



## Composite Pressure Tanks





# Why WellMate™

There's no smarter solution for pressurized water storage and pressure boosting applications than our composite hydro-pneumatic pressure vessel, WellMate™.

## ► A growing customer base.

In the residential, commercial, industrial and agricultural markets of the world, **WellMate** composite tanks are fast becoming the tank of choice for their unmatched performance over steel. As the recognized leader in composite pressure tank design, WellMate Pentair Water gives you more to sell.

WellMate and the hydro-pneumatic advantage :

pressure tanks play a very important role in most residential and commercial water systems. They should provide safe drinking water at consistent pressure levels.

Unfortunately, not all tanks can make that claim. WellMate, a division of Pentair Water offers a complete line of composite hydro-pneumatic tanks that out-perform and out-last traditional steel and gravity-fed systems.



**5 YEARS**  
Warranty



### ▶ A material difference.

From the high density polyethylene inner liner, to the fiberglass-wound and epoxy resin-sealed outer shell, WellMate tanks contain no steel. WellMate tanks require little or no maintenance because they won't dent and they have no paint to scratch and touch up. Their light weight — half that of steel tanks — makes them easier and faster to install.

WellMate tanks are 100% lead-free, and absolutely will not introduce undesirable chemicals or elements into the water: they are safe for man and the environment.



▶ WellMate outperforms steel.  
All WellMate vessels are tested and certified by NSF International and produced according to the European Pressure Equipment Directive (PED) 97/23/EC.

### ▶ A product that's worth more.

WellMate's innovative solutions for water treatment, water storage and pressure boosting applications give 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 winding equipment, the best materials and an ISO-9001 certified manufacturing facility guarantee that our CE-approved one-piece composite construction is second to none.



### ▶ Why WellMate Hydro-pneumatic tanks are the preferred choice:

- Extended pump life.
- Closed, sanitary system.
- Consistent water pressure.
- Cost effective & energy saving.
- Aesthetically pleasing.
- Corrosion-proof, composite construction.



▶ Rigorous testing and quality procedures ensure reliable performance





# WM™ - Series

- ▶ **Easier to install than steel, and over time, much tougher to beat.**

Our WM-Series offers features and benefits steel tanks just 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.



## ▶ APPLICATIONS

Residential

Light commercial

Pressure boosting

## ▶ ADVANTAGES

- Replaceable Air Cell — for easier field servicing.
- Greater Drawdown than comparably-sized steel tanks — for greater efficiency.
- Won't rust in corrosive environments — particularly important in agricultural and livestock applications, and coastal regions.
- Quicker and less costly to install — usually requiring only one person and fewer man-hours.
- Wider pressure setting differential — for greater flexibility.



Durable interior air cell is fully replaceable and constructed of heavy-gauge engineered polymer.

One piece, seamless inner shell molded of premium, high-density polyethylene or of linear low density polyethylene .

Outer shell is a composite of continuous fiberglass strands sealed with high-grade epoxy resin.

Seamless, full-size, blow-molded, polymer air cell is custom fitted for each tank size.

Sturdy, molded polymeric base is corrosion and impact proof.

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

## ▶ SPECIFICATIONS

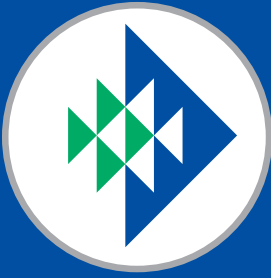
### WM-Series Performance Data

Model Number	Capacity gal/liter	Maximum Operating Pressure psi / kPa / bar	Drawdown 2,0/3,5 Setting** gal / liter	Diameter* inch / cm	Overall Height* inch / cm	Height*inlet / outlet to floor inch / cm	System Connection	Assembly Weight* lb / kg
WM0060	14.5 / 55	120 / 850 / 8.5	4.8 / 18.3	16 / 41	26 / 66	1 3/4 / 4.4	1" male NPT	14.5 / 6.6
WM0075	19.8 / 75	120 / 850 / 8.5	6.6 / 25	16 / 41	32 / 81	1 3/4 / 4.4	1" male NPT	17.75 / 8.1
WM0120	29.5 / 112	120 / 850 / 8.5	9.9 / 37.3	16 / 41	44 / 112	1 3/4 / 4.4	1" male NPT	24.75 / 11.2
WM0150	40.3 / 153	120 / 850 / 8.5	13.5 / 50.9	16 / 41	57 / 145	1 3/4 / 4.4	1" male NPT	30 / 13.6
WM0180	47.1 / 178	120 / 850 / 8.5	15.7 / 59.3	21 / 53	41 1/4 / 105	2 1/4 / 5.7	1 1/4" male NPT	43 / 19.5
WM0235	62 / 235	120 / 850 / 8.5	20.7 / 78.3	24 / 61	41 1/2 / 105	2 1/4 / 5.7	1 1/4" male NPT	50 / 22.7
WM0330	86.7 / 328	120 / 850 / 8.5	28.9 / 109.2	24 / 61	55 1/4 / 140	2 1/4 / 5.7	1 1/4" male NPT	72.75 / 33.0
WM0450	119.7 / 453	120 / 850 / 8.5	39.9 / 150.8	24 / 61	74 1/4 / 189	2 1/4 / 5.7	1 1/4" male NPT	95 / 43.1
WM0600	160 / 606	140 / 1000 / 10	53.3 / 201.8	30 / 76	68 1/2 / 174	5 7/8 / 15	2" male BSP	168 / 76.2
WM0750	200 / 757	140 / 1000 / 10	66.6 / 252.1	30 / 76	81 / 206	5 7/8 / 15	2" male BSP	196 / 89.0
WM1000	270 / 1022	140 / 1000 / 10	89.9 / 340.3	36 / 92	83 1/2 / 212	7 7/8 / 20	2" male BSP	258 / 117.1

