



Water Inflation Controller

Instruction Manual

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WARNING

Read and understand before using Petersen Inflatable Plugs!
Failure to comply may result in property damage, serious injury or death!
These instructions must be available to all users. Train all personnel for proper use.

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Important Safety Instructions

Safety is Everyone's Responsibility



WARNING

Extremely high forces are involved in many pipeline-plugging situations that may cause injury or even death. Forces increase dramatically as pressure and pipe diameter increase. Extreme care is required to ensure the safe use of any Inflatable Plug.

- All inflatable plugs must be anchored adequately. Never use eye bolts, inflation hoses, or other attachments of the plug as means to restrain the plug movement under back pressure.
- Do not use inflatable devices as the primary protection for personnel downstream.
- Debris or protrusions into the pipeline can damage a seal or reduce the pressure rating. NEVER use a test pressure greater than the capacity of the weakest pipe or component in the system.
- Do not exceed the pressures on each plug label. Maximum pressure ratings are for plugs installed in clean, dry pipe of nominal size. Usage of plugs in pipeline that varies from these conditions could reduce the maximum allowable pressures.
- Never use equipment when a failure could result in injury or significant property damage.

Safety Inspections



CAUTION

Do not use plug if it has or shows signs of wear or deterioration. All rubber products degrade over time, even if they are used infrequently, stored properly, and show no external signs of damage.

Petersen recommends that each plug be retired from service no later than 17 years after the date of manufacture, which can be found on the plug data tag. Contact Petersen if needed.

- Inspect the inflatable plug for abrasions, cuts, punctures, bulges, cracks, corrosion, loose or damaged fittings & components, leaks, or any physical damage. Clean the plug if required.
- If outside a pipe, do not inflate an inflatable plug greater than 5 psi or above 5% of rated pressure.
- Verify that the air line connections and hoses are not damaged or leaking.
- Use calibrated gauges that agree to monitor pressures. Failure to use calibrated gauges could result in plug failure.
- Equalize the pressure on both sides of each inflatable plug before installation **and** removal.
- Verify that the pipeline flow is stopped.

Operating Safety



CAUTION

Keep all personnel away from the plug end area.

- Wear required PPE including but not limited to eye protection, helmet, hearing protection.
- Follow all confined space safety controls. Confined space authorization, air monitor, and ventilation may be required.
- Inflate plugs with air, water, or inert gasses, e.g., nitrogen. Air and other inert gases pose more danger than water if a possible plug failure occurs.
- Because of the many possible variables, these general instructions must be adapted by an engineer for each specific project. Instructions and training must be provided to all plug users and workers on the job.
- Consult qualified personnel if the risks or forces involved cannot be calculated.
Contact the project engineer or Petersen if needed. Safety is the highest priority.

Overview

Water Inflation

The Water Inflation Controller is equipped a Diaphragm pump and ball valves to control inflation.

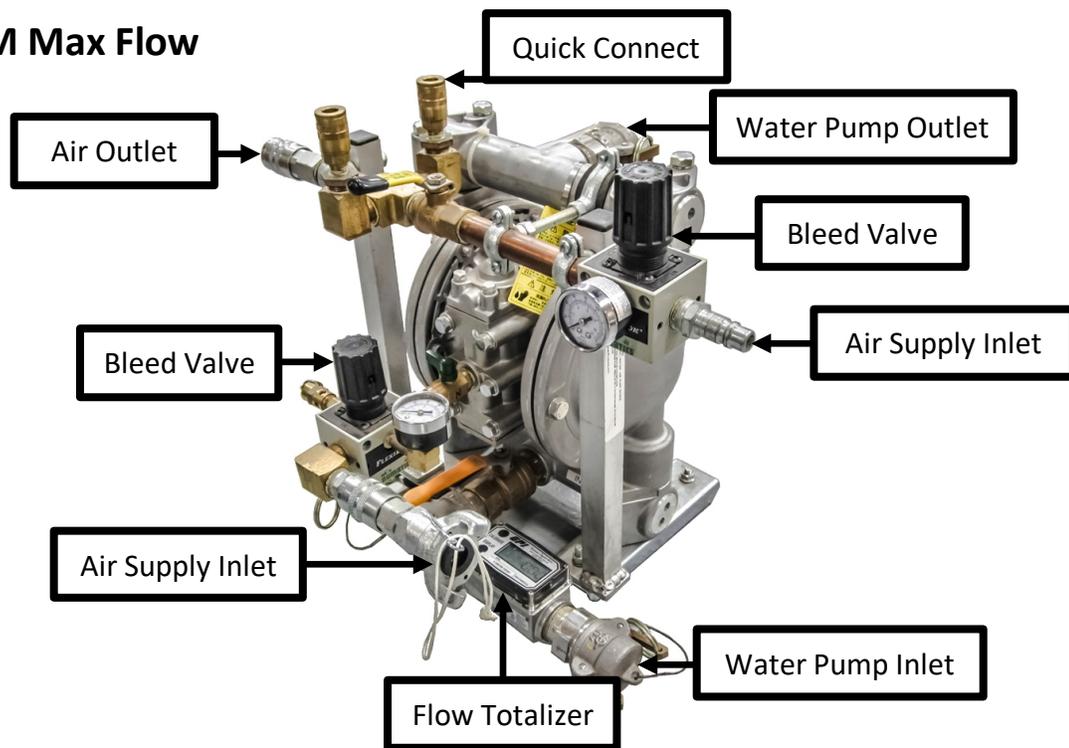
- The Water Flow Totalizer monitors the quantity of water used.

