inlet/outlet PVC pipe connections offer maximum application flexibilityBlowdown port with 12 " NPT connection


## FEATURES

- Large Drawdown Ratio for increased efficiency.
- Adapter and UT Drain Assembly (sold separately) allows you to add a $1^{\prime \prime}$ riser pipe to increase water aeration.
- Self-Adjusting Air Volume Control for system flexibility and ease of installation.


[^0]
## SPECIFICATIONS

| MODEL <br> (DOMESTIC/ INTERNATIONAL) | CATALOG \# (DOMESTIC/ INTERNATIONAL) | CAPACITY (GAL/LITER) | MAX <br> OPERATING PRESSURE (PSI/KPA/BAR) | DRAWDOWN 30/50 SETTING** (GALLONS/ LITERS) | DIAMETER (INCH/CM) | OVERALL* <br> HEIGHT <br> (INCH/CM) | HEIGHT* <br> FROM INLET <br> TO FLOOR <br> (INCH/CM) | $\qquad$ | $\qquad$ | $\begin{aligned} & \text { WEIGHT } \\ & \text { (LBS/KG) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { HP-7/ } \\ \text { WM-HP-110 } \end{gathered}$ | $\begin{aligned} & \text { CH31666-1/ } \\ & \text { CH32189-1 } \end{aligned}$ | 30.0 / 114 | $75 / 500 / 5.0$ | 6.6 / 25.0 | $16 / 41$ | 45.2 / 115.6 | 1.5 / 3.8 | 1/4" Vent Line | 1-1/4" Socket | $24 / 10.9$ |
| $\begin{gathered} \text { HP-9/ } \\ \text { WM-HP-150 } \end{gathered}$ | $\begin{aligned} & \text { CH31667-1/ } \\ & \text { CH32199-1 } \end{aligned}$ | 40.0 / 151 | $75 / 500 / 5.0$ | 9.0 / 34.1 | $16 / 41$ | 58.2 / 148 | 1.5 / 3.8 | 1/4" Vent Line | 1-1/4" Socket | 33 / 15.1 |
| $\begin{gathered} \text { HP-8SQ / } \\ \text { WM-HP-150SQ } \end{gathered}$ | $\begin{aligned} & \text { CH31735-1/ } \\ & \text { CH32190-1 } \end{aligned}$ | 40.0 / 151 | $75 / 500 / 5.0$ | 8.0 / 30.3 | 21/53 | $37 / 94$ | 2 / 5.1 | 1/4" Vent Line | 1-1/4" Socket | 34 / 15.4 |
| $\begin{gathered} \text { HP-18 / WM- } \\ \text { HP-300 } \end{gathered}$ | $\begin{gathered} \text { CH31668-1/ } \\ \text { CH32191-1 } \end{gathered}$ | 80.0 / 303 | 75 / 500 / 5.0 | 17.8 / 67.4 | 21/53 | 63.7 / 161.9 | 2 / 5.1 | 1/4" Vent Line | 1-1/4" <br> Socket | $55 / 24.9$ |
| $\begin{gathered} \text { UT-120 / } \\ \text { WM-UT-450 CE } \end{gathered}$ | $\begin{gathered} \text { CH31669-1/ } \\ \text { CH32192-1 } \end{gathered}$ | 120.0 / 454 | $75 / 500 / 5.0$ | 25.5/96.5 | $24 / 61$ | 74.3 / 188.7 | $2 / 5.1$ | 1/4" Vent Line | 1-1/4" <br> Socket | 81 / 36.7 |

Maximum external operating temperature $120^{\circ} \mathrm{F}\left(49^{\circ} \mathrm{C}\right)$. Maximum internal operating temperature $100^{\circ} \mathrm{F}\left(38^{\circ} \mathrm{C}\right)$. Minimum operating temperature $40^{\circ} \mathrm{F}\left(4^{\circ} \mathrm{C}\right)$.

* Diameter, height and weight may vary slightly without notice.
** In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon system variables, including the accuracy and operation of the pressure switch and gauge and operating temperature of the system.

| PART \# | PART DESCRIPTION |
| :---: | :---: |
| CH3929-5 |  |
| CH19426 | Micronizer |



Micronizer


Vacuum Breaker

NOTE: Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are rated for an internal negative pressure of $5^{\prime \prime}$ HG $(17 \mathrm{~Pa})$ vacuum below atmospheric. If negative pressure could ever exceed $5 \mathrm{Hg}(17 \mathrm{~Pa})$, 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.

## SIDEPORT WATER TANKS <br> SP SERIES

## APPLICATIONS

Residential and light commercial.

## EASY TO INSTALL, MAINTAIN, AND SERVICE

Made of all NSF/ANSI-61 certified material, SidePort SP tanks contain no harmful traces of metal (as with steel tanks) that could pass into your water.

Our tanks are environmentally safe and 100\% lead-free. Designed as a direct replacement for galvanized steel and epoxy-lined steel tanks, SidePort SP Series tanks can save you time and money.

