

**KENT**  
**SUPERB ALKALINE**  
SMART RO PURIFIER WITH TOUCH PANEL

Instruction Handbook for  
Installation, Operation and Maintenance



Interactive Touch Panel with Digital Display of Minerals & Purity



Increases  
pH level of water  
to 8.0 - 9.5



Marketed by:

**KENT RO SYSTEMS LTD.**

E-6, 7 & 8, Sector-59, Noida, U.P.-201 309, India.  
E-mail: sales@kent.co.in | Website: www.kent.co.in

Manufactured by:

**KENT RO SYSTEMS LTD.**

1) Khasra No. 93, Village-Bantakhedi, Tehsil-Roorkee,  
District-Haridwar, Uttarakhand-247 668, India.

2) A-6, Sector-87, Noida-201 305, U.P., India.

For customer complaints, contact our Customer Care Officer at:  
E-6, 7 & 8, Sector-59, Noida, U.P.-201 309, India. Call: 92-789-12345  
E-mail: service@kent.co.in or visit us at www.kent.co.in



**KENT® TECHNOLOGY**

Removes Dissolved Impurities  
Retains Essential Minerals  
Multiple Purification  
Alkaline Water

RO + UV + UF + Alkaline + TDS Control + UV in Tank



Kent Deta Hai

**Sabse  
Shudh Paani**

# Welcome to KENT

Dear Customer,

At the outset, allow us to thank you for your trust in **KENT** water purifiers. We take pride in our reputation for product quality and industry proven performance. We are certain that your decision to own a **KENT Superb Alkaline 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.

You can look forward to years of trouble free service.

Best Wishes,

KENT RO SYSTEMS LTD.

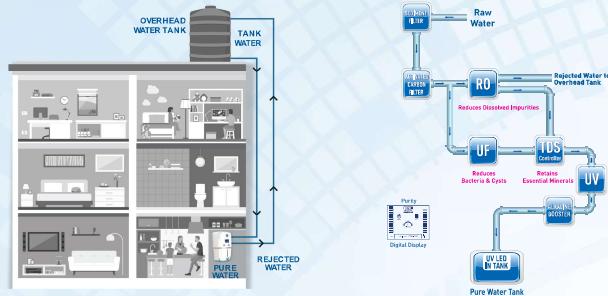
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## KENT TECHNOLOGY - A Breakthrough in Water Purification\*

Presenting the **KENT Superb Alkaline 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 **KENT Superb Alkaline Mineral RO™** Water Purifier is a Reverse Osmosis membrane having capillaries as small as 0.0001 microns, which reduces dissolved impurities (salts and heavy metals) and converts hard water to sweet and pure drinking water. With a patented mineral retention system, the **KENT Superb Alkaline Mineral RO™** Water Purifier allows the user to control the Total Dissolved Solids (TDS) level in the purified water.



