

AMI ULTRA

HD-10UL

FOR UNDER-THE-SINK INSTALLATION

Mineral RO™ TECHNOLOGY

Removes Dissolved Impurities
Retains Essential Minerals

RO + UF + TDS Control

Welcome

to AMI

Dear Customer,

At the outset, allow us to thank you for your trust in Applied Membranes, Inc. (HD-10UL). We take pride in our reputation for product quality and industry proven performance. We are certain that your decision to own will go a long way towards keeping you and your family in good health. We are confident that you will be satisfied with its performance and that it will serve your need for safe and clean drinking water without any compromise. This guide will help you in getting the best out of our water purifier. Please go through this booklet to familiarize yourself with its operation and maintenance.

Best Wishes

Applied Membranes, Inc.

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1. BEFORE INSTALLATION

Please read the user manual carefully to understand the procedure for installation and necessary instructions.

Check the System

Please take out the parts from the box and check carefully that nothing is damaged or broken. In case of any such part, do not proceed with the installation and contact AMI or your distributor for an exchange or diagnosis.

RECOMMENDED TOOLS LIST

- Drill machine
- Drill bit: **1/4"** (for the drain line) and **1/2"** (for standard faucet hole)
- Adjustable wrench [Size no.: 13, 16, 24]
- Phillip screwdriver
- Utility knife, or scissors
- Teflon tape (included)

OPERATING PARAMETERS

- Operating pressure: 40-85 psi maximum
- Feed water temperature: 10-40°C / 50.0-104.0°F
- Feed water TDS level: 2000 ppm maximum
- Do not connect this unit to hot water source
- Install RO unit in a covered place, avoid exposure to hot & cold weather or direct sun light

GENERAL REQUIREMENT

- Installation should comply with state, local laws and regulations
- The system must be installed indoor, away from possible environmental damage
- Do not use with water that is microbiologically unsafe, without adequate disinfection
- This RO System contains replaceable parts critical for effective reduction of total dissolved solids
- The purified water should be tested periodically to verify satisfactory system performance

ITEMS INCLUDED IN MASTER BOX

Please check that all the parts are available as below, before installation.



1-RO System Head



3-Pre-Filters in 3 Housings



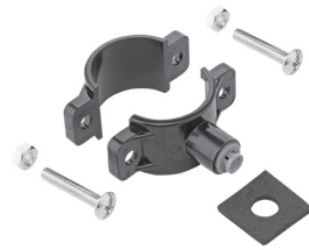
1-Pressure Storage Tank



1-Faucet with Washers & Nuts



1-Feed Water Adaptor 3/8"-1/2"



1-Drain Saddle



4-Tubing 1/4"
Blue-1 No., White 3 Nos.



1-Tank Ball Valve



1-Wrench for Opening Filter



1-Y Fork

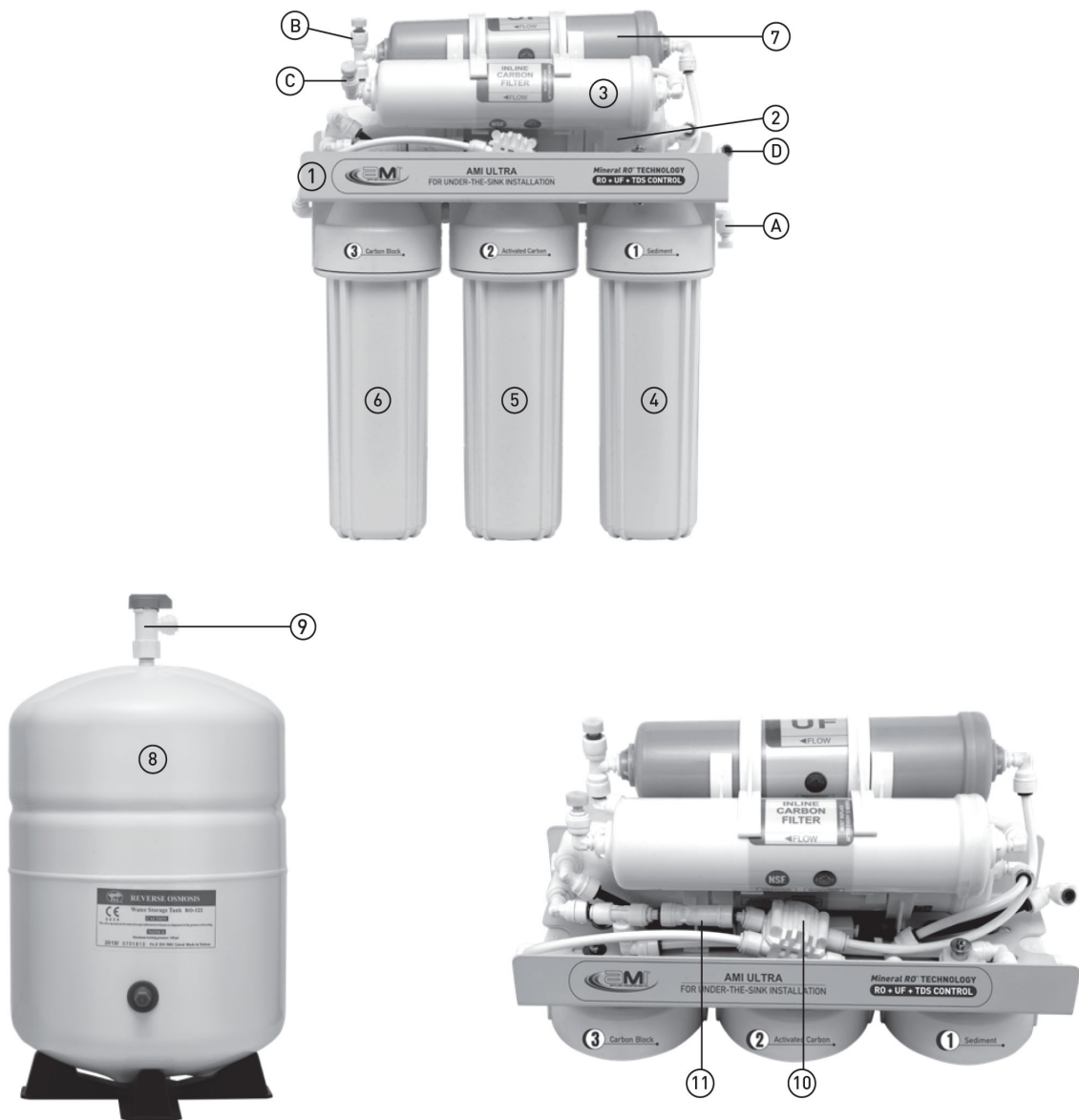


1-Teflon Tape



1-TDS Meter

COMPONENT NOMENCLATURE



1. Mounting Plate	2. RO Membrane (Stage 4)	3. Post Carbon Filter (Stage 5)
4. Sediment Filter (Stage 1)	5. Activated Carbon Filter (Stage 2)	6. Carbon Block Filter (Stage 3)
7. UF Membrane (Stage 4)	8. Pressure Storage Tank	9. Tank Ball Valve
10. Automatic Shut Off Valve	11. Non Return Valve	
A. Input Water Point	B. Point to Pressure Storage Tank	C. Point to Faucet
D. Point to Drain Saddle		

ASSEMBLY OF FILTERS AND HOUSINGS ONTO THE MAIN SYSTEM

Before installation, assembly of filters need to be done

Take out the filters from their housing one by one and remove the laminations/plastic covers from the filters and then put them back in to the housing. Now assemble the housings taking care that two-O rings (rubber part) are available in each of the housings.



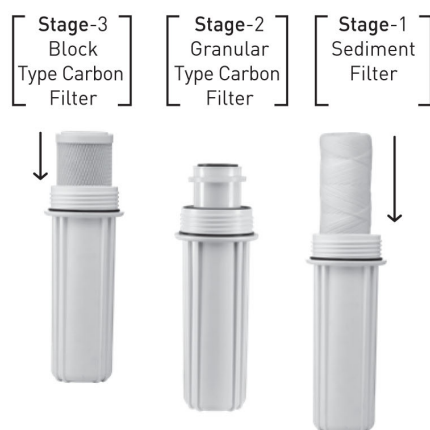
STEP-1
Take Out Filters
from the Box



STEP-2
Remove Filters
from the Filter Housings



STEP-3
Remove Lamination Film
from all the Filters



STEP-4
1st & 3rd Stage filters can be
inserted in any position.
2nd Stage filter should be inserted
as per the marked arrow



STEP-5
Now using the wrench provided,
tighten each of the housings (with
filters in it) by turning them in to
clockwise direction in to
RO system head



STEP-6
Now your
RO Purifier is ready for
installation

2. INSTALLATION OF THE SYSTEM

The best place to install the RO system is under the kitchen sink. In case of difficulty, you can install it wherever you have normal water supply and water drain system. Make sure the pressure of water supply is sufficient.

Mounting:

RO system can be mounted on the wall or can be placed under the counter. The change of filters is also easy in such case. In case of wall mounting, ensure easy movement of system for filters replacement.

