

## AMI Ultimate

UNDER-THE-COUNTER  
RO WATER PURIFIER



### Instruction Handbook for Installation, Operation and Maintenance



Hydrostatic Tank



APPLIED MEMBRANES INC.  
2450 Business Park Drive, Vista, CA 92081  
Call: 760-734-8734  
[www.appliedmembranes.com](http://www.appliedmembranes.com)

### Mineral RO™ TECHNOLOGY

Removes Dissolved Impurities  
Retains Essential Minerals  
Multiple Purification

RO + UV + UF + TDS Control



*The  
Best Tasting  
Pure Water*

Applied Membranes, Inc. is an ISO 9001:2015 QMS Certified Company



## Welcome to AMI

Dear Customer,

To begin with, allow us to thank you for your trust in AMI water purifiers. We take pride in our reputation for product quality and industry proven performance. We are certain that your decision to own an AMI Ultimate Mineral RO™ Smart RO Water purifier 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 safer and cleaner drinking water without any compromise.

This guide will help you in getting the best out of your water purifier. Please go through this booklet to familiarize yourself with its operation and maintenance.

Best Wishes,

Applied Membranes Inc.

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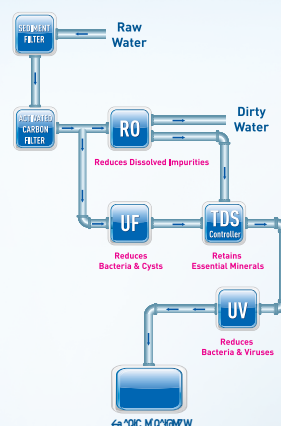
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## Mineral RO Technology - A Breakthrough in Water Purification\*

Presenting the AMI Ultimate Mineral RO™ Smart RO Water Purifier. It uses futuristic and state-of-the-art technology to provide purer and healthier drinking water.

At the heart of the AMI Ultimate Mineral RO™ Water Purifier is a Reverse Osmosis membrane having pores as small as 0.0001 microns, which reduce dissolved impurities (salts and heavy metals) and convert hard water to sweet and pure drinking water. With a patented mineral retention system, the AMI Ultimate Mineral RO™ Water Purifier allows the user to control the Total Dissolved Solids (TDS) level in the purified water.



### Features of AMI Ultimate Mineral RO™ Water Purifier

- Purification by RO + UV + UF + TDS Control makes water pure
- Optional real time monitoring and display of purity on a digital screen.
- Suitable for purification of brackish, tap water & Municipal Corporation Water Supply
- Wall mounted design best suited for homes and offices
- Fully automatic operation, with auto-on and auto-off function
- Computer controlled operation for enhanced purity and long life
- RO membrane fused inside membrane housing to prevent tampering
- Vertically mounted SMPS for protection from water
- Use of push-fit fittings for leakage and maintenance free performance
- An aesthetically appealing design
- ABS construction for corrosion free use
- Inbuilt Auto-flushing system
- 3.2 gallons storage tank
- High purification capacity of 5.28 gal/hr.

### Items in the Box

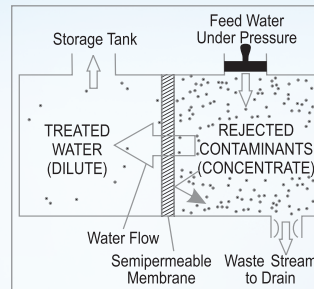
- |  |                        |
|--|------------------------|
| 1. AMI Ultimate Mineral RO™ Water Purifier | : 1 Qty.               |
| 2. 3-Way Connector                         | : 1 Qty.               |
| 3. S.S. Ball Valve                         | : 1 Qty.               |
| 4. Drain Saddle Assembly                   | : 1 Qty.               |
| 5. Food Grade Pipe 3/4 inch (White)        | : 98.4 inches (2 Qty.) |
| 6. Food Grade Pipe 1 inch (White)          | : 98.4 inches          |
| 7. Screws & Plastic Inserts                | : 2 Qty. each          |
| 8. Sticker Center Drill                    | : 1 Qty.               |

