



State of Illinois
Office of the State Fire Marshal

Checklist for Documenting UST Compatibility

SUBMIT THIS FORM WITH SUPPORTING DOCUMENTATION ATTACHED.

ALL COMPONENTS MUST BE LISTED IN DETAIL, & COMPATIBILITY DOCUMENTATION MUST CLEARLY IDENTIFY THE COMPONENTS.

Facility where equipment is located:

Facility Number: 2023173
Facility Owner: Graham Enterprise, Inc.
Facility Name: BP
Street Address: 631 N La Salle
City: Chicago
County: Cook

UST Information:

Tank ID Number: 8
Tank Material: Steel FRP
Single Wall Double Wall X
Tank Volume: 7K
Tank Product: E-85

Complete the checklist below, listing compatibility determination, method used and description. **All answers must be "YES" and supported with a sufficient description or supporting documentation** in order for your UST system to demonstrate compatibility with the blended fuel/biofuel product.

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
TANK	NO	☒		Fiberglass Double Wall Containment Solutions.
PIPING (incl. shear valves, flex connectors)	NO	☒		NUPI Smartflex.
CONTAINMENT SUMPS	NO	☒		Containment Solutions Single Wall Fiberglass.
PUMPS (STPs/Suction; Dispensers, hoses, nozzles)	NO	☒		Wayne Ovation.

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
RELEASE DETECTION EQUIPMENT	NO	☒		Veeder Root Electronic Pressurized Line Leak Detection.
SPILL PREVENTION EQUIPMENT	NO	☒		Franklin Fueling Defender Series 5 Gallon Single Wall.
OVERFILL PREVENTION EQUIPMENT	NO	☒		OPW 71SOM-412C
GASKETS & SEALS (installs after 10/13/18)	☒	YES		All gaskets are part of pre-manufactured assemblies.
JOINT DOPES & ADHESIVES (installs after 10/13/18)	NO	☒		Gasola E-Seal

Methods:

- Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored.
- Equipment or manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility, specify the range of biofuel blends the component is compatible with, and be from the equipment or component manufacturer

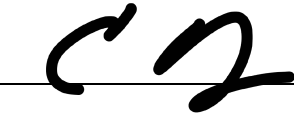
Note: Owners and operators may find American Petroleum Institute's Recommended Practice 1626, *Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Filling Stations*, useful in complying with the compatibility requirements.

In order to be in compliance with the 2015 federal UST regulation compatibility requirements for storing biofuels, you must keep documentation of compatibility of the UST system components listed on this page as long as you store the fuel.

For your records, you should update this checklist each time you repair or replace components of your UST system to ensure you have all the required compatibility documentation while storing biofuels.

Checklist Completed By: print name: Chris Derro

date completed: 8/28/2020

signature: 

position/title: Agent to Owner



August 1, 2011

Fuel Storage Compatibility

This letter applies to all fiberglass fuel storage products manufactured since the inception of Containment Solutions, Inc. (CSI) on 1/1/1995 including:

- Single-wall underground tanks
- Double-wall underground tanks
- Triple-wall underground tanks
- ReTank® (In situ double-wall tank upgrade)
- BTU® (Bio fuel Tank Upgrade for fluid compatibility)
- Single-wall tank sumps
- Double-wall tank sumps

CSI single, double, and triple wall tanks are listed by Underwriters Laboratories Inc., under UL Standard 1316 - *Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures*.

All of the above Containment Solutions' products are compatible for use with the following fuels and fuel blends:

- Gasoline, jet fuel, aviation gasoline, motor oil (new or used), kerosene, diesel motor fuel
- Alcohol-gasoline blend motor fuels
 - Gasoline-ethanol blends with up to 100% ethanol
 - Gasoline-methanol blends with up to 100% methanol
- Biodiesel-diesel blends with up to 100% biodiesel (B100 per ASTM)
- Oxygenated motor fuels with up to 20% (by volume) methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary butyl alcohol (TBA), tertiary amyl methyl ether (TAME), or tertiary amyl ethyl ether (TAEE)
- Diesel fuel oil

For more information on CSI products or CSI Field Services contact:

Containment Solutions

1-877-CSI-TANK

sales@csiproducts.com

www.containmentsolutions.com

Sincerely,

Ron Shaffer

Vice President Sales & Marketing

Containment Solutions, Inc.



September 28, 2018

Ms. Roberta Brusi
NUPI INDUSTRIE ITALIANE SpA
Via Stefano Ferrario
Z I Sud Ovest
Busto Arsizio, Va, 21052, IT

Our Reference: File MH25887, Vol 1

Project 4788390844

:

Dear Ms. Roberta Brusi:

This is in regards to our testing of underground pipe systems in accordance with UL 971 Standard for Nonmetallic Underground Piping for Flammable Liquids- Edition 1 - Revision Date 2006/03/02. UL evaluates the pipe and fittings as a system. So both the pipe and fittings are subjected to long term exposures at elevated temperature in 100% ASTM Reference Fuel C, 70% ASTM Reference Fuel C/30% Ethanol, 50% ASTM Reference Fuel C/50% Ethanol and 100% Ethanol. This range of exposures is intended to evaluate the pipe system for any blend of ethanol from zero to 100%.

Please let me know if you have any questions.

