



System Tested and Certified by NSF International against NSF/ANSI Standard 58 for the reduction of TDS



System Tested and Certified by WQA to NSF/ANSI 58 for the reduction of Barium, Fluoride, Lead, Nitrate, Nitrite, Pentavalent Arsenic (<300ppb) and TDS.



For customer complaints, contact customer care officer at:

A-2, Sector-59, Noida, UP-201 309, India
Call Toll-Free: 1800 100 1000 or Fixed line: +91 -120-4669666
E-mail: service@kent.co.in or Visit us at www.kent.co.in

Manufactured by:

KENT RO SYSTEMS LTD.

Khasra No.93, Village-Bantakhedi, Tehsil-Roorkee,
District-Haridwar, Uttarakhand-247668, India



Marketed by:

KENT RO SYSTEMS LTD.

A-2, Sector-59, Noida, U.P.-201309, India
Ph.: +91-120-3075075
E-mail: sales@kent.co.in Website: www.kent.co.in

November, 2014

KENT Sterling

**Under the Counter RO Water Purifier
with Built in Hydrostatic Tank**

Instructions Handbook



KENT TECHNOLOGY

Maintains minerals while reducing dissolved impurities with double purification

RO + UF + TDS Control

Kent Deta Hai

**Sabse
Shudh Paani**



System Tested and Certified by NSF International against NSF/ANSI Standard 58 for the reduction of TDS



System Tested and Certified by WQA to NSF/ANSI 58 for the reduction of Barium, Fluoride, Lead, Nitrate, Nitrite, Pentavalent Arsenic (<300ppb) and TDS.

Mineral RO™ © 2005 – 2012 Kent RO System Limited.

The process and the purifier is patented vide a Patent No. 199716



Welcome to KENT

Dear Customer,

Welcome to the world of KENT, leaders of water purification industry in India. With a KENT product 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 Sterling Mineral RO™ will go a long way in serving you with purer 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 familiarizing you with the operation and maintenance of KENT Sterling Mineral RO™. 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.



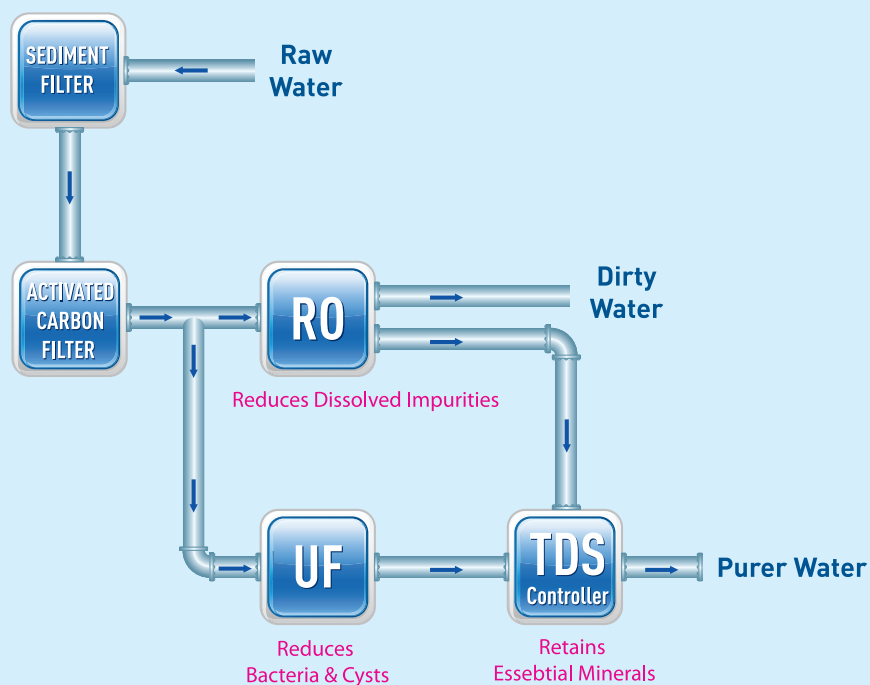
Table of Contents

1.	KENT Technology	1
2.	Salient Features of KENT Sterling	2
3.	Items in the Box	2
4.	Important Instructions	3
5.	Reverse Osmosis Process	4
6.	UF Process	4
7.	Water Flow Diagram	5
8.	Electrical Circuit Diagram	5
9.	Automatic Operation	6
10.	Installation Instructions	6
11.	Recommended Site Preparations	6
12.	Installation Procedure	6
13.	TDS Adjustment	7
14.	Starting-up the Purifier for the first time	7
15.	Recommended Usage of Rejected Water	8
16.	Maintenance	8
17.	Technical Specifications	9
18.	Performance Data Sheet	9

KENT TECHNOLOGY - A Breakthrough in Water Purification*

KENT proudly presents KENT Sterling Mineral RO™ - its new and advanced domestic water purifier which provides purer & healthier drinking water.

