INSTALLATION OPERATION MANUAL

This manual should be kept for future reference. In the event that you need assistance for servicing your water filter, please first contact the professional contractor who installed the system.

Lancaster Water Group | 1340 Manheim Pike, Lancaster, PA 17601 | lancasterwatergroup.com | 1-800-442-0786
WHERE TO INSTALL

INSTALLING THE CARTRIDGE

The System comes preassembled without the cartridge installed.

1. Push down the top cap with both hands to unseat the retaining ring, and remove the retaining ring by carefully grasping the handle and pulling inward, then upward. The retaining ring should slide completely out of the groove.

2. Remove the Top Cap from the housing assembly by pulling the cap out of the top of the tank, by lifting up on the top handles. Place removed Top Cap on a clean and dry surface, free of debris, so no contamination of the o-ring occurs.

3. Look down into the tank assembly, and you should see a small opening centered in the bottom of the tank.

4. Remove packaging from filter, then place the cartridge into the tank with the double o’ring facing down.

5. Position the cartridge so that it is aligned with the bottom, center opening.

6. Press down on the cartridge so that the double o’ring seal moves into place within the bottom, center opening.

7. Reposition the Top Cap into its original location.

8. Reattach the top tank Snap Ring, pull up on the Top Cap to seat o-rings.

9. Run water through system for 10 minutes before use.
1. Turn off the water supply to the system by shutting off the inlet and outlet valves on the bypass.
2. (Optional) Install a 3/8” PEX tubing hose to the provided John Guest® fitting and shut-off that connects to the inlet side of the filtration system. Run the hose to a floor drain or bucket, and use to drain sediment or to aid in filter removal during change-out.
3. Remove Umbrella Cap on the top of the vessel. Replace the 3-AAA batteries with new batteries. Push and hold the reset button on the metered board for 3 seconds to reset the totalizer. When the totalizer is reset the LED lights will flash green 3 times to confirm that it is reset.
4. Depressurize the system by pushing down on the red depressurization button on the top cap of the system. Keep the button pushed down until all the air or water pressure is completely released.
5. Push down the top cap with both hands to unseat the retaining ring.
6. Remove the retaining ring by carefully grasping the handle and pulling inward, then upward. The retaining ring should slide completely out of the groove.
7. Remove the top cap of the system by lifting up on the top handles, remove old filter.
8. Open the John Guest® fitting and shut-off, and flush out the bottom of the system.
9. Look down into the tank assembly, and you should see a small opening centered in the bottom of the tank.
10. Remove packaging from the new filter, place the new cartridge into the tank with the double o’ring facing down.
11. Position the cartridge so that it is aligned with the bottom, center opening.
12. Press down on the cartridge so that the double o’ring seal moves into place within the bottom, center opening.
13. Reposition the Top Cap into its original location.
14. Reattach the top tank Snap Ring, pull up on the Top Cap to seat o-rings.
15. (If completed Step 2, then…) Close the John Guest® fitting and shut-off.
16. Turn the water supply on, opening the inlet and outlet valves on the bypass.
17. Relieve the system of air in the tank as the system fills with water, by pushing down on the red depressurization button on the top cap of the system. Keep the button pushed down until all the air pressure is completely released, and water comes out of the red depressurization button.
18. Release the red depressurization button.
19. Replace the Umbrella cap to the top of the system.
20. Check for leaks.
21. Flush the new cartridge per its installation instructions.
22. During flush, confirm green LED lights are flashing with flowing water. If lights are not flashing green, go back to step 3.

**EASY TO UNDERSTAND LED REPLACEMENT NOTIFICATIONS**

![#3 UMBRELLA CAP & LED LIGHTS](image)

The Real-time Dynamic LED System monitors water and flow rate and provides a visual color-coded notification to the homeowner, letting them know when to replace their filter.

**GREEN**
- Filter Good

**YELLOW**
- Change Soon
- 10% Filter Life Remaining

**RED**
- Change Now

**EASY FILTER REPLACEMENTS AND NO TOOLS REQUIRED**
PIONEER uses state-of-the-art snap-ring technology to eliminate the need for cumbersome tools. Homeowners can easily replace the filter in their PIONEER system by following a few simple steps.