Best regards,

Very truly yours,

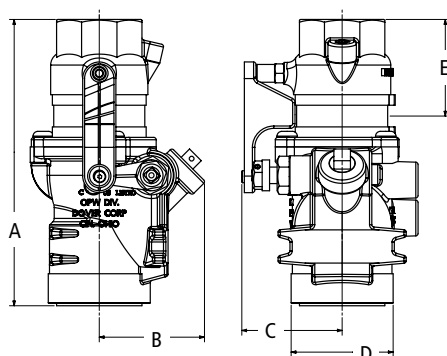
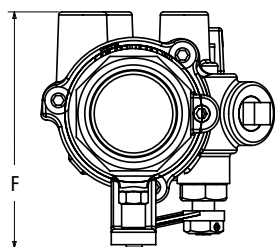
Wayne Doversberger
Senior Staff Engineer
Wayne.B.Doversberger@ul.com

10 Plus Series Emergency Shut-Off Valves

OPW raised the protection standard in emergency valves when it introduced the first double-poppet valve back in 1989. This industry-changing OPW innovation helped to significantly reduce the risk of fire, explosion, personal injury, property damage and environmental contamination at sites around the world. Major oil companies and jobbers agreed that providing added protection for their customers, investments and the environment were the three most convincing reasons for switching to the innovative new valves.

Dimensions

	in.	cm
A	7 ⁹ / ₁₆	4
B	2 ²⁵ / ₃₂	4
C	2 ²¹ / ₃₂	4
D	2 ¹¹ / ₁₆	4
E	2 ⁹ / ₁₆	4
F	4 ²¹ / ₃₂	4



Materials

Top: Cast iron
Body: Cast iron



10 PLUS

UL Listed
for up to
85%
Ethanol

Features

- ◆ The ONLY emergency shut-off valve in the world designed to protect your customers, investments, and the environment against the potential hazards of undetected shear groove leaks caused by low-impact incidents.
- ◆ The patent-pending SmartGuard™ design contains shear groove leaks, preventing fuel from leaking into sumps to help reduce the risk of fire, explosion, personal injury, property damage, environmental contamination, product loss and costly clean-up.
- ◆ Superior shear groove design and engineering results in reliable valve shut-off in the event of a pull-over or dislodged dispenser. The 10 Plus utilizes the same time-tested field-proven design of the OPW 10 Series Emergency Shut-off Valve – the most specified emergency shut-off valve in the world.
- ◆ Fusible link releases to automatically close the valve to reduce fire hazard.
- ◆ Rigorously tested to meet OPW's rigid quality standards.

Ordering Specifications

Model #	Body Size in. cm	Body Weight lb. kg	Connection Threads	Poppet Configuration	Application	Mounting System
10P-0150	1 1/2 4	6.7 3.05	NPT	Single	Pressure	Combination
10P-0152	1 1/2 4	6.8 3.10	NPT	Double	Pressure	Combination
E85 10P-0152E85	1 1/2 4	6.8 3.10	NPT	Double	Pressure	Combination



10 Plus Replacement Parts

Part #	Description
10RPLUS-0150	10 Plus Single Poppet Replacement Top
10RPLUS-0152	10 Plus Double Poppet Replacement Top
202950	Tetraseal
200143	Safety Hub/Fusible Link

Listings and Certifications



10 Plus Series Instruction Sheet Order Number: 201614

TECHNICAL DATA

2013

Description

A dark green, opaque, viscous, non-hardening, textured paste with PTFE.

Type

Slow-drying, soft-setting, non-toxic, brushable, without grit. Cures by solvent evaporation providing a durable, long-lasting seal that can be easily disassembled.

Typical Uses

Especially designed for ethanol blended gasoline
Including E10, E20 & E85.

Substrates

Can be used on brass, copper, stainless steel, aluminum, black pipe, tin, galvanized pipe, ABS plastic, CPVC, nylon, PVC, polyethylene, polypropylene and more.

Chemical Resistance

Excellent resistance to ethanol blended gasoline, kerosene, petroleum solvents, diesel fuel, propane, butane, LPG, water, cutting oils.
NOT oxygen.

Set Time

None. For immediate service
Dries to the touch 48-72 hour

Packaging

Available in 1/4 pint, 1/2 pint and pint cans with brush-top lids.

**For Chemical Emergency, Spill, Leak,
Fire, Exposure or Accident Call:**

CHEMTREC - Day or Night. 1-800-424-9300

KEEP OUT OF THE REACH OF CHILDREN

Product Data Sheet

Safety

Contains no lead, is non-toxic, not a skin sensitizer, and is non-corrosive.

Shelf Life: One year in original containers, when stored at room temperature at or below 80°F (27°C)

Wt./Gal.: 11.35 lbs

Color: Medium/Green

Clean Up: Hand cleaner or alcohol.

Temperature Range

-100°F to 600°F (-73°C to 316°C)
Allow to dry thoroughly before exposing to high temperatures. Remains usable in sub-zero weather.

Pressure Range

Up to 10,000 psi when sealing liquids and up to 3,000 psi with gases. Allow to dry, if possible, before subjecting to pressure.

The information presented is in good faith, but no warranty is given, nor are results guaranteed. Federal Process has no control over physical conditions surrounding application conditions. Federal Process disclaims any liability for untoward results.



FEDERAL PROCESS
CORPORATION



CLEVELAND, OHIO | 216.464.6440 • 800.846.7325

www.gasoila.com

MSDS Sheets Available Online

#DS-ES

OPW 7150 Overfill Prevention Valves

The CARB-certified OPW 7150 vapor-tight Overfill Prevention Valve is designed to prevent the overfill of underground storage tanks by providing a positive shut-off of product delivery. The shut-off valve is an integral part of the drop tube used for gravity filling. The OPW 7150 allows easy installation (without breaking concrete) and requires no special manholes.

The OPW 7150 is a vapor-tight two-stage shut-off valve. When the liquid level rises to about 95% of tank capacity, the valve mechanism is released, closing automatically with the flow. This reduces the flow rate to approximately 5 gpm through a bypass valve. The operator may then stop the filling process and disconnect and drain the delivery hose. As long as the liquid exceeds the 95% level, the valve will close automatically each time delivery is attempted.

