

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

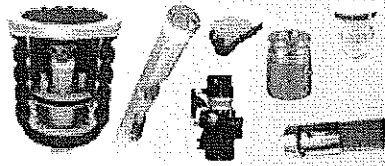
21BV-0200 – VALVE, BALL FULL PORT, 2IN

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

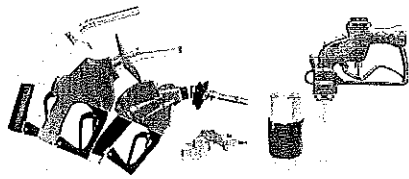


Below Ground Products Fuel Compatibility Matrix

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

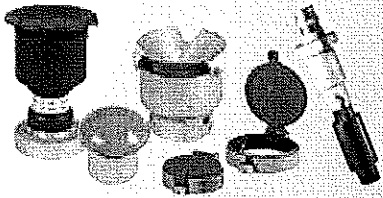


Residential Products Compatibility Matrix

(Revised 1/2015)

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

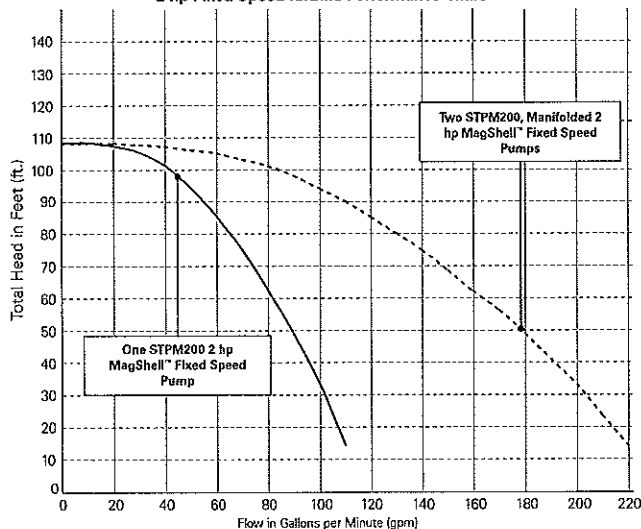
- 2 hp fixed speed, 3450 rpm, multi-stage centrifugal type pump motor with integral, automatic, thermal overload protection.
- Standard pressure (M200, two-stage) model, max. pressure = 36 psi.
- High pressure (HM200, three-stage) model, max. pressure = 45 psi.
- Available with MagShell™ for 45% increased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

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.

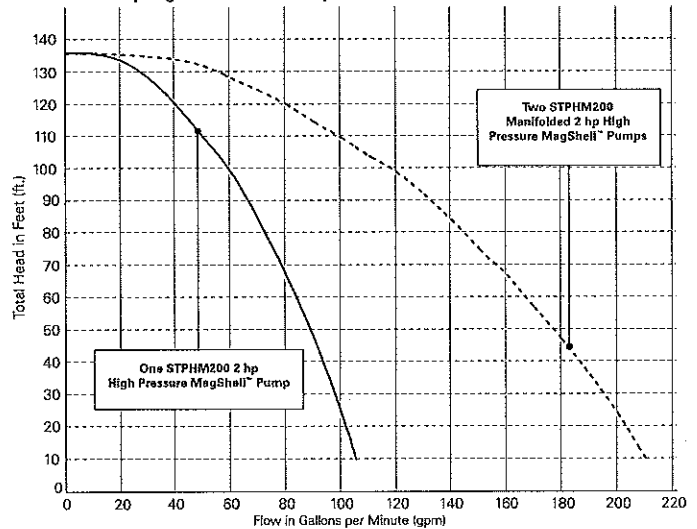
Liquid Compatibility

- 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.

