KENT
Mineral RO™
Water Purifiers
HOUSE of PURITY

# KENT GALAXY
# HOT, COLD & NORMAL
## Water Dispenser with in-built RO Purifier

## Instruction Handbook for Installation, Operation and Maintenance.



**KENT® *TECHNOLOGY***
Removes Dissolved Impurities
Retains Essential Minerals
Multiple Purification
**RO+UF+TDS Control**

Reverse Osmosis Water Purifier & TDS Controller



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TÜV SÜD ISO 9001 | TÜV SÜD ISO 14001 | TÜV SÜD ISO 45001

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Innovations for Better Living

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**THE VENDING CO.**
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# Welcome to KENT

Dear Customer,

Welcome to the world of KENT, the leading brand in water purification industry of India. With a KENT product you have all the reasons to smile, as at KENT we take pride in the quality and laboratory-tested performance of our products. Backed by cutting edge technology, each KENT product provides solution for attaining purity in the most convenient manner.

We are confident that your decision to own KENT Galaxy Hot, Cold & Normal Water Dispenser with in-built RO Purifier 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 that you will be satisfied with its trouble-free performance and quality without any compromise.

This manual is an effort towards acquainting you with operation and maintenance of KENT Galaxy Hot, Cold & Normal Dispenser with in-built RO Purifier. Read this manual carefully prior to using the product for easy operation of the system and retain it for future reference.

Best Wishes

KENT RO SYSTEMS LTD.

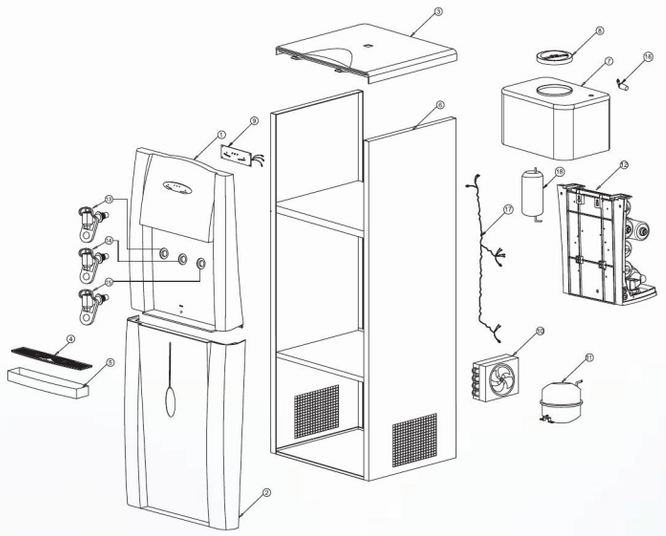
## Table of Contents

# KENT Technology- A Breakthrough in Water Purification

Presenting the KENT Galaxy Hot, Cold & Normal Dispenser with in-built RO Purifier. It uses state-of-the-art technology to provide purer & healthier drinking water. The heart of KENT Galaxy Hot, Cold & Normal is a RO membrane having capillaries as small as 0.0001 microns, which reduces dissolved impurities (salts and heavy metals) as well as harmful micro-biological impurities (bacteria, viruses etc.) and also converts hard water to sweet and purer drinking water. It also incorporates a UF membrane which further ensures reduction of harmful micro-organisms. KENT Galaxy Hot, Cold & Normal Dispenser allows the user to control Total Dissolved Solids (TDS) level of purified water. Along with hundred percent purified water, Kent Galaxy Hot, Cold & Normal Dispenser provides you access to normal as well as cold filtered water.

**BOM KENT GALAXY HOT, COLD & NORMAL**

| S.NO. | DESCRIPTION | UNIT | QTY. |
|---|---|---|---|
| 1 | FRONT UPPER PANEL | N | 1 |
| 2 | FRONT LOWER PANEL | N | 1 |
| 3 | TOP COVER | N | 1 |
| 4 | WASTE WATER TRAY LID | N | 1 |
| 5 | WASTE WATER TRAY | N | 1 |
| 6 | MAIN BODY SS | N | 1 |
| 7 | COLD WATER TANK | N | 1 |
| 8 | WATER TANK LID | N | 1 |
| 9 | LED PCB DECO | N | 1 |
| 10 | CONDENSER WITH FAN ASSLY | N | 1 |
| 11 | COMPRESSOR | N | 1 |
| 12 | RO UNIT ASSEMBLY | N | 1 |
| 13 | HOT WATER TAP | N | 1 |
| 14 | COLD WATER TAP | N | 1 |
| 15 | NORMAL WATER TAP | N | 1 |
| 16 | FLOAT | N | 1 |
| 17 | MAIN WIRE HARNESS | N | 1 |
| 18 | HOT WATER TANK | N | 1 |



