

Spare Parts

Filter elements are each designed as totally contained filter cartridges, therefore, replacing a cartridge is a simple job, and no tools are needed. Specify the following as required:

	PF-301	PF-302	PF-303	PF-304	PF-305
Primary Filter	11777	11777	11777	11779	11779
Secondary Filter	11778	11778	11780	11780 (2)	11780 (2)

Other Products From Preferred Utilities:

Main Storage Tank Gauging and Leak Detection

Day Tanks and Day Tank Level Control Systems

Fuel Oil Pumping, Heating and Strainer Systems

Vents and Fill Caps

Foot Valves

Other Fuel Oil Specialties

Tank Selector Valves

- Replaces confusing array of hand valves
- Simple lever operation transfers both supply & return lines from one tank to the other
- Designed with no "blind spots" where flow could be blocked to or from the tanks
- Specify "Sure-tite" plug materials for leak free operation



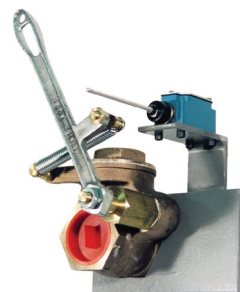
Anti-Syphon Valve

- Used where fuel leaks will result in fuel being syphoned from tanks into areas which can cause a dangerous and costly situation
- UL Labeled and listed



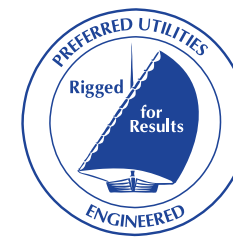
Fire Safety Shut-Off Lever Gate Valve (shown with optional alarm switch)

- Fully mechanical
- Emergency fuel line shut-off is mandated by many codes
- Fusible links open at 165°F
- For 3/4" to 3" piping



Fire Safety Shut-Off Fusomatic Valve

- Replaceable fusible element
- Fusible links open at 165°F, May be manually opened / closed
- For 3/4" to 1" piping



Preferred Filtration Sets

Automated Fuel Maintenance Systems



PF-301 Series Automated Fuel Maintenance System

- Clean and Dewater Fuel - Automated Cycling Ensures Continuous Fuel Maintenance
- Nearly 100% Water Removal
- 99% Particulate Removal (to 2 Microns)
- Water Detection Shut-Off Alarm
- Filter Saturation Shut-Off Alarm
- Leak Detection Shut-Off Alarm

Preferred Filtration Sets are the most complete, efficient and reliable engine protection systems you can install. These self contained, fully automatic systems remove water, suspended rust, dirt and other contaminants in order to maintain the quality and purity of stored diesel fuel.

Water enters fuel systems through vents, leaks and

can grow in fuel, especially in the presence of moisture. The resulting sludge left in the 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.

Preferred Filtration (Model PF) Sets combine microprocessor based control and monitoring with a five "stage" fuel oil de-watering and cleaning process:

1. Fuel Straining: Large contaminants are removed.
2. Primary Filtration: The second stage for particulate removal up to ten (10) micron.
3. Centrifuge: Separates solids and water through centrifugal action. Although the centrifuge has no moving parts, over 30% of the contaminants are removed here.
4. Coalescing: Smaller water droplets and solids coalesce on the specially designed conical baffle and fall to the collection bowl.
5. Secondary Filtration: Water-separating polymers are used for final water removal and 2 micron fuel filtration.

The separated contaminants and water are monitored by an integral filter water level detector. Depending on the system, this waste water is piped to an optional Waste Water Holding & Removal System or connected directly to the customer's waste tank (by others). A differential pressure switch/indicator is installed around the filter units to provide a visual indication of filter element condition. An alarm notifies when the filter elements require replacement.

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.

CS-PFS-1

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-301	6	11	22	44	89	111
PF-302	2	4	8	17	33	42
PF-303	2	3	7	13	27	33
PF-304	1	2	4	9	18	22
PF-305	1	2	3	7	13	16

Notes:

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

Specifications

Power Supply: 120V / 1 phase

Fluid: No. 2 Fuel Oil (diesel fuel) is standard. Consult factory for other fuel types.

Pump: Positive displacement type with cast iron housings:
PF-301, 302 & 303 are Lobe Gear; PF-304 & 305 are internal gear

Motors: Base mounted, Open Drip-Proof (ODP) construction.

