

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

SEPTIC/PUMP TANK RISER ASSEMBLIES APPROVAL
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Septic/Pump Tank Riser Assemblies Approval: SR-13-R7

Issued To: David Lentz
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For: 24-inch polypropylene EZsnap Septic Tank and Pump Tank Riser Assembly, 20-inch, 24-inch and 30-inch glass/polypropylene EZset and TW Septic Tank and Pump Tank Riser Assemblies

Date: July 10, 2001
April 12, 2002
April 12, 2005 (addition of 30-inch riser assembly)
May 16, 2006
January 25, 2010
November 27, 2012 (addition of TW riser assembly)
July 24, 2017 (addition of EZsnap riser assembly)

In accordance with North Carolina General Statute 130A-335, 130A-335.1, and 15A NCAC 18A .1954, an application by David Lentz of Infiltrator Water Technologies for modification of their approval for septic tank and pump tank riser assemblies has been reviewed. These riser assemblies have been found to meet the minimum requirements established by statute and rule, when the following conditions for use, installation, operation and maintenance are met:

I. Description

- A. Riser assemblies and associated accessories shall be designed and manufactured in accordance with plans, specifications and supporting documents provided by the manufacturer in their application for approval submitted to the On-Site Water Protection Branch. The On-Site Water Protection Branch shall be notified in writing of any new assemblies or modifications to the approved risers assemblies and accessories prior to use in septic tank systems.

- B. Approved riser assemblies and other accessories shall meet the specifications outlined in Table 1.

Table 1. Approved Risers Model Specifications

Riser Models	Inside dia.	Min. Tank Top Width Required	Riser Installation Limitations ^{1,2}
24" EZsnap round riser (2", 6", and 12" high stackable sections), lid assembly, and safety lid by Infiltrator	24"	32"	Septic tank – must be installed 6" below finished grade or at least 3" above finished grade Pump tank – must be installed at least 6" above finished grade
20" Polyfort® FPP round riser (6" and 12" high stackable sections) and lid assembly EZset by Infiltrator	20"	28"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade
24" Polyfort® FPP round riser (6", 12" and 18" high stackable sections) and lid assembly EZset by Infiltrator	24"	32"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade Pump tank - must be installed at least 6" above finished grade
30" Polyfort® FPP round riser (12" high stackable sections) and lid assembly EZset by Infiltrator	30"	38"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade Pump tank - must be installed at least 6" above finished grade
24" Polyfort® FPP round riser (6", 12" and 18" high stackable sections) and lid assembly TW Riser by Infiltrator	24"	32"	Septic tank - must be installed 6" below finished grade or at least 3" above finished grade Pump tank - must be installed at least 6" above finished grade

Notes:

1. This riser system must not be subjected to vehicular or other excessive live loads, or buried deeper than three feet below finished grade (consideration for use with traffic-rated tanks with deeper burial depths may be considered for approval on a case-by-case basis).
2. Septic tank and pump tank manufacturers shall provide a minimum of one mechanism to prevent accidental entry to the tank (see further conditions, below).

II. Use

A tank manufacturer may propose to use these approved riser assemblies in one or more of their septic tanks or pump tanks. The tank manufacturer must notify the On-Site Water Protection Section in accordance with Rule .1953 of the tanks in which they propose to utilize any of these approved risers, showing any modifications to the approved tank plans which may be necessary to utilize the proposed risers.