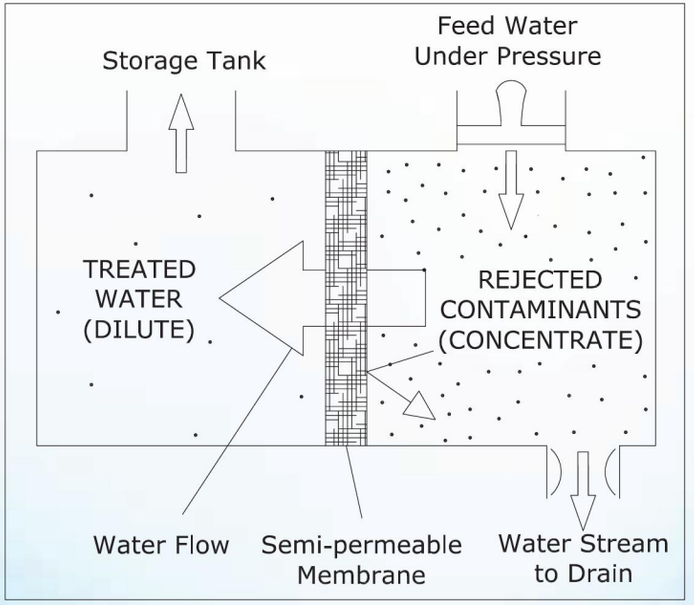
# Salient Features of KENT Galaxy Hot, Cold & Normal

KENT proudly presents KENT Galaxy Hot, Cold & Normal Dispenser with in-built RO Purifier —an advanced pure water dispenser based on a cutting-edge technology which broadly comprises of RO+UF+TDS control system, thus, taking total care of your health and well-being. It has the following features:

- **Multifunctional:** Supplies hot and cold water to fulfil your diversified needs i.e. Making ice tea, hot & cold beverages etc.
- **4-Stage Water Purification:** KENT Galaxy Hot, Cold & Normal Dispenser with in-built RO Purifier incorporates four stage water purification to ensure purer water. Moreover, it is ideal for municipal, corporation water supply.
- **Design:** KENT Galaxy Hot, Cold & Normal Dispenser has been aesthetically designed to fit in the work place as well as at residence.
- **Ease of Access:** KENT Galaxy Hot, Cold & Normal Dispenser with in-built RO Purifier provides you an ease of connection to direct water supply, thus discarding the need of mounting a bottle on the dispenser.
- **Trouble-free Performance:** KENT Galaxy Hot, Cold & Normal is easy to maintain and service. It has been rigorously tested under stringent conditions to ensure trouble-free service, for years.
- **Intelligent Controls:** Embedded with a refriger ation system, it utilises a double protection temperature controller which maintains the water temperature between 7- 17° C. This range of temperature is ideal for making ice tea, lime water and other beverages. Embedded with a heating system, it utilises heating technology to heat the water to max temp.of 85° C, ideal for making Tea, Coffee, etc.
- **Secure Against Water Overflow:** Kent Galaxy Hot, Cold & Normal Dispenser with in-built RO Purifier integrates float valve which provides protection against water overflow.

# Reverse Osmosis Process

Reverse Osmosis, also known as hyper filtration, is one of the finest purification process known so far. It is a technique for purifying the water where pressure is applied to force liquid through a semi-permeable membrane in the opposite direction of normal osmosis. This process reduces salts from potable or brackish water. When pressure is applied, purer water gets squeezed through the membrane from the concentrated side to the diluted side. Salts dissolved in water behave as charged ions and are repelled by the RO membrane. The rejected impurities on the concentrated side of the membrane are washed away by a stream of water, thus not accumulating as they do in a traditional filter.



## Ultrafiltration Process

Ultrafiltration is a technique for separating dissolved molecules in water on the basis of size which means that molecules larger than the membrane pore size rating will be retained at the surface of the membrane. It is a separation process that uses membrane with pore size of 0.01microns. UF membranes reduce high molecular weight substances, colloidal materials, organic and inorganic polymeric molecules along-with bacteria. Low applied pressures are therefore sufficient to achieve high flux rates from an ultrafiltration membrane.

