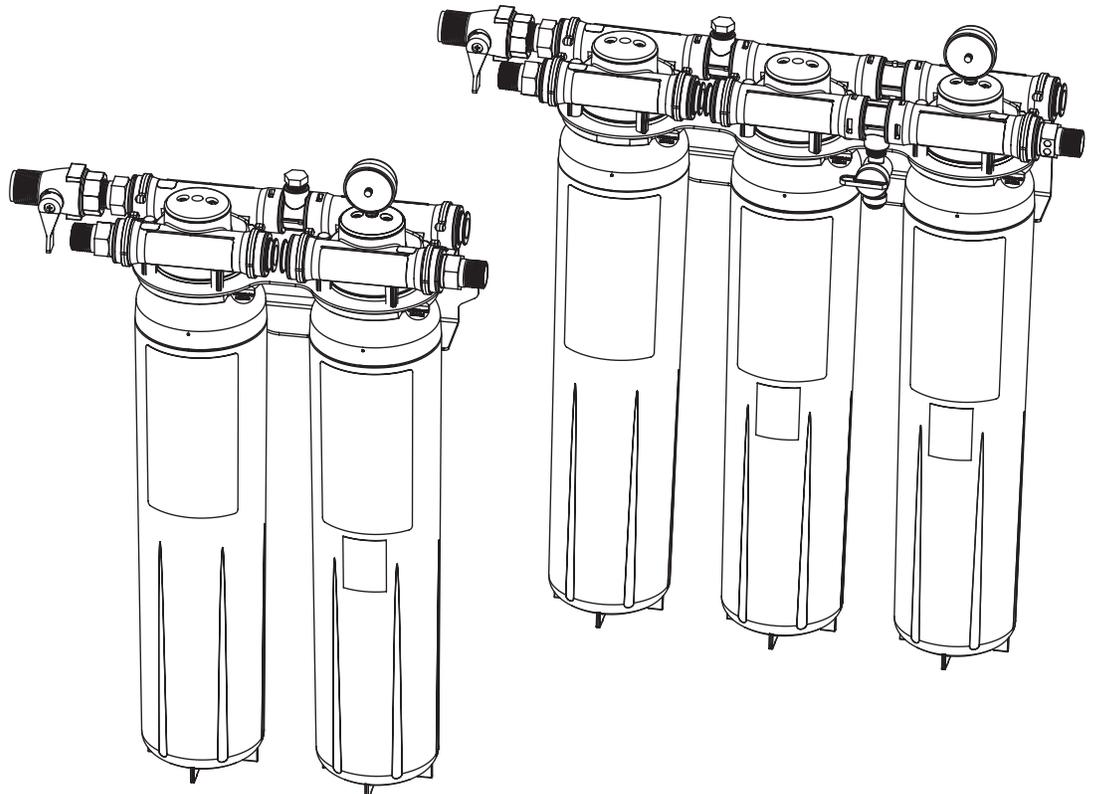


3M™ Water Filtration Products

Dual Flow Manifold Systems Instruction Manual



For DF1XX and DF2XX

High Flow Series manifolds and water filtration systems

Installer: Please leave this manual with owner/operator.

3M

3M™ Water Filtration Products

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SAFETY INFORMATION

Read, understand, and follow all safety information contained in these instructions prior to installation. Retain these instructions for future reference.

Intended Use:

The DF series manifolds and water filtration systems are intended for use in filtering potable water in the foodservice industry and have not been evaluated for other uses. These systems are installed at the point of use and must be installed as specified in the installation instructions.

EXPLANATION OF SIGNAL WORD CONSEQUENCES	
⚠ WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or property damage.
CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

⚠ WARNING
To reduce the risk associated with choking: <ul style="list-style-type: none"> • Do not allow children under 3 years of age to have access to small parts during the installation of this product.
To reduce the risk associated with the ingestion of contaminants: <ul style="list-style-type: none"> • Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.
To reduce the risk associated with hazardous voltage due to an installer drilling through existing electric wiring or water pipes in the area of installation: <ul style="list-style-type: none"> • Do not install near electric wiring or piping which may be in path of a drilling tool when selecting the position to mount the filter bracket.
To reduce the risk of physical injury: <ul style="list-style-type: none"> • Depressurize system as shown in manual prior to cartridge removal.
To reduce the risk associated with back strain: <ul style="list-style-type: none"> • Follow safe lifting procedures.