The futuristic KENT Sterling Mineral RO™, developed at KENT laboratory broadly comprises of state-of-the-art RO+UF+TDS Control System. The initial purification by RO membrane having porosity as fine as 0.0001 microns reduces even the dissolved impurities (hard salts, heavy metals etc.). Double purification by UF membrane gives additional protection from deadly harmful micro-organisms. Moreover, the patented TDS Control System intelligently retains essential natural minerals in purified water, thus taking total care of your health and wellbeing



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

Salient Features of KENT Sterling Mineral RO™

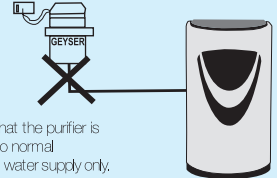
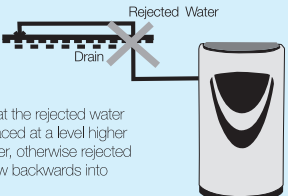
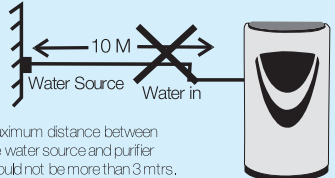
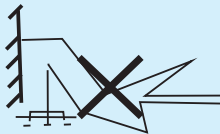
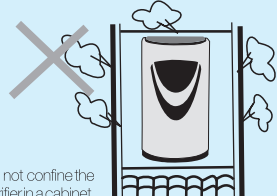
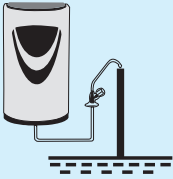
- Compact and modern under the counter design
- Double purification by RO + UF process with TDS Control Valve
- Retains essential natural minerals in water with TDS Control Valve
- 6 litres in-built hydrostatic storage tank makes purified water available on-demand
- Fully automatic operation with auto-on/off
- Tamper-proof RO and UF Membrane fused inside membrane housing
- Built-in SMPS to operate within 100-300V AC voltage
- Suitable for Brackish / Tap Water / Municipal Water Supply
- Ideal for Under the Counter as well as Side by Side Refrigerator placement



Items in the Box

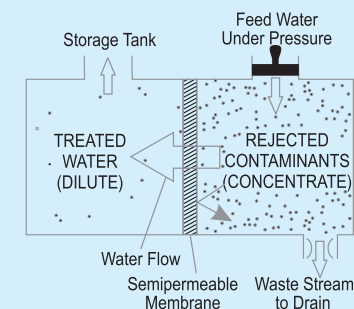
1. KENT Sterling RO Water Purifier	:	01 No.
2. 3-Way Connector	:	01 No.
3. S.S. Ball Valve	:	01 No.
4. Faucet	:	01 No.
5. Instructions Handbook	:	01 No.
6. Food Grade Pipe 1/4" (Blue)	:	2.5 Mtrs
7. Food Grade Pipe 1/4" (White)	:	5 Mtrs

Important Instructions

 Avoid exposure to direct sunlight and installation in damp areas.	 Make sure that the purifier is connected to normal temperature water supply only.
 Make sure that the rejected water pipe is not placed at a level higher than the purifier, otherwise rejected water may flow backwards into the purifier.	 Maximum distance between the water source and purifier should not be more than 3 mtrs.
 Avoid sharp bends in pipes.	 Do not confine the purifier in a cabinet.
 In case of not using the purifier for more than two days, kindly switch off the power supply and drain out the storage tank.	 To keep the storage tank clean, it should be drained once in 15 days.
 Use Genuine Kent spares for optimum performance	 Do not try to service the purifier on your own. Instead, call service technician for help.

Reverse Osmosis Process

Reverse Osmosis process, also known as hyper filtration, is the finest filtration process known till date. It ensures reduction of particles as small as ions from a solution. Reverse Osmosis process uses a semi-permeable membrane to reduce salts from potable / brackish water. In Reverse Osmosis, water pressure is applied to the inlet impure water resulting in squeezing of purer water from the concentrated end of membrane towards the diluted end.

