

The FRS 25 Fuel Recirculating System automatically recirculates and polishes fuel at 25 gpm, for a single fuel storage tank on a preprogrammed schedule. The system consists of an BLBK universal fuel purifier, a continuous-duty motor and fuel pump, stainless-steel fittings, and a standard high-efficiency fuel filter with optional water-block element. FRS systems are designed for use with diesel fuel. Duplex pump units (DPU) and multi-tank units (MTU) are also available.



The system is PLC-based, with an operator interface touch panel that allows for system programming and alarm monitoring. Automatic controls are governed by a programmable 7-day, 24-hour real-time clock with user-definable start and stop times. There are four (4) alarm outputs: General Alarm, Programmable Alarm, High Water Level Alarm, and Catch Basin Leak Alarm.

The electronic controller is housed in a separate NEMA 4, key-lockable enclosure located outside of the primary system cabinet.

### System Details

<b>Standard Power</b>	120V, 60Hz, 1Ph
<b>Available Power Options</b>	208/240V, 60Hz, 1Ph
<b>Power Upgrades</b>	208/240/380/480V, 50/60Hz, 3Ph
<b>Max. Operating Pressure</b>	Factory preset at 75 psi
<b>Cabinet Dimensions</b>	48" W x 48" H x 12" D
<b>Cabinet Material</b>	NEMA 4 powder-coated steel (white)
<b>Cabinet Mounting</b>	Wall and floor (mounting tabs included)

### Filtration

<b>Y-Strainer</b>	100-mesh wye strainer
<b>Fuel Purifier (separator)</b>	FP 1000 (FP 1000-F optional)
Nominal Flow	40 gpm
Particulate Removal	10 micron nominal for heavy particulates
Water Removal (per SAE J1839)	99% efficiency for free water
<b>High-Efficiency Fuel Filter</b>	I35 35
Particulate Removal (per ISO 16889)	3 micron Beta 1000 (1, 2, 5, 10, 25 options available)
Water Removal	n/a (optional water block down to 10 micron Beta 1000)

### Sensors and Gauges

<b>Leak Sensor</b>	Liquid Detection
<b>Pressure Sensor</b>	Analog Pressure Transducer
<b>Purifier Water Sensor</b>	Water-in-Fuel
<b>Differential Pressure Gauge</b>	Mechanical

### Pump and Motor

<b>Pump Type</b>	Positive Displacement
<b>Product to Pump</b>	Diesel Fuel
<b>Pump Rate</b>	25 gpm
<b>Pump Housing</b>	Aluminum
<b>Pump Gears</b>	Steel
<b>Motor Horsepower</b>	2 HP
<b>Motor Enclosure</b>	TEFC
<b>Motor Frame</b>	56C
<b>Motor Duty</b>	Continuous
<b>Motor Type</b>	Capacitor Start

### Separate Electronic Controller

<b>Controller Type</b>	PLC, UL listed 508A
<b>HM Interface</b>	6" touchscreen
<b>Enclosure Dimensions</b>	30" H x 24" W x 12" D
<b>Enclosure Material</b>	NEMA 4 powder-coated steel (white)
<b>Enclosure Location</b>	External to primary system cabinet
<b>Enclosure Mounting</b>	Wall (top/side mounting brackets included)

### Plumbing

<b>Inlet/Outlet Manual Ball Valves</b>	1" stainless steel (x2)
<b>Unions</b>	1" stainless steel (x3)

## The FTRFS 25 is also available in the following styles: Duplex Pump (DPU) and Multi-Tank (MTU)

### FTRFS 25-DPU (Duplex Pump Unit)

The FTRFS 25-DPU automatically recirculates and polishes fuel in a single storage tank using two alternating 25 gpm pumps and motors on a preprogrammed schedule, providing excellent back-up protection. 25 gpm flow rate is provided through the FP 1000 fuel purifier.

#### NOTE:

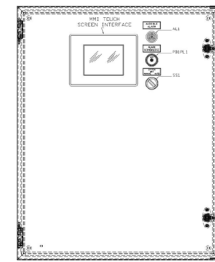
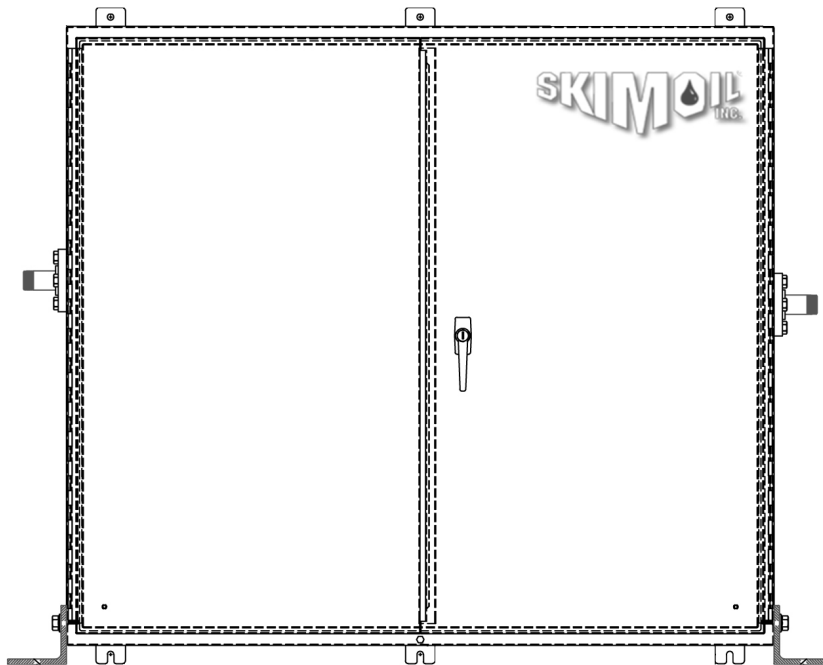
This option will increase cabinet size to 60" W x 42" H x 12" D.

### FTRFS 25-MTU (Multi-Tank Unit)

The FTRFS 25-MTU automatically recirculates and polishes fuel at 25 gpm in up to four storage tanks, on a preprogrammed schedule. All other FTRFS 25 specifications are applicable to this model, in addition to 1" automated ball valves (4 for two tanks, 6 for three tanks, 8 for four tanks).

A 115V actuator is used on brass automated ball valves rated at 600 WOG. It is constructed with a NEMA 4 protective cover.

(Supply side automated ball valve always closed.  
Return side automated ball valve always open.)



ALL FTRFS UNITS ARE CYCLE- AND LEAK-TESTED  
FOR A MINIMUM OF 2 HOURS PRIOR TO SHIPPING.

### Partial List of Options

#### CABINET

- High-Intensity Stack-Light Alarm
- Main Disconnect with Rotary Handle
- Mounting Legs
- Secondary Containment Flanges
- Stainless-Steel NEMA 4X Cabinet

#### COMPONENTS

- Basket Strainer
- Bio-Mag (Decontamination Unit)
- Water-Block Fuel Filter
- Flow Switch

#### COMMUNICATION

- BACnet Interface
- LON Communication
- Modbus RTU Interface
- Modbus TCP/IP Interface

#### HMI

- Internal Touchscreen
- Touchscreen Cover

#### SAFETY

- Hydrocarbon Waste Conversion Kit
- Universal Spill Kit

#### SYSTEM

- Automatic Drain with High Water Alarm & 15 gal. Waste Tank
- Auto/Manual Chemical Injection
- Fuel Transfer
- Automated Ball Valves
- Power Changes and Upgrades
- Thermostatically Controlled Internal Heater
- Thermostatically Controlled Ventilation Fan