CAUTION

To reduce the risk associated with property damage due to water leakage:

- **Read and follow** all Instructions before installation and use of this system.
- Installation and Use **MUST** comply with all state and local plumbing codes.
- **Protect from freezing**, remove filter cartridge when temperatures are expected to drop below 40°F (4.4°C);
- **Do not install** on hot water supply lines. The maximum operating water temperature of this filter system is 100°F (37.8°C).
- **Do not install** if water pressure exceeds 125 psi (862 kPa). If your water pressure exceeds 80 psi (552 kPa), you must install a pressure limiting valve. Contact a plumbing professional if you are uncertain how to check your water pressure.
- **Do not install** where water hammer conditions may occur. If water hammer conditions exist, you must install a water hammer arrester. Contact a plumbing professional if you are uncertain how to check for this condition.
- Any non-metallic fittings used in the installations must be of adequate rating for the line pressure.
- **Do not** use a torch or other high temperature sources near filter system, cartridges, plastic fittings or plastic plumbing.
- On plastic fittings, never use pipe sealant or pipe dope. Use PTFE thread tape **only**, pipe dope properties may deteriorate plastic.
- Take care when using pliers or pipe wrenches to tighten plastic fittings, as damage may occur if overtightening occurs.
- **Do not** install in direct sunlight or outdoors.
- **Do not** install near water pipes which will be in path of a drilling tool when selecting the position to mount the bracket.
- Mount filter in such a position as to prevent it from being struck by other items used in the area of installation.
- Ensure that the location and fasteners will support the weight of the system when installed and full of water.
- Ensure all connections are secure and free of leaks.
- The disposable filter cartridge(s) **MUST** be replaced every 12 months or at the rated capacity or if a noticeable reduction in flow rate occurs.

IMPORTANT NOTES

- Failure to follow instructions will void warranty.
- Allow a minimum of 3" (7.6 cm) clear space under filter to facilitate cartridge change.
- Install with the inlet and outlet ports as labeled. Make sure not to reverse connections.
- Some local codes may require the use of a licensed plumber or certified installer when disrupting a potable water line.

DF Manifolds and Systems

Dual Flow (DF) manifolds and filtration systems help provide consistent high quality water for multiple applications. The inlet water enters the manifolds on the left rear side and flows separately through two different cartridge filters. The two filters have different connection fittings that interconnect with the heads on the manifold.

The left-side single cartridge is the same for both DF1XX and DF2XX manifolds. The model number is HF90-S-SR5. This is the only cartridge filter that will fit into the left-side head in either the DF1XX or the DF2XX manifold. The media in this cartridge is a pleated nylon membrane with a scale inhibitor. It is used for water to ice machines. The ice filter will not fit into the right-side head or heads. The filtered water with the scale inhibitor exits the manifold on the left side front, and a label on the manifold designates this as "Outlet Ice/Coffee".

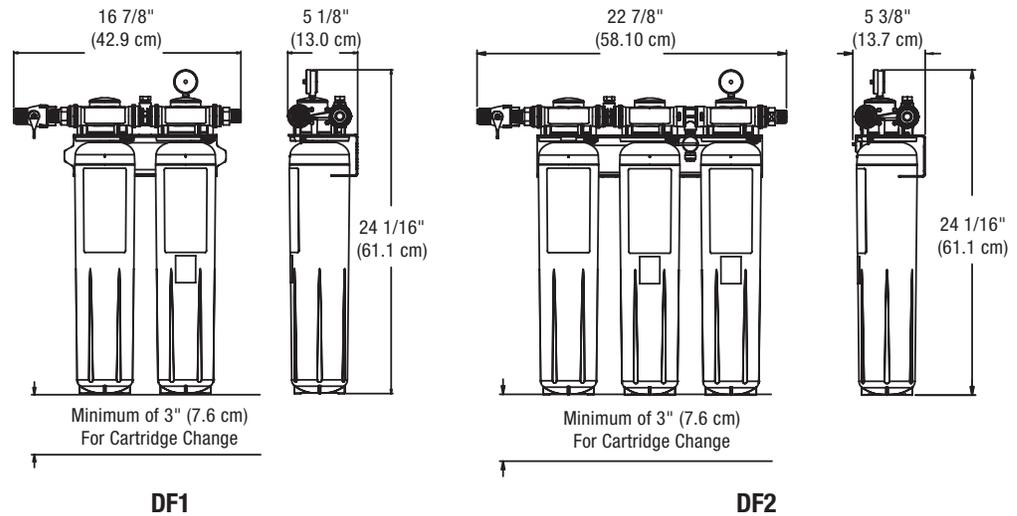
When using the DF1XX manifold, there is one right-side filter. When using the DF2XX manifold, there are two right-side cartridge filters in parallel. These filters typically supply the cold beverage application. The interconnect for these filters is different than the interconnect for the left-side filter. The beverage filters will not fit into the left-side head. The filtered water from these right-side second filters exits on the right side front, and a label on the manifold designates this as "Outlet Beverage".

