

WATER FILTER EFFICIENCY STUDY

STUDY DONE FOR

M/s Newco Pro India (Pvt) Ltd

STUDY DONE FOR

Equinox Labs Pvt Ltd

Report Number	EQNX:001:LAB:W:25:11:20185 - 20190
Sample Description	Sydney 905 Water Filter
Analysis Date	21/11/2025 - 13/12/2025
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Verified By	Dr. Manisha Kharade

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Sydney 905 WATER FILTER EFFICIENCY STUDY

1. SCOPE –

- To determine the efficiency of the Sydney 905 water filter to reduce the chemical and microbial contaminants from the water.

2. PARAMETERS TO BE TESTED –

➤ Chemical parameters

- Chlorine
- pH
- Turbidity
- Temperature
- TSS
- Electrical conductivity
- TDS
- Alkalinity
- Total Hardness
- Calcium Hardness
- Ammonia
- Sulphates
- Nitrates
- Nitrites
- Total phosphates
- Fluorides

➤ Heavy metals

- Sodium
- Manganese
- Iron
- Magnesium
- Calcium
- Potassium

➤ Biological contaminants

- E.coli
- Fecal Coliform
- Total Coliform

3. METHOD OF ANALYSIS

3.1 Testing Method

- six filters were supplied (0.1 μm , and 0.2 μm), with three filters of each pore size. All six filters were tested, and average results were calculated for each parameter.
- Unwrap the Sydney 905 water filter and clean the outer casing with sterile water.
- Flush all the filters with 4-5 liters of sterile water prior to testing.
- Prepare the feed water (both GTW and CTW) as specified above.
- Subject the feed water (both GTW and CTW) to the analysis of the above mentioned parameters (consider the samples as pre-treatment water samples).
- Pass the feed water – GTW from the Sydney 905 water filter at the flow rate of 1 lit/min
- Examine the filtered water (passed through the filters) for all the above mentioned parameters (consider the sample as post-treatment water sample).
- Repeat the above steps for two more times for all the Sydney 905 water filters, so that results will be obtained in triplicates.
- Repeat the steps 5, 6 and 7 using CTW for all the three Sydney 905 water filters.
- Compare the results of pre and post treatment water samples.
- Calculate the % reduction for applicable parameters.
- Conclude on the efficacy of the water filter basis on the obtained results.

Note : -

The protocol has been designed by referring to the WHO protocol shared by the Newco Pro India (Pvt) Ltd Team.

The backwashing/cleaning is to be followed as specified by the Newco Pro India (Pvt) Ltd Team.

3.2 Preparation of feed water as per below table

General Test Water (GTW)			Challenge Test Water (CTW)		
Parameter	Specification	Unit	Parameter	Specification	Unit
Chlorine	< 0.05	mg/L	Chlorine	< 0.05	mg/L
pH	7.0 ± 0.5	-	pH	9.0 ± 0.5	-
Turbidity	< 1	NTU	Turbidity	40 ± 10	NTU
TSS	50 ± 15	mg/L	TSS	50 ± 15	mg/L
Electrical Conductivity	250 ± 15	µs/cm	Electrical Conductivity	100 ± 15	µs/cm
Temperature	20 ± 3°C	°C	Temperature	4 ± 1°C	°C
TDS	275 ± 225	mg/L	TDS	1500 ± 150	mg/L
Alkalinity	100 ± 20	mg/L as CaCO ₃	Alkalinity	100 ± 20	mg/L as CaCO ₃
Total Hardness	200	mg/L	Total Hardness	200	mg/L
Calcium Hardness	80	mg/L	Calcium Hardness	80	mg/L
Iron	0.1	mg/L	Iron	0.1	mg/L
Ammonia	0.5	mg/L	Ammonia	0.5	mg/L
Sulphates	100	mg/L	Sulphates	100	mg/L
Nitrates	5	mg/L	Nitrates	5	mg/L
Nitrites	0.01	mg/L	Nitrites	0.01	mg/L
Total phosphates	0.5	mg/L	Total phosphates	0.5	mg/L
Magnesium	30	mg/L	Magnesium	30	mg/L
Calcium	80	mg/L	Calcium	80	mg/L
Fluorides	0.5	mg/L	Fluorides	0.5	mg/L
Potassium	10	mg/L	Potassium	10	mg/L
Sodium	1	mg/L	Sodium	1	mg/L
Manganese	0.01	mg/L	Manganese	0.01	mg/L
E. coli	10 ⁶	per/100 ml	E. coli	10 ⁶	per/100 ml
Fecal Coliform	10 ⁶	per/100 ml	Fecal Coliform	10 ⁶	per/100 ml
Total Coliform	10 ⁶	per/100 ml	Total Coliform	10 ⁶	per/100 ml

