



EVALUATION REPORT

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Report Number: 2295-20618 **Project No.:** 34823

Report Issued: November 12th, 2020

Reported To: ASSE International

Tested For: Quest Technologies Inc dba Crystal Quest Water Filters
55 Chastin Road, Suite 100
Kennesaw Georgia 30144

Source of Samples: The units were shipped to IAPMO R&T Lab from Quest Technologies and were received in good condition on 10/05/2020

Location of Testing: IAPMO R&T Lab, 5001 East Philadelphia Street, Ontario CA 91761

Dates of Evaluation: October 29th-November 10th, 2020

Product Description: Point of Use units, model number CQE-CT-00103

Primary Standard: NSF/ANSI 42-2019

Scope of Evaluation: Samples were evaluated for Chlorine reduction according to NSF/ANSI 42-2019

Conclusion: The samples described in the “Product Description” were evaluated according to NSF/ANSI 42 2018 7.3.3 Chlorine reduction. Please refer to the following pages for details.

Report Status: COMPLIED

Tested By,

Kaitlin Rommelfanger, Senior Lab Analyst

Reviewed By,

Sal Aridi - Director

All testing and sample preparation for this report was performed under the continuous, direct supervision of IAPMO R&T Lab, unless otherwise stated. The observations, test results and conclusions in this report apply only to the specific samples tested and are not indicative of the quality or performance of similar or identical products. Only the Client shown above is authorized to copy or distribute the report, and then only in its entirety. If presented with a copy of a Test Report without the IAPMO R&T Lab watermark background, contact IAPMO R&T Lab for verification. Any use of the IAPMO R&T Lab name for the sale or advertisement of the tested material, product or service is prohibited absent the advance written consent of IAPMO R&T Lab.

Requirements for Compliance: The system shall reduce an influent challenge concentration of 2.0 mg/L of free available chlorine by a minimum of 50%

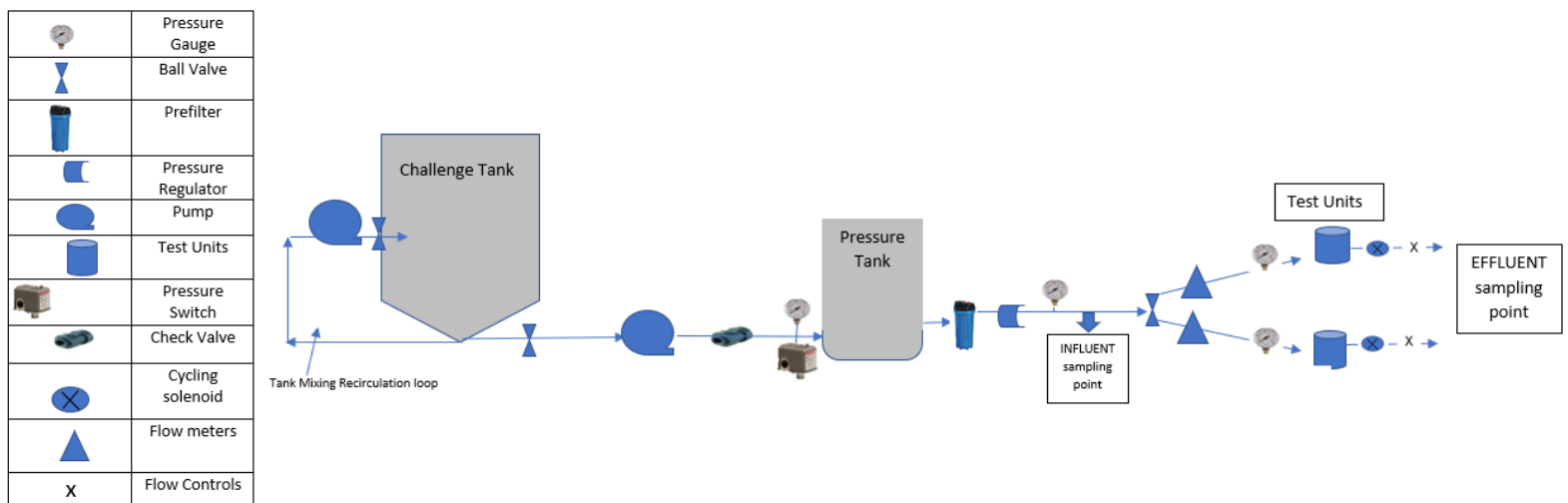
Table 1- Specifications of testing

Number of Units	2
Cycle	A 50/50 cycle was used
Rated Capacity	500 gallons
Conditioning	Units were flushed for four times for ten minutes each at 0.2gpm
Prefilter	A 0.45 micron prefilter was used for this testing
Flowrate	Flowrate was controlled at 0.2 gpm
Sampling	Both units were sampled at startup, and 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100 percent of stated capacity
Testing Notes	Initially filter was installed into housing and tightened with provided filter wrench to same tightness housing was received at, the 10UV sample point was taken and failing, an improper seal was suspected so the filter wrench provided along with an additional wrench for further torque was used to tighten housing further, at this point a proper seal was made.

Influent water was prepared per the specifications in NSF/ANSI 42 Section 7.3.3.6.1 Those specifications are shown below.

pH	7.5 +/- 0.05
Temperature	20 +/- 3 degrees C
Test Average Free available Chlorine (FAC)	2.0 +/- 0.2 mg/L
Allowable Single Influent Point Free available Chlorine (FAC)	2.0 +/- 0.4 mg/L
Total dissolved solids	200-250 mg/L
Total organic carbon TOC	≥ 1.0 mg/L
Turbidity	< 1 NTU

Samples were setup according to manufacturer’s instructions. A diagram of a standard point of use reduction test setup is shown below



Findings:

Table 3- Influent and Effluent free available chlorine levels

Sample Point (gallons)	Influent FAC (mg/L)	Effluent Sample #1 FAC (mg/L)	Effluent Sample #2 FAC (mg/L)	Flowrate Sample #1 (gpm)	Flowrate Sample #2 (gpm)
10 UV	1.95	<RL	<RL	0.20	0.20
50	1.92	<RL	<RL	0.19	0.20
100	1.99	0.14	<RL	0.19	0.18
150	1.95	<RL	<RL	0.19	0.18
200	2.12	0.12	0.10	0.18	0.18
250	2.07	0.08	<RL	0.19	0.18
300	2.00	<RL	<RL	0.20	0.22
350	2.08	<RL	<RL	0.20	0.18
400	1.78	0.16	0.10	0.20	0.19
450	2.08	0.13	<RL	0.21	0.18
500	2.08	0.20	0.09	0.20	0.18

Note: <RL (less than Reporting Limit) Reporting Limit for chlorine is 0.05mg/L, FAC (free available chlorine) Any bolded effluents are higher than the max allowable effluent outlined by the standard

Table 4- Chlorine Average influent, effluent and percent reduction

	Results	Standard Requirements
Ave Influent (mg/L)	2.00	2mg/L +/- 0.2
Ave Effluent Sample #1 (mg/L)	0.14	<= 50% of influent
Ave Effluent Sample #2 (mg/L)	0.10	<= 50% of influent
Maximum Effluent (mg/L)	0.16	<= 50% of influent
Average % Reduction Sample #1	95.1	
Average % Reduction Sample #2	96.9	
Ave % Reduction Both Samples	96.0	
Minimum % Reduction	90.4	

Picture of Units Tested

