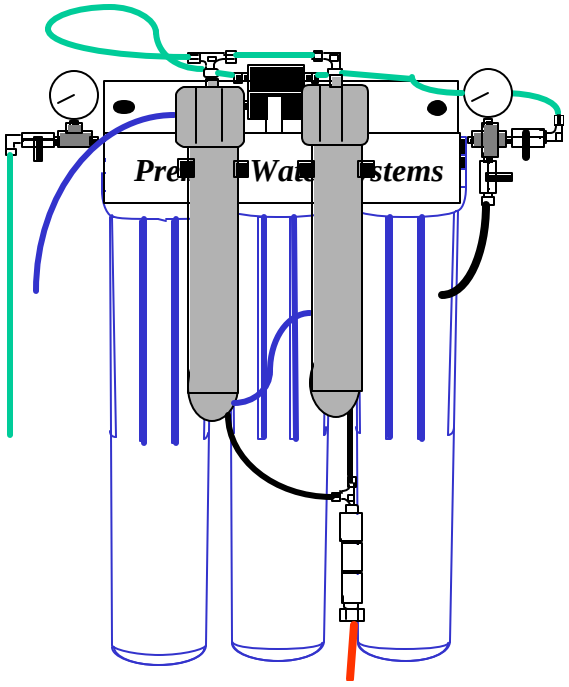
Watts Pure Water Systems

WM-120-PT

Installation and Operation Manual



Do not use with water that is microbiologically unsafe or of unknown quality without adequate disinfection before or after the system.

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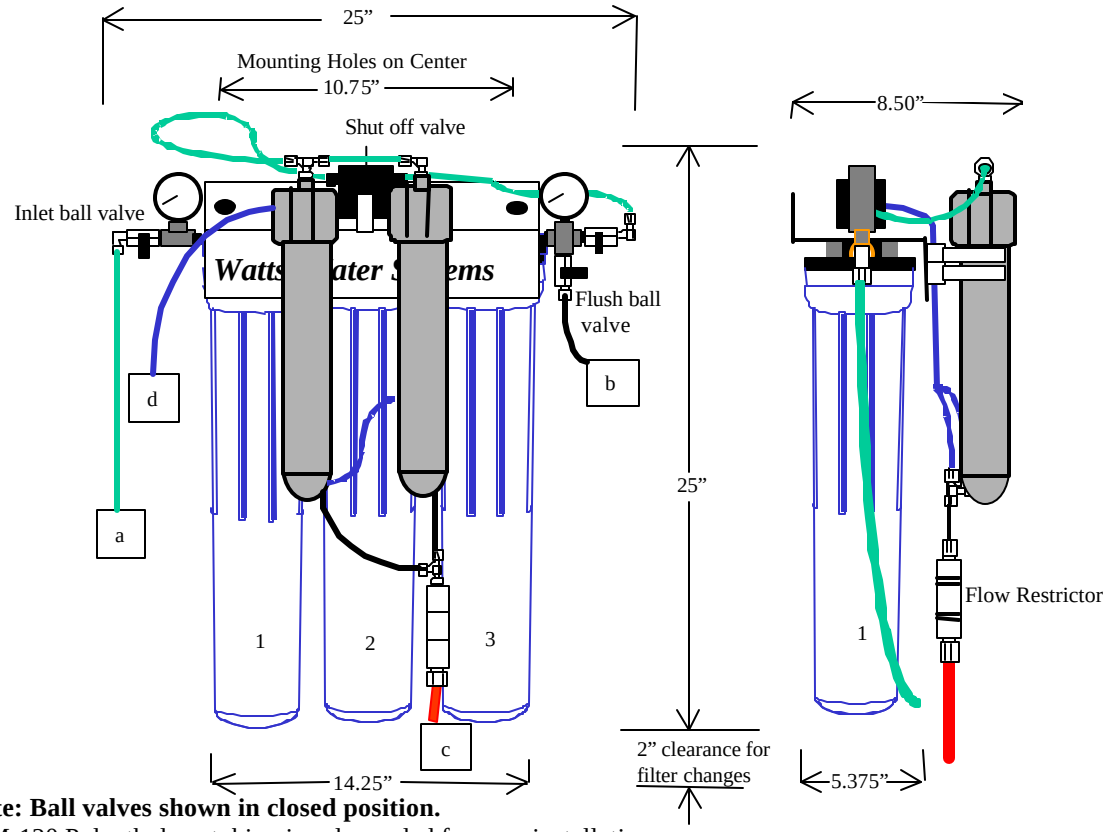
1.0 INTRODUCTION:

This manual contains information on the installation, operation and maintenance of Watts WM-120-PT unit. Watts WM-120-PT has been designed for use with a pressurized storage tank. Proper installation and maintenance will prevent costly equipment downtime.

Before installing and operating Watts WM-120-PT Reverse Osmosis Unit read the instructions carefully and keep this manual available for future reference. Further information is available by contacting your local Watts Distributor or Watts Pure Water in Phoenix, Arizona-U.S.A. 888-774-7405

Figure 1:



Note: Ball valves shown in closed position.

WM-120 Polyethylene tubing is color coded for easy installation.

a) ¼” OD Green Polyethylene tubing to be connected to a cold water feed supply.

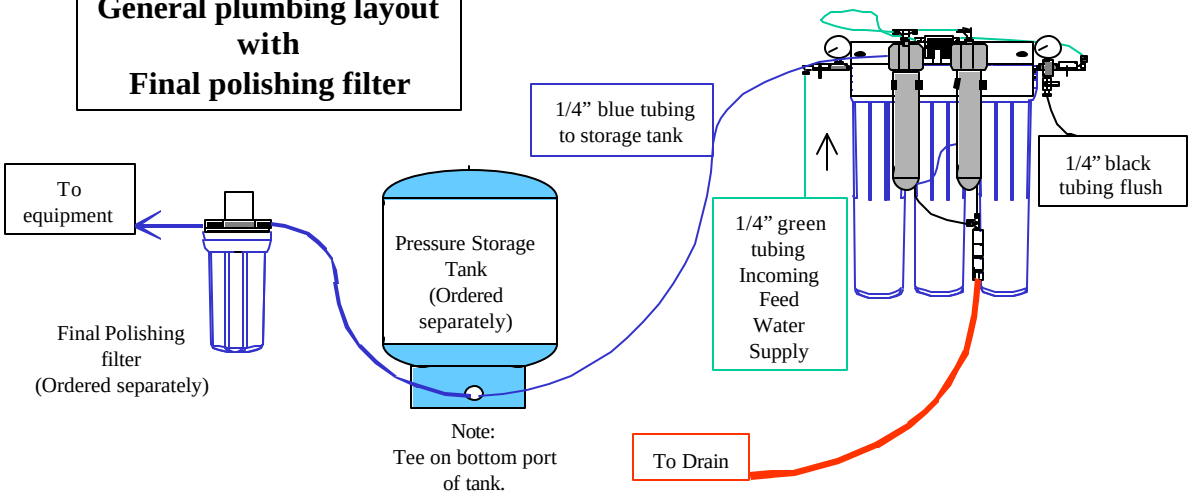
b) ¼” OD Black Polyethylene tubing is for flushing of pre-filters and requires no connection.

c) 3/8” OD Red Polyethylene tubing is for connecting to a drain.