4. Photos

- 0.1 μ size filter



- 0.2 μ size filter



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5. Observation :-

A) Sample – 0.1 A - General Test Water (GTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.1 A1	Sample – 0.1 A2	Sample – 0.1 A3		
pH	-	7.10	6.92	6.99	7.03	6.98	1.69
Turbidity	NTU	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	99.99
Electrical Conductivity	µs/cm	415	215	228	218	220.51	46.91
TDS	mg/L	270	140	148	142	143.33	46.91
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	198	82.1	96.2	85.7	88.00	55.56
Calcium Hardness	mg/L	75	21.4	22.6	18.0	20.67	72.44
Alkalinity	mg/L	96	63.6	56.1	51.5	57.07	40.56
Iron	mg/L	0.1	0.049	0.056	0.066	0.06	43.00
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	96	2.1	3.6	2.6	2.77	97.12
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.009	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.92	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	50	42	41	46	43.00	14.00
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	32.5	10.1	9.8	10	9.98	69.31
Calcium	mg/L	78.2	13.3	12.3	11.8	12.48	84.04
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.9	8.7	8.7	8.9	8.75	11.58
Sodium	mg/L	0.8	0.67	0.68	0.66	0.67	16.29
Manganese	mg/L	0.02	0.013	0.011	0.019	0.01	28.33
E. coli	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	5.4 X 10 ⁶	< 1	< 1	< 1	< 1	100

B) Sample – 0.1 B - General Test Water (GTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.1 B1	Sample – 0.1 B2	Sample – 0.1 B3		
pH	-	7.10	7.05	6.94	7.01	7.00	1.41
Turbidity	NTU	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	99.99
Electrical Conductivity	µs/cm	415	212	217	225	217.95	47.53
TDS	mg/L	270	138	141	146	141.67	47.53
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	198	78.6	75.6	74.9	76.37	61.43
Calcium Hardness	mg/L	75	18.3	16.4	15.3	16.67	77.78
Alkalinity	mg/L	96	58.5	48.8	55.4	54.23	43.51
Iron	mg/L	0.1	0.009	0.016	0.027	0.02	82.67
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	96	4.5	3.6	5.1	4.40	95.42
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.009	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.92	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	50	35	40	36	37.00	26.00
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	32.5	9.9	9.9	10.2	10.00	69.23
Calcium	mg/L	78.2	22.2	21.5	20.4	21.39	72.64
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.9	8.0	8.5	8.6	8.36	15.54
Sodium	mg/L	0.8	0.72	0.7	0.77	0.73	8.75
Manganese	mg/L	0.02	0.013	0.011	0.011	0.01	41.67
E. coli	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	5.4 X 10 ⁶	< 1	< 1	< 1	< 1	100

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C) Sample – 0.1 C - General Test Water (GTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.1 C1	Sample – 0.1 C2	Sample – 0.1 C3		
pH	-	7.10	6.96	6.99	7.08	7.01	1.27
Turbidity	NTU	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	99.99
Electrical Conductivity	µs/cm	415	234	228	220	227.18	45.31
TDS	mg/L	270	152	148	143	147.67	45.31
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	198	92.5	86	93.6	90.70	54.19
Calcium Hardness	mg/L	75	16.40	18.10	12.20	15.57	79.24
Alkalinity	mg/L	96	46.2	52.9	49.1	49.40	48.54
Iron	mg/L	0.1	0.004	0.022	0.037	0.02	79.00
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	96	2.2	2.6	3.1	2.63	97.26
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.009	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.92	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	50	43	38	36	39.00	22.00
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	32.5	9.6	9.7	9.6	9.61	70.44
Calcium	mg/L	78.2	21.1	19.8	18.5	19.81	74.67
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.9	7.9	8.6	8.6	8.35	15.66
Sodium	mg/L	0.8	0.80	0.72	0.70	0.74	7.36
Manganese	mg/L	0.02	0.011	0.012	0.011	0.01	43.33
E. coli	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	5.4 X 10 ⁶	< 1	< 1	< 1	< 1	100

