



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: True North Energy, LLC
 Facility Name: True North Energy, LLC
 Street Address: 1 Green Bay Road
 City: Waukegan
 County: Lake

UST Information:

Tank ID Number: 5
 Tank Material: Steel _____
 FRP
 Single Wall _____ Double Wall
 Tank Volume: 6,000 gallons
 Tank Product: E-15

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) |
|--|---|-----|------------------------------|--|
| | NO | YES | | |
| TANK | | | B | Containment Solutions double wall fiberglass tank. |
| PIPING (incl. shear valves, flex connectors) | | | B | UPP double wall pipping, part #001-075-063 |
| CONTAINMENT SUMPS | | | B | Containment Solutions Tank sumps, part #SW-RTS-48 Franklin Fueling dispenser Sumps, part #DS-3915 |
| PUMPS (STPs/Suction; Dispensers, hoses, nozzles) | | | B | FE Petro submersible pump, part #STPAGR200-VL2-10 AG |

| 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) |
|---|---|-----|------------------------------|--|
| | NO | YES | | |
| RELEASE DETECTION EQUIPMENT | NO | YES | B | Veeder Root tank sump sensor, part #794380-208, Veeder Root interstitial sensor, part #794390-409 Veeder Root probe, part #846390-107 Veeder Root DPLLD, part #859080-001 |
| SPILL PREVENTION EQUIPMENT | NO | YES | B | OPW Edge overspill, part #1C-3112P |
| OVERFILL PREVENTION EQUIPMENT | NO | YES | B | OPW overfill drop tube, part #71SO-400C |
| GASKETS & SEALS (installs after 10/13/18) | NO | YES | | |
| JOINT DOPES & ADHESIVES (installs after 10/13/18) | NO | YES | | Gasoil |

Methods:

- A. Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored.
- B. 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: Warren Cherner date completed: 4-30-20
signature: Warren Cherner position/title: President

June 17, 2019

Jack Meck
Metro Tank

Subject: Franklin Fueling Systems APT Poly Dispenser Sumps Use With E-85

Dear Jack

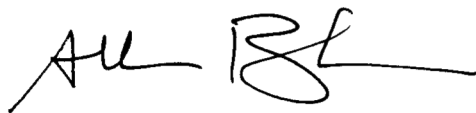
Franklin Fueling Systems certifies that our APT Poly Dispenser Sumps, including the LMM-3915-HLX, are certified to be compatible with Fuel Ethanol, also known commercially as E85, containing 51 % to 83 % ethanol by volume under UL-2447, file MH62435. Our poly and fiberglass containment range are certified 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

True North Energy – SHELL, Grayslake, IL

OPW

1C-3112P – SPILL CONT, EDGE, DW, CI COVER, WITH PLUG

61SALP-1020-EVR – ADAPTER, SWIVEL LOW PROFILE FUEL, BRASS

71SO-400C – VALVE, OVERFILL PREV, VAPOR TIGHT, 4IN, 5FT (8FT)

61VSA-1020-EVR – ADAPTER, SWIVEL VAPOR, BRASS

233-4420 – EXTRACTOR, 4INX2IN, NO CAGE

623V-2203 – VENT, PRESSURE VAC, 2IN, 3 WATER COLUMN

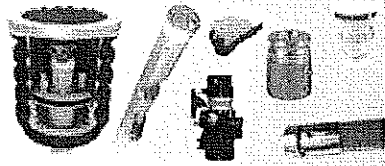
21BV-0200 – VALVE, BALL FULL PORT, 2IN

10BFP-5726 – VALVE, EMER DOUBLE POPPER, FEMALE, 1.5IN

11BP-8400 – NOZZLE, FILLGARD, UNLEADED, BLACK

241TPS-0241 – SWIVEL, HOSE, 3/4IN

66REC-1000 – BREAKAWAY, RECONNECTABLE, 3/4IN

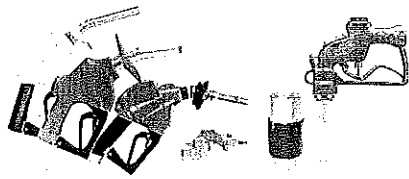


Below Ground Products Fuel Compatibility Matrix

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 |
| 6150 & 7150 Series | Overfill Valve | X | | | | X | X | |
| 6150M Series | Overfill Valve Anodized | X | X | | | X | X | |
| 7150M Series | Overfill Valve Anodized | X | X | X | X | X | X | |
| 7150-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

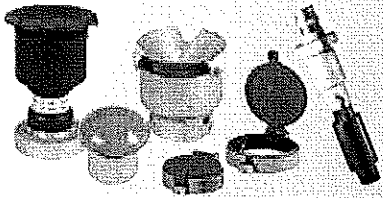


Residential Products Compatibility Matrix

(Revised 1/12/15)

| OPW Product Number | Description | Unleaded Fuels up to 10% Ethanol (≤E10) | Petroleum Diesel | Up to 25% Ethanol (≤E25) | Up to 85% Ethanol (≤E85) | Up to 100% Ethanol (≤E100) | Bio-Diesel | | Av- Gas | Jet Fuel | Kerosene/ Fuel Oil |
|--------------------------|--|---|---------------------|-----------------------------------|-----------------------------------|-------------------------------------|----------------------|------------------------|------------|-------------|-----------------------|
| | | | | | | | Up to 5% (≤B5) | Up to 20% (≤B20) | | | |
| 11A Series | Automatic Conventional Nozzles | | UL/ULC | | | | UL | UL | | | X |
| 11AP Series | Automatic Conventional Nozzles | UL/ULC | | UL/ULC | | | | | | | |
| 11AF Series | Farm Nozzles | | UL/ULC | | | | UL | UL | | | X |
| 11APF Series | Farm Nozzles | UL/ULC | | UL/ULC | | | | | | | |
| 11B Series | Pressure Sensing Automatic Conventional Nozzles | | UL/ULC | | | | UL | UL | | | X |
| 11BP Series | Pressure Sensing Automatic Conventional Nozzles | UL/ULC | | UL/ULC | | | | | | | |
| 21Ge Series | Pressure Sensing Automatic Nickel Plated Conventional Nozzles | UL | | UL | UL | X | | | | | |
| 7H Series | Automatic High Flow Conventional Nozzles | | UL/ULC | | | | UL | UL | | | X |
| 7HB Series | Pressure Sensing Automatic High Flow Conventional Nozzles | | UL/ULC | | | | UL | UL | | | X |
| 12VW Series | Vacuum Assist Nozzles | UL | | | | | | | | | |
| 11VA Series | Vacuum Assist Nozzles | UL | | | | | | | | | |
| 11VF Series | Balance Nozzles | UL | | | | | | | | | |
| 311/811 Series | General Duty Manual Nozzles | UL | UL | | | | X | X | | | X |
| 190/210/295SC Series | Manual Bulk Nozzles | X | X | X | | | X | X | | | X |
| 295SAJ | Manual Jet Fuel Nozzle | | | | | | | | X | X | X |
| 295SA/SAC Series | Manual Av-Gas Nozzles | X | | X | | | | | X | X | X |
| 1290 Series | Automatic Bulk Fueling Nozzles | X | X | X | | | X | X | | | X |
| 241 Swivels | Two Plane Hose Swivels | UL/ULC | UL/ULC | UL | | | UL | UL | | | X |
| 241TPS-0492 | Nickel Plated Two Plane Hose Swivels | UL | | UL | UL | X | UL | UL | | | X |
| 45 Swivels | Two Plane Hose Swivels | UL/ULC | UL/ULC | UL | | | UL | UL | | | X |
| 36S Swivels | Straight Swivels | UL | UL | | | | X | X | | | X |
| 20S Swivels | Two Plane Hose Swivels - Cold Weather | UL/ULC | UL/ULC | X | | | X | X | | | X |
| 25 Swivels | Bulk Straight Swivel | X | X | X | | | X | X | X | X | X |
| 66V Series Breakaways | Single Use Conventional Breakaways | UL/ULC | UL/ULC | X | | | X | X | | | X |
| 66V-0492 | Nickel Plated Single Use Conventional Breakaways | UL | | UL | UL | X | X | X | | | X |
| 66 Series Breakaways | Various Reconnectable and Single Use Vac Assist Breakaways | UL/ULC | UL/ULC | X | | | X | X | | | X |
| 68EZR Breakaway | Various Reconnectable and Single Use Vac Assist Breakaways | UL/ULC | UL/ULC | X | | | X | X | | | X |
| 38CS Adaptor | Balance Adaptor | X | X | X | | | X | X | | | X |
| VaporSaver™ 1 | Tank Pressure Management System | UL / ATEX | | | | | | | | | |
| CVS2™ | Central Vacuum System | UL | | | | | | | | | |