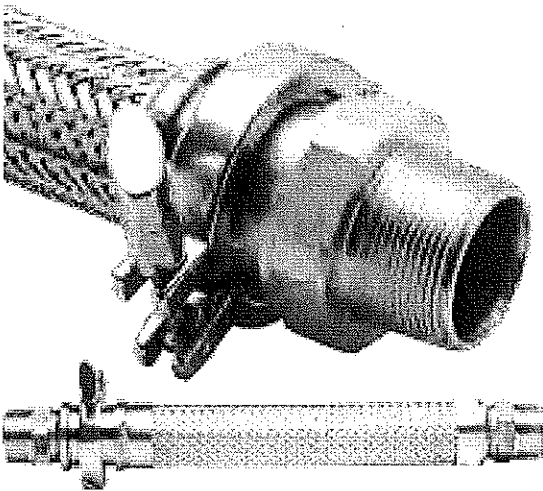
Quality Certification

- Franklin Fueling Systems is an ISO 9001 Certified Manufacturer.

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.



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.

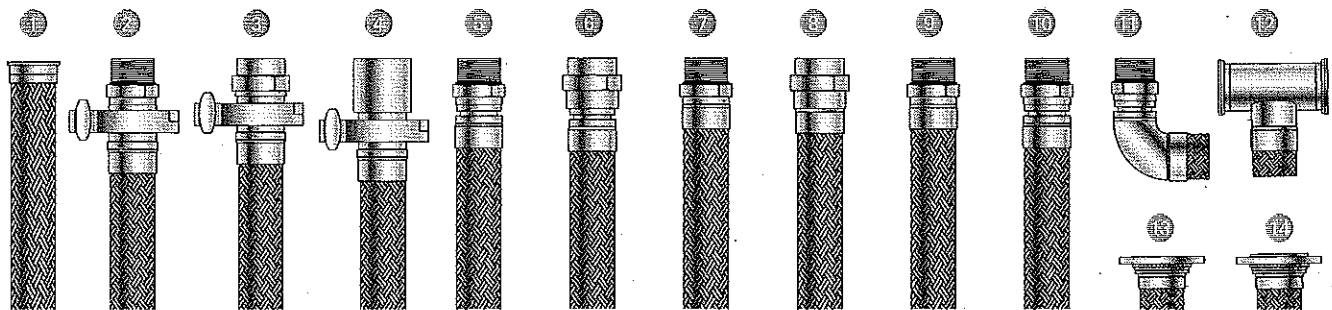
Approvals/Certifications

- 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

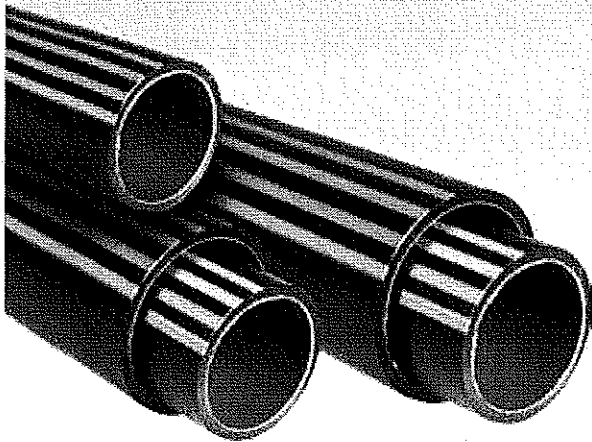
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|------------------------------|------------------------------|
| ① EZ Fit flange only* | ⑬ Hex female fixed (NPT)* |
| ② EZ Fit male* | ⑭ Hex male fixed (BSPT)* |
| ③ EZ Fit female* | ⑮ Hex male swivel (BSPT)* |
| ④ EZ Fit fiberglass (glued)* | ⑯ 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.

