Valencia Tank Company
28305 Livingston Avenue
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Best Practices Septic Tank Installation

Model # 87-41320
500 gallon, Single Compartment

Model # 87-41720
1000 gallon, 2 Compartment
Model # 87-41718
1000 gallon, 1 Compartment

Model # 87-41760
1500gallon, 2 Compartment
Model # 87-41758
1500 gallon, 1 compartment

GENERAL INFORMATION

- Always check local codes for approvals prior to purchase, delivery, and installation.
  - Select a proper site on your property taking into account slope, soil type, drainage, and possible effects on neighboring property.
  - Apply for permits.
- You'll see "flowable" material mentioned in this overview. What does it mean? Different soils have different capabilities to move water. Clay soils tend to hold water (not good in a septic tank installation) where sandy soils dissipate water quickly. Here's an overview to assist your decision-making process:

Soil Type	*Texture*	*Water Flow (cm/hour)*
Sand	Coarse	5.0
Sandy Loam	Coarse	2.5
Loam	Moderately Coarse	1.3
Clay Loam	Moderately Fine	.8
Silty Clay	Fine	.25
Clay	Fine	.05

- Ensure you select a tank properly sized for the number of people and bedrooms in your home. The best way to gauge how big of a septic tank you need is to add up the number of bedrooms and bathrooms on your property. Here's an approximate overview to help you determine the size tank you'll need:

# Bedrooms	*Minimum Capacity (Gallons)*
0 (Small apartments, lofts)	750
1, 2, or 3	1000
4	1250
5	1500
6	1750

- A septic tank is not the same as an underground water tank (sometimes called a cistern tank). A septic tank must be kept full at all times. It is for septic systems only; not for fresh water storage.
  - Cistern tanks (white) use the same mold but utilize more resin material, making thicker walls. It can be buried in the same manner as a septic tank but can be pumped to ¼ full.
    - It is ideal for fresh water underground storage.
  - Septic tanks and cistern tanks are **not for above ground use**.

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- Check local codes for the type of pipe and installation protocols for your area.
    - You may have to use a certain size/type of rock (or sand) to install the feeder line from the home/building to the septic tank itself. Know and adhere to these codes.
- Mark out the chosen tank location allowing an extra 18"-24" around each side of the tank.
    - This is best done using high-visibility spray paint.
- Call 811 before you dig. It is important to know the location(s) of various utility pipes, conduit, and cables.

BUOYANCY CONTROL

What is "Buoyancy Control?"

- If you have a high water table in your area, upward force can be applied to a buried septic tank no matter if it is concrete, fiberglass reinforced plastic, or rotomolded plastic.
- This upward pressure can actually push a tank out of the ground and severely damage your entire septic system.
- *Generally* (not always!) speaking . . .
    - Tanks buried with at least 12" of properly compacted top-fill do not require a restraint if the water table will not exceed 36" of the height of the tank.
    - If your water table is high and will impact the tank AND there is less than 12" of properly compacted top-fill, you may most likely require a restraint system.
    - Different types of restraint system are:
        - Blocks & Straps
        - Restraining Collar
        - Helical Anchors

What you can (and should) do:

1. Have a site survey done by a qualified geologist and do a percolation (soil) test on the area where the system is going to be installed.
    a. This includes not only the area where the tank will be placed but also the leaching area. Then the system can be designed based on the findings of the survey and results of the soil test.
2. Apply for the appropriate permits and approvals.
3. Order all appropriate required restraint supplies prior to the installation of the tank and/or call a professional septic tank installation company to do the job.
4. NOTE: Some states, counties, and/or municipalities prohibit uncertified people from installing septic tanks and will most likely require its removal even if properly done.

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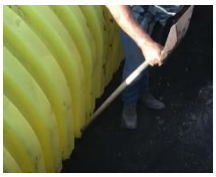
EXCAVATION

- Excavate the tank area, allowing for 6”-12” of bedding and a minimum of 6” to a maximum of 30” top fill depending on local codes.
  - Allow for use of a manhole riser in the overall depth of the excavation (if you’re going to use it).
  - Remove any roots.
  - Rake the bottom of the tank area and place a minimum of 6” of properly compacted sand in the bottom of the tank excavation. 12” for rocky soil.
    - Native material can be used instead of sand so long as it is flowable, compactable and rock free.
  - Make sure the bottom is level before placing the tank.

