



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: \_\_\_\_\_

Facility Owner: \_\_\_\_\_

Facility Name: \_\_\_\_\_

Street Address: \_\_\_\_\_

City: \_\_\_\_\_

County: \_\_\_\_\_

**UST Information:**

Tank ID Number: \_\_\_\_\_

Tank Material: Steel \_\_\_\_\_

FRP \_\_\_\_\_

Single Wall \_\_\_\_\_ Double Wall \_\_\_\_\_

Tank Volume: \_\_\_\_\_

Tank Product: \_\_\_\_\_

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                                                                    | YES |                              |                                                                                                                                          |
| PIPING                | NO                                                                    | YES |                              |                                                                                                                                          |
| CONTAINMENT SUMPS     | NO                                                                    | YES |                              |                                                                                                                                          |
| PUMPING EQUIPMENT     | NO                                                                    | YES |                              |                                                                                                                                          |

| 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                                                                    | YES |                              |                                                                                                                                          |
| SPILL PREVENTION EQUIPMENT                           | NO                                                                    | YES |                              |                                                                                                                                          |
| OVERFILL PREVENTION EQUIPMENT                        | NO                                                                    | YES |                              |                                                                                                                                          |
| GASKETS & SEALS<br>(installs after 10/13/18)         | NO                                                                    | YES |                              |                                                                                                                                          |
| JOINT DOPES & ADHESIVES<br>(installs after 10/13/18) | NO                                                                    | YES |                              |                                                                                                                                          |

**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: \_\_\_\_\_      date completed: \_\_\_\_\_

                                         signature: \_\_\_\_\_      position/title: \_\_\_\_\_



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](mailto:sales@csiproducts.com)

[www.containmentsolutions.com](http://www.containmentsolutions.com)

Sincerely,

Ron Shaffer

Vice President Sales & Marketing

Containment Solutions, Inc.

November 28, 2018

Nate Meyer  
Stenstrom Petroleum  
2422 Center St.  
Rockford, IL 61108  
Phone: 815-209-6640  
Email: natem@stenstrom.com

Dear Mr. Meyer,

Franklin Fueling Systems certifies that our UPP piping system is certified to be compatible with Fuel Ethanol, also known commercially as E85, containing 51 % to 83 % ethanol by volume under UL-971, file MH25274. Our poly and fiberglass containment range are certified to meet the ASTM D5798 standard which has a provision for compatibility with high blend ethanol within the UL 2447 listing.

*Per ASTM D5798 within the scope section 1.3 This specification formerly covered Fuel Ethanol (Ed70-Ed85) for Automotive Spark-Ignition Engines, also known commercially as E85. The nomenclature "fuel ethanol" has been changed to "ethanol fuel blends" to distinguish this product from denatured fuel ethanol Specification D4806. To facilitate blending of ethanol fuel blends that meet seasonal vapor pressure requirements, a new lower minimum ethanol content has been established.*

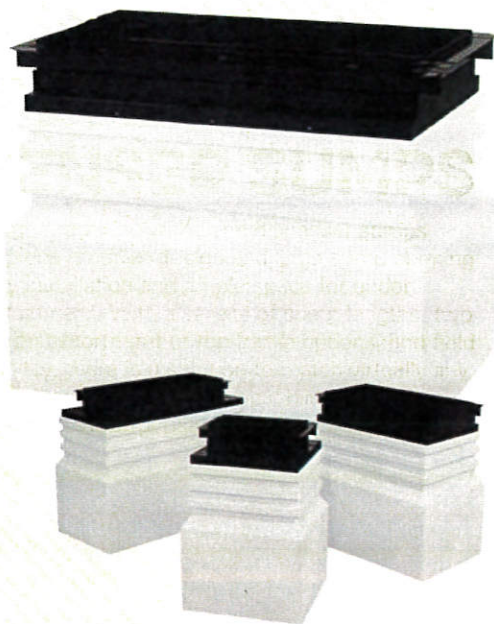
For more information on ASTM D5798 follow the link below:

<https://www.astm.org/Standards/D5798.htm>

Sincerely,



Allan Busch  
Senior Product Manager – Piping & Containment Systems  
Franklin Fueling Systems



## LARGE MOUTH POLYETHYLENE DISPENSER SUMPS

APT™ brand large mouth polyethylene dispenser sumps feature a two-piece modular design and large sump opening to provide easy installation and ample space for under dispenser containment. With a variety of sump lengths, two depth options, an assortment of top frame options, and field height adjustability, there is a solution to match virtually any application and provide complete compatibility with the industry's most popular dispenser models.

