



Test Report

IAPMO R&T LAB (NJ)



1041 Glassboro Road Suite D-1, Williamstown NJ 08094
IAPMO ID# 000102 ANAB Cert # AT 3220

Send To:

Doulton Water Filters
Staffordshire, UK

Result: Passed

Date: 11/14/2023

Customer Name: Doulton Water Filters

Tested To: NSF/ANSI Std. 53 – Metals Reduction Testing pH 6.5

Trade Designation/Model Number: Ultra Fluoride Gravity Filter Element

Test Type: R & D

Project Manager: Corey Elise Young

Thank you for having your product tested by IAPMO R & T Lab, NJ.
Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization

Corey Elise Young
Corey Elise Young
Qc Manager

Date: 11/14/2023



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NSF/ANSI Std. 53 – Metals Reduction Testing pH 6.5: Passed

Company’s Name: Doulton Water Filters

Test Type: R & D

Flow Rate: 0.3 Lpm

Filter Capacity: 3000 Liters

Conditioning Procedure: Follow manufacturer’s instructions.

Cycle: N/A

Performance Indicator Device: No, test to 100% Capacity

Test Description: NSF/ANSI Std. 53 – Metals Reduction Testing pH 6.5

Trade Designation/Model Number: Ultra Fluoride Gravity Filter Element

Unit Volume:

Performance Standard: NSF/ANSI Std 53 – 2021

Pass/Fail Criteria (Maximum Product Water Concentration):

Maximum effluent concentration (ug/L)

Arsenic – 10

Mercury – 2

Barium – 2000

Lead-5

Selenium – 50

Chromium – 100

Decision Rule: Simple Acceptance based on the NSF/ANSI/EPA drinking water limits.



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Water Characteristics Filter 1 & 2

Sample Point	pH 6.25-6.75	Alkalinity (10-30)	Temperature (20±2.5°C)	Hardness 10-30 mg/L	Turbidity (<1 NTU)	TDS <100	Polyphosphate as P <0.5 ppm
10 UV	6.57	17	19.9	23	0.4	92	0.2
5%	6.57	19	21.3	21	0.5	91	0.2
10%	6.63	17	20.8	25	0.4	93	0.2
15%	6.51	21	21.3	19	0.3	95	0.3
20%	6.41	20	20.0	20	0.4	90	0.1
25%	6.48	18	20.1	21	0.4	92	<0.1
30%	6.52	23	20.0	21	0.5	94	<0.1
35%	6.35	26	21.0	20	0.5	91	<0.1
40%	6.65	12	20.5	19	0.4	93	<0.1
45%	6.27	15	20.6	21	0.4	95	<0.1
50%	6.38	18	20.1	23	0.4	94	<0.1
55%	6.45	15	20.0	18	0.3	90	<0.1
60%	6.52	16	21.3	15	0.4	94	<0.1
65%	6.28	19	19.8	19	0.4	93	<0.1
70%	6.39	21	19.7	21	0.5	98	<0.1
75%	6.40	18	20.0	23	0.5	91	<0.1
80%	6.52	19	21.0	22	0.4	90	<0.1
85%	6.29	21	21.3	19	0.4	92	<0.1
90%	6.30	17	20.0	21	0.4	90	<0.1
95%	6.54	23	20.6	22	0.4	89	<0.1
100%	6.58	24	20.4	24	0.5	91	<0.1
Average	6.46	19	20.5	21	0.4	92	<0.1



