

# Electronic Pressurized Line Leak Detection (PLLD)

## Why Electronic PLLD for Detecting Line Leaks?

The Veeder-Root Electronic Pressurized Line Leak Detection (PLLD) system is designed to meet your everyday compliance needs. Our patented technology performs precision line leak testing at full pump pressure for 0.1 and 0.2 gallons per hour (gph) and a pressure decay test to meet the U.S. EPA 3.0 gph test requirements. The Veeder-Root Electronic PLLD system works in a variety of pressurized line applications, and offers flexible testing and digital reporting options, helping to detect catastrophic leaks. When paired with a TLS-450PLUS Automatic Tank Gauge (ATG), customers can monitor up to 1178 gallons of fuel line volume.



*If the pressure is out of normal range, the TLS-450PLUS will record a failing result and generate an audible and visual alarm for the store operator.*

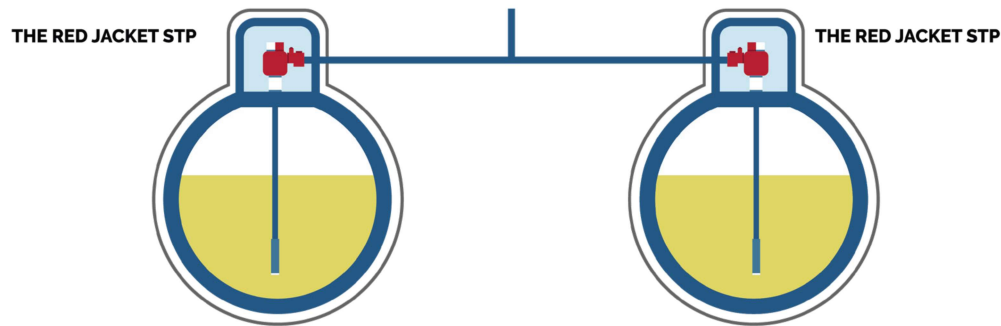


## SYSTEM FEATURES

- **Pressure sensor is installed without breaking piping or adding a new sump**, and is constructed with stainless steel to meet the challenges of a highly corrosive environment.
- **Test lines at full pressure** for quick and accurate results, without restricting fuel flow rate.
- **Conducts a 3.0 gph test**, which meets EPA and NFPA 30 release detection requirement for pressurized line systems, once all dispensing is completed to ensure the integrity of the line.
- **Standard 3.0 gph and optional 0.1 and 0.2 gph tests** can be manually performed to reset alarms.
- **Monitors line pressure during dispensing activity** to ensure a catastrophic leak is not occurring during a dispense. If a leak is detected at a pre-set pressure threshold, the system will shutoff power to the Submersible Turbine Pump (STP) to minimize environmental damage and prevent a public safety issue.
- **Built-in calibration verification** to notify the site operator when the pressure transducer is not operating properly.
- **Auto-Confirm function**, when enabled, runs a second line leak test, if an initial test failure occurs, to verify and reduce false alarms due to mechanical issues that may be occurring in other parts of the fueling system.
- **Provides two alarm shutdown options when failure occurs:** Standard Dispenser Shutdown (Alarm and Shutdown) and Optional No Shutdown (Alarm Only).
- **Not impacted by thermal contraction of fuel in the line** due to changes in temperature.

## ► SUPPORTS MANIFOLDED LINES

One transducer per manifolded line is required



### STPs and Piping

Supports a wide-range of pump and pipe types.

Utilizes Swiftcheck Valve on early generation Red Jacket Standard STPs.

For further details, [click here for the Line Leak Application Guide](#)

