



Pumppulohja

# WATMAN PRESSURE TANKS AND MEMBRANE PRESSURE TANKS



**WATMAN  
150/6**

A wall or floor mount is available for the 50 l tank.

The 25 l tank is available with a wall mount, as standard equipped with a fixed cylinder leg.

120 l tank has fixed legs.

**Stainless steel  
membrane pressure tanks**

**Stainless steel  
pressure tanks**

**Acid-proof  
pressure tanks**

**Zinc-coated  
pressure tanks**

The pressure tanks and membrane pressure tanks are used in water pressure systems in e.g. family houses, farms and small communities.



**WATMAN  
KPSV 25/6**



**WATMAN  
KPSV 50/6**

# WATMAN MEMBRANE PRESSURE TANKS AND PRESSURE TANKS

## KPSV can be opened and cleaned, and, if necessary, the membrane can be changed.

Pumppulohja's KPSV membrane pressure tanks are made out of stainless steel. The rubber membranes are durable material that is suitable for foodstuffs. KPSV membrane pressure tanks can be opened at the installation site without special tools to clean them and to change the membrane.

Pressure categories are 50 l and 120 l in membrane pressure tanks 6 and 10 bar, and 25 l in the membrane pressure tank 8 bar.

Thermal durability +50°C as a standard.

Ready-to-deliver available sizes are 25 l, 50 l and 120 l.

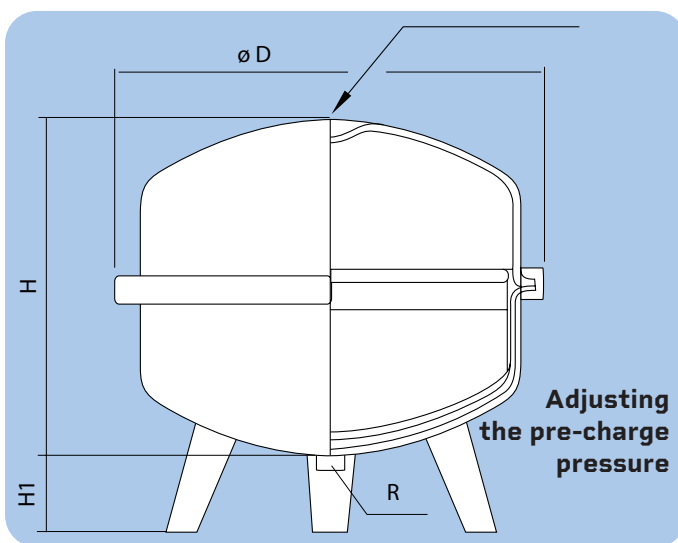
### Measurement table

Volume	Pressure	D	H	H1	R	
KPSV 25	8	355	400	-	1"	Ext. thread
KPSV 50	6	500	400	-	1 1/4"	Int. thread
KPSV 50	10	500	400	-	1 1/4"	Int. thread
KPSV 120	10	500	900	100	1"	Ext. thread
KPSV 120	6	500	900	100	1"	Ext. thread

### Benefits of a membrane pressure tank

Compared to a standard tank, the membrane pressure tank provides the following benefits:

- small size: approximately 2.5 times more capacity with the same dimensions. Longer maintenance periods: only requires the regular monitoring of air pressure/pre-charge.
- water does not stay still or warm up in the membrane tank like in a traditional tank
- The parts of the KPSV membrane pressure tank are replaceable without welding



### Adjusting the correct pre-charge pressure

To ensure the best possible operation, the pre-charge pressure of an empty 25 l or 50 l membrane pressure tank must be 0.1–0.2 bar lower than the minimum pressure of the pressure switch of the water pressure system; in 120 l tanks, 0.1–0.2 bar higher. If the minimum limit of the pressure switch is adjusted, the tank's

pre-charge pressure must be adjusted similarly. Air is added to or removed from the tank through the needle valve which is located at the end of the tank. The membrane pressure tank can be installed upright or on its side.

