TriplePoint LABS

# TPL-DPS

## Duplex Fuel Oil Pump Set

The **TPL-DPS Duplex Fuel Oil Pump Set** is designed for transfer of Diesel, #2 Fuel, and #4 Fuel oil for emergency generator and boiler applications. 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.




### 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 (Optional)
(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
(4) Stainless Steel Flexible Hoses

### Features & Benefits:

- ☑ Includes a hardened PLC control cabinet with a disconnect switch, motor starters, HOA switches, 7" touchscreen, and a step-down power transformer when needed.
- ☑ The control panel is fabricated and tested in our UL 508A shop.
- ☑ Pump set features automatic monitoring and control of the fuel transfer system.
- ☑ The system is factory wired, factory piped, and factory pressure and vacuum tested.

The **TPL-DPS Duplex Fuel Oil Pump Set** efficiently and reliably pumps fuel from one location to another while minimizing pump wear, improving equipment longevity, and monitors and controls the level of fuel in day tanks, headers, and belly tanks. The TPL-DPS interfaces with leak detection equipment, remote alarm panels, main tanks, day tanks, filtration units, and more. A 7" graphical user interface clearly depicts the most relevant operational information to a user and allows for seamless control and monitoring of the system.

**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

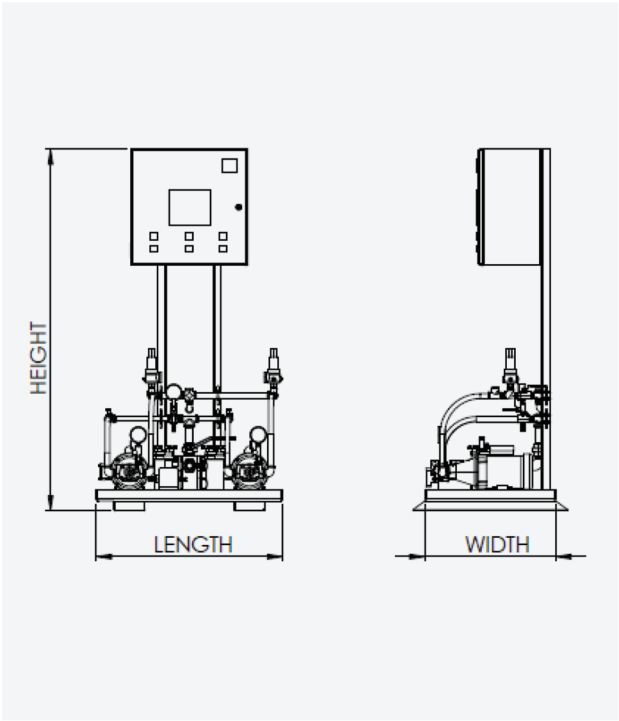
Physical medium options: RS232, RS485, Ethernet.

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



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# Models & Specifications




## Optional Features:

- *Duplex Strainer:* This optional feature takes the place of the two simplex 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.

