



June 19, 2014

AQUION INCORPORATED
BIBHA DAHAL
101 S. GARY AVENUE
ROSELLE IL 60172

Re: Description: WATER TREATMENT DEVICE - OXIDIZING
Manufacturer: AQUION INCORPORATED
Product Name: RAINSOFT IRON AND MANGANESE FILTRATION SYSTEMS (POE)
Model Number(s): TC-F8 100 GP AND TC-F8 150 GP (POE)
Product File No: 20140050

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters SPS 382 through 384, 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 June 2019.

This approval supersedes the approval issued on April 6, 2009 under product file number 20090079.

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.
- The potassium permanganate (KMnO₄) used to regenerate these devices must be listed under Standard 60 by NSF International. In addition, the effective KMnO₄ concentration must not exceed the maximum use concentration specified in the pertinent NSF listing:

<http://info.nsf.org/Certified/PwsChemicals/Listings.asp?CompanyName=&TradeName=&ChemicalName=Potassium+Permanganate&ProductFunction=&PlantState=&PlantCountry=&PlantRegion=>

If non-NSF 60 listed KMnO₄ is used, then a backflow preventer with intermediate atmospheric vent (ASSE 1012) or a reduced pressure principle backflow preventer (ASSE 1013) must be installed in the water supply serving this product. The treated water shall be monitored to insure manganese concentrations remain ≤ 0.05 mg/l.

- 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.

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

**AESTHETIC WATER TREATMENT CAPABILITIES
PRODUCT FILE NUMBER 20140050
TABLE 1 OF 1**

Flow rates: 22.7 liters per minute (lpm) at a pressure loss (ΔP) = 34.5 kilopascals (kPa)
[6.0 gallons per minute (gpm) at a ΔP = 5 psig] for both models

Capacities: TC-F8 100 GP = 1,136 liters (l) [300 gallons (gals.)]
TC-F8 150 GP = 1,703 l (450 gals.)

Tested Contaminant	Average Influent concentration (mg/l)
Dissolved iron (Fe^{+2})	11.2
Dissolved manganese (Mn^{+2})	2.9

Other conditions: The data displayed for table 1 of 1 was generated via testing conducted in accordance with WQA standard S-200. To qualify for dissolved iron reduction, the device must reduce the influent challenge concentrations such that, prior to the 100% of capacity sampling point, the effluent concentration is ≤ 0.3 mg/l in 90% or more of the samples collected. At the 100% of capacity sample point, the dissolved iron concentration must be < 0.3 mg/l.

To qualify for dissolved manganese reduction, the device must reduce the influent challenge concentrations such that, prior to the 100% of capacity sampling point, the effluent concentration is ≤ 0.05 mg/l in 90% or more of the samples collected. At the 100% sample point, the dissolved manganese concentration must be < 0.05 mg/l.

These devices are not approved for the reduction of bacterial, organically bound or particulate forms of iron and/or manganese. These devices are not approved for the reduction of hydrogen sulfide.

* = milligrams per liter (mg/l) are equivalent to parts per million (ppm)
 \leq = less than or equal to
lpm = liters per minute
kPa = kilopascals
l = liters

$<$ = less than
 ΔP = pressure loss
gpm = gallons per minute
psig = pounds per square inch – gauge
gals. = gallons

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
Environmental Engineer - Plumbing Product Reviewer
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