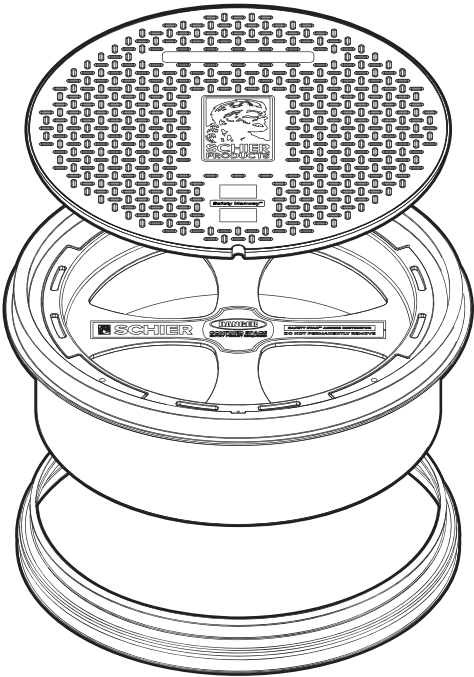


INSTALLATION GUIDE

Safety Manway™

Accidental Entry Protection System for Buried Tanks



- SOLIDS INTERCEPTOR
- GREASE INTERCEPTOR
- OIL SEPARATOR
- SEPTIC TANK
- CHEMICAL WASTE TANK
- STORM SEWER
- SANITARY SEWER

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SPECIAL PRECAUTIONS

Failure to follow this guidance voids your warranty



WARNING! DO NOT AIR TEST TANKS OR RISER SYSTEM!

Doing so may result in property damage, personal injury or death.



CAUTION! Do not install this unit in any manner except as described in these instructions.

1



Read all instructions before installation



Install in conformance with all local codes

2



CAUTION

Do not add any form of lubricant to adjustable riser tubes during installation.

3

DO NOT Permanently Remove Safety Star™ Tether

4

Make Sure Parts Are Clean When Applying Butyl Mastic Sealant

5

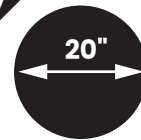
Additional hardware (by others) may be required

6



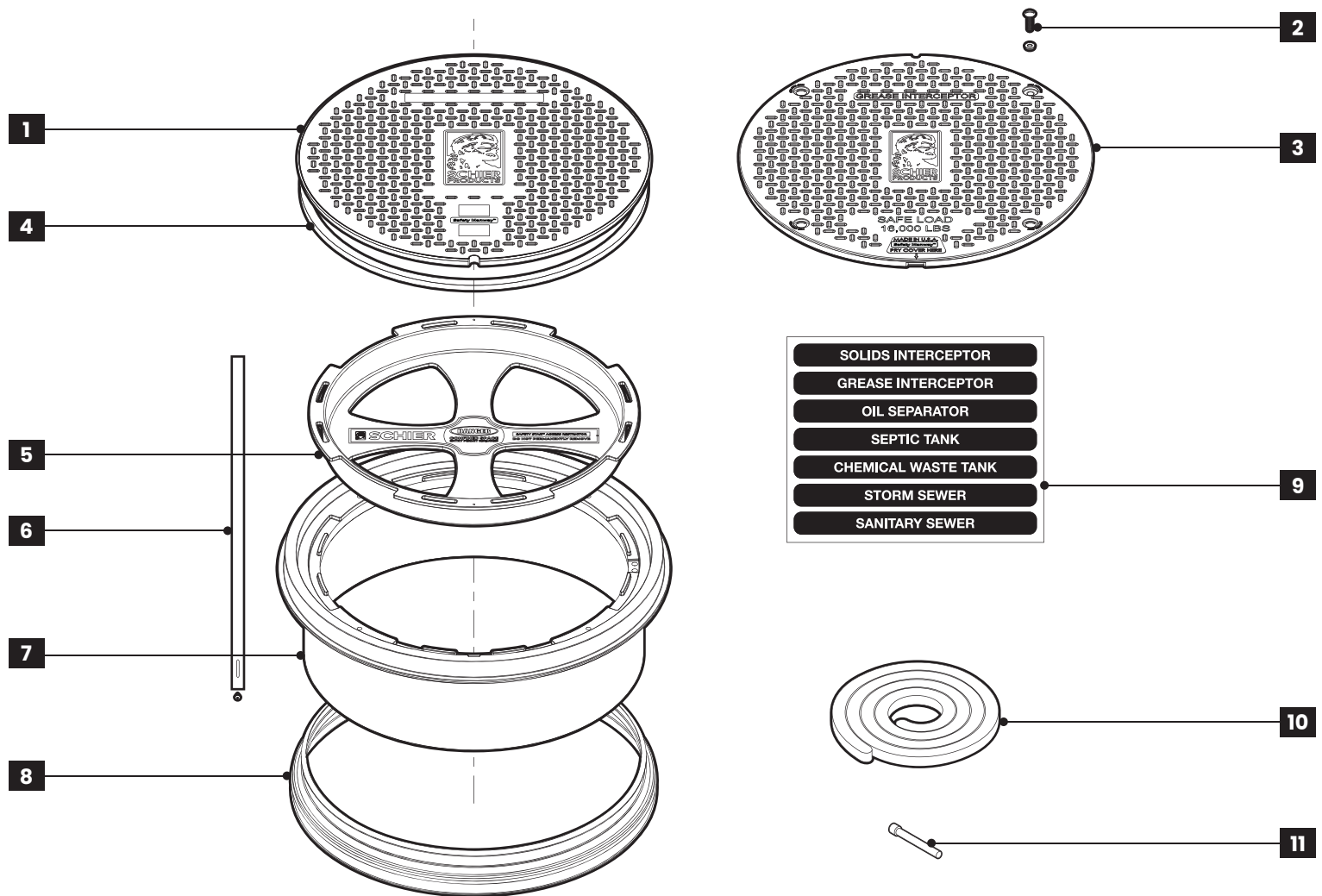
DO NOT Use Heavy Equipment to Compress Manway/ Riser into Mastic