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

### Salient Features of KENT Superb Alkaline Mineral RO™ Water Purifier

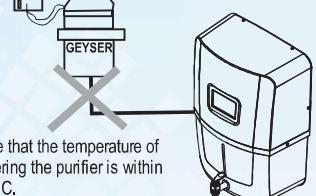
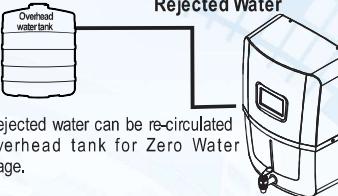
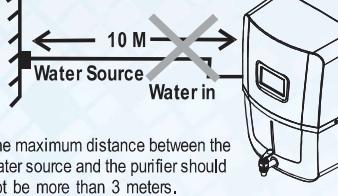
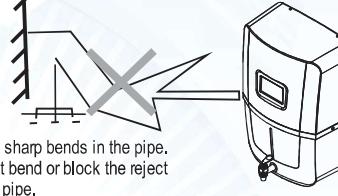
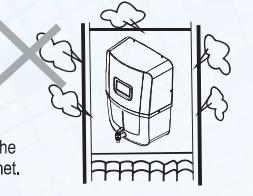
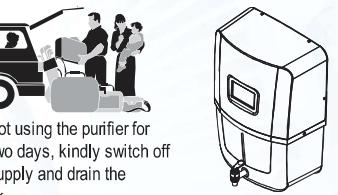
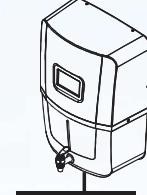
- Zero Water Wastage\*\*
- Multiple purification by RO + UV + UF + Alkaline + TDS Control
- Water purifier with UV disinfection in storage tank keeps purified water pure
- Increases pH levels to 8.0 - 9.5
- Reduces ORP, improves anti-oxidation ability
- Reduces any other odour from the water
- Interactive touch screen display for real time monitoring of purity, performance and service history
- Built-in digital interface displays purified water flow rate
- Inbuilt TDS Controller which allows adjustment of TDS level of purified water
- Inbuilt Auto-Flushing system
- Suitable for purification of brackish / tap water/Municipal Corporation Water Supply
- Wall mounted design; best suited for Indian homes and offices
- 9 L storage tank with water level indicator
- Fully automatic operation, with auto-on and auto-off function
- Computer controlled operations 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

### Items in the Box

1. KENT Superb Alkaline Mineral RO™ Water Purifier	: 1 No.	7. Fixing Clips	: 25 Nos.
2. 3-Way Connector	: 1 No.	8. Tie Wire 4 inch	: 4 Nos.
3. S.S. Ball Valve	: 1 No.	9. Union Connector	: 1 No.
4. Food Grade Pipe (White) 3/8 inch	: 2.5 Meters	10. Screws & Plastic Inserts	: 2 Nos. each
5. Food Grade Pipe (White) 1/4 inch	: 20 Meters	11. Sticker Center Drill	: 1 No.
6. Bulk Head Union	: 1 No.	12. Warranty Card	: 1 No.

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

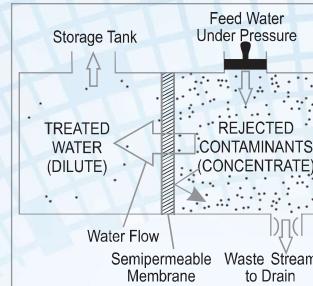
### Important Instructions

 <p>Avoid exposure to direct sunlight and installation in damp areas.</p>	 <p>Make sure that the temperature of water entering the purifier is within 10°C-40°C.</p>
 <p>The rejected water can be re-circulated to overhead tank for Zero Water Wastage.</p>	 <p>The maximum distance between the water source and the purifier should not be more than 3 meters.</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>To keep the storage tank clean, it should be drained once in 15 days.</p>
<p><b>KENT</b></p> <p><b>GENUINE</b> SPARE PARTS</p>	 <p>Use Genuine KENT Spares for optimum performance.</p> <p>Do not try to service the purifier on your own. Instead, call service technician for help.</p>

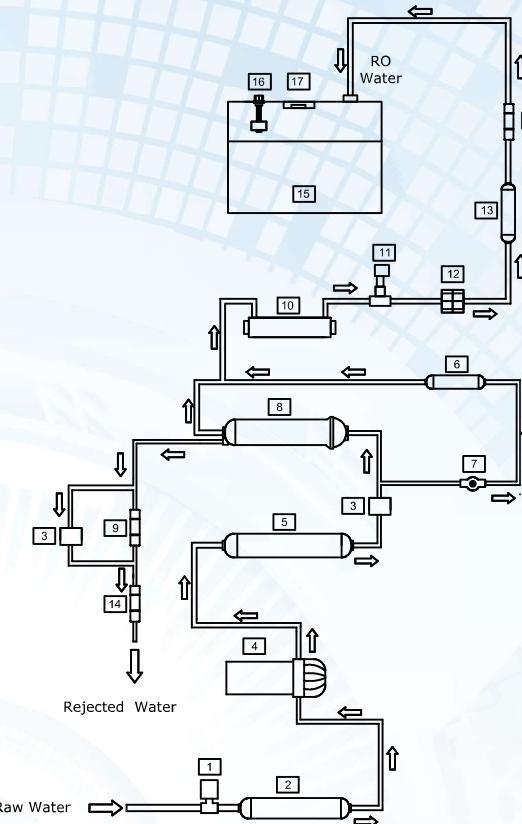
## Reverse Osmosis Process

The Reverse Osmosis process, also known as

hyper filtration, is the finest filtration process known till 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.



