



FAT, OIL, GREASE, AND SEDIMENT SEPARATION

Proceptor[®] and FOG-ceptor[®]

Installation Instructions





1 Installation

7.1 INSTALLATION PROCEDURES

INSTALLATION MANUAL

PROCEDURE

Use this procedure together with the applicable installation drawing.

SCOPE

- 1. Standard buried tanks are designed to withstand the load of the pea gravel under gravity only, and NO additional load including but not limited to water table, vehicular load, snowbank load, building foundation, etc. are allowed on the tanks. For installations in traffic areas, a relieving slab must be installed as outlined in the Zurn Green Turtle Info Hub drawings section corresponding to the Proceptor model installed.
- 2. For high water table installations contact your local Zurn Site works representative for engineer design help.
- 3. The bottom of the Proceptor tanks (both above ground and buried) should always be fully supported.

A) EXCAVATION

- 1. Excavation for the installation of a Proceptor separator must conform to OSHA and/or local excavation codes and standards. Topsoil removed during excavation should not be used as approved backfill material.
- 2. Excavation should include an allowance for shoring and bracing where required. For multiple tank units, ensure adequate space between tanks for performing compaction when required and making connections between tanks.
- 3. Install a geo-textile fabric in the excavation to prevent migration of small particles in the backfill if native soil has small particles and more that 3% of its weight passes through a #8 sieve (2.38mm square screen opening) regardless of backfill material. The contractor is responsible for purchasing and installing the filter fabric.
- 4. In areas with a water table, contact Zurn Green Turtle for custom tank design..

B) INSTALL AND LEVEL GRANULAR BASE

- 1. 6" layer of pea gravel (or approved equivalent backfill. If equivalent backfill is used, it must be compacted to 98% S.P.D. - see end of document for backfill specifications) must be installed and leveled at the bottom of the excavation to the proper elevation for the installation of the separator base.

C) CONCRETE ANCHORING SLAB

A concrete anchoring slab is recommended for all tank installations. 20 MPa (3000 psi) concrete shall be poured around the lower portion of the tank as shown on the installation drawing.

Please note that if ground water table may rise **more than one foot higher than the bottom of the tank**, a custom designed tank and proper anti buoyancy slab should be used. Please contact Zurn Green Turtle for more information.

Please skip step "C" if not using anchoring slab

- 1. If backfill material other than pea gravel is used, compact backfill in 6" to 8" layers to 98% S.P.D.
- 2. Install and level the tank on the backfill. Use metal lifting lugs on upper sides of tank for handling, if equipped. Do not use any of the pipe fittings on the tank for lifting purposes. When lifting with slings, use load level beams.
- 3. The contractor must fill the separator with water up to the outlet pipe prior to pouring concrete around the unit.
- 4. Pour ready mix concrete slab all around the separator cells to the volume, height, and dimensions shown on the Installation Drawing. Ensure that the anchor brackets (if equipped) on the side of the tank are covered.

D) BALLAST TANK

- If continuing from Step B), fill the separator with water up to the outlet pipe.

E) GRANULAR BACKFILL TO THE INLET AND OUTLET PIPES

Pea gravel (or an approved equivalent backfill compacted to 98% of Standard Proctor Density in each layer) must be placed in uniform layers of 150 mm (6") to not more than 200 mm (8") in depth up to the bedding for the inlet and outlet pipes.

Note: Backfill is not to contain topsoil. See end of document for backfill specification.

F) INLET, OUTLET AND VENT PIPES

- 1. Install standard pipe bedding for the inlet and outlet pipes per the sewer design. Attach inlet and outlet pipes to the Proceptor unit. *If this is a PDI installation, install the flow control provided on the inlet of the tank, with the vent up. Connect the flow control vent according to local plumbing code and PDI requirements.*
- 2. Vent ports are provided on the top of all Proceptor separators. The vent ports should be extended to above grade per the plumbing codes governing the installation location. Vents maintain equilibrium with the atmosphere and prevent the creation of a vacuum within the Proceptor. A gooseneck must be provided at the top of the venting system to help prevent foreign particles and storm water from entering the Proceptor or plugging the vents.