The capacity of the beverage cartridge filters is equal to the combined flow rate and chlorine capacity ratings for the number of cartridge filters used in the manifold for that application (one or two). Thus, for two beverage cartridges each with a 54,000 gallon chlorine capacity at 5gal/min, the capacity for the beverage application is 108,000 gallons at 10 gal/min. For the single left-side ice-machine cartridge, the capacity is not assigned by chlorine capacity but by particulate and scale-inhibitor capacity. It should be changed at the same time as the one or two right-side beverage cartridge filters.

Inlet and Outlet Connections

The water inlet is on the left side rear and the outlets are on both sides and are identified with labels. The fitting size is 3/4" NPT (Male). Built-in check valves (non-return) are incorporated into both outlets.

Product Dimensions



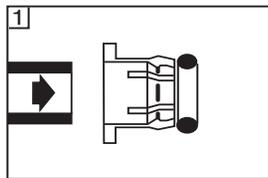
How to Use "Push-in" Connectors

This product is outfitted with a user friendly 'Push In' connector at the vent valve. Proper use of the connectors is shown in the figure below. It is most important that the tubing selected for use with these connectors be of high quality, exact size and roundness, and with no surface nicks or scratches. If it is necessary to cut the tubing, use a plastic tubing cutter or sharp razor knife. Make a clean square cut. Should a leak occur at a "Push-in" connector, the cause is usually defective tubing.

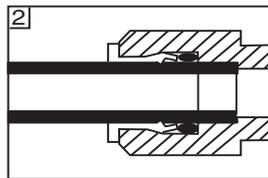
To Fix:

1. Relieve pressure
2. Release tubing
3. Cut off at least 1/4" from end
4. Reattach tubing
5. Confirm connection is leak free

To Attach Tubing

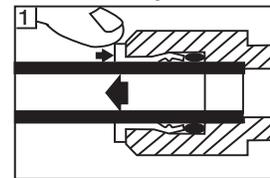


Push tubing straight in as far as it will go.

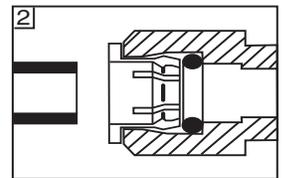


Tubing is secured in.

To Release Tubing



Push in collar to release tubing.

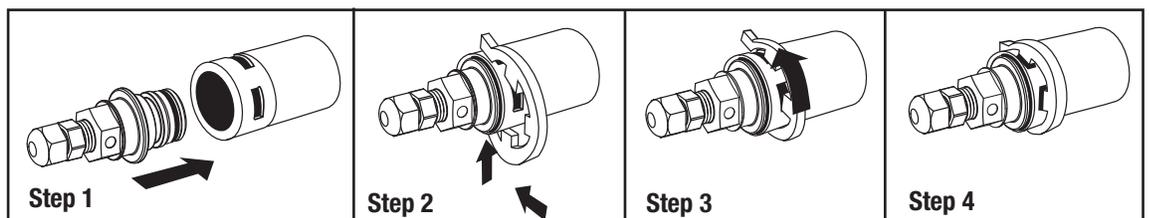


Pull tubing straight out.

How to Use the Inlet/Outlet Fitting Retention Clips

This product is outfitted with inlet/outlet fittings. The fittings can be attached or removed from the system without tools. Retention clips are semi-circular in shape with three internal tabs, bottom, center and top. Tab interlaces with windows in the manifold head near each connection port. Clip is flexible and easily assembled following these instruction and illustrations.

1. Insert fitting into manifold.
2. With fitting inserted into manifold port, snap clip into place beginning at the bottom window
3. Push center tab into center window.
4. Finally push top tab into top window.



Equipment Installation

CAUTION

To reduce the risk associated with property damage due to water leakage:

- Read, understand, and follow all safety information contained on pages 2-4 prior to installation and use of this product.

IMPORTANT NOTES

- Failure to follow instructions will void warranty.
- Allow a minimum of 3" (7.6 cm) clear space under filter to facilitate cartridge change.
- Install with the inlet and outlet ports as labeled. Make sure not to reverse connections.

