



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: 2047098
Facility Owner: Peoples Gas Light and Coke Co
Facility Name: Central Business District Sub Shop
Street Address: 1216 W. Cortez St.
City: Chicago, IL. 60642
County: Cook

UST Information:

Tank ID Number: 1
Tank Material: Steel
FRP XX
Single Wall Double Wall XX
Tank Volume: 4,000
Tank Product: E85

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

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
TANK	NO	YES		Xerxes P100DW ULC-615/UL1316
PIPING	NO	YES		Franklin Fueling UPP UL971-2004
CONTAINMENT SUMPS	NO	YES		S. Bravo Systems Inc. B4XX Series Tank Sumps UL1316 Franklin Fueling Polyethylene dispenser sumps LMM-2313-T
PUMPING EQUIPMENT	NO	YES		Franklin Fueling Systems FE Petro STPAG150-VL2 Nozzle-Husky 659559 Swivel-Husky 6350 Breakaway-Husky 6273

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
RELEASE DETECTION EQUIPMENT	NO	YES		Veeder Root TLS450Plus Sump Sensor-794380-323 DPLD-859080-001 Probe-846391-410 Tank Interstice Sensor-794380-303
SPILL PREVENTION EQUIPMENT	NO	YES		OPW 101 BG-2100
OVERFILL PREVENTION EQUIPMENT	NO	YES		Franklin Fueling Defender Series
GASKETS & SEALS (installs after 10/13/18)	NO	YES		Bennett Brand Dispenser
JOINT DOPES & ADHESIVES (installs after 10/13/18)	NO	YES		Gaseolia GE16(E-Seal)

Methods:

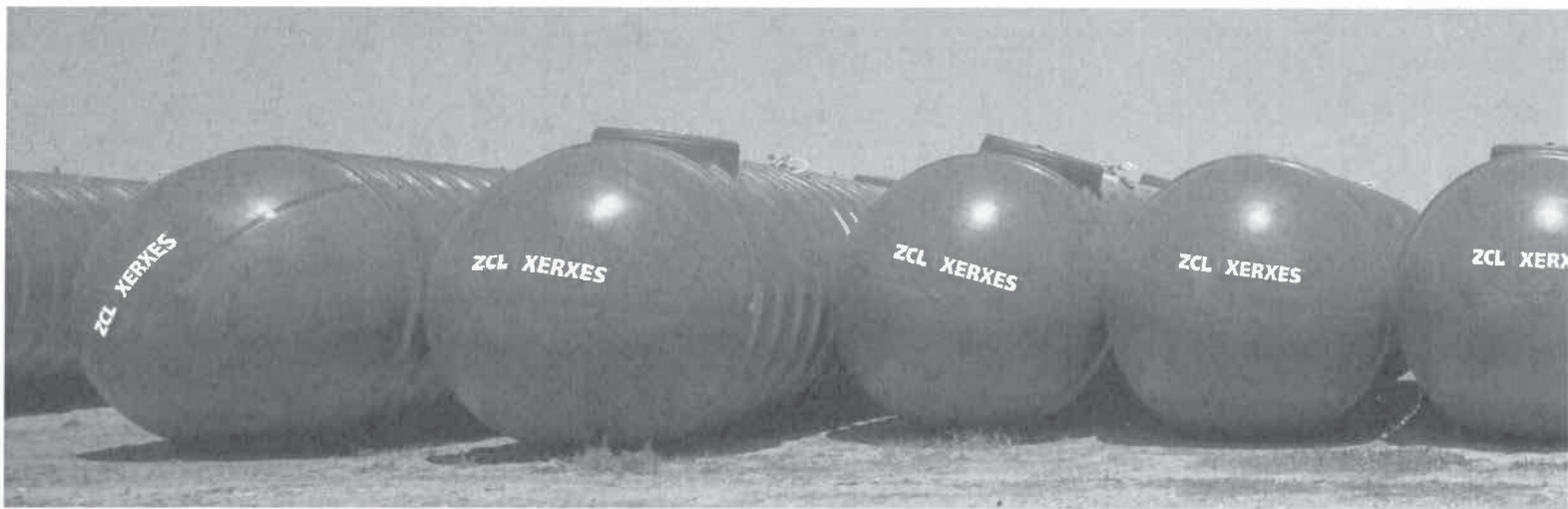
- Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored.
- Equipment or manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility,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

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

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

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

Checklist Completed By: print name: Robert Sumoski date completed: 8-24-20
signature:  position/title: President



WHY CHOOSE A FIBERGLASS TANK?

Best Product Investment

Fiberglass tanks have rapidly grown in popularity since they were first introduced more than 50 years ago as the corrosion-resistant alternative to underground steel tanks that were rusting, leaking and creating serious environmental damage. Major oil companies and large fuel marketers were the first to realize the benefits of fiberglass over steel for underground tanks. Today, a large majority of North American fuel marketers choose fiberglass, and the preference for fiberglass reaches all segments of the market, including industrial, commercial and government accounts who specify, install and own underground storage tanks. The growing understanding of fiberglass' benefits goes well beyond external corrosion protection with the recognition that fiberglass is corrosion-resistant, both inside and out.

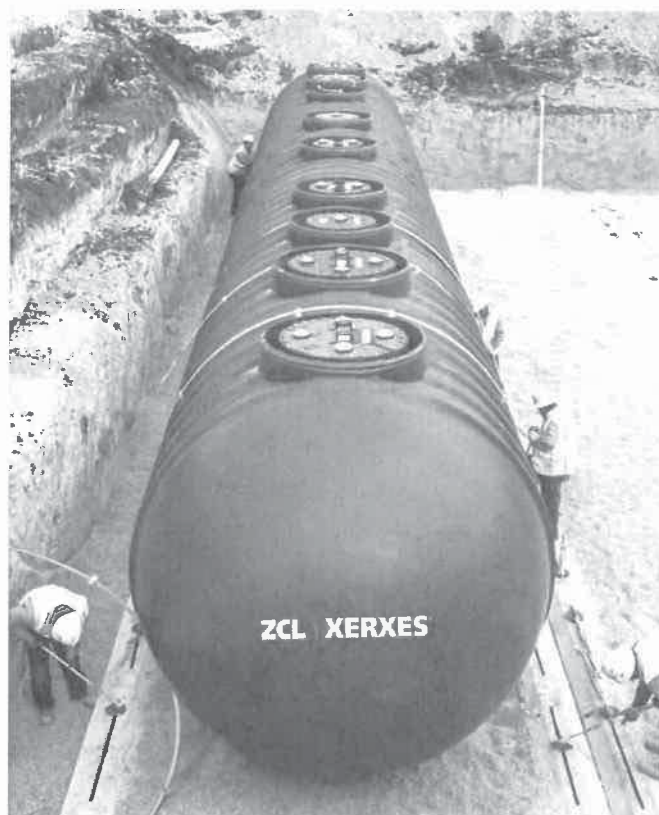
FIBERGLASS OUTPERFORMS STEEL

CORROSION RESISTANCE

It's now common knowledge that fiberglass tanks are protected from external rusting due to corrosive soil environments. Today, the widespread use of ethanol-blended gasoline (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD) has shifted the concern about corrosion to include internal protection. Most significantly, new ethanol-blended fuels raise questions about the compatibility of storage tank materials with stored fuel. When today's buyers compare fiberglass and steel tanks they see the clear advantage of our fiberglass tanks, which are not vulnerable to aggressive internal corrosion caused by storage of today's biofuels. The fact that fiberglass tanks are corrosion-resistant both inside and out give them a distinct advantage over steel tanks.

FUEL COMPATIBILITY

Customers today want to be confident that they are choosing a tank material that is compatible with the new fuels as well as traditional fuels. Our UL-listed (1316) and ULC-listed (S615) double-wall fiberglass tanks are UL-compatible with 0-100 percent ethanol storage. They are also warranted for the full range of ethanol-blended gasoline. The correlating UL listing (58) for steel fuel tanks does not require testing for ethanol compatibility. This third-party compatibility verification for fiberglass tanks – that steel tanks do not have – makes fiberglass the clear and superior choice for fuel tanks.



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.



S. Bravo Systems, Inc.

2929 Vail Avenue
Commerce, CA 90040
1-800-AT-BRAVO
www.sbravo.com

Wednesday - August 25 - 2010

R3 10.21.13

RE: Bravo Fiberglass Sumps and Alternative fuels

This letter is to certify the compatibility of Bravo (S. Bravo Systems, Inc.) Single and Double Wall Fiberglass Containment Sumps with Alternative Fuels such as Biodiesel and Ethanol blended fuels. It also addresses compatibility with DEF Diesel Exhaust Fluid.

Bravo Fiberglass products are engineered with the same UL Listed materials used in the manufacture and certification of Fiberglass Tanks, matching the UL Standard 1316. Since our Fiberglass containment sumps are Built like a Tank, they can withstand continuous fuel exposure to Biodiesel, Ethanol and Alcohol blends without failure.

All DoubleWall Containment Sumps are engineered to be fully compliant with the California State Water Resource Control Board Assembly Bill AB-2481 for DoubleWall Sumps and Continuous Monitoring Systems.

The following Single and Double Wall Containment Sumps manufactured by Bravo Systems in Commerce, California are compatible with Biodiesel and Ethanol fuel blends up to B100 and E100, respectively.

- | | |
|---|--------------------------|
| > B3XX Series Spill Buckets | > B1XXX Series UDC Sumps |
| > B4XX Series Tank Sumps & Covers | > B7XXX Series UDC Sumps |
| > B5XX Series Planter Transition Sumps | > B8XXX Series UDC Sumps |
| > B6XX Series Walkover Transition Sumps | > B9XXX Series UDC Sumps |
| > B7XX Series H-20 Rated Transition Sumps | |
| > B8XX Series Transition Sumps | |

Bravo Systems also certifies that these products are compatible with and approved for use in secondarily containing DEF Diesel Exhaust Fluid.

Each respective Series may be UL Listed in addition to being manufactured of UL recognized materials approved for use in the manufacture of Fiberglass UST tanks. Any other relevant documentation will be located in the documents area of each product's respective webpage.

Please feel free to contact us with any questions you may have at 800-AT-BRAVO.

Additionally, you may find further information at www.sbravo.com.

Sincerely,

Jonathan E. Smith
Director of Brand Management
S. Bravo Systems, Inc.



Ordering Information continued

Standard 1½ hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP150-VL1	1½ hp fixed speed	VL1	60" - 88"
STP150-VL2	1½ hp fixed speed	VL2	91" - 152"
STP150-VL3	1½ hp fixed speed	VL3	123" - 214"
STPH150-VL1	1½ hp high pressure fixed speed	VL1	61" - 89"
STPH150-VL2	1½ hp high pressure fixed speed	VL2	92" - 152"
STPH150-VL3	1½ hp high pressure fixed speed	VL3	124" - 215"

Alcohol-Gas (AG) 1½ hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG150-VL1	1½ hp AG fixed speed	VL1	60" - 88"
STPAG150-VL2	1½ hp AG fixed speed	VL2	91" - 152"
STPAG150-VL3	1½ hp AG fixed speed	VL3	123" - 214"
STPAGH150-VL1	1½ hp AG high pressure fixed speed	VL1	61" - 89"
STPAGH150-VL2	1½ hp AG high pressure fixed speed	VL2	92" - 152"
STPAGH150-VL3	1½ hp AG high pressure fixed speed	VL3	124" - 215"

Notes:

- STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
 - All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
 - All above models require single-phase, 208-230 VAC, 60 Hz incoming power.
 - 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
 - For riser pipe lengths 31" to 60", additional charges apply (call Customer Service for lead times).
- *Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Options

Specified in model number at time of STP order.

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

Field Installed Options

1½ hp fixed speed specific accessories.

Model	Description
400137908	Syphon check valve, alcohol-gasoline compatible (when ordered with STP)
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312921	STP-DHI-SCI, combo DHI with factory-wired STP-SCI (when purchased with a 4" STP)*
402312921	STP-DHI-SCI, combo DHI with factory-wired STP-SCI (when purchased without a 4" STP)
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for slave of manifolded STPs with Veeder-Root™ PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100215	STP-SCI, single-phase Smart Controller (when purchased without a 4" STP)
5800100215	STP-SCI, single-phase Smart Controller (when purchased with a 4" STP)*
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each

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

XS® E85 Nozzles



6-3

ETHANOL FUELING

Pressure activated, automatic shut-off nozzle for full-service, self-service and unattended stations.

- XS® E85 Nozzle shuts off when:
 - the pump shuts off.
 - the gas tank is full.
 - the lever is opened before the pump is turned on.
 - the leak detector has not completed the test cycle.
- Aluminum body, spout, and internal parts are nickel plated to prevent contamination and corrosion from Ethanol blends.
- *StreamShaper®* reduces turbulence for straighter fuel flow and less splash back spillage.
- Compatible with unleaded and all Ethanol blends through E-85.
- Nozzle comes with smooth full grip guard.
- A reinforced stainless steel spout bushing keeps the spout tip round and acts as a captive fastener to prevent tip-end sensor damage.
- Nozzle is equipped with a unique Flo-Stop® device that shuts off the nozzle if it falls from the fill tank or raises above the horizontal.
- All seals are UL approved fluorocarbon compounds to prevent deterioration from Ethanol blends.
- New poppet seal design improves flow control and provides enhanced endurance over time.



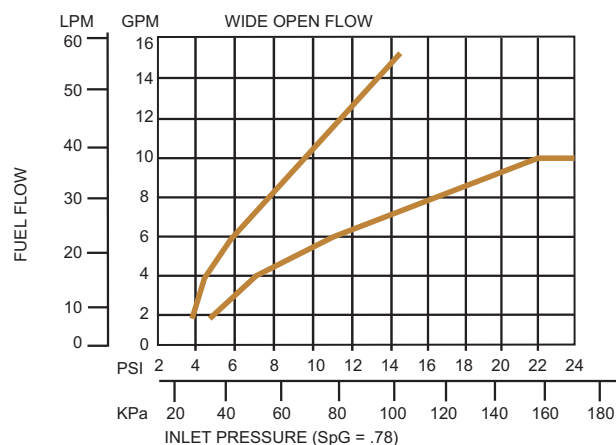
New Unleaded Nozzles

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
659504	with Three Notch Hold Open Clip	3.0 (1.3)
659559	with Three Notch Hold Open Clip and Waffle Splash Guard	2.9 (1.3)
659544^	with Three Notch Hold Open Clip, Waffle Splash Guard and Flo-Equalizer®	3.0 (1.3)
659554^	with Three Notch Hold Open Clip and Flo-Equalizer®	2.9 (1.3)
659589	with Three Notch Hold Open Clip, POPD® S Full Grip Guard and Waffle Splash Guard	3.0 (1.3)
659595	with Three Notch Hold Open Clip, POPD® S Full Grip Guard and Waffle Splash Guard	3.0 (1.3)
6595100N^	with Three Notch Hold Open Clip, POPD® S Full Grip Guard, Waffle Splash Guard and Sightglass	3.0 (1.3)

^ NOT LISTED

Construction

Body	One piece die cast aluminum with Electroless Nickel Plating
Seals	Fluorocarbon
Packing	Double O-ring seal protected by fiber reinforced Teflon®
Lever	One piece contoured steel with hard plastic cover
Inlet	¾" / 19 mm NPT



E85 Swivel



9-6

SWIVELS

Husky Model 6350 Multi-Plane Swivel.

- Multi-Plane, Full 360° spherical rotation for easy movement of nozzle.
- Compact and light weight for easy handling.
- Double o-ring seals at each swivel provide long life and low temperature (-40° F/C) performance.
- Compatible with unlead, diesel, and all Ethanol blends through E100.
- High strength step shoulder bearing diameters and impact absorbing stops.
- Compatible with fuels containing alcohol.
- High flow rate due to laminar flow design.

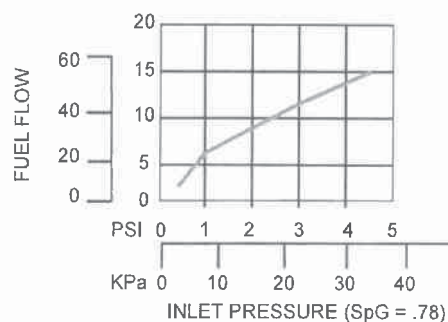


Swivels

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
6350	3/4" M x 3/4" F Multi-Plane Swivel	.44 (.19)

Construction

Body	Aluminum with Electroless Nickel Plating
Inner O-ring	Fluorosilicone
Outer O-ring	Fluorocarbon
Threads	3/4" / 19.1 mm NPTF



E85 Safe-T-Breaks®



10-9

SAFE-T-BREAKS®

All Husky® Safe-T-Breaks® stop the flow of fuel on both sides of the separation.

- Compatible with unleaded, diesel and all Ethanol blends through E85.
- Unit is lightweight, inexpensive and disposable.
- Features same instant closing dual poppet check valve design as Model 006360.
- Maximum separation of 300 lbf / 1334.5 N.



Model 006273

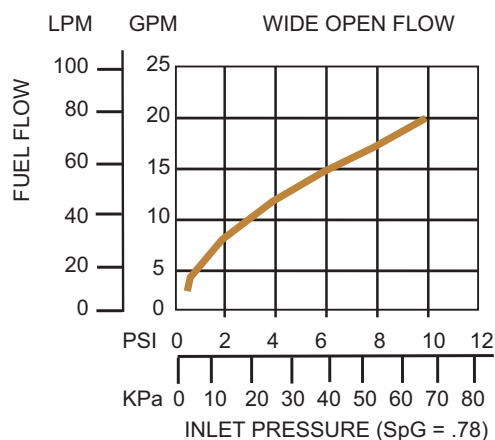
E85 Safe-T-Breaks®

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
006273	¾" F x ¾" F Standard Non-Reconnectable Safe-T-Break®	.30 (.13)

Construction

Body	Aluminum with Electroless Nickel Plating
Seals	Fluorocarbon
Springs	Stainless Steel
Threads	¾" / 19.1 mm NPT

006273



flexsteel® Futura™ Ethan-ALL™
Dispensing Hose Assembly



Product Specifications

Application
Flexsteel® Futura™ Ethan-ALL™ dispensing hose assembly is certified for use in ethanol dispensing applications up to 150°F. This assembly provides the quality Futurin™ cover with superior ozone resistance along with a premium layline. Tube construction meets the E25/E85 compatibility test requirements of UL 330A.

Flexsteel® Futura™ Ethan-ALL™ dispensing hose assembly uses the ContiTech proprietary Fuel Grip™ fitting and a premium nickel coating to ensure corrosion is limited.

Construction
Cover: synthetic rubber
Reinforcement: Futurin™ synthetic rubber
Braid: none

Temperature Range
-40°F to 140°F (-40°C to 60°C)

Coupling
Available in factory-coupled assemblies only.

