



HOUSE of PURITY



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Made in India

KENT Supreme Star-B

RO + UF + UV + ALKALINE + COPPER + TDS CONTROL + UV IN TANK



HOUSE of PURITY

Instructions Handbook



Meets
IS 16240 :
2023



Digital Display of
Purity & Minerals

KENT® TECHNOLOGY

Removes Dissolved Impurities
Retains Essential Minerals
Multiple Purification with Purity in Every Drop
RO + UF + UV + Alkaline + Copper + 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 purifier. We take pride in our reputation for product quality and industry proven performance. We are certain that your decision to own KENT Supreme Star-B 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 familiarise yourself with its operation and maintenance.

Best Wishes,

KENT RO SYSTEMS LTD.

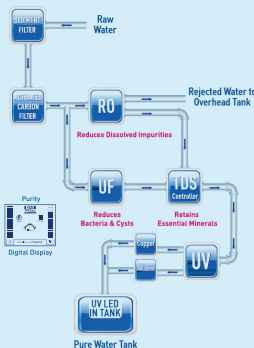
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KENT TECHNOLOGY - A Breakthrough in Water Purification*

Presenting the KENT Supreme Star-B 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 Supreme Star-B Mineral RO™ Water Purifier is a Reverse Osmosis membrane having capillaries 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 KENT Supreme Star-B Mineral RO™ Water Purifier allows the user to control the Total Dissolved Solids (TDS) level in the purified water.



Salient Features of KENT Supreme Star-B Mineral RO™ Water Purifier

- Water purifier with UV Disinfection in tank to keep purified water pure
- Purification by RO+UF+UV+Alkaline+ Copper+TDS Control+UV in Tank makes water pure
- RO water purifier with the goodness of Alkaline & Active Copper
- 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 Indian 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
- 9L storage tank with water level indicator
- High purification capacity of 20 L/hr.

Items in the Box

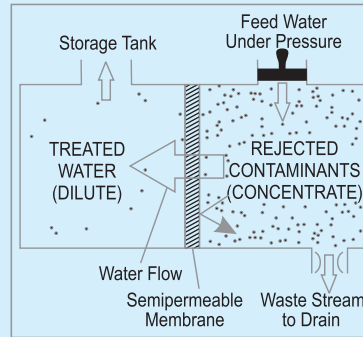
- | | | | |
|---|------------|--------------------------------|----------|
| 1. KENT Supreme Star-B Mineral RO™ Water Purifier : | 1 N | 7. Fixing Clips : | 25 N |
| 2. 3-Way Connector : | 1 N | 8. Tie Wire 4 inch : | 4 N |
| 3. S.S. Ball Valve : | 1 N | 9. Union Connector : | 1 N |
| 4. Food Grade Pipe (White) 3/8 inch : | 2.5 Meters | 10. Screws & Plastic Inserts : | 2 N each |
| 5. Food Grade Pipe (White) 1/4 inch : | 20 Meters | 11. Sticker Center Drill : | 1 N |
| 6. Bulk Head Union : | 1 N | | |

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>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 every 15 days.</p>
<p align="center">KENT</p> <p align="center">GENUINE SPARE PARTS</p> <p align="center">Use genuine KENT 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

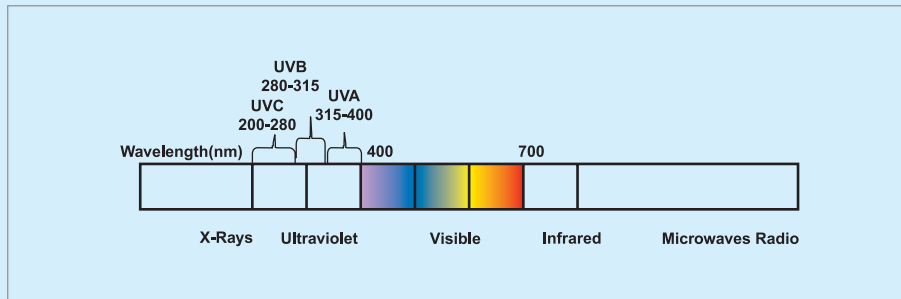
The Reverse Osmosis process, also known as hyper filtration, is the finest filtration process known till date. The process ensures the reduction of particles as small as ions from a solution. Reverse Osmosis uses a semi-permeable membrane to reduce salts from potable / brackish water. In Reverse Osmosis, 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.



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.