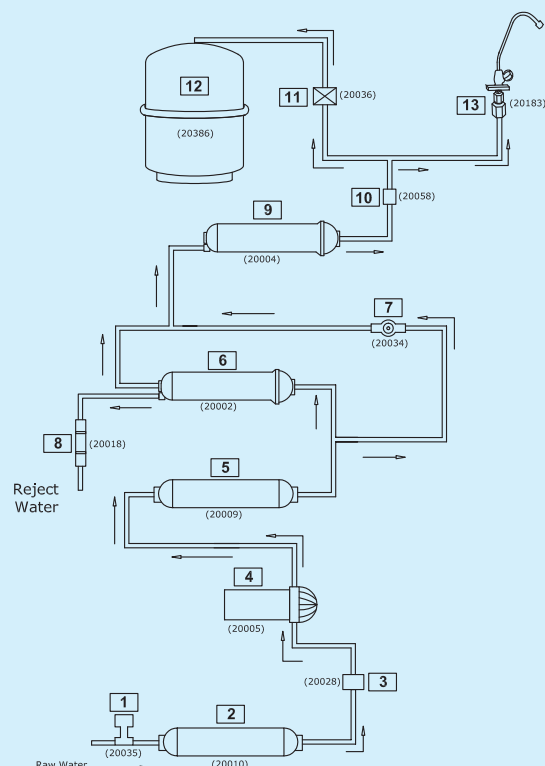


Dissolved salts present in water as charged ions, get repelled by the RO membrane and are not allowed to pass through. Similarly, bacteria and germs are also blocked by the ultra fine pores of RO membrane. These rejected impurities suspended on the concentrated end of the membrane are washed away in a stream of waste water, preventing the membrane from clogging.

UF Process

Ultra Filtration is a separation process that uses membranes with pore sizes of 0.01 micron. UF membranes reduce high molecular-weight substances, colloidal materials, and organic and inorganic polymeric molecules including bacteria and viruses. Low applied pressures are therefore sufficient to achieve high flux rates from an Ultra Filtration membrane.

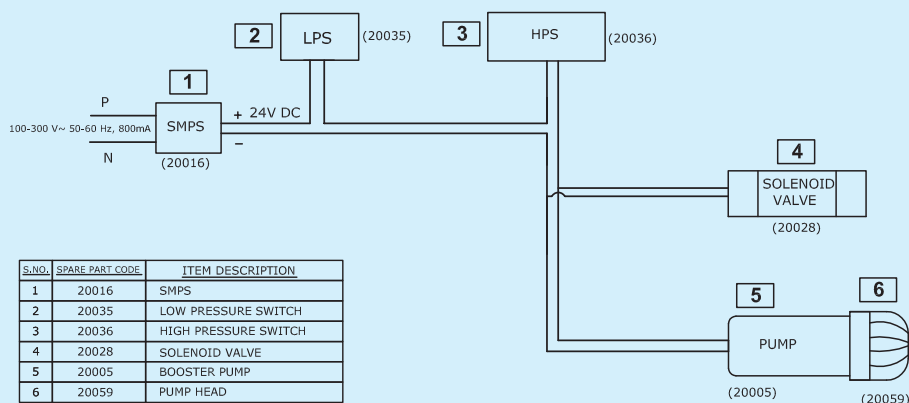
Water Flow Diagram



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	20002	RO MEMBRANE
7	20034	TDS CONTROL VALVE
8	20018	FLOW RESTRICTOR TUBE
9	20004	UF MEMBRANE
10	20058	NON RETURN VALVE
11	20036	HIGH PRESSURE SWITCH
12	20386	HYDROSTATIC STORAGE TANK
13	20183	FAUCET

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

Electrical Circuit Diagram



S.NO.	SPARE PART CODE	ITEM DESCRIPTION
1	20016	SMPS
2	20035	LOW PRESSURE SWITCH
3	20036	HIGH PRESSURE SWITCH
4	20028	SOLENOID VALVE
5	20005	BOOSTER PUMP
6	20059	PUMP HEAD

Terms & Conditions of Warranty

The Manufacturer of KENT Sterling Mineral RO™ Water Purifiers warrant all new products manufactured by it to be free from defects in material and workmanship under normal usage and service from the date of installation as under:

- The Warranty period commences from the date of installation by the first end-user. During this Warranty period of one year, KENT Purifiers or its Authorised Service Provider (ASP) will replace or repair any part of KENT Purifiers, that in the opinion of KENT Purifiers or its ASP, would be defective in operation due to faulty material or workmanship (i.e. manufacturing defects) with the exception of consumables such as Sediment Filter, Carbon Filter and RO/UF Membrane. However, if the RO/UF Membrane gets clogged within first one year and/or if the filters get clogged within first six months, they shall be cleaned / repaired / replaced at no extra charge.
- The product's plastic body is not covered under Warranty and hence, it must be handled with care to guard against breakage.
- The original purchaser of the unit can avail services under Warranty at the point of sale, by producing the damaged part(s) along with the original invoice.
- This Warranty is void if the unit is not operated under normal municipal water or well water conditions or is subjected to the temperature above 40°C.
- Product returned to KENT Purifiers or its ASP for Warranty examination must be shipped freight prepaid.
- KENT Purifiers or its ASP shall not be held liable for claims exceeding the cost of repair of the defects in workmanship.
- This Warranty Agreement shall not be interpreted to render KENT Purifiers or its ASP liable for injuries or damages of any kind - direct, consequential or contingent to persons or property.
- KENT Purifiers or its ASP shall not be held responsible by representative or buyer for failure to abide by any of the obligations of this Warranty Agreement if such failures are the result of circumstances of Forces Majeures: such as, but not limited to, floods, earthquakes, transportation strikes, labour disputes with outside suppliers or any other conditions beyond the control of KENT Purifiers or its ASP.
- KENT Purifiers or its ASP shall not be held liable for repair or alterations made without prior written approval; for products clogged by suspended matter, precipitates or biological growth; or for failures resulting from the lack of proper maintenance.
- KENT Purifiers or its ASP cannot and shall not be held liable for any sickness or illness due to the consumption of drinking water from any water purifier supplied by KENT Purifiers, since KENT Purifiers or its ASP does not have any control over the maintenance and usage of water purifier.
- This Warranty Agreement excludes all products/ component parts or damage to any part of this water purifier which, in the opinion of KENT Purifiers or its ASP, have been subjected to misuse; misapplication; negligence; alteration; accident or operation contrary to our instructions, incompatibility with accessories not installed by KENT Purifiers or its ASP, or that have been repaired with component parts other than those manufactured by or obtained from KENT Purifiers or its ASP. Damage caused by freezing, flood, fire or Act of God is not covered by this Warranty. In all such cases regular charges will apply. This limited Warranty does not include service to diagnose a claimed malfunction in this unit.
- KENT Purifiers reserves the right to alter or improve design and specifications at any time, without any contingent obligations to prospective buyers or owners of the products previously sold.
- Any disagreements and obligations based upon the purchase of KENT Purifiers products and thereby imposed on KENT Purifiers or its ASP shall be governed by and construed according to the laws of INDIA and subject to the jurisdiction of Delhi Courts only.
- KENT Purifiers or its ASP assumes no Warranty liability in connection with this water purifier other than that specified herein. This Warranty is in lieu of all other warranties, expressed or implied, including warranties of fitness for a particular purpose. KENT Purifiers or its ASP does not authorize any person or representative to assume for them any other obligations on the sale of this water purifier.
- Under no circumstances, the liability of KENT Purifiers or its ASP shall exceed the value of the product.
- Under no circumstances are the terms mentioned above negotiable and no employee of KENT Purifiers or its ASP has the authority to supersede them.

Warranty Card

(For Sale through Dealer)

Product : **KENT Sterling**

Serial No. :

Customer Details:

Customer's Name: _____

Customer's Address: _____

Customer's Ph. No.: _____

Warranty Details:

Invoice Date: _____ Invoice No.: _____

Date of Installation: _____ Stamp of Service Provider

For Service Contact:

Service Provider's Name: _____

Service Provider's Address: _____

Ph. No.: _____

Marketed by: **KENT RO SYSTEMS LTD.**
A-2, Sector-59, Noida, U.P.-201 309, India
Ph.: +91-120-3075075
E-mail: service@kent.co.in Website: www.kent.co.in
Customer care: +91-120-4669666

Installation Report

Product : **KENT Sterling**

Serial No.

Customer's Name _____

Customer's Address _____

Customer's Ph. _____

Customer's Signature _____

Invoice No. _____

Invoice Date _____

Installation Date _____

Service Provider _____

Service Provider's Address _____

Service Provider's Ph. _____

Service Provider's Stamp _____

By signing on this installation report, the customer hereby agrees to the terms & conditions of warranty mentioned on the back side of the warranty card

Affix
Stamp
here

To,

KENT RO SYSTEMS LTD.

