

KENT ELITE+
ONLINE PURIFICATION FOR WATER COOLERS

KENT
Mineral RO™
Water Purifiers
HOUSE of PURITY

KENT
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Water Purifiers
HOUSE of PURITY

Instruction Handbook for Installation, Operation and Maintenance.



Marketed by:

KENT RO SYSTEMS LTD.
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Innovations for
Better Living

Manufactured by:

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Kent Deta Hai
**Sabse
Shudh Paani**

Mineral RO™ TECHNOLOGY
Removes Dissolved Impurities
Retains Essential Minerals
Multiple Purification

RO + UV + UF + TDS Control

Reverse Osmosis Water Purifier + Ultra Violet + Ultra Filtration Purification + TDS Controller
Mineral RO™ © 2005 KENT RO SYSTEMS LTD, the process & purifier is patented vide patent no. 199716.

Welcome to KENT

Dear Customer

Welcome to the world of KENT, leader of water purification industry in India. With a KENT product you have all the reasons to smile, since 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+ 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+. 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,

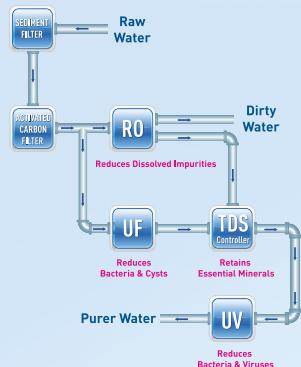
KENT RO SYSTEMS LTD.

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KENT TECHNOLOGY - A Breakthrough in Water Purification

KENT proudly presents KENT Elite+ - 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 Control System. 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.), 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 health and well-being.



Salient Features of KENT Elite+ Water Purifier

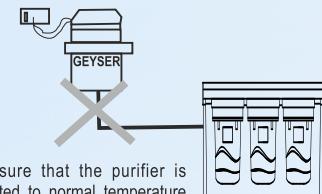
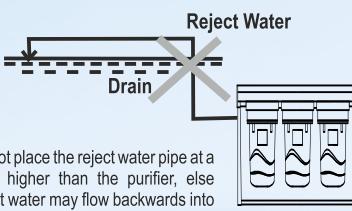
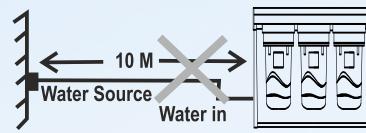
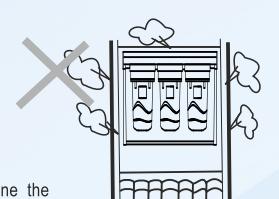
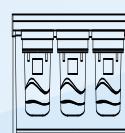
- High Purification Capacity of 50 L/hr.*
- Suitable for attachment to water coolers
- Double Purification by RO + UV + UF effectively filter out bacteria, viruses and cysts
- Adjustable TDS Control System facilitates TDS adjustment in purified water
- Fully automatic operation with auto-on and auto-off function
- Tamper-proof RO/UF Membranes fused inside membrane housing
- Push-fit components for leak-proof & maintenance-free performance
- Horizontally mounted SMPS for protection against high voltage
- ABS construction for corrosion-free life span
- Suitable for Purification of Brackish/ Tap Water/Municipal Corporation Water
- Filter change alarm to indicate filter replacement time
- Inbuilt auto-flushing system
- High flow membrane

Items in the Box

1. KENT Elite+ Water Purifier	:	1 No.
2. 3-Way Connector	:	1 No.
3. S.S. Ball Valve	:	1 No.
4. Food Grade Pipe (Blue) 1/4 inch	:	2.5 meters
5. Food Grade Pipe (White) 3/8 inch	:	2.5 meters
6. Food Grade Pipe (White) 1/4 inch	:	2.5 meters
7. Screws & Plastic Inserts	:	2 Nos. each
8. User Manual	:	1 No.