## Model Selection:

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

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

| Part Number | #2 Oil | | Connection Sizes (NPT) | | | Dimensions | | | Weight | Motor Data | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pressure | GPH | Suction | Discharge | Relief Valve | Length | Width | Height | | HP | Voltage | Phase | RPM |
| TPL-0-DPS-50 | 50 | 60 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 1/3 | 115/208/230 | 1 | 1140 |
| TPL-0-DPS-100 | 100 | 52 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 1/3 | 115/208/230 | 1 | 1140 |
| TPL-1-DPS-50 | 50 | 90 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 1/3 | 115/208/230 | 1 | 1725 |
| TPL-1-DPS-100 | 100 | 78 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 1/3 | 115/208/230 | 1 | 1725 |
| TPL-3-DPS-50 | 50 | 186 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 1/2 | 208/230/460 | 3 | 1725 |
| TPL-3-DPS-100 | 100 | 168 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 1/2 | 208/230/460 | 3 | 1725 |
| TPL-5-DPS-50 | 50 | 246 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 3/4 | 208/230/460 | 3 | 1725 |
| TPL-5-DPS-100 | 100 | 222 | 1" | 1/2" | 1/2" | 32" | 24" | 62" | 410 lbs | 3/4 | 208/230/460 | 3 | 1725 |
| TPL-6-DPS-50 | 50 | 366 | 1" | 1" | 1/2" | 32" | 24" | 62" | 650 lbs | 3/4 | 208/230/460 | 3 | 1725 |
| TPL-6-DPS-100 | 100 | 348 | 1" | 1" | 1/2" | 32" | 24" | 62" | 650 lbs | 3/4 | 208/230/460 | 3 | 1725 |
| TPL-7-DPS-50 | 50 | 432 | 1" | 1" | 1/2" | 32" | 24" | 62" | 650 lbs | 3/4 | 208/230/460 | 3 | 1725 |
| TPL-7-DPS-100 | 100 | 420 | 1" | 1" | 1/2" | 32" | 24" | 62" | 650 lbs | 3/4 | 208/230/460 | 3 | 1725 |
| TPL-10-DPS-50 | 50 | 666 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 1 | 208/230/460 | 3 | 1725 |
| TPL-10-DPS-100 | 100 | 630 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 1 | 208/230/460 | 3 | 1725 |
| TPL-15-DPS-50 | 50 | 900 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 1.5 | 208/230/460 | 3 | 1725 |
| TPL-15-DPS-100 | 100 | 870 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 1.5 | 208/230/460 | 3 | 1725 |
| TPL-20-DPS-50 | 50 | 1140 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 2 | 208/230/460 | 3 | 1725 |
| TPL-20-DPS-100 | 100 | 1050 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 2 | 208/230/460 | 3 | 1725 |
| TPL-24-DPS-50 | 50 | 1260 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 2 | 208/230/460 | 3 | 1725 |
| TPL-24-DPS-100 | 100 | 1140 | 1.5" | 1.5" | 1" | 60" | 30" | 70" | 650 lbs | 2 | 208/230/460 | 3 | 1725 |