### HIGHLIGHTS

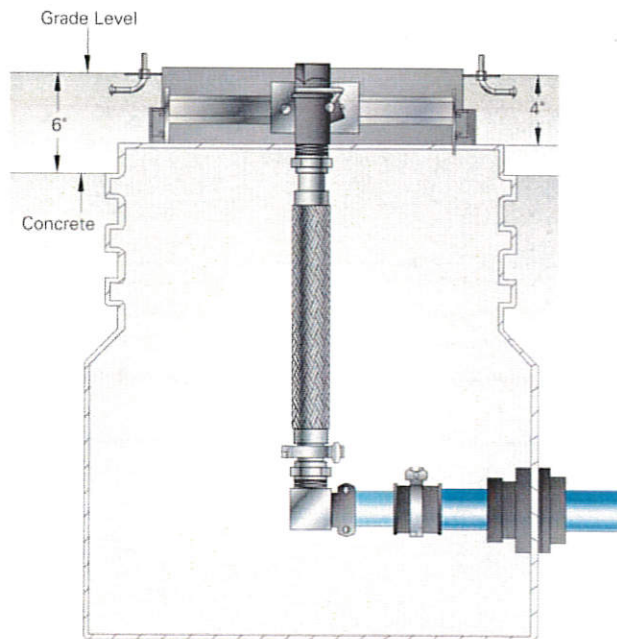
- The ribbed riser can be cut down in 3" increments in the field to adjust sump height and achieve proper pipe slopes with respect to grade.
- Available in medium (28") and deep (43") burial depths to properly maintain slope.
- 22" wide by 24", 36", or 48" long opening on base gives plenty of room for boot, fitting, and monitor installation.
- The sump base widens to a spacious 26" where entry boots and pipe connections are made.
- Corrosion-resistant powder coated steel top frames provide durability and extended service life.
- Stabilizer bar kits (SBKs) mount into welded strut channels for shear valve mounting (one SBK is required for each shear valve and must be purchased separately).

### SPECIFICATIONS

#### Approvals/Certifications

- ULc listed.
- Florida EQ-423 approved.

#### Components



**Franklin Fueling Systems**



**Franklin Fueling Systems**

April 25th, 2019

Mark Bennett  
Director of Field Services  
Stenstrom  
2422 Center Street P.O. Box 5946  
Rockford, Illinois 61125  
815-398-6250  
[markb@rstenstrom.com](mailto:markb@rstenstrom.com)

Dear Mr. Bennett,

Franklin Fueling Systems certifies that our poly and fiberglass containment range are certified to meet the ASTM D5798 standard which has a provision for compatibility with high blend ethanol within the UL 2447 listing.

*Per ASTM D5798 within the scope section 1.3 This specification formerly covered Fuel Ethanol (Ed70-Ed85) for Automotive Spark-Ignition Engines, also known commercially as E85. The nomenclature "fuel ethanol" has been changed to "ethanol fuel blends" to distinguish this product from denatured fuel ethanol Specification D4806. To facilitate blending of ethanol fuel blends that meet seasonal vapor pressure requirements, a new lower minimum ethanol content has been established.*

For more information on ASTM D5798 follow the link below:

<https://www.astm.org/Standards/D5798.htm>

Sincerely,

Allan Busch  
Senior Product Manager – Piping & Containment Systems  
Franklin Fueling Systems



## ADVANCED PROTECTION SUBMERSIBLE TURBINE PUMPS

Available as a factory installed option on STPAG and IST biofuel compatible submersible turbine pumps, Advanced Protection defends STPs from accelerated corrosion caused by the acetic byproduct of microbial activity.

### Highlights

- Powder-coated and E-coated finishes protect exterior cast surfaces from accelerated corrosion.
- Stainless steel fasteners, riser, variable length column pipe and coupler protect against corrosion and provide long service life.
- UL and cUL listed.

### Ordering Information

A typical turbine model designation has up to five components to define the pump being supplied as follows:

#### STP XXXXX Y-A-B

**STP = Basic Model Designation (IST for variable speed models)**

**XXXXX = Factory Installed Options** (Model designations may include one or more of the following characters in alphabetical order.)