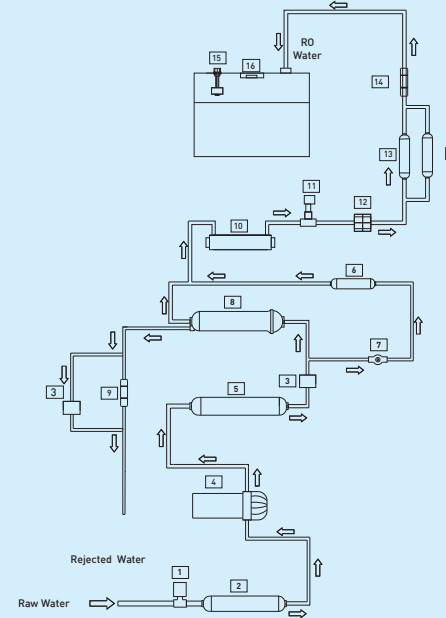
Note: The purified water stored in the tank is disinfected using UV LED, which automatically switches on for 30 minutes in a two hour cycle.

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.

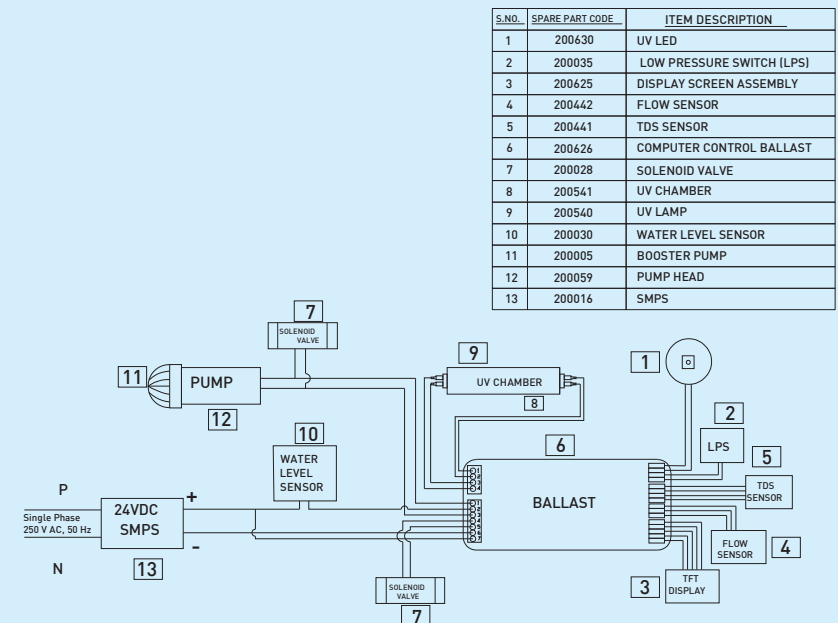
- Lowers rejected water outflow
- Improves "TDS" rejection rate i.e increases RO membrane efficiency
- Extends life of RO membrane

Water Flow Diagram



S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	200035	LOW PRESSURE SWITCH
2	200010	SEDIMENT FILTER
3	200028	SOLENOID VALVE
4	200005	BOOSTER PUMP
5	200009	ACTIVATED CARBON FILTER
6	200003	UF FILTER
7	200034	TDS CONTROL VALVE
8	200529	RO MEMBRANE
9	202202	FLOW RESTRICTOR TUBE
10	200541	UV CHAMBER
11	200441	TDS SENSOR
12	200442	FLOW SENSOR
13	200575	POST CARBON+ALKALINE
14	200058	NON RETURN VALVE
15	200030	WATER LEVEL SENSOR
16	200630	UV LED
17	201878	POST CARBON+COPPER

Electrical Circuit Diagram

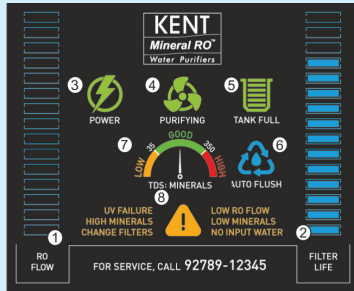


S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	200630	UV LED
2	200035	LOW PRESSURE SWITCH (LPS)
3	200625	DISPLAY SCREEN ASSEMBLY
4	200442	FLOW SENSOR
5	200441	TDS SENSOR
6	200626	COMPUTER CONTROL BALLAST
7	200028	SOLENOID VALVE
8	200541	UV CHAMBER
9	200540	UV LAMP
10	200030	WATER LEVEL SENSOR
11	200005	BOOSTER PUMP
12	200059	PUMP HEAD
13	200016	SMPS

[NOTE: The above specifications are subject to modifications for improvement without notice].