## Important Instructions

<p>Avoid exposure to direct sunlight and installation in damp areas.</p>	<p>Make sure that the temperature of the water entering the purifier is within 10° C - 40° C.</p>
<p>Reject Water Drain</p> <p>Make sure that the reject water connection to the drain saddle assembly is fully inserted and not leaking.</p>	<p>393.7 inches Water Source Water in</p> <p>The maximum distance between the water source and the purifier should not be more than 393.7 inches.</p>
<p>Avoid sharp bends in the pipe. Do not bend or block the reject water pipe.</p>	<p>Do not confine the purifier in a cabinet.</p>
<p>In case of not using the purifier for more than two days, kindly switch off the power supply and drain the storage tank.</p>	<p>Use genuine AMI spares for optimum performance.</p>
<p>Do not try to service the purifier on your own. Instead, call a service technician for help.</p>	

## Reverse Osmosis Process

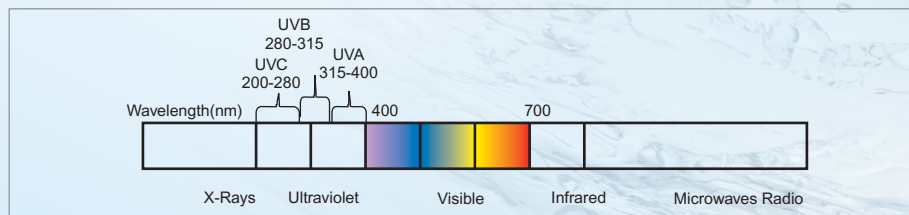
The Reverse Osmosis process, also known as hyper filtration, is the finest filtration process known to date. The process ensures the reduction of particles as small as ions from a solution. Reverse Osmosis uses a semi-permeable membrane to reduce salts from potable/ brackish water. In Reverse Osmosis, water pressure applied to the concentrated side forces the process of osmosis into reverse. Under enough pressure, treated water is "squeezed" through the membrane from the concentrated side to the diluted side. Salts dissolved in water as charged ions are repelled by the RO membrane. The rejected impurities on the concentrated side of the membrane are washed away in a stream of waste water, and thus do not get accumulated as in a traditional filter.



## UV Process

The UV light has shorter wavelength (higher energy) than the visible light. It is called ultra-violet because it is just beyond the violet light in the light spectrum. Technically, the ultra-violet light is defined to be any wavelength of light, which is shorter than 400 nanometer.

UV rays, which penetrate into the micro-organisms, are absorbed by the DNA of the pathogen in the water. The DNA is altered in such a way that the pathogen cannot reproduce. Thus, they are essentially killed and cannot cause infection. This process of DNA modification is called inactivation.



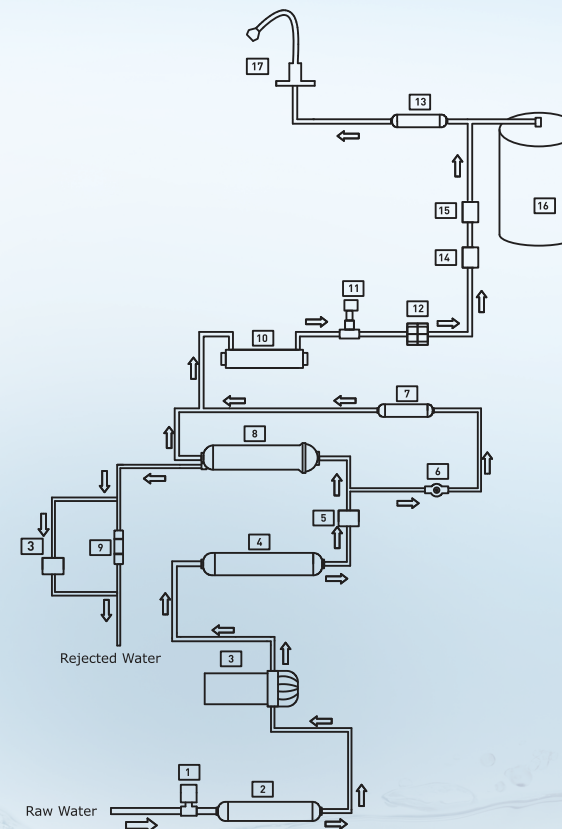
Note: The purified water stored in the tank is disinfected using UV LED, which automatically switches on for 30 minutes in a two hour cycle.