UL - UL listed X - Compatible ULC - UL Canada *Pending Investigation



Above Ground Storage Tank Equipment Fuel Compatibility Matrix

Updated 1/2015

| OPW Product Number | Description | Unleaded Fuels up to 10% Ethanol (≤E10) | Up to 25% Ethanol (≤E25) | Up to 85% Ethanol (≤E85) | Petroleum Diesel | Bio-Diesel | | Av-Gas | Jet Fuel | Kerosene/ Fuel Oil |
|---------------------------|---------------------------------------|---|--------------------------|--------------------------|------------------|----------------|------------------|--------|----------|--------------------|
| | | | | | | Up to 5% (≤B5) | Up to 20% (≤B20) | | | |
| 523V Series | Pressure Vacuum Vent | UL | X | X | UL | X | * | X | X | X |
| 623V Series | Pressure Vacuum Vent | UL | X | X | UL | X | * | X | X | X |
| 61VSA-1020-EVR | Vapor Swivel Adaptor | X | X | X | X | X | * | X | X | X |
| 1611AVB-1625 | Vapor Adaptor | X | X | X | X | X | * | X | X | X |
| 1711T-7085-EVR | Vapor Cap | X | X | X | X | X | * | X | X | X |
| 1711LPC-0300 | Low Profile Vapor Cap | X | X | X | X | X | * | X | X | X |
| 301 & 201 Series | Emergency Vents | UL/ULC | X | X | UL/ULC | X | * | X | X | X |
| 200TG Series | AST Mechanical Gauge | UL | X | X | UL | X | * | X | X | X |
| 444TA Series | Tank Alarms | ETL | X | X | ETL | X | * | X | X | X |
| 821 Series | Solenoid Valves | UL | X | | UL | X | | X | X | X |
| 21BV SS | Full Port Stainless Steel Ball Valves | UL/ULC | X | X | UL/ULC | X | | X | | X |
| 331 / 332 Series | AST Spill Containers | UL/ULC | X | X | UL/ULC | X | * | X | X | X |
| 61f STOP | AST Overfill Valve | UL/ULC | X | | UL/ULC | X | | | | X |
| 61f STOP - A or M Version | AST Overfill Valve Anodized | UL/ULC | X | X | UL/ULC | X | | X | X | X |

UL - UL listed X - Compatible ULC - UL Canada *Pending Investigation

True North Energy – SHELL, Grayslake, IL

FE PETRO/FRANKLIN FUELING

402655910 – PUMP, 2HP, STPAGR200-VL2-10, AG, WITH R CHECK VALV

402094918 – SUB TURB. PUMP, 1 1/2HP, AG, R, 18IN RISER

FF20X12HFXM346 – FIREFLEX CONN, 2IN, HEX FEMALE X M SWIVEL, 12IN L

DS3915 OVATION – SUMP, UPP PE, 39INX15IN, FOR WAYNE

001-075-063-165PSE – PIPE, 165FT COIL, DW, UPP, 2IN, SECONDARY CONTAIN

001-075-063-100PSE – PIPE, 100FT COIL, DW UPP, 2IN

001-075-063-038PSE – PIPE, DW SECONDARY CONT, 2IN, 38 FT

03-063-EIF-U – ELBOW, 90, PRIMARY ELECTROFUSION, 2IN, UPP

49-075-063TP1-U – REDUCER, DW WELDING, 2IN, WITH TEST PORT

08-063-EIF-U – TEE, SW ELECTROFUSION, 2IN

02-063-L-U – COUPLER, PRIMARY WELDING, 2IN, LONG

91-063-1 NPT-U – TERMINATION FITTING, 2INX1.5IN, MALE, UPP

92-063 NPT-U – TERMINATION FITTING, UPP NPT, FEMALE, 2IN

001-063-019V – PIPE, 19FT STICKS, SW PRIMARY, 2IN

LDT60-1 – TUBE, LEAK DETECTOR, 24 CONNECTORS/VALVES

91-063 NPT-U – TERMINATION FITTING, NPT, UPP, 2INX2IN, MALE, SS

92-063-1 NPT-U – TERMINATION, UPP MALE NPT, 2INX1.5IN

303-075-EIF-U – SEAL, FUSION, PRIMARY DW, 2IN, FOR PE SUMPS

REB-C-R-0075 – RGD ENTRY BOOT (RND SUMP)3/4IN

FEB-075-M – BOOT, FRP ENTRY, DW, DOUBLE SIDED, 3/4IN

02-75SC-U – SOCKET, WELD, UPP SECONDARY, 2IN

Specifications

- 2 hp fixed speed models are available in variable length and fixed length options.
- Check valve: 2-3/4" diameter fluorocarbon seal constructed with cast aluminum body and steel backing washer.
- Pressure relief valve: available in four pressure relief settings, integral to check valve. Standard model relieves at 40 psi and resets above 35 psi.
- Syphon: venturi-type syphon primer supplied with every submersible. Syphon check valve and secondary syphon sold separately.
- Air eliminator: every submersible includes a tank return path with one-way check valve to provide active air elimination.
- Electrical disconnect: electrical yoke for positive contractor disconnect during service.

Pump Motor

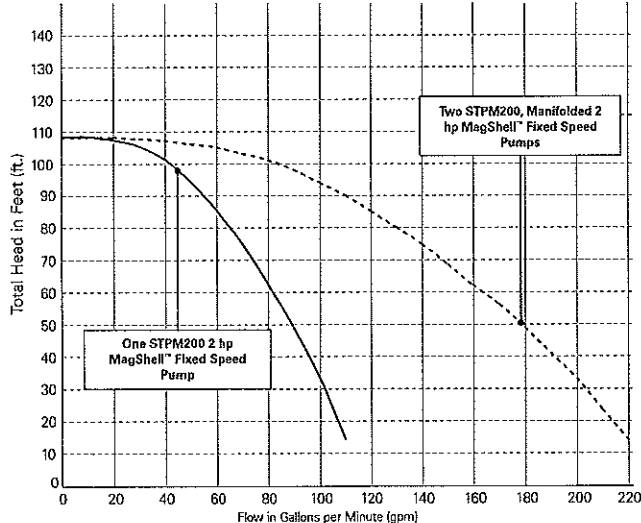
- 2 hp fixed speed, 3450 rpm, multi-stage centrifugal type pump motor with integral, automatic, thermal overload protection.
- Standard pressure (M200, two-stage) model, max. pressure = 36 psi.
- High pressure (HM200, three-stage) model, max. pressure = 45 psi.
- Available with MagShell™ for 45% increased flow area around motor.

Approvals/Certifications

- cULus listed.
- Consult factory for applicable approvals.

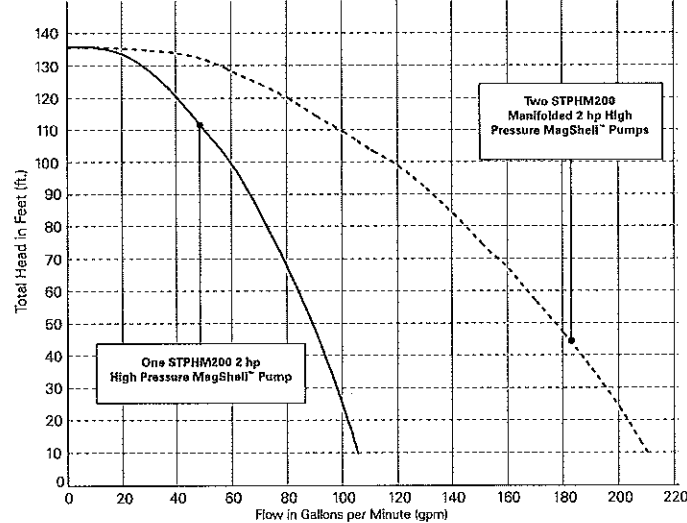
Performance

2 hp Fixed Speed Turbine Performance Chart



Note: Performance based on pumping solvent (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STPM200 models are powered by a single-phase, 60 Hz, 208/230 Volt power supply.

