

Installation & Maintenance Instructions

For Trapzilla® Oil Water Separators

Including Models TZOWS-35, TZOWS-50, TZOWS-75 and TZOWS-100

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1. Limited Warranty and Remedy

Thermaco, Inc. warrants to the original user that the equipment manufactured by Thermaco and delivered with this warranty (the "Product") shall be free from material defects in workmanship and materials during the lifetime of the plumbing system in which the Product is initially installed.

Any claim under this warranty must be made in writing to Thermaco at 646 Greensboro Street, Asheboro, NC 27203 promptly after discovery of the defect and the Product must be delivered, prepaid, to Thermaco, together with proof of purchase and a return authorization number issued by Thermaco. If Thermaco determines that the Product is defective, Thermaco's sole obligation, and the purchaser's sole and exclusive remedy, is the repair or replacement, at Thermaco's option, of the defective Product.

This warranty shall not cover any defect or damage resulting directly or indirectly from: (i) failure to properly install, operate or maintain the Product in accordance with Thermaco's instructions, including, without limitation, use in excess of rated flow, installation deeper than manufacturer's recommendation or in conjunction with unapproved components, use to remove emulsified fats and oils or use that fails to comply with applicable laws, regulations or codes; (ii) damage in transit, handling or installation; (iii) modifications, adjustments, or alterations of the Product; (iv) disassembly of components other than as required for prescribed maintenance; or (v) any other causes not arising out of defects in workmanship or materials. Thermaco shall not be responsible for damage to Products resulting from ultraviolet light exposure, vault flooding, sewer line back-up, pumping or lift station failure, ambient water flow, freezing, or other sources of water damage. Costs for any service, adjustment, removal, repair, packing, or otherwise incurred with respect to the Product prior to submission for warranty are the responsibility of purchaser.

No distributor, sales representative or other person is authorized to make any warranty statements on behalf of Thermaco regarding Products other than as provided herein. This statement of warranty supersedes any quote, brochure, or other statement or document with respect to warranty of Thermaco products.

EXCEPT AS EXPRESSLY SET FORTH ABOVE, THERMACO MAKES NO REPRESENTATIONS, WARRANTIES OR GUARANTEES, EITHER EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHETHER OR NOT THERMACO HAD KNOWLEDGE OF PURCHASER'S PARTICULAR REQUIREMENTS OR NEEDS, OR WITH RESPECT TO ODOR GENERATION OR OTHER INCIDENTALS RELATING TO USE OF THE PRODUCT.

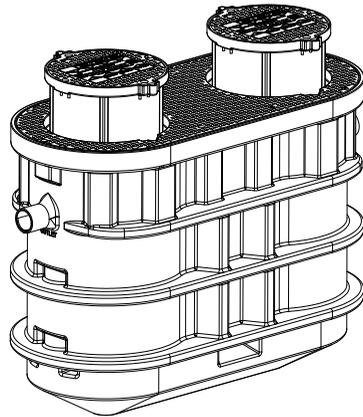
The sole and exclusive remedy with respect to this warranty or any other claim relating to defects or any other condition or use of Products, however caused, and whether such claim is based upon warranty, contract, tort, strict liability or any other theory, is LIMITED to the repair or replacement of the Product, excluding any cost to remove or install the Product or, at Thermaco's option, repayment of the purchase price. IN NO EVENT SHALL THERMACO BE LIABLE, WHETHER IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL THEORY, FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. UNDER NO CIRCUMSTANCES WILL THE AGGREGATE LIABILITY OF THERMACO FOR ANY CAUSE OF ACTION RELATED TO THE PRODUCT COVERED HEREBY EXCEED THE NET PURCHASE PRICE RECEIVED BY THERMACO FOR THE PRODUCT.



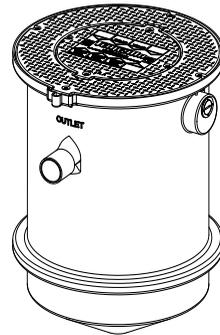
2. Models and Options

Thermaco offers different models and options specifically designed to assist the owner/installer meet site conditions while complying with local pretreatment and plumbing code.

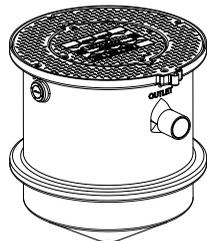
2.1 Models



TZOWS-100*
100 GPM, 4" inlet/outlet
274 liquid gallons
248 gallons oil capacity
74 gallons sand/grit capacity



TZOWS-75*
75 GPM, 4" inlet/outlet
95 liquid gallons
86 gallons oil capacity
22 gallons sand/grit capacity



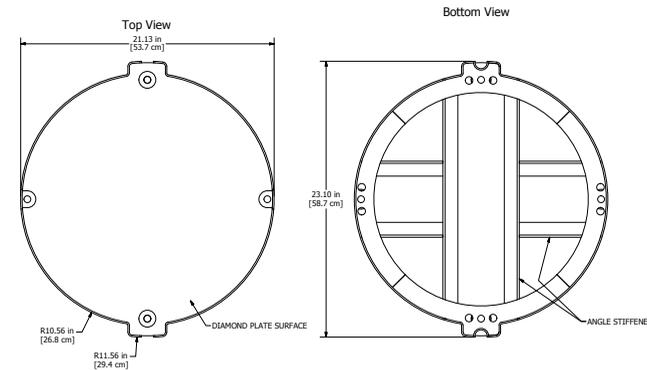
TZOWS-50*
50 GPM, 4" inlet/outlet
70 liquid gallons
55 gallons oil capacity
22 gallons sand/grit capacity



TZOWS-35*
35 GPM, 3" inlet/outlet
27 liquid gallons
22 gallons oil capacity
8 gallons sand/grit capacity