Step A: Inlet Water Connection

The RO system should be connected to the Normal (cold) water supply only



Fig. 1

1. Turn off the incoming normal (cold) water completely by closing the valve on the supply

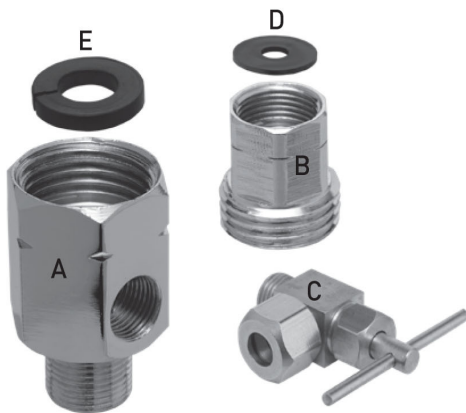


Fig. 2

2. Parts required for inlet water connection with RO system.
 - A. $\frac{1}{2}$ " x $\frac{3}{8}$ " Female-Male Water Supply Adaptor
 - B. $\frac{1}{2}$ " x $\frac{3}{8}$ " Male-Female Converter
 - C. $\frac{1}{4}$ " x $\frac{1}{8}$ " Male Needle Valve
 - D. Thin Washer/O-ring
 - E. Thick Washer

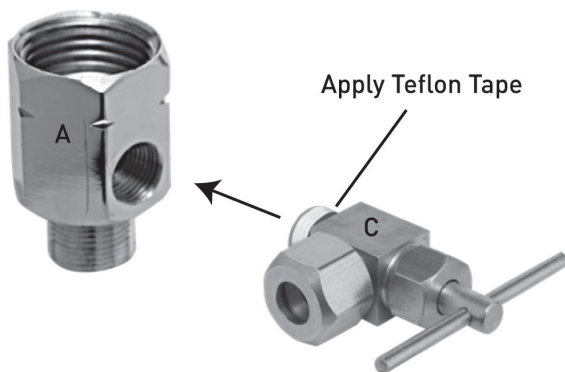


Fig. 3

Needle Valve Installation

Connect **Part C** apply 4 to 5 turns of teflon tape to **Part A** as shown in Fig. 3.

If your pipe has a 1/2" Connection

Connect **Part B** with the male end of **Part A** as shown in Fig. 4.

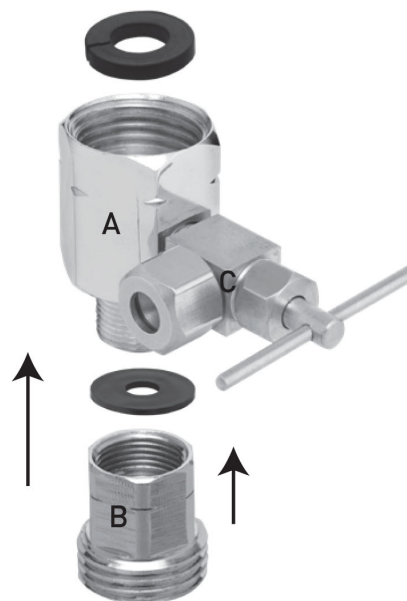


Fig. 4

1/2" Connection

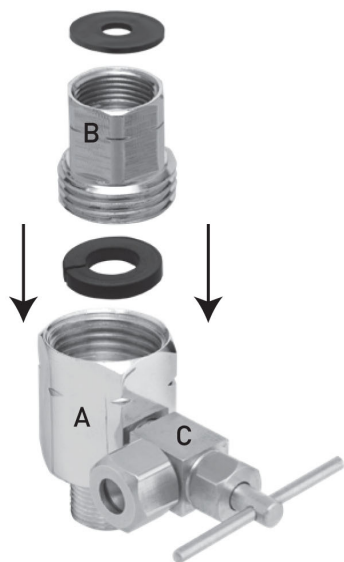


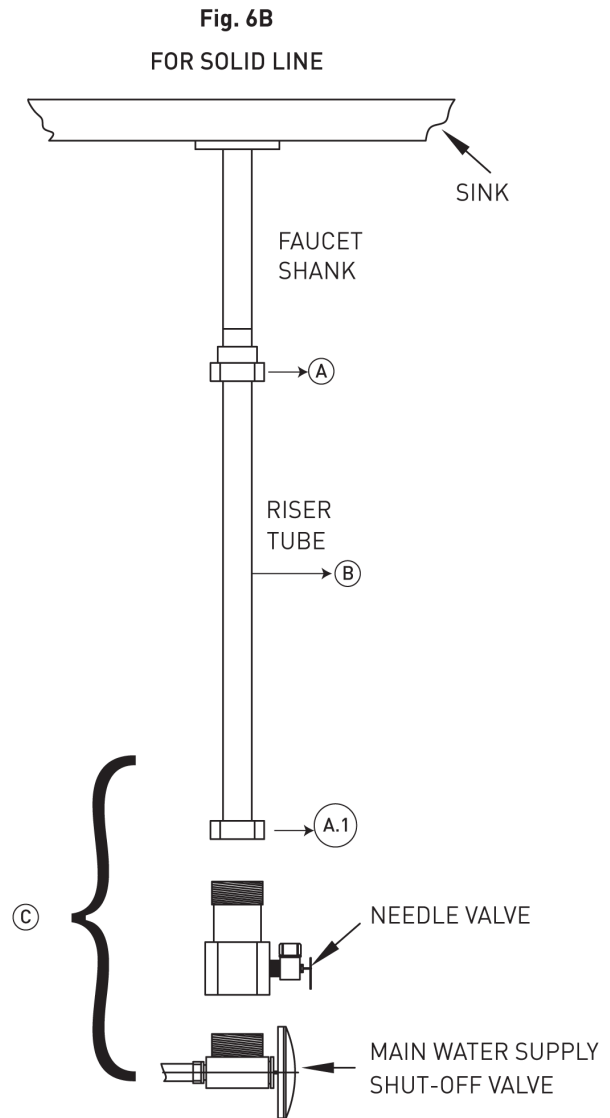
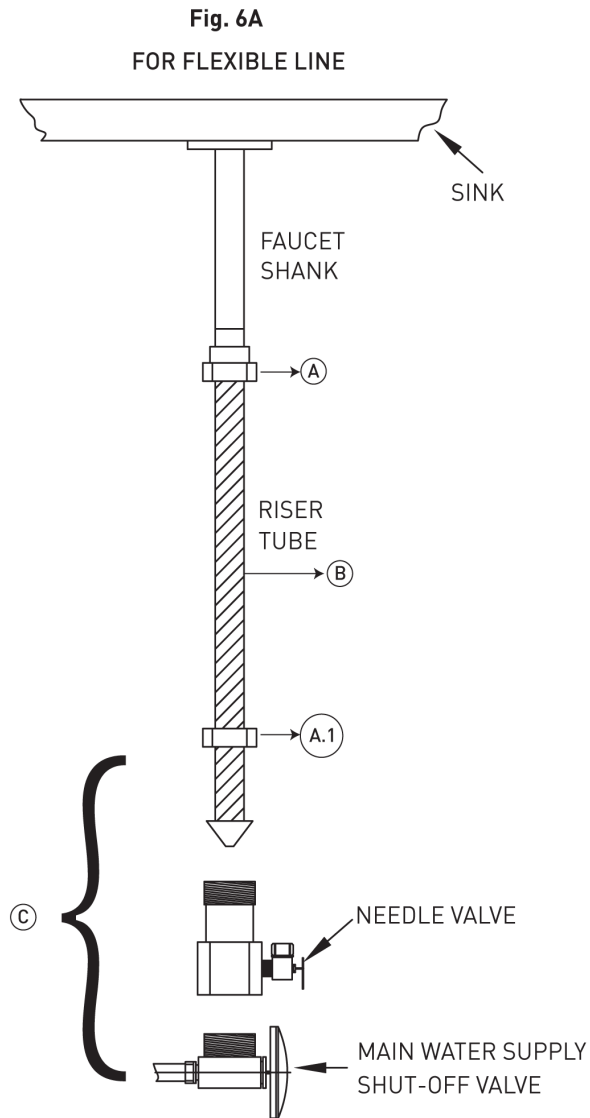
Fig. 5

3/8" Connection

If your pipe has a 3/8" Connection

Connect **Part B** with the female end of **Part A** as shown in Fig. 5.

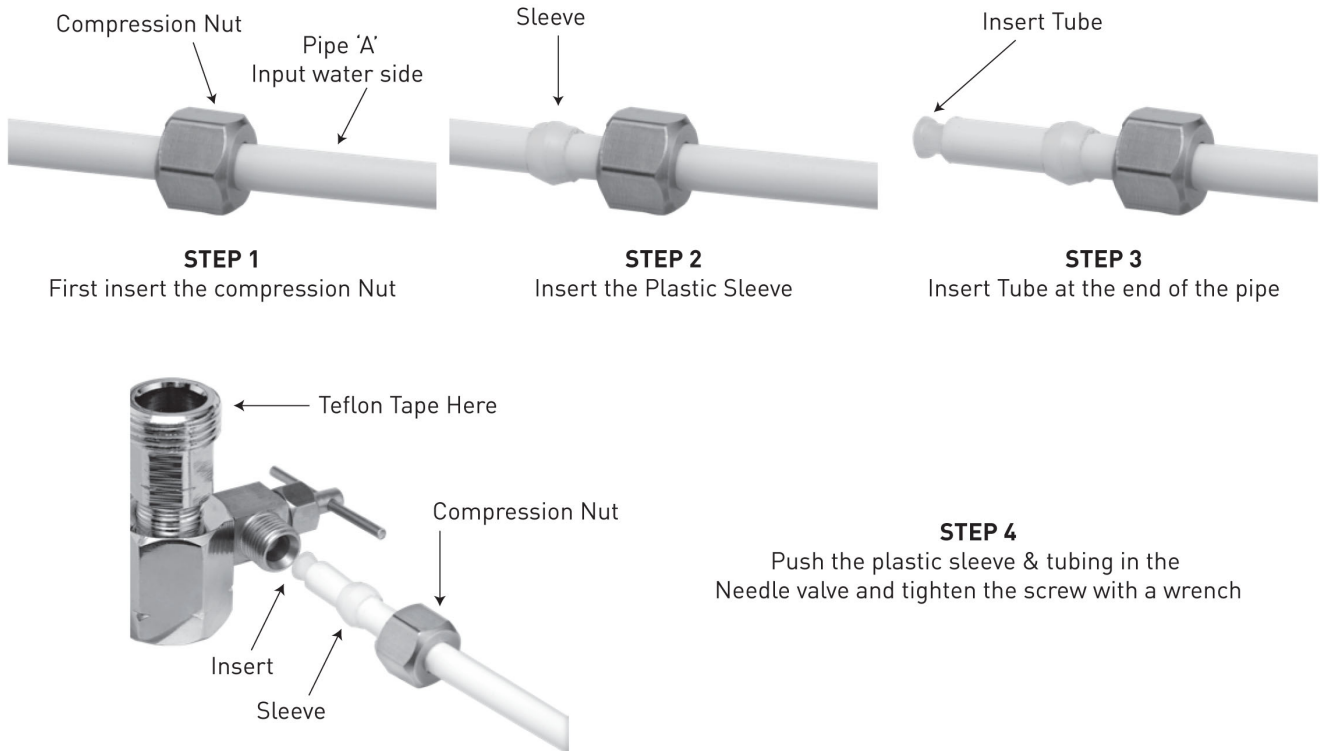
FOR CONNECTION WITH FLEXIBLE PIPE:



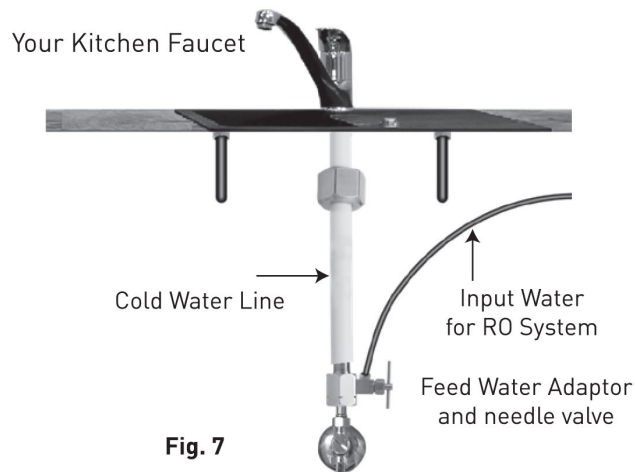
- Step 1.** Loosen nut [A or A.1] and separate the cold water pipe from shut off valve
- Step 2.** Bend the riser pipe (B) carefully (be careful not to damage it) so that the inlet Water Adaptor fits onto the shut off valve
- Step 3.** Connect the flexible pipe, Inlet water adaptor, and shut off valve together and tighten them (as shown in C)

Note : In case you have a solid riser then replace the same with flexible pipe and follow the same procedure as above.

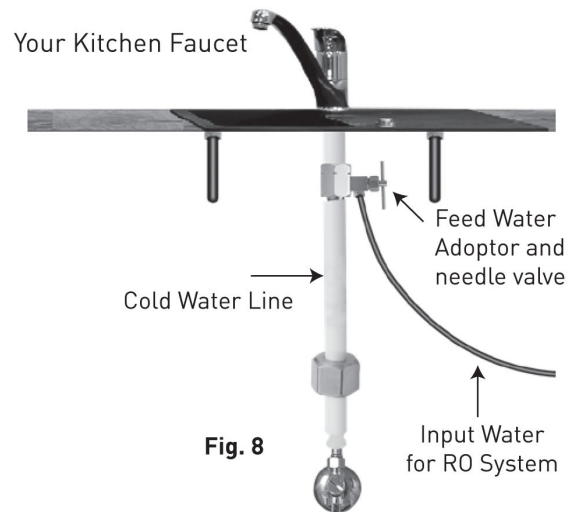
NEEDLE VALVE TUBING CONNECTION INSTRUCTIONS:



FEED WATER ADAPTOR INSTALLATION OPTIONS



Option 1

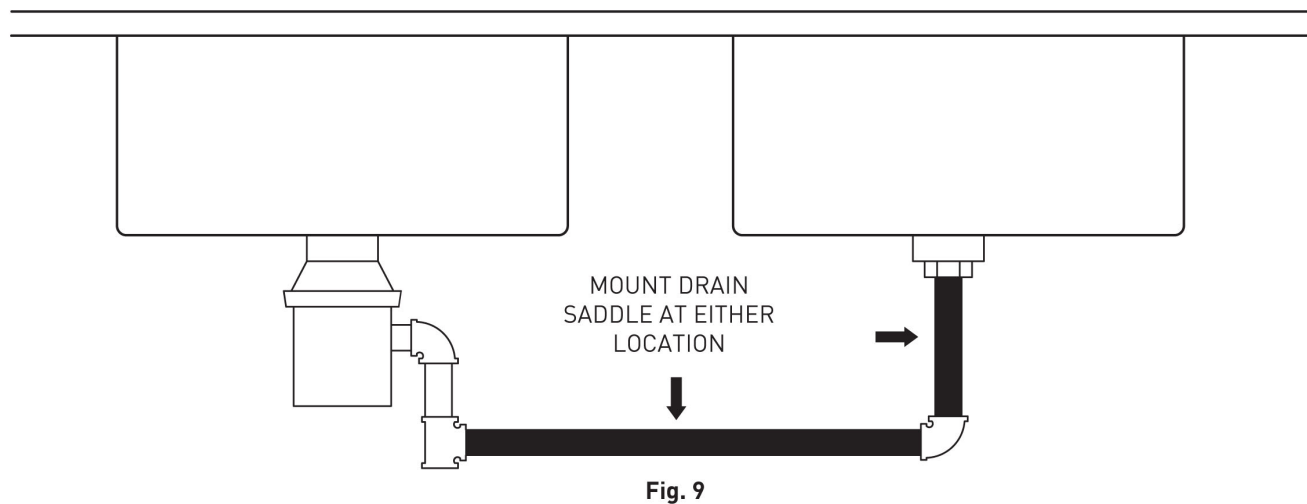


Option 2

If there is any leakage after installation, close the Needle Valve by turning the needle handle clock wise. Turn ON the water supply of the sink faucet. If leakage persists, apply more Teflon tape and tighten the metal nut.

Step B: Drain Saddle Installation

1. The drain saddle assembly can be installed on the vertical or horizontal tailpiece as indicated below. To reduce the drainage noise, mount the drain line as low as possible above the trap, or on the horizontal tailpiece.



STEP 1
Select and mark the location of the hole



STEP 2
Put the self-adhesive black sponge around the hole & make sure that the holes are matched



STEP 3
Assemble the bolts and nuts through the holes and tighten them



STEP 4
Push 1/4" drain tubing into the quick connect fitting on the saddle



Fig. 14

Step C: Drill A Hole For The RO Faucet

- Drill ½" diameter hole for standard RO faucet
 - For best results use a ½" carbide-tipped masonry drill bit
 - Wear safety glasses to protect your eyes while drilling the faucet hole
 - When drilling a hole for the RO faucet, choose a location that looks good, works well, and is most convenient for dispensing pure water. An ample flat area is required for the faucet base so that the faucet can be drawn down tightly
1. Faucet location: Make sure the faucet stem will be accessible from below when the hole is drilled
 2. For Stainless Steel Sink: Before using a ½" carbide drill bit, an indent should be made with a center punch to keep the drill bit from walking. A small pilot hole will also aid the drill bit
 3. For Porcelain Sink: Porcelain enameled sinks can readily be chipped if care is not exercised when drilling the hole. Before starting the drill motor, apply firm downward pressure on the bit until a crunching occurs. This will help keep the drill bit from walking when starting the hole. A small pilot hole will also aid the drill bit

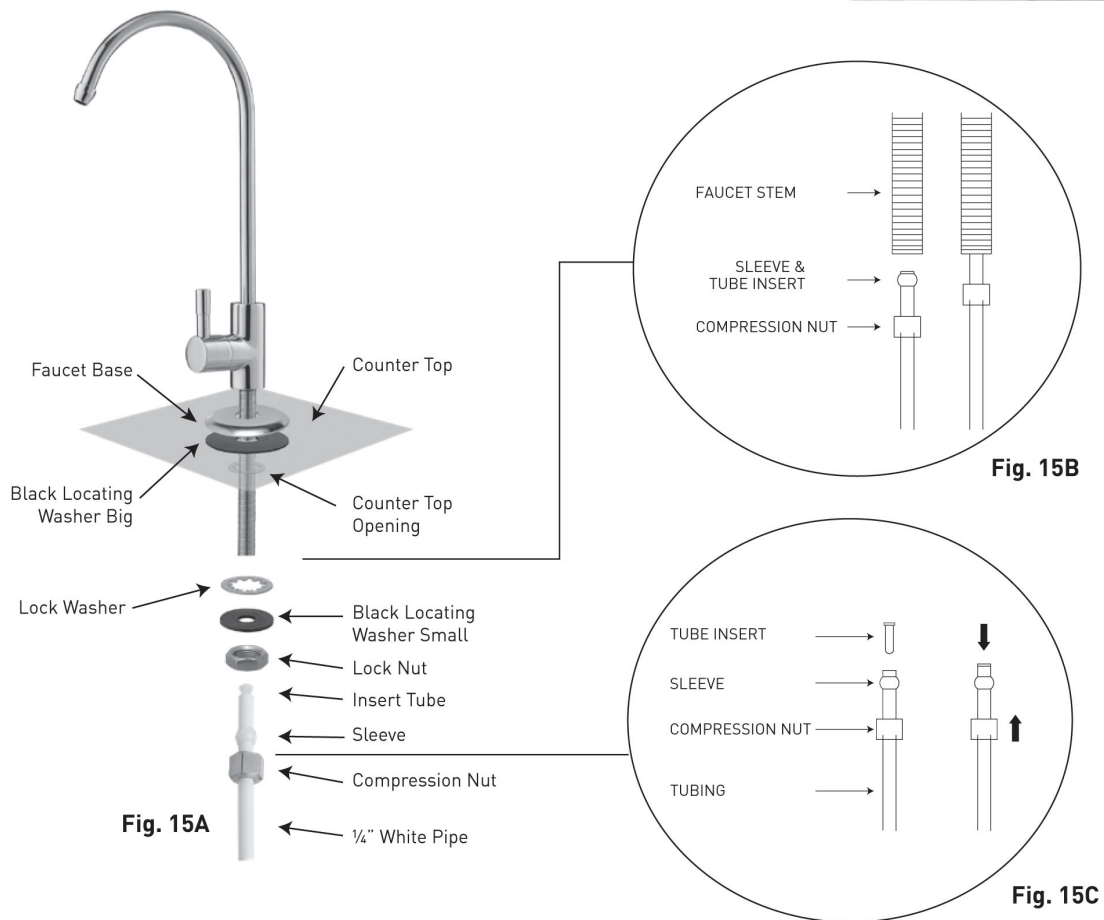
Note: No need to drill a hole if an existing hole is available:

Step D: Positioning The System



1. **Main System:** The main system can be placed under the sink cabinet. If you prefer to mount the system to the wall, please make sure it can be taken down easily for filter replacement

2. **Tank:** The pressure storage tank can be kept near the unit side. If not possible then it can be placed elsewhere up to 240 inches away from the RO system without much pressure loss



Mounting the Faucet

1. Insert compression nut, sleeve and tube insert into the pipe for the faucet, in the same order. Push tube insert fully into the pipe
2. Insert the tube into the faucet and push it and then screw the nut on the faucet, Fig. 15A.