AP = Advanced protection with coated exterior cast surfaces, stainless steel fasteners and piping, alcohol-gasoline compatible)

F = Floating suction adapter (1½" NPT female adapter)

H = High pressure deadhead output (150 and 200 models only)

K = Intake filter screen (IFS, factory installed to PMA)

M = MagShell™ (flow enhancing, expanded PMA shell)

R = Model R check valve (24 psi relief/22 psi reset for PLLD)\*

W = Model W check valve (16 psi relief/13 psi reset for PPM4000)\*

#### Y = Pump Motor Horsepower Rating

33 = 1/3 hp fixed speed

200 = 2 hp fixed speed

75 = ¾ hp fixed speed

VS2 = 2 hp variable speed\*\*

150 = 1½ hp fixed speed

VS4 = 4 hp variable speed\*\*\*

#### A = Model Length

VL1 = Variable length range #1

VL2 = Variable length range #2

VL3 = Variable length range #3

#### B = Riser Pipe Length

Riser pipe length is expressed as two numeric characters that indicate the total length of the riser in inches. Riser pipes are available from 7" to 60" in 1" increments (additional charge for risers 31" or longer).

#### Notes:

\*If not otherwise specified, all STP models are supplied with standard model check valve (40 psi relief /35 psi reset for MLD, TS-LS300, and TS-LS500).

\*\*Implied on IST models unless VS4 is specified.

\*\*\* IST models only.

(Advanced Protection STP shown with MLD+ and IFS, sold separately)

## Ordering Information continued

### Advanced Protection Submersible Turbine Pumps

| Model          | Description                                      | Model Length Range* |
|----------------|--------------------------------------------------|---------------------|
| ISTAPMVS4-VL1  | 4 hp AP variable speed with MagShell™            | 64"-92"             |
| ISTAPMVS4-VL2  | 4 hp AP variable speed with MagShell™            | 95"-156"            |
| ISTAPMVS4-VL3  | 4 hp AP variable speed with MagShell™            | 127"-218"           |
| ISTAPM-1       | 2 hp AP variable speed with MagShell™            | 59"-87"             |
| ISTAPM-2       | 2 hp AP variable speed with MagShell™            | 90"-151"            |
| ISTAPM-3       | 2 hp AP variable speed with MagShell™            | 122"-213"           |
| STPAPM200-VL1  | 2 hp AP fixed speed with MagShell™               | 63"-91"             |
| STPAPM200-VL2  | 2 hp AP fixed speed with MagShell™               | 94"-154"            |
| STPAPM200-VL3  | 2 hp AP fixed speed with MagShell™               | 126"-217"           |
| STPAPHM200-VL1 | 2 hp AP high pressure fixed speed with MagShell™ | 63"-92"             |
| STPAPHM200-VL2 | 2 hp AP high pressure fixed speed with MagShell™ | 94"-155"            |
| STPAPHM200-VL3 | 2 hp AP high pressure fixed speed with MagShell™ | 126"-218"           |
| STPAP150-VL1   | 1-1/2 hp AP fixed speed                          | 60"-88"             |
| STPAP150-VL2   | 1-1/2 hp AP fixed speed                          | 91"-152"            |
| STPAP150-VL3   | 1-1/2 hp AP fixed speed                          | 123"-214"           |
| STPAPH150-VL1  | 1-1/2 hp AP high pressure fixed speed            | 61"-89"             |
| STPAPH150-VL2  | 1-1/2 hp AP high pressure fixed speed            | 92"-152"            |
| STPAPH150-VL3  | 1-1/2 hp AP high pressure fixed speed            | 124"-215"           |
| STPAP75-VL1    | 3/4 hp AP fixed speed                            | 57"-86"             |
| STPAP75-VL2    | 3/4 hp AP fixed speed                            | 88"-149"            |
| STPAP75-VL3    | 3/4 hp AP fixed speed                            | 120"-212"           |

#### Notes:

- Remove "M" from model number for non-MagShell™ pump motor assembly (where applicable).
- STPAP/ISTAP models are listed for compatibility with fuel mixtures containing diesel fuel with up to 20% biodiesel, 100% biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
- All above ISTAP models can only be powered by a MagVFC™. 4 hp models require three-phase incoming power supply, 2 hp models can be supplied with single- or three-phase incoming power.
- All above STPAP models require single-phase, 208-230 VAC, 60 Hz incoming power.
- 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
- For riser pipe lengths 31" to 60", adder charge applies.

\*Model length (A) defined as the dimension from the turbine manifold bottom to the pump motor inlet.