**PRESS THE RED PRESSURE RELIEF VALVE & PULL SNAP-RING**

**LIFT TOP CAP**

*Meter preset at 100,000 gallons; see page 7 for adjusting presets.*

*Three AAA batteries not included, for battery back-up. Change annually with filter change-out.*
**SIMPLE ASSEMBLY INSTRUCTIONS**

1. **Connect #3 to #2 on the bottom of the Filter Housing #1**
   - **HAND TIGHTEN ONLY**

2. **Connect #4 to #3; Flow Meter Assembly should be placed on the Outlet Side. (Note the flow direction arrow on the meter body.)**
   - **HAND TIGHTEN ONLY**

3. **Connect #5 Bypass to #4**
   - **HAND TIGHTEN ONLY**

4. **Use either part of #6 for connecting your plumbing to the system**
   - **HAND TIGHTEN ONLY**

5. **Install part #7 into #3 using the threaded connection & Teflon® tape**
   - **HAND TIGHTEN ONLY**

6. **Connect 3/8” PEX Plumbing to drain**
   - **NOT PROVIDED**

7. **Install 3-AAA batteries to #Umbrella Cap; connect to Power Supply**

Plumbing the filtration system assembly: The inlet and outlet of the filtration housing are 1” Threaded MNPT connections.

**No Use of Extra lubricants, unapproved sealants, and use of tools. Use of tools other than hand tighten only parts, voids warranty.**

Please allow 3 feet of open space above the system for replacement cartridges.

System to be supplied only with cold water.

3-AAA batteries not included.

Meter assembly preset to 100,000 gallons
PERFORMANCE

WARNINGS

This system conforms to NSF/ANSI 53 for the specific performance claims verified and substantiated by test data. Performance claims are based on independent lab results and manufacturer’s internal test data*. Actual performance is dependent on influent water quality, flow rates, system design and applications. Your results may vary. Performance claims are based on a complete system, including a filter, housing, and connection to a pressurized water source. This filter must be operated according to the system’s specifications in order to deliver the claimed performance. It is essential to follow operational, maintenance, and filter replacement requirements, as directed for each application, for this filter and system to perform correctly. Read the Manufacturer’s Performance Data Sheet accompanying the system and change the filter as suggested. The contaminants or other substances removed or reduced by this water filter are not necessarily in all users’ water.

*Claims are not performance tested or certified by IAPMO or NSF. Performance claims are based on independent laboratory and manufacturer’s internal test data. Actual performance is dependent on influent water quality, flow rates, system design and application. Results may vary.

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>PIONEER™ NAME AND PART NUMBER</th>
<th>SIZE</th>
<th>MICRON RATING</th>
<th>RATED CAPACITY &amp; FLOW RATE</th>
<th>PEAK FLOW &amp; % REDUCTION OF LEAD</th>
<th>CHLORINE/CHLORAMINE TASTE AND ODOR REDUCTION CAPACITY(*)</th>
<th>PRESSURE DROP SPEC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PIONEER™ System</strong> 7-CTFS-NSF</td>
<td>8” x 40”</td>
<td>0.5</td>
<td>Lead Reduction and PFOA/PFOS 100,000 gallons @ 4.51 GPM (378,541 Liters @ 17.1 lpm) @ 99.62% lead reduction @ 97.9% PFOA/PFOS reduction</td>
<td>8 GPM (30.2lpm) @ 99.62% reduction (*) &gt;88,000 gallons at 8 GPM (333,116 Liters @ 90.3lpm)</td>
<td>&gt;300,000 gallons @ 15 GPM (1,135,533 Liters @ 56.8 lpm) with greater than 90% reduction, estimated capacity using 2ppm of free chlorine. &gt;150,000 gallons @ 8 GPM (587,812 Liters @ 30.3 lpm) with greater than 85% reduction, estimated using 3ppm of chloramine.</td>
<td>15 psid @ 4.61 GPM</td>
</tr>
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### PIONEER™ REPLACEMENT CARTRIDGE FILTERS ARE LISTED AS PIONEER™ 0.5 Micron High Capacity Carbon Block // PART NUMBER: CT-NSF-CB

- Minimum Operating Temperature: 34 F / 1 C
- Maximum Operating Temperature: 120 F / 50 C
- Minimum Operating Pressure: 20 psig / 1.38 bar
- Maximum Operating Pressure: 125 psig / 8.6 bar
- Electrical Requirements: Grounded & Unswitched 115 V outlet and 3-AAA Batteries
- Filter Replacement Operating Instructions: New cartridges must be flushed for a minimum of 10 minutes prior to use. System and installation to comply with state and local laws and regulations. Do not use with water that is microbiologically unsafe or unknown quality without adequate disinfection before or after the system. Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts. Manufactured from NSF/ANSI standard 61 and California Prop 65 Compliant certified coconut shell carbon and raw materials.