G) FLOW CONTROL FOR HYDRO-MECHANICAL TANKS

For hydro-mechanical tanks like the FOG-ceptor units or Proceptor tanks labeled with an IAP suffix will come with a Zurn Green Turtle supplied flow control. The vented flow control unit is to be externally installed prior to the separator inlet (influent) end. Please see section 5.1.1 in the Proceptor and FOG-ceptor Technical manual for more details.

H) CONNECT EXTENSION COLLAR TO TANK BODY

Proceptor separators are manufactured with a short neck at the top, which is marginally less in diameter than the extension collar. The fiberglass extension collar slides over the neck. Use only Zurn Green Turtle fiberglass extension collar (EC20 for 20" dia accessways, EC2 for 24" dia accessways and EC3 for 36" dia accessways). This collar is designed to fit physically and perform structurally for this application.

- 1. To trim the extension collar to fit, dry fit on the tank and measure from bottom of collar to Final Finished Grade. (= A).
- 2. Measure the height that the frame and cover will add to the collar (= B). Note that the cast iron covers bell fit over the collar. If the frame and cover is fiberglass, it should be factory bonded to the extension collar already.
- 3. Allow for a gap (prox 1") between the frame and extension collar so that loading at grade is not transferred to the extension collar. This gap should be filled with flexible sealant after installation. (Gap =C)
- 4. Calculate the required collar height: $A - B - C = \text{final extension height}$.
- 5. Measure and cut the fiberglass extension collar with a grinder or other appropriate cutting tool. Suggested grinding wheel material is zirconia alumina grit 24.
- 6. Place the extension collar on the tank.
- 7. Seal the joint between the tank and collar from the inside, with SIKAFLEX 221 or 255. A standard caulking gun will hold a 300 ml tube of Sikaflex. This joint is normally dry on the inside, but if the sewer line backs up the oil or grease may rise in the extension. Sealing the joint at the time of installation prevents backed up oil or grease from leaking into the ground.

I) CLEANOUT AND SAMPLE PORTS

Extend to grade or cap as required by customer, design engineer or local code.

J) ACCESSORIES (OPTIONAL)

- 1. **Suction Line** - If a suction line has been provided as an option on the Proceptor separator, the contractor is responsible for extending the line to above top of grade using SCH 40 PVC pipe (or equivalent pipe as specified in the plans). The pipe must be suitable for use as a suction pipe. Limit to four bends. 90° elbows if used, must be wide radius - use preferred < 45° elbows. Most pumper companies recommend that the maximum horizontal run recommended is 125 ft, and maximum vertical rise recommended is 15 ft. Vertical rise of 20 ft. may be allowed if pumper has capability. Install a



PROCEPTOR AND FOG-CEPTOR INSTALLATION INSTRUCTIONS

quick disconnect fitting (i.e., Type “D” Cam-Loc fitting) at the outside termination of the suction line for easy connection to a vacuum truck hose. Ensure that the exposed suction port is protected from damage, ie. use bollards.

- 2. **Oil/Grease Point Alarm** - Information is provided as a separate document.
- 3. **Coalescer** - Tanks shipped on their sides with coalescers will have retaining tabs to keep the coalescer in place while tank is being moved. If equipped, remove the bolts and tabs once the tank is set in place. If left installed, they may impede removal of coalescer pack(s) for maintenance. Further information on the coalescer is provided as a separate document.
- 4. **Double Wall** - Connect interstitial leak monitor conduit. Extend conduit with water tight seal. Install accessible port directly above bottom of tank so probe can be pulled out for inspection in the future. See tank detail and installation drawings. To install leak monitor device, see Level Monitor wiring instructions provided as a separate document.

K) BACKFILL TO ABOVE THE BASE OF THE EXTENSION COLLAR

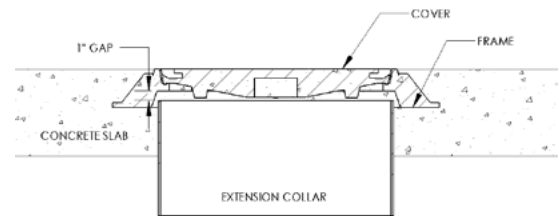
Backfill with pea gravel (or an approved equivalent compacted to 98% S.P.D.) to 18” above the base of the extension collar.

