



October 25, 2006

RAINSOFT
AQUION WATER TREATMENT PRODUCTS
KATHLEEN FRITSCH
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Re: Description: WATER TREATMENT DEVICE-SOFTENER
Manufacturer: RAINSOFT
Product Name: RAINSOFT EC4 SERIES (USING "D" RESIN)
Model Number(s): EC4 50D, EC4 60D, EC4 60SS D, EC4 75D, EC4 100D, EC4 100S D,
EC4 75 CD, EC4 100CD, EC4 100S CD, EC4 150 CD, EC4 250 CD,
EC4 400 CD, EC4-CAB 60 CD, EC4-CAB 100 CD, EC4 150 CD, EC4 250 D,
EC4 400 D, EC4-CAB 60 D, EC4-CAB 100 D, EC4 50 CD, EC4 60 CD AND
EC4 60SS CD
Product File No: 20060398

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 October 2011.

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 manufacturers 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) 266-3415.
- 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 cation exchange water softeners shall be sized, installed, programmed and maintained such that wastewater volumes, total dissolved solids and chloride discharges are minimized.

- At the time of installation, these devices shall be provided with an effective means to warn the users when they are not performing their function. This shall be accomplished by one of the following:
 1. sounding and alarm or flashing a light, each connected to an acceptable power source;
 2. providing a sampling kit for analysis of hardness or other appropriate contaminants; or
 3. providing a hardness monitor.
- Operation of this/these device(s) and flow rates above the rated service flow rates indicated within this approval letter are not supported or acknowledged by this approval. The rated service flow rate(s) is/are the flow rate(s) at which this/these device(s) were tested.

Because the level of treatment obtained is a function of how long the water is in contact with the treatment media within this/these device(s), arbitrary increases in the flow rate(s), above the rated service flow rate(s) may compromise the quality of the treated water.

- The department does not recommend the use of water softeners for reducing dissolved iron concentrations in excess of 3.0 mg/l. This is because applying water softeners in this way sacrifices long-term water softener performance and efficiency. The use of water softeners for reducing dissolved iron concentrations exceeding 3.0 mg/l also generates excessive, and otherwise avoidable, quantities of chloride and dissolved solids which are subsequently discharged to ground and/or surface water supplies. Once present in ground and/or surface water supplies, chloride and dissolved solids tend to remain in the water resource and may travel great distances from the original point source. Presently, there are no economically viable methods to remove chloride and dissolved solids from water supplies because available technologies generate waste streams of their own, further concentrating the problem. It has been established by the Wisconsin Department of Natural Resources that chloride is chronically toxic to representative aquatic organisms, including forage and sport fish, at 395 mg/l, and acutely toxic at 757 mg/l.
- These devices are not approved for the reduction of bacterial, colloidal or organically bound forms of iron.

The water must be tested to speciate the iron present to determine if these devices can provide adequate treatment.

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 3 of this letter.

**WATER SOFTENING CAPABILITIES
 PRODUCT FILE NUMBER 20060398
 TABLE 1 OF 1**

Model Numbers EC4 Series	Capacity*						Flow Rate vs. Pressure Loss gpm @ psig
	Rating 1		Rating 2		Rating 3		
Demand Initiated	Grains	Pounds	Grains	Pounds	Grains	Pounds	
EC4 50 D	7,800	2.0	10,800	5.0	16,000	7.5	10.0 @ 13.0
EC4 50C D	7,800	2.0	10,800	5.0	16,000	7.5	10.0 @ 13.0
EC4 60S D	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 60S CD	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 CAB 60 D	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 CAB 60 CD	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 60SS D	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 60SS CD	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 CAB 60SS D	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 CAB 60SS CD	9,300	2.4	12,900	6.0	18,900	9.0	10.0 @ 10.0
EC4 75 D	11,800	3.0	16,300	7.5	24,000	11.2	9.3 @ 15.0
EC4 75 CD	11,800	3.0	16,300	7.5	24,000	11.2	6.8 @ 9.0
EC4 100 D	10,900	3.0	23,900	10.0	29,400	15.0	10.0 @ 10.0
EC4 100 CD	10,900	3.0	23,900	10.0	29,400	15.0	10.0 @ 10.0
EC4 100 SD	10,900	3.0	23,900	10.0	29,400	15.0	10.0 @ 10.0
EC4 100 S CD	10,900	3.0	23,900	10.0	29,400	15.0	10.0 @ 10.0
EC4 CAB 100 D	10,900	3.0	23,900	10.0	29,400	15.0	10.0 @ 10.0
EC4 CAB 100 CD	10,900	3.0	23,900	10.0	29,400	15.0	10.0 @ 10.0
EC4 150 D	16,400	4.5	35,900	15.0	44,000	22.5	10.2 @ 12.0
EC4 150 CD	16,400	4.5	35,900	15.0	44,000	22.5	7.8 @ 8.0
EC4 250 D	27,300	7.5	59,800	25.0	73,400	37.5	12.0 @ 13.0
EC4 250 CD	27,300	7.5	59,800	25.0	73,400	37.5	12.0 @ 13.0
EC4 400 D	40,800	12.0	89,500	40.0	109,900	60.0	11.8 @ 13.0
EC4 400 CD	40,800	12.0	89,500	40.0	109,900	60.0	9.5 @ 9.0

* The softener capacity rating is based on grains of hardness, due to calcium and magnesium cations, removed (as calcium carbonate) while producing soft water between successive regenerations and is related to the pounds of salt required for each regeneration. The tests run to generate the data for table 1 were conducted in accordance with NSF Standard 44 .

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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