## FEATURES

- Corrosion-proof composite construction.
- UV protection - All SP tanks come with additional urethane coating for years of added protection.
- Light weight minimizes labor cost; no need for heavy equipment. No rust or corrosion means no maintenance. Long lasting, durable finish.
- Ideal for applications where high sulfur content is
 present and environments where methane or other well gases are present.


## SPECIFICATIONS

| MODEL | CATALOG \# | CAPACITY <br> (GAL/LITER) | $\begin{aligned} & \text { MAX OPERATING } \\ & \text { PRESSURE } \\ & \text { (PSI/KPA/BAR) } \end{aligned}$ | DRAWDOWN 30/50 SETTING** (GALLONS/ LITERS) | DIAMETER <br> (INCH/CM) | OVERALL* <br> HEIGHT <br> (INCH/CM) | HEIGHT* <br> FROM INLET <br> TO FLOOR <br> (INCH/CM) | $\qquad$ | SYSTEM CONNECTION (BOTTOM) | $\begin{aligned} & \text { WEIGHT } \\ & \text { (LBS/KG) } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SP-7 | CH33020 | $30 / 114$ | $100 / 700 / 7.0$ | 7/26 | $16 / 41$ | 43.75 / 111 | 1.5 / 3.8 | 14 / 35.6 | $1-1 / 4^{\prime \prime}$ <br> Socket | 26 / 11.8 |
| SP-9 | CH33021 | 40/151 | $100 / 700 / 7.0$ | 9/34 | $16 / 41$ | 56.5 / 144 | 1.5 / 3.8 | 15.5 / 39.4 | 1-1/4" <br> Socket | 35/15.9 |
| SP-9SO | CH33022 | 47/178 | 100 / 700 / 7.0 | 9/34 | 21/53 | 41.25 / 105 | 2 / 5.1 | 16.9 / 42.9 | 1-1/4" <br> Socket | $48 / 21.8$ |
| SP-18 | CH33023 | 80 / 303 | 100 / 700 / 7.0 | 18 / 67 | $21 / 53$ | 62 / 157 | 2 / 5.1 | 18.3 / 46.5 | $1-1 / 4^{\prime \prime}$ <br> Socket | $67 / 30.5$ |
| SP-26 | CH33024 | 120 / 454 | $100 / 700 / 7.0$ | 26/98 | 24/61 | 72.5 / 184 | 2 / 5.1 | 20.2 / 51.3 | 1-1/4" Socket | 97/44.1 |

## PENTAIR WELLMATE

## CAPTIVE AIR AND RETENTION TANKS E-SERIES

## APPLICATIONS

High volume water storage and water storage treatment.


## FEATURES

- Retention tank capability without the air cell, can function as a high capacity retention tank for water storage and treatment.
- Heavy gauge polymer air cell offers a longer life than bladders or diaphragms (captive air tank only).
- Wider range of pressure settings for greater application versatility.
- Pre-installed inlet/outlet assembly with system connections to save time and money.
- Polyetherurethane air cell offers a longer life than bladders or diaphragms.
- Applications for high volume water storage and water storage treatment.


## SPECIFICATIONS



CAPTIVE AIR TANK

| WM-60 | CH33051 | $187 / 707$ | $125 / 862 / 8.6$ | $55.2 / 209$ | $30 / 76$ | $79 / 201$ | $7.5 / 19$ | N/A | 2 2"FNPT |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

RETENTION TANKS

| RT-200 | CH33140 | $187 / 707$ | $125 / 862 / 8.6$ | N/A | $30 / 76$ | $79 / 201$ | $7.5 / 19$ | 2"NPSM | 2"MNPT | 205/93 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| RT-270 | CH33141 | $264 / 999$ | $125 / 862 / 8.6$ | N/A | $36 / 91$ | $81 / 206$ | $8.0 / 20$ | 2"NPSM | 2"MNPT | $248 / 112.5$ |

[^1]
## AERATION TANKS UT/HP SERIES

## HOW TO AIR OUT UNDESIRABLE GASES

Got a problem with undesirable well gases? These tanks have been designed to introduce air to oxidize and aerate, minimizing or even eliminating both methane gas and hydrogen sulfide gas which is detectable by its rotten egg odor. These tough-performing tanks also offer the following:

- Large Drawdown Ratio for increased efficiency.
- Self Adjusting Air Volume Control System for flexibility and ease of installation.
- Composite Construction for increased tank life.
*Note: Pentair Wellmate does not guarantee sizing requirements or the successful removal of odors and gases. It is the responsibility of the contractor or water treatment specialist to assess the many variables involved and select the proper tank.
$1 / 4^{\prime \prime}$ vent line, $360^{\circ}$ rotating threadless connection. Vacuum breaker required*(Refer to Note below)

Water levelCap and pipe with $1 / 4^{\prime \prime}$ drilled holes to distribute flow. Minimum 12-17 holes required (not supplied with tank).