Air Inflation

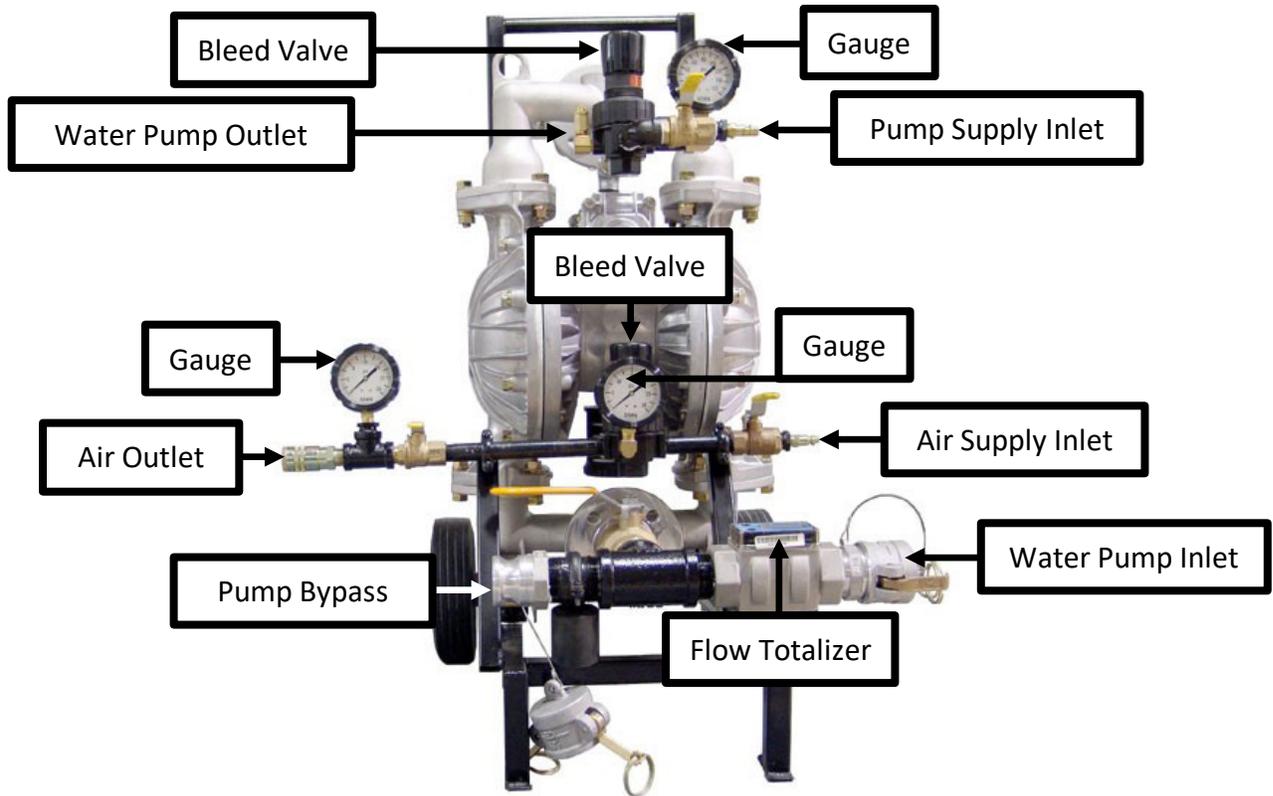
The kit fits perfectly with the Water Inflation Controller. The kit components monitor and control the air inflation to maintain at safe effective levels.

- See petersenproducts.com or email sales@petersenproducts.com for more information.