DF Series manifolds may be used with metal or non-metallic piping systems.

1. Shut off incoming cold water supply.
2. Select the installation location. Allow a minimum of 3 in (7.6 cm) of space below the cartridge for change-outs.
3. Select fasteners (not included) and tools appropriate for the installation location (wall, support structure mounted to wall studs, concrete, etc.)
4. Mount the manifold/filter system to a wall or using the mounting holes provided on the back plate of the metal bracket.
 - It is recommended to first draw a level line on the mounting surface at the height of the fasteners.
 - Mark the location of the fasteners using the bracket as a template or by measuring the distance between the mounting holes.
 - Install the fasteners and allow 1/4"-3/8" (6-10 mm) of each fastener to protrude from the surface.
 - Install the manifold onto the fasteners.
 - Tighten the fasteners.
5. Install inlet (left rear) and two outlet fittings (right front and left front) to the manifold. All connections terminate with a 3/4" NPT (male) fitting. The inlet kit includes the fitting and a ball valve. The two outlets are the fitting only. The instructions for the retention clips are on page 4. (PTFE tape is not included.)
6. Remove the sanitary cap from the HF90-S-SR5 cartridge and apply a light coat of water or water-grade lubricant to the o-rings.
7. Align the tabs of the HF90-S-SR5 cartridge with the slots in the retaining plate of the head on the left-hand side of the manifold, and insert the cartridge into the manifold. Turn the cartridge to the right until a clicking sound is heard; the clicking sound indicates the cartridge is properly engaged.
8. Repeat Steps 6 and 7 for the beverage cartridges (DF1XX has one, DF2XX has two) onto the right-hand head(s) of the manifold. **IMPORTANT NOTE:** The beverage cartridge(s) will not fit into the left-hand head of the manifold. Their connection only matches the head(s) on the right-hand side of the manifold.

Equipment Start-up Procedure

1. Turn on incoming water to system.
2. Pressurize system by rotating the inlet ball valve handle 1/4 turn to the left (counterclockwise) ON position.
3. Check for leaks.
4. Use vent valve to remove trapped air.
5. Flush system in accordance with the cartridge Performance Data Sheet.

Cartridge Change-out Procedure

CAUTION

To reduce the risk associated with property damage due to water leakage:

- The disposable filter cartridge **MUST** be replaced every 12 months or at the rated capacity or if a noticeable reduction in flow rate occurs.

Cartridges will need to be changed every 6-12 months or when low pressure is indicated on the manifold's pressure gauge, whichever occurs first. Depending on local water quality, you may need to change the cartridges prior to the recommended change-out. The loss of flow to carbonators or improper fill at the ice maker are also indicators that the cartridges will need to be replaced.

1. Shut-off the inlet water by rotating the shut-off valve 1/4 turn to the right (clockwise) OFF position..
2. Depressurize system.
3. Push tab to release cartridge locking mechanism while simultaneously rotating cartridge slightly to the left.
4. Using both hands and holding the cartridge from the bottom, rotate the cartridge a quarter turn to the left and gently pull down. NOTE: A small amount of water will drain from manifold as cartridge is removed.
5. Remove sanitary cap from new cartridge. Install cartridge with a quarter turn to the right until cartridge comes to a complete stop. NOTE: Cartridges are keyed to fit proper location only.

IMPORTANT NOTE:

The ice cartridge (HF90-S-SR5) will only fit into the head on the left side of the manifold and the beverage cartridges will only fit into the head(s) on the right side of the manifold.

6. Slowly turn the inlet water valve 1/4 turn to the left (counterclockwise) ON position and check for leaks.
7. Flush per the cartridge Performance Data Sheet. System is now ready for use.

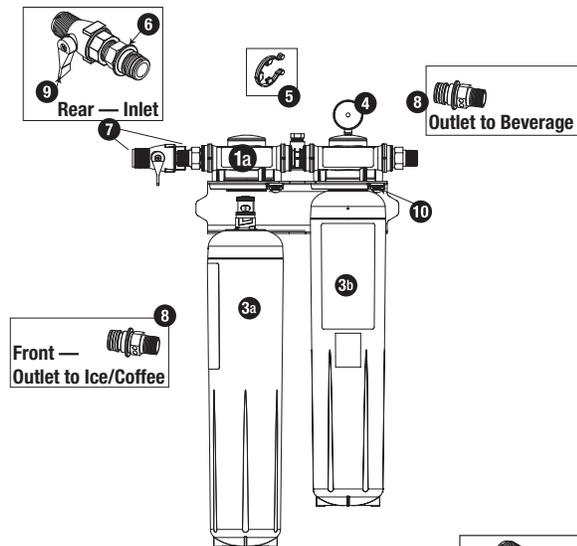
Troubleshooting

No water flow through system	Inlet valve closed	Check shut-off valve position
	Cartridges clogged	Replace cartridges
Not enough water to the downstream application(s)	Low incoming water pressure	Check source
	Cartridges clogged	Replace cartridges
Short filter life	Temporarily dirty water	Change cartridges or install an additional upstream prefilter