Branding
Continental ContiTech 3/4"  Flexsteel® Futura™ Ethan-ALL™ E85 559N Made in USA

Order Codes
532-337-124

Flexsteel® Futura™ Ethan-ALL™ Dispensing Hose Assembly

OD			Max. WP		Weight	
mm	in.	mm	psi	MPa	lb./ft.	kg/m
19.1	1.13	28.7	50	0.34	0.46	0.69

Sensor Application Matrix

			Where Used							Category							Fuel Compatibility																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

¹Single use only if sensor was exposed to E85 or E100 (Test per Sensor Operability Guide [P/N 577013-814] in E-10 or less)

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

Specifications and Compatible Fluids Requirements

The table below lists Veeder-Root Line Leak Detector specifications.

SPECIFICATION	TLS-4XX w/ DPLLD	TLS-350 w/ PLLD	TLS-350 w/ WPLLD
OPERATING TEMP:	-25 TO +130°F	-25 TO +130°F	-25 TO +130°F
COMPATIBLE FUELS:	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 0 - 100% ETHANOL 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 0 - 100% ETHANOL 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE
LINE FLOW RATE:	120 GPM MAX. W/SWIFTCHECK VALVE	120 GPM MAX. W/SWIFTCHECK VALVE	120 GPM MAX. W/SWIFTCHECK VALVE
OPERATING RANGE:	0 - 70 PSI	0 - 70 PSI	0 - 70 PSI
PROOF PRESSURE:	200 PSI	200 PSI	200 PSI
MAX. VERTICAL PIPELINE HEIGHT ABOVE TRANSDUCER³	11 FEET	11 FEET	11 FEET
MINIMUM PUMP OUTPUT PRESSURE⁴	23 psi	23 psi	23 psi

¹Biodiesel compliant with ASTM D7467 (up to B20) or ASTM D6751.

²Consult pump manufacturer for compatibility ratings on fuel blends greater than B20.

³Applications that exceed these max. vertical pipeline heights will require further consultation. Please contact Veeder-Root at 800-323-1799 (request a Veeder-Root/Red Jacket Application Engineer).

⁴Pump output pressure should be a minimum of 4 psi above the check valve's relief pressure.

Veeder-Root recommends that system software for the console be upgraded to the latest version when installing any new hardware. For TLS-350 Consoles, when installing latest software, PLLD or WPLLD must be specified and customer must upgrade to ECPU2 if not already installed. See Accessories/Upgrades section of price book or your local Veeder-Root authorized distributor for details.



Home › Automatic Tank Gauging Products ›
Probes & Float Kits ›
Magnetostriuctive Plus Probe for Alternative Fluid

MAG PLUS PROBE FOR ALTERNATIVE FLUID

Designed for alternative fuel environments

The Magnetostriuctive (MAG) Plus Probe for Alternative Fluids is constructed of stainless steel tubing and can be configured for several different tank applications.



Get a Quote



Find a Distributor



Compatible with a wide range of fuel types

Certified for inventory control, in-tank leak detection and water detection in multiple fluids including gasoline, diesel, and fluids up to 100% alcohol. The in-tank probe solution when used in underground storage tank applications is certified to exceed U.S. EPA performance standards and can accommodate 2", 3" and 4" float kits.

Employing magnetostrictive sensing technology, the MAG Plus Probe for Alternate Fuels gives tank owners visibility to measure and identify multiple liquid readings such as height, liquid temperature, and water.

The MAG Plus Probe for Alternative Fuels is constructed from stainless steel tubing and comes in a variety of models that include high growth polymer or aluminum canisters. It can be ordered as inventory control only, 0.1 or 0.2 gallon per hour leak detection models, and all can be ordered with or without water detection.

Product Form

Product Number	Description	Notes
846397-1XX	MAG Plus 0.1 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
846391-1XX	MAG Plus 0.1 In-Tank Probe with Aluminum Canister for Alternative Fluids with Water Detection	UL



Fluids with No Water Detection



846391-4XX	MAG Plus 0.1 In-Tank Probe with Aluminum Canister for Alternative Fluids with No Water Detection	UL
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846397-2XX	MAG Plus 0.2 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
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846391-2XX	MAG Plus 0.2 In-Tank Probe with Aluminum Canister for Alternative Fluids with Water Detection	UL
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846397-5XX	MAG Plus 0.2 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with No Water Detection	UL
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846391-5XX	MAG Plus 0.2 In-Tank Probe with Aluminum Canister for Alternative Fluids with No Water Detection	UL
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846397-3XX	MAG Plus In-Tank Inventory Only with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
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OPW 101BG-2100 Series Below-Grade Spill Containers

OPW Below-Grade Spill Containment Manholes are used in new tank or riser pipe installations. The watertight spill containment chamber is installed completely below grade level. A grade level manhole cover lies flush with the driveway grade to reduce a tripping hazard and the potential for damage from snow plows and traffic. Surface water drains into the backfill between the manhole skirt and the exterior of the containment bucket. Below-grade spill containers are available in thread-on and slip-on configurations in 5 and 15-gallon capacities.

101BG Slip-on Model Instruction Sheet Order Number: **H12579M**

101BG-2100 Instruction Sheet Order Number: **H12260M**

Important Notice: The OPW101BG-2100 Spill Container Series does not prevent contamination of the soil or backfill resulting from spills flowing between the spill container and the outer shell. Ground contamination may result if the spill container is filled beyond capacity, or if a spill occurs outside the spill containment cell.

- ◆ Highway 20 Rated (H20) – all OPW spill containers and manholes exceed the requirements of the Highway 20 rating.

Materials

Grade Cover: Fiberglass reinforced composite (steel optional)
Lid: Glass reinforced composite
Lever, top case: Polyethylene
Outer shell: Polyethylene, powder-coated steel
Containment cell: Polyethylene
Base: Duratuff® II or cast iron

**101BG-2115,
15-Gallon**



Features

- ◆ Pull-to-Open Drain Valve – allows high-speed drainage of excess product into the tank. Designed with a convenient self-cleaning seal and removable screen for easier component cleaning. (CARB Approved)
- ◆ Capacity – 5-gallon and 15-gallon capacities.
- ◆ Outer Shell – the outer shell isolates the containment vessel from the surrounding concrete and gravel. This high-density polyethylene shell is designed to provide space between the outer shell and the containment vessel to allow any surface water that enters to flow into the backfill, not the containment vessel. Elimination of water in the spill container reduces product contamination and ice formation during cold winter months.
- ◆ Vapor-Tight Lid – a unique, hinged and sealed containment vessel lid provides a vapor-tight seal, designed to prevent vapors from escaping at ground level while eliminating the accumulation of dirt and water that contaminate fuel. Incorporating a special lid interlock design, the grade level cover cannot be replaced on the outer shell without the lever being in the closed and locked position.
- ◆ Composite Grade Level Cover – made of sturdy fiberglass-reinforced composite, the grade cover is less prone to theft than aluminum covers, and lighter in weight than cast iron. In addition, the cover lies flush with the actual grade so no ramps are required to support the cover, eliminating snow plow hazards and "speed bumps." (Optional steel plate cover is also available)
- ◆ Fuel Compatibility – designed to accommodate the fuels of the future, including methanol, ethanol and fuels with MTBE additives.
- ◆ Easy Installation – reduces job-site time and installation costs. Simply thread the Duratuff® II base (cast iron base is optional) onto a standard 4" schedule 40 pipe. Guides are provided to assure proper positioning of the spill container. The hinged lid orientation is adjustable during installation for site-specific placement.
- ◆ Product Identification Tags – available for both the spill container cover and bucket to positively identify the product contained in the UST with standard API symbols. (See product I.D. tag specification page for more information: page 74.)

Listings and Certifications

CARB Certifications and Listings

101BG(S)-2100
101BG(S)-2115

Approval Letter #93-26



Ordering Specifications

Duratuff® II Base Models

Model	Gal.	Liter	Drain Valve	lbs.	kg
101BG-2100	5	19	Pull	60	27
101BG-2105**	5	19	None	60	27
101BG-2115	15	57	Pull	65	29

**Slip-on Base

Cast Iron Base Models

Model	Gal.	Liter	Drain Valve	lbs.	kg
101BG-2100C	5	19	Pull	72	33
101BG-2115C	15	57	Pull	77	35

Dimensions

	101BG-2100		101BG-2115	
	in.	cm	in.	cm
A	20 ⁹ / ₁₆	52	20 ⁹ / ₁₆	52
B	17 ¹ / ₄	44	25 ¹ / ₂	65
C*	23 ²⁹ / ₃₂	76	27 ³¹ / ₃₂	71
D	22 ¹ / ₁₆	56	26 ⁵ / ₃₂	66

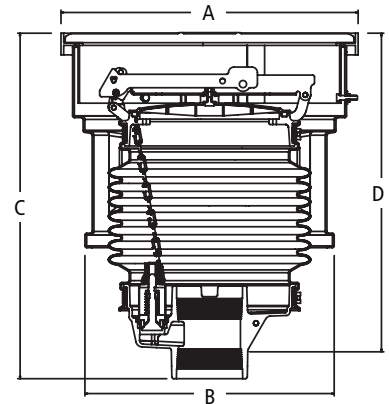
*Subtract 2" from "C" dimension for Cast Iron Base Models.

Replacement Parts/Accessories

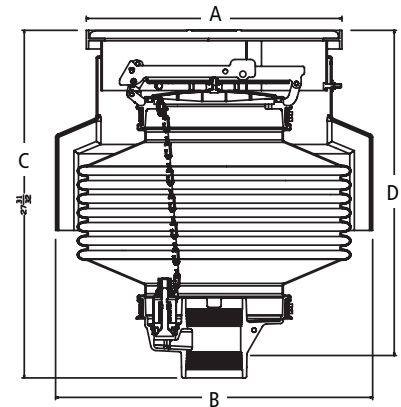
Part #	Description
1DK-2100-EVR	Pull Drain Valve
101BG-21AR	Inside Hatch Height Extender
101BG-21LA	Red Lever & Crossarm Assembly
101BG-LATCH	Latch Kit; Yoke, Cotterpin & Spring
101BG-BUCKET	5 Gallon Replacement Spill Container
C04785M	5 Gallon Insert Support
C04476M	15 Gallon Insert Support

Part #	Description
101BG-COVER	Composite Manhole Cover
E00491	Complete Replacement Top Assembly
H11671M	Steel Manhole Cover
H12280M	Ring Seal
H12620	Inside Hatch
P110-20LID	Steel Manhole Cover w/ID Tag System

101BG-2100, 5-Gallon

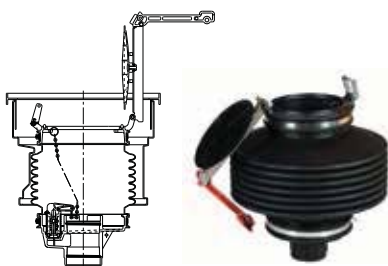


101BG-2115, 15-Gallon

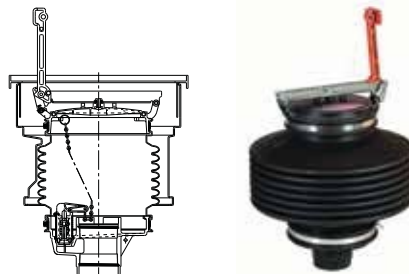


NOTE: "D" dimension is height from riser pipe to finish grade (+1" for slope)

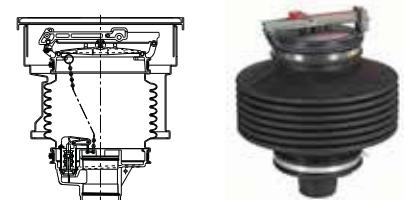
Operation of 101BG Lid



Lid and lever in open position.



Lid down, but not closed. Lever still in upright position preventing replacement of grade cover.



Lid and lever in closed and locked position. Grade cover now easily replaced on rim.

1DK-2100 Drain Valve Kit Instruction Sheet Order Number: H11471M



Below Ground Products Fuel Compatibility Matrix

Updated 1/2015

OPW Product Number	Description	Standard Fuels: ≤15% Ethanol Gasoline ≤5% Bio-Diesel*	High Ethanol Content Gasoline: 15-100% Ethanol	High Biodiesel Content 5-20% Biodiesel*	Av- Gas / Jet Fuel	Kerosene / Fuel Oil
CXXA Double Wall Piping	Double Wall Primary Piping	X	X	X	X	X
DPC-2150/DPC-2200	Double Wall Pipe Couplings	X	X	X	X	X
SPC-0150, SPC-0200, SPC-0300	Single Wall Pipe Coupling	X	X	X	X	X
SPC-0075, SPC-0100	Single Wall Coupling Male NPT	X	X	X	X	X
SMA-1515, SMA-1520, SMA-2020, SMA-3030	E-Coated Male Adaptors	X	X	X	X	X
STF-1515, STF-2020, STF-2215, STF-2020	E-Coated Swivel Tees	X	X	X	X	X
SEF-1515, SRE-2015, SEF-2020, SEF-3030	E-Coated Swivel Elbows	X	X	X	X	X
SBC-2150, SBC-2200	Stainless Steel Swivel Bolt On Coupling	X	X	X	X	X
SMA-7575, SMA-1010	Swivel Male Adaptor (Brass or Zinc Plated)	X			X	X
SFA-7575, SFA-1010	Swivel Female Adaptor (Brass or Zinc Plated)	X			X	X
1-2100 Series / Multiports	Spill Containers	X	X	X	X	X
101BG-Series	Spill Containers	X	X	X	X	X
1-3100 Series (Edge)	Double Wall & Single Wall Spill Container Series	X	X	X	X	X
60V Series	Vapor Line Shear Valve	X	X	X	X	X
10 Series	Emergency Shut Off Valve	X	X	X	X	X
10 Plus Series	Emergency Shut Off Valve	X	X	X	X	X
10P-0152E85	E85 UL Approved Emergency Shut Off Valve	X	UL	X	X	X
61SALP-1020-EVR	Fill Swivel Adaptor	X	X	X	X	X
633T-8076	Fill Adaptor	X	X	X	X	X
61VSA-1020-EVR	Vapor Swivel Adaptor	X	X	X	X	X
1611AVB-1625	Vapor Adaptor	X	X	X	X	X
634TT-7085-EVR	Fill Cap	X	X	X	X	X
1711T-7085-EVR	Vapor Cap	X	X	X	X	X
634LPC-040	Low Profile Fill Cap	X	X	X	X	X
1711LPC-0300	Low Profile Vapor Cap	X	X	X	X	X
62M Series	Monitoring Probe Cap	X	X	X	X	X
61SO Series	Overfill Valve	X			X	X
61SOM Series	Overfill Valve Anodized	X	X		X	X
6111 & 61TP Series	Tank Bottom Protectors	X			X	X
61T Series	Drop Tubes	X			X	X
71SO Series	Overfill Valve	X			X	X
71SOM Series	Overfill Valve	X	X		X	X
233 Series	Extractor Valve	X	X	X	X	X
FCXX Series	Stainless Flex Connectors	X	X	X	X	X
53VML/30MV Series	Ball Floats	X	X	X	X	X
523V Series	Pressure Vacuum Vent	X	X	X	X	X
623V Series	Pressure Vacuum Vent	X	X	X	X	X

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

UL - Emergency valve has UL or UL Approval for greater than 15% Ethanol Content ≤ Refers to less than or equal to the fuel standard rating for percentage of content



Top Adapter

DEFENDER SERIES™ OVERFILL PREVENTION VALVE

The Defender Series™ overfill prevention valve (OPV) is a self-contained two-stage positive shut-off valve that prevents the overfill of an underground storage tank (UST) during a gravity-fed product delivery. The Defender Series™ OPV employs a revolutionary magnetically-coupled actuator system to provide positive shut-off. This unique method of shut-off eliminates any penetrations in the valve, making it both vapor-and leak-tight. The Defender Series™ OPV provides safe, rapid, and reliable fuel drops for the broadest range of fuel applications and environmental conditions. Simple to install, service, and test remotely, the Defender Series™ OPV is the industry's most versatile overfill prevention valve.

Highlights

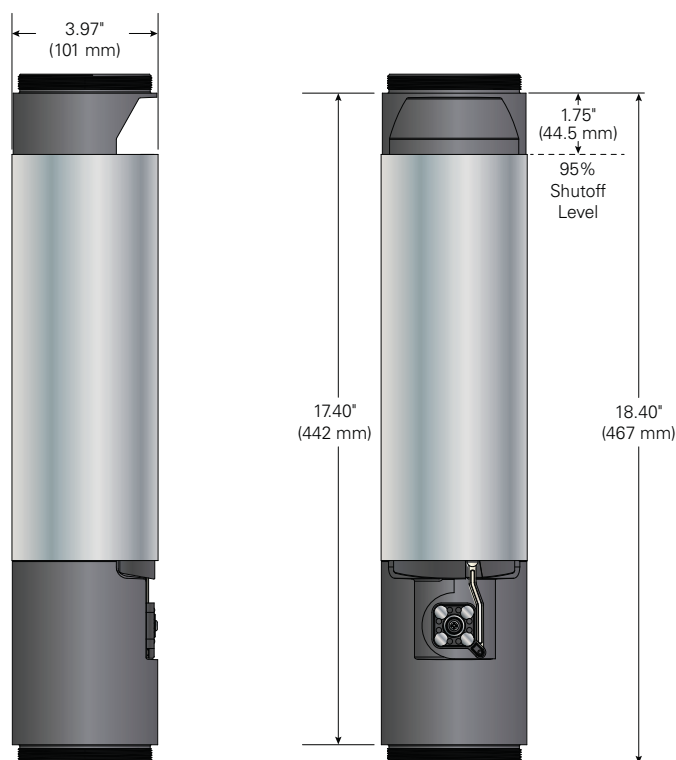
- Magnetic coupler actuates the interior primary flapper assembly and secondary shut-off valve when the float rises outside of the valve, eliminating valve body penetrations and any potential product or vapor leak points.
- After cutting to length in the field, the upper drop tube is roll-crimped onto a top adapter outfitted with two O-rings and then threaded onto the top of the valve body, eliminating the need for drilling, rivets, epoxy, and flaring tools.
- Bottom drop tube is cut in the field and threaded onto the bottom of the valve ensuring straight installation.
- The roll-crimp/thread method of installing drop tubes ensures proper alignment of the drop tubes with the rest of the OPV assembly, making installation and removal of the entire assembly smooth.
- Damaged drop tubes can be easily replaced instead of having to purchase an entire new assembly.
- Fully compatible with gas, gas/alcohol blends, diesel and biodiesel.
- Compatible with industry standard 4" drop tubes allowing retrofit into existing installations.
- The entire OPV assembly remains within the 4" inner diameter of the riser preventing interference with other tank components and also allowing removal even while the tank is full.
- Actuates in both low-and high-flow applications and functions within a broad range of flow rates from 25 gpm to 370 gpm (95 lpm to 1,400 lpm) and higher.
- The remote testing tool allows for remote testing of the primary functionality without having to remove the OPV from the riser.

Specifications

Approvals/Certifications

- ULc listed.
- ATEX approved.

