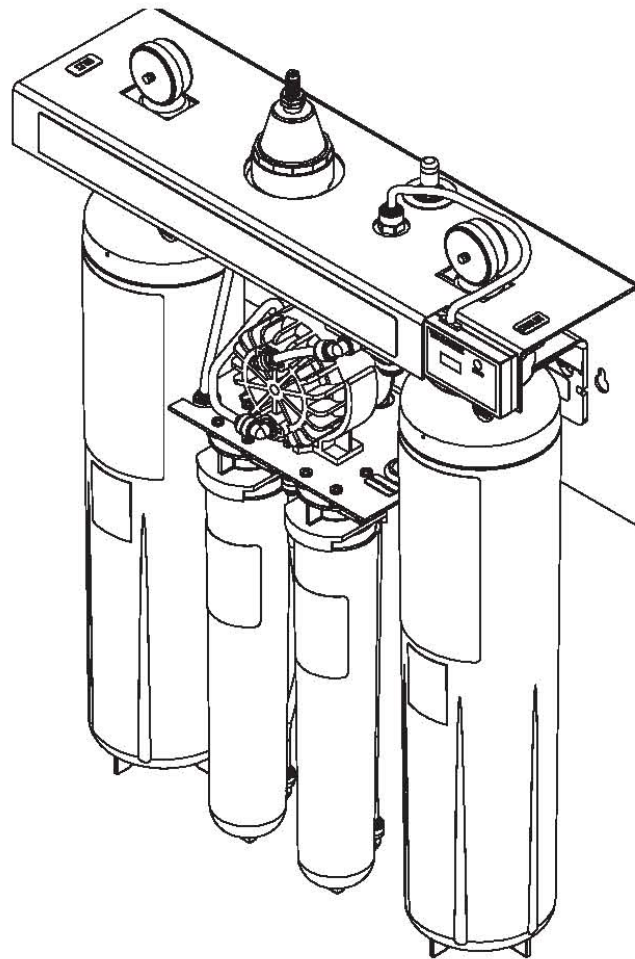


TFS450 Quick Installation Guide

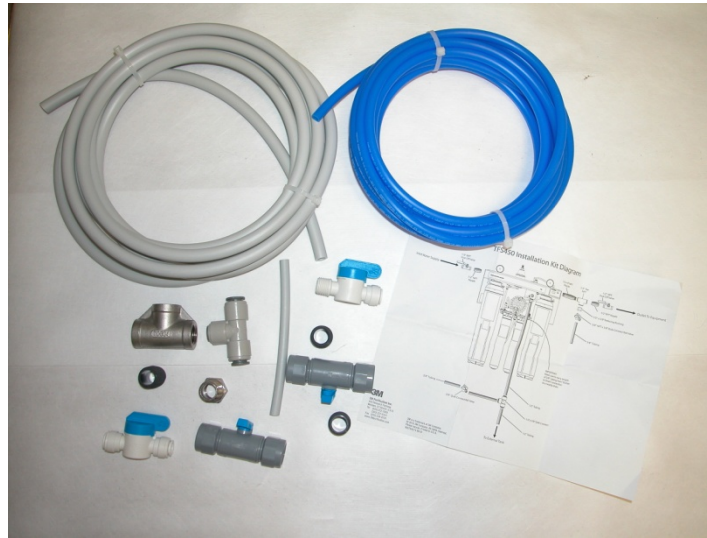


TFS450 Installation Summary

- Unpack and inspect to confirm that all components are present
- Prepare area for installation and mount manifold
- Complete line connections
- Install and flush cartridges
- Startup the new TFS450 system

Unpack the TFS450 unit

- Check to see that all the TFS450, installation kit, and tank parts arrived with package