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D) Sample – 0.2 A - General Test Water (GTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.2 A1	Sample – 0.2 A2	Sample – 0.2 A3		
pH	-	7.10	6.98	7.02	6.99	7.00	1.46
Turbidity	NTU	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	99.99
Electrical Conductivity	µs/cm	415	243	232	240	238.46	42.59
TDS	mg/L	270	158	151	156	155.00	42.59
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	198	75	76	71	74.00	62.63
Calcium Hardness	mg/L	75	15.60	15.40	13.20	14.73	80.36
Alkalinity	mg/L	96	68.3	65.4	63.2	65.63	31.63
Iron	mg/L	0.1	0.035	0.043	0.047	0.04	58.33
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	96	4.8	3.9	4.5	4.40	95.42
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.009	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.92	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	50	40.6	39.8	38.4	39.60	20.80
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	32.5	9.4	10.6	10.3	10.10	68.92
Calcium	mg/L	78.2	13.6	14.2	14.8	14.20	81.84
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.9	8.2	8.8	8.6	8.53	13.80
Sodium	mg/L	0.8	0.75	0.71	0.69	0.72	10.42
Manganese	mg/L	0.02	0.018	0.016	0.02	0.02	10.00
E. coli	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	5.4 X 10 ⁶	< 1	< 1	< 1	< 1	100

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E) Sample – 0.2 B - General Test Water (GTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.2 B1	Sample – 0.2 B2	Sample – 0.2 B3		
pH	-	7.10	6.96	6.99	6.95	6.97	1.88
Turbidity	NTU	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	99.99
Electrical Conductivity	µs/cm	415	234	237	225	231.79	44.20
TDS	mg/L	270	152	154	146	150.67	44.20
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	198	68.4	65.1	70.6	68.03	65.64
Calcium Hardness	mg/L	75	16.40	18.70	16.50	17.20	77.07
Alkalinity	mg/L	96	66.4	67.1	63.8	65.77	31.49
Iron	mg/L	0.1	0.021	0.036	0.041	0.03	67.33
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	96	5.4	2.9	3.1	3.80	96.04
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.009	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.92	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	50	40.2	36.7	36.9	37.93	24.13
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	32.5	10.2	10.6	9.8	10.20	68.62
Calcium	mg/L	78.2	14.3	14.2	13.9	14.13	81.93
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.9	8.2	8.6	8.3	8.37	15.49
Sodium	mg/L	0.8	0.71	0.76	0.75	0.74	7.50
Manganese	mg/L	0.02	0.011	0.018	0.019	0.02	20.00
E. coli	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	5.4 X 10 ⁶	< 1	< 1	< 1	< 1	100

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F) Sample – 0.2 C - General Test Water (GTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.2 C1	Sample – 0.2 C2	Sample – 0.2 C3		
pH	-	7.10	7.01	7.00	6.98	7.00	1.46
Turbidity	NTU	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	99.99
Electrical Conductivity	µs/cm	415	243	251	246	246.67	40.62
TDS	mg/L	270	158	163	160	160.33	40.62
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	198	76.1	71.5	74.3	73.97	62.64
Calcium Hardness	mg/L	75	18.40	19.30	15.40	17.70	76.40
Alkalinity	mg/L	96	66.3	61.5	67.1	64.97	32.33
Iron	mg/L	0.1	0.026	0.034	0.022	0.03	72.67
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	96	4.4	5.6	4.2	4.73	95.07
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.009	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.92	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	50	39.5	40.3	38.6	39.47	21.07
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	32.5	9.6	9.6	10.2	9.80	69.85
Calcium	mg/L	78.2	15.6	14.8	13.6	14.67	81.24
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.9	8.1	8.4	8.3	8.27	16.50
Sodium	mg/L	0.8	0.77	0.76	0.77	0.77	4.17
Manganese	mg/L	0.02	0.012	0.015	0.016	0.01	28.33
E. coli	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	4.1 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	5.4 X 10 ⁶	< 1	< 1	< 1	< 1	100

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G) Sample – 0.1 A - Challenge Test Water (CTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.1 A1	Sample – 0.1 A2	Sample – 0.1 A3		
pH	-	9.0	8.92	8.96	8.93	8.94	0.70
Turbidity	NTU	39.6	4.2	4.5	4.8	4.50	88.64
Electrical Conductivity	µs/cm	2462	1508	1517	1529	1517.95	38.33
TDS	mg/L	1600	980	986	994	986.67	38.33
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	196	78.1	75.4	78.2	77.23	60.60
Calcium Hardness	mg/L	78	23.6	20.4	21.1	21.70	72.18
Alkalinity	mg/L	95	65.4	61.8	62.9	63.37	33.30
Iron	mg/L	0.1	0.038	0.041	0.051	0.04	56.67
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	98	2.1	3.6	2.6	2.77	97.18
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.01	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.96	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	48	45	43	40	42.67	11.11
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	31.8	9.9	9.6	9.7	9.73	69.39
Calcium	mg/L	80.4	12.8	13.4	12.7	12.97	83.87
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.8	8.7	8.7	8.9	8.75	10.68
Sodium	mg/L	1.1	0.71	0.65	0.69	0.68	37.88
Manganese	mg/L	0.02	0.018	0.014	0.019	0.02	15.00
E. coli	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	2.2 X 10 ⁶	< 1	< 1	< 1	< 1	100

