

PRESSURE TANKS

INSTALLATION & OPERATING MANUAL



Models:

**OPT008 / OPT012 / OPT024 / OPT035 / OPT080 / OPT100
HPT020 / HPT050 / HPT080 / HPT100**



CAUTION

Should the installer or owner be unfamiliar with the correct installation or operation of this type of equipment, contact the distributor or manufacturer for the correct advice before proceeding with the installation or operation of this product.



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CAUTIONS AND WARNINGS



PLEASE READ ALL INSTRUCTIONS BEFORE INSTALLING YOUR NEW PENTAIR ONGA TANK

- ⚠ To prevent personal injury, ensure all water pressure is released from the pressure system prior to work being performed. Ensure pumps are disconnected and / or electrically isolated.
- ⚠ It is strongly recommended that the system is protected by a suitable pressure relief valve set at or below the maximum tank pressure rating. Failure to install a relief valve may result in tank explosion in the event of a system malfunction or over pressurization, resulting in property damage, serious personal injury or death.
- ⚠ If the pressure tank leaks or shows signs of corrosion or damage do not use it.



INSTALLATION SHOULD ONLY BE CARRIED OUT BY A QUALIFIED PERSONNEL



ISOLATE POWER AND RELIEVE ALL SYSTEM PRESSURE BEFORE ATTEMPTING TO ADJUST PRESSURE SWITCH OR CHARGE AIR.



FAILURE TO FOLLOW THE INSTRUCTIONS CAN CAUSE RUPTURE OR EXPLOSION POSSIBLY CAUSING SERIOUS/ FATAL INJURY, FLOODING, AND/OR PROPERTY DAMAGE.

These instructions have been prepared to acquaint you with the correct method of installing and operating your PENTAIR/ONGA pressure tank. We urge you to study this document carefully and follow all of the recommendations. In the event of installation difficulties or the need for further advice, you should contact the dealer from whom you purchased the system or the nearest PENTAIR sales office.

- Onga Pressure Tanks are designed for use in agricultural well water or potable water booster systems.
- Onga Pressure Tanks are also designed for use in domestic open loop potable water applications.
- See tank data label for maximum working pressure and maximum temperature.
- Be sure to protect tank, piping and all system components from freezing temperatures.
- The manufacturer is not responsible for any water damage in connection with this diaphragm pressure tank.

INSTALLATION

1. Tank Installation

1.1 Proper Tank Location

In order to ensure your tank provides its maximum service life it should always be installed in a covered, dry position, out of direct sunlight. The tank should not be allowed to rub against any surrounding hard surfaces, such as walls etc.

Install the tank at a suitable location to prevent water damage due to leaks. The tank should always be located downstream from the pump. If the tank is located at a lower elevation than the demand then a check valve should be installed. If the tank is installed remotely from the pump then install the pressure switch near the tank. The tank should be installed as close as possible to the pressure switch, transducer or flow sensor. This will reduce the adverse effects of added friction loss and differences in elevation between the tank and / or the water mains' and the pressure switch, transducer or sensor.

INSTALLATION

1.2 System Connection

1. Place the tank in its final desired location.
2. Level as necessary. All vertical and horizontal model tanks should be placed on a firm base. If vibration is likely to occur in the vicinity the tank should be mounted on a resilient mounting. Tanks with steel bases should be mounted using supplied "L" brackets, while tanks with plastic bases should be mounted through the holes in the base. For bases without holes, holes should be drilled at four points equally distant along the rim of the base and then mounted accordingly. Inline tanks should be connected directly to the pump or to the supply line using a "T" connection.
3. Connect the tank to the pump supply line with a short pipe to eliminate unnecessary friction loss.
4. All piping should be in accordance with prevailing local codes and standards.
5. Tanks mounted on booster sets should be strapped down for shipment.

1.3 Adjusting Pre-charge Pressure

Correct pre-charge is required for proper tank performance.

1. For tanks installed with a pressure switch controlled pump with a differential pressure set up to 2 bar (30 psi), the pre-charge should be set to 0.2 bar (2 psi) below the cut-in pressure.
2. For tanks installed with a pump controlled by a pressure switch with a pressure differential greater than 2 bar (30 psi), electronic controls or variable speed controls, the pre-charge should be set to 65% of the cut-out or maximum system pressure.
3. For water hammer arresting, the tank pre-charge should be set equal to the mains' pressure. For mains' pressure exceeding 6 bar (88 psi), a suitable pressure regulator should be installed.
4. For accumulator tanks installed on mains' pressure, the tank pre-charge should be set to 65% of the mains' pressure. For mains' pressure exceeding 4 bar (58 psi), a suitable pressure regulator should be installed.

For correct operation, pressure tanks should be pre-charged as follows:

1. Turn off the pump, disconnect the tank from the system and completely drain all water inside the tank to avoid water pressure affecting pre-charge readings.
2. Using a suitable pressure gauge, check the pre-charge pressure of the tank.
3. Release or add air as necessary to adjust to the required pre-charge pressure.
4. Replace protective air valve cap & seal with the air valve label, if provided. This will enable you to determine if the valve has been tampered with in case of future service calls.
5. After correctly setting the pre-charge, no regular air charge checks are required. Do not check air after installation.

⚠ CAUTION: Never over-charge the tank and pre-charge the tank with air at ambient temperature only!

