

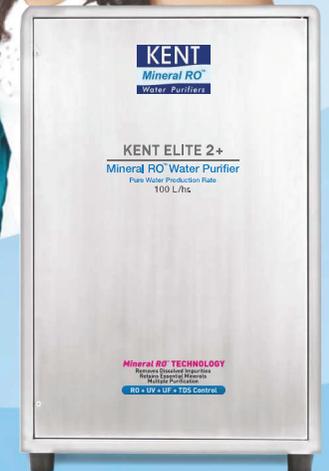
KENT ELITE 2+
ONLINE PURIFICATION FOR WATER COOLERS

KENT
Mineral RO™
Water Purifiers
HOUSE of PURITY

KENT
Mineral RO™
Water Purifiers
HOUSE of PURITY



Instruction Handbook for Installation, Operation and Maintenance.



Kent Deta Hai
**Sabse
Shudh Paani**

Mineral RO™ TECHNOLOGY
Removes Dissolved Impurities
Retains Essential Minerals
Multiple Purification
RO + UV + UF + TDS Control



Marketed by:
KENT RO SYSTEMS LTD.
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Manufactured by:
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E-mail: service@kent.co.in or visit us at www.kent.co.in

Reverse Osmosis Water Purifier with UV Sterilization & 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 2+ water purifier will go a long way in serving you with purer and mineral enriched drinking water - thus keeping you and your family healthier. 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 2+. Before operating the unit, please read it thoroughly and retain it for future reference. Should you need further assistance, do not hesitate to contact your nearest KENT dealer or branch.

Best Wishes

KENTRO SYSTEMS LTD.

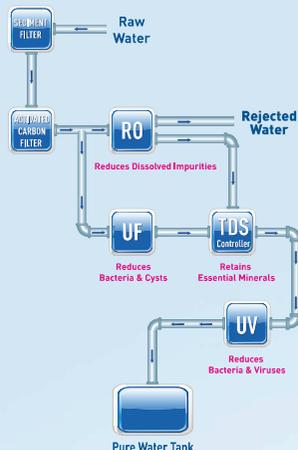
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KENT Technology - A Breakthrough in Water Purification

Presenting the KENT Elite 2+ Water Purifier; it uses futuristic and state-of-the-art technology to provide purer & healthier drinking water.

The heart of KENT Elite 2+ Water Purifier is a Reverse Osmosis membrane having capillaries as small as 0.0001 microns that reduces dissolved impurities (salts and heavy metals) and converts hard water to sweet and purer drinking water. KENT Elite 2+ Water Purifier also allows user to control Total Dissolved Solids (TDS) level of purified water.



Salient Features of KENT Elite 2+

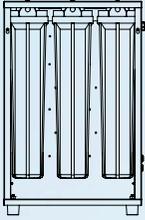
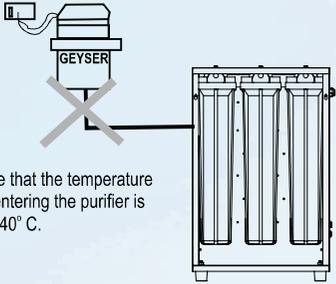
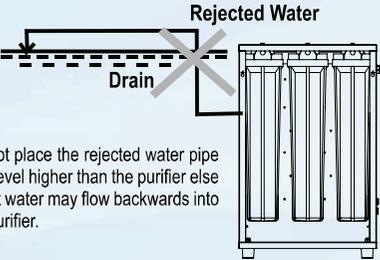
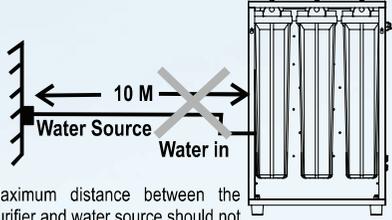
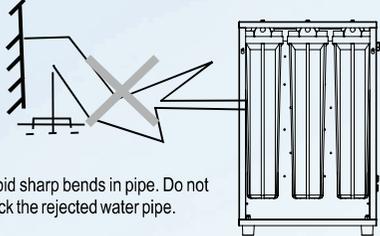
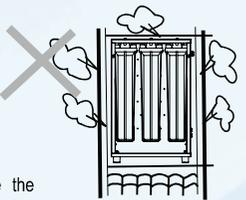
- Suitable for attachment to water coolers
- Double Purification by RO and UV/UF effectively filters out bacteria, viruses and cysts
- Adjustable TDS Control System facilitates TDS adjustment in purified water
- Auto-flushing System to help prevent scaling or fouling of the RO
- Fully automatic operation with auto-on and auto-off facility
- Tamper-proof RO/UF Membrane fused inside membrane housing
- Push-fit components for leak-proof & maintenance-free performance
- Vertically mounted SMPS for over voltage protection
- Stainless steel construction for corrosion-free lifespan
- Suitable for purification of Brackish/Tap Water/Municipal Corporation Water Supply
- Filter change alarm to indicate filter replacement time
- Super high flow membrane
- High capacity of 100 L/hr.*

