SmartPump

Description

The Simplex SmartPump is a tank fill pump with intelligence. The SmartPump is a factory packaged system for transfer of fuel from gravity trucks to storage tanks and control of filling operations to prevent overfill and allow for full

SmartPump with Large Control Box

draining of the truck delivery hose. The SmartPump provides a ready means of ground level connection of the fill hose, and captures spills that may occur at the fill point during filling operations. The SmartPump includes a high capacity fuel transfer pump and intelligent pump controls. The unique design and intelligence of the SmartPump allows full and easy draining of the truck fill hose prior to disconnect. The SmartPump detects Tank Full level, stops filling operations and activates an alarm. The SmartPump allows the operator to continue filling and/or drain the fill hose up to the High Level at which time all filling operations are locked out and an alarm is activated. A leak detection circuit prevents filling of leaking tanks. Visual and audible level and leak alarms and continuous level indication are provided.

The Simplex SmartPump is available for use with fuel oil (Class-II liquids) or gasoline (Class-I liquids).

Single or multiple tank controllers are available. Multiple tank controllers allow operator selection of the tank to be filled with automatic lockout of all other tanks.

How It Works:

1. Delivery truck arrives and driver proceeds to SmartPump to make fuel delivery
2. Connect ground cable
3. Unlock fill box and control box
4. Turn on controller
5. Connect delivery hose to hose coupling
6. Open valve on truck
7. Open SmartPump inlet valve
8. Open SmartPump outlet valve
9. Start SmartPump
10. Fuel is delivered to tank
11. At Tank Full level, audible and visual alarm activates and alerts driver, SmartPump stops
12. Driver may stop delivery at this point
13. Driver can restart SmartPump by pressing the Override pushbutton and pressing the Pump Start pushbutton. Pump will run for 30 second intervals
14. Driver can continue filling or drain delivery hose at this time
15. To drain hose, driver closes truck valve and breaks hose connection at tank and allows SmartPump to empty hose
16. Driver may restart SmartPump in 30 second intervals, but all filling and hose draining operations must be ended and truck valve closed prior to reaching High Level
17. At High Level, audible and visual alarm activates and SmartPump stops. SmartPump can not be restarted
18. Close SmartPump outlet valve
19. Close SmartPump inlet valve
20. Disconnect delivery hose and ground cable
21. Turn controller off
22. Close and lock SmartPump doors
23. Proceed to next delivery, where, hopefully, the owner has had the foresight to install a Simplex SmartPump
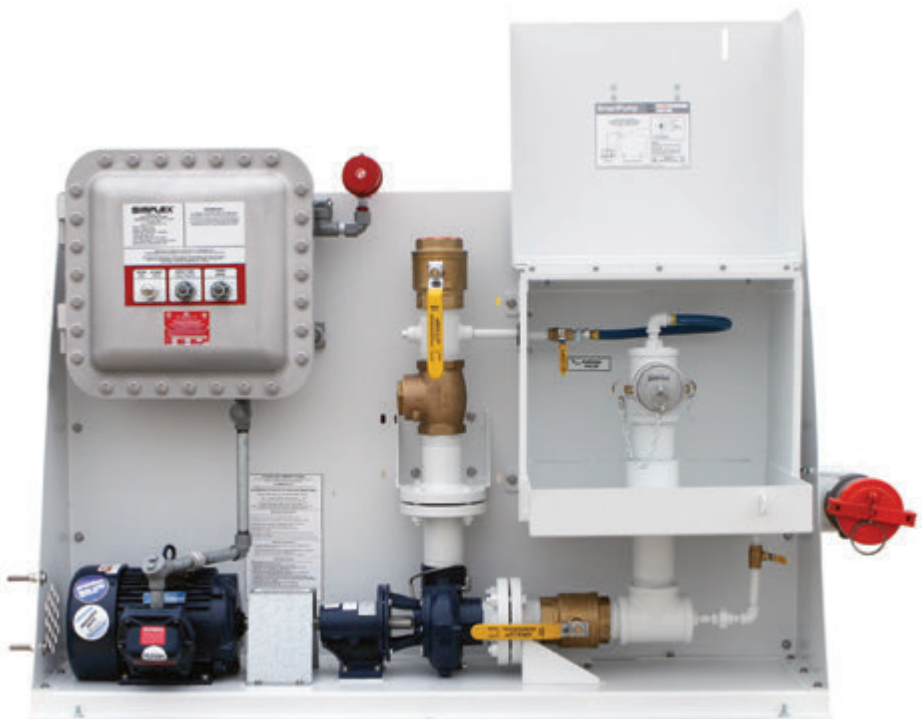
Specifications:

Fitting size: 2", 3" or 4"
Spill containment: 7 gallons
Paint: white
Net weight: 617 lbs. (Oil), 632 lbs. (Gas)
High level floatset: 2"

Includes:

- Freestanding, pad mountable, open construction pumpset with weatherproof and lockable fill box with 7 gallon spill containment sump and weatherproof and lockable control box
- 2", 3" or 4" fittings available
- Quick disconnect hose coupling with dust plug
- Inlet shutoff valve
- Check valve
- Outlet shutoff valve
- Line purging valve
- Spill sump drain valve
- High capacity transfer pump, see details below
- Automatic controller, described below
- Ground stud

Controller Includes:

- High level floatset for installation in 2" tank fitting minimum
- Tank Full visual alarm
- High Level visual alarm
- Tank Leak alarm
- Audible alarm horn activated by alarms above
- Power Available indicator
- Control Power On-Off switch
- Pump Start/Stop push-buttons
- Top-off/hose drain mode push-button
- Pump starter
- Type 3R control enclosure (fuel oil version)
- Type 7 explosion proof control enclosure (gasoline version)

Gas SmartPump with Vapor Recovery

PUMP PERFORMANCE

SmartPump with 5 hp pump, 3" or 4" inlet:	Head (ft.)	Gpm	SmartPump with 2 hp pump, 2" inlet:	Head (ft.)	Gpm
	75	200		55	75
	65	250		45	125
	55	300		35	150
	40	350		15	200
	25	400			

SmartPump Order Checklist

- ❏ If gasoline use, is vapor recovery required?
- ❏ How many tanks to fill?
- ❏ 2 hp (150 gpm) or 5 hp (300 gpm) SmartPump?
- ❏ Specify voltage: single phase: 120v or 240v; 3 phase: 208, 240, 416, 480v
- ❏ If 5 hp, 3" or 4" inlet?
- ❏ Tank leak sensing required?
- ❏ Accurate tank dimensions required, 2" or 4" fitting required for transmitter (specify)
- ❏ Specify options

SIMPLEX®

Single-Tank SmartPumps

Includes level transmitter shipped loose for remote tank mounting

MODEL NO.	APPLICATION**	FITTINGS	HP/GPM
SP-2	Oil	2"	2/150
SP-2G	Gas	2"	2/150
SP-3	Oil	3"	5/300
SP-3G	Gas	3"	5/300***
SP-3GV	Gas, with vapor recovery	3"	5/300***
SP-4*	Oil	4"	5/300
SP-4G*	Gas	4"	5/300***
SP-4GV*	Gas, with vapor recovery	4"	5/300***

4" inlet, 3" internals and outlet

APPLICATION: "Oil" = Class II liquid, flash point > 100° F
"Gas" = Class I liquid, flash point < 100° F

***SP-3, SP-4 Gasoline (or Explosion-Proof) SmartPumps rated at 5 hp, 300 gpm must be 3-phase voltage. If only single phase is available at job site then a SP-2 at 2 hp, 150 gpm can be used. However, Simplex can install a larger inlet coupling as required.