### Factory Installed Options

Specified in model number at time of STP order.

| Model | Description                                                              |
|-------|--------------------------------------------------------------------------|
| F     | Floating suction adapter, 1½" NPT female, must be factory installed      |
| K     | IFS (intake filter screen) factory assembled to pump motor assembly      |
| R     | Model R check valve, factory installed, for Veeder-Root™ PLLD Line Leak  |
| W     | Model W check valve, factory installed, for Red Jacket PPM4000 Line Leak |

## Ordering Information

### Field Installed Options

| Model      | Description                                                                                |
|------------|--------------------------------------------------------------------------------------------|
| 5874202800 | MagVFC™, 2 hp or 4 hp variable frequency controller, one required per IST                  |
| 400137908  | Syphon check valve (when ordered with STP)                                                 |
| 400818921  | STP-CBS, single-phase control box with lockout switch, 110 Volt coil                       |
| 402312921  | STP-DHI-SCI, combo DHI with factory wired STP-SCI (when purchased with a 4" STP)*          |
| 402312921  | STP-DHI-SCI, combo DHI with factory wired STP-SCI (when purchased without a 4" STP)        |
| 402313921  | STP-DHI-CBS, combo DHI with factory wired STP-CBS                                          |
| 402459931  | Model 65 psi check valve (for slave of manifolded STPs with Veeder-Root™ PLLD)             |
| 402507930  | Secondary syphon kit (when two syphon primes are required for one STP)                     |
| 5800100215 | STP-SCI, single-phase smart controller (when purchased without a 4" STP)                   |
| 5800100215 | STP-SCI, single-phase smart controller (when purchased with a 4" STP)*                     |
| 5800300100 | STP-DHI, dispenser hook isolation for 110 Volt dispenser handle switches, up to eight each |

\*When purchasing STP-SCI or STP-DHI-SCI in equal quantities of fixed speed 4" STPs, the STP-SCI or STP-DHI-SCI will be invoiced at special discount pricing.

# FE PETRO®

A Franklin Fueling Systems Brand

[franklinfueling.com](http://franklinfueling.com)

3760 Marsh Rd. • Madison, WI 53718, USA

Tel: +1 608 838 8786 • Fax: +1 608 838 6433

Tel: USA &amp; Canada +1 800 225 9787 • Tel: UK +44 (0)1473 243300

Tel: Mex 001 800 738 7610 • Tel: FR +33 (0)1 69 21 41 41 • Tel: CH +86 10 8565 4566



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

## 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**



## 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.

- ◆ **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.



Look for this label for authentic OPW EVR Approved products.

**OPW 7150M is EVR Approved for E85**

## Raising The Standard In Overfill Prevention

From the company that brought you the industry standard OPW 61SO, OPW raises the standard with the introduction of the **71SO 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**

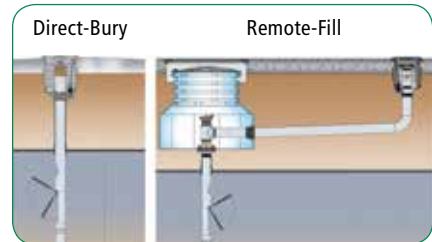
The new 71SO is a two-stage, positive shut-off valve, providing completely automatic operation with no pre-checks to perform, no resets, and no overrides to be broken or abused. The valve closes when the tank level rises to 95% capacity and provides a special bypass valve so the tank can be filled to a maximum capacity of 98%. The 71SO 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               |
| C05117     | Lower Tube                    |
| D02508     | Vapor-Tight Inlet Tube        |
| C03899M    | Non-Vapor-Tight Inlet Tube    |
| D02508     | Vapor-Tight Inlet Tube (Blue) |