### Line Leak Transducer Specifications

|                                                   |                                                                                                                                                                                             |                                                                                                                                                                |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature                             | -25 °F to +130 °F                                                                                                                                                                           |                                                                                                                                                                |
| Compatible Fuel Types                             | <ul style="list-style-type: none"> <li>• Unleaded Gasoline</li> <li>• Leaded Gasoline</li> <li>• 5% Methanol</li> <li>• Up to 100% Ethanol</li> <li>• 15% MTBE</li> <li>• Diesel</li> </ul> | <ul style="list-style-type: none"> <li>• Biodiesel (Up to B100)</li> <li>• Kerosene</li> <li>• Jet Fuel</li> <li>• Aviation Gasoline</li> <li>• DEF</li> </ul> |
| Line Flow Rate                                    | 120 GPM Max w/ Swiftcheck Valve                                                                                                                                                             |                                                                                                                                                                |
| Operating Range                                   | 0 – 70 PSI                                                                                                                                                                                  |                                                                                                                                                                |
| Proof Pressure                                    | 200 PSI                                                                                                                                                                                     |                                                                                                                                                                |
| Maximum Vertical Pipeline Height Above Transducer | 11 ft                                                                                                                                                                                       |                                                                                                                                                                |
| Minimum Pump Output Pressure                      | 23 PSI                                                                                                                                                                                      |                                                                                                                                                                |
| Maximum Volume of Fuel Monitored                  | <ul style="list-style-type: none"> <li>• TLS-450PLUS – 1178 gallons</li> <li>• TLS-350 – 212 gallons</li> </ul>                                                                             |                                                                                                                                                                |

### TLS-450PLUS Line Leak Digital Transducer Ordering Information

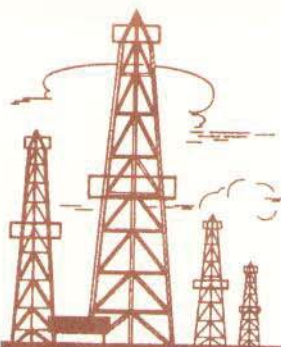
| Part Number | Description                                                                                 |
|-------------|---------------------------------------------------------------------------------------------|
| 859080-001  | Digital Pressurized Line Leak Detector (DPLLD) without SwiftCheck Valve, UL                 |
| 859080-002  | Digital Pressurized Line Leak Detector (DPLLD) with SwiftCheck Valve, UL                    |
| 332812-001  | 16 Input Universal Sensor Module (USM)                                                      |
| 332813-001  | 5 Universal Input/Output Interface Module (UIOM), Relay Control and Input Signal Monitoring |
| 332972-007  | Ultimate Testing: Digital Line Leak Detection*                                              |
| 332972-008  | Risk Management: Digital Line Leak Detection*                                               |
| 332972-009  | Base Compliance: Digital Line Leak Detection*                                               |

### TLS-350 Line Leak Analog Transducer Ordering Information

| Part Number | Description                                                        |
|-------------|--------------------------------------------------------------------|
| 848480-001  | Pressurized Line Leak Detector (PLLD) without SwiftCheck Valve, UL |
| 848480-003  | Pressurized Line Leak Detector (PLLD) with SwiftCheck Valve, UL    |
| 330843-001  | 6 Input Pressurized Line Leak Interface for use with PLLD Module   |
| 330374-001  | 3 Output Pressurized Line Leak Controller                          |
| 330160-010  | Ultimate Testing: Pressurized Line Leak Detection (PLLD)*          |
| 330160-060  | Risk Management: Pressurized Line Leak Detection (PLLD)*           |
| 330160-050  | Base Compliance: Pressurized Line Leak Detection (PLLD)*           |

\* One per system required for precision line leak detection capability.

NOTE: The TLS-350 analog transducer is not compatible with the TLS-450PLUS ATG.



# ILLOWA

## ENTERPRISES, INC.

### PETROLEUM EQUIPMENT

### SALES - INSTALLATION - SERVICE

2703 4TH AVE.

MOLINE, ILLINOIS 61265

PHONE (309) 762-1729



Sarah Mark  
City of Moline

August 21, 2017

In response to your email concerning the E-85 compatibility please note the following and attached.

- Copy of State Permit to confirm type of tank and piping installed
- Copy of Tank original PO to manufacture
- Copy of piping PO to manufacture showing stainless steel fittings
- Containment sumps are not E-85 compatible. State Fire Marshal approved these sumps at time of installation. Also according to FE Petro technical service, to their knowledge no one makes a E-85 compatible sump. Sumps are not designed to store liquid only to temporarily contain it to trigger alarms which notifies the operator and any liquid being contained is removed.
- Pumping equipment: see PO to manufacture, attached and E-85 documentation.
- Tank and pipe leak detection equipment. See PO attached and supporting E-85 documentation. System does have electronic line leak detection.
- Spill containment. System installed in 2008. When did manufacture revoke its E-85 rating? Also the spill bucket is not designed to store or hold liquid. It contains it and all liquid immediately drains into tank.