DO NOT USE extra lubricants, unapproved sealants and tools to tighten hand tightened only parts. Use of tools other than hand tighten only parts voids warranty. Testing was performed under standard laboratory conditions; actual performance may vary. Flush the system and change the filter as suggested. The contaminants or other substances removed or reduced by this water filter are not necessarily in all users’ water.
The overall purpose of this device is to receive a water meter input, and totalize the amount of water that passes through the meter. When there is flow through the water meter, the lights flash at a rate that increases with the water flow rate. When the total amount of water flowed reaches within 10% of a pre-selected amount the totalizer turns yellow, when the total amount reaches the pre-selected amount the totalizer turns red.

Power
This unit is to be powered using +12VDC. The power input is a wire tail with a 2.5mm, center positive barrel jack.

The totalizer has a battery backup. The battery backup uses 3 AAA size batteries. The battery holder is a part of the PCB assembly and can be accessed by removing the lid to the cartridge filter. Battery life will vary based on water flow when running on battery mode and type of batteries used. With high continuous flow, the batteries are expected to last approximately 14 days. With no flow the batteries are expected to last approximately 6 months.

Operation
Water Meter
The totalizer keeps track of the gallons using a water meter. The meter is a turbine style meter with a magnetic pickup that sends a pulse to the electronics for every revolution of the meter turbine. The meter turbine is removable for inspection and cleaning. Make sure water is bypassed or turned off when removing the meter for maintenance. The meter has a three pin plug that connects to the electronic board.

LEDs
Normal colors for the LEDs are Green, Yellow and Red. Depending on the Totalizer value.

- Green = 0 – 90% of the programmed totalizer maximum
- Yellow = 90 – 100% of the programmed totalizer maximum
- Red >= 100% of the programmed totalizer maximum

If there is flow the LEDs should alternate turn off in the following pattern: 1-2-3-2 (repeat). The frequency that they turn off is linearly correspondent to the flow rate being received from the water meter. For every 1 revolution from the meter, the LED pattern should be incremented to turn off the next LED. If there are no pulse edges for 2 seconds, all the LEDs will turn on solid.

If the battery is determined to be low, the middle LED (#2) will turn White. The battery is checked only once an hour to minimize the battery drain from checking the voltage.

Pushbutton
The pushbutton allows for the totalizer to be reset as well as the maximum value to be programmed.

To reset the totalizer, the user should press and hold the button for 3 seconds. When the totalizer is reset LEDs should flash green 3 times to confirm that it is reset.

The push button allows the unit to be programmed for the total gallons limit. It can be programmed for the range of 10,000 gals. – 990,000 gals.

To program the maximum value using the push button: Press and hold the button while powering up the board (either battery power or 12VDC power). Once the board is powered LED 1 (left LED) will represent 100,000’s place and should be green. LED 2 (middle LED) will represent 10,000’s place and should be blue. Both LEDs will be flashing at 1 Hz the number of flashes that corresponds to the current setting for that digit placeholder. To indicate the start of the flash sequence both LEDs should flash white for 1 second, then flash the appropriate number of times. Once both are done wait 2 seconds and repeat. Below, Figure 1, is an example.

Serial Port
The serial port allows for quick and efficient programming through a basic terminal type interface. The board responds with a message when the enter key is pressed:

Totalizer Current Total: 0 gallons
Totalizer Current Max. Setting: 250,000 gallons
(Send ‘r’ to reset)
( # to enter new setting in 10,000s [valid range 0-99])
>:

Consult the manufacturer for more details on connecting to the board’s serial port.

Power Monitoring and Battery Mode
The board monitors the 12Vdc power and the battery power. If there is a power failure and no batteries are installed, the current totalizer value will be saved to non-volatile memory. When power is resumed, the totalizer count will resume from when it had previously lost power.

The LEDs should shut off during battery mode. If the totalizer is to the yellow or red state or if the battery voltage gets low, the LEDs will flash on in the appropriate colors for 0.125 seconds every 4 seconds. If the push button is pressed in battery mode, the LEDs will turn on for 4 seconds and then return to battery mode.
NOTES

MANUFACTURED BY

CERTIFICATIONS

POWERED BY

Where Innovation Flows™

This ENPRESS pressure vessel is tested and certified by NSF International against NSF/ANSI Standard 53 and 61 for health effects and maximum levels of contaminants addressed in the standard. This ENPRESS pressure vessel is tested and certified by IAMPO R&T against NSF/ANSI Standard 53 and also CSA B483.1 for the reduction of disinfected by-products specified on the performance data sheet.

COMPONENT

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FOR PURCHASES MADE IN IOWA

This form must be signed and dated by the buyer and seller prior to the consummation of this sale. This form should be retained on file by the seller for a minimum of two years.

Buyer’s Name (printed)  Buyer’s Signature  Date

Seller’s Name (printed)  Seller’s Signature  Date

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