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Arsenic Filter #1 Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Arsenic	Effluent 1 Arsenic Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	50	<1	98.00%	Passed
5%	150 liters	55	1	98.18%	Passed
10%	300 liters	55	<1	98.18%	Passed
15%	450 liters	49	<1	97.96%	Passed
20%	600 liters	46	3	93.48%	Passed
25%	750 liters	55	1	98.18%	Passed
30%	900 liters	48	<1	97.92%	Passed
35%	1050 liters	55	<1	98.18%	Passed
40%	1200 liters	47	<1	97.87%	Passed
45%	1350 liters	49	1	97.96%	Passed
50%	1500 liters	51	1	98.04%	Passed
55%	1650 liters	54	<1	98.15%	Passed
60%	1800 liters	59	2	96.61%	Passed
65%	1950 liters	46	3	93.48%	Passed
70%	2100 liters	46	2	95.65%	Passed
75%	2250 liters	47	<1	97.87%	Passed
80%	2400 liters	42	<1	97.62%	Passed
85%	2550 liters	48	1	97.92%	Passed
90%	2700 liters	48	<1	97.92%	Passed
95%	2850 liters	46	1	97.83%	Passed
100%	3000 liters	46	1	97.83%	Passed

Arsenic Filter #2 Data Summary Table

Sample Point	Accumulated Volume Effluent 2	Influent 2 Arsenic	Effluent 2 Arsenic Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	50	<1	98.00%	Passed
5%	150 liters	55	<1	98.18%	Passed
10%	300 liters	55	<1	98.18%	Passed
15%	450 liters	49	<1	97.96%	Passed
20%	600 liters	46	1	97.83%	Passed
25%	750 liters	55	<1	98.18%	Passed
30%	900 liters	48	<1	97.92%	Passed
35%	1050 liters	55	<1	98.18%	Passed
40%	1200 liters	47	<1	97.87%	Passed
45%	1350 liters	49	1	97.96%	Passed
50%	1500 liters	51	1	98.04%	Passed
55%	1650 liters	54	<1	98.15%	Passed
60%	1800 liters	59	3	94.92%	Passed
65%	1950 liters	46	4	91.30%	Passed
70%	2100 liters	46	1	97.83%	Passed
75%	2250 liters	47	<1	97.87%	Passed
80%	2400 liters	42	1	97.62%	Passed
85%	2550 liters	48	<1	97.92%	Passed
90%	2700 liters	48	<1	97.92%	Passed
95%	2850 liters	46	<1	97.83%	Passed
100%	3000 liters	46	<1	97.83%	Passed

Lead Reporting Limit: 1 µg/L



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Barium Filter #1 Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Barium	Effluent 1 Barium Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	10468	698	93.33%	Passed
5%	150 liters	9819	1083	88.97%	Passed
10%	300 liters	9414	293	96.89%	Passed
15%	450 liters	9985	1524	84.74%	Passed
20%	600 liters	9979	970	90.28%	Passed
25%	750 liters	10008	1062	89.39%	Passed
30%	900 liters	10038	737	92.66%	Passed
35%	1050 liters	10108	774	92.34%	Passed
40%	1200 liters	10073	727	92.78%	Passed
45%	1350 liters	8180	828	89.88%	Passed
50%	1500 liters	8566	800	90.66%	Passed
55%	1650 liters	9939	736	92.59%	Passed
60%	1800 liters	10005	825	91.75%	Passed
65%	1950 liters	9875	924	90.64%	Passed
70%	2100 liters	9950	1025	89.70%	Passed
75%	2250 liters	9780	1060	89.16%	Passed
80%	2400 liters	9984	1125	88.73%	Passed
85%	2550 liters	9968	1250	87.46%	Passed
90%	2700 liters	10015	1350	86.52%	Passed
95%	2850 liters	10250	1325	87.07%	Passed
100%	3000 liters	10120	1385	86.31%	Passed