Riser tube of 1" pipe (not supplied w/tank)Adapter P/N CH11O68
Vacuum breaker required for HP applications

Air volume control systemMicronizer

## SPECIFICATIONS

| QUICK CONNECT <br> MODEL | CAPACITY <br> (GAL/LITER) | 1"RISER TUBE <br> LENGTH <br> (INCHES) | 1/2 AVC <br> (TUBE ONLY) <br> (INCHES) | AVC OVERALL <br> LENGTH <br> (INCHES) |
| :---: | :---: | :---: | :---: | :---: |
| UT-30 / HP-7 | $30 / 114$ | 24.00 | 23.25 | 34.88 |
| UT-40SQ / <br> HP-8SO | $40 / 151$ | 16.00 | 14.50 | 26.15 |
| UT-40 / HP-9 | $40 / 151$ | 37.50 | 35.50 | 47.12 |
| UT-80 / HP-18 | $80 / 303$ | 42.75 | 40.00 | 51.62 |
| UT-120 / HP-26 | $120 / 454$ | 53.00 | 46.50 | 58.12 |



WARNING: To avoid health or environmental hazards from gas accumulation, plumb the top fitting to vent off gas to a safe area.

ACCESSORIES
PART \#


Micronizer


Maximum external operating temperature $120^{\circ} \mathrm{F}\left(49^{\circ} \mathrm{C}\right)$. Maximum internal operating temperature $100^{\circ} \mathrm{F}\left(38^{\circ} \mathrm{C}\right)$. Minimum operating temperature $40^{\circ} \mathrm{F}\left(4^{\circ} \mathrm{C}\right)$.
Diameter, height and weight may vary slightly without notice.
In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon system variables, including the accuracy and operation of the pressure switch and gauge and operating temperature of the system.
Flexible connectors must be installed between hard piping and tank openings. These pressure vessels are rated for an internal negative pressure of $5^{\prime \prime} \mathrm{HG}(17 \mathrm{~Pa})$ vacuum below atmospheric. If negative pressure could ever exceed $5^{\prime \prime} \mathrm{Hg}(17 \mathrm{~Pa})$, 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.

## TWO COMMON HYDROPNEUMATIC APPLICATIONS

## Tank Sizing Information

There are three factors to consider when selecting the proper size Wellmate tank for your water system:

- The pump delivery rate in gallons/liters per minute (GPM/LPM).
- The recommended minimum running time of the pump.
- The minimum (cut-in) and maximum (cut-out) system pressure parameters.

Once these factors are known, the following calculations will determine, in most cases, the correct model to meet your specifications.

## Calculating Drawdown

1. Pump delivery rate.
_-_- GPM/LPM
2. Desired minimum pump running $\qquad$ Minutes time in minutes ( 1 minute, 45 seconds $=1.75 \mathrm{~min}$ ).
3. Multiply line \#1 by line \#2. This ____ Gallons/Liters is the minimum drawdown or available water volume required.*

## Calculating Tank Size

1. Minimum system pressure ____ PSIG/kPa/BAR (cut-in).
2. Maximum system pressure
____ PSIG/kPa/BAR
(cut-out).
3. Using the Drawdown Factor
____ Factor Table, find the drawdown factor applicable to lines \#4 and \#5.
4. Divide line \#3 by line \#6 to _-_- Gallons/Liters determine the minimum total Wellmate volume required.
5. Refer to the design data and $\qquad$ select the Wellmate model with the lowest total capacity that is greater than or equal to line \#7.

Example: An application using an 8 GPM pump with a minimum run time of 1 minute and a 30-50 PSIG system pressure range:
$\frac{8 \mathrm{GPM} \times 1 \text { minute }}{.30 \text { (factor) }}=\begin{gathered}26.7 \text { gallon minimum } \\ \text { tank capacity }\end{gathered}$

[^2]
## TWO COMMON HYDROPNEUMATIC APPLICATIONS

## SHALLOW WELL OR PRESSURE BOOSTING SYSTEM



## DEEP WELL SYSTEM



## COMPTEC COMPOSITE WATER SYSTEM PRESSURE TANKS

## HIGH PERFORMANCE AT THE LOWEST LIFE CYCLE COST FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS

Over forty years of industry-leading experience go into the design and manufacture of Pentair Comptec commercial and industrial pressure tanks. Advanced composite construction and the resulting lower life cycle costs are what make Comptec tanks superior to steel.

Our line of pressure tanks are engineered to provide maximum performance when high volume water storage or higher system pressures are needed.


Less costly to install - Advanced composite materials result in tanks that are as strong as steel while weighing up to half as much, making handling and installing Comptec tanks are much simpler. In fact, they don't even require cranes or other heavy equipment to install, reducing labor and costs. You'll even realize substantial freight savings compared to steel tanks.