Two-Tank SmartPumps

Includes two level transmitters and two electrically operated shutoff valves shipped loose for remote tank mounting.

MODEL NO.	APPLICATION**	FITTINGS	HP/GPM
SP-2/2	Oil	2"	2/150
SP-2G/2	Gas	2"	2/150
SP-3/2	Oil	3"	5/300
SP-3G/2	Gas	3"	5/300***
SP-3GV/2	Gas, w/vapor rec.	3"	5/300***
SP-4/2*	Oil	4"	5/300
SP-4G/2*	Gas	4"	5/300***
SP-4GV/2*	Gas, w/vapor rec.	4"	5/300***

4" inlet, 3" internals and outlet

APPLICATION: "Oil" = Class II liquid, flash point > 100° F
"Gas" = Class I liquid, flash point < 100° F

***SP-3, SP-4 Gasoline (or Explosion-Proof) SmartPumps rated at 5 hp, 300 gpm must be 3-phase voltage. If only single phase is available at job site then a SP-2 at 2 hp, 150 gpm can be used. However, Simplex can install a larger inlet coupling as required.

Multiple Tank SmartPumps

Two or more tanks: includes level transmitters, and electrically operated shutoff valves for remote tank mounting (one set for each tank) and a thermal expansion pressure relief valve (one for each system) shipped loose. Change model number suffix to indicate number of tanks.

SmartPump Options:

Inlet Fittings:
- Standard quick disconnect coupling:

  2", 3" or 4":
  - 2" available for 2 hp SmartPump
  - 3" and 4" available for 5 hp SmartPump
- Dry disconnect adaptor: 2" or 3":
  - 2" available for 2 hp SmartPump
  - 3" available for 5 hp SmartPump

Valves:
- Fusible link fire valve, installed on outlet
- Fire rated shutoff valves, in lieu of standard bronze valves
- Fire rated shutoff valve assembly for installation on aboveground storage tank fuel inlet, including fire rated ball valve and self-closing fusible link valve (shipped loose)

Leak Sensors:
- Tank leak sensor, float switch type, for mounting in a vertical position in collection sumps, monitoring pipes and steel double wall tank sumps. For installation in 2" fitting. SmartPump controller includes: tank leak alarm, tank fill shutoff, alarm contacts.
- Tank leak sensor, as above, except optical type, for restricted space installation in tank annular space, double wall pipe collection sump, etc.
- Tank leak sensor, floatswitch type, adjustable on cord with cinch-lock fitting
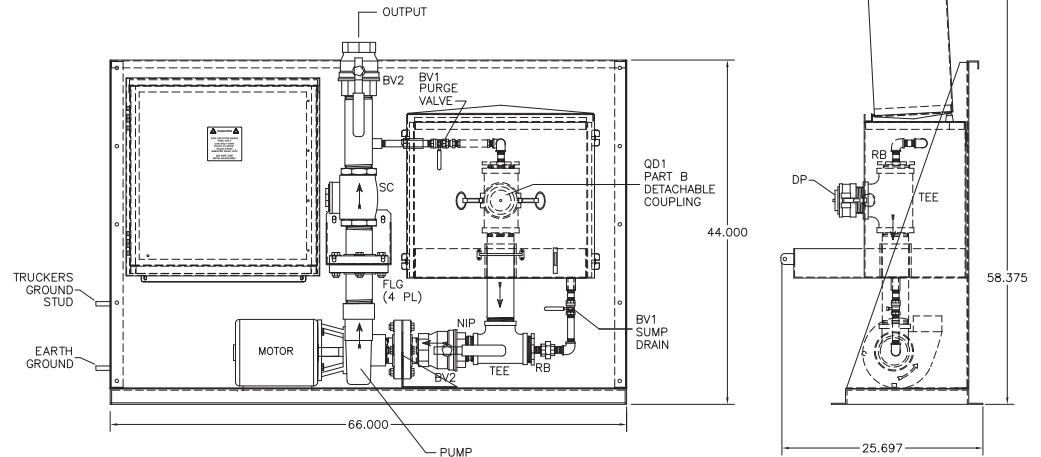
SmartPump Options cont'd:

Indicator Gauges:

- Digital level indicator, percent level reading. Includes level transmitter for installation in 2" NPT fitting

- Digital tank monitor with display of tank level in gallons, liters or percent; high level alarm, audible alarm; output contact. Includes level transmitter for installation in 2" NPT fitting

- Hydrostatic level gauge, hand pump type with 5" dial type indicator calibrated in gallons. Transmitter installed in 2" tank fitting
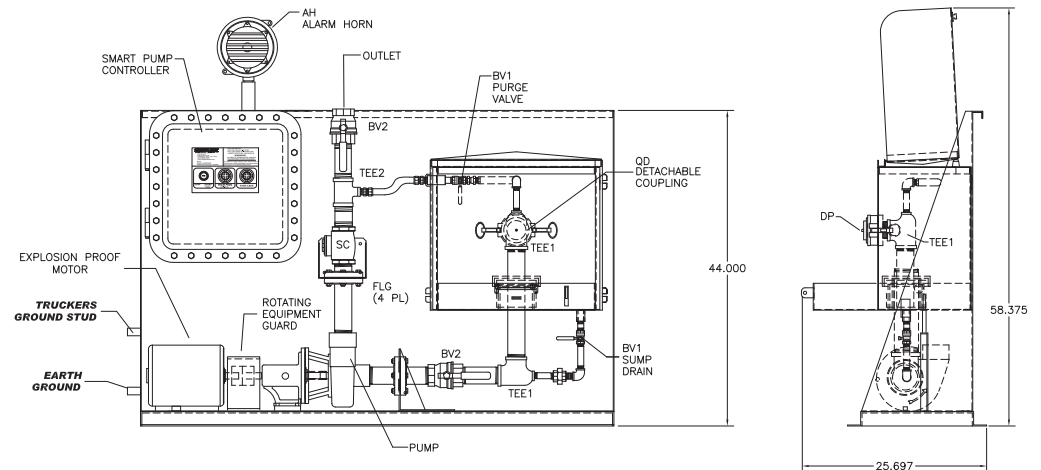
Enclosures:

- Lockable full enclosure with containment basin and hand pump

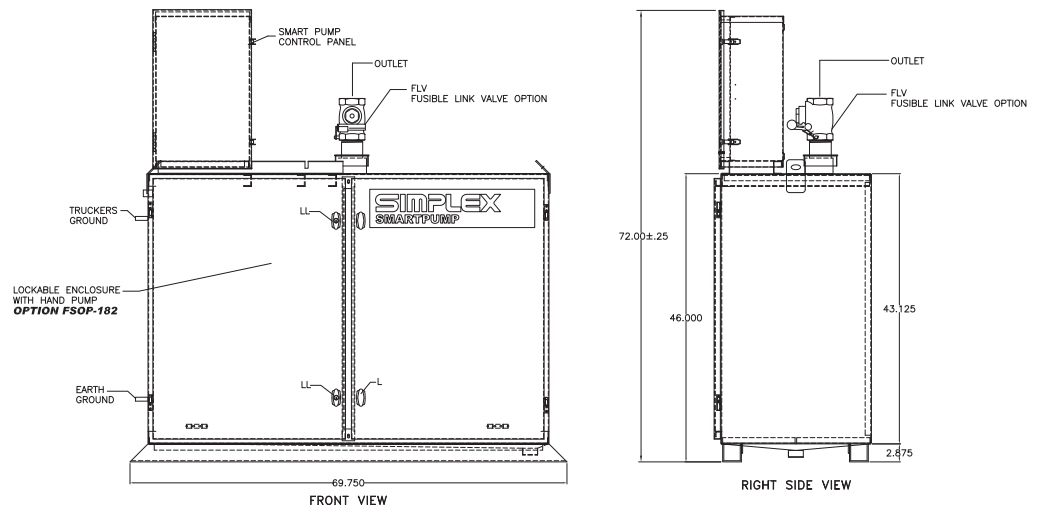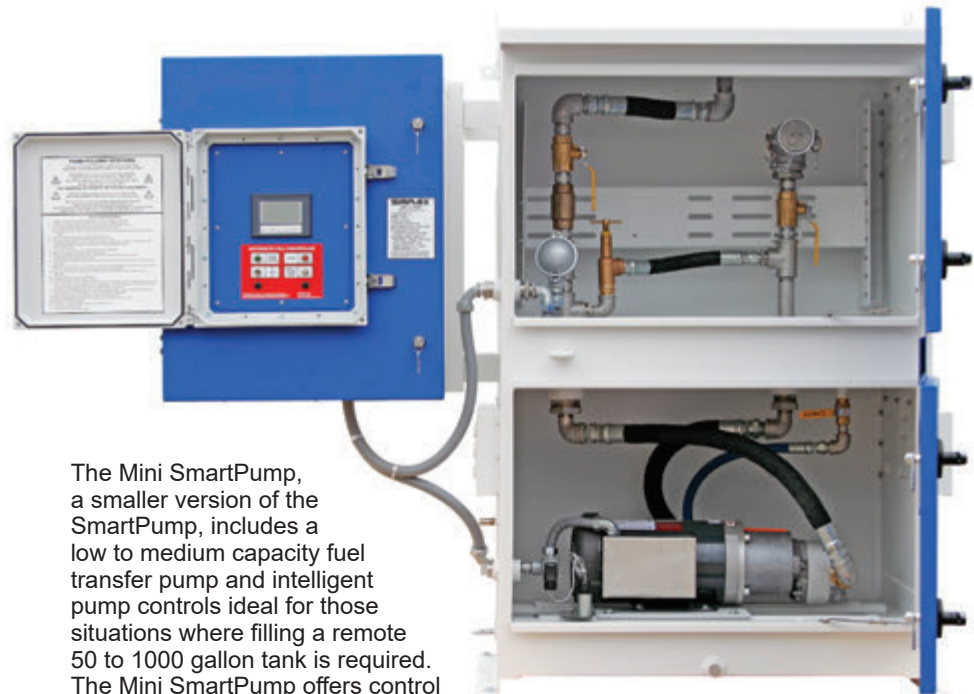- Stainless steel cabinet construction for corrosive or coastal environments is also available

SmartPump

Gas SmartPump

SmartPump with Lockable Enclosure

Mini SmartPump

The Mini SmartPump, a smaller version of the SmartPump, includes a low to medium capacity fuel transfer pump and intelligent pump controls ideal for those situations where filling a remote 50 to 1000 gallon tank is required. The Mini SmartPump offers control of filling operations to prevent overfill and to allow for fuel draining of the truck delivery hose. The Mini SmartPump provides a ready means of ground level connection of the fuel hose and captures spills that may occur at the fill point during filling operation. Features include:

- Freestanding, pad mountable, fully enclosed cabinet construction with weatherproof and lockable fill connection and control boxes, 20 gallon spill containment sump
- 2", 3", or 4" fittings available
- Quick disconnect hose coupling with dust plug (dry break type are also available)
- Inlet shutoff valve
- Check valve
- Outlet shutoff valve
- Pump flow sensor for timed delay auto-shutoff
- Sump drain valve for sump to pump emptying
- Positive displacement transfer pump available in 2, 7, 10, 17 or 25 GPM
- Automatic controller
- Ground stud

Voltages

- 115-240v, 1-phase, 60 Hz
- 230-460v, 3-phase, 60 Hz

Controller Includes

- Level transmitter for installation in 2" tank fitting
- Tank Full visual alarm
- High Fuel visual alarm
- Tank Leak visual alarm
- Audible alarm horn activated by alarms above
- Pump Loss of Flow sensor/alarm
- Power Available indicator
- Control Power On-Off switch
- Pump Start/Stop pushbuttons
- Top-off/hose drain mode pushbutton
- Pump Starter
- Type 3R control enclosure

Specifications:

Fitting size: 2", 3" or 4"
Application: Oil
Dimensions: 53" x 30" x 58"
Shipping weight: 425 lbs.