2 hp High Pressure Fixed Speed Turbine Performance Chart



Note: Performance based on pumping solvent (0.78 specific gravity). Pressure is taken at the manifold discharge outlet. STPHM200 models are powered by a single-phase, 60 Hz, 208/230 Volt power supply.

Power Requirements

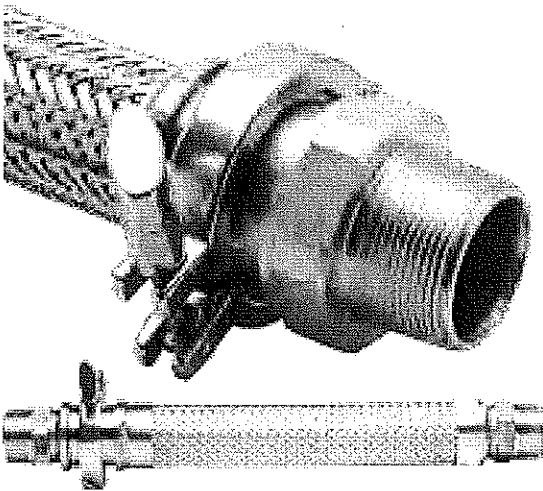
- 2 hp fixed speed models require single-phase, 208-230 VAC, 60 Hz incoming power.
- 2 hp fixed speed models incorporate a starting and running capacitor, with internal bleed resistor, rated 370 Volt, 40 microfarad.
- STP-SCI single-phase smart controllers and STP-CBS single-phase control boxes are available for 2 hp pump control.
- Max. motor draw: 12 Amps.

Liquid Compatibility

- Max. liquid viscosity: 70 SSU at 60 °F (15 °C).
- Standard STP models are UL and cUL listed for fuel mixtures containing up to 10% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
- STPAG (AG compatible) models are UL and cUL listed for 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.
- 2 hp fixed speed models can also be used with diesel fuels, fuel oils, kerosene, Avgas and jet fuels in a non-gelled pourable state.
- All wetted elastomers are made of a high grade, fluorocarbon compound.

Quality Certification

- Franklin Fueling Systems is an ISO 9001 Certified Manufacturer.



FLEXIBLE CONNECTORS

FLEX-ING® brand flexible connectors have become the industry standard and benchmark for quality as a means to easily connect a pipework system to other system components such as submersible pumps or shear valves. As an integral part of any system, installers enjoy how easy they make connections in tight spaces while station owners have come to depend on their durability and their simplification of regular maintenance. End fittings are available in either nickel plated steel or stainless steel construction. FLEX-ING® flexible connectors offer multiple diameter and length options as well as a wide offering of end fitting connections so you can create the right flexible connector to fit virtually any application.

SERVICE STATION HARDWARE
LABORATORY

HIGHLIGHTS

- Standard on all flexible connectors, the stainless steel corrugated fuel contact layers feature a thick construction and gain flexibility from having more corrugations per foot rather than thinner walls.
- Enclosing the corrugated fuel contact layer is a stainless steel braid that is manufactured from only high-grade stainless steel.
- Standard end fittings are nickel plated steel with stainless steel construction options available on any flexible connector that does not include a swivel end fitting.
- Available in a multitude of end connections to ensure the right fit for any application - including tees, elbows, and fiberglass transitions.
- All metal construction means one flexible connector for both above and below ground applications (may not be direct buried).
- Schedule 80 hex end fittings protect against deformation of the ends during installation.
- The EZ FIT union style coupling system is specifically designed to make connections in confined spaces simple and tight.
- EZ FIT union style couplings come complete with couplers and gaskets (flange only fittings excluded).

SPECIFICATIONS

- Meets USA NFPA 30-A fire code requirements.
- Outer shell: 304 stainless steel
- Inner core: 321 stainless steel
- End fittings: Nickel plated steel or stainless steel.
- 100% pressure tested to 100 PSI to assure quality.

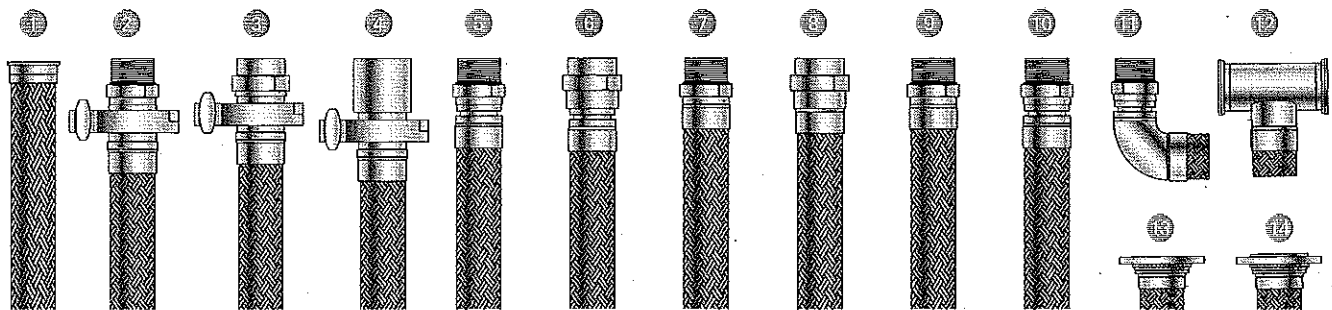
Approvals/Certifications

- UL 2039 listed for above and below ground installation for use with gasoline, gas alcohol blends (up to E85), diesel, and Biodiesel.
- UL 2039 approved for 50 psi working pressure.

End Fitting Options

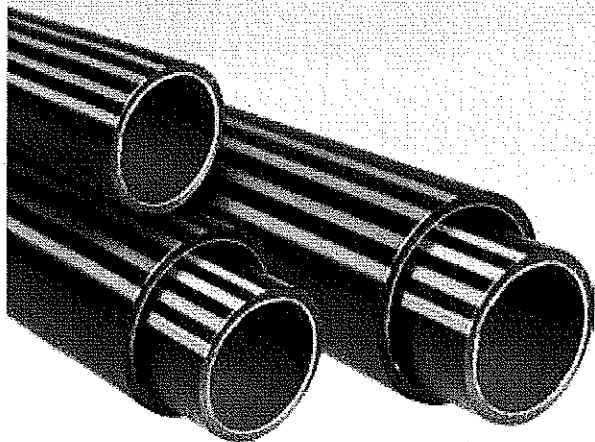
- | | |
|------------------------------|------------------------------|
| ① EZ Fit flange only* | ⑬ Hex female fixed (NPT)* |
| ② EZ Fit male* | ⑭ Hex male fixed (BSPT)* |
| ③ EZ Fit female* | ⑮ Hex male swivel (BSPT)* |
| ④ EZ Fit fiberglass (glued)* | ⑯ 90° male swivel |
| ⑤ Male swivel | ⑰ EZ Fit tee flanges only* |
| ⑥ Female swivel | ⑱ Flat faced round flange* |
| ⑦ Hex male fixed (NPT)* | ⑲ Raised faced round flange* |

*Also available in stainless steel.

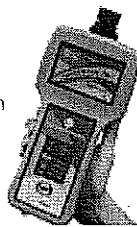


UPP™ Semi-Rigid Pipework System

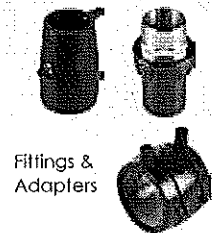
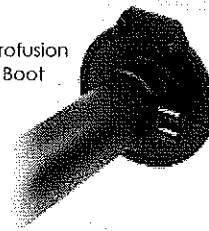
Since being introduced as the world's first electrofusion pipework system for fuel applications over thirty years ago, UPP™ brand semi-rigid pipework has become known globally as the standard for watertight electrofusion welded pipework systems. UPP™ brand pipework utilizes the advanced electrofusion welding process to effectively bond system components including pipework and containment together into one, water tight system.



