

# SINGLE AND DOUBLE-WALL TANK SUMPS



# FIBERGLASS TANK SUMPS

Containment Solutions, Inc. (CSI), pioneered a technology in 1965 to manufacture the first fiberglass petroleum storage tank to combat the shortcomings of steel tanks. The long-term performance and non-corrosive nature of fiberglass was key to the tank's success in the industry. The overwhelming popularity of fiberglass storage tanks soon created a demand for fiberglass tank sumps.

Tank sumps are protective enclosures for pumps, piping and other accessories above the tank top. Tank sumps should be watertight and durable since they will protect the surrounding environment in the event of a piping leak.

For nearly 20 years CSI has been perfecting the fiberglass tank sump design and installation process creating the most reliable and contractor friendly sump line available. Our proven technology has been utilized in thousands of installations.



*Fiberglass tank sumps are installed to protect the surrounding environment from potential leaks and provide a watertight access point to service pumps and piping.*

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## REASONS FOR CHOOSING A CSI TANK SUMP

- ✓ 30-Year Structural and Corrosion Warranty
- ✓ UL Listed Design
- ✓ Contractor Friendly Adhesive Channel
- ✓ Watertight Lids and Joints

## FULL LINE OF PROTECTION

Protecting your storage system and the surrounding environment starts with selecting the right storage tank but the tank only protects the product it contains. A complete fuel storage system should also include protecting the components that connect to the tank. Pumps and piping often require annual or semi-annual maintenance and testing. Once buried, the components are difficult to access and impossible to safeguard without watertight tank sumps.

## SINGLE-WALL TANK SUMPS

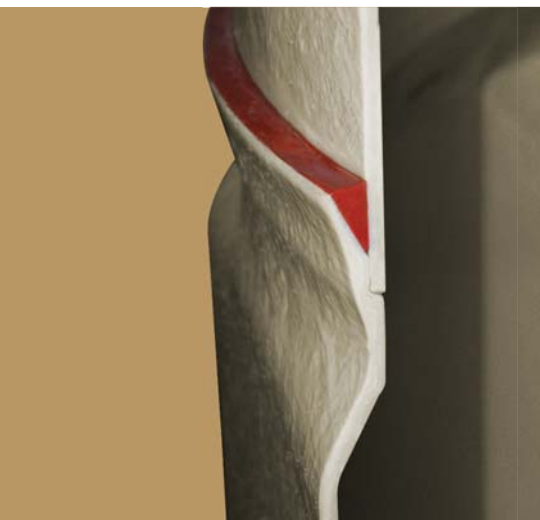
Containment Solutions tank sumps are manufactured using the same technology as our fiberglass tanks. We use a special blend of glass and resin which is carefully metered during fabrication to ensure a consistent wall thickness.

CSI non-corrosive fiberglass tank sumps are light enough to be installed without mechanical equipment, yet durable enough to protect critical components for decades. Tank sumps typically fit on the same truck as the tank which reduce shipping expenses, and like our tanks, CSI sumps carry a 30-year structural and corrosion warranty, which is the most comprehensive warranty in the industry.

## DOUBLE-WALL TANK SUMPS

Containment Solutions has earned a reputation for double-wall reliability as a result of our hydrostatic tank monitoring technology. We have simply adapted the same expertise to the fiberglass tank sump. CSI double-wall tank sumps were designed to satisfy current regulations while anticipating future requirements.

Unlike competitive products which bond the inner and outer sump walls together with fiberglass fabrics, CSI double-wall sumps are built with 100% separation between sump walls. This open environment offers an unobstructed pathway for fluid monitoring which means 360° protection and true secondary containment.