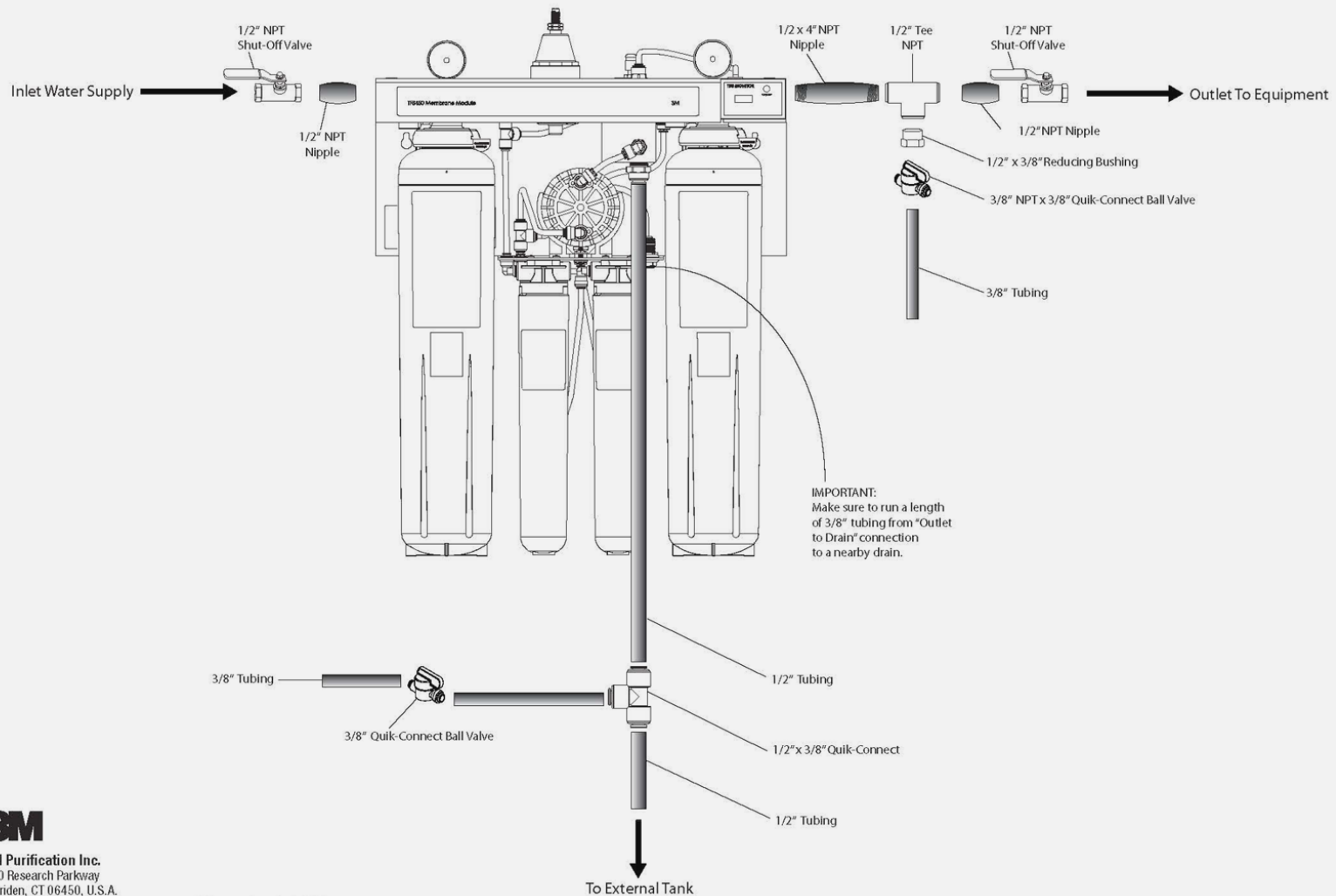
Installation kit

Mount the TFS450 unit

- Select location to mount the TFS450 unit. (TFS450 dimensions: 19" W x 26" H x 6" D)
- Allow required clearance distance for the inlet and outlet tubing connections
- Allow a required clearance distance of 3" below the unit for replacement of cartridges
- Mounting hardware (installer supplied) for this unit needs to support a minimum of 60 lbs to cover wet weight of unit
- Select location to place tank within 15 ft of the unit



TFS450 Installation Kit Diagram



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 Fax (203) 238-8701
 www.3mpurification.com

