

FOR EVERY DIESEL ENGINE, EVERY DIESEL APPLICATION

The fuel filtration and water separation needs of today's new generation diesel fuel systems demand extremely high efficiency, flexibility, multiple functions and ease of use with no risk of fuel spills or contaminated parts.

The Fuel Manager® range of combination fuel filter/water separators meets these demanding requirements, and Fuel Manager systems have been specified as original equipment by over 60 different manufacturers, and are used on hundreds of different machines powered by diesel engines.

Available for light, medium and heavy duty trucks; and agricultural, industrial, construction and marine applications, there is a Fuel Manager Series to meet any condition.

The **FM 1 Series** is the latest series of patented Fuel Manager® Fuel Filters/Water Separators from Stanadyne. The FM1 is low cost, compact, robust, and uses the same world class filter media that is used in our other series of Fuel Manager Filters. Designed for diesel engines with fuel flow rates up to 25 U.S. gallons/hour (95 liters/hour). Typical engines range from 10 to 75 HP (7.5 to 56 kW).

The **FM10 Series** is designed for diesel engines with a fuel flow rate up to 50 US gallons/hr (190 liters/hr). Typical engines range from 10 to 200 HP. The FM 10 Series consists of a molded engineered plastic mounting header with a choice of different filter elements, which "twist on" using a patented feature. This ensures only the correct, genuine service element can be installed on the header, and assures the user that the engine is properly protected from contaminated fuel.

The **FM100 Series** is designed for diesel engines with a fuel flow rate up to 80 US gallons/hr (300 liters/hr). Typical engines range from 50 to 350 HP. The FM 100 Series consists of a cast aluminum mounting header, with a choice of threaded ports of almost any configuration up to M16 x 1.5 'O' ring in size. "Push-in" quick fit connectors can also be specified, making fuel line connections easy, quick, and less costly. The filter elements interface with the header using a patented "Key Track" system, which, like the FM 10 Series, is designed to ensure that only the correct, genuine service element can be installed on the header.

The **FM1000 Series** is designed for diesel engines with a fuel flow rate up to 180 US gallons/hr (680 liters/hr). Typical engines range from 200 to 600 HP. The FM 1000 Series is similar to its smaller cousin, the FM 100 Series. It consists of a cast aluminum mounting header, with a choice of threaded ports up to M22 x 1.5 'O' ring in size. The filter elements interface with the header using the same patented "Key Track" system as the FM 100 Series.

During early development of the Fuel Manager range, it was decided that ALL filter elements would be designed with specially treated hydrophobic media to remove both water AND particulates. In addition, various strategies using patented features to automatically remove air from the low pressure fuel system have been developed, and bleed it back to the fuel tank.

Filter elements for PRE (or primary) filter/separator applications are available in a choice of:

- 10-micron treated paper media to remove water and dirt.
- 30-micron treated paper media to remove water and dirt.
- 150-micron treated nylon media to remove water and dirt.

Filter elements for FINAL (or secondary) filter/separator applications, or where only one filter is installed, are available in a choice of:

- 2-micron treated paper media to remove water and dirt.
- 5-micron treated paper media to remove water and dirt.

All Fuel Manager Series units are designed to offer maximum flexibility and ease of use. All meet the most demanding technical specifications of every major fuel injection equipment manufacturer in the world.

Depending on many factors such as operating conditions, space available on the application, type of fuel injection system on the engine etc, Fuel Manager offers a choice of optional modular features (optional modules are illustrated in this brochure), most of which can be installed either at the factory, or on the engine, without disconnecting fuel lines.

Please review the information in this brochure, and if you have any questions, or special requirements you are not sure about, contact CLARCOR EMS to learn how a Fuel Manager filter/separator can solve your diesel fuel filtration and/or water separation needs.



Examples of design options to fit your needs.

America's Fuel Filter Innovator

CLARCOR Engine Mobile Solutions (EMS) is a world leader in Filtration system technologies and we bring the most state of the art and technologically advanced filtration product to the diesel industry. We understand the required filtration needs for all engines and offer various filters for all size engines and applications. To date, CLARCOR EMS filtration products are supplied to over 70 different OE manufacturers, and are used on hundreds of different machines powered by diesel engines.



Fuel Manager Filtration Systems were introduced in the 1990's, making a major advancement in the diesel industry. The Fuel Manager Filter along with all of our

other filtration products offer superior protection for engine-powered equipment whether it is mobil or stationary.

CUSTOMERS:

OEM engine manufacturers, Aftermarket distributors and dealers, private label accounts, parts wholesalers and jobbers.

MAJOR PRODUCT LINES:

Heavy-duty and light-duty fuel filters/water separators.

APPLICATIONS:

Broad range of applications protecting trucks, buses, automobiles, construction equipment, mining equipment, locomotives and agricultural equipment.

CLARCOR
Engine Mobile Solutions

A Leader In Filtration Management Technology

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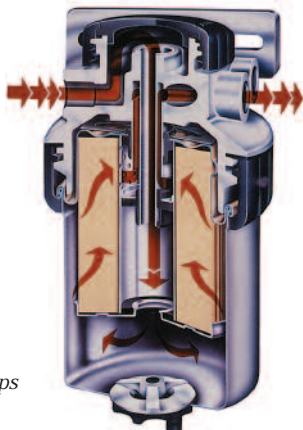
The Versatile Diesel Fuel Filtration/Water Separator System
From America's Foremost Diesel Filtration Innovator







