

# KENT Elite Star

High-Flow RO Filter with Digital Display of Purity

**KENT**

Mineral RO™

Water Purifiers

HOUSE of PURITY

**KENT**

Mineral RO™

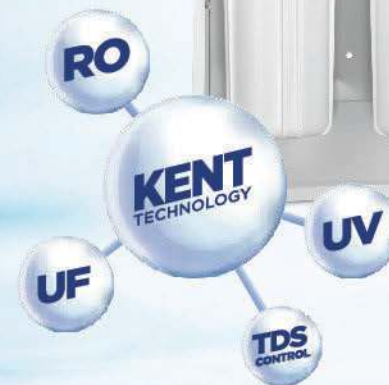
Water Purifiers

HOUSE of PURITY

## Instruction Manual



Digital Display of purity



Innovations for  
Better Living

Marketed by:  
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E-mail: service@kent.co.in or visit us at www.kent.co.in

*Kent Deta Hai  
**Sabse  
Shudh Paani***

Reverse Osmosis Water Purifier  
with Ultra Filtration+Ultra Violet Process and TDS Controller



## Welcome to KENT

Dear Customer,

Welcome to the world of KENT, leader of water purification industry in India. With a product of KENT you have all the reasons to smile, because at KENT we take pride in the quality and laboratory-tested performance of our products.

We are confident that your decision to own KENT Elite Star Water Purifier will go a long way in serving you with pure and mineral enriched drinking water, thus keeping you and your family in good health. We assure you, that you will be satisfied with its trouble-free performance and quality which comes without any compromise.

This manual is an effort towards familiarising you with the operation and maintenance of KENT Elite Star. Before operating the unit, please read it thoroughly and retain it for future reference. To ensure that the warranty of your water purifier is effective, fill up the enclosed warranty card and send the installation report within 15 days of purchase. Should you need further assistance, do not hesitate to contact your nearest KENT dealer or branch.

Best Wishes,

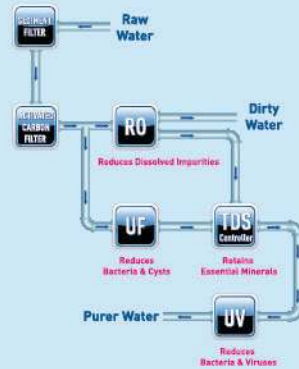
KENT RO SYSTEMS LTD.

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## KENT TECHNOLOGY - A Breakthrough in Water Purification

KENT proudly presents KENT Elite Star - a technologically advanced commercial 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+UV+UF+TDS+ Digital Display of Purity. While the initial purification by RO membrane having porosity as fine as 0.0001 microns effectively removes even dissolved impurities (hard salts, heavy metals, etc.), While the double purification by UF process ensures protection against bacteria and viruses. Moreover, the patented TDS Control System intelligently retains essential natural minerals in purified water, thus taking total care of your well-being.



### Salient Features of KENT Elite Star Water Purifier

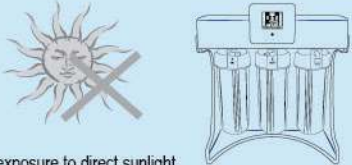
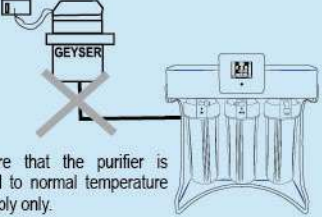
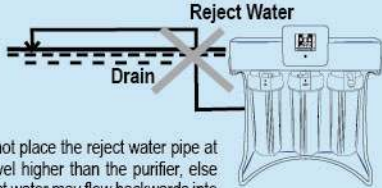
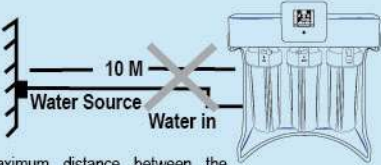
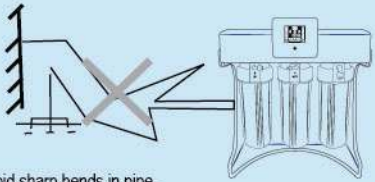
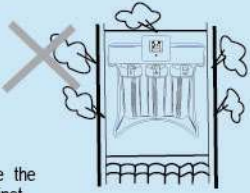

