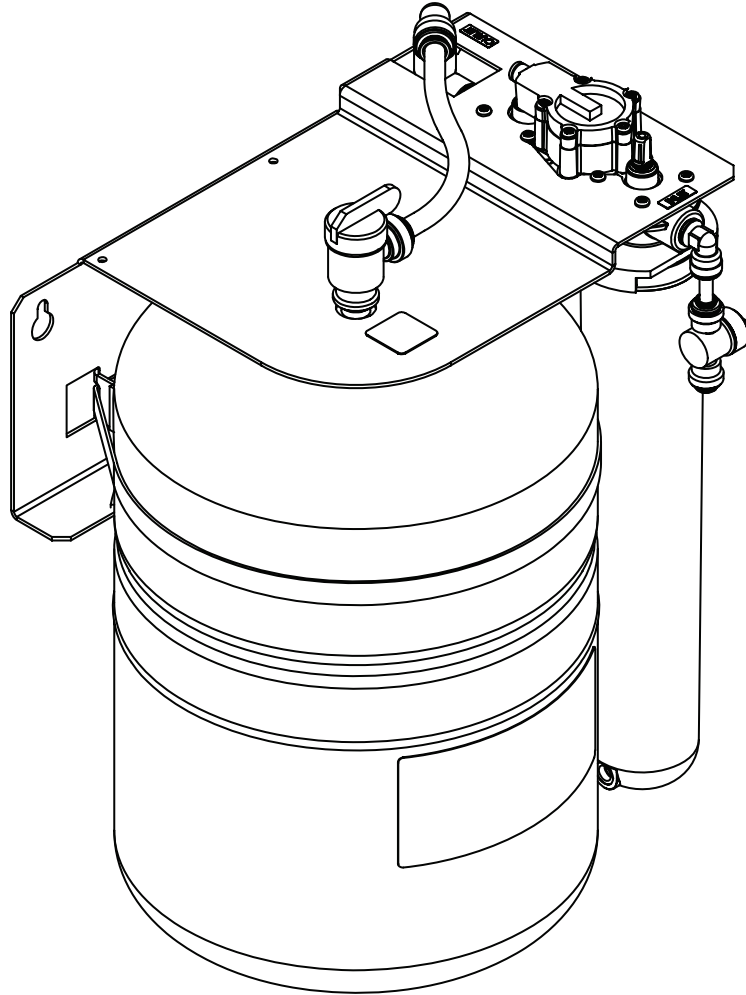


3M™ Water Filtration Products

FlashGARD HP™ Reverse Osmosis Filtration System

Model Number FSTM075

Part Number 56123-06



Installer: Please leave this manual with owner/operator.

End User: Please retain for operation and future maintenance instructions.

3M

NOTES:


3M™ Water Filtration Products

SAFETY INFORMATION

Read, understand, and follow all safety information contained in these instructions prior to installation and use of the Reverse Osmosis Water Treatment System. Retain these instructions for future reference.

Intended use: The FlashGARD-HP FSTMO75 Water Treatment System is intended for use in filtering potable water for food service coffee, espresso and steamer equipment and has not been evaluated for other uses. The system is typically installed near where filtered drinking water is desired, and must be installed as specified in the installation instructions. The system is intended for indoor installations and must be installed by qualified professional installer according to these 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.
NOTICE	Indicates a potentially hazardous situation, which, if not avoided, may result in property damage.

WARNING

To reduce the risk associated with choking:

- 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:

- 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:

- 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:

- Depressurize system as shown in manual prior to cartridge removal.

To reduce the risk associated with back strain:

- Follow safe lifting procedures.

To reduce the risk associated with irritation from Sodium Metabisulfite during installation:

- Sodium Metabisulfite (CAS 007681-57-4) is used in a 1% preservative solution within the reverse osmosis membrane.
- Do not put this system into service before the RO tank is flushed as specified in the installation instructions. Wear eye and face protection during installation.
- To request an MSDS relating to this product call 203-238-8965 or visit the web at <http://solutions.3m.com>. For emergencies, call 800-364-3577 or 651-737-6501 (24 hours).