7



Maximum Tank Accessway Diameter

GETTING TO KNOW THE SAFETY MANWAY™



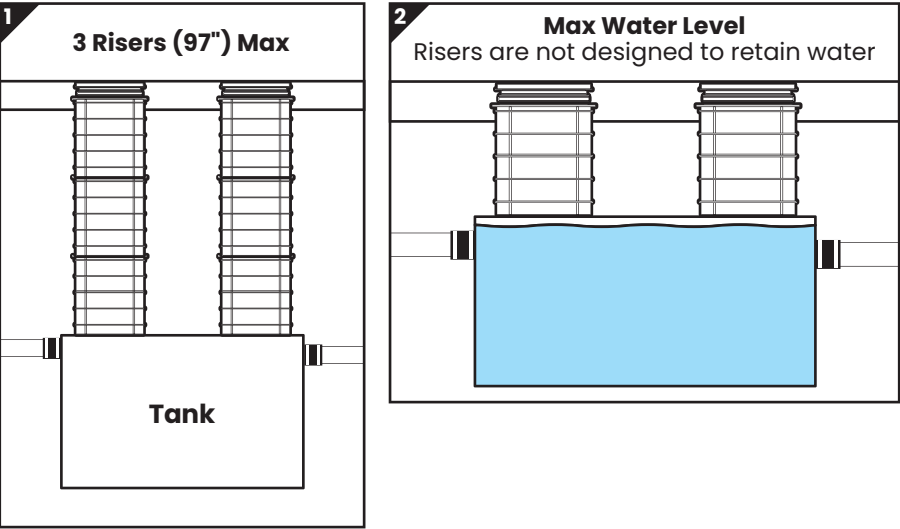
1. Pickable Cast Iron Cover (standard)
2. Composite Cover Bolts and Washers (x4)
3. Bolted Composite Cover (optional)
4. Cover Gasket

5. Safety Star
6. Safety Star Tether with Screw
7. Cover Adapter
8. Standard Cover Adapter Gasket Assembly with Upper and Lower Stainless Steel Band Clamps (for FCR2 riser compatibility)

9. Heavy-Duty Adhesive Backed Tank Identification Labels (x7)
10. Optional Square Butyl Mastic Sealant Roll: 1" x 1" x 84" (for SR24/LR24 riser compatibility)
11. 7/16" Nut Driver Bit