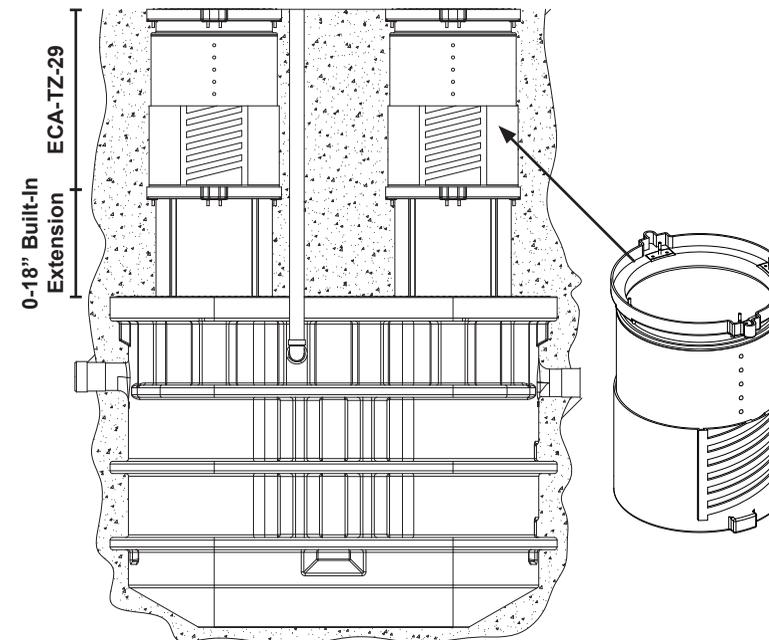
* Additional model variations available:
suffix -ECA includes built-in extension collar (already present in all TZOWS-100 models)
suffix -SSA includes support stand in above-ground installations
suffix -6 has 6" inlet/outlet (only available for TZOWS-100 and TZOWS-75)

2.2 Options (Some options must be purchased separately)



FTCA-22

Optional 22" diameter cover available for In-Ground installations. provides a non-slip, diamond patterned aluminum replacement for the standard STC-22 cover. Each TZOWS-100 requires two (2) FTCA-22 covers.



ECA-TZ-29

(purchase separately)

Optional, field-modifiable extension collars available to provide additional depth for existing kitchen drainage piping.

- ECA Models ship with built-in 0-18" extension collars (TZOWS-35 ships with (1) ECA-TZ-29).
- ECA-TZ-29 adds 0-29" depth to -ECA model or 4-29" to basic model.
- Installation deeper than 60" from center of Inlet to lid voids warranty of Trapzilla units.

3. Plumbing Installation

3.1 Plumbing Considerations Prior to Installation

3.1.1 Locating the Unit

The system should be visible and easily accessible for maintenance and inspection. Options are available to install the Trapzilla Oil/Water Separator in a basement, suspended from a ceiling or in-ground in an exterior location. Make sure adequate room is provided around the unit to allow easy access for a pump truck operator. Make sure the height above the Trapzilla access cover is enough to properly service the system.

3.1.2 Inlet/Outlet Piping

The inlet and outlet piping connections require flexible sleeve pipe couplings. Keep outlet piping as straight as possible. Thermaco, Inc. recommends installation of Two-Way Cleanouts on both the Inlet and Outlet of Trapzilla Oil/Water Separators in accordance with all applicable laws, regulations and codes. **These cleanouts should match the size of the Inlet and Outlet Piping (i.e. for 4" Inlet/Outlet piping, a 4" cleanout should be used).** Use only "sweep" connections. Do not reduce the pipe sizing on the outlet piping. Do not install "P" trap on outlet connection of system. (Note: The system already has a internal gas trap)

3.1.3 Flow Controls

Trapzilla systems are supplied with a Low-Head Flow Control module (LHFC). This should be connected to the inlet of the Trapzilla unit in situations where flow rate needs to be restricted to the rated flow or when vented flow control is required by local code.

3.1.4 Venting the Outlet

An outlet vent or approved air admittance valve of at least 1/2 the diameter of the system's outlet connection must be present as close as possible to the Trapzilla outlet to prevent possible siphonage problems. The Vent on the Outlet piping is to be installed in accordance with all applicable laws, regulations and codes. Failure to provide a vent for the system voids Thermaco's Limited Warranty for the system.

3.1.5 High Head Height Applications Over Six (6) Feet (1.95 m)

For installations where there is head height of greater than 6 feet (1.95 meters), Thermaco, Inc. recommends installation of a code-approved Vented Flow Control Assembly (Thermaco VFCA not included with Trapzilla).