NOTICE

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

- **Read and follow** Use Instructions before installation and use of this system.
- Before starting installation, shut off main water supply and drain pipes.
- Tank Pressure should be checked yearly.
- Installation and Use **MUST** comply with all state and local plumbing codes.
- **Protect from freezing**, remove cartridge when temperatures are expected to drop below 40° F (4.4° C);
- **Do not install** systems in areas where ambient temperatures may go above 110° F (43.3° 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 100 psi (690 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.
- Where a backflow prevention device is installed on a water system, a device for controlling pressure due to thermal expansion must be installed. Contact a plumbing professional if you are uncertain how to select/install/maintain a thermal expansion device.
- Where a booster pump is installed on a water system, you must maintain and inspect the attached pressure switch regularly in accordance with the booster pump manufacturer's instructions. Contact a plumbing professional if you are uncertain how to maintain your booster pump system.
- Where a booster pump is installed on a water system, you must install an appropriate pressure relief valve. Pressure relief valve must be maintained and inspected every 6 months. Contact a plumbing professional if you are uncertain how select/install/maintain a pressure relief valve.
- Where a booster pump is installed on a water system, you must install an appropriate pressure regulating valve and regulate water pressure to <80psi. Contact a plumbing professional if you are uncertain how select/install/maintain a pressure regulating valve.
- **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.
- Ensure all tubing and fittings are secure and free of leaks.
- **Do not install** unit if collet is missing. Contact 1-866-990-9785 if collets are missing from any fittings.

To reduce the risk of water leakage or flooding, and to ensure optimal filter performance:

- **Change the disposable filter cartridge every 12 months** or sooner if you observe a noticeable reduction in water flow rate.
- **Change the disposable RO membrane cartridge every 36 months** or sooner if you observe a noticeable reduction in water flow rate.
- Failure to replace the disposable filter cartridge at recommended intervals may lead to reduced filter performance and cracks in the filter housing, causing water leakage or flooding.
- For questions or concerns, please contact Customer Service at 1-866-990-9785.

IMPORTANT NOTES

- Failure to follow instructions may void warranty.
- Allow a minimum of 1.5" (3.8 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.

Table of Contents

Safety Information.....	Page 2
Caution and Warning Statements.....	Page 2
Parts List.....	Page 3
Product Dimensions.....	Page 3
Mounting.....	Page 4
Plumbing Connections.....	Page 5
System Start-Up.....	Page 6
Cartridge Change Instructions.....	Page 6-7
Product Replacement Parts.....	Page 7
Tank Pressure Checking.....	Page 7
Troubleshooting Guide.....	Page 8
Mounting Template.....	Page 10
Warranty.....	Page 11

Parts List

The following parts are included with the FlashGARD-HP FSTM075 Reverse Osmosis Water Filtration System. Please unpack the contents from the product box and check to verify that all of the Parts listed below are included. Should any parts be missing, please contact 3M Purification Inc. at 1-800-243-6894.

Qty	Description
1	Tank & Bracket Assembly
1	Pre-filter Cartridge
1	Reverse Osmosis Membrane Cartridge
1	Water Sample Valve Assembly (includes 3/8" Reducing Tee, 1/4" Shut-off Valve and Blue Tubing)
1	12" (30.5 cm) of length of 3/8" blue tubing
1	10' (305 cm) length of 1/4" of red tubing

