



P 3-STAGE DRINKING WATER SYSTEM
PDF-1000VF-P



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IMPORTANT INFORMATION

- Read these instructions carefully and determine the location of all system components before beginning installation.
- Check all applicable plumbing, building, and electrical codes for installation compliance.
- Install the system on the main water supply.
- The use of plumber's tape and/or pipe thread seal paste will be needed on all threaded connections.

WARNING

If this or any other system is installed in a metal (conductive) plumbing system, i.e. copper or galvanized metal, the plastic components of the system will interrupt the continuity of the plumbing system. As a result any errant electricity from improperly grounded appliances downstream or potential galvanic activity in the plumbing system can no longer ground through contiguous metal plumbing. Some homes may have been built in accordance with building codes, which actually encouraged the grounding of electrical appliances through the plumbing system. Consequently, the installation of a bypass consisting of the same material as the existing plumbing, or a grounded "jumper wire" bridging the equipment and re-establishing the contiguous conductive nature of the plumbing system must be installed prior to your systems use.

CAUTION

When adding a filtration/softening system to homes/buildings supplied by well water, the system should be installed following the pressure tank. **DO NOT USE this system for pneumatic or hydropneumatic applications. If you are using a booster pump, then install this system following the booster pump.** If you have questions, please call customer service.

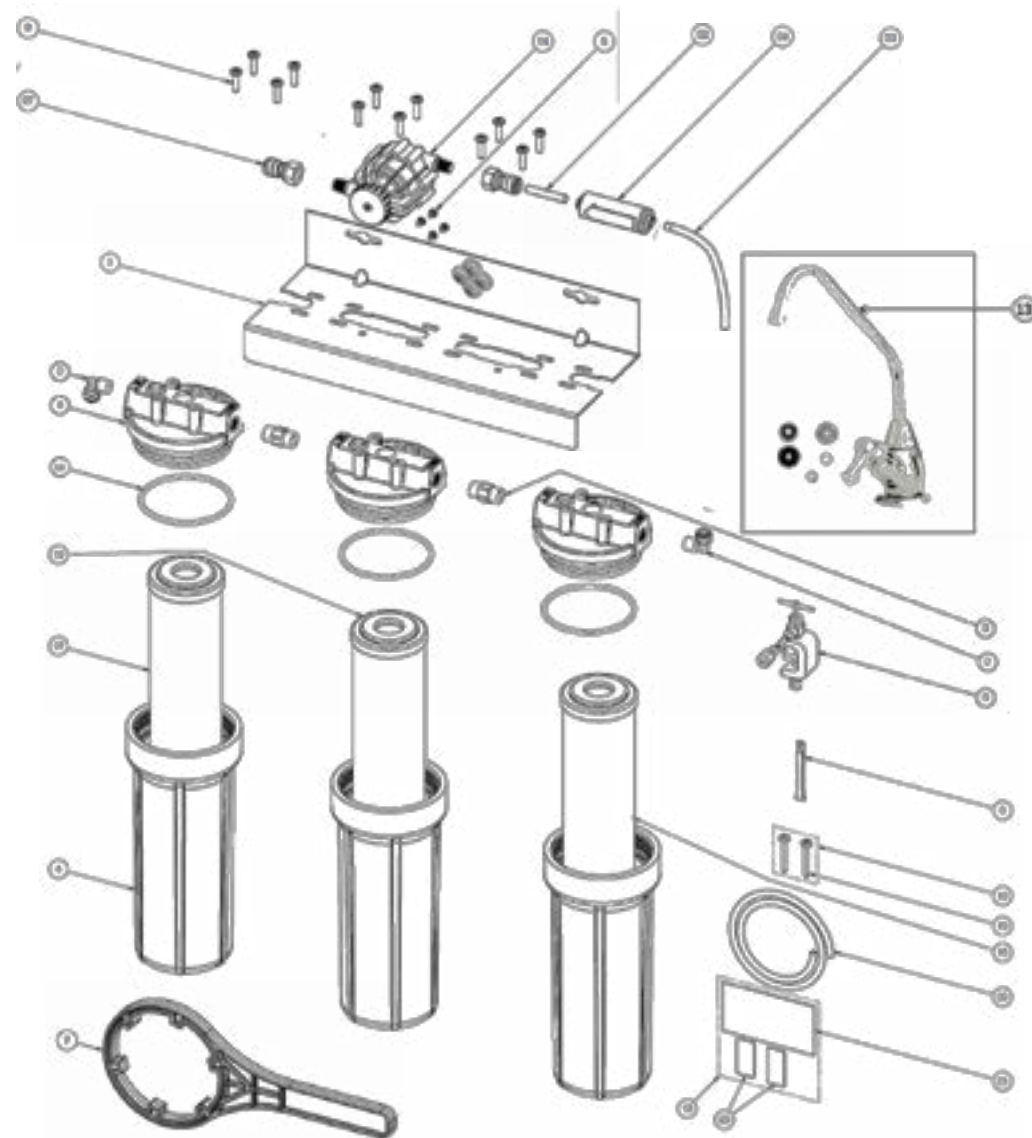
WATER CONDITIONS FOR OPERATION

- The water should be free of hydrogen sulfide, a dissolved gas with a characteristic smell of rotten eggs. If present, it can coat the catalytic surface of the media and interfere with the process. The gas should be removed through adequate pre-treatment.