If the delivery is not stopped and the liquid rises to about 98% of tank capacity, the bypass valve closes completely. No additional liquid can flow into the tank until the level drops below a reset point.

NOTE: The 7150 Overfill Prevention Valve can be adjusted to shutoff at any desired tank capacity. Please contact the Authority Having Jurisdiction (AHJ) and review local, state, and national codes to determine the regulatory requirements governing shut-off capacity in your region, as well as take into account other considerations such as extreme tank tilt. In all cases, the upper tube must protrude into the tank at least 6 1/2" to ensure that the valve can shut off flow into the tank completely before the top of the tank is wetted as per EPA requirements.

7150 Instruction Sheet Order Number: **H15524PA**

Listings and Certifications



Materials

Valve Body: Cast aluminum
Float: Nitrile rubber, closed cell foam
Valve: Aluminum
Seals: Viton®
Upper & lower Drop Tube: Aluminum
Plastic parts: Acetal
Hardware: Stainless steel

Features

- ◆ **Simple, Easy and Quick Installation** – no excavation or special manholes required.
- ◆ **Economical** – costs a fraction of expensive, complicated and difficult-to-install valves.
- ◆ **Furnished Complete** – supplied with new upper and lower drop tubes, mounting hardware and thorough instructions for quick job site time.
- ◆ **Completely Automatic Operation** – no prechecks to perform, no resets and no overrides to be broken or abused.
- ◆ **No Pressurization of the Tank** – operates directly from liquid level.
- ◆ **Will Accept a Dipstick for Gauging**
- ◆ **Retrofits Directly** – for both new and existing tanks with 4" fill risers.
- ◆ **Quick Drain Feature** – automatically drains hose when head pressure is relieved.
- ◆ **Best Flow Rate in The Industry***

* OPW Test Lab results

Advantages of Overfill Prevention Compared to Overfill Warning Systems:

- ◆ **Completely Automatic Operation** – does not rely on the alertness or speed of response of the delivery attendant for certainty of overfill prevention.
- ◆ **Keeps the Top of UST "Dry," per EPA Requirements** – eliminating possible leaks at loose bung fittings and the need for double containment on vent lines.
- ◆ **Does Not Rely on Pressure in the UST to Stop Flow** – allowing faster fill times and reducing spill risk.
- ◆ **Speeds Delivery Operations** – product flows unimpeded into the tank until the hose "kick" that accompanies the valve shut-off provides a clear signal that the liquid has reached the shut-off level.
- ◆ **Simple and Inexpensive Installation** – in both two-point and coaxial fill applications, no additional excavation, manholes or vent piping are required.

Important

In order to prevent product spillage from the Underground Storage Tank (UST), properly maintained delivery equipment and a proper connection at the tight-fill adaptor are essential. Delivery personnel should be managed and trained to inspect delivery elbows and hoses for damaged and missing parts. They should always make certain there is a positive connection between the adaptor and elbow. If delivery equipment is not properly maintained, or the elbow is not securely coupled to the adaptor, a serious spill may result when the OPW 7150 closes, causing a hazard and environmental contamination.

NOTE: The OPW 7150 is designed for use on tight-fill gravity drop applications only. Do not use for pressure fill applications.



Look for this label for authentic OPW EVR Approved products.
OPW 7150 is EVR Approved for E85

Raising The Standard In Overfill Prevention

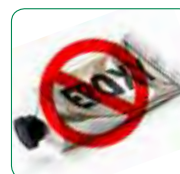
From the company that brought you the industry standard OPW 6150, OPW raises the standard with the introduction of the **7150 Overfill Prevention Valve** – breakthrough innovation that takes overfill prevention to a whole new level of overfill perfection.

- **Eliminates curing issues due to hot or cold temperatures**
- **Easier, quicker, installation**
- **Higher quality, more reliable installation**
- **Lower costs**
- **Greater protection against fugitive emissions and pressure decay**
- **Fastest flow rate in the industry**

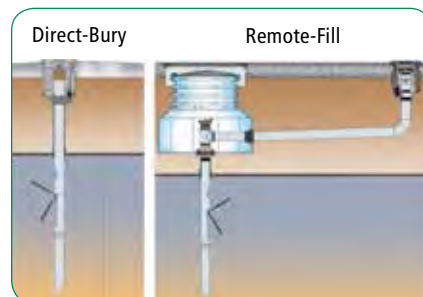
The new 7150 is a two-stage, positive shut-off valve, providing completely automatic operation with no pre-checks to perform, no resets, and no overrides to be broken or abused. The valve closes when the tank level rises to 95% capacity and provides a special bypass valve so the tank can be filled to a maximum capacity of 98%. The 7150 is available for direct-bury and remote applications.



All Vapor-Tight Overfill Valves are CARB EVR Certified



No Epoxy Sealants Required!