Product Dimensions

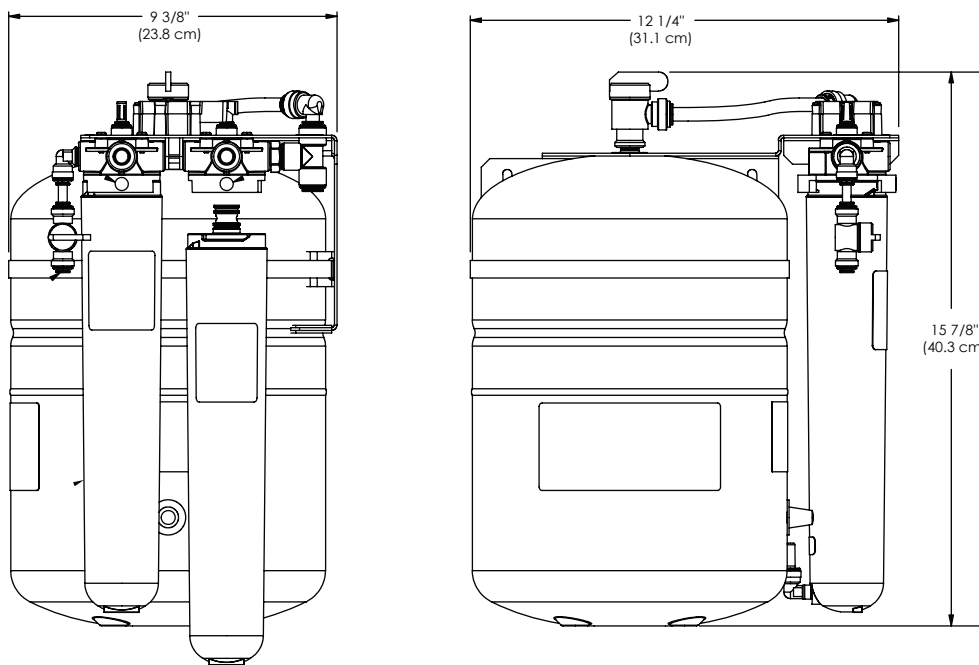


Figure 1

Mounting

NOTICE

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

- Before starting installation, shut off main water supply and drain pipes.
- 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.

- 1) Remove the mounting bracket template (see page 10) from this manual. Tape it to the wall where the mounting bracket is to be installed.
- 2) Install mounting screws (not included) into each of the keyhole locations on the template. Be sure to leave a 1/8" to 1/4" space between the bottom of the screw head and the wall so that the bracket can be hung.
NOTICE: Mounting hardware and mounting location must be capable of supporting a minimum of 30lbs (13.6 kg).
- 3) Hang the Bracket/Tank Assembly from the mounting screws.
- 4) Once the bracket is hung, tighten the mounting screws so that the bracket is snug between the screw and the wall.

Plumbing Connections

NOTICE: The FlashGard-HP Reverse Osmosis Water Filtration System requires a minimum 60 psi (413.7 kPa) inlet water pressure. To ensure adequate inlet water pressure, it is recommended that the system be plumbed after the beverage booster pump but before the beverage water filtration system. Refer to Figure 2 for proper tubing connections.

NOTICE: Use care in routing the tubing to ensure that there are no bends or kinks.

NOTICE

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

- Before starting installation, shut off main water supply and drain pipes.
- Installation and Use **MUST** comply with all state and local plumbing codes.
- **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 100 psi (690 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.
- **Do not use** a torch or other high temperature sources near filter system, cartridges, plastic fittings or plastic plumbing.
- **Do not install** unit if collet is missing. Contact your Sales Representative if collets are missing from any fittings.
- 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.
- Ensure all tubing and fittings are secure and free of leaks.

- 1) Shut off water supply and/or beverage water booster pump.
- 2) Route the water supply or booster pump to the RO system's inlet water valve.
- 3) Assemble the water sample valve assembly (Refer to Figure 2A).
 - a. Push small piece of tubing into tee.
 - b. Push opposite end of the small piece of tubing into 1/4" ball valve.
 - c. Push remaining section of the blue tube into the other end of the ball valve.
- 4) Cut a piece of the 3/8" blue tubing (included). Connect one end to the outlet tee on the RO system and the other end to one side of the Water Sample Valve Assembly (See Figure 2).
- 5) Run length of tubing from the other end of the Water Sample Valve Assembly to the inlet of the steamer. See Figure 2.

