



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

May 13, 2013

Mr. Stan Brodecki
Franklin Fueling Systems
5972 Country Manor Place
Sacramento, CA 95825-2152

Dear Mr. Brodecki:

Evaluation of Stage I Vapor Recovery Components, Franklin Fueling Systems Defender Series Spill Containers (Double Wall and Single Wall) Versions

Assembly Bill 2955 (Statutes 2004, Chapter 649) added Health and Safety Code, Chapter 6.7, section 25290.1.2(a). This addition requires the Air Resources Board (ARB) and State Water Resources Control Board (State Water Board) to certify, to the best of their knowledge and using existing resources, that equipment meeting ARB's Enhanced Vapor Recovery (EVR) requirements also meets underground storage tank (UST) statutory requirements.

The State Water Board has received an information packet from you detailing proposed modifications to Franklin Fueling executive orders VR-101 Phil-Tite Phase I EVR and VR-103 EBW Phase I EVR. The proposed modifications are the inclusion of your new *Defender* series of spill containers (Double and Single Wall) versions. You have also stated that you recently completed over six months of certification testing with ARB which received passing results at ARCO located at 4021 Douglas Blvd., Granite Bay, CA 95746. The proposed modifications have been reviewed by a California Registered Professional Engineer, as indicated in the enclosed signed statements dated February 4, 2013 and February 8, 2013. Based on these signed statements and the supporting information you provided, the State Water Board has found no evidence that the *Defender* series of spill containers conflicts with Health and Safety Code, Chapter 6.7.

Although the use of Franklin Fueling *Defender* series spill containers does not conflict with Health and Safety Code, Chapter 6.7, we have noted that the direct burial configuration of the system does not provide secondary containment for the tank fill riser. Secondary containment of the tank fill riser is required on all UST systems installed after July 1, 2003, and on certain other UST systems pursuant to Health and Safety Code, Chapter 6.7 and implementing regulations. **Accordingly, the direct burial configuration can only be used on UST systems where secondary containment of the fill riser is not required.**

This determination assumes the Franklin Fueling Systems Phase I EVR Systems are installed and maintained in accordance with the most recent ARB Executive Orders VR-101 Phil-Tite and VR-103 EBW and manufacturer's instructions. Pursuant to Health and Safety Code, Chapter 6.7, section 25290.1.2(a) the State Water Board certifies that, to the best of its knowledge, the

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE OFFICER

1001 I Street, Sacramento, CA 95814 | Mailing Address: P.O. Box 100, Sacramento, Ca 95812-0100 | www.waterboards.ca.gov

inclusion of the *Defender* series of spill containers meets the requirements of Health and Safety Code, Chapter 6.7.

If you have questions regarding this letter, please contact Ms. Laura Fisher at (916) 341-5870, or by e-mail at lfisher@waterboards.ca.gov.

Sincerely,



Victoria A. Whitney, Deputy Director
Division of Water Quality

Enclosures (10): 1- SWRCB-Signed Letter Requesting a Determination of Defender Series Spill Containers

2- Third Party Review_FFS-Letter Requesting a Determination of Defender Series Spill Container

3- Cut Sheets-Drawings_Defender Series Spill Container

4- Defender Series Model Number Reference Chart

5- Catalog Pages of Defender Series Spill Container

6- F-9028r4_DefenderSpill Container Double Wall Installation

7- F-9032r2_Defender Single Wall Spill Container Installation

8- F-9040 r1_Multiport Sump w-Defender Retrofit-draft

9- UL Online MH21091 Spill Containment Devices

10- UL_MH21091_Certificate_of_Compliance-07-02-10



Franklin Fueling Systems

January 2, 2013

State Water Resources Control Board
Division of Water Quality
Underground Storage Tank Program
Laura S. Fisher
Chief, Leak Prevention Technical Unit
1001 I Street, 15th Floor
Sacramento, CA 95814

Subject: Request a Determination for Franklin Fueling Systems Defender Series Spill Container (Double Wall and Single Wall)

Dear Ms Fisher:

Please accept this letter as a request to make a determination for Franklin Fueling Systems new Defender Series Spill Container that uses many components that are already certified and listed in ARB's Phase I EVR Executive Orders EBW VR-103 and Phil-Tite VR-101. See Appendix B.

We have recently completed over 6 months of certification testing with the Air Resources Board with passing results at the Arco at 4021 Douglas/Sierra College in Granite Bay. We are in the final documentation stage for Executive Order approval.

The Defender Series Spill Container is UL MH21091 approved, Certificate Number 20100702 (see Appendix C) and Florida Department of Environmental Protection approved July 2010.

The Defender Series Spill Container is currently sold in 49 states, Canada and other countries.

I have included the Defender Series Spill Container Features and Construction in Appendix A.

Please review this request and advise if any additional information is needed to proceed.

Sincerely,

Stan Brodecki
Sr. Application Engineer
Franklin Fueling Systems
5972 Country Manor Place
Sacramento, CA 95835-2152
Cell Phone 530 510 7297



Franklin Fueling Systems

Appendix A

Summary of Features, Materials and Construction:

Defender Series Direct Bury Spill Container:

- EBW cast iron cover lid with gasket
 - Currently certified in Phase I EVR E.O. VR-103
 - ULC listed for being water tight submerged under 6" of water
 - engineered seal (profiled), which is made out of a UL listed compound for service in gasoline/E85
- Snow plow ring
 - Cast iron with e-coat finish
 - Very similar design to the current EBW snow plow ring in VR-103
 - Is removable and uses an O-ring to seal to the "Cast Iron ring" – the O-ring compound is UL listed for gasoline/E85
 - Uses "hidden" stainless steel bolts to secure the spill container to the cast iron ring – they are hidden to prevent traffic damage from above
- Cast Iron ring
 - Cast iron with e-coat finish
 - Basically the housing that is encased in concrete, but also provides the sealing surface for the bucket to seal against
 - Has approx. 3" of adjustability, to allow the contractor to retrofit a wide range of previous installations
- Gravel guard
 - HDPE
 - Design to hold the backfill in place and to keep the backfill from entering the spill container when it is replaced in the field.
 - Has self-tapping hex screws so the GG can be slid down after installation
 - Allows Testers to gain access to the tank riser joint (to soap the joint during pressure testing) – then reattach after testing
- Spill Container Assembly
 - Primary bucket (inner)
 - HDPE – same wall thickness as the EBW VR-103 certified spill container



Franklin Fueling Systems

- Attaches to the tank adapter base via the same method (hex bolts and backup plates to distribute the clamp load) as the certified EMW VR-103 spill container.
- Secondary bucket (double wall version only)
 - HDPE – same wall thickness
- Lower seal ring
 - This is the ring that acts as a clamp ring underneath the flange of the primary/secondary bucket and evenly distributes the clamp load across the gaskets in between the flange and seal ring
 - Also acts as the ring that retains the OD seal between the bucket subassembly and the concrete ring
- OD seal
 - Same concept as the Phil-Tite bucket, where the profiled gasket provides the seal between the bucket and sleeve
 - Same profile as the certified VR-101 gasket used in the Phil-Tite system
- Tank adapter
 - Cast iron with e-coat finish
 - Is the main portion that all components attach to
 - Very similar design to the EBW VR-103 certified bucket
- Drain valve
 - Same drain valve as the EBW VR-103 certified model, except it uses a stainless screen instead of brass and is (E85 compatibility)
 - Drain valve is “isolated” above the drop tube to comply with CP-201
- DT Riser Clamp (Drop Tube attachment component)
 - Is the portion of the bucket that receives the short riser nipple and product/vapor adapters, and is one subassembly
 - When installed into the tank adapter, the DT riser clamp threads in, thus travelling downwards and pushing on the drop tube – to seat the drop tube seal against the ledge in the tank adapter
 - The ledge geometry is the same as the MF 4X4 – where the drop tube seal currently seats in the Phil-Tite buckets



Franklin Fueling Systems

- The DT riser clamp has radial holes allowing drained product to flow through and down the drop tube
- This is FFS's version of the OPW "jack screw" assembly, but it doesn't use an external plate or bolts to apply downward force – just the screwing-in action
- Swivel adapter
 - SWF-100-SS & SWV-101-SS are the same
- Dust caps
 - Same models as currently certified (Gas/E85 version)
- Inspection port pipe
 - Allows access into the interstitial space for monitoring and/or sensor maintenance
- Monitoring options
 - I2 Montior – visual float gauge
 - TSP-ULS float sensor
- Corrosion protection/AGB compatibility
 - All fasteners are stainless steel
 - All metallic components are either stainless steel, nickel plated, or epoxy electrocoated (e-coat)
 - All non-metallic components are either HDPE or nylon
 - All gaskets are UL 157 listed for use in fuel service
 - All gaskets that see direct fuel/vapor contact are UL listed for exposure with gasoline/E85
- The interstitial space (double wall) and primary space (single wall) are vacuum testable – and they are testing 100% in-house on the production line to confirm tightness.
- It is currently listed through ULC under file MH21091 and Florida certified under EQ-757.
 - I have also attached the certification drawings for reference
- It uses an install tool T-7106, which is double ended to tighten the bucket and install the DT riser clamp assy. It uses the same Phil-Tite t-handle tool.
- The model numbers are 705-540-XXX series (SW) and 705-550-XXX series (DW)
 - The replacement inner spill container assembly is 705-541-XXX (SW) and 705-551-XXX (DW)



Franklin Fueling Systems

Defender Series Multiport Version

- Manaway cover will be very similar as the current Phil-Tite multiport manaway covers and are a direct replacement with the Phil-Tite 85000 series spill containers manaway covers.
 - They come in the same size (36 & 42" versions) as the current Phil-Tite Manaway covers only the spill container opening is a larger diameter for the Defender Series Spill Container.
 - Uses a cast iron snow plow ring (SPR) – that is similar to the EBW style “ramps” & water dam/sealing ledge
 - The manaway cover has a sleeve interface between the manaway cover and the spill container the same as for the 85000 series spill container but instead of stainless steel it is made of cast aluminum & e-coated.
 - Uses an O-ring to seal between the SPR & cover and sleeve & cover to keep water and debris out.
 - Uses the same “cam-lock” assembly to bolt the manaway cover to skirt ring, same as the Phil-Tite Manaway covers
 - Uses the same design watertight sump shield – with bigger openings to allow for the Defender spill container to fit through the sump shield
 - Uses the same reducer boot design (13/15" instead of a 10/13") & band clamps to the sump shield and the spill container to keep water out.
 - Can be retrofitted to existing Phil-Tite multiport installs
 - Use the EBW cast iron cover lid as described earlier



Franklin Fueling Systems

Defender Series Spill Container Model Numbers:

705540001CI-GKT	5 gal, Single wall, NPT, w/ drain, grey epoxy coated cast iron cover w/ gasket
705540002CI-GKT	5 gal, single wall, NPT, no drain, grey epoxy coated cast iron cover w/ gasket
705550101CI-GKT	5 gal, double wall, NPT, w/ drain, remote monitor, grey epoxy coated cast iron cover w/ gasket
705550102CI-GKT	5 gal, double wall, NPT, no drain, remote monitor, grey epoxy coated cast iron cover w/ gasket
705550201CI-GKT	5 gal, double wall, NPT, w/ drain, ULS sensor, grey epoxy coated cast iron cover w/ gasket
705550202CI-GKT	5 gal, double wall, NPT, no drain, ULS sensor, grey epoxy coated cast iron cover w/ gasket

Fugitive Emission Protection: The Defender Series Spill Container utilizes a ¼" compression gasket at the point of connection between the female spill containment threads and the tank riser threads to eliminate possible thread leaks. It also meets the TP-201.ID drain valve leak rate of 0.17 CFH at 2.0 in/wc.

Integrity Confirmation: Mechanical or sensor monitored interstitial space on double wall models provide visual or electronic confirmation of containment integrity.

Minimized Maintenance Costs: The field replaceable containment may be replaced easily without having to break concrete while the protected plow ring connection eliminates the possibility of damaged threads. The single wall option can also be upgraded to a double wall option as regulations evolve without having to break concrete or install a completely new spill container

Appendix B

NEW DEFENDER SERIES SPILL CONTAINER COMPONENTS SHARED WITH PHIL-TITE AND EBW PHASE I EVR SYSTEMS

PART NUMBER	DESCRIPTION	EXECUTIVE ORDER	NEW MODIFICATIONS	NEW PART NUMBER	COMMENTS
70533719	REPLACEMENT DRAIN VALVE KIT - USES FBW 70533701 DRAIN VALVE	VR-103	REPLACE BRASS SCREEN WITH STAINLESS STEEL SCREEN FOR E-85 COMPATIBILITY	70533711	70533701 IS THE DRAIN VALVE ASSEMBLY PART NUMBER WITHOUT THE KIT COMPONENTS. NEW P/N IS E-85 COMPATIBLE
85039	1/4" FLAT SEAL	VR-101	LARGER ID	6C225901	IS USED ONLY IN STRAIGHT THREAD BASE OPTION
	CAST IRON SPILL BUCKET COVER WITH GASKET	VR-103	NEW GASKET MADE FROM UNLISTED COMPOUND		E85 COMPATIBLE
	SPILL BUCKET SNOW PLOW RING	VR-103	ADAPT TO DIRECT BURY & MULTIPORT		VERY SIMILAR DESIGN CONCERNING THE "RAMPS" AND COVER INTERFACE. EBW BUCKETS USE AN 8760 HDPE, WHILE THE DEFENDER SERIES USES 8660 HDPE - E85
	SPILL BUCKET CONTAINMENT (PRIMARY & SECONDARY)	VR-103	NEW OVERALL DESIGN & HDPE RESIN E-85		
	GID SEAL, BETWEEN SPILL BUCKET AND SLEEVE	VR-101	LARGER ID, SAME CROSS-SECTION PROFILE		
	TANK ADAPTER (METAL BASE)	VR-103	NEW OVERALL DESIGN FOR DEFENDER SERIES		SAME CONCEPT AS EBW TANK ADAPTER (METAL BASE) BUT NEW FEATURES FOR DEFENDER SERIES
77720102	DUST CAP (PRODUCT) - PLASTIC	VR-101/103	EPOXY COATED ALUMINUM VERSION	77720202	SAME MATERIALS AS 30430201, BUT AS A PRODUCT CAP - INSTALL BOTH METAL/PLASTIC CAPS
30430102	DUST CAP (VAPOR) - METAL	VR-101/103	GLASS FILLED PBT	30420011	SAME MATERIALS AS 77720102, BUT AS A VAPOR CAP - INSTALL BOTH METAL/PLASTIC CAPS
85039-DT	DROP TUBE SEAL	VR-101/103	NO CHANGE		
	STAINLESS STEEL SLEEVE	VR-101	CAST IRON OR CAST ALUMINUM		CAST IRON SLEEVE IS FOR DIRECT BURY, CAST ALUMINUM SLEEVE IS FOR MULTIPORT
SWF-100-SS	SWIVEL ADAPTER, FILL, STAINLESS STEEL	VR-101/103	NEW INTERNAL WIPER SEAL DESIGN		
SWV-101-SS	SWIVEL ADAPTER, VAPOR, STAINLESS STEEL	VR-101/103	NEW INTERNAL WIPER SEAL DESIGN		

Appendix C

The Defender Series Spill Container

Certificate of Compliance

Certificate Number **20100702 – MH21091**
Report Reference **MH21091, 2006 October 23**
Issue Date **2010 July 02**

Page 1 of 1



Issued to: **FRANKLIN FUELING SYSTEMS INC**
3760 MARSH RD
MADISON, WI 53718 USA

*This is to certify that
representative samples of*

Spill Containment Devices for Flammable Liquid

Model Descriptions: Model 702, 703, 705, 715 and 725, Series -65 and -66, Spill Containment Devices in 19L, 57L and 95L capacities, for flammable and combustible liquids underground storage tanks applications.

Model 706-400 Spill Containment Devices in 19L for flammable and combustible liquids aboveground storage tank applications.

Model 705-540 single wall and 705-550 double wall Spill Containment Devices in 19L for flammable and combustible liquids underground storage tank applications.

Model 85000-1, 85100-1, 500-XX-XXX-GRY series, 501-XX-XXX-GRY series, and 400-XX-XXX-GRY series, 401-XX-XXX-GRY series, 404-XX-XXX-GRY series, 405-XX-XXX-GRY series, 406-XX-XXX-GRY series, 407-XX-XXX-GRY series, Spill Containment Devices in 19L capacities, and Model 150-S2-SPR-GRY Spill Containment Device in 57L capacity, for flammable and combustible liquids underground storage tanks applications.

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: **The basic standard used to investigate products in this category is ULC/ORD-C58.15, "Overfill Protection Devices for Flammable Liquid Storage Tanks."**

Additional Information: **See UL On-line Certification Directory at www.ul.com for additional information.**

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

William R. Carney
Director, North American Certification Programs

Underwriters Laboratories Inc.
Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/globalpages/corporate/contactus/>



Franklin Fueling Systems

February 11, 2013

State Water Resources Control Board
Division of Water Quality
Underground Storage Tank Program
Laura S. Fisher
Chief, Leak Prevention Technical Unit
1001 I Street, 15th Floor
Sacramento, CA 95814

Subject: Request a Determination for Franklin Fueling Systems Defender Series Spill Container (Double Wall and Single Wall) versions.

Dear Ms Fisher:

Please accept this letter as a request to make a determination for Franklin Fueling Systems new Defender Series Spill Container that are to be listed in ARB's Phase I EVR Executive Orders VR-101 (Phil-Tite) and VR-103 (EBW).

We have recently completed over 6 months of certification testing with the Air Resources Board with passing results at the Arco at 4021 Douglas/Sierra College in Granite Bay. We are in the final documentation stage for Executive Order approvals.

Mr. Aaron Newman is the Third Party P.E. that reviewed and approved Franklin Fueling Systems Defender Series Spill Containers that are to be listed in ARB's Executive Orders VR-101 and VR-103. I have attached these letters and certification statements to the end of this letter.

Please review this request and advise if any additional information is needed to proceed.

Sincerely,

Stan Brodecki
Sr. Application Engineer
Franklin Fueling Systems
5972 Country Manor Place
Sacramento, CA 95835-2152
Cell Phone 530 510 7297

Aaron M. Newman P.E.
3095 Skillman Ln.
Petaluma, CA 94952
707-479-4594
anewmanpe@comcast.net

February 4, 2013

Stan Brodecki
Product Marketing Manager-EVR Systems
Franklin Fueling Systems
5972 Country Manor Place
Sacramento, CA 95835-2152
Cell Phone 530 510 7297

RE: Third Party Review and Approval of Franklin Fueling Systems' Defender Series Spill Containment for addition to Phil-Tite E.O. VR-101

Dear Stan,

The following documents related to the Defender Series Spill Containment have been provided by Franklin Fueling Systems for examination and review:

1. Approvals
 - a. U.L. Certificate of Compliance #20100702-MH21091
 - b. Florida Department of Environmental Protection Approval of Franklin Fueling Systems 705-540 Series, Single-Walled, 705-550 Double Walled Series with Interstitial Integrity Gauge and 705-550 Double Walled Model with Incon-Intelligent Controls, FFS Model TSP-ULS Interstitial Sensor
2. Tests
 - a. Arco-Granite Bay, Certification for FFS Defender Series Spill Containers, 60 Day Test, August 23, 2012
3. General Information
 - a. Franklin Fueling Systems, Defender Series Model Number Reference Chart.
 - b. Request for Determination for Franklin Fueling Systems Defender Series Spill Container (Single Double Wall), California State Water Resources Control Board, January 2, 2013.
 - c. Defender Series Spill Container Summary of Features, Materials and Construction.

Aaron M. Newman P.E.
3095 Skillman Ln.
Petaluma, CA 94952
707-479-4594
anewmanpe@comcast.net

4. Training

- a. Training Information Phase I Vapor Recovery System
CARB EVR Approved Contractor Training Executive Order VR-101-(x) July 2012

5. Manuals

- a. Multiport Spill Containment with Defender™ Spill Containers Retrofit Installation Guide Overview (Draft)
- b. Franklin Fueling Defender Series™ 5 Gallon, Single Walled, Field Replaceable Spill Container Model 705-540 Series Installation, Operation, & Maintenance F-9032 Rev. 2
- c. Franklin Fueling Systems Defender Series™ 5 Gallon, Double Walled, Field Replaceable Spill Container Model 705-550 Series Installation, Operation, & Maintenance F-9028 Rev. 4

Based on a careful review and analysis of this information, I hereby certify that the Defender Spill Containment will provide containment of spills and is testable in accordance with California Health and Safety Code, Chapter 6.7. The integrity of the double walled model of the spill containment can be verified either continuously or periodically by testing the interstitial space. Since riser pipe for the spill containment is not double walled, the installation of the Defender Spill Containment will meet the monitoring requirements of California AB 2481 only if it is installed in a sump that is monitored as required in California AB 2481.

Aaron M. Newman P.E.

Aaron M. Newman P.E.
Mechanical Engineer



Certification Statement for the addition of the Defender Series Spill Container to Franklin Fueling System(FFS), Phil-Tite, Phase I Enhanced Vapor Recovery(EVR) System, Executive Order VR-101-M

Based on a careful review and analysis, I hereby certify that the installation of the Defender Spill Container in the Phil-Tite, Phase I EVR System, which is under consideration for California Air Resources Board (ARB) certification, meets the requirements of Chapter 6.7 of the California Health and Safety Code.²

Phil-Tite Phase I EVR System warrantee is valid as long as the system is installed and operated according to manufacturer's instructions and in a manner that does not exceed the limitations (e.g. tank capacity, fueling points, throughput, etc) described below.

Limitations:

The Defender Spill Container may be installed in areas where direct bury is permitted by Chapter 6.7 of the California Health and Safety Code. For installations in California that must meet California AB 2481 requirements the Defender Spill Container must be installed inside a sump that is AB2481 compliant.

Aaron M. Newman P.E. 2/11/13
Signed by Date
(California Professional Engineer)

Stan Brodecki 02/11/2013
Signed by Date
(Company Representative)

Aaron M. Newman P.E.
Printed Name (California Professional Engineer)

Stan Brodecki
Printed Name (Company Representative)

Aaron M. Newman P.E.
Professional Engineer Company Name

Franklin Fueling Systems
Equipment Manufacturer Name

3095 Skillman Ln.
Mailing Address

3760 Marsh Rd.
Mailing Address

Petaluma, CA 94952
City, State, Zip Code

Madison, WI 53718
City, State, Zip Code

707-479-4594
Phone Number

608-838-8786
Phone Number

anewman@comcast.net
Email

brodecki@franklinfueling.com
Email



¹This certification statement is part of the guidelines developed by the California Air Resources Board (ARB) and State Water Resources Control Board (State Water Board) to implement provisions of Assembly Bill 2955 (Statutes 2004, Chapter 649: McCarthy).

² This certification is based on the presumption that the **Franklin Fueling System(FFS), Phil-Tite, Phase I Enhanced Vapor Recovery(EVR) System** is constructed, installed, maintained, and operated in accordance with all applicable requirements of Chapter 6.7 of California Health and Safety Code and Chapter 16 of California Code of Regulations.

Aaron M. Newman P.E.
3095 Skillman Ln.
Petaluma, CA 94952
707-479-4594
anewmanpe@comcast.net

February 8, 2013

Stan Brodecki
Product Marketing Manager-EVR Systems
Franklin Fueling Systems
5972 Country Manor Place
Sacramento, CA 95835-2152
Cell Phone 530 510 7297

RE: Third Party Review and Approval of Franklin Fueling Systems' Defender Series Spill Containment for addition to EBW E.O. VR-103

Dear Stan,

The following documents related to the Defender Series Spill Containment have been provided by Franklin Fueling Systems for examination and review:

1. Approvals
 - a. U.L. Certificate of Compliance #20100702-MH21091
 - b. Florida Department of Environmental Protection Approval of Franklin Fueling Systems 705-540 Series, Single-Walled, 705-550 Double Walled Series with Interstitial Integrity Gauge and 705-550 Double Walled Model with Incon-Intelligent Controls, FFS Model TSP-ULS Interstitial Sensor
2. Tests
 - a. Arco-Granite Bay, Certification for FFS Defender Series Spill Containers, 60 Day Test, August 23, 2012
3. General Information
 - a. Franklin Fueling Systems, Defender Series Model Number Reference Chart.
 - b. Request for Determination for Franklin Fueling Systems Defender Series Spill Container (Single Double Wall), California State Water Resources Control Board, January 2, 2013.
 - c. Defender Series Spill Container Summary of Features, Materials and Construction.

Aaron M. Newman P.E.
3095 Skillman Ln.
Petaluma, CA 94952
707-479-4594
anewmanpe@comcast.net

4. Training

- a. Training Information Phase I Vapor Recovery System
CARB EVR Approved Contractor Training Executive Order VR-101-(x) July 2012

5. Manuals

- a. Multiport Spill Containment with Defender™ Spill Containers Retrofit Installation Guide Overview (Draft)
- b. Franklin Fueling Defender Series™ 5 Gallon, Single Walled, Field Replaceable Spill Container Model 705-540 Series Installation, Operation, & Maintenance F-9032 Rev. 2
- c. Franklin Fueling Systems Defender Series™ 5 Gallon, Double Walled, Field Replaceable Spill Container Model 705-550 Series Installation, Operation, & Maintenance F-9028 Rev. 4

Based on a careful review and analysis of this information, I hereby certify that the Defender Spill Containment will provide containment of spills and is testable in accordance with California Health and Safety Code, Chapter 6.7. The integrity of the double walled model of the spill containment can be verified either continuously or periodically by testing the interstitial space. Since riser pipe for the spill containment is not double walled, the installation of the Defender Spill Containment will meet the monitoring requirements of California AB 2481 only if it is installed in a sump that is monitored as required in California AB 2481.



Aaron M. Newman P.E.
Mechanical Engineer



Appendix

Certification Statement for the addition of the Defender Series Spill Container to Franklin Fueling System(FFS), EBW, Phase I Enhanced Vapor Recovery(EVR) System, Executive Order VR-103-F

Based on a careful review and analysis, I hereby certify that the installation of the Defender Series Spill Container in the EBW, Phase I EVR System, which is under consideration for California Air Resources Board (ARB) certification, meets the requirements of Chapter 6.7 of the California Health and Safety Code.²

The EBW Phase I EVR System warranty is valid as long as the system is installed and operated according to manufacturer's instructions and in a manner that does not exceed the limitations (e.g. tank capacity, fueling points, throughput, etc) described below.

Limitations:

The Defender Spill Container may be installed in areas where direct bury is permitted by Chapter 6.7 of the California Health and Safety Code. For installations in California that must meet California AB 2481 requirements the Defender Spill Container must be installed inside a sump that is AB2481 compliant.

