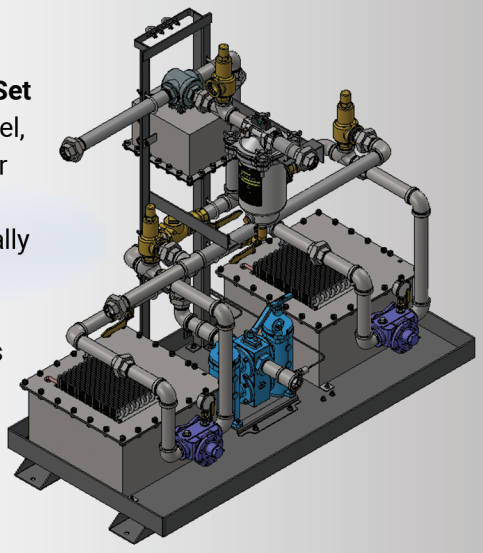
TriplePoint LABS

TPL-DPS-W

Waterproof Duplex Fuel Oil Pump Set

The **Waterproof Duplex Fuel Oil Pump Set** is designed for transfer of Diesel, #2 Fuel, and #4 Fuel oil for emergency generator and boiler applications in submerged conditions. The pump set is automatically controlled by a PLC and features a 7" touchscreen. The standard controls feature lead-lag operation of the pumps that improve reliability, longevity, and safety. The touchscreen is capable of displaying status, alarms, and is able to interface with a Building Automation System.



PATENT PENDING

Power Requirements:
120V, 208/230/460V,
1 or 3 Phase, 60Hz, Depending on the Site Requirements

Applicable Codes:
The system shall comply with applicable codes and standards: UL 508A, NFPA 70 and NFPA 30, 31, 37, 110 IFC 34 & 6 and be labeled accordingly for its intended use.

Fluids: #2 Oil, #4 Oil, Diesel, Bio-Diesel, and Jet Fuel. Consult Factory for Additional Options.

Pumps: Industrial Grade Positive Displacement Type

Motors: Totally Enclosed Fan Cooled (TEFC), Base Mounted, Direct Coupled to Pumps

Enclosure Rating:
NEMA 4 (NEMA 4X Optional)

Field Devices: 24V or 120V

Communication:
Ports: Two Serial Ports (Serial Port 1 - RJ45 Connector; Serial Port 2 - Terminal Block), One Ethernet Port

Physical medium options: RS232, RS485, Ethernet.

Protocols: Modbus RTU/ASCII (Master or Slave), Modbus TCP, Ethernet IP, Machine Expert.

The System Includes:

(2) Positive Displacement Pumps
(2) Simplex Strainers
(2) Relief Valves
(1) 7" Touchscreen with Color Graphics
(1) Welded Base Pan
(1) Leak Detection Sensor (optionsl)
(1) PLC Control Panel
(2) Discharge Pressure Gauges
(1) DP Switch (Optional)
(1) Suction Compound Pressure Gauge
(2) Discharge Isolation Ball Valves
(2) Check Valves
(2) Suction Isolation Ball Valves

Standard Features & Options:

- ☑ **Rugged Steel Base with Containment:** Pumps are mounted on a rugged steel base constructed of 1/4" plate steel with 3" of containment, providing robust support and containing any potential leaks.
- ☑ **Containment Basin Leak Sensor:** Includes a containment basin leak sensor that will indicate a leak with only 1/8" of fluid, providing early detection and preventing potential environmental hazards.
- ☑ **Pressure and Vacuum Tested:** The waterproof duplex pump skid undergoes pressure and vacuum testing to ensure structural integrity and reliability under operating conditions.
- ☑ **Industrial Corrosion Resistant Coating:** The skid is painted with an industrial corrosion-resistant coating to withstand harsh environmental conditions and ensure long-term durability.

Optional Toolless Removal of Waterproof Enclosure Covers: Facilitates quick and easy access for maintenance and inspection tasks.

Optional Leak Sensor: Mounted inside the enclosure provides early detection of water ingress, enhancing system reliability and minimizing potential damage.

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Waterproof Duplex Fuel Oil Pump Set

Unique Features and Benefits

Integrated Heat Exchanger

The pump skid incorporates a heat exchanger system to maintain optimal operating temperature for the pump motors.