Items in the Box

1. KENT Elite 2+ Water Purifier	:	01 N
2. S.S. Ball Valve	:	01 N
3. 3-Way Connector	:	01 N
4. Pipe 0.952 Cm (Blue)	:	2.5 meters each
5. Pipe 0.635 Cm (White)	:	2.5 meters
6. Cooler fitting	:	01 N
7. Union Connector	:	01 N
8. Instruction Manual	:	01 N

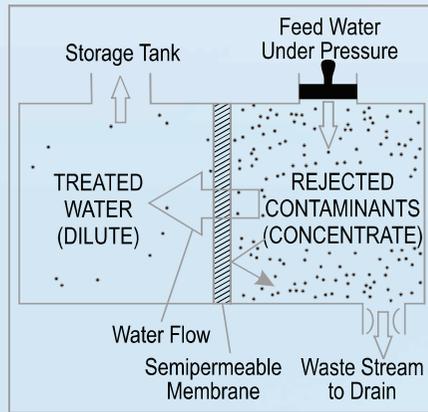
* Treatment capacity tested for tap water having TDS level of 750 ppm at room temperature

Important Instructions

 <p>Avoid exposure to direct sunlight and installation in damp areas.</p> 	 <p>Make sure that the temperature of water entering the purifier is within 10-40° C.</p>
 <p>Do not place the rejected 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 rejected 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 process, also known as Hyper Filtration, is the finest filtration process known till date. The process ensures reduction of the particles as small as ions from a solution. Reverse Osmosis process uses a semi-permeable membrane to reduce dissolved salts from potable / brackish water. In Reverse Osmosis, water pressure is applied to the inlet impure water resulting into the squeezing of purer water from 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 membrane are washed away in a stream of waste water, preventing the membrane from clogging.



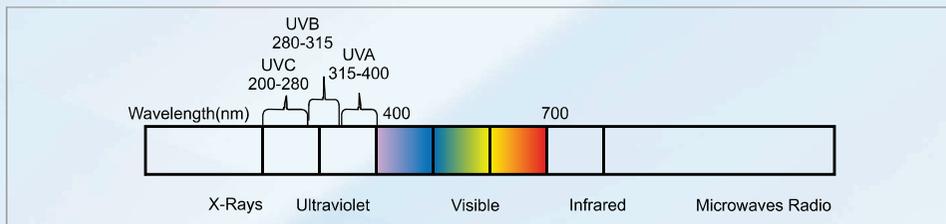
UF Process

KENT Ultra-Filtration is a separation process that uses UF membrane with pore size of 0.1–0.01 micron. This UF membrane has the capacity to remove colloidal materials including bacteria, cysts and even viruses from drinking water. Low applied pressure is therefore sufficient to achieve high flux rates from an Ultra Filtration membrane.

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.



UV Fail Alarm

KENT Elite 2+ 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 beep 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.

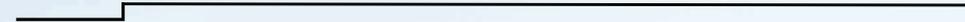
Filter Change Alarm

KENT Elite 2+ 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.

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 seconds delay to UV lamp when the purifier is switched on. During this period, only the UV lamp is switched on and other electrical devices of the purifier are switched off.

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 5 second delay when the purifier is switched on. During this time, the UV lamp kills all micro-organisms that may be in the water inside UV chamber. After this delay, all other electrical devices such as booster pump and solenoid valve are switched on to start normal purification process.

