



Insight  Onsite

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SMARTPUMP Sample Specification
Explosion-proof Unit for Diesel/Fuel Oil Transfer Located in Class 1 location

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

- 1.0 Fuel Filling System for Diesel Related Fuels when located in a Class 1 environment
- 1.1 Provide a grade level fuel transfer pumping system with spill containment; overflow prevention and automatic fill shutoff. This system shall be equal to a Simplex SMARTPUMP as supplied by Simplex, Inc., Springfield, IL. The SMARTPUMP shall be used for filling fuel oil storage tanks.
- 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 users delivery hose
 - Inlet shutoff manual valve
 - 7 gallon 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
 - Vapor Recovery Fitting (optional – delete if not needed)
- 1.4 The SMARTPUMP shall include a motor driven high capacity fuel transfer pump as follows:
 - Pump: 150GPM at 35 foot of head, 3600 RPM, cast iron, bronze fitted, carbon-ceramic / Viton mechanical shaft seal
 - Motor: Totally enclosed, fan cooled, Explosion-proof, 1.15 S.F., rigid base, 3600 RPM, 2 HP, (230-460) VAC, 3-phase
- 1.5 The SMARTPUMP shall include a PLC, fill limiting control system shall and shall include:
 - NEMA 7 rainproof enclosure with bolted, gasketed access door
 - Leak sensor floatswitch for installation in the storage tank's interstitial space
 - High visibility red alarm light: 90% level
 - High visibility red alarm light: 95% level
 - 90 dB audible alarm horn activated at 90%, 95% and on storage tank leak
 - Control power ON/OFF switch
 - Fill Start/Stop switch
 - Automatic pump stop closure at 90% level
 - 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 activates automatic valve closure
 - Indicators for:



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- 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:
 - Tank High
 - Leak
- 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-XP" as described above. To be supplied by Simplex, Inc, 5300 Rising Moon Rd., Springfield, IL 62711. 217-483-1600.