

California Environmental Protection Agency



ARB Approved

Installation, Operation and Maintenance Manual

**For the EBW Phase I Vapor Recovery System
As Certified by Executive Order VR-103-G**

NOTICE:

The **ARB Approved Installation, Operation and Maintenance Manual for the EBW Phase I EVR System** describes the tools and methods required to install the EBW Phase I EVR System. In addition to the requirements included in this manual, the contractor is responsible for providing the warranty tag, included with each component, to the service station owner/operator at the time of installation.

Unless specified otherwise, only technicians that are trained and certified by FFS (i.e. FFS Certified Technicians) are able to perform installation, maintenance or repairs of FFS, Phil-Tite, and EBW components or the warranty will be void. A list of FFS Certified Technicians can be viewed at

<http://techlab.franklinfueling.com/mod/resource/view.php?id=64>.

To schedule a training class, FFS can be contacted at the following:

John Covington or Steve Langlie
Enhanced Vapor Recovery Systems
Franklin Fueling Systems
Phone: 800-225-9787
Email: Covington@franklinfueling.com
langlie@franklinfueling.com

It is the responsibility of each FFS Certified Technician to be familiar with the current requirements of state, federal and local codes for installation and repair of gasoline dispensing equipment. It is also the responsibility of the FFS Certified Technician to be aware of all necessary safety precautions and site safety requirements to assure a safe and trouble free installation.

**Summary of Maintenance Activities Required of the
EBW Phase I Vapor Recovery System¹**

Component	Interval	Maintenance To Be Performed
Pressure/Vacuum Vent Valve Husky Model 5885	Annual	<ol style="list-style-type: none"> 1. Remove screws that hold top cover on. 2. Remove any debris that might be sitting inside the lower cover. 3. Check the drain holes in the lower cover for blockage. 4. Do not remove the two (2) screens. 5. Reinstall the top cover and retaining screws. 6. Tighten the screws firmly.
Pressure/Vacuum Vent Valve FFS Model PV-Zero	Annual	<ol style="list-style-type: none"> 1. Visual inspect housing, pipe, fittings and rain cap for obvious signs of damage, missing parts or fluid leaks. 2. Visually inspect the rain cap, from ground level, for signs of birds nests or insect activity. 3. Every year, drain and inspect the fill fluid per the Fluid Inspection Procedure.
Spill Container Drain Valve EBW "All Models with Drain Valves"	Annual	<ol style="list-style-type: none"> 1. Be sure that no standing liquid is in the container and dispose of properly. 2. Brush all buildup off brass drain valve screen. 3. Remove all dirt and foreign materials. 4. Scrape all foreign materials away from tank lid sealing surfaces. 5. Should it be necessary to replace drain valve due to breakage or considerable contamination build-up, use EBW 705-337-19 Replacement Drain Valves only. 6. Perform leak test using the established "Pressure Integrity Test" for a combination of Drop Tube, Drain Valve and Overfill Prevention Device, TP-201.1D. Use 90079 Drop Tube Isolation Test Kit.

Drop Tubes & Drop Tube Overfill Prevention Device EBW 782-204 EBW 708-45X-01	Annual	<ol style="list-style-type: none"> 1. Inspect inside of drop tube for the presence of a broken dip stick or noticeable damage to the valve flapper. If damage is observed, valve must be replaced. 2. If not already performed during drain valve testing, leak test Drop Tube assembly using established "Pressure Integrity Test" for Drop Tube/Overfill Prevention Device, TP-201.1C or TP-201.1D. <p>Note: EBW Kit #90079 Isolation Bladder Test Kit must be obtained to perform TP-201.1D. The standard inflatable Plumber's bladder can't be inserted into drop tube. Instructions are included with the 90079 kit.</p> <p>It is not required by EBW that the drop tube be pulled for inspection unless damage is noted. Should local authority require removal of the drop tube, the following seals and inspection steps are necessary;</p> <ol style="list-style-type: none"> a. Replace Drop Tube Isolation Gland (if applicable) seal Kit 90090 b. Replace Drop Tube Flange Gasket – 11182-01 c. Inspect Tank Bottom Protector for freedom of movement. Repair or replace if necessary. d. Inspect OPD components, use instructions on EBW form 6329.
Dust Caps EBW 777-201-01 (product) EBW 304-301-0X (vapor)	Annual	Inspect all product and vapor riser dust cap seals for damage. If damage is observed, replace seal. Aluminum Vapor Cap Seal – 304-101-01 Nylon Product Cap Seal – 777-111-01
Dust Caps "All Models"	Annual	Visually inspect the seal in cap and replace if damaged or missing.

¹ These maintenance requirements shall not circumvent use of the manufacturer's installation and maintenance instructions. Maintenance contractors or owner/operators shall refer to the manufacturer's complete installation and maintenance instructions found herein for the EBW Phase I Vapor Recovery System to ensure that all maintenance and torque requirements are met. Maintenance must be conducted within the interval specified from the date of installation and at least within the specified interval thereafter.

**Summary of Maintenance Activities Required of the
EBW Phase I Vapor Recovery System¹**

Component	Interval	Maintenance To Be Performed
<p>Vapor Recovery Adaptor Phil-Tite SWV-101-B</p> <p>Product Fill Adaptor Phil-Tite SWF-100-B</p>	<p>Annual</p>	<p>Perform established "Static Torque Test", TP-201.1B.</p> <p>The Phil-Tite rotatable adaptors are not field serviceable with the exception of the vapor poppet or vapor poppet seal found on the SWV-101-B.</p> <ol style="list-style-type: none"> 1. Depress the vapor poppet and release. Ensure that the poppet returns to the closed position. This will verify that the spring mechanism is working properly. 2. Test the poppet seal by applying a soap solution to the poppet while the underground storage tank is under a positive gauge pressure of at least 2.00 inches W.C. If the facility continuously operates under vacuum, a bag test may be used. Place a clear plastic bag over the adaptor and make sure it is sealed to the sides of the adaptor. 3. If no bubbles appear at the poppet area under positive pressure or the bag test shows no signs of the bag collapsing, no further maintenance is required. If bubbles appear around the poppet seal or the bag collapsed onto the adaptor, continue with steps 4 through 10 to repair the poppet seal. 4. Remove the SWV-101-B adaptor from the spill container riser using an installation tool (Tool Kit #T-7043-1). 5. Using a screwdriver, hook the snap ring on the inside of the adaptor and remove. 6. After removing the snap ring, remove the brass spider, spring and vapor poppet through the bottom of the adaptor. 7. With the vapor poppet removed inspect the poppet and poppet seal for cuts, tears or damage. Replace if necessary. 8. Reassemble the vapor poppet spring and brass spider in the reverse order from which they were removed. 9. Replace the snap ring and actuate the poppet by hand, making sure the assembly is secure and actuates properly. 10. Reinstall and properly torque the SWV-101-B using the provided installation and maintenance instructions. 11. Re-test the poppet seal as described in steps 2 and 3.

¹ These maintenance requirements shall not circumvent use of the manufacturer's installation and maintenance instructions. Maintenance contractors or owner/operators shall refer to the manufacturer's complete installation and maintenance instructions found herein for the EBW Phase I Vapor Recovery System to ensure that all maintenance and torque requirements are met. Maintenance must be conducted within the interval specified from the date of installation and at least within the specified interval thereafter.

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EBW Installation and Maintenance Manual

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Typical Installation (Vapor Side)		A-2
Spill Containers and Covers	EBW 7XX-49Y-0Z XX indicates spill bucket gallon size: 05 = 5 Gallon 15 = 15 Gallon 25 = 25 Gallon Y indicates level and base material: 0 = grade level with cast iron base 1 = grade level with composite base 2 = below grade level with cast iron base 3 = below grade level with composite base 4 = below grade level with cast iron base 15 gallon stainless container only 5 = below grade level with composite base 15 gallon stainless container only Z indicates lid type and drain valve: 1 = raintite lid, drain valve 2 = raintite lid, no drain valve 3 = watertite lid, drain valve 4 = watertite lid, no drain valve	B-1, B-2
Replacement Drain Valve Kit	EBW 705-337-19	C-1
Drain Valve Security Blank Kit	EBW 90089	C-2
Drain Valve Blank Test Kit	EBW 90022	C-3
Dust Caps	EBW 777-201-01 (product) EBW 304-301-0X (vapor) X indicates presence of safety chain: 1 = no chain 2 = with chain	D-1
Product Adaptor	Phil-Tite SWF-100-B	E-1
Vapor Adaptor	Phil-Tite SWV-101-B	E-1
Drop Tube	EBW 782-204 (various lengths)	F-1
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	EBW 90087 (product)	J-1
	EBW 90088 (vapor)	
Epoxy Sealant	EBW 11372-01	K-1
EBW Required Maintenance	EBW Form 6308	L-1
Pressure/Vacuum Vent Valve	FFS PV-Zero	M-1
Dust Caps	OPW 634LPC (product)	N-1
	OPW 1711LPC (vapor)	N-1
	CompX	
	CSP1-634LPC or CSP3-634LPC	O-1
	(product)	
	CompX	
	CSP2-1711LPC or CSP4-1711LPC	O-1
	(vapor)	

² If these components are installed or required by regulations of other agencies, only those components and model numbers specified above shall be installed or used.

Figure A-1

Typical Product Installation Using EBW System

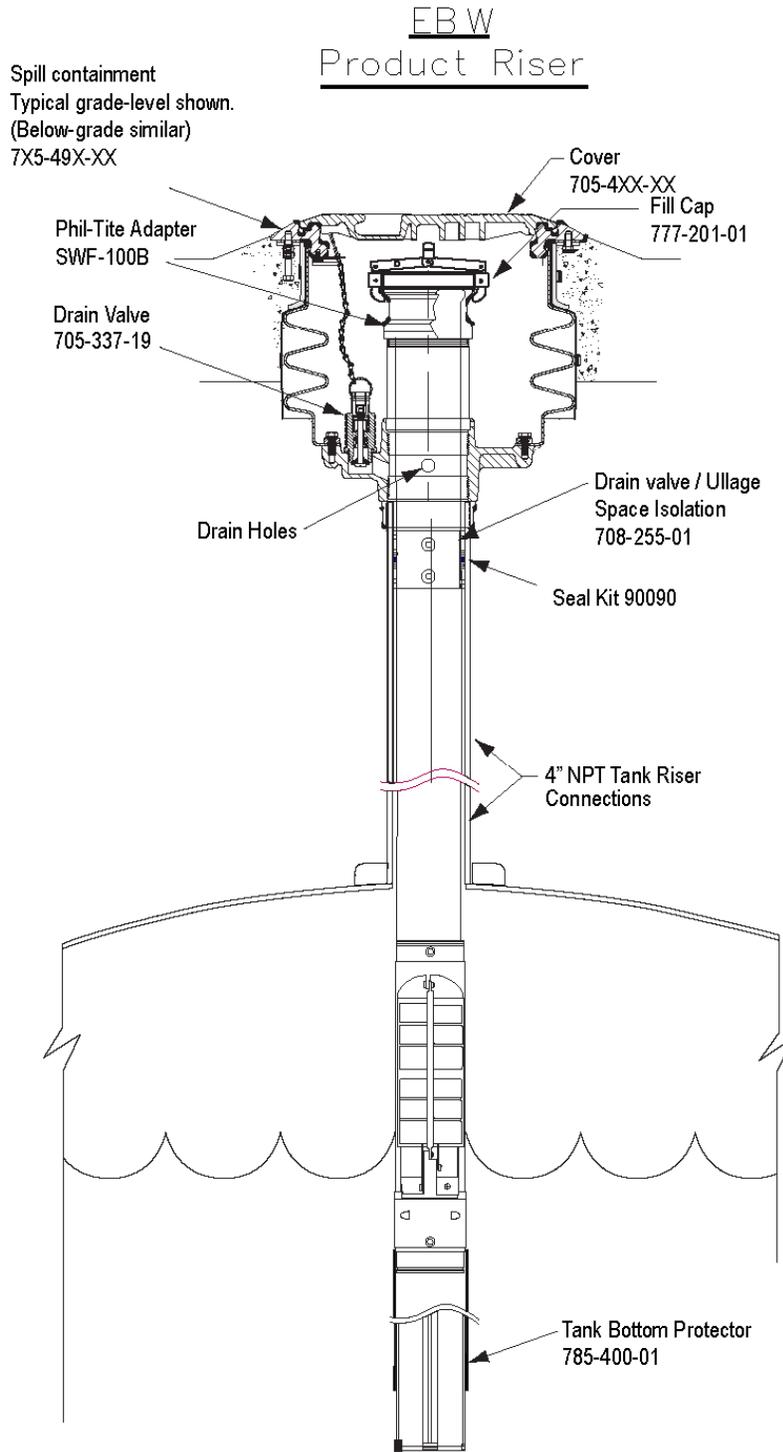


Figure A-2

**Typical Vapor Recovery Installation Using EBW System
(Extractors and ball floats are optional equipment)**

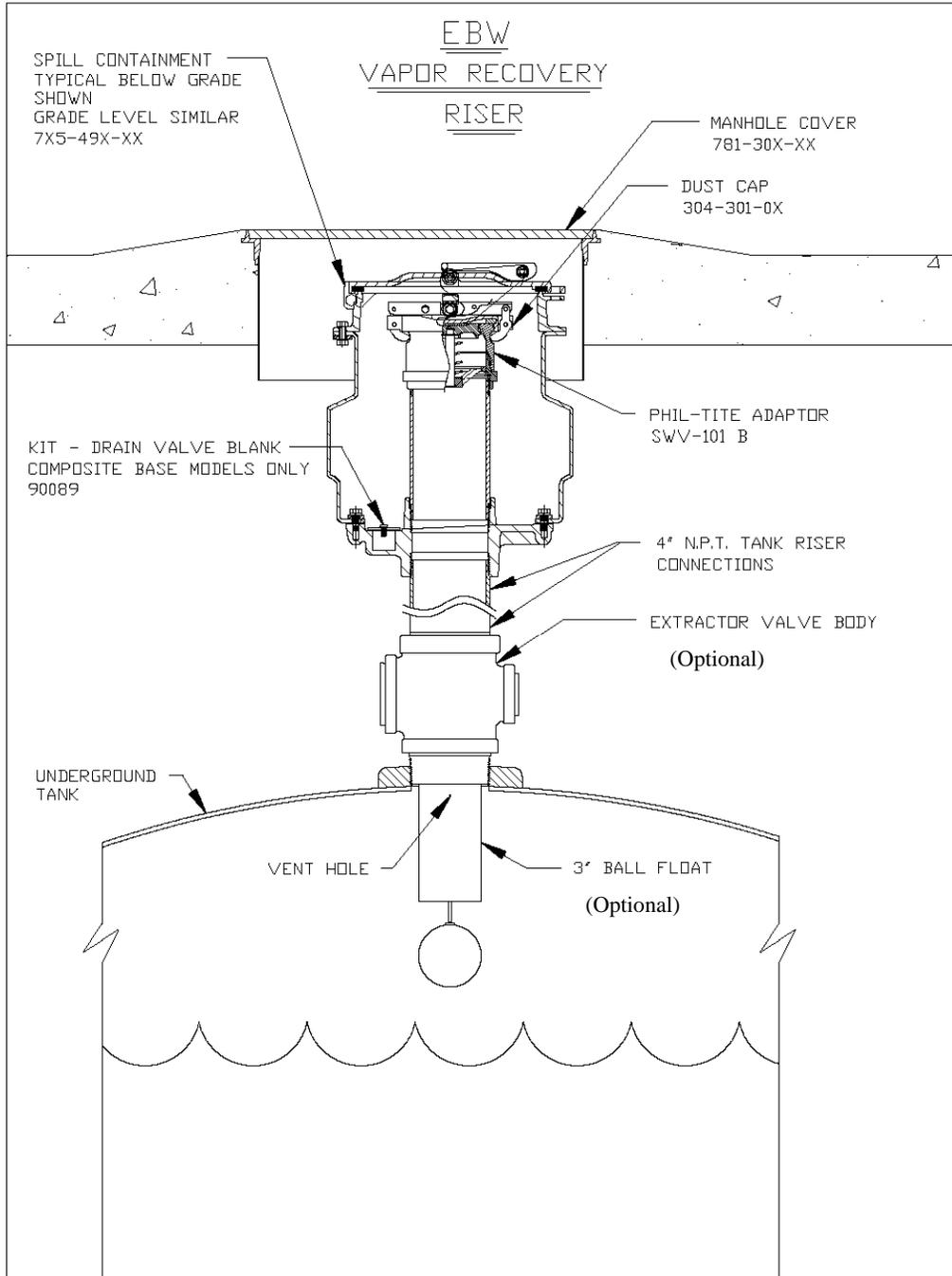
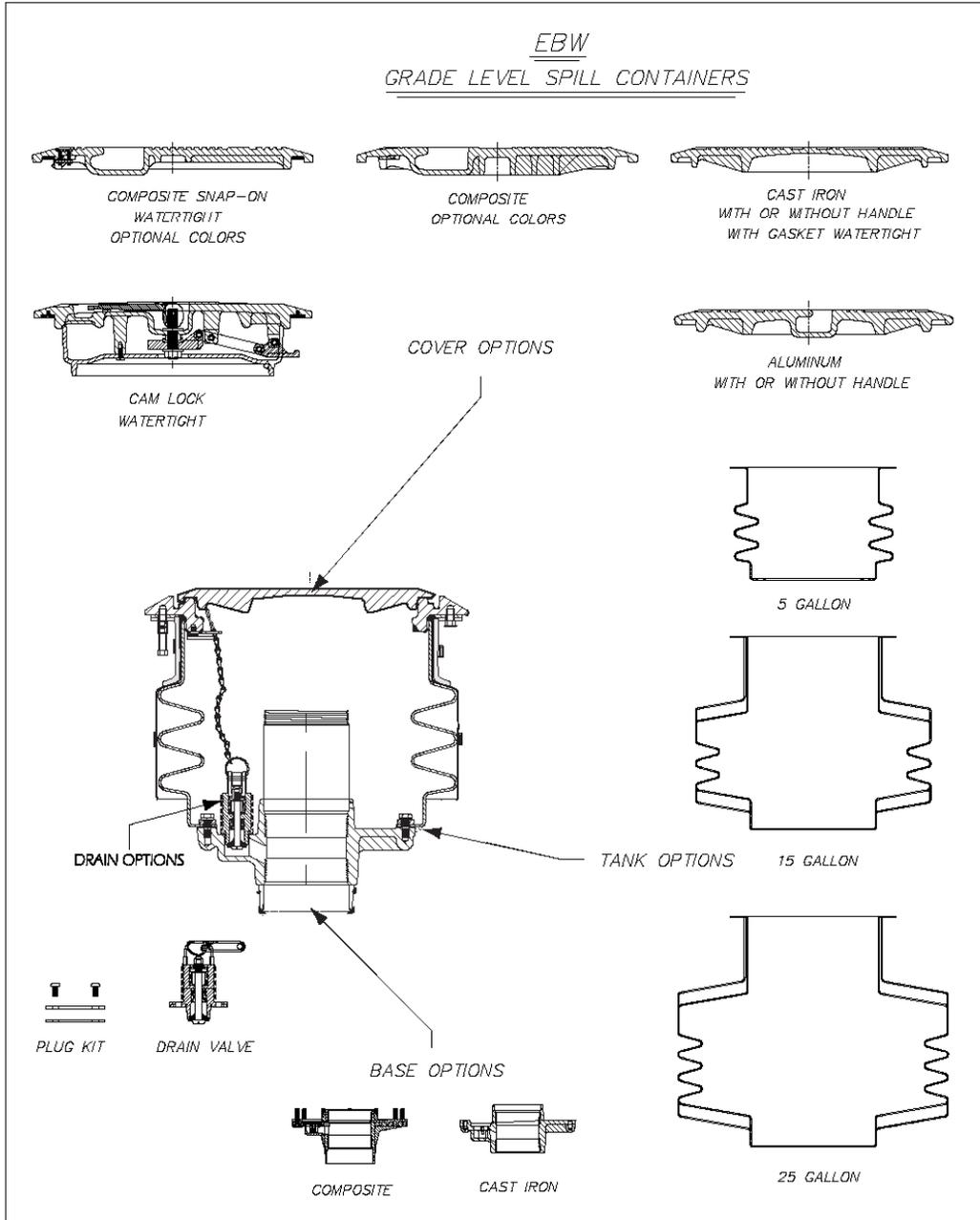


Figure B-1

Grade Level Spill Containers and Covers for EBW System



GRADELEVEL***Spill Containment Manholes***

Installation Instructions

705 - 5 GAL. / 715 - 15 GAL. / 725 - 25 GAL.

WARNING Application and use of this product should be in compliance of local, state, and federal regulations. Selection of this product should be based on physical specifications, limitations and compatibility with the environment and material to be handled. EBW makes no warranty of fitness for a particular use.



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Part No.	Size	Base	Covers	Drain	Replacement Drain valve kit	Fig
705-458-01	5 Gal.	CI	Raintight	No Drain	90022	A
705-470-01	5 Gal.	CI	Raintight	Pull to Push	705-332-19	A
705-470-21	5 Gal.	CI	Raintight	Pull to Push	705-332-19	A
705-471-01	5 Gal.	Comp	Raintight	Pull to Push	705-332-19	A
705-471-21	5 Gal.	Comp	Raintight	Pull to Push	705-332-19	A
705-472-01	5 Gal.	CI	Snap-on	Pull to Push	705-332-19	A
705-472-65	5 Gal.	CI	Snap-on	Pull to Push	705-332-19	A
705-473-01	5 Gal.	Comp	Snap-on	Pull to Push	705-332-19	A
705-473-65	5 Gal.	Comp	Snap-on	Pull to Push	705-332-19	A
705-478-EX	5 Gal.	Comp	Raintight	Pull to Push	705-337-01	A
715-470-01	15 Gal.	CI	Raintight	Pull to Push	705-332-19	B
715-471-01	15 Gal.	Comp	Raintight	Pull to Push	705-332-19	B
715-472-01	15 Gal.	CI	Snap-on	Pull to Push	705-332-19	B
715-472-65	15 Gal.	CI	Snap-on	Pull to Push	705-332-19	B
715-473-01	15 Gal.	Comp	Snap-on	Pull to Push	705-332-19	B
715-473-65	15 Gal.	Comp	Snap-on	Pull to Push	705-332-19	B
725-425-555	25 Gal.	CI	Raintight	Automatic	705-120-01	C
725-470-01	25 Gal.	CI	Raintight	Pull to Push	705-332-19	C
725-471-01	25 Gal.	Comp	Raintight	Pull to Push	705-332-19	C
725-472-01	25 Gal.	CI	Snap-on	Pull to Push	705-332-19	C
725-472-65	25 Gal.	CI	Snap-on	Pull to Push	705-332-19	C
725-473-01	25 Gal.	Comp	Snap-on	Pull to Push	705-332-19	C
725-473-65	25 Gal.	Comp	Snap-on	Pull to Push	705-332-19	C

ARB approved EVR components are listed on page 7.

The following items may be ordered separately:

Test Drain Kit (no drain) #90022 for models with pull to push drains and push drains.

Replacement Drain Valves for models with Pull Drains

705-336-01	(5 GAL.)	B.G. & G.L.
705-336-02	(15 GAL.)	B.G. & G.L.
705-336-03	(25 GAL.)	B.G.
705-336-04	(25 GAL.)	G.L.

Conversion Drain Valve Kit for Models with Push Drains Order Conversion Kit 705-332-99

715-472 Models:

The 715-472 (15 Gallon) spill containment has been assigned the certificate of approval number (5021) by the New York City Fire Department, and its installation and use is subject to the following conditions and pursuant to 27-4015 of the New York City Bureau of Fire Prevention Code.

