FUEL OIL FILTRATION SETS

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The Model PF Automatic Fuel Oil Filtration Set is the most complete, efficient, and reliable engine protection system available. Self-contained and touchscreen enabled, these fully automatic systems filter unwanted material, such as water, suspended rust, dirt and other contaminants in order to maintain the quality and purity of stored diesel fuel.

Fuel straining and filtration, combined, will achieve about 99% particulate removal. Those particulates, if not removed, can clog vital components of the system, including the fuel line, pump, and generator fuel injector.

Furthermore, particulate contamination can also reduce reliability and service life of the diesel generator(s). Interchangeable filters can remove particles as small as 5 microns.

Sludge left in a system can cause tank, fuel line, strainer, pump and engine injectors to clog. Water induced corrosion (rusting) can reduce tank life expectancy and reliability of the emergency diesel generator or boiler.

The separated contaminants and water are monitored by an integral filter water level detector. Depending on the size of the system, this waste water is piped to an optional Waste Water Holding and Removal System or connected directly to the customer's waste tank (by others).

The Model PF Automatic Fuel Oil Filtration Set combines microprocessor-based control and monitoring with a "three stage" fuel oil de-watering and cleaning process:

1. **Fuel Straining: Large particulates are removed.**
2. **Filtration: Particulate filtration to 5 micron.**
3. **Water Removal: Removes water through special filter design.**

A differential pressure switch/indicator is installed around the filter units to provide a visual indication of filter element condition. An alarm notifies plant personnel when the filter elements require replacement.

Standard Equipment

- Primary filter
- Secondary filter
- Simplex strainer
- Leak detector switch
- Pump and motor assembly
- Pump "Hand-Off-Auto" switch
- Control power "On-Off" switch
- Primary filter DP switch/gauge
- Color touch screen

Tank Turnover Time In Hours
(Rounded to Nearest Hour)

	Storage Tank Size (Gallons)					
	1,000	2,000	4,000	8,000	16,000	20,000
PF-501	6	11	22	44	89	111
PF-502	2	4	8	17	33	42
PF-503	2	3	7	13	27	33
PF-504	1	2	4	9	18	22
PF-505*	1	2	3	7	13	16

Note: Due to the mixing of filtered fuel with unfiltered fuel, a minimum of three tank turnovers are recommended to ensure fuel quality. Shaded hours are not recommended.

*Model PF-505 has been seismically shake tested, and approved, by a third-party certified testing facility, for compliance with OSHPD (Office of Statewide Health Planning and Development) Special Seismic Certification criteria.

SPECIFICATIONS

- **Power**
  120 VAC (external)
- **Fluid**
  No. 2 Fuel Oil (diesel fuel) is standard. Consult factory for other fuel types.
- **Pump Positive displacement type with cast iron housings:**
  Model PF-501, 502 & 503 are Spur Gear;
  Model PF-504 & 505 are internal gear
- **Motors**
  Base mounted, Totally Enclosed Fan Cooled (TEFC) construction
- **Strainer**
  Simplex 1" , or 1½" (according to inlet line size) complete with 100 mesh perforated basket
- **Automatic Controls**
  Adjustable run-time period
  (4, 8, 12, or 24 hour operation)
- **Indications/Alarms**
  Control Power On, Pump Run, Excess Water in Fuel, Filter Saturated, Filter Water Level High, System Basin Leak Detected.

KEY BENEFITS / FEATURES

- NEMA 4cabinet (Standard)
- Available for Biodiesel applications
- Cleans and de-waters fuel with particulate removal, 99% water removal
- Standard flows from 180 to 1200 GPH
- Factory mounted and wired control cabinet
- Alarm and Safety Shutdown for filter water level "High", filter "Saturated", system base "Leak" detected.
- Automatic cycling based on the time of day and the day of the week ensures continuous fuel maintenance
- OSHPD certified (PF-505)

Ordering Information

Select Catalog Number from the table below.

Catalog Number	G.P.H. Oil #2	P.S.I.	Motor		Dimension			Connection Size	Shipment
			R.P.M.	H.P.	W	H	D	Inlet - Outlet	
PF-501	180	15	1725	¼	48"	48"	12"	¾" - 1½"	2-3 Weeks
PF-502	480	15	3450	⅓	48"	48"	12"	¾" - 1½"	2-3 Weeks
PF-503	600	30	1725	½	48"	48"	12"	¾" - 1½"	2-3 Weeks
PF-504	900	30	1725	¾	48"	48"	12"	1½" - 1½"	2-3 Weeks
PF-505 OSHPD Certified	1200	25	1725	¾	48"	48"	12"	1½" - 1½"	2-3 Weeks

Note: All pumps are 115V 60 Hz 1 phase

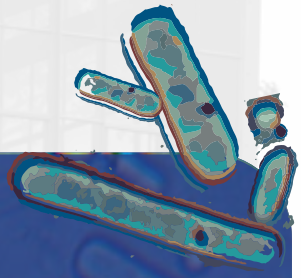
OIT Color Touchscreens

All of the system control functions can be accessed through a standard 4” color touch screen display. Supported communication protocols include; 10/100 Base Ethernet, Modbus TCP/IP, SCADA/BAS connection one RS-485 port.

Waste Water Holding & Removal System

A gear pump automatically pumps water from the secondary filter housing to the holding tank based on an integral filter water detector signal. Automatic isolating valves prevent water leakage into the fuel or fuel into the water holding tank when the system is idle.

The holding tank is equipped with a high level switch to alarm and shutdown the fuel maintenance system until the tank is emptied. A hand pump is provided for periodic removal of waste water from the holding tank. Specify P/N-WR.



MICROORGANISMS

Under normal circumstances, water is constantly being introduced to the fuel. Microorganism growth can then produce sludge.

Systems are available in standard sizes ranging from 180 to 1200 gallons per hour, to custom units for processing 50 gallon per minute or more.

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MADE IN THE USA

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