Aaron M. Newman P.E. 2/18/13
Signed by _____ Date _____
(California Professional Engineer)

Aaron M. Newman P.E.
Printed Name (California Professional Engineer)

Aaron M. Newman P.E.
Professional Engineer Company Name

3095 Skillman Ln.
Mailing Address

Petaluma, CA 94952
City, State, Zip Code

707-479-4594
Phone Number

anewman@comcast.net
Email



Stan Brodecki 02/17/2013
Signed by _____ Date _____
(Company Representative)

Stan Brodecki
Printed Name (Company Representative)

Franklin Fueling Systems
Equipment Manufacturer Name

3760 Marsh Rd.
Mailing Address

Madison, WI 53718
City, State, Zip Code

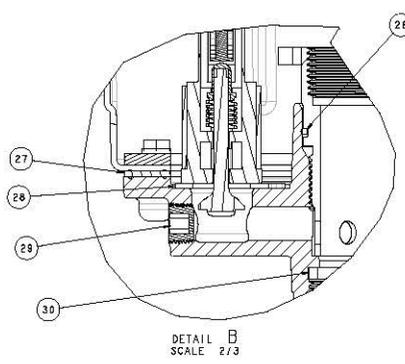
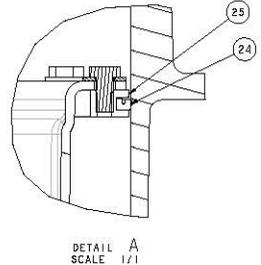
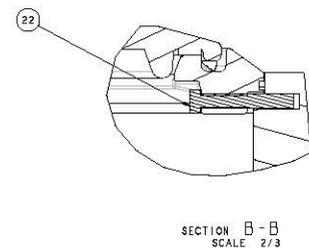
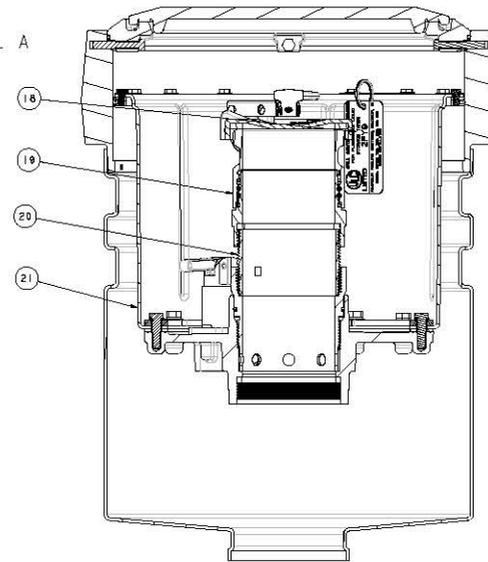
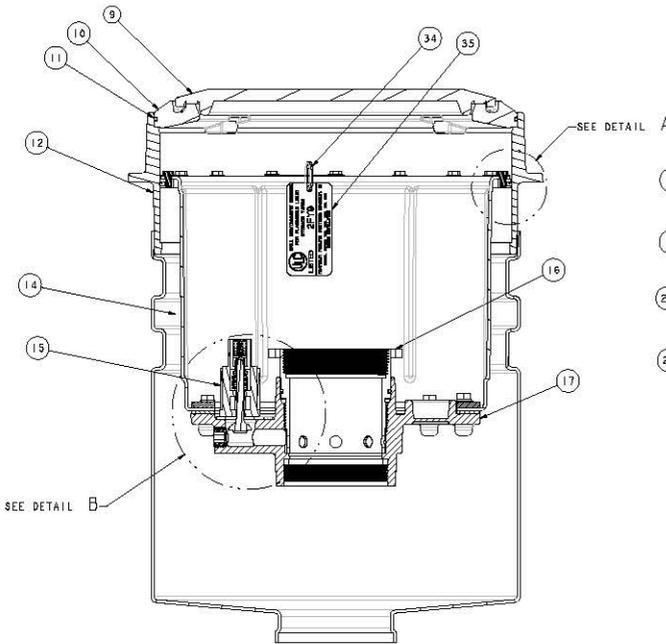
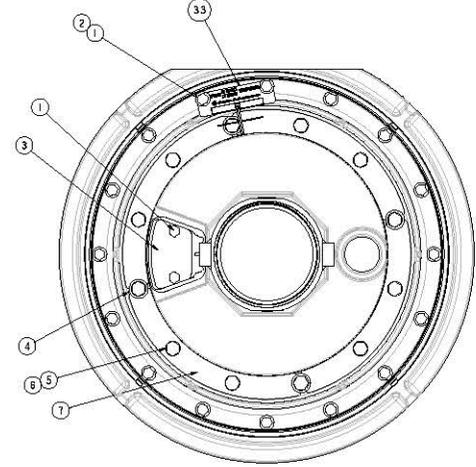
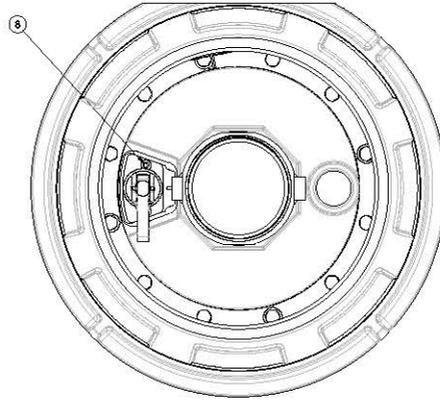
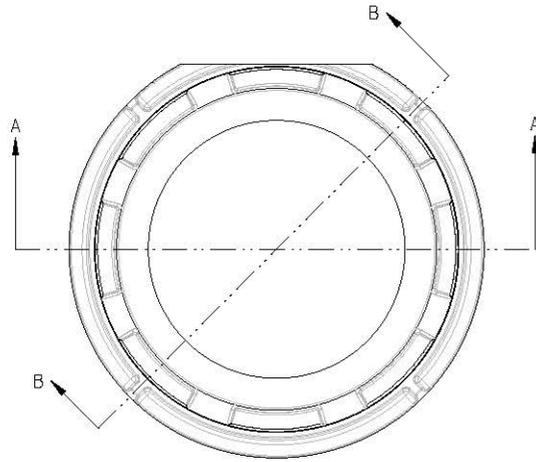
608-838-8786
Phone Number

brodecki@franklinfueling.com
Email

¹This certification statement is part of the guidelines developed by the California Air Resources Board (ARB) and State Water Resources Control Board (State Water Board) to implement provisions of Assembly Bill 2955 (Statutes 2004, Chapter 649: McCarthy).

²This certification is based on the presumption that the **Franklin Fueling System(FFS), EBW, Phase I Enhanced Vapor Recovery(EVR) System** is constructed, installed, maintained, and operated in accordance with all applicable requirements of Chapter 6.7 of California Health and Safety Code and Chapter 16 of California Code of Regulations.

ITEM	DESCRIPTION
1	HH CAP SCR 3/8, 1/4-20x1/2"
2	WASHER-FLAT S.S. ID .281
3	PLATE-TANK TEST
4	FLAT WASHER, 3/8, SS
5	LOCK WASHER
6	HNCS, SS, 3/8" X 1.25"
7	TANK ADP BACKUP RING(E-COATED)
8	SCR-1/4"-BOX, 75,BUTTON HD
9	COVER
10	SNOW PLOW RING ADPT MACH ECDA
11	O-RING, 2BI NITRILE
12	CONCRETE RING MACH AND E-COAT
13	SCREW, SELF-TAP, 1/4-20F, 30, 21HC (NOT SHOWN)
14	GRAVEL GUARD MACH
15	PULL/PUSH BRK, EXXON FINAL ASM
16	DT RISER CLAMP ASSY (E-COATED)
17	TANK ADAPTER (E-COATED)
18	TOP SEAL CAP 4", POLY, ABSY AGD
19	SWIVEL ADAPTER
20	CLOSE NIPPLE 4"NPT 2.88"
21	PRIMARY BUCKET MACH
22	HNCS, SS, PT 5/16-18X 0
23	LOWER SEAL RING (E-COATED)
24	SEAL RING GASKET
25	DRAIN CLIP
26	O-RING (SIZE 246)
27	TANK ADAPTER GASKE
28	GASKET-DRAIN VALVE
29	PIPE PLUG 1/2-14 NPTF
30	SEAL, 1/4" FLAT (NON-CARB)
31	CHAIN ASSY, 6" (NOT SHOWN)
32	CHAIN ASSY, 10" (NOT SHOWN)
33	TAG, MODEL NO. 703 - 549/550
34	KEY RING, NICKEL PLATED
35	TAG, ULC SPILL CONTAINER



SECTION A-A

SECTION B-B
RCA OPTION

SECTION B-B
SCALE 2/3

DETAIL A
SCALE 1/1

DETAIL B
SCALE 2/3

SECTION A-A
SCALE 2/3
DRAIN CLIP INSTALLED

NOTE:
13 FOR ASSEMBLY CONFIGURATIONS SEE BOM
23 FOR COVER OPTIONS SEE BOM

The information disclosed herein is the property of Franklin Fueling Systems, Inc. and is to be used only for the purpose intended. Reproduction or disclosure to other companies, or use in any other manner, without the written consent of Franklin Fueling Systems, Inc. is prohibited. This drawing may be reproduced or transferred to other media for use in the production of parts, provided that the original drawing is retained in the Franklin Fueling Systems, Inc. files. This drawing may be referred to as Franklin Fueling Systems, Inc. drawings.

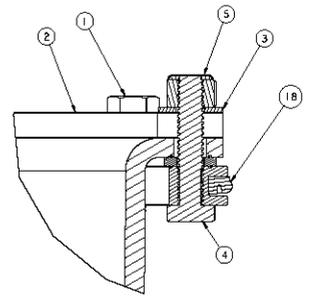
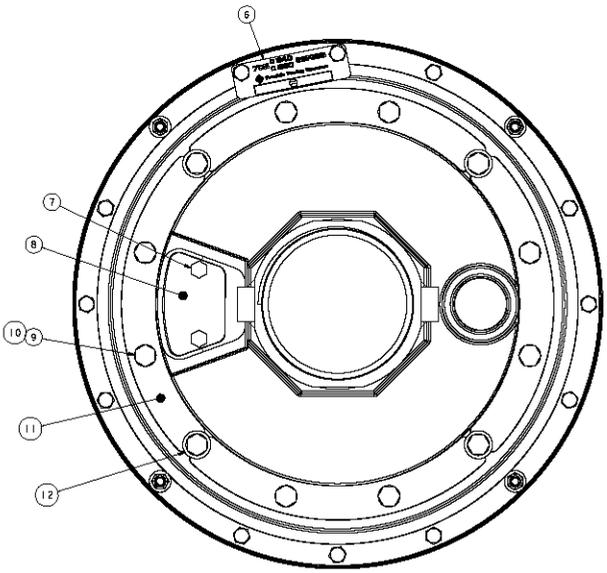
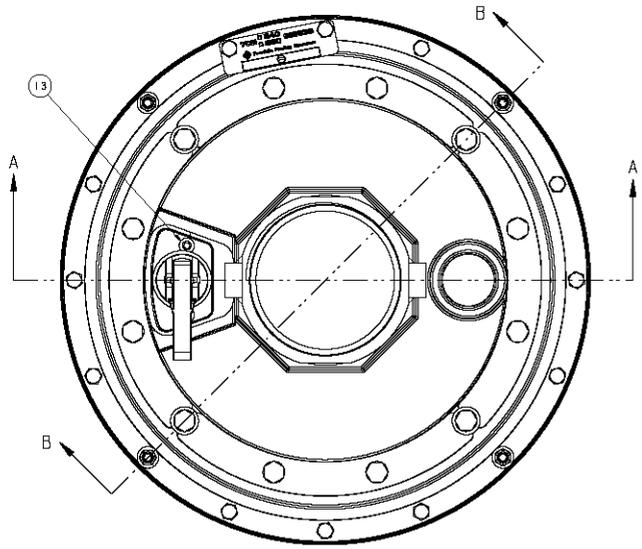
MATERIAL:
SEE BOM
DO NOT SCALE DRAWING XX ± 0.02
STANDARD INCH DIMENSIONS XXX ± 0.005
UNLESS OTHERWISE SPECIFIED ANGULAR ± 0.5°
SPECIAL DIST:

REV	DESCRIPTION	ECN NO	BY	DATE
3	UPDATED ITEM 13 TO BE SELF-TAPPING SCREW	403407	KV/JJK	12/10/10
2	ADDED ITEM 34, 35, 36. UPDATED TANK ADAPTER CASTING/WORKING AND REVISED 1/2" PIPE PLUS SEE GCN'S 40155 AND 40153	403218	KV/JJK	8/30/10
1	ENGINEERING RELEASE	402807	KV/JJK	2/5/10

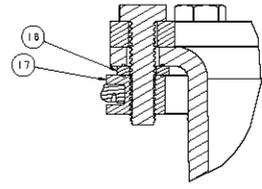


TITLE: M/A 5GL SW DEFENDER SERIES BUCKET
 DRAWN: DATE: 1/25/10
 BY: DATE: 1/25/10
 APPVAL: DATE: 1/25/10
 PROJ/E: SCALE: 1/5 SHEET 1 OF 1

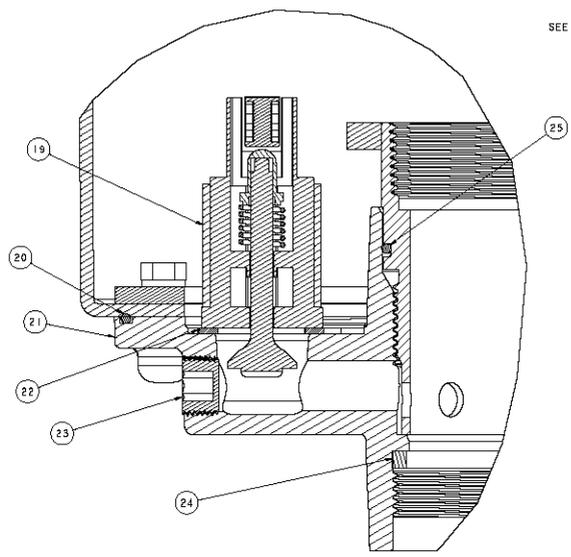
ITEM	DESCRIPTION
1	SCR, HH, S/S, 1/4-20 x 1.00"
2	UPPER BACKUP PLATE (E-COATED)
3	WASHER, FLAT, S/S, ID.281/QD.625
4	HHCS, S/S, 1/4-20 x 1 1/4"
5	LOCKNUT, ELASTIC, S/S, 1/4-20
6	TAG, MODEL 705-548/550
7	HHCS, S/S, 1/4-20 x 1/2"
8	PLATE-TANK TEST
9	HHCS, S/S, 3/8-18 x 1.00"
10	LOCKWASHER, S/S, 3/8
11	TANK ADP BACKUP RING(E-COATED)
12	WASHER, FLAT, S/S, 3/8
13	SCR-1/4"-20X.75,BUTTON HD.
14	PRIMARY BUCKET, NOT RIBS MACH
15	DT RISER CLAMP ASSY (E-COATED)
16	FLANGE GASKET
17	LOWER SEAL RING
18	SEAL RING GASKET
19	PULL/PUSH DRN. EXXON FINAL ASM AGB
20	O-RING, -278 SIZE, UL AGB
21	TANK ADPT, DEF, SW, ECOATED
22	GASKET-DRAIN VALVE AGB
23	PIPE PLUG 1/2-12 NPT
24	SEAL, 1/4" FLAT (4.100" ID)
25	O-RING (SIZE 248)
26	DRAIN CLIP (NOT SHOWN)
27	CHAIN ASSY, 10" (NOT SHOWN)
28	CHAIN ASSY, 6" (NOT SHOWN)



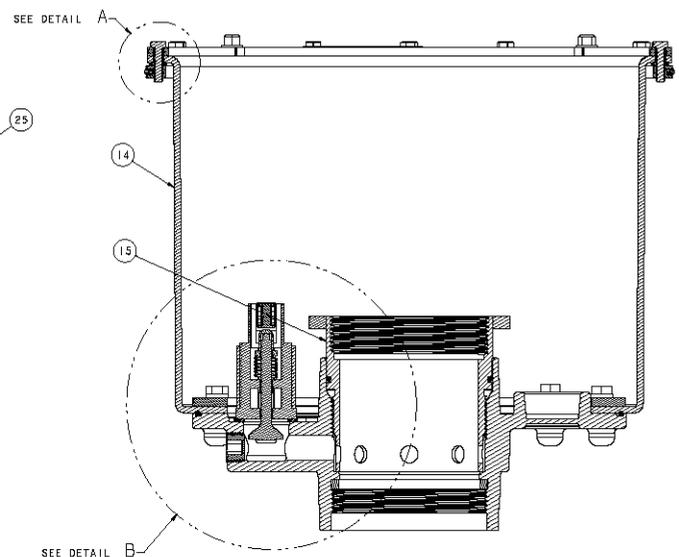
DETAIL C
SCALE 3/2



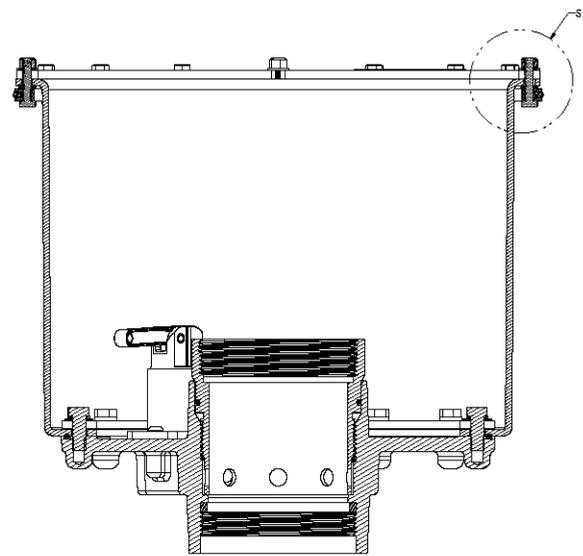
DETAIL A
SCALE 3/2



DETAIL B
SCALE 1/1



SECTION A-A



SECTION B-B

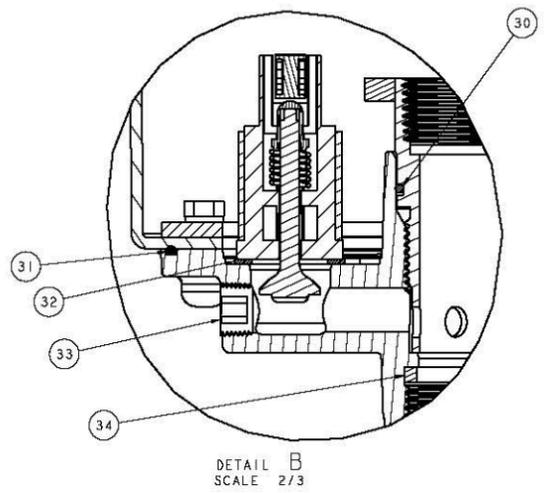
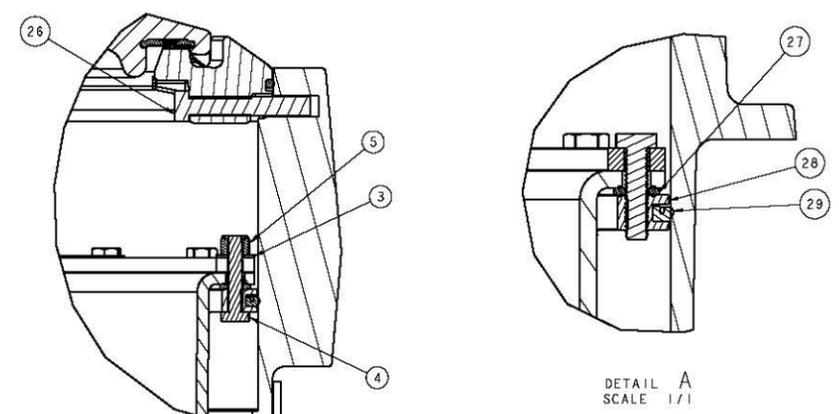
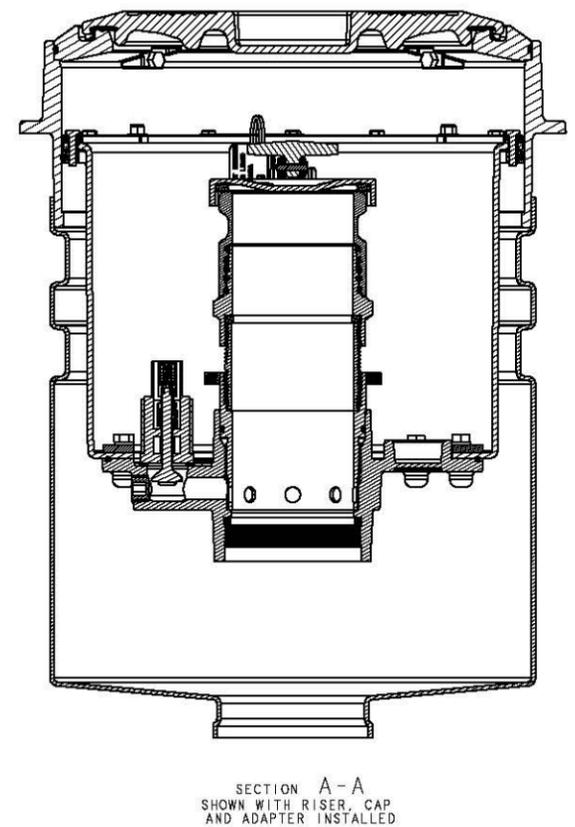
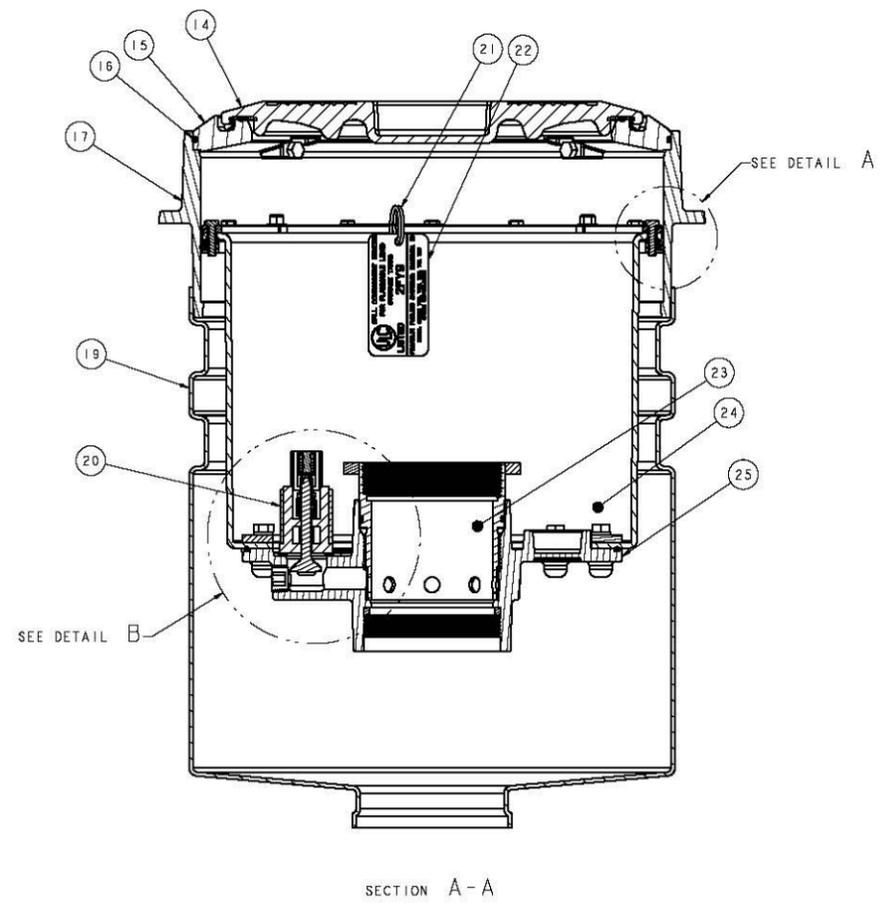
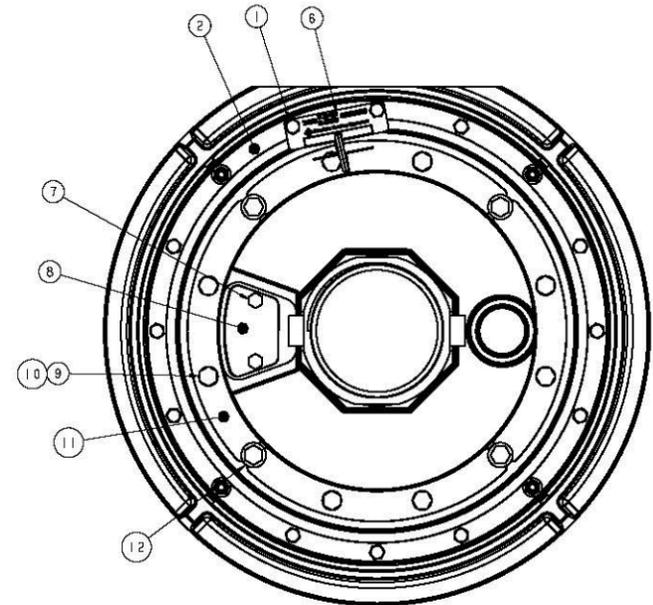
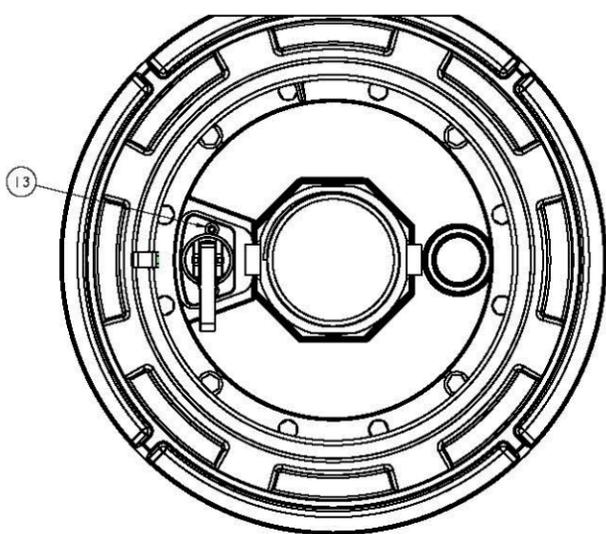
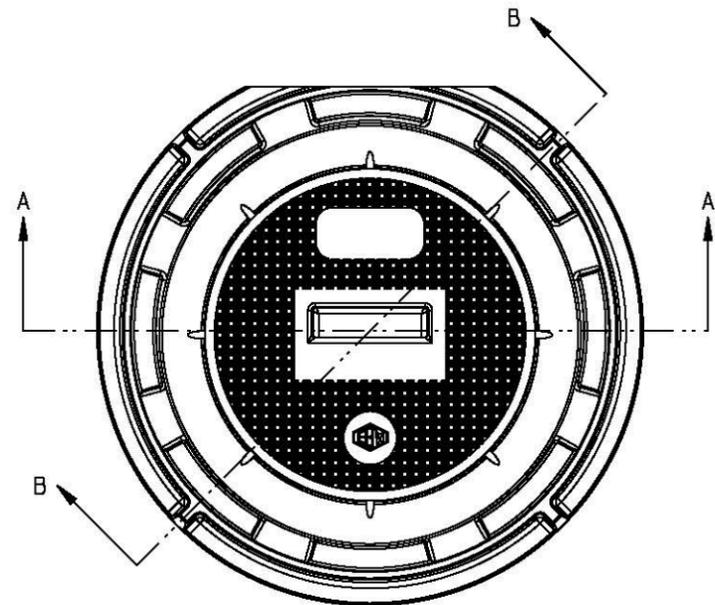
NOTE:
13 FOR ASSEMBLY CONFIGURATIONS SEE BOM
21 FOR COVER OPTIONS SEE BOM

The information disclosed herein is the property of Franklin Fueling Systems, Inc. and is not to be distributed, copied, or used in any manner without the written permission of Franklin Fueling Systems, Inc. This drawing must be returned to Franklin Fueling Systems, Inc. upon completion.