3.2 Vessel Vent Connection

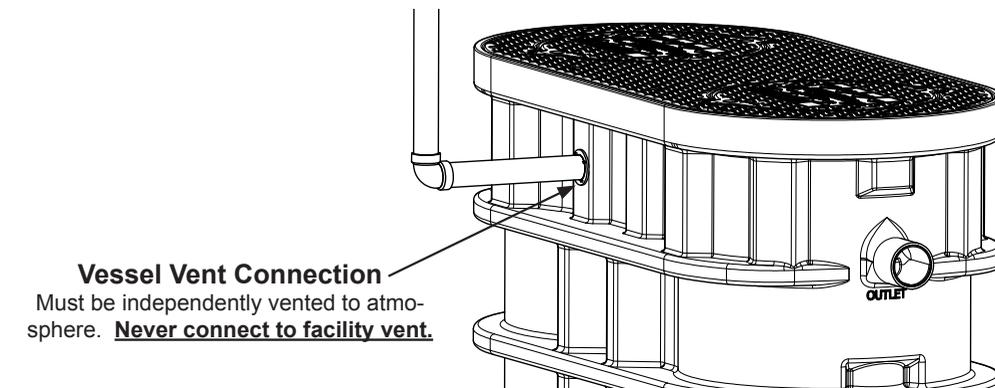
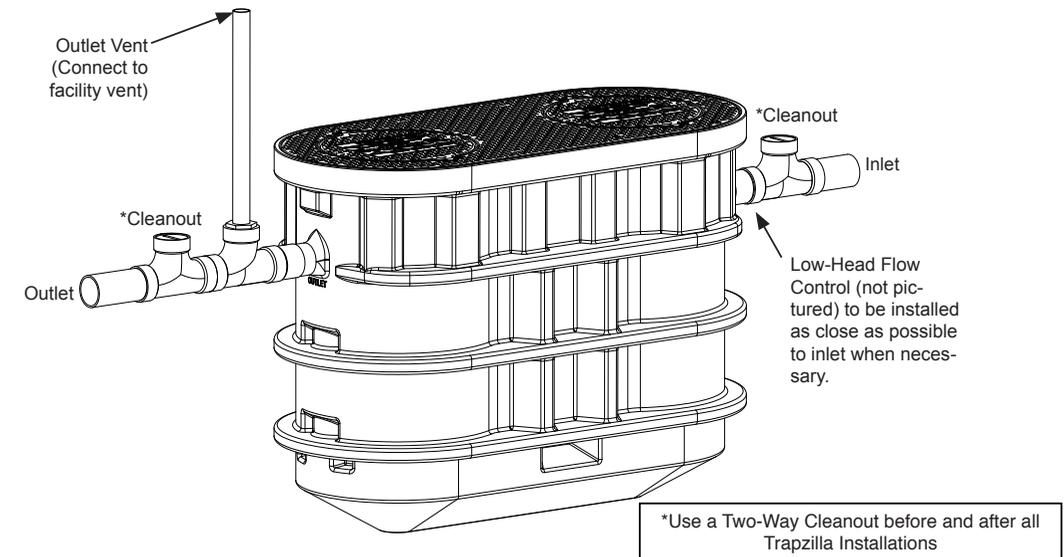
Venting of the Trapzilla tank is recommended by the manufacturer and required for in-door installations.

- Vent the tank through the provided 2" NPT threaded connector on the side of the tank (This vent may be located above the outlet or on the side of the tank depending on model).
- Remove and discard the plug and connect appropriate vent lines as indicated below (for 2" vent connection, use 2" pipe).

3.3 Plumbing Configurations

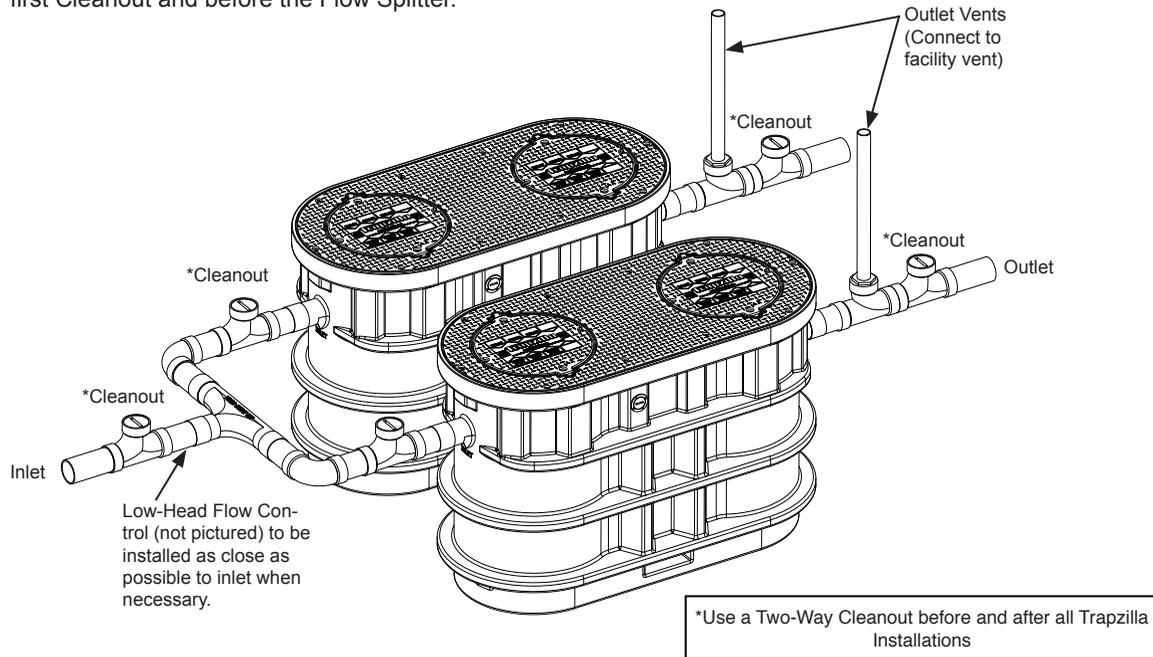
3.3.1 One TZOWS

Each Trapzilla unit is shipped with a Low Head Flow Control module (see LHFC box for additional instructions). When applicable, this needs to be installed to the inlet of the Trapzilla and connected to a code-approved air intake. Thermaco, Inc. recommends installation of Two-Way Cleanouts on both the Inlet and Outlet of Trapzilla® in accordance with all applicable laws, regulations and codes. These cleanouts should match the size of the Inlet and Outlet Piping (i.e. for 4" plumbing, a 4" cleanout should be used). A Vent on the Outlet piping is also to be installed in accordance with all applicable laws, regulations and codes.



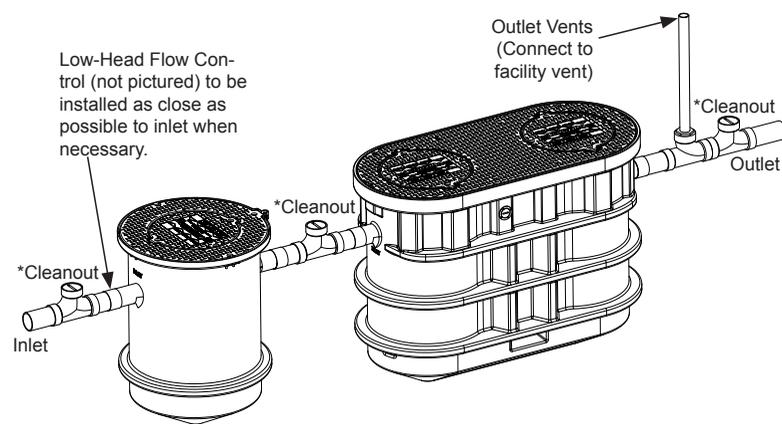
3.3.2 Installing Multiple Trapzilla Units in Parallel

Trapzilla Grease Interceptors should be installed in parallel with a Trapzilla Flow Splitter (MFSH-44 or MFSH-66) diverting the flow. Place Two-Way Cleanouts before, between and after the units as shown below, including before and after the flow splitter. Make sure to connect an outlet vent after each Trapzilla Grease Interceptor. A Low Head Flow Control (LHFC) is shipped with each unit, and if needed should only be installed after the first Cleanout and before the Flow Splitter.