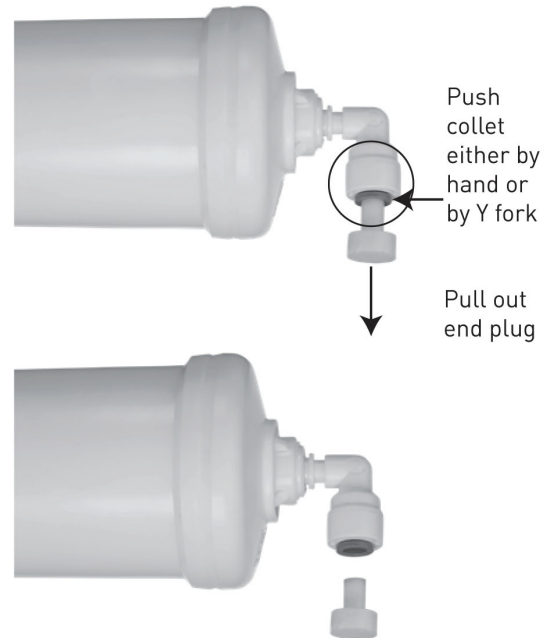
Note: In case you wish to install the faucet on kitchen wall, you can use the clamp provided in kit.

Step E: Connecting the System

All the filter end fittings are quick connect type and pipe can be simply pushed into for connection. End plug have been provided where pipes are to be connected and the end plugs need to be removed before the tubing can be connected. After disconnecting the end plugs, please discard them as they are not needed for installation.

How to Remove the End Plugs:

Push the collet rings by hand or by Y-Fork simultaneously pull out the end plug with your other hand



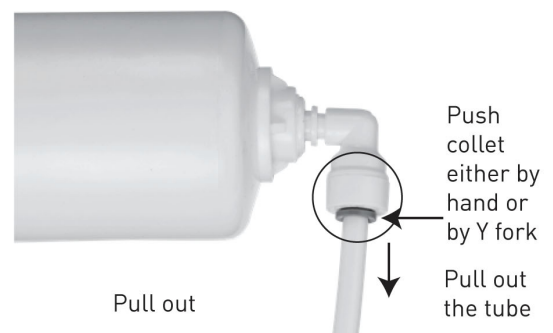
To Connect the Tubing:

Push the tubing into the elbow



To Disconnect the Tubing:

Disconnection method for the tubing is same as you removed the end plugs



Summary of Tubing Connections:

There are 4 connections: (Refer below Image for connections)

- Connect normal water supply with white tubing to the part marked as (A)
- Connect 4th-stage filter (UF Membrane) marked as (B) with the tank ball valve of pressure storage tank via white tubing
- Connect 5th-stage filter marked as (C) to the faucet via white tubing
- To drain waste water from 4th-stage RO Membrane connect part (D) with drain saddle via blue tube provided