Barium Filter #2 Data Summary Table

Sample Point	Accumulated Volume Effluent 2	Influent 2 Barium	Effluent 2 Barium Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	10468	726	93.06%	Passed
5%	150 liters	9819	959	90.23%	Passed
10%	300 liters	9414	267	97.16%	Passed
15%	450 liters	9985	1392	86.06%	Passed
20%	600 liters	9979	1035	89.63%	Passed
25%	750 liters	10008	1808	81.93%	Passed
30%	900 liters	10038	854	91.49%	Passed
35%	1050 liters	10108	747	92.61%	Passed
40%	1200 liters	10073	796	92.10%	Passed
45%	1350 liters	8180	338	95.87%	Passed
50%	1500 liters	8566	1036	87.91%	Passed
55%	1650 liters	9939	687	93.09%	Passed
60%	1800 liters	10005	980	90.20%	Passed
65%	1950 liters	9875	995	89.92%	Passed
70%	2100 liters	9950	975	90.20%	Passed
75%	2250 liters	9780	1040	89.37%	Passed
80%	2400 liters	9984	1090	89.08%	Passed
85%	2550 liters	9968	1105	88.91%	Passed
90%	2700 liters	10015	1120	88.82%	Passed
95%	2850 liters	10250	1160	88.68%	Passed
100%	3000 liters	10120	1180	88.34%	Passed

Lead Reporting Limit: 1 µg/L



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Chromium Filter #1 Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Chromium	Effluent 1 Chromium Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	316	2	99.37%	Passed
5%	150 liters	326	2	99.39%	Passed
10%	300 liters	319	2	99.37%	Passed
15%	450 liters	323	1	99.69%	Passed
20%	600 liters	300	4	98.67%	Passed
25%	750 liters	288	2	99.31%	Passed
30%	900 liters	295	3	98.98%	Passed
35%	1050 liters	310	2	99.35%	Passed
40%	1200 liters	334	2	99.40%	Passed
45%	1350 liters	316	1	99.68%	Passed
50%	1500 liters	311	2	99.36%	Passed
55%	1650 liters	310	1	99.68%	Passed
60%	1800 liters	278	1	99.64%	Passed
65%	1950 liters	322	1	99.69%	Passed
70%	2100 liters	323	2	99.38%	Passed
75%	2250 liters	271	1	99.63%	Passed
80%	2400 liters	323	<1	99.69%	Passed
85%	2550 liters	302	2	99.34%	Passed
90%	2700 liters	314	1	99.68%	Passed
95%	2850 liters	322	2	99.38%	Passed
100%	3000 liters	322	2	99.38%	Passed

Chromium Filter #2 Data Summary Table

Sample Point	Accumulated Volume Effluent 2	Influent 2 Chromium	Effluent 2 Chromium Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	316	1	99.68%	Passed
5%	150 liters	326	1	99.69%	Passed
10%	300 liters	319	1	99.69%	Passed
15%	450 liters	323	1	99.69%	Passed
20%	600 liters	300	2	99.33%	Passed
25%	750 liters	288	1	99.65%	Passed
30%	900 liters	295	1	99.66%	Passed
35%	1050 liters	310	1	99.68%	Passed
40%	1200 liters	334	10	97.01%	Passed
45%	1350 liters	316	3	99.05%	Passed
50%	1500 liters	311	2	99.36%	Passed
55%	1650 liters	310	<1	99.68%	Passed
60%	1800 liters	278	1	99.64%	Passed
65%	1950 liters	322	<1	99.69%	Passed
70%	2100 liters	323	1	99.69%	Passed
75%	2250 liters	271	<1	99.63%	Passed
80%	2400 liters	323	19	99.69%	Passed
85%	2550 liters	302	2	99.67%	Passed
90%	2700 liters	314	1	99.68%	Passed
95%	2850 liters	322	1	99.69%	Passed
100%	3000 liters	322	1	99.69%	Passed