III. Installation

- A. The riser assemblies shall be assembled and installed in accordance with the manufacturer's specifications, applicable rules, and approval conditions. This includes installation of the EZsnap riser on approved IM-Series and concrete septic tank and pump tank models.
- B. For concrete septic tank installations, the EZset and TW risers shall be cast into the tank during tank construction. The bottom riser section (6- or 12-inch section for 20-inch riser, 6-, 12-, or 18-inch section for 24-inch riser) shall be cast in the concrete (with the riser lid in place), retaining a concrete inner collar around the internal circumference of the riser (to form at least a 17-inch diameter opening). The riser shall be placed in the tank top mold in such a manner that 1-½ inches of concrete shall be cast below the riser bottom. A tapered concrete support collar shall surround the riser beginning at a height of at least four-inches above the bottom of the riser tapering away from the riser on a projected slope of 1:8. Four No. 3 rebars (one each on every side of the riser, making a picture frame) shall be placed one inch away extending three to six inches beyond the riser.

For EZsnap concrete septic tank installations, there are two installation options: 1) the larger-diameter end of the riser can be cast into the tank; or 2) the EZsnap riser can be connected to a 24-inch EZset riser that is cast into a tank as described above. Casting into the tank is allowable for the 6- and 12-inch EZsnap sections. The larger diameter end of the riser section shall be cast in the concrete with the riser lid in place. A tapered concrete support collar shall surround the riser beginning at a height of at least four inches above the bottom of the riser tapering away from the riser on a projected slope of 1:8. Four No. 3 rebars (one each on every side of the riser, making a picture frame) shall be placed one inch away extending three to six inches beyond the riser. If the EZsnap riser is connected to a cast-in 24-inch EZset riser, the larger diameter end of the EZsnap riser shall be engaged with the EZset riser and locking tabs snapped into place. The integral EZsnap riser gasket creates a seal between the two riser sections. Screws and sealant are optional per manufacturer's specifications.

- C. For concrete pump tank installations, the 24-inch EZset and TW bottom riser section (6-, 12-, or 18-inch high section) shall be cast directly into the tank fully penetrating the tank top. When the tank top slab is less than four inches thick, a concrete fillet shall be provided around the riser so that the total thickness of the concrete slab will be at least four inches around the riser, tapering away from the riser on a projected slope of 1:8. Four No. 3 rebar (one each on every side of opening, making a picture frame) shall be placed one inch away from the opening extending three to six inches beyond the tank opening.

For EZsnap concrete pump tank installations, there are two installation options: 1) the larger diameter end of the riser can be cast into the tank; or 2) the EZsnap riser can be connected to a 24-inch EZset riser that is cast into a tank as described above. Casting into the tank is allowable for the 6- and 12-inch EZsnap sections. The larger diameter end of the riser section shall be cast directly into the tank, fully penetrating the tank top. When the tank top slab is less than four inches thick, a concrete fillet shall be provided around the riser so that the total thickness of the concrete slab will be at least four inches around the riser, tapering away from the riser on a projected slope of 1:8. Four No. 3 rebars (one each on every side of the opening, making a picture frame) shall be placed one inch away from the opening extending three to six inches beyond the tank opening. If the EZsnap riser is connected to a cast-in 24-inch EZset riser, the larger diameter end of the EZsnap riser shall be engaged with the EZset riser and locking tabs

snapped into place. The integral EZsnap gasket creates a seal between the two riser sections. Screws and sealant are optional per manufacturer's specifications.

Wire connections shall be made through bulkhead or gasket type connectors provided by the riser manufacturer and installed per manufacturer's recommendations, to make a secure watertight connection.

The pump discharge pipe shall exit the riser through bulkhead type or manufacturer approved flexible gaskets provided by the riser manufacturer and installed per manufacturer's recommendations, to make a secure watertight connection. For systems where the discharge pipe is designed to pass through the riser, make certain the pump disconnect is reachable from the top of the riser (12-18 inches, maximum, below riser lid), and the pipe shall remain below the local frost line (12-18 inches, minimum, in most of North Carolina).

For the EZset and TW risers, the top (highest) riser section may be a riser safety pan to accommodate an internal concrete plug (no other riser safety pans shall be used in the riser). The lip of the riser section pan extends over the riser section wall. The riser safety pan is removable to facilitate access to the pump and floats.