Extended Motor Lifespan: Ensures continuous, reliable performance in challenging conditions, reducing maintenance and replacement costs.

Optional Viewport into Pump Motor Enclosure

The design offers an optional viewport into the enclosure of the pump motor, allowing visual inspection without disassembly.

Enhanced Maintenance Efficiency: Reduces downtime by enabling rapid assessment and troubleshooting, optimizing system performance.

Complete Sealing from Water

All critical components including the motor, moving parts, and shaft side of the pump are completely sealed from water ingress.

Long-term Reliability: Minimizes the risk of water damage to internal components, reducing maintenance and operational risks.

Remote Mounted Control Panel

The control panel, which governs the operation of the pumps, is mounted remotely above the flood line. Includes interfacing with leak sensors and a BAS (Building Automation System) for comprehensive monitoring and control of the system.

Improved Safety and Accessibility: Provides real-time monitoring and control capabilities, optimizing system performance and reliability.

Watertight Conduit for Electrical Connections

Watertight conduit is utilized to run electrical connections from the pump motor enclosures up to the remote control panel.

Electrical Safety and Reliability: Reduces the risk of electrical failures and downtime, ensuring continuous operation.

Customization options are available upon request to meet specific project requirements. Please consult with our engineering team for further details and assistance.

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Additional Features & Benefits

Rugged Steel Base with Containment

Environmental Protection: Minimizes environmental impact and safeguards surrounding infrastructure, reducing cleanup costs.

Pressure and Vacuum Tested

Guaranteed Performance: Ensures system performance and durability, minimizing the risk of leaks and downtime.

Industrial Corrosion Resistant Coating

Extended Service Life: Minimizes maintenance requirements and extends service life, reducing lifecycle costs.

Power Requirements Flexibility

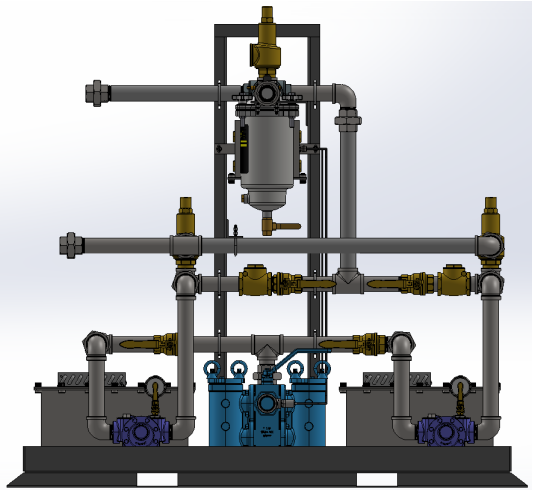
Simplified Installation: Adaptable to diverse site conditions, ensuring compatibility with existing power infrastructure.

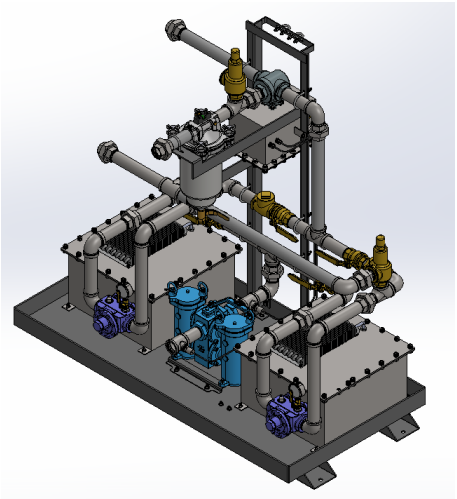
Compliance with Applicable Codes and Standards

Regulatory Compliance: Provides peace of mind and legal protection for operators, ensuring compliance with industry standards.

Fluid Compatibility

Versatile Application: Allows for a wide range of applications, catering to diverse industrial needs and reducing the need for additional equipment.