Model 50 GPM Max Flow



Model 100 GMP Max Flow



Assembling the Water Inflation Controller



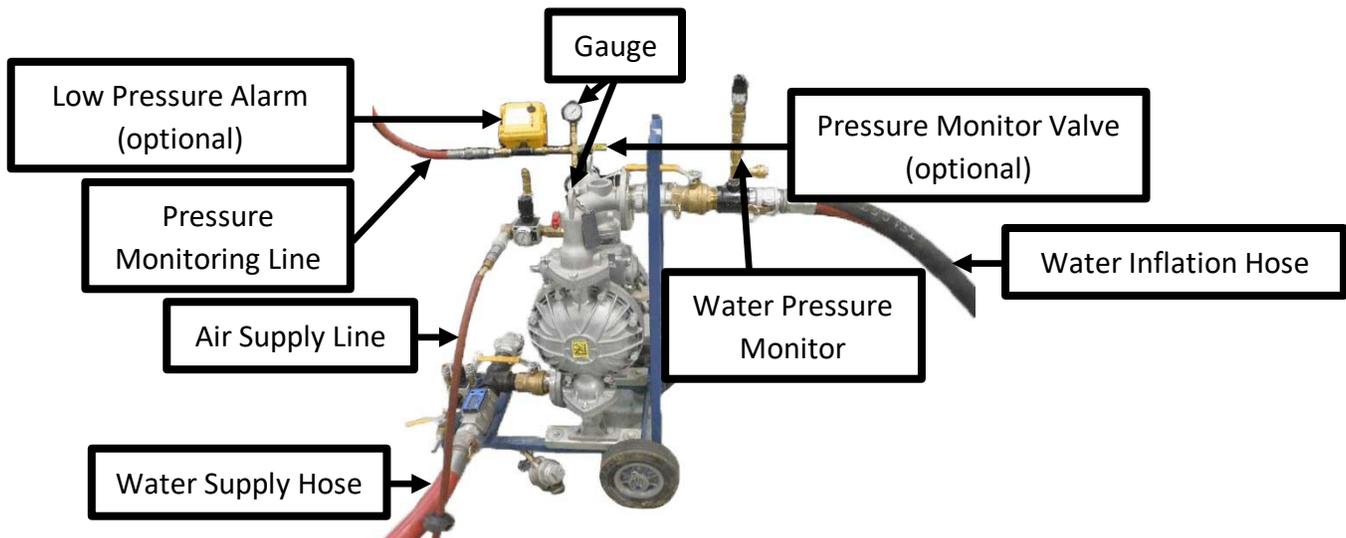
NOTE

Verify that each hand valve is closed before assembling. See image below if needed.

1. Connect the Water Inflation Hose and Pressure Monitoring Line to the Water Inflation Controller.
2. If equipped, attach the Pressure Monitor Line to the Low Pressure Alarm (optional) and Pressure Monitor Valve (optional) to monitor if the inflation pressure drops.

NOTE: See petersenproducts.com or email sales@petersenproducts.com for more information.

3. Attach the two Gauges to the Pressure Monitor Valve Assembly.



4. Connect the Water Supply Hose to the Water Inflation Controller.
5. Connect the Air Supply Line to the Water Inflation Controller.
6. Open each valve before operating.

Inflating the Plug

If the pipeline is more than half full of liquid:

- The plug can be inflated directly with water.

If the pipeline is less than half full of liquid:

- The plug must first be inflated with air to take shape.
- Inflate to the lesser of 5 psi or 10% above the pipeline pressure.



CAUTION

For maximum safety remove as much air as possible.

1. Inflate with air to the lesser of 5 psi or 10% above the pipeline pressure.
2. Zero the Batch Counter on the Flow Totalizer. See Operating the Flow Totalizer if needed.
3. Inflate the plug with water. Periodically close the Water Inflation Valve to release air pressure.
4. Open the valve at the Pressure Monitor Assembly to release any air.



NOTE

Do not allow the pressure to drop below 5 psi from 5% of the line pressure.

5. Close the Pressure Monitor Valve and continue inflating with water.
6. Use the Batch counter on the Water Inflation Controller to monitor the amount of water.
7. Once the Pressure Monitor Valve is only releasing water, then all the air is removed.
8. To monitor the inflation pressure with a water hose that is filled with water:
 - Add 0.433 psi to the gauge readings for every foot that the gauge is above the invert of the pipe.



CAUTION

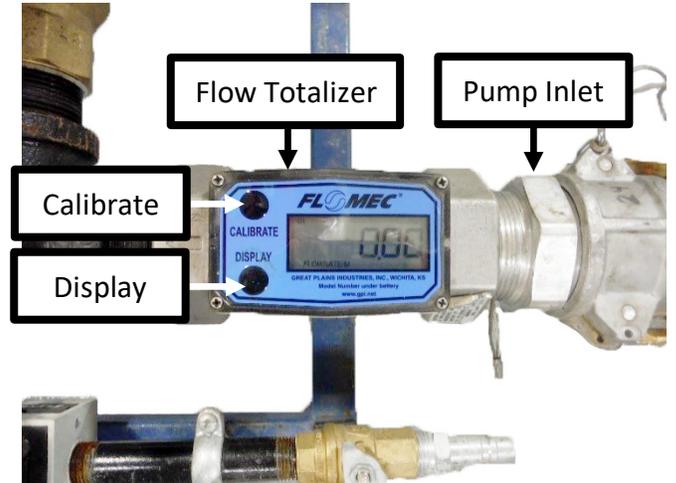
Do not exceed the maximum rated pressure.