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H) Sample – 0.1 B - Challenge Test Water (CTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.1 B1	Sample – 0.1 B2	Sample – 0.1 B3		
pH	-	9.0	8.94	8.95	8.94	8.94	0.63
Turbidity	NTU	39.6	4.6	5.1	4.8	4.83	87.79
Electrical Conductivity	µs/cm	2462	1500	1482	1509	1496.92	39.19
TDS	mg/L	1600	975	963	981	973.00	39.19
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	196	86	91	82	86.33	55.95
Calcium Hardness	mg/L	78	20.6	21.8	22.6	21.67	72.22
Alkalinity	mg/L	95	53.4	58.4	55.1	55.63	41.44
Iron	mg/L	0.1	0.061	0.056	0.053	0.06	43.33
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	98	3.5	4.1	4.4	4.00	95.92
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.01	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.96	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	48	42	38	40	40.00	16.67
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	31.8	10.5	11.3	9.8	10.53	66.88
Calcium	mg/L	80.4	22.2	21.5	20.4	21.39	73.39
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.8	8.2	8.3	8.1	8.20	16.33
Sodium	mg/L	1.1	0.7	0.68	0.71	0.70	36.67
Manganese	mg/L	0.02	0.015	0.016	0.012	0.01	28.33
E. coli	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	2.2 X 10 ⁶	< 1	< 1	< 1	< 1	100

I) Sample – 0.1 C - Challenge Test Water (CTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.1 C1	Sample – 0.1 C2	Sample – 0.1 C3		
pH	-	9.0	8.93	8.95	8.91	8.93	0.78
Turbidity	NTU	39.6	4.4	4.1	4.5	4.33	89.06
Electrical Conductivity	µs/cm	2462	1502	1509	1514	1508.21	38.73
TDS	mg/L	1600	976	981	984	980.33	38.73
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	196	89.4	88.4	91.2	89.67	54.25
Calcium Hardness	mg/L	78	15.40	16.70	14.20	15.43	80.21
Alkalinity	mg/L	95	48.1	46.1	50.8	48.33	49.12
Iron	mg/L	0.1	0.031	0.038	0.024	0.03	69.00
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	98	3.6	2.7	2.6	2.97	96.97
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.01	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.96	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	48	43	42	40	41.67	13.19
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	31.8	8.8	8.9	9.4	9.03	71.59
Calcium	mg/L	80.4	20.6	21.5	22.3	21.47	73.30
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.8	8.5	8.4	9.1	8.67	11.56
Sodium	mg/L	1.1	0.68	0.68	0.96	0.77	29.70
Manganese	mg/L	0.02	0.016	0.015	0.014	0.02	25.00
E. coli	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	2.2 X 10 ⁶	< 1	< 1	< 1	< 1	100

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J) Sample – 0.2 A - Challenge Test Water (CTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.2A1	Sample – 0.2A2	Sample – 0.2A3		
pH	-	9.0	8.96	8.97	8.93	8.95	0.52
Turbidity	NTU	39.6	4.3	4.2	4.5	4.33	89.06
Electrical Conductivity	µs/cm	2462	1485	1455	1463	1467.69	40.38
TDS	mg/L	1600	965	946	951	954.00	40.38
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	196	74	72	81	75.67	61.39
Calcium Hardness	mg/L	78	15.40	16.20	14.20	15.27	80.43
Alkalinity	mg/L	95	68.1	72.1	61.2	67.13	29.33
Iron	mg/L	0.1	0.019	0.023	0.034	0.03	74.67
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	98	4.1	3.5	4	3.87	96.05
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.01	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.96	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	48	41.2	40.5	42.5	41.40	13.75
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	31.8	10.2	11.4	11.2	10.93	65.62
Calcium	mg/L	80.4	12.5	13.4	14.2	13.37	83.37
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.8	8.9	8.6	8.5	8.67	11.56
Sodium	mg/L	1.1	0.74	0.77	0.71	0.74	32.73
Manganese	mg/L	0.02	0.017	0.019	0.016	0.02	13.33
E. coli	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	2.2 X 10 ⁶	< 1	< 1	< 1	< 1	100