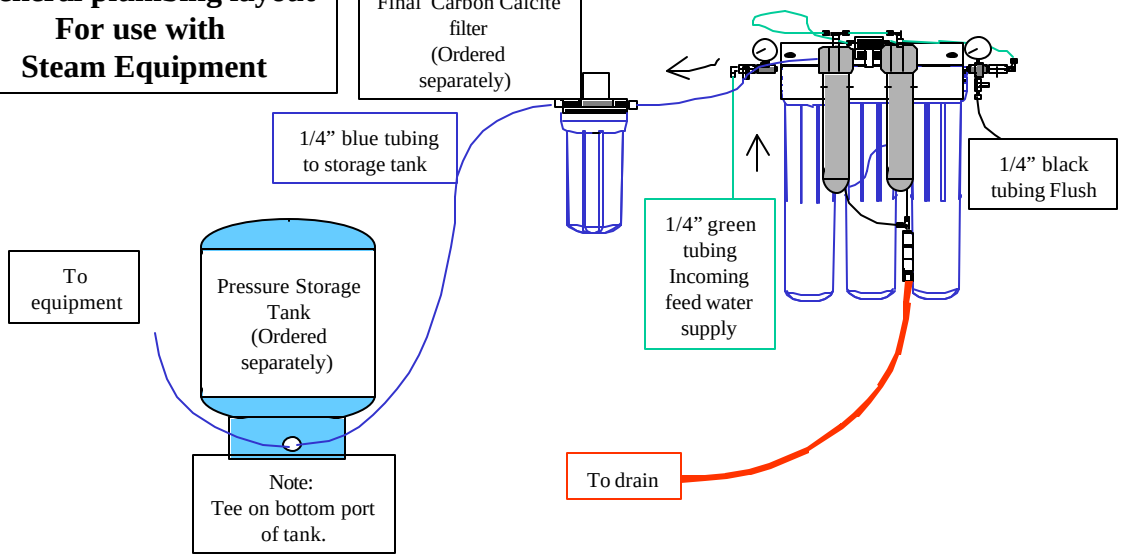
d) ¼” OD Blue Polyethylene tubing to be connected to a pressurized storage tank.

Make sure all Ball Valves are in the closed position until Start Up.

WM-120-PT
General plumbing layout with Final polishing filter



WM-120-PT
General plumbing layout For use with Steam Equipment



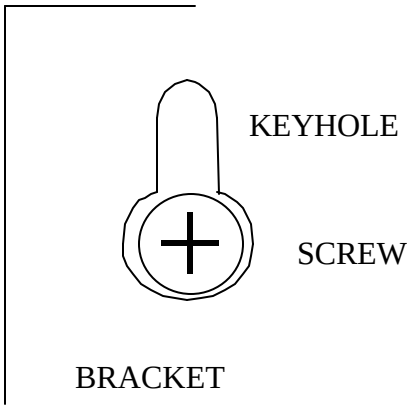
Step 1: Location

a) WM-120 to be mounted to a wall with feed water supply, drain and storage tank within 15 ft. of location. Controller box to be mounted within 6 ft of WM and electrical outlet within 12 ft. Review general plumbing layouts as references for installation of pre- or post-treatment equipment on page 3.
b) Mounting location should have clearance of 2 inches on both sides including; 2 inches from the bottom of pre-filter housing for filter changes. See figure 1, page 2.

Step 2: Mounting WM to Wall

a) The WM-120 mounting bracket has (2) mounting keyholes that are 10.75 inches on center.
b) The WM-120 will have an approximate weight of 75 pounds. Caution needs to be used when mounting unit to the wall. Use molly bolts or self-anchoring screws with ¼" diameter heads. For sheet rock wall at least (1) mounting screw should be located at a wall stud.
c) The WM-bracket is designed so that if using mounting screws with a head size of ¼" or less in diameter, the head of the screw will pass through the keyhole. See drawing below)

Figure 2



d) When screwing screw into wall, allow 1/16" clearance between the screw head and the wall. The WM-bracket will slide between the screw head and the wall.

Step 3: Connecting to Feed water supply:

The WM may come with either a Self-Piecing Valve, or Easy Tap Adapter.

WM-120 supplied with a Self-Piercing Valve follow Processor A.
WM-120 supplied with an Easy Tap Adapter follow Processor B.