A-2, Sector-59, Noida, U.P. - 201 309, India

Ph.: +91-120-3075075

E-mail: sales@kent.co.in Website: www.kent.co.in

Automatic Operation

- The purifier automatically shuts – off when the storage tank becomes full
- The purifier does not start when inlet water supply pressure is below 0.3 kg/cm²
- The purifier automatically restarts when water level drops below the maximum
- The purifier doesn't allow any water rejection in absence of electricity or when the tank is full.

Installation Instructions

KENT Sterling Mineral RO™ Water Purifier is a convenient and easy-to-install under the counter model.

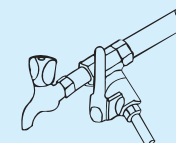
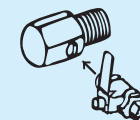
Recommended Site Preparations:

- 100-300V, 50-60 Hz single phase AC supply not more than 3 m away from the point of installation
- Raw water supply with ½ inch nipple not more than 3 m away
- Drain for reject water not more than 3 m away
- Installation space as per the dimensions of the purifier
- For optimum inlet pressure, source water tank should be at least 10 ft above the purifier installed
- Install the purifier near a sink for easy availability of inlet and reject water lines
- The system and installation need to comply with state and local laws and regulations

Installation Procedure

1. Fix the SS ball valve to the ¼ inch port of the 3-way connector as shown in the figure
2. Connect the 3-way connector to the raw water supply as shown in the figure. The threaded end of the 3-way connector is fitted in – line with the raw water supply. The other end can be connected to a tap or plugged-off if not required
3. Now connect one end of the white pipe to the SS ball valve and other end to the lower pushfit elbow fitting on the back side of the purifier labeled as 'Water In'

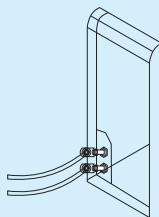
 Use white pipe for raw water supply



4. Similarly, connect one end of the blue pipe to the fitting connector labeled as 'Reject Water' and leave the other end in the drain

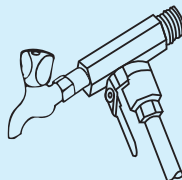
 Use blue pipe for reject water

5. Install the faucet on the kitchen sink or the slab. Connect one end of white pipe to the faucet and the other end to the fitting connector labeled as 'Faucet'



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

- i Open the SS ball valve (Handle parallel to the ball valve) to start the flow of water into the purifier
- ii Wait for 2-3 minutes to ensure that the filters are soaked in water



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 for the first time

- Switch on the power supply
- Wait approximately for half an hour so that the storage tank is full**
- Switch off the power supply
- Drain off the storage tank by opening the faucet to remove any dust particles from the pipe and storage tank
- Close the faucet & switch on the power supply
- The purifier is ready to use

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

**Tested & Certified Flushing Time - 24 Hours.

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 it can be used for gardening purposes.

The high concentration of salts and minerals accelerate 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.

- Storage tank must be drained once in a week
- 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
- 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

Replacement of spare parts are as under:-

-20010	SP Inline Sediment Filter 8"
-20009	SP Inline Carbon Filter 8"
-20002	SP RO Membrane Welded 8" Housing
-20004	SP UF Membrane Welded 8" Housing
-20018	SP FRT 550

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

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.

Technical Specifications

MODEL NAME	KENT Sterling Mineral RO™
Model No.	11034
Applications	Suitable for Brackish/Tap Water/Municipal Water Supply
Purification Production Rate	Upto 15 L/hr or 0.25 L/min*
Body Material	ABS Food Grade Plastic
Mounting	Under the Counter
Dimensions(mm)	445 (L) x 245 (W) x 420 (H)
Inlet Water Pressure / Temp. (Min.)	0.3 kg/cm ² or 4.267 psi/10° C
Inlet Water Pressure / Temp. (Max.)	3.0 kg/cm ² or 42.67 psi/35° C
Filter Cartridge	Sediment, Activated Carbon, UF
UF Membrane	0.01-0.1 microns
RO Membrane	Thin Film Composite RO 75 GPD
Storage Capacity	6 Litres
Maximum Duty Cycle	75 L/day
Net Weight	11.50 kg
Booster Pump Voltage	24V DC
Power Consumption	60 W
Input Power Supply	100-300V~, 50-60Hz, 800 mA 

* Purification capacity tested for raw water having TDS level of 750 ppm at room temperature.

