Instruction Handbook for Installation, Operation and Maintenance.

Reverse Osmosis Water Purifier with UV Sterilization & TDS Controller
Dear Customer,

At the outset, allow us to thank you for your trust in KENT water purifier. We take pride in our reputation for product quality and industry-proven performance. We are certain that your decision to own KENT Pearl Mineral 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.

You can look forward to years of trouble-free service. To ensure that the warranty of your water purifier is effective, it is important that you fill up the enclosed warranty card and mail us the installation report within 15 days of purchase. In case you need any further information, contact your nearest KENT dealer or branch.

Best Wishes,

KENT RO SYSTEMS LTD.

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KENT TECHNOLOGY - A Breakthrough in Water Purification*

KENT proudly presents KENT Pearl Mineral RO™ Water Purifier its new and advanced domestic water purifier based on the patented KENT Technology. The ground-breaking KENT Technology, developed at KENT laboratory, broadly comprises of state-of-the-art RO-UF+UV with TDS Control & Auto-Flushing System. The initial purification by RO membrane having porosity as thin as 0.0001 microns reduces even dissolved impurities (hard salts, heavy metals etc.). Double purification by UV process ensures complete protection against bacteria and viruses. Moreover, the patented TDS Control System intelligently retains essential natural minerals in the purified water; thus taking total care of your health and well-being.

KENT is pleased to introduce Zero Water Wasteage Technology™ that re-circulates rejected water to overhead tank with its own pump to make it Zero Water Wasteage RO. This unique technology helps you make water 100% pure, without wasting any water while retaining essential minerals.

Salient Features of KENT Pearl Mineral RO™ Water Purifier

- Suitable for wall-mounting or counter-top installation
- Zero Water Wasteage**
- An eye appealing design
- High purification efficiency of 20L/hr.
- Purification by RO+UV+UF with TDS Control
- Detachable tank for easy on-site cleaning on regular basis
- LED indicator for power and purification display
- Computer-controlled operation with Filter Change Alarm™ and UV Fail Alarm™
- Adjustable TDS Control System to allow TDS adjustment of purified water

Items in the Box

1. KENT Pearl Mineral RO™ Water Purifier  : 1 No.
2. 3-Way Connector  : 1 No.
3. S.S. Ball Valve  : 1 No.
4. Food Grade Pipe ½ inch (White)  : 20 Meters
5. Food Grade Pipe ¾ inch (White)  : 2.5 Meters
6. Bulk Head Union  : 1 No.
7. Fixing Clips  : 25 NOS.
9. Union Connector  : 1 No.
10. Screws & Plastic Inserts  : 2 Nos. each
11. Sticker/Center Drill  : 1 No.

* Tested & certified by TUV-SUD South Asia (P) Ltd.
**Zero Water Wasteage is based on the standard testing conditions.

Important Instructions

Avoid exposure to direct sunlight and installation in damp areas.

Make sure that the purifier is connected to normal temperature water supply only.

Avoid sharp bend in pipe. Do not block the reject water pipe.

Maximum distance between the water source and purifier should not exceed more than 3 meters.

Avoid sharp bend in pipe. Do not block the reject water pipe.

Take the storage tank clean it should be removed, cleaned and washed once in 15 days.

In case the purifier is not to be used for more than two days, kindly switch off the power supply and drain the storage tank.

Do not try to service the purifier yourself. Instead, call the service technician for help.

KENT GENUINE SPARE PARTS

Use Genuine KENT Spares for optimum performance.
Reverse Osmosis Process

The Reverse Osmosis process, also known as hyperfiltration, is the finest filtration process known till date. The process ensures reduction in 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, the water pressure applied to the concentrated side forces the process of osmosis into reverse. Under enough pressure, purer 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 does not get accumulated as in a traditional filter.

UV Process

The UV light has shorter wavelength (higher energy) than visible light. It is called ultra-violet because it is just beyond violet light in the light spectrum. Technically, ultra-violet light is defined to be of 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 itself. Thus, it is essentially killed and cannot cause infection. This process of DNA modification is called inactivation.

