

**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-12-R7

Issued To: Polylok, Inc
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For: Septic Tank Effluent Filter Model PL-122 with Pipe Adapter, Model PL-68, Model PL-250, Model PL-525, and Model PL-625

Date:	December 8, 1998	Initial Zabel Environmental Technology Effluent Filter Approval
	December 18, 1998	Initial Polylok, Inc, Effluent Filter Approval
	November 18, 1999	Modifications to materials used for Zabel Effluent Filters
	January 19, 2001	Relabeling of Zabel models to include case dimensions, eliminate HIP designation, and addition of 8-inch diameter filter models
	February 2, 2004	Addition of Model PL-68
	March 4, 2005	Addition of Model PL-525
	December 21, 2005	Addition of Model PL-625
	May 16, 2006	Change of ownership of Zabel Effluent Filters
	October 1, 2015	Addition of Model PL-250
	December 31, 2024	Updated for 18E and renewed for 2025
	March 19, 2025	Addition of A1800, A100, and A300 Series Effluent Filters

In accordance with G.S. 130A-335 and 130A-335.1 and 15A NCAC 18E .1404 and .1405, Polylok, Inc’s approval has been updated to include all septic tank effluent filters identified in their approval renewal application and 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						
Filter Models	Size	Support Case ¹	Case Dimensions		Min. Tank Liquid Depth Required	Min. Access Opening Size ⁴
			Above Liquid Level	Below Liquid Level ²		
PL-122 With Pipe Adapter ¹	4.5 inches square x 22.75 inches (18 inches to case inlet)	4.5-inch square housing	5.75 inches	12.375 inches	36 inches	15 inches square, 17-inch diameter, or equal

Dual PL-122 With Pipe Adapter ^{1,2}	2 filters, each 4.5 inches square x 22.75 inches (18 inches to case inlet)	2 attached cases, 4.5- inch square housings	5.75 inches	12.375 inches	36 inches	17 inches square, 17-inch diameter, or equal
Triple PL-122 With Pipe Adapter ^{1,2}	3 filters, each 4.5 inches square x 22.75 inches (18 inches to case inlet)	3 attached cases, 4.5- inch square housings	5.75 inches	12.375 inches	36 inches	18 inches square, 20-inch diameter, or equal
PL-68	2,625-inch diameter x 14 inches	4-inch PVC Tee	6 inches	15.5 inches	36 inches	15 inches square, 17-inch diameter, or equal
PL-525	9.5 inches x 11 inches x 22 inches	11.5-inch x 10.5-inch housing	8.5 inches (6 in Sch 40) 7.5 inches (4 in Sch 40)	24.5 inches (6 in Sch 40) 25.5 inches (4 in Sch 40)	36 inches	17 inches square, 17-inch diameter, or equal
PL-625	9.5 inches x 11 inches x 22 inches	11.5-inch x 10.5-inch housing	8.5 inches (6 in Sch 40) 7.5 inches (4 in Sch 40)	24.5 inches (6 in Sch 40) 25.5 inches (4 in Sch 40)	36 inches	17 inches square, 17-inch diameter, or equal
PL-250	6-inch diameter x 15.75 inches	6-inch ABS Tee	6 inches	16 inches	36 inches	17 inches square, 17-inch diameter, or equal
A1800 – 4x18	4-inch diameter x 18 inches	4-inch PVC Tee	6 inches	15 inches	38 inches ³	15 inches square, 17-inch diameter, or equal
A1800 – 4x22	4-inch diameter x 22 inches	4-inch PVC Tee	6 inches	15 inches	38 inches ³	15 inches square, 17-inch diameter, or equal
Dual A1800 – 4x18	Two filters, each 4-inch diameter x 18 inches	Two cases, 4-inch PVC cross, 4-inch PVC Tee	6 inches	15 inches	38 inches ³	17 inches square, 17-inch diameter, or equal
Dual A1800 – 4x22	Two filters, each 4-inch diameter x 22 inches	Two cases, 4-inch PVC cross, 4-inch PVC Tee	6 inches	15 inches	38 inches ³	17 inches square, 17-inch diameter, or equal
A100 – 8x18 VC	8-inch diameter x 18.5 inches	8-inch housing	5.5 inches	13 inches	52 inches ³ , maximum	15 inches square, 17-inch diameter, or equal
A300 – 8x18 VC	8-inch diameter x 18.5 inches	8-inch housing	5.5 inches	13 inches	52 inches ³ , maximum	15 inches square, 17-inch diameter, or equal

A300 – 12x20 VC	12-inch diameter x 15 inches	12-inch housing with reducer	6 inches	14.5 inches	36 inches ³	18 inches square, 18-inch diameter, or equal
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Notes:

1. Solvent weld filter support case to 3-inch or 4-inch PVC Schedule 40 outlet pipe. Support case provided by manufacturer with Models A1800 – 4x18 and A1800 – 4x22
2. Dual and Triple models require cases to be snapped together in accordance with filter manufacturer’s specifications.
3. Minimum septic tank liquid depth required to meet 25 percent to 40 percent inlet intake requirement for filter support case.
4. Support case housings are integral to all PL-122 and 525 filters and supplied by Polylok, Inc. for all models. Supplemental support may be provided by the septic tank manufacturer, by inserting a 4-inch thin-wall PVC pipe into the housing of the furthest filter from the outlet after the shut off ball has been removed in accordance with manufacturer’s specifications, fastening this pipe with two stainless steel screws to the housing, and extending the support pipe to the tank bottom. Supplemental support is required for Model PL-525. Openings in the support pipe must be located to meet the 25% to 40% requirement for the support case inlet intake. Support case for Model PL-68 provided by Polylok, Inc. or septic tank manufacturer.
5. When the tank liquid depth exceeds 50 inches, the case bottom must be extended as necessary to meet the 25% to 40% inlet intake requirement for the filter support case. This may be accomplished by removing the shut off ball, in accordance with filter manufacturer’s specifications, and fastening with two stainless steel screws to the housing a 4-inch thin wall PVC pipe cut to the length needed to meet this requirement.
6. Other minimum opening sizes or configurations proposed by the septic tank manufacturer shall be approved by the State of 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.

Filter Model	Maximum Design Flow (gallons/day)
PL-122 With Pipe Adapter	800
Dual PL-122 With Pipe Adapter	1,600
Triple PL-122 With Pipe Adapter	2,400
PL-68	800
PL-525	3,000
PL-625	3,000
PL-250	3,000
A1800 – 4x18	800
A1800 – 4x22	800
Dual A1800 – 4x18	1,600
Dual A1800 – 4x22	1,600
A100 – 8x18 VC	1,200
A300 – 8x18 VC	1,200
A300 – 12x20 VC	3,000

Notes:

1. Sizing based on domestic strength effluent in accordance with 15A NCAC 18E .0402(a), Table III.
2. If the effluent filters are used in a system with a design daily flow greater than 3,000 gallons/day, the design requires a Professional Engineer and a project specific approval.

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 Polylok, 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. Polylok, 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: _____