Processor A
TO INSTALL SELF-PIERCING VALVE ON COPPER TUBE

CAUTION: Do not turn handle before or while installing (Self-Piercing Valve) be sure the piercing lance does not protrude beyond the rubber gasket. **Failure to do this may result in damage to the piercing needle.**

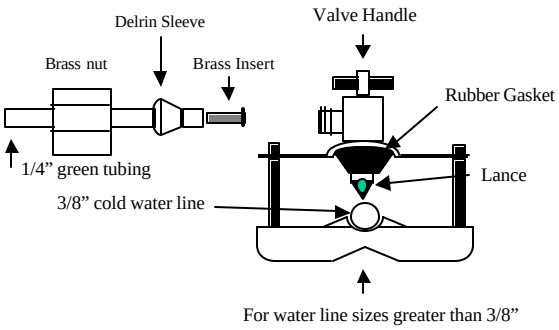
a) Turn off the water supply at the location of installation of the Self-Piercing Valve.
b) Assemble the Self-Piercing Valve on copper tubing. For 3/8" OD tubing using Patent Pending bracket with side projections to prevent distortion of tubing. Use "V" side of bracket for all larger tubing.
c) Tighten screws firmly and evenly, brackets should be parallel.
d) Connect ¼" green tubing of the unit to the Self-Piercing Valve as shown in figure C.
e) Turn the handle clockwise until you feel it is firmly seated. Note: you have now pierced the copper tube and the valve is closed.
f) Turn on the cold water supply, then turn the handle counter-clockwise to open the self-piercing valve.
g) Check for leaks and repair if any.

TO INSTALL SELF-PIERCING VALVE ON STEEL OR BRASS PIPE

a) Shut-off the water supply and drain the line.
b) Drill a 3/16" (0.24 cm) hole in pipe. Use a hand drill to avoid shock hazard.
c) Turn handle to expose lance beyond the rubber gasket no more than 3/16" (0.24 cm).
d) Place body of valve over the hole so that the lance fits into the hole.

e) Tighten bottom clamp evenly. (Brackets should be parallel).
f) Turn handle clockwise to close the valve.
g) Connect ¼" green tubing from the unit to the Self-Piercing Valve as shown in figure C. Failure to do this before piercing the tube will cause a small amount of water to escape from the outlet.
h) Turn on water supply and open the tapping valve by turning the handle counter clockwise.
i) Check for leaks and repair if any.

Figure C



Processor B
Installing Easy Tap Adapter
Cold Water Supply Only

Easy tap adapter to be installed on ½" male pipe thread connection before angle stop valve or onto the faucet. Note: If your plumbing does not allow for connection of easy tap adapter contact your local plumbing or hardware store for modifications.

(a) Turn off the supply water. The Easy Tap Adapter may be installed before angle stop valve (as shown in figure C1), or installed at the faucet (as shown in figure C2).

Note: Plumbing connections maybe reversed from drawing below.

Figure C1

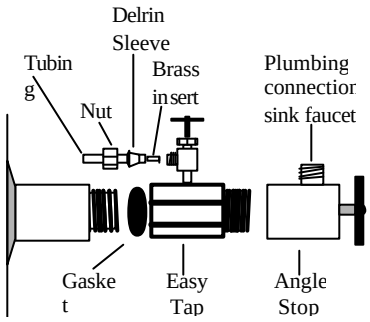
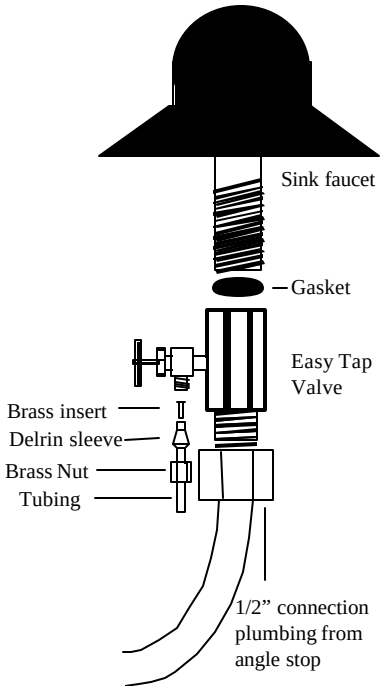


Figure C2



(b) Teflon tape the 1/8" male pipe thread of the easy tap valve and screw into easy tap valve body.
(c) Disconnect the fitting where the easy tap valve is to be installed. **Note: When loosening or tightening fitting use wrenches on both sides of fittings.**
(d) Insert the easy tap gasket into he female thread side of easy tap. No plumber putty or Teflon tape is required on thread.
(e) Thread easy tap valve on to the ½" male pipe threads and tighten securely with wrenches**. Note: Use wrenches on both sides of the connections.**
(f) Thread angle stop valve or plumbing line to the other end of the easy adapter valve and tighten securely using wrenches.
(g) Connect green tubing from unit to the easy tap valve (as shown in figure C1 or C2).
(h) Turn handle clockwise making sure that easy tap valve is in the closed position.