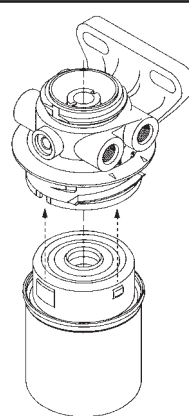
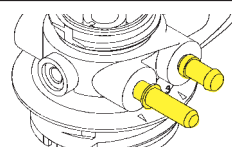
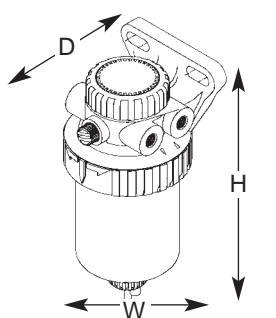
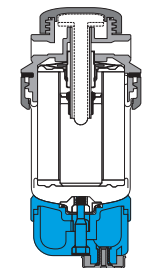
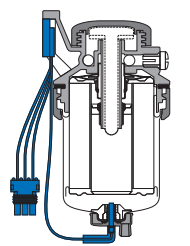
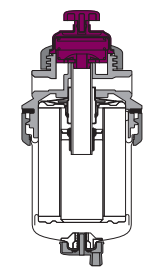
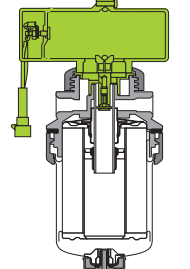
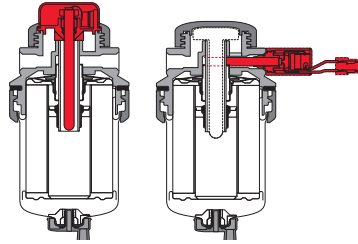
Specified by leading OEMs.

FUELMANAGER®

Diesel Fuel
Filters/Water Separators



From the engineered plastic or aluminum mounting head to the rugged composite caps and rings, the Fuel Manager's materials are engineered to stand up in extreme operating environments. The quick-change retaining ring allows tool-free element replacement. This scientifically advanced filter media catches particles as small as two microns as well as removing water. The unique dry-change element eliminates spills during replacement.

Standard Specifications					
Requirement/Feature		FM 1 Series	FM 10 Series	FM 100 Series	FM 1000 Series
					
Typical Application		Any diesel engine, and diesel powered vehicle or equipment			
Typical Engine Size (HP)		10-75 HP (7.5 - 56 kW)	10-200 HP (7.5 -149 kW)	50-350 HP (37-261 kW)	200- 600 HP (149-447 kW)
Max Fuel Flow (inc. return flow)		Up to 25 US gals/hr. (95 liters/hr.)	50 US gals/hr.80 US gals/hr. (190 liters/hr.)(300 liters/hr.)	180 US gals/hr. (680 liters/hr.)	
Engine Mounted		OK	OK	OK	OK
Chassis Mounted		OK	OK	OK	OK
Operating Temperature			-40°F to +250°F (-40°C to +121°C)		
Suction/Vacuum		OK	OK	OK	OK
Typical Pressure Drop (across clean filter)			0.8 psi (5kPa) at 45 US gals/hr. (170 liters/hr.)		
Maximum Operating Pressure (w/out See-through Water Bowl)		Up to 20 psi (138 kPa)	Up to 30 psi (200 kPa)	Up to 60 psi (413 kPa)	Up to 100psi (688 kPa)
Particulate Filter			Efficiency up to 99% @2 microns (TR13353)		
Water Separation		All CLARCOR filters use specially treated hydrophobic media to remove water. Up to 98% efficiency.			
Air Removal		Several options to automatically bleed air back to fuel tank.			
Pre-filter Media Micron Rating			Choice of 150, 30, or 10-microns		
Final Filter Media Micron Rating			Choice of 5 or 2-microns		
Mounting Header		Molded engineered plastic		Cast aluminum	
“Key Track” System					
Fuel Line Connection Options		Molded plastic hose barb	Molded plastic hose barb or latch bead	Optional screw-in threads, OR metal hose barb/latch bead/ "quick connectors" Contact CLARCOR EMS for details	
Overall Installation Dimensions		Width = 92mm Depth = 94mm Height =134mm (smallest) 193mm (largest)	Width = 95mm Depth = 101mm Height =150mm (smallest) 230mm (largest)	Width = 101mm Depth = 105mm Height =162mm (smallest) 243mm (largest)	Width = 187mm Depth = 155mm Height =224mm (smallest) 326mm (largest)
Optional Modules					
See-through Water Collection Bowl		Re-usable See-through Bowl for FM1, FM10 & FM100 Enables easy visual check of water to be drained. Adds 70ml extra water storage capacity			Larger See-Through Bowl for FM1000 Enables easy visual check of water to be drained. Adds 350ml extra water storage capacity
Electronic Water-in-Fuel Sensor		Not Available	Available for FM10, FM100 & FM1000 Series. Choice of 12 volts or 24 volts. Choice of electronic signal type. •"Active", completely self-contained kit including warning light indicating need to drain water. Can either be OEM installed or retrofitted. Choice of electrical connectors available. • Alternative “passive” version where electronic signal is controlled by engine or vehicle ECU to provide warning. Choice of electrical connectors available.		
Hand Priming Pump		Not Available	Available for FM10, FM100 & FM1000 Series Enables easy purging of air when initial priming or at time of filter element change.		
Electric Transfer/Lift Pump		Not Available	Not Available	12 volts. 4 Amps. Max flow up to 80 US gals/hr. (303 liters/hr.) Note: Must be configured to ensure fuel is filtered before pump to protect from debris. Uses special filter elements.	Not Available
Electric Fuel Heater Choice of “Top Load” or “Side Load”		Not Available	Not available	Choice of 12.or 24 volts 100 or 150 watts Built-in thermostatic switch	12 volts 200 or 300 watts Built-in thermostatic switch