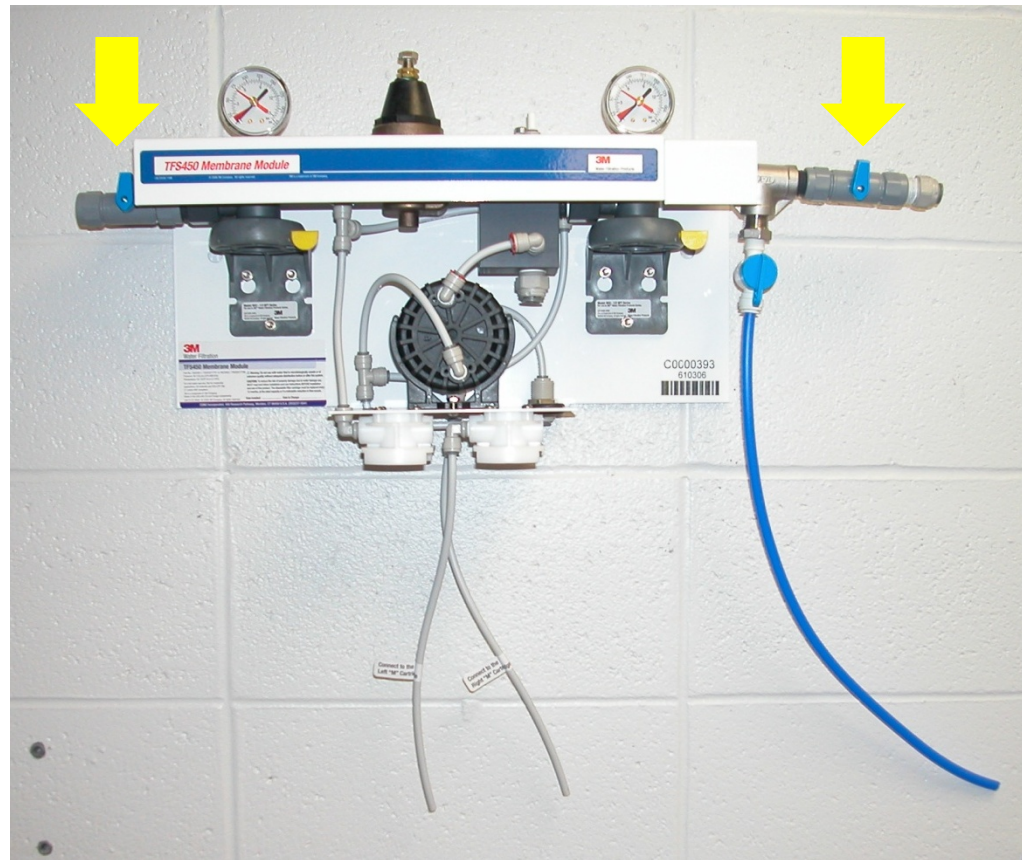
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Complete Line Connections

- Install installation kit parts on to TFS450 unit, and close inlet and outlet valves
- Assemble tank parts per tank instructions and close tank shutoff valve
- Connect inlet water supply to TFS450 unit inlet
- Connect TFS450 outlet to equipment feed water line
- Connect 3/8" tubing from TFS450 to drain
- Connect 1/2" tubing from TFS450 to tank & install sample valve in tank line
- Mount TDS monitor to TFS450 and install probe
 - *Pull plug & Insert TDS probe*

Complete Line Connections (Continuation)

- Install installation kit parts on to TFS450 unit and close inlet and outlet valves



Complete Line Connections (Continuation)

- Assemble tank parts per tank instructions and close tank shutoff valve

Complete Line Connections (Continuation)

- Connect inlet water supply to TFS450 unit inlet
- Connect TFS450 outlet to equipment feed water line



Inlet water supply



Outlet to equipment water supply

Complete Line Connections (Continuation)

- Connect 3/8" tubing from TFS450 to drain



Drain connection



Drain

Complete Line Connections (Continuation)

- Connect ½" tubing from TFS450 to tank



Tank line
connection on
Unit



Install tank line
sample valve



Tank line
connection at
Tank

Complete Line Connections (Continuation)

- Mount TDS meter to TFS450 and install probe
 - *Pull plug*
 - *Insert TDS probe*