Step 4: Drain Line Connection

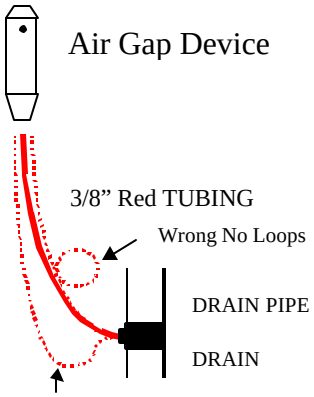
The 3/8" OD Red Polyethylene tube from the WM is for connecting to a drain.

If 3/8" red tubing of the WM is to be installed to a drainpipe under a sink, an air gap device may be required by plumbing codes.

Drain Saddle Connection

1. 3/8" OD Red Polyethylene tube is for connecting to a drain.
2. Locate vertical drainpipe under a sink before the p-trap.
3. Drill ¼" hole into the drainpipe that faces the direction of WM.
4. Peel the protective film off the sponge gasket and apply to the inside of drain saddle, using care, to align sponge gasket with drain saddle port.
5. Align the drain saddle with the ¼ inch hole on the drainpipe using a drill bit or screw driver and tighten drain saddle into place.
6. Connect the 3/8" red tubing from the WM to the drain saddle. Make sure the 3/8" tubing is as straight as possible.
7. When using an air gap device there can not be any loops or dips below the connection to the saddle drain.

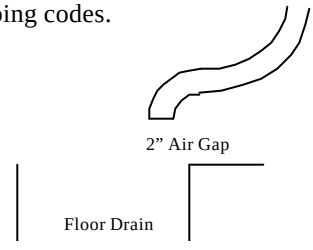
Figure 4b is shown with an air gap



Wrong No Dips

Floor Drain Connection

If connecting to a floor drain, install according to local plumbing codes.



Step 5: RO Water Connection

The WM-120-PT requires a pressurized storage tank for proper operation. Most pressurized storage tanks have an air pressure setting over 20 psi from tank manufacturer. This pressure must be reduced. The air pressure setting in a pressurized storage tank should be checked and set between 7 to 10 psi (when the tank is empty of water) for correct operation of the WM-120-PT.

The ¼" blue plastic tubing is the line the RO water flows through from the WM-120. The ¼" blue tubing connects to a pressurized storage tank or post-treatment equipment depending on the application.

NOTE: Adding ball valve before and after the pressurized storage tank will be helpful for ease of future maintenance.

Start-up

(a) Disconnect the ¼" blue tubing from the pressurized storage tank or from the post-treatment equipment that it is connected.
(b) Make sure all ball valves on the WM are in the closed position.
(c) Open the ball valve at the flush line connection, making sure that the ¼" black flush line is in a pail, sink or drain. Water will come out the tubing during start up.
(d) Turn on the incoming feed water supply to WM and check for leaks.
(e) Open the inlet ball valve to the WM allow air and water to purge out the flush line for at least 5 minutes or until water run clear. Close the ball valve on the flush line and check for leaks.
(f) Open the ball valve feeding into the WM-membranes. Within 2 - 5 minutes RO water will start flowing out of the ¼" blue tubing. Allow water to flow to a drain or into a pail for 10 minutes and check TDS reading. Best production is normally achieved in 30 days

of service, allowing membrane to "break in".

(g) Check for production as follows:

Using a measuring cup, or measuring device marked in fluid ounces, measure the RO water production for 1 minute. This will give you the production in ounces for one minute.