Dimensions



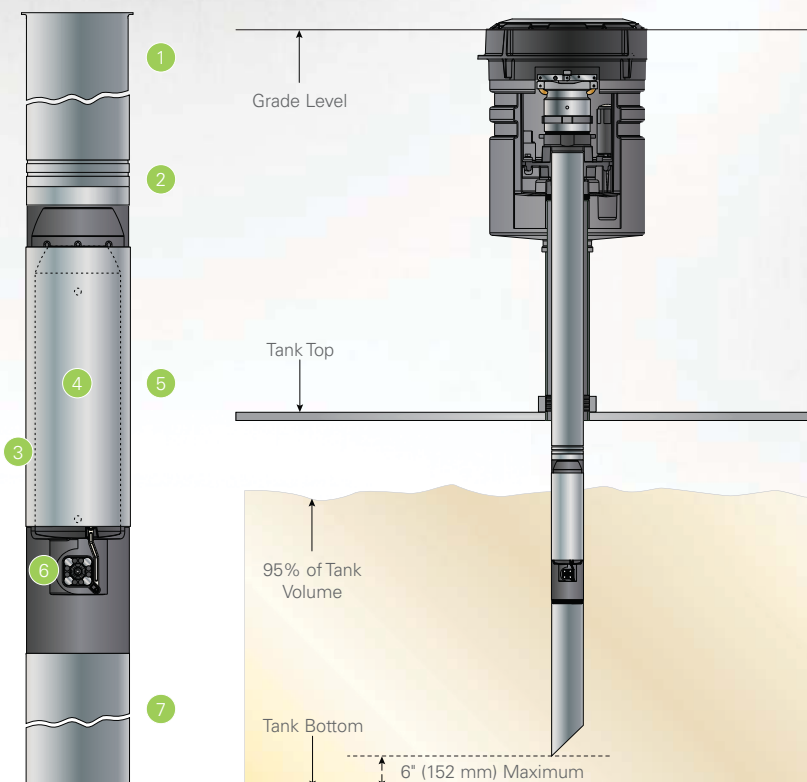
Specifications continued

Components

- 1 Pre-flanged aluminum top drop tube
- 2 Roll-crimped top fitting/drop tube
- 3 Protective float sleeve
- 4 Float (shielded by float sleeve)
- 5 Valve assembly
- 6 Magnetically-coupled actuator
- 7 Threaded bottom drop tube

Operation

As the liquid level in the UST approaches 95% capacity, the liquid level raises the float. As the float rises it actuates the external/internal magnetic couplers which release the flapper to be closed by the flow of product. As the float continues to rise, the internal mechanism pushes the flapper further into the product flow to allow actuation at high or low flow rates. This sudden reduction in flow caused by the primary flapper closing creates "line shock" to the fill hose which signals the delivery driver that the tank is nearing 95% capacity. As the float continues to rise to the 95% fill level, the secondary closes, completely stopping the flow of fuel.



Ordering Information

Model	Description
708591901	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 8' (2438mm) bottom drop tube
708591902	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 10' (3048mm) bottom drop tube
708591922	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible*
708592901	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 8' (2438mm) bottom drop tube
708592902	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube
708592921	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 8' (2438mm) bottom drop tube, AGB compatible*
708592922	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible*
708593901	Defender Series™ overfill prevention valve, coaxial with 6.5' (1981mm) top drop tube, 8' (2438mm) bottom drop tube
708593902	Defender Series™ overfill prevention valve, coaxial with 6.5' (1981mm) top drop tube, 10' (3048mm) bottom drop tube
708593923	Defender Series™ overfill prevention valve, poppeted coaxial with 6.5' (1981mm) top drop tube, 8' (2438mm) bottom drop tube
708593924	Defender Series™ overfill prevention valve, poppeted coaxial with 6.5' (1981mm) top drop tube, 10' (3048mm) bottom drop tube
708594901	Defender Series™ overfill prevention valve only with top adapter, AGB compatible*
708594902	Defender Series™ overfill prevention valve only with coaxial top adapter, AGB compatible*
708535901	Roll crimping tool
708530930	Replacement roll crimper tool roller bit for retrofit with existing tool
708534901	Remote testing tool, 11' (3353mm) long sectional/collapsible

*Alcohol, gas, biofuel compatible (E-85, gasoline and biodiesel) models come with hard coated anodized drop tubes for full compatibility.



Bennett 3000 Series



- Retail or **Commercial Versions**
- **Remote** or Suction
- **Electronic** or Mechanical
- High Hose or **Low Hose** Styling
- **Side** or Front Mount Nozzle Boots
- Interfaces to most major fleet management systems
- Heavy duty lift-lever nozzle boots
- Galvaneal Chassis
- Powder coated painted panels
- Stainless Steel Panels option
- Custom graphics and paint
- Hinged swing-out lower doors
- Hinged swing-down upper doors
- LED backlighting for LCD's on electronic models
- Electronic calibration for electronic models
- Companion Satellites for remote dispensers
- Cascade dial face lighting for mechanicals
- Attendant Local Preset option

- Conventional Flow Rates 15 to 24gpm
- Truck Stop Flow Rates to 60gpm
- Pulser options for mechanicals
- Pulse output options for electronics
- Balance vapor options for high hose units
- Manual reset options for mechanicals
- Intercom speaker option for high hose models
- **E85 Compatibility options**
- Magnet activated totals for electronic models
- Junction box options
- Satellite-in-use light option
- Standard electromechanical totalizers in electronic models
- Standard last sale recall for electronic models
- Standard inlet check valve for all remote Models

All features and options may not apply to all models. See individual model cut sheets for full specifications and options

TECHNICAL DATA

2013

Description

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

Type

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

Typical Uses

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

Substrates

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

Chemical Resistance

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

Set Time

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

Packaging

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

For Chemical Emergency, Spill, Leak,
Fire, Exposure or Accident Call:
CHEMTREC - Day or Night. 1-800-424-9300
KEEP OUT OF THE REACH OF CHILDREN

Product Data Sheet

Safety

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

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

Wt./Gal.: 11.35 lbs

Color: Medium/Green

Clean Up: Hand cleaner or alcohol.

Temperature Range

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

Pressure Range

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

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



FEDERAL PROCESS
CORPORATION



CLEVELAND, OHIO | 216.464.6440 • 800.846.7325

www.gasoila.com

MSDS Sheets Available Online

#DS-ES

Gasoil® Quick and Easy Sealant Reference Guide

Soft-Set



- General Purpose, Top-selling Sealant
- Perfect for New Pipes
- Stays Pliable in Cold Temperatures
- Non-Hardening,
- Non-Separating
- Non-Toxic

E-Seal



- Specifically for E10 and E85
- Stays Pliable in Cold Temperatures
- Non-Hardening,
- Non-Separating
- Non-Toxic

Hard-Set



- Hard Setting Sealant
- Assembles Threaded Joints Permanently
- Excellent for Coating Surfaces.
- Impervious to Gasoline
- Flammable

PLS-2



- Ideal for Demanding Pneumatic and LPG Applications

100



- Ideal for use on Systems with 100% Methanol, Ethanol, Alcohol and Highly Corrosive Chemicals
- Soft Setting

JC-30



- For Damaged, Irregular, Mis-cut and Straight Threads
- Vegetable Oil Base
- Thick Consistency, 10-15% more Solids than Conventional Sealants

NT



- Soft Setting for Applications Requiring Grit-Free, Non-PTFE Compound
- No Fillers to Contaminate Gas Lines
- For use when Non-PTFE Sealant is Preferred

FasSeal ATS

Anaerobic Thread Sealant that cures in Absence of Oxygen • Ideal for Refrigeration or other High Vibration Applications • High Speed Curing Time • Vibration Resistant.



TYPE	APPLICATIONS	USED BY	USED ON	APPROVALS
Blue Gray Paste with PTFE	Water, Steam, Natural Gas, LPG, Propane, Gasoline, Butane *Not for Use with Oxygen systems	• Mechanical Contractors • Plumbers • Gas Utilities • Service Station Installers • Manufacturing Plants	All Metals and Most Plastics	CSA, UL NSF 61 NSF 14
Green Paste with PTFE	Ethanol Blended Gasoline, including E10 and E85 (*NOT 100% Ethanol applications) *Not for Use with Oxygen systems	• Gas Station Installers	All Metals	UL
Red Varnish	Aliphatic, Aromatic and Chlorinated Solvents *Not for Use with Oxygen systems	• Auto Industry to Seal Drive Trains, Coat parts • Contractors Installing Underground Piping, Steam Systems • Marine Manufacturers	All Metals, Rubber, Porcelain, Wood	UL
Gray Paste with PTFE	Chlorine, Diesel, Jet Fuel, Steam, Dilute Acid, LPG *Not for Use with Oxygen systems	• Chemical Plants, • Gas Utilities • Refineries • Airlines, Hydraulics • Tank Trucks	All Metals and Most Plastics	CSA UL
Black Paste	High Concentrations of Alcohol, Solvents, Caustic Chemicals 100% Ethanol 100% Methanol *Not for Use with Oxygen systems	• Pharmaceutical • Chemical Companies	All Metals and Fiberglass *Not for Use on Plastic Pipe *Threads must be Clean Prior to use	
Oyster White Paste with PTFE	Water, Steam, Natural Gas, LPG, Propane, Gasoline, Freon 22 and Hydraulic Fluids *Not for Use with Oxygen systems	• Plumbers, • Gas Utilities • Manufacturing Plants	All Metals	
Dark Blue Paste without PTFE	Water, Steam, LPG, Propane, Gasoline *Not for Use with Oxygen systems	• Propane Companies • Petroleum Companies	All Metals and Most Plastics	NSF 61 NSF 14
Smooth White Paste with PTFE	Air Conditioning Lines, Hydraulic-Pneumatic Lines, Air Compressor Hoses, Sprinkler Installations *Not for Use with Oxygen systems	• HVAC • Refrigeration Companies	Metals *Not for Use on Plastic Pipe	UL



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: 2047098
Facility Owner: Peoples Gas Light and Coke Co
Facility Name: Central Business District Sub Shop
Street Address: 1216 W. Cortez St.
City: Chicago, IL. 60642
County: Cook

UST Information:

Tank ID Number: 1
Tank Material: Steel
FRP XX
Single Wall Double Wall XX
Tank Volume: 4,000
Tank Product: E85

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

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
TANK	NO	YES		Xerxes P100DW ULC-615/UL1316
PIPING	NO	YES		Franklin Fueling UPP UL971-2004
CONTAINMENT SUMPS	NO	YES		S. Bravo Systems Inc. B4XX Series Tank Sumps UL1316 Franklin Fueling Polyethylene dispenser sumps LMM-2313-T
PUMPING EQUIPMENT	NO	YES		Franklin Fueling Systems FE Petro STPAG150-VL2 Nozzle-Husky 659559 Swivel-Husky 6350 Breakaway-Husky 6273

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
RELEASE DETECTION EQUIPMENT	NO	YES		Veeder Root TLS450Plus Sump Sensor-794380-323 DPLD-859080-001 Probe-846391-410 Tank Interstice Sensor-794380-303
SPILL PREVENTION EQUIPMENT	NO	YES		OPW 101 BG-2100
OVERFILL PREVENTION EQUIPMENT	NO	YES		Franklin Fueling Defender Series
GASKETS & SEALS (installs after 10/13/18)	NO	YES		Bennett Brand Dispenser
JOINT DOPES & ADHESIVES (installs after 10/13/18)	NO	YES		Gaseolia GE16(E-Seal)

Methods:

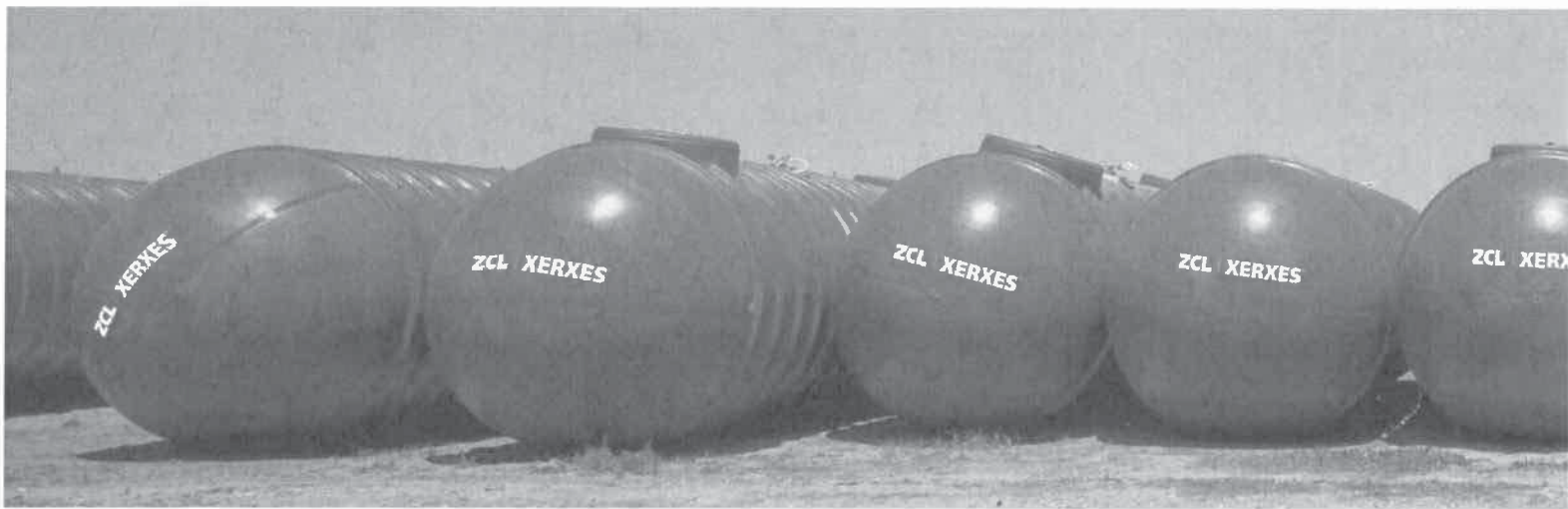
- Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored.
- Equipment or manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility,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

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

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

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

Checklist Completed By: print name: Robert Sumoski date completed: 8-24-20
signature:  position/title: President



WHY CHOOSE A FIBERGLASS TANK?

Best Product Investment

Fiberglass tanks have rapidly grown in popularity since they were first introduced more than 50 years ago as the corrosion-resistant alternative to underground steel tanks that were rusting, leaking and creating serious environmental damage. Major oil companies and large fuel marketers were the first to realize the benefits of fiberglass over steel for underground tanks. Today, a large majority of North American fuel marketers choose fiberglass, and the preference for fiberglass reaches all segments of the market, including industrial, commercial and government accounts who specify, install and own underground storage tanks. The growing understanding of fiberglass' benefits goes well beyond external corrosion protection with the recognition that fiberglass is corrosion-resistant, both inside and out.

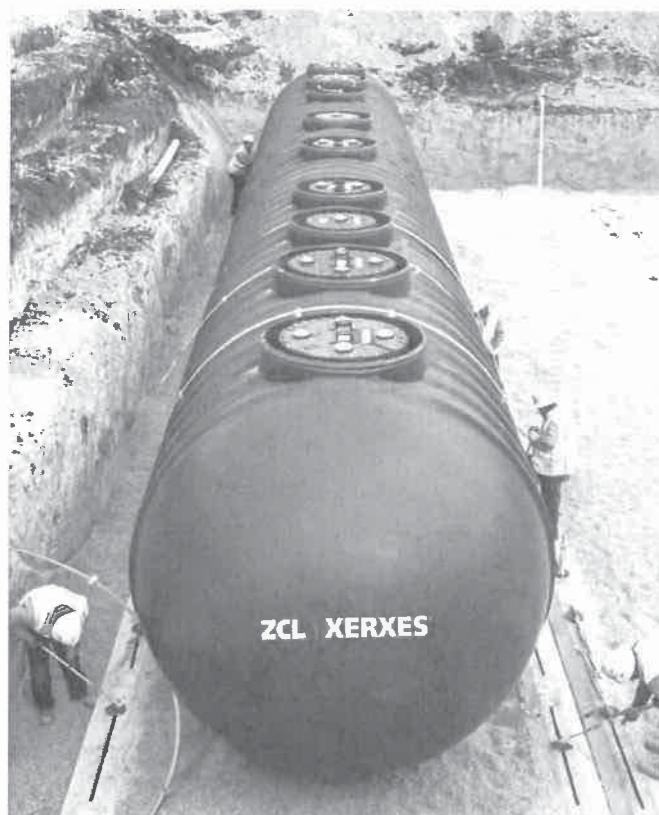
FIBERGLASS OUTPERFORMS STEEL

CORROSION RESISTANCE

It's now common knowledge that fiberglass tanks are protected from external rusting due to corrosive soil environments. Today, the widespread use of ethanol-blended gasoline (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD) has shifted the concern about corrosion to include internal protection. Most significantly, new ethanol-blended fuels raise questions about the compatibility of storage tank materials with stored fuel. When today's buyers compare fiberglass and steel tanks they see the clear advantage of our fiberglass tanks, which are not vulnerable to aggressive internal corrosion caused by storage of today's biofuels. The fact that fiberglass tanks are corrosion-resistant both inside and out give them a distinct advantage over steel tanks.

FUEL COMPATIBILITY

Customers today want to be confident that they are choosing a tank material that is compatible with the new fuels as well as traditional fuels. Our UL-listed (1316) and ULC-listed (S615) double-wall fiberglass tanks are UL-compatible with 0-100 percent ethanol storage. They are also warranted for the full range of ethanol-blended gasoline. The correlating UL listing (58) for steel fuel tanks does not require testing for ethanol compatibility. This third-party compatibility verification for fiberglass tanks – that steel tanks do not have – makes fiberglass the clear and superior choice for fuel tanks.



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.



S. Bravo Systems, Inc.

2929 Vail Avenue
Commerce, CA 90040
1-800-AT-BRAVO
www.sbravo.com

Wednesday - August 25 - 2010

R3 10.21.13

RE: Bravo Fiberglass Sumps and Alternative fuels

This letter is to certify the compatibility of Bravo (S. Bravo Systems, Inc.) Single and Double Wall Fiberglass Containment Sumps with Alternative Fuels such as Biodiesel and Ethanol blended fuels. It also addresses compatibility with DEF Diesel Exhaust Fluid.

Bravo Fiberglass products are engineered with the same UL Listed materials used in the manufacture and certification of Fiberglass Tanks, matching the UL Standard 1316. Since our Fiberglass containment sumps are Built like a Tank, they can withstand continuous fuel exposure to Biodiesel, Ethanol and Alcohol blends without failure.

All DoubleWall Containment Sumps are engineered to be fully compliant with the California State Water Resource Control Board Assembly Bill AB-2481 for DoubleWall Sumps and Continuous Monitoring Systems.

The following Single and Double Wall Containment Sumps manufactured by Bravo Systems in Commerce, California are compatible with Biodiesel and Ethanol fuel blends up to B100 and E100, respectively.