Waterproof Duplex Fuel Oil Pump Set

TPL-DPS-W

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Models & Specifications

Optional Features:

- **Duplex Strainer:** This optional feature takes the place of the twosimplex strainers above and affords the ability to clean one of the strainer baskets while the pump(s) are running. The strainer includes a stainless steel 40 mesh basket.
- **Differential Pressure Switch:** This switch monitors the pressure drop across the duplex strainer backet and includes a differential pressure gauge. This alerts the operator when there is excessive differential pressure indicating a dirty strainer that needs to be cleaned. The switch is tied in with the pump set controls to alarm at a specific setpoint.
- **Filtration System:** This system is pre-piped and wired to the pump set and integrated with fuel system PLC and HMI. It ensures peak performance while safeguarding fuel quality against water intrusion and particulate, avoiding unexpected downtime and repairs. This system reduces installation time, space required, and unnecessary system complexity.
- **Pump Set Leak Detection Switch:** This float type switch is mounted on the base pan of the pump set and is activated when there is as little as 1/8" of oil in the base pan. This switch is tied in with the pump set controls and will alarm, notifying the operator.

Optional Fuel Oil Filtration System

Components

- Motorized three way ball valve for fuel polishing selection
- Dedicated 100 Mesh Strainer
- Coalescing Filter (10 Micron Standard, 5 Micron Optional)
- Dedicated external relief valve
- PLC controls for monitoring and scheduling
- Touchscreen display for visual indication, monitoring, control, and enhanced user interface
- Isolation valves for routine maintenance

Model Selection:

Example: **TPL-5-DPS-W-50-D-S-F-L**

TPL-5-DPS-W-50	-D	-S	-F	-L
Base Part Number	*Duplex Strainer*	*Suction DP Switch*	*Filtration*	*Leak Detection Switch*

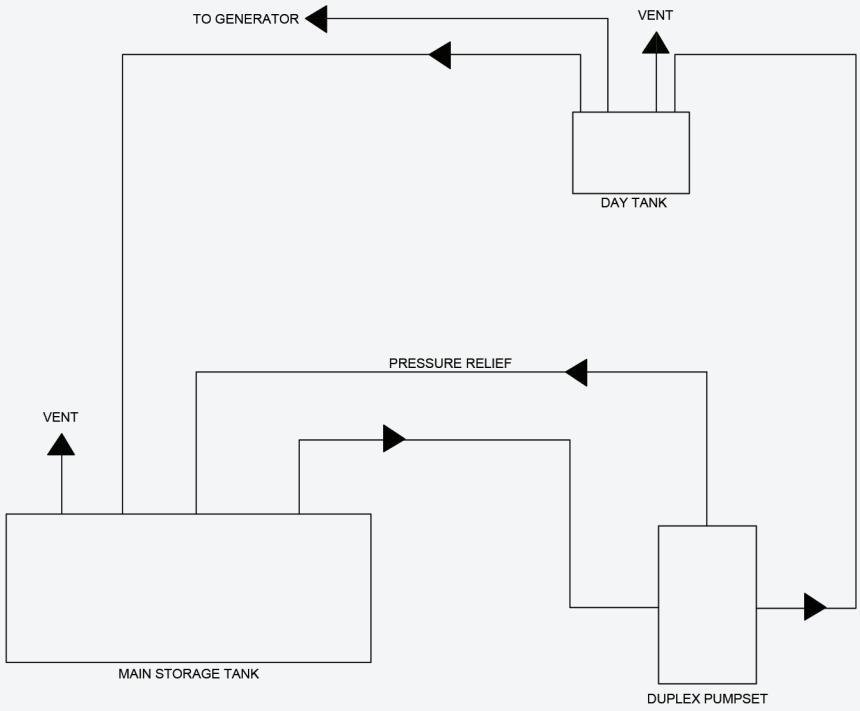
Part Number	#2 Oil		Connection Sizes (NPT)			Motor Data			
	Pressure	GPH	Suction	Discharge	Relief Valve	HP	Voltage	Phase	RPM
TPL-0-DPS-50	50	60	1"	1/2"	1/2"	1/3	115/208/230	1	1140
TPL-0-DPS-100	100	52	1"	1/2"	1/2"	1/3	115/208/230	1	1140
TPL-1-DPS-50	50	90	1"	1/2"	1/2"	1/3	115/208/230	1	1725
TPL-1-DPS-100	100	78	1"	1/2"	1/2"	1/3	115/208/230	1	1725
TPL-3-DPS-50	50	186	1"	1/2"	1/2"	1/2	208/230/460	3	1725
TPL-3-DPS-100	100	168	1"	1/2"	1/2"	1/2	208/230/460	3	1725
TPL-5-DPS-50	50	246	1"	1/2"	1/2"	3/4	208/230/460	3	1725
TPL-5-DPS-100	100	222	1"	1/2"	1/2"	3/4	208/230/460	3	1725
TPL-6-DPS-50	50	366	1"	1"	1/2"	3/4	208/230/460	3	1725
TPL-6-DPS-100	100	348	1"	1"	1/2"	3/4	208/230/460	3	1725
TPL-7-DPS-50	50	432	1"	1"	1/2"	3/4	208/230/460	3	1725
TPL-7-DPS-100	100	420	1"	1"	1/2"	3/4	208/230/460	3	1725
TPL-10-DPS-50	50	666	1.5"	1.5"	1"	1	208/230/460	3	1725
TPL-10-DPS-100	100	630	1.5"	1.5"	1"	1	208/230/460	3	1725
TPL-15-DPS-50	50	900	1.5"	1.5"	1"	1.5	208/230/460	3	1725
TPL-15-DPS-100	100	870	1.5"	1.5"	1"	1.5	208/230/460	3	1725
TPL-20-DPS-50	50	1140	1.5"	1.5"	1"	2	208/230/460	3	1725
TPL-20-DPS-100	100	1050	1.5"	1.5"	1"	2	208/230/460	3	1725
TPL-24-DPS-50	50	1260	1.5"	1.5"	1"	2	208/230/460	3	1725
TPL-24-DPS-100	100	1140	1.5"	1.5"	1"	2	208/230/460	3	1725