## Auto-flushing System

The purpose of the Auto-flushing system is to help prevent scaling or fouling of the RO membrane by providing a rapid rinse which washes away impurities from the membrane's surface and keeps the membrane clean. It offers following benefits.

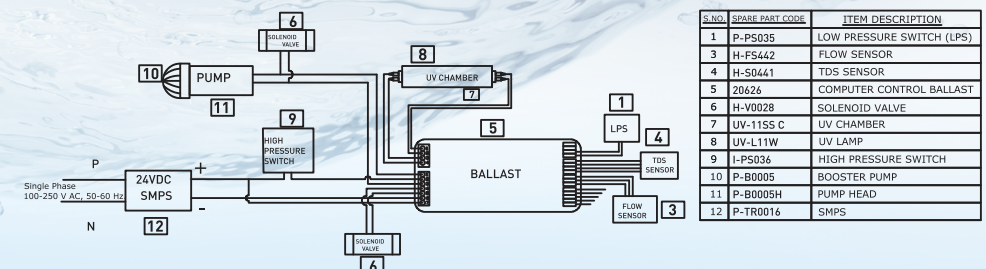
- Lowers rejected water outflow
- Improves "TDS" rejection rate i.e increases RO membrane efficiency
- Extends life of RO membrane

## Water Flow Diagram



S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	P-PS035	LOW PRESSURE SWITCH
2	H-F0833-43QC	SEDIMENT FILTER
3	P-B0005	BOOSTER PUMP
4	H-F0832-43QC	ACTIVATED CARBON FILTER
5	H-V0028	SOLENOID VALVE
6	H-VTD5034	TDS CONTROL VALVE
7	M-U1808	1687-UF MEMBRANE
8	M-T1808HF-ENK	RO MEMBRANE - HIGH FLOW
9	H-RQC020	FLOW RESTRICTOR TUBE
10	UV-11SS C	UV CHAMBER
11	H-S0441	TDS SENSOR
12	H-FS442	FLOW SENSOR
13	H-F0832-43QC Blue	POST CARBON FILTER
14	H-VCK058	NON RETURN CHECK VALVE
15	I-PS036	HIGH PRESSURE SWITCH
16	H-SW001	HYDROSTATIC TANK
17	H-T5183	FAUCET

## Electrical Circuit Diagram



S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	P-PS035	LOW PRESSURE SWITCH (LPS)
3	H-FS442	FLOW SENSOR
4	H-S0441	TDS SENSOR
5	20626	COMPUTER CONTROL BALLAST
6	H-V0028	SOLENOID VALVE
7	UV-11SS C	UV CHAMBER
8	UV-L11W	UV LAMP
9	I-PS036	HIGH PRESSURE SWITCH
10	P-B0005	BOOSTER PUMP
11	P-B0005H	PUMP HEAD
12	P-TR0016	SMPS



## Computer Controlled Operation

To ensure delivery of purer and healthier water, a micro-processor is installed in the purifier that performs the following functions:

**UV Stabilization Delay:** To ensure that the UV lamp is pre-heated and is working at its optimum level before it starts disinfecting water, the controller provides a two second delay to the UV lamp when the purifier is switched on. During this period, only the UV lamp is switched on and other electrical devices of the purifier are switched off.

**Purification Delay:** To ensure that the idle water lying in the internal pipes and in the UV chamber is disinfected before being passed into the storage tank, the system provides a 5 second delay when the purifier is switched on. During this time, the UV lamp kills all micro-organisms that may be in the water inside the UV chamber. After this delay, all other electrical devices such as the booster pump and solenoid valve are switched on to start normal purification process.

**Alarm:** To ensure delivery of purer water, AMI Ultimate built-in micro controller controls and senses various vital components.

## Automatic Operation

- The purifier automatically shuts off when the storage tank is full
- The purifier does not start if the inlet water supply pressure falls below 4.267 (psi/10°cm<sup>2</sup>)
- The purifier automatically restarts when the water level drops below the maximum
- The purifier does not allow any water rejection in absence of electricity/when tank is full

## Installation Instructions

The AMI Ultimate Mineral RO™ Water Purifier is a product of advanced technology, which ensures safe and clean drinking water. The purifier is easy and convenient to install.