- | | |
|---|--------------------------|
| > B3XX Series Spill Buckets | > B1XXX Series UDC Sumps |
| > B4XX Series Tank Sumps & Covers | > B7XXX Series UDC Sumps |
| > B5XX Series Planter Transition Sumps | > B8XXX Series UDC Sumps |
| > B6XX Series Walkover Transition Sumps | > B9XXX Series UDC Sumps |
| > B7XX Series H-20 Rated Transition Sumps | |
| > B8XX Series Transition Sumps | |

Bravo Systems also certifies that these products are compatible with and approved for use in secondarily containing DEF Diesel Exhaust Fluid.

Each respective Series may be UL Listed in addition to being manufactured of UL recognized materials approved for use in the manufacture of Fiberglass UST tanks. Any other relevant documentation will be located in the documents area of each product's respective webpage.

Please feel free to contact us with any questions you may have at 800-AT-BRAVO.

Additionally, you may find further information at www.sbravo.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jonathan E. Smith'.

Jonathan E. Smith
Director of Brand Management
S. Bravo Systems, Inc.



Ordering Information continued

Standard 1½ hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP150-VL1	1½ hp fixed speed	VL1	60" - 88"
STP150-VL2	1½ hp fixed speed	VL2	91" - 152"
STP150-VL3	1½ hp fixed speed	VL3	123" - 214"
STPH150-VL1	1½ hp high pressure fixed speed	VL1	61" - 89"
STPH150-VL2	1½ hp high pressure fixed speed	VL2	92" - 152"
STPH150-VL3	1½ hp high pressure fixed speed	VL3	124" - 215"

Alcohol-Gas (AG) 1½ hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG150-VL1	1½ hp AG fixed speed	VL1	60" - 88"
STPAG150-VL2	1½ hp AG fixed speed	VL2	91" - 152"
STPAG150-VL3	1½ hp AG fixed speed	VL3	123" - 214"
STPAGH150-VL1	1½ hp AG high pressure fixed speed	VL1	61" - 89"
STPAGH150-VL2	1½ hp AG high pressure fixed speed	VL2	92" - 152"
STPAGH150-VL3	1½ hp AG high pressure fixed speed	VL3	124" - 215"

Notes:

- STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
 - All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
 - All above models require single-phase, 208-230 VAC, 60 Hz incoming power.
 - 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
 - For riser pipe lengths 31" to 60", additional charges apply (call Customer Service for lead times).
- *Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Options

Specified in model number at time of STP order.

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

Field Installed Options

1½ hp fixed speed specific accessories.

Model	Description
400137908	Syphon check valve, alcohol-gasoline compatible (when ordered with STP)
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312921	STP-DHI-SCI, combo DHI with factory-wired STP-SCI (when purchased with a 4" STP)*
402312921	STP-DHI-SCI, combo DHI with factory-wired STP-SCI (when purchased without a 4" STP)
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for slave of manifolded STPs with Veeder-Root™ PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100215	STP-SCI, single-phase Smart Controller (when purchased without a 4" STP)
5800100215	STP-SCI, single-phase Smart Controller (when purchased with a 4" STP)*
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each

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

XS® E85 Nozzles



6-3

ETHANOL FUELING

Pressure activated, automatic shut-off nozzle for full-service, self-service and unattended stations.

- XS® E85 Nozzle shuts off when:
 - the pump shuts off.
 - the gas tank is full.
 - the lever is opened before the pump is turned on.
 - the leak detector has not completed the test cycle.
- Aluminum body, spout, and internal parts are nickel plated to prevent contamination and corrosion from Ethanol blends.
- *StreamShaper®* reduces turbulence for straighter fuel flow and less splash back spillage.
- Compatible with unleaded and all Ethanol blends through E-85.
- Nozzle comes with smooth full grip guard.
- A reinforced stainless steel spout bushing keeps the spout tip round and acts as a captive fastener to prevent tip-end sensor damage.
- Nozzle is equipped with a unique Flo-Stop® device that shuts off the nozzle if it falls from the fill tank or raises above the horizontal.
- All seals are UL approved fluorocarbon compounds to prevent deterioration from Ethanol blends.
- New poppet seal design improves flow control and provides enhanced endurance over time.



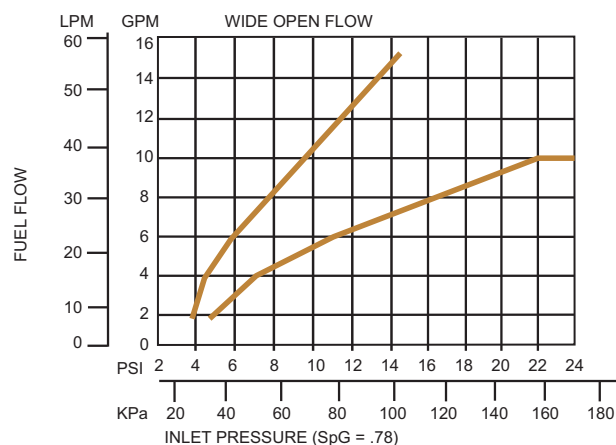
New Unleaded Nozzles

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
659504	with Three Notch Hold Open Clip	3.0 (1.3)
659559	with Three Notch Hold Open Clip and Waffle Splash Guard	2.9 (1.3)
659544^	with Three Notch Hold Open Clip, Waffle Splash Guard and Flo-Equalizer®	3.0 (1.3)
659554^	with Three Notch Hold Open Clip and Flo-Equalizer®	2.9 (1.3)
659589	with Three Notch Hold Open Clip, POPD® S Full Grip Guard and Waffle Splash Guard	3.0 (1.3)
659595	with Three Notch Hold Open Clip, POPD® S Full Grip Guard and Waffle Splash Guard	3.0 (1.3)
6595100N^	with Three Notch Hold Open Clip, POPD® S Full Grip Guard, Waffle Splash Guard and Sightglass	3.0 (1.3)

^ NOT LISTED

Construction

Body	One piece die cast aluminum with Electroless Nickel Plating
Seals	Fluorocarbon
Packing	Double O-ring seal protected by fiber reinforced Teflon®
Lever	One piece contoured steel with hard plastic cover
Inlet	¾" / 19 mm NPT



E85 Swivel



9-6

SWIVELS

Husky Model 6350 Multi-Plane Swivel.

- Multi-Plane, Full 360° spherical rotation for easy movement of nozzle.
- Compact and light weight for easy handling.
- Double o-ring seals at each swivel provide long life and low temperature (-40° F/C) performance.
- Compatible with unlead, diesel, and all Ethanol blends through E100.
- High strength step shoulder bearing diameters and impact absorbing stops.
- Compatible with fuels containing alcohol.
- High flow rate due to laminar flow design.

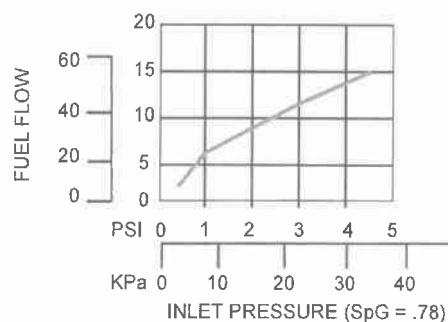


Swivels

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
6350	3/4" M x 3/4" F Multi-Plane Swivel	.44 (.19)

Construction

Body	Aluminum with Electroless Nickel Plating
Inner O-ring	Fluorosilicone
Outer O-ring	Fluorocarbon
Threads	3/4" / 19.1 mm NPTF



E85 Safe-T-Breaks®



10-9

SAFE-T-BREAKS®

All Husky® Safe-T-Breaks® stop the flow of fuel on both sides of the separation.

- Compatible with unleaded, diesel and all Ethanol blends through E85.
- Unit is lightweight, inexpensive and disposable.
- Features same instant closing dual poppet check valve design as Model 006360.
- Maximum separation of 300 lbf / 1334.5 N.



Model 006273

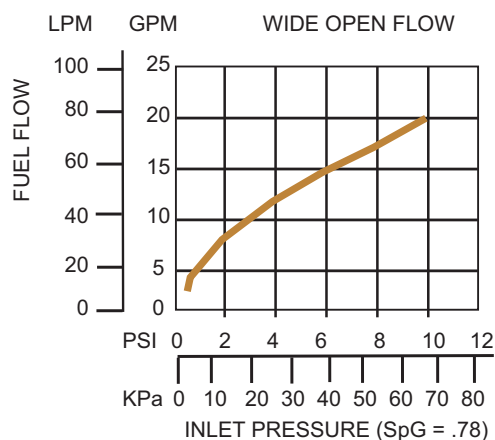
E85 Safe-T-Breaks®

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
006273	¾" F x ¾" F Standard Non-Reconnectable Safe-T-Break®	.30 (.13)

Construction

Body	Aluminum with Electroless Nickel Plating
Seals	Fluorocarbon
Springs	Stainless Steel
Threads	¾" / 19.1 mm NPT

006273



flexsteel® Futura™ Ethan-ALL™
Dispensing Hose Assembly



Product Specifications

Application
Flexsteel® Futura™ Ethan-ALL™ dispensing hose assembly is certified for use in ethanol dispensing applications up to 150°F. This assembly provides the quality Futurin™ cover with superior ozone resistance along with a premium layline. Tube construction meets the E25/E85 compatibility test requirements of UL 330A.

Flexsteel® Futura™ Ethan-ALL™ dispensing hose assembly uses the ContiTech proprietary Fuel Grip™ fitting and a premium nickel coating to ensure corrosion is limited.

Construction
Cover: synthetic rubber
Reinforcement: Futurin™ synthetic rubber
Braid: none

Temperature Range
-40°F to 140°F (-40°C to 60°C)

Coupling
Available in factory-coupled assemblies only.

Branding
Continental ContiTech 3/4"  Flexsteel® Futura™ Ethan-ALL™ E85 559N Made in USA

Order Codes
532-337-124

Flexsteel® Futura™ Ethan-ALL™ Dispensing Hose Assembly

OD			Max. WP		Weight	
mm	in.	mm	psi	MPa	lb./ft.	kg/m
19.1	1.13	28.7	50	0.34	0.46	0.69

Sensor Application Matrix

			Where Used							Category							Fuel Compatibility													
Sensor Description	Form #	Page #	Dispenser Pan	Spill Containment	STP Sump	Convault Tank	Annular Space	Monitoring Well	Oil/Water Separator tank	Discriminating	Non-Discriminating	Position Sensitive	Level Sensing	Static Testing	Hydrostatic	100% Gasoline	Diesel	Kerosene	Jet Fuel	Aviation Gas	E-15	E-85	E-100	Bio-Diesel 20	Bio-Diesel 100	Renewable (Green) Diesel	Diesel Exhaust Fuel (DEF)	Waste Oil	Motor Oil	
DPS Standard Dispenser Pan	794380-322	2	X	X						X						X	X	X	X	X	X	X ¹		X		X		X	X	
CSS Standard Containment Sump	794380-352	3		X	X					X						X	X	X	X	X	X	X ¹		X		X		X	X	
DPO Optical Dispenser Pan	794380-320	4	X	X						X						X	X	X	X	X	X	X ¹		X		X		X	X	
CSO Optical Containment Sump	794380-350	5		X	X					X						X	X	X	X	X	X	X ¹		X		X		X	X	
MSS Mag Sump Sensor	857080-XXX	6	X	X	X					X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SSDP Solid-State Dispenser Pan	794380-321	7	X	X							X					X	X	X	X	X	X			X	X	X		X	X	
SSCS Solid-State Containment Sump	794380-351	8		X	X						X					X	X	X	X	X	X			X	X	X		X	X	
Piping Sump	794380-208	9	X	X	X						X					X	X	X	X	X	X			X		X		X	X	
Non-Discriminating Standalone Dispenser Pan	847990-001	10	X	X	X						X					X	X	X	X	X	X			X		X		X	X	
Position-Sensitive Interstitial for Fiberglass Tanks, Discriminating	794380-323	11	X	X	X						X	X				X	X	X	X	X	X	X	X	X	X		X		X	X
Interstitial for Fiberglass Tanks	794380-343	12					X			X						X	X	X	X	X	X			X	X	X	X	X	X	
Interstitial for Fiberglass Tanks	794390-409	13					X				X					X	X	X	X	X	X			X		X				
Interstitial for Fiberglass Tanks, High Alcohol	794380-345	14					X				X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Interstitial for Steel Tanks	794390-4X0	15			X		X				X					X	X	X	X	X	X			X		X		X	X	
Interstitial for Steel Tanks, Position Sensitive ²	794380-333	16		X			X				X	X				X	X	X	X	X	X	X	X	X	X	X		X	X	
Interstitial for Steel Tanks, High Alcohol	794380-430	17					X				X					X	X	X	X	X	X	X	X	X	X	X		X	X	
Interstitial for Steel Tanks, High Alcohol, small footprint	794380-344	18		X			X				X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Hydrostatic Reservoir (Dual Point)	794380-303	19					X								X	X	X	X	X	X	X	X ¹	X ¹	X		X		X	X	
Single-Point Hydrostatic Sensor	794380-301	20					X								X	X	X	X	X	X	X	X ¹	X ¹	X		X				
Single-Point Mini-Hydrostatic Reservoir (High Alcohol)	794380-304	21					X								X	X	X	X	X	X	X	X	X	X	X	X		X	X	
Vapor	794390-700	22						X								X			X	X	X									
Groundwater	794380-62X	23						X								X	X	X	X	X	X			X		X		X	X	
Oil / Water Separator	794890-XXX	24							X							X	X	X	X	X	X			X				X	X	

¹Single use only if sensor was exposed to E85 or E100 (Test per Sensor Operability Guide [P/N 577013-814] in E-10 or less)

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

Specifications and Compatible Fluids Requirements

The table below lists Veeder-Root Line Leak Detector specifications.

SPECIFICATION	TLS-4XX w/ DPLLD	TLS-350 w/ PLLD	TLS-350 w/ WPLLD
OPERATING TEMP:	-25 TO +130°F	-25 TO +130°F	-25 TO +130°F
COMPATIBLE FUELS:	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 0 - 100% ETHANOL 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 0 - 100% ETHANOL 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE
LINE FLOW RATE:	120 GPM MAX. W/SWIFTCHECK VALVE	120 GPM MAX. W/SWIFTCHECK VALVE	120 GPM MAX. W/SWIFTCHECK VALVE
OPERATING RANGE:	0 - 70 PSI	0 - 70 PSI	0 - 70 PSI
PROOF PRESSURE:	200 PSI	200 PSI	200 PSI
MAX. VERTICAL PIPELINE HEIGHT ABOVE TRANSDUCER³	11 FEET	11 FEET	11 FEET
MINIMUM PUMP OUTPUT PRESSURE⁴	23 psi	23 psi	23 psi

¹Biodiesel compliant with ASTM D7467 (up to B20) or ASTM D6751.

²Consult pump manufacturer for compatibility ratings on fuel blends greater than B20.

³Applications that exceed these max. vertical pipeline heights will require further consultation. Please contact Veeder-Root at 800-323-1799 (request a Veeder-Root/Red Jacket Application Engineer).

⁴Pump output pressure should be a minimum of 4 psi above the check valve's relief pressure.

Veeder-Root recommends that system software for the console be upgraded to the latest version when installing any new hardware. For TLS-350 Consoles, when installing latest software, PLLD or WPLLD must be specified and customer must upgrade to ECPU2 if not already installed. See Accessories/Upgrades section of price book or your local Veeder-Root authorized distributor for details.



Home › Automatic Tank Gauging Products ›
Probes & Float Kits ›
Magnetostriuctive Plus Probe for Alternative Fluid

MAG PLUS PROBE FOR ALTERNATIVE FLUID

Designed for alternative fuel environments

The Magnetostriuctive (MAG) Plus Probe for Alternative Fluids is constructed of stainless steel tubing and can be configured for several different tank applications.



Get a Quote



Find a Distributor



Compatible with a wide range of fuel types

Certified for inventory control, in-tank leak detection and water detection in multiple fluids including gasoline, diesel, and fluids up to 100% alcohol. The in-tank probe solution when used in underground storage tank applications is certified to exceed U.S. EPA performance standards and can accommodate 2", 3" and 4" float kits.

Employing magnetostrictive sensing technology, the MAG Plus Probe for Alternate Fuels gives tank owners visibility to measure and identify multiple liquid readings such as height, liquid temperature, and water.

The MAG Plus Probe for Alternative Fuels is constructed from stainless steel tubing and comes in a variety of models that include high growth polymer or aluminum canisters. It can be ordered as inventory control only, 0.1 or 0.2 gallon per hour leak detection models, and all can be ordered with or without water detection.

Product Form

Product Number	Description	Notes
846397-1XX	MAG Plus 0.1 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
846391-1XX	MAG Plus 0.1 In-Tank Probe with Aluminum Canister for Alternative Fluids with Water Detection	UL



Fluids with No Water Detection



846391-4XX	MAG Plus 0.1 In-Tank Probe with Aluminum Canister for Alternative Fluids with No Water Detection	UL
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846397-2XX	MAG Plus 0.2 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
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846391-2XX	MAG Plus 0.2 In-Tank Probe with Aluminum Canister for Alternative Fluids with Water Detection	UL
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846397-5XX	MAG Plus 0.2 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with No Water Detection	UL
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846391-5XX	MAG Plus 0.2 In-Tank Probe with Aluminum Canister for Alternative Fluids with No Water Detection	UL
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846397-3XX	MAG Plus In-Tank Inventory Only with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
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OPW 101BG-2100 Series Below-Grade Spill Containers

OPW Below-Grade Spill Containment Manholes are used in new tank or riser pipe installations. The watertight spill containment chamber is installed completely below grade level. A grade level manhole cover lies flush with the driveway grade to reduce a tripping hazard and the potential for damage from snow plows and traffic. Surface water drains into the backfill between the manhole skirt and the exterior of the containment bucket. Below-grade spill containers are available in thread-on and slip-on configurations in 5 and 15-gallon capacities.

101BG Slip-on Model Instruction Sheet Order Number: **H12579M**

101BG-2100 Instruction Sheet Order Number: **H12260M**

Important Notice: The OPW101BG-2100 Spill Container Series does not prevent contamination of the soil or backfill resulting from spills flowing between the spill container and the outer shell. Ground contamination may result if the spill container is filled beyond capacity, or if a spill occurs outside the spill containment cell.

- ◆ Highway 20 Rated (H20) – all OPW spill containers and manholes exceed the requirements of the Highway 20 rating.