3.3.3 Installing Multiple Trapzilla Units in Series

Two Trapzilla Oil/Water or Solids Separators or a combination may be installed in series. A single Trapzilla Solids Separator and Trapzilla Oil/Water Interceptor should always be installed in series. Place Two-Way Cleanouts before, between and after the units as shown below. Make sure to connect an outlet vent after the last Trapzilla. A Low Head Flow Control (LHFC) is shipped with each unit, and if needed should only be installed after the first Cleanout and before the first unit.



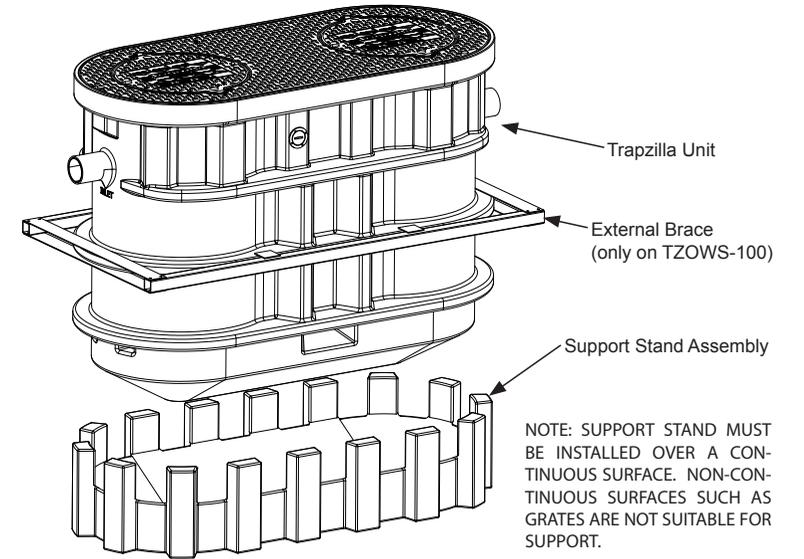
4. Above-Ground Installation

4.1 Components for Above-Ground Installations

Using a model-specific Support Stand, a Trapzilla unit may be installed directly on top of the floor in a location such as a basement or mechanical room.

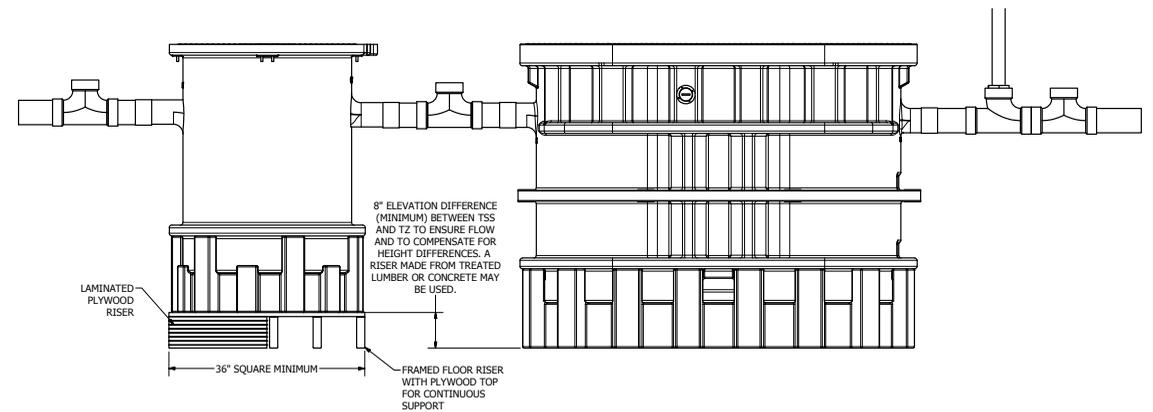
-SSA models come with support stand abilities. All TZOWS-100 units come with built-in 18" Risers which must be cut down and secured in field and an external brace required for above-ground installations.

SSA Support Stands are one-piece assemblies with a conical center that sits on the floor. They do not add appreciable height to the assembly. See 4.2 Instructions for Installing Multiple Trapzilla Units Above-Ground



4.2.1 Installing TZOWS-100-SSA with TSS-95-SSA in Series

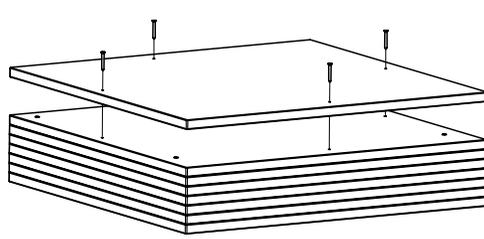
When installing a TZOWS-100-SSA Interceptor with a TSS-95-SSA Solids Interceptor in series, the change in elevation from the outlet of one of these smaller units to the inlet of the TZOWS-100-SSA to the requires that the preceding unit be installed 8" higher than the unit after it.



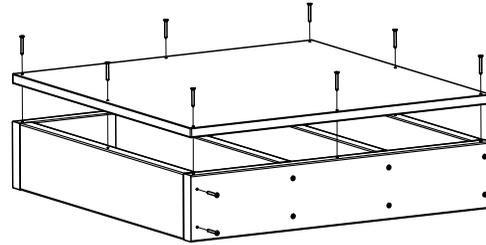
All installations inside of a building must have a vessel vent installed and be piped to atmosphere.

