

B-600 Commercial Series

TRANSITION SUMP INSTALLATION MANUAL

DOUBLE WALL TRANSITION SUMPS

FOR STANDARD MODELS B-630-D, B-640-D, B-650-D AND VARIATIONS
WALKOVER LID - **PEDESTRIAN TRAFFIC ONLY**



ii-B600-Commercial-DW-12A



WWW.SBRAVO.COM
800-AT-BRAVO



MANDATORY

The B-600 DoubleWall Commercial Piping / Transition Sump Series from S. Bravo Systems, Inc. MUST be installed by, and only by, **Bravo Certified Installation Contractors**. Details can be found at www.sbravo.com/cert

IMPORTANT

READ THESE INSTRUCTIONS - KEEP FOR FUTURE REFERENCE

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REQUIRED TOOLS

(NOT PROVIDED)

Power/air Sanders. Acetone to clean up tools/applicators. Power Cutting Tools.

VAC-KIT-D-AB one per site

RECOMMENDED:

(NOT PROVIDED)

Bravo Sand Kit



Filling Bravo Systems Double Wall Products with Brine (saline) solution will void the product warranty. You must use only Bravo-Supplied Interstitial Fluid.

- *Closely adhere to all directions and warnings indicated on the product or contained in these instructions.*
- *Warranty is void if there is any evidence of modification, abuse, tampering, negligence or improper installation.*
- *For assistance please call Bravo for technical support at (800) 28-BRAVO. Outside the U.S.A. please call (323) 888-4133.*

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 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 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 fittings or components, are used in conjunction with any S. Bravo Systems product, the warranty pertaining to these products is immediately void.

EQUIPMENT DRY-FIT

- BEFORE INSTALLING PENETRATION FITTINGS
 - BEFORE CUTTING OPEN SUMP INTERSTICE
- DRY-FIT YOUR SUMP PIECES AND INTERNAL EQUIPMENT.**

WARNING

BEFORE PENETRATING FIBERGLASS WALLS ENSURE THAT THE DOUBLE WALL FRP SUMP IS HOLDING VACUUM



It is **REQUIRED** to visually check the Vacuum gauge on each and every BravoSystems Double Wall product and write on its FAX report Vacuum level, name of observer, and date for every DoubleWall Sump. FAX back to 323-888-4123.

WARRANTY IS VOID: **IF ANY OF THE FOLLOWING OCCUR**

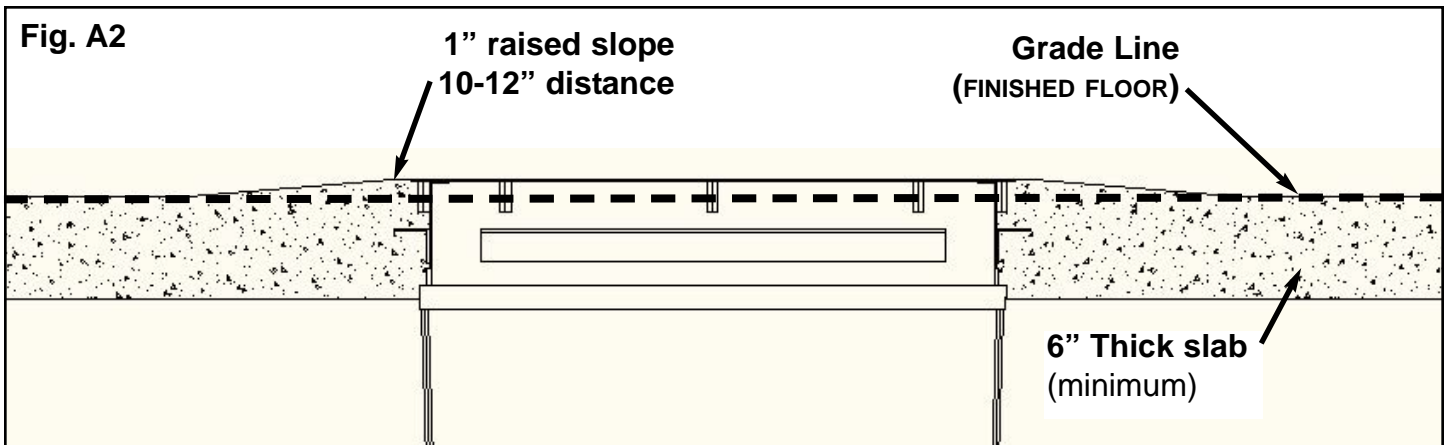
- A)** There is a failure to comply with the Required written report guidelines as stated above.
- B)** Double Wall Sumps are DOUBLE-STACKED, stored or shipped in a negligent way.
- C)** There is a failure to handle Bravo Systems equipment with the utmost care.
- D)** Any packaging or wrapping materials are removed before the item reaches It's destination.
- E)** Double Wall Sumps, Failure to call Bravo Systems If Vacuum level on product is less than 12" HG (Vacuum) (323) 888-4133, refer to sump for further details.
- F)** Double Wall Sumps are water tested by hydrostatic fill. The interior of these sumps must **NOT** be filled with liquid to any level.
- G)** If there is any indication or suspect damage, you must mark the freight paperwork *"Suspect Freight Damage" or "Freight Damage Observed"*