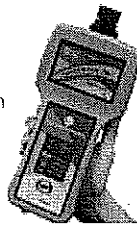


UPP™ Semi-Rigid Pipework System

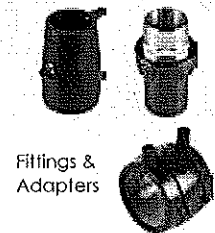
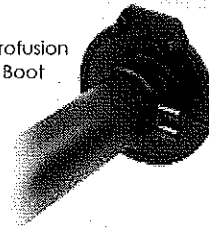
Since being introduced as the world's first electrofusion pipework system for fuel applications over thirty years ago, UPP™ brand semi-rigid pipework has become known globally as the standard for watertight electrofusion welded pipework systems. UPP™ brand pipework utilizes the advanced electrofusion 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"

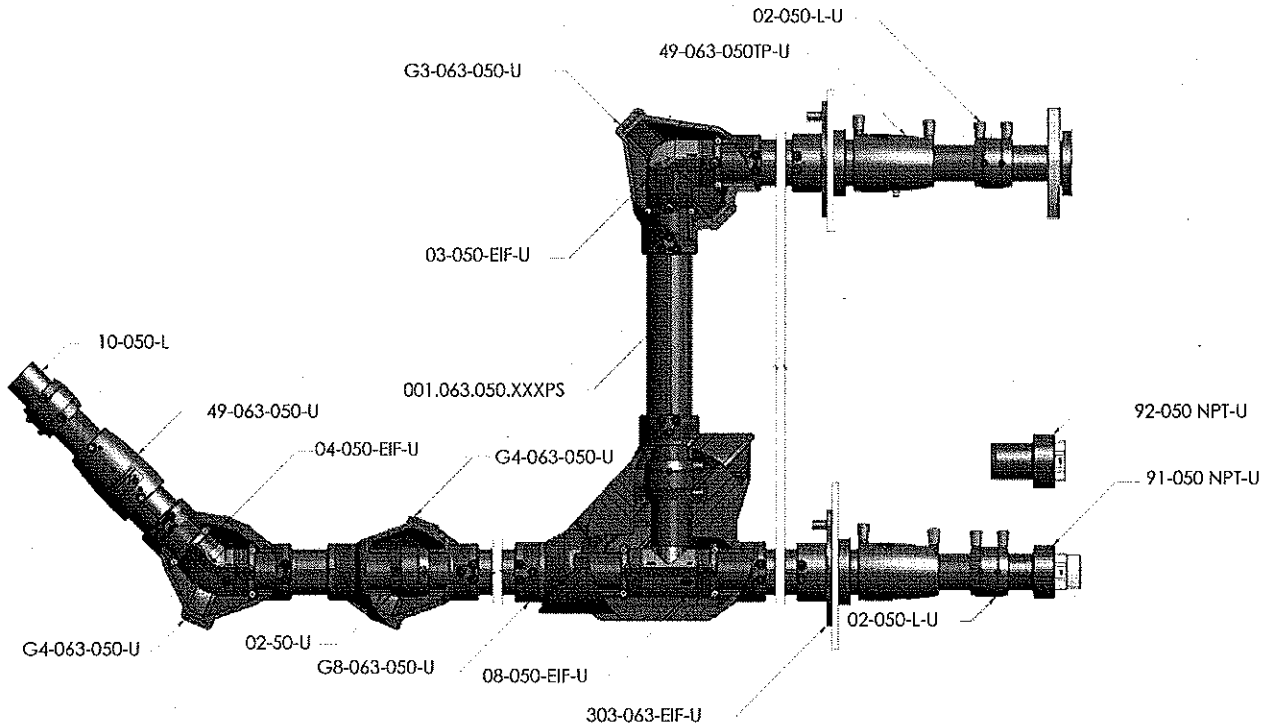
Approvals

- 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.