Hope this helps, please call with questions or comments.

Respectfully

Robert C Vyncke  
Illowa Enterprises, Inc.



OFFICE OF THE ILLINOIS STATE FIRE MARSHAL  
Division of Technical Services  
1035 Stevenson Drive  
Springfield, Illinois 62703-4259  
(217)524-7605

FOR OFFICE USE ONLY  
Facility # 3-011091  
Permit # 01200-2008INS  
Request Rec'd 07/21/2008  
Amended Date  
Approval Date 7/22/2008 JC  
Permit Expires 1/22/2009

**Permit for INSTALLATION of Underground Storage Tank(s) and Piping for Petroleum and Hazardous Substances.**

Permission to install underground storage tank(s) or piping is hereby granted. Such installation must be in complete accordance with acceptable materials as specified in the Federal Register, Part II Environmental Protection Agency, 40 CFR Parts 280 and 281, and also with all sections of 41 Illinois Administrative Code, Part 170. The contractor the permit was issued to or an employee of that contractor (this does not include a subcontractor) shall submit a required job schedule for installation of underground storage tank(s) to the Office of the State Fire Marshal, Division of Petroleum and Chemical Safety. **THIS PERMIT IS VALID FOR SIX MONTHS FROM THE APPROVAL DATE.**

(1) **OWNER OF TANKS** - Corporation, partnership, or other business entity:

Moline City Of  
619 16Th St  
Moline, IL 61265

Contact: George Stevens (309) 797-0751

(2) **FACILITY** - name and address where tanks are located:

Municipal Ser Garage  
3635 4Th Ave  
Moline, Rock Island Co., IL

Contact: George Stevens (309) 797-0751

(3) **INSTALLATION OF TANKS:**

(a) *Number and size of tanks being installed:* (TK # 6) - 10,000 gallons

(b) *Type of tanks:* (TK # 6) - (Installing) XERXES double wall fiberglass

(c) *Type of piping:* (TK # 6) - (Installing) A.P.T. Poly Tech P175 SC double wall flexible

(d) *Product to be stored in each tank:* (TK # 6) - E-85

(e) *Type of leak detection being used:*

*Tank:* (TK # 6) - (Installing) Veeder Root TLS 350 Plus Automatic tank gauge, (TK # 6) - (Installing) Veeder Root TLS 350 Plus Interstitial tank sensor

*Piping:* (TK # 6) - (Installing) Veeder Root TLS 350 Plus interstitial piping sump sensors at the submersible sump and dispenser sump, (TK # 6) - (Installing) Veeder Root TLS 350 Plus line leak detector

(f) *Corrosion Protection being used:*

*Tank:* (TK # 6) - (Installing) Fiberglass

*Piping:* (TK # 6) - (Installing) Non-corrosive flexible

(g) *Spill containment devices:* (TK # 6) - (Installing) EBW 705 spill containment manhole

(h) *Overfill prevention devices:* (TK # 6) - (Installing) EBW 308 ball float vent valve

(4) The owner must notify this Office when completion of tank installation has occurred, on the Notification for Underground Storage Tank Form and the licensed contractor must submit the required job schedule for installation to the OSFM prior to the work being performed. Both forms can be obtained at [www.state.il.us/osfm](http://www.state.il.us/osfm) or by calling (217)785-1020.

(5) **GENERAL REQUIREMENTS:**

(6) **SPECIAL CONTINGENCIES:** Sump sensors will be located within tank sumps and all dispenser sumps. The distance from the building to the tank must be no less than five feet. The load of the building must not project onto the tank. The underground storage tank system for tank #6 must be compatible with E-85, as indicated in section 170.470, 170.500, 170.530(d)(2), 170.530(j), and 170.540(a) of Title 41 of the Illinois Administrative Code, and as indicated in policy #06-PCS-005 regarding the use of alternative fuels in underground storage tanks. All steel flex connectors or risers in contact with native soils must have corrosion protection. All piping sumps must be hydrostatically tested. Each tank must have an independent vent line that extends aboveground. Manifolding vent lines underground is not allowed. Adequate observation wells must be installed as required in section 170.420 (c)(18) of the Title 41 Illinois Administrative Code. Piping containment sumps are required at the submersibles and beneath all dispensers. A positive shut off valve shall be installed on the product line at the submersible for pressurized systems or at the tank for all suction systems on all new installations and when piping is replaced at existing sites and made accessible at grade. Extractor valve will be accepted on European suction instead of positive shut off valve. Vent lines must be tested at 7 psi minimum or at a pressure recommended by the manufacturer. All steel risers, vents, and fills in contact with the ground, backfill or water shall be dielectrically wrapped or coated.