Lead Reporting Limit: 1 µg/L



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Lead Filter #1 Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Lead	Effluent 1 Lead Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	165	1	99.39%	Passed
5%	150 liters	150	<1	99.33%	Passed
10%	300 liters	160	<1	99.38%	Passed
15%	450 liters	148	<1	99.32%	Passed
20%	600 liters	159	2	98.74%	Passed
25%	750 liters	153	<1	99.35%	Passed
30%	900 liters	157	1	99.36%	Passed
35%	1050 liters	151	1	99.34%	Passed
40%	1200 liters	153	1	99.35%	Passed
45%	1350 liters	153	<1	99.35%	Passed
50%	1500 liters	150	3	99.33%	Passed
55%	1650 liters	164	<1	99.39%	Passed
60%	1800 liters	152	1	99.34%	Passed
65%	1950 liters	158	<1	99.37%	Passed
70%	2100 liters	160	2	99.38%	Passed
75%	2250 liters	148	<1	99.32%	Passed
80%	2400 liters	151	2	99.34%	Passed
85%	2550 liters	149	<1	99.33%	Passed
90%	2700 liters	153	<1	99.35%	Passed
95%	2850 liters	154	2	99.35%	Passed
100%	3000 liters	155	<1	99.35%	Passed

Lead Filter #2 Data Summary Table

Sample Point	Accumulated Volume Effluent 2	Influent 2 Lead	Effluent 2 Lead Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	165	1	99.39%	Passed
5%	150 liters	150	<1	99.33%	Passed
10%	300 liters	160	<1	99.38%	Passed
15%	450 liters	148	3	97.97%	Passed
20%	600 liters	159	<1	99.37%	Passed
25%	750 liters	153	<1	99.35%	Passed
30%	900 liters	157	3	98.09%	Passed
35%	1050 liters	151	1	99.34%	Passed
40%	1200 liters	153	1	99.35%	Passed
45%	1350 liters	153	<1	99.35%	Passed
50%	1500 liters	150	1	99.33%	Passed
55%	1650 liters	164	3	98.17%	Passed
60%	1800 liters	152	1	99.34%	Passed
65%	1950 liters	158	2	98.73%	Passed
70%	2100 liters	160	1	99.38%	Passed
75%	2250 liters	148	3	97.97%	Passed
80%	2400 liters	151	2	98.68%	Passed
85%	2550 liters	149	1	99.33%	Passed
90%	2700 liters	153	3	98.04%	Passed
95%	2850 liters	154	1	99.35%	Passed
100%	3000 liters	155	1	99.35%	Passed

Lead Reporting Limit: 1 µg/L



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Selenium Filter #1 Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Selenium	Effluent 1 Selenium Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	102	18	82.35%	Passed
5%	150 liters	102	12	88.24%	Passed
10%	300 liters	99	11	88.89%	Passed
15%	450 liters	95	7	92.63%	Passed
20%	600 liters	112	13	88.39%	Passed
25%	750 liters	92	6	93.48%	Passed
30%	900 liters	95	4	95.79%	Passed
35%	1050 liters	103	4	96.12%	Passed
40%	1200 liters	102	3	97.06%	Passed
45%	1350 liters	114	6	94.74%	Passed
50%	1500 liters	115	4	96.52%	Passed
55%	1650 liters	119	5	95.80%	Passed
60%	1800 liters	109	3	97.25%	Passed
65%	1950 liters	104	4	96.15%	Passed
70%	2100 liters	106	5	95.28%	Passed
75%	2250 liters	88	4	95.45%	Passed
80%	2400 liters	100	3	97.00%	Passed
85%	2550 liters	92	4	95.65%	Passed
90%	2700 liters	101	4	96.04%	Passed
95%	2850 liters	101	7	93.07%	Passed
100%	3000 liters	101	7	93.07%	Passed

Selenium Filter #2 Data Summary Table

Sample Point	Accumulated Volume Effluent 2	Influent 2 Selenium	Effluent 2 Selenium Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	102	30	70.59%	Passed
5%	150 liters	102	13	87.25%	Passed
10%	300 liters	99	10	89.90%	Passed
15%	450 liters	95	2	97.89%	Passed
20%	600 liters	112	10	91.07%	Passed
25%	750 liters	92	3	96.74%	Passed
30%	900 liters	95	5	94.74%	Passed
35%	1050 liters	103	2	98.06%	Passed
40%	1200 liters	102	3	97.06%	Passed
45%	1350 liters	114	6	94.74%	Passed
50%	1500 liters	115	4	96.52%	Passed
55%	1650 liters	119	5	95.80%	Passed
60%	1800 liters	109	3	97.25%	Passed
65%	1950 liters	104	3	97.12%	Passed
70%	2100 liters	106	5	95.28%	Passed
75%	2250 liters	88	2	97.73%	Passed
80%	2400 liters	100	2	98.00%	Passed
85%	2550 liters	92	3	96.74%	Passed
90%	2700 liters	101	2	98.02%	Passed
95%	2850 liters	101	4	96.04%	Passed
100%	3000 liters	101	4	96.04%	Passed