A - SUMP POSITIONING & SECURING

A.1 - Determine the permanent position of the B600 Commercial Series Sump according to your specs. During positioning, leave the access cover dry-fit to the top of the transition sump. Rest the sump on a bed of peagravel to position it and make it level. **DO NOT SET THIS SUMP ON TOP OF A RIGID MATERIAL SUCH AS CONCRETE. THE SUMP MAY ONLY BE PLACED ON PEAGRAVEL**

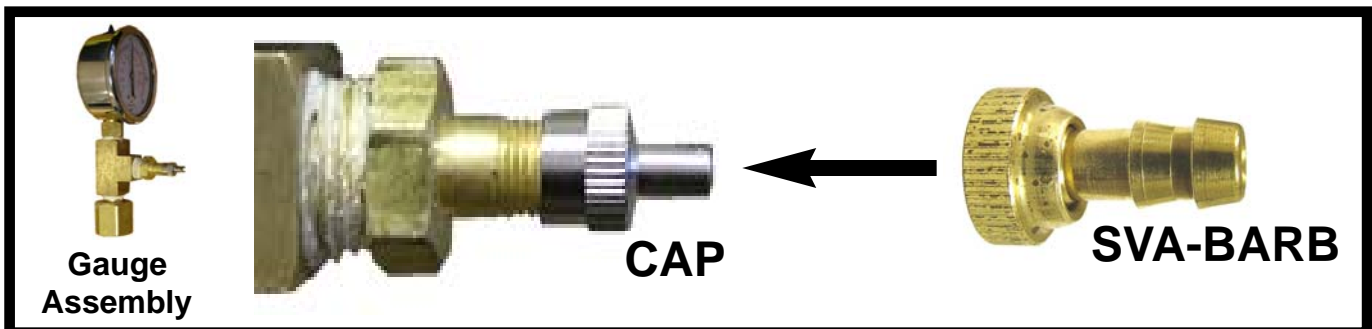
IMPORTANT **A.2** - The top of Access Cover (when dry - fit) needs to be 1" INCH above the planned grade (finished floor). Plan to slope your concrete away from the edge of the sump 10-12 inches in all directions to mitigate water travel over the top. **Fig A2.**

A.3 - Using local hardware, frame or scaffold the box into a permanent fixed position to prevent any shifting or movement prior to pouring of concrete. During and after complete installation of the sump, you must maintain full and unobstructed access to the exterior sump wall(s) where the entry fittings are installed. Also make sure that only peagravel is the only material placed under the sump.



IMPORTANT While curing fiberglass adhesive or a lamination install and keep the SVA-BARB in place. This will prevent pressure from building up within the Interstice and blowing a leak path through.

SAVE THESE PIECES, DO NOT LOSE THEM! Remove the SVA-BARB when ready to test.



B - PENETRATION & AST FITTINGS

B.1 - Remove access cover and plan out your entry fitting positions. Proceed to hole-saw your sump and install your entry fittings. Follow the specific fitting installation manual. Bravo highly recommends using the F-Series all-fiberglass entry fittings. (more info at [www.sbravo.com / fs](http://www.sbravo.com/fs))

IMPORTANT IT IS RECOMMENDED THAT YOU ABRABE THE SUMP WALLS FLAT WITH A BRAVO SAND KIT FOR YOUR FITTINGS

IMPORTANT DO NOT FILL DOUBLE WALL PENETRATION FITTINGS WITH FOREIGN MATERIALS, SEALANTS or ADHESIVES!