Replacement Parts

Part #	Description
61SOK-0001	Replacement Float Kit
H11931M	Drop Tube Seal
H14840M	Lower Tube Seal

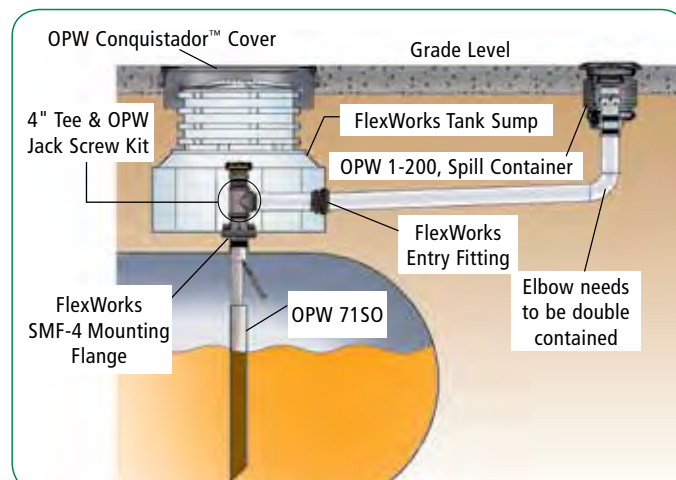
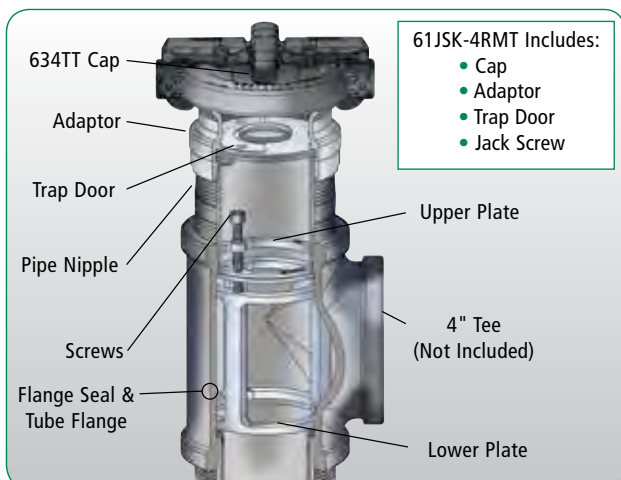
7150 Ordering Specifications

Product #	Description	Bury Depth		Tank Diameter		Upper Tube Length		Lower Tube Length		Overall Length		Max. Riser Length		Max. Nominal Tank Dia.		Max. Actual Tank Dia.		Weight	
		ft.	m	ft.	m	in.	m	in.	m	in.	m	in.	m	in.	m	in.	m	lbs.	kg
7150-400C	Vapor-Tight Overfill Valve	5	1.5	8	2.4	60	1.5	83	2.1	155 ³ / ₄	3.9	53 ¹ / ₂	1.4	96	2.4	107	2.7	16	7
7150-410C	Vapor-Tight Overfill Valve	10	3.0	10	3.0	120	3.1	102	2.6	234 ³ / ₄	5.9	113 ¹ / ₂	2.9	120	3.1	126	3.2	25	11
7150-420C	Vapor-Tight Overfill Valve	10	3.0	12	3.6	120	3.1	126	3.2	258 ³ / ₄	6.5	113 ¹ / ₂	2.9	144	3.7	150	3.8	26	12
7150-4000	Non Vapor-tight Overfill Valve	5	1.5	8	2.4	60	1.5	83	2.1	155 ³ / ₄	3.9	53 ¹ / ₂	1.4	96	2.4	107	2.7	16	7
7150-4010	Non Vapor-tight Overfill Valve	10	3.0	10	3.0	120	3.1	102	2.6	234 ³ / ₄	5.9	113 ¹ / ₂	2.9	120	3.1	126	3.2	25	11
71SOM-412C	E85 Vapor-tight Overfill Valve	10	3.0	10	3.0	120	3.1	102	2.6	234 ³ / ₄	5.9	113 ¹ / ₂	2.9	120	3.1	126	3.2	38	17.3
7150-TOOLCT	7150 Installation Tool																	2.5	1
61JSK-4RMT	Jack Screw Kit For Vapor-Tight Remote Applications																	1.5	0.7
61JSK-4410	Jack Screw Kit For Composite Base Spill Bucketst																	1	0.5
61JSK-44CB	Jack Screw Kit For Cast Iron Base Spill Buckets																	1	0.5
71JSK-4RMT	E85 Jack Screw for Remote-Fill Applications																	1	0.5
71JSK-44MA	E85 Jack Screw for Direct-Fill Applications																	1.5	0.7

61JSK-4410 AND 61JSK-44CB Instruction Sheet Order Number: **H15289M**

7150 Vapor-Tight Remote Fill

The OPW Vapor-Tight Remote Fill is designed for two-point vapor-tight remote-fill applications, where the fill point is not directly over the UST. A CARB approved vapor-tight 7150 overfill valve is installed in the sump through a riser pipe directly over the tank.



Magnetostrictive Probes for Alternative Fluids

Certified performance for inventory control and in-tank leak detection in fuel blends up to 100% alcohol

Veeder-Root offers two types of Magnetostrictive Probes for Alternative Fluids to provide highly accurate, trouble-free in-tank leak detection and inventory control in fluids of up to 100% alcohol. The Magnetostrictive Probe for Alternative Fluids with water detection is ideal for fuel blends with less than 20% alcohol. The Magnetostrictive Probe for Alternative Fluids without water detection has been developed for fluids up to 100% alcohol.

Series 8463 0.1 GPH Mag Probe for Alternative Fluids

The 0.1 GPH Mag Probe for Alternative Fluids has been third-party tested and certified to perform far better than the U.S. E.P.A. standards for both 0.1 GPH volumetric tank tightness testing and 0.2 GPH automatic tank gauging. (See the summary of leak test performance on back or call us for a copy of the complete test results.)

0.1 GPH Mag Probe and CSLD — Leak detection without shutting down your tanks!

CSLD, Continuous Statistical Leak Detection, is an advanced tank testing technology that makes full use of the TLS-300 and TLS-350(R)'s in-tank monitoring capabilities. CSLD eliminates the need for tank shutdown to perform a leak test — no lost business, no lost operating time!