### Pressure tank recommendation

The following table is based on the recommendation by the electric engine manufacturers is that the motor should not start over 30 times per hour. The values presented in the table are suitable for water management in sparsely populated areas.

\*) Pump volume refers to the actual volume, taking counter-pressure and tubular resistors into account.

The resistors are usually around 2.5–3 bar. In this case, read the power chart at 25–30 m.

Pumppulohja's selection also includes stainless steel pumps for the water management of sparsely populated areas. The pumps are suitable for a family house, summer cottage, farms and water cooperatives.

Tank (exterior) volume l	Pressure switch min./max. bar	Capacity	
		Membrane tank l	Standard tank l
25	1.0 - 2.5	8.5	
25	1.5–2.5	5.7	
50	1.5–3.0	18.8	7.5
50	2.0–3.5	16.6	5.5
50	2.0–4.0	20.0	6.6
100	1.5–3.0	37.2	15.0
100	2.0–3.5	33.2	11.0
100	2.0–4.0	40.2	13.2
200	1.5–3.0		30.0
200	2.0–3.5		22.0
200	2.0–4.0		26.4

### Useful volume in percentages of the tank volume

Switch on pressure bar	Switch off pressure bar	Membrane with pre-charge %	Standard tank without pre-charge %
1.0	2.0	33.0	17.7
1.0	2.5	42.8	21.5
1.5	2.5	28.5	11.5
1.5	3.0	37.5	15.0
2.0	3.0	25.0	7.3
2.0	3.5	33.0	11.0
2.0	4.0	40.0	13.0
2.5	4.0	30.0	8.6
3.0	4.5	27.0	7.0
3.0	5.0	33.0	8.0
4.0	6.0	28.5	6.0
5.0	7.0	25.0	4.5

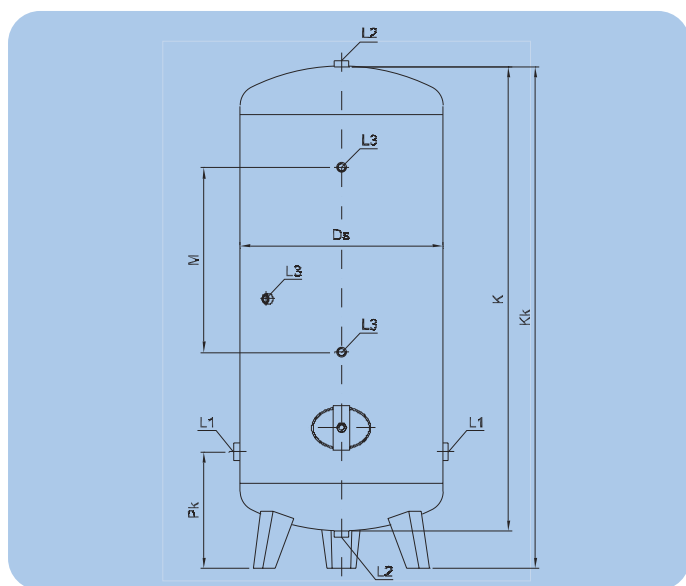
Pressure tanks are manufactured both out of stainless steel and black steel plate. The tanks made out of black plate are hot-galvanized. The variety of available tank models is large. The available volumes are 100–500 l with pressure classes 6 and 10 bar.

Larger and smaller tanks can also be produced as custom orders. All tanks have PED 2014/68/EU decisions of approval.

PUMPPULOHJA pressure tanks are delivered for both air and water use.