B.2 - Following your installation of the doublewall penetration fittings, you must **FIRST TEST THE INTEGRITY OF THE BOX, SINCE THE INITIAL VACUUM HAS BEEN LOST.**

B.3 - Using the factory-provided & installed pressure/vacuum combination gauge, Pressure the sump to **4 PSI** and soap **ALL** fittings, and any field repairs, inside and outside.

PRIMARY AND SECONDARY PIPING

B.4 - Please refer to your pipe manufacturer's Installation Instructions.

B.5 - When finished with the installation of pipe lines, pressure sump again to no more than **4 PSI** and soap all penetration fittings, inside and outside.

IMPORTANT S. Bravo Systems, Inc. highly recommends the Air Integrity Test (Step C.1) to be completed at this time, after the penetration fittings have been installed and tested.

B.6 - AST Compression Fittings. If you have AST fittings installed to the top of the sump or you are field installing them, simply loosen the compression nut and slide your riser piping through the fitting into the sump to the elevation you require. The compression gasket is pre-greased by the factory. Use the Bravo Compression nut tool (**Part No. WR-3**) to torque down the compression nut **1/4 to 1/2 turns past hand-tight. Do not overtorque this compression nut.**

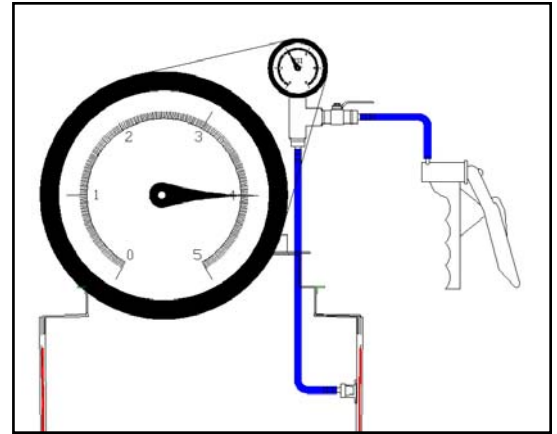
C - Air Integrity Test

Remove & save the SVA-BARB from the Gauge Assembly Schrader Valve

C.1 - Use test assembly and pressure sump to **4 PSI**. Close off with ball valve and resume other work. Allow **1 Hour** for interstice to fully acclimate before recording pressure.

Field Air Integrity Inspection Test:

After 1 hour wait period, record and monitor pressure for a minimum of 1 hour for a Field Integrity Inspection Test.



The test **PASSES** the integrity test if the Sump shows **NO** signs of pressure loss.
IF TEST PASSES - CONTINUE TO STEP D.

IMPORTANT

Bravo Highly Recommends an extended pressure test time if possible.

C.2 - IF ANY LEAKS ARE FOUND!!

- a: On factory-installed gauge, **pressure** sump Interstice to **EXACTLY 4 PSI**.
- b: Close off interstice with ball valve and soap exterior of dispenser sump body, paying close attention to penetration fittings, edges and corners.
- c: Locate leak point(s) and mark with marker so you can locate it / monitor it.
- d: Repair or reinstall penetration fittings according to your doublewall penetration fitting manufacturers' Installation / Maintenance Instructions.
- e: Abrade a 2" diameter area centered on the leak point until flow coat is gone and natural resin/fiberglass material can be seen. Dust with shop brush or compressed air and do not use shop towels or acetone. Use Bravo "**ADHESIVE-EPOXY-KIT**" to repair pinhole leaks on Bravo Fiberglass products. Make sure area is completely dry and apply resin generously while pulling -2 PSI vacuum to suck adhesive into pinhole leak for 1 minute. For anything larger than pinhole leaks you must consult the factory.
- f: Let cure for a minimum of 4 hours @ or above 75° Fahrenheit.

C.3 - IF ANY REPAIRS ARE MADE: After cure, repeat steps B5 and C1.

FOR HYDROSTATIC MONITORING - PROCEED TO STEP D.