L) BACKFILL TO THE SURFACE RELIEVING SLAB

Pea gravel (or an approved equivalent backfill compacted to 98% S.P.D. in each layer) must be placed around the extension collar to the bottom of the concrete bearing slab, surface grade or pavement sub-grade in layers 150 mm (6”) to 200 mm (8”) thick.

M) FRAME AND COVER

Place the frame above the extension collar with the cover at finished grade elevation. Leave a gap between frame and top of extension of approx. 1 inch to prevent the vertical load transfer from the frame to the tank. Pour concrete around the frame to secure it in place, size to be determined by Engineer or local code based on site use. Seal between collar and frame with flexible watertight material, ie. Sikaflex.



N) REINFORCING (RELIEVING) SLAB – FOR TRAFFIC LOADING ONLY

Pour concrete relieving slab, 25 MPa (3600 psi), at the surface with traffic loading frame and cover embedded in slab and centered over extension collar to secure the frame and transfer live loads to the surrounding backfill around the tank. The design of the slab shall be based on AASHTO H-20 loading; 16,000-pound dynamic wheel load. Pour the concrete slab in place with steel reinforcing bars as shown on the Proceptor installation drawings.

Slab designs for standard Proceptors are available from Zurn Green Turtle. The contractor must verify that the concrete relieving slab design is suitable for the application and conforms to local codes and standards.

O) REINFORCING (RELIEVING) SLAB – FOR NON-TRAFFIC LOADING ONLY

Pour concrete relieving slab, 25 MPa (3600 psi), at the surface with traffic loading frame and cover embedded in slab and centered over extension collar to secure the frame and transfer live loads to the surrounding backfill around the tank.

This slab is rated for pedestrian load only.

Slab designs for standard Proceptors are available from Zurn Green Turtle. The contractor must verify that the concrete relieving slab design is suitable for the application and conforms to local codes and standards.

GRANULAR BACKFILL SPECIFICATION

PEA GRAVEL

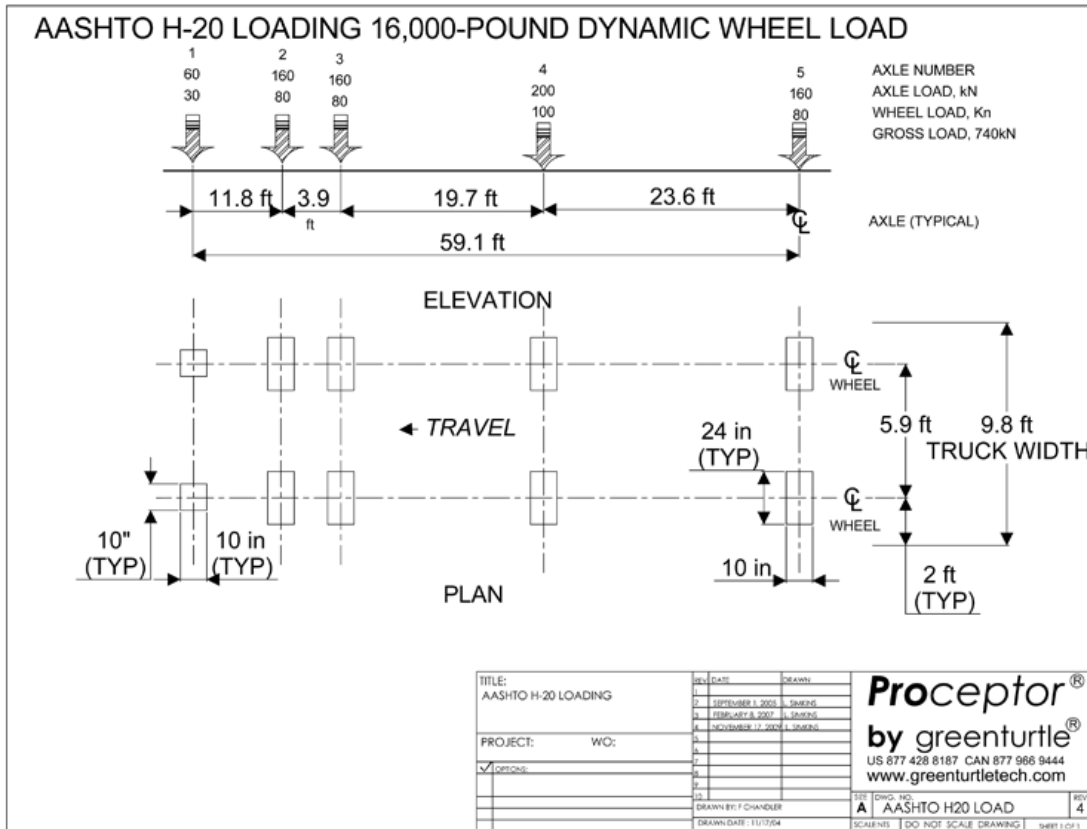
Pea gravel is a naturally rounded aggregate with a particle size not less than 3 mm (1/8”) and not greater than 18 mm (3/4”). Gravel must be clean and free flowing, free from large rocks, dirt, sand, roots, organic materials or debris. Upon screening, analysis of the backfill material must have no more than 3% of its weight passing through a #8 sieve (2.38 mm square screen opening). Dry density must be a minimum of 96.3 lbs/ft³.