MATERIAL:	SEE BOM
DO NOT SCALE DRAWING	XX ±
STANDARD DIM TOLERANCES UNLESS OTHERWISE SPECIFIED:	XXX ±
SPECIAL DIST:	ANGULAR ± °

ENGINEERING RELEASE	454373	REV. JFK	2/14/12
REV	DESCRIPTION	ECN NO	BY DATE
Franklin Fueling Systems <small>Member of EPR</small>			
TITLE: M/A DEFENDER MULTIPORT SW BUCKET ASM			
DRW DATE:	8/19/11	DRW NO:	705542
APPV DATE:	2/14/12	PROVE:	
SCALE: 1/2 SHEET 1 OF 1			

ITEM	DESCRIPTION
1	SCR, HH, S/S, 1/4-20 x 1.00"
2	UPPER BACKUP PLATE (E-COATED)
3	WASHER, FLAT, S/S, ID. 281/OD. 625
4	HHCS, SS, 1/4-20 x 1 1/4"
5	LOCK NUT
6	TAG, MODEL 705-540/550
7	HHCS, SS, 1/4-20 x 1/2"
8	PLATE-TANK TEST
9	HHCS, SS, 3/8-16 x 1.00"
10	LOCK WASHER
11	TANK ADP BACKUP RING(E-COATED)
12	WASHER, FLAT, SS, 3/8
13	SCR-1/4"-20X.75, BUTTON HD.
14	COVER
15	SNOW PLOW RING ADPT MACH ECOATED
16	O-RING, -281 NITRILE
17	CONCRETE RING MACH AND E-COAT
18	SCREW, SELF-TAP, 1/4-20X.50, ZINC (NOT SHOWN)
19	GRAVEL GUARD MACH
20	PULL/PUSH DRN. EXXON FINAL ASM AGB
21	KEY RING, NICKEL PLATED
22	TAG, ULC, SPILL CONTAINER
23	DT RISER CLAMP ASSY (E-COATED)
24	PRIMARY BUCKET, NO RIBS MACH
25	TANK ADAPTER, 5 GAL DW E-COATED
26	HHCS, SS, FT 5/16-18 x 2.00"
27	FLANGE GASKET
28	LOWER SEAL RING
29	SEAL RING GASKET
30	O-RING (SIZE 246)
31	O-RING, DEFENDER TANK ADAPTER
32	GASKET, DRAIN VALVE AGB
33	1/2" NPT PIPE PLUG
34	SEAL, 1/4" FLAT (NON-CARB)
35	DRAIN CLIP (NOT SHOWN)
36	CHAIN ASSY, 10" (NOT SHOWN)
37	CHAIN ASSY, 6" (NOT SHOWN)



NOTE:
1. FOR ASSEMBLY CONFIGURATIONS SEE BOM

The information disclosed herein includes proprietary rights of Franklin Fueling Systems, Inc. Neither this drawing nor the information disclosed hereon may be reproduced or transferred to other documents, or used or disclosed to others for any purpose, except as specifically authorized in writing by Franklin Fueling Systems. This drawing must be returned to Franklin Fueling Systems upon request.

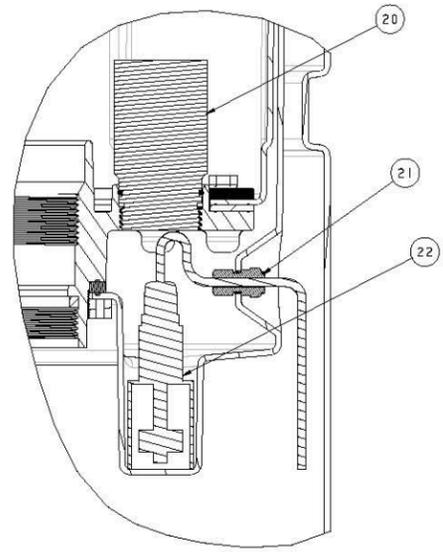
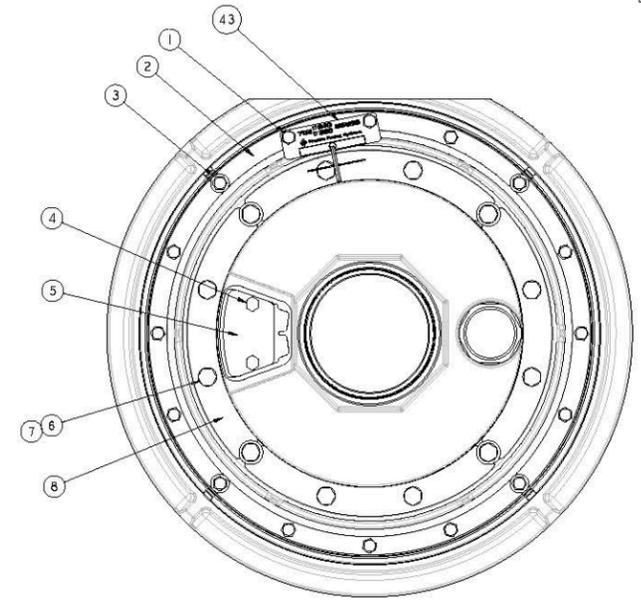
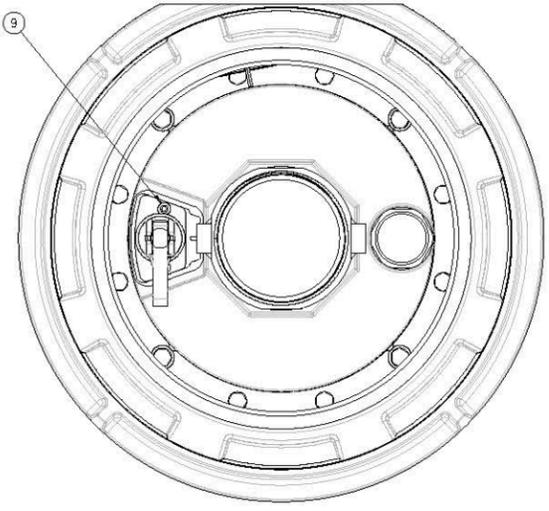
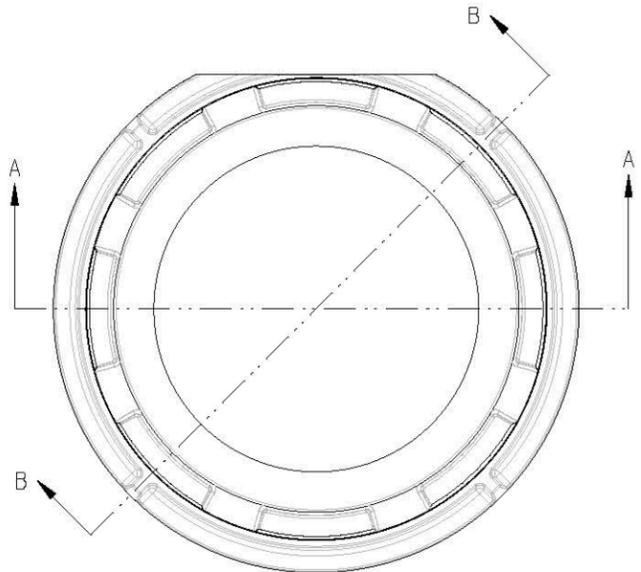
MATERIAL:
SEE TABLE

DO NOT SCALE DRAWING XX ±
STANDARD INCH TOLERANCES UNLESS OTHERWISE SPECIFIED: XXX ±
ANGULAR ±

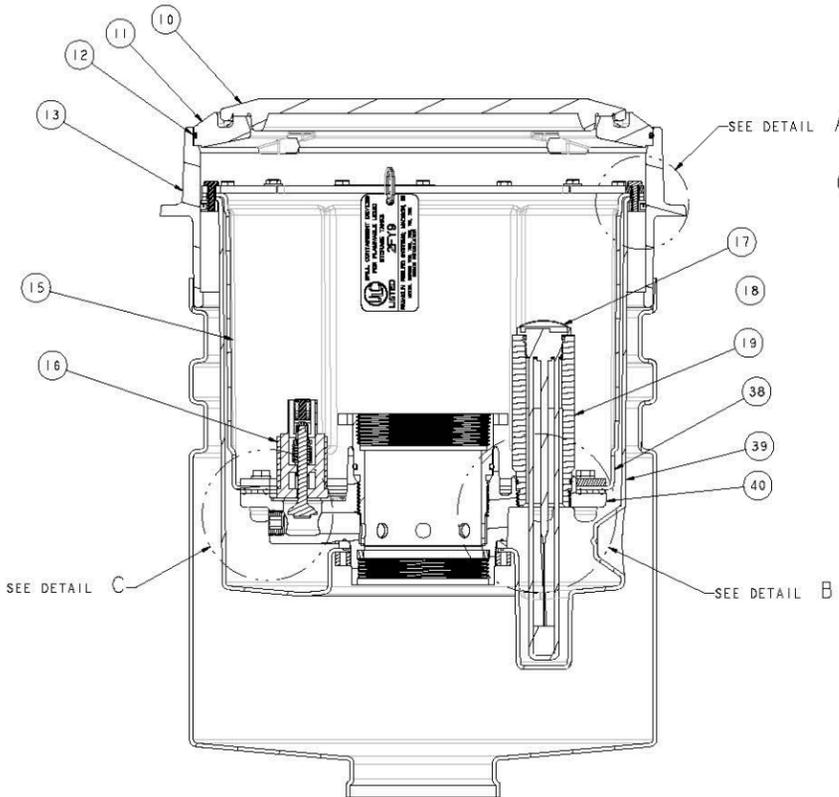
SPECIAL DIST:

1	ENGINEERING RELEASE	403149	KV/JFK	1/6/12
REV	DESCRIPTION	ECN NO	BY	DATE
Franklin Fueling Systems <small>Needham, MA 02461</small>				
TITLE: M/A DEFENDER SINGLE WALL AGB				
DRWN:	DATE:	DRW NO:	SUFFIX:	
KV	1/5/12	705545	801	
APPRVL:	DATE:	PROJ#	SCALE:	SHEET 1 OF 1
JFK	1/6/12		1/3	

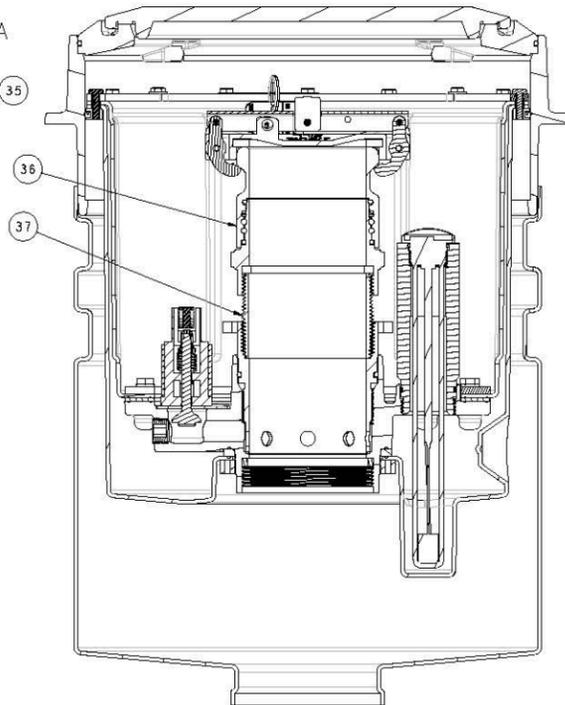
ITEM	DESCRIPTION
1	1/4-20UNC X 7/8 HEX HD SS BOLT
2	UPPER BACKUP PLATE (E-COATED)
3	FLAT WASHER, 3/8, SS
4	HH CAP SCR 5/8, 1/4-20x1/2"
5	PLATE-TANK TEST
6	HHCS, SS, 3/8-18 X 1.25"
7	LOCK WASHER
8	TANK ADP BACKUP RING(E-COATED)
9	SCR-1/4"-20X.75,BUTTON HD.
10	COVER
11	SNOW PLOW RING ADPT MACH ECDA
12	O-RING, -281 NITRILE
13	CONCRETE RING MACH AND E-COAT
14	SCREW,SELF-TAP, 1/4-20X.50,ZINC (NOT SHOWN)
15	GRAVEL GUARD MACH
16	PULL/PUSH DRN. EXXON FINAL ASM
17	REMOTE GAUGE
18	DT RISER CLAMP ASSY (E-COATED)
19	INSPECTION PORT PIPE,GAUGE
20	INSPECTION PORT PIPE,SENSOR
21	HEYCO-TITE CORDGRIP W/NUT
22	Universal Liquid Sump Sensor
23	HHCS, SS, FT 5/16-18x2.0
24	UPPER BACKUP PLATE (E-COATED)
25	SEAL RING GASKET
26	DRAIN CLIP
27	TANK ADAPTER GASKET
28	GASKET-DRAIN VALVE
29	PIPE PLUG 1/2-14 NPTF
30	O-RING FLURO
31	O-RING (SIZE 246)
32	SEC. FLAT GASKET
33	SPANNER NUT (E-COATED)
34	SEAL, 1/4" FLAT (NON-CARB)
35	TOP SEAL CAP 4",POLY, ASSY AGB
36	FILL SWIVEL ADAPTOR
37	CLOSE NIPPLE 4"NPT 2.88"
38	PRIMARY BUCKET MACH
39	SECONDARY BUCKET MACH
40	TANK ADAPTER (E-COATED)
41	CHAIN ASSY, 10" (NOT SHOWN)
42	CHAIN ASSY, 6" (NOT SHOWN)
43	TAG, MODEL NO. 705-540/550
44	KEY RING, NICKEL PLATED
45	TAG, ULC SPILL CONTAINER



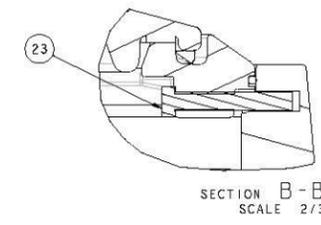
SECTION A-A
SCALE 1/2
SENSOR OPTION



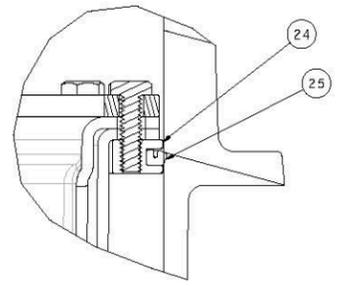
SECTION A-A



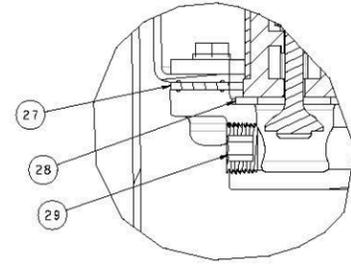
SECTION A-A
RCA OPTION



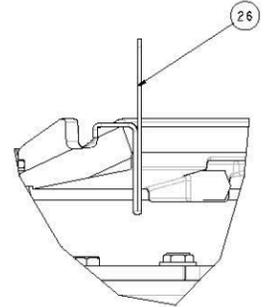
SECTION B-B
SCALE 2/3



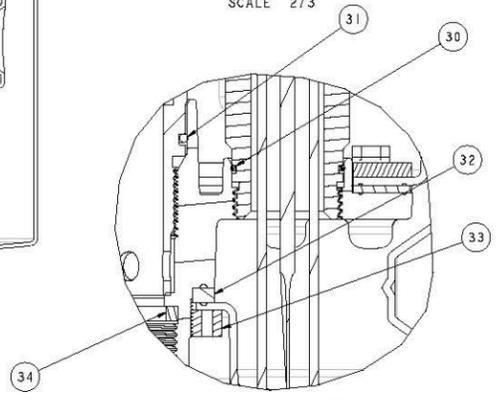
DETAIL A
SCALE 1/1



DETAIL C
SCALE 2/3



SECTION A-A
SCALE 2/3
DRAIN CLIP INSTALLED



DETAIL B
SCALE 2/3

NOTE:
1) FOR ASSEMBLY CONFIGURATIONS SEE BOM
2) FOR COVER OPTIONS SEE BOM

The information disclosed herein includes proprietary rights of Franklin Fueling Systems, Inc. Neither this drawing nor the information disclosed thereon may be reproduced or transferred to other documents, or used or disclosed to others for any purpose, except as specifically authorized in writing by Franklin Fueling Systems. This drawing must be returned to Franklin Fueling Systems upon request.

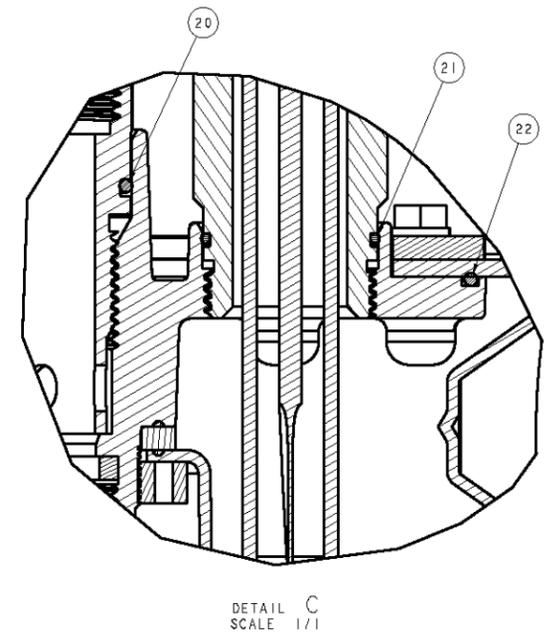
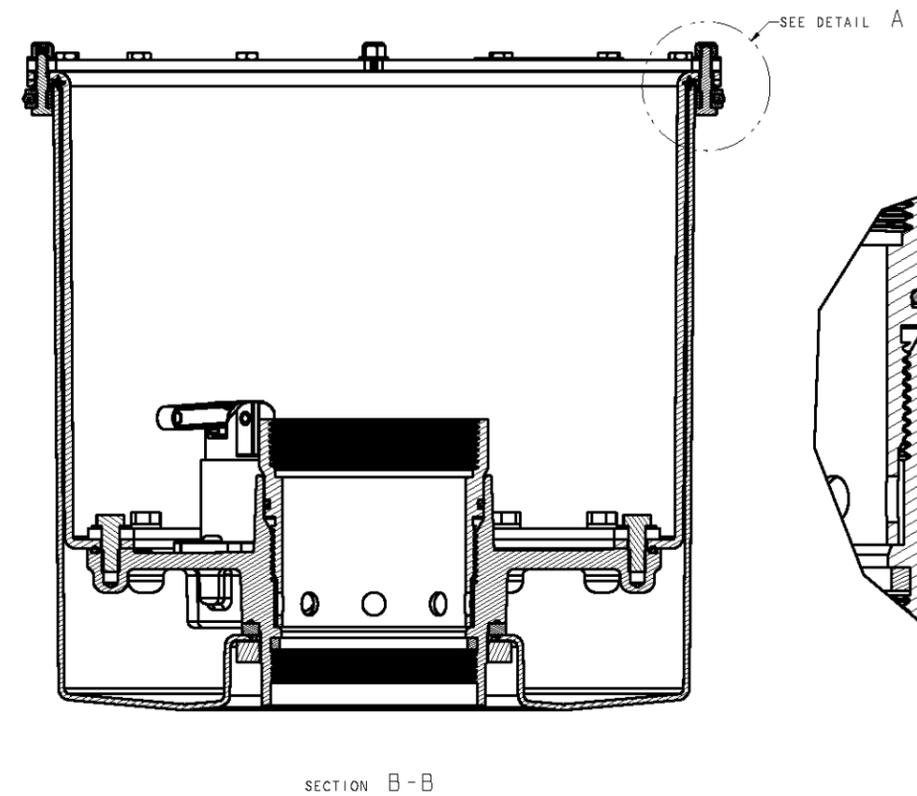
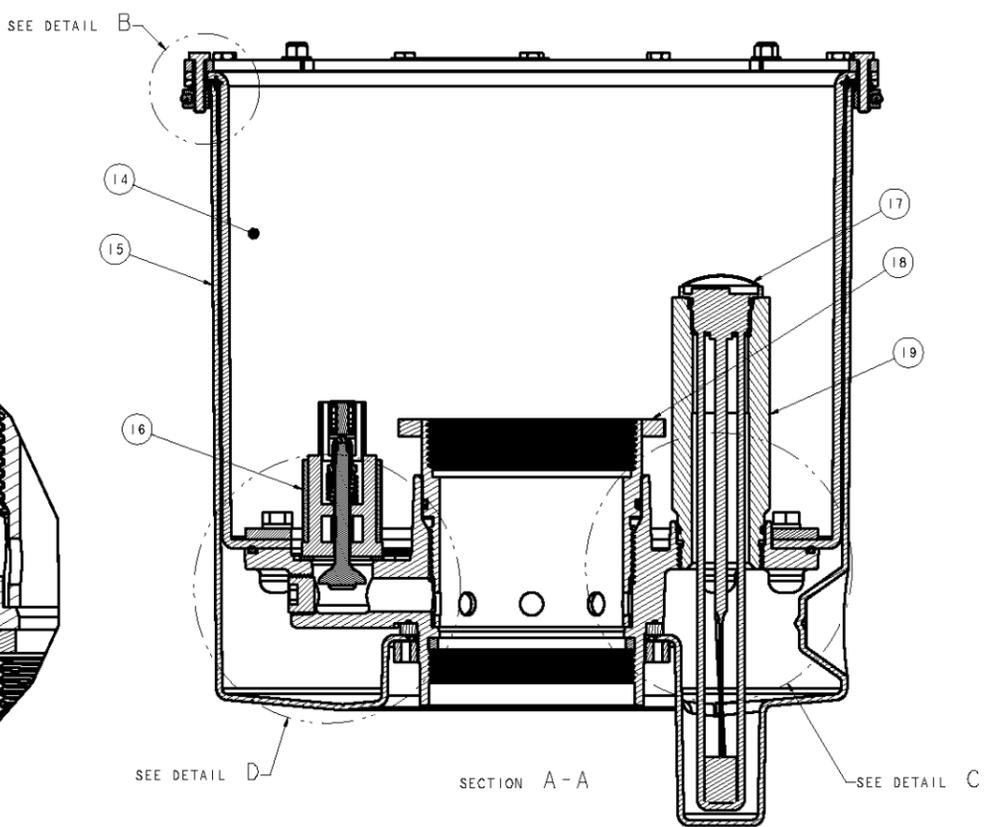
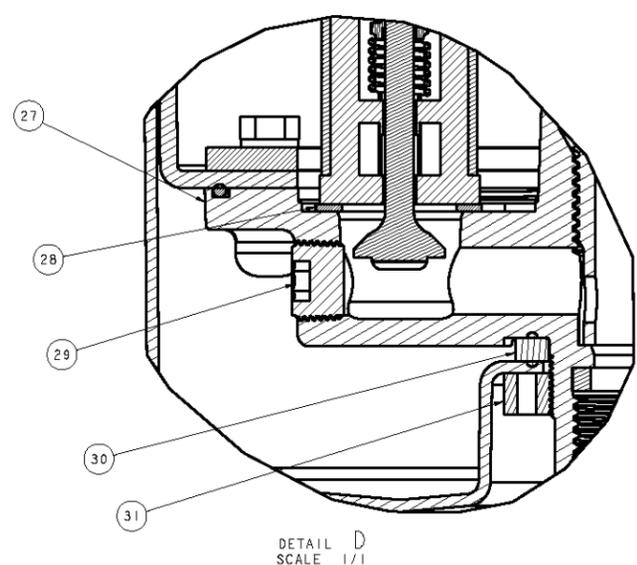
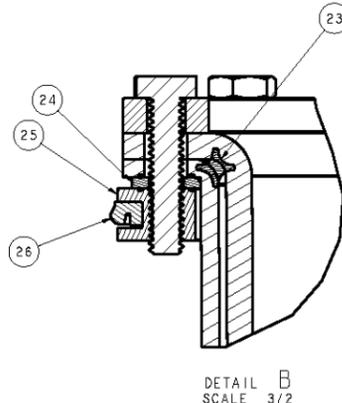
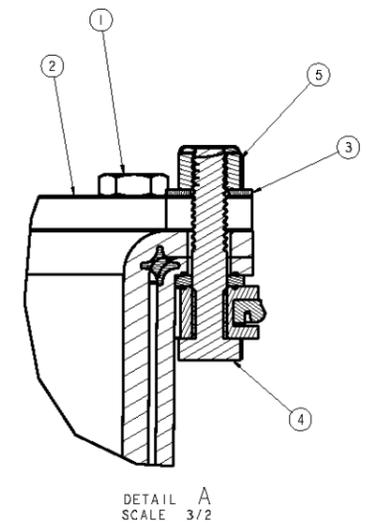
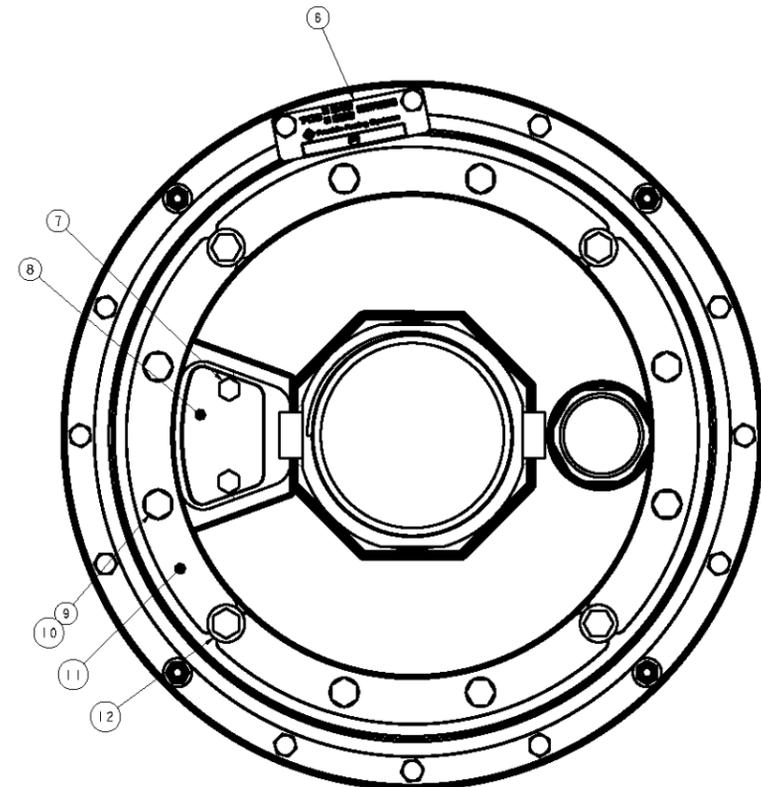
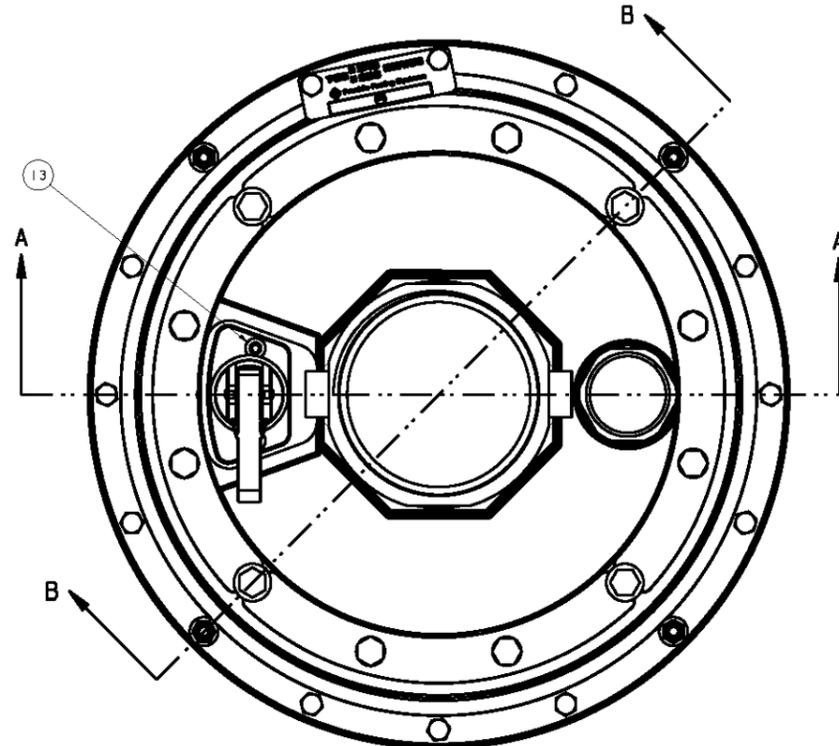
MATERIAL:
SEE BOM
DO NOT SCALE DRAWING XX ± 0.02
STANDARD INCH TOLERANCES XXX ± 0.005
UNLESS OTHERWISE SPECIFIED ANGULAR ± 0.5°
SPECIAL DIST:

REV	DESCRIPTION	ECN NO	BY	DATE
3	UPDATED ITEM 14 TO BE A SELF-TAPPING SCREW	403407	XV/JFK	12/10/10
2	ADDED ITEMS 43, 44, 45 MODEL TAG, KEY RING AND ULC TAG	402216	XV/JFK	8/11/10
1	ENGINEERING RELEASE	402807	XV/JFK	2/5/10

Franklin Fueling Systems
Model No. 91 53018

TITLE: M/A 5GL DW DEFENDER SERIES BUCKET
DRAWN: DATE: DRW NO: SUFFIX:
KV 1/25/10 705550 801
APPRVL: DATE: PRO/E SCALE: 1/3 SHEET 1 OF 1
JFK

ITEM	DESCRIPTION
1	SCR, HH, S/S, 1/4-20 x 1.00"
2	UPPER BACKUP PLATE (E-COATED)
3	WASHER, FLAT, S/S, ID. 281/OD. 625
4	HHCS, SS, 1/4-20 x 1 3/8"
5	LOCKNUT, ELASTIC, S/S, 1/4
6	TAG, MODEL 705-540/550
7	HHCS, SS, 1/4-20 x 1/2"
8	PLATE-TANK TEST
9	HHCS, SS, 3/8-16 x 1.00"
10	LOCKNUT, ELASTIC, S/S, 1/4
11	TANK ADP BACKUP RING (E-COATED)
12	WASHER, FLAT, SS, 3/8
13	SCR-1/4"-20X.75, BUTTON HD.
14	PRIMARY BUCKET, NOT RIBS MACH
15	SECONDARY BUCKET MACH
16	DRAIN VALVE ASM, CARB/AGB
17	REMOTE GAUGE-12 MONITOR
18	DT RISER CLAMP ASSY (E-COATED)
19	INSPECTION PORT PIPE, GAUGE
20	O-RING (SIZE 246)
21	O-RING FLURO (2)
22	O-RING, -278 SIZE, UL AGB
23	-382 SIZE QUAD/X-RING
24	FLANGE GASKET AGB
25	LOWER SEAL RING
26	SEAL RING GASKET
27	TANK ADPT, DEF, DW E-COATED
28	GASKET-DRAIN VALVE AGB
29	PIPE PLUG 1/2-12 NPT
30	SEAL, 1/4" FLAT (4.100" ID)
31	SPANNER NUT (E-COATED)
32	DRAIN CLIP (NOT SHOWN)
33	CHAIN ASSY, 10" (NOT SHOWN)
34	CHAIN ASSY, 6" (NOT SHOWN)

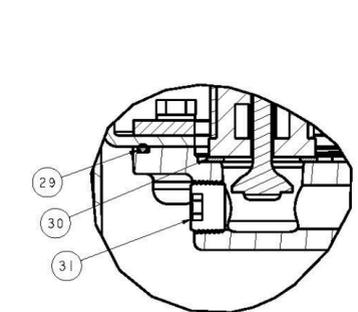
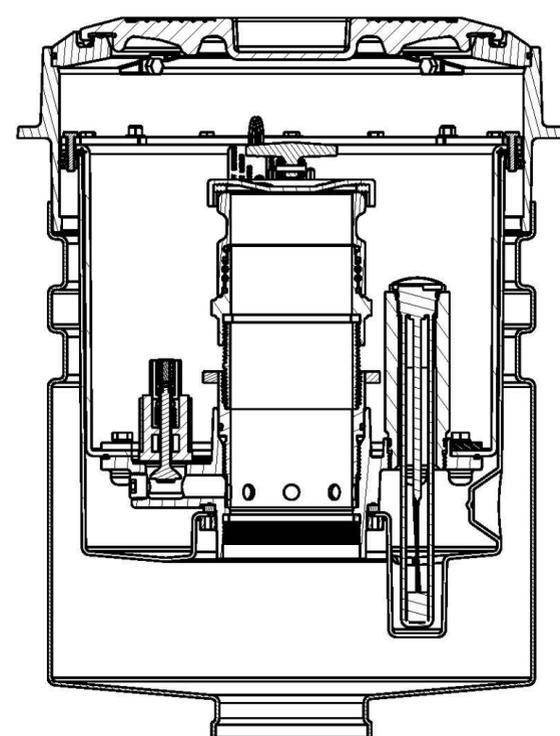
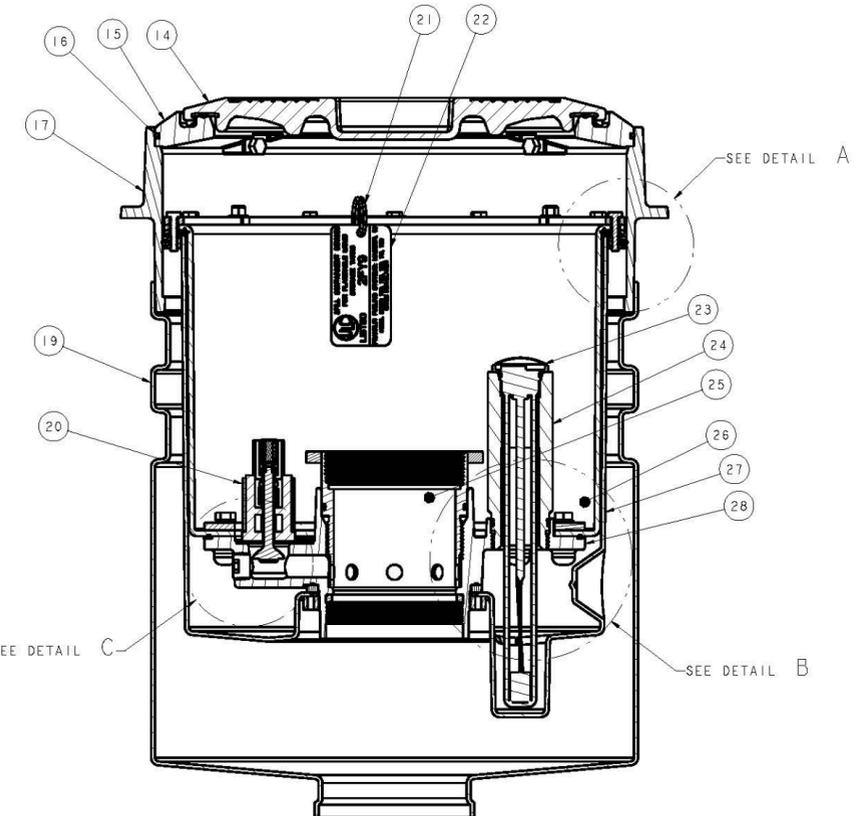
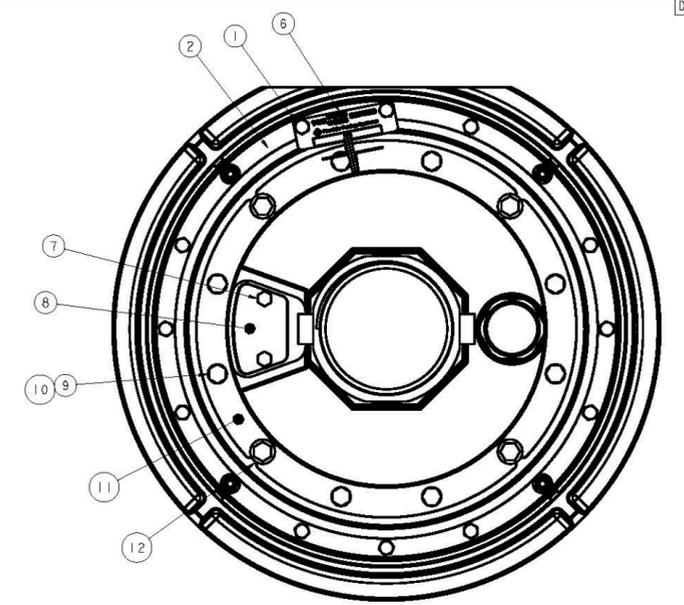
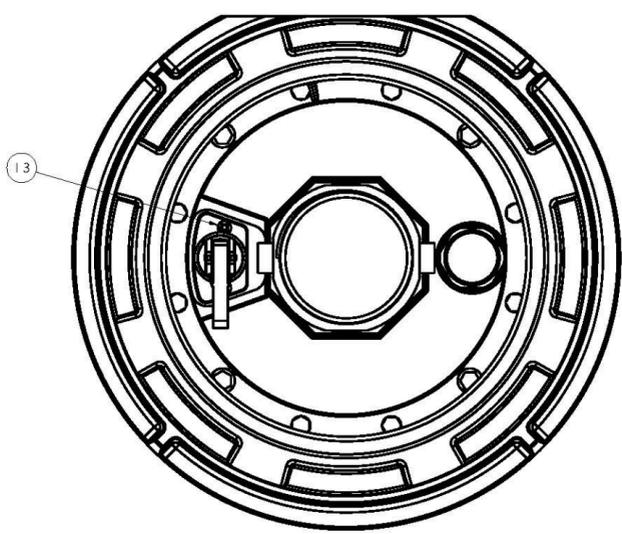
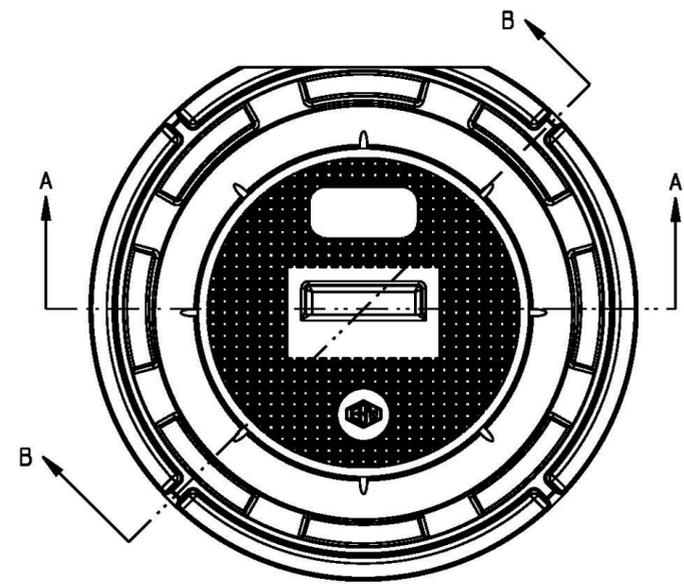


NOTE:
1) FOR ASSEMBLY CONFIGURATIONS SEE BOM
2) FOR COVER OPTIONS SEE BOM

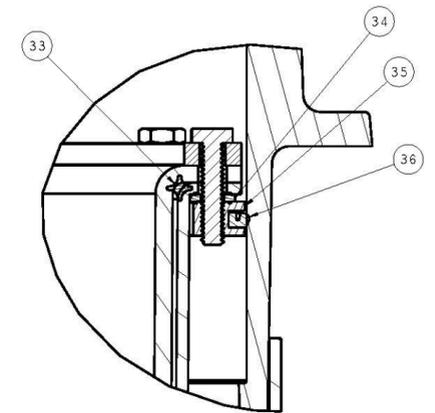
The information disclosed herein includes proprietary rights of Franklin Fueling Systems, Inc. Neither this drawing nor the information disclosed herein may be reproduced or transferred to other documents, or used or disclosed in writing for any purpose, except as specifically authorized in writing by Franklin Fueling Systems. This drawing must be returned to Franklin Fueling Systems upon request.		MATERIAL: SEE TABLE		1 ENGINEERING RELEASE 404377 XW/JFK 2/14/12 REV DESCRIPTION ECN NO BY DATE	
DO NOT SCALE DRAWING		XX ± XXX ± STANDARD INCH TOLERANCES (UNLESS OTHERWISE SPECIFIED) ANGULAR ± °		TITLE: M/A DEFENDER MULTIPORT DW BUCKET ASM	
SPECIAL DIST:		DRAWN: 8/19/11		DRW NO: 70552801 SUFFTX: 801	
		APPRVL: JFK		DATE: 2/14/12 SCALE: 1/2 SHEET 1 OF 1	



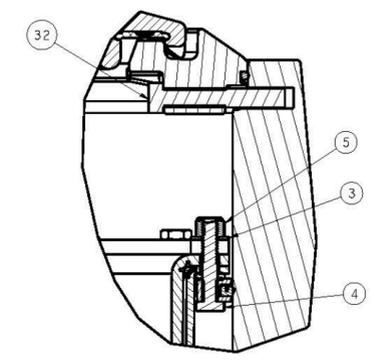
ITEM	DESCRIPTION
1	HHCS, SS, 1/4-20 X 1 1/8
2	UPPER BACKUP PLATE (E-COATED)
3	WASHER, FLAT, S/S, ID. 281/OD. 625
4	HHCS, SS, 1/4-20 X 1 3/8
5	LOCK NUTS
6	TAG, MODEL NO. 705-540/550
7	HH CAP SCR S/S, 1/4-20x1/2"
8	PLATE-TANK TEST
9	HHCS, SS, 3/8-16 X 1.00"
10	LOCK WASHER
11	TANK ADP BACKUP RING(E-COATED)
12	WASHER, FLAT, S/S, 3/8
13	SCR-1/4"-20X.75,BUTTON HD.
14	COVER
15	SNOW PLOW RING ADPT MACH ECOATED
16	O-RING, -281 NITRILE
17	CONCRETE RING MACH AND E-COAT
18	SCREW, SELF-TAP, 1/4-20X.50, ZINC (NOT SHOWN)
19	GRAVEL GUARD MACH
20	PULL/PUSH DRN, EXXON FINAL ASM AGB
21	KEY RING, NICKEL PLATED
22	TAG, ULC, SPILL CONTAINER
23	REMOTE GAUGE
24	INSPECTION PORT PIPE, GAUGE
25	DT RISER CLAMP ASSY (E-COATED)
26	PRIMARY BUCKET, NO RIBS MACH
27	SECONDARY BUCKET MACH
28	TANK ADAPTER, 5 GAL DW E-COATED
29	O-RING, DEFENDER TANK ADAPTER
30	GASKET, DRAIN VALVE AGB
31	1/2" NPT PIPE PLUG
32	HHCS, SS, FT 5/16-18 X 2
33	QUAD-X-RING
34	FLANGE GASKET
35	LOWER SEAL RING
36	SEAL RING GASKET
37	O-RING (SIZE 246)
38	O-RING FLURO
39	SEC. FLAT GASKET
40	SPANNER NUT E-COATED
41	SEAL, 1/4" FLAT (NON-CARB)
42	INSPECTION PORT PIPE, SENSOR
43	O-RING (SIZE 013)
44	HEYCO-TITE CORDGRIP W/NUT
45	Universal Liquid Sump Sensor
46	DRAIN CLIP (NOT SHOWN)
47	CHAIN ASSY, 10" (NOT SHOWN)
48	CHAIN ASSY, 6" (NOT SHOWN)



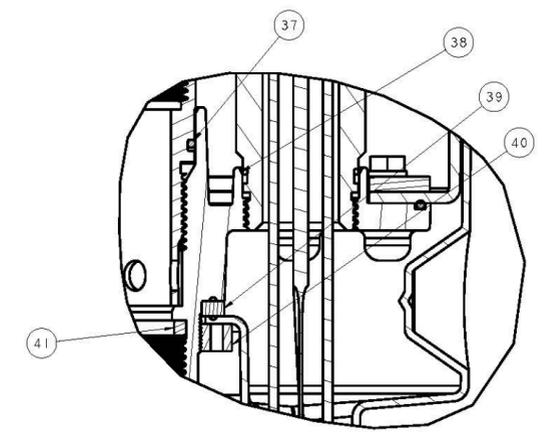
DETAIL C
SCALE 2/3



DETAIL A
SCALE 1/1



SECTION B-B
SCALE 2/3



DETAIL B
SCALE 2/3

SECTION A-A
SCALE 1/2
SENSOR OPTION

SECTION A-A

SECTION A-A
SHOWN WITH RISER, CAP,
AND ADAPTER INSTALLED

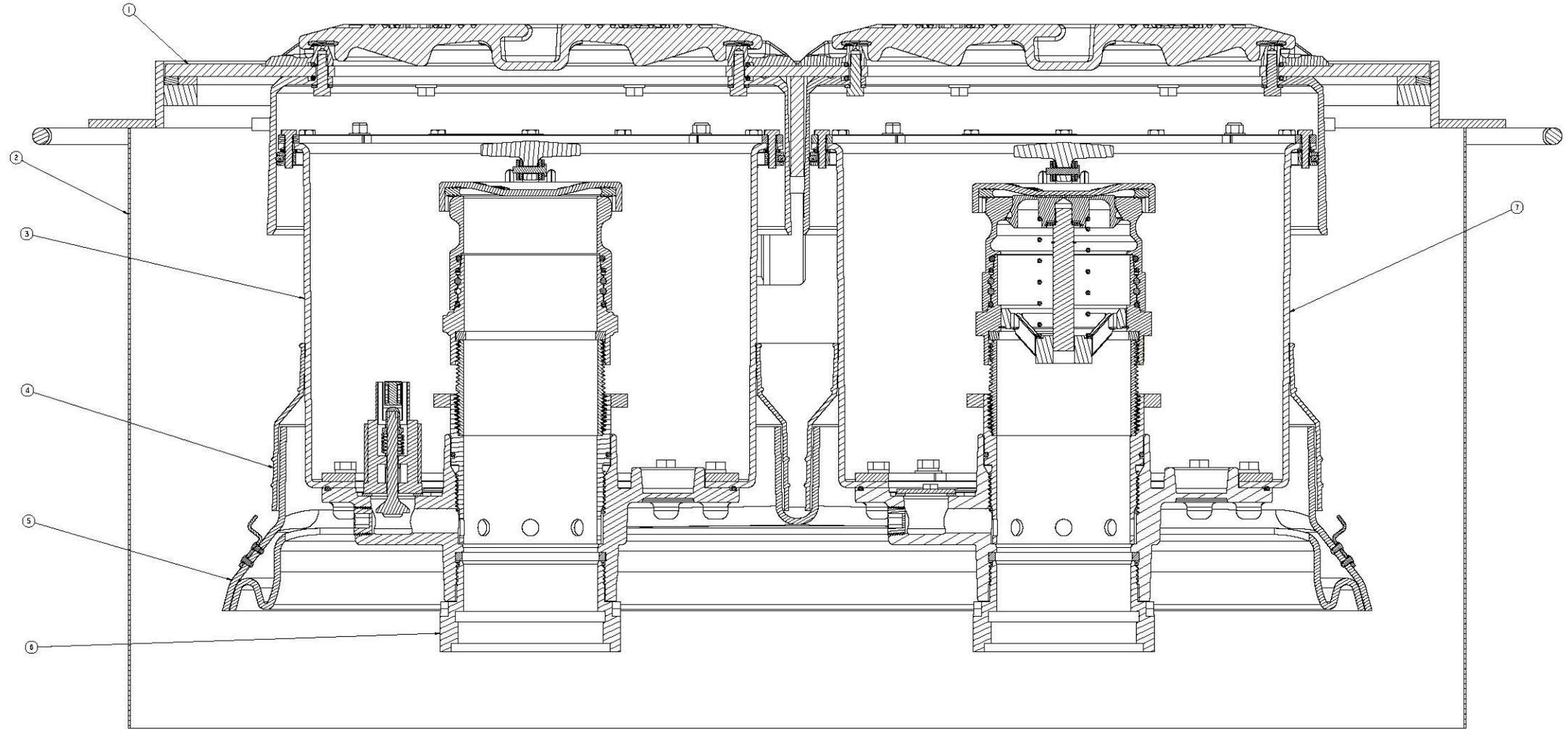
NOTE:
1. FOR ASSEMBLY CONFIGURATIONS SEE BOM

<small>The information disclosed herein includes proprietary rights of Franklin Fueling Systems, Inc. Neither this drawing nor the information disclosed thereon may be reproduced or transferred to other documents, or used or disclosed to others for any purpose, except as specifically authorized in writing by Franklin Fueling Systems. This drawing must be returned to Franklin Fueling Systems upon request.</small>	MATERIAL: SEE TABLE		ENGINEERING RELEASE 403149 KV/JFK 1/6/12	
	DO NOT SCALE DRAWING STANDARD INCH TOLERANCES (UNLESS OTHERWISE SPECIFIED): XX ± XXX ± ANGULAR ±		REV DESCRIPTION ECN NO BY DATE	
SPECIAL DIST:		TITLE: M/A DEFENDER DOUBLE WALL, AGB		
DRAWN: KV DATE: 1/5/12		DRW NO: 705555		SUFFIX: 801
APPRVL: JFK DATE: 1/6/12		SCALE: 1/5 SHEET 1 OF 1		



ITEM	DESCRIPTION
1	MULTIPOINT MANHOLE COVER ASM
2	MULTIPOINT SKIRT ASM
3	MULTIPOINT BUCKET ASM, FILL, DRAIN (NPSM OR NPT)
4	REDUCER BOOT (OPTIONAL)
5	SUMP SHIELD, 3/8 IN, 25C (OPTIONAL)
6	4X4 ADAPTER (OPTIONAL)
7	MULTIPOINT BUCKET ASM, VAPOR, NO DRAIN (NPSM OR NPT)

DRW NO:



The information contained herein includes proprietary rights of Franklin Fueling Systems, Inc. Neither this drawing nor the information contained herein may be reproduced or transmitted in any form, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without the prior written permission of Franklin Fueling Systems, Inc. This drawing may be protected by Franklin Fueling Systems, Inc. patent.

