

February 24, 2011

RAINSOFT
AQUION WATER TREATMENT PRODUCTS
YE LIU
2080 E. LUNT
ELK GROVE VILLAGE IL 60007

Re: Description: WATER TREATMENT DEVICE- OXIDIZING
Manufacturer: RAINSOFT
Product Name: RAINSOFT CHEMICAL FREE IRON AND HYDROGEN SULFIDE WATER
TREATMENT SYSTEMS (POE)
Model Number(s): TC-FLT 16K, TC-FLT 16TWIN K, TC-FLT 25K AND TC-FLT 33K (POE)
Product File No: 20100495

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. This approval is valid until the end of February 2016.

This approval supersedes the approval issued on December 2nd, 2008 under product file number 20080511.

This approval is contingent upon compliance with the following stipulation(s):

- This product has undergone sufficient testing to document the product's ability to reduce only those contaminants and/or substances as specified in this approval letter when the product is installed and maintained in strict accordance with the manufacturer's published instructions.
- Where the Department of Natural Resources (DNR) has jurisdiction, a written approval may be required prior to installation of this product in a water supply system to reduce the concentration of a contaminant that exceeds the primary drinking water standards contained in ch. NR 809, Wis. Admin. Code, the enforcement standards contained in ch. NR 140, Wis. Admin. Code, or for a water supply system that is subject to a written advisory opinion by the DNR. For more information contact the DNR Section of Private Water Systems, P.O. Box 7921, Madison, WI 53707, telephone (608) 267-9787.
- If these approved devices are modified or additional assertions of function or performance are made, then this approval shall be considered null and void, unless the change is submitted to the department for review and the approval is reaffirmed.
- These devices shall not be installed on water supplies with a pH of 6.5 or less.

These devices contain a metallic media comprised primarily of copper and zinc. This media will release copper and zinc into the treated water as byproducts of performing the intended function of contaminant reduction. How much copper and zinc is released into the treated water is primarily a function of water chemistry, particularly the pH. However, it's also important to note that, based on the test data submitted for these devices, the copper and zinc concentrations in the treated water are well below any primary or secondary maximum contaminant levels respectively. Thus, the concentration of copper and zinc in the water treated by this device should not cause any adverse health effects in otherwise healthy individuals.

In the context of these devices, the phrase "chemical free" pertains to the idea that a chemical regenerant (e.g. salt brine, potassium permanganate) is not required to maintain the capacity of these devices.

Based on testing data submitted to and reviewed by the department, this approval recognizes that this plumbing product will reduce the concentration of contaminants as specified on pages 1 through 2 of this letter.

AESTHETIC CONTAMINANT REDUCTION CAPABILITIES
PRODUCT FILE NUMBER 20100495
TABLE 1 OF 1

Flow Rates: TC-FLT 16K = 11.4 liters per minute (lpm) @ 27.6 kilopascals (kPa)
[3.0 gallons per minute (gpm) @ 4 pounds per square inch – gauge (psig)]
TC-FLT 25K = 15.1 lpm @ 41.4 kPa (4.0 gpm @ 6 psig)
TC-FLT 33K = 18.9 lpm @ 48.3 kPa (5.0 gpm @ 7 psig)
TC-FLT 16 TWIN K = 22.7 lpm @ 27.6 kPa (6.0 gpm @ 4 psig)

Capacities: TC-FLT 16K = 189,271 liters (l) [50,000 gallons (gals.)]
TC-FLT 25K = 283,906 l (75,000 gals.)
TC-FLT 33K = 378,541 l (100,000 gals.)
TC-FLT 16 TWIN K = 378,541 l (100,000 gals.)

Tested Contaminant	Average Influent Challenge (mg/l) ¹
Hydrogen sulfide (H ₂ S)	1.1
Dissolved Iron (Fe ⁺²)	2.9

Other Conditions: the contaminant reduction performance capabilities displayed for Table 1 of 1 were verified by testing conducted by KDF Fluid Treatment, Inc. To qualify for hydrogen sulfide reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.05 mg/l. To qualify for dissolved iron reduction, the device must reduce the influent challenge concentrations such that all effluent concentrations are ≤ 0.3 mg/l. These devices are not approved for the reduction of bacterial, organically bound or particulate forms of iron. A minimum dissolved oxygen concentration of 0.25 mg/l is required in the raw, untreated, water for each mg/l of dissolved iron and/or hydrogen sulfide.

¹ = milligrams per liter (mg/l) are equivalent to parts per million (ppm) * = unless otherwise specified
≤ = less than or equal to ≥ = greater than or equal to
± = plus or minus

This device was tested under controlled laboratory, or field, conditions. The actual performance of this device for a specific end use installation will vary from the tested conditions based on local factors such as water pressure, water temperature and water chemistry. The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter
Engineering Consultant-Plumbing Product Reviewer
Bureau of Integrated Services
Safety and Buildings Division
Department of Commerce
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