The TLS-300 and TLS-350(R) equipped with CSLD use the 0.1 GPH Mag Probe to continuously monitor fuel height and temperature information to detect idle times in the tank. During each idle time, data collected forms a highly accurate leak detection database. Sophisticated statistical analysis techniques in CSLD constantly evaluate the database to discard invalid data and perform leak tests based on only high-quality information in the current database. In fact, a new leak test is performed every time new data from an idle period is added.

Series 8463 0.2 GPH Mag Probe for Alternative Fluids

The 0.2 GPH Mag Probe for Alternative Fluids provides the same reliable inventory control features and fluid compatibility as the 0.1 GPH Mag Probe for Alternative Fluids, but offers 0.2 GPH leak detection at a lower cost.

The 0.2 GPH Mag Probe for Alternative Fluids has also been third-party tested and certified to exceed U.S. E.P.A. standards for 0.2 GPH automatic tank gauging. (See the summary of leak test performance on back or call us for a copy of the complete test results.)

Approved for Aboveground Tank Applications

Veeder-Root Magnetostrictive Probes are approved for use in aboveground storage tanks to monitor fuel inventory. An AST installation Kit (Form Number 312020-984) is required for these applications and is available from Veeder-Root, Customer Service 800-873-3313 or your authorized Veeder-Root distributor.

Magnetostrictive Probes for Alternative Fluids are available in 0.1 GPH and 0.2 GPH Versions

Features & Benefits

- Non-corrosive, stainless steel tubing for long-life monitoring in fuels up to 100% alcohol
- Highly accurate Magnetostrictive measurement technology
- Fast accurate leak tests
- 0.1 GPH Mag Probe for Alternative Fluids is third-party certified to exceed U.S. E.P.A. performance standards for 0.1 GPH Volumetric Tank Tightness Testing
- 0.1 GPH Mag Probe for Alternative Fluids is compatible with TLS-300 and TLS-350R with CSLD for continuous statistical leak detection
- 0.2 GPH Mag Probe for Alternative Fluids is third-party certified to exceed U.S. E.P.A. performance standards for 0.2 GPH Automatic Tank Gauging
- 2", 3" and 4" Float Kits available

Probe Models

Tank I.D.	Mag Plus Probes for Alternative Fluids with Water Detection Part No*			Mag Plus Probes for Alternative Fluids without Water Detection Part No*		
	0.1 GPH Leak Detection	0.2 GPH Leak Detection	Inventory Only	0.1 GPH Leak Detection	0.2 GPH Leak Detection	Inventory Only
4'	846391-101	846391-201	846391-301	846391-401	846391-501	846391-601
5'	846391-102	846391-202	846391-302	846391-402	846391-502	846391-602
5'4"	846391-103	846391-203	846391-303	846391-403	846391-503	846391-603
6'	846391-104	846391-204	846391-304	846391-404	846391-504	846391-604
7'	846391-105	846391-205	846391-305	846391-405	846391-505	846391-605
7'6"	846391-106	846391-206	846391-306	846391-406	846391-506	846391-606
8'	846391-107	846391-207	846391-307	846391-407	846391-507	846391-607
9'	846391-108	846391-208	846391-308	846391-408	846391-508	846391-608
9'6"	846391-117	846391-217	846391-317	846391-417	846391-517	846391-617
10'	846391-109	846391-209	846391-309	846391-409	846391-509	846391-609
10'6"	846391-110	846391-210	846391-310	846391-410	846391-510	846391-610
11'	846391-111	846391-211	846391-311	846391-411	846391-511	846391-611
12'	846391-112	846391-212	846391-312	846391-412	846391-512	846391-612
2.0M	846391-113	846391-213	846391-313	846391-413	846391-513	846391-613
2.5M	846391-114	846391-214	846391-314	846391-414	846391-514	846391-614
2.67M	846391-116	846391-216	846391-316	846391-416	846391-516	846391-616
3.0M	846391-115	846391-215	846391-315	846391-415	846391-515	846391-615
Custom Length	846391-199	846391-299	846391-399	846391-499	846391-599	846391-699

*Float kits must be ordered separately from probes, water floats not recommended for fuel blends with >20% alcohol

Floats Match Table

Product	Probe	Functions	Float Kit
Gasoline (<=20% Alcohol)	Mag Plus Probe for Alternative Fluids with Water Detection P/N 846391-1xx or -2xx	Inventory: Yes Leak Detection: Yes Water detection: Yes	Gasoline Float Kit P/N 846400-xy0* (*see note for definition of xy below)
	Inventory Only Mag Plus Probe for Alternative Fluids with Water Detection P/N 846391-3xx	Inventory: Yes Leak Detection: No Water detection: Yes	
Alcohol / Ethanol (<=100% Alcohol, including E85) Methanol (<=100% Alcohol) ETBE (<=100% Ether) MTBE (<=100% Ether) Used Oil	Mag Plus Probe for Alternative Fluids without Water Detection P/N 846391-4xx or -5xx	Inventory: Yes Leak Detection: Yes Water Detection: No	Alternative Fluids Float Kit P/N 846400-xy4* *Notes: x=0 -> 4" floats x=1 -> 2" floats x=3 -> 3" floats y=0 -> 5' cable y=1 -> 10' cable y=2 -> 20' cable
	Mag Plus Probe for Alternative Fluids without Water Detection P/N 846391-6xx	Inventory: Yes Leak Detection: No Water Detection: No	
Fuel Oil #4 & #6 Fuel Oil #4 & #6 Ethylene Glycol Propylene Glycol Windshield Washer Fluid	Mag Plus Probe for Alternative Fluids without Water Detection P/N 846391-6xx		

Leak Test Performance (Third Party Certified for all TLS-3xx Consoles*)

PROBE	TEST TYPE	P(D)	P(FA)	TEST TIME
0.1 GPH Mag Probe	0.1 GPH	99%	1%	3 Hours
0.1 GPH Mag Probe	0.2 GPH	99%	<.1%	2 Hours
0.1 GPH Mag Probe w/CSLD	0.2 GPH	99%	<.1%	Continuous
0.2 GPH Mag 2	0.2 GPH	99%	<.1%	2 Hours

Veeder-Root reserves the right to change product specifications without advance notice. Please ensure that you are using the latest version of product literature.