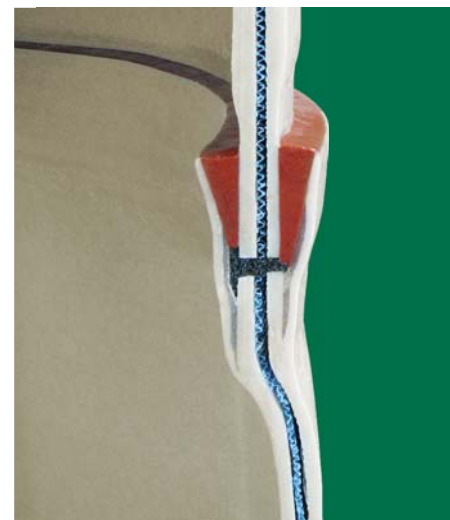


**WATERTIGHT DEPENDABILITY**

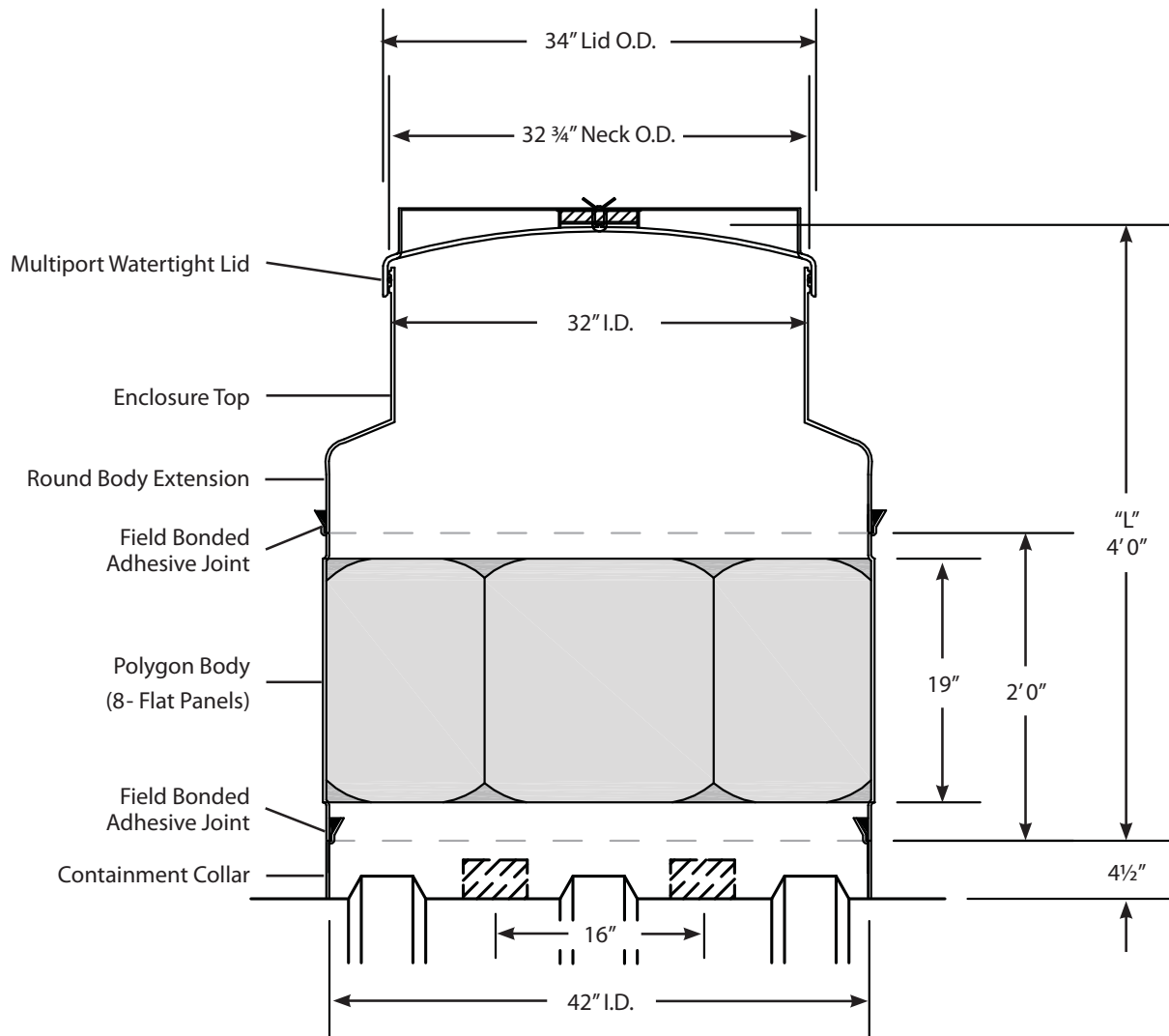
CSI single and double-wall tank sumps are comprised of individually labeled UL components including our UL listed adhesive. Our unique adhesive channels facilitate a permanent and watertight joint which protects against leaks.