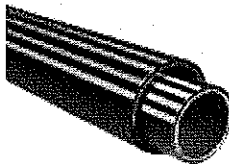
Ordering Information

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



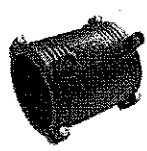
Model	Description	Unit
001.063.050.028PS	1 1/2" double wall pipe	28' stick
001.063.050.033PS	1 1/2" double wall pipe	33' stick
001.063.050.165PS	1 1/2" double wall pipe	165' coil



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



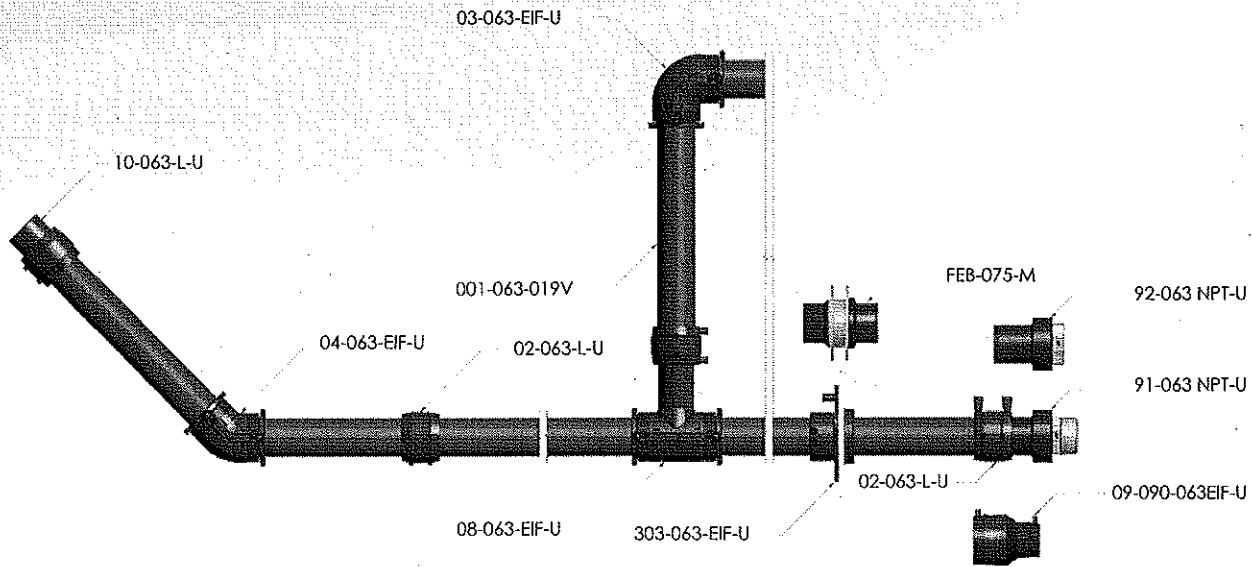
Model	Description
02-050-L-U	1 1/2" primary welding coupler, long



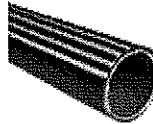
Model	Description
03-050-EIF-U	1 1/2" primary electrofusion 90° elbow fitting



