

# BRAVO B-17-D, B-32.7-D & B-33-D UNIFITTINGS™

## INSTALLATION INSTRUCTIONS



## IMPORTANT!!

READ THESE INSTRUCTIONS - KEEP FOR FUTURE REFERENCE

### NOTICE

- For double wall sumps designed for FRP pipe only, do not use for flexible secondary piping.
- Adhere to all directions and warnings indicated on the product or contained in these instructions.
- The containment box should be installed only by a qualified contractor.
- Warranty is void if there is any evidence of modification, abuse, negligence, or improper installation.



**DO NOT FILL BRAVO DOUBLE-ENDED DOUBLE WALL PENETRATION FITTINGS WITH FOREIGN MATERIALS, BRINE (SALINE) SEALANTS, OR ADHESIVES!!!**

### WARRANTY

**All** containment systems sold by S. Bravo Systems, Inc. are warranted to be free from defects in material and workmanship for a period of one year from the *date of purchase*. This warranty will be limited to the repair and replacement of Bravo parts only, and will exclude all claims for labor or consequential damage. No other express warranties given and no affirmation of S. Bravo Systems, Inc., or its agents and/or its representatives, by words or action, will constitute a warranty. **IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.**

**This** warranty is void if there is any evidence of modification, abuse, negligence or improper installation. If any fittings or components, other than S. Bravo Systems approved components, are used in conjunction with any S. Bravo Systems product, the warranty pertaining to these products is immediately void.



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# UNIFITTING INSTALLATION INSTRUCTIONS

**B-17-D**

**Tools required.** Drill bit 1/4" diam & 5/16" diam, template, hole saw, sandpaper and 5/16" & 7/16" wrench.

**1-** Locate center of all (pipe/conduit), if possible, on flat section of containment box make sure all fittings will not interfere with each other. Drill a 1/4" diameter perforation at the fitting center. Fasten UniFitting template (See FIG 1-A and/or FIG 2-A) with 1/4" bolt & wingnut through the center. Drill one of 5/16" holes on template and fasten a 5/16" bolt & wingnut to fix the template in position, drill the hole positioned 180° across. Using the same method, continue with the rest of the perforations. After drilling all the 5/16" holes remove the template and repeat the process for all other UniFittings.

**2-** Drill out opening for the UniFitting by using properly sized hole saw (see table below). After drilling opening, sand rough edges with 60 grit.

**3- FOLLOW T-F-33-SAND-KIT INSTRUCTIONS TO ABRADE WALL FLAT**

UniFitting	Hole Saw	Min. Space C/L to C/L
B-17-D (See Fig1-B)	2-1/2"	4-1/4"
B-33-D (See Fig 2-B)	4-1/2"	6-1/4"

**4-** Cutting steps on the B-17 boot requires inserting a rigid conduit inside the fitting. Proceed to cut with free-hand away from utility knife. Apply Vulkem sealant to exterior of containment box where the circumference of the fitting makes a seal with box. Insert exterior seal (See FIG 1-C and/or FIG 2-C) from outside of containment through bolt holes. From the inside of containment install Alcryn boot over bolts followed by a plastic compression ring with chamfers, (See FIG 1-D and/or FIG 2-D).

**5-** The chamfer on compression ring must be against the Interior Alcryn boot of the B-17 and B-33. Apply vulkem generously to each thread area with glove. Start threading the nuts by hand. Then with 7/16" wrench, start tightening the first nut followed by the nut positioned 180° across. Repeat this method for remaining nuts. Use a torque wrench at a maximum torque setting of **5 foot pounds** (60 lb. inches).

**Warning: Do not over torque nuts, follow recommended practices.**

**6-** Insert the appropriate sized pipe or conduit into the Alcryn boot from outside of the containment box. Please note: fitting for double wall sumps are designed only for Fiberglass rigid pipe. After the pipe or conduit has been positioned and tested, fasten the **S.S. band clamp around boot tightening to 4 foot pounds** (48 lb-inches) both inside and outside of box. Black SS clamp goes on the outside. Apply Vulkem isolation sealant to the exterior black epoxy coated stainless steel clamps approximately 1/4" thick. For B-17 UniFitting place clear insert over each threaded bolt end. For both B-17 and B-33 fittings apply Vulkem sealant generously to the outside nut and bolt areas, leave no metal exposed. Let the sealant form a "skin" or harden then backfill with approved peagravel per pipe manufacturers specifications.