(7) **PERSON, FIRM OR COMPANY PERFORMING WORK:**



www.walshlong.com

25 S. Washington Street (60540) P.O. Box 300 Naperville, IL 60566-0300  
Phone: 630-527-9933 Fax: 630-527-0097 Email: sales@walshlong.com

| Rep          | Project Name:  |
|--------------|----------------|
| Linda Murzyn | City of Moline |

## QUOTE

|          |         |
|----------|---------|
| Date     | Quote # |
| 07/24/08 | AAQ1140 |

### Quote To:

**Rob Vyncke**  
Illowa Enterprises

2703 4th Avenue  
Moline, IL 61265  
US  
Phone: 309-762-1729  
FAX: 309-762-4735

| Qty | Description                                                                                                               | Unit Price      | Ext. Price          |
|-----|---------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|
| 1   | 10000-8' Double Wall FRP Tank, to include 1-22" manway with 3-4" NPT fittings in cover and 4-4" NPT fittings in tank wall | \$10,088.62     | 10019 ✓ \$10,088.62 |
| 1   | 4 Straps for 10K - 8' dia. tank                                                                                           | \$340.48        | 337 \$340.48        |
| 1   | Deadmen-4-16' for 10K-8'                                                                                                  | \$2,241.20      | 2113.80 \$2,241.20  |
| 1   | Standard freight within 300 miles of Tipton, IA                                                                           | \$860.00        | 770 \$860.00        |
|     |                                                                                                                           | <b>SubTotal</b> | <b>\$13,530.30</b>  |
|     |                                                                                                                           | <b>Total</b>    | <b>\$13,530.30</b>  |

Thank you for the opportunity to quote on the above!

\*Fuel Surcharge may be added to cost of freight. Quote does not include tax. Please be sure to review this quotation for accuracy and compliance with specifications prior to submitting a re-quote or purchase order. Please reference Quote # on the Purchase Order. If you have any questions or require additional information, please do not hesitate to contact us. Contact Walsh, Long & Company if we can help you with any tank accessories such as valves, fittings, piping and tank gauging.

Balsh.it

Please use our  
P.O. # 860295

Rev

• Please visit us at: [www.walshlong.com](http://www.walshlong.com) • Page 1

**XERXES**  
CORPORATION

860297

**PURCHASE ORDER**

|                                             |  |                                             |  |
|---------------------------------------------|--|---------------------------------------------|--|
| TO<br><b>APT</b>                            |  | DATE<br><b>7-17-08</b>                      |  |
| ADDRESS<br><b>608-838-6433</b>              |  | DATE REQUIRED <b>Not</b><br><b>8-17 324</b> |  |
| CITY, STATE, ZIP                            |  | TERMS                                       |  |
| SHIP TO<br><b>Illowa Enterprises, Inc</b>   |  | HOW SHIPPED                                 |  |
| ADDRESS<br><b>2703 4th Ave</b>              |  | REQ. NO. OR DEPT.                           |  |
| CITY, STATE, ZIP<br><b>Moline, IL 61265</b> |  | FOR                                         |  |

| QUANTITY | DESCRIPTION               | PRICE | UNIT    |
|----------|---------------------------|-------|---------|
| 1        | one Dispenser Pump 1913   |       |         |
| 2        | LM M-1913-T 445           |       | 25.365  |
| 3        | 2 FEB-175-SC 40"          |       | 16.1937 |
| 4        | 4 FEB-050-SC 34" ext. 32" |       | 72.96   |
| 5        |                           |       |         |
| 6        | 2 MS-XP-175-200SS         |       |         |
| 7        | Stainless Steel 180"      |       | 205.20  |
| 8        |                           |       |         |
| 9        | 2 Test Darts STB-175 13"  |       | 14.80   |
| 10       |                           |       |         |
| 11       | 1 SBK-25                  |       |         |
| 12       |                           |       |         |