## 71SO Ordering Specifications

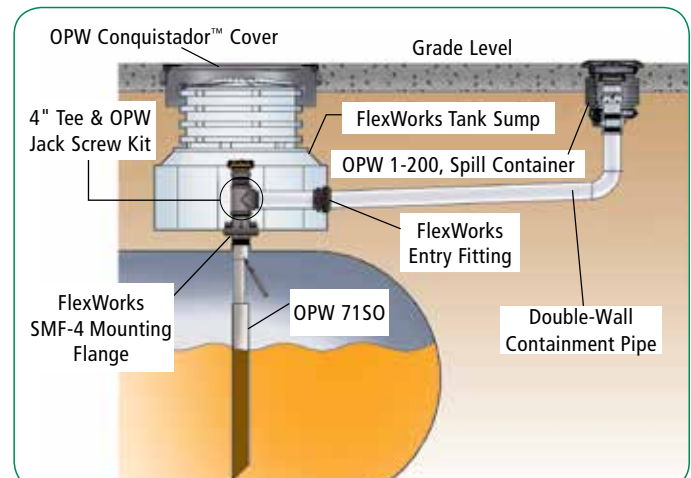
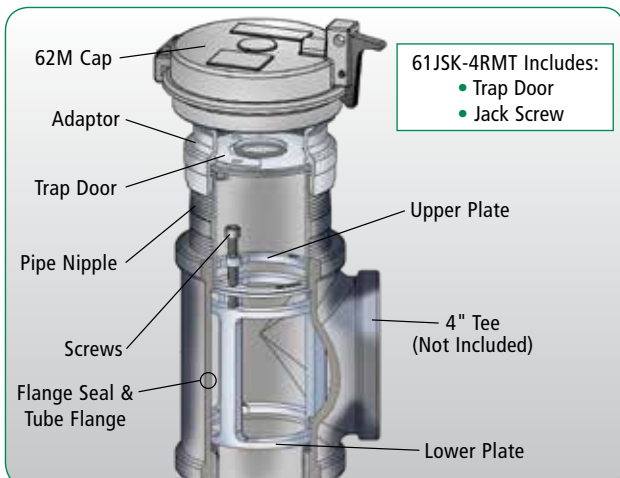
| Product #   | Description                                        | Bury Depth |     | Tank Diameter |     | Upper Tube Length |     | Lower Tube Length |     | Overall Length                  |     | Max. Riser Length               |     | Max. Nominal Tank Dia. |     | Max. Actual Tank Dia. |     | Weight |      |
|-------------|----------------------------------------------------|------------|-----|---------------|-----|-------------------|-----|-------------------|-----|---------------------------------|-----|---------------------------------|-----|------------------------|-----|-----------------------|-----|--------|------|
|             |                                                    | ft.        | m   | ft.           | m   | in.               | m   | in.               | m   | in.                             | m   | in.                             | m   | in.                    | m   | in.                   | m   | lbs.   | kg   |
| 71SO-400CB* | Vapor-Tight Overfill Valve                         | 5          | 1.5 | 8             | 2.4 | 60                | 1.5 | 83                | 2.1 | 155 <sup>3</sup> / <sub>4</sub> | 3.9 | 53 <sup>1</sup> / <sub>2</sub>  | 1.4 | 96                     | 2.4 | 107                   | 2.7 | 16     | 7    |
| 71SO-410CB* | Vapor-Tight Overfill Valve                         | 10         | 3.0 | 10            | 3.0 | 120               | 3.1 | 102               | 2.6 | 234 <sup>3</sup> / <sub>4</sub> | 5.9 | 113 <sup>1</sup> / <sub>2</sub> | 2.9 | 120                    | 3.1 | 126                   | 3.2 | 25     | 11   |
| 71SO-420CB* | Vapor-Tight Overfill Valve                         | 10         | 3.0 | 12            | 3.6 | 120               | 3.1 | 126               | 3.2 | 258 <sup>3</sup> / <sub>4</sub> | 6.5 | 113 <sup>1</sup> / <sub>2</sub> | 2.9 | 144                    | 3.7 | 150                   | 3.8 | 26     | 12   |
| 71SO-4000   | Non Vapor-tight Overfill Valve                     | 5          | 1.5 | 8             | 2.4 | 60                | 1.5 | 83                | 2.1 | 155 <sup>3</sup> / <sub>4</sub> | 3.9 | 53 <sup>1</sup> / <sub>2</sub>  | 1.4 | 96                     | 2.4 | 107                   | 2.7 | 16     | 7    |
| 71SO-4010   | Non Vapor-tight Overfill Valve                     | 10         | 3.0 | 10            | 3.0 | 120               | 3.1 | 102               | 2.6 | 234 <sup>3</sup> / <sub>4</sub> | 5.9 | 113 <sup>1</sup> / <sub>2</sub> | 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 <sup>3</sup> / <sub>4</sub> | 5.9 | 113 <sup>1</sup> / <sub>2</sub> | 2.9 | 120                    | 3.1 | 126                   | 3.2 | 38     | 17.3 |
| 71SO-TOOLCT | 71SO 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**

\*ULC B100 Compatible

## 71SO 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 71SO overfill valve is installed in the sump through a riser pipe directly over the tank.





