

TEST REPORT

Test Report Issued To:

KENT RO SYSTEMS LTD.

KHASRA NO - 93, VILLAGE - BANTAKHEDI, TEHSIL -
ROORKEE, HARIDWAR, UTTRAKHAND, INDIA,

Test Report No: **N190809013/N190809013-1**

Date of Issue: **28-Aug-2019**



Sample Booking/Receipt Date: **09-Aug-2019**

Date of Start of Testing: **10-Aug-2019**

Date of Completion of Test: **28-Aug-2019**

Customer Relationship Number

43437

Sample Description :

11055-KENT QNET ALKALINE WATER PURIFIER



Customer Reference No :

Kind Attention : **MR. DINESH KUMAR GARG**

E-Mail: **dgarg@kent.co.in**

Contact No: **9910828999**

Sample Condition : **NA**

Sample Quantity (Approx) : **NA**

Sample Size (Approx) : **NA**

SAMPLE NOT DRAWN BY OUR LABORATORY. THE RESULTS RELATE ONLY TO THE ITEMS TESTED

Report Issued by

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STUDY
OF
KENT QNET SMART ALKALINE-MINERAL RO WATER PURIFIER
(RO+UV+UF +Alkaline +TDS CONTROLLER WATER PURIFIER)

Serial No- KR1905044878

Model No. 11055

SUBMITTED TO:

KENT RO SYSTEMS LTD.

E-6,7 & 8 SECTOR- 59

NOIDA (UP)

Analyst Signature



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TEST CERTIFICATE

Issued To:

KENT RO SYSTEMS LTD.
E-6,7 & 8 Sector-59 NOIDA (UP)

ID No. - N190809013-1

Date: 28-08-2019

Kind Attn: Mr. Dinesh Kr Garg.

Sample Particulars:

One Sample of KENT QNET SMART ALKALINE-MINERAL RO WATER PURIFIER was received.

TEST RESULTS

As per annexure

A study report of the product is enclosed

DOR: 10-08-2019

DOC: 28-08-2019

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INTRODUCTION

Kent QNET water purifier is a Reverse Osmosis membrane having capillaries as small as 0.0001 microns, which reduces dissolved impurities and converts hard water to pure drinking water.

The special features of the purifier are as Follows.

1. Interactive touch screen display.
2. Inbuilt TDS controller which allows adjustment of TDS level of purified water.
3. Wall mounted design best suited for homes and offices.
4. 9 L illuminated storage tank with glowing water level indicator.
5. Fully automatic with auto-on and auto-off function.
6. ABS construction for corrosion free use.
7. Computer controlled operations for enhanced purity and long life.
8. Maintain pH level of 8+ in Purified water.
9. Purification by RO + UF + UV + ALKALINE + TDS Control.
10. RO membrane fused inside membrane housing to prevent tampering.

Filtration Process:-

Raw water → Sediment Filter → Activated Carbon Filter → UF Filter



Rejected Water ← RO Membrane → TDS Control → UV Chamber



Purified Water ← Post Carbon Filter + Alkaline Media



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SCOPE OF WORK

Synthetic samples of water were prepared having following composition as per IS 10500-2012 requirement.

<u>S.NO.</u>	<u>DESCRIPTION</u>	<u>COMPOSITION</u>
1	Sample No. I	Water having TDS
2	Sample No. II	Water having TPC
3	Sample No. III	Water having E.coli, Coliform Organisms, Fecal Coliform
4	Sample No. IV	Water having Pesticide
5	Sample No. V	Water having Heavy Metals and Others

All the above five sample were passed through Kent QNET Mineral RO water purifier followed by a purifier with flow control on TDS and the following water sample were drawn.

- One sample of outlet water from sample no.1.
- One sample of outlet water from sample no.2.
- One sample of outlet water from sample no.3.
- One sample of outlet water from sample no.4.
- One sample of outlet water from sample no.5.

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METHODOLOGY

3.1 **MICROBIOLOGICAL TEST** - Estimation was carried out by collect the water sample from outlet and analyzed by the membrane filtration technique. Method followed as per IS-10500-2012.

3.2 **PHYSICAL PARAMETERS**- Estimation was carried out by collect the water sample from outlet and analyzed by the chemical procedure. Method followed as per IS-10500-2012.

3.3 **CONCERNING SUBSTANCES**- Estimation was carried out by collect the water sample from outlet and analyzed by the chemical procedure. Method followed as per IS-10500-2012.