## Water Flow Diagram

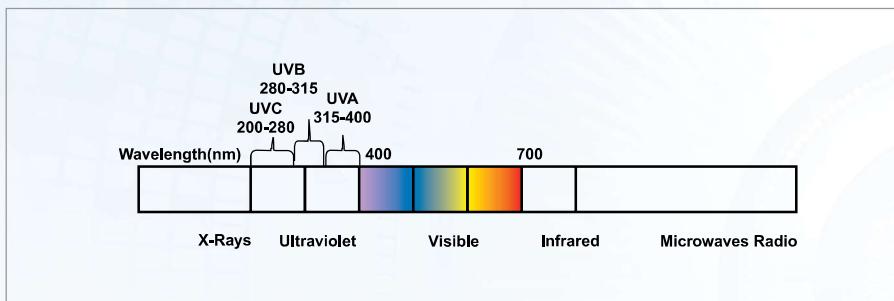


S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	20035	LOW PRESSURE SWITCH
2	20010	SEDIMENT FILTER
3	20028	SOLENOID VALVE
4	20005	BOOSTER PUMP
5	20009	ACTIVATED CARBON FILTER
6	20003	UF FILTER
7	20034	TDS CONTROL VALVE
8	20529	RO MEMBRANE
9	20020	FLOW RESTRICTOR TUBE
10	20541	UV CHAMBER
11	20441	TDS SENSOR
12	20442	FLOW SENSOR
13	20575	POST CARBON+ ALKALINE FILTER
14	20058	NON RETURN VALVE
15	20373	WATER STORAGE TANK
16	20030	WATER LEVEL SENSOR
17	20621	UV LED

## UV Process

The ultra-violet (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 any wavelength of light, which is shorter than 400 nanometer.

UV rays, which penetrate into micro-organisms, are absorbed by the DNA of 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.



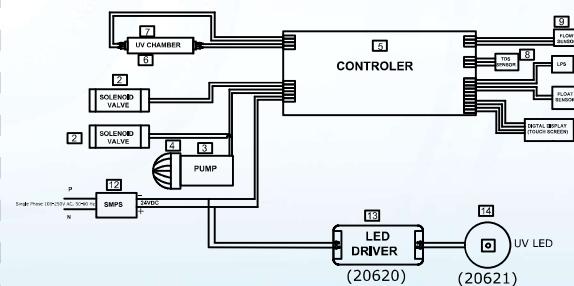
Note: The purified water stored in the tank is disinfected using UV LED, which automatically switches on for 30 minutes in a two hour cycle.

## 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 surfSupreme 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

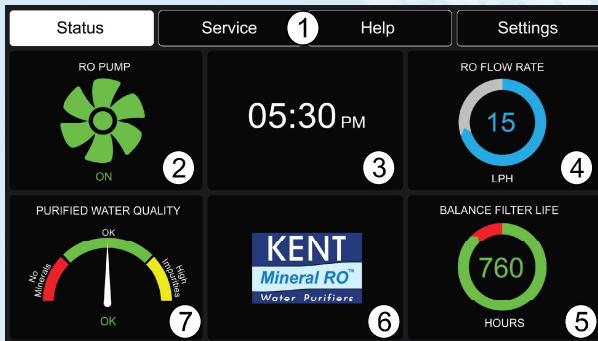
## Electrical Circuit Diagram



S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	20035	LOW PRESSURE SWITCH (LPS)
2	20028	SOLENOID VALVE
3	20005	BOOSTER PUMP
4	20059	PUMP HEAD
5	20450	COMPUTER CONTROL BALLAST
6	20541	UV CHAMBER
7	20540	UV LAMP
8	20441	TDS SENSOR
9	20442	FLOW SENSOR
10	20030	WATER LEVEL SENSOR
11	20449	TOUCH SCREEN ASSEMBLY
12	20016	SMPS
13	20620	LED DRIVER
14	20621	UV LED