## Below Ground Products Fuel Compatibility Matrix

Updated 12/2018

| OPW FCS Products                           | Description                                      | Standard Fuels: ≤15% Ethanol Gasoline ≤5% Bio-Diesel* | High Ethanol Content Gasoline: 15-100% Ethanol | High Biodiesel Content 5-20% Biodiesel* | High Biodiesel Content 5-100% Biodiesel* | Av-Gas/ Jet Fuel | Kerosene/ Fuel Oil | DEF (Diesel Exhaust Fluid) |
|--------------------------------------------|--------------------------------------------------|-------------------------------------------------------|------------------------------------------------|-----------------------------------------|------------------------------------------|------------------|--------------------|----------------------------|
| CXXA Double Wall Piping                    | Double Wall Primary Piping                       | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| DPC Series                                 | Double Wall Pipe Couplings                       | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| SPC Series                                 | Single Wall Pipe Coupling                        | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| SBC Series                                 | Stainless Steel Swivel Bolt On Coupling          | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| SMA-1515, SMA-1520, SMA-2020, SMA-3030     | E-Coated Male Adaptors                           | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| SMA-7575, SMA-1010                         | Swivel Male Adaptor (Brass or Zinc Plated)       | X                                                     |                                                |                                         |                                          |                  | X                  |                            |
| STF-1515, STF-2020, STF-2215, STF-2020     | E-Coated Swivel Tees                             | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| SFA-7575, SFA-1010                         | Swivel Female Adaptor (Brass or Zinc Plated)     | X                                                     |                                                |                                         |                                          |                  | X                  |                            |
| SEF-1515, SRE-2015, SEF-2020, SEF-3030     | E-Coated Swivel Elbows                           | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| Polyethylene and Fiberglass Sumps          | Dispenser, Tank, Loop, and Transition Sumps      | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| REF Series Entry Fittings                  | Entry Fittings                                   | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| DEB and EBF Series                         | Entry Boots                                      | X                                                     | X                                              | X                                       |                                          | X                | X                  | X                          |
| 1-2100 Series / Multiports / 1-2200 Series | Spill Containers                                 | X                                                     | X                                              | X                                       | X                                        | X                | X                  | ***                        |
| FibreTite Multiports                       | Spill Containers                                 | X                                                     | X                                              | X                                       | X                                        | X                | X                  | ***                        |
| 101BG-Series                               | Spill Containers                                 | X                                                     | X                                              | X                                       | X                                        | X                | X                  | ***                        |
| 1-3100 Series (Edge)                       | Double Wall & Single Wall Spill Container Series | X                                                     | X                                              | X                                       | X                                        | X                | X                  | ***                        |
| 60V Series                                 | Vapor Line Shear Valve                           | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 10 Series                                  | Emergency Shut Off Valve                         | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 10 Plus Series                             | Emergency Shut Off Valve                         | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 60V-DEF                                    | DEF Series Shear Valve                           |                                                       |                                                |                                         |                                          |                  |                    | X                          |
| 61SALP Series                              | Fill Swivel Adaptor                              | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 633T-8076                                  | Fill Adaptor                                     | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 61VSA Series                               | Vapor Swivel Adaptor                             | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 1611AVB-1625                               | Vapor Adaptor                                    | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 634TT-7085-EVR                             | Fill Cap                                         | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 1711T-7085-EVR                             | Vapor Cap                                        | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 634LPC-040                                 | Low Profile Fill Cap                             | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 1711LPC-0300                               | Low Profile Vapor Cap                            | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 62M Series                                 | Monitoring Probe Cap                             | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| 61SO & 71SO Series                         | Overfill Valve                                   | X                                                     |                                                |                                         |                                          | X                | X                  |                            |
| 61SOM Series                               | Overfill Valve Anodized                          | X                                                     | X                                              |                                         |                                          | X                | X                  |                            |
| 71SOM Series                               | Overfill Valve Anodized                          | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 71SO-B Series                              | High BioDiesel Overfill Valve                    | X                                                     |                                                | X                                       | X                                        | X                | X                  |                            |
| 6111 & 61TP Series                         | Tank Bottom Protectors                           | X                                                     |                                                |                                         |                                          | X                | X                  |                            |
| 61T Series                                 | Drop Tubes                                       | X                                                     |                                                |                                         |                                          | X                | X                  |                            |
| 61T-SS Series                              | Stainless Steel Drop Tube                        | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 61T-DEF Series                             | Stainless Steel DEF Drop Tube                    |                                                       |                                                |                                         |                                          |                  |                    | X                          |
| 233 Series                                 | Extractor Valve                                  | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| FCXX Series                                | Stainless Flex Connectors                        | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| 53VML/30MV Series                          | Ball Floats                                      | X                                                     | X                                              | X                                       | X                                        | X                | X                  |                            |
| 523V Series                                | Pressure Vacuum Vent                             | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| 623V Series                                | Pressure Vacuum Vent                             | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |
| 723V Series                                | EVR Pressure Vacuum Vent                         | X                                                     | X                                              | X                                       | X                                        | X                | X                  | X                          |

\* Bio-Diesel must meet ASTM Standard for fuel quality to maintain compatibility with products above

\*\*\* Drain plug versions compatible with DEF if installed with Stainless Steel Drop Tube between Nipple and Fill Adapter

≤ Refers to less than or equal to the fuel standard rating for percentage of content

## XFLO™ FUEL METER



### Xflo™ Fuel Meter

Save fuel, save time, save money.