PLACEMENT OF TANK

- Rig the tank for placement into the excavation and lower it into place.
- Ensure the inlet hole on the end of the tank is facing the home or building.
  - The inlet hole is higher than the outlet hole on the other side of the tank to ensure adequate effluent flow. Both are marked on the top area of the tank.
- Wiggle the tank around when placed into the excavation so it sits uniformly on the bottom with no gaps in the bottom support ribs.
- Make sure it is level. Use a level across the manhole covers to determine it is level on all sides.
- Fill the tank with 12” water and place compactable back-fill around the sides of the tank (starting with the ends) in 12” layers.
- Fill in and aggressively tamp down all ribs with compactible, rock free, and flowable native soil or sand.
- Add 12” more water and the next 12” layer of backfill (starting at the ends of the tank). Be sure the ribs of the tank are filled and compacted as you go.
- Repeat this process until you reach the bottom of the outlet hole of the tank.



INSTALL THE SANITARY TEES

- Install the 4” gasket (provided) into the tank’s outlet and inlet openings. Some people prefer to do this before lowering the tank into place.
  - Once installed on the wall(s) of the tank, lightly grease the gasket surface to facilitate sliding the outlet and inlet pipes into the gasket.
  - Slide the end of the outlet pipe from the building into the gasket until the end of the pipe is underneath the manhole opening.
  - Repeat this process on the inlet side of the tank.

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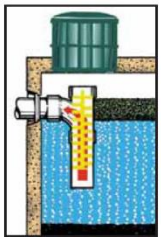
- Secure the sanitary tee on to the end of the drainpipe in the manhole cover area using pvc primer and cement.



The included bushing is required for SDR-35 pipe. Be sure to prime and cement the bushing in place before installation of the inlet and outlet pipes.

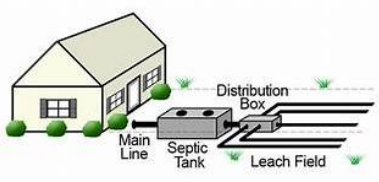
Tip: To ensure a good, tight fit when gluing the tee to the pipe, be sure to use primer and an adequate amount of pvc cement. Place the tee on the pipe in a *horizontal* position, then immediately rotate it 90° to a *vertical* position (long end down). This will ensure good distribution of the solvent cement and a very tight connection!

- Using an outlet effluent filter?
  - Install it into the outlet sanitary tee at this time.
  - Make sure it is accessible from the manhole cover or riser.

Tip: Contact your local inspector before moving to the burial process.

FINAL STEPS

- If using a manhole extension (riser), prepare and install it at this time in accordance with manufacturer's guidelines.
- If using a 2 compartment (2 manhole openings) septic tank, install the 20" covers using tamper resistant screws if the lid/opening will be above grade.
- Leak testing:
  - Most codes require that a water test is to be performed by installing the tank, connecting inlet and outlet piping (with caps), installing risers as necessary, and filling with water two inches above the tank into the riser for 24 hours. The tank penetrations must be visible. The water level is to be marked in the riser. The tank is to be refilled to the mark and observed for one hour. If the level has not dropped the tank passes.
  - Pneumatic (air) testing is also allowed and requires special equipment. Consult with an approved septic tank installation if you elect to use this method.
  - Always consult your local codes for specific test requirements for your area.
- After a successful leak test, continue to bury the tank in 12" increments using the remaining clean back-fill. Ends first, then sides. Firmly compact the back-fill as you go.
  - Ensure there is a slight mound over the tank so water flows away from the tank.
- Install the leach field in accordance with instructions and recommendations from the supplier(s) of the leach field parts as well as your local codes.



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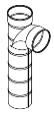
SEPTIC TANK PARTS & ACCESSORIES

Model #	*Description*	*Image*
89-TB4	4" Sanitary Tee with SDR 35 Bushing. Also acts as a filter housing (for 89-EF4)	
89-EF4COMBO	4" Baffle Sanitary Tee, Filter, SDR 35 bushing.	
89-B4035	Sch 40 to SDR-35 Bushing	
89-20RTT	20" Riser to Tank Adapter	
89-20RIS12	20" x 12" Manhole Extension (riser)	
89-20RIS6	20" x 6" Manhole Extension (riser)	

Model #	*Description*	*Image*
89-EF4	4” Effluent Filter	
89-SPL4G	4" Inlet/Outlet Gasket for 4” Tee	
89-SD4	4” Outlet Tee Solids Deflector	
89-20RISP	20" Riser 3” Green (safety pan)	
89-RISLGrn	20" Domed Lid	
89-BUTYL	3/8" x 20' Butyl Sealant Rope	

Typical Riser Assembly:

20” Domed Lid & Gasket

3” x 20” Diameter Riser (and safety pan)

6” x 20” Diameter Riser

12” x 20” Diameter Riser

20” Tank to Riser Adapter

89-BUTYL

Use between parts where a watertight seal is needed.