## KENT Smart RO Operation

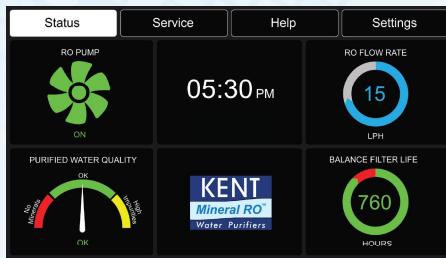
### Touch Screen Explained



1. Navigation Tabs
2. RO Pump Status
3. Time
4. RO Flow Rate
5. Balance Filter Life
6. Warning/OK Display
7. Purified Water Quality Display

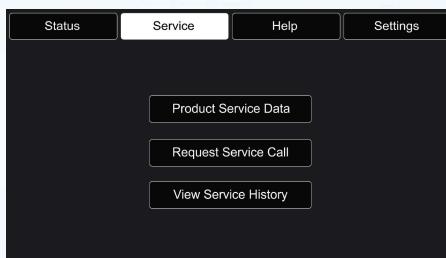
### Navigation Tabs

#### i. Status Tab



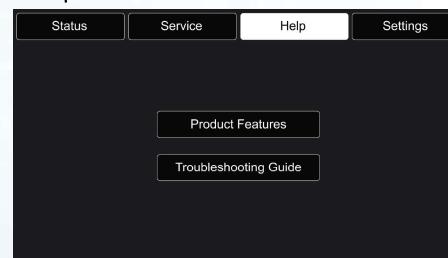
- Under normal working conditions and without any fault, the user will be greeted with the screen shown in figure 1. Upon touching any display, the details would be displayed on full screen.
- When the storage tank gets filled, the RO pump will turn off without flow rate. It would be indicated as shown in figure 2

#### ii. Service Tab



- In the Service Tab, Product Service and Product Installation details are entered during installation or during service
- This section is for service technician or official purpose only

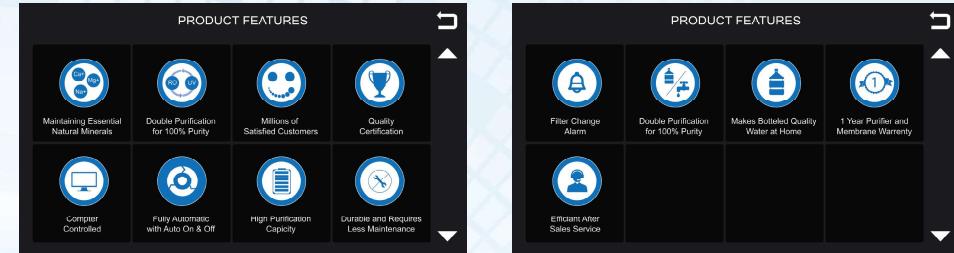
#### iii. Help Tab



- Help Tab has two sub menus
  - a. Product Feature: Describes the product and its features
  - b. Troubleshooting Guide: Lists and describes common faults and their remedies