4.2.2 Construction of Riser for TSS-95-SSA installation in series with TZOWS-100-SSA

For the installation of a TSS-95-SSA prior to the TZOWS-100-SSA, a riser must be constructed to raise the smaller unit by 8" and provide full support for the weight of the interceptor and its contents.



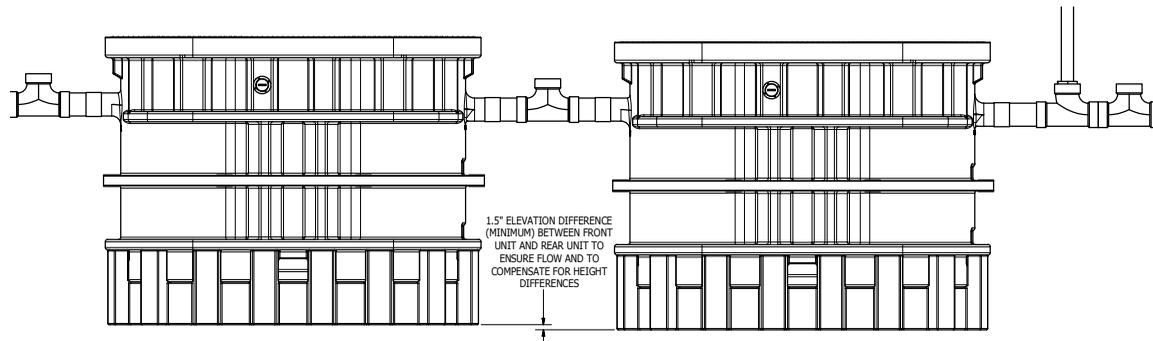
PLYWOOD STACK RISER
ASSEMBLE SHEETS OF PRESSURE TREATED PLYWOOD (MINIMUM 36 INCHES [92CM] SQUARE) TO THE DESIRED HEIGHT. SECURE EACH LAYER TO THE ONE BELOW WITH CORROSION RESISTANT SCREWS.



FRAMED FLOOR RISER
CONSTRUCT A FLOOR SUPPORT FRAME (MINIMUM 36 INCHES [92CM] SQUARE) FROM PRESSURE TREATED LUMBER OF 2 IN [50MM] NOMINAL THICKNESS AND OF THE DESIRED HEIGHT. SPACE FRAME MEMBERS NO MORE THAN 10 IN [25CM] APART. COVER THIS STRUCTURE WITH PRESSURE TREATED PLYWOOD. SECURE ALL JOINTS WITH CORROSION RESISTANT SCREWS.

4.2.3 Installing Multiple TZOWS-SSA in Series

When installing multiple Trapzilla units in series, the change in elevation from the inlet to the outlet of a unit requires that each preceding unit be installed 1.5" higher than the unit after it. For above-ground units, pressure treated plywood may be placed fully beneath the support stand to create the height difference.

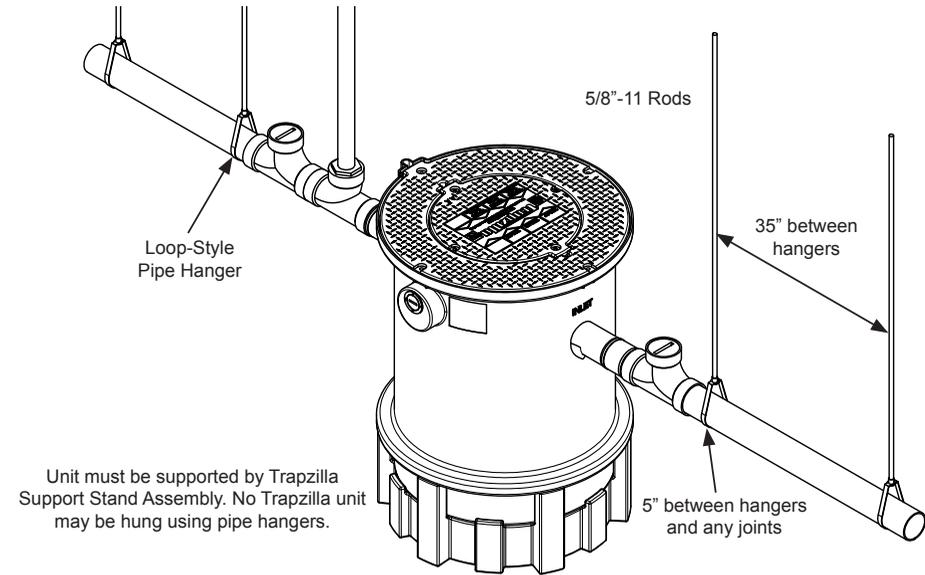


All installations inside of a building must have a vessel vent installed and be piped to atmosphere.

4.2.4 Installation of Pipe Hangers with Above-Ground Units

Trapzilla units installed indoors, above-ground require the use of pipe hangers (purchased separately) to properly support plumbing and reduce stress on connections with unit. Thermaco recommends the use of four (4) Zinc-plated Steel Loop Style hangers with 1000 lbs. work load limit for a single Trapzilla installation with two (2) hangers placed before inlet side cleanout and two (2) hangers placed after final cleanout.

Place each pair of hangers 35" apart (space-permitting) and no closer than 5" from any joint. When multiple units are installed place one (1) additional pipe hanger in between each unit, leaving 5" distance from unit and cleanout. Follow pipe hanger manufacturer's instructions for physical installation.