9. Use the Flow Totalizer to monitor the volume of water when filling the Plug. Verify that the Plug is inflated to factory rated pressure. See Operating the Water Flow Totalizer if needed.
10. High pressure plugs can be topped off with air or nitrogen after they are filled with water.
11. If equipped, turn on the Low Pressure Alarm. If the pressure drops below the alarm setpoint then the alarm will sound.

Operating the Water Flow Totalizer:

- Press the **Display** button **once** to display the total volume of water ever used by this pump.
- Press the **Display** button **again** to display the Batch (ammount of water used).
- Press the **Display** button **again** to show Flow Rate.

- To reset the Batch to Zero to track the quantity of water: display the **Batch** then press and hold the **Display** button.
- To change units from gallons to liters: hold the **Calibrate** button and press the **Display** button.



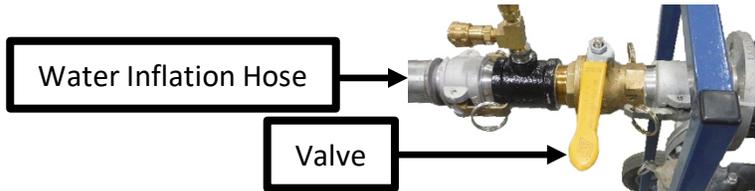
Deflating the Plug



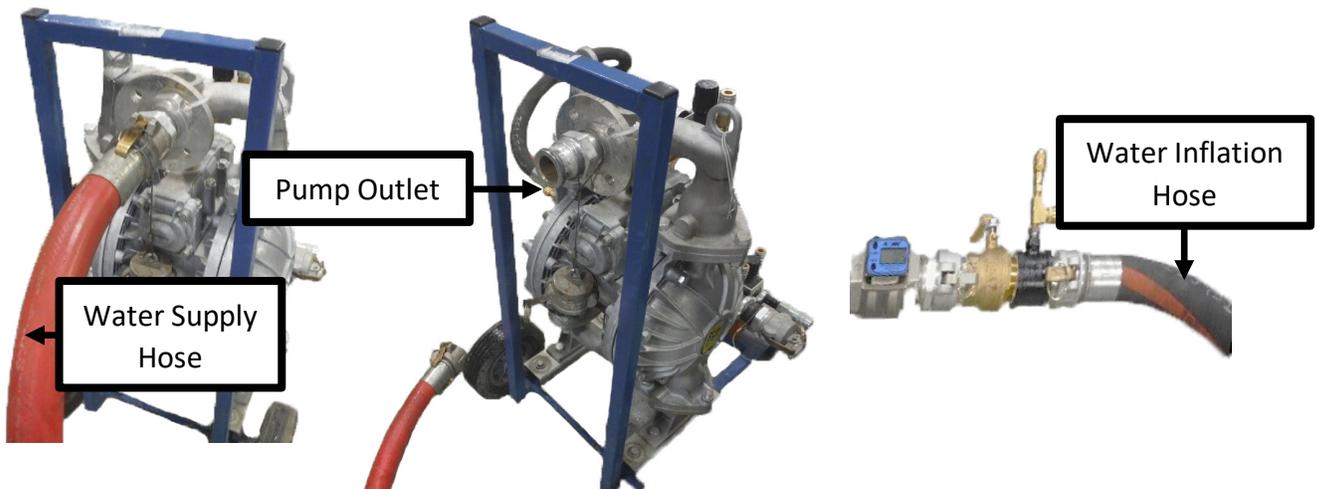
CAUTION

Do not exceed the maximum rated pressure of the Plug when deflating.

1. Close the valve on the Water Inflation Hose.



2. Switch the Water Hoses between the connection ports. The hose that was connected on the Water Supply should be connected to the Water Pump Outlet. The hose that was connected to the Water Supply should be connected to the Water Pump Inlet.



3. Verify that the Water Pump Outlet Hose drains into a tank or area that can collect the water pumped out of the plug. Zero the batch counter to track the output.



NOTE

Inflate the Plug with air to purge the water as needed.

4. Open the valves on the Water Inflation Hose and begin deflating the Plug.

NOTE: Verify that the Plug is completely deflated before removing.



NOTE

Maximum vertical lift from the pipe invert is 18 ft. The Pump will only lift 18 ft on the inlet side. Pipeline pressure can assist with water deflation.

If needed, Petersen can make Plugs equipped for lifts over 18 ft

Call Petersen with any questions or suggestions relating to the use of any Petersen product

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