



aerospace  
climate control  
electromechanical  
**filtration**  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



# Racor Filter Division Europe

Hydrocarbon Filter Vessels and Elements



# The most trusted name in engine protection

Racor technology takes the guesswork out of engine protection and Racor manufacturing quality and attention to detail ensures every customer gets the filtration and separation solution they are looking for.

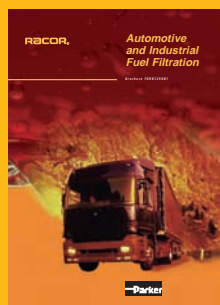
To make product selection easier, Racor's extensive range has been catalogued into four market/ application groups detailed below.



## Hydrocarbon Filter Vessels and Elements

From the refinery to the injector, at the terminal and on the forecourt, Racor has a hydrocarbon filter vessel and element solution to your fuel delivery needs.

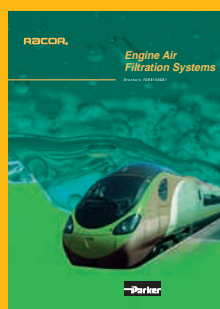
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## Industrial and Automotive

Everytime you add fuel, you add millions of tiny contaminants...small enough to be invisible, but big enough to destroy injectors, pumps and profitability. Racor's industrial and automotive product range of customer proven spin-on filter/separators, turbine fuel filters and crank case ventilators are the solution.

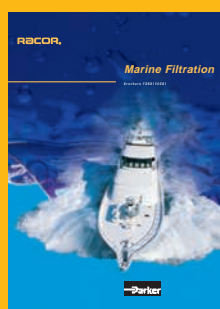
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## Engine Air Filtration Systems

Fresh air. That's what Racor filtration is all about. Because when engines breathe easier they perform better with more power, more torque and with improved fuel economy. Whatever your application, there's a Racor Air Filtration system that will help you and your engine breathe easy.

Ref: FDRB144GB1



## Marine Filtration

Ask a sailor about engine protection. About filtration, about reliability and performance. Whatever they are the master of a superyacht, sailboat, fishing boat or tug, the chances are the one word answer will be the same as it has been for more than three decades...Racor. Marine filtration products trusted across the seven seas.

Ref: FDRB136GB1

For further information Email: [filtrationinfo@parker.com](mailto:filtrationinfo@parker.com)

# RACOR

## The World's Best Filtration starts with the World's Best Engineering.

Parker's technical resources provide the correct filtration technologies that conform to your requirements. That's why thousands of manufacturers and equipment users around the world rely on Parker Filtration products and people.



## Hydraulic, Lubrication & Coolant Filtration

High-performance filtration systems for protection of machinery in industrial, mobile and military/marine applications.



## Finite and Balston Compressed Air & Gas Filtration

Complete line of compressed air/gas filtration and separation products; coalescing, particulate and adsorption filters in many applications in many industries.



## Racor Fuel Conditioning & Filtration

Parker air, fuel and oil filtration systems provide quality protection for engines operating in any environment, anywhere in the world.



## Process & Chemical Fluid Filtration

Liquid filtration systems for beverage, chemical and food processing; cosmetic, paint, water treatment; photo-processing; and micro-chip fabrication.



## System Contamination Monitoring

On-line dynamic particle analysis, off-line bottle sampling and fluid analysis and measurement of water content polluting the oil in a system.

Parker Filtration's global reputation as a reliable supplier of superior filtration products is the result of a focused and integrated development and manufacturing system.

Parker Filtration consolidates quality filtration products, manufactured for process filtration, air and gas filtration and separation, fuel conditioning and filtration, fluid power products and hydraulic filter products into one broad-based range that covers many markets and most applications, as detailed here.

## 1975 Cold

**1975** Racor pioneers integrated fuel heaters, now standard throughout the industry.

## 1984 Protection

**1984** The Racor Sentinel System shuts down an engine before a major component failure can cause permanent damage. Sentinel remains the preferred all mechanical engine control system.

## 1987 Standard Equipment

**1987** The first Navistar powered Ford E Series and F Series vehicles roll off the production line with the revolutionary, compact and flexible Racor Spin On Series.

## 1991 The Environment

**1991** Along with protecting engines, Racor makes products that protect the environment. Lifeguard is a marine fuel/air separator that prevents fuel from escaping overboard from vent lines during refuelling.

## 1994 Air

**1994** Engines gasping for a breath of fresh air breathe easy with the introduction of synthetic, multi stage Racor "twice the life" air filters.

## 1996 Plant expansion

**1996** In addition to the world class manufacturing facility in Modesto, Racor opens locations in Oklahoma, South Carolina, Brazil, Korea and South Africa.

## 1998 Additives

**1998** For all climates and seasons, Racor Additives are formulated to enhance engine efficiency and performance. It's one more way to run clean.

## 2001 Global OEM

**2001** Racor continues to forge long term relationships with Global OEM companies to produce sound, cost effective engineered solutions to meet specific application requirements.



Over 30 years of innovation, over 30 years of quality...

**1969**

### Diesel Fuel

**1969** It all began with a patented, and exceptionally efficient new way to remove water, dirt, rust and algae from diesel fuel.



**1983**

### Technology

**1983** Aquabloc® filters debut, and Racor Filter/Separators make another significant leap in filtration efficiency.



**1985**

### Growth

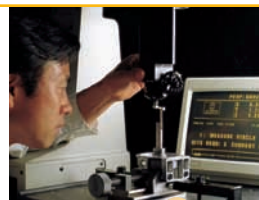
**1985** Racor becomes a division of Parker Hannifin Corporation, further strengthening one of the world's most respected brands.



**1989**

### Quality

**1989** Racor earns Ford Q1 certification, the first in a series of quality awards from one of the world's leading engine and equipment manufacturers.



**1992**

### Oil

**1992** Every bit as vital and every bit as dirty as fuel. The Racor solution is an ingenious one, a cleanable oil filter that puts an end to frequent filter changes and disposal.



**1995**

### CCV Products

**1995** Racor starts cleaning up engine rooms with a crankcase ventilation system that keeps oily blow-by from damaging turbo chargers and other precision components.