3.4 **TOXIC SUBSTANCES**- Estimation was carried out by collect the water sample from outlet and analyzed by the chemical procedure. Method followed as per IS-10500-2012

3.5 **PESTICIDE**- Estimation was carried out by collect the water sample from outlet and analyzed by GC-MS Method followed as per IS-10500-2012.

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PERFORMANCE OF TOUCH SCREEN

Interactive touch screen display with the following features:

1. Navigation Tabs
 2. RO Pump status
 3. Time
 4. RO Flow Rate
 5. Balance Filter Life
 6. Warning / OK display
 7. Purified water quality display
-
- If the RO pump is On it will show green otherwise red in color.
 - It will show the flow rate of RO, when the storage tank is full RO pump will turn off, with flow rate shown as zero.
 - It has troubleshooting icon with various features like high impurity in water, no minerals in water, no water input, low RO flow rate, etc.
 - It also has computer controlled operation with features like UV lamp failure, Filter replacement, etc.
 - It has TDS Controller.
 - If the TDS of water is in between permissible limit it will show OK otherwise HIGH/LOW in water.
 - It will show warning sign if any kind of problem occur with the RO purifier.



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OBSERVATION

SAMPLE-1

<u>S.No</u>	<u>Sample description</u>	<u>TDS, mg/l</u>
A-	Raw water(Inlet)	584.0
B-	Purified water (outlet)	84.0

SAMPLE-2

<u>S.No</u>	<u>Sample description</u>	<u>TPC, cfu/ml</u>
A-	Raw water(Inlet)	2.5×10^5
B-	Purified water (Outlet)	No Colony

SAMPLE-3 Bacteriological Test

<u>S.NO</u>	<u>TESTS PARAMETERS</u>	<u>OBSERVED RESULT</u>	
		<u>RAW WATER (INLET)</u>	<u>PURIFIED WATER (OUTLET)</u>
1.	E.coli	2.5×10^5	Not Detected
2.	Coliform Organisms	2.5×10^5	Not Detected
3.	Faecal Coliform	2.5×10^5	Not Detected

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SAMPLE-4 Pesticides Test

S.No.	TESTS PARAMETERS	RAW WATER (INLET) (µg/l)	PURIFIED WATER(OUTLET)(µg/l)
1.	Total HCH (a,b,d-isomers)	ND	ND
2.	g-HCH (Lindane)	ND	ND
3.	Total DDT (o,p & p,p-isomers of DDT,DDE,DDT)	ND	ND
4.	Total Endosulfan (a,b and sulfate)	ND	ND
5.	Aldrin	ND	ND
6.	Dieldrin	ND	ND
7.	Monocrotophos	ND	ND
8.	Phorate	ND	ND
9.	Phorate sulphone	ND	ND
10.	Phorate sulphoxide	ND	ND
11.	Malathion	ND	ND
12.	Malaoxon	ND	ND
13.	Methyl-parathion	ND	ND
14.	Methyl-paraoxon	ND	ND
15.	Chlorpyrifos	10.48	ND
16.	Ethion	9.95	ND
17.	Alachlor	ND	ND
18.	Butachlor	ND	ND
19.	Atrazine	ND	ND
20.	2-4-D	ND	ND
21.	Isoproturon	ND	ND
22.	Total Pesticide Content	20.43	ND

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SAMPLE-5

ANALYSIS GENERAL TOXIC HEAVY METAL AS PER IS:10500-2012

S.NO.	TESTS	RAW WATER (INLET)	PURIFIED WATER (OUTLET)
1.	Colour, Hazen units	5.0	<5.0
2.	Odour	Agreeable	Agreeable
3.	Taste	Disagreeable	Agreeable
4.	pH value	7.41	8.14
5.	Turbidity, NTU	5.1	<1.0
6.	Total Dissolved Solids, mg/l	584.0	84.0
7.	Total Hardness (as CaCO ₃), mg/l	256.0	40.0
8.	Residual Free Chlorine, mg/l	Nil	Nil
9.	Chlorides (as Cl), mg/l	52.72	20.28
10.	Sulphate (as SO ₄), mg/l	151.45	0.66
11.	Nitrate (as NO ₃), mg/l	7.55	0.19
12.	Total Iron (as Fe), mg/l	0.24	0.01
13.	Fluorides (as F), mg/l	1.70	<0.01
14.	Manganese (as Mn), mg/l	0.10	<0.01
15.	Copper (as Cu), mg/l	<0.01	<0.01
16.	Selenium (as Se), mg/l	<0.01	<0.01
17.	Chromium (as Cr ⁺⁶), mg/l	<0.01	<0.01
18.	Calcium (as Ca), mg/l	44.89	4.81
19.	Magnesium (as Mg), mg/	34.99	6.80
20.	Phenolic Compounds (as C ₆ H ₅ OH), mg/l	<0.001	<0.001
21.	Mercury (as Hg), mg/l	0.008	<0.001
22.	Cadmium (as Cd), mg/l	0.10	<0.001
23.	Arsenic (as As), mg/l	0.12	<0.01
24.	Cyanide (as CN), mg/l	<0.05	<0.05