(Ounces per minute X 1440 ÷ 128= gallons per 24 hours)

Water temperature and water pressure will vary the production. See production conversion charts on Specification Sheet.

(h) Close the ball valve feeding into the membranes and reconnect the ¼" blue line.

(i) Open ball valve feeding into membrane and allow unit to fill storage tank. Depending on water temperature, water pressure and size storage tank, the time will vary to fill the storage tank completely. Allow 12 to 24 hours to fill tank the first time. Check for leaks.

System Disinfecting

If System is used to supply RO drinking water for human consumption disinfection is recommended. System should be disinfected at least once every 12 months.

(a) Storage tank should be completely filled before disinfecting.

(b) Drain RO water from all post treatment equipment at the furthest point down stream from the storage tank. This will flush any particles from the final filters and lines.

(c) Shut off the incoming water supply to RO unit and close faucet down stream of RO.

(d) Remove all filter cartridges from post treatment housings down stream of WM.

(e) Add 1 teaspoon of hydrogen peroxide to all filter housings down stream of RO unit. Reconnect to filter housings without the cartridge.

(f) Add 1 teaspoon of hydrogen peroxide to storage tank, by removing tank tee from the storage tank or by adding hydrogen peroxide to the line feeding into the storage tank.

(g) Turn on water supply to RO unit and allow WM to produce water for 2 hours.

(h) If you have ball valve after the storage tank or before the post filter housing you may shut the RO water supply off at that point.

(i) Open faucet at the furthest point from storage tank to depressurize Ro water lines. Add post filter cartridge back to its filter housings.

(j) Close faucet and open any valve that may have been closed. Any hydrogen peroxide still in the storage tank or lines will be removed by the final polishing filter or will break down to oxygen and water.

MAINTENANCE Schedule

Replacement Pre-filter for WM-120:
1st Stage: Part #WP 304003 Sed-20"-5-micron
2nd Stage: Part #WP 201011 Carbonblock-20"-5m
3rd Stage: Part #WP 201011 Carbonblock-20"-5m

WM-120 pre-filters should be changed once every 6 months or sooner depending on incoming feed water conditions or when the outlet pressure gauge form pre-filter drop below a reading of 40 psi.

WM-120 replacement membranes:
Part #WP 110012 MEM-TFM-75 gpd

WM-120 membranes depending on water conditions should be replaced once every 12 to 24 months.

Changing Pre-filters

1. Close the ball valve on the inlet side of WM-120.

2. Close ball valve feeding into the RO membranes.

3. Open flush ball valve and drain water into a pail or drain.

4. Unscrew the blue 20" filter housing by turning counter clockwise. Note: A filter-housing wrench may be need.

5. Drain and remove filter cartridges from housing. Discard used filter cartridges. **DO NOT discard filter-housing o-ring.**