AMI - PURIFIER PIPE CONNECTION

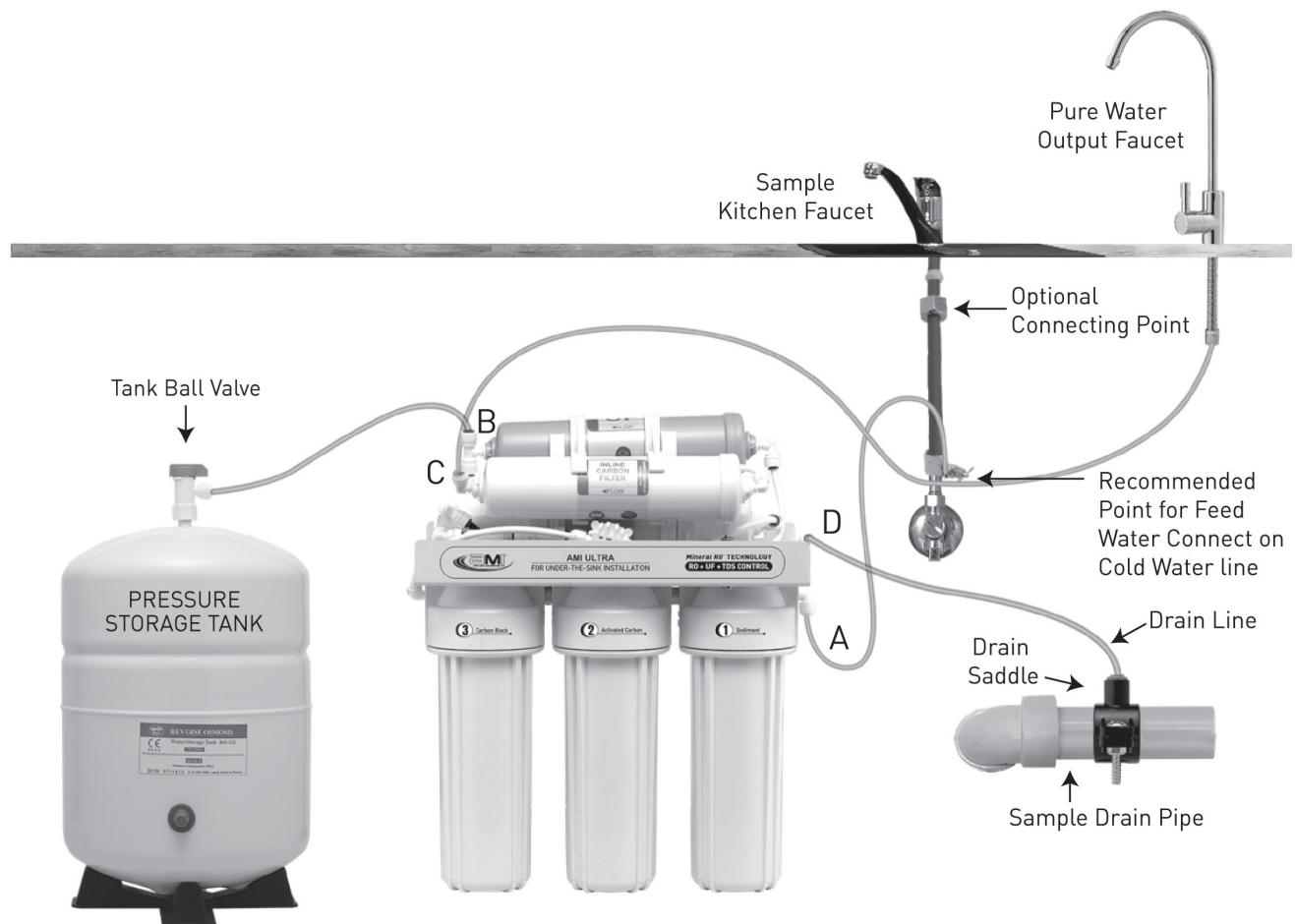


Fig. 16

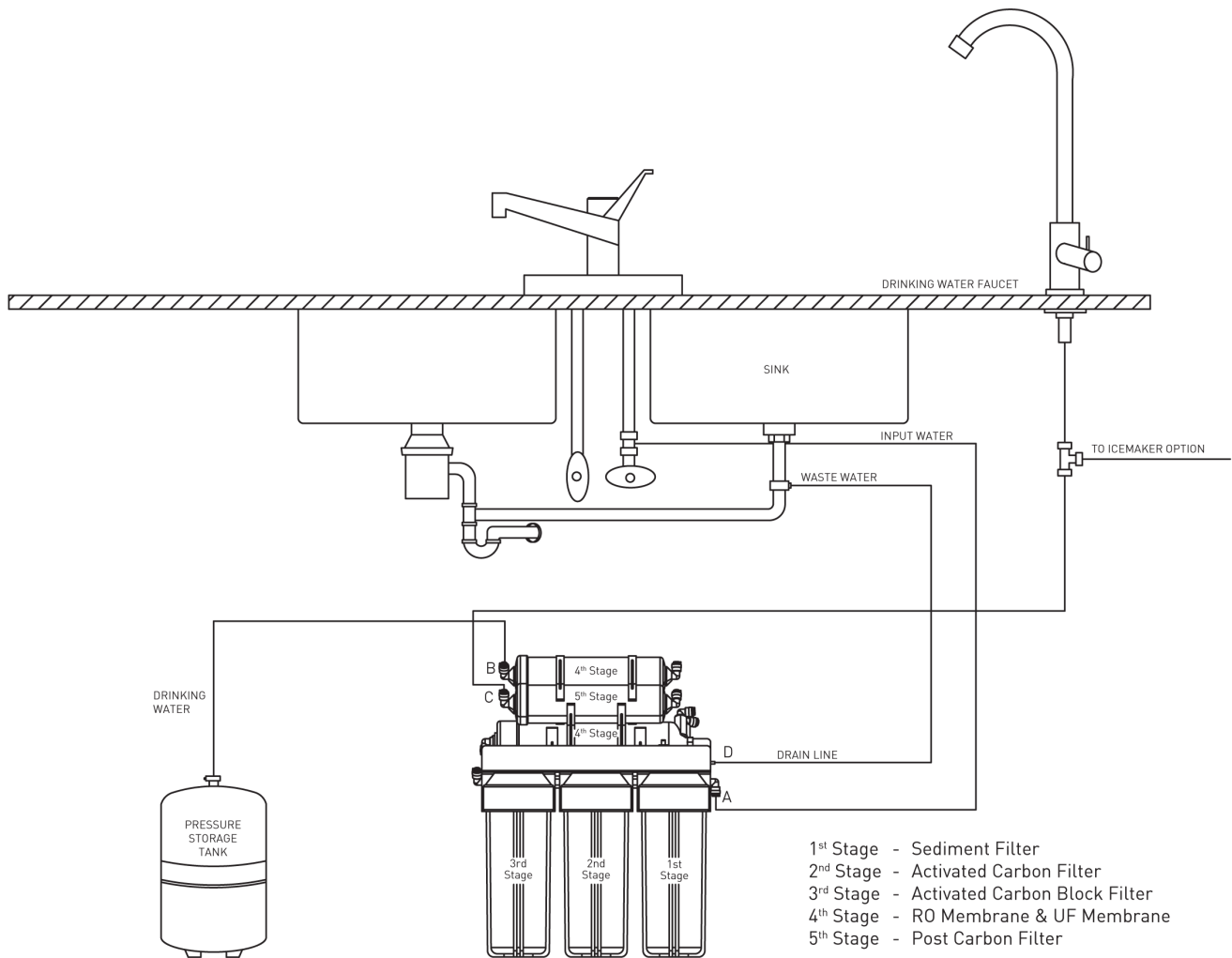


Fig. 17

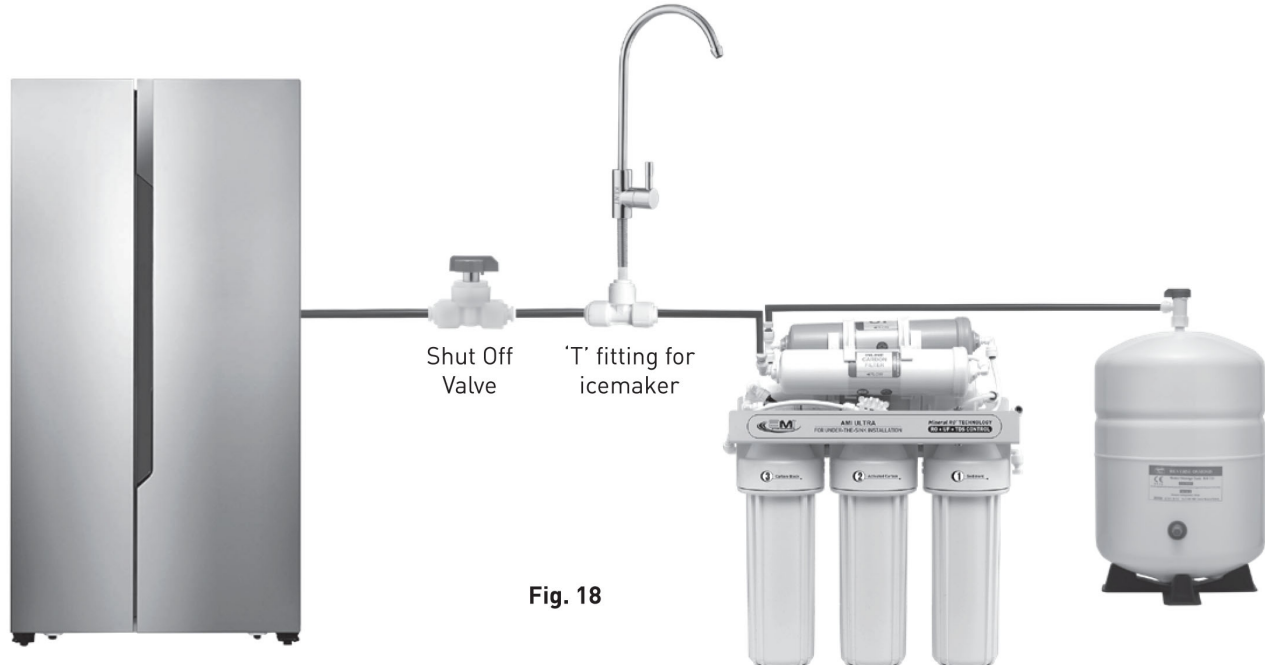
All the connections of the tubing are quick connect type and for connection you simply need to push the required pipe into the fitting. After fitting check by pulling the pipe gently for firm connection.

Option: Ice-maker Connection

If you want to connect the Purified water from the RO to your ice-maker, you can carry out the fitment with following additional parts which you will have to arrange and are not provided in the kit.

- One quick connect T-fitting
- ¼" tubing long enough to go from the RO system to your ice-maker
- One ball valve quick-connect type

See Fig. 18. Add a quick connect 'T' fitting before faucet as shown in the diagram. Divert the purified water to the ice maker. Add a ball valve between 'T' fitting and ice maker so that the water supply can be closed when required.



Step F: System Start-Up

1. Turn "ON" normal water supply by turning needle valve (turn counter clockwise). Check there are no leaks.
2. Open the tank's ball valve to allow water to enter the tank. The tank's valve is "ON" when the valve handle is parallel (in the same direction) with the valve's outlet. Check there are no leaks.
3. Wait for tank to fill before usage, tank normally takes ½-1 hour to fill. once filled, the RO will shut off automatically.
4. Do not use the first water filled in the pressure storage tank. Drain the stored water for the first time & refill it which may take ½-1 hour. Now this water is good to drink and you can keep using it.

SETTING THE TDS OF THE PURIFIED WATER

The unique TDS Control System enables you to retain the contents of natural minerals (TDS) in purified water, as per your requirement.

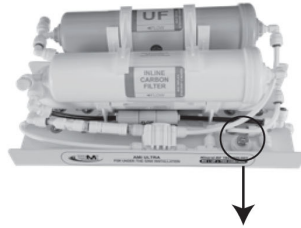
- Turning the screw of the valve anti-clockwise, results in an increased mineral content
- Turning the screw of the valve clockwise, results in a decreased mineral content

Note: We recommend keeping the TDS at lowest possible level but not below 50 mg/l

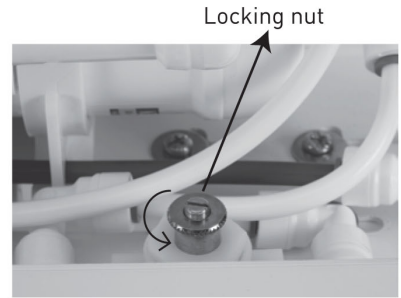
TDS Adjustment Process



STEP 1
Push the post carbon
filter upward



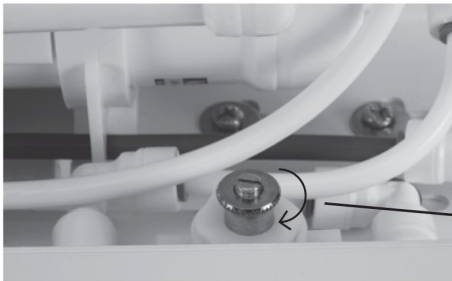
STEP 2
Locate TDS control system



STEP 3
Loose the locking nut anticlockwise
to adjust the TDS level



STEP 4
Check the current TDS of output water, If TDS level
of purified water is less or more than the desired
value then turn the screw in anticlock-wise or
clockwise direction respectively about a quarter
turn, till you get desired TDS value



STEP 5
After adjustment of TDS, tighten the locking nut
clockwise of TDS controller

3. MAINTENANCE

AMI RO SYSTEM MAINTENANCE SCHEDULE

The system requires very little maintenance. Just change the filter cartridges regularly as suggested below. Keep the system indoors, away from extreme hot or cold temperatures, and run the system within its reasonable output capacity.

Stages 1, 2, 3 Pre-Filters:	Replace them after every 6-12 months depending on the quality of input water
Stage 4 RO Membrane:	Replace it after every 2-4 year, depending on input water quality / usage and pre-filter change maintenance
Stage 4 UF Membrane :	Replace them after every 1-2 year
Stage 5 Post Carbon Filter:	Replace it every year. (It's best to replace this filter with stage-4 membrane)

Note: It is advisable to follow above mentioned maintenance schedule to get best output.

