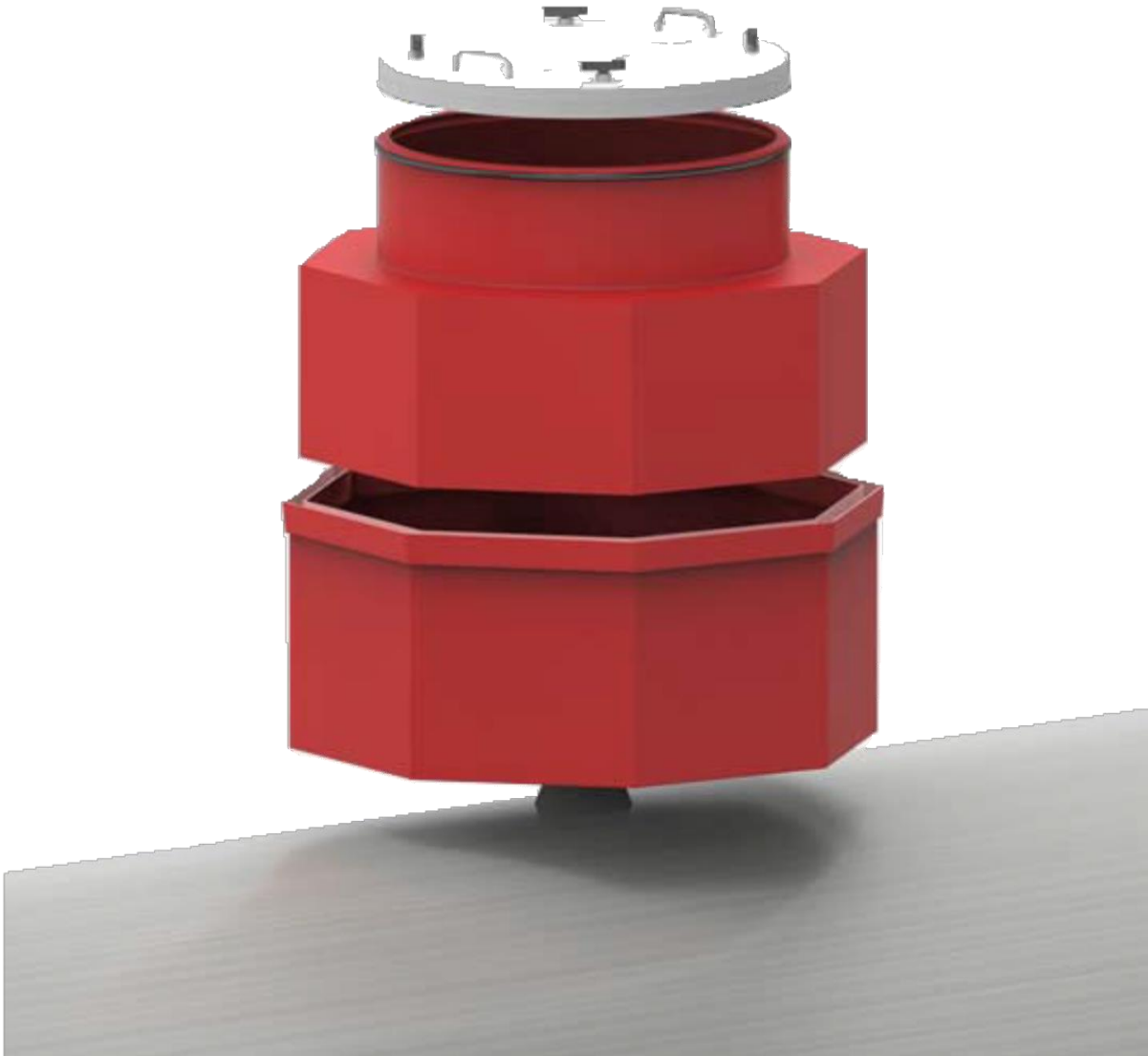


Closed Bottom Tank Sump Singlewall



B422 Series – 42" Diameter
B482 Series – 48" Diameter





TABLE OF CONTENTS

Required Items.....P 3

Step 1 – Tank Bung Fitting Install.....P 4

Step 2 – Tank Sump Base Install.....P 5

Step 3 – Measuring Tank Sump Top.....P 6

Step 4 – Prepping Tank Sump Top.....P 7

Step 5 – Tank Sump Top Install.....P 8

Step 6 – Epoxy Cure and Backfill.....P 9

Step 7 – Install Snap Lock Lid.....P 9

Warranties and Disclaimers.....P 10

When using and installing Bravo products, please consult local, state and federal regulations. Installers of Bravo products must be Bravo-certified.



Safety First. S. Bravo Systems, Inc. recommends adherence to standard safety procedures and precautions provided by your company and to follow the regulations and compliances by OSHA, local, state and federal regulations regarding the use of this product.