© 2007 Veeder-Root Company • 125 Powder Forest Drive • Simsbury, CT 06070 • USA
Telephone: 860-651-2700 • Fax : 860-651-2719 • www.veeder.com

Sensor Application Matrix

			Where Used						Category						Fuel Compatibility														
Sensor Description	Form #	Page #	Dispenser Pan	Spill Containment	STP Sump	Convault Tank	Annular Space	Monitoring Well	Oil/Water Separator tank	Discriminating	Non-Discriminating	Position Sensitive	Level Sensing	Static Testing	Hydrostatic	100% Gasoline	Diesel	Kerosene	Jet Fuel	Aviation Gas	E-15	E-85	E-100	Bio-Diesel 20	Bio-Diesel 100	Renewable (Green) Diesel	Diesel Exhaust Fuel (DEF)	Waste Oil	Motor Oil
DPS Standard Dispenser Pan	794380-322	2	X	X						X						X	X	X	X	X	X	X ¹		X		X		X	X
CSS Standard Containment Sump	794380-352	3		X	X					X						X	X	X	X	X	X ¹	X ¹		X		X		X	X
DPO Optical Dispenser Pan	794380-320	4	X	X						X						X	X	X	X	X	X	X ¹	X	X		X		X	X
CSO Optical Containment Sump	794380-350	5		X	X					X						X	X	X	X	X	X ¹	X	X	X		X		X	X
MSS Mag Sump Sensor	857080-XXX	6	X	X	X					X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
SSDP Solid State Dispenser Pan	794380-321	7	X	X							X					X	X	X	X	X	X			X	X	X		X	X
SSCS Solid State Containment Sump	794380-351	8		X	X						X					X	X	X	X	X	X			X	X	X		X	X
Piping Sump	794380-208	9	X	X	X						X					X	X	X	X	X	X			X		X		X	X
Non-Discriminating Stand-Alone Dispenser Pan	847990-001	10	X	X	X						X					X	X	X	X	X	X			X		X		X	X
Position-Sensitive	794380-323	11	X	X	X						X	X				X	X	X	X	X	X	X	X	X		X		X	X
Interstitial for Fiberglass Tanks, Discriminating	794380-343	12								X						X	X	X	X	X	X			X	X	X		X	X
Interstitial for Fiberglass Tanks	794390-409	13									X					X	X	X	X	X	X			X		X		X	X
Interstitial for Fiberglass Tanks, High Alcohol	794380-345	14									X					X	X	X	X	X	X			X	X	X		X	X
Interstitial for Steel Tanks	794390-4X0	15			X						X					X	X	X	X	X	X			X		X		X	X
Interstitial for Steel Tanks, Position Sensitive ²	794380-333	16		X							X	X				X	X	X	X	X	X	X	X	X	X	X		X	X
Interstitial for Steel Tanks, High Alcohol	794380-430	17									X					X	X	X	X	X	X	X	X	X	X		X	X	X
Interstitial for Steel Tanks, High Alcohol, small footprint	794380-344	18									X					X	X	X	X	X	X	X	X	X	X		X	X	X
Hydrostatic Reservoir (Dual Point)	794380-303	19														X	X	X	X	X	X	X ¹		X		X		X	X
Single-Point Hydrostatic Sensor	794380-301	20														X	X	X	X	X	X	X ¹	X	X		X			
Single Point Mini Hydrostatic Reservoir (High Alcohol)	794380-304	21														X	X	X	X	X	X	X	X	X	X		X	X	X
Vapor	794390-700	22									X					X			X	X	X								
Ground Water	794380-62X	23									X					X	X	X	X	X	X			X		X		X	X
Oil / Water Separator	794690-XX	24									X					X	X	X	X	X	X			X				X	X

¹Single use only if sensor was exposed to E85 (Test per Sensor Operability Guide [P/N 577013-814] in E-10 or less)

²Small Containment Areas (i.e. Spill Buckets)

Materials

Adaptor: Bronze
Base: Bronze
Retaining Ring:
 Conductive nylon
Set Screws:
 Stainless steel
Seals: Nitrile



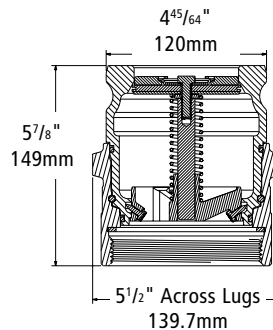
61VSA-1020-EVR
 USA Patent No. 5,664,951

Features

- ◆ **Dual Seals** – ensure a vapor and liquid-tight seal.
- ◆ **Conductive, Self-Lubricating Retaining Rod** – ensures maintenance-free, reliable service life.
- ◆ **Same Internal Dimension as Standard 633T Adaptors** – to minimize pressure drop and maximize flow rates for quick product delivery.
- ◆ **Self Guiding Poppet** – for consistent tight seal.

Ordering Specifications

Product #	Base Material	Adaptor Material	Weight	
			lbs.	kg
61VSA-1020-EVR	Bronze	Bronze	10.5	4.8
61SA-TOOL	Wrench		11.0	5.0
H09039M	Replacement Gasket			



OPW 61VSA-MA Vapor Recovery Swivel Adaptor

Adaptor: Nickel coated brass
Base: Nickel coated brass
E85 EVR Approved

Ordering Specifications

Product #	Base Material	Adaptor Material	Weight	
			lbs.	kg
61VSA-MA	Nickel Coated Brass	Nickel Coated Brass	10.5	4.8
H09039M	Replacement Gasket			



OPW Stage I Vapor Recovery Adaptors and Caps

Stage I Vapor Recovery Adaptors are installed in spill containment manholes on the vapor recovery riser pipe from an underground gasoline storage tank. They mate with the vapor recovery elbow on the delivery transport truck when recovery of gasoline vapors is required.