- |   |                              |
|---|------------------------------|
| Structure pressures                       | Running temperature          |
| - membrane pressure tanks<br>6 and 10 bar | - standard tanks max. +50 °C |
| - pressure tanks 6 and 10 bar             | - custom orders max. +100 °C |

### Zinc-coated tanks



Volume l	Dimensions, mm						
	Ds	h1	h2	h3	h4	h5	h6
150	450	790	500	1,010	85	1,230	500
300	550	1,100	700	1,360	85	1,570	675
500	650	1,310	700	1,610	85	1,810	800

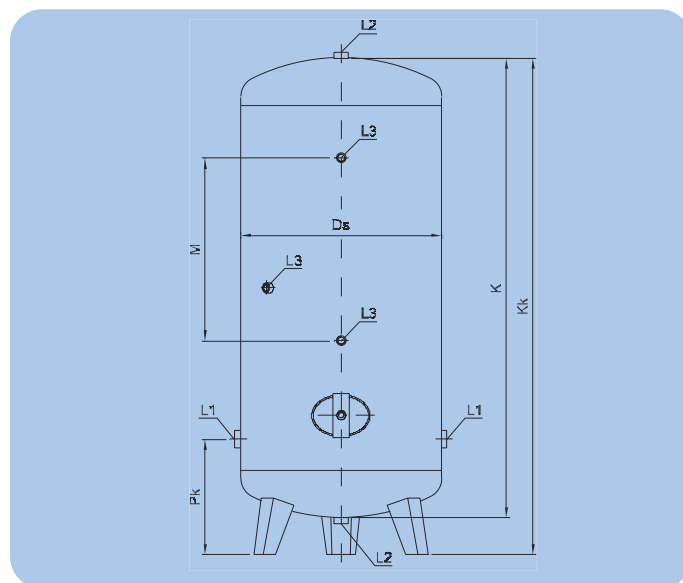
### Choose the tank based on the pipe's production volume

The attached table shows the percentage of the tank which is useful volume, i.e. capacity.

Recommended tank size based on pump production volume:

*) Pump volume l/min	Tank volume	
	Membrane pressure tank l	Standard tank l
10–15	25	60
15–20	25	100
20–30	50	150
30–40	50	150–200
40–60	2 x 50 or 100	200
60–100	100	300
100–150	200	500
150–200	300	1,000

### Pressure tanks, stainless steel, acid-proof steel

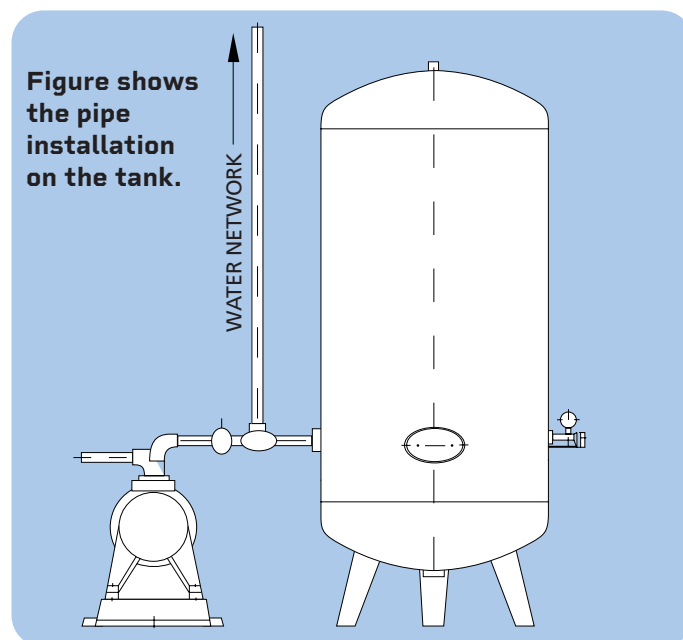


Volume l	Dimensions, mm					Connections, R		
	Ds	Kk	K	Pk	M	L1	L2	L3
100	400	980	880	310	500	1 1/4"	1"	1/2"
150	450	1,120	1,020	310	445	1 1/4"	1"	1/2"
200	450	1,340	1,240	310	500	1 1/4"	1"	1/2"
300	550	1,375	1,275	325	500	1 1/4"	1"	1/2"
500	650	1,640	1,540	335	500	1 1/4"	1"	1/2"