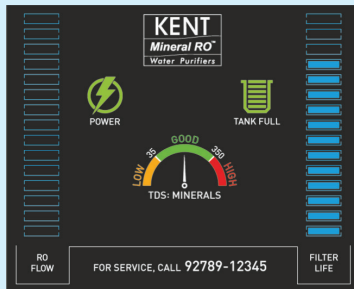
Supreme Star-B Operations

Screen Explained



1. RO Flow Indicator
2. Filter Life Indicator
3. Power On/Off
4. RO Pump On
5. Tank Full
6. Auto Flushing On
7. Mineral Content in Purified Water
8. Warning Signs

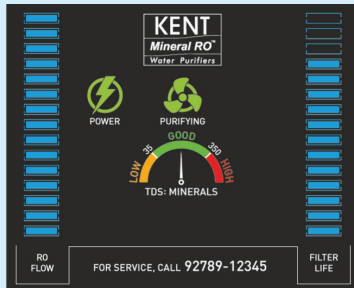
Normal Running Condition



Under normal running conditions and without any fault, the users would be greeted with a screen as shown in the figure, with Power, Tank Full, Filter Life and Water Quality Indicator On

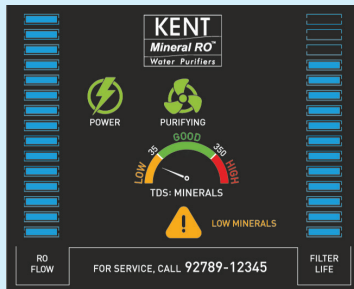
Since the tank is full, the RO flow rate would not be displayed

Emptying of Tank



When water is drawn from the tank, thus emptying it, the water tank sign would turn Off, and instead RO Flow, Purification and Mineral Quality would turn On Depending upon the mineral contents in the water, the indicator would display Low, Good or High

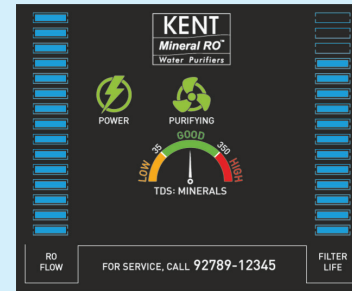
Mineral Content - Low



If the TDS level in the purified water is less than the permissible range, the indicator would be in Yellow zone i.e Low

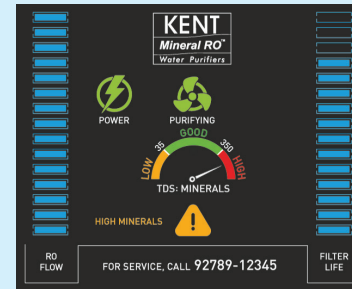
The warning sign would be displayed as shown in the figure

Mineral Content - Good



If the TDS level in the purified water is within the permissible range, the indicator would be in Green zone i.e Good

Mineral Content - High

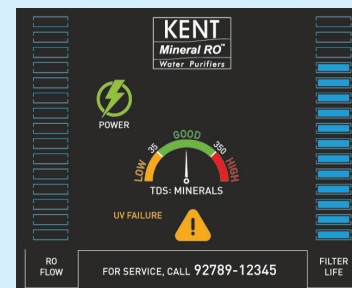


If the TDS level in the purified water is more the permissible range, the indicator would be in Red zone i.e High

The warning sign would be displayed as shown in the figure

What to do if Mineral Content is Low or High?
Call Customer Care or Login to App

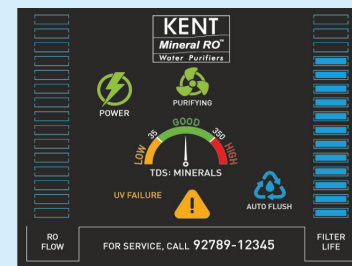
No Water Input



In case of No Water Input, the warning would be displayed, as shown in the figure.