Materials

Grade Cover: Fiberglass reinforced composite (steel optional)
Lid: Glass reinforced composite
Lever, top case: Polyethylene
Outer shell: Polyethylene, powder-coated steel
Containment cell: Polyethylene
Base: Duratuff® II or cast iron

**101BG-2115,
15-Gallon**



Features

- ◆ Pull-to-Open Drain Valve – allows high-speed drainage of excess product into the tank. Designed with a convenient self-cleaning seal and removable screen for easier component cleaning. (CARB Approved)
- ◆ Capacity – 5-gallon and 15-gallon capacities.
- ◆ Outer Shell – the outer shell isolates the containment vessel from the surrounding concrete and gravel. This high-density polyethylene shell is designed to provide space between the outer shell and the containment vessel to allow any surface water that enters to flow into the backfill, not the containment vessel. Elimination of water in the spill container reduces product contamination and ice formation during cold winter months.
- ◆ Vapor-Tight Lid – a unique, hinged and sealed containment vessel lid provides a vapor-tight seal, designed to prevent vapors from escaping at ground level while eliminating the accumulation of dirt and water that contaminate fuel. Incorporating a special lid interlock design, the grade level cover cannot be replaced on the outer shell without the lever being in the closed and locked position.
- ◆ Composite Grade Level Cover – made of sturdy fiberglass-reinforced composite, the grade cover is less prone to theft than aluminum covers, and lighter in weight than cast iron. In addition, the cover lies flush with the actual grade so no ramps are required to support the cover, eliminating snow plow hazards and "speed bumps." (Optional steel plate cover is also available)
- ◆ Fuel Compatibility – designed to accommodate the fuels of the future, including methanol, ethanol and fuels with MTBE additives.
- ◆ Easy Installation – reduces job-site time and installation costs. Simply thread the Duratuff® II base (cast iron base is optional) onto a standard 4" schedule 40 pipe. Guides are provided to assure proper positioning of the spill container. The hinged lid orientation is adjustable during installation for site-specific placement.
- ◆ Product Identification Tags – available for both the spill container cover and bucket to positively identify the product contained in the UST with standard API symbols. (See product I.D. tag specification page for more information: page 74.)

Listings and Certifications

CARB Certifications and Listings

101BG(S)-2100
101BG(S)-2115

Approval Letter #93-26



Ordering Specifications

Duratuff® II Base Models

Model	Gal.	Liter	Drain Valve	lbs.	kg
101BG-2100	5	19	Pull	60	27
101BG-2105**	5	19	None	60	27
101BG-2115	15	57	Pull	65	29

**Slip-on Base

Cast Iron Base Models

Model	Gal.	Liter	Drain Valve	lbs.	kg
101BG-2100C	5	19	Pull	72	33
101BG-2115C	15	57	Pull	77	35

Dimensions

	101BG-2100		101BG-2115	
	in.	cm	in.	cm
A	20 ⁹ / ₁₆	52	20 ⁹ / ₁₆	52
B	17 ¹ / ₄	44	25 ¹ / ₂	65
C*	23 ²⁹ / ₃₂	76	27 ³¹ / ₃₂	71
D	22 ¹ / ₁₆	56	26 ⁵ / ₃₂	66

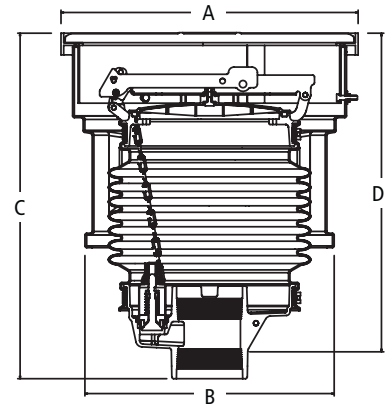
*Subtract 2" from "C" dimension for Cast Iron Base Models.

Replacement Parts/Accessories

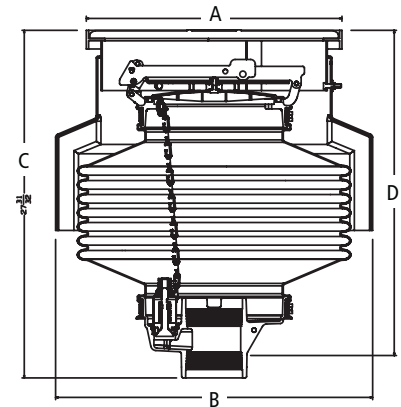
Part #	Description
1DK-2100-EVR	Pull Drain Valve
101BG-21AR	Inside Hatch Height Extender
101BG-21LA	Red Lever & Crossarm Assembly
101BG-LATCH	Latch Kit; Yoke, Cotterpin & Spring
101BG-BUCKET	5 Gallon Replacement Spill Container
C04785M	5 Gallon Insert Support
C04476M	15 Gallon Insert Support

Part #	Description
101BG-COVER	Composite Manhole Cover
E00491	Complete Replacement Top Assembly
H11671M	Steel Manhole Cover
H12280M	Ring Seal
H12620	Inside Hatch
P110-20LID	Steel Manhole Cover w/ID Tag System

101BG-2100, 5-Gallon

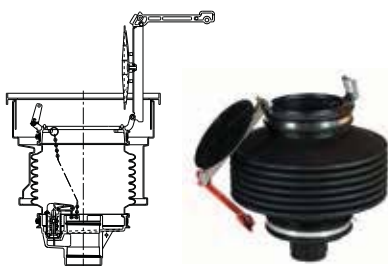


101BG-2115, 15-Gallon

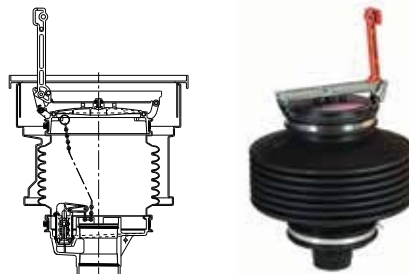


NOTE: "D" dimension is height from riser pipe to finish grade (+1" for slope)

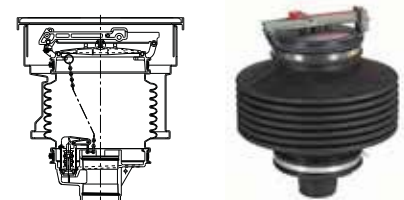
Operation of 101BG Lid



Lid and lever in open position.



Lid down, but not closed. Lever still in upright position preventing replacement of grade cover.



Lid and lever in closed and locked position. Grade cover now easily replaced on rim.

1DK-2100 Drain Valve Kit Instruction Sheet Order Number: H11471M



Below Ground Products Fuel Compatibility Matrix

Updated 1/2015

OPW Product Number	Description	Standard Fuels: ≤15% Ethanol Gasoline ≤5% Bio-Diesel*	High Ethanol Content Gasoline: 15-100% Ethanol	High Biodiesel Content 5-20% Biodiesel*	Av- Gas / Jet Fuel	Kerosene / Fuel Oil
CXXA Double Wall Piping	Double Wall Primary Piping	X	X	X	X	X
DPC-2150/DPC-2200	Double Wall Pipe Couplings	X	X	X	X	X
SPC-0150, SPC-0200, SPC-0300	Single Wall Pipe Coupling	X	X	X	X	X
SPC-0075, SPC-0100	Single Wall Coupling Male NPT	X	X	X	X	X
SMA-1515, SMA-1520, SMA-2020, SMA-3030	E-Coated Male Adaptors	X	X	X	X	X
STF-1515, STF-2020, STF-2215, STF-2020	E-Coated Swivel Tees	X	X	X	X	X
SEF-1515, SRE-2015, SEF-2020, SEF-3030	E-Coated Swivel Elbows	X	X	X	X	X
SBC-2150, SBC-2200	Stainless Steel Swivel Bolt On Coupling	X	X	X	X	X
SMA-7575, SMA-1010	Swivel Male Adaptor (Brass or Zinc Plated)	X			X	X
SFA-7575, SFA-1010	Swivel Female Adaptor (Brass or Zinc Plated)	X			X	X
1-2100 Series / Multiports	Spill Containers	X	X	X	X	X
101BG-Series	Spill Containers	X	X	X	X	X
1-3100 Series (Edge)	Double Wall & Single Wall Spill Container Series	X	X	X	X	X
60V Series	Vapor Line Shear Valve	X	X	X	X	X
10 Series	Emergency Shut Off Valve	X	X	X	X	X
10 Plus Series	Emergency Shut Off Valve	X	X	X	X	X
10P-0152E85	E85 UL Approved Emergency Shut Off Valve	X	UL	X	X	X
61SALP-1020-EVR	Fill Swivel Adaptor	X	X	X	X	X
633T-8076	Fill Adaptor	X	X	X	X	X
61VSA-1020-EVR	Vapor Swivel Adaptor	X	X	X	X	X
1611AVB-1625	Vapor Adaptor	X	X	X	X	X
634TT-7085-EVR	Fill Cap	X	X	X	X	X
1711T-7085-EVR	Vapor Cap	X	X	X	X	X
634LPC-040	Low Profile Fill Cap	X	X	X	X	X
1711LPC-0300	Low Profile Vapor Cap	X	X	X	X	X
62M Series	Monitoring Probe Cap	X	X	X	X	X
61SO Series	Overfill Valve	X			X	X
61SOM Series	Overfill Valve Anodized	X	X		X	X
6111 & 61TP Series	Tank Bottom Protectors	X			X	X
61T Series	Drop Tubes	X			X	X
71SO Series	Overfill Valve	X			X	X
71SOM Series	Overfill Valve	X	X		X	X
233 Series	Extractor Valve	X	X	X	X	X
FCXX Series	Stainless Flex Connectors	X	X	X	X	X
53VML/30MV Series	Ball Floats	X	X	X	X	X
523V Series	Pressure Vacuum Vent	X	X	X	X	X
623V Series	Pressure Vacuum Vent	X	X	X	X	X

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

UL - Emergency valve has UL or UL Approval for greater than 15% Ethanol Content ≤ Refers to less than or equal to the fuel standard rating for percentage of content



Top Adapter

DEFENDER SERIES™ OVERFILL PREVENTION VALVE

The Defender Series™ overfill prevention valve (OPV) is a self-contained two-stage positive shut-off valve that prevents the overfill of an underground storage tank (UST) during a gravity-fed product delivery. The Defender Series™ OPV employs a revolutionary magnetically-coupled actuator system to provide positive shut-off. This unique method of shut-off eliminates any penetrations in the valve, making it both vapor-and leak-tight. The Defender Series™ OPV provides safe, rapid, and reliable fuel drops for the broadest range of fuel applications and environmental conditions. Simple to install, service, and test remotely, the Defender Series™ OPV is the industry's most versatile overfill prevention valve.

Highlights

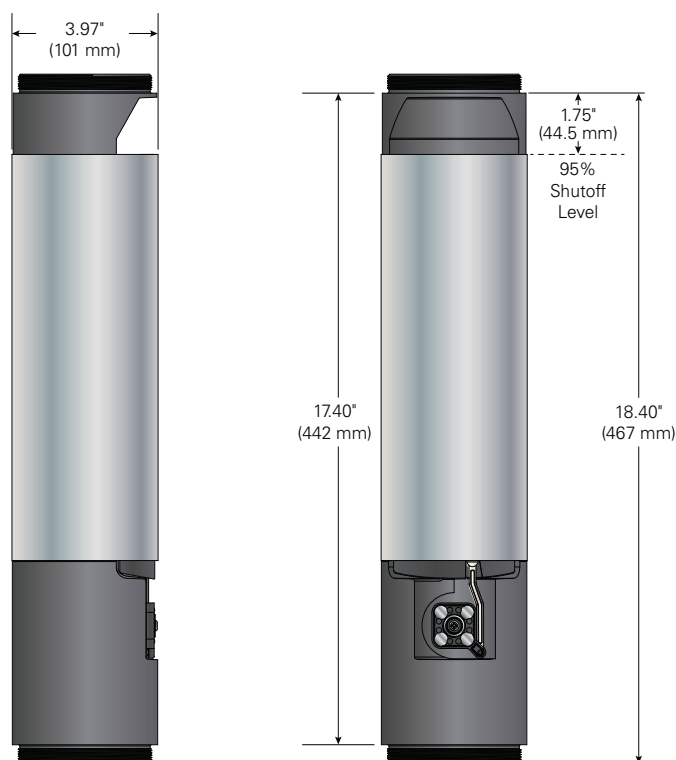
- Magnetic coupler actuates the interior primary flapper assembly and secondary shut-off valve when the float rises outside of the valve, eliminating valve body penetrations and any potential product or vapor leak points.
- After cutting to length in the field, the upper drop tube is roll-crimped onto a top adapter outfitted with two O-rings and then threaded onto the top of the valve body, eliminating the need for drilling, rivets, epoxy, and flaring tools.
- Bottom drop tube is cut in the field and threaded onto the bottom of the valve ensuring straight installation.
- The roll-crimp/thread method of installing drop tubes ensures proper alignment of the drop tubes with the rest of the OPV assembly, making installation and removal of the entire assembly smooth.
- Damaged drop tubes can be easily replaced instead of having to purchase an entire new assembly.
- Fully compatible with gas, gas/alcohol blends, diesel and biodiesel.
- Compatible with industry standard 4" drop tubes allowing retrofit into existing installations.
- The entire OPV assembly remains within the 4" inner diameter of the riser preventing interference with other tank components and also allowing removal even while the tank is full.
- Actuates in both low-and high-flow applications and functions within a broad range of flow rates from 25 gpm to 370 gpm (95 lpm to 1,400 lpm) and higher.
- The remote testing tool allows for remote testing of the primary functionality without having to remove the OPV from the riser.

Specifications

Approvals/Certifications

- ULc listed.
- ATEX approved.

Dimensions



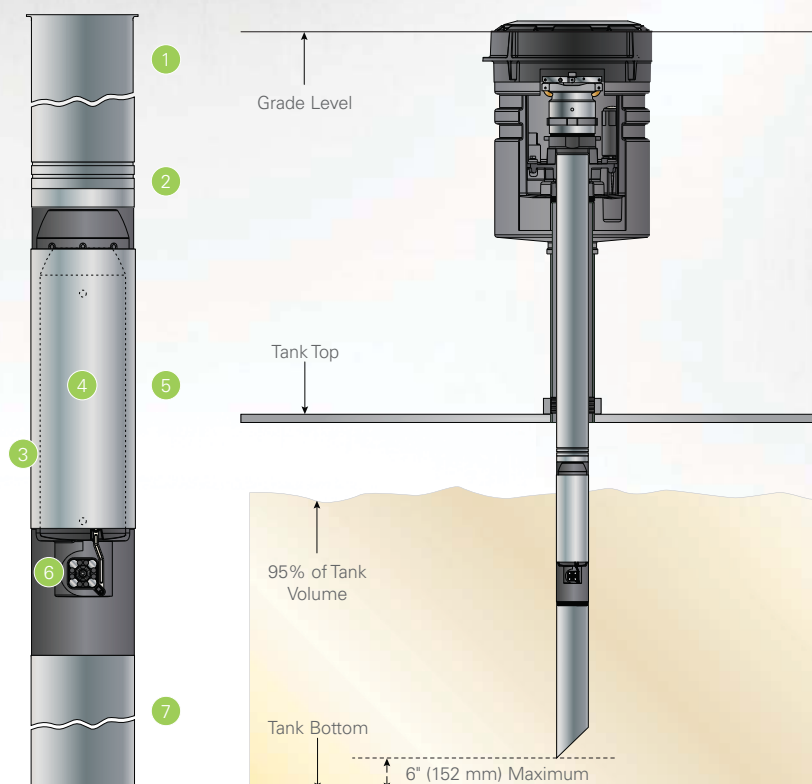
Specifications continued

Components

- 1 Pre-flanged aluminum top drop tube
- 2 Roll-crimped top fitting/drop tube
- 3 Protective float sleeve
- 4 Float (shielded by float sleeve)
- 5 Valve assembly
- 6 Magnetically-coupled actuator
- 7 Threaded bottom drop tube

Operation

As the liquid level in the UST approaches 95% capacity, the liquid level raises the float. As the float rises it actuates the external/internal magnetic couplers which release the flapper to be closed by the flow of product. As the float continues to rise, the internal mechanism pushes the flapper further into the product flow to allow actuation at high or low flow rates. This sudden reduction in flow caused by the primary flapper closing creates "line shock" to the fill hose which signals the delivery driver that the tank is nearing 95% capacity. As the float continues to rise to the 95% fill level, the secondary closes, completely stopping the flow of fuel.



Ordering Information

Model	Description
708591901	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 8' (2438mm) bottom drop tube
708591902	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 10' (3048mm) bottom drop tube
708591922	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible*
708592901	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 8' (2438mm) bottom drop tube
708592902	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube
708592921	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 8' (2438mm) bottom drop tube, AGB compatible*
708592922	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible*
708593901	Defender Series™ overfill prevention valve, coaxial with 6.5' (1981mm) top drop tube, 8' (2438mm) bottom drop tube
708593902	Defender Series™ overfill prevention valve, coaxial with 6.5' (1981mm) top drop tube, 10' (3048mm) bottom drop tube
708593923	Defender Series™ overfill prevention valve, poppeted coaxial with 6.5' (1981mm) top drop tube, 8' (2438mm) bottom drop tube
708593924	Defender Series™ overfill prevention valve, poppeted coaxial with 6.5' (1981mm) top drop tube, 10' (3048mm) bottom drop tube
708594901	Defender Series™ overfill prevention valve only with top adapter, AGB compatible*
708594902	Defender Series™ overfill prevention valve only with coaxial top adapter, AGB compatible*
708535901	Roll crimping tool
708530930	Replacement roll crimper tool roller bit for retrofit with existing tool
708534901	Remote testing tool, 11' (3353mm) long sectional/collapsible

*Alcohol, gas, biofuel compatible (E-85, gasoline and biodiesel) models come with hard coated anodized drop tubes for full compatibility.



Bennett 3000 Series



- Retail or **Commercial Versions**
- **Remote** or Suction
- **Electronic** or Mechanical
- High Hose or **Low Hose** Styling
- **Side** or Front Mount Nozzle Boots
- Interfaces to most major fleet management systems
- Heavy duty lift-lever nozzle boots
- Galvaneal Chassis
- Powder coated painted panels
- Stainless Steel Panels option
- Custom graphics and paint
- Hinged swing-out lower doors
- Hinged swing-down upper doors
- LED backlighting for LCD's on electronic models
- Electronic calibration for electronic models
- Companion Satellites for remote dispensers
- Cascade dial face lighting for mechanicals
- Attendant Local Preset option
- Conventional Flow Rates 15 to 24gpm
- Truck Stop Flow Rates to 60gpm
- Pulser options for mechanicals
- Pulse output options for electronics
- Balance vapor options for high hose units
- Manual reset options for mechanicals
- Intercom speaker option for high hose models
- **E85 Compatibility options**
- Magnet activated totals for electronic models
- Junction box options
- Satellite-in-use light option
- Standard electromechanical totalizers in electronic models
- Standard last sale recall for electronic models
- Standard inlet check valve for all remote Models

All features and options may not apply to all models. See individual model cut sheets for full specifications and options

TECHNICAL DATA

2013

Description

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

Type

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

Typical Uses

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

Substrates

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

Chemical Resistance

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

Set Time

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

Packaging

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

For Chemical Emergency, Spill, Leak,
Fire, Exposure or Accident Call:
CHEMTREC - Day or Night. 1-800-424-9300
KEEP OUT OF THE REACH OF CHILDREN

Product Data Sheet

Safety

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

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

Wt./Gal.: 11.35 lbs

Color: Medium/Green

Clean Up: Hand cleaner or alcohol.