- The water should be free of hydrocarbons, oils, and lubricants. If present, they can coat the catalytic surface of the media and interfere with the process. Remove through adequate pre-treatment.
- The water should contain less than 1 mg/l of phosphates. Phosphates sequester dissolved hardness molecules preventing them from forming crystals and may coat the catalytic media surface and interfere with the process.
- The copper level in the water supply should be below the MCL of 1.3mg/L. If copper is present above this level, it can attach to the surface of the catalytic media and interfere with the process.

PARTS LIST

Item#	QTY	Part#	Description
1	1	4002991	MTG BRACKET, 3 HOUSING WHITE
	1	144169-02	MTG BRACKET, 3 HOUSING WHITE (ALTERNATIVE)
2	2	SH244788	ELBOW, 1/4" NPT X 1/4" QC WH PP
3	2	SH244791	NIPPLE, MALE HEX 1/4" NPT X 1/4" NPT
4	3	158125	1/4" #10 SL WHITE WO/PR 12/C
5	4	SH143263	SCREW #6X 1/4" LG PHIL PAN
6	1	42561	LUBRICANT, SILICONE, PACKET
7	1	150539	WRENCH SW-1A
8	12	PW-80-09	SCREW, #10 - 32 X 3/4" PAN HEAD
9	1	4002987	VALVE, SADDLE 1/4 COMPRESSION
10	2	SH243249	SCREW #10-12 X 1.5 TYPE A
11	3	C143026	LOCAL "O-RING"
13	1	701-DBXX	FAUCET
14	1	161127	METER, 1800 GALLON, 1/4 NPT

Item#	QTY	Part#	Description
15	1	PDF-VF-R03	FILTER, DEAL®
16	1	PDF-VF-R02	CARTRIDGE , FIBERDYNE®
17	1	PDF-VF-R01	FILTER, NANOCERAM®
20	2	161123	FILTER TIMER MONITOR, 12 MONTH
21	1	161125	INSTRUCTION SHEET, TIME STRIP
22	0.0240 RL	SH144223	MACHINE TAPE, TEFLON 1/4" WIDE
25	1	4006059	MANUAL, PENTAIR PDF-1000VF-P
26	10.000 FT	SH243244	TUBE, 1/4" OD WHITE PE
27	2	161143	DM FITTING; 1/4" X 1/4" QC; NPT
24		N/A	
32	0.1250 FT	SH243244	TUBE, 1/4" OD WHITE PE
33	0.4583 FT	SH243244	TUBE, 1/4" OD WHITE PE
34	1	244985	INLINE FLOW RESTRICTOR, 0.5 GPM



WHAT THE DRINKING WATER FILTRATION SYSTEM WILL DO

The PDF-1000VF-P is a water filtration system. This system uses a triple filter design to reduce unwanted elements in your drinking water. Possible elements may include chlorine, lead, virus, bacteria, cysts, particulates and numerous organic compounds.