Epoxy cure cycle and full cure cycles vary depending on site conditions. In weather conditions below 60°F, heat will be needed to cure epoxy used for the installation of Bravo components. Do not heat the fittings above 150°F. Extremely high temperatures can damage entry fittings and cause test ports to leak. Do not test until full cure cycle has been achieved.

UL2447 is the standard for secondary containment and covers sumps and lids, sump fittings and sump accessories. Products are tested in accelerated conditions that have long term use in environments with extreme heat and cold, aggressive biofuel and ethanol blends, and extreme soil environments.



Required Items

EP-S1.0 Slurry 1 gal Kit (1)



EP-100RF EPOXY



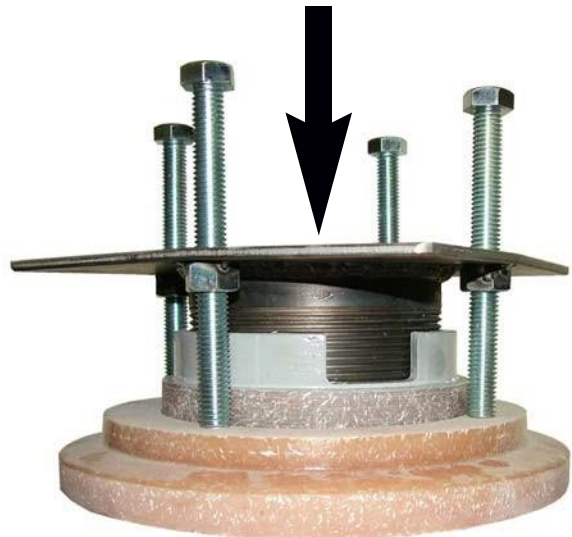
B-TBF-4 Tank Bung Fitting



Acetone



T-TBF-4 Installation Clamp



Use clean, lint-free rags





1 - TANK BUNG FITTING INSTALL

1 - To Install your Tank Bung Fitting to the Tank Bung, use a UL-Approved thread sealant. Hand-thread until snug and then using 1-1/2" square tubing minimum 3' foot length, tighten down with a minimum torque of 200 ft-lbs to a maximum of 250 ft-lbs. (Fig. 1.1)