Temperature Range

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

Pressure Range

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

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



FEDERAL PROCESS
CORPORATION



CLEVELAND, OHIO | 216.464.6440 • 800.846.7325

www.gasoila.com

MSDS Sheets Available Online

#DS-ES

Gasoil® Quick and Easy Sealant Reference Guide

Soft-Set



- General Purpose, Top-selling Sealant
- Perfect for New Pipes
- Stays Pliable in Cold Temperatures
- Non-Hardening,
- Non-Separating
- Non-Toxic

E-Seal



- Specifically for E10 and E85
- Stays Pliable in Cold Temperatures
- Non-Hardening,
- Non-Separating
- Non-Toxic

Hard-Set



- Hard Setting Sealant
- Assembles Threaded Joints Permanently
- Excellent for Coating Surfaces.
- Impervious to Gasoline
- Flammable

PLS-2



- Ideal for Demanding Pneumatic and LPG Applications

100



- Ideal for use on Systems with 100% Methanol, Ethanol, Alcohol and Highly Corrosive Chemicals
- Soft Setting

JC-30



- For Damaged, Irregular, Mis-cut and Straight Threads
- Vegetable Oil Base
- Thick Consistency, 10-15% more Solids than Conventional Sealants

NT



- Soft Setting for Applications Requiring Grit-Free, Non-PTFE Compound
- No Fillers to Contaminate Gas Lines
- For use when Non-PTFE Sealant is Preferred

FasSeal ATS

Anaerobic Thread Sealant that cures in Absence of Oxygen • Ideal for Refrigeration or other High Vibration Applications • High Speed Curing Time • Vibration Resistant.



TYPE	APPLICATIONS	USED BY	USED ON	APPROVALS
Blue Gray Paste with PTFE	Water, Steam, Natural Gas, LPG, Propane, Gasoline, Butane *Not for Use with Oxygen systems	• Mechanical Contractors • Plumbers • Gas Utilities • Service Station Installers • Manufacturing Plants	All Metals and Most Plastics	CSA, UL NSF 61 NSF 14
Green Paste with PTFE	Ethanol Blended Gasoline, including E10 and E85 (*NOT 100% Ethanol applications) *Not for Use with Oxygen systems	• Gas Station Installers	All Metals	UL
Red Varnish	Aliphatic, Aromatic and Chlorinated Solvents *Not for Use with Oxygen systems	• Auto Industry to Seal Drive Trains, Coat parts • Contractors Installing Underground Piping, Steam Systems • Marine Manufacturers	All Metals, Rubber, Porcelain, Wood	UL
Gray Paste with PTFE	Chlorine, Diesel, Jet Fuel, Steam, Dilute Acid, LPG *Not for Use with Oxygen systems	• Chemical Plants, • Gas Utilities • Refineries • Airlines, Hydraulics • Tank Trucks	All Metals and Most Plastics	CSA UL
Black Paste	High Concentrations of Alcohol, Solvents, Caustic Chemicals 100% Ethanol 100% Methanol *Not for Use with Oxygen systems	• Pharmaceutical • Chemical Companies	All Metals and Fiberglass *Not for Use on Plastic Pipe *Threads must be Clean Prior to use	
Oyster White Paste with PTFE	Water, Steam, Natural Gas, LPG, Propane, Gasoline, Freon 22 and Hydraulic Fluids *Not for Use with Oxygen systems	• Plumbers, • Gas Utilities • Manufacturing Plants	All Metals	
Dark Blue Paste without PTFE	Water, Steam, LPG, Propane, Gasoline *Not for Use with Oxygen systems	• Propane Companies • Petroleum Companies	All Metals and Most Plastics	NSF 61 NSF 14
Smooth White Paste with PTFE	Air Conditioning Lines, Hydraulic-Pneumatic Lines, Air Compressor Hoses, Sprinkler Installations *Not for Use with Oxygen systems	• HVAC • Refrigeration Companies	Metals *Not for Use on Plastic Pipe	UL

Phone: 800-846-7325 - Fax: 800-797-2080

#GCC4 JAN - 2015



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: 2047098
Facility Owner: Peoples Gas Light and Coke Co
Facility Name: Central Business District Sub Shop
Street Address: 1216 W. Cortez St.
City: Chicago, IL. 60642
County: Cook

UST Information:

Tank ID Number: 1
Tank Material: Steel
FRP XX
Single Wall Double Wall XX
Tank Volume: 4,000
Tank Product: E85

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

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
TANK	NO	YES		Xerxes P100DW ULC-615/UL1316
PIPING	NO	YES		Franklin Fueling UPP UL971-2004
CONTAINMENT SUMPS	NO	YES		S. Bravo Systems Inc. B4XX Series Tank Sumps UL1316 Franklin Fueling Polyethylene dispenser sumps LMM-2313-T
PUMPING EQUIPMENT	NO	YES		Franklin Fueling Systems FE Petro STPAG150-VL2 Nozzle-Husky 659559 Swivel-Husky 6350 Breakaway-Husky 6273

UST SYSTEM COMPONENTS	DOCUMENTATION DEMONSTRATING COMPATIBILITY WITH SUBSTANCE LISTED ABOVE		METHOD A or B (MAY USE BOTH)	DESCRIPTION OF COMPONENT TYPE, MODEL NUMBER, & NATIONAL LABORATORY CERTIFICATION, LISTING OR MANUFACTURER APPROVAL (ATTACH TO CHECKLIST)
RELEASE DETECTION EQUIPMENT	NO	YES		Veeder Root TLS450Plus Sump Sensor-794380-323 DPLD-859080-001 Probe-846391-410 Tank Interstice Sensor-794380-303
SPILL PREVENTION EQUIPMENT	NO	YES		OPW 101 BG-2100
OVERFILL PREVENTION EQUIPMENT	NO	YES		Franklin Fueling Defender Series
GASKETS & SEALS (installs after 10/13/18)	NO	YES		Bennett Brand Dispenser
JOINT DOPES & ADHESIVES (installs after 10/13/18)	NO	YES		Gaseolia GE16(E-Seal)

Methods:

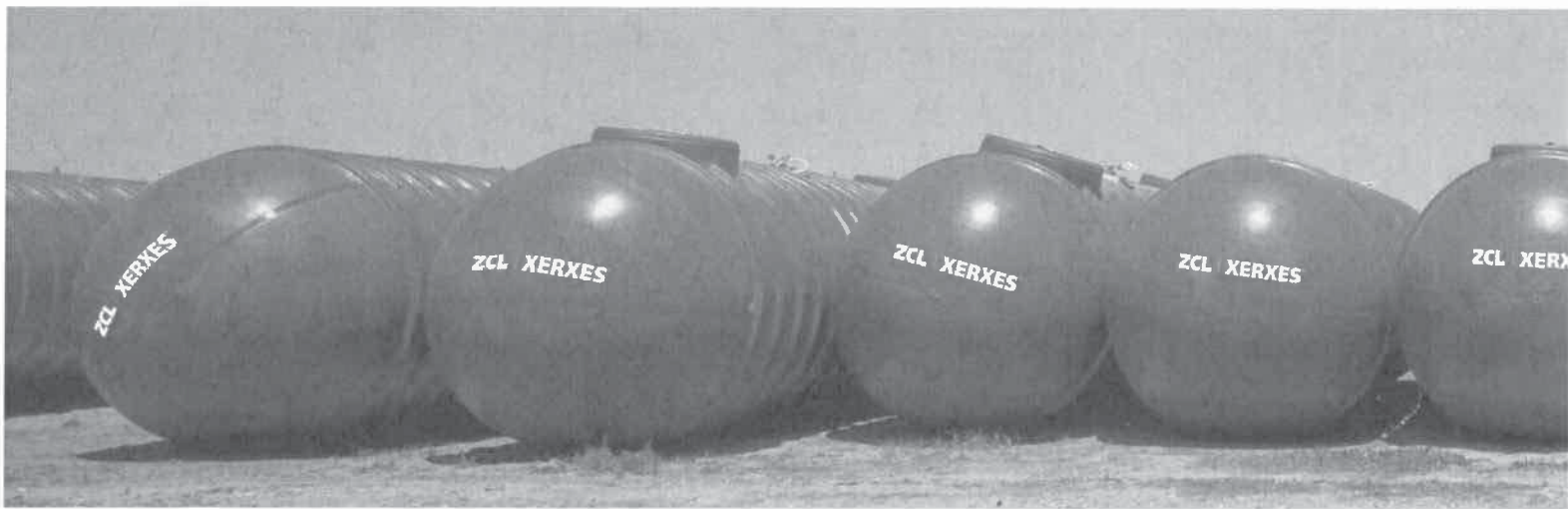
- Certification or listing of UST system equipment or components by a nationally recognized, independent testing laboratory for use with the regulated substance stored.
- Equipment or manufacturer approval. The manufacturer's approval must be in writing, indicate an affirmative statement of compatibility,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

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

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

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

Checklist Completed By: print name: Robert Sumoski date completed: 8-24-20
signature:  position/title: President



WHY CHOOSE A FIBERGLASS TANK?

Best Product Investment

Fiberglass tanks have rapidly grown in popularity since they were first introduced more than 50 years ago as the corrosion-resistant alternative to underground steel tanks that were rusting, leaking and creating serious environmental damage. Major oil companies and large fuel marketers were the first to realize the benefits of fiberglass over steel for underground tanks. Today, a large majority of North American fuel marketers choose fiberglass, and the preference for fiberglass reaches all segments of the market, including industrial, commercial and government accounts who specify, install and own underground storage tanks. The growing understanding of fiberglass' benefits goes well beyond external corrosion protection with the recognition that fiberglass is corrosion-resistant, both inside and out.

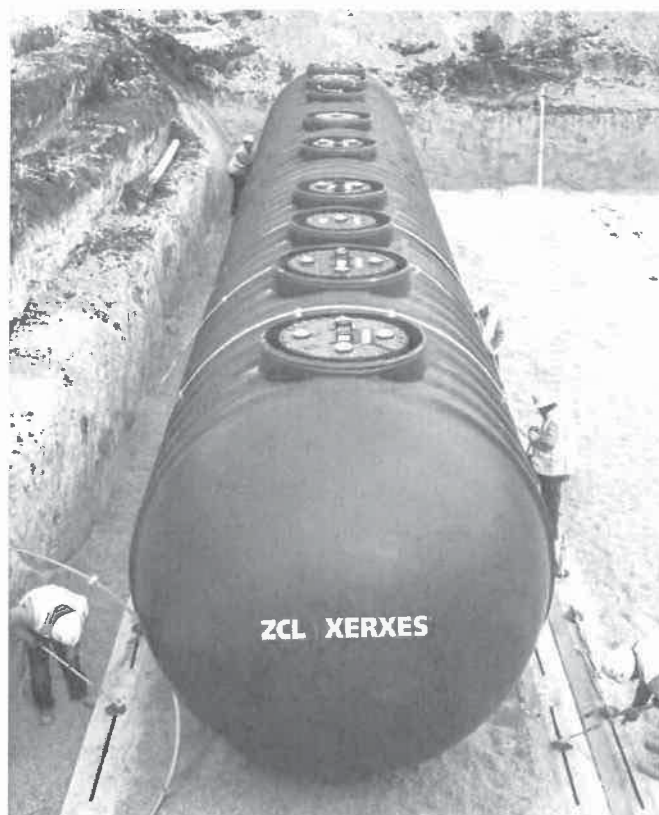
FIBERGLASS OUTPERFORMS STEEL

CORROSION RESISTANCE

It's now common knowledge that fiberglass tanks are protected from external rusting due to corrosive soil environments. Today, the widespread use of ethanol-blended gasoline (E10, E15, E85), biodiesel fuels and ultra-low sulfur diesel (ULSD) has shifted the concern about corrosion to include internal protection. Most significantly, new ethanol-blended fuels raise questions about the compatibility of storage tank materials with stored fuel. When today's buyers compare fiberglass and steel tanks they see the clear advantage of our fiberglass tanks, which are not vulnerable to aggressive internal corrosion caused by storage of today's biofuels. The fact that fiberglass tanks are corrosion-resistant both inside and out give them a distinct advantage over steel tanks.

FUEL COMPATIBILITY

Customers today want to be confident that they are choosing a tank material that is compatible with the new fuels as well as traditional fuels. Our UL-listed (1316) and ULC-listed (S615) double-wall fiberglass tanks are UL-compatible with 0-100 percent ethanol storage. They are also warranted for the full range of ethanol-blended gasoline. The correlating UL listing (58) for steel fuel tanks does not require testing for ethanol compatibility. This third-party compatibility verification for fiberglass tanks – that steel tanks do not have – makes fiberglass the clear and superior choice for fuel tanks.



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.



S. Bravo Systems, Inc.

2929 Vail Avenue
Commerce, CA 90040
1-800-AT-BRAVO
www.sbravo.com

Wednesday - August 25 - 2010

R3 10.21.13

RE: Bravo Fiberglass Sumps and Alternative fuels

This letter is to certify the compatibility of Bravo (S. Bravo Systems, Inc.) Single and Double Wall Fiberglass Containment Sumps with Alternative Fuels such as Biodiesel and Ethanol blended fuels. It also addresses compatibility with DEF Diesel Exhaust Fluid.

Bravo Fiberglass products are engineered with the same UL Listed materials used in the manufacture and certification of Fiberglass Tanks, matching the UL Standard 1316. Since our Fiberglass containment sumps are Built like a Tank, they can withstand continuous fuel exposure to Biodiesel, Ethanol and Alcohol blends without failure.

All DoubleWall Containment Sumps are engineered to be fully compliant with the California State Water Resource Control Board Assembly Bill AB-2481 for DoubleWall Sumps and Continuous Monitoring Systems.

The following Single and Double Wall Containment Sumps manufactured by Bravo Systems in Commerce, California are compatible with Biodiesel and Ethanol fuel blends up to B100 and E100, respectively.

- | | |
|---|--------------------------|
| > B3XX Series Spill Buckets | > B1XXX Series UDC Sumps |
| > B4XX Series Tank Sumps & Covers | > B7XXX Series UDC Sumps |
| > B5XX Series Planter Transition Sumps | > B8XXX Series UDC Sumps |
| > B6XX Series Walkover Transition Sumps | > B9XXX Series UDC Sumps |
| > B7XX Series H-20 Rated Transition Sumps | |
| > B8XX Series Transition Sumps | |

Bravo Systems also certifies that these products are compatible with and approved for use in secondarily containing DEF Diesel Exhaust Fluid.

Each respective Series may be UL Listed in addition to being manufactured of UL recognized materials approved for use in the manufacture of Fiberglass UST tanks. Any other relevant documentation will be located in the documents area of each product's respective webpage.

Please feel free to contact us with any questions you may have at 800-AT-BRAVO.

Additionally, you may find further information at www.sbravo.com.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jonathan E. Smith'.

Jonathan E. Smith
Director of Brand Management
S. Bravo Systems, Inc.



Ordering Information continued

Standard 1½ hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STP150-VL1	1½ hp fixed speed	VL1	60" - 88"
STP150-VL2	1½ hp fixed speed	VL2	91" - 152"
STP150-VL3	1½ hp fixed speed	VL3	123" - 214"
STPH150-VL1	1½ hp high pressure fixed speed	VL1	61" - 89"
STPH150-VL2	1½ hp high pressure fixed speed	VL2	92" - 152"
STPH150-VL3	1½ hp high pressure fixed speed	VL3	124" - 215"

Alcohol-Gas (AG) 1½ hp Fixed Speed Submersible Turbine Pumps

Model	Description	Model Length Range Number	Model Length Range*
STPAG150-VL1	1½ hp AG fixed speed	VL1	60" - 88"
STPAG150-VL2	1½ hp AG fixed speed	VL2	91" - 152"
STPAG150-VL3	1½ hp AG fixed speed	VL3	123" - 214"
STPAGH150-VL1	1½ hp AG high pressure fixed speed	VL1	61" - 89"
STPAGH150-VL2	1½ hp AG high pressure fixed speed	VL2	92" - 152"
STPAGH150-VL3	1½ hp AG high pressure fixed speed	VL3	124" - 215"

Notes:

- STP models are compatible with fuel mixtures containing up to 10% ethanol with gasoline, up to 5% Biodiesel with diesel fuels, and 20% MTBE, 20% ETBE or 17% TAME with gasoline. STPAG models are compatible with fuel mixtures containing diesel fuel with up to 20% Biodiesel, 100% Biodiesel, up to 85% ethanol with gasoline, and 20% MTBE, 20% ETBE or 17% TAME with gasoline.
 - All models are supplied with a standard check valve unless factory option "R" or "W" is specified.
 - All above models require single-phase, 208-230 VAC, 60 Hz incoming power.
 - 4" riser pipe, if supplied locally, must be 4½" OD by 3/16" WT tubing.
 - For riser pipe lengths 31" to 60", additional charges apply (call Customer Service for lead times).
- *Model length (A) defined as the dimension from turbine manifold bottom to pump motor inlet.

Factory Installed Options

Specified in model number at time of STP order.

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

Field Installed Options

1½ hp fixed speed specific accessories.

Model	Description
400137908	Syphon check valve, alcohol-gasoline compatible (when ordered with STP)
400818921	STP-CBS, single-phase control box with lockout switch, 120 Volt coil
402312921	STP-DHI-SCI, combo DHI with factory-wired STP-SCI (when purchased with a 4" STP)*
402312921	STP-DHI-SCI, combo DHI with factory-wired STP-SCI (when purchased without a 4" STP)
402313921	STP-DHI-CBS, combo DHI with factory-wired STP-CBS
402459931	Model 65 psi check valve AG compatible, (for slave of manifolded STPs with Veeder-Root™ PLLD)
402507930	Secondary syphon kit (when two syphon primes are required for one STP)
5800100215	STP-SCI, single-phase Smart Controller (when purchased without a 4" STP)
5800100215	STP-SCI, single-phase Smart Controller (when purchased with a 4" STP)*
5800300100	STP-DHI, dispenser hook isolation for 120 Volt dispenser handle switches, up to eight each

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

XS® E85 Nozzles



6-3

ETHANOL FUELING

Pressure activated, automatic shut-off nozzle for full-service, self-service and unattended stations.

- XS® E85 Nozzle shuts off when:
 - the pump shuts off.
 - the gas tank is full.
 - the lever is opened before the pump is turned on.
 - the leak detector has not completed the test cycle.
- Aluminum body, spout, and internal parts are nickel plated to prevent contamination and corrosion from Ethanol blends.
- *StreamShaper®* reduces turbulence for straighter fuel flow and less splash back spillage.
- Compatible with unleaded and all Ethanol blends through E-85.
- Nozzle comes with smooth full grip guard.
- A reinforced stainless steel spout bushing keeps the spout tip round and acts as a captive fastener to prevent tip-end sensor damage.
- Nozzle is equipped with a unique Flo-Stop® device that shuts off the nozzle if it falls from the fill tank or raises above the horizontal.
- All seals are UL approved fluorocarbon compounds to prevent deterioration from Ethanol blends.
- New poppet seal design improves flow control and provides enhanced endurance over time.