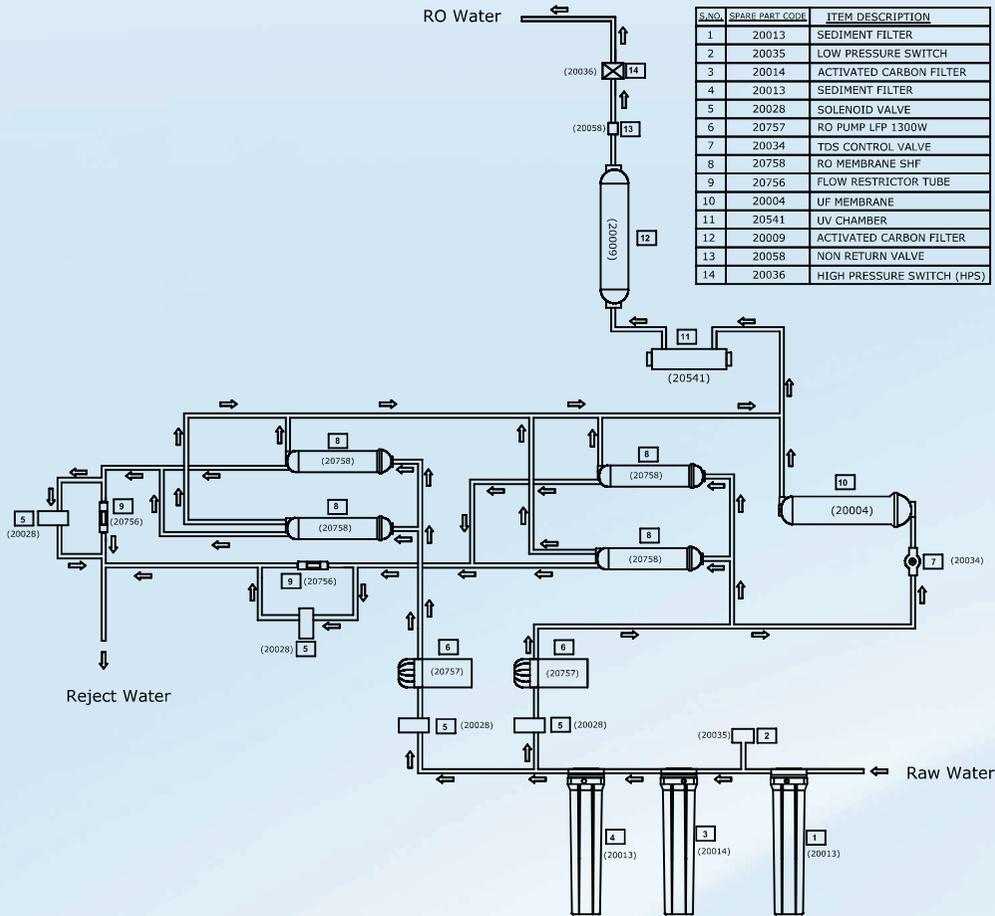
Audible Alarm: The controller also controls the timing of UV Fail Alarm and the Filter Change Alarm.

Auto-flushing System

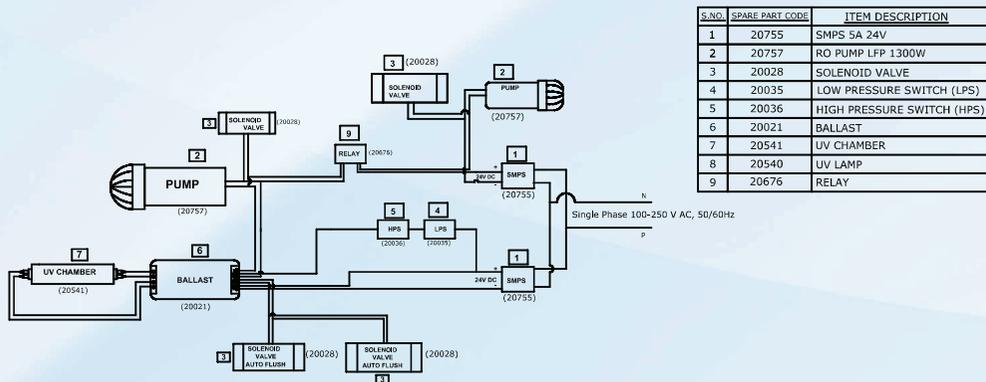
The purpose of the Auto-flushing system is to help prevent scaling or fouling of the RO membrane by providing a rapid rinse which washes away impurities from the membrane's surface and keeps the membrane clean. It offers following benefits.