Hand-Held
Electrofusion
Welder Unit



Electrofusion
Entry Boot



Fittings &
Adapters

Highlights

- The highly efficient electrofusion welding process that connects pipe, fittings, boots and containment to create a seamless direct burial pipework system.
- The UPP™ electrofusion welding process is safe and simple to complete in any climate and virtually any weather condition. An installer simply preps the components, fits them together attaching welder leads to the fitting, and then presses a single button on the welding unit to initiate the process.
- The welder unit itself calculates the exact settings required to complete the weld, regardless of the pipework diameter or temperature, leaving no settings for the installer to input.
- UPP™ double wall semi-rigid pipe is flexible enough to coil and bend like flexible pipe, while UPP™ single wall pipe is also rigid enough to be used in place of fiberglass pipe for vapor or vent lines.
- Available in both coils and straight sticks, UPP™ pipe can accommodate the sweeping bends of a "loop" pipework system while the straight sticks make installation between dispenser sumps simple by providing a square pipe entry into containment.
- The flexibility of UPP™ double wall semi-rigid pipe allows for easy installation through existing ducting.
- As a vital component to the UPP™ pipework system, patented UPP™ electrofusion entry boots weld directly to the wall of any polyethylene sump creating a watertight seal between the pipework system and containment spaces.

Specifications

- Pipe outer layer: High Density Polyethylene (HDPE) grade PE100
- Pipe liner layer: Ethylene vinyl alcohol (EVOH) resin liner
- Pipe intermediate layer: Tie-layer which permanently bonds HDPE outer layer to EVOH resin liner layer
- Temperature rating: -22 °F to 122 °F
- Primary pipe pressure rating: 90 Psi
- Secondary pipe pressure rating: 58 Psi
- 1½" and 2" double wall pipe bend radius: 3'3"
- 3" and 4" double wall pipe bend radius: 13'2"
- 2" single wall vent/vapor pipe bend radius: 3'3"
- 3" single wall vent/vapor pipe bend radius: 9'10"

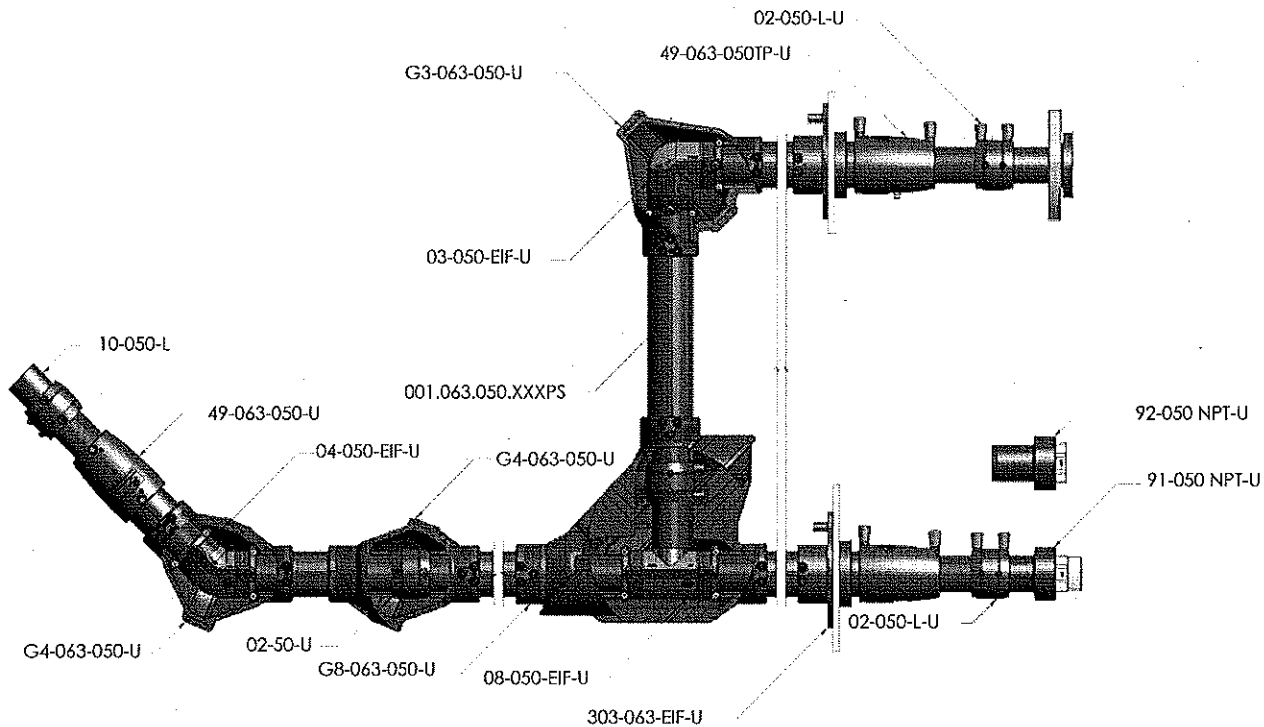
Approvals

- UL-971 approved for fuels including:
 - Motor vehicle fuels typically found in consumer dispensing facilities like gasoline or diesel including blended fuels with maximum 15% MTBE, 15% Methanol or 30% Ethanol.
 - Concentrated fuels such as alternate un-blended fuels containing up to 100% concentrations of Toluene, Methanol or Ethanol.
 - High blend fuels with higher than normal gasoline blends with maximum 50% Methanol or 50% Ethanol.
 - Aviation and marine specialty fuels containing up to 100% kerosene or leaded gasoline.
- Michigan, Wisconsin, and Florida EQ-816.

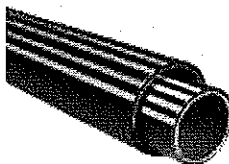
Ordering Information

| Model | Description | Nominal Primary Pipe | | Nominal Secondary Pipe | |
|-------------------|-------------------------|----------------------|-------|------------------------|-------|
| | | ID | OD | ID | OD |
| 001.063.050.XXXPS | 1 1/2" double wall pipe | 1.65" | 1.97" | 2.15" | 2.48" |
| 001.075.063.XXXPS | 2" double wall pipe | 2.08" | 2.48" | 2.57" | 2.95" |
| 001.110.090.019PS | 3" double wall pipe | 2.90" | 2.98" | 3.78" | 4.33" |
| 001.125.110.019PS | 4" double wall pipe | 3.54" | 3.65" | 4.40" | 4.92" |
| 001.063.019V | 2" single wall pipe | 2.02" | 2.08" | | |
| 001.090.019V | 3" single wall pipe | 2.90" | 2.98" | | |

1 1/2" Secondary Contained Pipework System



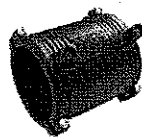
| Model | Description | Unit |
|-------------------|-------------------------|-----------|
| 001.063.050.028PS | 1 1/2" double wall pipe | 28' stick |
| 001.063.050.033PS | 1 1/2" double wall pipe | 33' stick |
| 001.063.050.165PS | 1 1/2" double wall pipe | 165' coil |



| Model | Description |
|---------|--------------------------------|
| 02-50-U | 1 1/2" primary welding coupler |