1) The installation and use of these Below Grade Spill Containment Manholes (Fill Boxes) shall comply with all applicable requirements of New York Fire Prevention Code, Fire Prevention Rules Building Code, 40 CFR Part 280.20 and 280.30 pertinent to 27-4065-F of New York City Fire Prevention Code.

2) Prior to use, all installations shall be subject to inspection by the Bureau of Fire Prevention which may result in added requirements being imposed.

GRADE LEVEL SPILL CONTAINMENT MANHOLES

705, 715, 725-GL (5, 15, & 25 Gallon) **Flex** Catch™

INSTALLATION INSTRUCTIONS : PLEASE READ BEFORE INSTALLING

Before installing Flex Catch, coat all riser pipe threads with a thread sealant that is compatible with the product to be contained.

Install Flex Catch by threading onto tank riser pipe until hand-tight. Caution: Do not use upper cast iron ring to fully tighten Flex Catch. Tightening the tank using the upper cast iron ring can cause undue stress to the entire unit.

After hand tightening, place a torque wrench assembly around lower portion of tank base and torque spill bucket base on a riser pipe to 60-90 ft. lb. torque. (Use EBW 901-101-01 chain wrench and a torque wrench with at least 100 ft. lb. torque range. Due to off-set of chain and torque wrenches, actual torque wrench values will be 45 to 70 ft. lbs.) After initial torque value is obtained, continue to thread tank base onto riser pipe until drain valve is orientated to the riser low spot. (see note).

Note: All tank risers have some out of plumb characteristics due to slight tank tilts and rolls. To properly drain, the drain valve must be located at the low spot of the riser tilt. Riser low spot is the direction the riser pipe is leaning to. This is easily obtained by placing a small amount of water in the bucket base and turning bucket until water completely runs to the drain valve.

If space is limited (ie: Retrofit installation to a sawed out section of concrete) :

- 1) Make sure that the inside riser pipe is removed.
 - 2) Locate the fitting that the inside riser pipe threads into.
 - 3) Coming down through the top of the unit, use a special socket wrench on the octagonal surface of that fitting to finish tightening. Do not disassemble unit.
- Top edge of rim must be positioned a minimum of 2" above driveway level to provide an adequate slope for drainage.
 - To raise Flex Catch tank height and hold in place, use the 11-3/4" x 1-3/4" x 3/4" wood block that is shipped with each tank. Insert it underneath the cast lugs located inside the tank on the iron ring, and add shims between that and the adaptor for desired height. (SEE FIGURE "A" FOR 5 GALLON & FIGURE "B" FOR 15 & FIGURE "C" FOR 25 GALLON)
 - If Flex Catch needs to be lowered, then add weight to the top of the lid to hold down in place.

CAUTION: These adjustments will allow only up to 1-1/2" of movement up or down for final grade adjustment. If more adjustment is needed, then a shorter or longer riser pipe must be used between the underground storage tank and the base of the Flex Catch.

- Before pouring cement, place duct tape around the rim, this will keep the cement out of the drainage grooves when the lid is in place. See figure D. After cement has solidified, remove duct tape and any excess cement.

Note : TEST DRAIN KIT 90022-01 (to seal off drain).

CHECK FOR LEAKS

Every unit should be tested for leaks prior to, and after pouring the concrete. If this model comes with a drain, close it. If not, install 90022-01 test drain kit. Fill the unit completely with water. If the test water level drops at all within one hour, then a leak exists. Note: this is not an EVR test.

Check to see that the drain valve is seating properly. If not, **PULL** the drain valve several times on a **PULL TO PUSH DRAIN UNIT**. Replace the valve if it continues to leak.

If the unit continues to leak, the entire spill container should be removed from the riser pipe and replaced with another. RE-TEST.

After the concrete has been poured, RE-TEST to make sure that no damage occurred during installation.

Figure A

5 Gallon

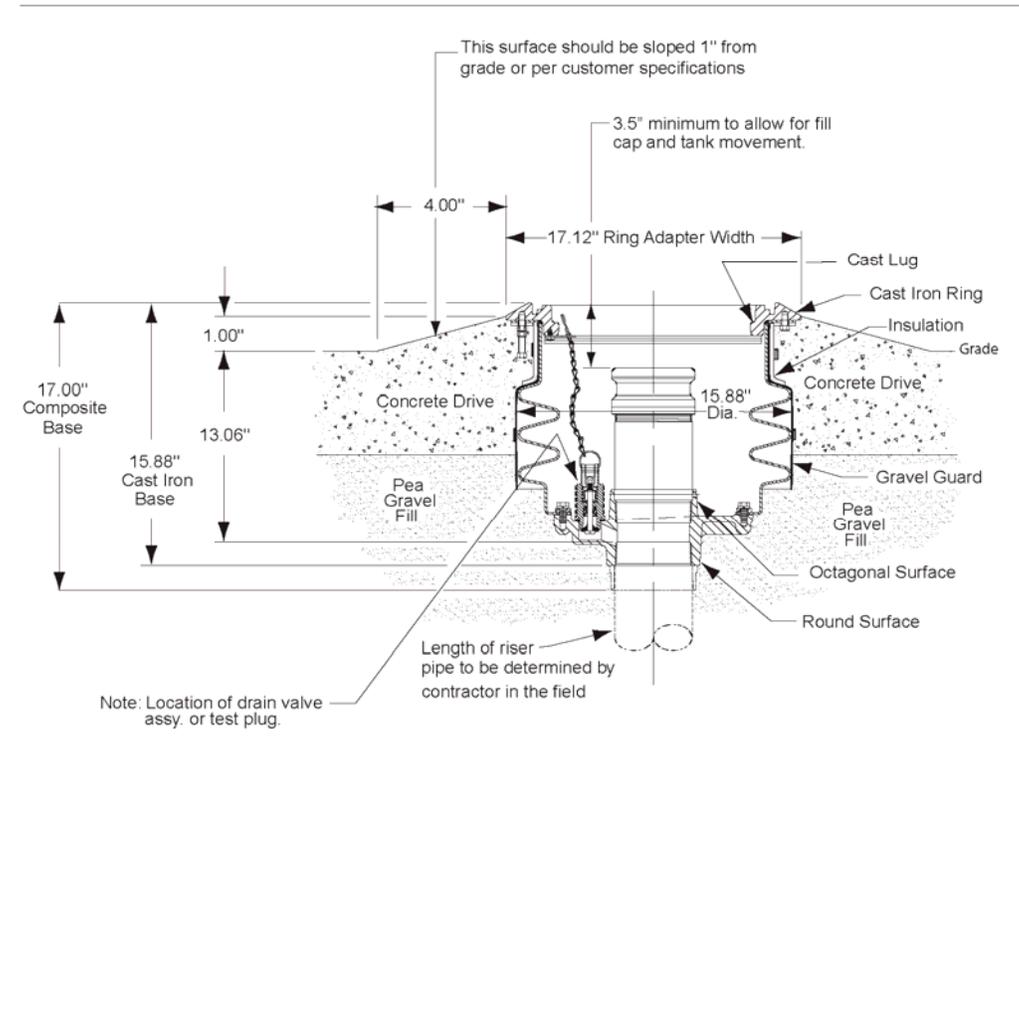
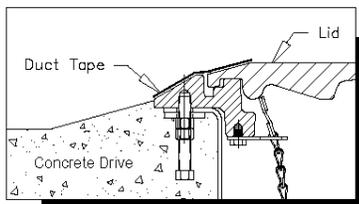


Figure D



RECOMMENDED INSIDE RISER PIPE LENGTHS FOR:

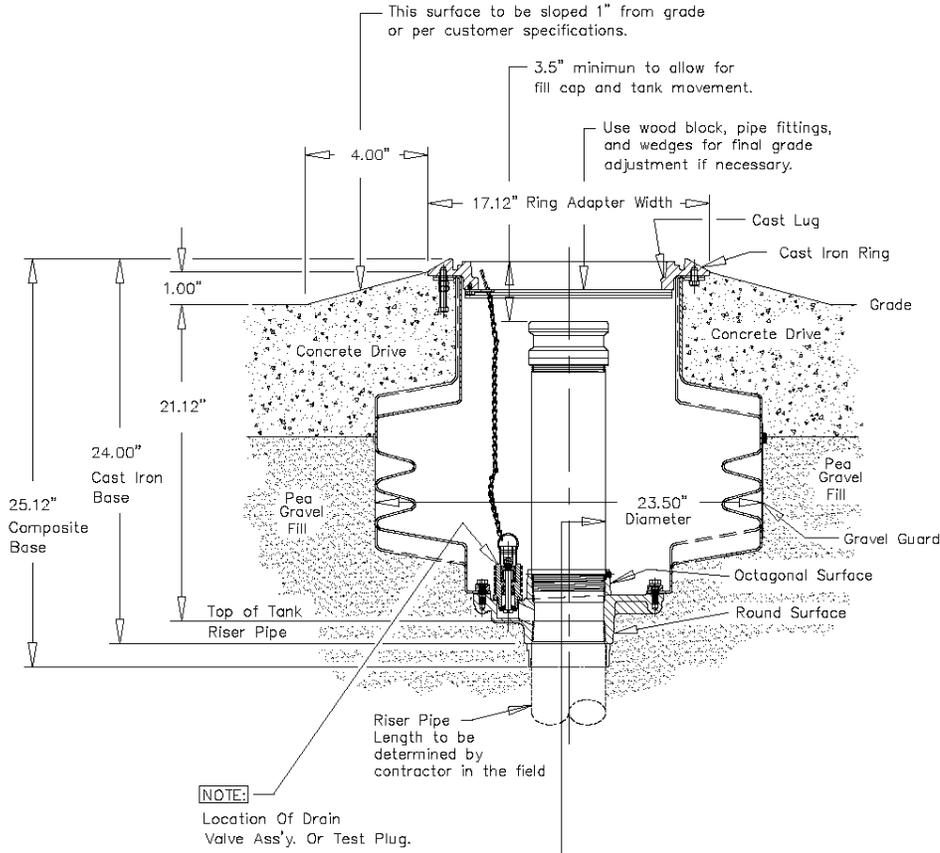
5 GALLON

- 5" – FOR CONVENTIONAL TOP AND SIDE SEAL ADAPTORS (EBW 776 & 778)
- 4" – FOR SWIVEL TYPE PRODUCT ADAPTORS AND CONVENTIONAL COAXIAL ADAPTORS (EBW 778 & 306)
- 3" – FOR SWIVEL TYPE POPPETED VAPOR ADAPTORS AND SELF-SEALING COAXIAL POPPETED ADAPTORS (EBW 300 & 306 CA)

The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.

Figure B

15 Gallon



RECOMMENDED INSIDE RISER PIPE LENGTHS FOR:

15 GALLON

12 1/4" – FOR CONVENTIONAL TOP AND SIDE SEAL ADAPTORS (EBW 776 & 778)

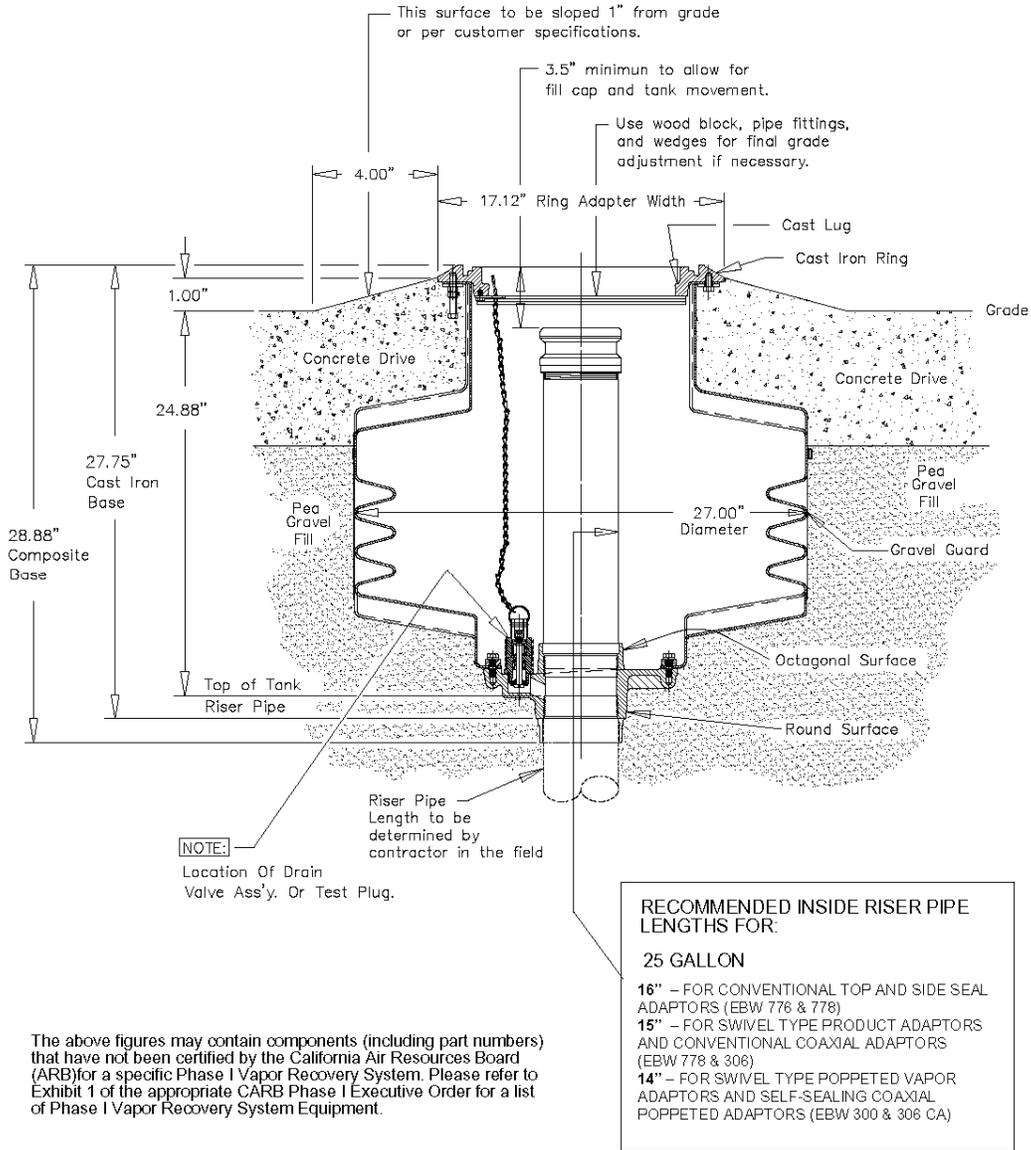
11 1/4" – FOR SWIVEL TYPE PRODUCT ADAPTORS AND CONVENTIONAL COAXIAL ADAPTORS (EBW 778 & 306)

10 1/4" – FOR SWIVEL TYPE POPPETED VAPOR ADAPTORS AND SELF-SEALING COAXIAL POPPETED ADAPTORS (EBW 300 & 306 CA)

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Figure C

25 Gallon



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C.A.R.B. Approved Grade Level Spill Containers

PART NO.	SIZE	BASE	COVERS	DRAIN	REPLACEMENT DRAIN VALVE	FIG.
705-490-01	5 GAL.	CI	RAINTIGHT	PULL TO PUSH	705-337-19	A
705-490-02	5 GAL.	CI	RAINTIGHT	NO DRAIN		A
705-490-03	5 GAL.	CI	WATERTIGHT	PULL TO PUSH	705-337-19	A
705-490-04	5 GAL.	CI	WATERTIGHT	NO DRAIN		A
705-491-01	5 GAL.	COMP.	RAINTIGHT	PULL TO PUSH	705-337-19	A
705-491-02	5 GAL.	COMP.	RAINTIGHT	NO DRAIN		A
705-491-03	5 GAL.	COMP.	WATERTIGHT	PULL TO PUSH	705-337-19	A
705-491-04	5 GAL.	COMP.	WATERTIGHT	NO DRAIN		A
715-490-01	15 GAL.	CI	RAINTIGHT	PULL TO PUSH	705-337-19	B
715-490-02	15 GAL.	CI	RAINTIGHT	NO DRAIN		B
715-490-03	15 GAL.	CI	WATERTIGHT	PULL TO PUSH	705-337-19	B
715-490-04	15 GAL.	CI	WATERTIGHT	NO DRAIN		B
715-491-01	15 GAL.	COMP.	RAINTIGHT	PULL TO PUSH	705-337-19	B
715-491-02	15 GAL.	COMP.	RAINTIGHT	NO DRAIN		B
715-491-03	15 GAL.	COMP.	WATERTIGHT	PULL TO PUSH	705-337-19	B
715-491-04	15 GAL.	COMP.	WATERTIGHT	NO DRAIN		B
725-490-01	25 GAL.	CI	RAINTIGHT	PULL TO PUSH	705-337-19	C
725-490-02	25 GAL.	CI	RAINTIGHT	NO DRAIN		C
725-490-03	25 GAL.	CI	WATERTIGHT	PULL TO PUSH	705-337-19	C
725-490-04	25 GAL.	CI	WATERTIGHT	NO DRAIN		C
725-491-01	25 GAL.	COMP.	RAINTIGHT	PULL TO PUSH	705-337-19	C
725-491-02	25 GAL.	COMP.	RAINTIGHT	NO DRAIN		C
725-491-03	25 GAL.	COMP.	WATERTIGHT	PULL TO PUSH	705-337-19	C
725-491-04	25 GAL.	COMP.	WATERTIGHT	NO DRAIN		C

Drain Valve Leak Rate < 0.17 CFH @ 2.00" w.c.

Recommended Maintenance & Inspection Procedures

At least once a month, the following maintenance and inspection actions are recommended.

1. Clean/remove any build-up of sand, gravel or dirt from the spill container top cast flange. Build-up of material will prevent the tank cover from setting flat and diverting rain water. In addition to water infiltration, this can lead to premature cover failures and tripping hazards.
2. Inspect spill container cover gasket & replace if necessary (if applicable)
3. Inspect spill container for presence of liquid. If present, identify material (water and/or fuel) & dispose of using your preferred acceptable method (pump out or drain into tank)
4. Inspect spill container and drain valve screen for any foreign material collecting in the tank bottom. Remove any large objects (leaves, rags, etc.) and wipe tank bottom with a disposable rag.
5. Inspect tank riser adapter & dust cap for obvious damage. Verify that gasket is in dust cap and that the dust cap still securely latches onto the adapter.

Post Installation Inspection Procedure

After installing these spill containers and prior to back filling the excavation, it is recommended that the tank system be checked for potential leaks. In CA, utilize TP-201.3, Static Pressure Test Procedure. In other areas, utilize this or a locally approved/accepted pressure test procedure. Should a leak be present, tank & spill container piping joints, drain valve poppet & gasket, permanent drain blank plate gasket and adapter piping joint can be tested with an acceptable leak check fluid. **REPAIR ALL LEAKS PRIOR TO BACKFILLING**

Installation Instructions for Composite Base Spill Containment

Before installing Spill Containment Manholes, apply Teflon® thread sealant tape clockwise around the riser pipe threads.

Align the composite Base on the riser pipe. (FIGURE A)

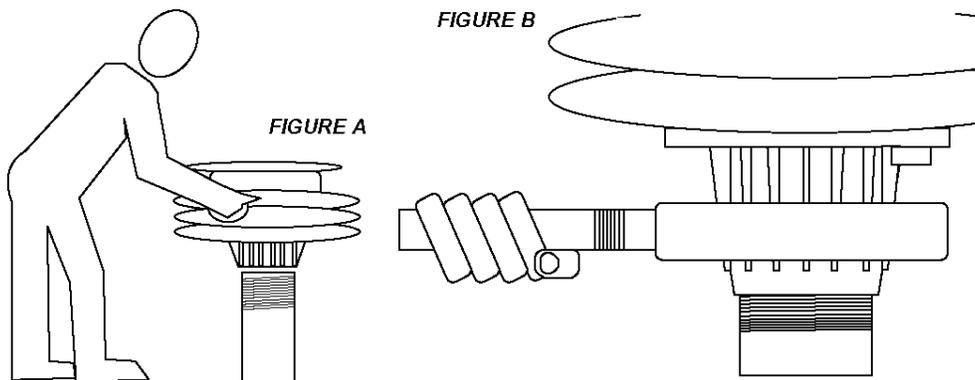
Rotate the spill containment counter clockwise until the threads mesh (you can feel the unit drop into place), then rotate clockwise until it is hand tight.

CAUTION:

Do not use upper cast iron ring to fully tighten spill containment. Tightening the tank using the upper cast iron ring can cause undue stress to the entire unit.

To finish tightening, refer to page 3 for torque specifications. (FIGURE B)

Continue with the standard Instructions for setting top rim to driveway grade level.



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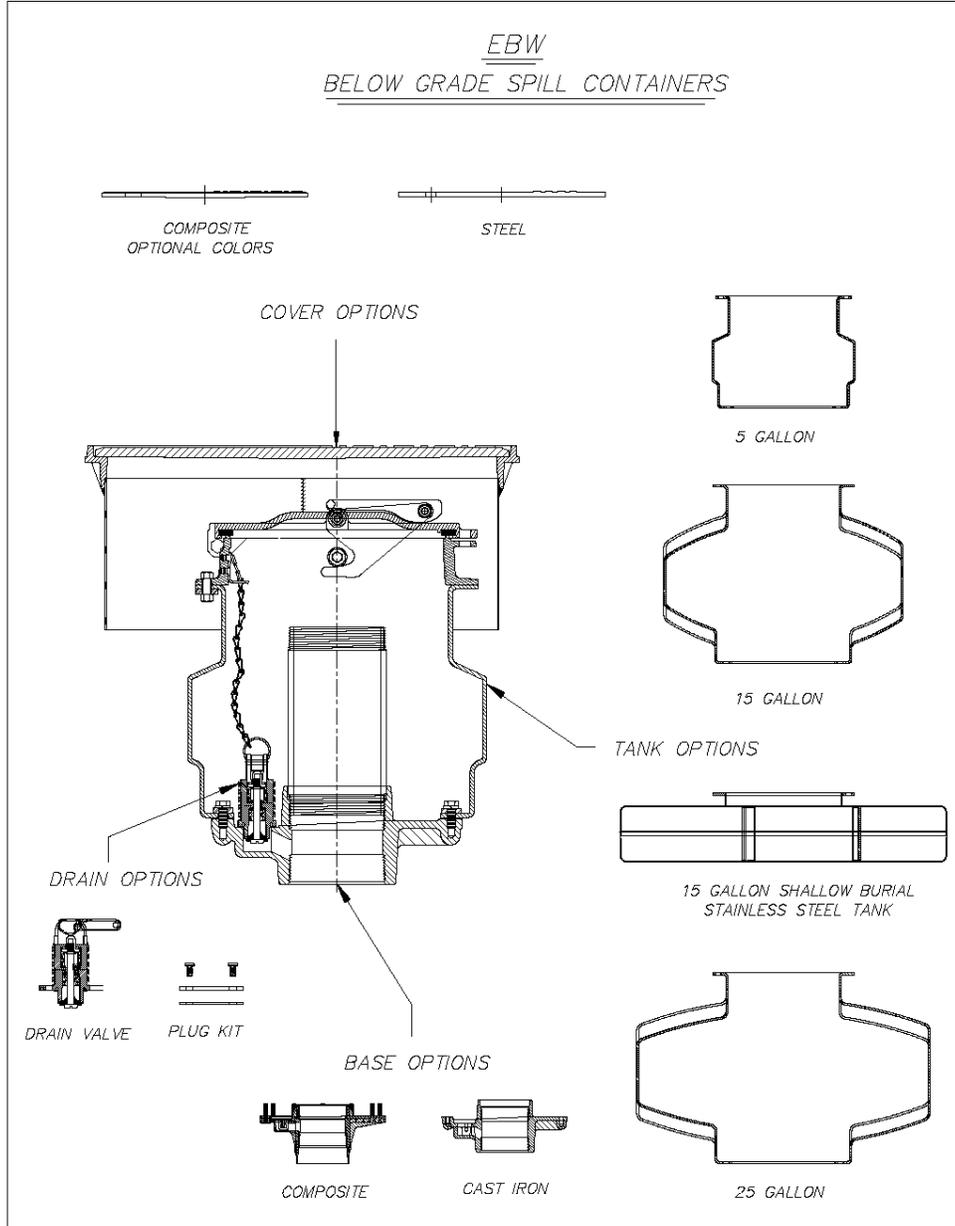


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Figure B-2

Below Grade Spill Containment for EBW System



BELOW GRADE

Spill Containment Manholes



Installation Instructions

5, 15, and 25 Gallon Models

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Part No.	Size	Base	Drain	Replacement Drain valve kit	Fig
705-445-01	5 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-02	A
705-445-65	5 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-02	A
705-450-01	5 Gal.	Cast Iron	Auto-Drain	705-120-01	A
705-455-01	5 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-02	A
705-457-01	5 Gal.	Cast Iron	Auto-Drain	705-120-01	A
705-474-01	5 Gal.	Cast Iron	Pull to Push	705-332-19	A
705-474-65	5 Gal.	Cast Iron	Pull to Push	705-332-19	A
705-475-01	5 Gal.	Composite	Pull to Push	705-332-19	A
705-475-65	5 Gal.	Composite	Pull to Push	705-332-19	A
705-438-06	15 Gal.	Cast Iron	Auto-Drain	705-120-01	C
715-446-01	15 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-01	C
715-446-65	15 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-01	C
715-456-01	15 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-01	C
715-474-01	15 Gal.	Cast Iron	Pull to Push	705-332-19	C
715-474-65	15 Gal.	Cast Iron	Pull to Push	705-332-19	C
715-475-01	15 Gal.	Composite	Pull to Push	705-332-19	C
715-475-65	15 Gal.	Composite	Pull to Push	705-332-19	C
725-447-01	25 Gal.	Cast Iron	Cover Actuated Push Drain	705-225-03	E
725-474-01	25 Gal.	Cast Iron	Pull to Push	705-332-19	E
725-474-65	25 Gal.	Cast Iron	Pull to Push	705-332-19	E
725-475-01	25 Gal.	Composite	Pull to Push	705-332-19	E
725-475-65	25 Gal.	Composite	Pull to Push	705-332-19	E

ARB approved EVR components are listed on page 7.