DOUBLE-WALL TANK SUMP JOINT ►

◀ SINGLE-WALL TANK SUMP JOINT



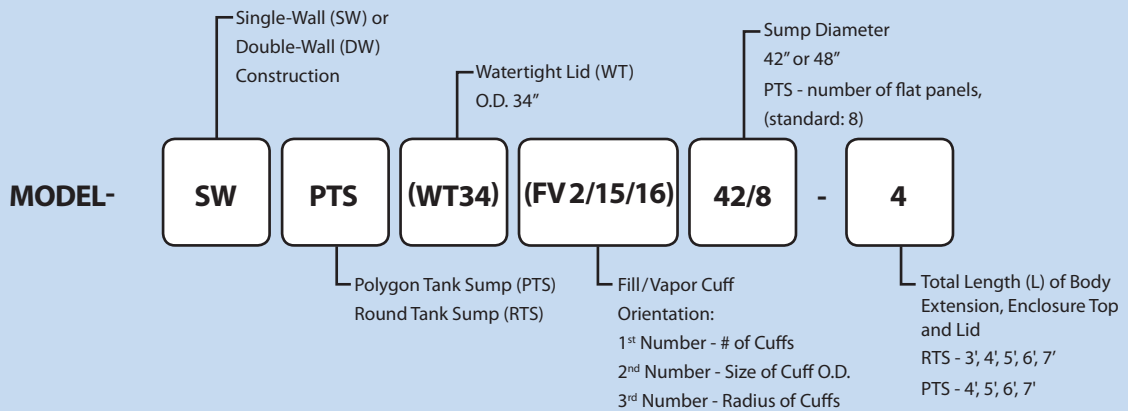
# TYPICAL TANK SUMP DESIGN



**SINGLE-WALL TANK SUMP WITH FILL/VAPOR LID**

**MODEL: SW PTS (WT34) (FV 2/15/16) 42/8 - 4**

## TANK SUMP OPTIONS



## CONTAINMENT COLLARS

The protection of storage system components above the tank top begins with the containment collar. CSI containment collars are factory bonded to the tank wall and are available in single and double-wall models. The containment collars are built to fit CSI tank sumps and come with an adhesive channel for easy installation. Double-wall containment collars, when combined with CSI double-wall sumps will continuously monitor the entire containment area for leaks from tank top to grade providing secondary containment for spilled liquids.

## POLYGON BODY

CSI tank sump bodies are available in both round and polygon shapes. Polygon body styles are octagonal with 8 flat sides which allows piping to penetrate the sump at 45° angles. Electrical connections, submersible pumps, anything protected by the sump can be accessed easier using a flat-paneled polygon sump body.

## ROUND BODY EXTENSION & ENCLOSURE TOP

Round fiberglass sump body extensions are available in one foot increments to accommodate the final tank burial depth.

The enclosure top is a factory bonded transition point from the body extension to the lid and includes a watertight gasket. The enclosure top and lid is designed to fit inside a standard 36" manhole at grade.

On hydrostatic double-wall models, the enclosure top includes a built in reservoir which houses a sensor for electronic monitoring.



*Fill/Vapor lids come in two popular cuff sizes and include an observation port as a standard feature.*

CSI tank sumps are manufactured and shipped as individual components such as sump bodies, enclosure tops and adhesive kits. Each sump is then assembled in the field following a set of written installation instructions approved by UL. This process requires that every component be clearly identified with the UL mark.

The unique designation signifies that each tank sump component meets the high quality standards expected from both UL and CSI.



## WATERTIGHT SUMP LID ASSEMBLIES



**TURBINE LID**

Selecting the right UL listed single-wall or double-wall tank sump has never been easier. You simply choose the sump dimensions and level of protection you need for your project and then choose the lid based on the tank configuration.

### TURBINE TANK SUMP LIDS

Turbine tank sump lids are used at the submersible turbine end of the tank when access is infrequent and the area must be watertight. The turbine lid is made of rigid fiberglass and fits into place by simply pushing down on the lid. Comfort grip handles make removal of the lid convenient.

### FILL/VAPOR TANK SUMP LIDS

Fill/Vapor tank sump models are available for the fill-end of the tank when multi-port manholes are used. We offer two access opening options to accommodate the most popular shroud boots and spill containment systems.

Both configurations include an observation port allowing easy access for internal sump inspections.

### WATER TESTED AND WATERTIGHT

Each lid assembly is tested to 1' of hydrostatic head pressure to ensure a watertight seal. Accessing either lid is possible through a standard 36" manhole.



**FILL/VAPOR LID**  
w/ 15" ACCESS OPENINGS  
& 6" OBSERVATION PORT

*The observation port is a convenient access point to inspect the monitoring sensor on double-wall sump models and perform a visual inspection of the sump interior.*



**FILL/VAPOR LID**  
w/ 13" ACCESS OPENINGS  
& 6" OBSERVATION PORT



## EASY INSTALLATION



Simple Steps to Install:

1. Sand and clean all joint mating surfaces
2. Position sump on collar
3. Add catalyst to adhesive and thoroughly mix
4. Pour adhesive into grout bag
5. Using the grout bag, fill channel with adhesive making 2 consecutive 360° passes around each channel
6. Smooth adhesive, filling any gaps
7. Allow adhesive to cure 24 hours without moving the joined parts

Follow the same procedures for all adhesive channels.

### THE ADHESIVE CHANNEL IS THE KEY

There are several reasons why engineers specify a CSI tank sump such as 30-year structural and corrosion warranty and UL listing, but contractors prefer the CSI sump due to the ease of installation.

Each sump section is manufactured with an adhesive channel which has enough room for the adjoining sump component and our UL listed adhesive mix which seals and hardens creating a permanent joint. This new joint is leak free and watertight. The two part design eliminates the need to perform a confined space entry on deeper burials.