Recommended Site Preparations:

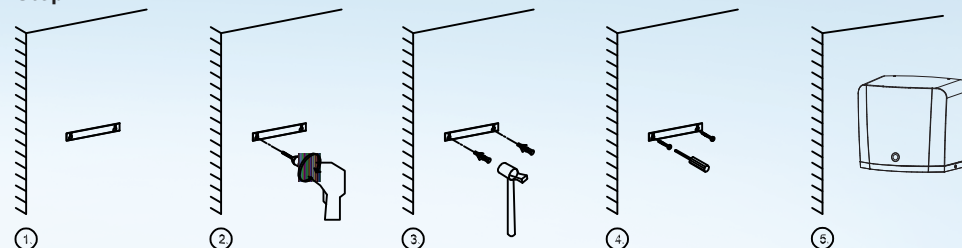
- Single Phase 100-250 V AC, 50-60 Hz. connection not more than 118 inches away from the point of installation of the purifier
- Raw water supply with 1/2 inch nipple not more than 3 meters away
- Drain for rejected water not more than 3 meters away
- Space as per the dimensions of the purifier
- Wall/plane surface for optional mounting two screws and holding the machine or set on sink cabinet surface
- The system and installation must comply with state and local laws & regulations

Specific Instructions:

- AMI Ultimate Mineral RO™ Water Purifier is an optionally wall mountable purifier. Avoid installation on wooden and metallic stands
- It is preferable to install the purifier under or near a sink so that the inlet and reject water lines are easily available

## Installation Procedure:

### Step-1

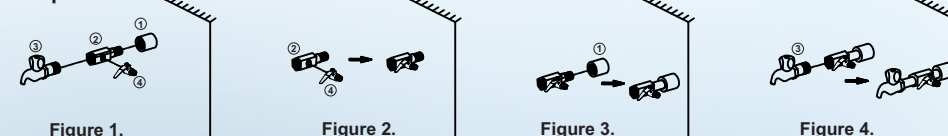


1. Paste the central drill sticker on a wall as per your convenience.
2. Ensure that the sticker is pasted straight on the wall, then drill holes as per the space provided on the sticker
3. Now, insert the puff up with the help of a hammer
4. Screw in two 10X50 self-taping screws, 5.4 inches (138 mm) apart horizontally
5. Carefully hang the purifier on the wall with the help of wall-mounting slot holes provided on back side of the purifier

Note:

1. If the wall is not straight or the screws are not properly drilled in an even position, it will damage your purifier
2. Keep the device away from heat or direct sunlight

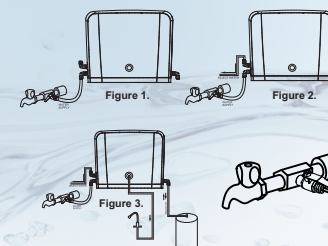
### Step-2



1. First fix the SS ball valve (marked no. 4) to the 1/4 inch port of the 3-way connector (marked no. 2) shown in figure 2.
2. Connect the 3-way connector to the raw water supply (marked as no. 1) as shown in the figure 3. The 3-way connector is fitted in line with the raw water supply.
3. The other end of the 3-way connector can be connected to a tap (marked no.3) as shown in figure 4 or can be plugged off if not required.

### Step-3

1. Now connect one end of the white pipe to the SS ball valve and the other end to the upper push-fit elbow fitting to the left hand side of the purifier labeled WATER IN, as shown in figure 1.
2. Similarly, connect one end of the white pipe to the lower elbow fitting connector labeled REJECT WATER and connect the other to the drain saddle assembly, as shown in fig 2.
3. Now connect one end of white pipe to push fit elbow fitting to the right hand side of purifier and the other end to the 90 degree ball valve fitted in the tank as shown in fig 3.



### Step-4

Before connecting the power supply, it is important that you perform the following functions:

1. Open the SS ball valve (handle parallel to the ball valve) to start the flow of water into the purifier, as shown in the figure.
2. Wait for 2-3 minutes to ensure that the filters are soaked in water.