The following items may be ordered separately:

Test Drain Kit (no drain) #90022 for models with pull to push drains and push drains.

REPLACEMENT DRAIN VALVES FOR MODELS WITH PULL DRAINS

705-336-01	(5 GAL.)	B.G. & G.L.
705-336-02	(15 GAL.)	B.G. & G.L.
705-336-03	(25 GAL.)	B.G.
705-336-04	(25 GAL.)	G.L.

Conversion Drain Valve Kit for Models with Push Drains Order Conversion Kit 705-332-99

Notice For New York City Approval

715-474 Models:

The 715-474 (15 Gallon) spill containment has been assigned the certificate of approval number (5021) by the New York City Fire Department, and its installation and use is subject to the following conditions and pursuant to 27-4015 of the New York City Bureau of Fire Prevention Code.

1) The installation and use of these Below Grade Spill Containment Manholes (Fill Boxes) shall comply with all applicable requirements of New York Fire Prevention Code, Fire Prevention Rules Building Code, 40 CFR Part 280.20 and 280.30 pertinent to 27-4065-F of New York City Fire Prevention Code.

2) Prior to use, all installations shall be subject to inspection by the Bureau of Fire Prevention which may result in added requirements being imposed.

BELOW GRADE SPILL CONTAINMENT MANHOLES

705, 715, 725 -BG (5,15, & 25 Gallon) *Flex-Catch™* Spill Containment Manholes

INSTALLATION INSTRUCTIONS

PLEASE READ BEFORE INSTALLING

Before installing Flex Catch, coat all riser pipe threads with a thread sealant that is compatible with the product to be contained.

Install Flex Catch by threading onto tank riser pipe until hand-tight.

Caution: Do not use upper cast iron ring to fully tighten Flex Catch. Tightening the tank using the upper cast iron ring can cause undue stress to the entire unit.

After hand tightening, place a torque wrench assembly around lower portion of tank base and torque spill bucket base on riser pipe to 60 - 90 ft. lb. torque. (Use EBW 901-101-01 chain wrench and a torque wrench with at least a 100 ft. lb. torque range. Due to off-set of chain and torque wrenches, actual torque values will be 45 to 70 ft. lbs.) After initial torque is obtained, continue to thread tank base onto riser pipe until drain is orientated to the riser low spot (see note).

NOTE: All tank risers have some out of plumb characteristics due to slight tank tilts and rolls. To properly drain, the drain valve must be located at the low spot of the riser tilt. Riser low spot is the direction the riser pipe is leaning to. This is easily obtained by placing a small amount of water in the bucket base and turning bucket until water completely runs to the drain valve.

If space is limited (ie: Retrofit installation to a sawed out section of concrete) :

- 1) Make sure that the inside riser pipe is removed.
- 2) Locate the fitting that the inside riser pipe threads into.
- 3) Coming down through the top of the unit, use a special socket wrench on the octagonal surface of that fitting to finish tightening. Do not disassemble unit.

Styrofoam Locator (705-417) See figure B

NOTE: Use for installation. **DO NOT DISCARD!**

After Installation is complete, **Remove locator from Manhole.**

CHECK FOR LEAKS

Every unit should be tested for leaks prior to, and after pouring the concrete. If this model comes with a drain, close it. Fill the unit completely with water, if the test water level drops at all within one hour, then a leak exists. Note: this is not an EVR test.

Check to see that the drain valve is seating properly. If not, then **PULL** the drain valve several times **ON A PULL DRAIN OR PULL TO PUSH DRAIN UNIT**. Replace the valve if it continues to leak.

If the unit continues to leak, the entire spill container must be removed from the riser pipe and replaced with another. **RE-TEST**.

After back filling with pea gravel and pouring concrete, **RE-TEST** to make sure that no damage occurred during installation.

Figure A

5 Gallon

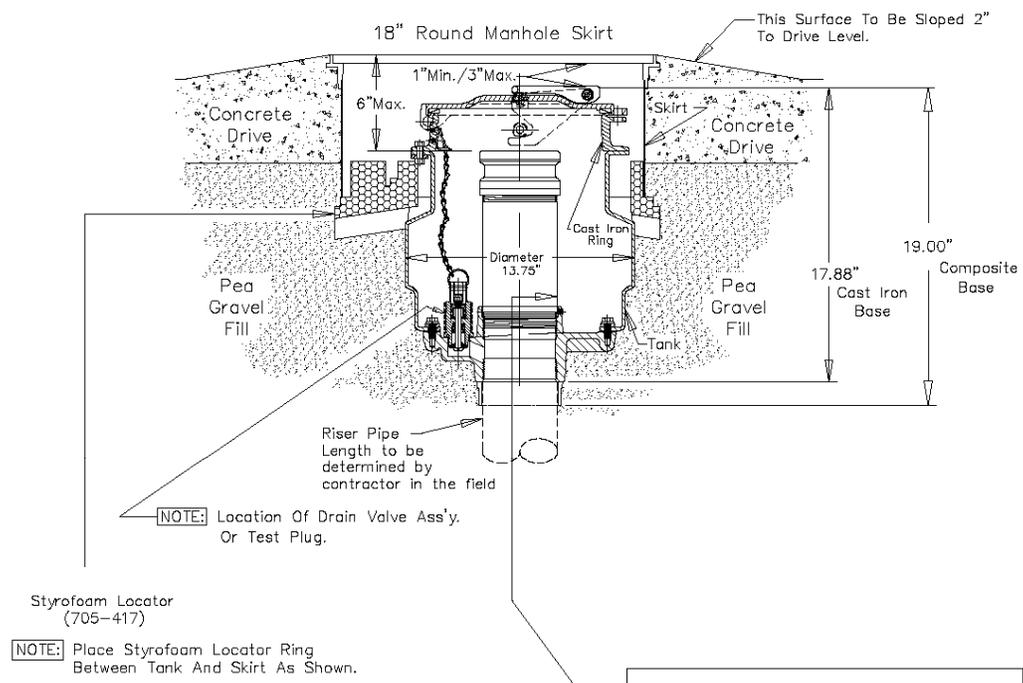
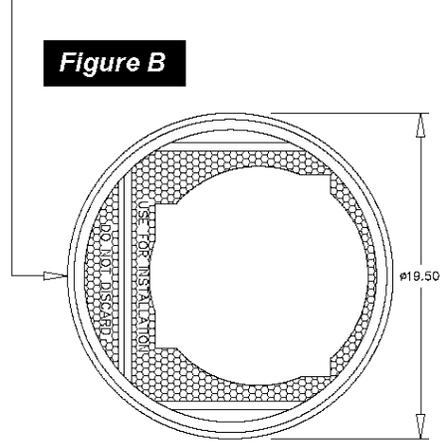


Figure B



RECOMMENDED INSIDE RISER PIPE LENGTHS FOR:

5 GALLON

8 3/4" – FOR CONVENTIONAL TOP AND SIDE SEAL ADAPTORS (EBW 776 & 778)

7 3/4" – FOR SWIVEL TYPE PRODUCT ADAPTORS AND CONVENTIONAL COAXIAL ADAPTORS (EBW 778 & 306)

6 3/4" – FOR SWIVEL TYPE POPPETED VAPOR ADAPTORS AND SELF-SEALING COAXIAL POPPETED ADAPTORS (EBW 300 & 306 CA)

The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.

Figure C

15 Gallon

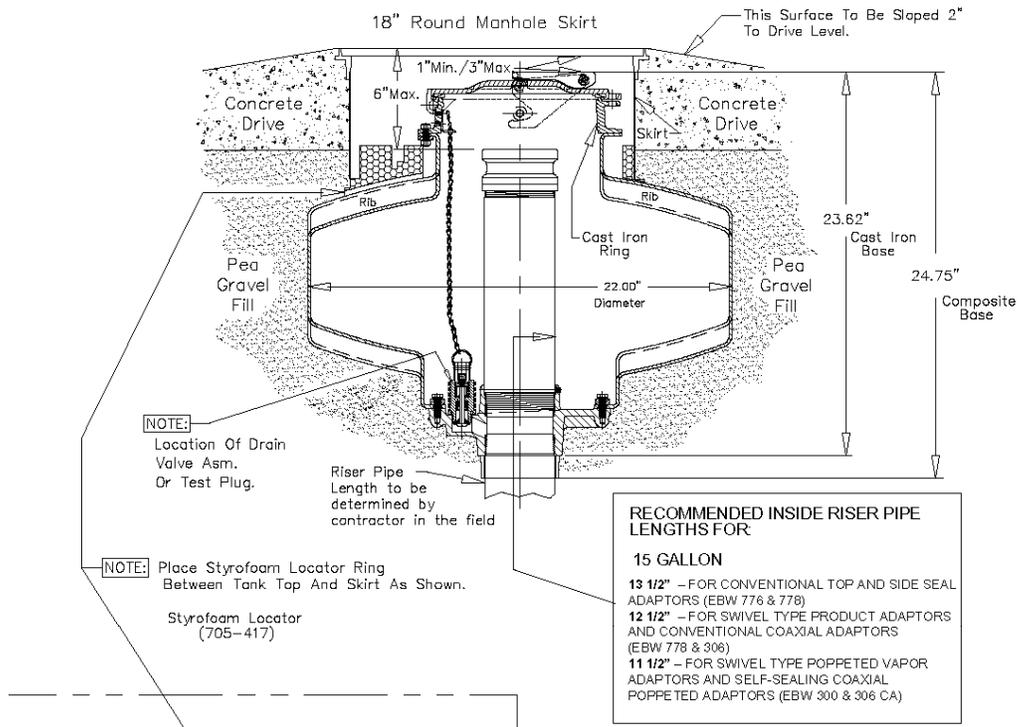
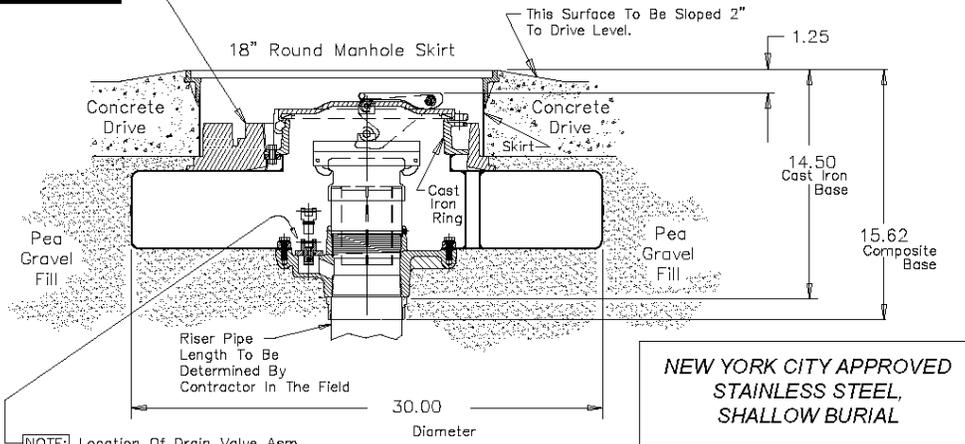


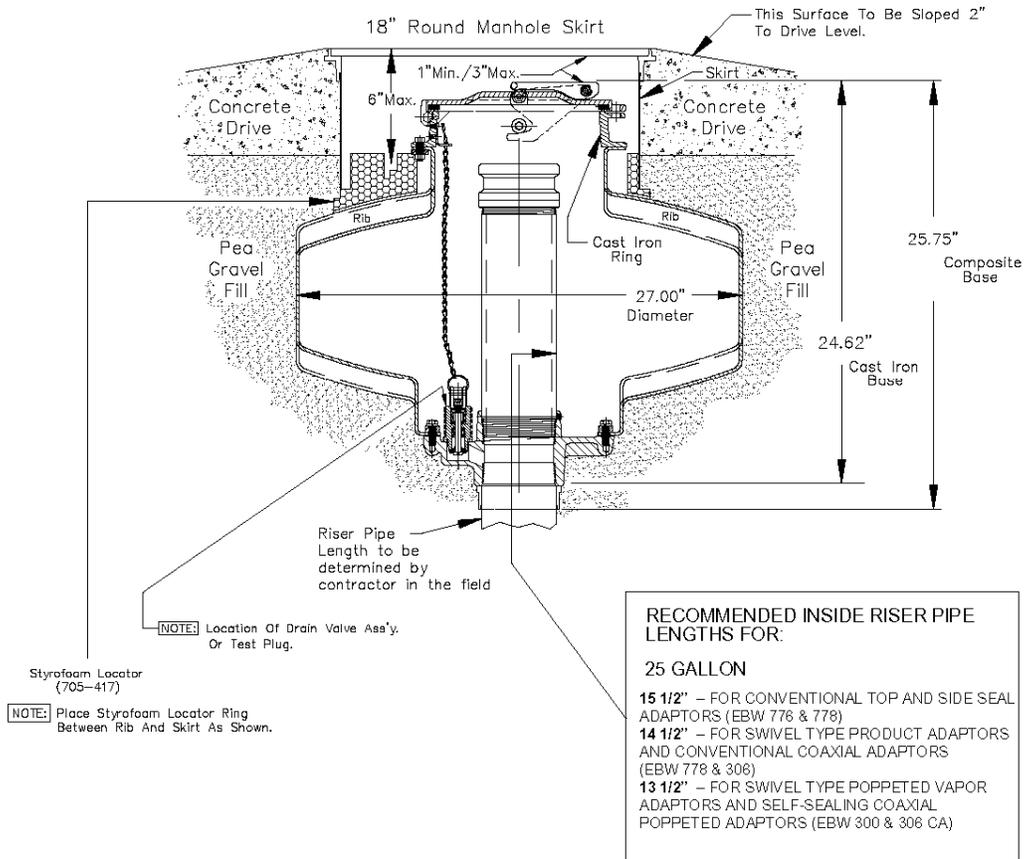
Figure D



The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.

Figure E

25 Gallon



The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.

C.A.R.B. Approved Below Grade Spill Containers

PART NO.	SIZE	BASE	DRAIN	REPLACEMENT DRAIN VALVE	FIG.
705-492-01	5 GAL.	CAST IRON	PULL TO PUSH	705-337-19	A
705-492-02	5 GAL.	CAST IRON	NO DRAIN		A
705-493-01	5 GAL.	COMPOSITE	PULL TO PUSH	705-337-19	A
705-493-02	5 GAL.	COMPOSITE	NO DRAIN		A
715-492-01	15 GAL.	CAST IRON	PULL TO PUSH	705-337-19	C
715-492-02	15 GAL.	CAST IRON	NO DRAIN		C
715-493-01	15 GAL.	COMPOSITE	PULL TO PUSH	705-337-19	C
715-493-02	15 GAL.	COMPOSITE	NO DRAIN		C
715-494-01	15 GAL.	CAST IRON	PULL TO PUSH	705-337-19	C
715-494-02	15 GAL.	CAST IRON	NO DRAIN		C
715-495-01	15 GAL.	COMPOSITE	PULL TO PUSH	705-337-19	C
715-495-02	15 GAL.	COMPOSITE	NO DRAIN		C
725-492-01	25 GAL.	CAST IRON	PULL TO PUSH	705-337-19	E
725-492-02	25 GAL.	CAST IRON	NO DRAIN		E
725-493-01	25 GAL.	COMPOSITE	PULL TO PUSH	705-337-19	E
725-493-02	25 GAL.	COMPOSITE	NO DRAIN		E

Drain Valve Leak Rate < 0.17 CFH @ 2.00" w.c.

Recommended Maintenance & Inspection Procedures

At least once a month, the following maintenance and inspection actions are recommended.

1. Clean/remove any build-up of sand, gravel or dirt from the manhole top cast flange. Build-up of material will prevent the manhole lid from setting flat and diverting rain water. In addition to water infiltration, this can lead to premature lid failures and tripping hazards.
2. Inspect spill container latching mechanism for proper operation
3. Inspect hinged cover gasket & replace if necessary
4. Inspect spill container for presence of liquid. If present, identify material (water and/or fuel) & dispose of using your preferred acceptable method (pump out or drain into tank)
5. Inspect spill container and drain valve screen for any foreign material collecting in the tank bottom. Remove any large objects (leaves, rags, etc.) and wipe tank bottom with a disposable rag.
6. Inspect tank riser adapter & dust cap for obvious damage. Verify that gasket is in dust cap and that the dust cap still securely latches onto the adapter.

Post Installation Inspection Procedure

After installing these spill containers and prior to back filling the excavation, it is recommended that the tank system be checked for potential leaks. In CA, utilize TP-201.3, Static Pressure Test Procedure. In other areas, utilize this or a locally approved/accepted pressure test procedure. Should a leak be present, tank & spill container piping joints, drain valve poppet & gasket, permanent drain blank plate gasket and adapter piping joint can be tested with an acceptable leak check fluid. REPAIR ALL LEAKS PRIOR TO BACKFILLING

Installation Instructions for Composite Base Spill Containment

Before installing Spill Containment Manholes, apply Teflon® thread sealant tape clockwise around the riser pipe threads.

Align the composite Base on the riser pipe. (FIGURE A)

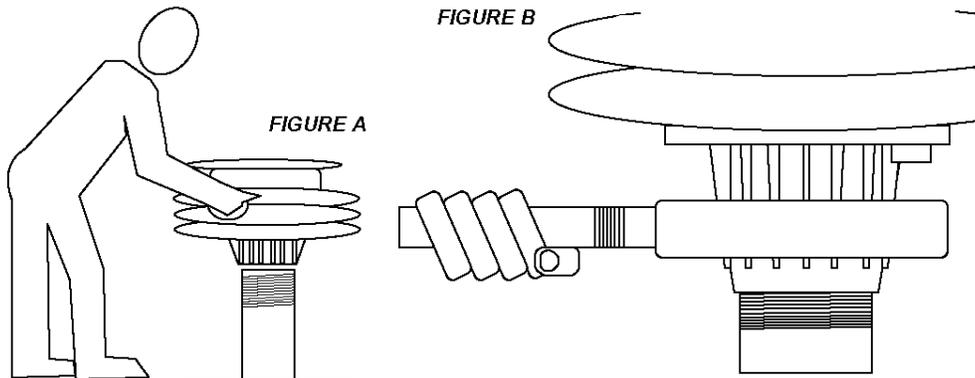
Rotate the spill containment counter clockwise until the threads mesh (you can feel the unit drop into place), then rotate clockwise until it is hand tight.

CAUTION:

Do not use upper cast iron ring to fully tighten spill containment. Tightening the tank using the upper cast iron ring can cause undue stress to the entire unit.

To finish tightening, refer to page 3 for torque specifications. (FIGURE B)

Continue with the standard Instructions for setting top rim to driveway grade level.



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Figure C-1

Replacement Drain Valve Kit

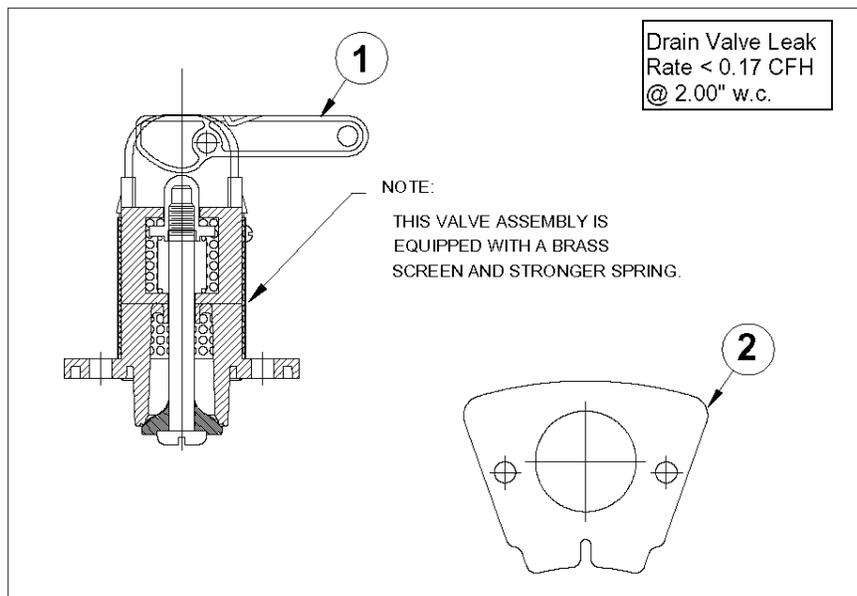
INSTALLATION INSTRUCTIONS

705-337-19 Kit Valve Replacement

NEW PULL TO PUSH DRAIN ASSEMBLY (VAPOR TIGHT STYLE)

This Kit Is For **New Vapor Tight Drains** Manufactured After March 1, 2001
For C.A.R.B. Approved Spill Containers- All Models with Drain Valves

1. REMOVE EXISTING VALVE ASSEMBLY AND GASKET.
2. REPLACE WITH NEW DRAIN ASSEMBLY (ITEM 1).
3. USE THE NEW GASKET (ITEM 2) PROVIDED IN THIS KIT.



Torque 1/4" x 20 screws to 50 - 75 in. lb. torque. Use a suitable torque wrench and a 5/32" hex driver.