Installation with FCR2 Adjustable Risers

Special Precautions

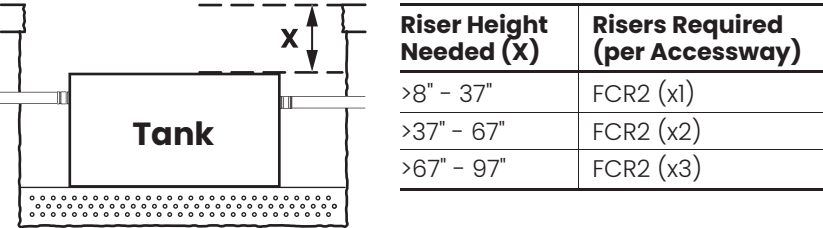


Tools You Will Need



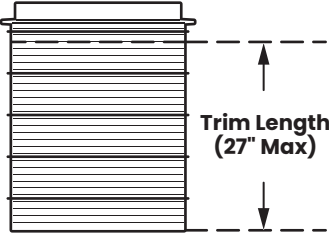
1 Determine riser height needed and trim risers.

1a Measure dimension X to determine riser height needed.

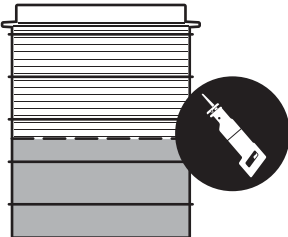


1b Determine Trim Length (round up all fractions to next inch). **Only one FCR2 riser per cover will need to be cut.**

Riser Height Needed	Trim Length =
>8" - 37"	37" - Riser Height (X)
>37" - 67"	62" - Riser Height (X)
>67" - 97"	93" - Riser Height (X)



1c Measuring from bottom of riser, mark trim length and cut Riser Halves.