Oil = Class II liquid, flash point > 100° F

Consult Simplex for gasoline application.

AFC-Automatic Fill Controller

The Simplex AFC - Automatic Fill Controller is an electronic monitor and control system used to control tank filling and prevent overfill. The AFC is used with a remote electric solenoid valve or motorized valve.

During filling operations, the AFC provides continuous level indication, Tank Full level audible and visual alarm, High Fuel level audible and visual alarm and shut-off.

The AFC can receive a signal from an external tank leak sensor to activate an alarm, send a remote signal and automatically close the fill valve.

AFC Includes

- Type-3R rainproof, lockable enclosure with hinged door
- Electronic level sensor for installation in tank - 2" fittings or greater
- Digital percent level indicator
- High visibility red alarm light, High Fuel
- High visibility amber alarm light; Tank Full
- 90dB audible alarm horn with silence pushbutton
- Control Power switch
- Fill Valve Open and Close pushbuttons
- Alarm Tank Full level
- Alarm and automatic valve shut-off at High Fuel level
- Leak sensor input/alarm, automatic shut-off
- Indicators:
    - High Fuel
    - Tank Full
    - Control Power Available
    - Fill Valve Open
    - Fill Valve Closed
    - Tank Leak

Specifications

Power supply: 115V AC,1ø, 60 Hz
Accuracy: ± 2%
Transmitter fitting: 2" NPT or greater

TC-8 Tank Alarm Panel

The Simplex Tank Commander TC-8 Tank Alarm Panel is used to monitor High Level, Low Level, and Tank Leak Alarms. The TC-8 provides both audio and visual indication. Relay dry contacts are provided for remote alarms. The TC-8 receives signals from float switches mounted on the tank. The float switches may be included as an option or provided by others.
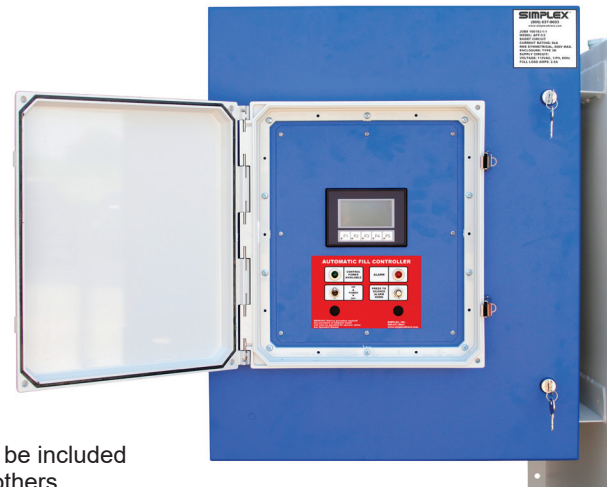
The TC-8 is available in 120VAC and 24VDC voltages. The TC-8 is for use with fuel oil or other Class II liquids or non-flammable liquids or chemicals. The TC-8 carries a UL 508A Label.
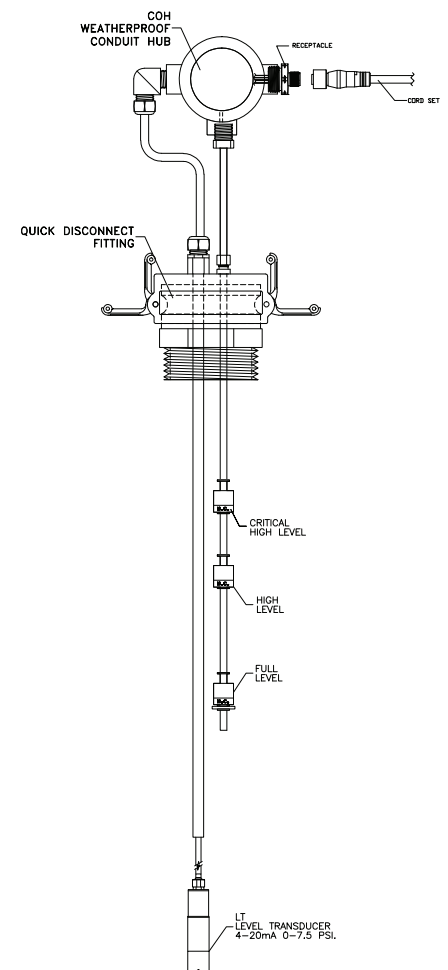
Includes