**1997**

### Racor Hydrocarbon

**1997** Racor Hydrocarbon Filters and Vessels debut – offering customers flow rates to 1000 gpm and higher.



**2000**

### UK Facility

**2000** Having moved out of Morley into a purpose built factory at nearby Dewsbury in 1998 Racor sees significant growth in Europe. 2000 saw the expansion of manufacturing capability to include all spin on series filters, and the establishment of a state-of-the-art design and test, research and development facility.



**2002**

### High performance air filters

**2002** Racor purchases Farr opening up opportunities in medium and heavy duty Engine Air applications.



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**RACOR®**



In Europe Morley, West Yorkshire in the UK becomes the centre of excellence in Europe.



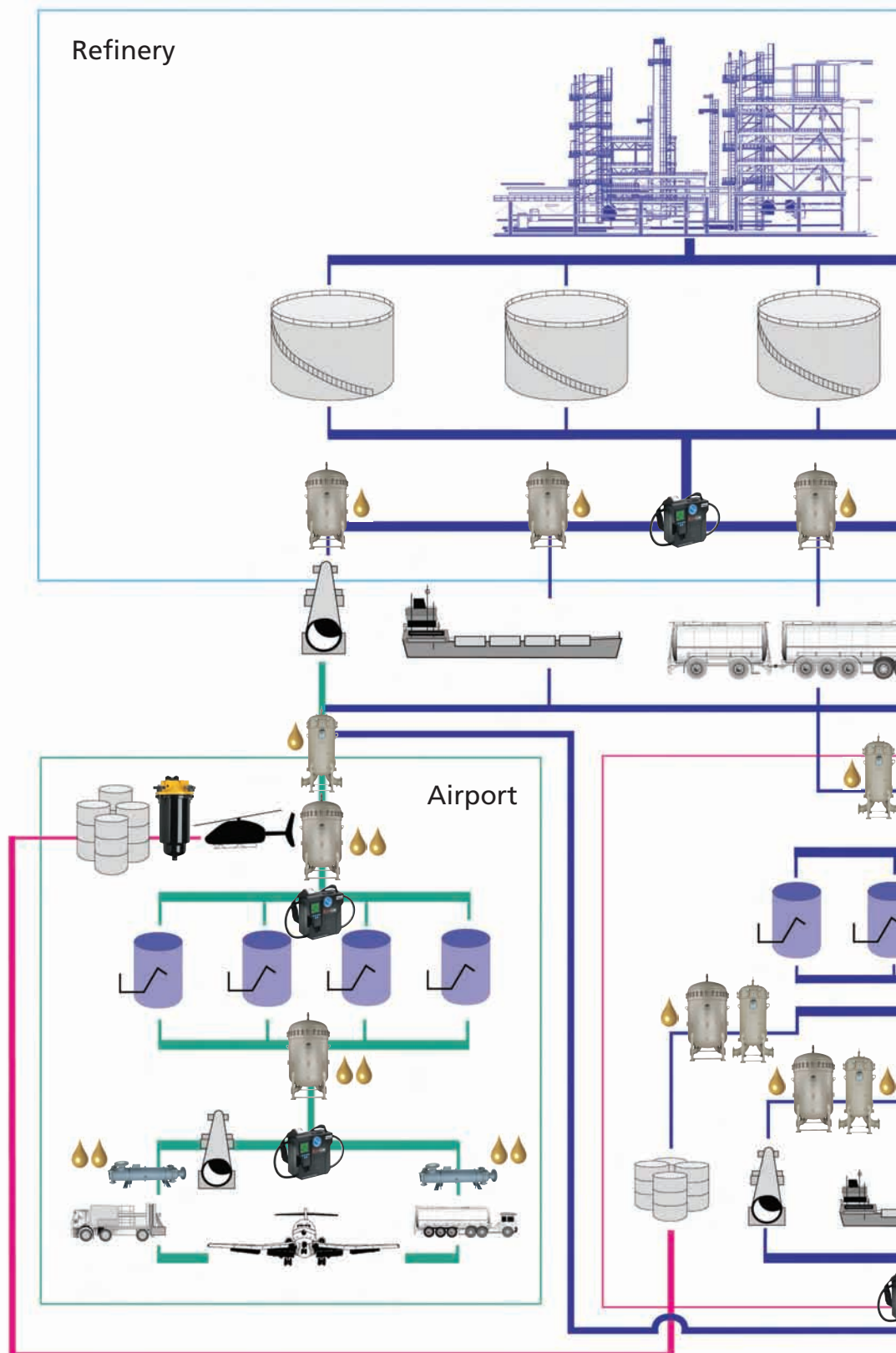


# From the Refinery to the Forecourt

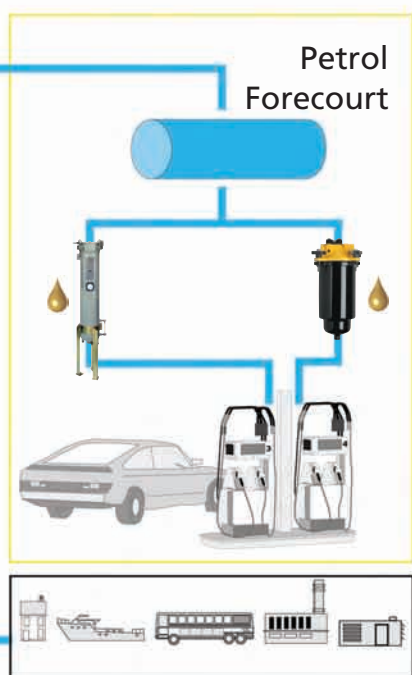
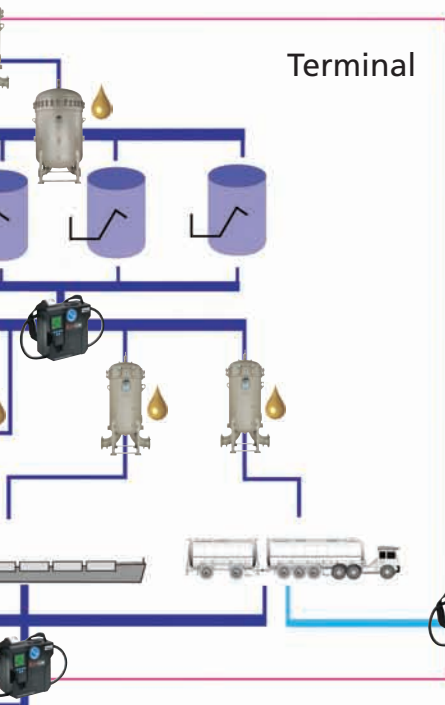
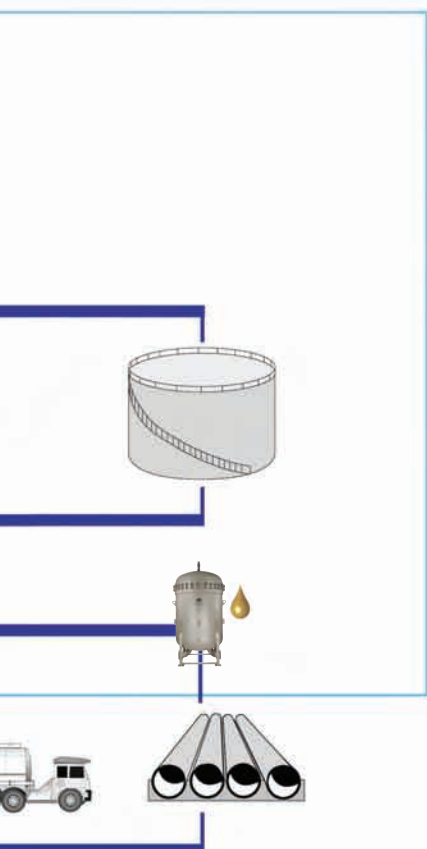
Over the last 30 years Racor has become the premium name to trust in Marine and Automotive fuel filtration and water separation. With advanced fuel filtration laboratories in the USA and Europe and new ones planned for Asia and South America, with separate 2500GPM API/IP test facilities in the USA, Racor will continue leading the market in advanced fuel filtration technology for years to come.