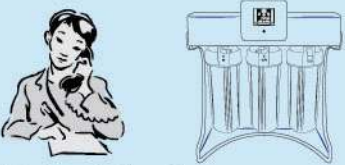
- High purification capacity of 50 L/hr
- Ideal attachment for water coolers
- Multiple Purification by RO + UV + UF effectively filters out bacteria, viruses and cysts
- Adjustable TDS Control System facilitates TDS adjustment in purified water
- Fully automatic operation with auto-on and auto-off function
- Tamper-proof RO/UF Membranes fused inside membrane housing
- Push-fit components for leak-proof & maintenance-free performance
- High capacity SMPS for over-voltage protection
- Food-grade, non-breakable, ABS plastic construction
- Suitable for Purification of Brackish/ Tap Water/Municipal Corporation Water
- Inbuilt auto-flushing system
- High-flow membrane
- Real time monitoring and digital display of purity on a digital screen
- Computer-controlled operations for enhanced purity and long life

### Items in the Box

1. KENT Elite Star Water Purifier	:	1 N
2. 3-Way Connector	:	1 N
3. S.S. Ball Valve	:	1 N
4. Food-Grade Pipe (Blue) ¼ inch	:	2.5 N
5. Food-Grade Pipe (White) ¾ inch	:	2.5 N
6. Food-Grade Pipe (White) ¼ inch	:	2.5 N
7. Screws & Plastic Inserts	:	2 N
8. User Manual	:	1 N

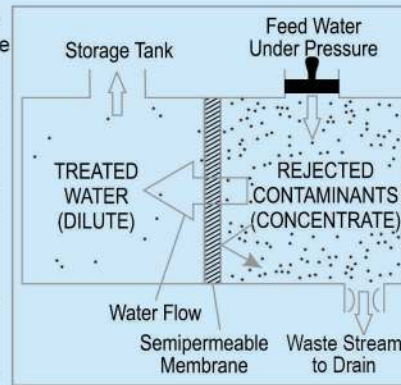
\*Treatment capacity tested for tap water having TDS level of 750 ppm at room temperature

## Important Instructions

 <p>Avoid exposure to direct sunlight and installation in damp areas.</p>	 <p>Make sure that the purifier is connected to normal temperature water supply only.</p>
 <p>Do not place the reject water pipe at a level higher than the purifier, else reject water may flow backwards into the purifier.</p>	 <p>Maximum distance between the purifier and water source should not be more than 3 meters.</p>
 <p>Avoid sharp bends in pipe. Do not block the reject water pipe.</p>	 <p>Do not confine the purifier in a cabinet.</p>
 <p>Use Genuine KENT Spare Parts for optimum performance.</p>	 <p>Do not try to service the purifier on your own. Instead, call the service technician for help.</p>

## Reverse Osmosis Process

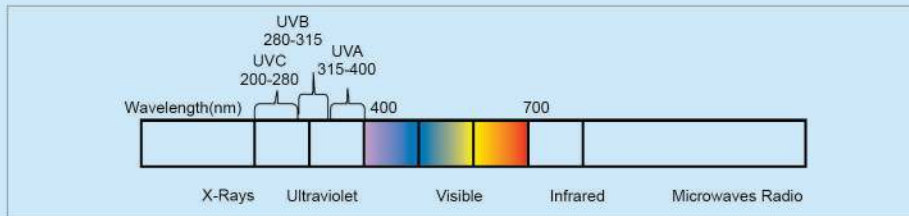
Reverse Osmosis also known as Hyper Filtration, it is the finest filtration process known till date. The process ensures removal of particles as small as ions from a solution. Reverse Osmosis process uses a semi-permeable membrane to reduce the dissolved salts from potable / brackish water. In Reverse Osmosis, water pressure is applied on the inlet impure water resulting into the squeezing of purer water from the concentrated end of membrane towards the diluted end. Dissolved salts present in water as charged ions get repelled by the RO membrane and are not allowed to pass through. Similarly, bacteria and germs are also blocked by the ultra-fine pores of RO membrane. These rejected impurities suspended on the concentrated end of the membrane are washed away in a stream of waste water preventing the membrane from clogging.