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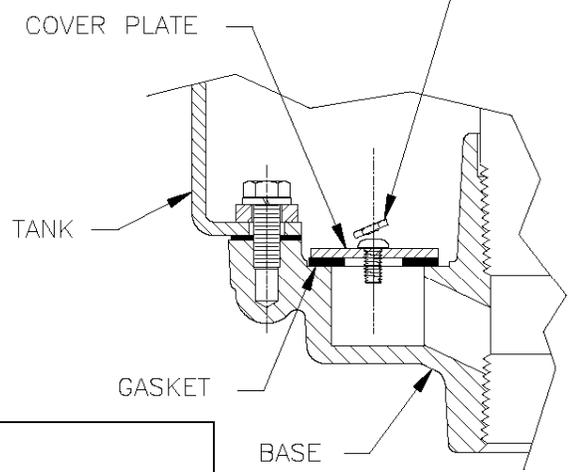
Figure C-2

Drain Valve Security Blank Kit

90089 Permanent Drain Blank Kit (C.A.R.B. Version)

NEW TANK ASSEMBLIES
705, 715, & 725 MODELS

11558-01 SCREW 1/4-20 x .50
TAMPER PROOF
NOTE: TORQUE SCREWS UNTIL
HEX DRIVE BREAKS OFF.



NOTE:
COVER PLATE IS MOUNTED
IN RECESS DIRECTLY TO BASE.



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Figure C-3

Drain Valve Blank Test Kit

90022 Blank and Test Drain Kit

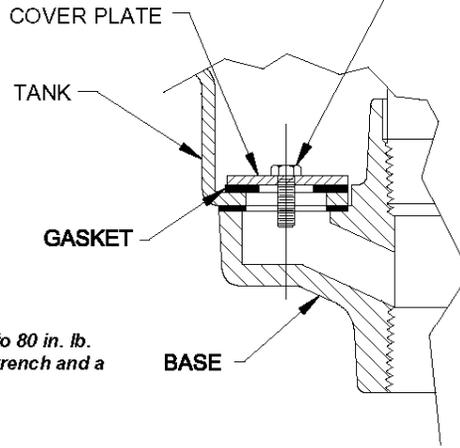
OLD STYLE TANK ASSEMBLIES

705, 715, & 725 MODELS

11176-12 SCREW 1/4-20 x .75 HEX HD.

NOTE:
TANK IS TRAPPED
BETWEEN COVER
PLATE AND BASE.

Torque Hex Head screws to 60 to 80 in. lb. torque. Use a suitable torque wrench and a 7/16" hex socket.

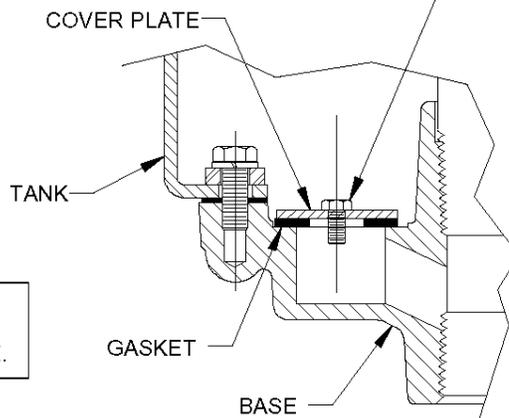


REDESIGNED TANK ASSEMBLIES

705, 715, & 725 MODELS

11176-06 SCREW 1/4-20 x .50 HEX HD.

NOTE:
COVER PLATE IS MOUNTED
IN RECESS DIRECTLY TO BASE.



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Figure D-1
Product and Vapor Dust Caps

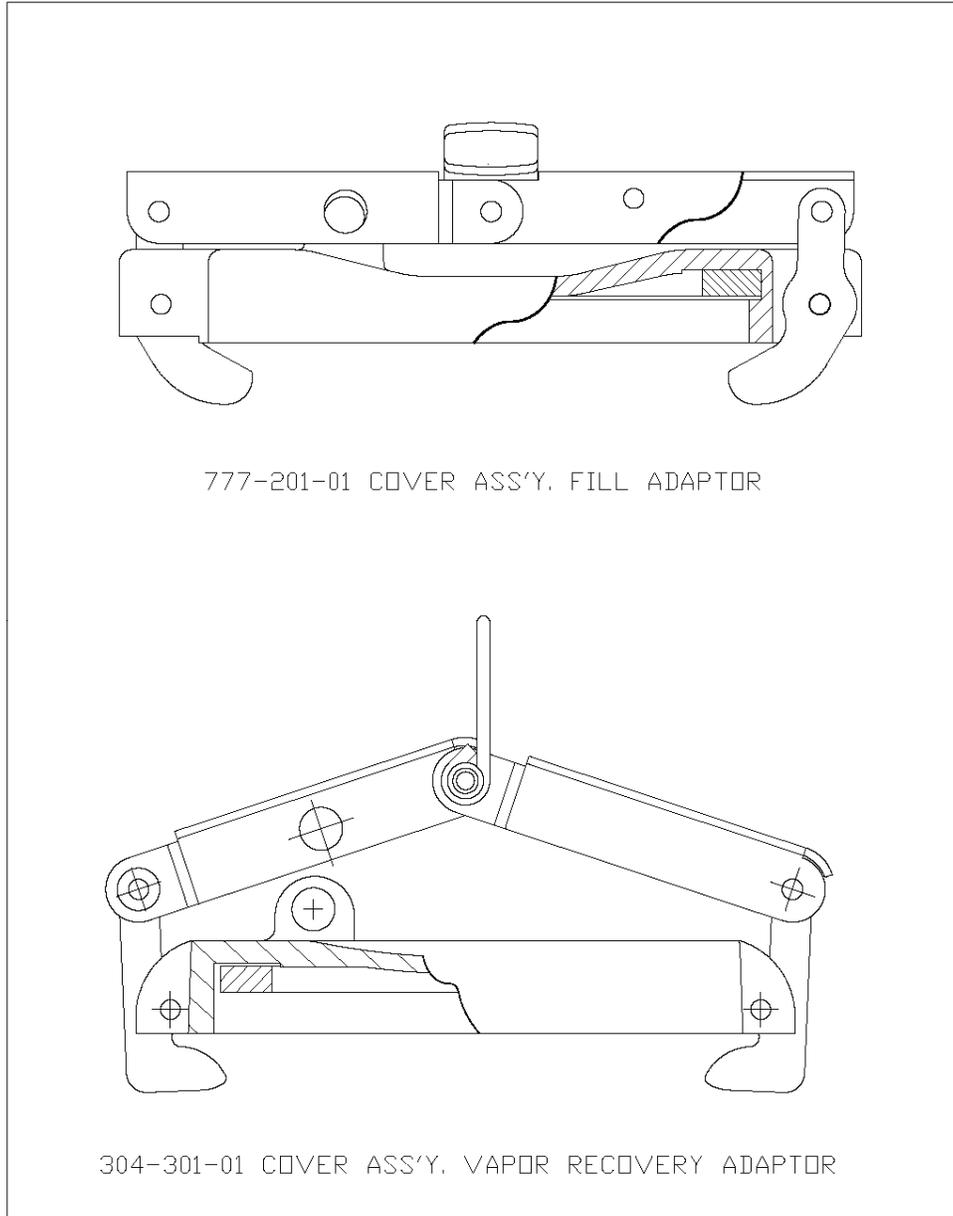
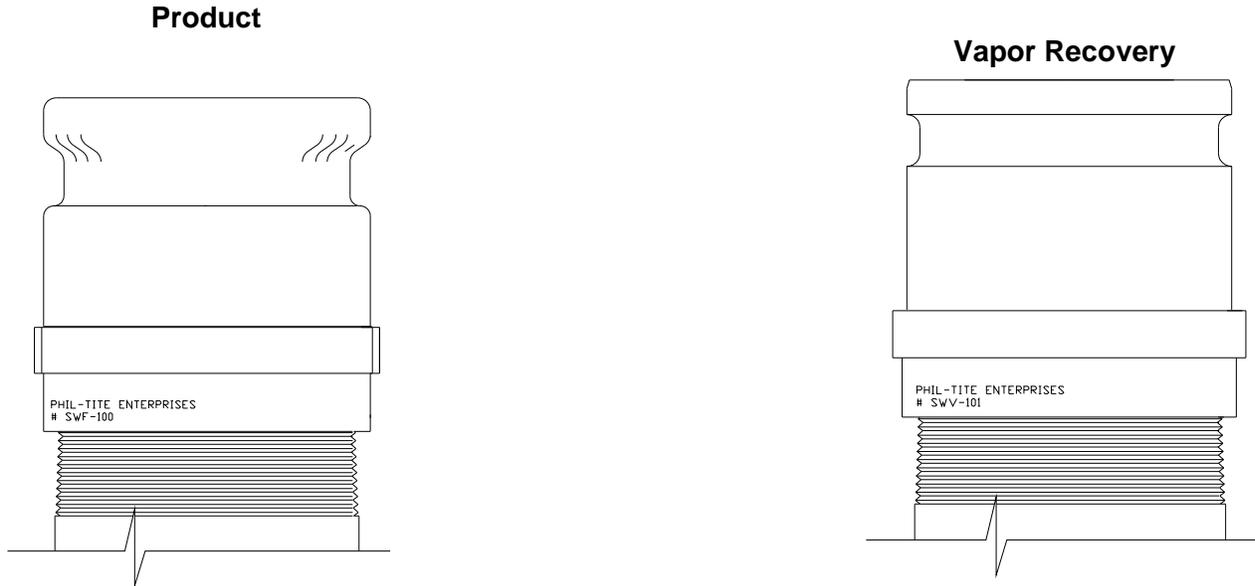


Figure E-1

**Phil-Tite SWF-100-B Rotatable Product Adaptor and
Phil-Tite SWV-101-B Rotatable Vapor Adaptor**



PHIL-TITE ROTATABLE ADAPTORS

Phil-Tite Rotatable Adaptors are designed to produce a free turning, 360 degree rotation of a fuel delivery elbow which prevents the adaptors from loosening or overtightening on the spill container riser which prevents leaks into the environment.

INSTALLATION INSTRUCTIONS:

- 1) Remove the adaptor from the box and inspect for shipping damage. Ensure that the adaptor seal is in place and is free from damage or defects. SWV-101-B Only, ensure that the vapor poppet opens and closes freely by actuating the poppet by hand.
- 2) **DO NOT USE ANY TYPE OF THREAD SEALANT ON THE ADAPTOR OR IT'S MATING THREADS!** Phil-Tite adaptors are designed to create a leak free seal when properly tightened as described in item #4.
- 3) By hand, thread the adaptor onto the spill container riser taking care not to cross thread.
- 4) Using a torque wrench and an adaptor installation tool (Phil-Tite Tool Kit #T-7043-1), tighten to a torque value between the range of 50 and 75 ft. lbs.
- 5) Once properly tightened, install a compatible dust cap. The adaptors are ready for operation.

THE USE OF UNAPPROVED TOOLS, OR IMPROPERLY TORQUING OF THE SPILL CONTAINER WILL VOID ANY AND ALL APPLIED WARRANTIES.

PLEASE CONTACT PHIL-TITE ENTERPRISES FOR A SCHEDULE OF "HOW-TO" CLASSES OFFERED FOR THE INSTALLATION OR REPAIR OF ALL PHIL-TITE PRODUCTS.

MAINTENANCE INSTRUCTIONS: (annually)

The Phil-Tite rotatable adaptors are not field serviceable with the exception of the vapor poppet or poppet components found on the SWV-101-B Rotatable Vapor Recovery Adaptor.

- 1) Depress the vapor poppet and release. Ensure that the poppet returns to the closed position. This will verify that the spring mechanism is working properly.
- 2) Test the poppet seal by applying a soap solution to the poppet while the underground storage tank is under a positive gauge pressure of at least 2.00 inches W.C.
If the facility continuously operates under vacuum, a bag test may be used. Place a clear plastic bag over the adaptor and make sure it is tightly sealed to the sides of the adaptor.
- 3) If no bubbles appear at the poppet area under positive pressure or the bag test shows no signs of the bag collapsing, no further maintenance is required. If bubbles appear around the poppet seal or the bag collapsed, continue with steps 3 through 10 to repair the poppet or poppet seal.
- 4) Remove the SWV-101-B adaptor from the spill container riser using an installation tool (Phil-Tite Tool Kit #T-7043-1).
- 5) Using a screwdriver, hook the snap ring on the inside of the adaptor and remove.
- 6) After removing the snap ring, remove the brass spider, spring and vapor poppet through the bottom of the adaptor.
- 7) With the vapor poppet removed inspect the poppet and poppet seal for cuts, tears or damage. Replace if necessary.
- 8) Reassemble the vapor poppet spring and brass spider in the reverse order from which they were removed.
- 9) Replace the snap ring and actuate the poppet by hand, making sure the assembly moves freely and closes when released.
- 10) Reinstall and properly torque the SWV-101-B using the provided installation and maintenance instructions.
- 11) Re-test the poppet seal as described in steps 1 in 2.

Figure F-1
Drop Tube

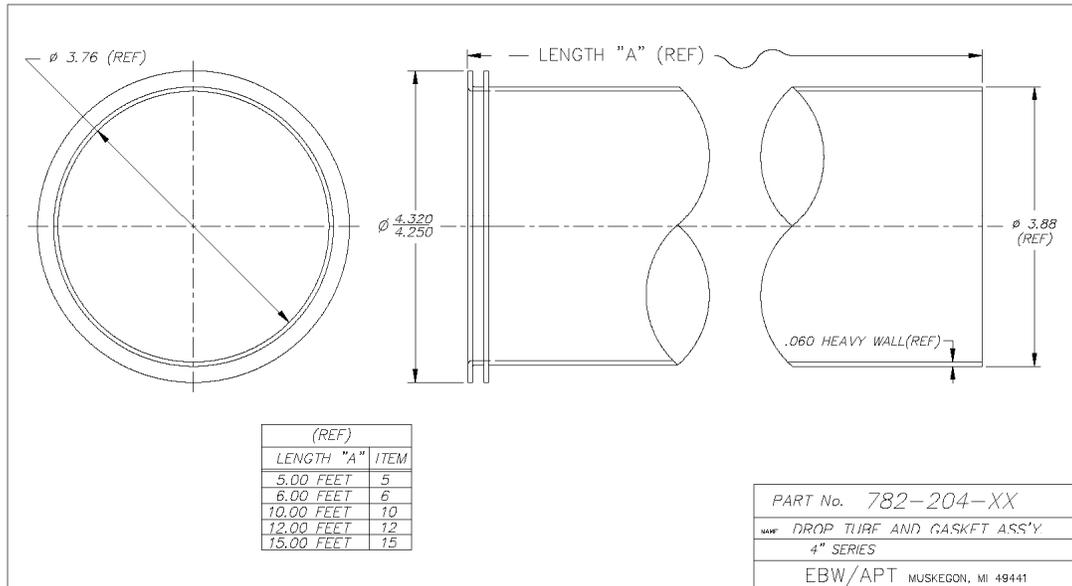
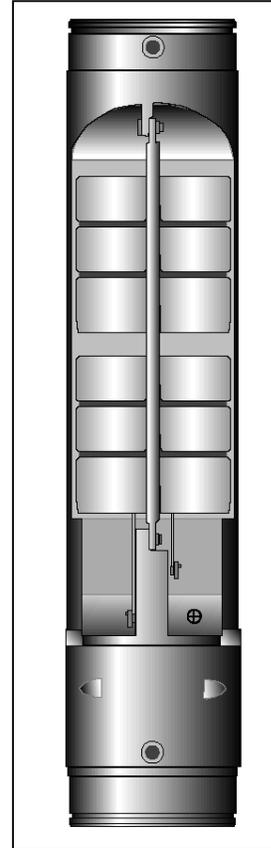


Figure F-2

Drop Tube Overfill Prevention Device

Installation Instructions

The Auto Limiter II[®] Automatic Shut-off for UST's



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INSTRUCTIONS

(Read before beginning)

The EBW Model 708 Automatic Shut-Off Valve is designed to be installed in the 4" Riser Pipe of Underground Storage Tanks and reduce the flow by 90% (At approximately 92% of tank capacity) and shut down the flow at 95% tank capacity. After the valve has been activated the delivery hose can be drained. The 708 should only be installed in a spill containment manhole.

Note: Shut off points are influenced by the specific gravity of stored liquid. These instructions are based on average performance utilizing all products. ***This valve was designed to be used as an emergency overflow prevention device only!***

Note: NEW YORK CITY FIRE DEPARTMENT CERTIFICATION # 4959

For N.Y.C. applications, this valve must be installed with a N.Y.C. Fire Department approved spill container. There are additional installation requirements including, but not limited to, product identification and color coding of fills. Installation must comply with applicable codes at time of installation.

Note: STATE OF CALIFORNIA EVR CERTIFIED APPLICATIONS

For CA EVR applications, there are optional components and installation comments mentioned in this manual that does not apply to an EVR certified Phase I System. Refer to appropriate CARB Phase I Executive Order for a list of approved Phase I Equipment and installations. Assembly leak rate <0.17CFH @ 2.00" w.c.

Important: Check to make sure all parts have been provided and do not substitute parts other than supplied.

WARNING! FAILURE TO FOLLOW INSTRUCTIONS OR SUBSTITUTION OF OTHER PARTS MAY CAUSE FAILURE OF THE DEVICE WHICH MAY CREATE A HAZARDOUS CONDITION AND/OR ENVIRONMENTAL DAMAGE.

Important: Determine if the underground storage tanks is equipped with a Ball Float Vent Valve as shown in Figure 1 on Page 4. If the tank is equipped with a Ball Float Vent -Valve the nipple portion must not extend more than 3" into the tank for the EBW Automatic Shut-Off Device to function properly. If the Ball Float Vent-Valve nipple extends more than 3" from the top of the tank, remove it or replace it with one of the following valves;

3" dia. ball float valve, EBW part # 308-300-05.

All other applications can use above or optional 2" dia. EBW part # 308-213-01

WARNING! EBW PRODUCTS SHOULD BE USED IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. PRODUCT SELECTION SHOULD BE BASED ON PHYSICAL SPECIFICATIONS AND LIMITATIONS AND COMPATIBILITY WITH ENVIRONMENT AND MATERIAL TO BE HANDLED. EBW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE.

IMPORTANT: In order to prevent product spillage from the Underground Storage Tank (UST), properly maintained delivery equipment and a proper connection and the tight fill adaptor are essential. Delivery personnel should be managed and trained to inspect delivery elbows and hoses for damaged and missing parts. They should always make certain there is a positive connection between the adaptor and elbow. If delivery equipment is not properly maintained, or the elbow is not securely coupled to the adaptor - a serious spill may result when the EBW model 708 closes, causing a hazard, and environmental contamination.

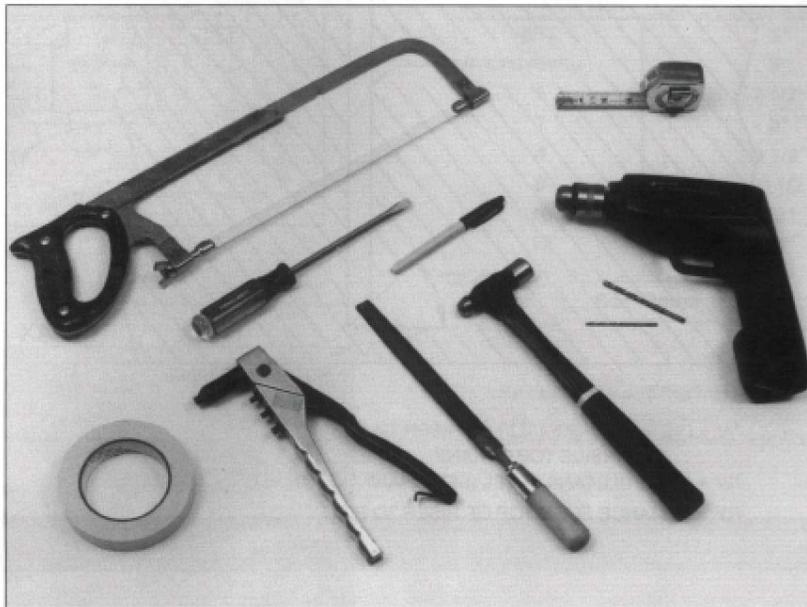
PRODUCT WARRANTY: All EBW, Inc. Equipment is thoroughly tested before shipment and guaranteed to the extent of replacing only goods found to be defective in manufacture. We cannot allow claims for labor or consequential damage resulting from purchase, installation, or misapplication of our products.

**TOOLS NEEDED FOR INSTALLATION
AND ASSEMBLY**

1. One each, new or sharp 1/16 and 3/16 Drill bit.
2. Drill
3. Tape Measure
4. Half round fine file
5. Hammer
6. Hacksaw with fine tooth blade
7. Screwdriver - Flat Blade
8. Masking or Electrical Tape
9. Pop Rivet Tool
10. Permanent Marker

**PACKING LIST
(INCLUDED WITH THE AUTO LIMITER)**

- 1 Valve Assembly 708-440
- 1 Upper Drill Template 708-221
- 1 Screw clamp 708-160
- 1 Tapered punch 708-172
- 7 3/16 closed end pop rivets 11070-06
- 1 Warning Plate 708-218
- 2 Standard Drop Tube "O"-Rings 11003-22
- 1 Coaxial "O"-Ring 11003-21
- 1 Instruction Manual - Form # 6002
- 1 Epoxy Sealant #11372-01



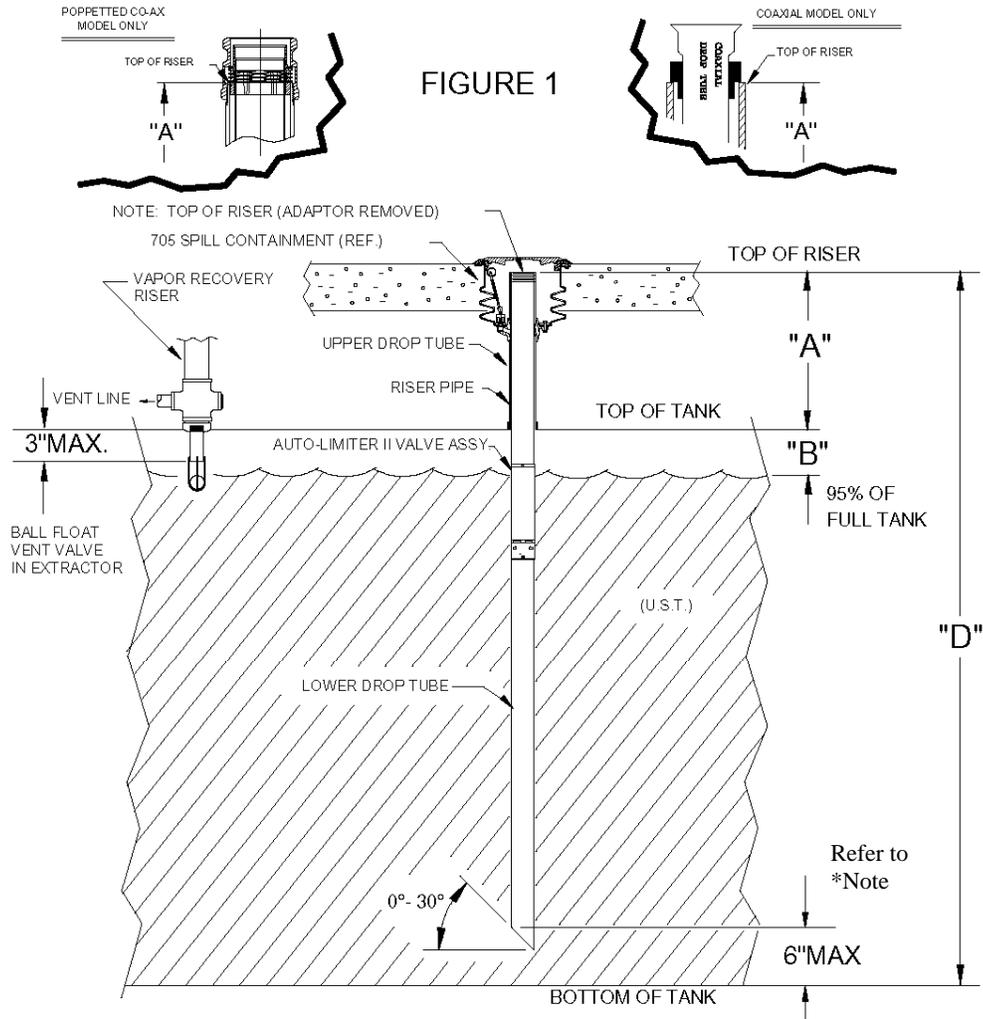


FIGURE 1

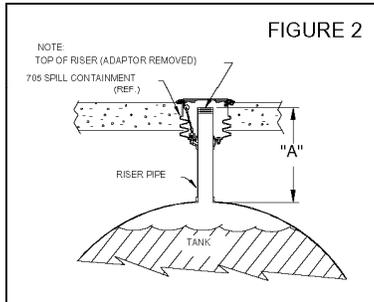
- "A" = DISTANCE FROM TOP OF RISER TO THE INSIDE TOP OF TANK
- "B" = 95 % FULL TANK LEVEL (SEE CHART "A" FOR YOUR SIZE TANK)
- "D" = DISTANCE FROM TOP OF RISER TO BOTTOM OF TANK

The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.