### Step-6

Drill a 1/4" hole in the drain pipe, just below the sink. Install the Drain Clamp by first applying the foam gasket inside the front half of the drain saddle. Punch out the cut-out hole in the center of the pad, remove the adhesive backing, and adhere to the inside of the drain saddle, ensuring the holes are aligned. Align the hole drilled in the drain pipe with the hole in the drain saddle. Use Phillips screwdriver to tighten the clamp. Avoid over-tightening. Insert tubing from the Reject Water line to the quick connect fitting on the drain line and check the seal.



### Step-5

1. Connect the power supply.
2. Installation is complete.

## TDS Adjustment\*

- Turning the screw of the valve anti-clockwise results in increased mineral content.
- Turning the screw of the valve clockwise results in decreased mineral content.



We recommend keeping the TDS at lowest but not below 50mg/l.

## Starting Up the Purifier

- Switch on the power supply
- Wait till the storage tank completely fills up\*\*
- Switch off the power supply
- Drain the storage tank by opening the faucet, so as to remove any dust particles present in the pipes and storage tank
- Close the faucet and switch on the power supply
- The purifier is ready to use

## Maintenance

To ensure that the purifier operates at its optimum level, routine maintenance must be performed. The frequency of the maintenance will greatly depend upon the raw water quality and consumption of treated water.

- The storage tank can be drained if not in operation for an extended period. To do so, switch off the power supply, open faucet and allow the water to drain. Then, close the faucet and switch on the power supply.
- Replace the sediment, activated carbon and post carbon filter when the filter change alarm is audible,

or after every 12 months. It is recommended to change the Flow Restrictor when the filters are replaced

- Replace the RO membrane once every year
- Replace the UV Lamp once in a year
- If you are not going to use the purifier for a long time (in case you are on a holiday, tour or out of home), make sure that you disconnect the power supply, turn off the raw water supply and drain the storage tank

The reverse osmosis system contains a replaceable treatment component critical for the effective reduction of total dissolved solids and that product water shall be tested periodically to verify that the system is performing properly.

Replacement of spare parts are as under:-

H-F0833-43QC	Inline Sediment Filter 8"
M-T1808HF-ENK	RO Membrane
H-F0832-43QC	Inline Carbon Filter 8"
H-F0832-43QC Blue	Post Carbon Filter (Blue)
M-U1808	Hollow Fibre Membrane (UF)
H-RQC020	Flow Restrictor (FRT) 300/450

## Important Safety Instructions

- If the supply cord is damaged, it must be replaced by AMI genuine spare parts.
- Children should be supervised to ensure that they do not play with the appliance.

## Recommended Uses of Rejected Water

Although the rejected water has high concentration of salts, it is absolutely clean and free from impurities like chlorine, dirt, sand, etc. This rejected water usually goes down the drain but can be used for cleaning utensils & mopping the floor.

We recommend AMI RO Reject Water Storage Tank can be purchased separately to store & use RO reject water.

## Technical Specifications

PRODUCT	AMI Ultimate
Product Code	HD-81UM
Product Generic Name	Water Purifier
Product Colour	White
Applications	Suitable for purification of brackish / Tap water / Municipal Corporation Water
Purification Production Rate	5.28 (gal/hr.*)
Body Material	ABS Food Grade Plastic
Mounting	Wall Mounting
Dimensions (inches)	16.1 (L) x 10.4 (W) x 11.7 (H)
Inlet Water Pressure/Temp (Min.)	4.267 (psi/10°C)
Inlet Water Pressure/Temp (Max.)	56.893 (psi/40°C)
Min./Max. Operating pH	6.5-8.0
Filter Cartridge	Sediment, Carbon Block Filter, UF and Post Carbon
UV Lamp Wattage	11 W
Life of UV Lamp	5000 hrs. of operation
Weight	17.8 (lbs)
Storage Capacity	3.2 (gallons)
Maximum Duty Cycle	26.4 (gal/day)
Membrane Type	Thin Film Composite RO
Booster Pump Voltage	24V DC
Total Power Consumption	60 (W)
Input Power Supply	Single Phase 100-250 V AC, 50-60Hz. ☐

\* Treatment capacity tested for tap water having TDS level of 750ppm at room temperature.