FOR CONTINUOUS VACUUM MONITORING - The B8000 and 9000 Series Sump cannot exceed 16" of Mercury. Follow your vacuum system manufacturer's installation instructions to install, seal, and monitor the doublewall system with vacuum. Continue on to Step E.

WARNING

Ensure that the fittings that are being used with the Vacuum Monitored System can withstand the amount of Vacuum your Monitoring System will generate.

D - Mandatory Hydro-Vac Filling



VAC-KIT-D-AB You need at least one per job site to complete the Hydro-Vac filling procedure.

The purpose of the hydro-vac fill procedure is to eliminate trapped air within the interstice, which can cause “burping” later on, as trapped air is released over time.

Bravo no longer allows “gravity filling” which is simply pouring interstitial fluid into the large manometer in order to fill the sump. You must also never remove the factory-installed tubing or the combination pressure / vacuum gauge for any reason until instructed to do so in this product manual. **If your jobs’ engineering specifications require that our assemblies are removed and replaced with alternate test assemblies, you must call us for guidance at 800-AT-BRAVO.**

NOTICE Bravo Double Wall sumps ship straight from the factory with a combination gauge factory-installed and held under 20”+ of Hg / vacuum.

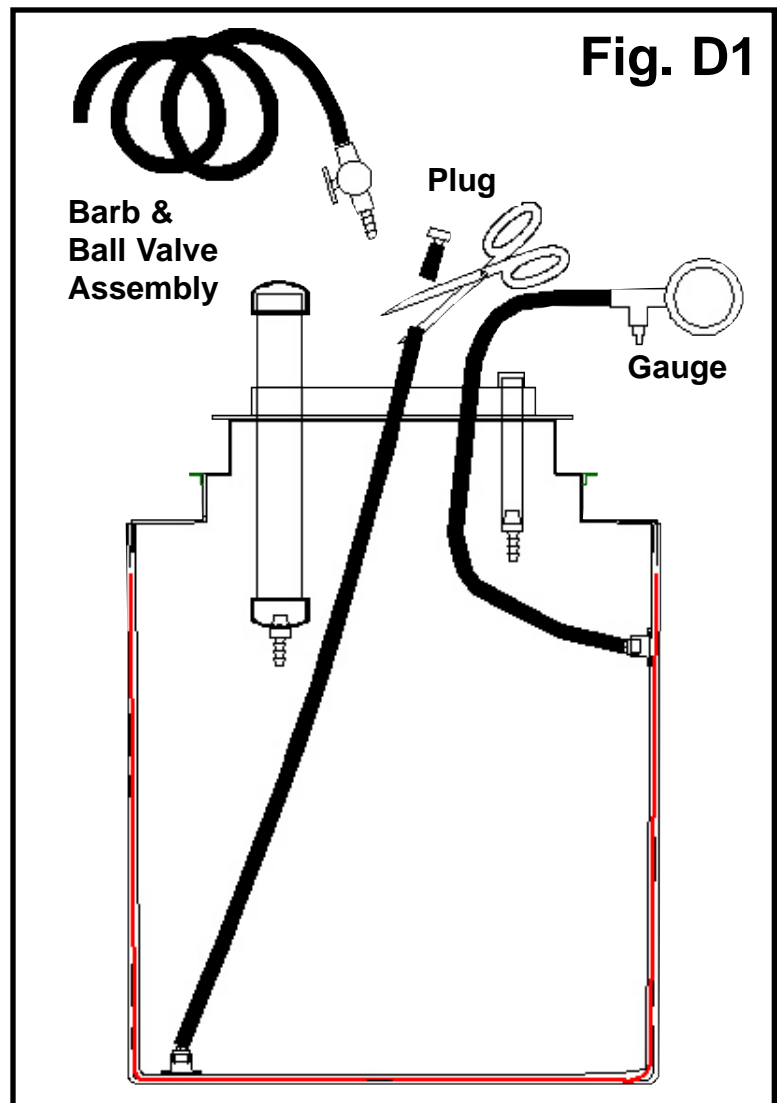
D.1 - After passing the Field Air Integrity Test per the Installation Instructions, you must cut the permanently glued pipe plug from the appropriate line of tubing. **(Fig. D1)** This assembly is provided by the factory and the connection is not to be tampered with.