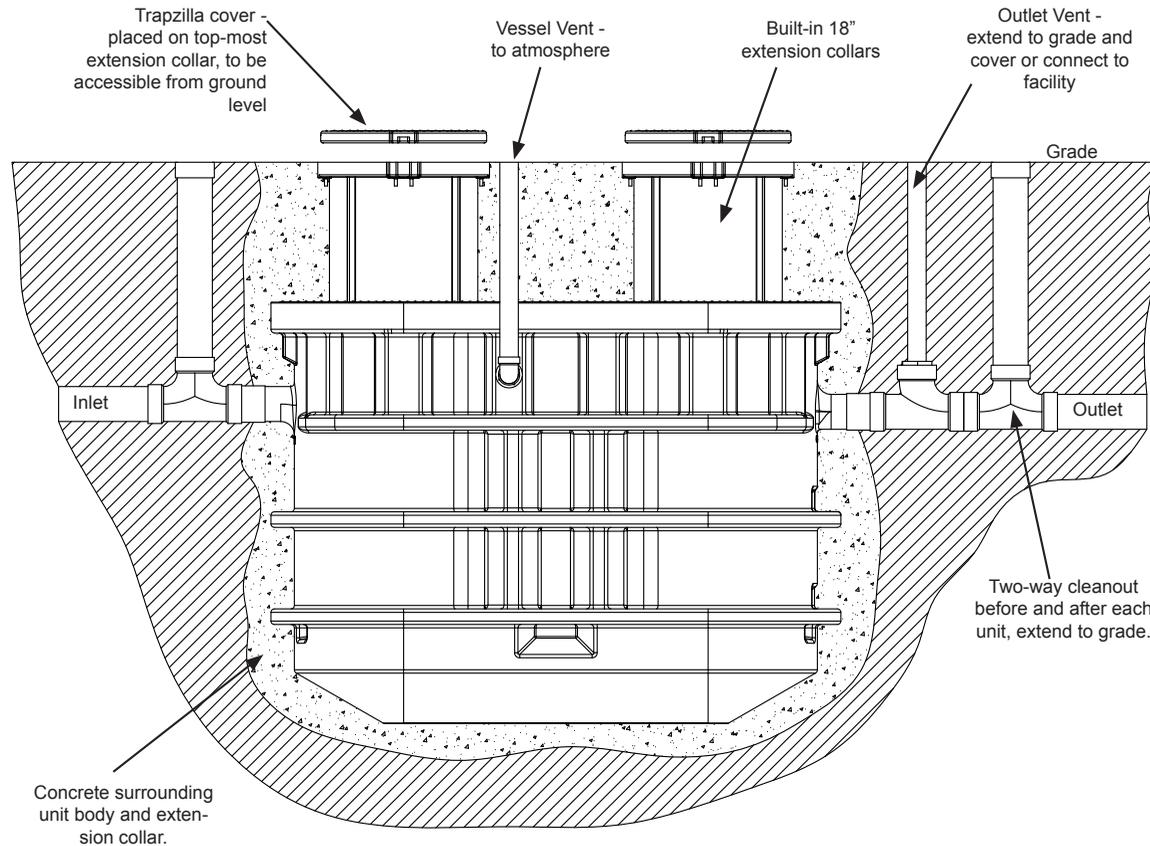


5. In-Ground Installation Instructions

5.1 Plumbing Instructions for Single TZOWS Installed In-Ground

A Trappzilla unit may also be installed in the ground inside or outside of the facility. For instances where the facility drainage piping requires an extension collar that is more than the 18" provided by the built-in extension, the ECA-TZ-29 Extension Collar Assembly may be installed to align the Trappzilla inlet with the drainage piping. Thermaco, Inc. strongly recommends surrounding the in-ground Trappzilla with concrete to provide additional structural strength and to offset buoyancy effects. For Buoyancy Calculations & suggested concrete fill quantities please see section 5.3-5.4.

In-Ground Installations inside of a building must have a vessel vent installed and be piped to atmosphere.

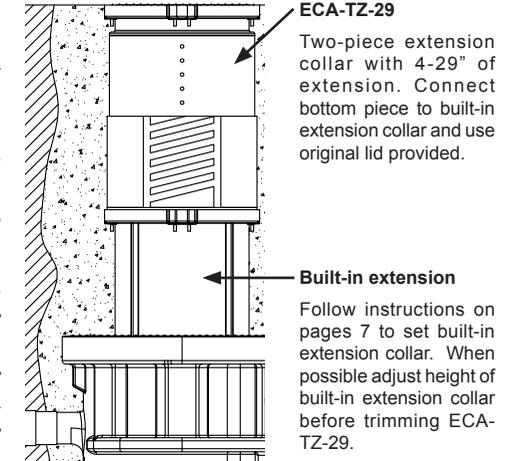


5.2 Plumbing Instructions for TZOWS with Optional ECA-TZ-29 Extension Collars (purchased separately)

In some cases, Trappzilla Oil/Water separators may be installed in locations where built-in extension collar will not reach grade. In these cases, the two-piece ECA-TZ-29 Extension Collar (purchased separately) may be used to make lid accessible at ground level. Follow instructions included in ECA-TZ-29 packaging for installations. Each TZOWS-100 would require two (2) ECA-TZ-29, one per access hole, if pipe depth requires.

WARNING: PROPER INSTALLATION INSTRUCTIONS MUST BE FOLLOWED FOR THERMACO WARRANTY TO BE VALID. MAXIMUM INSTALLATION DEPTH PERMITTED FOR TRAPPZILLA OIL/WATER SEPARATORS, GREASE INTERCEPTORS AND SOLIDS SEPARATORS IS 60" MEASURING FROM CENTER OF INLET TO SURFACE. ANY INSTALLATION DEEPER THAN THIS VOIDS THE WARRANTY FOR THE UNIT. CONTACT THERMACO REGARDING INSTALLATIONS EXCEEDING THIS DEPTH.

In-Ground Installations inside of a building must have a vessel vent installed and piped to atmosphere.



5.3 Concrete Specifications for In-Ground Installation

In order to offset the effects of buoyancy caused by groundwater (high water tables), strengthen the sideload of the unit, and prevent movement of the unit in the event of shifting earth, Thermaco, Inc. recommends concrete be poured around the entirety of Trappzilla® units installed in-ground in the amounts of concrete specified in the table below. The concrete must be poured continuously and completely surrounding the Trappzilla® body (and Extension Collars if applicable) to ensure proper strength and security at a compression strength of 4000 psi (C28/35).