MATERIAL:
SEE TABLE
DO NOT SCALE DRAWING
STANDARD INCH TOLERANCES (UNLESS OTHERWISE SPECIFIED)
SPECIAL DIST:

XX ±
XXX ±
ANGULAR ±

1 ENGINEERING RELEASE		REV/JFK 2/15/12	
REV	DESCRIPTION	ECN NO	BY DATE
TITLE: TYPICAL MULTIPOINT CONFIGURATION		DRW NO:	
DRAWN:	DATE:	REV:	DATE:
JFK	2/15/12	JFK	2/15/12
APPROV:	DATE:	PROVE:	SCALE: 2/3
JFK	2/15/12		SHEET 1 OF 1

Model Number Reference Chart

7055	X	X	X	X	XXX
	1	2	3	4	5

7055 = Spill capacity and type

1 = Containment options

40 = Single wall 50 = Double wall

2 = Interstitial monitoring

0 = No sensor/gauge

1 = I² monitor (float gauge)

2 = TSP-ULS sensor

3 = Base thread

0 = NPT w/o riser, cap & adapter (RCA)

1 = NPT w/ RCA

2 = BSPT w/o RCA

3 = BSPT w/ RCA

4 = Drain Option

1 = With drain (pull-push)

2 = Without drain

5 = Manway cover option

Leave blank for NO cover

BLK = Black FRC WHT = White FRC

RED = Red FRC ORG = Orange FRC

BLU = Blue FRC BRN = Brown FRC

YEL = Yellow FRC ALUM = Aluminum

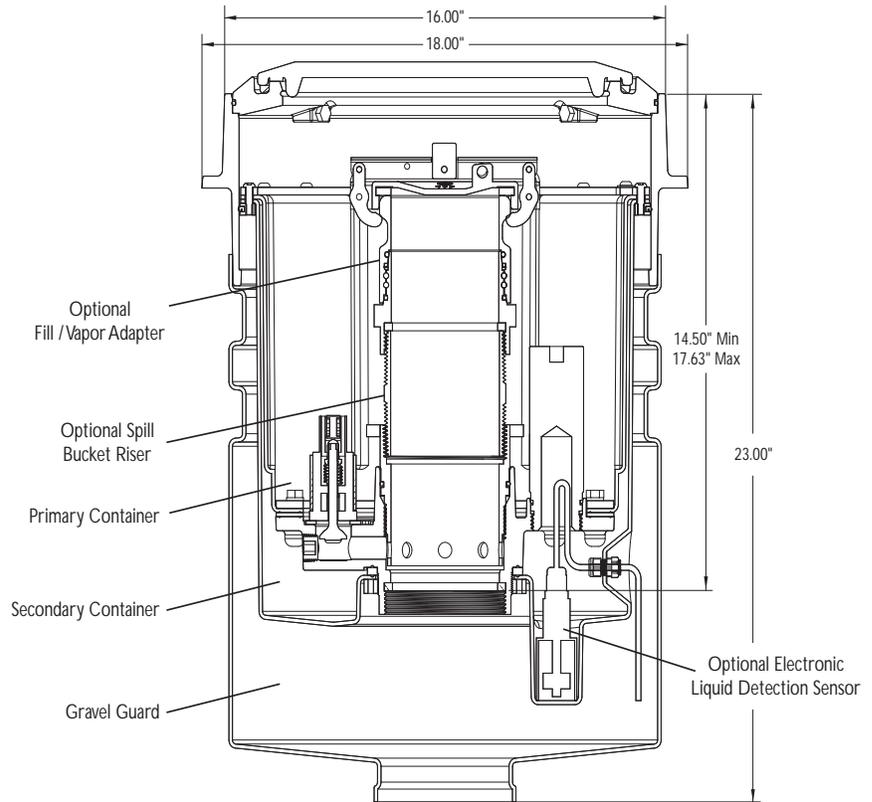
GRY = Grey FRC CI = Cast iron

CI-GKT = Cast iron w/ gasket

WHT-X = White FRC w/ black "X"

RED-X = Red FRC w/ white "X"

BLU-X = Blue FRC w/ white "X"



Model	Description
705540001CI-GKT	5 gal, Single wall, NPT, w/ drain, grey epoxy coated cast iron cover w/ gasket
705540002CI-GKT	5 gal, single wall, NPT, no drain, grey epoxy coated cast iron cover w/ gasket
705550101CI-GKT	5 gal, double wall, NPT, w/ drain, remote monitor, grey epoxy coated cast iron cover w/ gasket
705550102CI-GKT	5 gal, double wall, NPT, no drain, remote monitor, grey epoxy coated cast iron cover w/ gasket
705550201CI-GKT	5 gal, double wall, NPT, w/ drain, ULS sensor, grey epoxy coated cast iron cover w/ gasket
705550202CI-GKT	5 gal, double wall, NPT, no drain, ULS sensor, grey epoxy coated cast iron cover w/ gasket



Advantages

• Fugitive Emission Protection

Proactively protecting a site from the dangers of fugitive emissions can save station owners both time and money by avoiding remediation due to fuel leakage. The Defender Series provides several key defenses from these costly expenses:

- 1/4" compression gasket provides a vapor tight mechanical seal.
- Drop tube compression adapter ensures a vapor tight seal.
- Drain valve designed to meet CARB leak rate requirements.
- Concentrated secondary containment catch basin provides immediate notification of integrity breach..

• Integrity Confirmation

Always know how your spill containment is performing and get immediate confirmation on the integrity of the interstitial space with the following Defender Series features:

- I² (Interstitial Integrity) Monitor facilitates efficient monthly and annual visual inspections confirming the integrity of the secondary containment space
- Electronic liquid detection sensor option available with proven ULS sensor for active leak detection
- ULS wiring penetrates side wall of gravel guard ensuring no additional installation height requirement

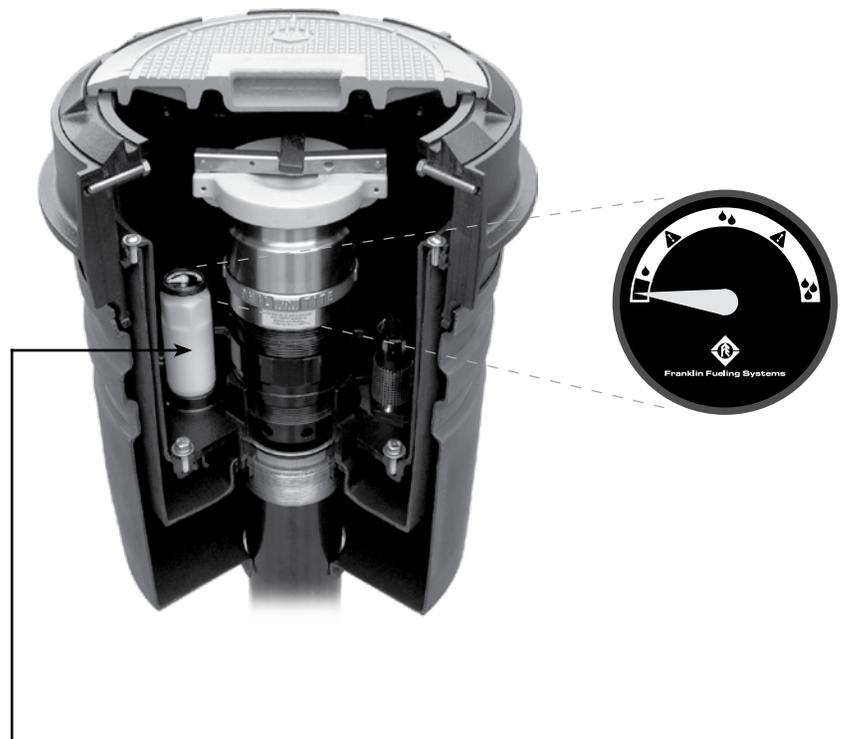
• Minimized Maintenance Costs

Maximize your business' value and minimize installation and maintenance expenses with features like:

- Field replaceable containment – replace easily without having to break concrete, simply loosen the four plow ring bolts to remove and replace interior containment.
- Plow rings bolts are protected – located inside the interior of the container, shielding them from the potential wear and tear of the forecourt environment.
- Variable height adjustments – allows for an installation height between 14 1/2" and 17 5/8", for easy installation in retrofit applications.

Defender Series™ Spill Container with I² Monitor

The Defender Series spill container combines years of knowledge and experience in forecourts across the globe to represent the next generation in spill containment. The Defender Series adapts alongside evolving environmental regulations with the latest innovations in spill containment. Get the best defense and quality construction with the Defender Series from Franklin Fueling systems.

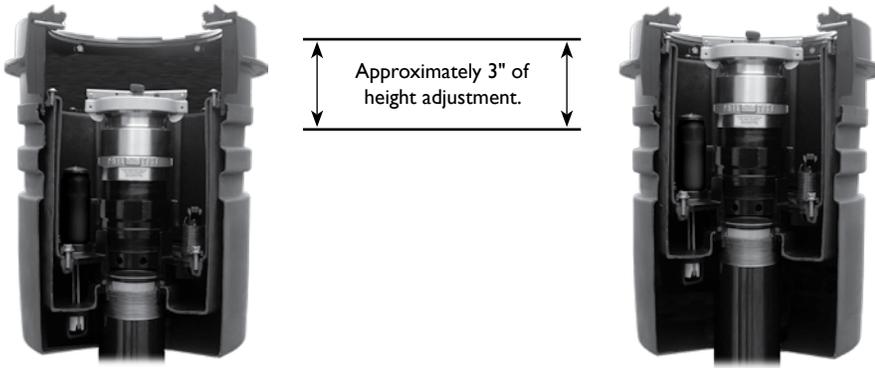


I² Monitor

Monthly and annual visual inspections can be efficiently completed by inspecting the I² (Interstitial Integrity) Monitor to confirm liquid has not intruded the secondary containment space. An electronic liquid detection sensor option is also available for site owners who choose to install active leak detection methods to further protect their investment.

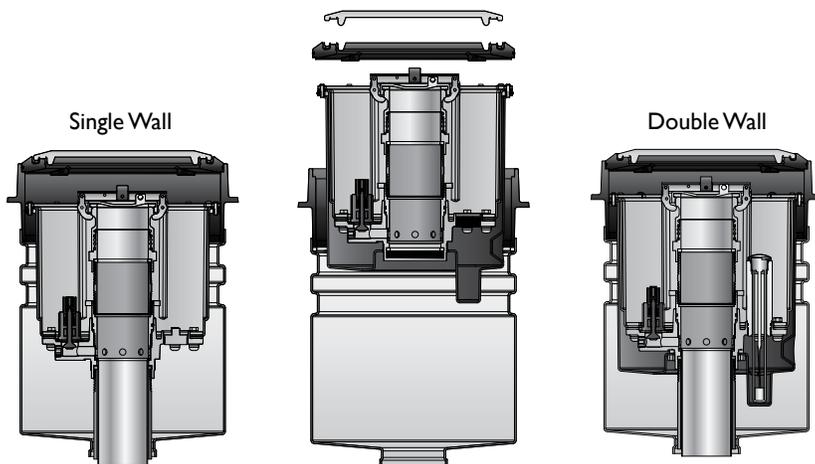
Variable Installation Height

The Defender Series double wall and single wall field replaceable spill container was designed with the retrofit application in mind. The variable height adjustment feature allows an installation height range of 14 1/2" to 17 5/8" which minimizes the number of retrofit spill containment options needed to replace existing direct bury containments. This reduces the need to replace tank risers and ultimately reduces the retrofit installation time.



Double Wall Upgradeability

As regulations change, it may become necessary to upgrade a single wall spill container to meet future requirements. The Defender Series™ Spill Container allows the single wall option to be converted into a double wall spill container simply by removing the snow plow ring, removing the single wall containment, threading the secondary contained spill container onto the existing tank riser and then reinstalling the snow plow ring.



Model	Description
705540001CI-GKT	5 gal, Single wall, NPT, w/ drain, grey epoxy coated cast iron cover w/ gasket
705540002CI-GKT	5 gal, single wall, NPT, no drain, grey epoxy coated cast iron cover w/ gasket
705550101CI-GKT	5 gal, double wall, NPT, w/ drain, I ² monitor, grey epoxy coated cast iron cover w/ gasket
705550102CI-GKT	5 gal, double wall, NPT, no drain, I ² monitor, grey epoxy coated cast iron cover w/ gasket
705550201CI-GKT	5 gal, double wall, NPT, w/ drain, ULS sensor, grey epoxy coated cast iron cover w/ gasket
705550202CI-GKT	5 gal, double wall, NPT, no drain, ULS sensor, grey epoxy coated cast iron cover w/ gasket

Model Number Reference Chart

7055	X	X	X	X	XXX
	1	2	3	4	5

7055 = Spill capacity and type

1 = Containment options

40 = Single wall 50 = Double wall

2 = Interstitial monitoring

0 = No sensor/gauge

1 = I² monitor (float gauge)

2 = TSP-ULS sensor

3 = Base thread

0 = NPT w/o riser, cap & adapter (RCA)

1 = NPT w/ RCA

2 = BSPT w/o RCA

3 = BSPT w/ RCA

4 = Drain Option

1 = With drain (pull)

2 = Without drain

5 = Manway cover option

Leave blank for NO cover

BLK = Black FRC WHT = White FRC

RED = Red FRC ORG = Orange FRC

BLU = Blue FRC BRN = Brown FRC

YEL = Yellow FRC ALUM = Aluminum

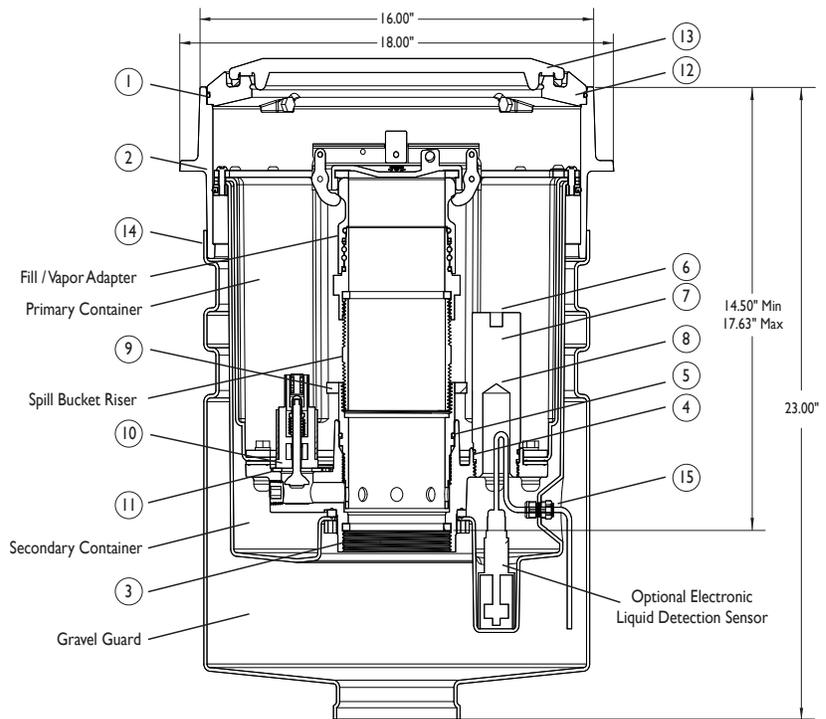
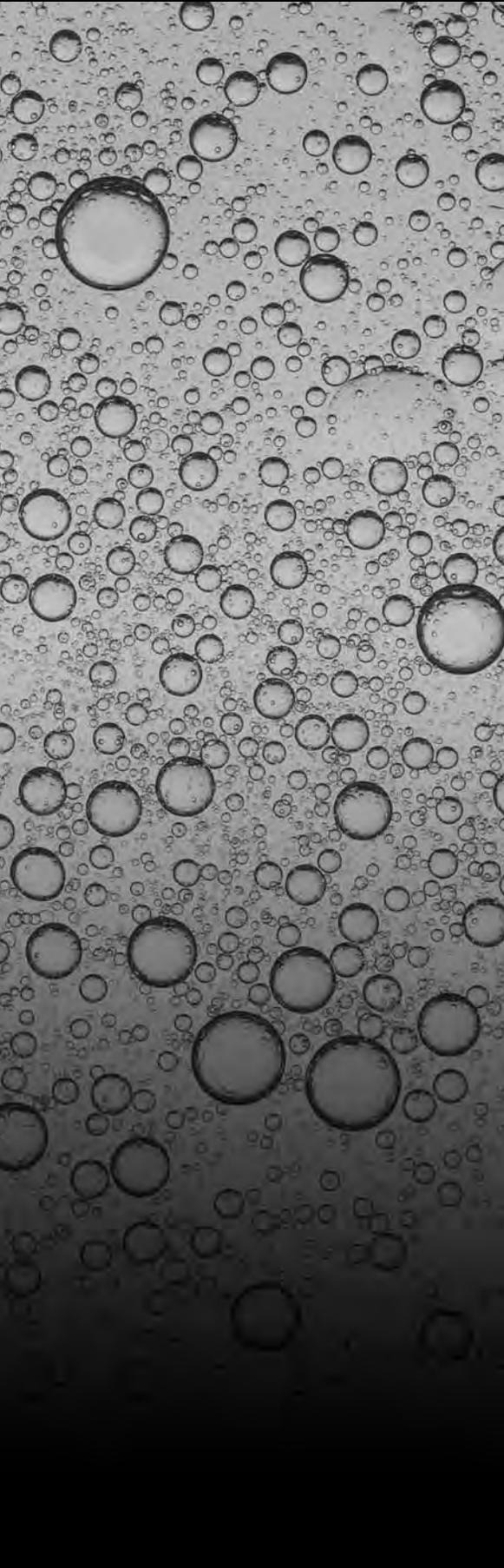
GRY = Grey FRC CI = Cast iron

CI-GKT = Cast iron w/ gasket

WHT-X = White FRC w/ black "X"

RED-X = Red FRC w/ white "X"

BLU-X = Blue FRC w/ white "X"



Defender Series™ Spill Container Replacement Parts

#	Model	Description
1	602009006	Snow plow ring O-ring
2	70550301	Spill container seal-ring
3	602256001	Tank riser gasket
4	400333132	Inspection port pipe O-ring
5	1103939	DT riser clamp o-ring
6	70551101	I ² monitor
7	70551002	Inspection port (I ² monitor)
8	70551001	Inspection port (sensor)
9	70550901EC	DT riser clamp
10	70533701	Pull to push drain valve
11	70522601	Drain valve gasket
12	70553001	Snow plow ring assembly
13	70544001	Cover, cast iron w/ gasket (gray)
	705420XX	Cover, FRC (specify color)
	705423XX	Cover, FRC (specify color)
14	1115601	Slotted hex head self-tapping screw
	70553101	Drain chain an clip
	705551101	Double wall, w/o riser, cap and adapter, w/ I ² monitor, w/drain
	705551102	Double wall, w/o riser, cap and adapter, w/ I ² monitor, no drain
N/A	705551201	Double wall, w/o riser, cap and adapter, w/ sensor, w/drain
	705551202	Double wall, w/o riser, cap and adapter, w/ sensor, no drain
	705541001	Single wall, w/o riser, cap and adapter, w/ drain
	705541002	Single wall, w/o riser, cap and adapter, no drain

Defender Series™ Spill Container Tools

Model	Description
T-7001	T-handle wrench
T-7106	Double-ended installation tool
T-7107	Double wall vacuum test kit (for double wall models only)



DEFENDER SERIES™

5 Gallon, Double Walled, Field Replaceable Spill Container

Model 705-550 Series

INSTALLATION, OPERATION, & MAINTENANCE

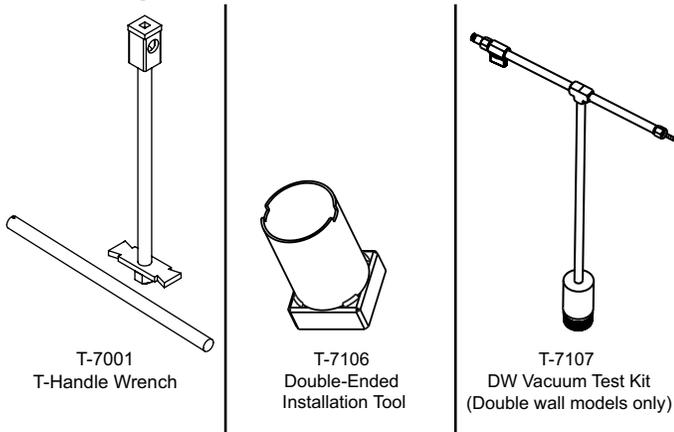


Manual #	Revision	Date	Changes from previous
F-9028	4	Dec.2010	Added self-tapping screw to parts list and drawings

Contents

Component and Subassembly Illustrations	3
Replacement Parts.....	3-4
Preparation	5
New Site/Retrofit Site/Electronic Sensor.....	5
Overview Diagram.....	6
Installation	7-8
Sensor/Non-Sensor/All Models	7
Integrity Testing	9
Vacuum Interstitial Testing Procedure.....	9
Spill Container Subassembly Replacement.....	10

Tools Required



- 1/2" Socket or Nut Driver
- 1/2" Drive Torque Wrench
- Silicone based O-ring lubricant or silicone spray
- NON-HARDENING thread sealant approved for gasoline/oil service

Torque Specifications

Location	Ft-lbs (N-m)
Spill Container to UST Riser Pipe	125-150 (170-203)
Drop Tube (DT) Riser Clamp to Spill Container	75-100 (102-136)

Cautions / Warnings

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. The Defender Series Spill Containment is used with tanks containing gasoline or other flammable substances.

Warning  Follow Petroleum Equipment Institute "Recommended Practices for Installation of Underground Liquid Storage Systems" (PEI/RP100). Failure to follow these practices could result in severe injury, death, serious property damage and/or environmental contamination.

Inspect the spill container assembly for damage before installation.

DO NOT disassemble the spill container subassembly. All the seals are factory tested to ensure the integrity of the containment space.

Make sure O-rings & seals are free of nicks, cuts, dirt, and debris before installation.

Make sure O-rings & seals are well lubricated with a silicone based lubricant.

Component and Subassembly Illustrations

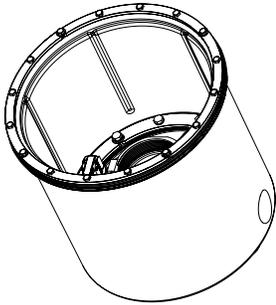


Figure 1: Double Wall Spill Container Subassembly
705551101/02

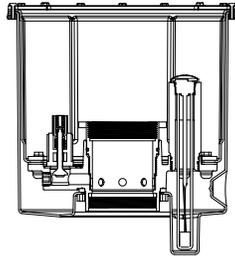


Figure 2: Double Wall Spill Container with Sensor Subassembly
705551201/02

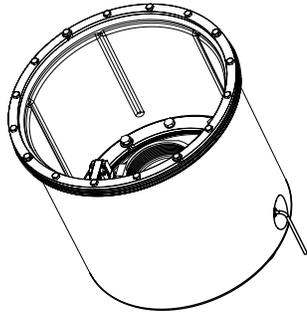


Figure 3: Gravel Guard and Concrete Ring

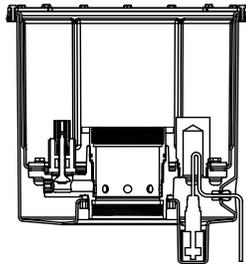


Figure 4: Snow Plow Ring



Figure 5: Drop Tube (DT) Riser Clamp Adapter

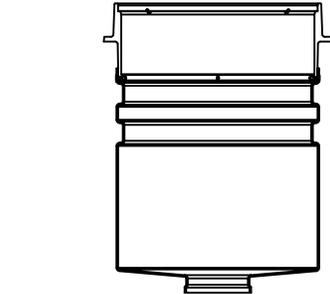


Figure 6: Inspection Port Pipe for P Monitor (Optional)

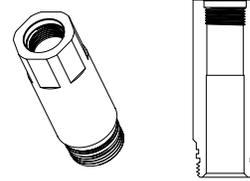


Figure 7: Inspection Port Pipe for Sensor (Optional)

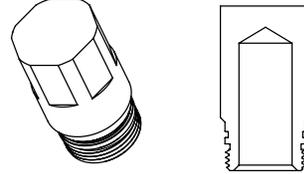


Figure 8: I² (Interstitial Integrity) Monitor (Optional)



I² Monitor Face

Replacement Parts

Replacement Spill Container Subassemblies

Description	Part Number
Double Wall, w/o Riser, Cap and Adapter, with I ² monitor with Drain	705551101
Double Wall, w/o Riser, Cap and Adapter, with I ² Monitor, no Drain	705551102
Double Wall, w/o Riser, Cap and Adapter, with Sensor, with Drain	705551201
Double Wall, w/o Riser, Cap and Adapter, with Sensor, no Drain	705551202

Tools

T-Handle Wrench	T-7001
Double-Ended Installation Tool	T-7106
DW vacuum Test Kit (for double wall models only)	T-7107

Replacement Parts (continued)

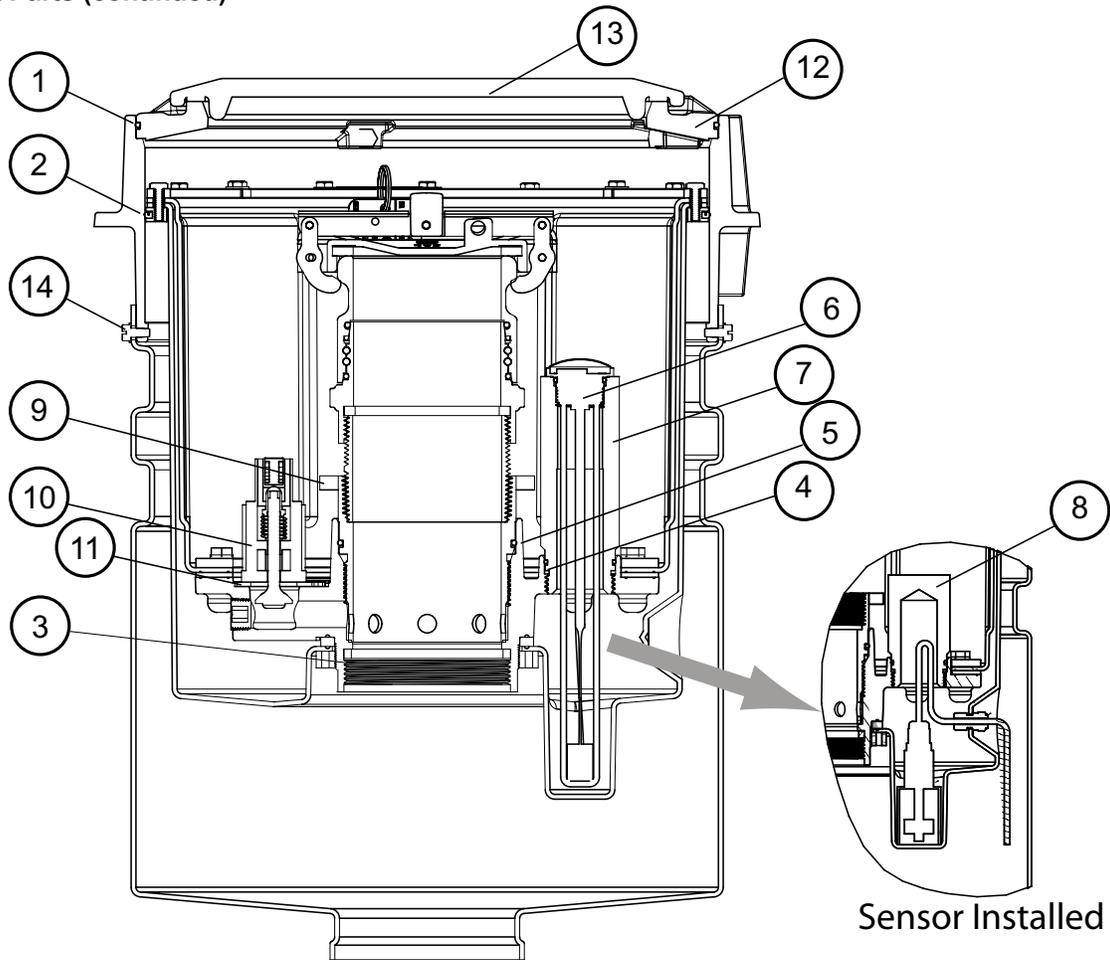


Figure 9: Defender Series™ Spill Container Spare Parts Location

Key	Description	Part Number
1	Snow Plow Ring O-ring	602009006
2	Spill container Seal-ring	70550301
3	Tank Riser Gasket	602256001
4	Inspection Port Pipe O-ring	400333132
5	DT Riser Clamp O-ring	1103939
6	I ² Monitor	70551101
7	Inspection Port (I ² Monitor)	70551002
8	Inspection Port (Sensor)	70551001
9	DT Riser Clamp	70550901EC
10	Pull to Push Drain Valve	70533701
11	Drain valve Gasket	70522601
12	Snow Plow Ring Assembly	70553001
13	Cover, Cast Iron w/gasket (gray)	70544001
	Cover, FRC (Specify color)	705420XX 705423XX
14	Slotted hex head self-tapping screw	1115601
*	Drain Chain and Clip	70553101

* Not shown

Preparation

New Site Application

1. Lay a string line or straight edge across the tank riser, at finished grade height.
2. Cut the riser pipe so that the top edge will be 15.0" (381 mm) +/- 1.5" (38.1 mm) from finished grade. The actual height (elevated grade) of the bucket will be 1.0" (25.4 mm) above finished grade, to ensure proper water runoff (sloped dome).