Note: Maximum external operating temperature 120°F (49°C). Maximum internal operating temperature 100°F (38°C). Minimum operating temperature 40°F (4°C).

\* Diameter, height and weight may vary slightly without notice.

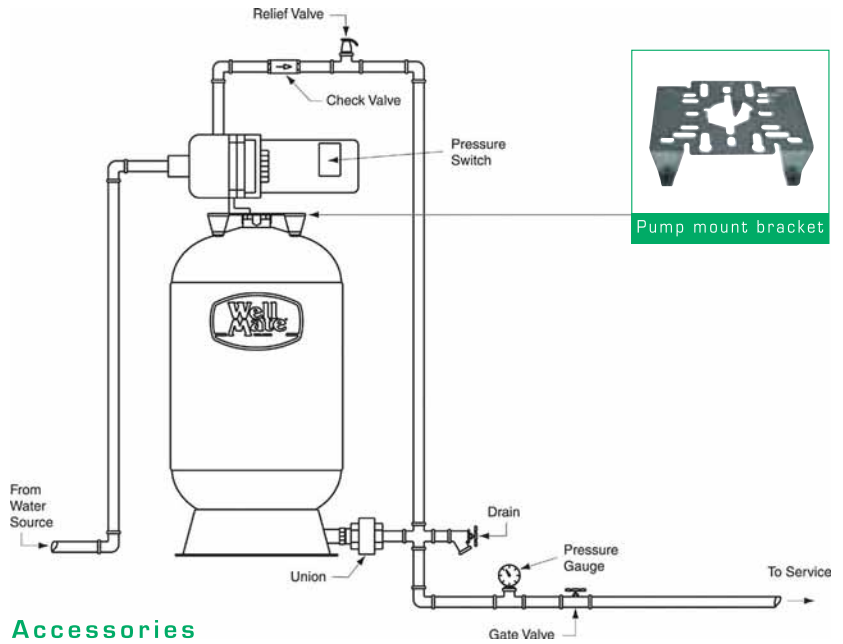
\*\* In keeping with current industry standards, drawdown factors are based on Boyle's law. Actual drawdowns will vary depending upon system variables, including the accuracy and operation of the pressure switch and gauge and operating temperature of the system.



# WM installation and sizing

- ▶ Two of the most common hydropneumatic applications

## Shallow Well or Pressure Boosting System

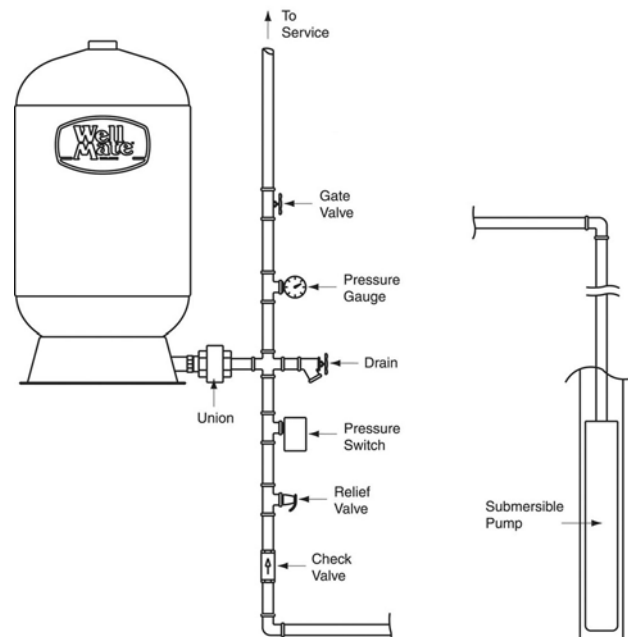


### Accessories

WM-PB-001

Pump mount bracket

## Deep Well System



## Tank Sizing Information

There are three factors to consider when selecting the proper size WellMate 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 time. \_\_\_\_\_ Minutes
- 3) Multiply line 1 by line 2. This is the minimum drawdown or available water required\*. \_\_\_\_\_ Gallons / Liters