Pull plug



Mount TDS Monitor and Insert
TDS probe

Install Cartridges

- Install Pre-Filter cartridge in left manifold head
 - *Cartridge Installation Procedure: Remove red cap, insert into manifold head, and turn ¼" turn to right until it clicks into locked position*
- Install Post-Filter cartridge in right manifold head
- Install RO membrane cartridges into membrane heads as per RO membrane installation diagram
 - *Remove plug from RO membrane cartridges drain fitting*
 - *Install reject line **without the flow control** labeled "**Left**" to left hand membrane cartridge drain fitting*
 - *Install reject line **with flow control** labeled "**Right**" to right hand membrane cartridge drain fitting*
 - *Install RO membrane into manifold head*

Install Cartridges (Continuation)

- Install Pre-Filter cartridge in left manifold head
 - *Cartridge Installation Procedure: Remove red cap, insert into manifold head, and turn ¼" turn to right until it clicks into locked position*
- Install Post-Filter cartridge in right manifold head



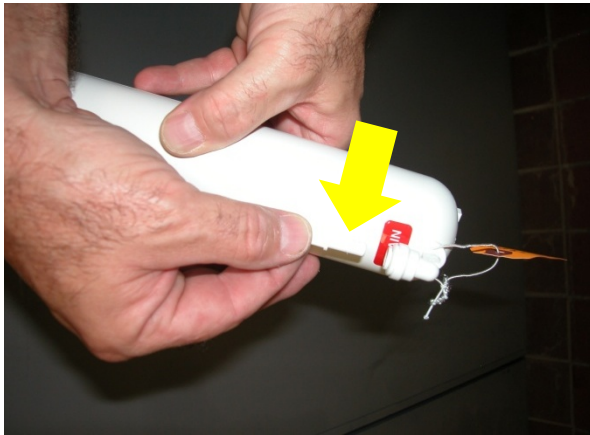
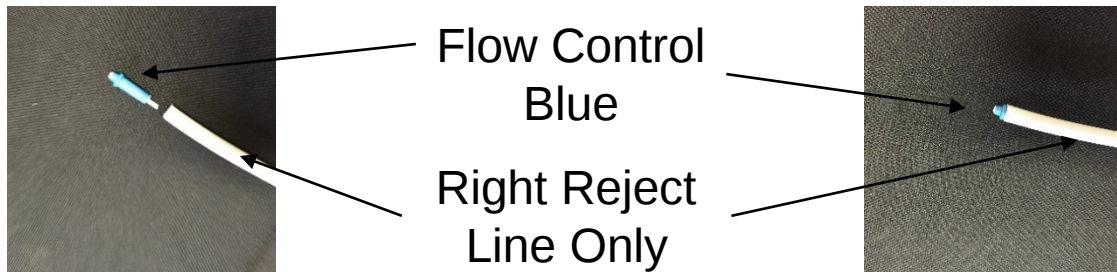
Pre-Filter installation



Post-Filter installation

Install Cartridges (Continuation)

- Install RO membrane cartridges into membrane heads as per RO membrane installation diagram



Remove plug



Install reject line
Left & Right



Install RO ctg

Install Cartridges

Membrane Cartridge Installation

IMPORTANT: When installing membrane cartridges you must install the membrane without the flow control in the reject line in the left head on the manifold and the membrane with the BLUE Flow control in the reject line into the right head on the manifold.

1. Remove red cap from the RO membrane cartridges and moisten the O-rings with water.
2. Remove the plugs from the RO membrane cartridge drain fittings
3. Insert the ¼ inch reject tubing **with out flow control** into a RO membrane.
4. Insert this cartridge into the head on the **LEFT** side of the manifold.
Be sure that the ears on the cartridge line up with the spaces in the head.
5. Turn cartridge 1/4 turn to the right to lock into head.
6. Insert the ¼ inch reject tubing **with flow control** into the new RO membrane.
Ensure the blue flow control is properly pushed into the tubing.
7. Insert this cartridge into the head on the **RIGHT** side of the manifold.
Be sure that the ears on the cartridge line up with the spaces in the head.
8. Turn cartridge 1/4 turn to the right to lock into head.