CRUSHED STONE (APPROVED EQUIVALENT TO PEA GRAVEL)

Crushed stone or gravel is not less than 3 mm (1/8") and not greater than 12 mm (1/2"). Aggregate must be clean and free flowing, free from large rocks, dirt, sand, roots, organic materials or debris. Materials should be washed or screened to remove fine particles. Upon screening, analysis of the backfill material shall have no more than 3% of its weight passing through #8 sieve (2.38 mm square screen opening). Dry density must be a minimum of 95 lbs/ft³. During placement, this backfill material must be compacted to 98% S.P.D.

7.2 TRAFFIC RELIEVING SLAB DRAWINGS

7.2.1 AASHTO H-20 LOADING SLAB DRAWING



7.2.2 RELIEVING SLAB DRAWINGS GMC/OMC 50 - 10000

To ensure you retrieve the most current drawings, links to drawings take you to the Zurn website where you will be able to select files in PDF or CAD formats. You must have internet access in order to view and download drawings from the links that follow.

Relieving Slab Drawings

- Single Slab Small
- Single Slab Single Access
- Double Slab Single Access
- Double Slab 92in Tanks
- Triple Slab 92in Tanks
- Single Slab Dual Access
- Double Slab Dual Access
- Single Slab Triple Access
- Single Slab Single Access - Non Traffic
- Single Slab Dual Access - Non Traffic



7.3 INSTALLATION DRAWINGS GMC/OMC 50 - 10000

To ensure you retrieve the most current drawings, links to drawings take you to the Zurn website where you will be able to select files in PDF or CAD formats. You must have internet access in order to view and download drawings from the links that follow.

Installation Drawings

- GMC PDI
- GMC / OMC 50 - 300
- GMC / OMC 500 - 150 0
- GMC / OMC 1000(2) - 3 000(2)
- GMC / OMC 4000(2) - 7000(2)
- GMC / OMC 8000(3) - 10000(3)
- GMC 500 - 1500 FL-IAP
- GMC 2000 - 2600 IAP
- OMC 500 - 1500 IAP

7.4 COVER DRAWINGS

To ensure you retrieve the most current drawings, links to drawings open PDF files from the Zurn website. You must have internet access in order to view and download drawings from the links that follow.

Cover Drawings (<http://www.greenturtletech.com/hub-pc-options.php>)

- FC20 FRP BRO (PDF)
- FC24 FRP BRO (PDF)
- FC24 FRP BSQ (PDF)
- FC GH4 (PDF)
- FC GH4 B (PDF)
- FCH 36 (PDF)
- EC2 (PDF)
- EC3 (PDF)
- Collar Height (PDF)
- Coupling EC2 (PDF)
- Collar Reducer (PDF)

2 Drawings: Grease Separators

To ensure you retrieve the most current drawings, links to drawings take you to the Zurn website where the Proceptor model will be highlighted in blue. There, you will be able to select files in PDF or CAD formats. You must have internet access in order to view and download drawings from the links that follow.