It should therefore be of little surprise that Racor should utilise this breadth of experience in the fuel supply industry, producing the most advanced Aviation Fuel API/IP 1581 qualified water separators, 1590 particulate filters and 1583 monitors, as well as Approved Vessels and a wide range of industry standard interchangeable products.

From the refinery to the injector, at the terminal and on the forecourt, Racor has a solution to your fuel delivery needs. With engine tolerances getting tighter, whilst injection pressures increase, the need for high quality fuel supply filtration/conditioning designed to complement on-board systems is here.



Filtration requirements will vary depending on local fuel quality.



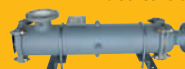
Industrial & Marine Fuel Applications



**MF** Racor offers 2 types of Micro-Filters: FP Cellulose elements offer 95% filtration efficiency and are available in micron ratings of 1, 2, 5, 10, 25, & 40, suitable for chemical, fuel and hydrocarbon applications. FS Synthetic high efficiency micro-filter elements feature a water resistant, all synthetic media providing 99.5%+ efficiency at the stated 1, 5, 10, & 25 micron ratings complying to API/IP 1590 3rd Edition (1 and 5 micron). Requirements may differ depending on location and contamination history.



**FWS** Racor Hydrocarbon coalescers use a 2 stage separation system. The first stage coalesces the fuel/water emulsion by means of fibre bed hydrophilic coalescence, the second stage uses a synthetic hydrophobic separator as a final barrier, allowing the clean dry fuel to pass through, whilst the coalesced water droplets are repelled by the hydrophobic barrier and are collected in the sump of the housing. A full range of standard and API/IP 1581 5th Edition qualified combinations are available. NOTE: The minimum requirement for the supply of JET-A or JET-A1 is a Filter Water Separator (FWS) meeting the requirements of API/IP 1581 (5th Edition), drum filling is also considered as direct supply.



**FMI** Fuel Monitor elements will absorb free water from fuels to <15 ppm whilst providing 97.4%+ filtration efficiency and are qualified to 1 micron. Monitor elements are qualified to API/IP 1583 3rd Edition. Systems are available to fit these into both RVFS and FBO housings in addition to purpose built Monitor housings.



**RVFS** This innovative filter vessel will accept a wide range of Filters, Micro-filters, Coalescer/Separators, Monitors and Clay treatment elements. The vessel is particularly targeted at high volume fuel delivery systems, and has been widely used on forecourts and fueling stations.



**FBO** Offering a similar level of versatility as the RVFS, these filter vessels will accept a wide range of Filters, Micro filters, Coalescers/ Separators, Monitors and Clay treatment elements. The vessel is particularly targeted at medium volume fuel delivery systems, and offers an economical solution to fuel delivery.



**ACM 20** Parker's renowned particle counter has been re-engineered and calibrated for use in fuels and allows quick, easy economical fuel condition checks for aviation and diesel fuels.

A quick 2 minute test will allow you to check contamination levels, trends and integrity in a far more consistent reliable and repeatable way than traditional clear and bright methods.



The minimum filtration requirement of Jet-A/A1 into Airports and drum filling, is a filter (FWS) meeting the requirements of API/IP 1581 current addition.

# Filter Elements

Racor is a qualified supplier of API/IP 1581 (American Petroleum Institute/Institute of Petroleum) and military standard aviation fuel coalescer/separators, API/IP 1583 monitors and API/IP 1590 microfilter elements. Racor aviation fuel filtration systems are used by customers worldwide to assure the delivery of clean, dry fuel. This same filter element technology is used to remove water and solid contaminants from diesel, gasoline, naptha, natural gas, compressed natural gas, liquid natural gas and other fuels before they are transported, stored and used.

## Qualified Military Filters

FILTER	MIL SPEC	FILTER	MIL SPEC
Coalescer, DOD	MIL-F-8901F	Oil Water Separator	POP-L30
	MIL-F-52308J	Filter	MIL-F-27717F
Coalescer, NAVY	MIL-F-15618F	Coalescer/Separator	MIL-F-38007D
Coalescer, AIR FORCE	MIL-F-27707-F	Coalescer	API/IP 1581 5th
Coalescer	MIL-F-27704F	Monitors	API/IP 1583 3rd
Fuel Monitor	MIL-M81380C(AS)	Microfilters	API/IP 1590 3rd



*Injection molded nylon end caps assure tolerances equaled only in machined parts. Nylon resins eliminate corrosion problems and offer improved chemical and thermal performance, as well as excellent impact resistance.*

*State of the art adhesives are used to seal the filtration media to the end cap. This construction substantially improves the strength of the cartridges, in addition to having excellent resistance in a wide range of chemical environments.*

*Symmetric layering of high efficiency glass media into depth media can eliminate the need for metal center tubes – even in qualifying coalescer cartridges 75 psi pressure requirements.*

*Fiber blends and multiple layer media composition are designed specifically for each application.*

*Single length elements replace 2 or 3 stacked elements, providing improved sealing and lower service cost.*

The above element is an ACP Coaleser



## Filter Vessels and Elements Deliver the Ultimate in Protection and Reliability

For over 30 years, Parker Hannifin's Racor Division has been recognized as the global leader in fuel filtration and separation technology.