|                                                                                                                                                                             |  |                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------|
| <b>IMPORTANT</b><br>PURCHASE ORDER NUMBER MUST APPEAR ON ALL INVOICES-PACKAGES, ETC.<br>PLEASE NOTIFY US IMMEDIATELY IF YOU ARE UNABLE TO COMPLETE ORDER BY DATE SPECIFIED. |  | PLEASE SEND _____ COPIES OF YOUR INVOICE WITH ORIGINAL BILL OF LADING.<br>PURCHASING AGENT |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------|

2. ndlams 5631

ORIGINAL



## XP PIPE FITTINGS

APT™ brand XP Pipe fittings come in a variety of options for making easy end connections with the flexible pipework system. Each fitting type has been designed to ensure the right solution for any application.



## XP PIPE CLAMSHELL SWIVEL FITTINGS

The swivel fitting action allows for easy installation in tight containment spaces.

### Highlights

- Solid brass or stainless steel construction.
- E-coated clamps provide durability and corrosion resistance from gas/alcohol blends (including E85), diesel and Biodiesel.
- Integrated double O-ring design for leak-tight seal.
- NPT threads are compatible with locally available standard termination fittings.
- 100 psi rated working pressure.
- Stainless steel fittings are biofuel approved (E85, DEF, and Biodiesel).

### Ordering Information

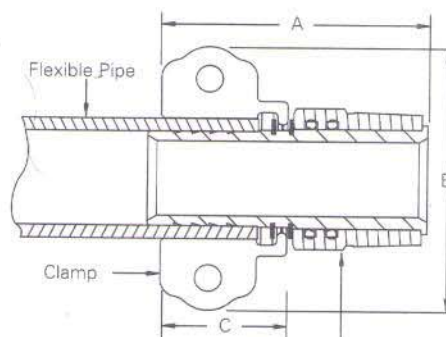
| Model           | Description                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------|
| MS-XP-150-150   | Brass XP pipe clamshell swivel fitting, installs on the end of 1½" single/secondary contained XP pipe with 1½" NPT           |
| MS-XP-175-200   | Brass XP pipe clamshell swivel fitting, installs on the end of 1¾" single/secondary contained XP pipe with 2" NPT            |
| MS-XP-200-200   | Brass XP pipe clamshell swivel fitting, installs on the end of 2" single/secondary contained XP pipe with 2" NPT             |
| MS-XP-150-150SS | Stainless steel XP pipe clamshell swivel fitting, installs on the end of 1½" single/secondary contained XP pipe with 1½" NPT |
| MS-XP-175-200SS | Stainless steel XP pipe clamshell swivel fitting, installs on the end of 1¾" single/secondary contained XP pipe with 2" NPT  |
| MS-XP-200-200SS | Stainless steel XP pipe clamshell swivel fitting, installs on the end of 2" single/secondary contained XP pipe with 2" NPT   |

### Specifications

#### Approvals

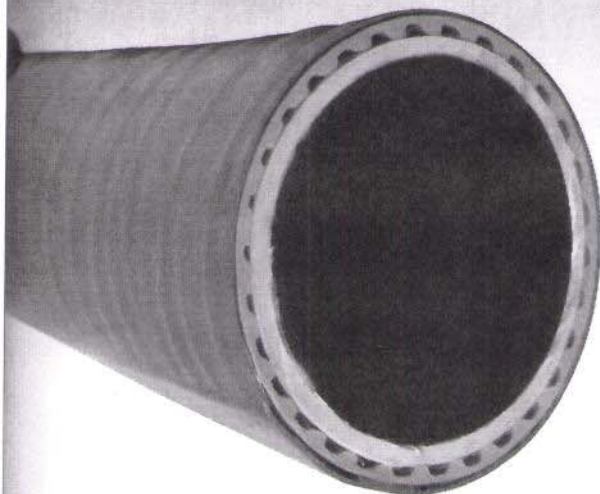
- cULus listed.