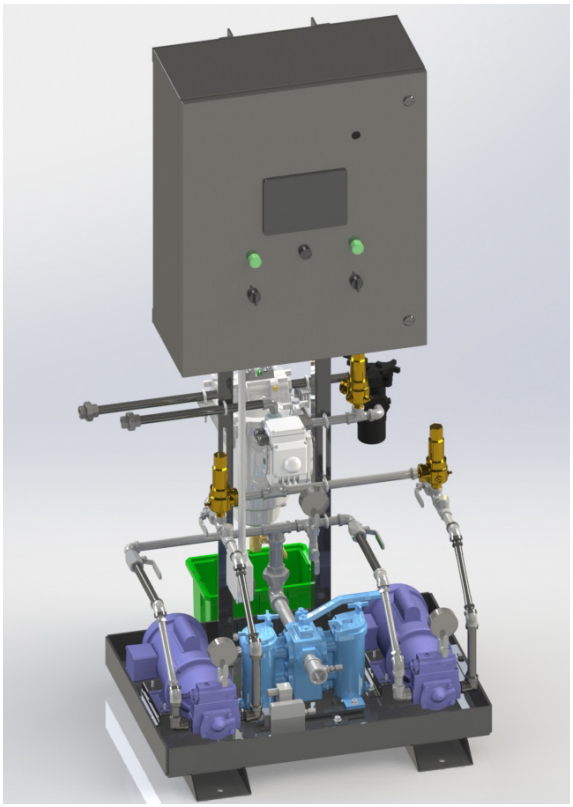


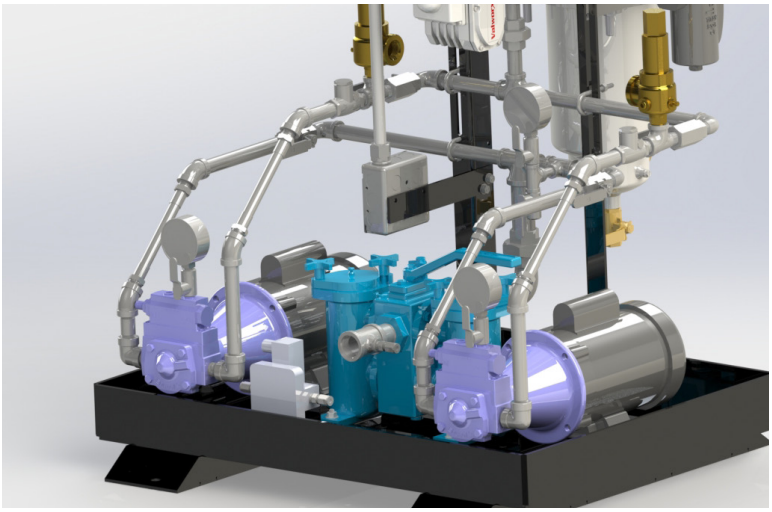
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# Optional Fuel Oil Filtration System