The PDF-1000VF-P utilizes the patented NanoCeram® and other technologies in a systematic approach to ensure the water supply conforms to EPA Guide Standard for the removal of 99.9999% Bacteria, 99.99% Viruses, and 99.95% Cysts*. The PDF-1000VF-P is designed to discontinue water flow when its capability to filter unwanted elements has been exhausted. This will help safeguard the consumer against contaminated water. Replace all filters every 6 months or 1000 gallons.

*NSF/ANSI Standard 53 certified to reduce cysts such as *Cryptosporidium* and *Giardia* by mechanical means.

NOTE: A performance data sheet is included and lists what elements will be reduced from the water supply. (Please note that not all elements may be present.) This data sheet lists the individual contaminants and microbial reduction performance.

The drinking water filtration system is designed to fit under the kitchen or bathroom sink or any other area that is suitable. A COLD water supply pipe is required within a few feet. If water supply pipe is farther than what the tube will reach, you can purchase longer lengths of tubing from your local home improvement center.

NOTE: Make sure the tubing is acceptable for use on potable water supplies.

BEFORE YOU START

- In order to receive all of the benefits of your microbiological drinking water filtration system, be sure to read all steps in this guide carefully and follow steps exactly.
- **This system is intended for use with municipal and/or well-supplied water only. It is not intended for use with surface water such as from a lake or runoff.**
- **Do not use for the treatment of water that is visually contaminated (cloudy) or has an obvious contamination source, such as contamination by raw sewage.**
- **Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.**
- **System is not intended to convert wastewater or raw sewage into drinking water.**
- **Installation and plumbing should comply with all local laws and regulations. Consult with your licensed plumber.**
NOTE: In Massachusetts, plumbing code 248 CMR 3.00 and 10.00 shall be adhered to.
- The microbiological drinking water purifier works on water pressure of 30 psi (minimum) to 100 psi (maximum). If your house water pressure is over the maximum, install a pressure reducing valve in the water supply pipe to the filter system.
- Do not install the microbiological drinking water purifier outside, or in extreme hot or cold temperatures. Temperature of the water supply to the under-sink drinking water filter system must be between 40°F and 100°F. Do not install on hot water.
- Do not use with water that is microbiologically unsafe or of unknown quality without disinfection before or after the system.
- Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.

PRECAUTIONS

- This system is for cold water use only.
- Protect filters against freezing, which can cause cracking of the filter and water leakage.
- The rubber O-ring provides the water-tight seal between the cap and the bottom of the housing. It is important that the O-ring be properly seated in the groove below the threads of the housing or a water leak could occur.
- To prevent costly repairs or possible water damage, the sump of plastic housings must be replaced every ten years. If sump is older than recommended, replace immediately. Date sump for reference and indicate replacement date.

SPECIFICATIONS & DIMENSIONS

Supply Water Pressure	30 – 100 psig
.....	Min - Max (2.1-6.7 bar)
Supply Water Temperature	40 – 100°F
.....	Min. – Max. (4.4 – 37.8°C)
Service Flow Rate@60 psi	(0.5 GPM @4.1 bar)
Rated Service Life	1000 gallons (3,785 L)
Dimensions	15.5" H x 5.25" D x 14" L
.....	(394mm x 133mm x 356mm)
Weight	(filled with water) 19lbs (8.6kg)



PARTS OF THE SYSTEM

- (1) Filter system w/integrated mounting bracket and (3) installed filtration cartridges
- Installation Hardware Kit (contains mounting screws, saddle valve, flow restrictor and fittings)
- Manual
- (1) Tubing Kit (containing 1/4-inch tubing)
- (1) Lead-free faucet (including hardware)
- (1) Housing wrench

MATERIALS AND TOOLS NEEDED



Notice

Gather the required tools before starting installation. Read and follow the instructions provided with any tools listed here.

