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TEST REPORT

Report Number: **2295-20552** **Project No.:** 34606

Report Issued: September 11th, 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 08/25/2020

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

Dates of Evaluation: August 27th-September 10th, 2020

Product Description: Batch Type System, model number CQE-RC-04047

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 statement of compliance is based on the test results compared to the standard specifications without considering measurement uncertainty. 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. Any use of the IAPMO R&T Lab name for the sale or advertisement of the tested material, product or service must first be approved in writing by 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
Batch Size	One Liter
Rated Capacity	40 gallons
Conditioning	Filter was soaked upright in cold water for 20 minutes, the pitcher, lid and reservoir were washed with mild detergent, the first three batches were discarded
Daily Use Pattern	4 gallons of water per day
Sampling	Both units were sampled at startup, and 10, 20, 30, 40, 50, 60, 70, 80, 90 and 100 percent of capacity
Testing Notes	Starting on Day 6 the flowrate through the filter decreased, the cartridge was washed per instructions in the manual and flow was restored

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 and installed according to manufacturer's instructions.

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)
10 UV	1.84	<RL	<RL
4	1.85	<RL	<RL
8	1.98	<RL	<RL
12	2.04	<RL	<RL
16	1.87	<RL	<RL
20	1.89	<RL	<RL
24	1.92	<RL	<RL
28	1.92	<RL	0.05
32	1.81	<RL	0.07
36	2.13	<RL	0.06
40	1.99	<RL	<RL

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 (Inf) mg/L	1.93	2mg/L +/- 0.2
Maximum Effluent mg/L	0.07	</= 50% of influent
Ave % Reduction E1	97.4	
Ave % Reduction E2	97.3	
Ave % Reduction Both Samples	97.3	
Minimum % Reduction	96.1	

Pictures:

Figure 1- Units tested