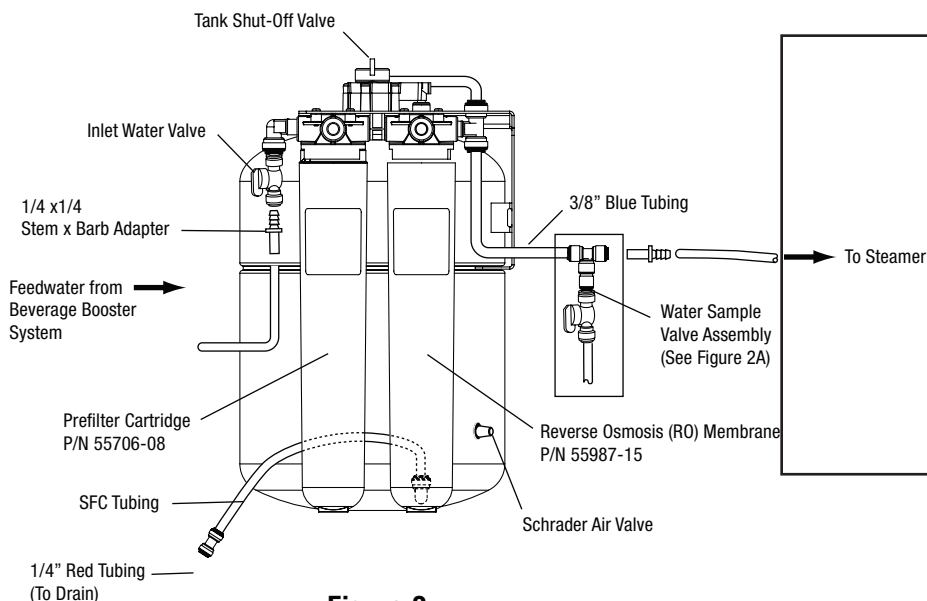


Figure 2

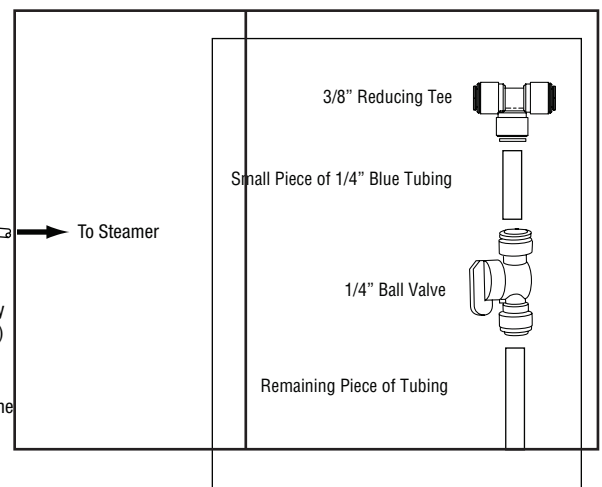
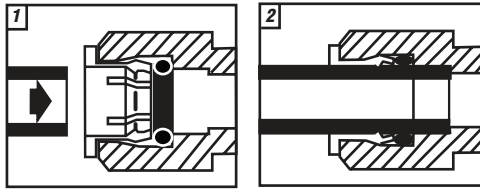


Figure 2A

Using Push-In Fittings

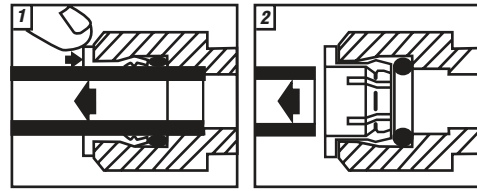
To Attach Tubing

Push tubing in as far as it will go. Tubing must be inserted past o-ring and hit backstop. Pull tube to ensure it is secured.



To Release Tubing

Push in grey collet to release tubing. With collet held, pull tubing straight out.



NOTICE

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

- Ensure all tubing and fittings are secure and free of leaks.
- **Do not** install unit if collet is missing. Contact 1.866.990.9785 if collets are missing from any fittings.

Figure 3

System Start-Up

1) Remove the prefilter cartridge from its packaging. Remove the red cap from the cartridge and moisten the o-rings with water. Insert the cartridge interconnect into the filter head. Be sure that the ears on the cartridge line up with the spaces in the head. Then, turn the cartridge 1/4 turn to the right.

NOTE: Be sure to install the cartridges into the proper heads by matching the icons on the cartridge labels with the icon on the heads.