#### Dimensions



| Model         | A     | B     | C     |
|---------------|-------|-------|-------|
| MS-XP-150-150 | 4.00" | 4.00" | 1.75" |
| MS-XP-175-200 | 4.00" | 4.00" | 1.75" |
| MS-XP-200-200 | 4.50" | 4.75" | 2.25" |





## XP FLEXIBLE PIPEWORK

APT™ brand XP pipework provides a highly flexible pipework solution that makes installation simple and easy in any weather condition or site configuration. XP pipework can be used in both pressure and suction applications, and is ideal for underground service station fuel delivery systems. The XP pipework system features controlled flexibility, even in low temperatures, permitting fast, easy installation.

| Reel Size               | Inches*      | cm*                   |
|-------------------------|--------------|-----------------------|
| Master                  | 91 x 33 x 74 | 231.1 x 83.8 x 187.9  |
| Super Master (S. Mast.) | 91 x 52 x 74 | 231.1 x 132.1 x 187.9 |

\*Reel dia. x width x hub dia.

### Highlights

- Available in 1", 1½", 1¾" and 2" diameters in a variety of coil lengths.
- The D-Series piping is a single wall, direct bury piping.
- The SC-Series piping provides additional environmental security as a secondary contained direct bury pipe.
- XP pipe features a 3 ft. bend radius for all pipe diameters making it one of the most flexible, yet durable fuel pipes available.
- No possibility of piping layer delamination due to the layered piping construction of high-grade material.
- With long coils (1000+ ft.) and simple fittings, XP pipework can be installed quickly without specialized tools in any weather.

### Specifications

- Primary layer construction of Nylon 12 - the fuel line material contains no polyethylene.
- Do not store piping in direct sunlight.

### Approvals/Certifications

- UL971 listed to the January 2014 standards.
- Biofuel compatible (E85 and Biodiesel).

### Ordering Information

| Model     | Description             | Ft.   | Reel      | Weight |     |
|-----------|-------------------------|-------|-----------|--------|-----|
|           |                         |       |           | Lbs.   | Kg  |
| XP-100-SC | 1" secondary contained  | 250   | Master    | 301    | 136 |
|           |                         | 500   | Master    | 408    | 185 |
|           |                         | 2500  | S. Master | 1299   | 589 |
| XP-100-D  | 1" single wall          | 250   | Master    | 258    | 117 |
|           |                         | 500   | Master    | 320    | 145 |
|           |                         | 100   | Master    | 250    | 113 |
| XP-150-SC | 1½" secondary contained | 250   | Master    | 333    | 151 |
|           |                         | 500   | Master    | 470    | 213 |
|           |                         | 1,000 | S. Master | 789    | 358 |
|           |                         | 1,500 | S. Master | 1061   | 481 |
|           |                         | 100   | Master    | 225    | 102 |
| XP-150-D  | 1½" single wall         | 250   | Master    | 270    | 122 |
|           |                         | 500   | Master    | 570    | 259 |
|           |                         | 1,000 | S. Master | 536    | 243 |
|           |                         | 1,500 | S. Master | 686    | 311 |
|           |                         | 100   | Master    | 300    | 136 |
| XP-175-SC | 1¾" secondary contained | 250   | Master    | 405    | 184 |
|           |                         | 500   | Master    | 580    | 263 |
|           |                         | 1,000 | S. Master | 1076   | 488 |
| XP-200-SC | 2" secondary contained  | 250   | Master    | 552    | 250 |
|           |                         | 500   | S. Master | 914    | 415 |
| XP-200-D  | 2" single wall          | 250   | Master    | 427    | 194 |
|           |                         | 500   | S. Master | 664    | 301 |