Note: Cut the riser pipe square/perpendicular to ensure a flat sealing surface.

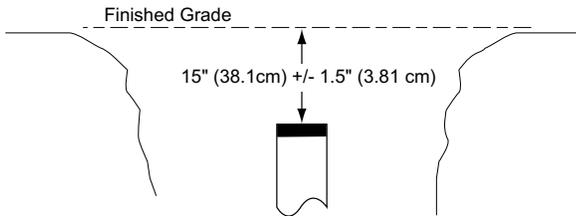


Figure 10: New Installation Riser Position

- If it is intended to use a M/F 4x4 adapter, take into account the height of the adapter [1.75" (45 mm) installed].
- The riser pipe must be between 13.5" (343 mm) and 16.5" (419 mm) from the finished grade level.

Retrofit Application

1. Remove an appropriate size section of concrete around the existing spill container. The minimum recommended size is a 36" (914 mm) square around each spill container.
2. Remove the existing spill container.
3. Excavate a 24" (610 mm) diameter by 24" (610 mm) deep (measured from top of riser) around the riser pipe.

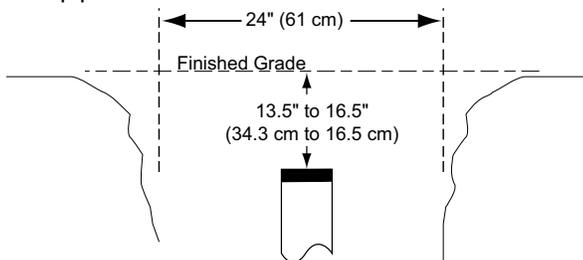


Figure 11: Retrofit Riser Position

4. Check the height of the riser pipe compared to finished grade level. Lay a straight edge across the excavated area and measure from grade to the top of the riser pipe. The riser pipe must be between 13.5" (343 mm) and 16.5" (419 mm).
5. Make sure the riser pipe was cut square/perpendicular to ensure a flat sealing surface.
 - If the pipe end is not cut square, an M/F 4x4 adapter may be used to provide an effective sealing surface as long as the length of riser pipe allows for it. The M/F 4x4 can also be used if the riser pipe is too short.
 - If the riser pipe is too long, it must be re-cut or replaced to obtain the appropriate length.

Electronic Sensor Preparation

1. Separate the spill container subassembly from the gravel guard/concrete ring subassembly.
 - a. Remove the snow plow ring.
 - Unthread the snow plow ring bolts using a 1/2" socket or nutdriver, until the heads of the bolts extend past the I.D. approximately 1/2" (13 mm).
 - Pull up on the snow plow ring firmly to break the seal between the O-ring and the concrete ring.
 - b. Remove the spill container subassembly.
 - Turn the unit upside-down so the concrete ring is on the ground.
 - Firmly push on the spill container subassembly to unseat the seal, and the bucket will come out of the concrete ring.
 2. Locate the gravel guard/concrete ring subassembly.
 3. Drill the appropriate sized hole for the conduit penetration supplied by the electrical contractor. It can be drilled in either the side or the bottom of the gravel guard. If drilled in the side, make sure to keep it as low as possible.
- Caution:** Make sure the spill container is not installed in the gravel guard/concrete ring as you risk puncturing the containment.
4. Install the conduit penetration fitting into the gravel guard.
 5. Measure at least 10 feet (3 meters) of cable from the end spill container cord grip & mark it with a marker or piece of tape. This will be the minimum amount of cable to be left loose inside the gravel guard to allow for installation & removal of the spill container. The rest of the length is available for connection into another sump or junction box.

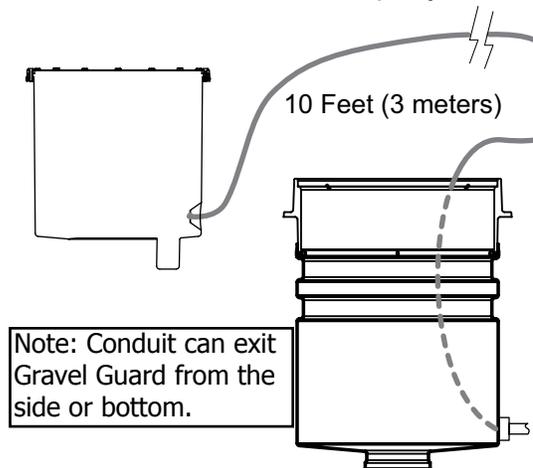


Figure 12: Cable Allowance

Caution: Do not loosen the cord grip on the spill container because it will compromise the seal integrity of the factory tested interstitial space.

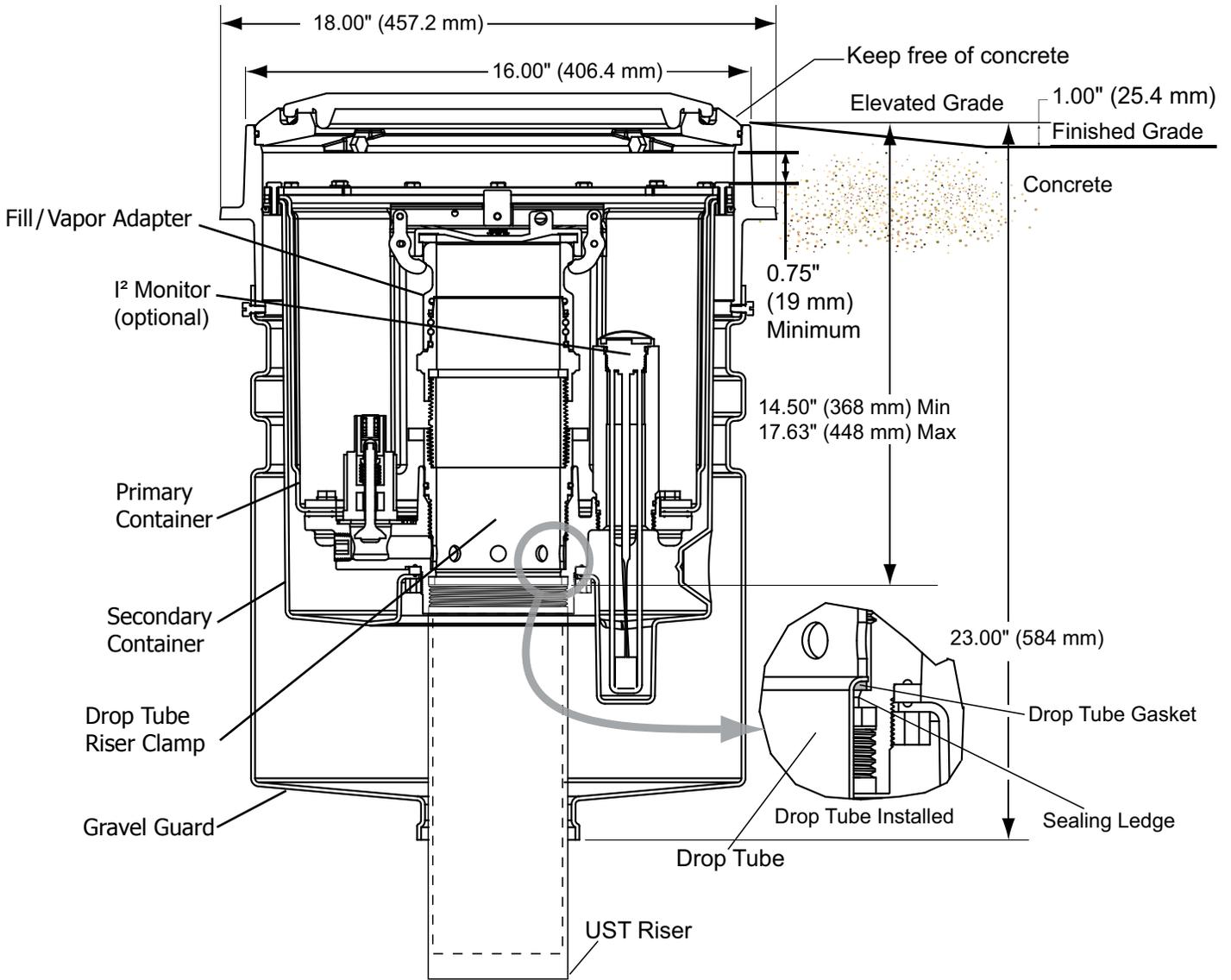


Figure 13: Defender Series™ Spill Container Overview

Installation

Electronic Sensor Model Only

1. Slide the gravel guard /concrete ring subassembly over the tank riser.
2. Locate the spill container subassembly and remove the DT (Drop Tube) Riser Clamp Adapter.
 - Use the round end of the T-7106 double ended tightening tool and the T-7001 T-Handle. The slots on the tool will engage with the lugs on the DT Riser Clamp Adapter.
3. Apply a NON-HARDENING thread sealant to the tank riser.
4. Feed the sensor cable through the conduit penetration as far as the 10 foot (3 meter) mark previously made in the preparation section.
5. Thread the spill container subassembly on to the tank riser using square end of the T-7106 double-ended installation tool and T-7001 T-Handle. Torque to 125-150 ft-lbs (170-203 N-m) using a 1/2" drive torque wrench.
6. Allow the sensor cord to loosely lay around the tank riser when the spill container is threaded on. This will facilitate the removal of the spill container in the future by allowing the cord to unwrap when unthreaded.

Note: If local codes or regulations require a tightness test using a leak detecting solution at the tank riser /spill bucket joint, do so now before raising the gravel guard and concrete ring subassembly.

7. Raise the gravel guard & concrete ring subassembly up around the spill container & pull firmly to seat the concrete ring ID onto the seal-ring.
 - Make sure the ID of the concrete ring is free of dirt and debris.
 - Make sure the seal-ring is free of nicks, cuts, dirt, and debris.
 - Make sure the seal-ring is lubricated with a silicone based lubricant.
8. Install the snow plow ring into the concrete ring.
 - Make sure the O-ring is free of nicks, cuts, dirt, and debris.
 - Make sure the O-ring is lubricated with a silicone based lubricant.
 - Align the (4) bolts to the ribs on the concrete ring.

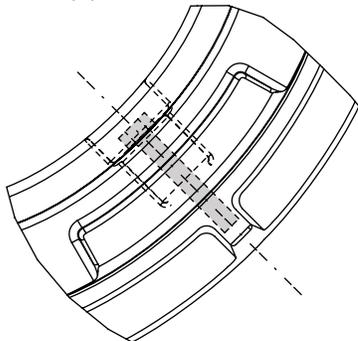


Figure 14: Snow Plow Ring Bolt Location

- Push down on the snow plow ring to seat the O-ring.
 - Using the 1/2" socket or nut driver, tighten the (4) bolts into the concrete ring (hand-tight).
9. Adjust the height of the top edge to the ELEVATED grade, which should be approximately 1" (25.4 mm) above finished grade level (1" (25.4 mm) of rain runoff dome).
 10. Install the conduit into the conduit penetration & feed the sensor wire through the conduit.

Non-Sensor Models

1. Remove the DT Riser Clamp Adapter from the Defender Series™ Spill container assembly.
2. Use the round end of the T-7106 double ended tightening tool and the T-7001 T-Handle. The slots on the tool will engage with the lugs on the DT Riser Clamp Adapter.
3. Apply a NON-HARDENING thread sealant to the tank riser.
4. Thread on the Defender Series™ Spill container assembly to the tank riser and tighten using square end of the T-7106 double-ended installation tool and the T-7001 T-Handle. Torque to 125-150 ft-lbs (170-203 N-m) using a 1/2" drive torque wrench.

Note: If local codes or regulations require a tightness test using a leak detecting solution at the tank riser /spill bucket joint:

- a. Make sure the snowplow ring is installed in the concrete ring before proceeding.
 - b. Remove the (4) slotted hex-head self-tapping screws from the gravel guard.
 - c. Slide the gravel guard down to access the joint between the tank riser and the spill bucket.
 - d. Perform a tightness test
 - e. Reinstall the gravel guard and attach it with the (4) self-tapping screws.
5. Adjust the height of the top edge to the ELEVATED grade, which should be approximately 1" (25.4 mm) above finished grade level (1" (25.4 mm) of rain runoff dome).

All Models

1. If needed, support the gravel guard / concrete ring with backfill.
 - If backfill is not available, temporarily support the concrete ring with 2x4s underneath the outer edge.
2. Install the drop tube through the spill container to allow the gasket to seat on the sealing ledge.
 - *Retrofit Installation Only* – Double check to see that the existing drop tube is cut to the appropriate length.
3. If the unit was ordered with the riser, cap, and fill/vapor adapter – they should all be pre-assembled to the DT Riser Clamp Adapter – SKIP TO STEP 5.

4. Assemble the DT Riser Clamp Adapter to the pipe nipple and fill/vapor adapter.
 - Use only the flats on the top of the DT Riser Clamp Adapter for tightening.
 - Cut & thread the DT Riser Pipe. The overall length of the DT Riser Clamp Adapter assembly including the adapter and dust cap should be no more than 12.5" (317.5 mm).

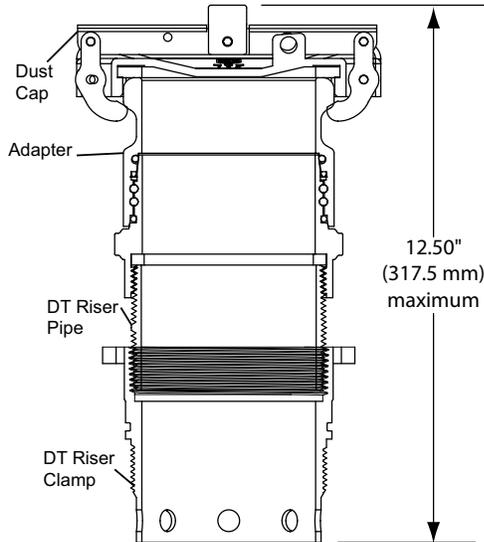


Figure 15: Drop Tube (DT) Riser Clamp Assembly Dimensions

- Use a thread sealant between the pipe nipple & the DT Riser Clamp.
 - Torque to the manufacturer's recommended value using the correct tools.
5. Install the DT Riser Clamp Adapter into the spill container using the round end of the T-7106 double ended tightening tool and T-7001 T-Handle. Torque to 75-100 ft-lbs (101.7 N-m - 135.6 N-m). The slots on the tool will engage with the lugs on the DT riser clamp adapter.
 6. Install fill/vapor dust cap.

Note: Verify that when the dust cap is installed, it does not interfere with the underside of the spill container lid.

7. Double-check & verify the gravel guard/concrete ring assembly is still at ELEVATED grade height, adjust if necessary.
8. Perform the integrity testing AFTER BACKFILL but BEFORE CONCRETE.
 - See Integrity Testing on Page 9
9. Install spill container cover/lid.

10. Pour concrete around the Defender Series™ spill container, making sure to dome the concrete at least 1" (2.54 cm) to allow for adequate runoff. The sloping of the concrete should begin at the outer edge of the concrete ring tabs (Figure 18). Keep the snow plow ring and cover clean and free of any concrete splatter (the snow plow ring must be able to be removed if service is needed).

11. If equipped with a drain, adjust the position of the lower key ring on the chain so that the drain is held open when clipped up on the ledge of the snow plow ring.
12. Attach the upper most key ring to the fill/vapor dust cap.

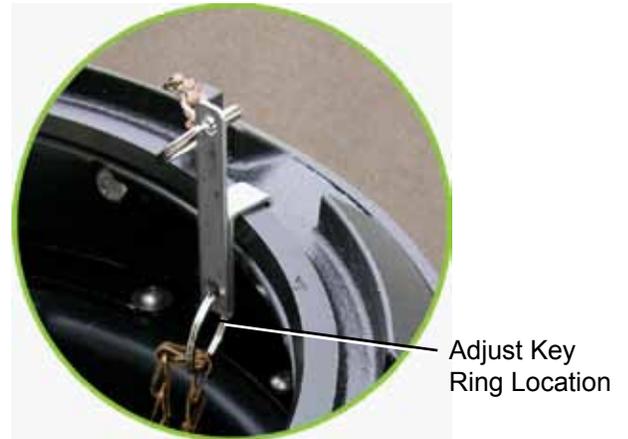


Figure 16: Drain Chain and Clip Shown installed, holding drain open

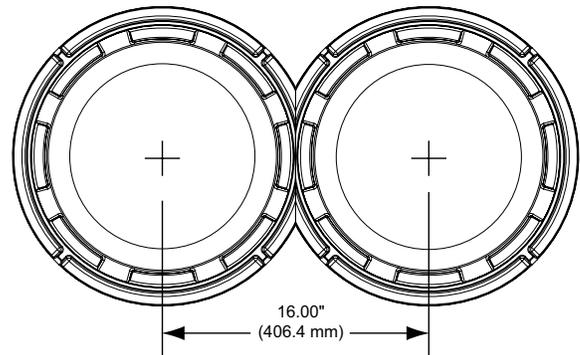


Figure 17: 16" On-Center Mounting (Top View)

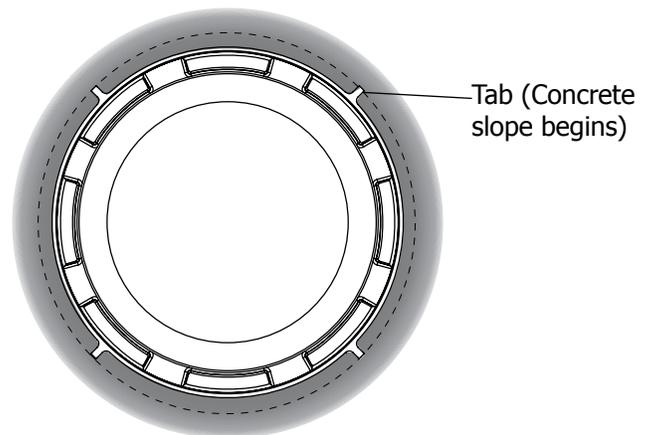


Figure 18: Concrete Placement

Integrity Testing

All Defender spill buckets are integrity tested at the factory. We recommend that the containment integrity be re-confirmed. Always test per local codes. If local codes do not specify a procedure, or refers to the manufacturer's testing, use the testing as below.

Double Wall: Perform Hydrostatic Testing Procedure and the Vacuum Interstitial Testing Procedure.

Hydrostatic Testing Procedure

1. Fill the spill bucket with water until the level is just below the upper lip of the snow plow ring.
2. After 1 hour, if there is no detectable drop in water level, the spill bucket has passed the test.

Vacuum Interstitial Testing Procedure

1. Remove the Inspection Port Pipe from the spill container.
2. Install the T-7107 DW Vacuum Test Kit into the inspection port (hand tight).
 - Make sure the O-ring is properly lubricated, clean of dirt and debris, and the I.D. sealing surface of the inspection port is clean of dirt and debris.
 - If the unit includes a sensor, it does not need to be removed.

3. Connect the vacuum source to the 1/4" tube fitting (Push-Lok/ Push-to-connect).
4. Connect the manometer to the 3/16" hose barb.
5. Close the ball valve.
6. Apply vacuum source (using a pump or generator) and SLOWLY open the ball valve until the manometer reads 30 inches of water column (WC) (7.472 kPa), then close the ball valve.
7. Wait approximately 1 minute to allow the interstitial space to stabilize.
8. If needed, re-apply the vacuum source to obtain 30" WC (7.472 kPa).
9. Allow spill container to rest undisturbed for 5 minutes while under vacuum.
10. Check the manometer reading after 5 minutes. If it reads above 26" WC (6.476 kPa), the interstitial space has passed the test.
11. If the manometer reads less than 26" WC (6.476 kPa), check all the connections and repeat the test. Otherwise contact FFS Technical Service.

Integrity Testing Recommendations

Test upon installation and thereafter per local codes. Otherwise, test every 3 years

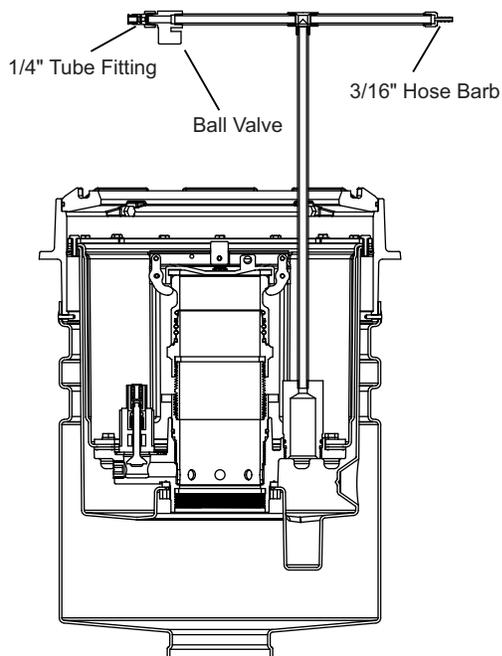


Figure 19: Tool T-7001 Installed

Recommended Maintenance & Inspection Procedures

Monthly

1. Clean any sand, gravel, or dirt from the snow plow ring. Buildup of material will prevent the manhole lid from sitting flat and diverting rain water. In addition to water infiltration, this can lead to premature lid failures and tripping hazards.
2. Inspect the cover gasket and replace it if necessary.
3. Inspect the spill container for the presence of liquid. If any is present, identify the material (water or fuel) and dispose of it using your preferred acceptable method (pump it out or drain it into the tank).
4. Inspect the primary spill container and the drain valve screen for any foreign material collecting in the bottom of the tank. Remove any large objects (leaves, rags, etc.) and wipe the bottom of the tank with a disposable rag.
5. Inspect the entire spill container for obvious damage. Verify that all components are functioning properly.
6. Inspect the Interstitial space for the presence of liquid.
 - If it is installed with the I² monitor, check the yellow indicator position. If the yellow indicator is positioned below the white area on the gauge face, liquid is not detected
 - If it is installed with the TSP-ULS electronic sensor, check the tank gauge equipment located inside the station. Confirm the sensor status is normal and does not show an alarm condition.
 - If liquid is detected by either monitoring method, identify and properly dispose of the liquid. Confirm the status of the interstitial space by performing the Vacuum Interstitial Integrity Procedure.

Yearly

1. Inspect the interstitial monitoring equipment.
 - If it is installed with the I² monitor, test the operation of the float/Indicator mechanism. Remove the I² monitor/port pipe assembly by unscrewing it from the tank adapter. Manually move the float up and down and verify that the float moves freely and the indicator arrow rotates.
 - If it is installed with the TSP-ULS electronic sensor, check to see that it is functioning properly. Remove the inspection port pipe from the tank adapter to gain access to the sensor. Remove the sensor from the interstitial space and turn it upside down to raise the float. Verify with the tank gauge in the station that a sensor alarm occurred. If it did, the sensor is operating properly. Reinstall the sensor and the inspection port pipe.
2. Record inspection results per local codes.

Spill Container Subassembly Replacement

Removal

1. Remove cover.
2. Remove the snow plow ring.
 - Unthread the snow plow ring bolts using a 1/2" (13 mm) socket or nut-driver, until the heads of the bolts extend past the I.D. approximately 1/2" (13mm).
 - Pull up on the snow plow ring firmly to break the seal between the O-ring and the concrete ring.
3. Remove the dust cap.
4. Using the round end of the T-7106 double-ended installation tool and T-7001 T-Handle, remove the DT riser clamp adapter.
5. Remove the drop tube assembly.
6. Using the square end of the T-7106 double-ended installation tool and the T-7001 T-Handle, unthread the spill container assembly.
7. Pull up firmly and evenly on the spill container to remove the spill container from the concrete ring/gravel guard.

Installation

1. Clean the I.D. of the concrete ring (sealing surface) thoroughly and re-lubricate with a silicone based O-ring lubricant or spray.
2. Apply a NON-HARDENING thread sealant to the tank riser.
3. Lubricate the seal on the outside of the spill container with a silicone based O-ring lubricant or spray.
4. Evenly push down on the spill container subassembly to seat the seal-ring, & slide it down to where the bucket meets the tank riser.
5. Thread on the spill container subassembly to the tank riser using square end of the T-7106 double-ended installation tool and The T-7001 T-Handle. Torque to 125-150 ft-lbs (169.5 - 203.4 N-m) using a 1/2" (13 mm) drive torque wrench.
6. Re-install the drop tube assembly.
 - Check the drop tube gasket and replace if necessary.
7. Re-install the DT Riser Clamp Adapter into the spill container using the round end of the T-7106 double ended tightening tool and T-7001 T-Handle. The slots on the tool will engage with the lugs on the DT riser clamp adapter. Torque to 75-100 ft-lbs (102-136 N-m).
8. Re-install the snow plow ring into the concrete ring.
 - Replace and lubricate the O-ring.
 - Align the (4) bolts to the ribs on the concrete ring.
 - Push down on the snow plow ring to seat the O-ring.
 - Using the 1/2" (13 mm) socket or nut driver, tighten the (4) bolts into the concrete ring (hand tight).
9. Re-install the dust cap.
10. Re-install the cover.