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Example Applications

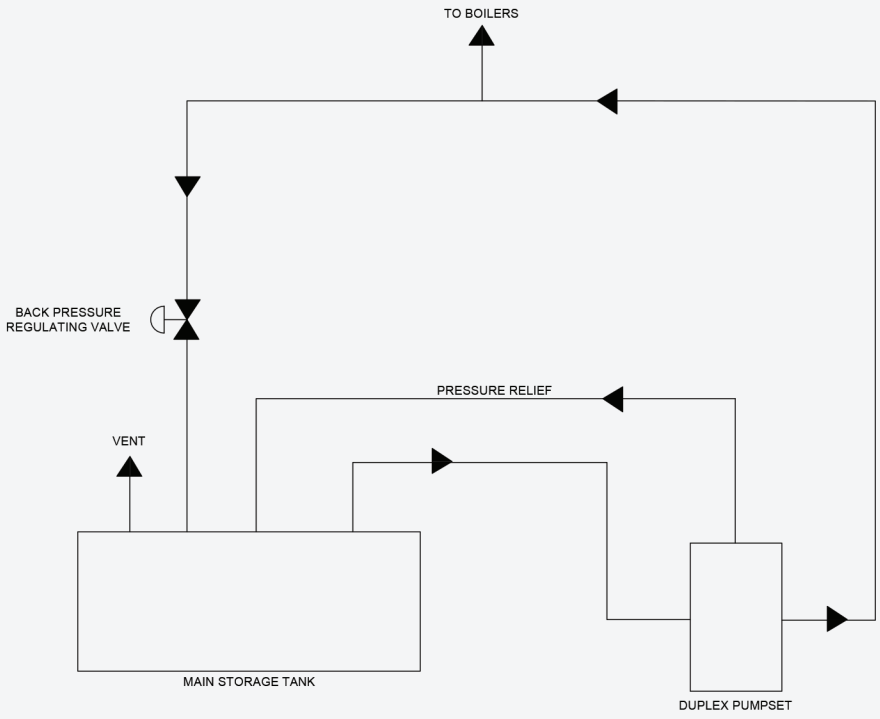
Diesel Generators:

A common application for a TriplePoint Labs pump set is for diesel generators. The application details may vary where there may be multiple day tanks, multiple main tanks, a fuel oil “header” instead of a day tank, or no day tank. In addition, there may or may not be return pumps on the day tank for returning fuel to the main tank. Variations depend on local codes, site requirements, and individual customer needs. A simplified schematic is shown below depicting a common example application.



Boiler Fuel Oil Loops:

Another common application for a TriplePoint Labs pump set is a boiler fuel oil loop. The burners on the boilers may or may not have their own pumps, so it is important to determine that when sizing and selecting a pump set.



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