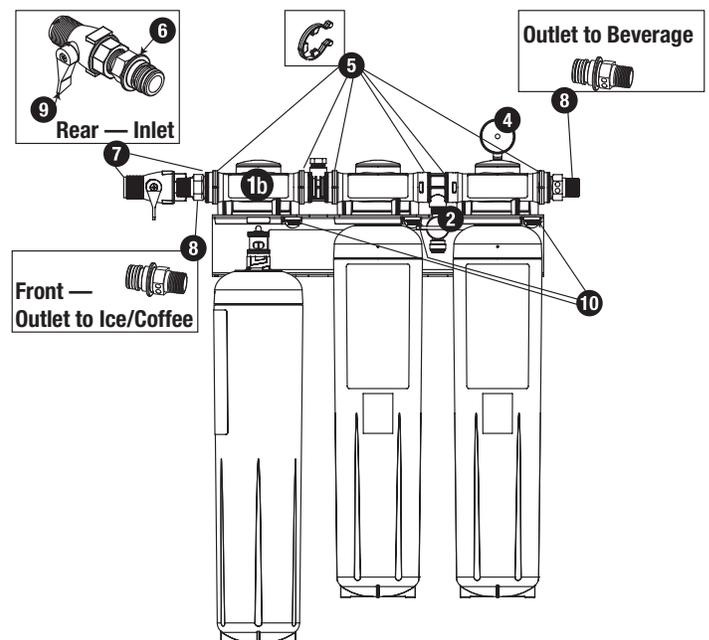
Replacement Parts Listing

Item	Part no.	Description	Qty*	Function
1a	6228501	DF1xx Manifold	1	Assembly, complete
1b	6228401	DF2xx Manifold	1	Assembly, complete
2	60-2333700	Vent Valve	1	Release trapped air
3a	5617107	HF90-S-SR5 Cartridge	1	Water for ice
3b	See catalog	Replacement Cartridge (2)	1-2	Water for beverage
4	8500549	Pressure gauge	1	Monitor outlet water pressure
5	85-8528	Clip	1	Retain inlet/outlet fittings
6	63597320	o-ring	1	Seal inlet/outlet fittings
7	6220505	Inlet fitting kit –left rear	1	Inlet fitting with ball valve
8	6220506	Outlet fitting kit – right & left front	1	Outlet fitting
9	60-235380	3/4" x 3/4" ball valve	1	Inlet water shut-off
10	5617501	Retainer kit	1	Secure cartridges

*Per part number, not per system or assembly.



DF1



DF2

Limited Warranty

3M Purification Inc. warrants DF1XX and DF2XX High Flow Series water filtration systems only to be free from defects in material and workmanship for one (1) year from the date of purchase. The disposable filter cartridge is warranted from defects in material and workmanship for a period of one (1) year from the date of purchase. This warranty does not cover failures resulting from abuse, misuse, alterations or damage not caused by 3M Purification Inc. or failure to follow installation and use instructions. No warranty is given as to the service life of any filter cartridge or membrane as it will vary with local water conditions and consumption. **3M PURIFICATION INC. MAKES NO OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOMER OR USAGE OF TRADE.** If the Product fails to satisfy this Limited Warranty during the warranty period, 3M Purification Inc., at its option, will replace the Product or refund your Product purchase price. This warranty does not cover labor. **The remedy stated in this paragraph is Customer's sole remedy and 3M Purification Inc.'s exclusive obligation.**

This warranty gives you specific legal rights, and you may have other rights which may vary from state to state, or country to country. For any warranty questions, please call 866.990.9785 or mail your request to: Warranty Claims, 3M Purification Inc., 400 Research Parkway, Meriden, CT 06450. Proof of purchase (original sales receipt) must accompany the warranty claim, along with a complete description of the Product, model number and alleged defect.

Limitation of Liability: 3M Purification Inc. will not be liable for any loss or damage arising from this 3M Purification Inc. product, whether direct, indirect, special, incidental, or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. Some states and countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