FILTER CHANGE INSTRUCTIONS

How To Replace Stages 1, 2, 3 Pre-Filters:



STEP 1

Turn OFF input water supply to RO system



STEP 2

Turn OFF pressure storage tank ball-valve



STEP 3

Drain some water from RO faucet to reduce pressure inside the system



STEP 4

To take out filter housing, turn the housing on RO head assembly in anti- clockwise direction by hand or with the help of wrench



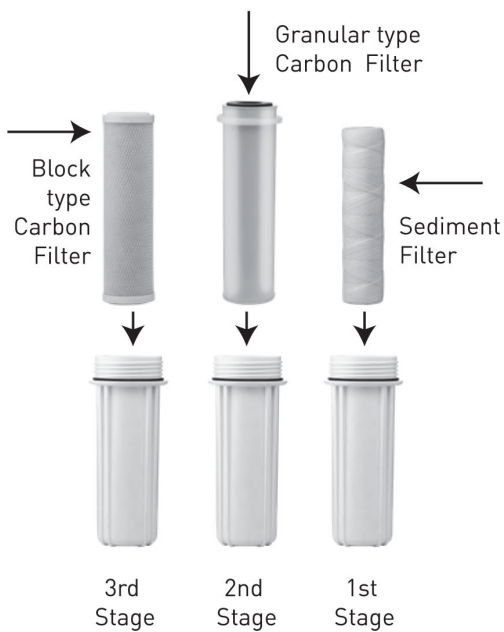
STEP 5

Detach housing from RO head gently



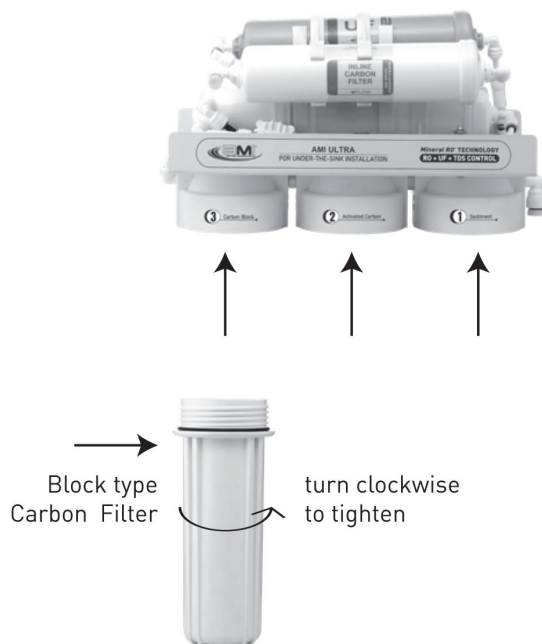
STEP 6

Remove the used filters, and wash housing



STEP 7

Put the new filters into their respective housing



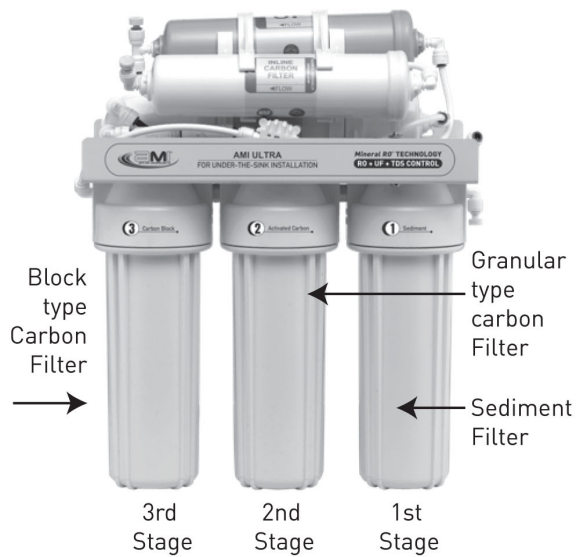
STEP 8

For tightening, turn the housing on main system in clockwise direction



STEP 9

Now using the wrench provided tighten each of the housing by turning them in clockwise direction



STEP 10

Complete assembly of all the three filters.

How to Replace Post Carbon Filter

Turn OFF the cold water supply to RO system. Turn OFF tank ball-valve. Lift up RO faucet lever briefly to relieve the built-up pressure inside the RO system. This will make opening the housings easier.



STEP 1

Turn OFF input water supply to RO system



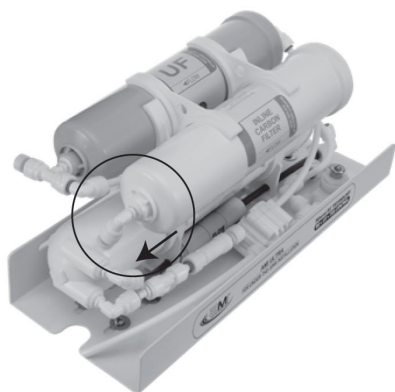
STEP 2

Turn OFF pressure storage tank ball-valve



STEP 3

Open RO faucet to drain some water to reduce pressure inside the system

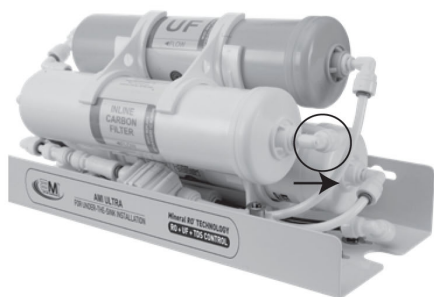


STEP 1

Remove the output side elbow of post carbon filter by using Y fork. Use the Y fork to press the collet and pull out the elbow

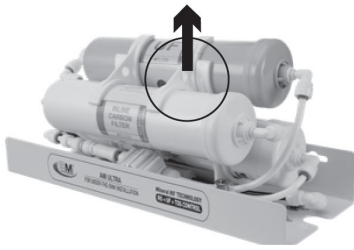


Y Fork



STEP 2

Remove the input elbow by using Y fork



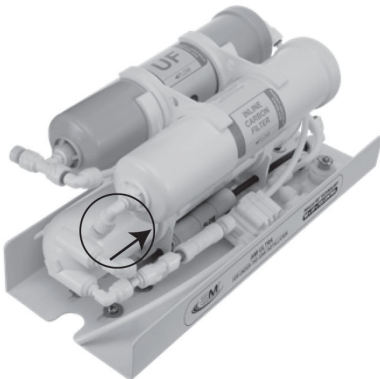
STEP 3

Remove the post carbon filter from the clamp by pulling it out of clamp



STEP 4

Take a new post carbon filter and put it in clamp keeping the direction of arrow same as earlier



STEP 5

Fix the input and output elbow in the filter by pushing them



STEP 6

Now your machine is ready to use

How To Replace UF Membrane



STEP 1

Turn OFF input water supply to RO system



STEP 2

Turn OFF pressure storage tank ball-valve



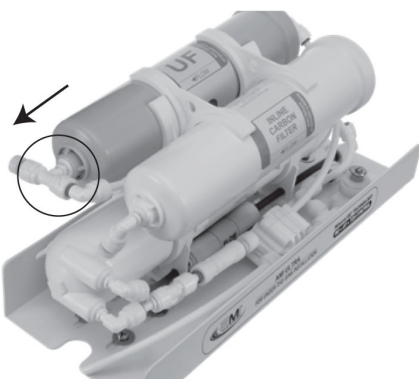
STEP 3

Open RO faucet to drain some water to reduce pressure inside the system



STEP 4

Remove the input elbow by using Y fork



STEP 5

Remove the output tee from filter and white pipe from elbow by using Y fork



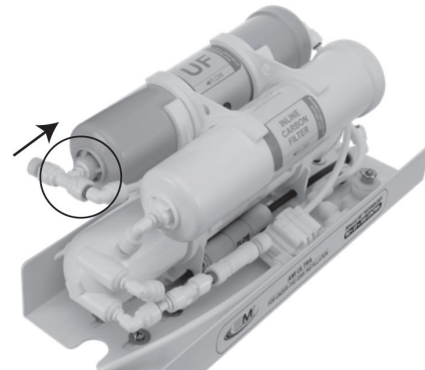
STEP 6

Remove the UF Membrane from the clamp



STEP 7

Take a new UF Membrane and put it in clamp keeping the direction of arrow same as earlier



STEP 8

Fix the input elbow and output tee in the filter by pushing them



STEP 9

Now your machine is ready to use

How To Replace RO Membrane



STEP 1

Turn OFF input water supply to RO system



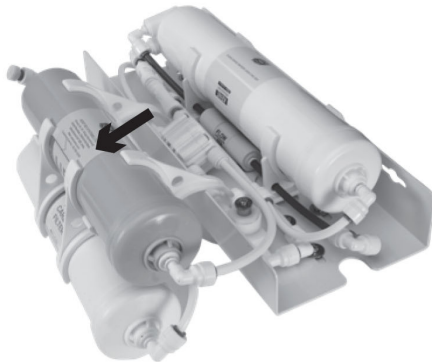
STEP 2

Turn OFF pressure storage tank ball-valve



STEP 3

Open RO faucet to drain some water to reduce pressure inside the system



STEP 4

Pull out the UF filter and post carbon filter with clamp



STEP 5

Remove the drain pipe(blue) elbow by using Y fork



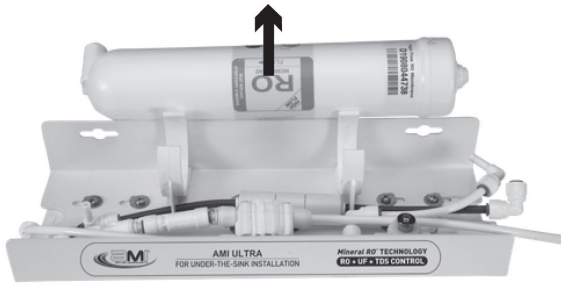
STEP 6

Remove the output elbow by using Y fork



STEP 7

Remove the input elbow by using Y fork



STEP 8

Take out the RO Membrane from clamp by pulling out and replace with new one.



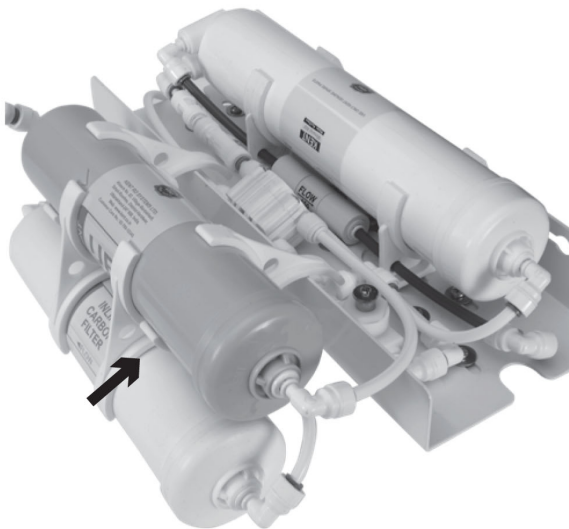
STEP 9

Take a new RO Membrane and put it in clamp keeping the direction of arrow same as earlier



STEP 10

Fix the input, output & drain elbow in the filter by pushing them in the filter



STEP 11

Fix the UF and post carbon filter by pressing the clamp on RO membrane



STEP 12

Now machine is ready for use

Part - 2

Please read this section for useful RO system and maintenance information.