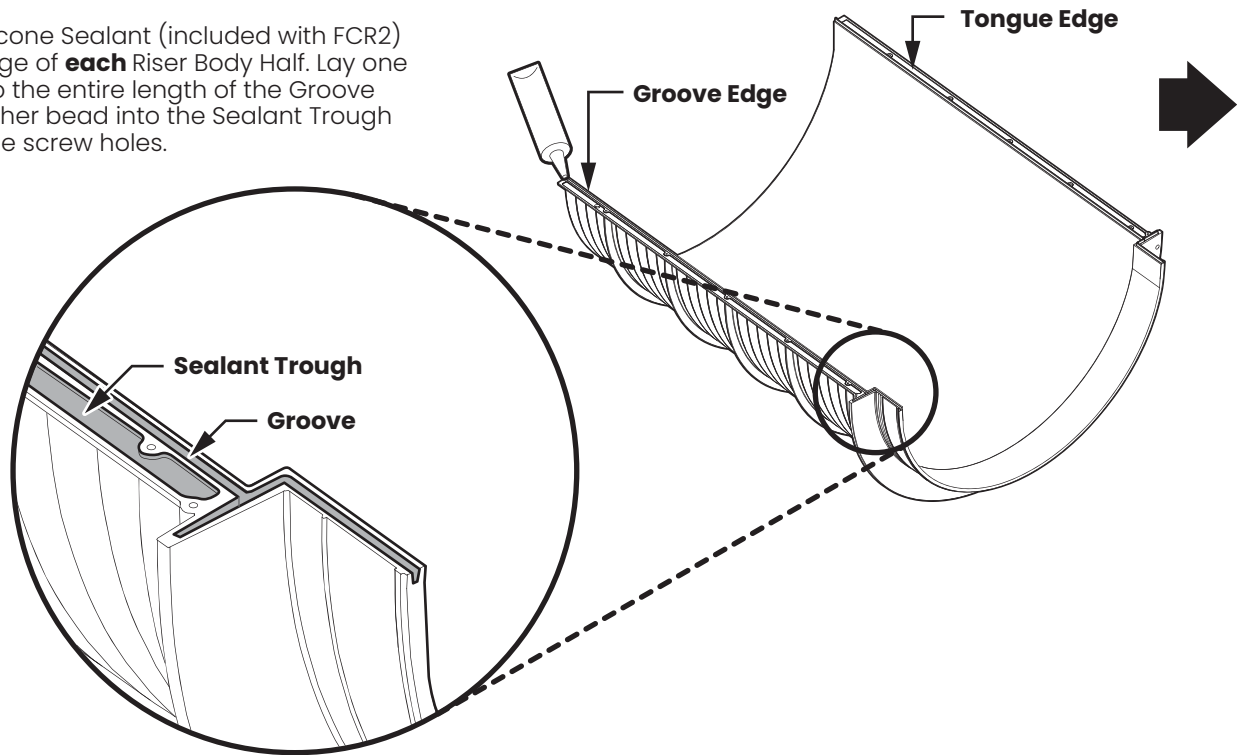


NOTE: If trim length is 0 or less, no cutting is required. Trimming risers using these guidelines will result in risers that are 0-2" shorter than the exact riser height needed. Cover Adapter adjustability will allow for final adjustments to grade.

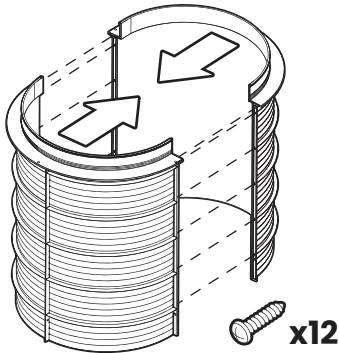
2 Assemble riser body halves.

2a

Apply Silicone Sealant (included with FCR2) to the edge of **each** Riser Body Half. Lay one bead into the entire length of the Groove and another bead into the Sealant Trough next to the screw holes.



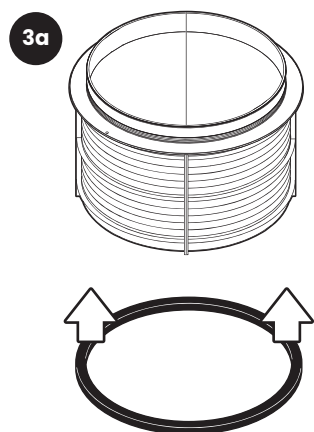
2b



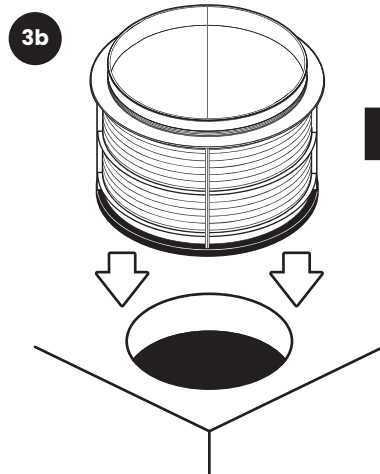
Immediately assemble riser halves after applying sealant and fasten using screws supplied with FCR2.

Installation with FCR2 Adjustable Risers

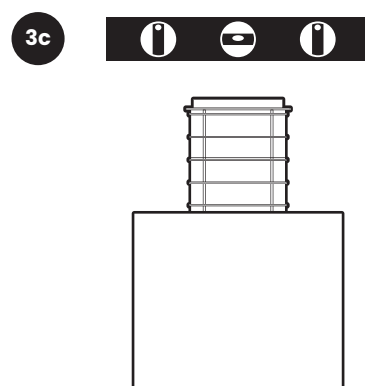
3 Install riser onto tank.



Apply butyl mastic sealant (included with FCR2) to the bottom edge of the riser.



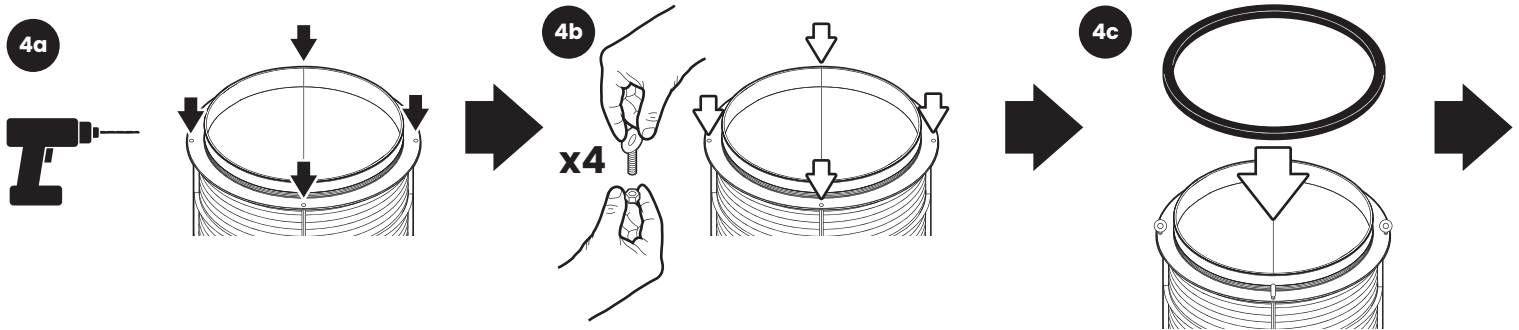
Place riser into position onto tank, centering over the accessway. Evenly force the riser into the mastic. Riser should go 1/2" - 3/4" into the sealant.