Lead Reporting Limit: 1 µg/L



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Mercury Filter #1 Data Summary Table

Sample Point	Accumulated Volume Effluent 1	Influent 1 Mercury	Effluent 1 Mercury Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	5.5	<0.5	90.91%	Passed
5%	150 liters	5.6	<0.5	91.07%	Passed
10%	300 liters	5.9	1.3	77.97%	Passed
15%	450 liters	5.8	1.6	72.41%	Passed
20%	600 liters	6.0	<0.5	91.67%	Passed
25%	750 liters	5.9	<0.5	91.53%	Passed
30%	900 liters	6.7	<0.5	92.54%	Passed
35%	1050 liters	6.3	1.0	84.13%	Passed
40%	1200 liters	6.2	1.4	77.42%	Passed
45%	1350 liters	6.0	1.0	83.33%	Passed
50%	1500 liters	6.2	1.0	83.87%	Passed
55%	1650 liters	6.9	1.1	84.06%	Passed
60%	1800 liters	5.9	0.5	91.53%	Passed
65%	1950 liters	5.9	1.2	79.66%	Passed
70%	2100 liters	5.8	0.5	91.38%	Passed
75%	2250 liters	5.7	0.6	89.47%	Passed
80%	2400 liters	5.9	0.7	88.14%	Passed
85%	2550 liters	5.8	0.9	84.48%	Passed
90%	2700 liters	5.9	0.7	88.14%	Passed
95%	2850 liters	6.8	0.6	91.18%	Passed
100%	3000 liters	6.1	0.6	90.16%	Passed

Mercury Filter #2 Data Summary Table

Sample Point	Accumulated Volume Effluent 2	Influent 2 Mercury	Effluent 2 Mercury Concentration (µg/L)	% Reduction	Passing Criteria
10 UV	Start	5.5	<0.5	81.82%	Passed
5%	150 liters	5.6	<0.5	82.14%	Passed
10%	300 liters	5.9	1.7	71.19%	Passed
15%	450 liters	5.8	1.2	79.31%	Passed
20%	600 liters	6.0	<0.5	83.33%	Passed
25%	750 liters	5.9	<0.5	83.05%	Passed
30%	900 liters	6.7	1.0	85.07%	Passed
35%	1050 liters	6.3	<0.5	84.13%	Passed
40%	1200 liters	6.2	1.5	75.81%	Passed
45%	1350 liters	6.0	1.0	83.33%	Passed
50%	1500 liters	6.2	1.0	83.87%	Passed
55%	1650 liters	6.9	1.1	84.06%	Passed
60%	1800 liters	5.9	1.5	74.58%	Passed
65%	1950 liters	5.9	0.5	91.53%	Passed
70%	2100 liters	5.8	0.5	91.38%	Passed
75%	2250 liters	5.7	0.7	87.72%	Passed
80%	2400 liters	5.9	1.3	77.97%	Passed
85%	2550 liters	5.9	1.5	74.58%	Passed
90%	2700 liters	5.9	0.8	86.44%	Passed
95%	2850 liters	6.8	0.6	91.18%	Passed
100%	3000 liters	6.1	0.7	88.52%	Passed

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Filter System Tested



Disclaimer: The test results are only related to the filter cartridges tested, in the condition received at the laboratory.

Corey Elise Young
Corey Elise Young
QC Manager