No maintenance - Comptec Tanks are constructed of fiberglass and engineered polymers so rust does not develop. Unlike steel tanks, they require no painting or relining, and are not subject to pin holes. Less required maintenance over the life of the tank results in lower life cycle costs.

Easy field service - Steel tanks frequently need to be removed from the service location to be repaired; not so with Comptec. The replaceable aircell and fittings can be changed on site, reducing downtime and labor costs.

High performance with a reduced life cycle cost for commercial and industrial applications - In addition to their cost-saving benefits, Comptec Tanks contain no metals that can leach lead or other harmful elements into the water.

Fast and efficient delivery - Our state-of-the-art manufacturing facility ensures delivery of the products you need when and where you need them.

It all adds up to the best performance at a reduced life cycle cost - Comptec Tanks are worth more than steel tanks. You get value-added features that make them easier to install, and far less costly to maintain. These benefits add up to an installed product that performs better than steel, at a reduced life cycle cost.


Available in a multiple of sizes and pressures to best suit your needs.


Experience reduced lifecycle costs with our composite construction which eliminates rusting over time.

## THREADED SERIES COMPOSITE PRESSURE TANKS <br> MODELS CPV-4T, CPV-62T, CPV-87T, CPV-119T, CPV-160T, CPV-185T

## LIGHTER, TOUGHER, STRONGER

Just as strong as steel at up to half the weight, Pentair Comptec composite hydropneumatic pressure vessels outperform steel in a wide range of performance tests including burst pressure and the ratio of strength-to-weight.
Plus, their replaceable aircell and fittings can be changed on site, reducing downtime and labor costs.

- Available in sizes that range from a 47 to 195-gallon capacity. Our threaded vessels are rated at 150 psig while ASME vessels are rated at 125 psig.
- Maintains system pressure when the pump is not operating.
- Reduces system cycling time
- Increases pump and water system life
- Large drawdown prevents pumps from over-cycling, saving energy by reducing frequent pump starts
- Large acceptance volume helps the pump meet peak demands
- Permanent separation of air and water
- Factory pre-charged and field adjustable
- Can be manifolded for additional capacity


## APPLICATIONS

- Pressurized water storage for community wells
- High rise buildings and irrigation systems
- Pressure boosting


## OPERATING SPECIFICATIONS

- Maximum operating pressure - 150 psig / 10 bar (non-code)
- Maximum operating pressure - 125 psig / 8.6 bar(code)
- Maximum operating temperature $-120^{\circ} \mathrm{F} / 50^{\circ} \mathrm{C}$ (code / non-code)

| MODEL | CATALOG \# | TANK CAPACITY GAL/LITER | DIAMETER A INCH/CM | HEIGHT B INCH/CM | SYSTEM CONNECTION | CONNECTION HEIGHT C INCH/CM | $\begin{aligned} & \text { WEIGHT } \\ & \text { LBS/KG } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CPV-47T | CH32115 | 47/178 | 21/53 | 49/124.5 | 2" NPT | 5/13 | 78/35.4 |
| CPV-62T | CH32107 | 62/235 | 24/61 | 49/124.5 | 2" NPT | 5/13 | 96/43.5 |
| CPV-87T | CH32091 | 87/329 | 24/61 | 63/160 | 2" NPT | 5/13 | 134/60.8 |
| CPV-119T | CH32092 | 119/450 | 24/61 | 82/208.3 | 2" NPT | 5/13 | 160/72.6 |
| CPV-160T | CH32177 | 160/606 | 30/76 | 75/190.5 | 2" NPT | 7/18 | 389/176.4 |
| CPV-185T | CH32149 | 185/700 | 30/76 | 90/228.6 | 2" NPT | 7/18 | 453/205.5 |

Note: All dimensions are $\pm 1^{\prime \prime}$.

## FLANGED SERIES COMPOSITE PRESSURE TANKS

## MODELS CPV-12OF, CPV-185F, CPV-245F, CPV-340F, CPV-460F

## BUILT FOR A LOW LIFE CYCLE COST

When it comes to vessels for commercial, industrial, and municipal well water and booster applications, don't follow the standards. Set them.

Pentair Comptec composite hydropneumatic pressure vessels require no heavy equipment for installation. No painting or relining. No servicing off site. Constructed so rust does not develop.

Available in sizes that range from a 120 to 460-gallon capacity, our flanged vessels are rated at 150 psig.