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

Water Flow Diagram



Electrical Circuit Diagram



Automatic Operation

- The purifier automatically shuts off when the tank is full
- The purifier does not start when inlet water supply pressure falls 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 or when tank is full
- The purifier automatically flushes & cleans the RO membrane on periodic intervals

Installation Instructions

KENT Elite 2+ is designed to facilitate wall mounting as well as floor standing purification. It 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 purifier
- 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
- The system and installation must comply with state and local laws and regulations

Installation Procedure:

1. Fasten the SS ball valve to raw water supply.
2. Now connect one end of white pipe to SS ball valve and the other end to 3/8" Bulk head fitting connector labeled as WATER IN.

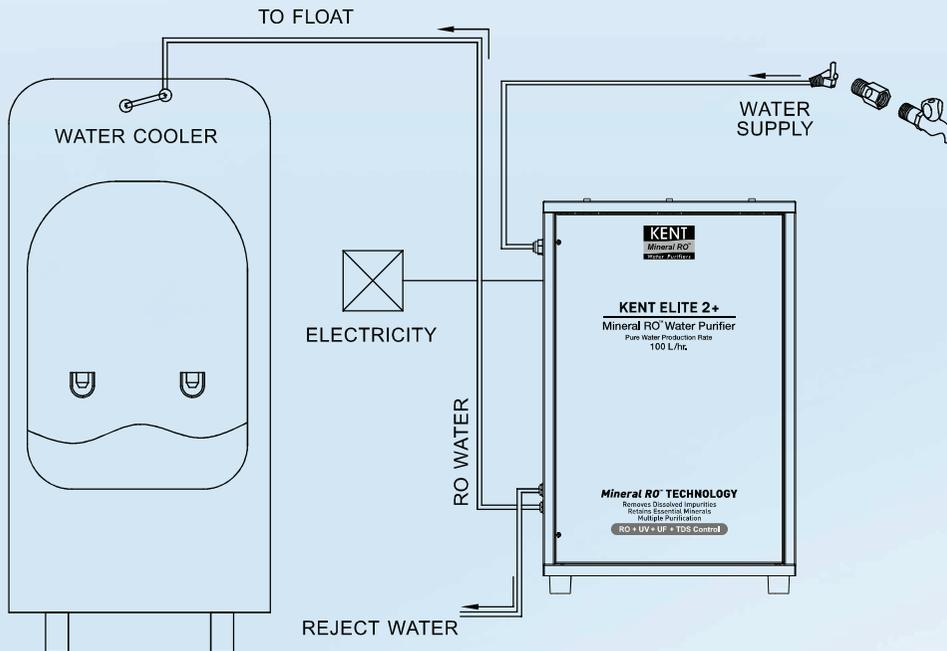
Use white pipe for raw water supply

3. Connect one end of blue pipe to 1/4" Bulk head fitting connector labeled as REJECT WATER and lead the other end to drain.

Use blue pipe for reject water

4. Connect the purified water pipe to water cooler.
5. Turn on the lever given on SS ball valve to initiate the water flow to purifier.
6. Allow the filters to pre-soak in water for 2-3 minutes.
7. Connect the power supply.
8. 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 2+. 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 2+ 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 the 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 the UF Membrane once in a year
- Replace UV Lamp once in a year
- Replace sediment filter, activated carbon filter once in a year or earlier if they are clogged. It is recommended to change FRT along with the filters

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.

Replacement of spare parts are as under:-

-20013	SP	Inline Sediment Filter 20"
-20014	SP	Inline Carbon Filter 20"
20758	SP	RO Membrane SHF
20756	SP	FRT 1200
20004	SP	UF Membrane 8"
20009	SP	Inline Carbon Filter 8"

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 it gets clogged
- RO/UF Membranes → Once in a year or earlier if it gets clogged
- UV Lamp → Once in a year

Important Safety Instructions

- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons 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

Technical Specifications

PRODUCT	KENT Elite 2+
Product Code	111079
Product Generic Name	Water Purifier
Product Colour	Natural
Applications	Suitable for Purification of Brackish/Tap Water Municipal Corporation Water
Installation	Suitable as attachment to water coolers
Body Material	Stainless Steel
Mounting	Floor Standing \ Wall-mounting
Purification Production Rate	100 L/hr.*
Max Duty Cycle	500 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
UF Membrane	0.1 – 0.01 Micron
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	240 W
Input Power Supply	Single Phase 100 - 250 V AC, 50-60 Hz.
Product Dimensions (mm)	505 (L) x 360 (W) x 746 (H)
Net Weight	33.2 kg

* Purification capacity tested on raw water with TDS level of 750ppm at room temperature