INSTALLATION

1.4 Typical Installations

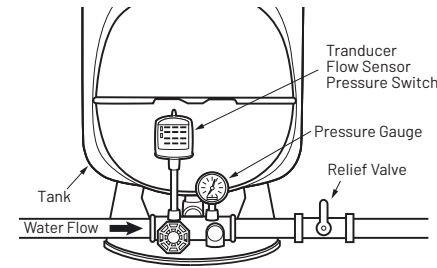


Fig. 1.4-1 Tank installation with Accessories

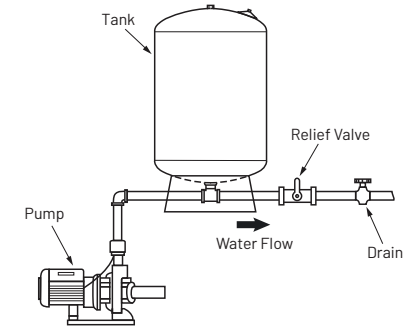


Fig. 1.4-2 With convertible Jet pumps

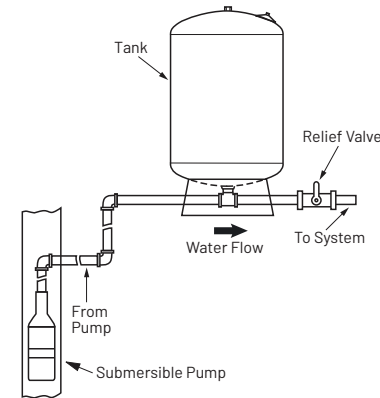


Fig. 1.4-3 With submersible pump

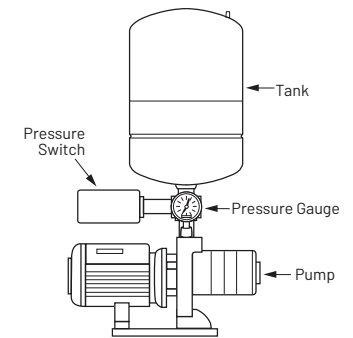


Fig. 1.4-4 Booster pump inline tank

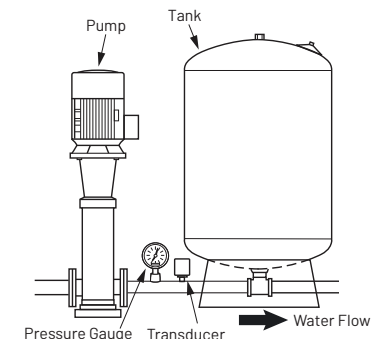


Fig. 1.4-5 Booster pump with tank

INSTALLATION

1.5 Multiple Tank Installation

All tanks must have the same pre-charge for the system to function properly. Tanks should be installed on a header to ensure all tanks receive equal and balanced pressure. Adjust each tank pre-charge as detailed in section 1.3. The system pressure switch or control should be centrally located (see Fig 1.5) in order for the tanks to function properly.

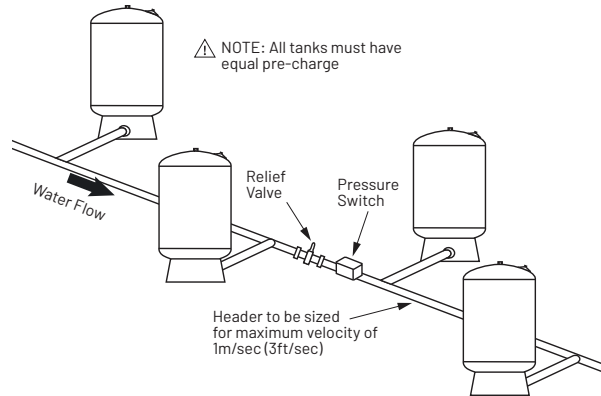


Fig. 1.5 Multi-tank Installation

1.6 Pump Run Control Operating Principles

Without a pressure tank, a water system's pump would cycle (turn on) every time there was a demand for water. This frequent and potentially short cycling would shorten the life of the pump. Pressure tanks are designed to store water when the pump is running and then deliver pressurized water back to the system when the pump is shut off (Fig 1.6). A properly sized tank will store at least one liter of water for every liter per minute (LPM) of pump capacity. This allows for fewer pump starts and longer run times which should maximize the life of the pump.

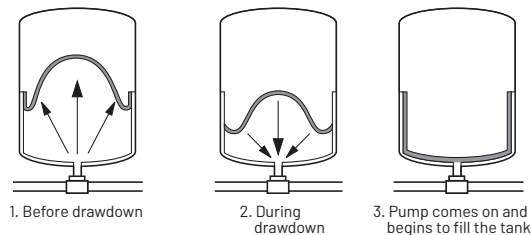


Fig. 1.6

MAINTENANCE

2. Maintenance

Perform external checks for damage such as corrosion every 5 years and replace the tank if needed. The maintenance intervals must be defined by the operator based on the operating conditions and local and state requirements. The pre-charge can be checked as per section 1.3.

3. Disposal

Check with local authorities for proper disposal and recycling. Do not dispose of the manual - keep it for further reference.



4. Warranty

Installation in Australia or New Zealand should be in accordance with standards **AS/NZS 3500.1** and **AS/NZS 3500.4** where applicable.

For further warranty info and Terms of Use, please refer to Pentair's Warranty Schedule supplied with the product.

IMPORTANT

Please attach your sales invoice/docket here as proof of purchase should warranty service be required. Please do not return warranty form to Pentair Australia. Retain for your records.

PURCHASED FROM:
PURCHASE DATE:
SERIAL NO:
MODEL NO:



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