- Maintains system pressure when the pump is not operating.
- Reduces system cycling time
- Increases pump and water system life
- Large drawdown prevents pumps from over-cycling, saving energy by reducing frequent pump starts
- Large acceptance volume helps the pump meet peak demands


## APPLICATIONS

- Commercial
- Industrial
- Municipal well water
- Booster applications



## OPERATING SPECIFICATIONS

- Maximum operating pressure - 150 psig / 10 bar
- Maximum operating temperature $-120^{\circ} \mathrm{F} / 50^{\circ} \mathrm{C}$

| MODEL | CATALOG \# | TANK CAPACITY GAL/LITER | DIAMETER A INCH/CM | HEIGHT B <br> INCH/CM | SYSTEM CONNECTION | CONNECTION HEIGHT C INCH/CM | WEICHT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CPV-120F | CH32044 | 120/454 | 24/61 | 94/239 | 2" NPT | 9/23 | 316/143.3 |
| CPV-185F | CH32045 | 185/700 | 30/76 | 92/234 | 2" NPT | 61⁄2/17 | 383/173.7 |
| CPV-245F | CH32046 | 245/927 | 36/91 | 94/239 | 3" NPT | 8/20 | 466/211.4 |
| CPV-340F | CH32047 | 340/1287 | 42/107 | 91/231 | 3" NPT | 8/20 | 682/309.7 |
| CPV-460F | CH32048 | 460/1741 | 48/122 | 96/244 | 3" NPT | 81/2/22 | 750/340.2 |

[^3]
## RT SERIES COMPOSITE RETENTION TANKS <br> MODELS RT-120F, RT-185F, RT-245F, RT-340F, RT-460F

## THE VESSEL OF CHOICE FOR CHEMICAL CONTACT

Pentair Comptec Retention Tanks are constructed of fiberglass and engineered polymers - substances which are immune to many corrosive chemicals. This makes them the ideal choice for commercial, industrial and municipal water treatment applications where contact time is required to kill bacteria.

Available in sizes that range from a 120 to 460-gallon capacity, our RT flanged vessels are rated at 150 psig. They can also be manifolded for additional capacity.


## OPERATING SPECIFICATIONS

- Maximum operating pressure - 150 psig / 10 bar
- Maximum operating temperature $-120^{\circ} \mathrm{F} / 50^{\circ} \mathrm{C}$

| MODEL | CATALOG \# | TANK CAPACITY GAL/LITER | DIAMETER A INCH/CM | HEIGHT B <br> INCH/CM | SYSTEM CONNECTION | CONNECTION HEIGHT C INCH/CM | $\begin{aligned} & \text { WEICHT } \\ & \text { LBS/KG } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RT-185F | CH32470 | 185/700 | 30/76 | 87/221 | 2" NPT | 61⁄2/17 | 383/173.7 |
| RT-245F | CH32514 | 245/927 | 36/91 | 89/226 | $3 " N P T$ | 8/20 | 466/211.4 |
| RT-340F | CH32432 | 340/1287 | 42/107 | 86/218 | 3" NPT | 8/20 | 682/309.4 |
| RT-460F | CH32515 | 460/1741 | 48/122 | 91/231 | 3" NPT | 81/2/22 | 750/340.2 |

[^4]
## HYDROPNEUMATIC TANK SIZING

The tank precharge fills the aircell, expanding it to the full volume of the tank liner.

As water enters the tank, it compresses the aircell which folds inward and away from the tank wall. This unique design has essentially no maximum acceptance factor limitations since the aircell equals the full inside dimension of the tank. This permits almost complete filling using wide pressure settings, enabling extended drawdown capabilities.

The stored energy in the compressed air inside the aircell pushes water out of the stainless steel bottom diffuser/ outlet to the system connection.

## BASIC SIZING AND SELECTION REOUIREMENTS

There are three key factors to consider when sizing the proper Pentair Comptec Tank for your system.

- The actual average delivery rate of the pump in gallons per minute (GPM).
- The recommended minimum or required pump running time.
- The minimum (cut in) and the maximum (cut out) system pressure parameters.

Once these system requirements are known, in most cases, the following calculations can easily determine the correct size and number of Pentair Comptec models needed to meet your application.

CALCULATING REOUIRED DRAWDOWN

1) Average pump delivery rate $\qquad$ GPM
2) Required minimum pump running time (Note: 1 minute 45 seconds = 1.75 minutes) __- Minutes
3) Multiply line \#1 by line \#2. This is the minimum drawdown or available water storage volume in gallons required. $\qquad$ Gallons

## CALCULATING REOUIRED TANK SIZE

4) Minimum system pressure $\qquad$ PSIG
5) Maximum system pressure ___ PSIG
6) Refer to the drawdown factor chart to find the drawdown percentage applicable to lines \#4 and \#5 $\qquad$ Factor
7) Divide line \#3 by line \#6 to determine the minimum total Comptec Tank volume required $\qquad$ Gallons
8) The total gallons required equals the minimum total tank volume necessary to provide the required minimum drawdown for the system. Refer to the Comptec model data chart to select the model(s) that have a combined total tank volume that meet or exceed the required minimum volume in line \#7.

NOTE: Available drawdown per tank model can be easily calculated by using the Drawdown Factor Chart Table. By finding the on/off pressure settings and the corresponding drawdown factor, you can multiply the Comptec commercial model number, which equals the total tank volume, by the drawdown factor and arrive at the drawdown for the pressure settings for that model.
Example: CPV-245 at 30 psig on / 50 psig off.