Other sizes are available based on the offer

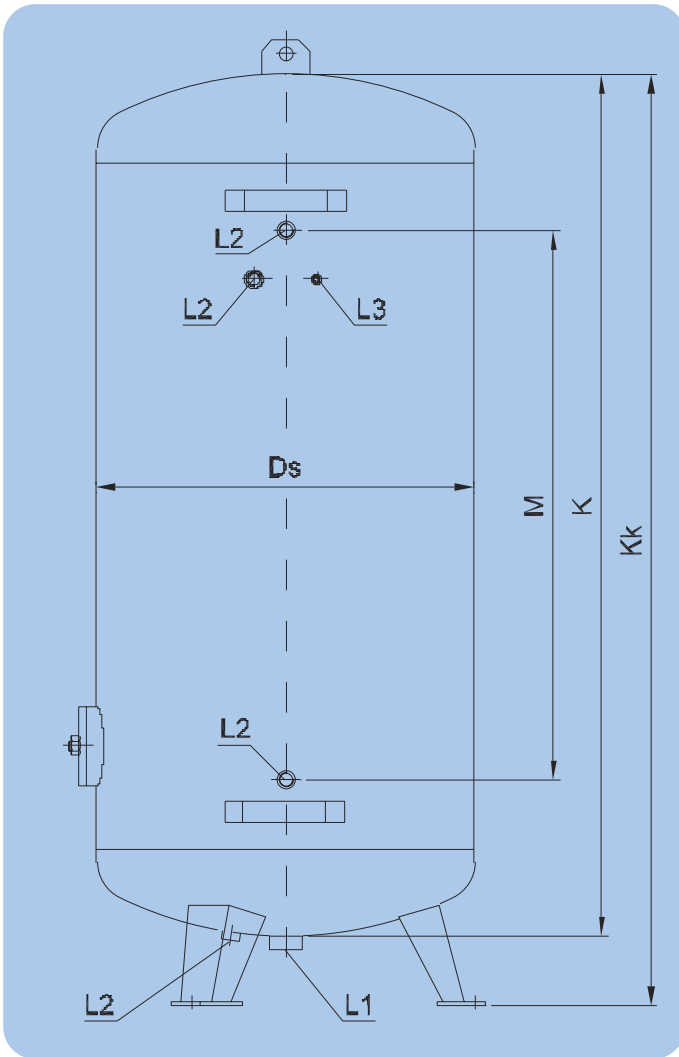
### Note in the installation of pressure tank

The capacity of an old tank decreases over time as air gets sucked into the water due to pressure, which means that water gradually fills the whole tank. In this case, the tank must be vented in order to restore the capacity. The venting can be carried out by emptying the tank or by letting air into the tank from the pump's suction end. You can significantly prolong the maintenance interval and slow the absorption of air by installing the tank in a way that the network supply water does not go through the tank; see the attached figure.





# MAXI TANKS



The Pumppulohja MAXI production pressure tank is an enclosed, air-filled water pressure tank with 2.5 times the capacity of a standard tank.

The pressure tanks are made of stainless steel EN1.4301.

The tank has a rubber dump valve equipped with a buoy which closes tightly, preventing pre-charge pressure from leaving the tank after a correct installation.

You can find the available standard models of the Pumppulohja MAXI tanks on the price list. The standard pressure options are 6, 10 and 16 bar.

Custom MAXI tanks can be manufactured up to 3,000 l for different pressure categories and also out of acid-proof steel.

### Use

When starting to use the tank, check the pre-charge pressure and, if necessary, adjust it based on the initial pressure of the pump.

The pre-charge pressure can be adjusted either by letting air in or out of the valve. The pressure can be read on the pressure gauge.

During use, the water level is monitored through the glass and, if necessary, it can be tuned to achieve the maximum capacity of the tank.

**See user manual here.**

Volume l	Ds	Dimensions, mm			Connections R		
		Kk	K	Pk	L1	L2	L3
150	450	1,150	1,050	580	1¼"	½"	⅛"
200	450	1,370	1,270	800	1¼"	½"	⅛"
300	550	1,355	1,255	800	1¼"	½"	⅛"
500	650	1,645	1,545	1,050	1¼"	½"	⅛"

Sales: dealers, HVAC shops and hardware stores  
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