OPW 61VSA Vapor Swivel Adaptor

The OPW 61VSA Vapor Swivel Adaptor is a poppeted adaptor, designed to mate with a vapor recovery elbow, featuring a top section that rotates with hose movement while the bottom section remains securely sealed to the 4-inch tank riser.



OPW 61SA-TOOL

The 61SA-TOOL is a wrench designed to thread on the 61SA Fill and 61VSA Vapor Adaptors. The OPW 61SA-TOOL Adaptor installation tool is required to insure proper installation of OPW rotatable swivel adaptors, thread-on spill containers, fill and vapor adaptors, TC-400 torque cap for pipe nipples and threaded riser adaptors as per EVR requirements. The 61SA-TOOL includes provisions for the use of a torque wrench to facilitate accurate installation and testing.

Listings and Certifications



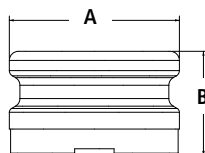
Look for this label for authentic OPW EVR Approved products.
OPW 61VSA Series Adaptors are EVR Approved for E85

OPW Tight-Fill Top-Seal Adaptors

Tight-Fill Top-Seal Adaptors are installed in spill containment manholes on the fill riser pipe from an underground fuel storage tank. They mate with the gravity drop delivery elbow on the transport truck.



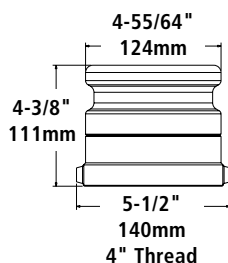
633T-8076



61SALP-1020-EVR



61SALP-MA
E85 EVR Approved



OPW 633T

OPW 633T Top-Seal Adaptors thread onto the fill pipe of underground storage tanks, and are designed to mate with top-seal delivery elbows. Use OPW 634TT, 634TE or 634TTP Top-Seal Caps with 633T Adaptors.

Features

- ◆ **Easy Installation** – integral internal wrenching lugs are provided for installing in the confined space of spill containers.
- ◆ **Accommodate 633LC Lock Clamp** – 4" x 4" 633T (E) models incorporate dual notches in the base to accept 633LC clamps.
- ◆ **Manufactured from Durable, Corrosion-Resistant Materials** – bronze and hardcoat aluminum.

Ordering Specifications

Product #	Elbow Size	Riser Thread	A		B		Weight		Material	Replacement Parts Part #	Description
			in.	mm	in.	mm	lbs.	kg			
633T-8060	3"	3"	3 ¹⁹ / ₃₂	41	1 ⁵ / ₈	92	0.96	.44	Bronze	H05289M	Gasket
633T-8070	3"	4"	3 ¹⁹ / ₃₂	68	2 ¹¹ / ₁₆	92	0.71	.32	Hardcoated Al.	H04150M	Gasket
633T-8075	4"	4"	4 ⁵⁵ / ₆₄	75	2 ³¹ / ₃₂	124	0.82	.37	Hardcoated Al.	H04150M	Gasket
633T-8076	4"	4"	4 ⁵⁵ / ₆₄	75	2 ³¹ / ₃₂	124	2.70	1.23	Bronze	H04150M	Gasket

Note: Maximum height of adaptor is 2¹¹/₁₆" (68mm).

OPW 61SA Swivel Adaptor

Pressure decay testing of underground storage tank systems has identified the joint between the tight-fill adaptor and the nipple or tank riser as a persistent leak point. Considerable movement takes place along the hose while the fill elbow is connected. Walk-downs and changes from one compartment to another move the hose across the pavement, rotating the elbow along with it. The result can be a loosening of the adaptor. As the adaptor backs off, the seal between it and the nipple is relaxed and a leak path is created allowing vapors to escape to the atmosphere. Vacuum-assist dispensing systems can aggravate this situation due to the slight pressurization of the UST.

The 61SA Swivel Adaptor mates with 4" top-seal delivery elbows and features a top section that rotates with hose movement while the bottom section remains securely in place maintaining seal integrity.

Features

- ◆ **Dual Seals** – ensure a vapor and liquid-tight seal.
- ◆ **Conductive, Self-Lubricating Retaining Rod** – ensures maintenance-free, reliable service life.
- ◆ **Same Internal Dimension as Standard 633T Adaptors** – to minimize pressure drop and maximize flow rates for quick product delivery.
- ◆ **61SALP-MA – EVR Approved for E85**

Ordering Specifications

Product #	Base Material	Adaptor Material	Weight	
			lbs.	kg
61SALP-1020-EVR*	Bronze	Bronze	7.1	3.2
61SALP-MA	Nickel	Nickel	7.1	3.2
61SA-Tool**	Wrench		11.0	5.0
H09039M	Replacement Gasket			

*Low Profile Fill Adaptor **See description on page 91.