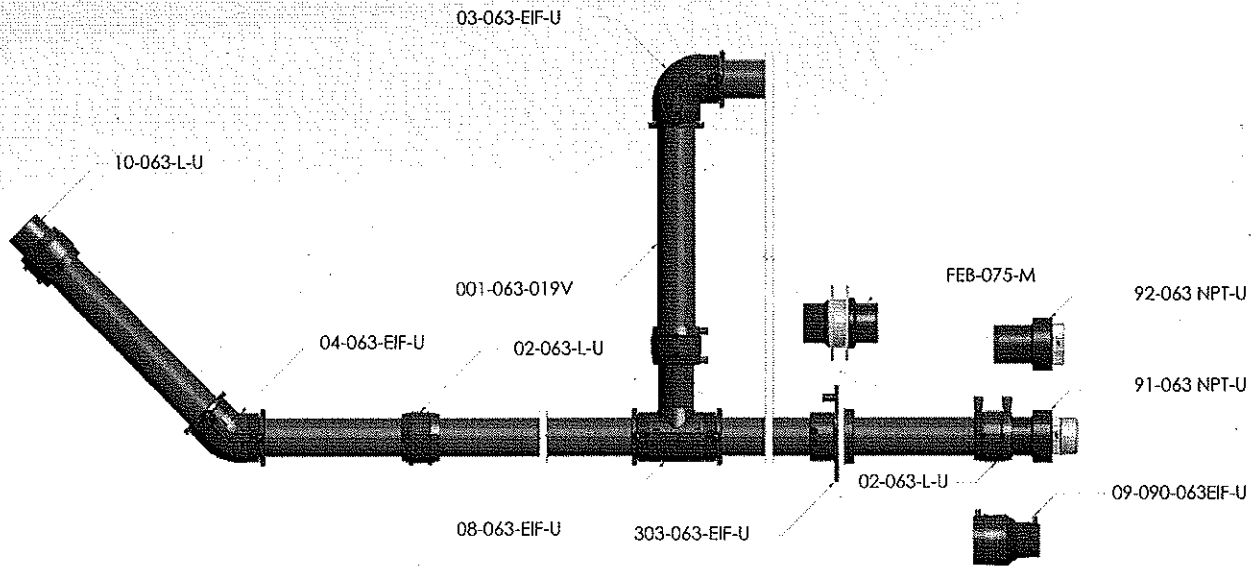
| Model | Description |
|------------|--------------------------------------|
| 02-050-L-U | 1 1/2" primary welding coupler, long |



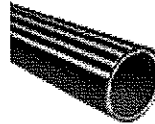
| Model | Description |
|--------------|--|
| 03-050-EIF-U | 1 1/2" primary electrofusion 90° elbow fitting |



2" Primary Pipework System



| Model | Description | Unit |
|--------------|---------------------|-----------|
| 001.063.019V | 2" single wall pipe | 19' stick |



| Model | Description |
|---------|----------------------------|
| 02-63-U | 2" primary welding coupler |



| Model | Description |
|------------|----------------------------------|
| 02-063-L-U | 2" primary welding coupler, long |



| Model | Description |
|--------------|--|
| 03-063-EIF-U | 2" primary electrofusion 90° elbow fitting |



| Model | Description |
|----------|------------------------------------|
| 03-063-L | 2" primary plain 90° elbow fitting |



| Model | Description |
|--------------|--|
| 04-063-EIF-U | 2" primary electrofusion 45° elbow fitting |



| Model | Description |
|----------|------------------------------------|
| 04-063-L | 2" primary plain 45° elbow fitting |



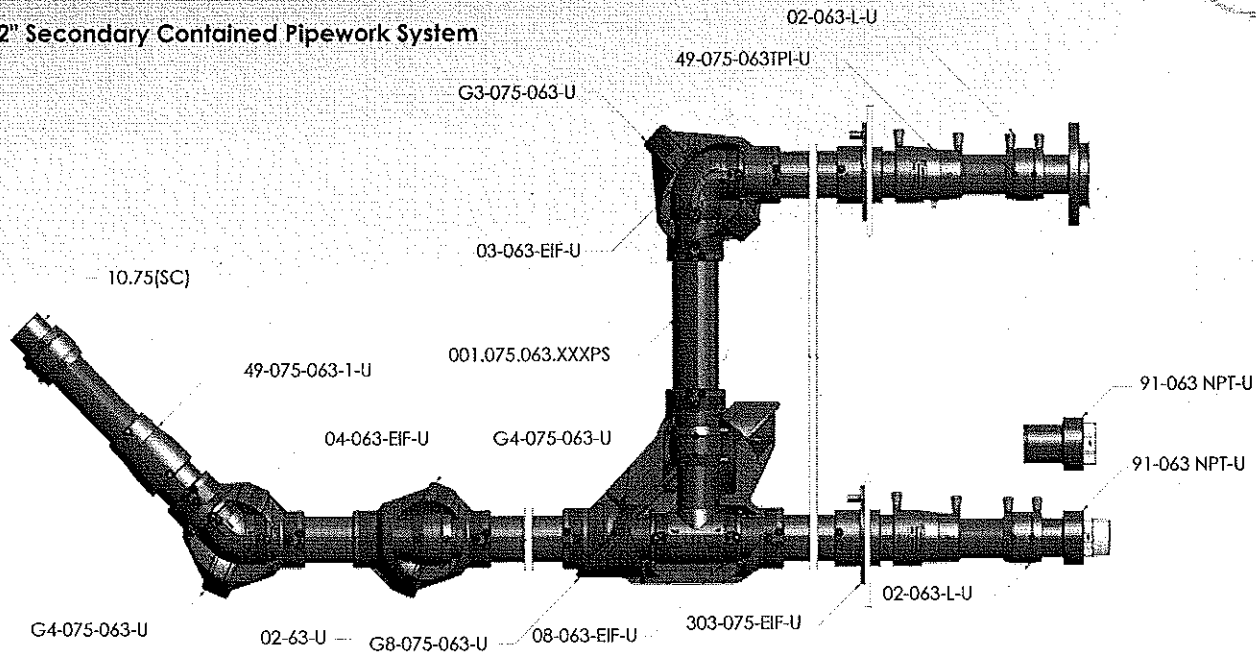
| Model | Description |
|--------------|--|
| 08-063-EIF-U | 2" single wall electrofusion tee fitting |



| Model | Description |
|----------|------------------------------|
| 08-063-L | 2" primary plain tee fitting |



2" Secondary Contained Pipework System



| Model | Description | Unit |
|-------------------|---------------------|-----------|
| 001.075.063.028PS | 2" double wall pipe | 28' stick |
| 001.075.063.033PS | 2" double wall pipe | 33' stick |
| 001.075.063.038PS | 2" double wall pipe | 38' stick |
| 001.075.063.100PS | 2" double wall pipe | 100' coil |
| 001.075.063.165PS | 2" double wall pipe | 165' coil |

| Model | Description |
|---------|----------------------------|
| 02-63-U | 2" primary welding coupler |

| Model | Description |
|------------|----------------------------------|
| 02-063-L-U | 2" primary welding coupler, long |

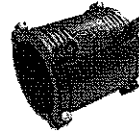
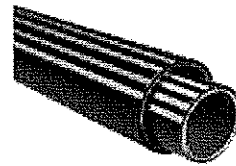
| Model | Description |
|-----------|------------------------------|
| 02-75SC-U | 2" secondary welding coupler |

| Model | Description |
|--------------|--|
| 03-063-EIF-U | 2" primary electrofusion 90° elbow fitting |

| Model | Description |
|--------------|--|
| 04-063-EIF-U | 2" primary electrofusion 45° elbow fitting |

| Model | Description |
|--------------|--|
| 08-063-EIF-U | 2" single wall electrofusion tee fitting |

| Model | Description |
|-----------------|---|
| 49-075-063-1-U | 2" secondary electrofusion reducer fitting |
| 49-075-063TPI-U | 2" secondary electrofusion reducer fitting with test port |



| Model | Description |
|---------------|---|
| 49-110-75SC-U | 4" x 2" secondary electrofusion reducer fitting |



| Model | Description |
|---------------|---|
| 09-110-75SC-U | 4" x 2" secondary plain reducer fitting |



| Model | Description |
|-----------|-------------------|
| 10.75(SC) | 2" secondary plug |



| Model | Description |
|-----------------|--|
| 91-063 SS NPT-U | Stainless steel 2" (pipe) x 2" NPT male threaded termination fitting |
| 91-063-1 NPT-U | 2" (pipe) x 1 1/2" NPT male threaded termination fitting |
| 91-063 NPT-U | 2" (pipe) x 2" NPT male threaded termination fitting |



| Model | Description |
|----------------|--|
| 92-063-1 NPT-U | 2" (pipe) x 1 1/2" NPT female threaded termination fitting |
| 92-063 NPT-U | 2" (pipe) x 2" NPT female threaded termination fitting |



| Model | Description |
|-------------|--|
| 90-063 QL-U | 2" (pipe) x 2" quick release termination fitting |



| Model | Description |
|-----------------|--|
| 92-063 UF NPT-U | 2" (pipe) x 2" NPT union adapter termination fitting |
| 11.63G | 2" gasket |



| Model | Description |
|-----------------|---|
| 303-075-EIF-U | 2" double wall electrofusion entry boot |
| 304-110-075-TP* | 2" double wall ducted entry boot with ducting test port |