- Safety glasses
- Hand or electric drill (cordless recommended)
- File or sandpaper
- Phillips Head screwdriver
- (2) Two adjustable wrenches
- Tube cutters or utility knife

****If sink does not have hole for separate faucet:**

- Center punch
- 3/4-inch (19mm) drill bit
- Masking tape

IMPORTANT: To avoid damaging the sink, consult a qualified plumber or installer for drilling procedures in porcelain, granite, or stainless steel.

INSTALLATION INSTRUCTIONS



Notice

- A squeaking sound when tightening a compression nut is normal.
- If fittings are removed, plumber's tape must be used for pipe threaded connections.
- Be sure to wear safety glasses when using a drill.
- Typical faucet shown. Faucet will vary.
 - System is designed for standard under-sink installation on 3/8"-inch (10mm) cold water line.
 - Numbered diagrams correspond with numbered steps.

Step 1 – Installing the Saddle Valve

Use of a cordless drill is recommended. To protect yourself from serious injury or fatal shock when using an electric drill, be sure the drill and the outlet it is plugged into are properly grounded. When using a drill, follow the manufacturer's guidelines and procedures.



Notice

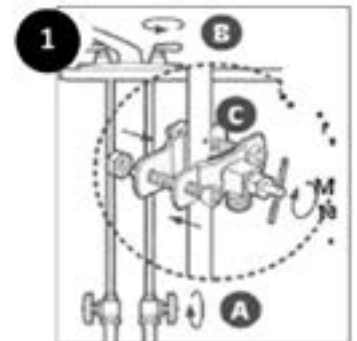
Saddle valve must be installed on a 2-inch (51mm) long, straight-walled section of 3/8-inch to 7/8-inch (10–22mm) steel, brass, copper, or PVC pipe

- Turn off cold water supply and turn on nearest faucet before starting installation. Place a tray or towels under the cold water line to catch excess water.
- Drill a 1/8-inch (3mm) hole in the cold water line. Remove any burrs with sandpaper or file.
- Turn handle on the saddle valve to expose lance no more than 3/16-inch (5mm) above black rubber gasket.
- Place valve body over hole in cold water line so lance fits into hole.
- Attach back plate of clamp and tighten bolts evenly and firmly so brackets are parallel.
- Turn valve handle clockwise to closed position and leave closed until installation is complete.



Notice

All nuts must be retightened when the system reaches projected operating temperature.



INSTALLATION INSTRUCTIONS

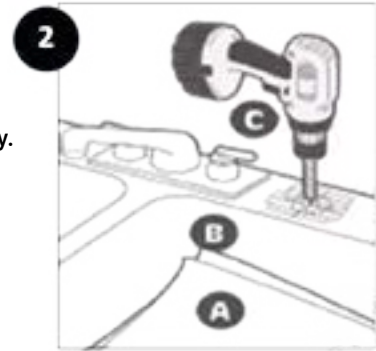
Step 2 – Selecting the Faucet Location



Notice

The drinking water faucet should be positioned with function, convenience, and appearance in mind. An adequate flat area is required to allow faucet base to rest securely. The faucet fits through a 3/4-inch (19mm) hole. Most sinks have pre-drilled 1-inch (35 or 38mm) diameter holes that may be used for faucet.

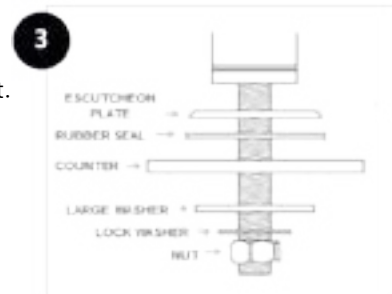
- Line bottom of sink with newspaper to prevent metal shavings, parts, or tools from falling down drain.
 - Place masking tape over the area to be drilled to prevent scratches if drill bit slips.
- IMPORTANT: To avoid damaging the sink, consult a qualified plumber or installer for drilling procedures in porcelain, granite, or stainless steel.**
- Mark hole with center punch. Use a 1/4-inch (6mm) drill bit for a pilot hole, then, using a 3/4-inch (13mm) drill bit or



Step 3 – Mounting the Faucet

- Locate the faucet installation packet.
- Slide the escutcheon plate then the rubber gasket onto the threaded shaft of the faucet.
- Slide the threaded shaft of the faucet into the drilled hole.
- From under the sink, slide the large washer and lock washer on the threaded shaft.
- Thread on the lock nut. Tighten lock nut by hand until tight.

