FLEXFILL PUMP
Pumped Fill Enclosure

Overview
The Preferred FlexFill Pump package is designed for pumped filling of single or multiple tank systems. It includes the Preferred FSC controller that can communicate to other controllers in a fuel system via the two channel redundant NodeNet system, and communicate to building automation systems via Ethernet or BacNet IP.

FlexFill Pump packages include:
- Fuel pump
- Lockable NEMA 4 enclosure available in carbon steel or stainless steel.
- Alarm horn
- Integral spill containment
-Containment basin leak detector
- Preferred FSC microprocessor controller

The integral FSC controller includes hard-wire interfaces to typical fuel system devices including:
- Tank level gauges
- Leak detectors
- Flow switches
- Tank selector valves

In addition, the FSC controller within the FlexFill Pump enclosure can be put on the redundant NodeNet digital network to interface with transfer pump controllers, day tank controllers, and filtration controllers. All information on the NodeNet network is accessible by all controllers on the network.

Operation
The FlexFill Pump allows for filling ground level or elevated fuel oil tanks from a gravity truck. It interfaces with tank gauges and leak detectors to close fill valves and energize an alarm horn when the tank reaches high level or a leak is detected. Using tank selector valves, one FlexFill Pump fill box can fill up to four separate tanks. In jurisdictions that require a “dry” fill pipe, the containment basin can be sized to be greater than the volume of the fill pipe.

Color Touchscreen HMI
The FlexFill Pump can be provided with a 4” color touchscreen Operator Interface Terminal. (OIT) If the FlexFill Pump is supplied stand-alone, the OIT will display tank levels for connected tanks, and status of leak detectors and flow switches. If supplied as part of a larger Preferred system, the FlexFill Pump OIT can provide information on the entire fuel system.

Building Automation System Interface
The 4” color touchscreen OIT acts as a gateway and provides Modbus RS-485, Ethernet, or BacNet IP communication of all Modbus register addresses in all the connected FSC controllers to an external building automation system or distributed control system.

Ordering Information
When ordering FlexFill Pump packages, please specify:
- Pump flow and pressure required.
- Containment volume required.
- Number of tanks.
- Color touchscreen interface required.

Suggested Specifications
Provide, as detailed in the contract drawings, a pumped fill cabinet that includes a positive displacement pump with locking NEMA 4 cabinet suitable for flush-mounting, or mounting on a structural steel stand. The cabinet shall include a three point latch and locking handle, leak detector switch, and alarm horn.

The enclosure shall include a Preferred FSC microprocessor controller for connection to local tank gauges, leak detectors, and flow switches. The controller shall be capable of communicating with other FSC controllers in the fuel system via digital redundant NodeNet network. An optional 4” color touchscreen HMI shall be available for operations, diagnostics, and communication via Ethernet or BacNet IP. Pumped fill cabinet shall be Preferred FlexFill Pump with flow of ________ gallons at ________ discharge pressure of No. 2 oil. ________ gallon spill integral spill containment shall be included.
LEAK DETECTOR SWITCH
Model RBS

The Model RBS Leak Detection Switch detects leakage into day tank rupture basins and double wall piping leak containment systems containing diesel or distillate fuel oils. For easy installation, the Model RBS is designed for side-wall mounting. For reliability, the switch has redundant vapor and fluid sealing provisions, is lever float operated and magnetically actuated. External to the containment vessel, the Model RBS is protected with a heavy duty cast aluminum NEMA 4 watertight wiring enclosure.

Suggested Specifications
Provide where shown on the drawings a switch for leak sensing on all containment piping within the building. There shall be a switch at the end of each pitched horizontal run. Switches shall integrate with fuel oil management control center. The leak detection switch shall be Preferred Utilities Mfg. Corp., Danbury, CT, Model RBS.

Specifications:
Mounting: 1/2" NPT
Insertion Depth: 3 ½" Nominal
Fluids: Water, light fuel oils
Fluid Temperature: 150° F maximum
Fluid Specific Gravity: 0.65 minimum
Fluid Pressure: 25 PSIG maximum
Electrical: 8 VA Pilot Duty @ 120 VAC
Switch Action Can Be: SPST-N.C./N.O. (depending on installation orientation - switch shown N.O.)
Electrical Housing: Cast aluminum, NEMA 4
Wetted Parts: Steel and nylon 66

Ordering Information
Model RBS

Specifications subject to change without notice.