Materials

Retaining Ring: Conductive nylon

Set Screws: Stainless steel

Seals: Buna-N

Listings and Certifications



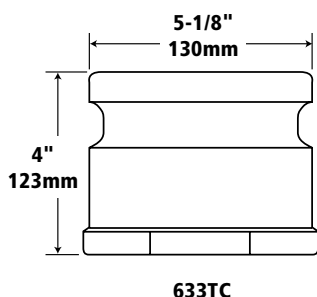
Look for this label for authentic OPW EVR Approved products.
61SALP-1020 & 61SALP-MA are EVR Approved for E85
USA Patent No. 5,664,951



Materials

Available in bronze or anodized aluminum for corrosion and wear resistance

633TC



633TC

Ordering Specifications

Product #	Elbow Size		Riser Thread		lbs.	kg	Description
	in.	mm	in.	mm			
633TC-8090	4	102	4	102	1.45	.66	Anodized Aluminum
633TC-8095	4	102	4	102	4.74	2.15	Bronze
633TCP-3803	4	102	4	102	1.26	.57	Anodized Aluminum

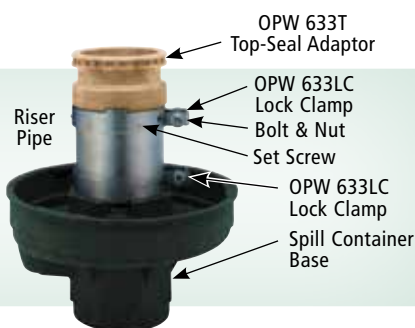
Matching Adaptors & Caps

	Description	Adaptor Part #	Seal	Cap Part #
Fill	3" Fill Elbow	633T, 633TE	Top	634TE
	4" Fill Elbow	633T, 633TE, 61SA, 61SALP	Top	634TT, 634LPC
	4" Coaxial Fill Elbow	633TC, 633TCP	Top	634TT, 634LPC
	3" Fill Elbow	61AS-3"	Side	62
	4" Fill Elbow	61AS-4"	Side	62, 62TT
Vapor	3" Vapor Elbow	1611AV, 1611AVB, 1611VR	Top	1711T, 1711LPC
Monitoring	Monitoring Well Pipe Caps	62M, 116M, 116, 634TTM, 62PMC	Complete Adaptor & Cap Kit	
Loose-Fill	Loose-Fill Pipe Caps 83, 269		Complete Adaptor & Cap Kit	

* Any variation of desired Adaptors will mate with corresponding Caps

Materials

Clamp: Stainless steel
Bolt: Zinc plated steel
Set Screw: Stainless steel



633LC



Ordering Specifications

Part #	in.	cm	Description
633LC-1000	4"	10.16	Stainless Steel Locking Clamp



OPW 61SA-TOOL

OPW 61SA-TOOL

The 61SA-TOOL is a wrench designed to thread on the 61SA Fill and 61VSA Vapor Adaptors. The OPW 61SA-TOOL Adaptor installation tool is required to insure proper installation of OPW rotatable swivel adaptors, thread-on spill containers, fill and vapor adaptors, TC-400 torque cap for pipe nipples and threaded riser adaptors as per EVR requirements. The 61SA-TOOL includes provisions for the use of a torque wrench to facilitate accurate installation and testing.

OPW Tight-Fill Top-Seal Adaptors

Coaxial Adaptors

OPW 633TC

OPW coaxial vapor recovery fittings provide an easy, inexpensive means to convert existing conventional 4" underground storage tank fill pipes to coaxial vapor recovery installations when Stage I Vapor Recovery is required. Normally, little or no digging or breaking of concrete is necessary. Simply remove existing tight-fill adaptor and drop tube (if installation is so equipped), and insert an OPW 61TC Coaxial Drop Tube and the 633TC Adaptor. The OPW 633TC Adaptor is designed to mate with a coaxial delivery elbow.

OPW 633TCP Use On 61SOP

The OPW 633TCP Coaxial Adaptor features a popped vapor return path that opens only when connected to a fill elbow. When not in use, the vapor path is sealed, preventing fugitive emissions. The 633TCP is a replacement adaptor for the 61TCP Coaxial Drop Tube, and is designed to mate with a coaxial delivery elbow.

NOTE: Poppeted fittings are certified by California Air Resources Board (CARB).

OPW 633LC

OPW 633LC Lock Clamp is designed to lock the OPW adaptor onto the riser pipe, preventing any potential vapor leaks from pressurized systems. The locking clamp slips over the riser pipe. The 633T, 633TE, or 1611 Adaptor is then threaded onto the riser pipe. Next, the lock clamp should be slid up the riser until the protrusions in the lock clamp line up with the notches in the adaptor. Once the adaptor and clamp are engaged, the lock clamp can be tightened and the adaptor will be locked onto the riser pipe, preventing it from being loosened by a delivery elbow.

Additionally, the lock clamp can be turned upside down on the riser pipe to lock the riser into the base of all OPW spill containers, which have notches in them similar to the adaptors. Using the lock clamp in this manner will lock the riser pipe into the spill container.

633TC & 633TCP Instruction Sheet Order Number: **H10013PA**



Engineering Report

Underground Tank Alcohol Compatibility

William A. Schneider

9/25/03

All Containment Solutions Inc. (CSI) single and double wall fuel tanks manufactured since the inception of CSI on 1/1/1995 are listed by Underwriters Laboratories Inc. under UL Standard 1316 (*Glass-Fiber-Reinforced Plastic Underground Storage Tanks for Petroleum Products, Alcohols, and Alcohol-Gasoline Mixtures*) for the storage of "Petroleum Products, Alcohols and Alcohol-Gasoline Mixtures" under UL file MH7991..

The listing includes gasoline, gasoline-ethanol blends at any level of ethanol, gasoline-methanol blends at any level of methanol, 100% ethanol, and 100% methanol.

On 1/1/95, CSI purchased the assets of Owens Corning (OC) who previously developed and then manufactured fiberglass reinforced plastic underground storage tanks for fuel storage starting in the mid 60's. Documents produced by OC concerning the alcohol compatibility of their tanks are available from Owens Corning.