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 the following benefits:

- Lowers rejected water outflow
- Improves “TDS” rejection rate i.e. increases the RO membrane’s efficiency
- Extends the life of the RO membrane
UV Fail Alarm*

**KENT Pearl Mineral RO™ Water Purifier** has an in-built feature that sounds an audible alarm if the UV lamp malfunctions. This feature is provided to ensure purer water. This UV Fail Alarm would sound as follows:

Two short beeps after every two seconds.

2 Sec. 2 Sec. 2 Sec. 2 Sec. 2 Sec.

In case such an alarm is audible, kindly switch off the purifier and call the service technician for help. The purifier will stop its purification process in such a circumstance.

Filter Change Alarm*

**KENT Pearl Mineral RO™ Water Purifier** has an in-built feature that sounds an audible alarm to indicate replacement time for filters. This alarm will audible after 700 hrs. of use since the last filter change (or since the time of installation). The Filter Change Alarm will sound as follows:

4 short beeps after every two seconds; for 30 seconds. The alarm will repeat after every 2 hours of use.

30 Sec. 2 Hours 30 Sec.

In case such an alarm is audible, please call the service technician and request him to change the filters of the purifier. However, if the filters are not changed within the next 60 hours of operation, the purifier will stop functioning to ensure purity and hygiene. The following alarm will be audible after 60 Hrs. A continuous beep for an infinite time.

In case, such an alarm is audible, kindly switch off the purifier and call the service technician to replace the filters. In such a circumstance, the purifier will not function unless the filters are changed.

Computer Controlled Operation*

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

1. **UV Stabilisation Delay:** To ensure that the UV lamp is pre-heated and is working at its optimum level before it is disinfected water, the controller provides a two seconds delay to 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.

2. **Purification Delay:** To ensure that the deionized 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 UV chamber. After this delay, all other electrical devices such as booster pump and solenoid valves are switched on to start normal purification process.

3. **Audible Alarm:** The controller also controls the timing of UV Fail Alarm and the Filter Change Alarm.

**Automatic Operation**

- The purifier automatically shuts off when the storage tank is full.
- The purifier automatically flushes & cleans the RO membrane on periodic intervals.
- The purifier does not start when inlet water supply pressure falls below 0.3 Kg/cm².
- The purifier automatically restarts when water level drops below the maximum.
- The purifier does not allow any water rejection in absence of electricity/when tank is full.

* Tested & certified by TUV-SUD South Asia (P) Ltd.
Cleaning the Water Tank

Switch off the power supply
Open the upper cover
Remove the water tank
Remove the tank cover/d.
Clean it under a running tap water and wipe dry.

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.
* Tested & Certified by TUV-SUD South Asia (P) Ltd.
** Tested or certified flushing time - 24hrs.

Replacement of spare parts are as under:-
-20010 SP Inline Sediment Filter 8".
-20009 SP Inline Carbon Filter 8".
-20529 SP RO Membrane.
-20015 SP PostCarbon Filter (Blue).
-20003 SP Hollow Fibre Membrane (RO).
-20020 SP FRT300/450.

Note: Filters and membrane are consumables. Their replacement time is dependent on the quality of raw water and water consumption. They are not covered under the warranty. However, if a filter choked within six months and a membrane within a year, it will be cleaned, repaired and replaced free of cost. Changing the filters and system inspection is available on call. The treatment capacity of RO membranes will reduce with time due to clogging of pores of membranes.

"This Reverse Osmosis system contains a replaceable component critical to the efficiency of the system. Replacement of the reverse osmosis component should be with one of identical specifications as defined by the manufacturer to ensure the same efficiency and contaminant reduction performance."

Important Safety Instructions
- If the supply cord is damaged, it must be replaced by the original part in order to avoid hazard.
- Children should be supervised to ensure that they do not play with the appliance.
- This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

Warning
- Do not operate the UV-C emitter when it is removed from the appliance enclosure.
- Read the maintenance instructions before opening the appliance.
- The appliance must be disconnected from the supply before replacing the UV-C emitter.