## Filter Vessels

Racor has expanded its filter vessel product line for refineries, pipelines, bulk storage terminals and airport refueling equipment. Vessels are designed and manufactured to ASME API/IP and CE/PED qualifications.

The product flow range now meets or exceeds customer flow ranges found in most industry hydrocarbon

applications. Racor vessels, combined with Racor filter elements, offer customers finer filtration, cleaner, drier hydrocarbon products and extended element change intervals. Extended change intervals offer more uptime and lower maintenance costs.



By utilizing the latest computer-aided design tools, the engineering team takes specific application requirements and quickly develops the necessary components to manufacture vessels and elements that meet industry codes and customer-specific requirements.

Racor's emphasis on advanced engineering is combined with a company-wide focus on uncompromising quality and premier customer service. This concentrated effort means that customers receive on-time delivery of the highest quality filtration systems available and that they meet the demanding requirements for performance and service life.



### Pleated Media Cartridges FP Series

- Maximum surface area offers optimum contamination holding capacity.
- High flow rate, low initial pressure drop.
- Micron rating from 40 micron down to 1 micron.
- Cartridges to fit most popular industry filter vessels.
- Collapse pressure = 75 PSID.
- pH range from 5 to 9.
- 115°C (240°F) maximum operating temperature.
- Flow direction = outside to in.
- Glass filled nylon end caps are standard, eliminating corrosion and offering excellent thermal stability and high impact resistance.
- Buna-N gaskets standard.
- Other options available.
- HIF coreless configuration.
- HIF 'W' pleat.
- Competitor cross references.



### Synthetic Pleated Media Cartridges FS Series

- 4 times the filtration surface area of comparable product available from competitors.
- 99.7% efficiency at stated element rating.
- Designed and tested to meet stringent requirements of API/IP 1590 Specifications and qualification procedures for aviation fuel microfilters. (Consult factory to obtain qualification test report).
- Micron ratings of 1 and 5 (approved) 10 and 25.
- Collapse pressure 75 PSID.
- Qualified to a flow rate of 4.64 gallon/inch of filter with an initial pressure drop of 1.5 PSID.
- Glass-filled nylon end caps are designed as standard, eliminate corrosion and its byproducts. In addition they provide excellent thermal stability and impact resistance.
- Buna-N gaskets are designed as standard.
- PH range from 5 to 9.
- Designed to fit most popular filter vessels.
- Steel outer wrap for back flow protection.
- Competitor cross references.





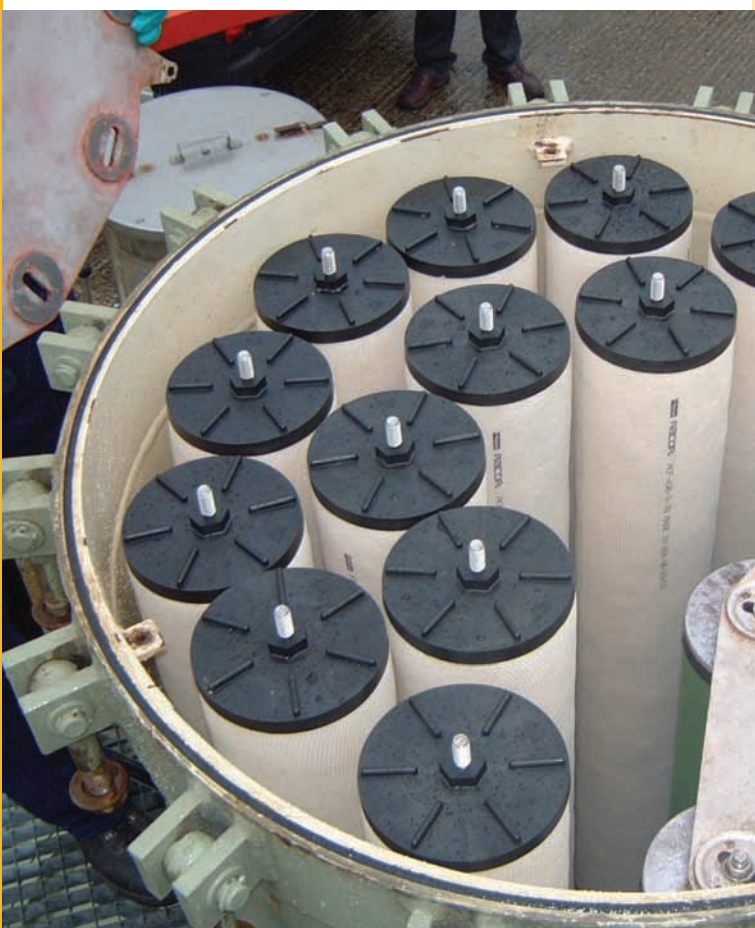
## API Coalescer Cartridges

- 3rd and 5th edition approved.
- Vertical and horizontal applications.
- Coreless, crushable and incinerable.
- No perforated center tube allows 100% utilization of the coalescing media.
- No metal components.
- Removes emulsified water and particulates from the jet stream.
- Available in standard industry lengths.
- Solids removal down to 0.5 micron.
- Glass-filled nylon end caps are standard.
- Maximum differential pressure is 75 PSID.
- Max. operating temperature is 115° C (240° F).
- pH range from 5 to 9.
- Buna-N gaskets are standard.
- Competitor cross reference.