2) Repeat Step 1 for the RO Membrane.

3) Remove the plug from the RO cartridge and attach the SFC tubing (red tube included with the included with the cartridge). See Figure 4. Connect 1/4" red tube to the SFC connector. Run the red tube to the drain. **CAUTION: DO NOT CUT THE RED SFC TUBE. It controls the flow of water to drain.**

4) Check that all plumbing connections are secure.

5) Open tank shut-off valve and inlet water valve. Turn on the beverage booster pump and check the system for leaks. If any leaks are noted, turn off the water supply and/or booster pump and correct the leak before proceeding. If a leak is detected at a push-in fitting, refer to Figure 3.

6) Divert the Water Sample Valve outlet to drain. Open valve and let water run through the RO system to drain for 10 minutes.

7) Close valve. **NOTE: Please allow the water tank to fill (approximately 60 minutes) before using steamer.**

Pre-filter Cartridge & RO Membrane Cartridge Change-out Instructions

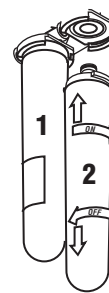
Pre-filter Cartridge (Replace every 12 months)

- 1) Close tank shut-off and inlet valves (see Figure 2).
- 2) Depressurize system.
- 3) Turn used prefilter cartridge 1/4 turn to the left.
- 4) Pull down on cartridge.
- 5) Discard used cartridge.
- 6) Remove red cap from new cartridge and moisten the o-ring with water. Insert of new cartridge into the filter head. Be sure that the ears on the cartridge line up with the spaces in the head.
- 7) Turn new cartridge 1/4 turn to the right.
- 8) Open tank shut-off and inlet valves (see Figure 2).
- 9) Check for leaks.

NOTE: Be sure to install the cartridge into the proper head by matching the icon on the cartridge label with the icon on the head.

10) Divert the Water Sample Valve outlet to drain. Open valve and let water run through the RO system to drain for 10 minutes.

11) Close valve. **NOTE: Please allow the water tank to fill (approximately 60 minutes) before using steamer.**



(1) Prefilter
Sediment & Carbon
(2) RO Membrane



Remove the red SFC tubing from the fitting before completely removing the RO membrane cartridge

Figure 4

RO Membrane Cartridge (Replace every 24-36 months)

- 1) Close tank shut-off and inlet valves (see Figure 2).
- 2) Depressurize system.
- 3) Turn used RO membrane cartridge 1/4 turn to the left.

RO Membrane Cartridge (Replace every 24-36 months) continued

- 4) Pull down on RO cartridge.
- 5) Discard used RO cartridge.
- 6) Remove red cap from new RO cartridge and moisten the o-ring with water.
- 7) Insert new RO cartridge into the filter head. Be sure that the ears on the cartridge line up with the spaces in the head.
- 8) Turn new cartridge 1/4 turn to the right.
- 9) Open tank shut-off and inlet valves (see Figure 2)
- 10) Divert the Water Sample Valve outlet to drain. Open valve and let water run through the RO system to drain for 10 minutes.
- 11) Close valve. **NOTE: Please allow the water tank to fill (approximately 60 minutes) before using steamer.**

Tank Pressure Check

NOTICE

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

- Tank Pressure should be checked yearly.

Tools Required:

- Piece of 1/4" tubing or Bucket
 - Bicycle or tire pressure gauge
 - Bicycle tire pump
- 1) Empty the storage tank.
 - a. Shut off the inlet water valve and Water Booster System if applicable.
 - b. Make sure tank shut-off valve located at the top of the water tank is open.
 - c. Attach a piece of tubing from the water sample valve to drain OR use a bucket to catch water from the water sample valve.
 - d. Open the water sample valve and drain the tank until empty. Leave water sample valve open.
 - 2) Unscrew the blue cap on the side of the tank to expose the Schrader Air Valve.
 - 3) Read the tank's air pressure using a standard bicycle or automobile tire pressure gauge that is capable of reading pressure accurately from 0-10 psi (0 - 68.9 kPa).
 - 4) The air pressure should be between 8 -10psi (55.2 - 68.9 kPa).
 - 5) If the air pressure is below 8 psi (55.2 kPa) or above 10 psi (68.9 kPa) complete the following steps.
 - a. Using a standard bicycle pump add or release air pressure in the tank.
 - b. Repeat Steps 4-5 until the pressure is 8-10 psi (55.2 - 68.9 kPa).
 - c. Make sure the blue cap is put back onto the air pressure port.
 - 6) Close the water sample valve.
 - 7) Open the tank shut-off valve. Turn on the inlet water valve and booster pump if they were turned off.
 - 8) Allow 60 minutes for tank to fill before operating the steamer.