## 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.

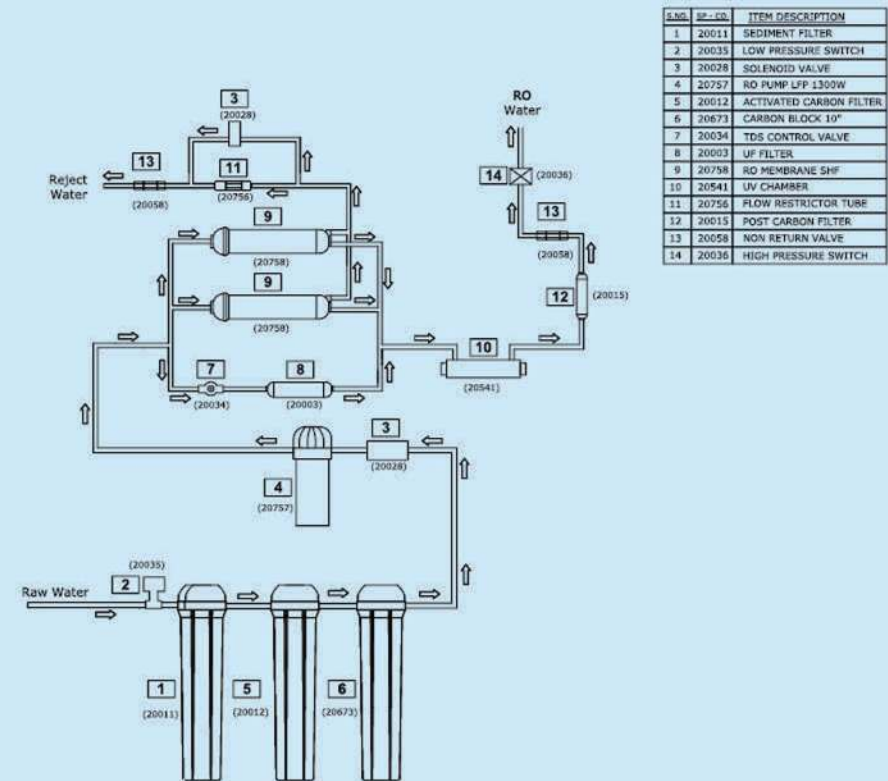


## Auto-Flushing System

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

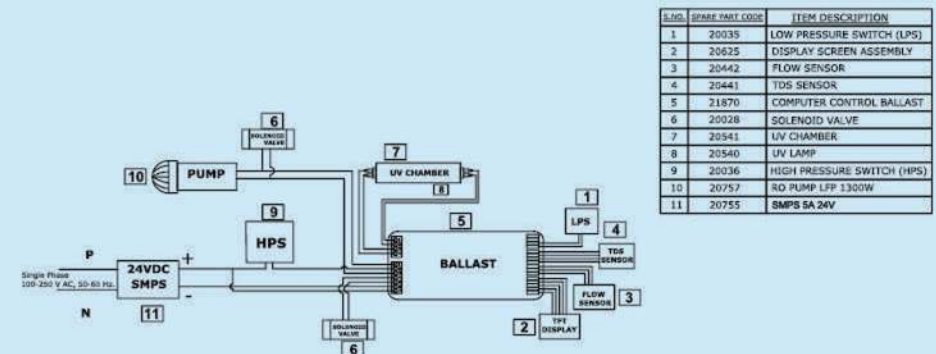
## Water Flow Diagram



S.NO	SP-CD	ITEM DESCRIPTION
1	20011	SEDIMENT FILTER
2	20025	LOW PRESSURE SWITCH
3	20028	SOLENOID VALVE
4	20757	RO PUMP LFP 1300W
5	20012	ACTIVATED CARBON FILTER
6	20673	CARBON BLOCK 10"
7	20034	TDS CONTROL VALVE
8	20003	UF FILTER
9	20758	RO MEMBRANE SHF
10	20541	UV CHAMBER
11	20756	FLOW RESTRICTOR TUBE
12	20015	POST CARBON FILTER
13	20058	NON RETURN VALVE
14	20036	HIGH PRESSURE SWITCH

The above specifications are subject to modification for improvement without notice.

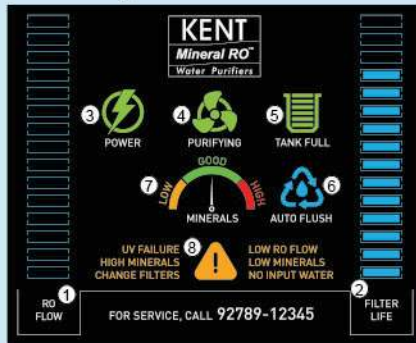
## Control Circuit Diagram



S.NO	SPARE PART CODE	ITEM DESCRIPTION
1	20035	LOW PRESSURE SWITCH (LPS)