## Coalescer Cartridges

- Available in standard industry diameters and lengths.
- Removes particulates and emulsified water from hydrocarbon fluids.
- Multi-layered media increases contaminant holding capacity.
- Water removal to less than 5PPM.
- Glass-filled nylon end caps are standard, eliminating corrosion and offering excellent thermal stability and high impact resistance.
- Maximum differential pressure = 75 PSID.
- Maximum operating temperature = 115°C (240°F).
- pH range from 5 to 9.
- No perforated center tube allows 100% utilization of the coalescing media. This eliminates media blinding often found in conventional coalescer designs.
- Standard construction contains no metal components. This allows spent cartridges to be easily crushed or incinerated to reduce disposal costs.
- Buna-N gaskets standard, other types available per customer requirements.
- Solids removal in a variety of micron ratings: 0.5, 1, 2, 5, 10 & 25.





*Qualified to API/IP specification 1583. Qualification for Aviation Fuel Monitors with Absorbent Type Element.*



## Separator Elements

- API-qualified separator cartridges.
- Cartridges to fit most industry vessels.
- Synthetic screen with 40 micron filtration barrier can be cleaned and reused.
- Teflon®-coated screen at 60 micron. Teflon® is cleanable.
- Silicone-impregnated pleated paper media provides filtration barrier to one micron (for use in diesel applications).
- Glass-filled nylon end caps are standard, eliminating corrosion, offering excellent thermal stability and high impact resistance.
- 240°F (115°C) maximum operating temperature.
- pH range from 5 to 9.

## Monitor Elements

- Qualified at less than 1 micron
- Qualified at less than 5 ppm of water in the effluent
- Qualified at less than 0.3 mg/liter of solids in effluent
- Glass filled nylon end caps are standard eliminating corrosion and its by products in addition to having excellent thermal stability and impact resistance
- Parker Hannifin Buna-N o-ring seal standard (Viton available on request)
- Multi-layered media for maximum solids holding – with absorbent media cross linked to trap and hold free and emulsified water
- Works in the presence of fuel additives and surfactants as specified in the API/IP Specification 1583 Qualification Procedure
- Collapse strength exceeds 180-psi differential pressure
- Dimensionally interchangeable with all 2" outside diameter competitor cartridges
- Standard lengths 5", 10", 15", 20", 25" and 30".
- Designed to fit existing monitor vessels where 2" monitors are used
- Not affected by temperatures varying from -65° F to 160° F (-54 C° to 71° C)
- No metal components reducing disposal costs





## HIF Coreless Elements

- The crushable filter element has no metal components.
- Crushable element, reduces disposal volume by up to 85%.
- 'W' Pleats offer large surface area to maximize contaminate removal and solids loading.
- Incinerable, consult local regulations.
- High flow rate, low initial pressure drop.
- Collapse pressure 75 PSID.
- pH range from 5 to 9.
- Max. operating temperature: 240°F (115°C).
- Flow direction: outside to in.
- Glass filled nylon end caps are standard.
- Buna N gaskets standard.
- Recommended cartridge changeout 20 PSID.
- Available in micron ratings of 1, 2, 5, 10 and 25.



## Water Absorbing Elements

- Designed to fit most vessels sized for 5" x 13.5", 6" x 14", 7" x 18" and 8" x 22" cartridges.

- Micron ratings 1, 5, 10 and 30.



- Removes free and emulsified water to less than 5 PPM.
- Water absorbing capacity to four quarts depending upon cartridge size.
- Progressive low flow rates or rapid differential pressure rise alert operators changeout is needed.
- Spin-on filters also available.



## Clay Bags and Canisters



- Interior and exterior media migration barriers.
  - Canisters or Lexel bags.
  - No internal metal parts to corrode or pose a safety hazard.
  - Buna-N gaskets.
  - Compatible with standard industry 7" x 18" or 7" x 19" cartridges.
  - Unique construction results in minimum swell, which makes cartridge changeout fast and easy.
- Water Absorbing Elements Applications

## Natural Gas Filter

- Molded fiberglass tube. Constructed of glass fibers and bonded with inert phenolic binders.
  - The welded perforated steel core gives added protection against collapse at high differential pressures.
- Metal end caps are adhesively. pressures. Metal end caps are adhesively.





# FBO Filter Assembly

Racors' new FBO-10 and FBO-14 filter assemblies are designed to meet the toughest hydrocarbon refueling conditions and provide for ease of filter change outs. The FBO Assembly can flow at 25gpm (95 lpm) or up to 75gpm (230 lpm) depending on the model, the elements installed and fuel being filtered.

The FBO assembly can be used on mobile refuelers or installed in refueling cabinets. The unit can also be used for diesel fuel dispensing pumps or as a primary fuel filter/water separator for large diesel engines.

The assembly features a locking ring collar, which attaches the filter housing to the aluminium die-cast filter head with four bolts. The slotted locking ring collar allows maintenance personnel to hand-loosen the four collar bolts, rotate and lower the bowl assembly for element change outs. With new element installed, simply raise the bowl and rotate into position on the locking ring and hand tighten evenly.

The closure hardware consists of stainless steel nuts, bolts and washers with metal hand knobs for ease of maintenance – one person can easily change the filter element. No special tools are required.



## Standard Design Features

- Die-cast aluminum head
- Steel filter bowl assembly
- Powder coated components
- Locking ring collar, no clamps
- 1 1/2 " NPT Inlet and Outlet
- 10 bar @ 240° F max design pressure
- Manual drain valve
- Manual vent valve

## Options

- Mounting bracket
- Sight level gauge
- Pressure diff. indicator



## Installations

- Aviation fuel trucks
- Aviation fueling cabinets
- Diesel fuel dispensing system
- Marine fuel docks
- Fuel systems on large diesel engines

## Applications

- Jet fuel, aviation gas, diesel fuel, gasoline, kerosene, JP4, JP5 and JP8.

## Performance Specifications

FBO-10	Maximum Flow Rates				Clean Dry	Change
	Flow Range	Diesel	Jet Fuel	Gasoline	Delta P	Delta P
Prefilter	5-40 gpm	20	40	50	**	20 PSID
Filter Sep	5-35 gpm	18	35	45	**	15 PSID
Absorber	5-25 gpm	18	35	45	**	30 PSID
FBO-14	Flow Range	Diesel	Jet Fuel	Gasoline	Delta P	Delta P
	Flow Range	Diesel	Jet Fuel	Gasoline	Delta P	Delta P
Prefilter	10-60 gpm	30	60	75	**	20 PSID
Filter Sep	10-50 gpm	25	50	65	**	15 PSID
Absorber	10-37gpm	26	55	70	**	30 PSID

\*\* varies with fluid and flow rate



The versatile FBO-10 and the FBO-14 filter assemblies have three element options to meet most field applications.