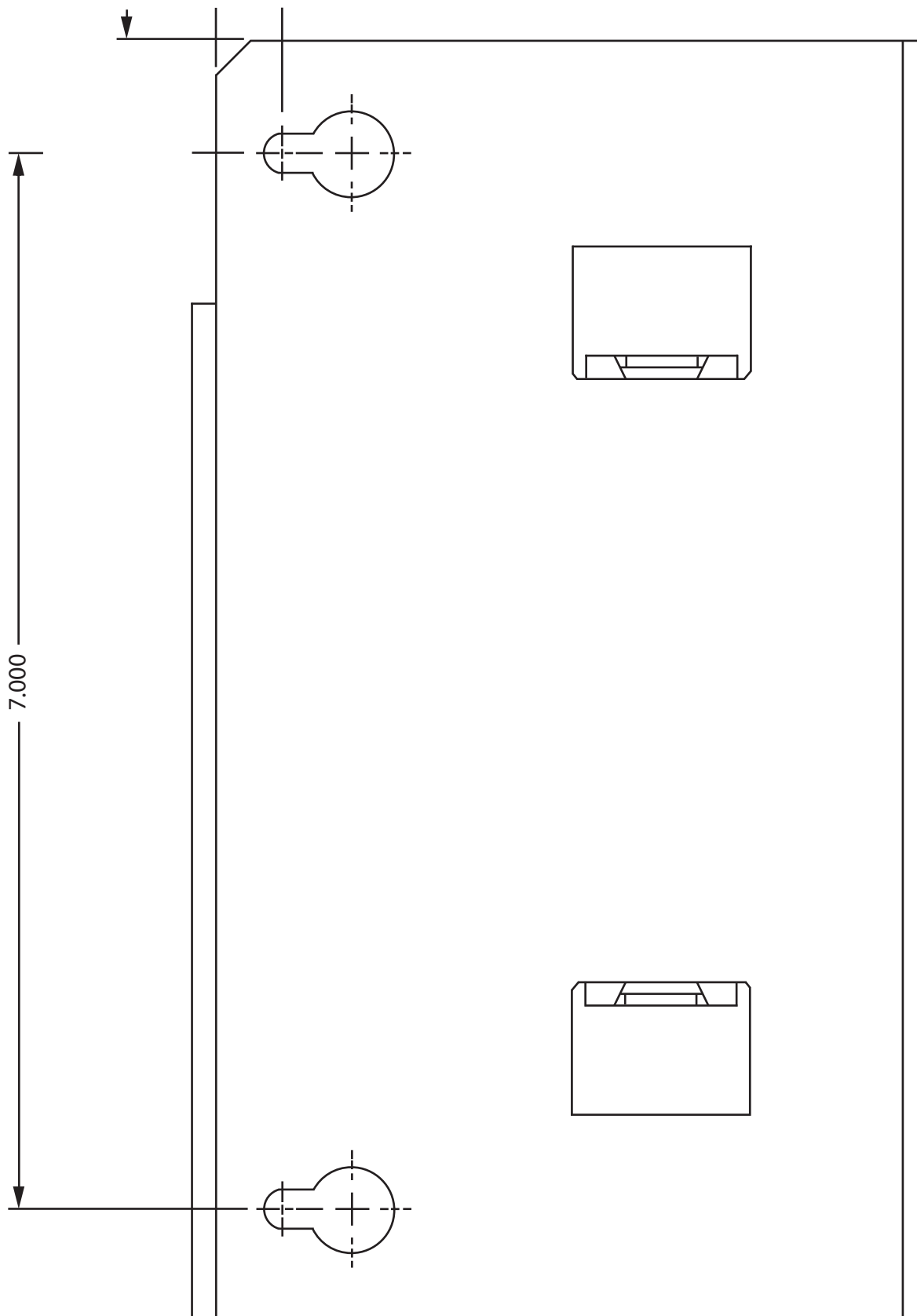
Replacement Parts

Part Number	Description
54-3030	Stainless Steel bracket complete with filter heads and RO shut-off valve
56-161351	Tank
60-23298	Tank shut-off valve
30-6049	Tank banding clamp
55706-08	Pre-filter cartridge-Must be replaced every twelve months or at the specified service cycle.
55987-15	RO module-Must be replaced every 24-36 months or at the specified service cycle.
60-232270	Inlet water valve
82-11302	3/8" blue tubing -1 ft (30.5 m)
82-11205	1/4" red tubing - 10 ft (3.05 m)
52-318203	2 3/4" Stealth flow control tube assembly
68512-03	Water Sample Valve Assembly (Includes 3/8" Reducing Tee, tubing and 1/4" Shut-off Valve)
74-3560404	1/4" x 1/4" Stem x Barb Adapter
74-3560604	3/8" x 1/4" Stem x Barb Adapter

Troubleshooting Guide

Problem	Cause	Solution	Notes
Unit Runs Low or Out of Water	Low Feed Water Pressure	Repair Beverage Booster Pump/System	Contact Dealer
		Add Booster Pump Assembly	Only if Beverage Booster System is not installed
	RO Membrane Fouled	Replace RO Module and SFC Tubing (Stealth Flow Control)	Feed Water Pressure, Temperature, RO Module Flow Rate and Reject Water should be checked
	Storage Tank Air Charge is Low	Drain Tank using Sample Valve, with Sample Valve Open, Pump-up Air Charge, 8 -10 psi (55.2 - 68.9 kPa), close Sample Valve	Unscrew Blue Cap to access Schrader Air Valve
	Pre-Filter is Plugged by Sediment (Particles)	Replace Pre-Filter	A more frequent Pre-Filter change-out schedule may be needed
	Slow Leak in the Distribution Line	Repair Leak	The unit produces filtered water slowly. A dripping leak can prevent the tank from filling
Unit Never Shuts Off (Continually Runs to Drain)	RO Membrane Partially Fouled, Unit can not produce enough water to keep up the demand	Replace RO Module and SFC Tubing (Stealth Flow Control)	High levels of hardness minerals may be present in feed water, monitor reject flow for plugging