### a. Product Features

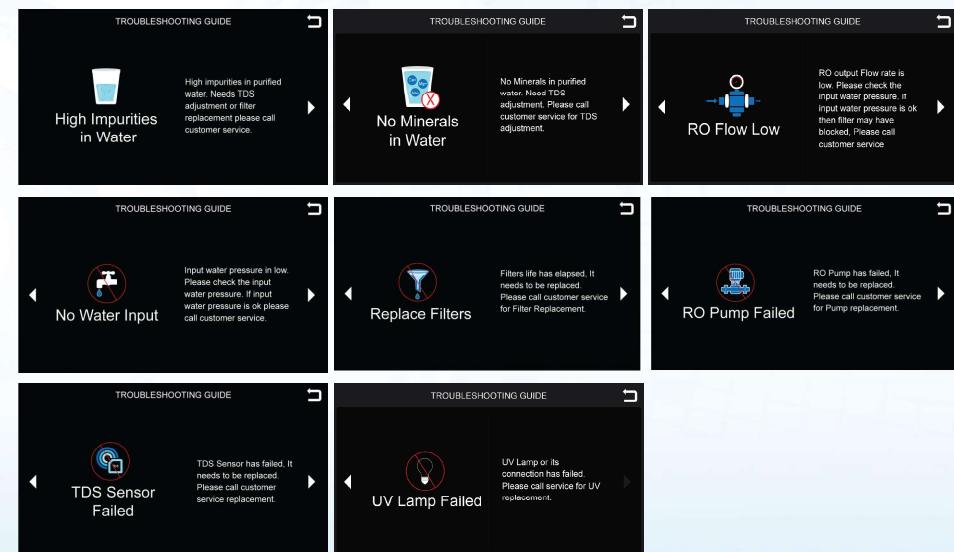
- Clicking on the product features sub menu will open a new window with features listed across. The screen displays 8 features (per screen), neatly arranged in a 4 x 2 grid
- Scroll down to know about other features. Clicking on any of the icons will open a new window giving details of the features selected
- To move back to the previous screen, click on the return arrow icon



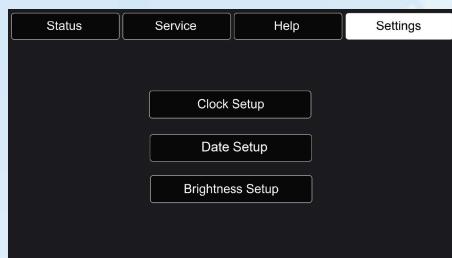
**Note:** If no input is provided for more than 30 seconds, the display will automatically reset to the home screen.

### b. Troubleshooting

- Clicking on the troubleshooting icon will open a new window listing out the most common faults and explaining each one in detail
- Use the arrow button to move to the next screen
- To go back to the previous menu, click the return arrow at any point of time



### iii. Settings Tab



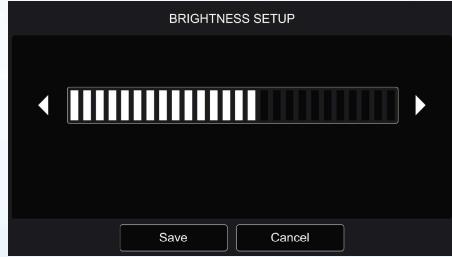
#### a. Clock Setup



#### b. Date Setup



#### c. Brightness Setup



**Note:** To go back to the settings menu click the return arrow or cancel button.

## Computer Controlled Operation

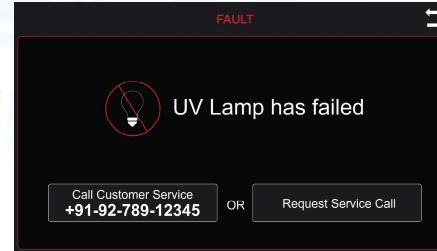
To ensure delivery of purer and healthier water, a micro-processor is installed in the purifier that performs the following functions:-

**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.

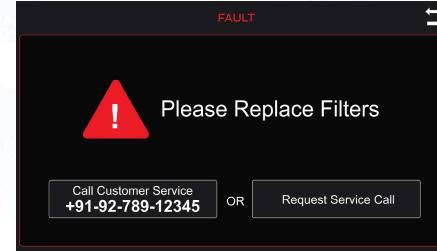
**Alarm:** To ensure delivery of purer water, KENT Superb Alkaline in-built micro controller controls and senses various vital components and displays their status on the digital interface.

### UV Lamp Failure



If the interface shows a UV failure message, switch off the purifier and call a service technician for help.