For refueling applications the filter separator element is used. The filter separator element removes contaminants and water from jet fuel, aviation gas, diesel fuel, gasoline and hydrocarbon fuels.

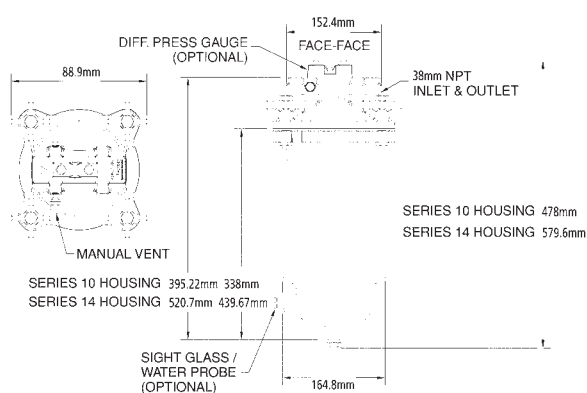
Silicon treated cellulose prefilters remove particle contaminants down to one micron.

Absorptive filters remove water and contaminants from fuel, oil or other hydrocarbon streams.

Review the element chart on this page for field applications.

### Element Applications

Application	Micron Rating	FBO-10 6 x 10 Element	FBO-14 6 x 14 Element
Filter Separator	1	FBO-60327	FBO-60336
	5	FBO-60328	FBO-60337
	10	FBO-60353	FBO-60356
	25	FBO-60329	FBO-60338
Prefilter	1	FBO-60330	FBO-60339
	5	FBO-603331	FBO-60340
	10	FBO-60356	FBO-60357
	25	FBO-60332	FBO-60341
Absorptive Filter	1	FBO-60333	FBO-60342
	5	FBO-60334	FBO-60343
	10	FBO-60355	FBO-60358
	25	FBO-60335	FBO-60344



# RVFS Series

The Racor RVFS Series filter vessels offer an unparalleled high efficiency, versatile, economical and low maintenance solution to many fuel delivery and industrial filtration applications. The vessels will accept Micro-filter pre-filters, Coalescer/Water Separator combinations, Monitor/Absorbers and clay treatment bags.

Used mainly in the diesel and kerosene re-fuelling industry, these robust vessels can be seen on countless forecourts providing clean dry safe fuel to modern TDI, PD, HDI, CDI and heavy duty vehicles. Equally these vessels can be used for kerosene, aviation fuels, heating oils, gasoline and numerous other industrial fluids and fuels.

## RVFS Maximum Flow Rates

	Flow rate with 37 SSU Diesel GPM/LPM			Flow rate with 32 SSU Aviation Fuel GPM/LPM			
	Coalescer	Prefilter	Monitor	Coalescer	Prefilter	Monitor	Clay
RVFS-1	25	66	29	50	66	58	N/A
RVFS-2	50	133	58	100	133	116	7/26.5
RVFS-3	75	200	87	150	200	174	14/53

## Element Options

	Coalescer Element Prefix OCP					Separator Element Options			
	1 micron	2 micron	5 micron	10 micron	25 micron	5 micron	10 micron	25 micron	Teflon
RVFS-1	OCP-15854	OCP-15855	OCP-15858	OCP-15868	OCP-15878	SP-15404	SP-15405	SP-15407	ST-15401
RVFS-2	OCP-30854	OCP-30855	OCP-30858	OCP-30868	OCP-30878	SP-30404	SP-30405	SP-30407	ST-30401
RVFS-3	OCP-44854	OCP-44855	OCP-44858	OCP-44868	OCP-44878	SP-44404	SP-44405	SP-44407	ST-44401

micron rating	Water Absorbing FW Elements				Clay Canister
	1	5	10	25	
RVFS-1*	FW-61401	FW-61405	FW-61410	FW-61425	FCC-18701
RVFS-2*	FW-61401	FW-61405	FW-61410	FW-61425	FCC-18701
RVFS-3*	FW-61401	FW-61405	FW-61410	FW-61425	FCC-18701

FP Silicon Treated Pleated Pre-filters						
	0.5 micron	1 micron	2 micron	5 micron	10 micron	25 micron
RVFS-1	FP-14601-1/2	FP-14601	FP-14602	FP-14604	FP-14605	FP-14607
RVFS-2	FP-30601-1/2	FP-30601	FP-30602	FP-30604	FP-30605	FP-30607
RVFS-3	FP-44601-1/2	FP-44601	FP-44602	FP-44604	FP-44605	FP-44607

Recommended options for diesel fuel applications. Consult factory for other fluids.

Vessel Dimensions inches			Dry Weight	Overhead space requirements
height	width	depth		
39	13.75	13.5	46 kg	16
51	13.75	13.5	52 kg	32
65	13.75	13.5	59 kg	47

For additional information please consult the RVFS installation handbook, Part No. RAC3002GB1



## Optional Accessories

- Automatic air eliminator
- Pressure relief valve
- Differential pressure gauge
- Liquid level gauge
- Manual water drain valve
- Support stand
- Wall mount brackets

## Applications

- Jet A, Jet A1
- JP4, JP5, JP8
- Diesel Fuel
- Kerosene
- Gasoline





## Features

- Carbon steel construction, other materials available
- 17 23 ASME code Section VIII construction, stamped and certified. CE certified vessels available.
- Zinc plated swing bolt closure.
- Buna-N o-ring cover seal
- Interior epoxy coated MIL C4556E, exterior primer coated (carbon steel versions only)

## Connections

- Inlet and Outlet: 2 inch NPT
- Main Drain and Liquid Level Ports: 1/2 inch NPT
- Vent and Pressure Relief Connection: 3/4 inch NPT
- Differential Pressure Gauge/ Sample Ports: 1/8 inch NPT

# RVFS Element Options

## Coalescer / Separator



Coalescer and separator mounted in the RVFS housing. Fluid/fuel is passed from the outside of the coalescer to the inside. The coalescer element provides primary filtration of the fuel as well as coalescing free water from it. The clean fuel passes through the separator barrier and into the outlet of the housing. The coalesced water droplets are repelled by the hydrophobic barrier and are collected in the sump of the housing. The sump should be drained routinely.