D.2 - Connect the newly cut open end of tubing to barb-and-ball-valve assembly included in your VAC-KIT-D-AB **(Fig. D1)** .

A length of clear tubing is factory installed to the other end of the barb-and-ball-valve assembly. Place the end of this line into your fluid source. (A 5 gallon bucket is typically used as a source.)

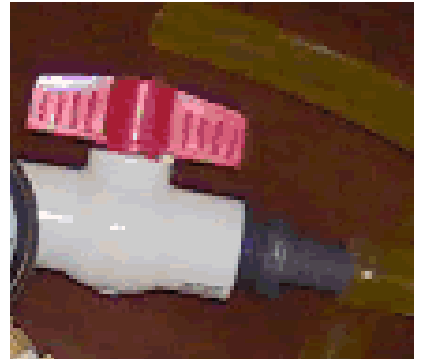
NOTICE

After the penetration fittings were fully installed, the vacuum on the sump was lost. Pressure/soap tests should have been conducted prior to filling the sumps with liquid.



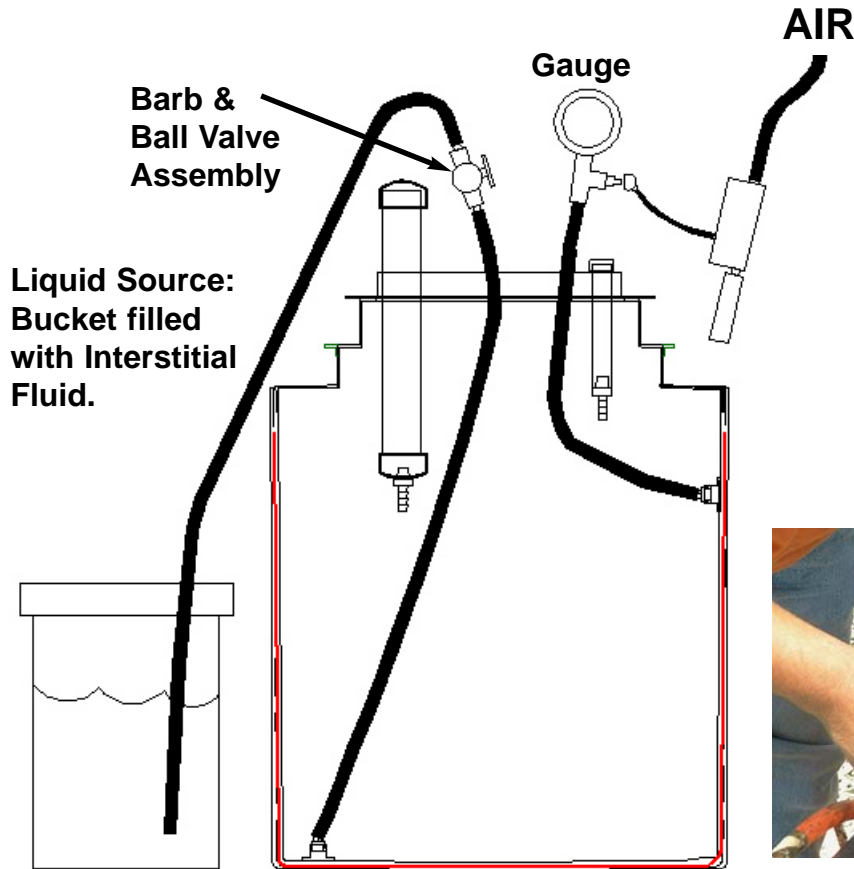
You must cut off the barbed plug and connect its line to the barb-and-ball-valve assembly. Close off the ball valve and get your Venturi Vacuum Generator and air supply ready.

D.3 - Close off ball valve completely and prime the open ended 36" length of clear tubing with provided Interstitial Fluid. A liquid funnel is recommended to achieve this. The goal is to not pull air into the interstice, only monitoring fluid.



WARNING

Filling Bravo Systems Double Wall Products with Brine (saline) solution will void the product warranty. You must use only Bravo-Supplied Interstitial Fluid.



D.4 - After filling the tubing all the way to the ball valve, insert open end into your fluid source. (5 gallon bucket filled with fluid is recommended.)