2	20625	DISPLAY SCREEN ASSEMBLY
3	20442	FLOW SENSOR
4	20441	TDS SENSOR
5	21870	COMPUTER CONTROL BALLAST
6	20028	SOLENOID VALVE
7	20541	UV CHAMBER
8	20540	UV LAMP
9	20036	HIGH PRESSURE SWITCH (HPS)
10	20757	RO PUMP LFP 1300W
11	20755	SMPS SA 24V

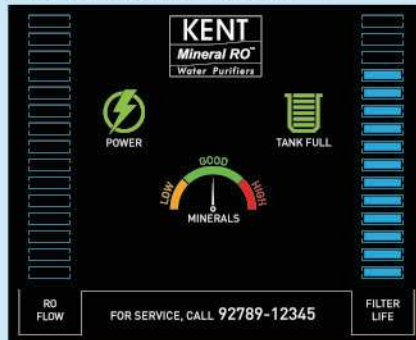
## Elite Star Operations

### 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 Conditions



Under normal running conditions and without any fault, the users would be greeted with a screen as shown in 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.

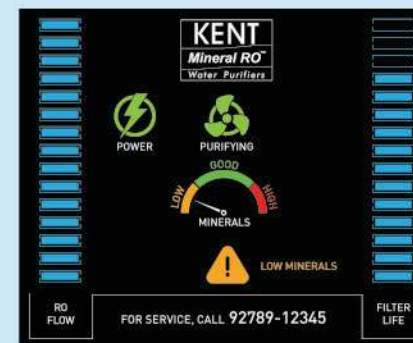
### Emptying of Tank



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.

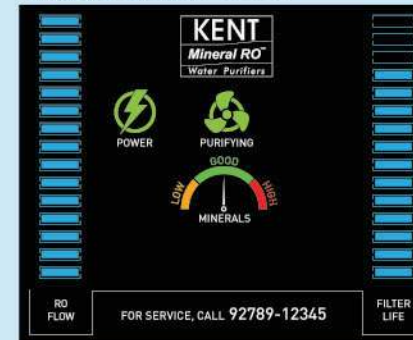
### Mineral Content - Low



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

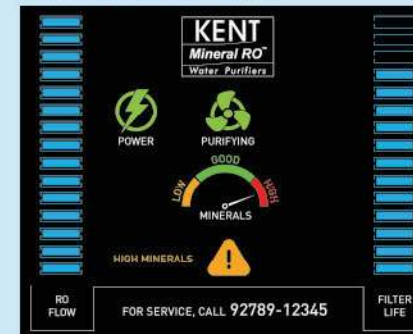
The warning sign would be displayed as shown in the figure.