## Calculating tank size

- 4) Minimum system pressure (cut-in). \_\_\_\_\_ PSIG / kPa / Bar
- 5) Maximum system pressure (cut-out). \_\_\_\_\_ PSIG / kPa / Bar
- 6) Using table 2 hereunder find the factor applicable to line 4 & 5. \_\_\_\_\_ Factor
- 7) Divide line 3 by line 6 to determine the minimum total WellMate volume required. \_\_\_\_\_ Gallons / Liters
- 8) Refer to table 1 and select the WellMate model with the lowest total capacity that is greater than or equal to line 7. \_\_\_\_\_ Model

## Example:

- 1) Pump delivery rate: 50l/min
- 2) Minimum pump running time: 1,5 min (1'30")
- 3) Min. drawdown: 50 x 1,5 = 75 litres
- 4) Min. system pressure: 2,0 bar (cut-in)
- 5) Max. system pressure : 3,5 bar (cut-out)
- 6) Drawdown factor (table 2): 0,333
- 7) Minimum **total** capacity required: 75 / 0,333 = 225 liter

**8) Refer to the table 1 and select the WellMate model with the lowest total capacity that is greater than or equal to minimum total WellMate capacity required:**

WellMate capacity: 235 liter

Drawdown factor: 0,333 (table2)

WM Drawdown: 235 x 0,333 = 78,3 liter (table1)

**Selected model: WM0235**

**table 1 # WM Drawdown (litres)**

Minimum system pressure (bar)		2.0	2.0	2.5	3.0	3.5
Maximum system pressure (bar)		4.0	3.5	4.0	4.5	5.0
Model Number	Capacity gal/liter	Drawdown (litres)				
WM0060	14.5 / <b>55</b>	22.0	18.3	16.5	15.0	13.8
WM0075	19.8 / <b>75</b>	30.0	25.0	22.5	20.5	18.8
WM0120	29.5 / <b>112</b>	44.8	37.3	33.6	30.6	28.0
WM0150	40.3 / <b>153</b>	61.2	50.9	45.9	41.8	38.3
WM0180	47.1 / <b>178</b>	71.2	59.3	53.4	48.6	44.5
WM235	62 / <b>235</b>	94.0	78.3	70.5	64.2	58.8
WM0330	86.7 / <b>328</b>	131.2	109.2	98.4	89.5	82.0
WM0450	119.7 / <b>453</b>	181.2	150.8	135.9	123.7	113.3
WM0600	160 / <b>606</b>	242.4	201.8	181.8	165.4	151.5
WM0750	200 / <b>757</b>	302.8	252.1	227.1	206.7	189.3
WM1000	270 / <b>1022</b>	408.8	340.3	306.6	279.0	255.5

**Table #2 - Drawdown Factors**

Maximum system pressure (cut-out) PSIG / (kPa) / bar	Minimum system pressure (cut-in) - PSIG / (kPa) / bar											
	14.50 (100) 1.0	21.75 (150) 1.5	29.00 (200) 2.0	36.25 (250) 2.5	43.50 (300) 3.0	50.75 (350) 3.5	58.00 (400) 4.0	65.25 (450) 4.5	72.50 (500) 5.0	79.75 (550) 5.5	87.00 (600) 6.0	94.25 (650) 6.5
21.75 / (150) / 1.5	0.200											
29.00 / (200) / 2.0	0.333	0.167										
36.25 / (250) / 2.5	0.429	0.286	0.143									
43.50 / (300) / 3.0	0.500	0.375	0.250	0.125								
50.75 / (350) / 3.5	0.556	0.444	0.333	0.222	0.111							
58.00 / (400) / 4.0	0.600	0.500	0.400	0.300	0.200	0.100						
65.25 / (450) / 4.5	0.636	0.545	0.455	0.364	0.273	0.182	0.091					
72.50 / (500) / 4.5	0.667	0.583	0.500	0.417	0.333	0.250	0.167	0.083				
79.75 / (550) / 5.5		0.615	0.538	0.462	0.385	0.308	0.231	0.154	0.077			
87.00 / (600) / 6.0		0.643	0.571	0.500	0.429	0.357	0.286	0.214	0.143	0.071		
94.25 / (650) / 6.5		0.667	0.600	0.533	0.467	0.400	0.333	0.267	0.200	0.133	0.067	
101.50 / (700) / 7.0			0.625	0.563	0.500	0.438	0.375	0.313	0.250	0.188	0.125	0.063
108.75 / (750) / 7.5			0.647	0.588	0.529	0.471	0.412	0.353	0.294	0.235	0.176	0.118
116.00 / (800) / 8.0			0.667	0.611	0.556	0.500	0.444	0.389	0.333	0.278	0.222	0.167

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, actual precharge pressure, and operating temperature of the system.





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