Make final adjustments to ensure riser is level.

Installation with FCR2 Adjustable Risers

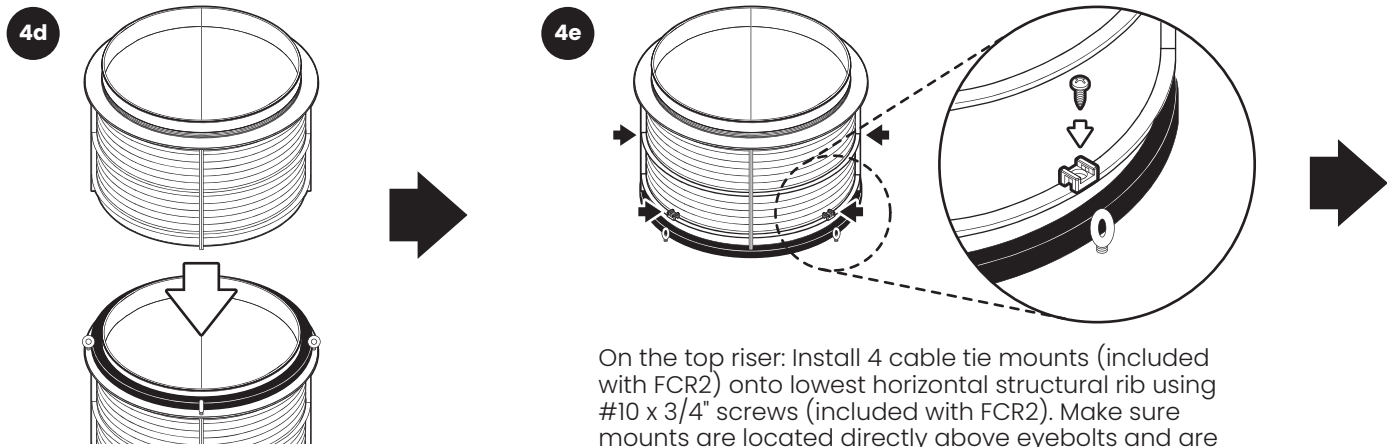
4 Install riser onto riser (37"+).



On bottom riser: drill (4) 1/4" mounting holes through flange.

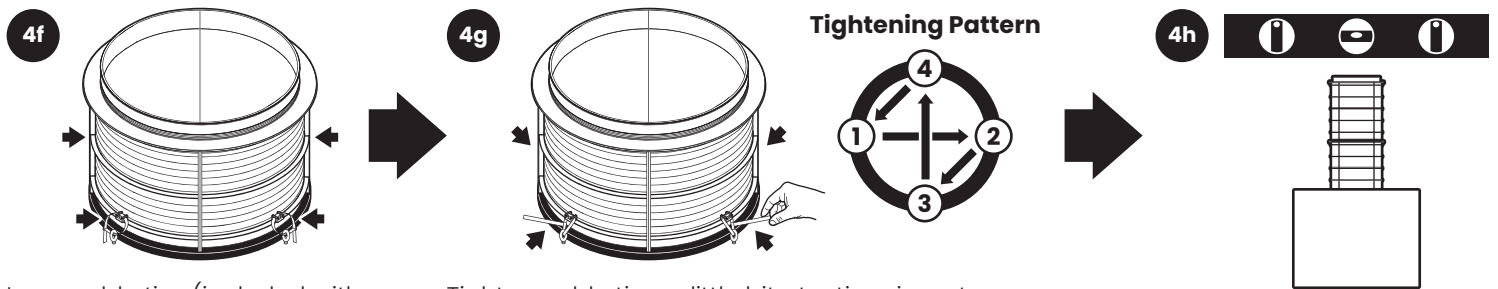
On bottom riser: install eyebolts (included with FCR2) into holes in riser flange using stainless steel nuts (included with FCR2). Hand tighten only.