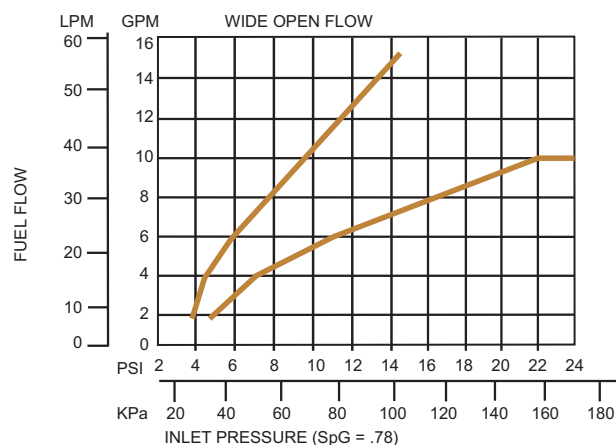
New Unleaded Nozzles

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
659504	with Three Notch Hold Open Clip	3.0 (1.3)
659559	with Three Notch Hold Open Clip and Waffle Splash Guard	2.9 (1.3)
659544^	with Three Notch Hold Open Clip, Waffle Splash Guard and Flo-Equalizer®	3.0 (1.3)
659554^	with Three Notch Hold Open Clip and Flo-Equalizer®	2.9 (1.3)
659589	with Three Notch Hold Open Clip, POPD® S Full Grip Guard and Waffle Splash Guard	3.0 (1.3)
659595	with Three Notch Hold Open Clip, POPD® S Full Grip Guard and Waffle Splash Guard	3.0 (1.3)
6595100N^	with Three Notch Hold Open Clip, POPD® S Full Grip Guard, Waffle Splash Guard and Sightglass	3.0 (1.3)

^ NOT LISTED

Construction

Body	One piece die cast aluminum with Electroless Nickel Plating
Seals	Fluorocarbon
Packing	Double O-ring seal protected by fiber reinforced Teflon®
Lever	One piece contoured steel with hard plastic cover
Inlet	¾" / 19 mm NPT



E85 Swivel



9-6

SWIVELS

Husky Model 6350 Multi-Plane Swivel.

- Multi-Plane, Full 360° spherical rotation for easy movement of nozzle.
- Compact and light weight for easy handling.
- Compatible with unlead, diesel, and all Ethanol blends through E100.
- Double o-ring seals at each swivel provide long life and low temperature (-40° F/C) performance.
- Compatible with fuels containing alcohol.
- High strength step shoulder bearing diameters and impact absorbing stops.
- High flow rate due to laminar flow design.

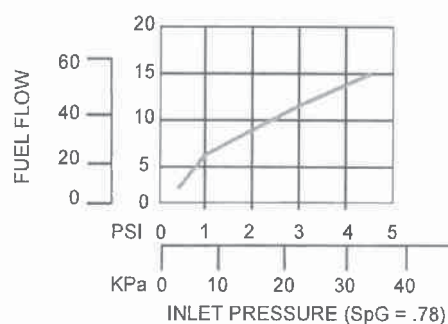


Swivels

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
6350	3/4" M x 3/4" F Multi-Plane Swivel	.44 (.19)

Construction

Body	Aluminum with Electroless Nickel Plating
Inner O-ring	Fluorosilicone
Outer O-ring	Fluorocarbon
Threads	3/4" / 19.1 mm NPTF



E85 Safe-T-Breaks®



10-9

SAFE-T-BREAKS®

All Husky® Safe-T-Breaks® stop the flow of fuel on both sides of the separation.

- Compatible with unleaded, diesel and all Ethanol blends through E85.
- Unit is lightweight, inexpensive and disposable.
- Features same instant closing dual poppet check valve design as Model 006360.
- Maximum separation of 300 lbf / 1334.5 N.



Model 006273

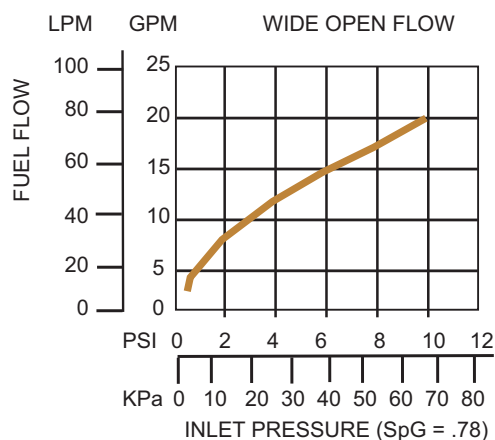
E85 Safe-T-Breaks®

MODEL NO.	DESCRIPTION	SHIPPING WEIGHT LBS (KG)
006273	¾" F x ¾" F Standard Non-Reconnectable Safe-T-Break®	.30 (.13)

Construction

Body	Aluminum with Electroless Nickel Plating
Seals	Fluorocarbon
Springs	Stainless Steel
Threads	¾" / 19.1 mm NPT

006273



flexsteel® Futura™ Ethan-ALL™
Dispensing Hose Assembly

Product Specifications

Application
Flexsteel® Futura™ Ethan-ALL™ dispensing hose assembly is certified for use in ethanol dispensing applications up to 150°F. This assembly provides the quality Futurin™ cover with superior ozone resistance along with a premium layline. Tube construction meets the E25/E85 compatibility test requirements of UL 330A.

Flexsteel® Futura™ Ethan-ALL™ dispensing hose assembly uses the ContiTech proprietary Fuel Grip™ fitting and a premium nickel coating to ensure corrosion is limited.

Construction
Cover: synthetic rubber
Reinforcement: Futurin™ synthetic rubber
Braid: none

Temperature Range
-40°F to 140°F (-40°C to 60°C)

Coupling
Available in factory-coupled assemblies only.

Branding
Continental ContiTech 3/4"  Flexsteel® Futura™ Ethan-ALL™ E85 559N Made in USA

Order Codes
532-337-124

Flexsteel® Futura™ Ethan-ALL™ Dispensing Hose Assembly

OD			Max. WP		Weight	
mm	in.	mm	psi	MPa	lb./ft.	kg/m
19.1	1.13	28.7	50	0.34	0.46	0.69

Sensor Application Matrix

			Where Used							Category							Fuel Compatibility													
Sensor Description	Form #	Page #	Dispenser Pan	Spill Containment	STP Sump	Convault Tank	Annular Space	Monitoring Well	Oil/Water Separator tank	Discriminating	Non-Discriminating	Position Sensitive	Level Sensing	Static Testing	Hydrostatic	100% Gasoline	Diesel	Kerosene	Jet Fuel	Aviation Gas	E-15	E-85	E-100	Bio-Diesel 20	Bio-Diesel 100	Renewable (Green) Diesel	Diesel Exhaust Fuel (DEF)	Waste Oil	Motor Oil	
DPS Standard Dispenser Pan	794380-322	2	X	X						X						X	X	X	X	X	X	X ¹		X		X		X	X	
CSS Standard Containment Sump	794380-352	3		X	X					X						X	X	X	X	X	X	X ¹		X		X		X	X	
DPO Optical Dispenser Pan	794380-320	4	X	X						X						X	X	X	X	X	X	X ¹		X		X		X	X	
CSO Optical Containment Sump	794380-350	5		X	X					X						X	X	X	X	X	X	X ¹		X		X		X	X	
MSS Mag Sump Sensor	857080-XXX	6	X	X	X					X		X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	
SSDP Solid-State Dispenser Pan	794380-321	7	X	X							X					X	X	X	X	X	X	X		X	X	X		X	X	
SSCS Solid-State Containment Sump	794380-351	8		X	X						X					X	X	X	X	X	X	X		X	X	X		X	X	
Piping Sump	794380-208	9	X	X	X						X					X	X	X	X	X	X	X		X		X		X	X	
Non-Discriminating Standalone Dispenser Pan	847990-001	10	X	X	X						X					X	X	X	X	X	X	X		X		X		X	X	
Position-Sensitive Interstitial for Fiberglass Tanks, Discriminating	794380-323	11	X	X	X						X	X				X	X	X	X	X	X	X	X	X	X		X		X	X
Interstitial for Fiberglass Tanks	794380-343	12					X			X						X	X	X	X	X	X	X		X	X	X	X	X	X	
Interstitial for Fiberglass Tanks	794390-409	13					X				X					X	X	X	X	X	X	X		X		X				
Interstitial for Fiberglass Tanks, High Alcohol	794380-345	14					X				X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Interstitial for Steel Tanks	794390-4X0	15			X		X				X					X	X	X	X	X	X	X		X		X		X	X	
Interstitial for Steel Tanks, Position Sensitive ²	794380-333	16		X			X				X	X				X	X	X	X	X	X	X	X	X	X	X		X	X	
Interstitial for Steel Tanks, High Alcohol	794380-430	17					X				X					X	X	X	X	X	X	X	X	X	X	X		X	X	
Interstitial for Steel Tanks, High Alcohol, small footprint	794380-344	18		X			X				X					X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Hydrostatic Reservoir (Dual Point)	794380-303	19					X								X	X	X	X	X	X	X	X ¹	X ¹	X		X		X	X	
Single-Point Hydrostatic Sensor	794380-301	20					X								X	X	X	X	X	X	X	X ¹	X ¹	X		X				
Single-Point Mini-Hydrostatic Reservoir (High Alcohol)	794380-304	21					X								X	X	X	X	X	X	X	X	X	X	X	X		X	X	
Vapor	794390-700	22						X								X			X	X	X									
Groundwater	794380-62X	23						X								X	X	X	X	X	X			X		X		X	X	
Oil / Water Separator	794890-XXX	24							X							X	X	X	X	X	X			X				X	X	

¹Single use only if sensor was exposed to E85 or E100 (Test per Sensor Operability Guide [P/N 577013-814] in E-10 or less)

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

Specifications and Compatible Fluids Requirements

The table below lists Veeder-Root Line Leak Detector specifications.

SPECIFICATION	TLS-4XX w/ DPLLD	TLS-350 w/ PLLD	TLS-350 w/ WPLLD
OPERATING TEMP:	-25 TO +130°F	-25 TO +130°F	-25 TO +130°F
COMPATIBLE FUELS:	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 0 - 100% ETHANOL 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 0 - 100% ETHANOL 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE	UNLEADED GASOLINE LEADED GASOLINE 5% METHANOL / 95% UNLEADED 10% ETHANOL / 90% UNLEADED 15% MTBE / 85% UNLEADED DIESEL BIODIESEL (UP TO B100) ^{1,2} KEROSENE JET FUEL AVIATION GASOLINE
LINE FLOW RATE:	120 GPM MAX. W/SWIFTCHECK VALVE	120 GPM MAX. W/SWIFTCHECK VALVE	120 GPM MAX. W/SWIFTCHECK VALVE
OPERATING RANGE:	0 - 70 PSI	0 - 70 PSI	0 - 70 PSI
PROOF PRESSURE:	200 PSI	200 PSI	200 PSI
MAX. VERTICAL PIPELINE HEIGHT ABOVE TRANSDUCER³	11 FEET	11 FEET	11 FEET
MINIMUM PUMP OUTPUT PRESSURE⁴	23 psi	23 psi	23 psi

¹Biodiesel compliant with ASTM D7467 (up to B20) or ASTM D6751.

²Consult pump manufacturer for compatibility ratings on fuel blends greater than B20.

³Applications that exceed these max. vertical pipeline heights will require further consultation. Please contact Veeder-Root at 800-323-1799 (request a Veeder-Root/Red Jacket Application Engineer).

⁴Pump output pressure should be a minimum of 4 psi above the check valve's relief pressure.

Veeder-Root recommends that system software for the console be upgraded to the latest version when installing any new hardware. For TLS-350 Consoles, when installing latest software, PLLD or WPLLD must be specified and customer must upgrade to ECPU2 if not already installed. See Accessories/Upgrades section of price book or your local Veeder-Root authorized distributor for details.



Home › Automatic Tank Gauging Products ›
Probes & Float Kits ›
Magnetostriuctive Plus Probe for Alternative Fluid

MAG PLUS PROBE FOR ALTERNATIVE FLUID

Designed for alternative fuel environments

The Magnetostriuctive (MAG) Plus Probe for Alternative Fluids is constructed of stainless steel tubing and can be configured for several different tank applications.



Get a Quote



Find a Distributor



Compatible with a wide range of fuel types

Certified for inventory control, in-tank leak detection and water detection in multiple fluids including gasoline, diesel, and fluids up to 100% alcohol. The in-tank probe solution when used in underground storage tank applications is certified to exceed U.S. EPA performance standards and can accommodate 2", 3" and 4" float kits.

Employing magnetostrictive sensing technology, the MAG Plus Probe for Alternate Fuels gives tank owners visibility to measure and identify multiple liquid readings such as height, liquid temperature, and water.

The MAG Plus Probe for Alternative Fuels is constructed from stainless steel tubing and comes in a variety of models that include high growth polymer or aluminum canisters. It can be ordered as inventory control only, 0.1 or 0.2 gallon per hour leak detection models, and all can be ordered with or without water detection.

Product Form

Product Number	Description	Notes
846397-1XX	MAG Plus 0.1 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
846391-1XX	MAG Plus 0.1 In-Tank Probe with Aluminum Canister for Alternative Fluids with Water Detection	UL



Fluids with No Water Detection



846391-4XX	MAG Plus 0.1 In-Tank Probe with Aluminum Canister for Alternative Fluids with No Water Detection	UL
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846397-2XX	MAG Plus 0.2 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
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846391-2XX	MAG Plus 0.2 In-Tank Probe with Aluminum Canister for Alternative Fluids with Water Detection	UL
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846397-5XX	MAG Plus 0.2 In-Tank with High Grade Polymer (HGP) Canister for Alternative Fluids with No Water Detection	UL
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846391-5XX	MAG Plus 0.2 In-Tank Probe with Aluminum Canister for Alternative Fluids with No Water Detection	UL
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846397-3XX	MAG Plus In-Tank Inventory Only with High Grade Polymer (HGP) Canister for Alternative Fluids with Water Detection	UL
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OPW 101BG-2100 Series Below-Grade Spill Containers

OPW Below-Grade Spill Containment Manholes are used in new tank or riser pipe installations. The watertight spill containment chamber is installed completely below grade level. A grade level manhole cover lies flush with the driveway grade to reduce a tripping hazard and the potential for damage from snow plows and traffic. Surface water drains into the backfill between the manhole skirt and the exterior of the containment bucket. Below-grade spill containers are available in thread-on and slip-on configurations in 5 and 15-gallon capacities.

101BG Slip-on Model Instruction Sheet Order Number: **H12579M**

101BG-2100 Instruction Sheet Order Number: **H12260M**

Important Notice: The OPW101BG-2100 Spill Container Series does not prevent contamination of the soil or backfill resulting from spills flowing between the spill container and the outer shell. Ground contamination may result if the spill container is filled beyond capacity, or if a spill occurs outside the spill containment cell.

- ◆ Highway 20 Rated (H20) – all OPW spill containers and manholes exceed the requirements of the Highway 20 rating.

Materials

Grade Cover: Fiberglass reinforced composite (steel optional)
Lid: Glass reinforced composite
Lever, top case: Polyethylene
Outer shell: Polyethylene, powder-coated steel
Containment cell: Polyethylene
Base: Duratuff® II or cast iron

**101BG-2115,
15-Gallon**



Features

- ◆ Pull-to-Open Drain Valve – allows high-speed drainage of excess product into the tank. Designed with a convenient self-cleaning seal and removable screen for easier component cleaning. (CARB Approved)
- ◆ Capacity – 5-gallon and 15-gallon capacities.
- ◆ Outer Shell – the outer shell isolates the containment vessel from the surrounding concrete and gravel. This high-density polyethylene shell is designed to provide space between the outer shell and the containment vessel to allow any surface water that enters to flow into the backfill, not the containment vessel. Elimination of water in the spill container reduces product contamination and ice formation during cold winter months.
- ◆ Vapor-Tight Lid – a unique, hinged and sealed containment vessel lid provides a vapor-tight seal, designed to prevent vapors from escaping at ground level while eliminating the accumulation of dirt and water that contaminate fuel. Incorporating a special lid interlock design, the grade level cover cannot be replaced on the outer shell without the lever being in the closed and locked position.
- ◆ Composite Grade Level Cover – made of sturdy fiberglass-reinforced composite, the grade cover is less prone to theft than aluminum covers, and lighter in weight than cast iron. In addition, the cover lies flush with the actual grade so no ramps are required to support the cover, eliminating snow plow hazards and "speed bumps." (Optional steel plate cover is also available)
- ◆ Fuel Compatibility – designed to accommodate the fuels of the future, including methanol, ethanol and fuels with MTBE additives.
- ◆ Easy Installation – reduces job-site time and installation costs. Simply thread the Duratuff® II base (cast iron base is optional) onto a standard 4" schedule 40 pipe. Guides are provided to assure proper positioning of the spill container. The hinged lid orientation is adjustable during installation for site-specific placement.
- ◆ Product Identification Tags – available for both the spill container cover and bucket to positively identify the product contained in the UST with standard API symbols. (See product I.D. tag specification page for more information: page 74.)

Listings and Certifications

CARB Certifications and Listings

101BG(S)-2100
101BG(S)-2115

Approval Letter #93-26



Ordering Specifications

Duratuff® II Base Models

Model	Gal.	Liter	Drain Valve	lbs.	kg
101BG-2100	5	19	Pull	60	27
101BG-2105**	5	19	None	60	27
101BG-2115	15	57	Pull	65	29

**Slip-on Base

Cast Iron Base Models

Model	Gal.	Liter	Drain Valve	lbs.	kg
101BG-2100C	5	19	Pull	72	33
101BG-2115C	15	57	Pull	77	35

Dimensions

	101BG-2100		101BG-2115	
	in.	cm	in.	cm
A	20 ⁹ / ₁₆	52	20 ⁹ / ₁₆	52
B	17 ¹ / ₄	44	25 ¹ / ₂	65
C*	23 ²⁹ / ₃₂	76	27 ³¹ / ₃₂	71
D	22 ¹ / ₁₆	56	26 ⁵ / ₃₂	66

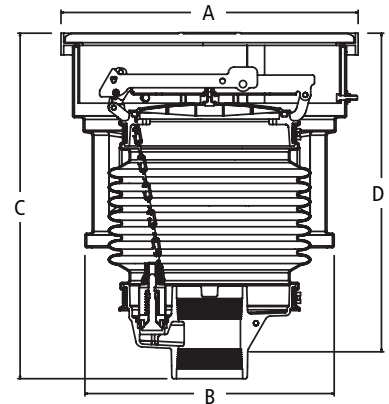
*Subtract 2" from "C" dimension for Cast Iron Base Models.