D.5 - When ready, pull vacuum using the Venturi Vacuum Assembly (sold separately) to 20 Inches of mercury. Then **SLOWLY** open ball valve and allow Interstitial fluid to flow freely into the system.

CRITICAL ...**SLOWLY** open ball valve...

D.6 - STOP PULLING VACUUM WHEN THE LIQUID IS 1-2 INCHES FROM THE TOP OF THE INTERSTITIAL SPACE / TEST PORT. This is easily visible when filling the DoubleWall sump.

E) ADVANCED LEAK DETECTION PROCEDURE

A Bravo Systems Exclusive detection method

E.1 - Clear debris from the top open area of the DoubleWall Product and ensure that the interior walls are clean of debris and visible.

E.2 - Apply Vacuum to the sealed interstitial space with the Venturi Vacuum Assembly, and generate 20"-30" of vacuum for a *MINIMUM* of Five [5] Minutes.

WARNING

**CHECK WITH YOUR EQUIPMENT MANUFACTURERS
INSTALLATION MANUALS FOR INSTALLATION
GUIDELINES AND/OR EQUIPMENT LIMITS REGARDING
VACUUM AND PRESSURE LEVELS.**

E.3 - As stated in your Instructions, the liquid level is deliberately not filled to the very top of the interstitial space. This pocket of air is necessary to visually check the topmost level of liquid all the way around the Sump for indication of a leak.

E.4 - Visually inspect the interior walls for signs of trailing (very small) bubbles floating to the top of the liquid level within the interstitial space.

NOTICE

These air bubbles are visible within the vertical and horizontal channels of the walls. For Tank Sumps look below the reducer.

NOTICE

On the top hat reducer of a Tank Sump, any bubbles will burp consistently.