Drawings: Grease Separators Go to the Grease Interceptors tab now

- | | | |
|---------------|--------------------|--------------------|
| • GMC 50 | • GMC 1500(2) | • GMC 2000 UPC |
| • GMC 100 | • GMC 2000(2) | • GMC 2000 IAP |
| • GMC 100 IAP | • GMC 2600(2) | • GMC 2000(2) UPC |
| • GMC 150 | • GMC 3000(2) | • GMC 2600 IAP/UPC |
| • GMC 150 IAP | • GMC 4000(2) | • GMC 750 FL |
| • GMC 200 | • GMC 5000(2) | • GMC 1000 FL |
| • GMC 200 IAP | • GMC 6000(2) | • GMC 1250 FL |
| • GMC 250 IAP | • GMC 7000 (2) | • GMC 500-P |
| • GMC 300 | • GMC 8000(3) | • GMC 7500-P |
| • GMC 300 IAP | • GMC 9000(3) | • GMC 1000-P |
| • GMC 500 | • GMC 10000(3) | • GMC 1300-P |
| • GMC 750 | • GMC 500 IAP/UPC | • GMC 1500-P UPC |
| • GMC 1000 | • GMC 750 IAP/UPC | • GMC 2000-P |
| • GMC 1300 | • GMC 1000 IAP/UPC | • GMC 2600-P |
| • GMC 1500 | • GMC 1300 IAP/UPC | |
| • GMC 1000(2) | • GMC 1500 IAP/UPC | |



3 Drawings: Oil Separators

To ensure you retrieve the most current drawings, links to drawings take you to the Zurn website where the Proceptor model will be highlighted in blue. There, you will be able to select files in PDF or CAD formats. You must have internet access in order to view and download drawings from the links that follow.

Drawings: Oil Separators Go to the Oil Separators tab now

- OMC 50
- OMC 100
- OMC 150
- OMC 200
- OMC 300
- OMC 500
- OMC 750
- OMC 1000
- OMC 1300
- OMC 1500(1)
- OMC 2000(2)
- OMC 2600(2)
- OMC 3000(2)
- OMC 4000(2)
- OMC 5000(2)
- OMC 6000(2)
- OMC 7000(2)
- OMC 8000(3)
- OMC 9000(3)
- OMC 10000(3)
- OMC 1000 UPC
- OMC 1300 UPC
- OMC 1500 UPC

4 Drawings: Solids Separators

To ensure you retrieve the most current drawings, links to drawings take you to the Zurn website where the Proceptor model will be highlighted in blue. There, you will be able to select files in PDF or CAD formats. You must have internet access in order to view and download drawings from the links that follow.

5 Drawings: Decontamination & Holding Tanks

To ensure you retrieve the most current drawings, links to drawings take you to the Green Turtle website where the Proceptor model will be highlighted in blue. There, you will be able to select files in PDF or CAD formats. You must have internet access in order to view and download drawings from the links that follow.

Drawings: Decontamination & Holding Tanks Go to the Decontamination & Holding Tanks tab now

- EHT 50
- EHT 100
- EHT 150
- EHT 200
- EHT 300
- EHT 500
- EHT 750
- EHT 1000
- EHT 1300
- EHT 1500

⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov
⚠ **ADVERTENCIA:** Cáncer y daño reproductivo - www.P65Warnings.ca.gov
⚠ **AVERTISSEMENT:** Cancer et effets néfastes sur la reproduction -
www.P65Warnings.ca.gov

ZURN INDUSTRIES, LLC 511 West Freshwater Way, Milwaukee, WI 53204, 855.663.9876

In Canada: **ZURN INDUSTRIES LIMITED** 7900 Goreway Drive, Unit 10, Brampton, Ontario L6T 5W6, 877.892.5216

Form No. 700-044, 4/20



US 1.855.ONE.ZURN CANADA 1.877.892.5216 ZURN.COM