

AQUADIAGNOSTICS



Water Research & Technology Centre

RECOGNISED BY WATER QUALITY ASSOCIATION - USA, NABL ACCREDITED & KSPCB EMPANELLED LABORATORY 'B' GRADE

TEST REPORT

Report No: AWRTEL/4366F /12 - 13

Date: 14.02.2013

CUSTOMER DETAILS	SAMPLE DETAILS	TEST DETAILS
Name & Address Mr.Doug Minton Edison Environmental Safety Products 85328, S.Willamette Street, Eugene, OR 97405 USA	Sample Code No: AWRTEL/4366F/12-13	NSF P 231 protocol for E.Coli reduction using GTW # 1
	Sample Description: Nano Micro filter	
	Sample received on : 07.01.2013	
	Sample Quantity for Testing : 1 No	
	Date of Analysis started : 28.01.2013	
	Date of Analysis Completed: 14.02.2013	
	Subcontract: NA	
	Sample condition when received: Intact	

The Test unit has a Prefilter as 1st stage and a Nano micro filter as the 2nd stage.

Flow rate: 2 Liter per minute

Pressure: 60 PSI ($\approx 4 \text{ kg/cm}^2$)

Claimed Service Volume : 3800 Liters (≈ 1000 gallons)

TEST DATA:

Sampling Points (%) of Estimated Capacity) 3800L	Volume	Input water E.Coli counts cfu /ml	Output water E.Coli counts cfu /100 ml Log values	% Reduction / Log reduction
Start	Initial	4×10^5 cfu/ml 7.6 logs	24 cfu/100ml 1.38	99.99994 6.22
10%	380 Liters	3×10^5 cfu/ml 7.47	114 cfu/100ml 2.95	99.99982 4.52
25%	950 Liters	1.5×10^5 cfu/ml 7.17	25 cfu/100ml 1.39	99.99983 5.78
50%	1900 Liters	2.8×10^5 cfu/ml 7.44	34 cfu/100ml 1.53	99.99987 5.91

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DR.S.MURALIDHARA RAO
HEAD - LABORATORY

WE UNDER TAKE ANALYTICAL JOBS FOR WATER, FOOD, BIOCIDAL RESINS, DETERGENTS & SANITIZERS AND SOIL. WE CARRY OUT PERFORMANCE EVALUATION OF DRINKING WATER TREATMENT UNITS AS PER NSF/ANSI SPECIFICATIONS. BASED ON PERFORMANCE WE CAN ARRANGE FOR GOLD SEAL CERTIFICATION FROM WQA - USA

Note:

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Sampling Points of Estimated Capacity) 3800L	Volume	Input water E.Coli counts cfu /ml	Output water E.Coli counts cfu /100 ml Log values	% Reduction / Log reduction
After 48 hours stagnation	1901 Liters	3.6×10^5 cfu/ml 7.55	27 cfu/100ml 1.43	99.99992 6.12
60%	2280 Liters	4.2×10^5 cfu/ml 7.62	28 cfu/100ml 1.44	99.99993 6.18
75%	2850 Liters	2.6×10^5 cfu/ml 7.41	35 cfu/100ml 1.54	99.99986 5.87
After 48 hours stagnation	2851 Liters	3.2×10^5 cfu/ml 7.50	39 cfu/100ml 1.59	99.99987 5.91
100%	3800 Liters	4.0×10^5 cfu/ml 7.6	38 cfu/100ml 1.57	99.9999 6.03
After 24 hrs stagnation	3801 Liters	3.0×10^5 cfu/ml 7.47	53 cfu/100ml 1.72	99.99982 5.75
After 200 liter extra running	4000 Liters	4.0×10^5 cfu/ml 7.6	39 cfu/100ml 1.59	99.9999 6.01

Cfu : Colony forming units

INFERENCE : Test unit with Nano Micro filter in combination with a Pre filter is capable of reducing E.Coli > 99.999% consistently at 1.7 to 2.0 Lit/Min Flow rate

TEST CONDITIONS

Flow rate of the product is well above 1.7 Liters Per Minute

Test Culture is E.Coli MTCC 68

Spiking of Test Culture is done at the time of Sampling. Sampling was done after passing 10 liters of Spiked water at each point. Rest of the period, GTW #1 was passed through the Filter

Running cycle used : 40 min ON/ 40 min OFF

Running cycles used per day : 4 - 5

Rest of the period, the test unit was under pressure without water flow.

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TEST WATER COMPOSITION : Each Test water Tank prepared
TOC is adjusted with Sodium salt of Humic acid.

SL No	Parameter	Requirement	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
1	Chlorine	Chlorine free	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2	pH	6.5-8.5	7.54	7.43	7.76	7.56	7.43
3	TOC	0.5 - 5.0 mg/L	1.5	--	1.7	--	1.3
4	Turbidity	0.5 - 5 NTU	0.2	0.2	0.1	0.2	0.1
5	Temperature	20 ± 5°C	24	23	23	23	24
6	TDS	50 - 500mg/L	410	365	380	280	250

SL No	Parameter	Requirement	Tank 6	Tank 7	Tank 8	Tank 9	Tank 10
1	Chlorine mg/L	Chlorine free	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2	pH	6.5-8.5	7.52	7.91	7.48	7.68	7.53
3	TOC mg/L	0.1-5.0 mg/L	--	1.3	--	1.2	--
4	Turbidity	0.1-5 NTU	0.2	0.1	0.1	0.1	0.1
5	Temperature	20±5°C	23	23	23	22	23
6	TDS	50-500mg/L	375	390	358	450	410

SL No	Parameter	Requirement	Tank 11	Tank 12	Tank 13	Tank 14	Tank 15
1	Chlorine	Chlorine free	0.05	0.05	0.05	0.05	0.05
2	pH	6.5-8.5	7.64	7.46	7.35	7.82	7.48
3	TOC	0.1-5.0 mg/L	--	1.3	--	1.8	--
4	Turbidity	0.1-5 NTU	0.1	0.2	0.1	0.2	0.1
5	Temperature	20±5°C	22	23	22	23	22
6	TDS	50-500mg/L	430	450	370	365	435

SL No	Parameter	Requirement	Tank 16
1	Chlorine m	Chlorine free	0.05
2	pH	6.5-8.5	7.65
	TOC	0.1-5.0 mg/L	1.6
4	Turbidity	0.1-5 NTU	0.3
5	Temperature	20±5°C	23
6	TDS	50-500mg/L	425

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smr
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