## Auto Flushing System

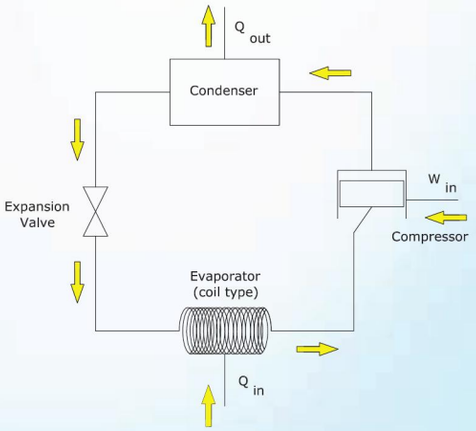
The purpose of the Auto Flushing system is to help prevent scaling or fouling of the RO membrane by providing a rapid rinse which washes away impurities from the membrane's surface and keeps the membrane clean. It also offers the following benefits:

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

## Refrigeration Process

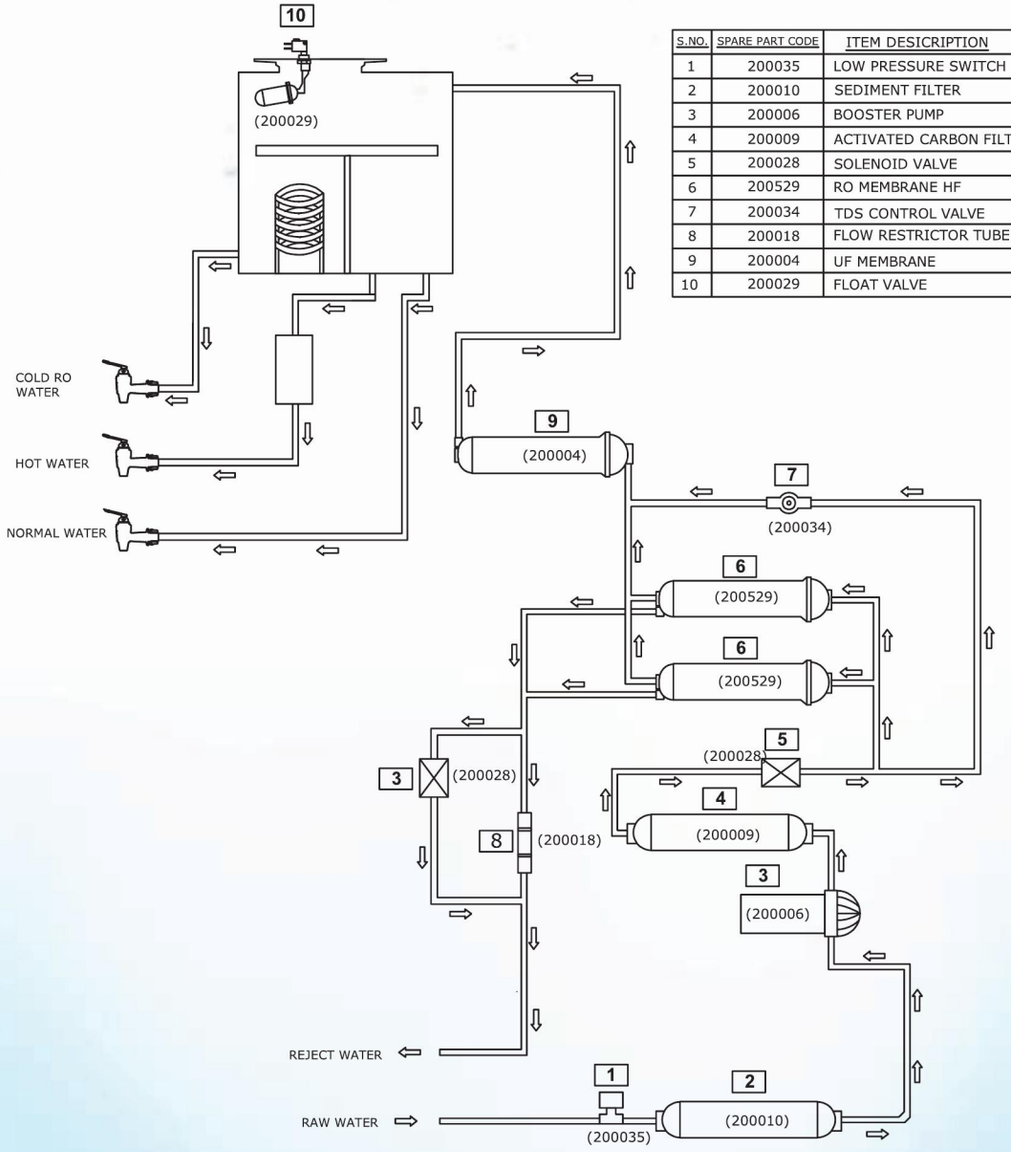
The refrigeration cycle is a common method for transferring heat from low temperature to high temperature. The four basic components of refrigeration cycle are:

- **Compressor:** The compressor serves two functions. It compresses the low-pressure, low-temperature gas into a high pressure, high-temperature gas and it keeps the refrigerant flowing through the cycle.
- **Condenser:** The condenser receives hot pressurised refrigerant gas from the compressor and cools it until the gas changes to a liquid state. In doing so, the condenser transfers heat from the refrigerant into the air surrounding the condenser coils.
- **Capillary Tube:** The capillary tube measures the amount of refrigerant released to the evaporator (coil type). They appear in the refrigeration cycle just before the evaporator (coil type). If the capillary tube is restricted, the proper flow of refrigerant will be disturbed and the water will not be adequately cooled.
- **Evaporator (Coil Type):** Refrigerant changes from liquid to gas in the evaporator and once again the refrigeration cycle begins.



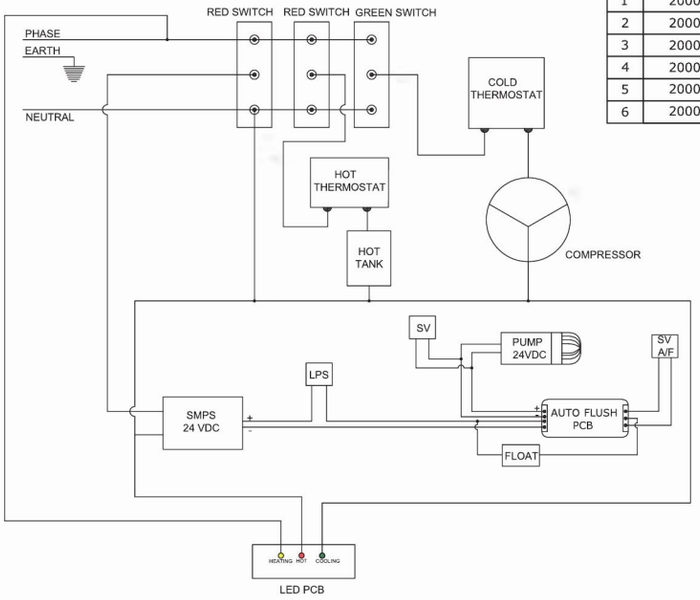



## Water Flow Diagram KENT Galaxy Hot, Cold & Normal




| S.NO. | SPARE PART CODE | ITEM DESICRIPTION |
|---|---|---|
| 1 | 200035 | LOW PRESSURE SWITCH |
| 2 | 200010 | SEDIMENT FILTER |
| 3 | 200006 | BOOSTER PUMP |
| 4 | 200009 | ACTIVATED CARBON FILTER |
| 5 | 200028 | SOLENOID VALVE |
| 6 | 200529 | RO MEMBRANE HF |
| 7 | 200034 | TDS CONTROL VALVE |
| 8 | 200018 | FLOW RESTRICTOR TUBE |
| 9 | 200004 | UF MEMBRANE |
| 10 | 200029 | FLOAT VALVE |

## Electrical Circuit Diagram KENT Galaxy Hot, Cold & Normal




| S.NO. | SPARE PART CODE | ITEM DESCRIPTION |
|---|---|---|
| 1 | 200016 | SMPS |
| 2 | 200035 | LOW PRESSURE SWITCH |
| 3 | 200028 | SOLENOID VALVE |
| 4 | 200006 | BOOSTER PUMP |
| 5 | 200023 | AUTO FLUSH PCB |
| 6 | 200029 | FLOAT VALVE |

## Automatic Operation

- Automatically shuts off water purification process when the storage tank is full
- Does not start water purification process when the inlet water supply pressure is below 0.3kg/cm$^2$
- Restarts water purification process when the water level drops below the maximum level
- Stops water purification process in the absence of electricity, thus ensuring that a user gets only purified water
- Resumes water purification process once the electrical supply is available
- Water cooling is ceased when temperature drops to 7° C

## Items in the Box

| | | | |
|---|---|---|---|
| 1. | 3-Way Connector | : | 1 |
| 2. | S.S. Ball Valve | : | 1 |
| 3. | Food Grade Pipe 3/8" (White) | : | 2.5 Meters |
| 4. | Food Grade Pipe 1/4" (Blue) | : | 2.5 Meters |
| 5. | Warranty Card | : | 1 N |



## TDS Adjustment*

The unique TDS control system enables customers to retain natural minerals in the purified water as per the requirement.