Replacement Parts/Accessories

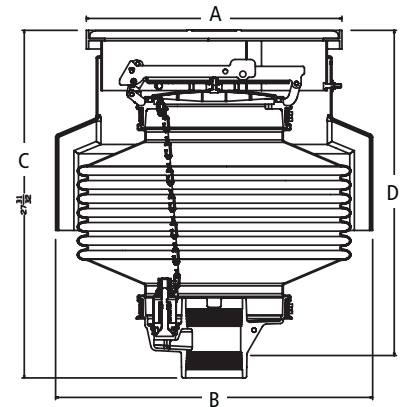
Part #	Description
1DK-2100-EVR	Pull Drain Valve
101BG-21AR	Inside Hatch Height Extender
101BG-21LA	Red Lever & Crossarm Assembly
101BG-LATCH	Latch Kit; Yoke, Cotterpin & Spring
101BG-BUCKET	5 Gallon Replacement Spill Container
C04785M	5 Gallon Insert Support
C04476M	15 Gallon Insert Support

Part #	Description
101BG-COVER	Composite Manhole Cover
E00491	Complete Replacement Top Assembly
H11671M	Steel Manhole Cover
H12280M	Ring Seal
H12620	Inside Hatch
P110-20LID	Steel Manhole Cover w/ID Tag System

101BG-2100, 5-Gallon

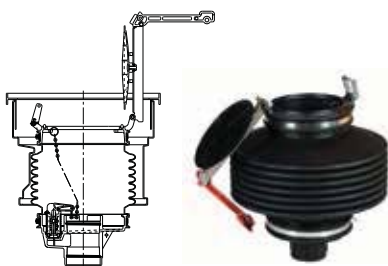


101BG-2115, 15-Gallon

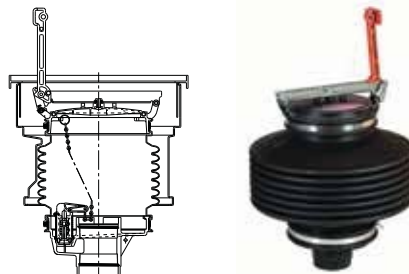


NOTE: "D" dimension is height from riser pipe to finish grade (+1" for slope)

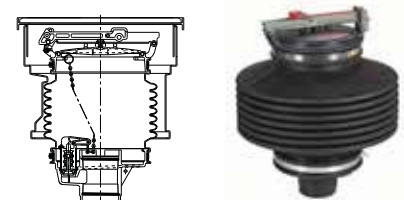
Operation of 101BG Lid



Lid and lever in open position.



Lid down, but not closed. Lever still in upright position preventing replacement of grade cover.



Lid and lever in closed and locked position. Grade cover now easily replaced on rim.

1DK-2100 Drain Valve Kit Instruction Sheet Order Number: H11471M



Below Ground Products Fuel Compatibility Matrix

Updated 1/2015

OPW Product Number	Description	Standard Fuels: ≤15% Ethanol Gasoline ≤5% Bio-Diesel*	High Ethanol Content Gasoline: 15-100% Ethanol	High Biodiesel Content 5-20% Biodiesel*	Av- Gas / Jet Fuel	Kerosene / Fuel Oil
CXXA Double Wall Piping	Double Wall Primary Piping	X	X	X	X	X
DPC-2150/DPC-2200	Double Wall Pipe Couplings	X	X	X	X	X
SPC-0150, SPC-0200, SPC-0300	Single Wall Pipe Coupling	X	X	X	X	X
SPC-0075, SPC-0100	Single Wall Coupling Male NPT	X	X	X	X	X
SMA-1515, SMA-1520, SMA-2020, SMA-3030	E-Coated Male Adaptors	X	X	X	X	X
STF-1515, STF-2020, STF-2215, STF-2020	E-Coated Swivel Tees	X	X	X	X	X
SEF-1515, SRE-2015, SEF-2020, SEF-3030	E-Coated Swivel Elbows	X	X	X	X	X
SBC-2150, SBC-2200	Stainless Steel Swivel Bolt On Coupling	X	X	X	X	X
SMA-7575, SMA-1010	Swivel Male Adaptor (Brass or Zinc Plated)	X			X	X
SFA-7575, SFA-1010	Swivel Female Adaptor (Brass or Zinc Plated)	X			X	X
1-2100 Series / Multiports	Spill Containers	X	X	X	X	X
101BG-Series	Spill Containers	X	X	X	X	X
1-3100 Series (Edge)	Double Wall & Single Wall Spill Container Series	X	X	X	X	X
60V Series	Vapor Line Shear Valve	X	X	X	X	X
10 Series	Emergency Shut Off Valve	X	X	X	X	X
10 Plus Series	Emergency Shut Off Valve	X	X	X	X	X
10P-0152E85	E85 UL Approved Emergency Shut Off Valve	X	UL	X	X	X
61SALP-1020-EVR	Fill Swivel Adaptor	X	X	X	X	X
633T-8076	Fill Adaptor	X	X	X	X	X
61VSA-1020-EVR	Vapor Swivel Adaptor	X	X	X	X	X
1611AVB-1625	Vapor Adaptor	X	X	X	X	X
634TT-7085-EVR	Fill Cap	X	X	X	X	X
1711T-7085-EVR	Vapor Cap	X	X	X	X	X
634LPC-040	Low Profile Fill Cap	X	X	X	X	X
1711LPC-0300	Low Profile Vapor Cap	X	X	X	X	X
62M Series	Monitoring Probe Cap	X	X	X	X	X
61SO Series	Overfill Valve	X			X	X
61SOM Series	Overfill Valve Anodized	X	X		X	X
6111 & 61TP Series	Tank Bottom Protectors	X			X	X
61T Series	Drop Tubes	X			X	X
71SO Series	Overfill Valve	X			X	X
71SOM Series	Overfill Valve	X	X		X	X
233 Series	Extractor Valve	X	X	X	X	X
FCXX Series	Stainless Flex Connectors	X	X	X	X	X
53VML/30MV Series	Ball Floats	X	X	X	X	X
523V Series	Pressure Vacuum Vent	X	X	X	X	X
623V Series	Pressure Vacuum Vent	X	X	X	X	X

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

UL - Emergency valve has UL or UL Approval for greater than 15% Ethanol Content ≤ Refers to less than or equal to the fuel standard rating for percentage of content



Top Adapter

DEFENDER SERIES™ OVERFILL PREVENTION VALVE

The Defender Series™ overfill prevention valve (OPV) is a self-contained two-stage positive shut-off valve that prevents the overfill of an underground storage tank (UST) during a gravity-fed product delivery. The Defender Series™ OPV employs a revolutionary magnetically-coupled actuator system to provide positive shut-off. This unique method of shut-off eliminates any penetrations in the valve, making it both vapor-and leak-tight. The Defender Series™ OPV provides safe, rapid, and reliable fuel drops for the broadest range of fuel applications and environmental conditions. Simple to install, service, and test remotely, the Defender Series™ OPV is the industry's most versatile overfill prevention valve.

Highlights

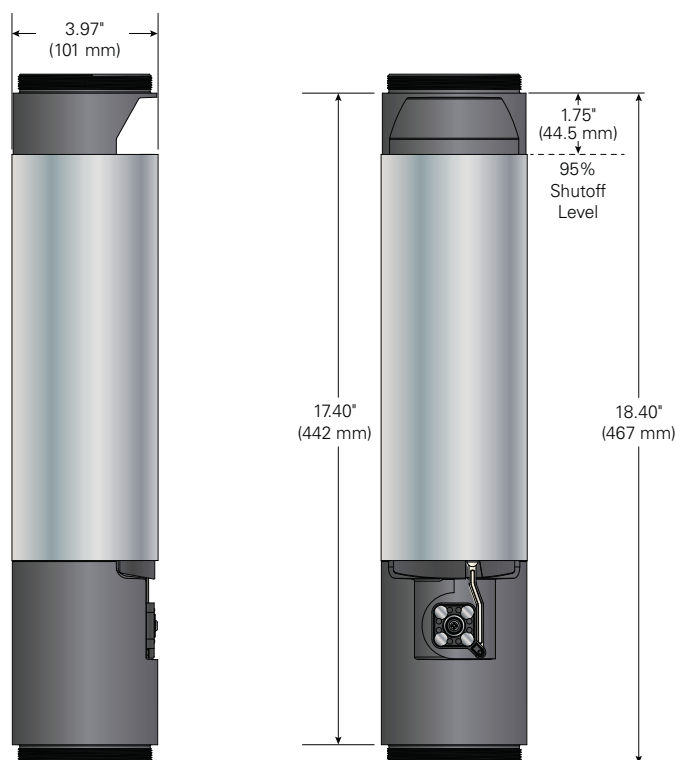
- Magnetic coupler actuates the interior primary flapper assembly and secondary shut-off valve when the float rises outside of the valve, eliminating valve body penetrations and any potential product or vapor leak points.
- After cutting to length in the field, the upper drop tube is roll-crimped onto a top adapter outfitted with two O-rings and then threaded onto the top of the valve body, eliminating the need for drilling, rivets, epoxy, and flaring tools.
- Bottom drop tube is cut in the field and threaded onto the bottom of the valve ensuring straight installation.
- The roll-crimp/thread method of installing drop tubes ensures proper alignment of the drop tubes with the rest of the OPV assembly, making installation and removal of the entire assembly smooth.
- Damaged drop tubes can be easily replaced instead of having to purchase an entire new assembly.
- Fully compatible with gas, gas/alcohol blends, diesel and biodiesel.
- Compatible with industry standard 4" drop tubes allowing retrofit into existing installations.
- The entire OPV assembly remains within the 4" inner diameter of the riser preventing interference with other tank components and also allowing removal even while the tank is full.
- Actuates in both low-and high-flow applications and functions within a broad range of flow rates from 25 gpm to 370 gpm (95 lpm to 1,400 lpm) and higher.
- The remote testing tool allows for remote testing of the primary functionality without having to remove the OPV from the riser.

Specifications

Approvals/Certifications

- ULc listed.
- ATEX approved.

Dimensions



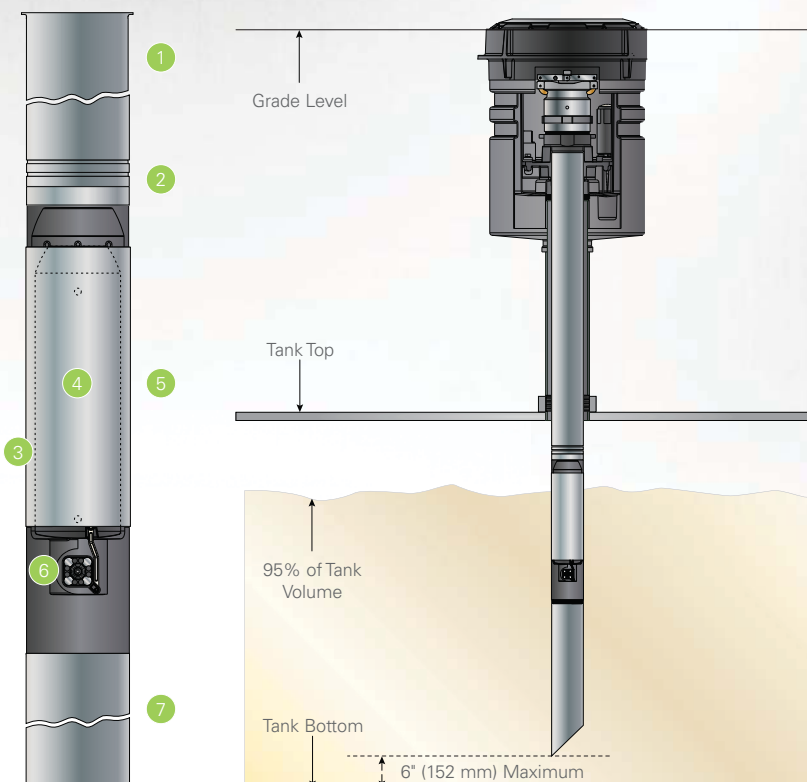
Specifications continued

Components

- 1 Pre-flanged aluminum top drop tube
- 2 Roll-crimped top fitting/drop tube
- 3 Protective float sleeve
- 4 Float (shielded by float sleeve)
- 5 Valve assembly
- 6 Magnetically-coupled actuator
- 7 Threaded bottom drop tube

Operation

As the liquid level in the UST approaches 95% capacity, the liquid level raises the float. As the float rises it actuates the external/internal magnetic couplers which release the flapper to be closed by the flow of product. As the float continues to rise, the internal mechanism pushes the flapper further into the product flow to allow actuation at high or low flow rates. This sudden reduction in flow caused by the primary flapper closing creates "line shock" to the fill hose which signals the delivery driver that the tank is nearing 95% capacity. As the float continues to rise to the 95% fill level, the secondary closes, completely stopping the flow of fuel.



Ordering Information

Model	Description
708591901	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 8' (2438mm) bottom drop tube
708591902	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 10' (3048mm) bottom drop tube
708591922	Defender Series™ overfill prevention valve with 5' (1524mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible*
708592901	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 8' (2438mm) bottom drop tube
708592902	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube
708592921	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 8' (2438mm) bottom drop tube, AGB compatible*
708592922	Defender Series™ overfill prevention valve with 10' (3048mm) top drop tube, 10' (3048mm) bottom drop tube, AGB compatible*
708593901	Defender Series™ overfill prevention valve, coaxial with 6.5' (1981mm) top drop tube, 8' (2438mm) bottom drop tube
708593902	Defender Series™ overfill prevention valve, coaxial with 6.5' (1981mm) top drop tube, 10' (3048mm) bottom drop tube
708593923	Defender Series™ overfill prevention valve, poppeted coaxial with 6.5' (1981mm) top drop tube, 8' (2438mm) bottom drop tube
708593924	Defender Series™ overfill prevention valve, poppeted coaxial with 6.5' (1981mm) top drop tube, 10' (3048mm) bottom drop tube
708594901	Defender Series™ overfill prevention valve only with top adapter, AGB compatible*
708594902	Defender Series™ overfill prevention valve only with coaxial top adapter, AGB compatible*
708535901	Roll crimping tool
708530930	Replacement roll crimper tool roller bit for retrofit with existing tool
708534901	Remote testing tool, 11' (3353mm) long sectional/collapsible

*Alcohol, gas, biofuel compatible (E-85, gasoline and biodiesel) models come with hard coated anodized drop tubes for full compatibility.



Bennett 3000 Series



- Retail or **Commercial Versions**
- **Remote** or Suction
- **Electronic** or Mechanical
- High Hose or **Low Hose** Styling
- **Side** or Front Mount Nozzle Boots
- Interfaces to most major fleet management systems
- Heavy duty lift-lever nozzle boots
- Galvaneal Chassis
- Powder coated painted panels
- Stainless Steel Panels option
- Custom graphics and paint
- Hinged swing-out lower doors
- Hinged swing-down upper doors
- LED backlighting for LCD's on electronic models
- Electronic calibration for electronic models
- Companion Satellites for remote dispensers
- Cascade dial face lighting for mechanicals
- Attendant Local Preset option

- Conventional Flow Rates 15 to 24gpm
- Truck Stop Flow Rates to 60gpm
- Pulser options for mechanicals
- Pulse output options for electronics
- Balance vapor options for high hose units
- Manual reset options for mechanicals
- Intercom speaker option for high hose models
- **E85 Compatibility options**
- Magnet activated totals for electronic models
- Junction box options
- Satellite-in-use light option
- Standard electromechanical totalizers in electronic models
- Standard last sale recall for electronic models
- Standard inlet check valve for all remote Models

All features and options may not apply to all models. See individual model cut sheets for full specifications and options

TECHNICAL DATA

2013

Description

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

Type

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

Typical Uses

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

Substrates

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

Chemical Resistance

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

Set Time

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

Packaging

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

For Chemical Emergency, Spill, Leak,
Fire, Exposure or Accident Call:
CHEMTREC - Day or Night. 1-800-424-9300
KEEP OUT OF THE REACH OF CHILDREN

Product Data Sheet

Safety

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

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

Wt./Gal.: 11.35 lbs

Color: Medium/Green

Clean Up: Hand cleaner or alcohol.

Temperature Range

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

Pressure Range

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

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



FEDERAL PROCESS
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MSDS Sheets Available Online

#DS-ES

Gasoil® Quick and Easy Sealant Reference Guide

Soft-Set



- General Purpose, Top-selling Sealant
- Perfect for New Pipes
- Stays Pliable in Cold Temperatures
- Non-Hardening,
- Non-Separating
- Non-Toxic

E-Seal



- Specifically for E10 and E85
- Stays Pliable in Cold Temperatures
- Non-Hardening,
- Non-Separating
- Non-Toxic

Hard-Set



- Hard Setting Sealant
- Assembles Threaded Joints Permanently
- Excellent for Coating Surfaces.
- Impervious to Gasoline
- Flammable

PLS-2



- Ideal for Demanding Pneumatic and LPG Applications

100



- Ideal for use on Systems with 100% Methanol, Ethanol, Alcohol and Highly Corrosive Chemicals
- Soft Setting

JC-30



- For Damaged, Irregular, Mis-cut and Straight Threads
- Vegetable Oil Base
- Thick Consistency, 10-15% more Solids than Conventional Sealants

NT



- Soft Setting for Applications Requiring Grit-Free, Non-PTFE Compound
- No Fillers to Contaminate Gas Lines
- For use when Non-PTFE Sealant is Preferred

FasSeal ATS

Anaerobic Thread Sealant that cures in Absence of Oxygen • Ideal for Refrigeration or other High Vibration Applications • High Speed Curing Time • Vibration Resistant.



TYPE	APPLICATIONS	USED BY	USED ON	APPROVALS
Blue Gray Paste with PTFE	Water, Steam, Natural Gas, LPG, Propane, Gasoline, Butane *Not for Use with Oxygen systems	• Mechanical Contractors • Plumbers • Gas Utilities • Service Station Installers • Manufacturing Plants	All Metals and Most Plastics	CSA, UL NSF 61 NSF 14
Green Paste with PTFE	Ethanol Blended Gasoline, including E10 and E85 (*NOT 100% Ethanol applications) *Not for Use with Oxygen systems	• Gas Station Installers	All Metals	UL
Red Varnish	Aliphatic, Aromatic and Chlorinated Solvents *Not for Use with Oxygen systems	• Auto Industry to Seal Drive Trains, Coat parts • Contractors Installing Underground Piping, Steam Systems • Marine Manufacturers	All Metals, Rubber, Porcelain, Wood	UL
Gray Paste with PTFE	Chlorine, Diesel, Jet Fuel, Steam, Dilute Acid, LPG *Not for Use with Oxygen systems	• Chemical Plants, • Gas Utilities • Refineries • Airlines, Hydraulics • Tank Trucks	All Metals and Most Plastics	CSA UL
Black Paste	High Concentrations of Alcohol, Solvents, Caustic Chemicals 100% Ethanol 100% Methanol *Not for Use with Oxygen systems	• Pharmaceutical • Chemical Companies	All Metals and Fiberglass *Not for Use on Plastic Pipe *Threads must be Clean Prior to use	
Oyster White Paste with PTFE	Water, Steam, Natural Gas, LPG, Propane, Gasoline, Freon 22 and Hydraulic Fluids *Not for Use with Oxygen systems	• Plumbers, • Gas Utilities • Manufacturing Plants	All Metals	
Dark Blue Paste without PTFE	Water, Steam, LPG, Propane, Gasoline *Not for Use with Oxygen systems	• Propane Companies • Petroleum Companies	All Metals and Most Plastics	NSF 61 NSF 14
Smooth White Paste with PTFE	Air Conditioning Lines, Hydraulic-Pneumatic Lines, Air Compressor Hoses, Sprinkler Installations *Not for Use with Oxygen systems	• HVAC • Refrigeration Companies	Metals *Not for Use on Plastic Pipe	UL