*For use with UPP 4" ducting.

| Model | Description |
|-----------|---------------------------------|
| FEB-075-M | 2" (pipe) fiberglass entry boot |



| Model | Description |
|--------------|------------------------|
| G3-075-063-U | SC 2" Gemini 90° Elbow |



| Model | Description |
|--------------|---|
| G4-075-063-U | SC 2" Gemini 45° Elbow OR SC 2" Gemini Inline Elbow |



| Model | Description |
|--------------|------------------|
| G8-075-063-U | SC 2" Gemini Tee |



True North Energy – SHELL, Grayslake, IL

Veeder Root

846390-107 – PROBE, MAG PLUS, WATER DETECT, 8FT

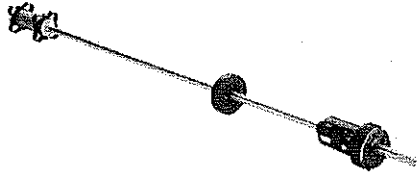
886100-000 – INSTALL KIT, PHASE2 WATER DETECTOR, 4IN FLOAT, 5FT

330020-012 – SENSOR MOUNTING KIT, UNIVERSAL

794380-208 – SUMP SENSOR, PIPING, 12FT CABLE

794390-409 – INTERSTITIAL SENSOR-F/G TANK UPTO 12FT TANKS

859080-001 – DPLLD W/O SWIFT CHECK VALVE, TLS450

| | | | | | | |
|--|---|--|---|---------------------------------|-------------------------------------|---|
| Probe Description & Product Application | Aluminum Mag Plus In-Tank Probe for Monitoring Gasoline, Retail Diesel Products & Water in both USTs and ASTs | |  | | | |
| Specific Products Monitored / Product Compatibility | Part # & Description Leak Detection / BIR - AccuChart Probes 1. 846396-1XX Aluminum (AL) In-Tank Probe with High Grade Polymer (HGP) Canister with Water Detection & 0.1 GPH Testing Capability, UL 2. 846396-2XX AL In-Tank Probe with HGP Canister with Water Detection & 0.2 GPH Testing Capability, UL 3. 846390-1XX AL In-Tank Probe with AL Canister with Water Detection & 0.1 GPH Testing Capability, UL 4. 846390-2XX AL In-Tank Probe with AL Canister with Water Detection & 0.2 GPH Testing Capability, UL | Approved Products Gasohol (<=15% Ethanol) Gasoline with <=7% Methanol and 8% TBA Gasoline with <=15% MTBE Gasoline with <=17% TAME Leaded Gasoline Mineral Spirits Premium Unleaded Gasoline Regular Unleaded Gasoline Gasoline with <=15% ETBE Gasoline with <=12% TBA Diesel (Fuel Oil #2) Aviation Gas Kerosene (Fuel Oil #1) Bio Diesel (Low Density) | Monitoring Functionality Options 0.1 GPH static in-tank testing for USTs only 0.2 GPH static in-tank testing for USTs only 0.2 GPH Continuous Statistical Leak Detection (CSLD) for USTs only No Leak Detection/ Inventory Only BIR - AccuChart for USTs only | | | |
| Console Compatibility | Maximum Probes / Console | Probe Interface Modules | | | | |
| | | Module Part # | Module Description | # of Modules per Console | # of Probe Inputs per Module | Availability |
| TLS-450PLUS (8600 Series) with TLS-XB installed (3 max per system) | 64 (32 with BIR) | 332812-001 | Universal Sensor Module (USM) Interface for Probes, Sensors, and DPLLD | Up to 4 | 16 | Sold Separately (either Factory Installed or as a Spare Module) |
| TLS4i (8601 Series) | 4 | No module required, probe input capability factory installed | | | | |
| TLS4c (8601 Series) | 2 | | | | | |
| TLS-350/R/PLUS | 16 | 329356-002 | 4-Input Probe Interface Module | 4 | 4 | Sold Separately (either Factory Installed or as a Spare Module) |
| TLS-300i | 4 | No module required, probe input capability factory installed | | | | |
| TLS-300C | 2 | | | | | |

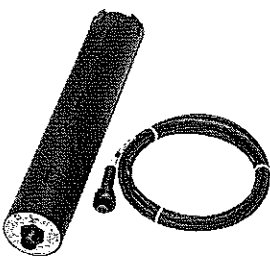

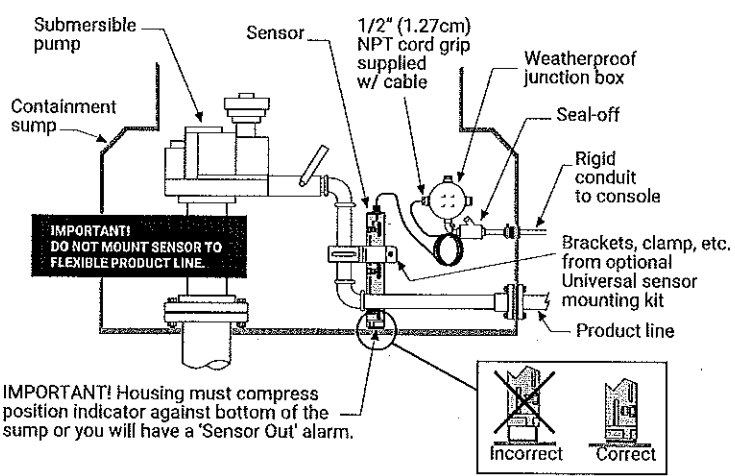
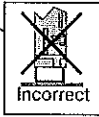
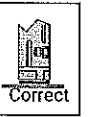



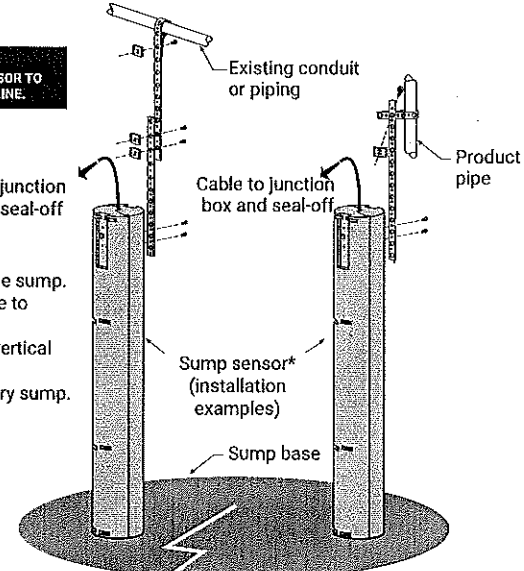
Product Form

| Product Number | Description | Notes |
|----------------|--|-------|
| 886100-000 | Phase-Two Float Kit with 5' (1.52m) Cable | UL |
| 886100-010 | Phase-Two Float Kit with 10' (3.05m) Cable | UL |
| 886100-020 | Phase-Two Float Kit with 20' (6.10m) Cable | UL |