Without accurately-calibrated dispensers, you could be unintentionally giving away fuel every time customers fill their tanks. The new Wayne Xflo™ Meter can make this a thing of the past. With fewer moving parts and additional calibration points, the Xflo Meter sets the standard in metering accuracy. It's not only accurate, it's also 20-30% faster than traditional piston meters. And faster, more accurate transactions mean more profit to your bottom line.

**Wayne**  
FUELING SYSTEMS

# Xflo™ Fuel Meter

Save fuel, save time, save money.

## So accurate, you may never have to calibrate it again

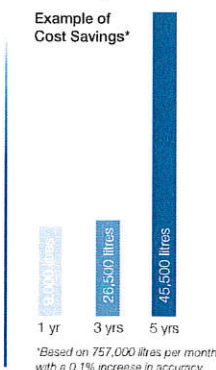
With the Xflo Meter, expect more accurate metering and less frequent calibration. In both lab and field tests, the Xflo Meter demonstrated no discernible drift after metering millions of litres of fuel — all were still perfectly calibrated. That means potential fuel savings of up to thousands of litres per year.

## Peerless performance and uncompromised control

The Xflo Meter's phenomenal accuracy and throughput are the result of revolutionary engineering and precision manufacturing. Wear and tear are minimized thanks to the Xflo Meter's design, featuring fewer moving parts and sealing surfaces. This limits the possibility of meter drift. The Xflo Meter also has multiple calibration points, providing you with better accuracy across the entire flow range.

## Extraordinarily adaptive

The Xflo Meter is both accurate and tough, making sure your investment lasts for years. Building on our tradition of dependable products, the Xflo Meter's efficient hydraulic design features tandem screw rotors made of hardened bearing steel in a compact housing. This rugged design is perfect for varied fuel environments. The Xflo Meter is built to handle millions of litres over its lifetime, in all flow conditions, fluid temperatures, densities and viscosities, and to be used with the same fuel types compatible with traditional piston meters.



- Increase profits by eliminating fuel loss: save potentially thousands of litres every year.
- Protect your investment: virtually eliminate recalibration costs.
- Expect field-proven performance: over 3,000 meters successfully installed using similar/comparable technology.
- Improve your throughput: Wayne's fastest meter ever.

## Astonishing performance, outstanding security

At today's fuel prices, securing your investment is more important than ever. High-speed serial communication to the iGEM pump computer and a lack of exposed gear sets make the Xflo Meter highly resistant to tampering. Employing unique calibration tables and serial numbers that must be recognized by the iGEM enhances transaction security.

## Customer-centric innovation since 1891

Wayne engineers designed the Xflo Meter module to mount in the same form factor as existing iMeters installed in our recent dispenser models. This makes it easy to replace meters in existing dispensers with iGEM electronics (Global Star™, Ovation®, Global Ovation®). The Xflo Meter is available for use with E85 and Ultra High Capacity applications, with future plans for use in LPG applications.

[www.wayne.com](http://www.wayne.com)

Austin, Texas, USA | Malmö, Sweden | Rio de Janeiro, Brazil | Shanghai, China

©2014, Wayne, the Wayne logo, Xflo, iGEM, Global Star, Ovation, Global Ovation and combinations thereof are trademarks or registered trademarks of Wayne Fueling Systems in the United States and other countries. Other names are for informational purposes and may be trademarks of their respective owners. All rights reserved. 06290142 YW S1400-01-B

**Wayne**  
FUELING SYSTEMS

## 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



**Veeder-Root**  
125 Powder Forest Drive  
P. O. Box 2003  
Simsbury, CT 06070-7684  
USA  
Phone: (860) 651-2700  
Fax: (869) 651-2719

January 13, 2011

**Concerned Regulatory Agency**

Re: Veeder-Root Compatibility with E85

To whom it may concern:

Veeder-Root TLS branded automatic tank gauging products have UL listings for product safety. The wetted component materials used with the below listed products are deemed by Veeder-Root to be compatible with ethanol 85 applications.