6. Clean filter housing with warm soapy water. Rinse with clean water.

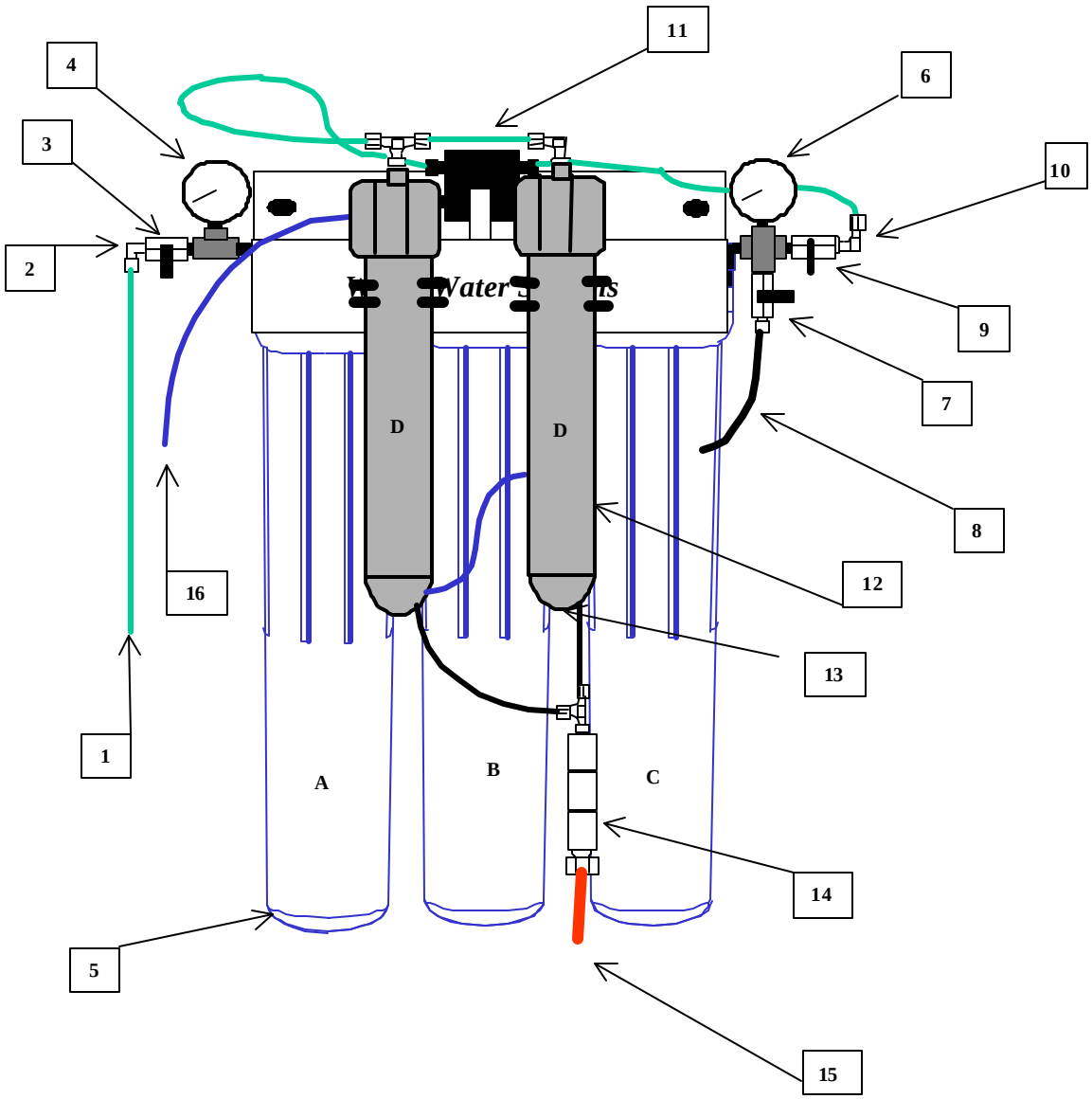
7. Clean and lubricate filter-housing o-ring with K-Y Jelly or silicone. Do not use a petroleum-based lubricant.

8. Insert new filter cartridges into the appropriate housing.

9. Follow normal start up procedures.

Sales and Technical Support Department Toll free within the United States (1-888-774-7405). Outside the United States (623 505-1512).

Monday Thurs Friday: 8:00 AM – 5:00 PM Mountain Standard Time



1: Incoming Feed Water ¼" Green Tubing (15 feet)
2: Elbow-Plastic ¼" C x ¼" M 90°
3: Inlet Feed Ball Valve Brass ¼" F
4: 0-100 Pressure Gauge ¼" M Bottom Mount
5: Filter Housing 20" Blue (3)
6: 0-100 Pressure Gauge ¼" M Bottom Mount
7: Flush Ball Valve-Brass ¼" F
8: Flush Tubing ¼" Black (6 feet)
9: Membrane Feed Ball Valve Brass ¼" F
10: Elbow-Plastic ¼" C x ¼" M 90°
11: Automatic Shut Off Valve
12: Membranes Pressure Vessel (2)
13: Check Valve Elbow-Plastic ¼" C x ¼" M 90° (2)
14: Flow Restrictor 850 ml
15: Drain Line 3/8" Red Plastic Tubing (15 feet)
16: Permeate Line ¼" Blue Tubing (15 feet)