## FP Element Installation



Mounting shown – Parker's cellulose FP microfilter series. These elements offer 95% filtration efficiency of fluids and are available in micron ratings of 1, 2, 5, 10, 25 & 40.

When ordering a RVFS for FP installation the kit number 72137 is required.

The RVFS-1, 2 & 3 housing series is compatible with all 6-7" OD, 3.5" ID in multiple lengths of 14 inches.

## FS Element Installation



Mounting shown – Parker's patented FS synthetic microfilter series. The microfilter features a water resistant, all synthetic media and provides 99.5% + efficiency at the stated 1, 5, 10 & 25 micron ratings.

When ordering a RVFS for FS installation the kit number 72137 is required.

The RVFS-1, 2 & 3 housing series is compatible with all 6-7"OD, 3.5"ID in multiple lengths of 14 inches.

## FW Element Installation



Mounting shown – Parker's combination water absorbing/filtration FW filter series. These elements will absorb free water from fuels to less than 15 ppm and offer 95% filtration efficiency and are available in micron ratings of 1, 5, 10 & 25. This product can also be used to absorb free water and filter industrial oils.

When ordering a RVFS for FP installation the kit number 72137 is required. The RVFS-1, 2 & 3 housing series is compatible with all 6-7"OD, 3.5"ID elements in multiple lengths of 14 inches.

## Clay Canister Installation



This pictorial shows the mounting of Parker's adaptor and clay canister, FCC-18701. Clay is known as Attapulgus clay, Fullers Earth or diatomaceous earth. The principle use in fuels filtration is to jet fuel. This product can also be used to neutralize acid or products of oxidation from industrial oils; including: hydraulic fluids, lubricating oils, and dielectric fluids.

## FMI Monitor Installation



This pictorial shows the mounting of Parker's FMI IP qualified monitor/filter series. These elements will absorb free water from fuels to less than 15 ppm and offer 97.4% + filtration efficiency and are qualified to 1 micron.

The installation of the monitor adaptor in the RVFS-1 allows the user to install 6-15" elements for jet fuel flow of 90 USGPM. The installation of the monitor adaptor in the RVFS-2 allows the user to install 6-30" elements for jet fuel flow of 180 USGPM.

\*When ordering a RVFS for FP, FS or FW installation, kit number 72137 is required. The RVFS-1, 2, & 3 housing series is compatible with all 6-7"OD, 3.5"ID in multiple lengths of 14 inches.

\*\*Where Kits are offered in a – 1, -2 or – 3 configuration, the corresponding kit should be used within the RVFS-1, -2 or – 3.

# Pre Filter Vessels

The RVMF Series Vertical Vessels are used with Racor Hydrocarbon FP, FS, and HIF coreless, high efficiency micron series elements.

Racor hydrocarbon filter housings are designed for removing solid contaminants such as dirt, rust, pipe scale and other types of solids from fuels.

Racor hydrocarbon vessels are designed for a single pass through the high efficiency element for clean product downstream.

## Applications

- Jet A, Jet A1
- JP4, JP5, JP8
- Diesel Fuel
- Kerosene
- Gasoline
- Bio-Diesel

## Connections

- Inlet and Outlet: Style 1 – 3000# NPT coupling Style 2 & 3 – 150# RF (ANSI) flanged
- Vent and relief valve: 3/4 inch NPT
- Differential pressure gauge/sample ports: 1/4 inch NPT