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



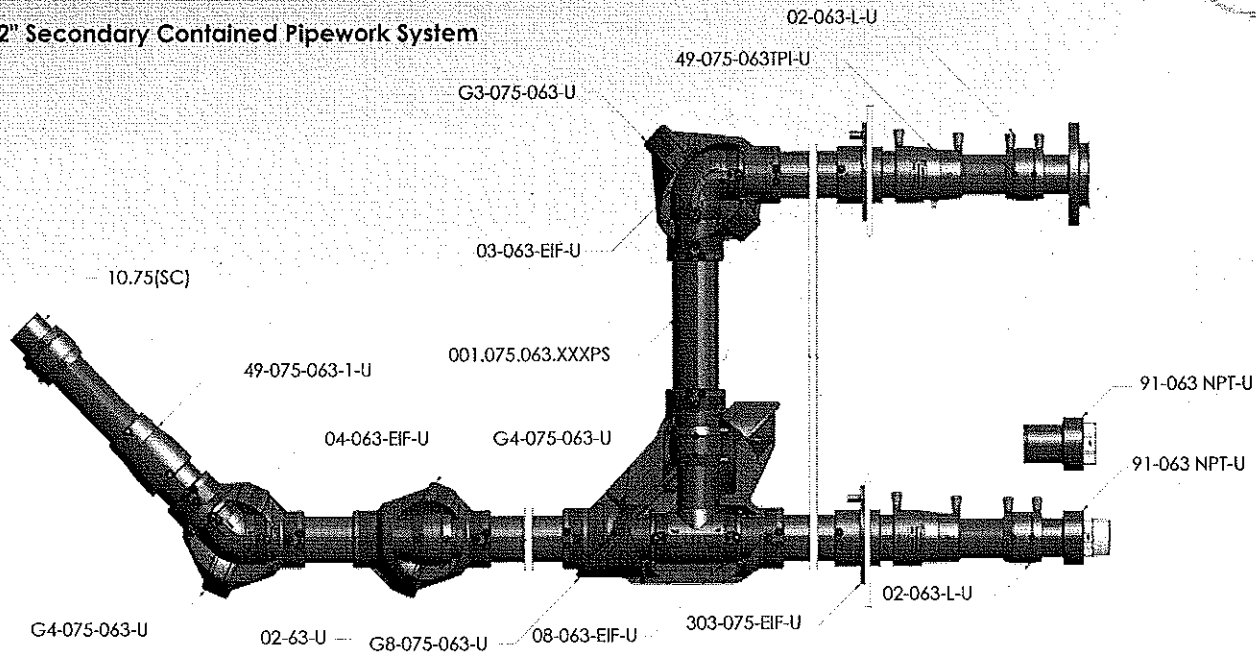
Model	Description
08-063-EIF-U	2" single wall electrofusion tee fitting



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

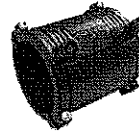
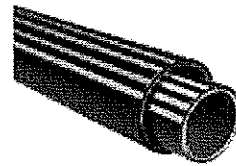
Model	Description
02-75SC-U	2" secondary welding coupler

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



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Veeder Root

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

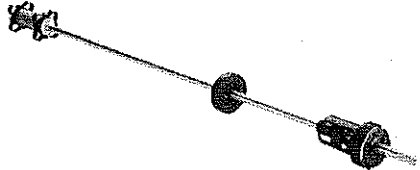
886100-000 – INSTALL KIT, PHASE2 WATER DETECTOR, 4IN FLOAT, 5FT

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	
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Specific Products Monitored / Product Compatibility	Part # & Description	Approved Products	Monitoring Functionality Options
	Leak Detection / BIR - AccuChart Probes	Gasohol (<=15% Ethanol)	0.1 GPH static in-tank testing for USTs only
	1. 846396-1XX Aluminum (AL) In-Tank Probe with High Grade Polymer (HGP) Canister with Water Detection & 0.1 GPH Testing Capability, UL	Gasoline with <=7% Methanol and 8% TBA	0.2 GPH static in-tank testing for USTs only
	2. 846396-2XX AL In-Tank Probe with HGP Canister with Water Detection & 0.2 GPH Testing Capability, UL	Gasoline with <=15% MTBE	0.2 GPH Continuous Statistical Leak Detection (CSLD) for USTs only
	3. 846390-1XX AL In-Tank Probe with AL Canister with Water Detection & 0.1 GPH Testing Capability, UL	Gasoline with <=17% TAME	
	4. 846390-2XX AL In-Tank Probe with AL Canister with Water Detection & 0.2 GPH Testing Capability, UL	Leaded Gasoline	No Leak Detection/ Inventory Only
		Mineral Spirits	BIR - AccuChart for USTs only
		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)		