### 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**

\*Mineral Content is displayed based on TDS levels in the purified water.

## 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 the 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 might be present 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 Elite Star in-built microcontroller controls and senses various vital components and displays their status on the digital interface.

## Automatic Operation

- The purifier automatically shuts off when the tank is full
- The purifier does not start when the inlet water supply pressure falls below 0.3kg/cm<sup>2</sup>
- The purifier automatically restarts when the water level drops below the maximum level
- The purifier does not allow any water rejection in absence of electricity/when tank is full
- The purifier automatically flushes & cleans the RO membrane on periodic intervals

## Installation Instructions

KENT Elite Star is designed to facilitate wall-mounting as well as counter-top purification system. It is easy and convenient to install.

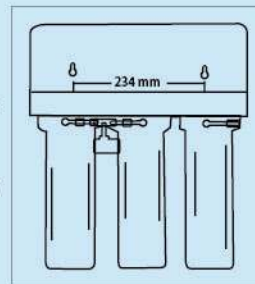
### Recommended Site Preparations:

- Single phase 100-250 V AC, 50-60 Hz. supply not more than 3m away from the point of installation
- Raw water supply with ½ inch nipple not more than 3m away
- Drain for reject water not more than 3m away
- Installation space as per the dimensions of the purifier
- For proper installation, make sure that the purifier is mounted on a wall surface. Avoid installation on wooden and metallic stands
- For optimum inlet pressure, source water tank should be at least 10 ft. above the purifier installed

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

### Installation Procedure:

1. Screw in two 10x50 self tapping screws, 234 mm apart horizontally.
2. Wall-mount the purifier with the help of slot holes given on back side.
3. Fasten the SS ball valve to ¼ inch port of 3-way connector.
4. Attach the threaded end of 3-way connector to raw water supply and plug off the other end or connect to a tap.
5. Now connect one end of white pipe to SS ball valve and the other end to lower elbow fitting connector labeled as WATER IN, on the bottom of purifier.

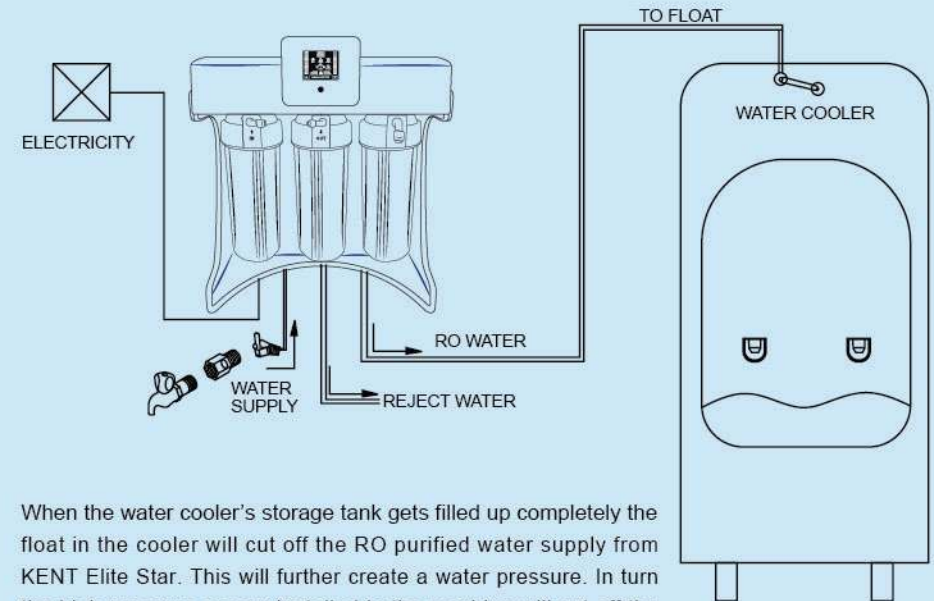


Use white pipe for raw water supply.