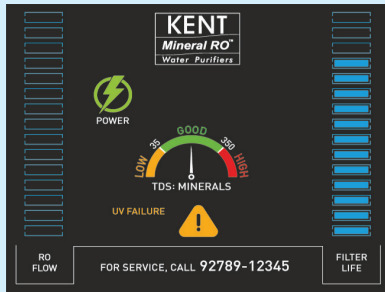
The water purifier would automatically shut off and will remain off till regular water supply is not restored

Auto-flushing



Auto Flush sign as shown in the figure indicates that RO Membrane is getting flushed automatically Once Auto-flushing is complete, the light would turn off

UV Lamp Failure/LED Failure

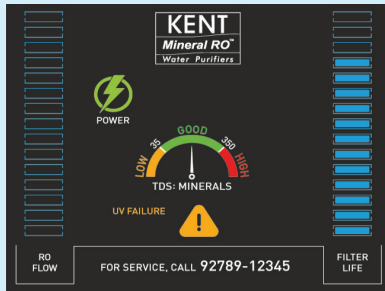


If UV Lamp fails, machine will display a warning signal of UV failure and an alarm with a single beep will be audible. The purifier would stop purifying water till the UV lamp is replaced

If UV LED fails, machine will display a blinking warning signal of UV failure and an alarm with two beeps will be audible

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

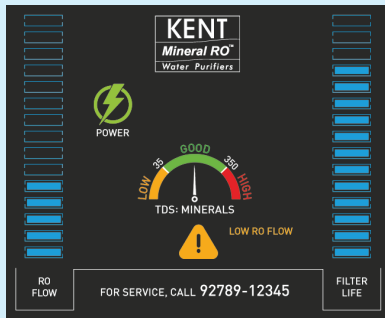
Filter Replacement



On exhaustion of filter life, 'Replacement Filter message' will be displayed on screen with a continuous buzzer and the purifier will stop purifying water till filters are not replaced

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

Low RO Flow



Low RO flow warning sign indicates reduced capacity of RO Membrane

Although the water purifier will continue working till the membrane failure happens, it is recommended to call the KENT Customer Care and ask for Membrane Replacement

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 Supreme Star-B in-built micro controller controls and senses various vital components and displays their status on the digital interface.

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/cm²
- 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 Supreme Star-B 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:

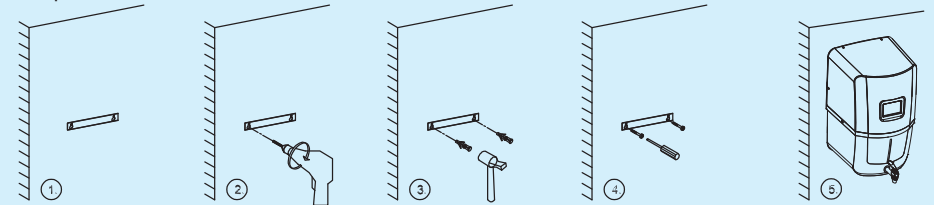
- Single Phase 250 V AC, 50 Hz. connection not more than 3m away from the point of installation of the purifier
- Raw water supply with ½ inch nipple not more than 3m away
- Drain for rejected water not more than 3m away
- Space as per the dimensions of the purifier
- Wall/plane surface for mounting two screws and holding the machine
- The system and installation must comply with state and local laws & regulations

Specific Instructions:

- KENT Supreme Star-B 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

Installation Procedure:

Step-1

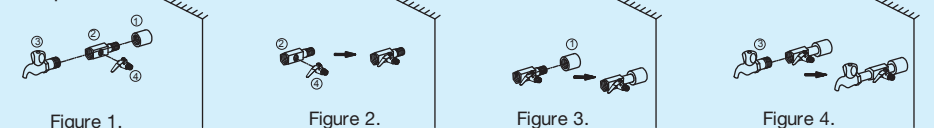


1. Paste the central drill sticker on a wall at 3.6 Feet to 4.0 Feet from the ground as per your convenience
2. Ensure that the sticker is pasted straight on the wall, then drill holes as per the space provided on the sticker
3. Now, insert the puff up with the help of a hammer
4. Screw in two 10X50 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

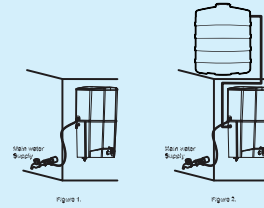
Step-2



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

Step-3

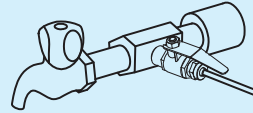
1. Another end to the upper push-fit elbow fitting to the left hand side of the purifier labelled as WATER IN, as shown in fig 1.
2. Similarly, connect one end of the white pipe to the lower elbow fitting connector in tank labelled as REJECT WATER and leave the other end in the overhead tank, as shown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



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-5

1. Connect the power supply
2. Installation is complete


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
 - TDS Meter Calibration certificate frequency is yearly.
1. Firstly, remove the protective cap from the TDS
 2. Clean the cap and fill it with water. Turn on the TDS meter and dip the head of the TDS meter to test TDS [ever of water. Alternatively, you can also do the same procedure in any dean container to test the TDS of the water.
3. Carefully immerse the meter into the water or solution up to the maximum immersion [ever, which is 2 inches. Arrow the display to stabilize; this takes 10 to 30 seconds. The TDS meter will automatically compensate for any temperature variations once the reading has stabilized. Now, press the hold button to save the stabilized reading
 4. After using the meter, ensure to shake off any meter. Excess water or gentry wipe it with a tissue to keep it dean and dry.

