



COMMONWEALTH of VIRGINIA

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State Health Commissioner

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October 19, 2023

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Subjects: Recognition of General Approval of the Eljen GSF Advanced Treatment System (AT) and the Eljen GSF Denitrification System (DN) as Treatment Level 2 Wastewater Treatment Systems via NSF 40 Certification

Recognition of Eljen GSF Denitrification System as NSF 245 Certified

Dear Mr. King,

You requested that two of your wastewater treatment products, Eljen GSF-AT and Eljen GSF-DN, be recognized as generally approved for Treatment Level 2 (TL-2) in accordance with 12VAC5-613-70. Treatment Level 2 is defined as producing secondary effluent or effluent containing no greater than 30 mg/l BOD₅ and TSS. Both of these products are listed on the NSF website as certified and listed as NSF Standard 40 Class I treatment systems. As an NSF/ANSI Standard 40 Class I certified treatment system, these two Eljen products are automatically granted TL-2 general approval by the Virginia Department of Health (VDH).

The Eljen DN system is additionally listed as certified under NSF 245 as a nitrogen reducing treatment unit. Under GMP 2013-01, treatment units that are certified under the NSF 245 standard are accepted by VDH as a nitrogen reducing best management practice (BMP) for residential systems. The Eljen DN product will be listed under GMP 2013-01 as a treatment unit capable of reducing total nitrogen by 50%.

The general approval is contingent on designs following the Geotextile Sand Filter (GSF) Virginia TL-2 Design & Installation Manual, dated October 2023. The purpose of this letter is to clarify the conditions of the general approval. The conditions of approval are:

- 1) Pretreatment shall be provided by a septic tank complying with the Virginia Sewage Handling and Disposal Regulations (12 VAC5-610) and the minimum volumes required by the manufacturer in Table 1 below.
- 2) A minimum depth of 6 inches of specified sand shall be placed below the GSF in accordance with the "Virginia TL-2 Design & Installation Manual" for the GSF-AT unit. The GSF-DN unit will be constructed in accordance with the referenced manual.
- 3) Vertical separation to limiting features required by the Regulations for Alternative Onsite Sewage Systems (12 VAC5-613) shall be maintained and shall be measured from the bottom of the 6-inch system specified sand layer for the GST-AT or from the base of the constructed GST-DN which constitute the lower boundaries of the GSF systems.

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- 4) Nitrogen removal credit is only extended to the GSF-DN units as allowed for NSF 245 certified units under GMP 2013-01

Table 1. Minimum septic tank volumes for the GSF-AT and the GSF-DN

GSF - AT Model Number	Design Flow, gallons	Minimum Septic Tank Volume, gallons
SP-450 & LT-450	450	1000
SP-600 & LT-600	600	1250
SP-750 & LT-750	750	1500
SP-900 & LT-900	900	2000
SP-1050 & LT-1050	1050	2250
GSF-DN Model Number	Design Flow, gallons	Minimum Septic Tank Size, gallons
DN450	450	1000
DN600	600	1250
DN800	800	1500
DN1000	1000	2250

This TL-2 general approval extends only to NSF/ANSI Standard 40 Class I certified systems with a rated capacity of less than or equal to 1,000 gallons per day.

If you have additional questions regarding this matter, please feel free to contact Lance Gregory at Lance.Gregory@vdh.virginia.gov. A copy of this letter and the submitted manual will be posted on the VDH website. The GSF-DN units will be added to the Appendix A listing in GMP 2013-01.

Sincerely,



Marcia J. Degen, Ph.D., P.E.
Technical Services Manager
Division of Water & Wastewater Services

Cc: Lance Gregory, Division Director
Ryder Bunce, PE, Technical Services Engineer