Franklin Fueling Systems

3760 Marsh Road
Madison, WI 53718, U.S.A.
Tel: +1 608 838 8786
Tel: USA & Canada 1 800 225 9787
Tel: Mexico 001 800 738 7610
www.franklinfueling.com



DEFENDER SERIES™

5 Gallon, Single Walled, Field Replaceable Spill Container

Model 705-540 Series

INSTALLATION, OPERATION, & MAINTENANCE



Manual #	Revision	Date	Changes from previous
F-9032	2	Dec.2010	Added self-tapping screw to parts list and drawings

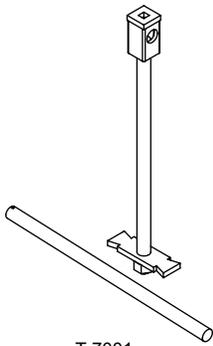
Franklin Fueling Systems • 3760 Marsh Rd. • Madison, WI 53718 USA

Tel: +1 608 838 8786 • 800 225 9787 • Fax: +1 608 838 6433 • www.franklinfueling.com

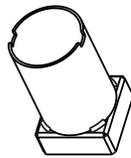
Contents

Component and Subassembly Illustrations	3
Replacement Parts.....	3-4
Preparation	5
New Site/Retrofit Site	5
Overview Diagram.....	6
Installation	7-8
Integrity Testing	8
Spill Container Subassembly Replacement	9

Tools Required



T-7001
T-Handle Wrench



T-7106
Double-Ended
Installation Tool

- 1/2" Socket or Nut Driver
- 1/2" Drive Torque Wrench
- Silicone based O-ring lubricant or silicone spray
- NON-HARDENING thread sealant approved for gasoline/oil service

Torque Specifications

Location	Ft-lbs (N-m)
Spill Container to UST Riser Pipe	125-150 (170-203)
Drop Tube (DT) Riser Clamp to Spill Container	75-100 (102-136)

Cautions / Warnings

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. The Defender Series Spill Containment is used with tanks containing gasoline or other flammable substances.

Warning  Follow Petroleum Equipment Institute "Recommended Practices for Installation of Underground Liquid Storage Systems" (PEI/RP100). Failure to follow these practices could result in severe injury, death, serious property damage and/or environmental contamination.

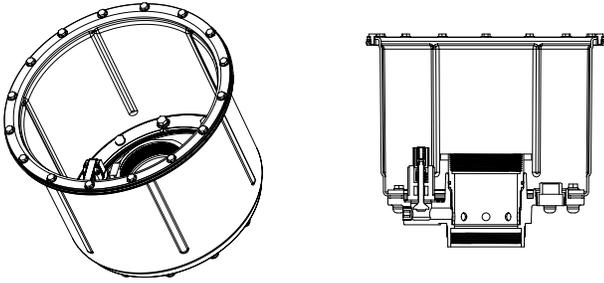
Inspect the spill container assembly for damage before installation.

DO NOT disassemble the spill container subassembly. All the seals are factory tested to ensure the integrity of the containment space.

Make sure O-rings & seals are free of nicks, cuts, dirt, and debris before installation.

Make sure O-rings & seals are well lubricated with a silicone based lubricant.

Component and Subassembly Illustrations



**Figure 1: Single Wall Spill Container Subassembly
705541001/02**

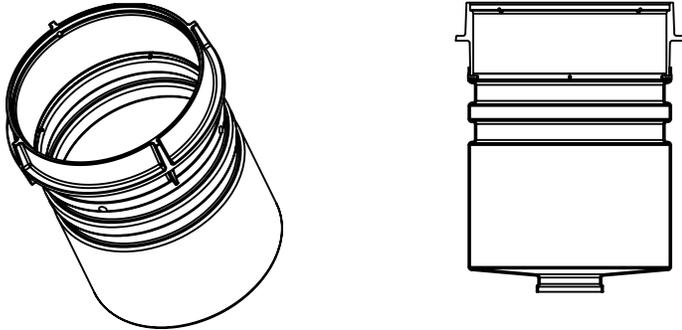


Figure 2: Gravel Guard and Concrete Ring

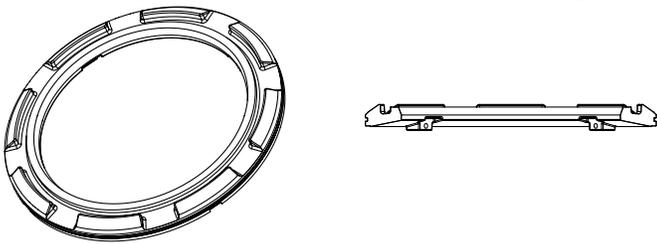


Figure 3: Snow Plow Ring

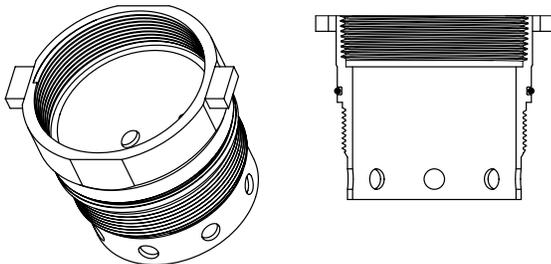


Figure 4: Drop Tube (DT) Riser Clamp Adapter

Replacement Parts

Replacement Spill Container Subassemblies

Description	Part Number
Single Wall, w/o Riser, Cap and Adapter, with Drain	705541001
Single Wall, w/o Riser, Cap and Adapter, no Drain	705541002

Tools

T-Handle Wrench	T-7001
Double-Ended Installation Tool	T-7106

Replacement Parts (continued)

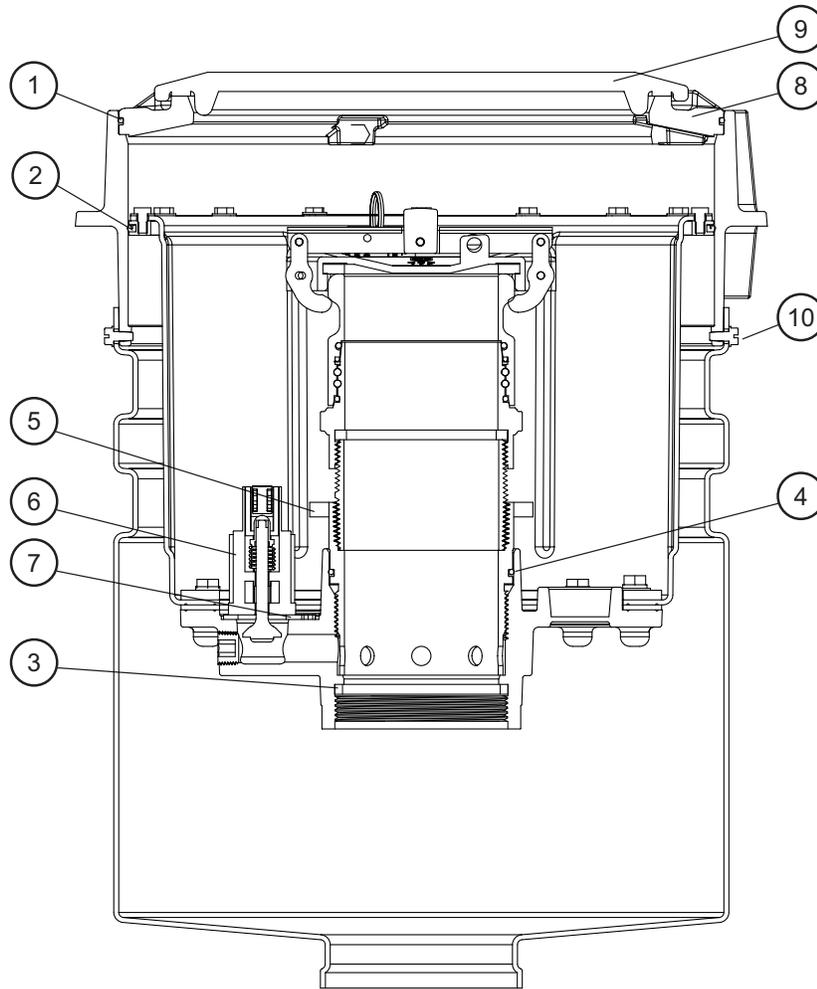


Figure 5: Defender Series™ Spill Container Spare Parts Location

Key	Description	Part Number
1	Snow Plow Ring O-ring	602009006
2	Spill container Seal-ring	70550301
3	Tank Riser Gasket	602256001
4	DT Riser Clamp O-ring	1103939
5	DT Riser Clamp	70550901EC
6	Pull to Push Drain Valve	70533701
7	Drain valve Gasket	70522601
8	Snow Plow Ring Assembly	70553001
9	Cover, Cast Iron w/gasket (gray)	70544001
	Cover, FRC (Specify color)	705420XX 705423XX
10	Slotted, Hex-Head Self-Tapping Screw	1115601
*	Drain Chain and Clip	70553101

* Not shown

Preparation

New Site Application

1. Lay a string line or straight edge across the tank riser, at finished grade height.
2. Cut the riser pipe so that the top edge will be 15.0" (381 mm) +/- 1.5" (38.1 mm) from finished grade. The actual height (elevated grade) of the bucket will be 1.0" (25.4 mm) above finished grade, to ensure proper water runoff (sloped dome).

Note: Cut the riser pipe square/perpendicular to ensure a flat sealing surface.

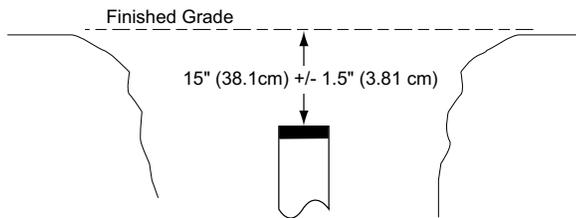


Figure 6: New Installation Riser Position

- If it is intended to use a M/F 4x4 adapter, take into account the height of the adapter [1.75" (45 mm) installed].
- The riser pipe must be between 13.5" (343 mm) and 16.5" (419 mm) from the finished grade level.

Retrofit Application

1. Remove an appropriate size section of concrete around the existing spill container. The minimum recommended size is a 36" (914 mm) square around each spill container.
2. Remove the existing spill container.
3. Excavate a 24" (610 mm) diameter by 24" (610 mm) deep (measured from top of riser) around the riser pipe.

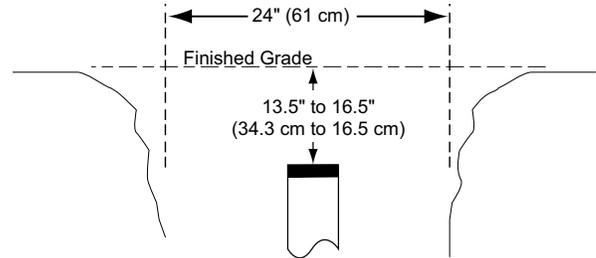


Figure 7: Retrofit Riser Position

4. Check the height of the riser pipe compared to finished grade level. Lay a straight edge across the excavated area and measure from grade to the top of the riser pipe. The riser pipe must be between 13.5" (343 mm) and 16.5" (419 mm) .
 5. Make sure the riser pipe was cut square/perpendicular to ensure a flat sealing surface.
- If the pipe end is not cut square, an M/F 4x4 adapter may be used to provide an effective sealing surface as long as the length of riser pipe allows for it. The M/F 4x4 can also be used if the riser pipe is too short.
 - If the riser pipe is too long, it must be re-cut or replaced to obtain the appropriate length.

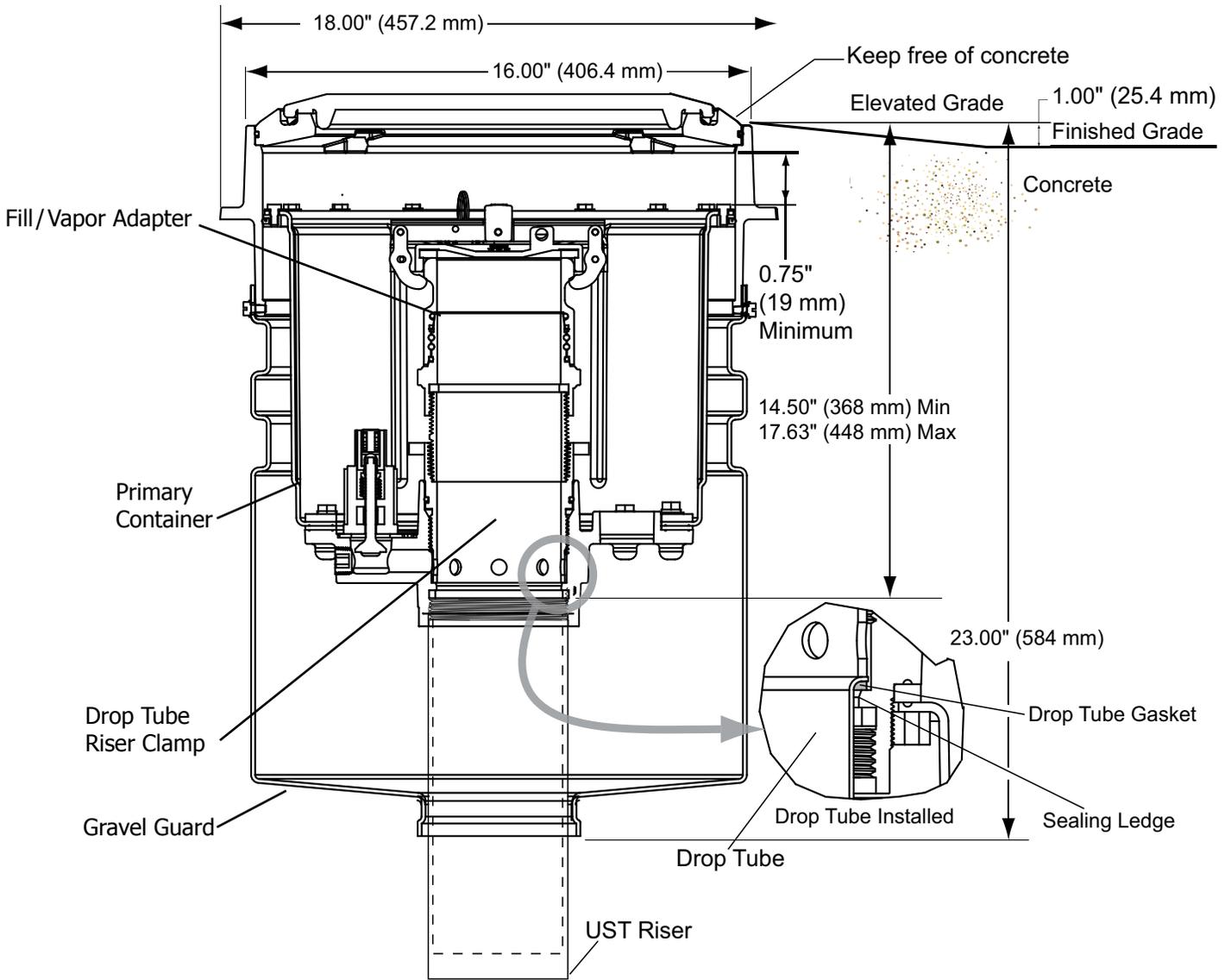


Figure 8: Defender Series™ Spill Container Overview

Installation

1. Remove the DT Riser Clamp Adapter from the Defender Series™ Spill container assembly.
2. Use the round end of the T-7106 double ended tightening tool and the T-7001 T-Handle. The slots on the tool will engage with the lugs on the DT Riser Clamp Adapter.
3. Apply a NON-HARDENING thread sealant to the tank riser.
4. Install the Defender Series™ Spill container assembly to the tank riser and tighten using square end of the T-7106 double-ended installation tool and the T-7001 T-Handle. Torque to 125-150 ft-lbs (170-203 N-m) using a 1/2" drive torque wrench.

Note: If local codes or regulations require a tightness test using a leak detecting solution at the tank riser/spill bucket joint:

- a. Make sure the snowplow ring is installed in the concrete ring before proceeding.
 - b. Remove the (4) slotted hex-head self-tapping screws from the gravel guard.
 - c. Slide the gravel guard down to access the joint between the tank riser and the spill bucket.
 - d. Perform a tightness test.
 - e. Reinstall the gravel guard and attach it with the (4) self-tapping screws.
5. Adjust the height of the top edge to the ELEVATED grade, which should be approximately 1" (25.4 mm) above finished grade level (1" (25.4 mm) of rain runoff dome).
 6. Adjust the height of the top edge to the ELEVATED grade, which should be approximately 1" (25.4 mm) above finished grade level (1" (25.4 mm) of rain runoff dome).
 7. If needed, support the gravel guard/concrete ring with backfill.
 - If backfill is not available, temporarily support the concrete ring with 2x4s underneath the outer edge.
 8. Install the drop tube through the spill container to allow the gasket to seat on the sealing ledge.
 - **Retrofit Installation Only** – Double check to see that the existing drop tube is cut to the appropriate length.
 9. If the unit was ordered with the riser, cap, and fill/vapor adapter – they should all be pre-assembled to the DT Riser Clamp Adapter – SKIP TO STEP 5.
 10. Assemble the DT Riser Clamp Adapter to the pipe nipple and fill/vapor adapter.
 - Use only the flats on the top of the DT Riser Clamp Adapter for tightening.
 - Cut & thread the DT Riser Pipe. The overall length of the DT Riser Clamp Adapter assembly including the adapter and dust cap should be no more than 12.5" (317.5 mm).

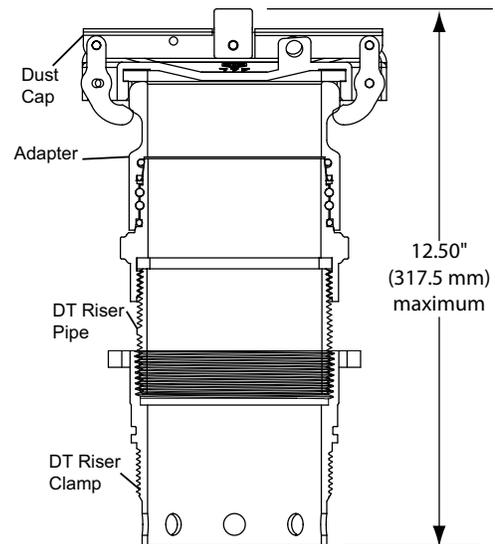
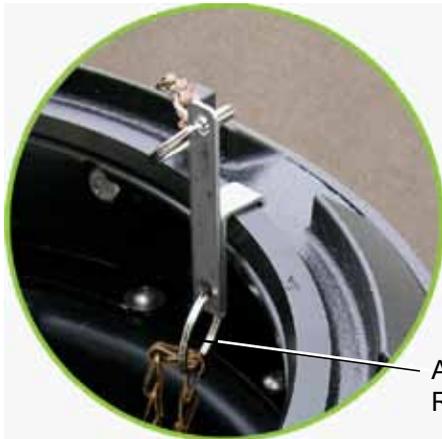


Figure 9: Drop Tube (DT) Riser Clamp Assembly Dimensions

- Use a thread sealant between the pipe nipple & the DT Riser Clamp.
 - Torque to the manufacturer's recommended value using the correct tools.
11. Install the DT Riser Clamp Adapter into the spill container using the round end of the T-7106 double ended tightening tool and T-7001 T-Handle. Torque to 75-100 ft-lbs (101.7 N-m - 135.6 N-m). The slots on the tool will engage with the lugs on the DT riser clamp adapter.
 12. Install fill/vapor dust cap.
- Note:** Verify that when the dust cap is installed, it does not interfere with the underside of the spill container lid.
13. Double-check & verify the gravel guard/concrete ring assembly is still at ELEVATED grade height, adjust if necessary.
 14. Perform the integrity testing AFTER BACKFILL but BEFORE CONCRETE.
 - See Integrity Testing on Page 8
 15. Install spill container cover/lid.
 16. Pour concrete around the Defender Series™ spill container, making sure to dome the concrete at least 1" (2.54 cm) to allow for adequate runoff. The sloping of the concrete should begin at the outer edge of the concrete ring tabs (Figure 13). Keep the snow plow ring and cover clean and free of any concrete splatter (the snow plow ring must be able to be removed if service is needed).

17. If equipped with a drain, adjust the position of the lower key ring on the chain so that the drain is held open when clipped up on the ledge of the snow plow ring.
18. Attach the upper most key ring to the fill/vapor dust cap.



Adjust Key Ring Location

Figure 10: Drain Chain and Clip
Shown installed, holding drain open

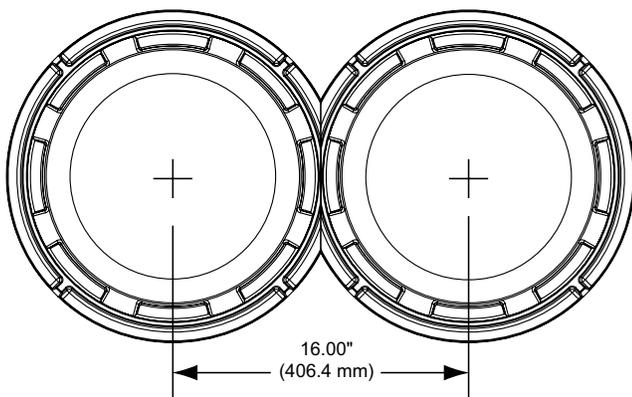


Figure 11: 16" On-Center Mounting (Top View)

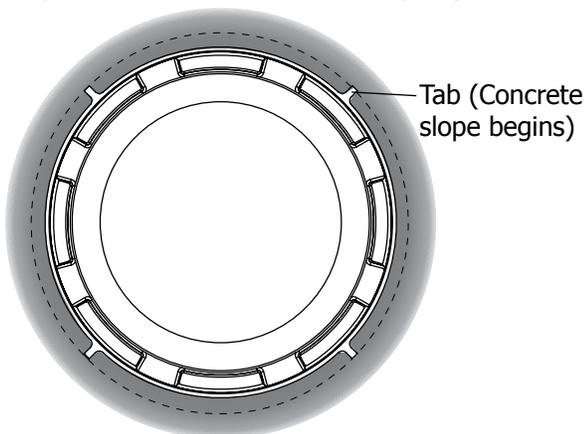


Figure 12: Concrete Placement

Integrity Testing

All Defender spill buckets are integrity tested at the factory. We recommend that the containment integrity be re-confirmed. Always test per local codes. If local codes do not specify a procedure, or refers to the manufacturer's testing, Perform Hydrostatic Testing Procedure as below.

Hydrostatic Testing Procedure

1. Fill the spill bucket with water until the level is just below the upper lip of the snow plow ring.
2. After 1 hour, if there is no detectable drop in water level, the spill bucket has passed the test.

Integrity Testing recommendations

Test upon installation and thereafter per local codes. Otherwise, test every 3 years

Monthly Recommended Maintenance & Inspection Procedures

1. Clean any sand, gravel, or dirt from the snow plow ring. Buildup of material will prevent the manhole lid from sitting flat and diverting rain water. In addition to water infiltration, this can lead to premature lid failures and tripping hazards.
2. Inspect the cover gasket and replace it if necessary.
3. Inspect the spill container for the presence of liquid. If any is present, identify the material (water or fuel) and dispose of it using your preferred acceptable method (pump it out or drain it into the tank).
4. Inspect the primary spill container and the drain valve screen for any foreign material collecting in the bottom of the tank. Remove any large objects (leaves, rags, etc.) and wipe the bottom of the tank with a disposable rag.
5. Inspect the entire spill container assembly and components for any obvious damage. Verify that all components are functioning properly.
6. Record Inspection results per local codes.

Spill Container Subassembly Replacement

Removal

1. Remove cover.
2. Remove the snow plow ring.
 - Unthread the snow plow ring bolts using a 1/2" (13 mm) socket or nutdriver, until the heads of the bolts extend past the I.D. approximately 1/2" (13 mm).
 - Pull up on the snow plow ring firmly to break the seal between the O-ring and the concrete ring.
3. Remove the dust cap.
4. Using the round end of the T-7106 double-ended installation tool and T-7001 T-Handle, remove the DT riser clamp adapter.
5. Remove the drop tube assembly.
6. Using the square end of the T-7106 double-ended installation tool and the T-7001 T-Handle, unthread the spill container assembly.
7. Pull up firmly and evenly on the spill container to remove the spill container from the concrete ring/gravel guard.

Installation

1. Clean the I.D. of the concrete ring (sealing surface) thoroughly and re-lubricate with a silicone based O-ring lubricant or spray.
2. Apply a NON-HARDENING thread sealant to the tank riser.
3. Lubricate the seal on the outside of the spill container with a silicone based O-ring lubricant or spray.
4. Evenly push down on the spill container subassembly to seat the seal-ring, & slide it down to where the bucket meets the tank riser.
5. Thread on the spill container subassembly to the tank riser using square end of the T-7106 double-ended installation tool and The T-7001 T-Handle. Torque to 125-150 ft-lbs (169.5 - 203.4 N-m) using a 1/2" (13 mm) drive torque wrench.
6. Re-install the drop tube assembly.
 - Check the drop tube gasket and replace if necessary.
7. Re-install the DT Riser Clamp Adapter into the spill container using the round end of the T-7106 double ended tightening tool and T-7001 T-Handle. The slots on the tool will engage with the lugs on the DT riser clamp adapter. Torque to 75-100 ft-lbs (102-136 N-m).
8. Re-install the snow plow ring into the concrete ring.
 - Replace and lubricate the O-ring.
 - Align the (4) bolts to the ribs on the concrete ring.

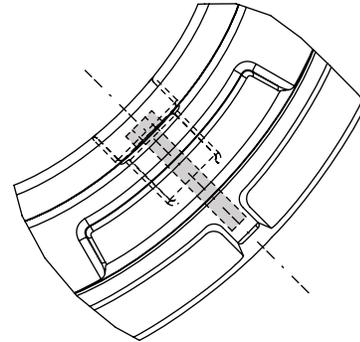


Figure 13: Snow Plow Ring Bolt Location

- Push down on the snow plow ring to seat the O-ring.
 - Using the 1/2" (13 mm) socket or nut driver, tighten the (4) bolts into the concrete ring (hand tight).
9. Re-install the dust cap.
 10. Re-install the cover.