Drawdown factor $=.309$
$245 \times .309=75.7$ gallons of drawdown at $30-50 \mathrm{psig}$

## TYPICAL INSTALLATION

- Never install the tank where it can freeze.
- An adequately sized pressure relief valve must be installed on the inlet line to the tank. The pressure relief valve should be sized so that enough flow can be relieved from the system to ensure that the maximum operating pressure is never exceeded. The pressure relief valve must not be isolated from the tank by a check valve, and must be set so that the maximum operating pressure is never exceeded.
- Tanks subjected to or operated in temperatures in excess of the maximum operating
temperature on the label of the tank could fail catastrophically, possibly resulting in fatal injury or property damage. This includes both internal and external temperatures.
- The base should be fully supported on all legs and bolted to the floor to ensure maximum tank stability.
- When using a pump with an air injector, the injector port must be plugged.
- The hydropneumatic tank is prepressurized at the factory. The precharge pressure may vary somewhat from tank to tank due to temperature and the length
of time in storage. Check and adjust the precharge according to the instruction manual when completing the installation.
- Retention tanks are rated for an internal negative pressure of $5 \mathrm{Hg}(17 \mathrm{~Pa})$ vacuum below atmospheric. If negative pressure could ever exceed $5^{\prime \prime}$ $\mathrm{Hg}(17 \mathrm{~Pa})$, an adequate vacuum breaker must be installed.
- Retention tank top system connections must accommodate vertical expansion.

Note: All plumbing should be in compliance with local codes and standards.


## GENERAL SPECIFICATIONS LANGUAGE

The hydropneumatic tank is a pre-pressurized and sealed vessel (the retention tank shall be a sealed vessel) consisting of a composite design of a polyethylene seamless liner, reinforced with continuous strands of fiberglass covered with a two-part epoxy resin system.

## SHORT FORM SPECIFICATIONS

The contractor shall provide fiberglass/composite pressure rated water system storage tanks with a diameter of $\qquad$ " and overall length of ___" constructed of non-corrosive materials according to the features and dimensions shown on the drawings. The total tank capacity shall be $\qquad$ gallons/ $\qquad$ litres.

The tanks shall have a maximum operating pressure of $\qquad$ PSIG and a maximum operating temperature of $120^{\circ}$ Fahrenheit. The laminate outer shell shall be an epoxy and continuous strand fiberglass matrix. The liner shall be seamless polyethylene as manufactured by Pentair.
The pressure tanks shall meet a design safety factor of 4 to 1 ( 5 to 1 for ASME) for minimum burst pressure.

LONG FORM SPECIFICATIONS

## Part I. Quality Standards

1.01 Acceptable manufacturers Pentair

Part II. Performance Standards
2.01 The maximum operating pressure of the tank shall be ___ PSIG and designed with a safety factor of 4 to 1 ( 5 to 1 for ASME) for minimum burst pressure.
2.02 The maximum operating temperature of the tank shall be rated at $120^{\circ}$ Fahrenheit.
2.03 The tank shall be designed to pass a pressure cycle test of 250,000 cycles without failure.

The test will cycle from 0 psi to the maximum operating pressure for that vessel.
2.04 The tank shall be capable of withstanding negative pressure up to 5" Hg.

## Part III. Inner Shell

3.01 The tank inner shell shall be constructed of seamless polyethylene material.
3.02 The tank inner shell will isolate the fluid contents of the tank to eliminate corrosion, intrusion or reaction.

## Part IV. Outer Fiberglass Shell

4.01 The outer tank shell shall be constructed of continuous fiberglass roving.
4.02 The laminate matrix shall be epoxy with a glass transition
temperature of $30^{\circ}$ Fahrenheit higher than maximum use temperature. Laminate glass volume shall be no less than 70\%.

## Part V. Capacity and Dimensions

5.01 The holding capacity of the tank inner shell shall be $\qquad$ gallons or $\qquad$ litres.
5.02 The tank shall have a diameter of _-_" and an overall length of $\qquad$ _".

## Part VI. Tank Openings

6.01 Threaded tank openings shall be an NPT thread specification.

## Part VII. Tank Support Base

7.01 The tank support base shall allow accessibility to the bottom of the tank if required for servicing and maintenance.
7.02 Minimum tank clearance at the bottom of the tank shall be _ $\qquad$ " as
shown in the drawings provided.

# ASME SECTION X FOR FRP 

## SECTION X OF THE ASME PRESSURE VESSEL CODE PERTAINS TO FRP PRESSURE VESSELS. THE CODE REOUIREMENTS FOR THE DESIGN AND MANUFACTURE OF THESE COMPOSITE PRESSURE VESSELS ARE AS COMPLEX AS THOSE FOR METAL, BUT VASTLY DIFFERENT.