860296

PURCHASE ORDER

| TO<br><i>F.E. Petro</i>                                                                                                                                 |                           | DATE<br><i>7-17-08</i>                                                 |              |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------|--------------|
| ADDRESS<br><i>608-838-4433</i>                                                                                                                          |                           | DATE REQUIRED <i>8-17-08</i> <i>264</i> <i>314</i>                     |              |
| CITY, STATE, ZIP                                                                                                                                        |                           | TERMS                                                                  |              |
| SHIP TO<br><i>Illowa Enterprises, Inc</i>                                                                                                               |                           | HOW SHIPPED                                                            |              |
| ADDRESS<br><i>2208. ykane</i>                                                                                                                           |                           | REQ. NO. OR DEPT.                                                      |              |
| CITY, STATE, ZIP<br><i>moline, IL 61245</i>                                                                                                             |                           | FOR                                                                    |              |
| QUANTITY                                                                                                                                                | DESCRIPTION               | PRICE                                                                  | UNIT         |
| 1 <i>one</i>                                                                                                                                            | <i>STP AG 75-VL2</i>      |                                                                        |              |
| 2                                                                                                                                                       | <i>3/4 h.p. A.C. 1396</i> |                                                                        | <i>96324</i> |
| 3                                                                                                                                                       | <i>13" high riser.</i>    |                                                                        |              |
| 4                                                                                                                                                       |                           |                                                                        |              |
| 5 <i>one</i>                                                                                                                                            | <i>5800100215</i>         |                                                                        |              |
| 6                                                                                                                                                       | <i>smart controller</i>   |                                                                        | <i>12888</i> |
| 7                                                                                                                                                       |                           |                                                                        |              |
| 8                                                                                                                                                       |                           |                                                                        |              |
| 9                                                                                                                                                       |                           |                                                                        |              |
| 10                                                                                                                                                      |                           |                                                                        |              |
| 11                                                                                                                                                      |                           |                                                                        |              |
| 12                                                                                                                                                      |                           |                                                                        |              |
| IMPORTANT                                                                                                                                               |                           | PLEASE SEND _____ COPIES OF YOUR INVOICE WITH ORIGINAL BILL OF LADING. |              |
| PURCHASE ORDER NUMBER MUST APPEAR ON ALL INVOICES-PACKAGES, ETC.<br>PLEASE NOTIFY US IMMEDIATELY IF YOU ARE UNABLE TO COMPLETE ORDER BY DATE SPECIFIED. |                           | PURCHASING AGENT                                                       |              |

5831

ORIGINAL

*Submersible  
Pump*

## Ordering Information continued

### Standard 1/3 and 3/4 hp Fixed Speed Submersible Turbine Pumps

| Model     | Description        | Model Length Range Number | Model Length Range* |
|-----------|--------------------|---------------------------|---------------------|
| STP33-VL1 | 1/3 hp fixed speed | VL1                       | 55" - 83"           |
| STP33-VL2 | 1/3 hp fixed speed | VL2                       | 86" - 147"          |
| STP33-VL3 | 1/3 hp fixed speed | VL3                       | 118" - 209"         |
| STP75-VL1 | 3/4 hp fixed speed | VL1                       | 57" - 86"           |
| STP75-VL2 | 3/4 hp fixed speed | VL2                       | 88" - 149"          |
| STP75-VL3 | 3/4 hp fixed speed | VL3                       | 120" - 212"         |

### Alcohol-Gas (AG) 1/3 and 3/4 hp Fixed Speed Submersible Turbine Pumps

| Model       | Description                      | Model Length Range Number | Model Length Range* |
|-------------|----------------------------------|---------------------------|---------------------|
| STPAG33-VL1 | 1/3 hp AG fixed speed            | VL1                       | 55" - 83"           |
| STPAG33-VL2 | 1/3 hp AG fixed speed            | VL2                       | 86" - 147"          |
| STPAG33-VL3 | 1/3 hp AG fixed speed            | VL3                       | 118" - 209"         |
| STPAG75-VL1 | 3/4 hp AG fixed speed            | VL1                       | 57" - 86"           |
| STPAG75-VL2 | 3/4 hp AG fixed speed - This one | VL2                       | 88" - 149"          |
| STPAG75-VL3 | 3/4 hp AG fixed speed            | VL3                       | 120" - 212"         |

#### 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 4 1/2" 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, 1 1/2" 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

1/3 and 3/4 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.

Veeder-Root™ is a trademark of the Danaher Corporation.  
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# Magnetostrictive Probes for Alternative Fluids



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

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

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

### Series 8463 0.1 GPH Mag Probe for Alternative Fluids

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

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

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

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

### Series 8463 0.2 GPH Mag Probe for Alternative Fluids

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

Probe ↗

### Features & Benefits

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

## Probe Models

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

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

## Floats Match Table

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

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

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

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



**VEEDER-ROOT**

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