TDS Adjustment*
The unique TDS Control System enables customers to retain the contents of natural minerals (TDS) in purified water as per their 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

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

Starting-up the purifier
- Switch on the power supply
- Allow the storage tank to fill to the maximum level
- Switch off the power supply
- Open the upper cover, lift & drain the storage tank to remove residual dust/particles present in the pipes and storage tank
- Place back the storage tank and close the upper cover
- Switch on the power supply
- Purifier is ready to use

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

- Storage tank must be cleaned once in 2 weeks. (Refer cleaning the water tank)
- Replace the sediment filter, activated carbon filter & post carbon filter once in 12 months or whenever the filter clog alarm activates. It is recommended to change FRT along with the filters
- Replace the RO membrane once in a year
- Replace the UV lamp once in a year
- In the event of not using purifier for a long time (while going for a holiday, tour etc.), make sure that you disconnect the power supply, turn off the raw water supply and drain the storage tank

The replacement time of consumables such as filters and membrane is dependent on the quality of raw water and water consumed.
## Technical Specifications

<table>
<thead>
<tr>
<th>Product</th>
<th>KENT PEARL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Product Code</strong></td>
<td>11098</td>
</tr>
<tr>
<td><strong>Product Generic Name</strong></td>
<td>Water Purifier</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>White</td>
</tr>
<tr>
<td><strong>Applications</strong></td>
<td>Suitable for Purification of Brackish/Tap Water</td>
</tr>
<tr>
<td></td>
<td>Municipal Corporation Water</td>
</tr>
<tr>
<td><strong>Purification Production Rate</strong></td>
<td>Up to 20 L/hr*</td>
</tr>
<tr>
<td><strong>Body Material</strong></td>
<td>ABS Food Grade Plastic</td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td>Wall-mounting/Counter-top</td>
</tr>
<tr>
<td><strong>Dimensions (mm)</strong></td>
<td>380 (L) x 330 (W) x 465 (H)</td>
</tr>
<tr>
<td><strong>Inlet Water Pressure/Temp (Min.)</strong></td>
<td>0.3 kg/cm²/10°C</td>
</tr>
<tr>
<td><strong>Inlet Water Pressure/Temp (Max.)</strong></td>
<td>4 kg/cm²/40°C</td>
</tr>
<tr>
<td><strong>Min/Max. Operating pH</strong></td>
<td>6.5-8.0</td>
</tr>
<tr>
<td><strong>Filter Cartridge</strong></td>
<td>Sediment, Activated Carbon, UF, Post Carbon</td>
</tr>
<tr>
<td><strong>Auto Flushing System</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>UV Lamp Wattage</strong></td>
<td>11 W</td>
</tr>
<tr>
<td><strong>Life of UV Lamp</strong></td>
<td>5000 hrs of Operation</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>10.80 kg</td>
</tr>
<tr>
<td><strong>Storage Capacity</strong></td>
<td>8 L</td>
</tr>
<tr>
<td><strong>Maximum Duty Cycle</strong></td>
<td>100 L/day</td>
</tr>
<tr>
<td><strong>Membrane Type</strong></td>
<td>Thin Film Composite RO</td>
</tr>
<tr>
<td><strong>Booster Pump Voltage</strong></td>
<td>24 V DC</td>
</tr>
<tr>
<td><strong>Total Power Consumption</strong></td>
<td>60 W</td>
</tr>
<tr>
<td><strong>Input Power Supply</strong></td>
<td>Single Phase 100-250 V AC, 50-60 Hz</td>
</tr>
</tbody>
</table>

*Purification capacity tested on tap having TDS level of 750 ppm at room temperature.

### Testing Information

The System has been tested according to IS 10500:2012 (Standards for drinking water as per Bureau of Indian Standards) for reduction of the hazardous substances.