### Filter Replacement



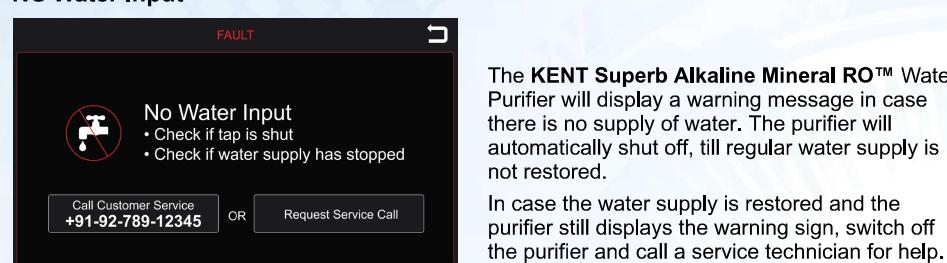
On completion of filter life a 'Replace Filter Message' will be displayed on the screen, and the purifier would stop purifying water till the Filter is replaced.

If the interface shows 'Replace Filter Message', switch off the purifier and call a service technician for help.

## TDS in Purified Water



- Note:** If the interface displays any warning, switch off the purifier and call a service technician for help.
- NO Water Input**



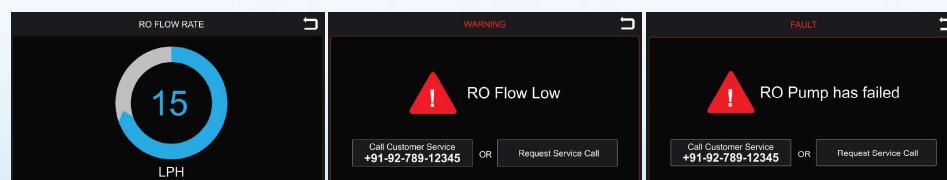
## RO Pump Status display



KENT Superb Alkaline Mineral RO™ Water Purifier will display a status of RO pump on a real time basis.

- Whenever the RO pump is on and working, it would be displayed in 'GREEN colour'.
- When RO pump is off and not working, it would be displayed in 'RED colour'.

## RO Flow Rate display



KENT Superb Alkaline Mineral RO™ Water Purifier measures and displays RO Flow on a real time basis.

- If the RO flow rate falls below the normal flow rate, the Smart System would show 'RO Flow Low' warning.
- If there is a RO pump failure, the system would show 'RO pump has failed' warning, and the purifier would shut down

**Note:** If the interface displays any warning, switch off the purifier and call a service technician for help.

## 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 0.3 kg/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 KENT Superb Alkaline 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 3m away from the point of installation of the purifier
- Raw water supply with ½ inch nipple not more than 3m away
- Drain for rejected water not more than 3m away
- Space as per the dimensions of the purifier
- Wall/plane surface for mounting two screws and holding the machine
- The system and installation must comply with state and local laws & regulations

### Specific Instructions:

- KENT Superb Alkaline Mineral RO™ Water Purifier is a wall mountable purifier. Make sure that it is only mounted on a wall. Avoid installation on wooden and metallic stands
- For optimum performance and minimum inlet pressure required, ensure that the raw water supply tank is at least 10 ft. above the purifier
- It is preferable to install the purifier near a sink so that the inlet and reject water lines are easily available

## UV Fail Alarm\*

KENT Superb Alkaline 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 purity. This UV Fail Alarm will sound as follows:

Single short beeps after every two seconds. The purifier will stop its purification process in such a circumstance.



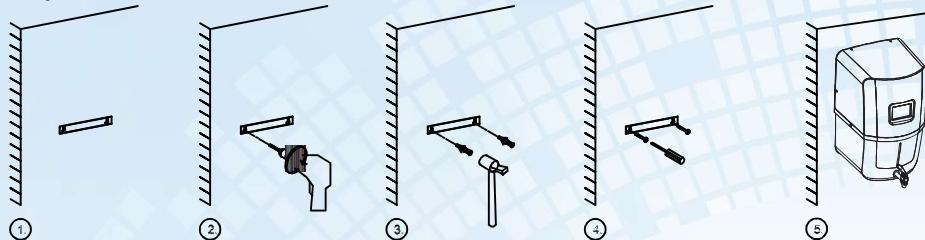
In case of UV LED failure it sounds an alarm with two beeps.