Complete Startup Procedure

- Adjust tank air charge pressure
 - *Locate schrader air valve on tank . Use a standard bicycle pressure gauge to read the tank air pressure*
 - *Adjust air pressure to account air pressure setting*
- Open inlet water line
- Flush cartridges
 - *Open outlet sample valve and run water to drain until a there is a steady flow of water. Close sample valve.*
 - *Open tank line sample valve and run water to drain until a there is a steady flow of water. Close sample valve.*
- Set bypass
 - *Open the tank valve, unit will start to produce water, permeate pump will start to operate*
 - *Turn bypass regulator counterclockwise to maximum adjustment*
 - *Open outlet sample valve to relieve pressure. Outlet pressure gage should read zero. Close sample valve.*
 - *Turn bypass regulator clockwise until outlet pressure gage reads account bypass pressure*
 - *Tighten bypass regulator locknut*
- Set blending
 - *Run 3/8" tubing from tank line sample valve to bucket*
 - *Turn off tank valve*
 - *Open tank line sample valve. Permeate pump should be operating (clicking). If not, throttle back sample valve until permeate pump starts operating*
 - *Let unit operate for 1 minute*
 - *Take water sample from sample valve and test with TDS meter*
 - *Use blending valve (needle valve) to adjust account blending setting*
 - *Let unit run for 1 minute and re-test TDS blending setting. Adjust if needed until two consecutive samples are obtained at the account blending setting +/- 5 ppm*
 - *Close tank line sample valve. Remove 3/8" tubing. Re-open tank valve.*
- Open outlet water line

Complete Startup Procedure (Continuation)

■ Adjust tank air charge pressure

- *Locate schrader air valve on tank . Use a standard bicycle pressure gauge to read the tank air pressure*
- *Adjust air pressure to account air pressure setting*

■ Open inlet water line



Adjust tank air



Open inlet water line

Complete Startup Procedure (Continuation)

■ Flush cartridges

- *Open outlet sample valve and run water to drain until a there is a steady flow of water. Close sample valve.*
- *Open tank line sample valve and run water to drain until a there is a steady flow of water. Close sample valve.*



Open/Close outlet sample valve



Open/Close tank line sample valve

Complete Startup Procedure (Continuation)

■ Set bypass

- *Open the tank valve, unit will start to produce water, permeate pump will start to operate*
- *Turn bypass regulator counterclockwise to maximum adjustment*
- *Open outlet sample valve to relieve pressure. Outlet pressure gage should read zero. Close sample valve.*
- *Turn bypass regulator clockwise until outlet pressure gage reads account bypass pressure*
- *Tighten bypass regulator locknut*



Open tank valve



Turn Bypass

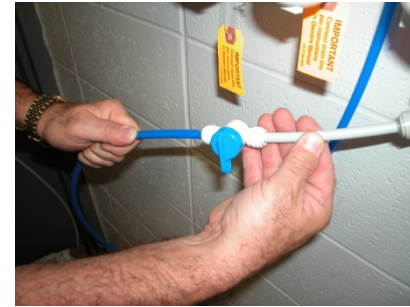


Open outlet sample valve

Complete Startup Procedure (Continuation)

■ Set blending

- Run 3/8" tubing from tank line sample valve to bucket
- Turn off tank valve
- Open tank line sample valve. Permeate pump should be operating (clicking). If not, throttle back sample valve until permeate pump starts operating
- Let unit operate for 1 minute
- Take water sample from sample valve and test with TDS meter
- Use blending valve (needle valve) to adjust account blending setting
- Let unit run for 1 minute and re-test TDS blending setting. Adjust if needed until two consecutive samples are obtained at the account blending setting +/- 5 ppm
- Close tank line sample valve. Remove 3/8" tubing. Re-open tank valve.



Tank line sample valve



Turn Off tank line



Take water sample & test with TDS meter



Adjust blending via needle valve

Complete Startup Procedure (Continuation)

- Open outlet water line



Open outlet water line

TFS450 Installation

- Tank air charge pressure setting - 20 psi
- Bypass pressure setting - 35 psi
- Blending setting - 125 ppm TDS

These values can be changed for specific accounts.