| <u>VR Part Number</u> | <u>Description</u>                                                  |
|-----------------------|---------------------------------------------------------------------|
| 848480-003            | Pressurized Line Leak Detector                                      |
| 846391-4XX, 5XX, 6XX  | Mag Plus Probes for Alternative Fluids without water detection      |
| 846400-004,304,104    | Mag Float Kit ( 5" cable) for Alternative Fluids 4", 3" & 2" floats |
| 846400-014,314,114    | Mag Float Kit (10" cable) for Alternative Fluids 4", 3" & 2" floats |
| 846400-024,324,124    | Mag Float Kit (20" cable) for Alternative Fluids 4", 3" & 2" floats |
| 794380-323            | Position Sensitive Pan/Sump Sensor                                  |
| 794380-344            | MicroSensor                                                         |
| 794380-345            | Interstitial Solid State Sensor for Fiberglass Tanks                |
| 794380-430            | Interstitial Sensor for Steel Tanks                                 |

The following sensor is exposed to Brine and is not of concern in an E85 application.

794380-301                      Hydrostatic Sensor

Please contact Veeder-Root Technical Support at 1-800-323-1799 with further questions.

Regards,

Bob Moss  
VP Engineering

# Dualoy® 3000/LCX Product Data

---

## Applications

Rigid fiberglass coaxial fuel handling systems requiring Underwriters Laboratories Listing for integral primary and containment piping conveying the following fuels:

- Motor Vehicle (MV)
- Aviation and Marine A&M)
- High Blend (HB)
- Bio-Diesel
- Concentrated (CT)
- Diesel Exhaust Fluid

---

## Description

Dualoy 3000/LCX rigid fiberglass coaxial piping is a cost-effective solution for contained piping systems. LCX is used for product delivery lines in underground fuel handling systems to convey fuel from the tank to the dispensers. Dualoy 3000/LCX pipe is UL Listed for use with motor vehicle (MV), high blend (HB), concentrated (CT) and aviation and marine (A&M) fuels. Based on currently known tests, **NOV Fiber Glass Systems found this product to be suitable for conveying all blends of biodiesel and ethanol type fuels and the conveyance of DEF.**

The LCX pipe is manufactured as an integral unit. The primary is made of chemically inert, non-permeable, fiberglass reinforced epoxy resin which is inherently resistant to deterioration due to water and microbial attack. This layer is covered with a porous layer to provide the small volume interstitial space, which facilitates rapid leak detection. Then, the containment layer, comprised of the same material as the primary, is wound over the primary and porous layers.

The containment system is installed with custom designed clamshell containment fittings. Both the primary and containment systems are bonded for long-term, reliable performance.

- Dualoy 3000/LCX containment fittings are typically bolted in place while the adhesive cures.
- Dualoy 3000/LCX reduces installation and inspection time dramatically, retaining system integrity.
- Dualoy 3000/LCX double wall design significantly improves impact resistance over single wall pipe.
- Dualoy 3000/LCX systems provide true double wall design which permits rapid communication through the interstice.

---

## Listings and Approvals

The rigid fiberglass piping used in Dualoy 3000/LCX is Listed in the United States with Underwriters Laboratories for nonmetallic underground piping for MV, HB, CT and A&M fuels under File No. MH9162. Dualoy 3000/LCX pipe and fittings are also Listed with Underwriters Laboratories of Canada for Petroleum Products and Oxygenated Fuels (File CMH715). Underwriters Laboratories has also approved Dualoy 3000/L and Dualoy 3000/LCX for use with MTBE fluids.

---

## Performance

Primary operating pressures to 200 psig (13.8 bar)

Continuous operating temperature to 150°F (66°C)

Containment system pressures to 50 psig (3.45 bar)

Individual system components may not have the same ratings as the pipe. Refer to the detailed product information for the specific components to determine the pressure rating for the system as a whole.

---

## Composition

**Primary pipe:** Filament-wound fiberglass reinforced epoxy pipe with integral epoxy liner. When classified in accordance with ASTM D2310 and ASTM D2996, the pipe meets the following cell limits: RTRP 11CF1-5420.

**Pipe containment:** Filament-wound fiberglass reinforced epoxy pipe.

**Interstitial space:** Dry, graded glass beads secured in place with adhesive backed tape.

**Fittings:** Compression molded or filament-wound fiberglass reinforced epoxy primary fittings. Containment fittings are molded.

**Adhesive:** PSX™ •20 or PSX™ •34 ambient-cure, two-part epoxy for all services (including alcohols and MTBE).