Section X of the ASME Pressure Vessel Code pertains to fiberglass reinforced plastic (FRP) pressure vessels. The code requirements for the design and manufacture of these composite pressure vessels are as complex as those for metal, but vastly different. A Class 1 ASME pressure vessel is one which is qualified through destructive testing of a prototype.

Section X requires that a Class 1 design be qualified with a test of a prototype vessel. This prototype vessel is carefully reviewed and inspected by a third-party certified inspector. The vessel must be cycled 100,000 times over a pressure range of atmosphere-to-design pressure.

Following this, the prototype vessel must withstand a hydrostatic burst test of not less than six times design pressure. An exception to the 100,000-cycle requirement is made for vessels constructed of uncut filaments. For these vessels, the classification is designed for a 5-to-1 safety factor, requiring 33,000 atmosphere-to-design pressure cycles. These uncut filament vessels must then withstand a hydrostatic burst test of not less than five times design pressure. The code also requires the burst test pressure be applied very slowly, making for a very rigorous stress/rupture-type test.

## DIFFERENT FOR METAL VESSELS

Because buyers or specifiers are familiar with the requirements of the ASME code for metal vessels, it is not uncommon to receive requests for design calculations. However, the Class 1 pressure vessels are not subject to the same design criteria as metal vessels, because of the prototype destructive qualification. Thus, design calculations alone are not meaningful.
What is meaningful to specifiers and buyers is that the prototype vessel is designed to the strict requirements of Section $X_{\text {; }}$ it complies with exhaustive qualification testing; and each vessel is made to the exact standards of the prototype and passes proof testing before shipment.

The proof test for an ASME composite pressure vessel requires pressurization to one and one-tenth times the design pressure. Also, the vessel cannot vary more than 5 parts per 100 in volume during expansion under pressure and it meets the exact weight limitations set by the prototype vessel.

Certified producers of composite pressure vessels under ASME Section X must develop and submit pressure vessel fabrication technologies to the Pressure Vessel Committee of the ASME. Fabricators must submit a design basis of each size of a pressure vessel, indicating diameter or length, to the ASME committee. A prototype vessel of each size is produced and proven to meet all requirements of the code by a certified third party.

Each subsequent composite pressure vessel is then produced as an exact replica of the prototype, again certified by third-party inspection. The result of this testing and inspection is a composite pressure vessel that complies completely with the ASME Pressure Vessel Code and carries the "RP" stamp.

## DRAWDOWN FACTOR CHART

## MINIMUM (CUT-IN) TANK PRESSURE (PSIG)

To use the factor chart, locate your cut-in pressure along the top row and read down then across to the left to find your cut-in pressure. The intersection is the drawdown factor. The drawdown factor is the percentage of the total tank volume that can be stored and delivered to service given that pressure range.