	Product Water Check Valve has failed allowing storage tank flow to drain after unit is shut off	Check Reject Water flow to drain in the morning. Unit should be off and no flow to drain. If flow to drain exists, turn off the feed water valve and check for flow to drain on 10 minutes. If the flow to drain remains steady, replace RO Module	Reject Water flow to drain should stop when the feed water valve is off
	Hydraulic Shut-off Valve has failed	Replace valve	Should only be performed by a qualified technician

NOTES:



Product Use:

Many factors beyond 3M's control and uniquely within user's knowledge and control can affect the use and performance of a 3M product in a particular application. Given the variety of factors that can affect the use and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining whether it is fit for a particular purpose and suitable for user's method of application.

Warranty, Limited Remedy, and Disclaimer:

3M warrants that this product (excluding filter cartridge or filter membrane) will be free from defects in material and manufacture for the period of five (5) year(s) from the date of purchase. The filter cartridge or membrane is warranted to be free from defects in material and manufacture for one (1) year. No warranty is given as to the service life of any filter cartridge or membrane as it will vary with local water conditions and water consumption. 3M 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, CUSTOM OR USAGE OF TRADE. This warranty does not cover labor. If the 3M product does not conform to this warranty, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price.

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:

Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.

3M

3M Purification Inc.
400 Research Parkway
Meriden, CT 06450, USA
Toll Free: 1.866.990.9785
Worldwide: 203.237.5541
Fax: 203.238.8701