PUMP SET LEAK DETECTOR SWITCH
Model PS-LDS

The Model PS-LDS pump set leak detection switch detects leakage into the base pan of a pump set. The switch installs easily into a mounting bracket (included) which welds to the side of the pump set base. The switch is activated by a magnetic float.

Suggested Specifications
Provide in the pump set containment base a leak sensor to shut off pumps and energize an audible and visual alarm should a leak occur. Switch shall be plasma welded stainless steel float operated and fully contained within the pump set containment base pan for maximum protection from impact damage. Float shall be suitable for temperatures up to 250° F and pressures up to 300 PSIG. Pump set leak detector shall be a Preferred Utilities Mfg. Corp., Danbury, CT, Model PS-LDS.

Specifications:
Switch Action: SPST, N.C.
Fluid Temperature: 250° F maximum
Fluid Specific Gravity: 0.75 minimum
Fluid Pressure: 300 PSIG maximum
Electrical: 50 VA maximum
Electrical Housing: Cast aluminum
Wetted Parts: All stainless steel

Ordering Information
Model PS-LDS

Specifications subject to change without notice.
GROUND LEVEL SPILL CONTAINER
Model 1

The Model 1 ground level spill containers are designed to catch any oil which can be spilled when disconnecting the delivery fitting during normal tank filling operations. The spill is prevented from entering the soil near the fill terminal and is allowed to drain directly into the tank. The optional suction hand pump allows removal of the unwanted overflow completely. Each spill container is complete, ready for installation and easily retrofits onto an existing 4” riser pipe. It includes a 4” fill nipple, corrosion resistant lockable fill cap and composite top-seal tight fill adapter. The fill cap meets tamper-proof and liquid-tight regulations. The Model 1 ground level spill container is protected from heavy driveway traffic and surface water by a ramped, drain slotted, cast iron body ring. A flexible bellows construction permits height alignment to grade. The design prevents the transmission of traffic weight to the fill terminal, and accommodates normal tank, concrete or grade settling. The durable heavy duty plastic construction of the assembly below grade section assures years of maintenance free protection. Should the need for soil testing arise, the removable bellows and lower body provide access without costly concrete excavation.

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GROUND LEVEL SPILL CONTAINER
Model 1

Suggested Specifications
Storage tank fill lines shall terminate in a Preferred Utilities Mfg. Corp., Danbury, CT, Model 1 ground level (___ gallon) spill container. The spill container shall include a composite top-seal, tight fill adapter and locking fill cap. To prevent damage from frost heave, normal settling, or roadway traffic, the spill compartment shall incorporate a flexible bellows protected by a ribbed gravel shroud. The noncorrosive resin spill compartment shall be readily removable to allow soil testing directly through the spill container without breaking the concrete. The drain valve shall close with tank pressure to help prevent leakage during tank testing or filling.

Specifications:
- Cover: Aluminum
- Body Ring: Cast iron, epoxy coated
- Bellows: Low density polyethylene
- Gravel Shroud: High density polyethylene
- Lower Body: High impact composite
- Drain Valve: Acetal, polypropylene
- Clamps: Stainless steel
- Seals: Buna-N

Specifications subject to change without notice.

Ordering Information

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<td>15 gallon, slip on (NYC Fire Dept. Approved)</td>
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<td>Optional hand pump</td>
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STORAGE TANK MONITOR ACCESS MANHOLE
Model TG-MH-18

The Model TG-MH-18 18" manhole is designed to sit flush on a concrete pad at grade and provide access as required to equipment installed on an underground tank, such as tank gauging and leak detection equipment. Because the manhole is not attached to the tank, it eliminates the possibility that the weight of a vehicle might be transferred to the shell of the tank.

The assembly consists of cast iron body ring, 3/8" steel cover, and a 12" skirt. The bottom is open, allowing water to run off and away from tank monitors or other delicate components. NOTE: The manhole is not designed for access to tank fill pipes.

Suggested Specifications
Provide a manhole for access to storage tank gauge assembly and leak detection probes. The manhole shall have a 3/8" steel cover, 18" diameter cast iron body ring and a 12" skirt. The box shall provide access to the storage tank monitoring instruments without being attached to the tank, thereby preventing the weight of a vehicle that might be transferred to the fill line or tank. The manhole shall be a Preferred Utilities Mfg. Corp., Danbury, CT, Model TG-MH-18.

Ordering Information
Model: TG-MH-18