Page intentionally blank

Page intentionally blank

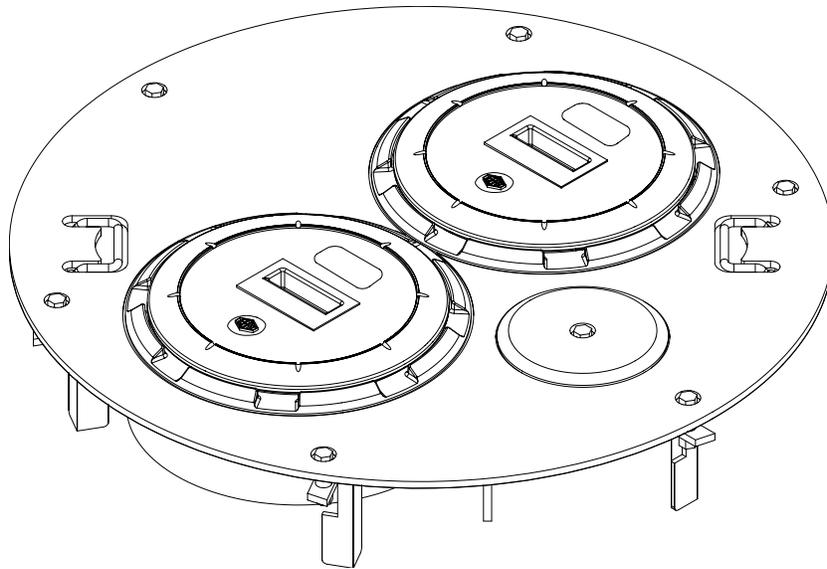


Franklin Fueling Systems

3760 Marsh Road
Madison, WI 53718, U.S.A.
Tel: +1 608 838 8786
Tel: USA & Canada 1 800 225 9787
Tel: Mexico 001 800 738 7610
www.franklinfueling.com

Multiport Spill Containment with Defender™ Spill Containers

Retrofit Installation Guide Overview



Contents

Introduction.....	1
Multiport Safety.....	1
Tools Required for Installation	1
Guidelines for a Successful Installation	1
Installation Overview.....	2
Retrofit Verification	3
Existing Multiport Disassembly	3
Tank Riser Preparation	3
Riser Installation.....	3
Installing Spill Buckets	4
Cover Installation	4
Swivel Adapter/Drop Tube Installation	5

Notice

Franklin Fueling Systems (FFS) strives to produce the finest manual possible and to ensure that the information that it contains is complete and accurate. However, FFS reserves the rights to change this document and specifications at any time without notice. FFS makes no expressed or implied warranty with regard to the contents of this manual. FFS assumes no liability for errors, omissions or for any damages, direct or consequential, that may result from the use of this document or the equipment that it describes.

Inspection of Materials

Visually inspect all components for defects or damage prior to installation. If any defect or damage is found, do not use the product and contact Franklin Fueling Systems for further assistance.

Warranty Information

Please refer to the *FFS Fuel Management Systems & Product Warranty Policy* for all warranty information.

Contacting Franklin Fueling Systems (FFS)

Please feel free to contact us by mail at:

Franklin Fueling Systems
3760 Marsh Rd.
Madison, WI 53718 USA

Or contact us by phone, fax or e-mail:

Tel: +1 800 225 9787

E-mail: sales@franklinfueling.com

Fax: +1 608 838 6433

techserve@franklinfueling.com

Office and Sales Hours: 8 A.M. to 5 P.M. CST - Monday through Friday

Technical Support Hours: 7 A.M. to 7 P.M. CST - Monday through Friday

Please visit our website at www.franklinfueling.com

Introduction

This guide is meant as an installation overview for multiport spill container manways, single wall underground fiberglass sumps and water-tight sump shields. This should be used in conjunction with the appropriate part-specific installation instructions. To ensure your system integrity and safety, it is essential that you follow all applicable installation instructions and the federal, state, and local codes that supersede them.

Multiport Safety

To ensure your safety, take these precautions when installing multiport spill containment devices:

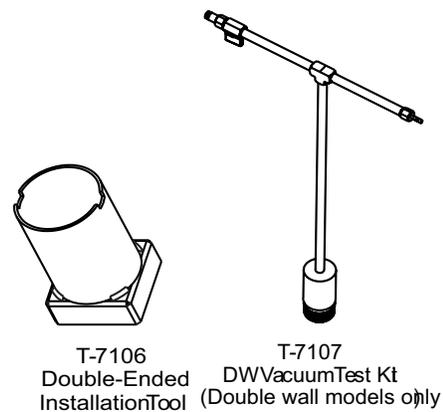
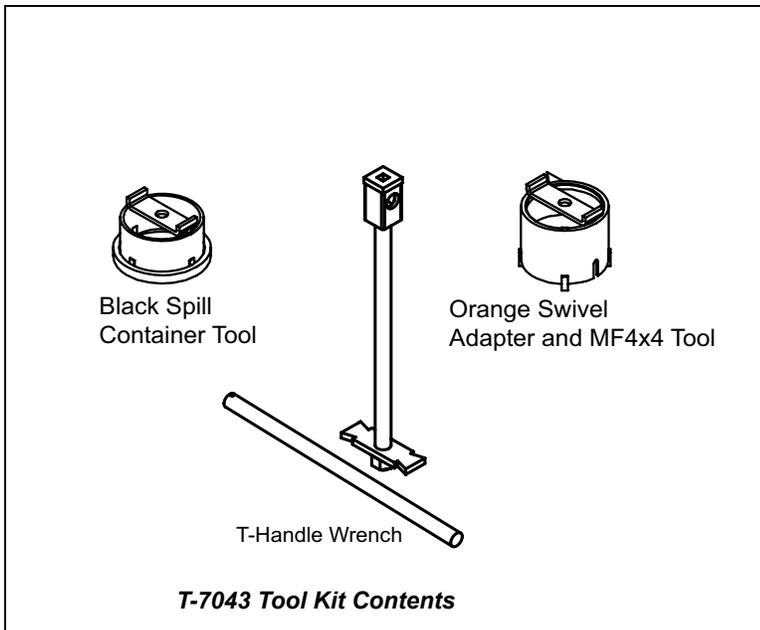
- Wear steel-toed boots
- Wear work gloves
- Wear eye protection

Tools Required for Installation

- Silicone spray or Silicone O-Ring Lubricant
- Ratchet and ¾" socket
- T-7043 Spill Container Tool Kit
- T-7106 Installation Tool for the Defender™ Spill Bucket
- T-7043 Vacuum Test Kit (Double-Wall Only)
- Tape measure
- Pipe thread sealant approved for gasoline
- Torque Wrench, 0 to 200 Ft. Lbs with ½" drive

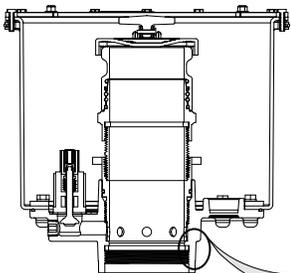
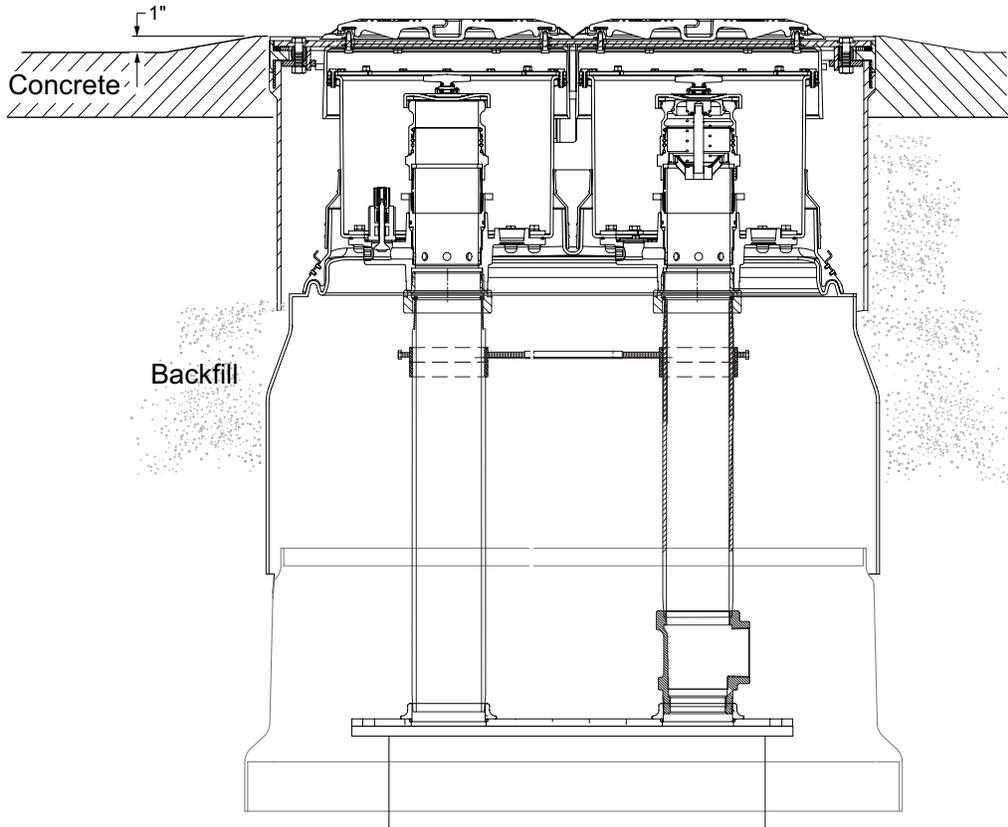
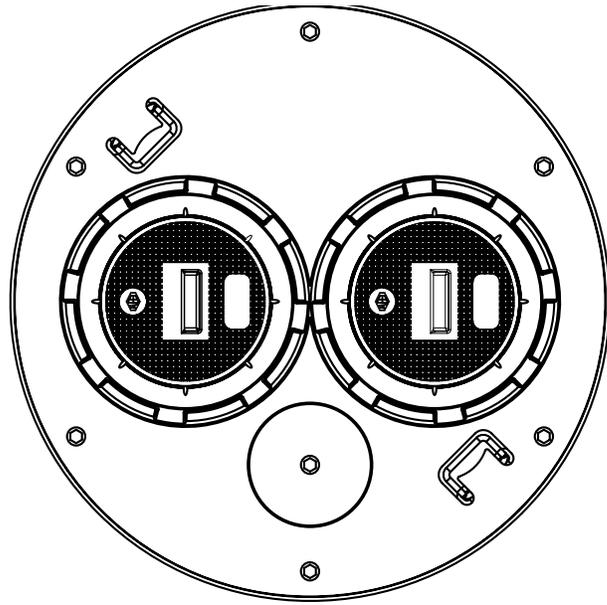
Guidelines for a Successful Installation

- **Do not** alter the installation in any way.
- **Do not** get debris in the D-Ring gasket channel. Failure to maintain this surface may cause improper seating of the steel diamond-plate cover.
- **Do not** place fingers or toes under multiport cover while installing.
- **Do** make sure the multiport fill and vapor risers are 16" center-to-center. The M-1600 riser support is used to hold the risers at the proper distance.
- **Do** tighten the cover cam-locks in a star pattern.

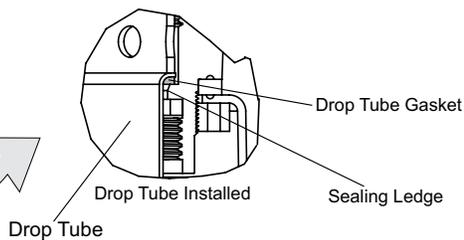


Tool Needed for Defender™ Spill Bucket

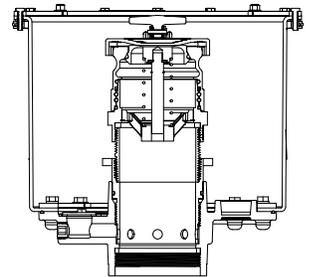
Installation Overview



Defender™ (Fill) Spill Container



Drop Tube Detail



Defender™ (Vapor) Spill Container

Figure 1: Multiport Installation Overview

Riser Installation

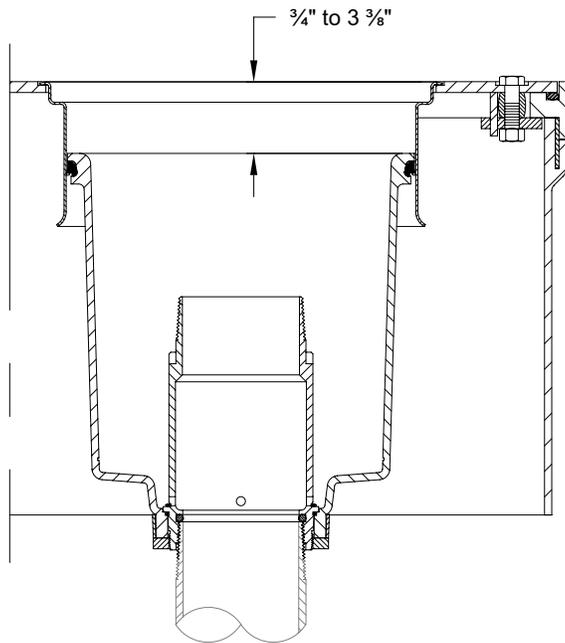


Figure 2: Measure Spill Bucket Clearance

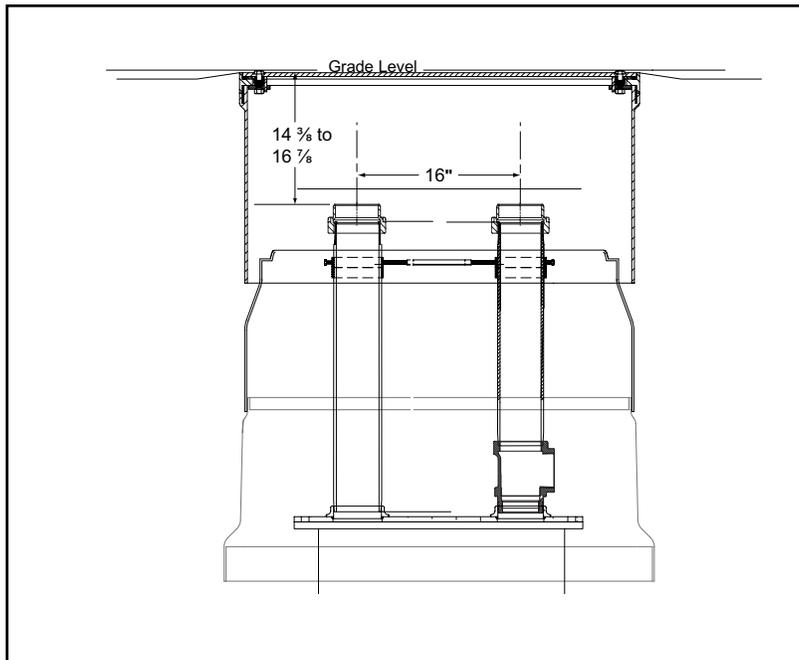


Figure 3: Installation Using M/F 4x4 Riser Adapters NPSM (Straight Thread) Buckets

Stop! – Before disassembling the existing multiport, check to see if the risers are within range for the new defender series buckets.

Retrofit Verification

1. Measure the top of the stainless steel sleeve to the top of the spill bucket (Figure 2)
 - a. 85100 series (3.5 gallon) bucket = (1 3/4" – 4 1/4")
 - b. 85100-1 series (5 gallon) bucket = (3/4" – 3 1/4")
2. If the measurement falls within the range listed, then you will probably not need to adjust the tank riser length
 - a. If the measurement is too small (tank riser too long), then the riser will need to be cut shorter
 - b. If the measurement is too big (tank riser too short), then a longer riser will need to be installed or a retrofit riser adapter (adds 1 3/4")

Existing Multiport Disassembly

1. Remove existing manhole cover
2. Loosen the band clamps on the reducer boots (if applicable)
3. Remove the Phil-Tite spill buckets using the black spill bucket tool
4. Remove the drop tube & overfill prevention device (if applicable)
5. Remove watertight sump lid (if applicable)

Tank Riser Preparation

1. Place a straight edge over the top of the manway opening and measure the distance to the top of the M/F 4x4
 - a. If the distance is between 14 3/8" and 16 7/8", then the tank risers can be reused
 - b. If the distance is less than 14 3/8", shorten riser length so the final distance, including the M/F 4x4 is 15 5/8" (+/- 1/2")
 - c. If distance is between 16 7/8" and 18 5/8", install retrofit riser adapter on top of existing M/F 4x4 riser adapter – torque to 125-150 ft-lbs using the T-7102 orange tool and torque wrench
 - d. If distance is more than 18 5/8", cut new risers to 17 3/8" +/- 1/2" from grade (M/F 4x4 will add 1-3/4" to achieve a final distance of 15 5/8") Reinstall M/F 4x4 – torque to 125-150 ft-lbs using the T-7102 orange tool and torque wrench
2. Adjust the M-1600 riser alignment brackets to ensure 16" on-center spacing of the tank risers (Figure 4). **This is critical for having the manhole cover to fit properly over the spill buckets.**



Figure 4: Confirming Distance

Installing Spill Buckets

1. Install water tight sump shield (if applicable).
2. Install the small end of the reducer boot and smaller band clamp onto defender spill bucket (if applicable).
3. Apply grease or anti-seize compound onto the threads of the M/F 4x4 (do not use pipe sealant).
4. Thread on the new defender spill buckets on to the tank risers.
5. Using the square end of the double-ended installation tool (T-7106) and T-handle wrench (T-7001), torque the spill buckets to 75-100 ft-lbs.
6. Tighten band clamps of reducer boots to spill bucket and water tight sump shield (if applicable).

Cover Installation

1. Before installing the multiport cover make sure the:
 - a. D-ring gasket is free of dirt and debris, the round edge is facing up, and it is fully seated in the skirt channel (Figure 5)

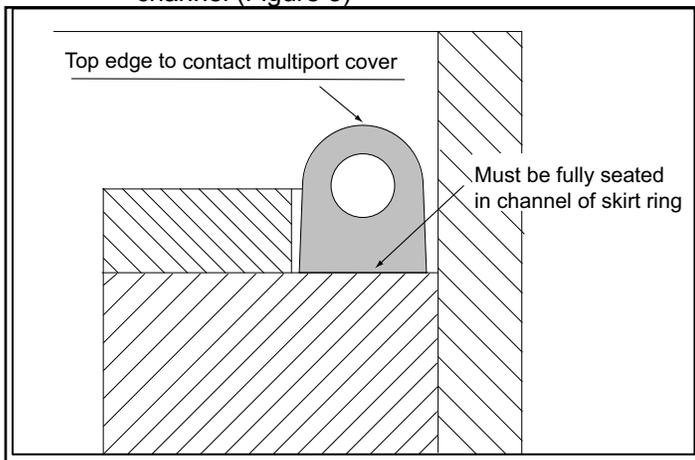


Figure 5: D-Ring Gasket Cross Section

- b. Cam locks are fully open with the long edge against the stop (Figure 6)

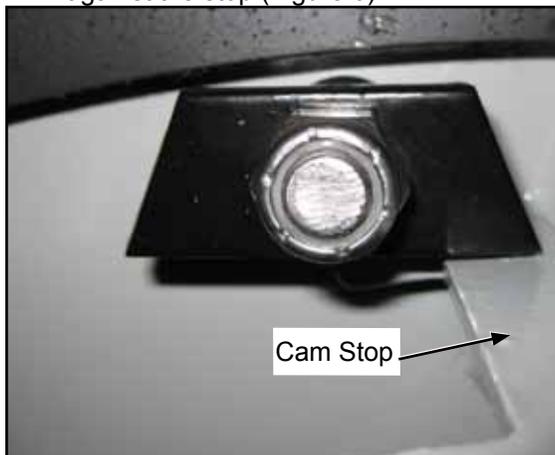


Figure 6: Cam Lock Open

2. Lubricate the ID of the manhole cover sleeves with silicone spray or silicone based O-ring lubricant.
3. Install the manhole cover into the multiport, making sure to properly align the spill buckets to the sleeves.

4. Seat the cover inside the skirt ring & against the d-ring gasket as much as possible before tightening the cam locks. This will ensure the cam swings underneath the cam ring (Figure 7) and draws the cover downward to fully seat against the d-ring gasket.



Figure 7: Cam Lock Closed and Engaged

5. To secure the manhole cover, tighten down the (6) cam-locks in a star/crossing pattern.

Important! Double check the distance between the top of the spill bucket to the underside of the sleeve. This dimension must be between ($\frac{3}{4}$ " – $3 \frac{3}{8}$ ").

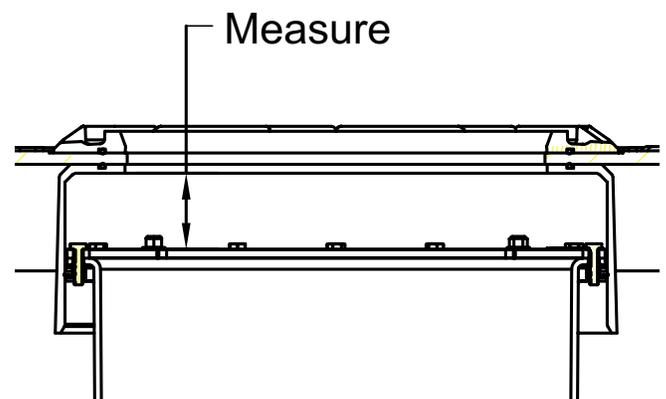


Figure 8: Measure Clearance

Swivel Adapter/Drop Tube Installation

1. Remove the DT riser clamp assembly (Figures 9 and 10) using the notched end of the double-ended installation tool (T-7106).
2. Install swivel fill/vapor adapter using a close nipple and pipe thread sealant to the end threading into the DT riser clamp. Torque to 50-75 ft lbs.
3. Insert the drop tube/overflow prevention valve assembly & gasket into the bucket (if applicable).
 - a. If the tank riser length was changed, a retrofit M/F 4x4 was installed, or if the drop tube was previously installed underneath the swivel adapter – a new upper drop tube will need to be cut to the appropriate length.
4. Install the DT riser clamp assembly and torque to 50-75 ft-lbs using the notched end of the double-ended installation tool (T-7106).

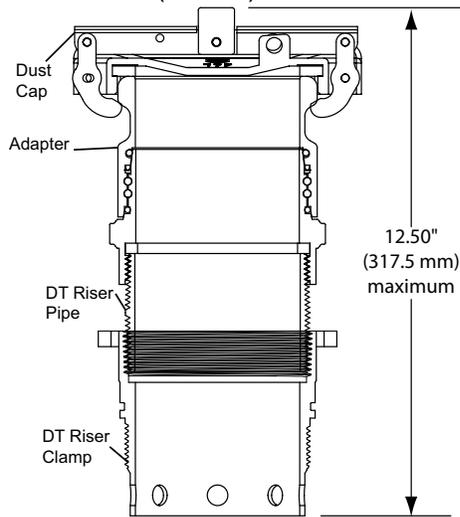


Figure 9: Drop Tube (DT) Riser Clamp Assembly Dimensions

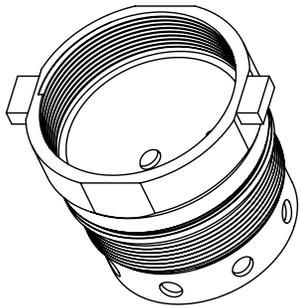


Figure 10: Drop Tube Riser Clamp



PHIL-TITE **Franklin Fueling Systems**

3760 Marsh Road
Madison, WI 53718, U.S.A.

Tel: +1 608 838 8786

Tel: USA & Canada 1 800 225 9787

Tel: Mexico 001 800 738 7610

www.franklinfueling.com



EGYHC.MH21091 Spill Containment Devices for Flammable Liquid Storage Tanks

Page Bottom

Spill Containment Devices for Flammable Liquid Storage Tanks

[See General Information for Spill Containment Devices for Flammable Liquid Storage Tanks](#)

FRANKLIN FUELING SYSTEMS INC

MH21091

3760 MARSH RD
MADISON, WI 53718 USA

Spill containment devices, Model 706-400, in 19 L capacity, for aboveground tank installations.

Models 702-404, -405, -414, -415, -416, -450, 703-404, 705-472, -473, -474, -475, -477, -479, -483, -540, -550 in 19 L capacities, for underground tank installations.

Models 715-472, -473, -474, -475, -479 in 57 L capacities.

Models 725-472, -473, -474, -475, -479 in 95 L capacities.

Models 85000-1, 85100-1, 500-XX-XXX-GRY series, 501-XX-XXX-GRY series, 400-XX-XXX-GRY series, 401-XX-XXX-GRY series, 404-XX-XXX-GRY series, 405-XX-XXX-GRY series, 406-XX-XXX-GRY series, 407-XX-XXX-GRY series, Spill Containment Devices in 19L capacities for underground tank installations; Model 150-S2-SPR-GRY Spill Containment Device in 57L capacity for underground tank installations. XX denotes the type of shield: CS - corrugated gravel shield and FS - FRP gravel shield. XXX denotes snow plow ring options: NPR - no snow plow ring and SPR - with snow plow ring.

Models 702-450, -415, 705, 715, 725 suffixed -474, -475 and -477 are designed for below grade installation. All other underground models are designed for grade installation.

Last Updated on 2010-06-21

[Questions?](#)

[Print this page](#)

[Notice of Disclaimer](#)

[Page Top](#)

Copyright © 2012 Underwriters Laboratories of Canada Inc.

The appearance of a company's name or product in this database does not in itself assure that products so identified have been manufactured under ULC's Follow-Up Service. Only those products bearing the ULC Mark should be considered to be Listed and covered under ULC's Follow-Up Service. Always look for the Mark on the product.

ULC permits the reproduction of the material contained in the ULC Online Directories subject to the following conditions: 1. The Guide Information, Designs and/or Listings (files) must be presented in their entirety and in a non-misleading manner, without any manipulation of the data (or drawings). 2. The statement "Reprinted from the ULC Online Directories with permission from Underwriters Laboratories of Canada Inc." must appear adjacent to the extracted material. In addition, the reprinted material must include a copyright notice in the following format: "Copyright © 2012 Underwriters Laboratories of Canada Inc."

An independent organization working for a safer world with integrity, precision and knowledge.



Certificate of Compliance

Certificate Number 20100702 – MH21091
Report Reference MH21091, 2006 October 23
Issue Date 2010 July 02

Page 1 of 1



Issued to:

FRANKLIN FUELING SYSTEMS INC

3760 MARSH RD
MADISON, WI 53718 USA

*This is to certify that
representative samples of*

Spill Containment Devices for Flammable Liquid

Model Descriptions: Model 702, 703, 705, 715 and 725, Series -65 and -66, Spill Containment Devices in 19L, 57L and 95L capacities, for flammable and combustible liquids underground storage tanks applications.

Model 706-400 Spill Containment Devices in 19L for flammable and combustible liquids aboveground storage tank applications.

Model 705-540 single wall and 705-550 double wall Spill Containment Devices in 19L for flammable and combustible liquids underground storage tank applications.

Model 85000-1, 85100-1, 500-XX-XXX-GRY series, 501-XX-XXX-GRY series, and 400-XX-XXX-GRY series, 401-XX-XXX-GRY series, 404-XX-XXX-GRY series, 405-XX-XXX-GRY series, 406-XX-XXX-GRY series, 407-XX-XXX-GRY series, Spill Containment Devices in 19L capacities, and Model 150-S2-SPR-GRY Spill Containment Device in 57L capacity, for flammable and combustible liquids underground storage tanks applications.

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety:

The basic standard used to investigate products in this category is ULC/ORD-C58.15, "Overfill Protection Devices for Flammable Liquid Storage Tanks."

Additional Information:

See UL On-line Certification Directory at www.ul.com for additional information.

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

William R. Carney

Director, North American Certification Programs

Underwriters Laboratories Inc.

Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

For questions, please contact a local UL Customer Service Representative at <http://www.ul.com/global/eng/pages/corporate/contactus/>