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

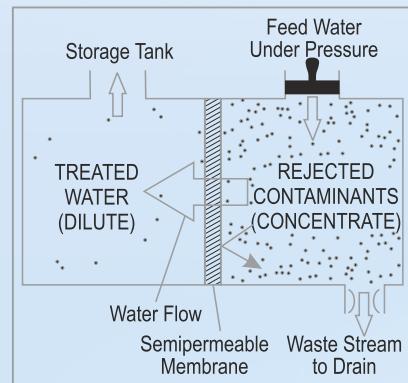
Important Instructions

 <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

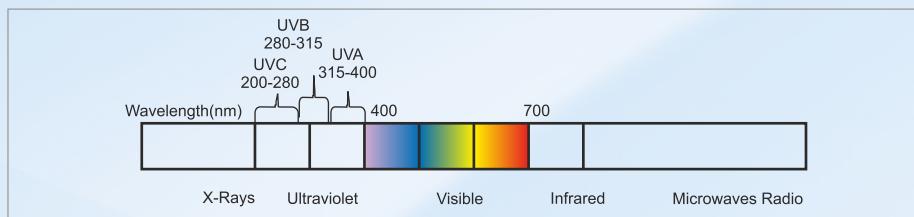
Reverse Osmosis also known as Hyper Filtration, is the finest filtration process known till date. The process ensures removal of particles as small as ions from a solution. Reverse Osmosis process uses a semi-permeable membrane to reduce the dissolved salts from potable / brackish water. In Reverse Osmosis,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

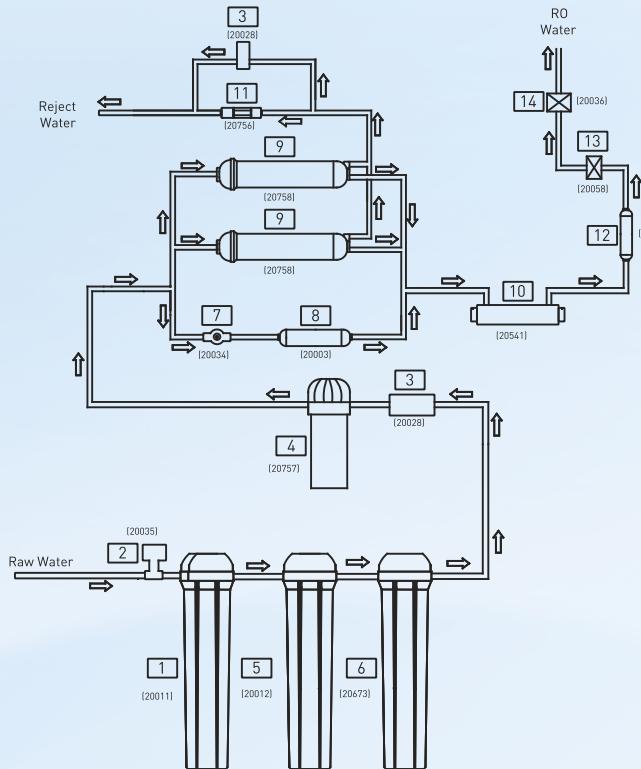


Auto-flushing System

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 membranes efficiency.
- Extends life of RO membrane.

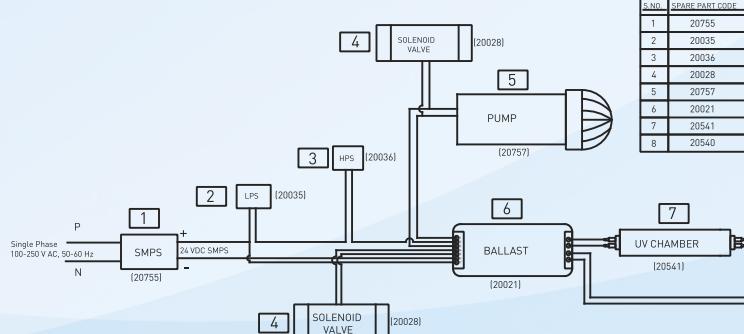
Water Flow Diagram



S.NO	SPAR PART CODE	ITEM DESCRIPTION
1	20011	SEDIMENT FILTER
2	20035	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