Strainer: Simplex 1/2", or 1" (according to inlet line size) complete with 100 mesh perforated basket

Two Stage Filtration: 99% Particulate Removal (to 2 microns)

Water Removal: Nearly 100% Water Removal

Automatic Controls: - Microprocessor based
- Adjustable run-time period (4, 8, 12, or 24 hour operation)
- Indications/Alarms:

- Control Power On
- Pump run
- Excessive Differential Pressure
- Filter Water Level High
- System Basin Leak Detected

Standard Equipment

- One light oil pump & motor assembly
- One fuel maintenance monitoring and control cabinet
- One simplex strainer
- One primary filter
- One secondary filter
- One primary/secondary filter DP switch/gauge
- One leak detector switch
- One over pressure switch
- Pump "Hand-Off-Auto" switch
- Control Power "On-Off" switch

Catalog Number	Specifications			Connection Size
	G.P.H. # 2 Oil	P.S.I.	Motor H.P.	Inlet and Outlet
PF-301	180	15	1/3	1/2"
PF-302	480	15	1/3	1/2"
PF-303	600	15	1/3	1"
PF-304	900	15	3/4	1"
PF-305	1200	15	3/4	1"

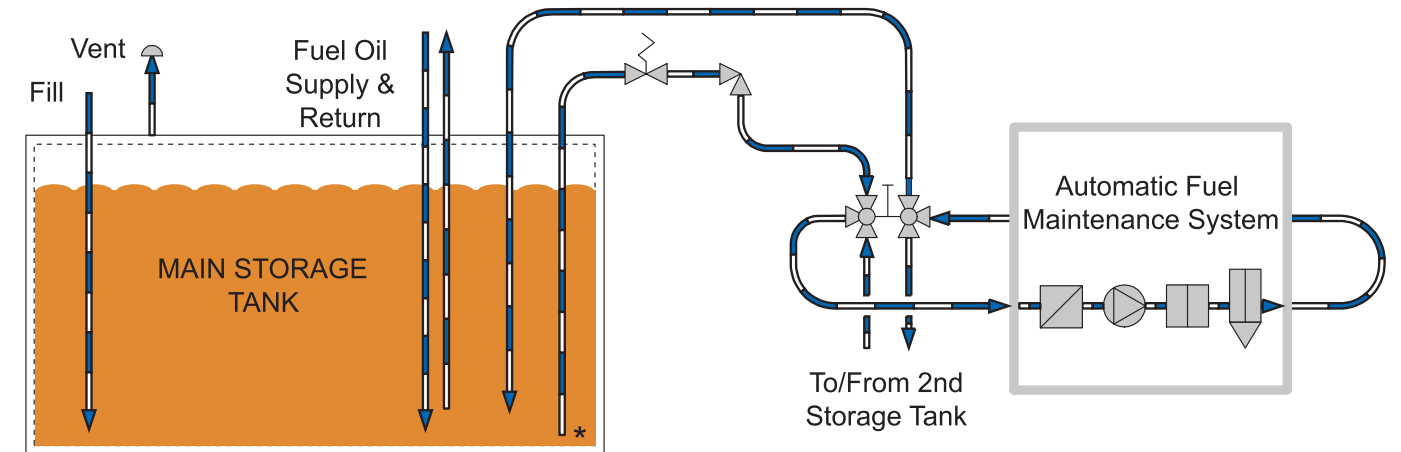
Ordering Information

Specify the Filtration Set as follows:

Select Catalog Number (see table) or Consult factory for larger or smaller storage tanks and for other fuel types.

Sample Application Diagram

(shown with optional Fire Safety Shut-off, Anti-Syphon, and Tank Selector Valve for multiple tank applications)



- Strainer
- Primary Fuel Filter
- Tank Selector Valve
- Positive Displacement Pump
- Secondary Fuel Filter
- Fire Safety Shut-off Valve
- Anti-Syphon Valve

* For complete fuel cleaning and dewatering, install automatic fuel maintenance system's suction pipe as close to the bottom of the tank as possible (should be lower than fuel supply pipe).

Options

Specify the following as required:

1. 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-01.
2. Chemical Additive Holding Tank & Injection System**
Chemical treatment helps to prevent fuel degradation and improve cetane rating. Higher cetane rating improves cold starting, reduces white smoke, and maximizes engine efficiency. A gear metering pump injects additive into the oil while the oil is circulating in order to ensure complete mixing. The additive feed pump operating cycle runs biannually, or it can be activated when new fuel is delivered. A welded steel chemical additive holding tank is provided. Specify P/N-CA-01.

** For these custom options, the filtration system will be mounted on a base pan skid.