On bottom riser: lay butyl mastic sealant (included with FCR2) onto the flange surrounding the accessway.



Place top riser onto bottom riser.

On the top riser: Install 4 cable tie mounts (included with FCR2) onto lowest horizontal structural rib using #10 x 3/4" screws (included with FCR2). Make sure mounts are located directly above eyebolts and are positioned for horizontal cable tie placement.



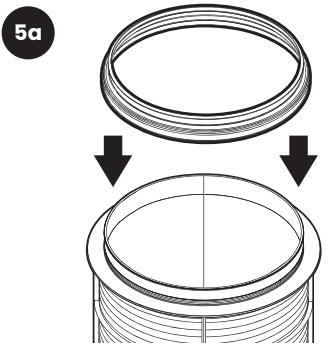
Loop cable ties (included with FCR2) through cable mounts and Eyebolts, do not tighten.

Tighten cable ties, a little bit at a time in a star pattern going around the riser to evenly force the riser into the mastic sealant. Riser should go 1/2" - 3/4" into the sealant.

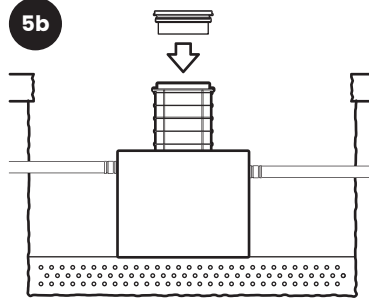
Make final adjustments to ensure riser system is level.

Installation with FCR2 Adjustable Risers

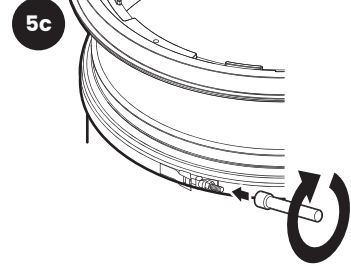
5 Install cover adapters and bring riser system flush-to-grade.



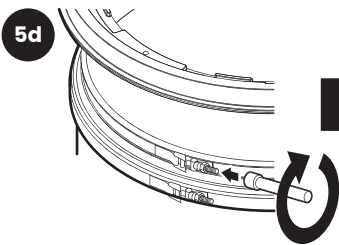
Place cover adapter gasket assembly onto top of riser system.



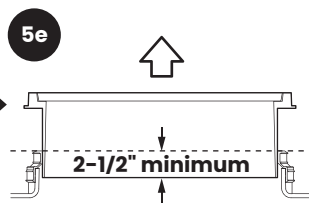
Place cover adapter onto top of riser systems, sliding it into the gasket assembly.



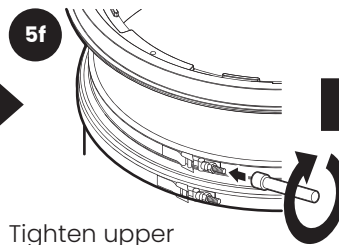
Attach and tighten lower band clamp to 5 -8 ft. lbs. of torque using 7/16" nut driver bit.



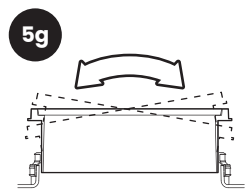
Install upper band clamp and take up the slack using 7/16" Nut Driver Bit. Do not tighten yet.



Adjust cover adapter height as needed to bring riser system flush with grade. **Maintain a minimum 2-1/2" insertion depth.**

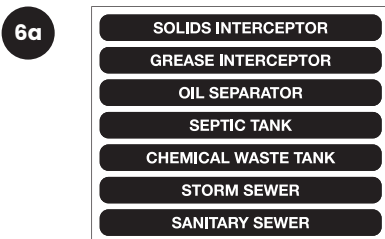


Tighten upper band clamp to 5 -8 ft. lbs. of torque using 7/16" nut driver bit.