**Angled Entries:** The UniFitting is flexible enough to allow pipe and conduit from entering the containment box at an angle of 5° in any direction.

**Offset Entries:** The UniFitting allows pipe and conduit to enter the containment box at an offset of 1/4" in any direction.

**Round (curved) Surface Entries:** NOT ALLOWED

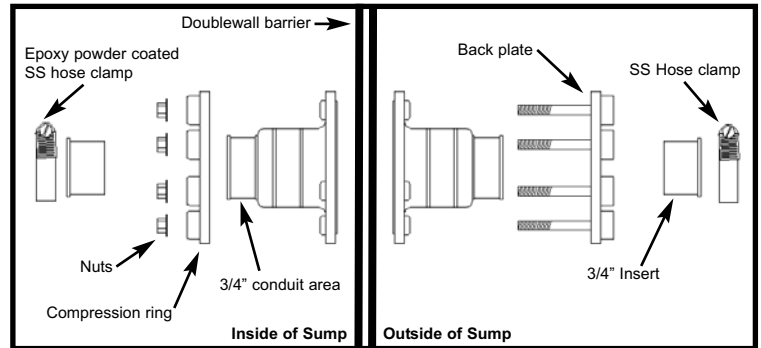
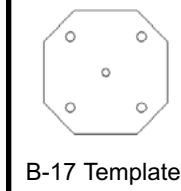
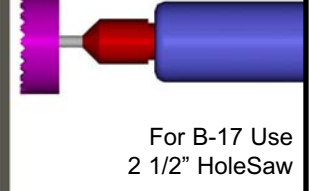


Fig 1-A

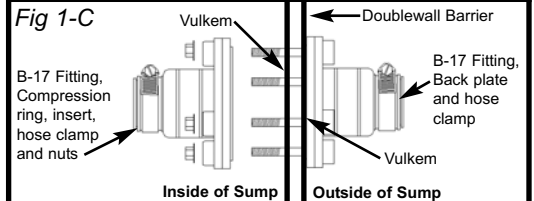


B-17 Template

Fig 1-B



For B-17 Use 2 1/2" HoleSaw



Inside of Sump

Outside of Sump

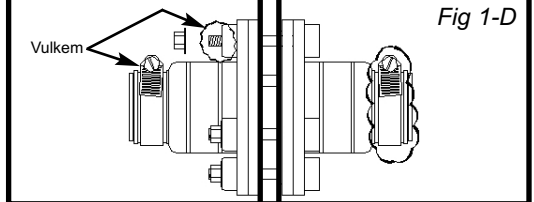


Fig 1-D

**B-33-D**

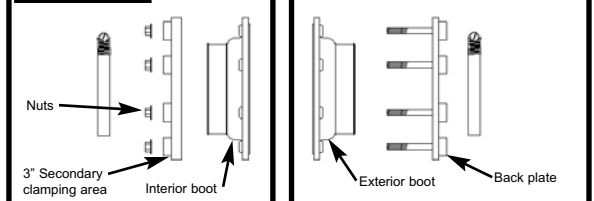
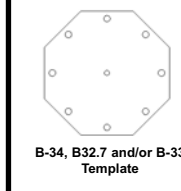
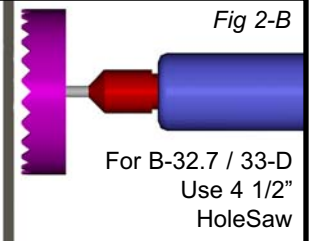


Fig 2-A



B-34, B32.7 and/or B-33 Template



For B-32.7 / 33-D Use 4 1/2" HoleSaw

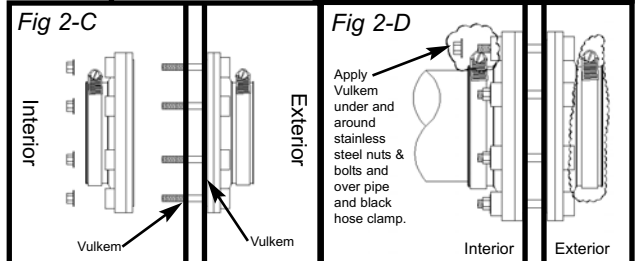


Fig 2-C

Fig 2-D