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K) Sample – 0.2 B - Challenge Test Water (CTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.2 C1	Sample – 0.2 C2	Sample – 0.2 C3		
pH	-	9.0	8.99	8.96	8.91	8.95	0.52
Turbidity	NTU	39.6	4.6	4.1	4.2	4.30	89.14
Electrical Conductivity	µs/cm	2462	1454	1463	1502	1472.82	40.17
TDS	mg/L	1600	945	951	976	957.33	40.17
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	196	65.1	64.2	68.4	65.90	66.38
Calcium Hardness	mg/L	78	15.40	16.40	17.20	16.33	79.06
Alkalinity	mg/L	95	61.2	70.1	64.5	65.27	31.30
Iron	mg/L	0.1	0.035	0.032	0.038	0.04	65.00
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	98	4.1	4.8	3.6	4.17	95.75
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.01	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.96	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	48	35.4	39.1	36.5	37.00	22.92
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	31.8	11.5	10.4	9.4	10.43	67.19
Calcium	mg/L	80.4	15.4	12.4	14.3	14.03	82.55
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.8	9.6	8.8	8.4	8.93	8.84
Sodium	mg/L	1.1	0.77	0.78	0.73	0.76	30.91
Manganese	mg/L	0.02	0.014	0.011	0.016	0.01	31.67
E. coli	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	2.2 X 10 ⁶	< 1	< 1	< 1	< 1	100

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L) Sample – 0.2 C - Challenge Test Water (CTW)

Parameter	Unit	Initial	Final			Average	% Reduction
			Sample – 0.2 C1	Sample – 0.2 C2	Sample – 0.2 C3		
pH	-	9.0	8.92	8.93	8.96	8.94	0.70
Turbidity	NTU	39.6	4.2	4.8	5	4.67	88.22
Electrical Conductivity	µs/cm	2462	1478	1472	1471	1473.85	40.13
TDS	mg/L	1600	961	957	956	958.00	40.13
TSS	mg/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Hardness	mg/L	196	77.2	72.5	71.6	73.77	62.36
Calcium Hardness	mg/L	78	16.50	17.40	16.20	16.70	78.59
Alkalinity	mg/L	95	65.1	62.3	70.2	65.87	30.67
Iron	mg/L	0.1	0.036	0.032	0.041	0.04	63.67
Ammonia	mg/L	0.5	< 0.1	< 0.1	< 0.1	< 0.1	99.99
Sulphates	mg/L	98	5.1	5.3	4.7	5.03	94.86
Chlorine	mg/L	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Nitrites	mg/L	0.01	<0.05	<0.05	<0.05	< 0.05	99.99
Nitrates	mg/L	4.96	<0.1	<0.1	<0.1	< 0.1	99.99
Acidity	mg/L	48	42.5	37.2	35.6	38.43	19.93
Total phosphates	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Magnesium	mg/L	31.8	8.6	8.9	9.6	9.03	71.59
Calcium	mg/L	80.4	14.5	13.2	14.2	13.97	82.63
Fluorides	mg/L	0.5	< 0.05	< 0.05	< 0.05	< 0.05	99.99
Potassium	mg/L	9.8	5.9	7.4	7.5	6.93	29.25
Sodium	mg/L	1.1	0.66	0.61	0.69	0.65	40.61
Manganese	mg/L	0.02	0.011	0.017	0.015	0.01	28.33
E. coli	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Fecal Coliform	per/100 ml	1.8 X 10 ⁶	< 1	< 1	< 1	< 1	100
Total Coliform	per/100 ml	2.2 X 10 ⁶	< 1	< 1	< 1	< 1	100

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6. Conclusion : -

A. GENERAL TEST WATER –

- The Sydney 905 water filter showed effective reduction of chemical parameters such as turbidity, TDS, hardness, sulphates, nitrates, iron, and nutrients.
- pH remained stable and within acceptable limits after filtration.
- **For 0.1 μm and 0.2 μm filters** are highly effective against tested microbial parameters (E. coli, fecal coliform, and total coliform) showing 100 % filtration efficiency.

B. CHALLENGE TEST WATER –

- Under high contaminant loading, the filter demonstrated consistent reduction in turbidity, TDS, hardness, sulphates, nitrates, iron, and other chemical parameters.
- **For 0.1 μm and 0.2 μm filters** are highly effective against tested microbial parameters (E. coli, fecal coliform, and total coliform) showing 100 % filtration efficiency.




Verified By

Note :

1. This report is valid for the tested sample only.
2. Test report shall not be reproduced except in full & with written approval of Equinox Labs Private Limited.
3. The samples has been provided by the customer and results applied to the sample as received by the lab.
4. The information provided by customer can affect the validity of results.
5. Results are rounded off.

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