Caution: Do not over-tighten the lock nut. Hand tighten only. Do not use pliers or wrench to tighten.



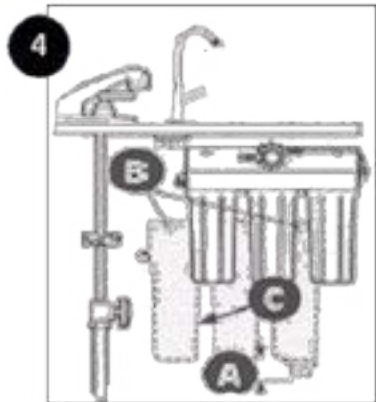
Step 4 – Mounting the system

- Center system between water supply adapter and drinking water faucet.



Notice

- Allow 1.5 inches (38mm) clearance below system to enable filter cartridge changes.
 - In the following step, leave enough space (approximately 1/2-inch (13mm)) between the head of the screw and the wall to easily slip system into place.
- Install mounting screws at least 15-inches (380mm) from cabinet floor and 9 1/4-inches (235mm) apart. Place system over screws on wall and slide sideways. Tighten screws.



Caution

Make certain system is firmly attached to wall to prevent possible damage from falling.

Step 5 – Connecting Tubing to the Faucet

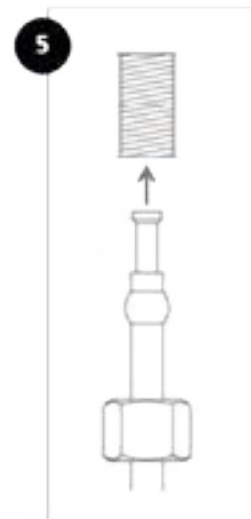
Caution: Do not over-tighten compression nut. Use caution not to bend or crimp tubes when securing.

- Locate compression nut pieces (3) in installation kit and faucet package.
- Attach compression nut pieces (3) to one end of tubing by sliding the nut and ferrule onto the tubing; then insert the sleeve into the tube.
- Attach tube with compression nut assembly to faucet stem by inserting tube into the faucet stem opening. Tighten nut.



Notice

All nuts must be retightened when the system reaches projected operating temperature.

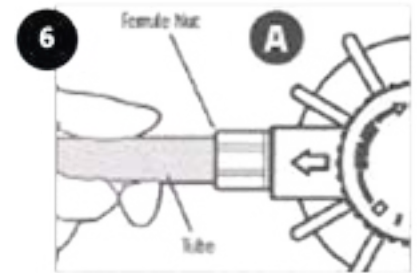


INSTALLATION INSTRUCTIONS

Step 6 – Attaching Tube to Effective Life Indicator (ELI)

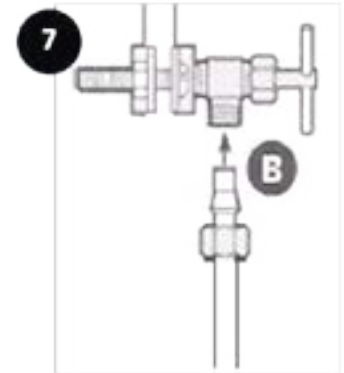
- Determine the length of tubing needed from the faucet to the ELI. A slight sag in the line will allow for some ease in installation. Cut the tubing to required length.
- Insert other end of tubing firmly into the outlet port (John Guest® fitting) of the ELI until fully engaged.
- Pull tube gently to ensure the tubing is fully seated.

Caution: Tube must be fully inserted in the compression fitting base on the outlet stem of the ELI.