Features & Benefits

- **Handles multiple densities** — Float able to detect both water and phase separation
- **Delivers alarms and alerts** — Provides continuous monitoring of in-tank phase separation and delivers alarms to your Veeder-Root ATG
- **Protects from every angle** — Offers you the assurance that your equipment is secure, and your inventory and reputation are safe
- **Improves minimum water detection** — Detects in any gasoline storage tank containing up to 15% ethanol (E15)
- **Provides early detection** — Provides you with the earliest detection of phase separation available and continuous monitoring to your ATG

| | | | | | |
|--|---|--|--|--|--------------------------------------|
| Sensor Description | Position Sensitive Sensor | This sensor is installed in a containment sump or dispenser pan and will detect the presence of, and differentiate between, hydrocarbons and other liquids. | | | |
| Part Number | 794380-323 | | | | |
| Category | <input type="checkbox"/> Discriminating <input checked="" type="checkbox"/> Non-Discriminating <input checked="" type="checkbox"/> Position Sensitive | <input type="checkbox"/> Level Sensing <input type="checkbox"/> Static Testing <input type="checkbox"/> Hydrostatic |   | | |
| Fuel Compatibility | <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Diesel <input checked="" type="checkbox"/> Kerosene <input checked="" type="checkbox"/> Jet Fuel <input checked="" type="checkbox"/> Aviation Gas | <input checked="" type="checkbox"/> E-15 <input checked="" type="checkbox"/> E-85 <input checked="" type="checkbox"/> E-100 <input checked="" type="checkbox"/> Bio-Diesel 20 <input type="checkbox"/> Bio-Diesel 100 | <input checked="" type="checkbox"/> Green Diesel <input type="checkbox"/> DEF <input checked="" type="checkbox"/> Waste Oil <input checked="" type="checkbox"/> Motor Oil | | |
| Console Compatibility (*International Only¹) | Recommended Min. Console Software | Sensor Interface Modules | | | |
| | | Module Part # | Module Description | # of Modules per Console | # of Sensor Inputs per Module |
| TLS-450PLUS (8600 Series) | 6A or Higher | 332812-001 | Universal Sensor Module (USM) | Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB | 16 |
| TLS-450 | 4A or Higher | | | | |
| TLS4 (8601 Series) ¹ | 6A or Higher | 330020-750 | Universal Sensor Input Output Module (USIOM-AC) | 1 | 12 |
| TLS4i (8601 Series) | | | | | |
| TLS4B (8601 Series) ¹ | | 330020-751 | | | 6 |
| TLS4c (8601 Series) | | | | | |
| TLS-350/R/PLUS | 124/324 or Higher | 329358-001 | Interstitial Sensor Interface Module | Up to 8 | 8 |
| TLS-350J | | 329356-003 | 4 Probe / 4 Sensor Interface Module | 1 | 4 |
| TLS-300i | | 330230-001 | 4 Probe / 8 Sensor Interface Module | | 8 |
| TLS-300C | | 330513-001 | 2 Probe / 8 Sensor Options | | |
| Alarm Notification | Normal | Sensor in Normal State - No liquid detected | | | |
| | Sensor Out | Sensor not resting on bottom of containment or sensor not communicating to ATG/Console | | | |
| | Fuel Alarm | Liquid detected in containment area at approx. 1.5" (3.81cm) | | | |
| Installation Kit | 330020-012 | Universal Sensor Mounting Kit (Sold separately) | | | |
| Specifications | Example Installation | | | | |
| Operating Principle | Product Permeable, Reed Switch /Float | | | | |
| Product Activation Height | Liquid - Approx. 1.5" (3.81cm) | | | | |
| Operating Temperature | +32 to +140°F (0 to +60°C) | | | | |
| Dimensions | 12" (30.5cm) high, 2.2" (5.6cm) dia. | | | | |
| Miscellaneous/Notes | Standard Cable Length: 12ft (3.66m). | | | | |
| Third Party Evaluation Links | TLS-3XX/TLS-450 Series Consoles TLS4 (8601Series) Consoles | | | | |
| Product Link | Position Sensitive Sensor | | | | |
| Warranty with System | 1 Yr Parts & Labor | | | | |
| Warranty (When purchased separately) | 1 Yr Parts Only | | | | |
| Where Used (Typical) | <input checked="" type="checkbox"/> Dispenser Pan <input checked="" type="checkbox"/> Spill Containment <input checked="" type="checkbox"/> STP Sump <input type="checkbox"/> Convault Tank <input type="checkbox"/> Annular Space <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Oil/Water Separator Tank | | | | |
| | |  <p>IMPORTANT! DO NOT MOUNT SENSOR TO FLEXIBLE PRODUCT LINE.</p> <p>IMPORTANT! Housing must compress position indicator against bottom of the sump or you will have a 'Sensor Out' alarm.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Incorrect</p> </div> <div style="text-align: center;">  <p>Correct</p> </div> </div> | | | |

| | | | | | | |
|--|---|---|---|---|---|--|
| Sensor Description | Piping Sump Sensor | The Piping Sump Sensor is installed in a tank piping sump (STP Containment Sump) and will detect the presence of a liquid. | | | | |
| Part Number | 794380-208 | | | | | |
| Category | <input type="checkbox"/> Discriminating <input checked="" type="checkbox"/> Non-Discriminating <input type="checkbox"/> Position Sensitive | | <input type="checkbox"/> Level Sensing <input type="checkbox"/> Static Testing <input type="checkbox"/> Hydrostatic | |  | |
| Fuel Compatibility | <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Diesel <input checked="" type="checkbox"/> Kerosene <input checked="" type="checkbox"/> Jet Fuel <input checked="" type="checkbox"/> Aviation Gas | | <input checked="" type="checkbox"/> E-15 <input type="checkbox"/> E-85 <input type="checkbox"/> E-100 <input checked="" type="checkbox"/> Bio-Diesel 20 <input type="checkbox"/> Bio-Diesel 100 | | | <input checked="" type="checkbox"/> Green Diesel <input type="checkbox"/> DEF <input checked="" type="checkbox"/> Waste Oil <input checked="" type="checkbox"/> Motor Oil |
| Console Compatibility (*International Only¹) | Recommended Min. Console Software | Sensor Interface Modules | | | | |
| | | Module Part # | Module Description | # of Modules per Console | # of Sensor Inputs per Module | Availability |
| TLS-450PLUS (8600 Series) | 6A or Higher | 332812-001 | Universal Sensor Module (USM) | Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB | 16 | Sold Separately |
| TLS-450 | 4A or Higher | | | | | |
| TLS4 (8601 Series) ¹ | 6A or Higher | 330020-750 | Universal Sensor Input Out-put Module (USIOM-AC) | 1 | 12 | Included |
| TLS4i (8601 Series) | | | | | | |
| TLS4B (8601 Series) ¹ | | 330020-751 | | | 6 | |
| TLS4c (8601 Series) | | | | | | |
| TLS-350/R/PLUS | 124/324 or Higher | 329358-001 | Interstitial Sensor Interface Module | Up to 8 | 8 | Sold Separately |
| TLS-350J | | 329356-003 | 4 Probe / 4 Sensor Interface Module | 1 | 4 | Sold Separately |
| TLS-300i | | 330230-001 | 4 Probe / 8 Sensor Interface Module | | 8 | Included |
| TLS-300C | | 330513-001 | 2 Probe / 8 Sensor Options | | | |
| Alarm Notification | Normal | Sensor in Normal State - No liquid detected | | | | |
| | Fuel Alarm | Liquid detected at a minimum of 1.84" (4.67cm) | | | | |
| | Sensor Out | Sensor not communicating to ATG/Console | | | | |
| Installation Kit | 330020-076 | Piping Sump Sensor Mounting Kit is included (see example installation below). | | | | |
| Specifications | Example Installation | | | | | |
| Operating Principle | Float/magnetic reed switch | | | | | |
| Product Activation Height | Liquid 1.84" (4.67cm) | | | | | |
| Operating Temp | +32 to +140°F (0 to +60°C) | | | | | |
| Dimensions | 12" (30.5cm) high, 1.9" (4.8cm) dia. | | | | | |
| Miscellaneous/Notes | Standard Cable Length: 12ft (3.66m) Installation kit 330020-076 included (see example installation). | | | | | |
| Third Party Evaluation Links | TLS-3XX/TLS-450 Series Consoles TLS4 (8601 Series) Consoles | | | | | |
| Product Link | Piping Sump Sensor | | | | | |
| Warranty with System | 1 Yr Parts & Labor | | | | | |
| Warranty (When purchased separately) | 1 Yr Parts Only | | | | | |
| Where Used (Typical) | <input checked="" type="checkbox"/> Dispenser Pan <input checked="" type="checkbox"/> Spill Containment <input checked="" type="checkbox"/> STP Sump <input type="checkbox"/> Convault Tank <input type="checkbox"/> Annular Space <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Oil/Water Separator Tank | | | | | |
| | | <p>IMPORTANT! DO NOT MOUNT SENSOR TO FLEXIBLE PRODUCT LINE.</p>  <p>*Sump sensor should:</p> <ol style="list-style-type: none"> 1. Rest on the base of the sump. 2. Be positioned as close to outer wall as possible. 3. Be mounted in a true vertical position. 4. Be installed only in a dry sump. | | | | |

