

**NORTH CAROLINA DEPARTMENT OF HEALTH AND HUMAN SERVICES  
DIVISION OF PUBLIC HEALTH  
ENVIRONMENTAL HEALTH SECTION  
ON-SITE WATER PROTECTION BRANCH**

**SEPTIC TANK EFFLUENT FILTER APPROVAL**

Septic Tank Effluent Filter Approval Number: EF-10-R3

Issued To: Orenco Systems, Inc  
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For: Septic Tank Effluent Filter Models: FTiP0418-S-NC, FTPS0854-36-NC, FTJP0418-S-NC, FTPS1254-36-NC, FTPS0436-28-NC, FTPS1554-36-NC, and FTPS0444-36-NC

Date: December 9, 1998  
March 5, 1999  
December 31, 2024      Updated for 18E and renewed for 2025  
December 31, 2025      Renewed for 2026

In accordance with G.S. 130A-335 and 130A-335.1 and 15A NCAC 18E .1404 and .1405, an application by Orenco Systems, Inc, for renewal of the approval for septic tank effluent filters has been reviewed and approved when the following conditions are met.

I. Description

- a. Effluent filters shall be designed and manufactured in accordance with the plans, specifications and documents submitted by the manufacturer with the application.
- b. Effluent filters shall meet the specifications in Table I.

**Table I. Approved Filter Model Specifications (GAG Sim/Tech)**

Filter Models	Size	Support Case <sup>1</sup>	Case Dimensions		Min. Tank Liquid Depth Required	Min. Access Opening Size <sup>3</sup>
			Above Liquid Level	Below Liquid Level <sup>2</sup>		
FTiP0418-S-NC, FTJP0418-S-NC,	4" dia. x 18"	4" PVC Tee <sup>1</sup>	6"	16"	16" <sup>2</sup>	15 x 15 in. or 17 in. dia. or equal
FTPS0436-28-NC	4" dia. x 28"	4" Tee and Housing	6"	30"	16" <sup>3</sup>	18 x 18 in. or 18 in. dia. or equal
FTPS0444-36-NC	4" dia. x 36"		6"	38"	16" <sup>3</sup>	
FTPS0854-36-NC	8" dia. x 36"	8" Housing	16"	38"	16" <sup>3</sup>	
FTPS1254-36-NC	12" dia. x 36"	12" Housing	16"	38"	16" <sup>3</sup>	
FTPS1554-36-NC	15" dia. x 36"	15" Housing	16"	38"	16" <sup>3</sup>	21 x 21 in. or 21 in. dia. or equal

Notes:

1. Support case provided by Orenco with Model FTJP0418-S-NC. Septic tank manufacturer shall provide support case for Model FTiP0418-S-NC.
2. Requires minimum septic tank liquid depth of 40 inches for case inlet depth to not exceed 40 percent of the tank liquid depth, as required.
3. Filter support case inlet intake depth can be varied depending on tank liquid depth. All openings in the case must be located to meet 25 to 40 percent requirement.

4. Other minimum opening sizes or configurations proposed both the septic tank manufacturer shall be approved by the State on a case-by-case basis if documentation is provided showing both adequate access is provided for filter maintenance and for pumping the tank outlet compartment.

## II. Sizing

The approved effluent filters may be used in approved septic tanks. The approved flow capacities are shown in Table II. The effluent filter sizing must be compatible with the design daily flow and the minimum septic tank size in accordance with 15A NCAC 18E .0801.

**Table 2. Filter Sizing Criteria**

Filter Model	Maximum Design Flow (gpd, residential <sup>1</sup> )	For Higher Strength Wastewater, Max. Design Flow <sup>3</sup>	
		BOD 300-600 mg/l	BOD 600-1,000 mg/l <sup>4</sup>
FTiP0418-S-NC, FTJP0418-S-NC	500	250	167
FTPS0436-28-NC	700	350	233
FTPS044-36-NC	900	450	300
FTPS0854-36-NC	3,000	1,500	1,000
FTPS1254-36-NC	3,000 <sup>2</sup>	2,500	1,667
FTPS1554-36-NC	3,000 <sup>2</sup>	3,000	3,000

Notes:

1. For residential flows with or without garbage disposals. Design Flows based upon primary sewage effluent from septic tank (without filter installed) with contaminant concentrations or quantities which do not exceed those normally found in residential sewage, including: BOD<sub>5</sub> ≤ 350 mg/l; TSS ≤ 100 mg/l; TKN ≤ 100 mg/l; and fats, oil, and grease ≤ 30 mg/l
2. For use in systems with design flows exceeding 3,000 gpd, requires engineer design and a project-specific approval.
3. For commercial food handling establishments, such as restaurants, grease tanks, pretreatment devices, or kitchen practices must be present to limit the fats, oil, and grease level at the discharge end of the septic tank to below 30 mg/l.
4. For use in systems with higher strength wastewater, three-year minimum maintenance interval is unrealistic to expect without advanced pretreatment in addition to grease traps.

## III. Installation

The effluent filters and effluent filter support case shall be assembled and installed in accordance with the filter manufacturer's specifications and applicable rules. The filter case shall be located in such a manner that the filter can be readily accessible by the operator from the access opening and removable by hand from finished grade. The access opening shall also provide enough room to allow for pumping of the tank compartment. An access device manufactured by Orenco Systems, Inc, shall be provided whenever the tank is installed with the filter handle deeper than 18-inches below the access opening or more than 18-inches below finished grade.

## IV. Operation and maintenance

Effluent filters shall be used and maintained in accordance with the effluent filter manufacturer's specifications and applicable laws and rules. Manufacturer-specified procedures shall be followed to minimize the bypass of unfiltered effluent while the filter is being removed when servicing is needed. Orenco Systems, Inc, has available for purchase a slotted sleeve removal tool that prevents material from leaving the outlet tee while the filter is being replaced. Upon removal, effluent filters shall either be replaced with a new effluent filter and the used effluent filter disposed of in an approved disposal method, or debris shall be washed off the effluent filter into the septic tank and the effluent filter placed back into service.

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_