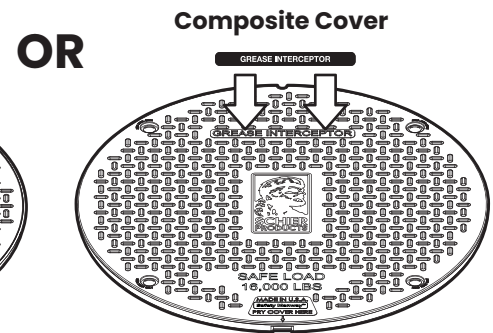
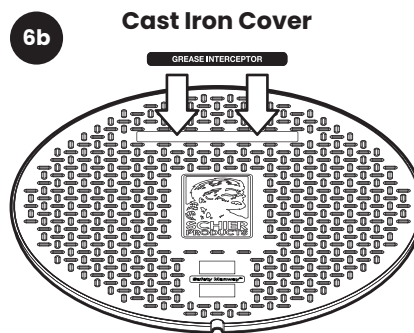


If required, cover adapter may now be tilted up to 10° in any direction using gasket flexibility.

6 Apply tank identification label



Choose one of the supplied labels for your buried tank installation.



Clean and dry cover, remove label backing and apply label.

Installation with SR24/LR24 Adjustable Risers

The Safety Manway™ may be installed at the top of Schier or Striem adjustable risers models SR24 and LR24. Typical applications include grease interceptors, oil separators, solids interceptors and chemical waste tanks. Install tank per manufacturer's instructions in accordance with all local codes.

Tools needed: 7/16" Nut driver tool/bit, marker, level, tape measure. Jigsaw, circular saw or reciprocating saw will be needed if risers need to be cut.

NOTE: To remove or reposition adjustable riser components, loosen the Upper Band Clamp using nut driver bit. **Lower Band Clamps are factory set and should not be removed.** For proper fastening ensure all clamps are tightened to 5 – 8 ft lbs. of torque (same as a rubber no-hub coupling) prior to installation.

1. With original cover adapter assembly in the factory set position, set unit so the pipe connections line up with job site piping and measure riser height needed from top of cover to finished grade. See Table 1 to select risers needed. **TIP:** An extension ladder laid over the burial pit works well to help figure out this dimension.
 2. Remove original cover / adapter assembly from main unit – it will not be used.
 3. On a level surface, pre-assemble the riser(s) and Safety Manway™, adjusting the components upwards or downwards to achieve the riser height needed. Make sure to maintain minimum and maximum insertion depths as shown in Figure 2. If components are too long, make a circular line around the riser sidewall with marker and cut with a power saw. The lowest cut line on the riser assembly will be 5" beyond the riser height needed to allow for ideal insertion depth (See Figure 1). An alignment mark may be drawn 2" beyond the riser height needed which will align with the top of the base unit gasket. **DO NOT** cut the alignment mark. The Safety Manway™ and riser(s) should sit level with each other. Tighten upper clamps on adjustable components to keep riser/manway assembly from shifting. Make alignment marks on the sidewalls at the top of all riser gaskets to aid final assembly.
- NOTE:** the bottom of the Safety Manway™ cover adapter will need to be trimmed for riser heights from 4" – 8", do not trim any more than 4" from the bottom of the adapter.
4. Take apart riser assembly and clean all sidewalls and insides of gaskets to remove dust/debris. Make sure any tank internal components are installed at the appropriate locations.
 5. On the topmost riser, apply one roll of mastic to the top of the riser flange, forming a 1" thick gasket. Place the Safety Manway™ into position, centered on the top of the riser, and apply firm downward pressure to seat the riser 1/2" – 3/4" into the sealant. If necessary and allowed by local code, install additional hardware (screws, bolts) to secure cover adapter to riser.
 6. Install remaining components into the main units starting from the lowest riser and work your way up to finished grade. Ensure that riser will not interfere with internal tank components, allow min. 1" clearance. Maintain minimum and maximum insertion depths for all components (see Figure 2). Tighten Upper Clamps to specified torque after correctly positioning components.
 7. If riser height conditions change after completing above steps, there may be room for adjustment. As long as minimum and maximum insertion depths are maintained (see Figure 2), the risers can be adjusted/cut as many times as necessary.
 8. See tank installation instructions for riser system leak/seal testing (if required) and backfill/finished grade procedures. **Riser assembly may need to be supported during backfill.**
 9. Apply one of the supplied tank identification labels to the cover if desired. Clean and dry cover before applying label.