| | | | | | | |
|--|---|---|---|--|--------------------------------------|---------------------|
| Sensor Description | Interstitial Sensor for Double-Wall Fiberglass Tanks | | The Non-Discriminating Interstitial Sensor for Double-Wall Fiber-Glass Tanks detects the presence of liquid in the interstitial space of the tank. | | | |
| Part Number | 794390-409 | | | | | |
| Category | <input type="checkbox"/> Discriminating <input checked="" type="checkbox"/> Non-Discriminating <input type="checkbox"/> Position Sensitive | | <input type="checkbox"/> Level Sensing <input type="checkbox"/> Static Testing <input type="checkbox"/> Hydrostatic | | | |
| Fuel Compatibility | <input checked="" type="checkbox"/> Gas <input checked="" type="checkbox"/> Diesel <input checked="" type="checkbox"/> Kerosene <input checked="" type="checkbox"/> Jet Fuel <input checked="" type="checkbox"/> Aviation Gas | | <input checked="" type="checkbox"/> E-15 <input type="checkbox"/> E-85 <input type="checkbox"/> E-100 <input checked="" type="checkbox"/> Bio-Diesel 20 <input type="checkbox"/> Bio-Diesel 100 | | | |
| Console Compatibility (*International Only¹) | Recommended Min. Console Software | Sensor Interface Modules | | | | |
| | | Module Part # | Module Description | # of Modules per Console | # of Sensor Inputs per Module | Availability |
| TLS-450PLUS (8600 Series) | 6A or Higher | 332812-001 | Universal Sensor Module (USM) | Up to 4 - TLS-4XX Up to 8 - TLS-4XX w/ opt. TLS-XB | 16 | Sold Separately |
| TLS-450 | 4A or Higher | | | | | |
| TLS4 (8601 Series) ¹ | 6A or Higher | 330020-750 | Universal Sensor Input Out-put Module (USIOM-AC) | 1 | 12 | Included |
| TLS4i (8601 Series) | | | | | | |
| TLS4B (8601 Series) ¹ | | | | | | |
| TLS4c (8601 Series) | | | | | | |
| TLS-350/R/PLUS | 124/324 or Higher | 329358-001 | Interstitial Sensor Interface Module | Up to 8 | 8 | Sold Separately |
| TLS-350J | | 329356-003 | 4 Probe / 4 Sensor Interface Module | 1 | 4 | Sold Separately |
| TLS-300i | | 330230-001 | 4 Probe / 8 Sensor Interface Module | | 8 | Included |
| TLS-300C | | 330513-001 | 2 Probe / 8 Sensor Options | | | |
| Alarm Notification | Normal | Sensor in Normal State - No liquid detected | | | | |
| | Liquid Alarm | Liquid detected | | | | |
| | Sensor Out | Sensor not communicating to ATG/Console | | | | |
| Specifications | Example Installation | | | | | |
| Operating Principle | Reed Switch / Float | | | | | |
| Product Activation Height | 0.28" (0.71cm) | | | | | |
| Operating Temperature | -4 to +140°F (-20 to +60°C) | | | | | |
| Dimensions | 2.2" (5.6cm) length, 1.3" (3.3cm) width, 0.6" (1.5cm) thick | | | | | |
| Miscellaneous/Notes | Standard Cable 25ft (7.6m) Fits 4 to 10ft (1.2 to 3m) I.D. fiberglass tanks | | | | | |
| Third Party Evaluation Links | TLS-3XX/TLS-450 Series Consoles TLS4 (8601 Series) Consoles | | | | | |
| Product Link | Non-Discriminating Interstitial Sensor | | | | | |
| Warranty with System | 1 Yr Parts & Labor | | | | | |
| Warranty (When purchased separately) | 1 Yr Parts Only | | | | | |
| Where Used (Typical) | <input type="checkbox"/> Dispenser Pan <input type="checkbox"/> Spill Containment <input type="checkbox"/> STP Sump <input checked="" type="checkbox"/> Convault Tank | | | | | |
| | <input checked="" type="checkbox"/> Annular Space <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Oil/Water Separator Tank | | | | | |
| | | | | | | |



| Part Number | Description | Supported Console |
|-------------|---|-------------------|
| 859080-001 | Digital Pressurized Line Leak Detector (DPLLD) without Swiftcheck Valve | TLS-450PLUS |
| 859080-002 | Digital Pressurized Line Leak Detector (DPLLD) with Swiftcheck Valve | TLS-450PLUS |
| 332812-001 | 16 Input Universal Sensor Module | TLS-450PLUS |
| 332813-001 | 5 Input and Output Interface Module (STP Control) | TLS-450PLUS |

Key Features

- Proven pressure transducer technology
- No restriction of fuel flow
- Utilizes Swift Check Valve on early generation Red Jacket Submersible Pumps
- Test lines at full pressure for quick and accurate result
- Standard 3.0 gph, Optional 0.2 and 0.1 gph testing
- Not impacted by thermal contraction of fuel
- Installs without breaking piping or adding a new sump
- Supports a wide-range of pump and pipe types
- Several options based on TLS system
- Pressure Sensor constructed with Stainless Steel to meet the challenges of a highly corrosive environment

Specifications



- Leaded Gasoline
- 5% Methanol
- Up to 100% Ethanol
- 15% MTBE
- Diesel
- Biodiesel (Up to B100)
- Kerosene
- Jet Fuel
- Aviation Gasoline

| | |
|--|---------------------------------|
| Line Flow Rate | 120 GPM Max w/ Swiftcheck Valve |
| Operating Range | 0 – 70 PSI |
| Proof Pressure | 200 PSI |
| Maximum Vertical Pipeline Height Above Transducer | 11 Feet |
| Minimum Pump Output Pressure | 23 PSI |

Documents

- ↓ [Line Leak Application Guide \(577013-465\)](#)
- ↓ [Exterior Dimensions \ Digital PLLD Sensor \(333526-001\)](#)
- ↓ [PLLD & WPLLD Troubleshooting Manual \(577013-344\)](#)
- ↓ [PLLD Site Prep and Installation Manual \(576013-902\)](#)
- ↓ [WPPLD Site Prep and Installation Manual \(576013-923\)](#)

True North Energy – SHELL, Grayslake, IL

Contitech

532-338-124-20869 – HOSE, ¾ IN X 8 IN WHIP FLEXSTEEL LOW PERM MMOT

532-338-124-00969 – FLEXSTEEL FUTURA LOW PERM 3/4X9 FT MMOT

| | |
|------------------|--------------------|
| Min. Temperature | -40 °F -40 °C |
| Max. Temperature | 140 °F 60 °C |
| Brands | FLEXSTEEL® FUTURA™ |
| Packaging | Reel |
| Order Code | 532-327 |

Specifications

| | |
|-----------|--------------------------|
| I.D. | 3/4 in 19.10 mm |
| Nom. O.D. | 1.130 in 28.70 mm |
| Length | 500.000 ft |
| Weight | 0.450 lb/ft 0.67 kg/m |

sales@contitech.us

1-800-235-4632

contitech.us

ContiTech



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 (TAEF)
- 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,

A handwritten signature in blue ink, appearing to read 'Ron Shaffer', is positioned above the printed name.

Ron Shaffer

Vice President Sales & Marketing

Containment Solutions, Inc.