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					

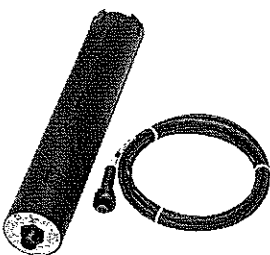



Product Form

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

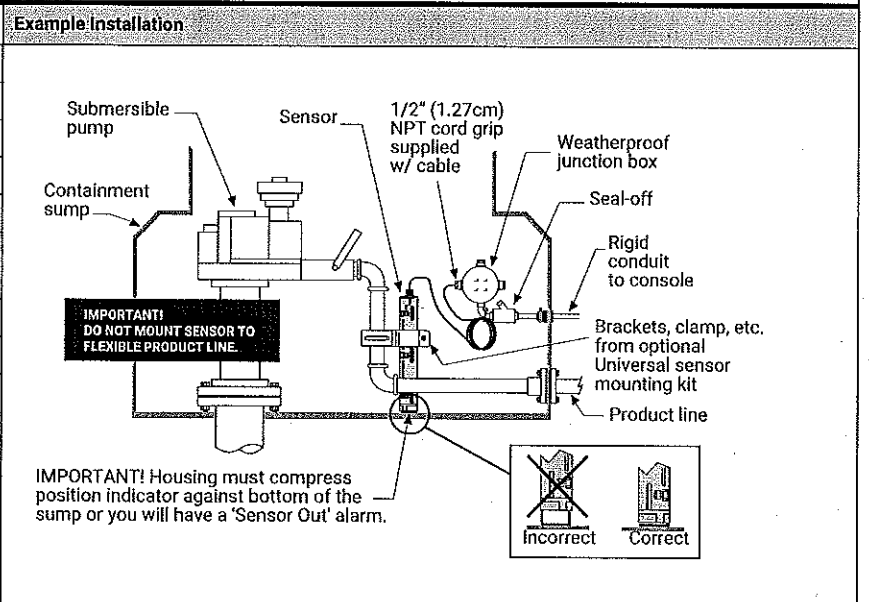
Sensor Description	Position Sensitive Sensor	This sensor is installed in a containment sump or dispenser pan and will detect the presence of, and differentiate between, hydrocarbons and other liquids.
Part Number	794380-323	
Category	<input type="checkbox"/> Discriminating <input checked="" type="checkbox"/> 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 Only ¹)	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 Output 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			


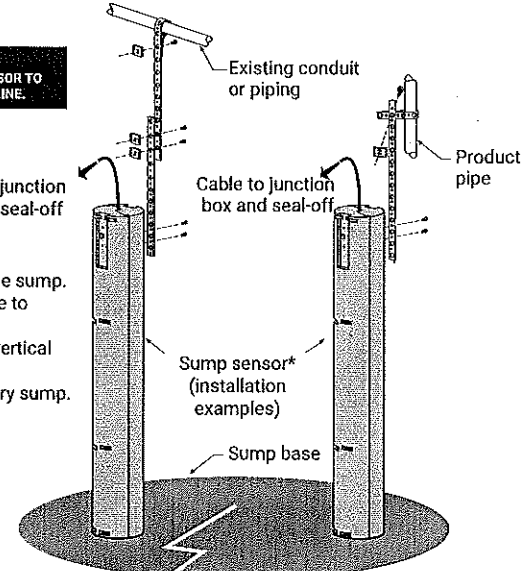
Alarm Notification	Normal	Sensor in Normal State - No liquid detected
	Sensor Out	Sensor not resting on bottom of containment or sensor not communicating to ATG/Console
	Fuel Alarm	Liquid detected in containment area at approx. 1.5" (3.81cm)

Installation Kit	330020-012	Universal Sensor Mounting Kit (Sold separately)
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Specifications	
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
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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 Only ¹)	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				
	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 type="checkbox"/> Annular Space <input checked="" type="checkbox"/> Spill Containment <input type="checkbox"/> Monitoring Well <input checked="" type="checkbox"/> STP Sump <input type="checkbox"/> Oil/Water Separator Tank <input type="checkbox"/> Convault 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	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					



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

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