- Type 3R rainproof, lockable enclosure with hinged door
- UL 508A Label
- Red alarm light; high level
- Red alarm light; low level
- Red alarm light; tank leak
- 90dB audible alarm horn with silence pushbutton
- Press-To-Test pushbutton
- Press-To-Reset pushbutton
- Indicators for
    - Tank leak (external input)
    - High Fuel alarm (external input)
    - Low Fuel alarm (external input)
- Level sensors, optional

Specifications

Power supply:
115VAC, 1ø, 60 Hz or 24VDC

Application:
Fuel oil or other Class II liquids or non-flammable liquids or chemicals

Alarm contacts:
3A @125/250VAC, 30VDC

AFC - Automatic Fill Control Panel

Level Transmitter

QUOTE REQUEST

Visit the Simplex web site at www.simplexdirect.com to request a quote.
For Automatic FuelPorts and SmartPumps fill out the sheet below from the download page for that model and attach it to your quote request.

SIMPLEX®

TANK FILLING SYSTEMS
ORDER DATA SHEET

Customer: _____ Project: _____

PO#: _____ WO#: _____ Date: _____

PRODUCT USED:
- ☐ Diesel
- ☐ Gas
- ☐ Vapor Rec.
- ☐ Other _____

TANK CONSTRUCTION:
- ☐ AST
- ☐ UST
- ☐ Single Wall
- ☐ Double Wall
- ☐ Vaulted
- ☐ Basetank*

- ☐ Rectangular
  L____ W____ H____
- ☐ Horizontal Cylinder
  D____ L____
- ☐ Vertical Cylinder
  D____ H____
- ☐ Capacity
  (actual gal.) _____

*Basetanks will require (2) 2" ports or (1) 4" port at minimum

NO. OF TANKS:
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ Other _____

VOLTAGE:
- ☐ 120v, 1ph. [1]
- ☐ 240v, 1ph. [2]
- ☐ 208v, 3ph.
- ☐ 230v, 3ph.
- ☐ 460v, 3ph.

Voltage Notes: [1]Not available with SmartPump. [2]Not available with 5HP gasoline SmartPump.

COMMENTS:

TANK SPECIFICATIONS:
H – Tank Inside Height/Diameter...... _____
D – Double Wall Tank Interstitial Space _____
R – Fitting Riser.......................... _____
F – Transmitter Mounting Port Style, Size, Qty:
   a)   ☐Female   ☐Male
   b)   ☐2"NPT   ☐4" NPT
       ☐Other:_____
   c)   Quantity_____
L – Leak Sensor Mounting Port Style and Size: none
   a)   ☐Female   ☐Male
   b)   ☐2" NPT
       ☐Other:_____

M – Leak Sensor Well Depth......._____

LEAK SENSOR MOUNTING PORT
TRANSMITTER MOUNTING PORT

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