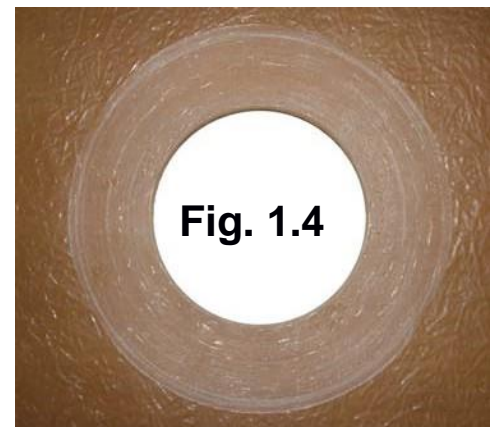
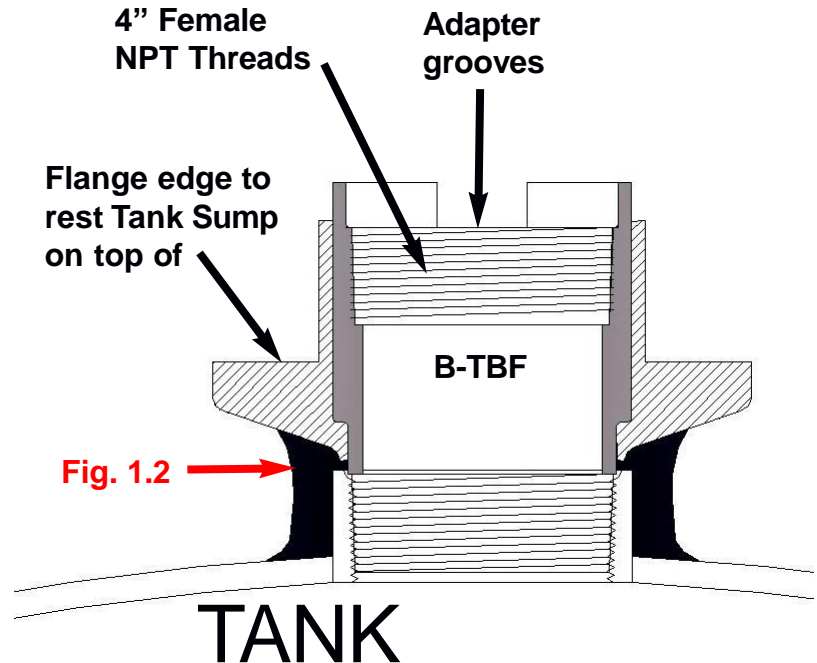
2 - **COMPLETELY ENCAPSULATE THE EXPOSED METAL THREADS BY THICKLY COATING THE ENTIRE BASE CONNECTION FROM FITTING FLANGE TO THE TOP OF TANK WITH VULKEM 116 SEALANT. (FIG. 1.2)**

If leaving overnight, cap the coupler or cover unit well with plastic.

3 - Locate the point of penetration location on the tank sump bottom and use a 5-1/2" hole saw to cut the hole for the fitting.

4 - Sand the surface of the Tank Sump bottom around the hole **inside and outside**. Sand an area **2"** around the hole to expose bare fiberglass. (Fig. 1.4). Clean both inside and outside surfaces with acetone.

Fig. 1.1



AREA AROUND HOLE SANDED



2 – TANK SUMP BASE INSTALL

1. - Mix **EP-100RF Retrofit Epoxy** and apply to the exposed flange face and side walls. **(Fig. 2.1)**
- 2.- Place the prepared Tank Sump slowly and gently onto the Tank Bung Fitting flange and turn into position.

Support the underside of the Tank Sump fully with a bed of peagravel. Shovel backfill under the Tank Sump so that it will accommodate additional weight without tipping over.

3. - Add more adhesive to the exposed fiberglass areas of the Tank Sump and fitting. **(Fig. 2.3)**

4. - Next fit the loose flange over the Tank Bung Fitting and press firmly.

5. - Thread on the Bravo Tool
"CLAMP-TBF" into the tank bung fitting, snug only. **KEEP THREADS OF BOLTS CLEAN SINCE THIS CLAMP MUST BE REMOVED AFTER CURE.**
Thread down each bolt so that they press firmly and evenly against the loose flange **(Fig. 2.5a)**. Adhesive should ooze from the joints. Apply extra adhesive around these areas and make sure to build it up against all joints. Also bead adhesive against the seam below. **(Fig. 2.5b)**

Allow for the maximum cure time at or above 75°F. Refer to adhesive manufacturer's instructions.