Step 7 – Connecting the Saddle Valve

- Determine the length of plastic tubing needed to connect the inlet (left) side of the filter with the saddle valve. Be sure to allow enough tubing to prevent kinking and cut the tubing squarely. Slide brass compression nut onto tubing, followed by plastic ferrule. The long tapered end of the ferrule should face towards the end of the tubing. Place insert into tubing.
- Insert tubing into saddle valve and hand-tighten compression nut. Using a wrench, tighten nut 1 to 1½ turns.



Notice

All nuts must be retightened when the system reaches projected operating temperature.

Step 8 – Connecting Inlet Line to System

- Insert other end of tubing firmly into inlet port (John Guest® fitting) until fully engaged.
- Pull tube gently to ensure the tubing is fully seated.

Step 9 – Setting the Effective Life Indicator



Notice

- The effective life indicator is the white dial located on the center of the mounting bracket. Each black mark on the dial represents 100 gallons (378.5L).
 - Move the dial clockwise so that the black indicator arrow lines up with the 1100 gallon (4,164 L) mark.

Important: Set flow meter to 1100 gallons after each new filter replacement.



Notice

- To prevent indicator malfunctions, only move the dial when the system is depressurized.
- Based on the settings sensitivity of the Effective Life Indicator (ELI), user should set the ELI to 1,100 gallons to assure a 1,000 gallon cycle.

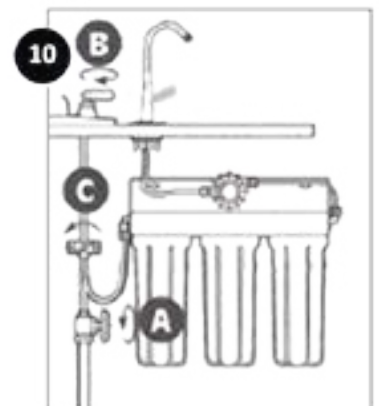
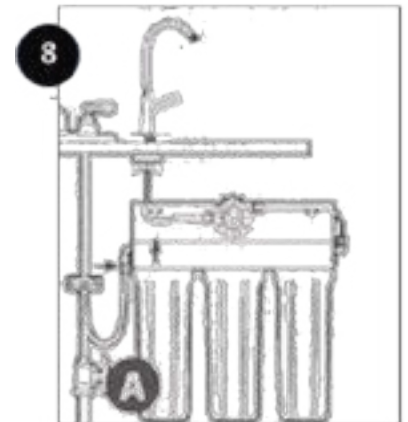
Step 10 – Putting the System into Operation

- Slowly turn on cold water supply.
- Rotate handle on base of drinking water faucet counter-clockwise to "ON" position. Allow water to run for 10 minutes to flush air and carbon fines from filter cartridges. Check system for leaks before completing installation.
- Make sure that all nuts are tightened.



Notice

- A drinking water cartridge may contain carbon fines (very fine black powder). It is recommended that you run the tap at least 20 seconds prior to using water for drinking or cooking purposes.
- Initially, filtered water may appear cloudy. If you set a glass of water on a level surface, you should be able to watch the cloudiness disappear from the bottom of the glass upwards. This harmless cloudiness results from the release of trapped air with the cartridge and will disappear within a few weeks after installation.



REPLACEMENT FILTERS

PDF-VF-R01 NanoCeram® Filter

PDF-VF-R02 Fiberdyne™ Filter

PDF-VF-R03 Deal® Block Filter

FILTER CARTRIDGES

Filter Cartridge Life

It is recommended to **replace filter cartridges every (6) six months or 1000 gallons** of use. However, your water quality can lead to circumstances such as diminished water flow, visible sediment, or unwanted taste and/or odor in your water, requiring the cartridges be replaced sooner.

There are several variables that determine how long a cartridge will last.

These include:

1. How much water you use, and
2. How much sediment, chlorine, or other unwanted substances is in the water.

Filter Cartridge Replacement



Notice

Contact your system supplier for replacement filter parts.

1. Turn off cold water supply to system and turn on faucet to release pressure.



Notice

Due to water leakage, place a pan or towel under sump.