*** Note: The discharge opening of the fill-pipe must be entirely submerged when the liquid level is six inches above the bottom of the tank.**

ASSEMBLY INSTRUCTIONS:

Important: Check and clear the inside diameter of riser pipe for any burrs, improper reaming, or foreign materials prior to installation. Failure to do so may damage or prevent the valve from functioning properly.



1. Remove fill cap, adaptor and the existing drop tube from the riser pipe. Measure from the inside top of the tank to the top of the riser pipe (See Dimension "A" Fig.2)

2. Determine the 95% Shut-Off point for your specific tank from the tank chart provided with the tank or a calibrated gauge stick. To determine your actual "B" dimension, subtract the 95% level height from overall tank diameter. (Tank diameter (inches) - 95% level (inches) = "B" dimension) Chart "A" below is provided for reference only. Your actual "B" dimension will vary slightly based upon your actual overall tank diameter head and bulkhead design.

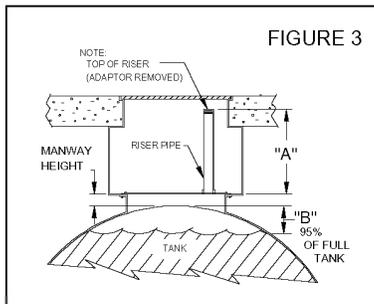
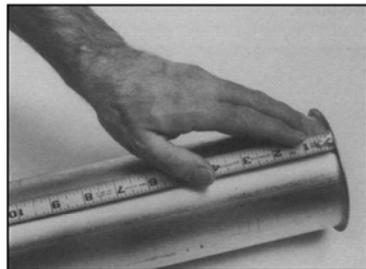


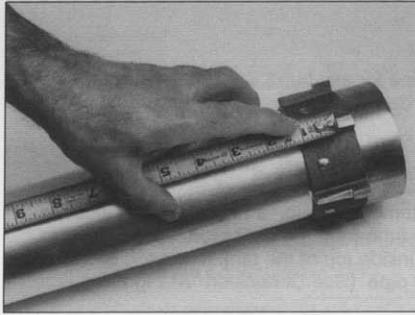
CHART A

TANK DIAMETER	APPROX. DIMENSION "B" FOR 95% SHUT OFF
4FT.	5"
5	6"
6	7 1/2"
7	8"
8	9 1/2"
9	10 1/2"
10	13"
12	14"

See Figure 1



Be certain to add the manway height to the "B" Dimension when the 708 Auto Limiter is used in manway applications.

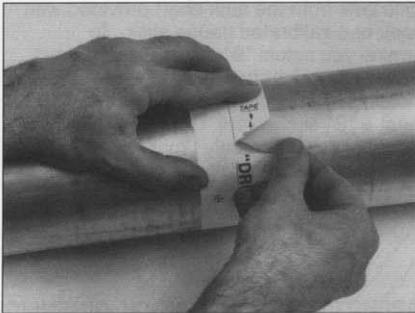


3. To Determine the correct length of the upper drop tube add Dimensions "A" to "B" and subtract 4

$$\text{"A"} + \text{"B"} - 4" = \text{Drop tube length "C"}$$

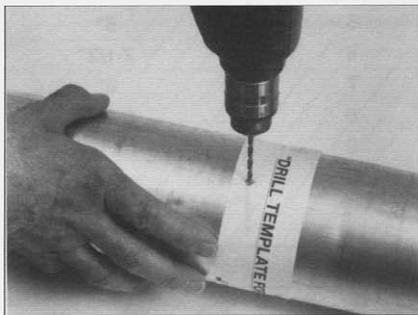
For tanks with manways add dimensions "A" to "B" to manway height and subtract 4" to get drop tube length.

$$\text{"A"} + \text{"B"} + \text{Manway height} - 4" = \text{Drop tube length "C"}$$



Note: For Poppeted Co-Ax Drop Tube Model (See Page 9 of instructions)

4. Mark the Upper Drop Tube. For a Dual Point Application measure down from the flange & mark Dimension "C" on the drop tube. For Coaxial installations measure down from the bottom side of the supporting lugs of the top adaptor and mark the dimension "C" on the drop tube. For coax installations go to step # 7.



5. Wrap the paper cutting and drilling template tight around upper drop tube with bottom cut edge aligned with mark from Step 1. Tape ends and top edge of template to drop tube.

6. Carefully drill (4) four 1/16" pilot holes through the drop tube on centerlines of drill template. Enlarge 1/16" hole to 3/16".



7. Slide the stainless hose clamp provided over the vapor drop tube until the outside edge lines up with the mark applied in step 4, and tighten. Using the edge of the clamp as a sawing guide, carefully saw through the drop tube, rotating the tube while sawing will help prevent runout. After sawing, file end square if needed and remove burrs.

The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.



8. Install the appropriate "O"-Ring into the groove at the top of the valve. Use the 3 3/8" OD "O"-Ring on the coaxial models and the 3 5/8" OD "O"-Ring on the dual point conversions.

9. Mix approximately 1/2 of total sealant provided in kit.

(Follow instructions on back of package.)

Apply sealant to inside diameter of drilled upper drop tube. Coverage should be completely around the tube. Position the upper tube on the valve assembly and carefully push the drop tube down past the o-ring until it rests on the shoulder.



10. Dual Point Installations-

Rotate the upper drop tube so that the (4) four holes line up with the (4) four holes in the valve assembly. Using the tapered punch, carefully dimple the (4) four holes in the drop tube into the counter sunk holes of the valve body.

Coaxial Installations-

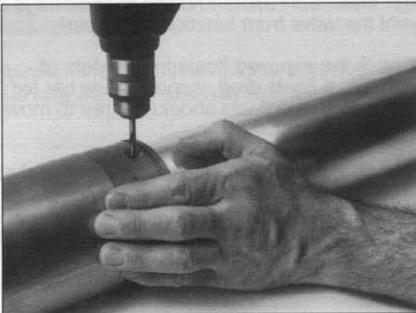
For co-axial apply sealant to outside diameter of drilled upper drop tube.

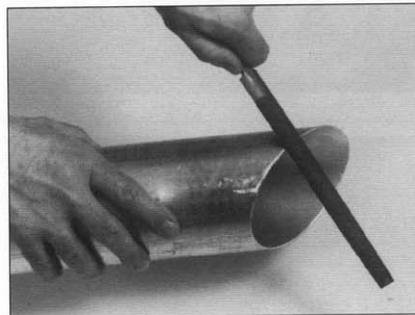
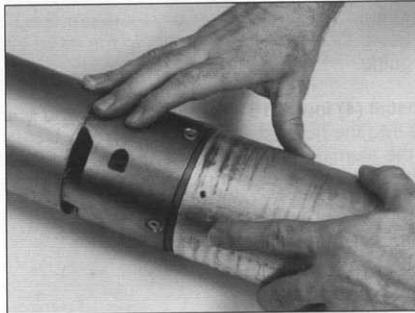
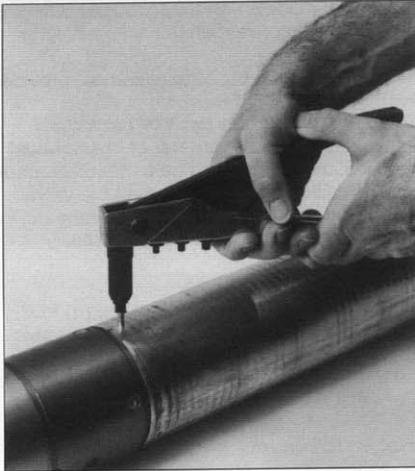
Making certain that the top tube is fully inserted, drill (4) four 3/16" holes through the upper drop tube using the countersunk holes in the valve body as a guide.



11. Install (4) four 3/16" diameter closed end pop rivets into the holes discussed in step 10. Use only the aluminum pop rivets supplied. Important: The heads of the rivets must be flush or below the exterior surface of the upper drop tube or valve body.

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12. Install the lower drop tube 3 5/8" O.D. "O"-Ring into the groove in the bottom of the valve.

13. File a chamfer on the inside edge of the drilled end of the lower drop tube.

Mix the balance of the sealant provided.
Apply sealant to inside diameter of drop tube (outside of co-axial).

Coverage should be completely around the tube. Slide the lower drop tube onto the bottom of the valve assembly until it rests on the shoulder. Turn drop tube to align holes, using the tapered punch, carefully dimple the (3) three holes in drop tube. Install (3) three 3/16 diameter closed end pop rivets. Cover all (7) seven rivet heads and both ends of pivot shaft with sealant.

Note: Failure to apply sealant correctly may cause failure of vapor pressure decay test.

14. Measure the tanks dimension "D" (Fig. 1), and subtract 6" Mark this dimension on the lower end of the lower drop tube. Cut and deburr tube at mark. If bottom of drop tube is not cut square, bevel must not exceed 30 degrees from horizontal and must extend down. Also, lowest point of drop tube must not project within the minimum clearance specified by tank mfg.

INSTALLATION INSTRUCTIONS

15. Double check your assembly by following this procedure. The "D" dimension shown on figure 1 is the overall length from the top of the riser pipe to the bottom of the tank. Either mark this dimension on your calibrated gauge stick or stretch out a tape measure next to completed assembly aligning the "D" dimension to the top flange of drop tube assembly. The valve body is marked for the 95% shut off. Compare the calibrated gauge stick reading found at the 95% valve mark or determine the dimension location of this valve mark and calculate from your tank chart. the tank volume determined should equal 95% of capacity.

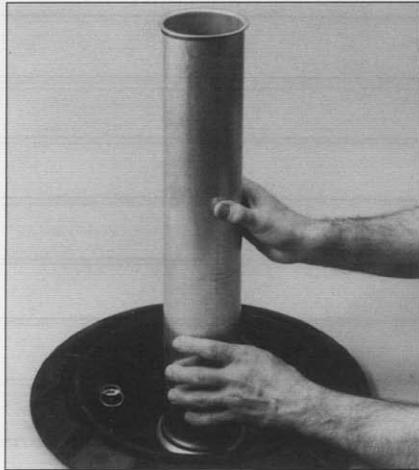
16. Remove Fill cap, adaptor, and existing drop tube, if applicable. Check the riser pipe inside diameter for any burrs, improper reaming, or foreign material. Failure to do so may damage or prevent the valve from functioning properly.

17. Check the exposed floats for freedom of movement. If floats drag, inspect guide bar for damage. Both the floats should be free to move up and down without drag.

18. Check to make sure there is a rubber gasket under flange of upper drop tube.

19. Carefully lower the complete shut-off assembly

The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.



down the riser pipe. **HOLD UNIT BY UPPER DROP TUBE ONLY. DO NOT FORCE THE VALVE DOWN THE RISER PIPE.** If the valve does not fit, the riser pipe will have to be cleaned or deburred before insertion of the valve.

20. Install warning plate around the 4" riser pipe below the threaded portion using the stainless steel band clamp.

21. Reinstall the tight fill adaptor and gasket. The valve is now installed and fully operational.

Maintenance

The 708 AutoLimiter II is maintenance free. Annual Visual inspection inside the installed drop tube for remnants of broken dip sticks or visual damage is recommended. Repairs must be performed by qualified individuals. Should the drop tube assembly be removed for any reason, request EBW form 6329 for a detailed valve component inspection procedure that is recommended prior to reinstalling.

The above figures may contain components (including part numbers) that have not been certified by the California Air Resources Board (ARB) for a specific Phase I Vapor Recovery System. Please refer to Exhibit 1 of the appropriate CARB Phase I Executive Order for a list of Phase I Vapor Recovery System Equipment.

Product Specifications

Construction

Valve Body.....Anodized Cast Aluminum
 Upper Drop Tube.....Aluminum
 Lower Drop Tube.....Aluminum
 Flappers.....Die Cast Zinc and Acetal
 FloatPolyethylene

Flow rate

Typical with 4" hose.....350 gal/min
 Min. required for proper operation....150gal/min
 Maximum working pressure.....10 psi

Weight

Shipped in the carton.....33 pounds

Size (Standard Unit)

Valve Body Length.....17.94"
 Upper Drop Tube.....4" Dia x 60" Long
 Lower Drop Tube.....Std. 4" Dia x 96" Long

Models

- 708-450.....Standard model up to 10' tank diameters
- 708-451.....Standard model up to 12' tank diameters
- 708-460.....Coaxial model up to 10' tank diameters
- 708-461.....Coaxial model up to 12' tank diameters
- 708-463.....Poppeted Co-Ax model up to 12' tank Dia.

Poppeted Co-Ax Drop Tube Only

For poppetted Co-Ax Drop tube Applications add "A" to "B" and subtract 3 1/2"

$$\text{"A"} + \text{"B"} - 3 \frac{1}{2} \text{"} = \text{Upper Drop tube length "C"}$$

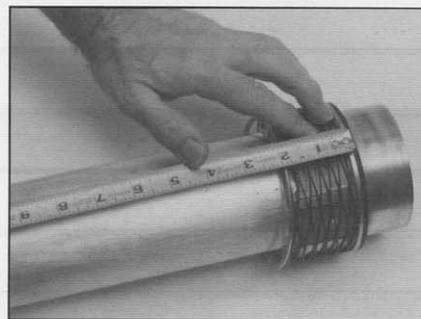


Figure F-3**Drain Valve Isolation Kit****Spill Containment Drain Valve Isolation Kit
EBW PART #708-255-01****Please read before beginning**

Important: *Check to make sure that all parts have been provided and do not substitute parts other than those supplied.*

WARNING: FAILURE TO FOLLOW INSTRUCTIONS OR SUBSTITUTION OF OTHER PARTS MAY CAUSE FAILURE OF THE DEVICE WHICH MAY CREATE A HAZARDOUS CONDITION AND/OR ENVIRONMENTAL DAMAGE.

WARNING: EBW PRODUCTS SHOULD BE USED IN COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. PRODUCT SELECTION SHOULD BE BASED ON PHYSICAL SPECIFICATIONS AND LIMITATIONS AND COMPATIBILITY WITH ENVIRONMENT AND MATERIAL TO BE HANDLED. EBW MAKES NO WARRANTY OF FITNESS FOR A PARTICULAR USE.

Tools Needed:

One each, new or sharp 1/16", 3/8",
and 3/16" Drill Bit
Drill
Tape Measure
Half round fine file
Hammer
Hacksaw with fine tooth blade
Screwdriver - Flat blade
Masking or Electrical tape
Permanent Marker
Petroleum Jelly
Short Extractor Wrench (EBW 321-100-02)

Packing List:

3 Drill Templates (708-221-01)
1 Tapered punch (708-172)
12 3/16" closed end pop rivets (11070-06)
3 "O-Rings" (11003-22)
1 Instruction Manual - (Form 6320)
1 Epoxy Sealant w/ mix tube(11372-01)
1 Top Flange Adaptor (708-202-01)
1 Bottom Seal Adaptor Assembly (708-262-01)
1 Gasket drop tube (11182-01)

EBW's Model 708 Drain Valve Isolation Kit was designed to isolate the drain valve in EBW series 705, 715 & 725 spill containers from the ullage space of the underground storage tank. Isolating the drain valve improves spill container drainage and minimizes the possibility of venting storage tank vapor. This Drain Valve Isolation Kit was designed to be used on EBW Model 782 - 4" Drop Tubes & EBW Model 708 Drop Tube Mounted 4" Overfill Valves.



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INSTALLATION INSTRUCTIONS

1. Read these instructions through prior to proceeding.
2. Assemble and cut the drop tube assembly for a normal installation as per the installation instructions provided with drop tubes or overfill valve assemblies. The overall full diameter length (length from top flange to the start of any bevel cut on tube bottom, see "A" on (Fig. 1) of this drop tube/overfill valve assembly must be within 6" of the bottom of the tank after installation. If bottom of drop tube is not cut square, bevel cut must not exceed 30 degrees from horizontal and must extend down from overall "A" mark. Also, lowest point of drop tube must not project with-in the minimum clearance specified by tank manufacturer.

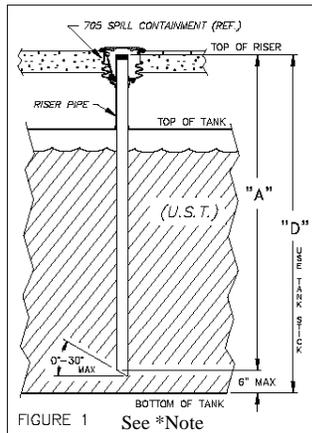


FIGURE 1 See *Note

*Note: The discharge opening of the fill-pipe must be entirely submerged when the liquid level is six inches above the bottom of the tank.

3. Measure the dimension from the top of the spill bucket riser pipe to the top of the tank riser pipe, dimension "B", (Fig. 2). Add 1.12" (1 1/8") to dimension "B" to determine cut point, dimension "C". **"B" + 1.12" = "C"**

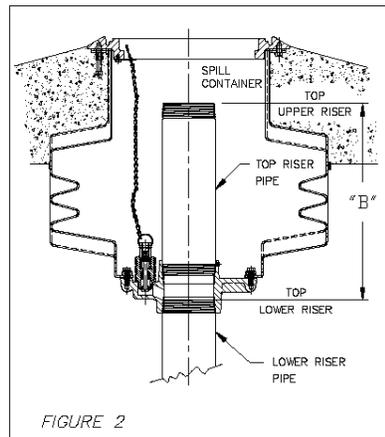
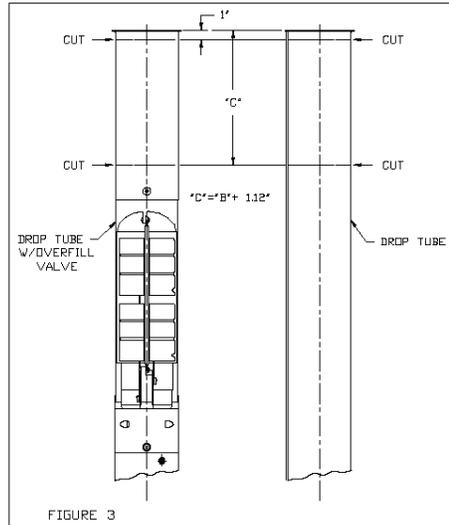
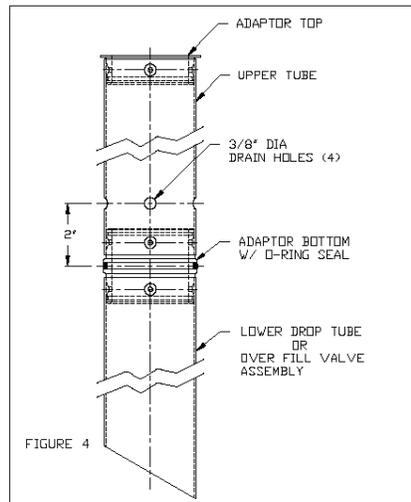


FIGURE 2

4. Transfer dimension "C" to the drop tube or top tube of the overfill valve assembly (Fig. 3), starting from underneath the tube top flange. Using a hack saw, make a square cut on the drop tube at this point.
5. Measure 1" down from the underside of the top flange and mark the drop tube (Fig. 3). Using a hack saw, make a square cut on the drop tube at this point. Discard the drop tube flange piece that is removed.
6. De-burr the inside of the drop tubes at all cuts.
7. Wrap the paper drilling templates provided around the three cut ends, and tape. Drill (4) 1/16" pilot holes at the locations marked on each template. Enlarge the 12 holes to 3/16" diameter. De-burr all drilled holes.



8. Install the three loose "o-rings" into the o-ring grooves on the two ends of the Bottom Seal Adapter and the single o-ring groove on the Top Flange Adapter. Install the mix tube onto the end of the epoxy dispenser.
9. Bottom Seal Adapter has one end stamped "TOP". You will be assembling the opposite end of this adapter first. Dispense approximately 1/2 of the epoxy sealant onto the adapter end NOT MARKED TOP and spread evenly around the outside circumference of this adapter.
10. Slide the remaining original drop tube assembly w/ overfill valve onto the end of the Bottom Seal Adapter that you just applied sealant to. Use a turning motion as you install the tube to evenly spread the sealant and allow tube to work it's way over the o ring seal. Continue working tube onto this adapter until it butts up to the shoulder on the adapter end. Now turn until tube holes align with adapter holes (you may need to use a small rigid probe to find inside holes through the sealant).
11. Now insert two of the rivets provided into two opposite holes to hold tube alignment to adapter. Using the punch provided, dimple outside drop tube hole on the other two opposite holes to recess rivet head, insert and set rivets. Remove, dimple and set the first two rivets used for alignment. **IMPORTANT** – The heads of these rivets must not protrude outside the circumference of the drop tube OD wall or installing into the tank riser pipe may be difficult and care must be taken to maintain joints as straight as possible to avoid a crooked final tube assembly.
12. Remove any excess epoxy sealant that may have worked out of tube to adapter joint and spread a thin layer of this sealant over each of the four rivet heads. If additional sealant is needed, dispense from tube provided.
13. Now slide the remaining short piece of tubing that was cut from the drop tube assembly onto the "TOP" end of the Bottom Seal Adapter & drop tube assembly. Rotate tubing so it slides over the O ring. Line up, dimple and rivet the assembly holes using same method as noted in step #11 above.
14. Install the Top Flange Adapter to the other end of this tube in same fashion. There is no need to utilize the epoxy sealant on either of these two top tube joints for they are above the gland seal and are not required to be vapor tight.
15. Measure up 2" from the center of the exposed "o-ring" seal on the Bottom Seal Adapter and drill (4) 3/8" diameter holes, one each above each of the 4 rivet locations on that end of the adapter. Exact alignment of these holes is not important. These holes are to provide the liquid drain path for the spill



container drain valve. Locate the flat flange gasket seal and install on top of drop tube directly under the Top Flange Adapter. Allow sealant to cure for a minimum of 90 minutes. (See instructions provided with sealant.)

16. The modified drop tube is now ready to be installed into the fill riser piping. Prior to installation, inspect the inside of the riser pipe and the riser piping for burrs on the pipe ends. **IMPORTANT** - If any sharp burrs are present on the tank and spill containment riser pipe ends, the O Ring will be cut during installation and a proper seal will not be obtained. All burrs must be removed prior to installation of this drop tube assembly. Spill containment riser pipes can be removed from the spill buckets and the burrs filed or ground away from the hazardous location. Tank riser burrs can be filed once a plumbers 4" test bladder is inflated into the tank riser to isolate tank vapors and all fuel and vapors are removed from the spill containment bucket. Also, it may be helpful to utilize some of the remaining epoxy sealant to lightly fill in the top end of the tank riser nipple screwed into the spill containment base. This trick would fill in any sharp edges present on the top end of the tank riser pipe.

