



Insight  Onsite

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SMARTPUMP Sample Specification

Engineer's specifications for a storage tank fill box with automatic overflow prevention and automatic fill shutoff.

1.0 Fuel Filling System

- 1.1 Provide a grade level fuel transfer pumping system with spill containment; overflow prevention and automatic fill shutoff. The SMARTPUMP shall be used for filling fuel oil storage tanks. The SMARTPUMP is for use with class II, flammable liquids, those having a flash point greater than 100 degrees F: fuel oil, diesel fuel, and kerosene.

- 1.2 The SMARTPUMP shall be supplied installed outdoors upon a concrete pad at a location as specified elsewhere.

The SMARTPUMP shall transfer fuel from a gravity tanker truck to storage tanks via the pump system on-board the unit, as described below. The SMARTPUMP shall permit full draining of the truck delivery hose upon completion of fuel delivery.

- 1.3 The SMARTPUMP shall include the following fittings and features:
- Steel, weatherproof, lockable containment box for truck connection, with hinged door finished in gray industrial powder coat.
 - External, stainless steel ground stud for attachment of delivery truck ground cable
 - 2" quick disconnect coupling for attachment of user's delivery hose
 - Inlet shutoff manual valve
 - 7gallon spill containment sump with drain to pump inlet
 - Outlet check valve
 - Outlet shutoff manual valve
 - 2" threaded fitting for attachment of outlet pipe to tank.
- 1.4 The SMARTPUMP shall include a motor driven high capacity fuel transfer pump as follows:
- Pump: 150 GPM at 35 foot of head, 3600 RPM, cast iron, bronze fitted, carbon-ceramic / BUNA-N mechanical shaft seal
 - Motor: Totally enclosed, fan cooled, rigid base, 3600 RPM, 2 HP, (208/230/460) VAC, 3-phase
- 1.5 The SMARTPUMP shall include a PLC and 3" HMI controlled system with overflow alarm and shutoff system as described below. The system shall require an external source of AC power, 208/230/460, 3-phase.
- The control system shall include:
- TYPE 3R rainproof, lockable enclosure with hinged door
 - 4-20mA Level transmitter for installation in the storage tank
 - Leak sensor floatswitch for installation in the storage tank's interstitial space
 - Level display reading in Percent and Gallons
 - High visibility notification on HMI: 90% level
 - High visibility red alarm banner on HMI: 95% level
 - 90 dB audible alarm horn activated at 90%, 95% and on storage tank leak
 - Control power ON/OFF switch
 - Fill Start/Stop controlled via HMI
 - Automatic pump stop at 90% level



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- Override circuit and 30 second timer to permit override of 90% shutoff to allow pump-out of delivery hose or spill containment. 95%, and leak lockout cannot be overridden.

- Leak sensor alarm circuit input which

- Indicators for:

 - Power available

 - Tank leak

- Transfer pump motor starter with overload relay

- Control power transformer for 120 VAC operation of controls

- Control power fuses -Remote alarm contacts:

 - Summary Tank High

 - Summary Leak

 - Selected tank Full

- Modbus via 485

- 1.6 The SMARTPUMP system shall be supplied with manufacturer's warranty.
- 1.7 The services of a factory-authorized or factory based, field service technician to provide start-up services, including inspection, calibration and first operation are available for the SMARTPUMP.
- 1.8 System shall be a Simplex SMARTPUMP, Model "SP-2" as described above. To be supplied by Simplex, Inc, 5300 Rising Moon Rd., Springfield, IL 62711. 217-483-1600.