2. Unscrew and remove bottom of filter housing. Locate and remove large O-ring, wipe clean of lubricant, and set aside. Repeat for second and third housings.
3. Discard used filter cartridges.

Caution: Read "WARNING" information on the bleach container before using.

4. Using a non-abrasive sponge or cloth, scrub the bottom of each housing, O-ring grooves, and caps with dish soap and warm water. Rinse thoroughly. Then fill bottom of each housing 1/3 full with water. Add 1TBSP (14.7ML) of household bleach and scrub to disinfect.
5. Lubricate O-rings with clean silicone grease. Insert each O-ring in groove and press into place.



Notice

This step is important to ensure a proper housing seal. Make certain each O-ring is seated level in its groove or a leak may occur.

6. Screw bottom of housing(s) with bleach water onto cap(s) without filter cartridge(s) and hand-tighten. **DO NOT OVER-TIGHTEN.**
7. Turn on water supply. Let faucet run for about 10 seconds, then turn off faucet and let stand for 20-30 minutes.
8. Turn on faucet and allow bleach water to run out (about 3-5 minutes)
9. Turn off water supply to system. Remove bottom of housings and empty out water.
10. Insert each filter cartridge in bottom of appropriate filter housing.

IMPORTANT: Be sure to remove any protective covering from the filters before inserting.

11. Screw bottom of housing(s) onto cap(s) and hand-tighten. **DO NOT OVER-TIGHTEN.** Make certain cap standpipe slips into cartridge(s).
12. Reset effective life indicator to 1100 gallons (see instruction under "Setting Effective Life Indicator" on Page 6.)





Notice

Based on the setting sensitivity of the Effective Life Indicator (ELI), user should set the ELI to 1,100 gallons to assure a 1,000 gallon cycle.

13. Turn on water to system. Let faucet run for 10 minutes to remove trapped air and carbon fines. Check system for leaks.

TROUBLESHOOTING THE SYSTEM

Problem	Solution
Leaks between cap and bottom of filter housing	<p>Turn off water supply and turn on drinking water faucet to release pressure in system. Remove bottom of housing. Clean O-ring groove (located directly beneath threads of housing). Lubricate O-ring with silicone grease and replace securely into groove. Screw bottom of housing onto cap and hand-tighten. DO NOT OVER-TIGHTEN. Turn on water supply and check for leaks.</p>
Leaks on system inlet/outlet connections	<p>Turn off water supply and turn on drinking water faucet to release pressure in system. Remove tubing from fitting and make sure end of tubing is cut squarely and free of burrs. Reinsert tubing into fitting, making sure to push tubing to a hard stop. Hand-tighten compression nut first, then tighten 1 to 1 1/2 turns for new compression nut. Tighten only 1/2 to 1 turn with wrench for previously tightened compression nut.</p> <p> Notice</p> <p>If leaks persist, or if there are other leaks in system, turn off water supply.</p>
Leaks on faucet / tubing connection	<p>Turn off water supply and turn on drinking water faucet to release pressure in system. Loosen and remove compression nut fitting on faucet stem. Make sure tubing is inserted firmly into end of faucet stem, then retighten compression nut with fingers until secure. Turn on saddle valve, and then turn off faucet to check for leaks.</p> <p> Notice</p> <p>If leaks persist, or if there are other leaks in system, turn off water supply.</p>
No water or decreased water flow.	<ul style="list-style-type: none"> • Check flow at faucet. The PDF-1000VF-P system should fill a gallon jug in approximately 2 minutes. Flow rates will vary with individual household water pressure. • Check filter cartridge installation. Make certain all filter cartridges are properly oriented in filter housings. • Replace filter cartridges.



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This system has been tested and certified by NSF International against NSF/ANSI Standard 42 for the aesthetic reduction of chlorine taste and odor, chloramine and Particulate class I, NSF/ANSI Standard 53 for the reduction of Cysts, Mercury, Lead and VOC's and IAPMO R&T certified to NSF/ANSI Standard P473 for PFOAs & PFOS.