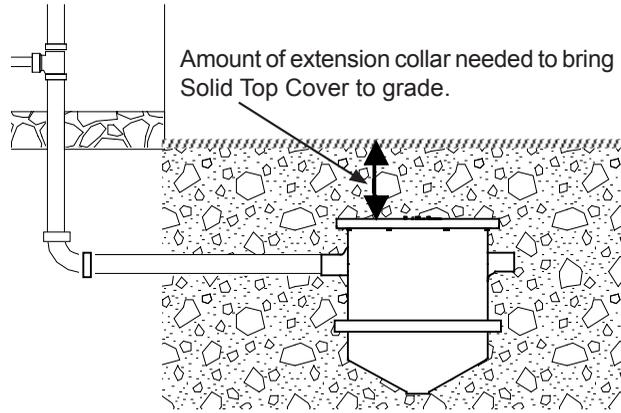
5.4 Concrete Calculations for TZOWS Models/Components*

Trappzilla Model	Amount of Concrete	
	Weight in lbs. (Kg)	Volume in Cubic Yards (m ³)
TZOWS-100	3950 (1,791)	1.0 (0.76)
TZOWS-75	1975 (895)	0.50 (0.38)
TZOWS-50	1525 (691)	0.40 (0.31)
TZOWS-35	550 (249)	0.15 (0.11)
ECA-TZ-29 (each)	600 (272)	0.20 (0.15)

5.5 Trimming and Setting the ECA-TZ-18 Single-Piece Extension Collar

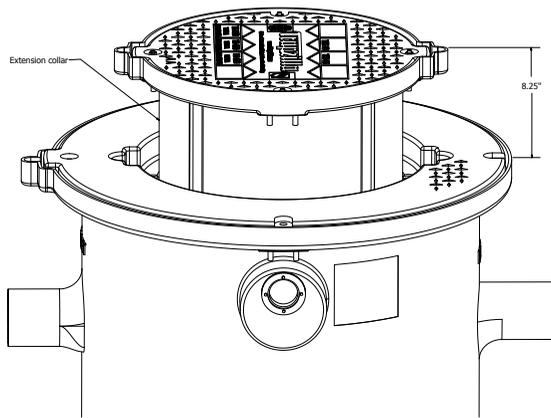
In-Ground Trapzilla Models ship with a built-in, single-piece, 18" extension collar that must be trimmed and then set to the correct height to bring the Solid Top Cover to grade.

Follow the steps below to set the extension collar prior to backfilling the hole with concrete.

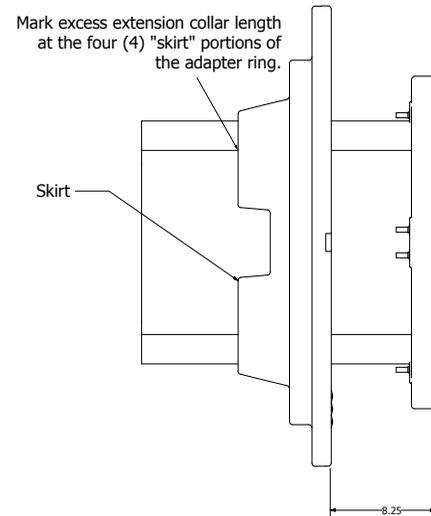


Step 1: With the Trapzilla unit installed in its permanent location, raise the telescoping extension collar to finished grade or floor level. Measure the height from the top of the unit to this finished extension collar height and record this dimension.

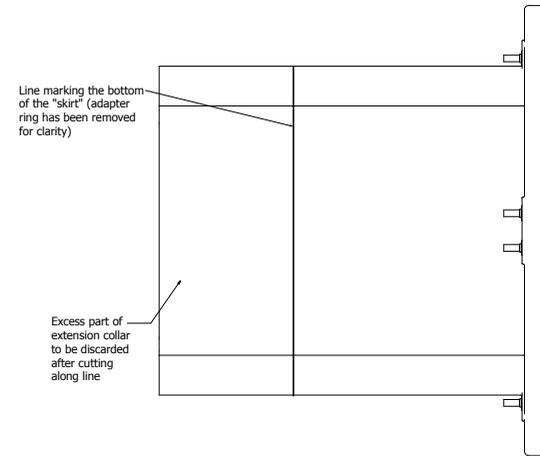
Note: If the floor will have a tile covering allow for the tile thickness when determining the extension collar height.



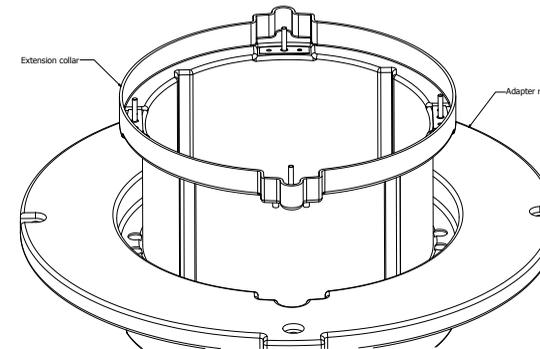
Step 2: Remove the extension collar adapter ring from the unit with the extension collar still in place. On the underside of the cover, mark the excess extension collar length at the bottom of the four (4) "skirt" portions of the adapter ring. Check the extension collar height dimension frequently during this operation to ensure that the collar has not moved. Extend this mark between the gaps in the "skirt" so that the collar is marked all around.