17. Now generously lubricate the inside of the riser piping and the Bottom Seal Adapter o ring with suitable grease or petroleum jelly. Carefully lower the drop tube assembly into the riser piping until the o ring seal sets on the spill containment riser pipe. Using a short extractor wrench, engage the cross bar in the Top Flange Adapter and begin rotating the drop tube assembly back and forth while applying a moderate push down on the tube assembly. O ring seal will enter the spill containment riser pipe. Continue this turning motion while you work the seal down through the spill riser. Eventually you will feel the seal drop out of the spill riser and down onto the tank riser. Using the same turning motion, work seal into the top of the tank riser until Top Flange Adapter and flange seal set down on top end of the spill riser pipe.

18. Using a suitable thread sealant, install a swivel type fill adapter. Installation of drop tube assembly is now complete. It is recommended that the drop tube decay test (TP-201.1D) be performed to verify seal performance.

Note: EBW Kit # 90079 Isolation Bladder Test Kit must be obtained to perform TP-201.1D. The Std. inflatable Plumber's bladder can't be inserted into drop tube. Instructions are included with the 90079 kit.

Should it be necessary to remove the drop tube, a short extractor tool (EBW 321-100-02) is required. Engage the cross bar in the Top Flange Adapter with extractor wrench, while pulling up on the drop tube assembly, rotate the assembly back and forth. It may be helpful to unthread and remove the spill containment riser pipe with the drop tube assembly. If it is necessary to replace the Bottom Seal Adapter o ring seal, order EBW replacement seal kit, EBW Part #90090



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Figure F-4

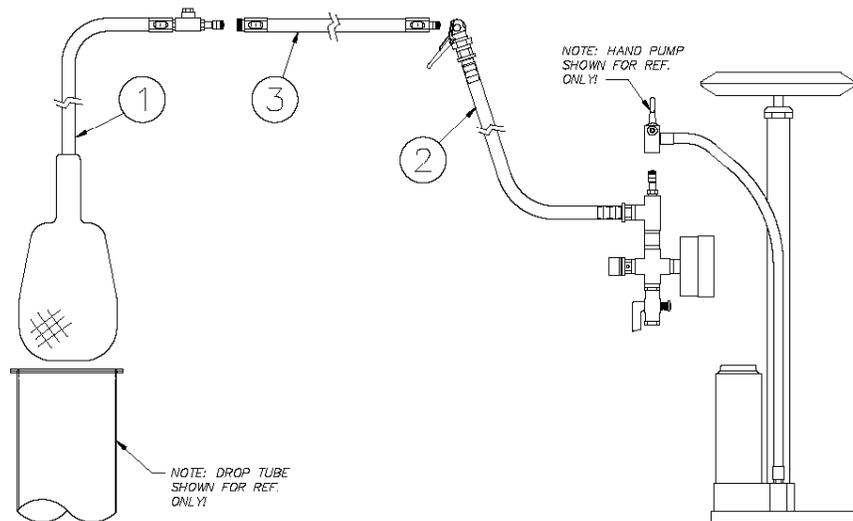
Drop Tube Isolation Test Kit

Installation Instructions

Service Kit 90079 Drop Tube Isolation Test

Service Kit 90079 is for isolating spill containment drain valves for drop tube mounted overflow protection valves on EBW style drop tube assemblies. This service kit is necessary to perform CA EVR leak test procedures identified in TP-201.1D. This service kit will also work on other nominal 4" ID drop tubes normally found on UST fill risers. **Item #1** test bladder is a nitrile balloon encased in a protective fabric bag. this balloon is inserted (deflated) into the drop tube and positioned at desired point of isolation. **To achieve a bubble tight seal, the fabric protection bag must be soaked (wetted) with oil prior to use. this can be any available motor oil such as 30W or 10W-30.** After installation, bag is inflated to 15 psi utilizing

item #2 charger assembly and a basic hand pump or low pressure compressed air (**DO NOT OVERINFLATE**). All connections are standard tire valve stems (Schrader Valves) and charging assembly includes a low pressure safety relief valve. After inflation, disconnect charging assembly so test bladder hose can be curled over the cross bar and back into the drop tube. Install test cap on product adapter and perform leak test procedure. Service kit comes with **item #3**, 3' extension hose if deeper test point is required. After testing is completed, reconnect charging assembly and open manual bleeder valve to deflate test bladder. Remove test bladder from the drop tube and store in a clean (dirt free) plastic bag.



Item	Part Name	Part No	Qty
1	Test Bladder	11539-01	1
2	Charging assembly	11540-01	1
3	3' Extension Hose	11541-01	1



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Figure F-5

Tank Bottom Protector

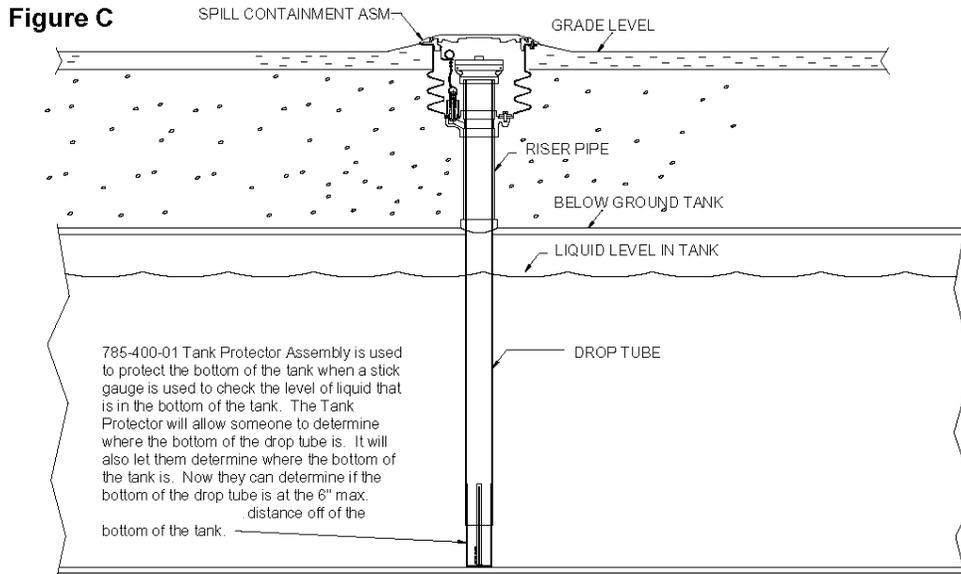
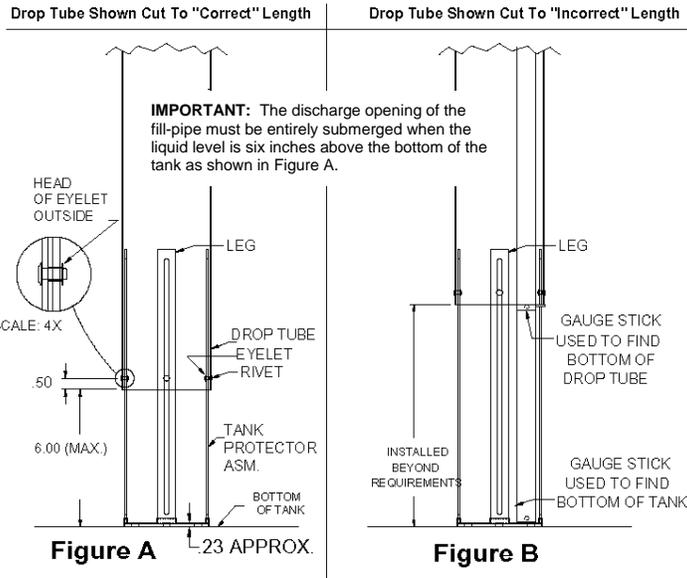
INSTALLATION INSTRUCTIONS
Tank Protector Assembly (785-400-01)

IMPORTANT: The discharge opening of the fill-pipe must be entirely submerged when the liquid level is six inches above the bottom of the tank.

HOW TO INSTALL TANK PROTECTOR ASSEMBLY:

wrap paper drill template around the bottom edge of tube. Drill three 1/8" holes through drop tube on the centerline of drill template. Bend each of the three legs of tank protector assembly outward slightly. This will hold legs of tank protector assembly against inside of drop tube when tank protector assembly is installed. Place open end of tank protector assembly inside bottom end of drop tube. Now place a rivet through one hole in drop tube and through slot in leg of tank protector assembly and place an eyelet over rivet and through slot of leg with head of eyelet on outside (see Figure A). Use a rivet tool to set the rivet. Do the same on the other legs. When completed, the tank protector assembly must move freely up and down inside of the drop tube.

NOTE: Three rivets are used to guide tank protector assembly up and down inside of the drop tube, not to hold tank protector assembly tight to drop tube.



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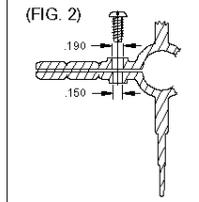
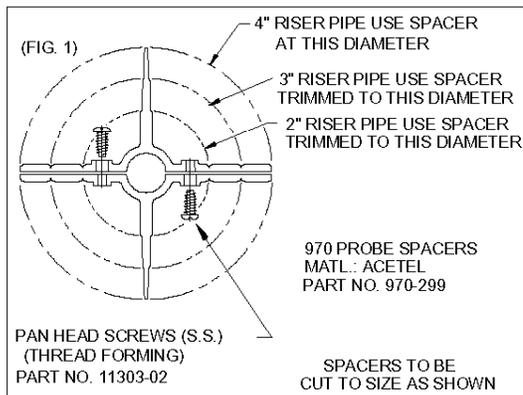
Figure G-1

Tank Gauge Port Adaptor and Cap

Installation Instructions

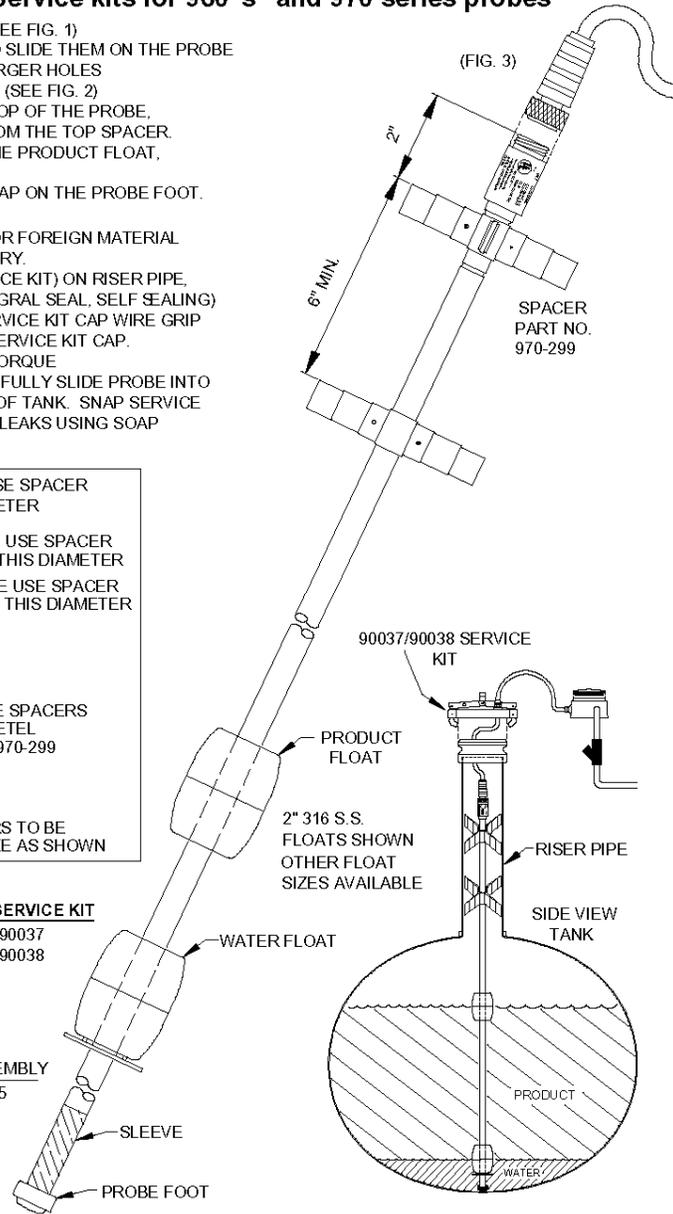
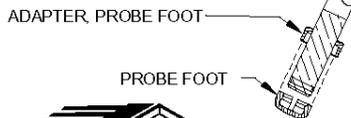
Spacers, Floats, and Service kits for 960"s and 970 series probes

1. TRIM SPACERS TO SIZE OF RISER PIPE. (SEE FIG. 1)
2. LOOSELY ASSEMBLE BOTH SPACERS AND SLIDE THEM ON THE PROBE. INSERT THE SCREWS THROUGH THE LARGER HOLES AND THREAD INTO THE SMALLER HOLES (SEE FIG. 2)
3. PLACE THE TOP SPACERS 2" FROM THE TOP OF THE PROBE. PLACE THE BOTTOM SPACER 6" MIN. FROM THE TOP SPACER.
4. SLIDE ON THE FLOATS STARTING WITH THE PRODUCT FLOAT, THEN THE WATER FLOAT.
5. SLIDE ON THE PROBE ADAPTER, THEN SNAP ON THE PROBE FOOT. (SEE FIG. 3)
6. INSPECT PROBE RISER PIPE THREADS FOR FOREIGN MATERIAL OR THREAD BURRS. CLEAN IF NECESSARY.
7. THREAD ADAPTER (90037 OR 90038 SERVICE KIT) ON RISER PIPE, TIGHTEN 40 TO 50 FT. LB. TORQUE. (INTEGRAL SEAL, SELF SEALING)
8. THREAD THE PROBE WIRE THROUGH SERVICE KIT CAP WIRE GRIP SO PROBE PLUG END IS ON INSIDE OF SERVICE KIT CAP. TIGHTEN WIRE GRIP TO 75 - 100 IN. LB. TORQUE
9. CONNECT PROBE WIRE TO PROBE. CAREFULLY SLIDE PROBE INTO TANK RISER UNTIL IT SETS ON BOTTOM OF TANK. SNAP SERVICE KIT CAP ON ADAPTER. CHECK FOR ANY LEAKS USING SOAP SOLUTION.



PROBE WIRE DIA. SERVICE KIT
 .23 TO .47 - USE 90037
 .19 TO .31 - USE 90038

PROBE FOOT ASSEMBLY
 PART NO. 960-165



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**Figure H-1
Husky 5885 Pressure/Vacuum Vent Valve**

	MODEL #5885 Recommended Installation, Maintenance and Inspection Instructions	5885
	EVR Pressure Vacuum Vent	

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS IN A READILY ACCESSIBLE LOCATION.

 **WARNING** Designed for use at motor fuel dispensing facilities only.

INSTALLATION INSTRUCTIONS

NOTE: Always adhere to installation / usage instructions and warnings. Improper use may result in injury, damage or hazardous spill.

1. Remove the vent from the carton and visually inspect for any shipping damage.
2. Apply fuel resistant pipe sealant to the threads on the 2" / 50.8 mm vent stack.
3. Screw the Pressure Vacuum (P/V) vent onto the vent stack and tighten firmly, approximately 20 - 50 lbf•ft / 27.1 - 67.8 N•m, but do not overtighten.

CAUTION: DO NOT ALTER OR COVER THE P/V VENT

TESTING / MAINTENANCE / INSPECTION

Testing Criteria Per TP201.1E and Exhibit 3 of applicable Phase 1 E.O.

Leak rate: Pressure = .05 CFH @ 2" wc, Vacuum = .21 CFH @ -4" wc.
 Cracking Pressure = 2 1/2" to 6" wc, Vacuum = -6" to -10" wc.



Annually inspect the P/V vent valve for foreign objects:

1. Remove the screws that hold on the top cover. Do not remove the screens.
2. Remove any debris from inside the lower cover.
3. Check the drain holes in the lower cover.
4. Reinstall the top cover.
5. Tighten the screws firmly.

- All drive aways, maintenance and inspection activities must be logged using the serial number of the individual product.
- Apply city, state, or federal testing regulations as appropriate.

**ANY TEST / INSPECTION
FAILURE REQUIRES IMMEDIATE
EQUIPMENT REPLACEMENT OR
REMOVAL FROM SERVICE.**

MADE IN THE USA

⚠ ALWAYS ADHERE TO INSTALLATION / USAGE INSTRUCTIONS AND WARNINGS. ⚠

Improper use may result in injury, damage, or hazardous spill.

⚠ GENERAL WARNINGS / INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK OR INJURY TO PERSONS:

- Use of equipment is at individuals' own risk.
- Always abide and adhere to city, state, and federal regulations regarding use and installation of dispensing equipment.
- Always follow the dispenser manufacturer's instructions.
- Always turn off all power to dispenser during maintenance and inspection activities.
- Always close the shear valves during maintenance and inspection activities.
- Always relieve pressure from system prior to performing maintenance activities.
- Always check continuity after installation using a megohmmeter (Refer to PEI RP 400 for details).
- Always replace or remove from service damaged or leaking dispensing equipment immediately.
- Always report leaks / spills / accidents to appropriate authorities.
- Always wear appropriate safety equipment during maintenance activities.
- Always have appropriate fire extinguishing equipment within 5 ft / 1.5 m of dispensers.
- Always use pipe sealant approved for gasoline service.

- Always place containers on the ground before filling.
- Always discharge static electricity before using or servicing equipment by touching a metal part of the dispenser before and after fueling vehicle.
- Never smoke within 20 ft / 6.1 m of dispensers.
- Never keep in service past recommended life.
- Never leave the nozzle unattended while dispensing fuel.
- Never use sparking or flaming devices within 20 ft / 6.1 m of dispensers.
- Never use power tools near dispensers or to aid in the installation process.
- Never use cell phone within 20 ft / 6.1 m of dispensers.
- Never reenter car when fueling vehicle.
- Never allow gasoline to touch eyes or skin.
- Never use at flow rates in excess of regulatory guidelines.
- Never use at flow rates less than 5 gpm / 18.9 Lpm.
- Never dispense flammable material into unapproved containers.
- Never dispense fuel without a valid driver's license.

CAUTION: DO NOT ALTER OR COVER THE P/V VENT.

DO NOT OVERTIGHTEN.

IMPORTANT SAFETY INSTRUCTIONS - SAVE THESE INSTRUCTIONS IN A READILY ACCESSIBLE LOCATION.

WARRANTY

VAPOR PRODUCTS – Husky Corporation will, at its option, repair, replace, or credit the purchase price of any Husky manufactured product which proves upon examination by Husky, to be defective in material and/or workmanship for a period of one (1) year of installation or fifteen (15) months from the manufacture date of shipment by Husky, whichever occurs first. The warranty period on repaired or replacement vapor recovery products is only for the remainder of the warranty period of the defective product.

EVR PRODUCTS – With respect to EVR products installed in California, for a period of one (1) year from the date of installation, Husky warrants that the product will be free from defects in materials and workmanship (if the installation date is in question or indeterminable, Husky will warrant the product for 12 months from sale by Husky). Husky confirms that the warranty is transferable to a subsequent purchaser within the warranty period. However, the warranty does not follow the product from its initial installation location to succeeding locations. Husky confirms these products are warranted to meet the performance standards and specifications to which it was certified by CARB for the duration of the warranty. EVR products must be installed per CARB Executive Order and must follow the Husky Installation Instructions or the warranty is void. The warranty tag included with the EVR product must be provided to the end user at installation. A completed warranty tag and installation documentation is required to be returned with the product to be eligible for warranty consideration.

CONVENTIONAL PRODUCTS – Husky Corporation will, at its option, repair, replace, or credit the purchase price of any Husky manufactured product which proves upon examination by Husky, to be defective in material and/or workmanship for a period of one (1) year from the manufacture date of shipment by Husky.

Buyer must return the products to Husky, transportation charges prepaid. This Warranty excludes the replaceable bellows, bellows spring assembly, spout assembly and scuff guard, unless (i) damage is obvious when the product is removed from shipping carton and (ii) the defective product is returned to Husky prior to use. This warranty does not apply to equipment or parts which have been installed improperly, damaged by misuse, improper operation or maintenance, or which are altered or repaired in any way.

The warranty provisions contained herein apply only to original purchasers who use the equipment for commercial or industrial purposes. There are no other warranties of merchantability, fitness for a particular purpose, or otherwise, and any other such warranties are hereby specifically disclaimed.

Husky assumes no liability for labor charges or other costs incurred by Buyer incidental to the service, adjustment, repair, return, removal or replacement of products. Husky assumes no liability for any incidental, consequential, or other damages under any warranty, express or implied, and all such liability is hereby expressly excluded.

Husky reserves the right to change or improve the design of any Husky fuel dispensing equipment without assuming any obligations to modify any fuel dispensing equipment previously manufactured.

3" to 2" ADAPTOR INSTALLATION INSTRUCTIONS

Part #5041

1. Visually inspect the o-ring and threads for chips, dirt & debris.
2. Apply fuel resistant pipe sealant to the 3 in / 76.2 mm NPTF threads of the vent pipe.
3. Screw the P/V vent adaptor onto the vent stack and tighten firmly, approximately 20 - 50 lbf•ft / 27.1 - 67.8 N•m, but do not overtighten.
4. Install the P/V vent according to manufacturer's installation instructions.

TEST ADAPTOR INSTALLATION INSTRUCTIONS

Part #5426

NOTE: This adaptor is designed to fit on the inlet of the P/V Vent to allow for field and lab tests.

1. Screw P/V Vent adaptor into the P/V Vent valve until hand tight. Make sure the seal is compressed.
2. Place the P/V Vent valve and adaptor on a flat surface.
3. Attach a 3/16" / 4.7 mm hose (Tygon fuel tubing) from test apparatus to hose barb on the side of the adaptor.
4. After testing, remove hose from barb and remove adaptor from vent.

TROUBLESHOOTING GUIDE

- | | |
|--------------------------------|--|
| Pressure Decay Test Failure... | 1. Test vent to CARB TP201.1E.
2. Replace vent. |
|--------------------------------|--|

For stations with ISD monitoring

- | | |
|---------------|--|
| Vapor leak... | 1. Verify other equipment is not the cause.
2. Test vent to CARB TP201.1E
3. Replace vent. |
|---------------|--|

- | | |
|---|-----------------|
| Exceeds allowable system cracking pressure... | 1. Replace vent |
|---|-----------------|

GENERAL TECHNICAL DATA

Fuel Type	Test and warranty for gasoline and diesel fuel
Body	Sand cast aluminum
Screens	Stainless Steel 40 mesh
Seal	Nitrile Foam
Covers	Aluminum
Weight	1.2 lbs / 0.5 kg
Threads	2 in / 50.8 mm NPTF
Case Quantity	20

Listings	   
----------	--

CARB EVR Executive Order Numbers: VR-101, VR-102, VR-103,
VR-104, VR-105, VR-401-B,
VR-402-A, VR-301, VR-302

Figure J-1

Spill Containment EVR Upgrade Kits

EBW Spill Containment Post 1997 Tank Construction Identification For California Phase I EVR Upgrade

All EBW Spill Containment Tanks manufactured after 1997 are suitable for upgrade to CA Phase I EVR status provided that the following identification is made using these test instructions. This is not an EVR test.



1997 and earlier Spill Containment

1. Drain Valve Sets on Tank to Base Bolt Circle
2. There are 6 – 3/8" Fasteners Bolting Tank to Base in Addition to Two 1/4" Drain Valve Fasteners

If you have any questions regarding identification of the tank version, please call EBW Engineering @ 800-475-5151 for further construction details. If you have successfully identified the tank as a "Post 1997" construction style, this is a potential candidate for EVR upgrade with-out replacement of the spill containment bucket. Please follow following steps prior to proceeding with upgrade.