| MAXIMUM | MINIMUM (CUT-IN) PRESSURE |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PRESSURE (PSIG) | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 | 105 | 110 | 115 | 120 | 125 | 130 | 135 | 140 | 145 |
| 30 | . 447 | . 336 | . 224 | . 112 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 35 | . 503 | . 402 | . 302 | . 201 | . 101 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40 | . 548 | . 457 | . 366 | . 274 | . 183 | . 091 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 45 | . 586 | . 503 | . 419 | . 335 | . 251 | . 168 | . 084 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50 | . 618 | . 541 | . 464 | . 386 | . 309 | . 232 | . 155 | . 077 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 55 | . 646 | . 574 | . 502 | . 430 | . 359 | . 287 | . 215 | . 143 | . 072 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 60 | . 669 | . 602 | . 535 | . 469 | . 402 | . 335 | . 268 | . 201 | . 134 | . 067 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 65 | . 690 | . 627 | . 565 | . 502 | . 439 | . 376 | . 314 | . 251 | . 188 | . 125 | . 063 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 70 | . 708 | . 649 | . 590 | . 531 | . 472 | . 413 | . 354 | . 295 | . 236 | . 177 | . 118 | . 059 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 75 | . 725 | . 669 | . 613 | . 557 | . 502 | . 446 | . 390 | . 334 | . 279 | . 223 | . 167 | . 111 | . 056 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80 | . 739 | . 686 | . 634 | . 581 | . 528 | . 475 | . 422 | . 370 | . 317 | . 264 | . 211 | . 158 | . 106 | . 053 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 85 | 752 | . 702 | . 652 | . 602 | . 552 | . 502 | . 451 | . 401 | . 351 | . 301 | . 251 | . 201 | . 150 | . 100 | . 050 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 90 | . 764 | . 716 | . 669 | . 621 | . 573 | . 525 | . 478 | . 430 | . 382 | . 334 | 287 | . 239 | . 191 | . 143 | . 096 | . 048 |  |  |  |  |  |  |  |  |  |  |  |  |
| 95 | . 775 | . 729 | . 684 | . 638 | . 593 | . 547 | . 501 | . 456 | . 410 | . 385 | . 319 | . 273 | . 228 | . 182 | . 137 | . 091 | . 046 |  |  |  |  |  |  |  |  |  |  |  |
| 100 | . 785 | . 741 | . 697 | . 654 | . 610 | . 567 | . 523 | . 480 | . 436 | . 392 | . 349 | . 305 | . 262 | . 218 | . 174 | . 131 | . 087 | . 044 |  |  |  |  |  |  |  |  |  |  |
| 105 | . 794 | . 752 | . 710 | . 668 | . 627 | . 585 | . 543 | . 501 | . 459 | . 418 | . 376 | . 334 | . 292 | . 251 | . 209 | . 167 | . 125 | . 084 | . 042 |  |  |  |  |  |  |  |  |  |
| 110 | . 802 | . 762 | . 722 | . 682 | . 642 | . 601 | . 561 | . 521 | . 481 | . 441 | . 401 | . 361 | . 321 | . 281 | . 241 | . 200 | . 160 | . 120 | . 080 | . 040 |  |  |  |  |  |  |  |  |
| 115 | . 810 | . 771 | . 732 | . 694 | . 655 | . 617 | . 587 | . 540 | . 501 | . 463 | . 424 | . 386 | . 347 | . 308 | . 270 | . 231 | . 193 | . 154 | . 116 | . 077 | . 039 |  |  |  |  |  |  |  |
| 120 | . 817 | . 780 | . 742 | . 705 | . 668 | . 631 | . 594 | . 557 | . 520 | . 483 | . 445 | . 408 | . 371 | . 334 | . 297 | . 260 | . 223 | . 186 | . 148 | . 111 | . 074 | . 037 |  |  |  |  |  |  |
| 125 | . 823 | . 787 | . 752 | . 716 | . 680 | . 644 | 608 | . 573 | . 537 | . 501 | . 465 | . 429 | . 394 | . 358 | . 322 | . 286 | . 251 | . 215 | . 179 | . 143 | . 107 | . 072 | . 036 |  |  |  |  |  |
| 130 | . 829 | . 795 | . 760 | . 726 | . 691 | . 657 | . 622 | . 587 | . 553 | . 518 | . 484 | . 449 | . 415 | . 380 | . 346 | . 311 | . 276 | . 242 | . 207 | . 173 | . 138 | . 104 | . 059 | . 035 |  |  |  |  |
| 135 | . 835 | . 802 | . 768 | . 735 | . 701 | . 668 | . 635 | . 601 | . 568 | . 534 | . 501 | . 468 | . 434 | . 401 | . 367 | . 334 | . 301 | . 267 | . 234 | . 200 | . 167 | . 134 | . 100 | . 067 | . 033 |  |  |  |
| 140 | . 840 | . 808 | . 776 | . 743 | . 711 | . 679 | . 646 | . 614 | . 582 | . 549 | . 517 | . 485 | . 452 | . 420 | . 388 | . 356 | . 323 | . 291 | . 259 | . 226 | . 194 | . 162 | . 129 | . 097 | . 065 | . 032 |  |  |
| 145 | . 845 | . 814 | . 783 | . 751 | . 720 | . 689 | . 657 | . 626 | . 595 | . 564 | . 532 | . 501 | . 470 | . 438 | . 407 | . 376 | . 344 | . 313 | . 282 | . 250 | . 219 | . 188 | . 157 | . 125 | . 094 | . 063 | . 031 |  |
| 150 | . 850 | . 820 | . 789 | . 759 | . 729 | . 698 | . 668 | . 638 | . 607 | . 577 | . 546 | . 516 | . 486 | . 455 | . 425 | . 395 | . 364 | . 334 | . 304 | . 279 | . 243 | . 213 | . 182 | . 152 | . 121 | . 091 | . 061 | . 030 |

## RESIDENTIAL TANK REPLACEMENT GUIDE



NOTES:

NOTES:

## PENTAIR

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490 Pinebush Rd, Unit 4 Cambridge, Ontario
Canada N1T OA5
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[^0]:    Tested and Certified by the
    Water Quality Association (WQA) to NSF/ANSI-61, Section 8 and NSF/ANSI 372.

[^1]:    Maximum external operating temperature $120^{\circ} \mathrm{F}\left(49^{\circ} \mathrm{C}\right)$. Maximum internal operating temperature $100^{\circ} \mathrm{F}\left(38^{\circ} \mathrm{C}\right)$. Minimum operating temperature $40^{\circ} \mathrm{F}\left(4^{\circ} \mathrm{C}\right)$.

    * Diameter, height and weight may vary slightly without notice.
    ** In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon system variables, including the accuracy and operation of the pressure switch and gauge and operating temperature of the system.

[^2]:    * If the volume of water needed is greater than the mount calculated on line \#3, enter that amount on line \#3 in place of the calculated volume.

[^3]:    Note: All dimensions are $\pm 1$ ".

[^4]:    Note: All dimensions are $\pm 1$ ".