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Part A: RO BASICS

This section provides basic concepts on how an RO system works, how it performs in relation to your house's water condition. We hope this information helps keep your RO system running at top performance for years to come.

1) Basic Terms

- GPD = Gallons Per Day (flow rate)
- PSI = Pounds Per Square Inch (pressure)
- TDS = Total Dissolved Solids (contaminants)
- PPM = Parts Per Million (unit used to measure TDS level)
- TDS Meter = A Digital Meter for Measuring the TDS Level in the Water

2) Flow Diagram for 5-Stage RO System

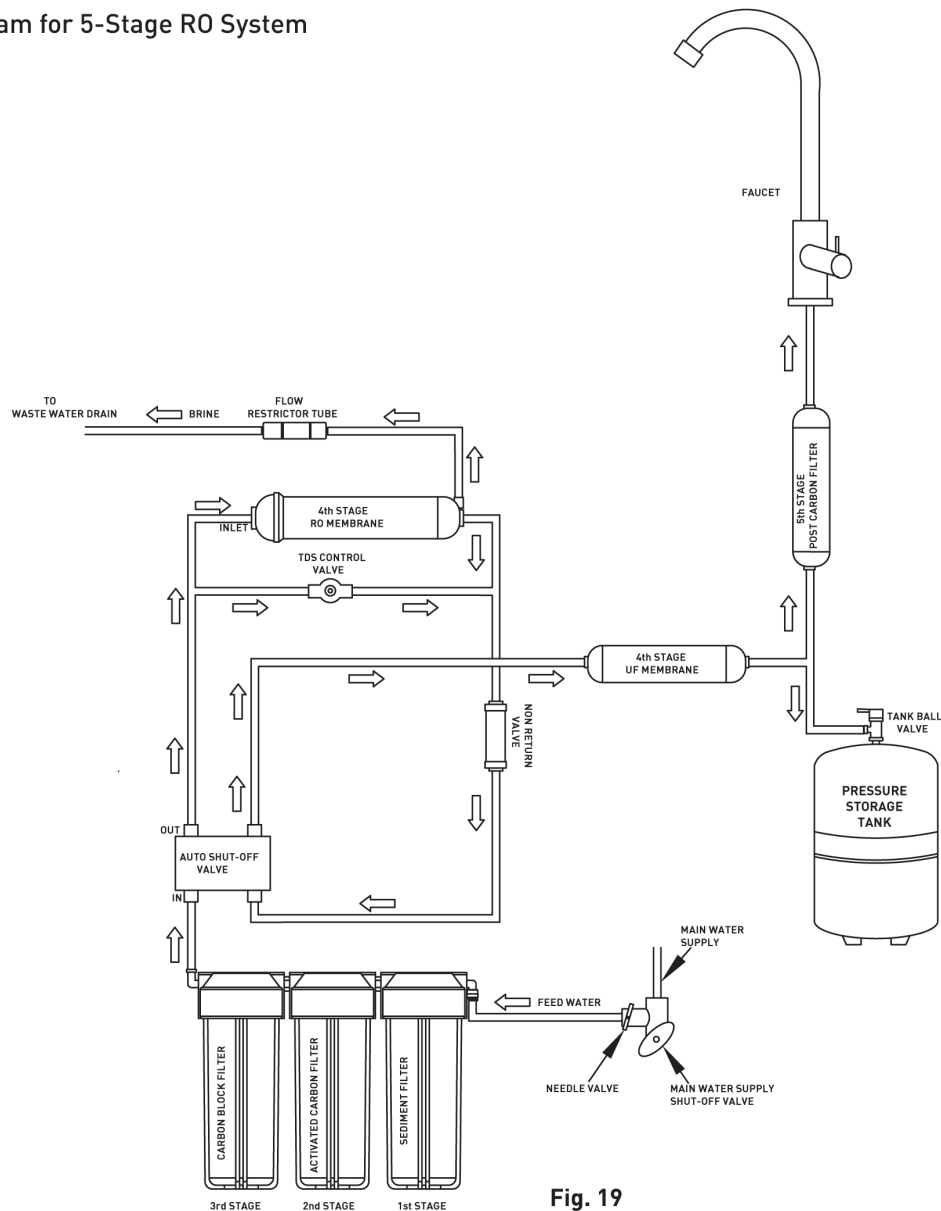


Fig. 19

3) Water Pressure - The Most Important Factor!

RO systems runs on water pressure. Therefore your water pressure has the most direct effect on how well your RO will perform. With sufficient water pressure (85 psi max.), your RO system will function well, give high output with high removal rate, and fill up the storage tank quickly.

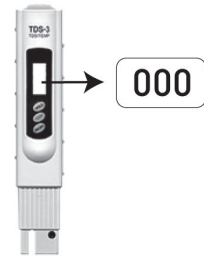
4) TDS Meter (Part of kit) - How to Test Your Water Quality

The TDS meter is used to test your water's quality before and after the RO system is installed. It also tells you when the membrane needs to be changed.

How to check water quality with TDS meter:



Take two clean glasses. Rinse the glasses with filtered water for better readings. Fill up one with tap water and other with filtered water



Switch ON TDS meter by pressing the button on it, it will display "000" reading on its screen



Place the TDS meter inside the tap & RO water to check TDS level of both the samples as per the reading on display

Note: Turn off the Input water supply and completely drain all of the water from the RO system and pressure storage tank, when the unit is not in use, say while going out on holidays or during very cold or freezing weather conditions.

5) How Long Does It Take to Fill Tank?

Depending on your water pressure, the standard tank will fill up in ½-1 hour. After the tank is filled, it will shut off automatically.

6) How Full Can My Tank Fill Up?

Your water pressure and temperature will determine how full and how fast the storage tank will be filled up. The stronger your input water pressure, the faster and fuller the tank can fill. If water pressure is low, the tank will fill slower and will not fill up to its full capacity.

Input 70+ psi → tank fills 7 ltrs (1.84 Gallon) (almost 100% full)

Input 60 psi → tank fills 6.16 ltrs (1.62 Gallon) (almost 88% full)

Input 50 psi → tank fills 4.9 ltrs (1.29 Gallon) (almost 70% full)

Input 40 psi → tank fills 3.5 ltrs (0.92 Gallon) (almost 50% full)

So, if your input water pressure is low, the tank will not fill up to the full.

7) Insufficient Water Pressure

The 3 most common problems caused by low input water pressure:

- 1) Tank does not fill up, get little water from tank
- 2) Sluggish flow at the dispensing faucet
- 3) RO makes water slower than the claimed GPD

If you experience these problems, please check your input water pressure as a first step. This will often solve the above listed problems.

8) How to Test Your Water Pressure

Get a water pressure gauge that adapts onto your sink faucet. Attach gauge onto the faucet, turn water on fully to take the reading.

For some areas, water pressure is lower during the day and higher at night when less people are using water. So to get an accurate average, take measurements at different times of the day.

9) Premature Membrane Failure

There are 4 common causes that lead to premature RO membrane failure:

1. Failing to replace the 3 pre-filters as frequently as needed:

If you're on city water: The over-depleted carbon pre-filters allow the chlorine to get through and damage the membrane.

If the water quality is not good or well water is being used, pre filters could be overloaded and more sediments may pass through, which leads to clogging the membrane surface.

2. Your water source may contain certain organic or chemical compounds that form a slimy film which covers up membrane's surface. This will disable the membrane prematurely. In this case, adding a UV light could help extend the membrane's life.
3. Your water source is extremely hard. This will clog up the membrane with heavy calcification. Adding water softener will help greatly.
4. If the drain water flow is somehow restricted or blocked, the membrane will be damaged prematurely. So please check to make sure the drain water is draining off unhindered.

Part B: Trouble-shooting Guide

For Newly Installed RO System

After installation, if you encounter any of the problems described below, please follow this guide to trouble-shoot. In most cases, the problem is quickly solved by following this guide.

1) Air Bubbles: Lots of Air bubbles in cup or bottle when filling

It is quite normal to see air bubbles in a cup of pure water. This mainly occurs when a RO unit is first installed or when filters are being replaced. When new filters are installed to the unit, the filter housings are dry. When they are attached onto the RO head, air pockets will fill the housing. As water is turned and flows through the unit, the air pockets move throughout the system. This can have an effect on the appearance of air bubbles in the water.

RO units will self purge the air bubbles that can accumulate inside the unit. As you continue to draw the water, trapped air will be removed by the water flow and you should quickly see a reduction in the bubbles inside the water cup. You can also drain 1-2 tanks of water to quickly purge the air bubbles.