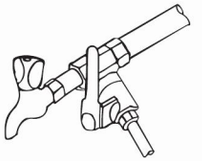
- To increase the TDS level (mineral contents), turn the screw of the valve anticlockwise
- To decrease the TDS level (mineral contents), turn the screw of the valve clockwise

## Installation Instructions

1. Unpack the machine and place it on a levelled surface.

2. Fix the S.S. ball valve to the ¼ inch port of the 3-way connector as shown in the figure.

3. 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 can be plugged off if not required.



4. Now connect one end of the first fitting to the S.S. ball valve and other end to the lower pushfit fitting on the back side of the dispenser labelled as water-in. (Note: White pipe is for raw water supply).

5. Similarly, connect one end of the blue pipe to the second fitting connector and leave the other end in the drain. (Note: Blue pipe is for reject water).
6. Before connecting the power supply, it is important that you perform the following functions:
   (I) Open the S.S. 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.
7. Insert the power cord into the socket and then turn on the switches. Do not turn on the switches at the same time. The LED on the front panel then flashes to indicate that the system is ready to use (each LED light has a different switch).
8. The system and installation need to comply with state & local laws & regulations.

## Maintenance

- Ensure to keep at least 15 cm of distance between the device & wall.
- Keep the unit away from direct sunlight and rain.
- Empty water tank before cleaning the device.
- Unplug the machine and drain out the water by opening the tap if unused for a long period of time.
- This appliance is not intended for use by persons 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. Children should be supervised to ensure that they do not play with the appliance.

The reverse osmosis system contains a replaceable treatment component, critical for the effective reduction of total dissolved solids and that product's 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 Block Filter 8"** |
| -200529 | **SP RO Membrane (HF)** |
| -200004 | **SP Welded UF Membrane 8"** |
| -200018 | **SP FRT 550** |

"This reverse osmosis system contains a replaceable component critical to the efficiency of the purifiers. Replacement of the reverse osmosis component should be with one of the identical specifications as defined by the manufacturer, to ensure the same efficiency and contaminant reduction performance."



## Troubleshooting

| No. | Breakdown | Reason |
|---|---|---|
| 1. | No water output from the machine | • There is no intake water supply or the power cord is not correctly plugged in. |
| 2. | Amplitude vibration and loud noise | • The device has not been placed on an even surface |
| 3. | Water overflow | • Float valve is not working. |

## Caution

- Make sure that the dispenser is connected to normal water supply only.
- Make sure that the reject water pipe is not placed at a level higher from the dispenser, otherwise reject water may flow backwards into the purifier.
- The maximum distance between the water source and the dispenser should not be more than 3 meters.
- To keep the storage tank clean, it should be drained once in 15 days.
- In case of not using the dispenser for more than two days, kindly switch off the power supply and drain the storage tank.
- Do not try to service the dispenser on your own. Instead call service technician for help.
- If the supply cord is damaged, it must be replaced by the original part in order to avoid hazard.

# Technical Specifications

| PRODUCT | KENT GALAXY HOT, COLD & NORMAL WATER DISPENSER |
|---|---|
| Product Code | 111160 |
| Product Generic Name | MRO Hot, Cold & Normal |
| Product Colour | White |
| Applications | Suitable for Brackish/Tap Water/Municipal Corporation Water |
| Purification Capacity | Up to 40 L/hr.* |
| Body Material | ABS Engineering Plastic/Steel Powder Coated |
| Installation | Floor Standing |
| Dimensions (mm) | 315 (W) X 345 (L) X 1125 (H) |
| Inlet Water Pressure (Min.) | 0.3kg/cm$^2$/10°C |
| Inlet Water Pressure (Max.) | 4kg/cm$^2$/40°C |
| Filter Cartridge | Sediment, Carbon Block Filter, UF |
| UF Filter | Ultrafiltration Membrane |
| Auto Flushing System | Yes |
| Cold Water Storage Capacity | 8L |
| Hot Water Storage Capacity | 1L |
| Membrane Type | RO Membrane |
| Booster Pump Voltage | 24VDC |
| Rated Current | 1.8 Amp |
| Cooling Capacity (±5%) | 5 L/hr. |
| Compressor | THK9384YCG, Tecumseh make or equivalent |
| Temp. Class | ST |
| Refrigerant | R-134A/52gm |
| Refrigerant Mass | 90g |
| Condenser | Static |
| Condenser Fan | Axial Flow Type |
| Expansion Device | Capillary Tube |
| Evaporator | Coil Type |
| Weight | 24.5 kg |
| Input Power Supply | 220-240 V/ 1 Ph/ 50-60 Hz |
| Total Power Consumption | 800W |
| No. of Faucets | 3 |
| Power Hot (Watts) | 540 |
| Power RO (Watts) | 60 |
| Climatic Condition | T |
| Combined Current A | 3 |

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

"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."



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).