1. Inspect tank for visible damage or cracks. If any present, you will have to replace Spill Containment tank.



Post 1997 Spill Containment

1. Drain Valve Sets Inside the Tank to Base Bolt Circle
2. There are 12 – 3/8" Fasteners Bolting Tank to Base

2. If no damage visible, do a hydrostatic test of the spill containment by filling with water to with-in 2" of top rim. It is recommended that you purchase EBW part #90022 "Blank & Test Drain Kit" to remove drain valve prior to hydrostatic test. Measure initial level once filled, replace lid to prevent evaporation, and measure final level after a minimum of 8 hour hold period.

3. If both levels were the same, you can proceed with tank upgrade. If final level was lower there is a tank leak. Replace Spill Containment. Properly dispose of the test water.



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4. If Spill Containment passes hydrostatic test, you can proceed with upgrade. Following kits are available for product and vapor riser spill containment tanks;

Product Fill Riser Spill Containment Upgrade Kit – Part #90087 (includes drain valve)
Vapor Riser Spill Containment Upgrade Kit – Part #90088 (no drain valve)

EVR Spill Containment Upgrade Kits

Kit #90087 – Product Fill Riser Spill Containment Upgrade
Includes the following EBW items and work instructions
705-337-19 Replacement EVR Drain Valve & Form 6304
708-255-01 Drain Valve Isolation Kit & Form 6320
777-201-01 Product Fill Dust Cap
Grade Level & Below Grade Installation Books – Forms
1307 & 1306

Customer MUST PURCHASE 1 – SWF-100-B Phil-Tite Swivel Product Adapter from Phil-Tite Component Distributor

Kit #90088 – Vapor Riser Spill Containment Upgrade
Includes the following EBW items and work instructions
90089 – Drain Valve Permanent Blank Kit & Form 6220
702-301-01 Pump & Form M20
304-301-01 Vapor Adapter Dust Cap
Grade Level & Below Grade Installation Books – Forms
1307 & 1306

Customer MUST PURCHASE 1 – SWV-101-B Phil-Tite Swivel Vapor Adapter from Phil-Tite Component Distributor



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Figure K-1
Epoxy Sealant

EBW Part# 11372-01
Epoxy Sealant Application Instructions

This epoxy product is suitable for joining or sealing iron, steel, aluminum, bronze, copper and thermoset phenolic and epoxy plastics. It has good impact and peel strength along with excellent chemical resistance provided that the following application instructions are followed. This product is suitable for use with unleaded gasoline with additives to 20%, diesel fuel and motor oils.

Warning - This product is not to be used with ethanol blends exceeding 20%.

Color – Black

Mix Ratio – 1/1 (use self mixing dispenser tubes)

Working Time – 10 minutes @ 75 F Less in higher temperatures

Functional Cure Time – 90 minutes @ 75 F More in colder temperatures

This sealant is utilized during the assembly of numerous EBW components. Follow the detailed installation instructions received with the component to be assembled to identify the joints, fasteners, etc. that require sealant.

Application Steps

1. Pre-assemble all components to assure proper fit prior to applying epoxy sealant. Sealant has only a 10 minute working time.
2. Clean (vapor phase degreasers or hot aqueous solution) application surfaces of all grease, oils and heavy contaminants.
3. Abrading or roughening application surfaces with file, steel wool or sanding paper will increase the microscopic bond significantly.
4. Dispense a bead on application surface and spread with a clean stick or other flat tool. Mixing tube will properly mix both components, no additional mixing is necessary.
5. After assembly of parts, sealant must be allowed to reach it's functional cure time in free air prior to placing components into service. Normally, at 75 F, this time is 90 minutes. In colder climates, either move assemblies inside or allow to cure for up to three hours prior to use.
6. If it is necessary, heavy build up of sealant may be sanded or filed after the functional cure time and prior to installing into service.

M.S.D.S. information may be obtained from www.devcon.com or calling 978-777-1100 .
Reference Devcon "10 Minute Epoxy, part #0046"



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Figure L-1

EBW Phase I Equipment Required Maintenance

Required Inspection & Maintenance to Maintain Equipment Performance

Spill Containment Manholes – at least once a year

- Remove any standing liquid and dispose of properly
- Brush all buildup off brass drain valve screen (if applicable)
- Remove all dirt and foreign materials
- Scrape all foreign materials away from tank lid sealing surfaces
- Should it be necessary to replace drain valve due to breakage or considerable contamination buildup, use *EBW 705-337-19 Replacement Drain Valves only*
- Perform leak test using the established "Pressure Integrity Test" for a combination of Drop Tube, Drain Valve and Overfill Prevention Device, TP201.1D. Use *90079 Drop Tube Isolation Test Kit*.

Rotatable Fill Vapor Adapters, Dust Caps & Probe Riser Adapters – at least once a year

- Inspect all product and vapor riser dust cap seals for damage. If damage is observed, replace seal.
 - Aluminum Vapor Cap Seal – 304-101-01*
 - Nylon Product Cap Seal – 777-111-01*
- Perform Rotatable Adapter maintenance as specified by Phil-Tite Enterprises, Inc. Perform established "Static Torque Test", TP201.2B.
- Leak testing would be accomplished during "Pressure Integrity Test" for drain valve or Drop Tube Mounted Overfill Valve, TP 201.1C or TP201.1D
- Annual Maintenance of the Probe Riser Cap assemblies is normally not required. Whenever probe service is necessary, inspect service cap seal for damage and replace, if necessary, at that time.
 - Probe Riser Cap Seal – 777-111-01*

Drop Tube Mounted Overfill Prevention Valves – at least once a year

- Inspect inside of drop tube for the presence of a broken dip stick or noticeable damage to the valve flapper. If damage is observed, valve must be replaced.
- If not already performed during drain valve testing, leak test Drop Tube assembly using established "Pressure Integrity Test" for Drop Tube/Overfill Prevention Device, TP201.1C or TP201.1D.

NOTE: EBW Kit #90079 Isolation Bladder Test Kit must be obtained to perform TP-201.1D.

The standard inflatable Plumber's Bladder can't be inserted into EBW drop tube.

Instructions are included in the #90079 kit.

- It is not required by EBW that the drop tube be pulled for inspection unless damage is noted. Should local authority require removal of the drop tube, the following seals and inspection step are necessary;
- Replace Drop Tube Flange Gasket – 11182-01
- Inspect Tank Bottom Protector for freedom of movement. Repair or replace if necessary.
- Inspect OPD components, use instructions on EBW from 6329.
- Inspect drop tube joint sealant. Repair with EBW part # 11372-01, epoxy only.

Pressure Vacuum Vent Valves –

- Perform the required maintenance as specified by Husky Corporation.

At least every three years, unless shorter intervals specified by local authority, perform the established "Static Pressure Performance Test", TP-201.3

Should any questions arise regarding any inspection or repair procedures, please contact EBW Technical at 80-475-5151 (8 a.m. to 5 p.m. E.S.T.)



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Figure M-1

FFS Model PV-Zero P/V Vent Valve



PV-ZERO[™]
Liquid-Filled Pressure/Vacuum Vent Valve
FFS P/N 407215901

**Installation, Testing
and Maintenance Manual**

Warning  This symbol identifies a warning. A warning sign will appear in the text of this document when a potentially hazardous situation may arise if the instructions that follow are not adhered to closely. A potentially hazardous situation may involve the possibility of severe bodily harm or even death.

Caution  This is a caution symbol. A caution sign will appear in the text of this document when a potentially hazardous environmental situation may arise if the instructions that follow are not adhered to closely. A potentially hazardous environmental situation may involve the leakage of fuel from equipment that could severely harm the environment.

Danger  This symbol identifies an electrical danger. An electrical danger sign will appear in the text of this document when a potentially hazardous situation involving large amounts of electricity may arise if the instructions that follow are not adhered to closely. A potentially hazardous situation may involve the possibility of electrocution, severe bodily harm, or even death.

Warning  Follow all federal, state and local laws governing the installation of this product and its associated systems. When no other regulations apply, follow NFPA codes 30, 30A and 70 from the National Fire Protection Association. Failure to follow these codes could result in severe injury, death, serious property damage and/or environmental contamination.

Warning  Always secure the work area from moving vehicles. To help eliminate unsafe conditions, secure the area by using a service truck to block access to the work environment, or by using any other reasonable means available to ensure the safety of service personnel.

Warning  The PV-ZERO is used with tanks containing gasoline or other flammable substances, you may create an explosion hazard if you do not follow the requirements in this manual carefully.

Description of the FFS PV-ZERO Liquid Filled P/V Vent Valve

The PV-ZERO operates using a similar concept to a common P-Trap used in plumbing drain applications to create a liquid air seal. The liquid seals the UST ullage vapors from the atmosphere while still maintaining the proper differential pressure set-points. After the differential pressure has been exceeded, air or vapor bubbles through the liquid media until the pressure returns to the operational pressure settings. Figures 1-3 illustrate the operation of the PV-ZERO.

The PV-ZERO has no moving parts and the only maintenance required is periodic inspection of the liquid.

Because the PV-ZERO does not use seals or gaskets to seal off the UST ullage from atmosphere, the unit will not allow vapor or air to pass through at pressure less than the cracking set-point. As long as the valve is filled with 1.6 liters (54 ozs) of PV-ZERO fluid, the stainless steel valve housing is not damaged, and the pipe fittings are correctly installed, the unit should be leak free.

The liquid used for the PV-ZERO unit is silicone-based and has an very low vapor pressure and low toxicity.

The PV-ZERO can be mounted either at the top of the vent rack or in-line (mid-mount at working level). To avoid the risk of climbing a ladder and to maximize the simplicity of inspection and service, the preferred installation of the PV-ZERO is to be mounted in-line. It can be mounted on a single riser pipe or many riser pipes manifolded to a single line. The PV-ZERO is designed to mount on 3" riser piping, but can also be installed on 2" riser piping.

See drawings on pages 9-11 for mounting options.

*** Refer to CARB EVR documents regarding equipment rules for manifold systems.***

A support frame should be used for mounting all vent riser piping and must be used to stabilize the piping above the PV-ZERO if it is to be mounted in-line.

If the PV-ZERO is to be top mounted, the support frame must stabilize the piping below the unit (and the unit itself). Check local agencies for support frame requirements and consult a licensed structural engineer if in doubt of the structural integrity of the vent rack support system.

Note: Do not mount the PV-ZERO unit on a free standing vent piping system without a support frame!

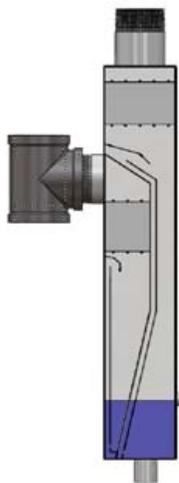


Figure 1: No Differential

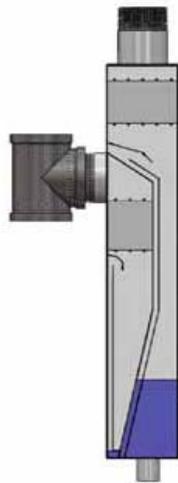


Figure 2: Positive Cracking

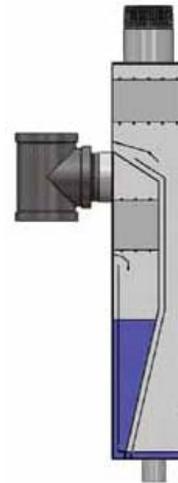


Figure 3: Negative Cracking

Installation

Note: Use a thread sealant that is approved for gasoline and gasoline-ethanol blends such as Gasoila Soft Set or Jomar Heavy Weight for all threaded pipe fittings and plugs. The 3" side tee and 1" bottom drain plug are factory installed. Tighten all fittings per recognized industry installation standards.

1. Thread the bottom of the 3" side tee onto the vent riser piping. The PV-ZERO may be mounted mid-line or top mounted on a single riser or a manifolded system (see drawings, pages 9 & 10). For 2" riser piping systems, use a 3x2" NPT reducing coupling with a 3" pipe nipple at least 6" long (see drawing, page 11).
2. Make sure the PV-ZERO unit is plumb within $\pm 3^\circ$ and not set at an angle. Failure to set in the vertical position may cause improper operation.
3. For mid-line mounting installations, install and secure the rest of the 3" discharge piping on the vent rack (refer to NFPA 30 for specific fuel system vent piping requirements). **Be sure to use a pipe wrench to counteract the tightening force to the valve!**
4. Fill the PV-ZERO unit through the side port with 1.6 liters (54 oz.) of PV-ZERO fluid (FFS p/n 407220001) provided with the unit. It may also be filled through the discharge outlet fitting (top). **Do not pour into the 3" side tee fitting!**

Note: To fill the fluid in the PV-ZERO, the UST (Underground Storage Tank) must be open to the atmosphere OR the inflatable test plug needs to be installed to reach the correct level. If the tank is under pressure or vacuum, the correct fill level cannot be obtained.

5. Install the side plug.
6. Perform the **Field Testing Procedure**.
7. Install the 3" pipe plug on top of the tee.
8. Attach the 3" upward-venting rain cap provided. Attach to the top of the vent pipe (mid-mount installation) or directly to the top of the PV-ZERO (top mount) **Keep the rain cap installed to minimize water intrusion, and to ensure proper operation.**

The PV-ZERO may be painted, however, do not paint over or cover the nameplate placards decals.

Field Testing

Note: Compliance testing of the PV-ZERO, if required by the local air quality district, shall be conducted in accordance with California Air Resources Board (CARB) test procedure TP-201.1E and Exhibit 2 of the Executive Order. This test shall be conducted using the PV-ZERO test cap assembly (FFS p/n 407225901) with the valve in its installed condition. The PV-ZERO can be tested without removing the unit from the vent rack.

There are (3) ports on the PV-ZERO test cap assembly (see page 8):

- 1 – Schrader valve connection for the inflatable plug
 - 1 – 1/4" hose barb (for pressure/vacuum supply)
 - 1 – 1/8" hose barb (for manometer)
1. Remove 3" pipe plug from top of tee (if necessary).
 2. Install the test cap assembly through the top of the 3" tee, allowing the inflatable plug to extend into the vent riser pipe - tighten fully.
 3. Inflate the inflatable plug to 35 PSI.
 4. Test per CARB TP-201.1E
 5. Deflate the inflatable plug.
 6. Remove test cap assembly from 3" tee.

Recommended Maintenance Intervals

- **Every year:** Visually inspect the housing, pipe, fittings, and rain cap for obvious signs of damage, missing parts, or fluid leaks.
- **Every year:** Visually inspect the rain cap, from ground level, for signs of bird nests or insect activity.
- **Every year:** Drain and inspect the fill fluid per the **Fluid Inspection Procedure**.

Fluid Handling

The PV-ZERO is filled with a silicone based fluid, p/n 407220001 (contact FFS for MSDS sheet). The PV-ZERO fill fluid is resistant to UV exposure, does not support bioactivity and is resistant to oxidation.

Since the PV-ZERO is exposed to tank ullage vapors, used PV-ZERO fill fluid may contain trace amounts of ethanol and gasoline. The maintenance technician servicing the PV-ZERO should wear appropriate eye protection and nitrile gloves when inspecting or servicing the fill fluid. Check with local and state regulations regarding handling, transportation, recycling and disposal of silicone based fluids.

Fluid Inspection Procedure

1. Remove the 3" NPT plug from the top of the side tee.
2. Remove the 3/8" NPT side plug.
3. Remove the 1" NPT bottom plug and drain the fluid into a clean, transparent container.
4. Visually inspect the fill fluid for debris or water contamination. Since the specific gravity of the fluid is slightly less than water, any water in the fluid will settle to the bottom. The fluid can be reused indefinitely as long as it is free of sediment and water.

Note: Clean fluid can be refilled into the valve and topped off with new fluid, or it can be completely replaced with new fluid.

5. Reinstall the 1" NPT bottom plug.
6. Refill the PV-ZERO valve with fluid through the side-port until it spills out of the port. This is the correct fill level of 1.6 liters (54 oz.).
7. Reinstall the 3/8" NPT side plug.
8. Perform the **Field Testing Procedure**
9. Reinstall the 3" NPT plug in the top of the side tee.

Only use the approved PV-ZERO fluid (P/N 407220001). Substitution of other fluids voids the warranty and can cause vapor leaks!

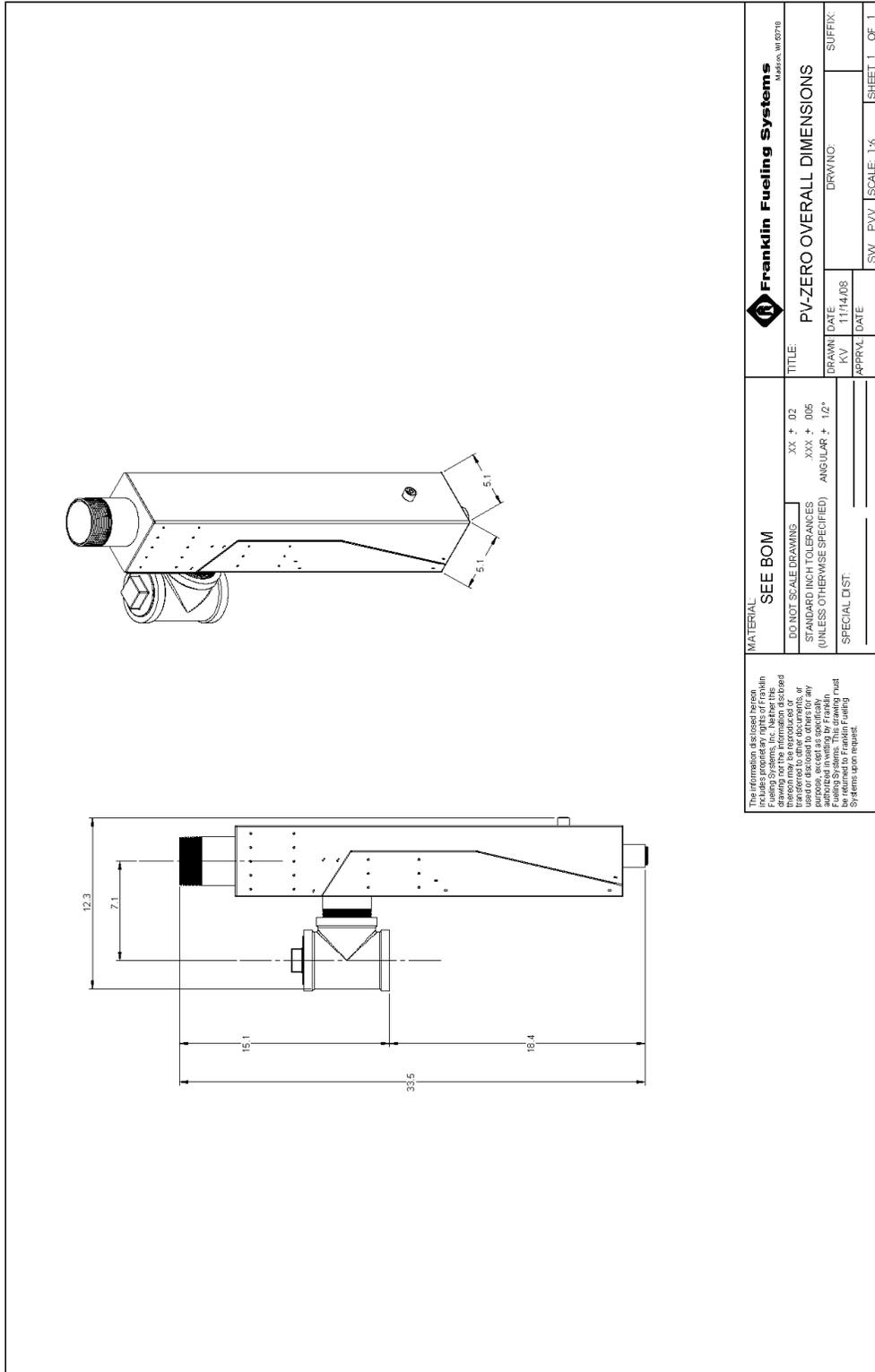
PV-ZERO Specifications

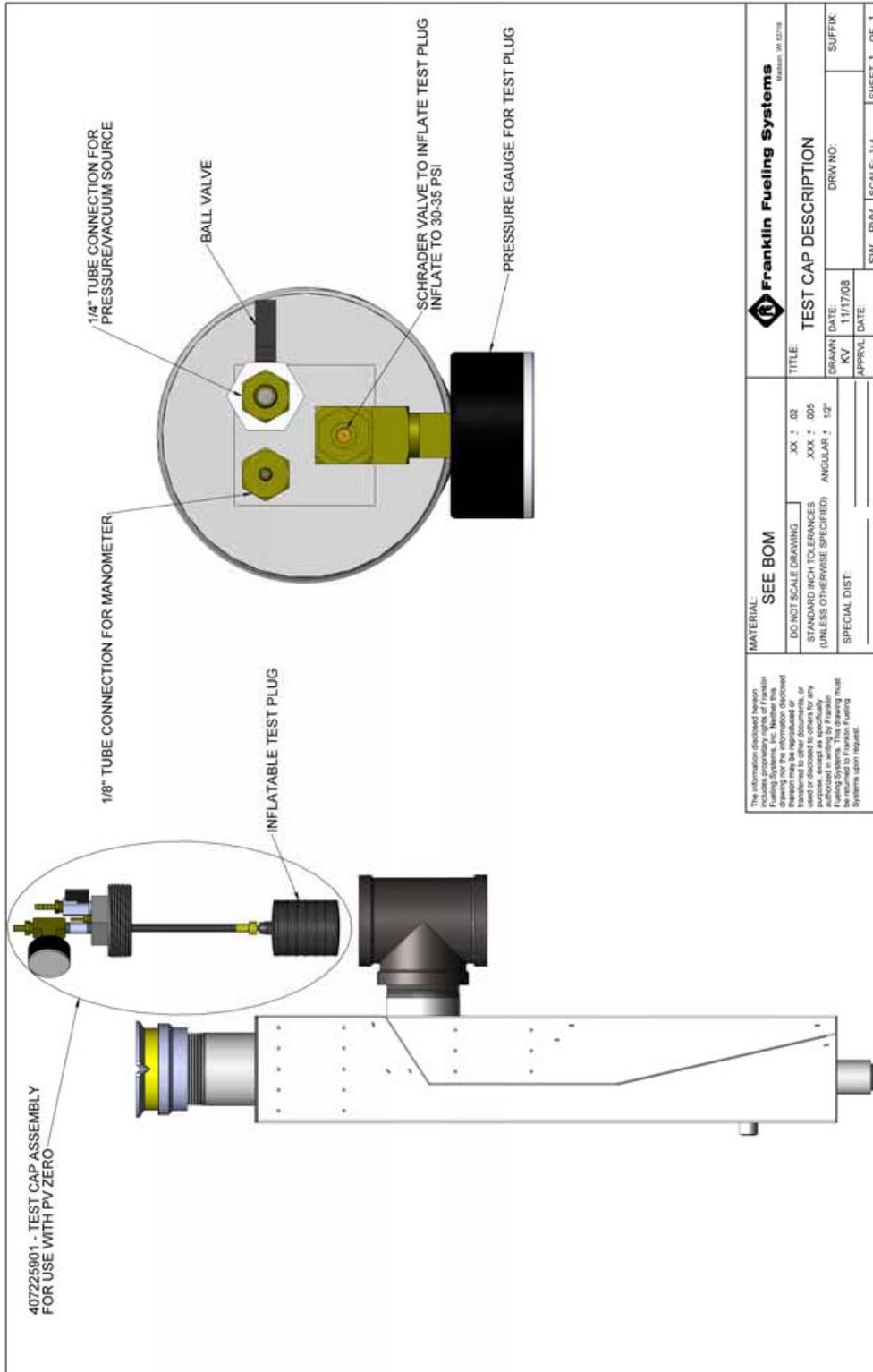
Height:	33.5"
Width:	5.0"
Length:	12.3"
Dry weight:	20#
Inlet piping connection	3" NPT
Discharge piping connection	3" NPT
Fill port	3/8" NPT
Drain port	1" NPT
Construction material	304 stainless steel
Fuel Compatibility	Gas & E85
Pressure leak rate	<< 0.05CFH at +2.0 W.C.
Vacuum leak rate	<< 0.21 CFH at -4.0 W.C.
Pressure drop at 60 cfm flow rate with tank positive pressure	14" W.C.
Pressure drop at 90 cfm flow rate with tank positive pressure	28" W.C.
Minimum operating temperature	-40°F (-40°C)
Maximum operating temperature	130°F (54°C)
Maximum test pressure	5 PSI
Maximum mounting angle deviation from vertical	3°