2) No Water at Dispensing Faucet

Water supply is off	→	Turn on the water supply, or open needle valve (turn needle handle counter clockwise)
Tank's valve is closed	→	Turn tank valve to an "Open" position
Output line is crimped	→	Remove crimp
Incorrect installation	→	See Fig.17 (Page 14). Verify all line connections
Low tank pre-charge pressure	→	Raise tank air pressure to 8-10 psi
Automatic Shut Off connection error	→	See Fig. 20 to reconnect to the correct valve connection

The ASO valve has 4 lines connected to it. J1 is labeled IN and J2 is labeled OUT on the valve. Please confirm connection

- Stage-3 Carbon Filter : Tubing (point E) is connected to J1 (IN)
- RO Membrane : Tubing (point F) is connected to J2 (OUT)
- Non-return valve : Tubing (point G) is connected to J3
- 4th stage inlet (UF Membrane) : Tubing (point H) is connected to J4

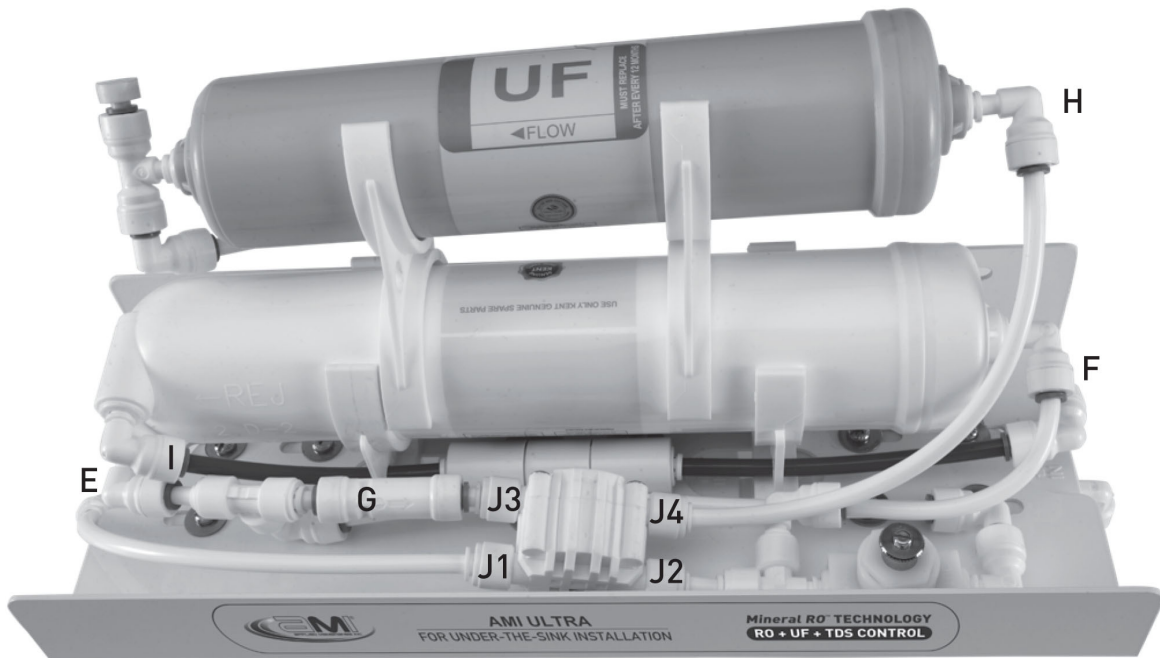


Fig. 20

RO System's Head Points Identification:

- Point E:** Stage-3 Filter's Output
- Point F:** RO Membrane Inlet
- Point G:** Non-return Valve
- Point H:** Inlet of 4th Stage (UF Membrane)
- Point I:** Connect to Drain Water Pipe
- Point J:** Automatic-Shut-Off Valve

3) Sluggish Flow at Dispensing Faucet

- Insufficient water pressure → Check water pressure. If too low for this chosen RO model, either increase your water pressure or add pump to RO system
- Input water to RO is blocked → Make sure feed water valve is fully opened
- Tank not filled yet → Wait until tank is more filled, takes ½-1 hour average
- Low tank precharge pressure → Raise tank precharge pressure to. 8-10 psi

4) Tank Takes Long Time To Fill

- Insufficient water pressure (below 50 psi) → Increase house water pressure or add an appropriate pump to system
- Low water temperature (below 20°C/68°F) → Increase house water pressure or add pump to compensate for low (cold) water temperature

Claimed GPD

The claimed Liters Per Day (LPD) flow rate for each RO model is based on 70 psi input water pressure at 25°C/71.6°F water temperature. At this standard water pressure and temperature, the system should make about 3.1 gal of filtered water per hour, tank should fill in about 1 hours.

Lower water pressure and colder temperature will slow down the system's output to less than the claimed GPD flow rate.

5) Filter Housing is Leaking

If you are experiencing a leak from any of the pre-filter housings on the reverse osmosis system, the rubber O-ring needs to be replaced. The filter housing must have two O-rings in order to seal properly. Please review the steps below to address a leaking filter housing.

Please follow the steps below:

- Step 1.** Shut off the feed water line to the RO unit. Turn off the tank ball valve
- Step 2.** Use the filter housing wrench to unscrew the filter housing that is leaking. Make sure the O-rings are seated correctly inside the filter housing groove
- Step 3.** Re-attach the filter housing to the head. Hand tighten the housing, then use the filler housing wrench to tighten the housing
- Step 4.** Open the tank ball valve and feed water line. Check for leaks. If the filter housing continue leak, please contact AMI technician for assistance



Fig. 21

6) TDS (Total Dissolved Solids) Level Reads Higher Than Normal

If the filtered water's TDS reads higher than the normal, these are the possible causes:

- Water pressure too low, causing TDS to be higher than usual → Raise water pressure or add pump to RO
- Input source water has very high TDS and/or contains certain heavy dissolved elements resulting TDS higher than usual
- Drain water flow is restricted or clogged → Check and re-align the drain saddle and drain line

7) There is a leak at the tank ball valve connection

If you are experiencing a leak from where the tank ball valve attaches to the tank stem, you may not have applied enough Teflon tape to the stem when you first installed the valve. To correct this issue, please turn off the supply water to the system and turn on the drinking water faucet to completely empty the tank. Then, unscrew the tank ball valve and apply 6-8 wraps of Teflon Tape to the tank stem and screw on the tank ball valve back onto the tank. Please double check the connection for leaks.

8) System Slow Shut-Off: Drain water runs for hours (6-7 hrs) - but Eventually Stops

The most common cause for "slow-shut-off" is insufficient input water pressure. RO needs sufficient input pressure to shut off promptly.

Input water pressure too low (below 40psi). Not enough pressure to shut off RO promptly → Check input water pressure. If pressure is low, boost house pressure or add pump to RO.

Input water valve partially blocked, not opened fully, reducing input water pressure to RO → Check and fix Input water valve, make sure it is opened fully to allow maximum pressure to RO.

Stages 1, 2, 3 pre-filters partially clogged, reducing the input water pressure in RO → Check stage-1 filter to see if it's very dirty. If this filter has turned brown or other color in just 1-3 months, that means Your input water has very heavy sediments and other clogging agents. Need to replace stage-1 filter frequently.

- Input pressure way too low (below 40 psi). Not enough pressure to shut off the RO at all → Check in-put water pressure. If pressure is below 40 psi, need switch to Booster-Pumped RO model.
- One of the shut-off valves are defective, so RO cannot shut off → Do a shut-off test to determine which valve is defective. Do test as shown below.

9) How to Test RO's Shut-Off Function

The RO system should shut off automatically when the tank is filled. When the RO fails to shut off tank is filled, the drain water will keep running down the drain, depleting the pre-filters and membrane.

The automatic shut off valve and non return valve located are two valves that control the RO's shut off function

If one of these valves is not working correctly, the system cannot shut off and drain water may run non-stop.

Do test #1 and #2 below to determine if the RO can shut off, and if the valves are OK.

Test#1: Can the RO system shut off?

- Draw some water from faucet. RO will start making water to fill tank
- Turn OFF the tank's valve to mimic "tank full"
- Wait for 3- 5 minutes, then check to see if the drain water stops running
- Check drain water by either "listening" or actually taking out the drain line to look at it

- If drain water stops running → The RO is shutting off properly. Both the Automatic Shut off valve and the Non return Valve are working fine. No need to test further
- If Drain water continues to run → Then either the Non Return Valve and/or the Automatic Shut off Valve is not working correctly. Proceed to Test #2

Test#2: Test Non Return Valve and Automatic Shut off valve

- Make sure there is some water in the tank (tank not empty)
- Remove the drain line from the drain saddle (so you can check drain flow drainage)
- Turn OFF the Normal input water supply
- Turn ON the tank valve
- Check the drain line to see if there is any water draining out from this line
- If water does drain out from the drain pipe → Then this water is coming from the pressure storage tank. This means the Non Return Valve is allowing the water in the tank to back flow out into the drain line

Solution: Replace Non Return valve

- If no water drains out from the drain pipe (no drain water running) → That means the Non Return Valve is OK. The RO's non-shut off is caused by the Automatic Shut Off valve

Solution: Replace Automatic Shut Off Valve

10) Pure water still tastes like Tap Water

The first thing to check would be if the reverse osmosis membrane was installed. The membrane is the heart of the RO unit and it is the component that removes most of the contaminants and impurities in the water. If the membrane is installed, please make sure the first 1-2 tanks of water have been completely flushed out. The new filters on your system needs to be flushed out before use.

Once the tank has been fully filled and flushed 1-2 times, use the TDS meter to check the tap water vs. pure water TDS. With good water pressure and normal water quality, our RO units are designed to remove 90-95% of total dissolved solids impurities from water.

Please contact AMI if you have any questions or need assistance.

Replacement Filter Kit (1 Year Supply)

Part # RFK-HD-10UL-YEAR

Scan to Order:



Individual Replacement Parts:

Replacement Filters & Membranes	Part #
Stage 1 – 5 Micron Prefilter	H-F1005CF
Stage 2 – GAC Filter	H-F2510GAC
Stage 3 – Carbon Block Filter	H-F2510AC
Stage 4 – RO Membrane	M-T1808-ENK
Stage 5 – UF Membrane	M-U1808-ENK
Stage 6 – Carbon Post Filter	H-F0832-43QC
Flow Restrictor	H-RQC018
Check Valve	H-VCK058
Faucet	H-T5000
Storage Tank – 3.2 Gallons	H-S4015ANW
Storage Tank – 4.4 Gallons	H-S4010ANW
Tank Valve	PPSV500822W
Filter Housing O-Ring Set (Set of top & bottom o-rings for one housing)	OR-HD10SET



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