Performance Data Sheet-KENT Sterling 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	93.6%
Arsenic (+5)	0.30 ± 10%	0.010	98.7
Barium	10.0 ± 10%	2.0	97.7
Fluoride	8.0 ± 10%	1.5	96.3
Lead	0.15 ± 10%	0.010	99.3
Nitrate / Nitrite	30 ± 10%	10	73.5

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

"Efficiency rating means the percentage of the influent water that is available to the user as reverse osmosis treated water under operating condition that approximate typical daily usage."

"Testing was performed under standard laboratory conditions, actual performance may vary"

"This system is acceptable for treatment of influent concentrations of no more than 27 mg/L nitrate and 3 mg/L nitrite (In combination measured as N), and is contingent on the proper functioning of the booster pump included as part of this system to deliver a minimum pressure on the membrane of at least 40 psi"

"This system has been tested for the treatment of water containing pentavalent arsenic (also known as As (V), As (+5), or arsenate) at concentrations of [0.050 mg/L or 0.30 mg/L] or less. This system reduces pentavalent arsenic but may not remove other forms of arsenic. This system is to be used on water supplies containing detectable free chlorine residual or on water supplies that have been demonstrated to contain only pentavalent arsenic. Treatment with chloramines (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic. Please see the Arsenic Facts section of the performance data sheet for further information".

Arsenic Facts

Arsenic (As) is a naturally occurring contaminant found in many ground waters. It generally occurs in two forms (valences or oxidation states): pentavalent arsenic (also known as As(V), As(+5), or arsenate) and trivalent arsenic (also known as As(III), As(+3), or arsenite). In natural ground water, arsenic may exist as trivalent arsenic, pentavalent arsenic, or a combination of both. Although both forms of arsenic are potentially harmful to human health, trivalent arsenic is considered more harmful than pentavalent arsenic. More information about arsenic and its toxicity can be found on the U.S. Environmental Protection Agency website at <http://www.epa.gov/safewater/arsenic.html>

This system is designed to remove only pentavalent arsenic. This treatment system does not provide a feature for conversion of trivalent arsenic to pentavalent arsenic. The system may remove some trivalent arsenic, however, it has not been evaluated for its ability to remove trivalent arsenic.

Trivalent arsenic is generally more difficult to remove from drinking water than pentavalent arsenic. Trivalent arsenic can be converted to pentavalent arsenic in the presence of an effective oxidant such as free chlorine. The arsenic in water containing detectable free chlorine or that has been treated with another effective oxidant will be in the pentavalent arsenic form.⁴ Treatment with chloramine (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic.

Consumers using public water supplies can contact their utility to verify whether free chlorine treatment chemicals are being used. Private water supplies and waters that do not have detectable free chlorine residuals should be analyzed to determine the form(s) of arsenic present and the potential need for oxidation of trivalent arsenic to pentavalent arsenic.

Arsenic does not generally impart color, taste, or smell to water, therefore, it can only be detected by a chemical analytical test. Public water supplies are required to monitor treated water for total arsenic (trivalent arsenic plus pentavalent arsenic) and the results are available to the public from the utility. Consumers using private water sources will need to make arrangements for testing. A total arsenic test usually costs about \$15-\$30 and it is recommended the test be conducted by a certified laboratory. Local health departments or environmental protection agencies can help provide consumers with a list of certified laboratories. Some laboratories may also be able to analyze specifically for (speciate) the form(s) of arsenic present in a water sample if requested.

This treatment system was tested under laboratory conditions as defined in NSF/ANSI 58 Drinking Water Treatment Units – Health Effects and was found to reduce 0.30 mg/L of pentavalent arsenic in the test water to less than 0.010 mg/L under standard testing conditions. Actual performance of the system may vary depending on specific water quality conditions at the consumer's installation. Following installation of this system, the consumer should have the treated water tested for total arsenic to verify arsenic reduction is being achieved and the system is functioning properly.

The arsenic removal component of this system must be replaced at the end of its useful life of 1-2 years. The replacement component, 20010 SP Inline Sediment Filter 8", 20009 SP Inline Carbon Filter 8", 20002 SP RO Membrane Welded 8" Housing, 20004 SP UF Membrane Welded 8" Housing, 20018 SP FRT 550 can be purchased directly from the manufacturer KENT RO Systems, Ltd.