Drawing List:

Page	Drawing Description
6	PV-ZERO Operating Assembly
7	PV-ZERO Overall Dimensions
8	Test Cap Description
9	3" Manifolder Mid Mount
10	3" Mounting Assembly
11	2" Mounting Assembly

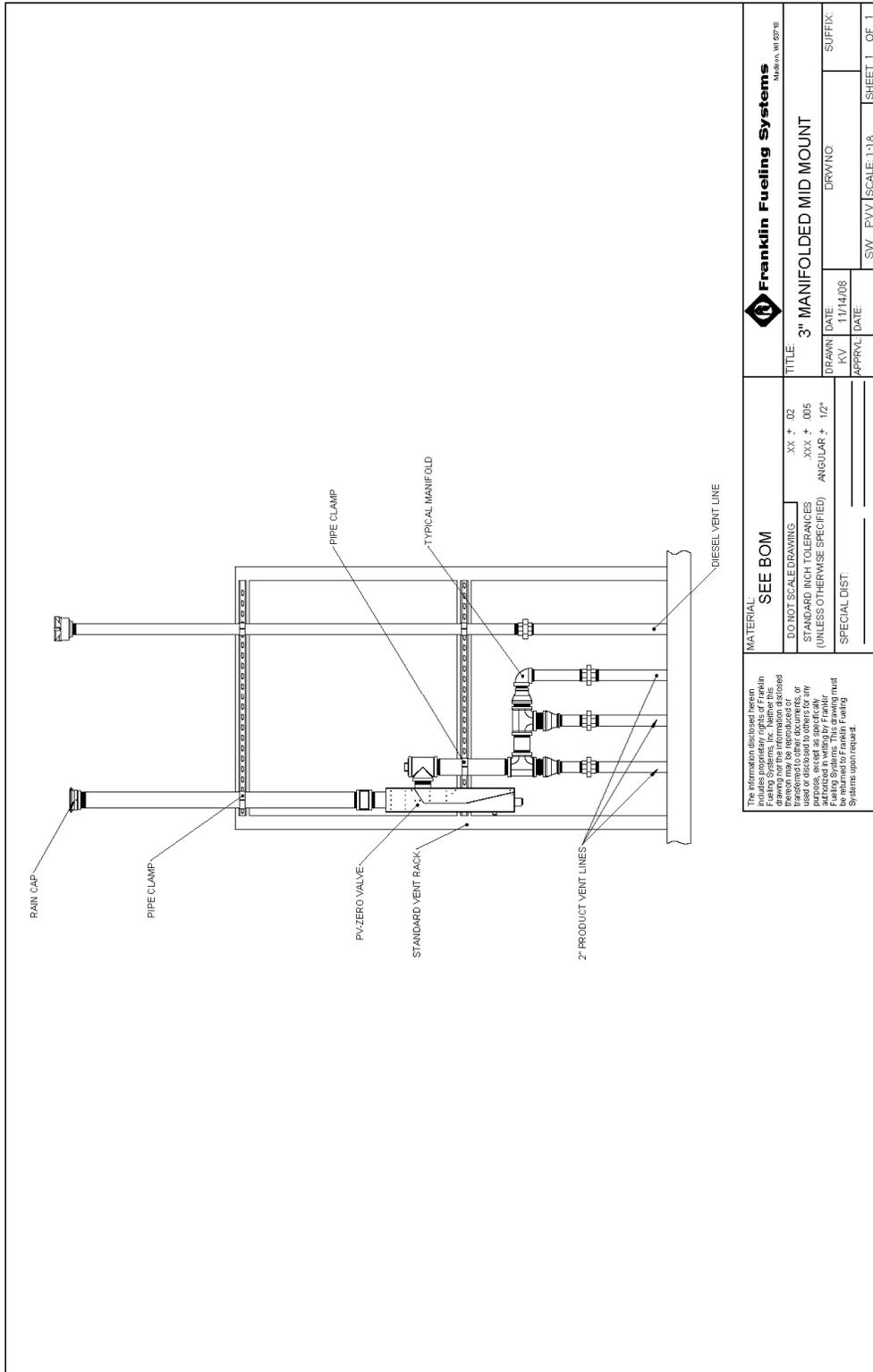
The drawings are on the following pages.





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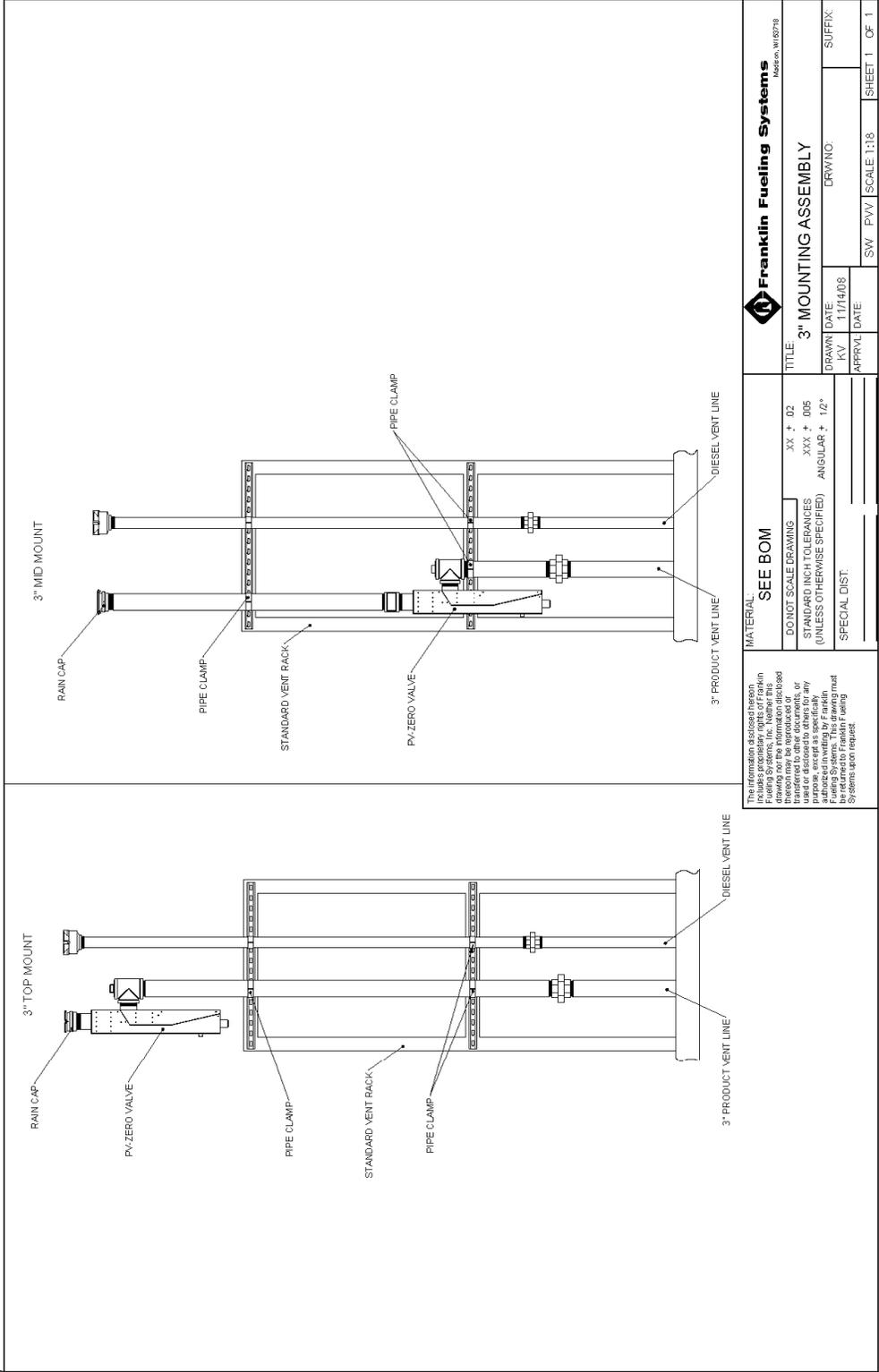
Franklin Fueling Systems <small>Franklin, WI 53178</small>	
MATERIAL: SEE BOM	
DO NOT SCALE DRAWING STANDARD INCH TOLERANCES (UNLESS OTHERWISE SPECIFIED) SPECIAL DIST.	.XX ± .02 .XXX ± .005 ANGULAR ± 1/2°
TITLE: TEST CAP DESCRIPTION	DRAWN DATE: KV 11/17/08
APPROVAL DATE:	DRW NO.: SUFFIX:
SW PWV SCALE: 1:4	SHEET 1 OF 1



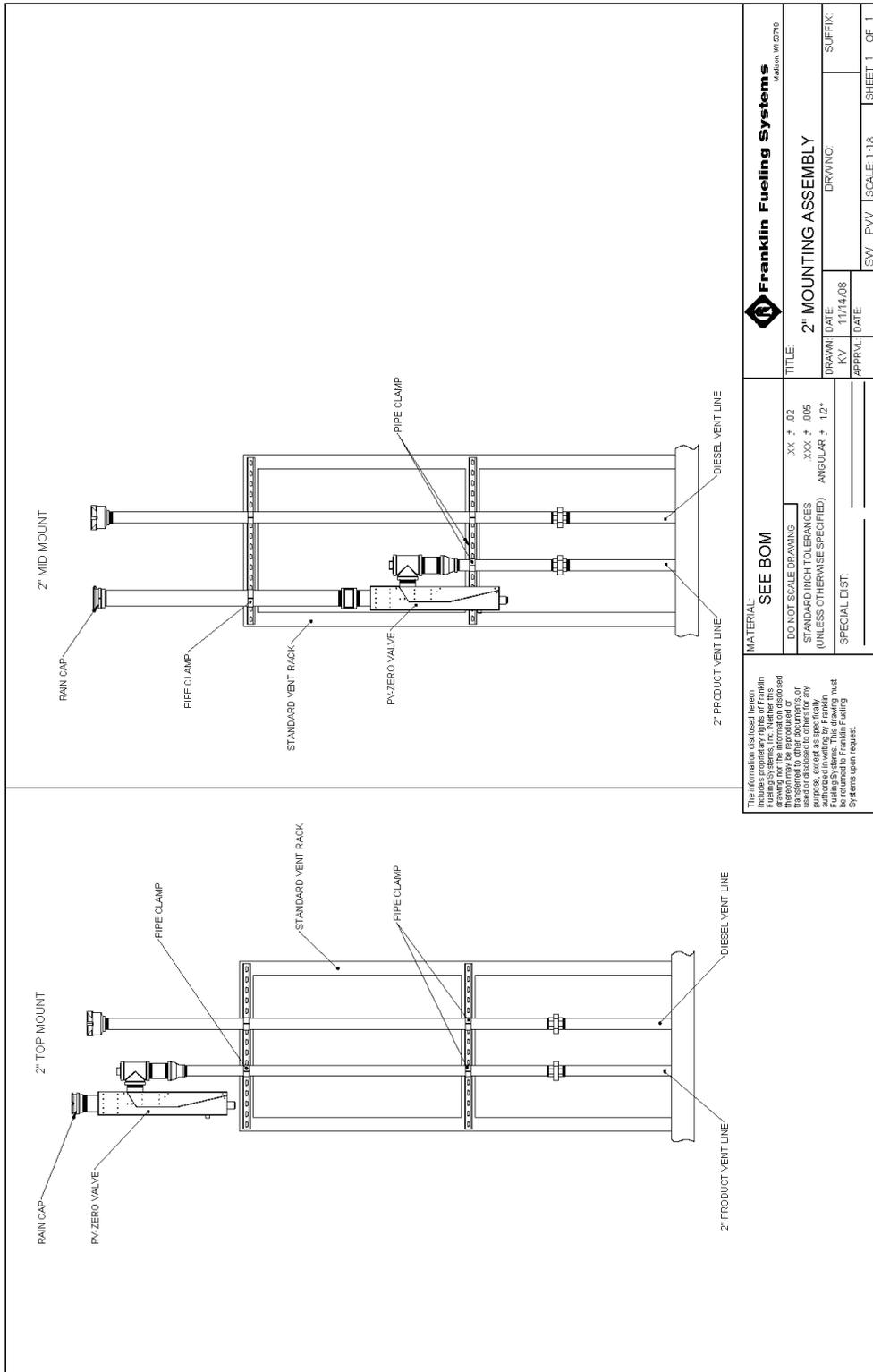
Franklin Fueling Systems <small>Made in the U.S.A.</small>	
MATERIAL: SEE BOM	
DO NOT SCALE DRAWING STANDARD INCH TOLERANCES (UNLESS OTHERWISE SPECIFIED)	XX ± .02 .XXX ± .005 ANGULAR ± 12°
SPECIAL LIST:	
TITLE 3" MANIFOLDED MID MOUNT	DRAWING NO. _____
DRAWN DATE K.V. 11/14/08	SUFFIX: _____
APPROVAL DATE _____	SCALE 1:18
SHEET 1 OF 1	

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10



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<p>DO NOT SCALE DRAWING STANDARD INCH TOLERANCES (UNLESS OTHERWISE SPECIFIED)</p>	<p>XX ± .02 XXX ± .005 ANGULAR ± .12°</p>
<p>SPECIAL DIST:</p>	<p>DRWNO: _____ APPRVL DATE: _____ SW: PVW SCALE: 1:18 SHEET 1 OF 1</p>
<p>MATERIAL: SEE BOM</p>	
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<p>DO NOT SCALE DRAWING .XX ± .02</p>	<p>TITLE</p>
<p>STANDARD INCH TOLERANCES .XXX ± .005</p>	<p>2" MOUNTING ASSEMBLY</p>
<p>(UNLESS OTHERWISE SPECIFIED) ANGULAR ± 1/2°</p>	<p>DRAWN DATE: DRW/WHO</p>
<p>SPECIAL DIST</p>	<p>DATE: 11/14/08</p>
<p>APPROVAL DATE</p>	<p>APPROVAL DATE</p>
<p>SW: PVW</p>	<p>SCALE: 1:18</p>
<p>SHEET 1</p>	<p>OF 1</p>

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Franklin Fueling Systems

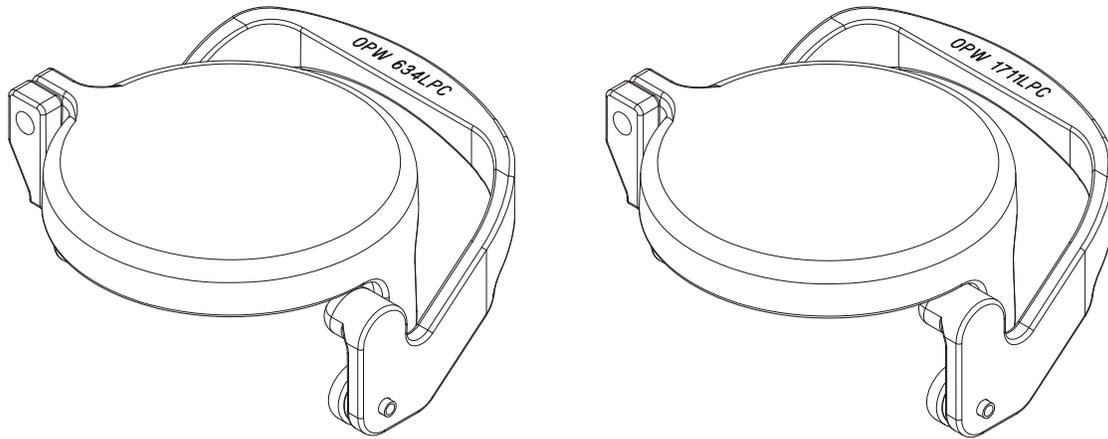
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Figure N-1

OPW 634LPC (product) and 1711LPC (vapor) Dust Caps



Operation and Maintenance:

Annually inspect seal for nicks, tears or deformations. If required replace with OPW P/N: H15005M.



P.O. Box 405003 * Cincinnati, Ohio 45240-5003
1-800-422-2525 Domestically
513-870-3315 Internationally
www.opw-fc.com

Figure O-1
CompX Security Products (CSP)
CSP1-634LPC (product), CSP2-634LPC (product),
CSP3-1711LPC (vapor) and CSP4-1711LPC (vapor)
Tank Commander Dust Caps

TANK Commander – Warranty

Seller warrants to the initial and subsequent purchasers, for a period of one year from date of installation, that the Products sold hereunder will, at the time of delivery: (a) comply with the ARB CP-201 standards and specifications for the duration of the warranty period for such Products in effect at the time of shipment or such other specifications as are expressly agreed upon by Seller and Buyer in writing; (b) be adequately contained, packaged, and labeled; and (c) conform to any promises and affirmations of fact made on the container and label. In the event that any such Products fail to conform to the foregoing warranty, Seller will, at its option, repair or replace such nonconforming Products, or credit Buyer for an amount not to exceed the original sales price of such Products. Shipping costs incurred in returning such nonconforming Products to Seller shall be borne by Seller, but Seller shall in no event be liable for any inspection, handling, or packaging costs incurred by Buyer in connection with such Products. Buyer's negligence, misuse, improper installation, or unauthorized repair or alteration, shall void this warranty.

The TANK Commander Warranty tag is located on the inside cover of the product.

Tank Commander features:

Tank Commander fits all certified Phase 1 Vapor Recovery Systems: Phil-Tite, OPW, EBW, CNI and EMCO Wheaton

- Stainless steel construction
- Vapor recovery seal remains intact
- Low profile fill cap included
- Fits common bronze adapters
- 24/7 protection for diesel and gas

TuBAR Tank Commander

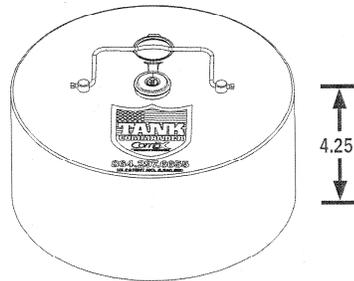
- TuBAR® lock for maximum key control
 - No key blanks available except from factory
 - Key series registered to your store(s)
- Keyed alike available - use the same key for both Tank Commander and dispenser

Padlock Tank Commander

- Available with heavy duty four number changeable combination padlock
- Or use existing padlock

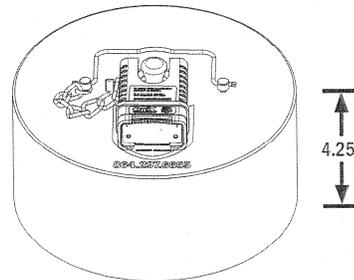
TuBAR Tank Commander

(P/N:
 TC-1,
 TC-1-V)



Padlock Tank Commander

(P/N:
 TC-PL,
 TC-PL-V)



ISO 9001 certified.

TANK Commander – Instructions

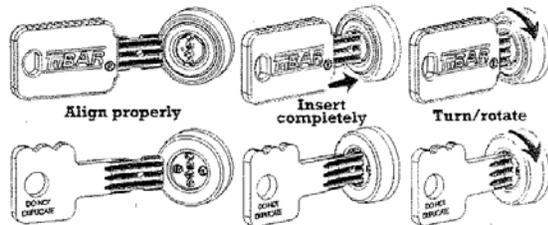
Product Instructions

Remove existing dust cap OPW 634LPC, OPW 634TT-EVR, Morrison Brothers 305C-0100ACEVR, EBW 777-201-01, EBW 777-201-02, CNI Mfg, 64, OR EMCO Wheaton Retail A0097-005 and replace with appropriate TANK Commander dust cap; CSP1-634LPC, CSP2- 634LPC, CSP3- 1711LPC or CSP4-1711LPC. Make sure the handle lever is fully locked and the dust cap seal is engaged.

Annually inspect dust cap seal for nicks, tears or deformations and replace if necessary. Installation of TANK Commander should not violate any (height) limitations exhibited in California Air Resources Board Executive Orders VR101-VR105. If the original Vapor Recovery System installation will not allow correct installation of TANK Commander then modification to the vapor recovery system is required (i.e. fill pipe height reduction) to maintain installation requirements.

TuBAR TANK Commander (P/N: TC-1, TC-1-V)

Insert key into the keyway of the lock on top of the stainless steel TANK Commander and rotate clockwise to retract locking bolt. Install stainless steel TANK Commander over the CSP1-634LPC product dust cap or CSP3-1711LPC vapor dust cap ensuring the lock body mounted in the sleeve fully engages the brass boss on top of the dust cap. Return the key to the 12 o'clock position and remove. The TANK Commander is now secured to the dust cap and should rotate freely.



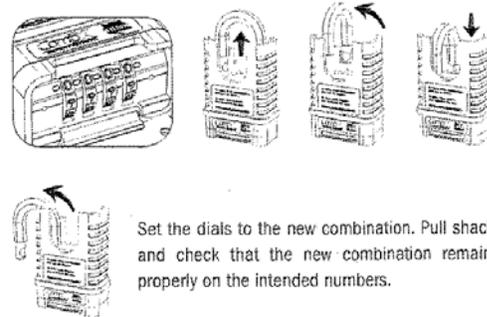
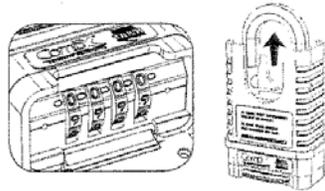
Padlock TANK Commander (P/N: TC-PL, TC-PL-V)

Install stainless steel TANK Commander over dust cap spindle on CSP2-634LPC or CSP4-1711LPC; install padlock shackle through the spindle hole. Secure TANK Commander by locking the padlock; product should rotate freely.

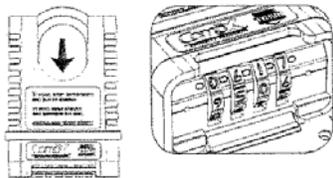
To Change the Combination: Open the lock using the proper combination and pull the shackle up to unlock. Turn the shackle 90° then press down completely. Now rotate another 90° to the left.

The factory combination is 0-0-0-0. Be sure to record new combination. Warranty does not cover lost, stolen or incorrectly set combinations.

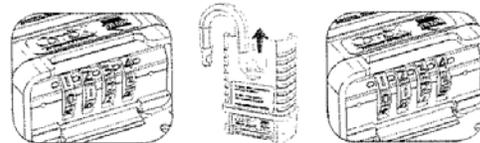
To Open: Spin the dials so the proper numbers align on top with the black hash marks. Pull the shackle up to unlock.



Set the dials to the new combination. Pull shackle up and check that the new combination remains set properly on the intended numbers.



To Close: Push the shackle down to close. Scramble dials to lock the shackle. The dials will only spin when the shackle is in the locked position.



See previous instructions (on left) to close and lock.



Standard Product Warranty on back.

ISO 9001 certified.

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