DO NOT DISTURB THE SUMP OR FITTING DURING THIS TIME

Fig. 2.5a

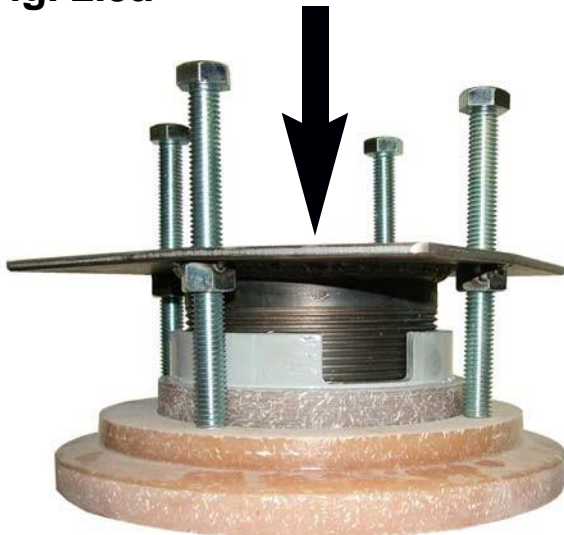


Fig. 2.5b

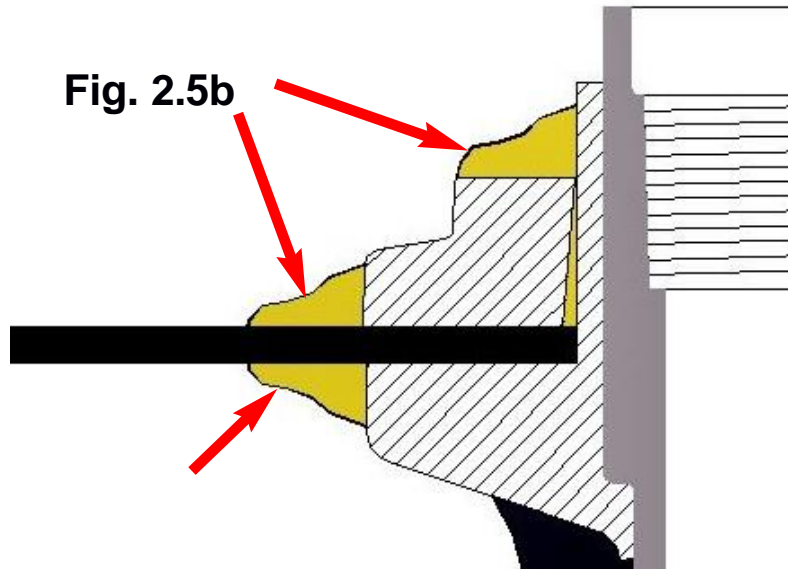


Fig. 2.1

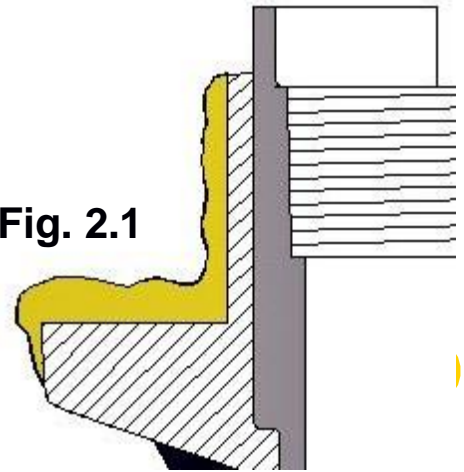
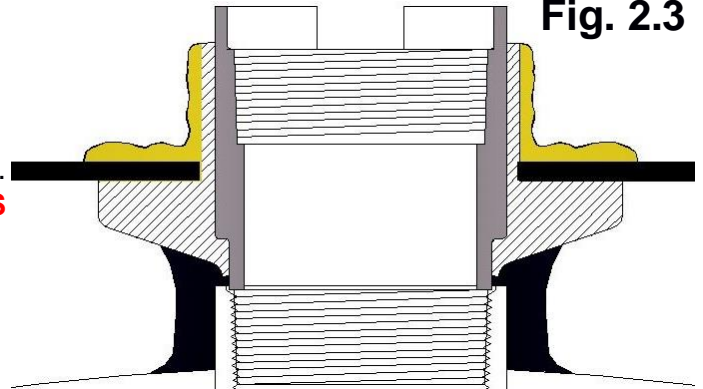