6. Connect one end of blue pipe to upper elbow fitting connector labeled as REJECT WATER and lead the other end to drain.

Use blue pipe for reject water.

7. Connect the purified water pipe to the water cooler.
8. Turn on the lever given on SS ball valve to initiate the water flow to purifier.
9. Allow the filters to pre-soak in the water for 2-3 minutes.
10. Connect the power supply.
11. Installation is complete.



When the water cooler's storage tank gets filled up completely the float in the cooler will cut off the RO purified water supply from KENT Elite Star. This will further create a water pressure. In turn the high pressure sensor installed in the machine will cut off the electric supply to the machine. The purification of KENT Elite Star will automatically start again as soon as the water level drops.

## TDS Adjustment

The unique TDS Controller enables customers to retain the contents of natural minerals 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 possible level but not below 50 mg/l.

## Starting-Up the Purifier

- Switch on the power supply
- Allow water to fill to the maximum level
- Switch off the power supply
- Open the faucet and drain water to remove residual dust particles present in the pipes and tank
- Close the faucet and switch on the power supply
- Purifier is ready to use

## Recommended Usage 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 gardening

purpose. The high concentration of salts and minerals accelerate the plant growth. Rejected water can also be used for cleaning utensils, mopping, etc.

## 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.

- Tank must be drained and cleaned once in every 15 days
- Replace RO membrane once in a year
- Replace UF membrane once in a year
- Replace sediment filter, activated carbon filter once in a year or earlier if they get clogged. It is recommended to change FRT along with the filters
- Replace UV Lamp once in a year



Please note that the replacement time of consumables such as filters and membranes is dependent on the quality of raw water and the quantity of water consumed.

## 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

## Recommended Frequency for Filters/Membrane Change

For optimum performance we recommend the following frequency for replacement of cartridges:

Sediment/Activated Carbon	→	Once in a year or earlier if they get clogged
RO/UF Membranes	→	Once in a year or earlier if they get clogged
UV Lamp	→	Once in a year

## Technical Specifications

Product	KENT ELITE STAR
Product Code	111140
Product Generic Name	Water Purifier
Product Colour	White
Application	Suitable for Purification of Brackish/Tap Water Municipal Corporation Water
Installation	Suitable as attachment for water coolers
Body Material	ABS Food-Grade Plastic
Mounting	Wall-mounted
Purification Production Rate	50 L/hr.* (Under standard testing conditions)
Max. Duty Cycle	250 L/Day
Filter Cartridge	Sediment, Activated Carbon, UF, Post Carbon
UV Lamp Wattage	11 W
Life of UV Lamp	5000 hrs. of operation
Membrane Type	Thin Film Composite RO (2)
Auto-Flushing System	Yes
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
Booster Pump Voltage	24 V DC
Total Power Consumption	120 W
Product Dimensions (mm)	410 (L) x 240 (W) x 480 (H)
Net Weight	13.470 Kg
Input Power Supply	Single Phase 100–250 V AC, 50-60 Hz
IP Rating	IPX1

## Testing Information

The System has been tested according to IS 16240:2023 (Standards for drinking water as per Bureau of Indian Standards) for reduction of the hazardous substances.

Note: KENT RO Systems Limited is registered under the Plastic Waste Management (PWM) Rules, 2022 with EPR authorization No. BO-29-UTT-04-AADCK0743L-23 (Brand Owner) & IM-20-000-09-AADCK0743L-23 (Importer) for Category-II plastic packaging (thickness above 50 microns).