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ANALYSIS GENERAL TOXIC HEAVY METAL AS PER IS:10500-2012

<u>S.NO.</u>	<u>TESTS</u>	<u>RAW WATER (INLET)</u>	<u>PURIFIED WATER (OUTLET)</u>
25.	Lead (as Pb), mg/l	<0.01	<0.01
26.	Zinc (as Zn), mg/l	2.10	<0.01
27.	Anionic Detergent (as MBAS), mg/l	0.07	<0.01
28.	Alkalinity, mg/l	291.04	47.08
29.	Aluminium (as Al), mg/l	0.14	<0.01
30.	Boron (as B), mg/l	0.84	<0.10
31.	Mineral Oil, mg/l	<0.01	<0.01
32.	Oxidation Redox Potential , mV	-0029	-0071

(5) ANALYSIS REPORT

Bacteriological Analysis of sample as per IS-10500-2012

<u>S.NO.</u>	<u>PARAMETERS</u>	<u>RESULT</u>		<u>REQUIREMENT</u>	<u>METHOD</u>
		<u>INLET</u>	<u>OUTLET</u>		
1.	Coliform organisms/100ml	2.5x10 ⁵	Not Detected	Not Detected	IS:1622-2003
2.	E.coli/100ml	2.5x10 ⁵	Not Detected	Not Detected	IS:1622-2003
3.	Faecal Coliform/100ml	2.5x10 ⁵	Not Detected	Not Detected	IS-1622-2003

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Pesticide Analysis of sample as per IS-10500-2012

S. NO.	PESTICIDES	TEST METHOD	RESULT(µg/l)		REQUIREMENT (µg/l)
			INLET	OUTLET	
1.	Total HCH (a,b,d-isomers)	EPA 525.2 /EPA 508	ND	ND	0.01
2.	g-HCH (Lindane)	EPA 525.2 /EPA 508	ND	ND	2
3.	Total DDT (o,p &p,p-isomers of DDT,DDE,DDT)	EPA 525.2 /EPA 508	ND	ND	1
4.	Total Endosulfan (a,b and sulfate)	EPA 525.2 /EPA 508	ND	ND	0.4
5.	Aldrin	EPA 525.2 /EPA 508	ND	ND	0.03
6.	Dieldrin	EPA 525.2 /EPA 508	ND	ND	0.03
7.	Monocrotophos	EPA 525.2 /EPA 8141A	ND	ND	1
8.	Phorate	EPA 525.2 /EPA 8141A	ND	ND	2
9.	Phorate sulphone	EPA 525.2 /EPA 8141A	ND	ND	-
10.	Phorate sulphoxide	EPA 525.2 /EPA 8141A	ND	ND	-
11.	Malathion	EPA 525.2 /EPA 8141A	ND	ND	190
12.	Malaoxon	EPA 525.2 /EPA 8141A	ND	ND	-
13.	Methyl-parathion	EPA 525.2 /EPA 8141A	ND	ND	0.3
14.	Methyl-paraoxon	EPA 525.2 /EPA 8141A	ND	ND	-
15.	Chlorpyrifos	EPA 525.2 /EPA 8141A	10.48	ND	30
16.	Ethion	EPA 525.2 /EPA 8141A	9.95	ND	3
17.	Alachlor	EPA 525.2 /EPA 507	ND	ND	20
18.	Butachlor	EPA 525.2 /EPA 8141A	ND	ND	125
19.	Atrazine	EPA 525.2 /EPA 508	ND	ND	2
20.	2-4-D	EPA 525.2 /EPA 515.3	ND	ND	30
21.	Isoproturon	EPA 532	ND	ND	9
22.	Total Pesticide Content	-	20.43	ND	-