Fig. 2.3





3. MEASURING TANK SUMP TOP

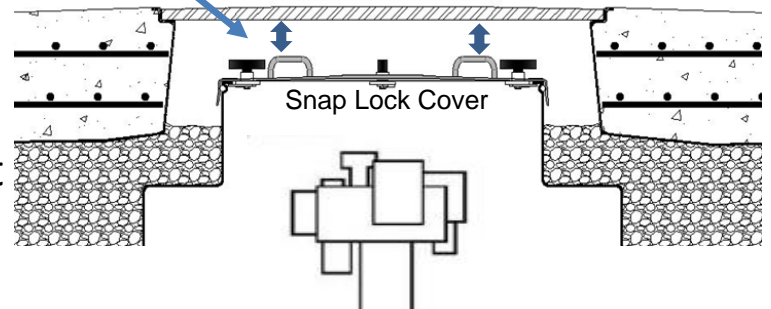
****NOTE**** Install fittings and piping before proceeding

1. Position sump top into sump base U-channel

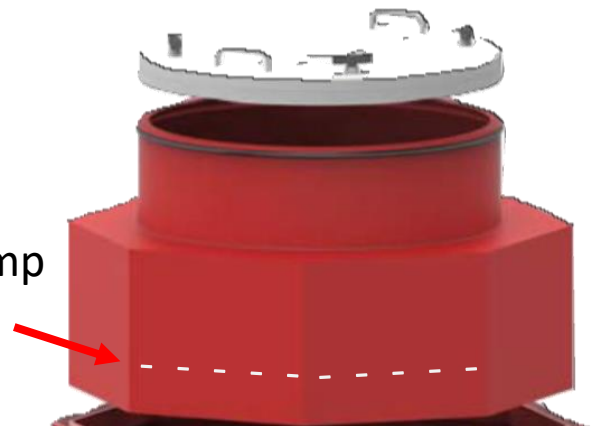


Min. Distance to drive over cover is 1 1/2"

2. Measure for at least 1 1/2" clearance from Top of Handle or highest point of sump lid to underside of manhole cover



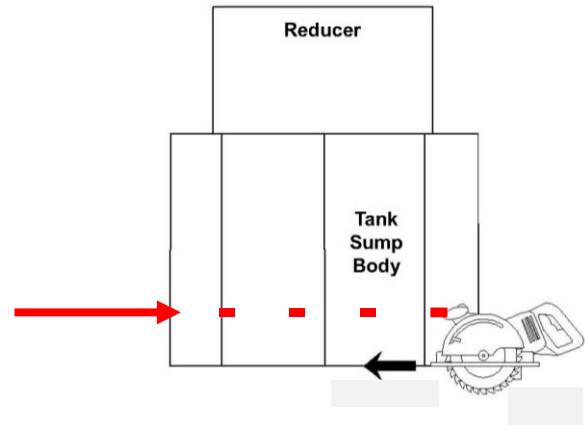
3. Measure & Mark bottom +/- 1/4" of sump top based on calculation from Step 2.





4. PREPPING TANK SUMP TOP

1. Accurately Cut along marked bottom edge of sump top hat $\pm 1/4''$.



2. Sand a minimum of 3" section outside and inside from bottom edge of sump top.



3. Sand the entire inside of sump base U-channel.



4. Clean U-Channel and sanded area of top hat with acetone.





5. INSTALLING SUMP TOP

REQUIRED GROUT MIXING TOOL!

Length 16", Blade 3-1/4" (Sold Separately at Local Hardware)



1. Break up the center of slurry using heavy screwdriver. Then proceed to use grout mixer to blend clumpy slurry into a uniform consistency.



2. Shake can of hardener and add all hardener to the slurry mix



3. Using the grout mixing tool, mix side to side and top to bottom until consistent color and texture.

Note: swirls in image means you are not finished mixing.



4. Pour into prepped pour channel



5. Immediately set sump top in pour channel and lift and set back down to fully seat into slurry and let cure





6. Epoxy Cure Time Chart and Backfill Requirements

Site conditions will affect how the Epoxy products will cure. See the side of the Epoxy container for Cure Time Chart.