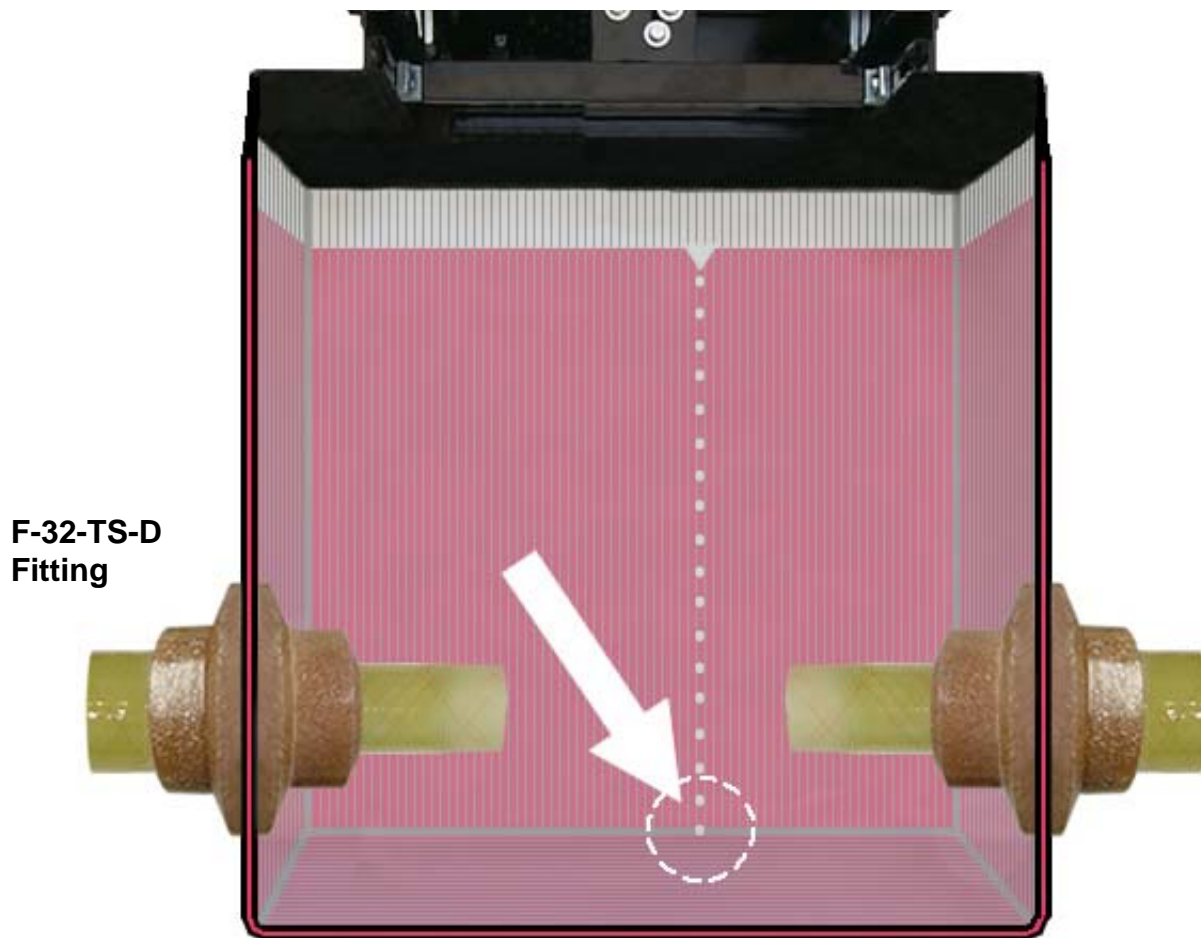
CRITICAL

**PAY CLOSE AND SPECIAL ATTENTION TO FIELD-INSTALLED
PENETRATION FITTINGS and FRP JOINTS ON TANK SUMPS.
THESE ARE COMMON LEAK POINTS.**

CAUTION

Even though Bravo DoubleWall product corners and edges are thicker than the rest of the Containment sump, These areas are most susceptible to physical damage by Installing Contractors. You would do well to be extremely careful with these DoubleWall products while storing, moving, transporting and Installing these critical environmental components.

ALDP IN ACTION DIAGRAM



Here a leak is visible while a strong vacuum is pulled on the Interstitial space, forcing tiny air bubbles into the interstitial space to travel upwards. These streams of bubbles are easily spotted and can be traced down to its leak point or area.

⚠ CRITICAL

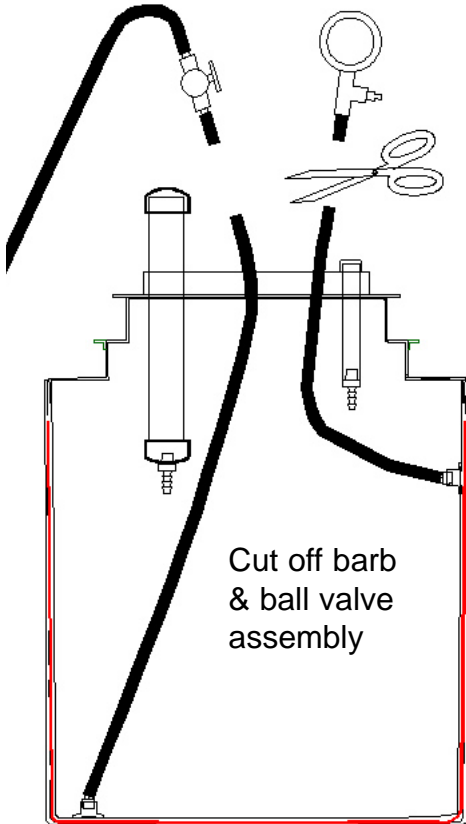
PAY CLOSE AND SPECIAL ATTENTION TO FIELD-INSTALLED PENETRATION FITTINGS and FIBERGLASS LAMINATION JOINTS. THESE ARE COMMON LEAK POINTS.

⚠ CAUTION

Even though Bravo DoubleWall product corners and edges are thicker than the rest of the Containment sump, These areas are most susceptible to physical damage by Installing Contractors. You would do well to be extremely careful with these DoubleWall products while storing, moving, transporting and Installing these critical environmental components.

F) ATTACHING THE MANOMETER

F.1 - At this point, after the ALDP test, the interstice should still be holding vacuum. Maintain 20" of Vacuum and **slowly** open ball valve to let fluid into the interstice until it exits the venturi assembly and the fluid level reaches the top of the interstitial space.



F.2 - Cut the barb & ball valve assembly free by cutting the tubing just below it and connect open end of tubing to the bottom of the primary Manometer (the larger one).

F.3 - Cut the combination Gauge assembly free by cutting the tubing just below it and connect open end of tubing to the bottom of the atmospheric manometer. Adjust both manometer brackets so they are in a position clear of obstructions.