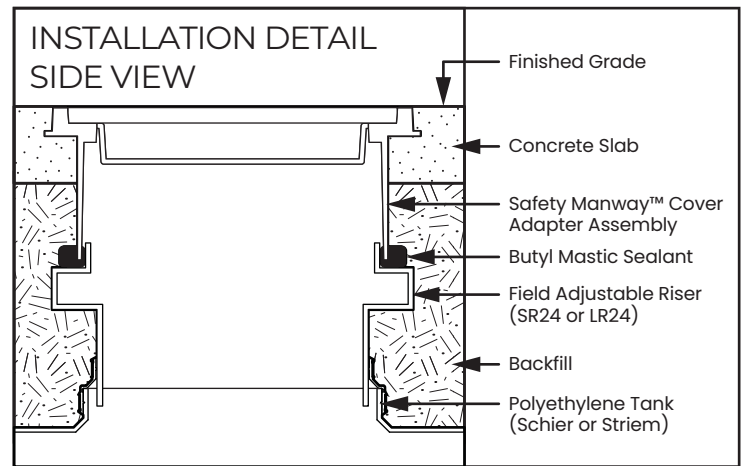


FIGURE 1: RISER MEASUREMENTS

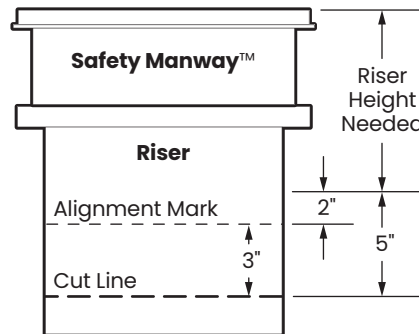
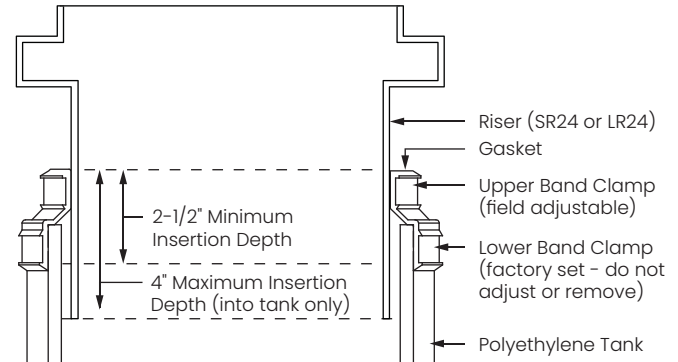


TABLE 1

Riser Height Needed	Riser(s) Required (per accessway)
4" – 23"	SR24
>23 – 40½"	LR24
>40½ – 42½"	SR24 (x2)
>42½ – 60"	SR24
>60 – 72"	LR24 (x2)

FIGURE 2: INSERTION DEPTHS



Notes on Securing Riser System

When installing the Safety Manway™ you may want to install additional hardware to secure the riser system components. The butyl mastic will create a strong bond between components, and installations in traffic areas will embed the cover adapter in concrete effectively locking the riser system in place. This may not be enough to prevent the riser system from moving or tipping during aggressive backfill or when installed in a greenspace area without a concrete pad. If riser or cover adapter movement is a concern, install additional hardware with the following in mind:

1. Always follow the tank and riser manufacturer's instructions and guidelines and obey all local codes and ordinances.
2. Use fasteners/hardware suitable for outdoor/buried applications – stainless, galvanized, etc.
3. **Securing the FCR2 Riser to Concrete Tank Top**
The FCR2 Riser may be secured to the top of a concrete tank using copper, stainless or galvanized plumbers tape/hanging strap, stainless screws and concrete anchors. First attach the plumbers tape to an FCR2 riser rib (either the horizontal or vertical) using a small screw. Next, draw the tape tight to the desired position for the concrete anchor. Predrill the anchor hole using a hammer drill and appropriate masonry bit. A minimum of 4 evenly spaced additional anchor points should be installed in this manner.
4. If for any reason hardware penetration of the riser tube or tank top is necessary (and allowed), make sure all such penetrations are sealed and/or gasketed. Avoid having sharp screw points protruding into the manway riser tube – install these screws from the inside-out rather than the outside-in.