Electrical Circuit Diagram



S.NO	SPAR PART CODE	ITEM DESCRIPTION
1	20755	SMPS 5A 24V
2	20035	LOW PRESSURE SWITCH (LPS)
3	20036	HIGH PRESSURE SWITCH (HPS)
4	20028	SOLENOID VALVE
5	20757	RO PUMP LFP 1300W
6	20021	BALLAST (CHOKER)
7	20541	UV CHAMBER
8	20540	UV LAMP

UV Fail Alarm*

KENT Elite+ 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.



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 Elite+ Water Purifier has an in-built feature that sounds an audible alarm to indicate replacement time for filters. This alarm will be 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.



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.

Automatic Operation

- The purifier automatically shuts off when the tank is full.
- The purifier does not start when inlet water supply pressure fall below 0.3kg/cm²
- 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+ is designed to facilitate wall mounting as well as counter-top purification. 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

Installation Procedure:

1. Screw in two 10x50 self taping 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.

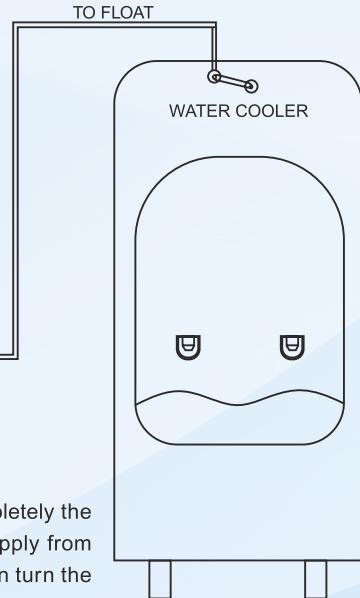
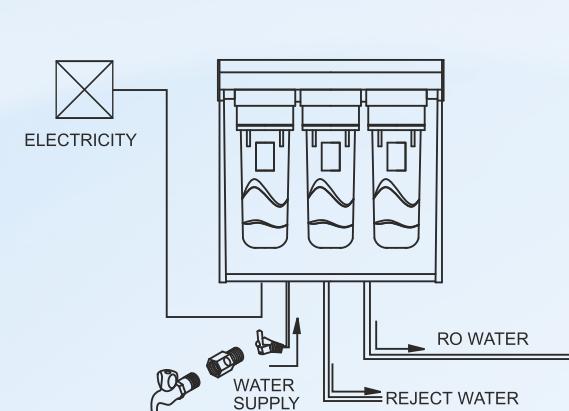
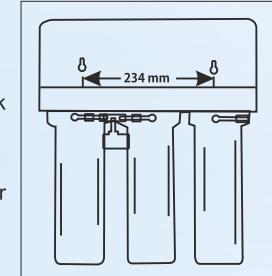
7. Connect the purified water pipe to the water cooler.

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+. 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+ will automatically start again as soon as the water level drops.

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

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 50mg/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 membranes 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 alongwith 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+
Product Code	11078
Product Generic Name	Water Purifier
Product Colour	White
Application	Suitable for Purification of Brackish/Tap Water / Municipal Corporation Water
Installation	Suitable as attachment to water coolers
Body Material	ABS Food Grade Plastic
Mounting	Wall-mounted
Purification Production Rate	50 L/hr.*
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 ² /10°C
Inlet Water Pressure/Temp (Max.)	4 kg/cm ² /40°C
Min./Max. Operating pH	6.5-8.0
Booster Pump Voltage	24 V DC
Total Power Consumption	120 W
Dimension (mm)	415 (L) x 222 (W) x 475 (H)
Net Weight	14.60 Kg
Input Power Supply	Single Phase 100–250 V AC, 50-60 Hz. 
IP Rating	IPX1

*Purification capacity tested on raw water with 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 as listed below.