F.4 - It is not uncommon for some interstitial fluid to be lost while connecting the tubing to the primary manometer. This is ok, it is not hazardous. Replace lost fluid by topping off manometer with interstitial fluid until the liquid level reaches just 2 inches below the top of manometer.

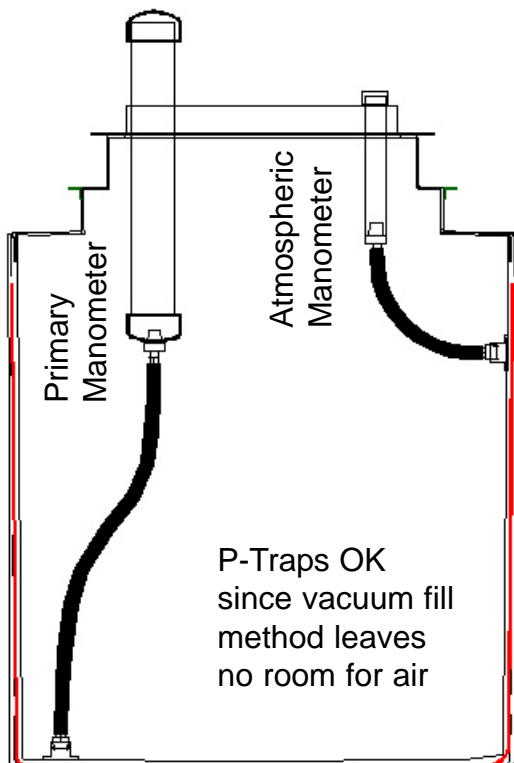
F.5 - Hydrostatic Field Integrity Test

Mark the date and time of test and manometer level. **Allow 1 hour to look for a change in level.** No change in level or visible leaking means box passes test.

F.6 - If interstitial test fluid changes its level more than 1/4", visually look for any signs of leaking around fittings both interior and exterior to sump. Pay special attention to field installed fittings.

NOTE: If you have completed the Air Integrity Test without problems, and completed the Vacuum Hydrostatic Method of filling and still have problems with sump integrity, Contact the Factory.

F.7 - If interstitial monitoring is required, install a California Listed Hydrostatic Sensor (LG-113) using the sensor manufacturer's fitting. Run sensor cable through the cap assembly. Level sensor should rest at the bottom of manometer. Follow your leak detector manufacturer's installation instructions. Cover the manometer with cap and fasten with wire and lead crimp seal.



G - Backfill and Concrete Guidelines

THE SUMP COVER IS NOT RATED FOR VEHICLE TRAFFIC !!

G.1 - Prepare site for concrete pouring. Backfill with peagravel around transition sump so that the concrete poured around the sump matches the dimensions shown for concrete thickness and area in **Fig. G.1**.

The concrete pad must be a minimum thickness of 6" from the grade line. Pad thickness is not to exceed 12" or within 6" of the highest point of the highest entry fitting. The sump should be raised 1" above grade and the concrete should slope away over a 10-12" distance. **Fig. G.1**.

▲ CRITICAL

BOLLARDS ARE MANDATORY if your transition sump is installed in an area with vehicle traffic.

DO NOT SET THIS SUMP ON TOP OF A RIGID MATERIAL SUCH AS WOOD OR CONCRETE. THE SUMP MAY ONLY BE PLACED ON PEAGRAVEL.

G.2 - The concrete form should wrap 360° around the transition sump a minimum of 12" away in each direction (**Fig. G.2**.) Ensure you are providing proper slope per directions in Step G1.

EXISTING SITES: When attempting to set your sump as close to a structural wall or other barrier as possible, the minimum requirement between a fiberglass wall and barrier is two (2") inches of pea-gravel. This rule applies to all vertical walls and the bottom of Bravo transition sumps. When there is concern of lateral load or possible crushing force from a wall, you can substitute the pea-gravel between the sump and the wall with sand or low-density styrofoam planks. When installed next to a load-bearing wall or structure, you should maintain a gap between the concrete encasing the Bravo Transition Sump and the wall. This gap should be sealed with backerrod and sikaflex or similar materials to keep the sump independent of the wall or other structural component.