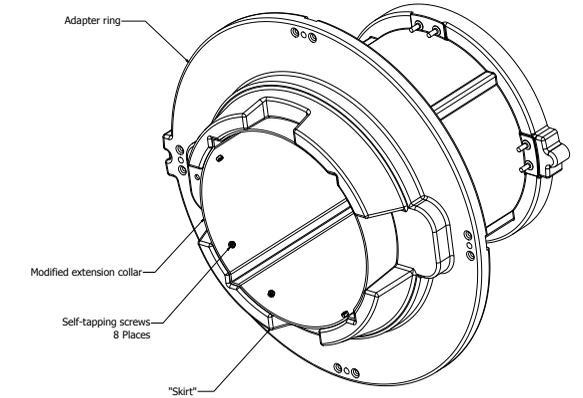
Step 3: Remove the extension collar from the adapter ring and, with an appropriate saw, cut along the line created in Step 2 to remove the excessive extension collar.



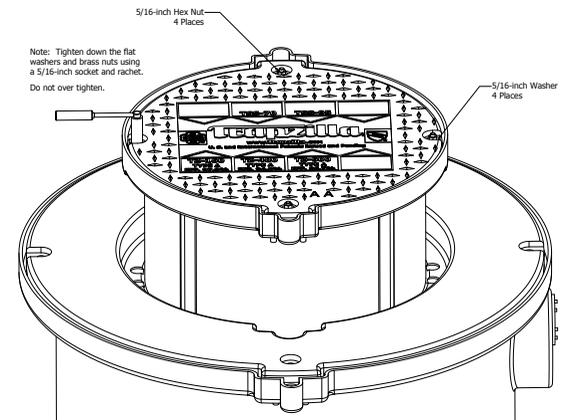
Step 4: Reinsert the extension collar into the adapter ring ensuring that the cover alignment key on the extension collar is aligned with its recess in the adapter ring. Reset the extension collar height to the dimension determined in Step 1.



Step 5: Working from the bottom of the assembly, install eight (8) self-drilling, self-tapping screws (provided) through the extension collar wall and into the adapter ring. Two of these screws should be installed in each of the four (4) skirt areas of the adapter ring. Check the extension collar height dimension frequently during this operation to ensure that the collar has not moved. Note: Use caution when tightening these screws to ensure that they do not strip.



Step 6: Place the adapter ring/extension collar assembly onto the Trapzilla unit. Position the small cover onto the extension collar. Secure the adapter ring and the small cover with the brass nuts and flat washers provided. Seal the gap between the 18" extension collar and extension collar adapter ring using a silicone sealant.



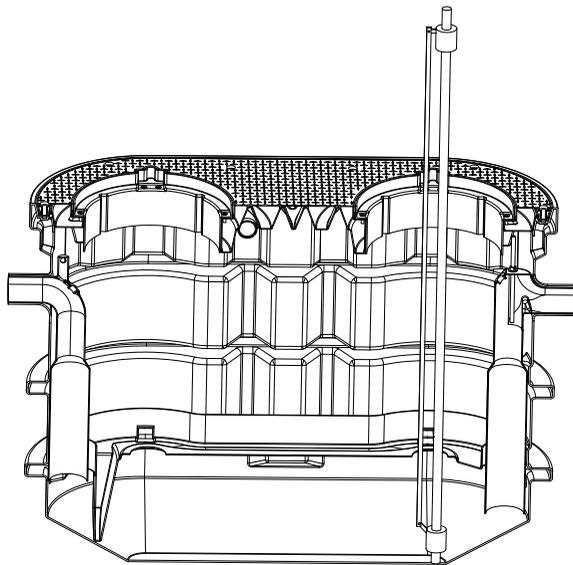
6. Unit Maintenance

6.1 Measuring Oil/Solids Levels

Due to its unique design, Trapzilla is capable of retaining high quantities of grease in a compact footprint. Therefore, unlike traditional interceptors, Trapzilla can hold an extraordinarily high percentage of its volume in grease without losing separation efficiency. To determine the current levels of grease/solids in your Trapzilla grease interceptor, follow the instructions below.

1. Remove four nuts/washers securing the 22" Solid Top Cover.
2. Place a grease/sludge dipstick into the center of the opening, making sure that it goes through the hole in the horizontal baffle.
3. Once the dipstick has found its natural resting place at the lowest point in the conical shaped bottom, take the measurement.
4. Remove dipstick and compare grease/sludge levels to the corresponding unit in the charts below.

	Oil		Solids	
	Total Capacity (depth):	Ready to pump at (depth):	Total Capacity (height):	Ready to pump at (height):
TZOWS-100	25"	20"	13.5"	10.75"
TZOWS-75	17"	13.75"	14"	12"
TZOWS-50	9.375"	7.5"	14"	12"
TZOWS-35	13"	10.5"	10"	8"



Take grease measurement from top of liquid level downward and compare to chart above.

Take solids/grit measurement from bottom of unit upward and compare to chart above.

6.2 Pumping/Service Unit

Periodically, the Trapzilla® unit will need to be serviced which involves pumping out all accumulated grease and solids. Pumping frequency may be set at a regular interval by sewer district (every 30-90 days). If not, determine pumping frequency using instructions in 6.1 to periodically measure grease/solids levels to determine appropriate timing for pumping. Follow instructions below to pump/clean out TZOWS.

1. Each lid has four brass nuts securing the lid. Remove the four brass nuts from the bolts and fully remove the 22" lid to pump out. It is not necessary to remove adapter lid to pump out Trapzilla.
2. Begin by taking the grease from the top of the main chamber until all grease is removed.
3. Upon reaching the horizontal baffle, you will see a hole through which you may access the rest of the grease and the solids. Be sure to lower the hose all the way to the bottom of the Trapzilla unit on the outlet side so that solids may be entirely removed. The conical shape and natural grade of the unit will allow solids and grease to run to outlet side of unit.
4. Have kitchen run water into unit to flush any remaining solids to the outlet end of the unit.
5. If necessary, use a water hose with spray nozzle to rinse off inside of unit.
6. Secure lids in place and instruct kitchen to run water into unit until full.

DO NOT use mechanical crust breaking devices to break down any mat that has formed inside the Trapzilla unit.
DO NOT use grinding augers in maintenance of the Trapzilla unit.