*With our UL Listed adhesive kits (Kit-AD), a permanent watertight connection has never been easier.*

# TANK SUMP GUIDE SPECIFICATIONS

## Part I: General

### 1.01 Quality Assurance

- A. Acceptable Manufacturers:  
Containment Solutions, Inc., Conroe, Texas
- B. Governing Standard:
  1. Tank sumps shall bear the UL Listing mark

### 1.02 Submittals

Contractor shall submit \_\_\_\_ copies of: shop drawings, manufacturer's product brochures and installation instructions.

## Part II: Products

### 2.01 Single-Wall or Double-Wall Fiberglass Tank Sump

- A. Product Compatibility Requirements
  1. Tank sumps shall be compatible with the same products as the fiberglass underground storage tank:
    - a. Diesel fuel oils for oil burning equipment
    - b. Gasoline, jet fuel, aviation gasoline, motor oil (new or used), kerosene, diesel motor fuel.
    - c. Alcohol-gasoline blend motor fuels:
      - Gasoline-ethanol blends with up to 100% ethanol.
      - Gasoline-methanol blends with up to 100% methanol.
    - d. Oxygenated motor fuels at ambient temperatures with up to 20% (by volume) methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), or tertiary amyl ethyl ether (TAE).E).
    - e. Biodiesel-diesel blends with up to 100% biodiesel (B100 per ASTM).
  - B. Materials
    1. The tank sump shall be manufactured with premium resin and glass fibers.
  - C. Dimensional Requirements (refer to Containment Solutions literature)
    1. Tank sump diameter shall be \_\_\_\_ (42" or 48").
    2. Tank sump overall height shall be \_\_\_\_ (3, 4, 5, 6, 7).
  - D. Monitoring Capabilities
    1. Double-wall tank sumps shall have a monitoring space between the walls to allow for the free flow and containment of leaked product from the primary tank. The monitoring space shall provide equal communication in all directions.
    2. The following continuous monitoring conditions shall be compatible with the cavity between the inner and outer wall:
      - a. Vented to atmosphere
      - b. Continuous Hydrostatic Pressure
      - c. Continuous Vacuum – 5 psig maximum (10.2 "Hg).
    3. Tank sumps shall have an integrally mounted annular space reservoir constructed of fiberglass reinforced plastic materials and be included in the sump warranty.
    4. The monitoring fitting shall be a 1-1/2" FRP threaded fitting.
    5. The leak detection performance of the monitoring system shall be tested and verified by a qualified independent consultant to detect leaks in the primary or secondary walls as small as 0.005 gallons per hour within 4.6 days.

6. If hydrostatically monitored, any solution used in the monitoring space shall be compatible with the sump and be of a contrasting color to the sump.
- E. Hydrostatic Monitoring Fluid
  1. Brine monitoring fluid shall be a calcium chloride solution (same as tank).
  2. Propylene Glycol
- F. Secondary Containment Collar
  1. UL label shall be affixed to collar.
  2. The collar shall be fiberglass reinforced plastic, 42" or 48" in diameter and shall be factory-installed in accordance with drawings.
  3. The collar shall include an internal adhesive channel.
  4. The collar shall be included in the 30-year tank warranty.
- G. Adhesive Kit (Kit AD)
  1. UL Listed and alcohol compatible adhesive kit shall provide a watertight seal at the tank sump and containment collar joint to prevent the ingress of water or egress of fuel. The adhesive kit includes resin, catalyst, mixing stick, putty knife, sandpaper, grout bag, and installation instructions.
- H. Tank Sumps
  1. UL label shall be affixed to tank sump components.
  2. Tank sumps & collars shall be listed by Underwriters Laboratories for petroleum fuels and all blends of alcohol (same as tank). Collar and sump shall be tested and listed as a complete sump system.
  3. Tank sump components shall be constructed of fiberglass reinforced plastic. The tank sump shall be 42" or 48" in diameter and must mount to the secondary containment collar. Standard tank sump shall consist of an octagon shaped base (round base is optional), round body extension and enclosure top.
  4. The octagon base shall be 24" in height and provide 19" high panels for piping entry points. The base must be capable of joining to the collar with an internal adhesive channel.
  5. A 34" O.D. watertight lid shall be provided at the submersible and fill/vapor end of the tank and provide a watertight seal to the sump enclosure with 12" of water above the lid and remain leak free.
  6. Tank sumps are designed for operation at atmospheric pressure and must be vented.
  7. Refer to tank sump drawings for standard models and configurations.

## Part III: Execution

### 3.01 Installation and Testing

Fiberglass underground tank sumps must be tested and installed according to the current installation instructions provided with the sump (refer to Containment Solutions Pub. No. INST 6030 and 6034).

## Part IV: Limited Warranty

### 4.01 Limited Warranty

Warranty shall be Containment Solutions limited warranty in effect at time of delivery.



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