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ANALYSIS GENERAL TOXIC HEAVY METAL AS PER IS:10500-2012

S. No	TESTPARAMETERS	OBSERVED RESULTS		LIMITS (MAX)		TEST METHODS
		Tap Water Inlet	Purified Water Outlet	Acceptable Limit	Permissible limit in the absence of Alternate Source	
1.	Colour, Hazen units	5.0	<5.0	5	15	IS:3025 (Pt -4):1983(CI.2)
2.	Odour	Agreeable	Agreeable	Agreeable		IS: 3025 (Pt- 5): 1983
3.	Taste	Disagreeable	Agreeable	Agreeable		IS: 3025 (Pt- 8): 1984
4.	pH value	7.41	8.14	6.50 to 8.5	No relaxation	IS: 3025 (Pt-11): 1983
5.	Turbidity, NTU	5.1	<1.0	1	5	IS: 3025 (Pt-10): 1984
6.	Total Dissolved Solids, mg/l	584.0	84.0	500	2000	IS: 3025 (Pt-16): 1984
7.	Total Hardness (as CaCO ₃), mg/l	256.0	40.0	200	600	IS: 3025 (Pt-21): 2009
8.	Residual Free Chlorine, mg/l	Nil	Nil	0.2	1.0	IS:3025 (Pt-26):1986(CI.4)
9.	Chlorides (as Cl), mg/l	52.72	20.28	250	1000	IS:3025 (Pt-32):1988(CI.2)
10.	Sulphate (as SO ₄), mg/l	151.45	<0.01	200	400	IS:3025 (Pt-24):1986(CI.4)
11.	Nitrate (as NO ₃), mg/l	7.55	0.19	45	No relaxation	IS:3025 (Pt-34):1988(CI.3)
12.	Total Iron (as Fe), mg/l	0.24	0.01	0.3	No relaxation	IS:3025 (Pt-53):2003(CI.6)
13.	Fluorides (F), mg/l	1.70	<0.01	1.0	1.5	APHA-4500-F-D
14.	Manganese (as Mn), mg/l	0.10	<0.01	0.1	0.3	IS: 3025 (Pt-59):2006
15.	Copper (as Cu), mg/l	<0.01	<0.01	0.05	1.5	IS: 3025 (Pt-42):21992
16.	Selenium (Se), mg/l	<0.01	<0.01	0.01	No relaxation	IS:3025 (Pt-56):2003(CI.7)
17.	Total Chromium (as Cr), mg/l	<0.01	<0.01	0.05	No relaxation	IS: 3025 (Pt-52):2003

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ANALYSIS GENERAL TOXIC HEAVY METAL AS PER IS:10500-2012

S. No	TESTPARAMETERS	OBSERVED RESULTS		LIMITS (MAX)		TEST METHODS
		Tap Water Inlet	Purified Water Outlet	Acceptable Limit	Permissible limit in the absence of Alternate Source	
18.	Calcium (as Ca), mg/l	44.89	4.81	75	200	IS:3025(Pt-40):1991 (Cl.4)
19.	Magnesium (as Mg), mg/l	34.99	6.80	30	100	IS:3025(Pt-46):1994 (Cl.6)
20.	Phenolic Compounds (as C ₆ H ₅ OH),mg/l	<0.001	<0.001	0.001	0.002	IS:3025(Pt-43):1992 (Cl.6)
21.	Mercury (as Hg), mg/l	0.008	<0.001	0.001	No relaxation	IS:3025(Pt-48):1994 (Cl.5)
22.	Cadmium (as Cd), mg/l	0.10	<0.001	0.003	No relaxation	IS: 3025 (Pt-41):1992
23.	Arsenic (as As), mg/l	0.12	<0.01	0.01	0.05	IS:3025(Pt-37):1988 (Cl.2)
24.	Cyanide (as CN), mg/l	<0.05	<0.05	0.05	No relaxation	IS:3025(Pt-27):1986
25.	Lead (as Pb), mg/l	<0.01	<0.01	0.01	No relaxation	IS: 3025 (Pt-47): 1994
26.	Zinc (as Zn), mg/l	2.10	<0.01	05	15	IS: 3025 (Pt-49):1994
27.	Anionic Detergent (as MBAS), mg/l	0.07	<0.01	0.2	1.0	APHA 5540-C
28.	Alkalinity, mg/l	291.04	47.08	200	600	IS: 3025 (Pt-23):1986
29.	Aluminium (as Al), mg/l	0.14	<0.01	0.03	0.2	IS: 3025 (Pt-55): 2003
30.	Boron (as B), mg/l	0.84	<0.10	0.5	1.0	IS: 3025 (Pt-57): 2005
31.	Mineral Oil, mg/l	<0.01	<0.01	0.5	No relaxation	IS:3025 (Pt-39): 1991
32.	Oxidation Redox Potential, mV	-0029	-0071	-	-	APHA Guidelines

(6) REMARKS

The sample of purified water drawn from Kent QNET Mineral RO Water Purifier meets drinking water specification as per IS 10500-2012 w. r. t. tested parameters and maintain natural minerals in purified water.

-- End of Test Report --


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