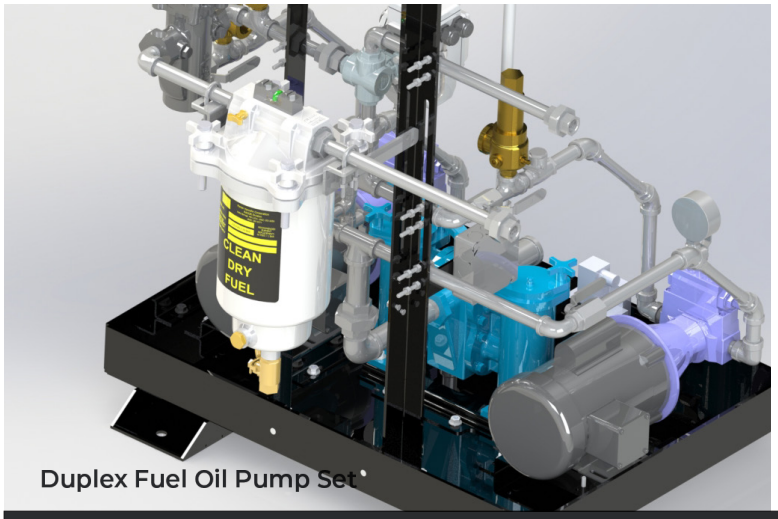
## Components

- 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

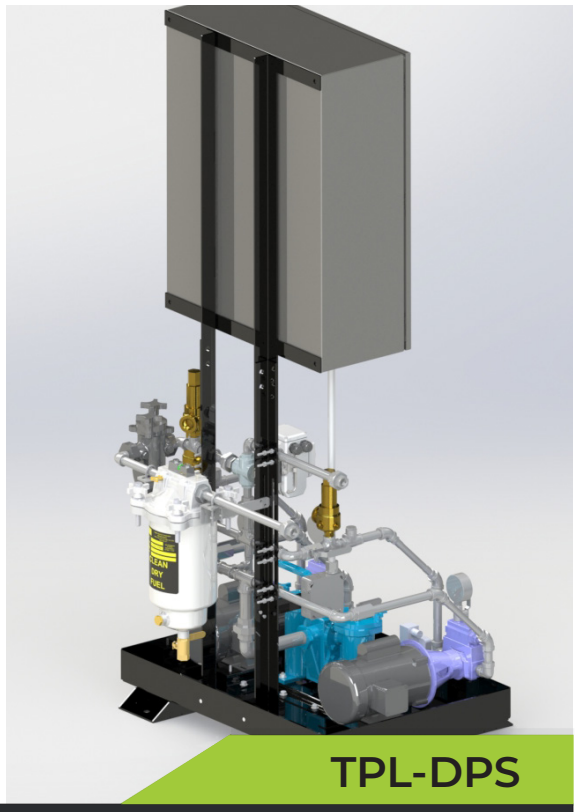




LABS




Duplex Fuel Oil Pump Set



TPL-DPS

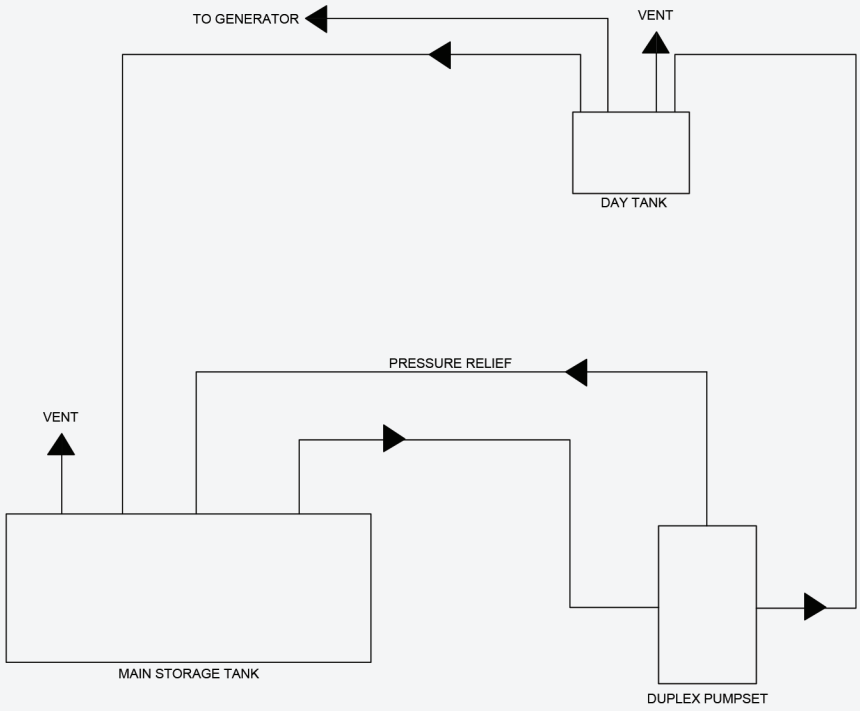


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# Example Applications

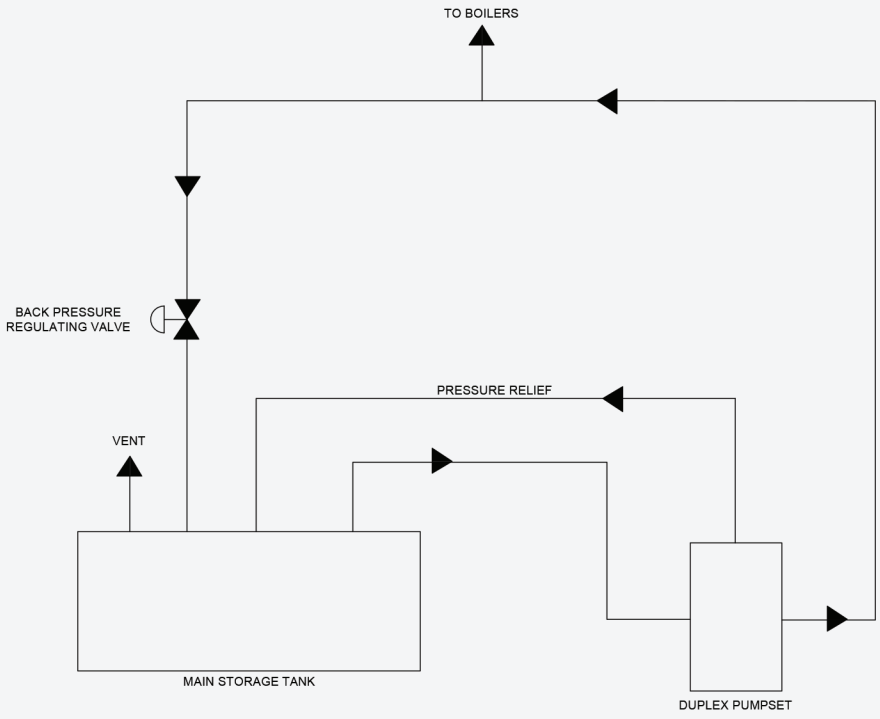
## Diesel Generators:

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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