Starting-up the Purifier

- Switch on the power supply
 - Allow the storage tank to fill till the maximum level**
 - Switch off the power supply
 - Open the upper cover, lift and drain the storage tank to remove residual dust
- particles present inside the pipe and storage tank
 - Place back the storage tank and close the upper cover
 - Switch on the power supply
 - Purifier is ready to use

 The glowing Red LED indicates that the power is ON. The glowing Green LED indicates that the purification process is ON.

Maintenance

To ensure that the purifier operates at its best, a 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 a week (Refer Cleaning the Water Tank)
- Replace sediment filter and activated carbon filter once in 12 months or earlier if they get clogged. It is recommended to change the FRT along with the filters
- Replace RO membrane once in a year or earlier if it gets clogged
- Replace UF membrane once in a year or earlier if it gets clogged
- 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.), ensure that you disconnect the power supply, turn off the raw water supply and drain out 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:-

-200010	SP	Inline Sediment Filter 8"
-200009	SP	Inline Carbon Filter 8"
-200529	SP	RO Membrane
-200015	SP	Post Carbon Filter (Blue)
-200003	SP	Hollow Fibre Membrane (RO)
-202202	SP	FRT 350

Note: Filters and membranes are consumables. Their replacement time depends upon the quality of 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/repared/replaced free of cost. Changing the filters and system inspection membranes is available on call. The treatment capacity of RO membrane will reduce with time due to clogging of pores of membrane.

"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.

Technical Specifications

Product	KENT Supreme Star-B Alkaline + Copper
Product Code	111168B
Product Generic Name	RO Water Purifier
Product Colour	Black
Applications	Suitable for Purification of Brackish / Tap Water / Municipal Water Supply
Net Weight	8.6 kg
Production Rate	Upto 20 L/hr.*
Body Material	ABS Food Grade Plastic
Mounting	Wall-mounted
Dimensions (mm)	410 (L) × 260 (W) × 520 (H)
Recovery Rating (Min.)	40%
Reject Water Generation (Max.)	60%
Maximum Operatable Feed Water TDS	1500 mg/liter
Filter Cartridge	RO Membrane, Sediment Filter, Activated Carbon Filter & UF Membrane
UV Lamp Wattage	11 W
UV LED wattage	0.7 W
Life of UV Lamp	5000 hrs. of operation
Inlet Water Pressure/Temp (Min.)	0.3 kg / cm ² / 10°C
Inlet Water Pressure/temp (Max.)	4 kg / cm ² / 40°C
Min./Max. Operating pH	6.5-8.0
Storage Capacity	9 L
Maximum Duty Cycle	100 L/day
Membrane Type	Thin Film Composite RO
Booster Pump Voltage	24 V DC
Total Power Consumption	60 W
Input Power Supply	Single Phase 250 V AC, 50 Hz. 
IP Rating	IPX1

* Purification capacity tested for raw water having TDS level of 1500 ppm at room temperature.

Testing Information

The System has been tested according to IS 10500:2023 (Standards for drinking water as per Bureau of Indian Standards) for reduction of the hazardous substances.

Performance Data Sheet KENT Supreme Star-B Mineral RO™ Water Purifier

“This system has been tested according to NSF/ANSI 58 for reduction of the substances listed below. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system, as specified in NSF/ANSI 58”.

Substance	Influent challenge concentration mg/L	Maximum permissible product water concentration mg/L	"Minimum % Reduction"
Total Dissolved Solids	750 ± 40 mg/L	187	86.80%

“Do not use with water that is microbiologically unsafe or of unknown quality w/o adequate disinfection before or after the system”.

The replacement component, 200010 SP Inline Sediment Filter 8, 200009 SP Inline Carbon Filter 8, 200529 SP RO Membrane High Flow, 200015 SP Post Carbon Filter (Blue), 200003 SP Hollow Fibre Membrane, 202202 SP FRT 350, Can be purchased directly from the manufacturer KENT RO SYSTEMS LTD.