Epoxy cure cycle and full cure cycles vary depending on site conditions. In weather conditions below 50°F, heat will be needed to cure epoxy used for the installation of Bravo components. Do not heat the fittings above 150°F. Extremely high temperatures can damage entry fittings and cause test ports to leak. Do not test until full cure cycle has been achieved.

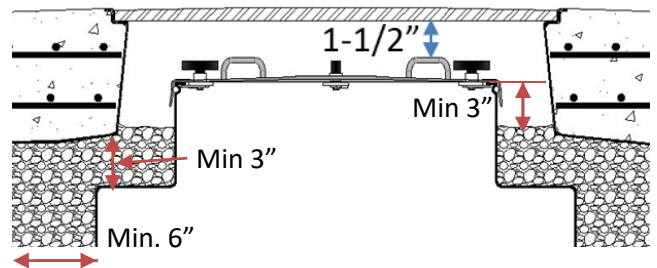
Pre-heat the sump wall to no more than ~150°F

Pre-heat each Bravo fiberglass fitting thoroughly ~150°F max.

Pre-heat the epoxy or EP-slurry to no more than ~80°F. **DO NOT HEAT THE HARDENER!!**

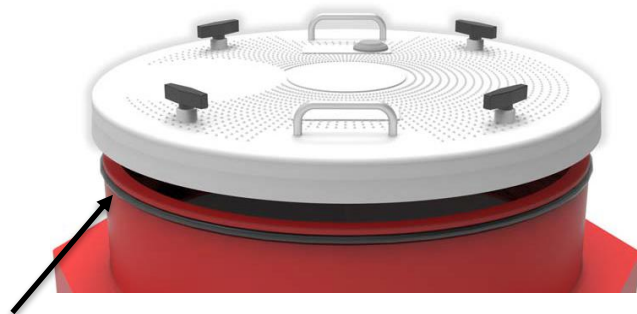
2. Clearance and Backfill

Measure minimum 1 ½" clearance from Sump lid's highest point to underside of manway cover. Minimum of 3" of lid clearance from top reducer to backfill. 3" approved backfill between Manway skirt and sump shoulder. Minimum 6" approved back fill external of sump.



Approved Backfill, Pea Gravel - (particle size must be not less than 1/8 inch or more than 3/4 inch) Washed stone or crushed gravel (angular particle size required to be not less than 1/8 inch or more than 1/2 inch)

3. Snap-Lock Lid Maintenance



Apply grease to seal at a minimum 3 month basis but ideally at every monthly inspection. Gasket are replaceable if they wear out. (OR-SL32, OR-SL36, OR-SL39)



WARRANTY SINGLEWALL TANK SUMP

All Bravo products MUST be installed by a Bravo Certified contractor. Information contained in all Bravo literature is subject to change without notice. Bravo does not assume responsibility for liability for loss, damage or expenses resulting from installation, operation use or maintenance from this manual. By installing this product, you agree to S. Bravo Systems warranty terms.

LIMITED WARRANTY

All Bravo products MUST be installed by a Bravo Certified contractor. Information contained in all Bravo literature is subject to change, to ensure you are view the current literate located on the Bravo website Bravo does not assume responsibility for liability for loss, damage or expenses resulting from installation, operation use or maintenance from this manual. By installing this product, you agree to S. Bravo Systems, Inc's warranty terms. All Bravo products are subject to complete warranty information located on the S. Bravo Systems, Inc. website located at www.sbravo.com.

UL Sump Containment Rating: Primary

UL 2447 LISTED

Sump Type: **Tank Sump**
SINGLEWALL

Maximum Burial Depth: 84"

Liquid Rating: Automotive Fuels

- Must be installed by an S. Bravo Systems, Inc. certified installer. Installation by non-certified personnel will void the warranty and may result in damage or leaks.
- Install in accordance with S. Bravo Systems, Inc. installation guides.
- Use only OEM recommended fittings and accessories.
- Failure to use recommended accompanying sump products in the complete assembly may cause damage or leaks.



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