In case such an alarm is audible, call the service technician for help.

## Installation Procedure

### Step-1

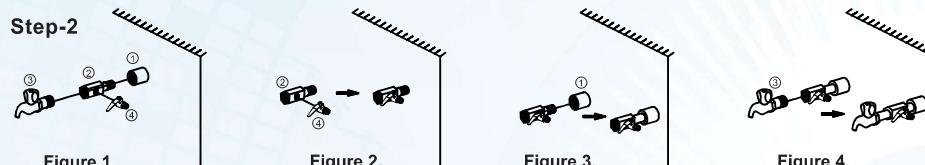


- Paste the central drill sticker on a wall at 3.6 Feet to 4.0 Feet from the ground as per your convenience.
- Ensure that the sticker is pasted straight on the wall, then drill holes as per the space provided on the sticker.
- Now, insert the puff up with the help of a hammer.
- Screw in two 10X50 self-taping screws, 7.6 inches (192 mm) apart horizontally.
- Carefully hang the purifier on the wall with the help of wall-mounting slot holes provided on back side of the purifier.

### Note:

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

### Step-2



- 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.
- 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.
- 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

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

### Step-4

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

- 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.
- Wait for 2-3 minutes to ensure that the filters are soaked in water.

### Step-5

Connect the power supply.

Installation is complete.

## Wall Hanging Diagram

## 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 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 drain plug present at the bottom of

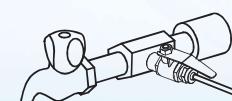
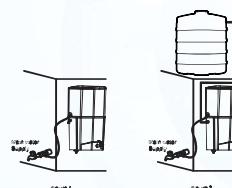
the storage tank, so as to remove any dust particles present in the pipes and storage tank

- Close the drain plug and switch on the power supply
- The purifier is ready to use

## Recommended Uses of Rejected Water

Although the rejected water has high a concentration of salts, it can be used for gardening purposes. It has a high concentration of salts and minerals which accelerate

plant growth. Rejected water can also be used for cleaning purposes, i.e. cleaning utensils, mopping, etc.



## 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 must be drained once in 2 weeks. To do so, switch off the power supply, open the drain plug at the bottom of the tank and allow the water to drain. Then, screw back the plug 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 FRT 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

\* Tested & certified by TUV-SUD South Asia (P) Ltd.

\*\* Tested or certified flushing time - 24hrs.

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:-

-20010	SP	Inline Sediment Filter 8"
-20009	SP	Inline Carbon Filter 8"
-20529	SP	RO Membrane
-20575	SP	Post Carbon + Alkaline Filter
-20003	SP	Hollow Fibre Membrane (RO)
-20020	SP	FRT 300/450

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

"This reverse osmosis system contains a replaceable component critical to the efficiency of the systems. 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.

### Technical Specifications

Product	KENT Superb Alkaline
Product Code	11116
Product Generic Name	Water Purifier
Product Colour	White
Applications	Suitable for purification of brackish / tap water / Municipal Corporation Water
Purification Production Rate	20 L/hr.*
Body Material	ABS Food Grade Plastic
Mounting	Wall Mounting
Dimensions (mm)	410 (L) x 260 (W) x 520 (H)
Inlet Water Pressure/Temp (Min.)	0.3 kg/cm <sup>2</sup> / 10°C
Inlet Water Pressure/Temp (Max.)	4 kg/cm <sup>2</sup> / 40°C
Min./Max. Operating pH	6.5-8.0
Filter Cartridge	Sediment, Carbon Block Filter, UF & Post Carbon + Alkaline Filter
UV Lamp Wattage	11W
UV LED Wattage	0.7W
Life of UV Lamp	5000 hrs. of operation
Weight	8.80 kg
Storage Capacity	9L
Maximum Duty Cycle	100L/day
Membrane Type	Thin Film Composite RO
Booster Pump Voltage	24V DC
Total Power Consumption	60W
Input Power Supply	Single Phase 100-250 V AC, 50-60 Hz. □
IP Rating	IPX1

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