For TW risers, use of the 20-inch EZset safety lid with the 24-inch riser pan and stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); or an equal or better security method subsequently approved by the State.

For the EZsnap riser, the riser-to-tank or any riser-to-riser connection point may be used for installation of the EZsnap secondary lid system per manufacturer's specifications.

- D. Riser retrofit installations may be used for repairs, expansions, or modifications when used with an existing approved structurally sound septic tank or pump tank. Risers shall be attached in a structurally sound, watertight fashion in accordance with the riser manufacturer's specifications.
- E. For EZset and TW risers, multiple riser sections may be used by placing a manufacturer-approved silicone (which may be supplied by the manufacturer) between riser sections, and attaching the riser sections together with a minimum of six (6) 18-8 stainless steel #10 x 1-1/4 self-tapping screws provided by the riser manufacturer, installed through the lower flange of the upper section into the upper flange of the underlying section, per manufacturer's specifications.

For EZsnap risers, multiple riser sections may be used by connecting sections with the integral connecting tabs and gasket. The use of screws and sealant is optional and may be installed per manufacturer's specifications.

- F. For EZset and TW risers, the riser lid with poured in place gasket shall be secured by the tank manufacturer to the upper flange of the upper riser section with six (6) 18-8 stainless steel #10 x 1-1/4 self-tapping screws (10 screws required for the 30-inch riser) provided by the riser manufacturer. Screws shall pass through screw bosses into the pre-formed holes located equidistant in the top of the lid into the upper flange of the riser, per manufacturer's

specifications. Screws shall not protrude through the secondary flange on the riser. Screws shall not be overtightened.

For EZsnap risers, the EZsnap lid with integral gasket shall be secured to the tank or to the uppermost riser section with 10 #14 stainless steel screws. The includes nine Phillips/hexagonal combination-head screws and one pan-head Robertson screw, which is used as a tamper-resistant fastener. Depending upon which end of a riser segment is being used for the lid connection, use the outer-diameter screw holes on the lid for the larger diameter end of the riser and the inner-diameter screw holes for the smaller diameter end of the riser. Installation shall be performed based upon the call-outs on the lids defining the proper screw pilot holes to use for the different scenarios. Screws shall not be overtightened.

- G. For both the EZset and TW septic tank risers, the following methods for additional security are approved: an internal concrete lid with handle, weighing at least 50 pounds, provided by the tank manufacturer, to be placed on the internal concrete lid; stainless steel self-tapping screws with at least one screw with a tamper resistant design (requiring the use of a special tool); or State approved equal or better security method provided.

For the EZset pump tank riser, additional security against unauthorized entry may be obtained by the following methods: use of the riser pan and stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); a stainless steel locking ring with padlock; two padlocks installed 180-degrees apart securing the lid to the riser; or an equal or better security method subsequently approved by the State.

For the TW pump tank riser, additional security against unauthorized entry may be obtained by the following methods: use of the 20-inch EZset safety lid with the 24-inch riser pan and stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); stainless steel screws securing the lid to the riser top with at least one screw with a tamper resistant design (requiring the use of a special tool); or an equal or better security method subsequently approved by the State. See the manufacturer's approved installation guidelines for detailed installation instructions.

For the EZsnap septic tank and pump tank risers, additional security against unauthorized entry may be obtained by the following methods: stainless steel screws securing the lid to the riser top with at least one screw having a tamper resistant design (requiring the use of a special tool), and the EZsnap secondary lid system. The EZsnap primary and secondary lid systems shall be installed per manufacturer's recommendations. Other State approved equal or better security method may also be allowed.

- H. This riser system must not be installed in areas subjected to vehicular traffic, or where the tank shall be buried more than three feet below finished grade.

IV. Literature

The riser assembly manufacturer shall furnish with each riser assembly (and/or with associated riser assembly components) all pertinent installation and maintenance details.

V. Maintaining approval status

The approval status is governed by Rule .1954(e).