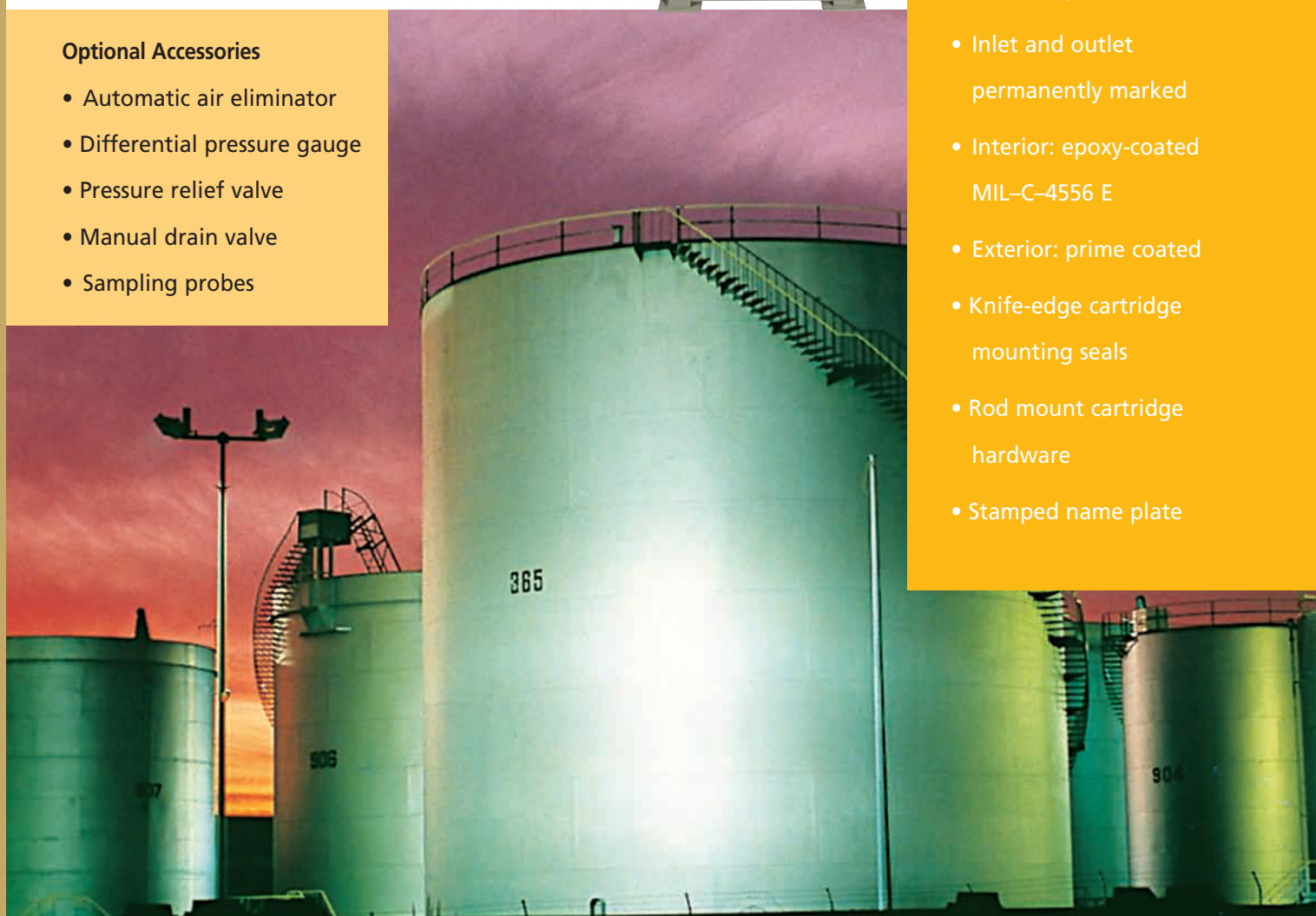


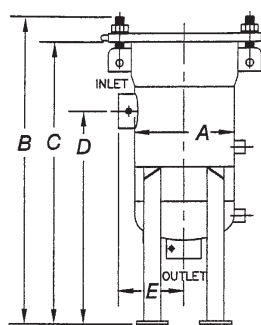
## Optional Accessories

- Automatic air eliminator
- Differential pressure gauge
- Pressure relief valve
- Manual drain valve
- Sampling probes

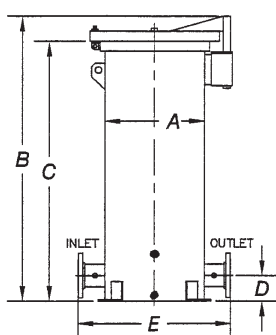
## Features

- Carbon steel construction; other materials available
- 150 psi ASME Code, Section VIII construction, stamped and certified
- Yellow zinc-plated swing bolt closure
- Buna-N o-ring cover seal
- Hydraulic jack cover lift furnished on 14 inch and larger vessels
- HIF center tubes when required
- Inlet and outlet permanently marked
- Interior: epoxy-coated MIL-C-4556 E
- Exterior: prime coated
- Knife-edge cartridge mounting seals
- Rod mount cartridge hardware
- Stamped name plate

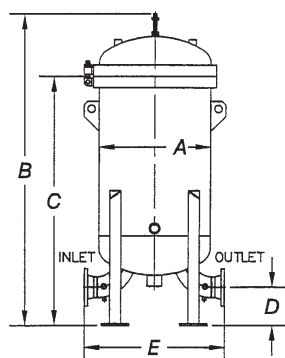




Style 1



Style 2



Style 3

## Standard Housing Data and Flow Rates

Model No.	Flow Rate	Liquid Volume				Required Cartridges	Dry Weight	
		gpm	lpm	gallons	liters		lbs.	kgs.
RVMF-60-1-14	60		227	6	22	1	170	77
RVMF-120-1-28	120		454	9	34	1	190	86
RVMF-200-1-44	200		757	12	45	1	220	100
RVMF-400-2-44	400		1514	38	144	2	485	220
RVMF-600-3-44	600		2271	50	189	3	560	254
RVMF-800-4-44	800		3028	65	246	4	850	386
RVMF-1200-6-44	1200		4542	80	303	6	950	431
RVMF-2200-11-44	2200		8327	165	625	11	1500	680
RVMF-3600-18-44	3600		13626	325	1230	18	2000	907
RVMF-5200-26-44	5200		19682	450	1703	26	3450	1565

Weights and Volumes are approximate.

## Connection Data

Model No.	Connection Diameters						Housing Type
	Inlet/Outlet		Side Drain		Bottom Drain		
	in	mm	in	mm	in	mm	
RVMF-60-1-14	2	51	N/A	N/A	3/4	19	STYLE 1-FLAT
RVMF-120-1-28	2	51	N/A	N/A	3/4	19	STYLE 1-FLAT
RVMF-200-1-44	2	51	N/A	N/A	3/4	19	STYLE 1-FLAT
RVMF-400-2-44	3	76	3/4	19	3/4	19	STYLE 2-FLAT
RVMF-600-3-44	4	102	3/4	19	3/4	19	STYLE 2-FLAT
RVMF-800-4-44	6	152	3/4	19	3/4	19	STYLE 2-FLAT
RVMF-1200-6-44	6	152	1	25	1	25	STYLE 2-FLAT
RVMF-2200-11-44	8	203	1 1/2	38	1	25	STYLE 3-DOME
RVMF-3600-18-44	10	254	1 1/2	38	1	25	STYLE 3-DOME
RVMF-5200-26-44	12	305	1 1/2	38	1 1/2	38	STYLE 3-DOME

## Dimensional Data

Model No.	Dimensions*										No. of Bolt Holes	Anchor Bolt			
	A		B		C		D		E			Bolt Circle		Bolt Hole	
	in	mm	in	mm	in	mm	in	mm	in	mm		in	mm	in	mm
RVMF-60-1-14	8 5/8	219	51	1295	48	1219	42	1067	6	152	3	71/4	184	5/8	16
RVMF-120-1-28	8 5/8	219	63	1600	60	1524	56	1422	6	152	3	71/4	184	5/8	16
RVMF-200-1-44	8 5/8	219	78	1981	75	1905	70	1778	6	152	3	71/4	184	5/8	16
RVMF-400-2-44	14	355	72	1829	62	1575	6	152	24	610	4	17	432	5/8	16
RVMF-600-3-44	16	406	72	1829	62	1575	6	152	26	660	4	19	483	5/8	16
RVMF-800-4-44	18	457	74	1880	63	1600	7	176	26	660	4	21	533	5/8	16
RVMF-1200-6-44	20	508	76	1930	63	1676	7	178	28	711	4	22 1/2	572	5/8	16
RVMF-2200-11-44	28	711	93	2362	81	2057	10	254	36	914	4	25 1/4	641	7/8	22
RVMF-3600-18-44	36	914	106	2692	95	2413	10	254	48	1219	4	32 5/8	829	7/8	22
RVMF-5200-26-44	42	1067	114	2896	99	2515	12	305	54	1372	4	47 1/2	1206	1	25

Custom designs available. \*Dimensions are reference only. For exact dimensions, request drawing for applicable model number.



# Industrial Filter/Water Separator Vessels

The RVFS Series Filter/Water Separator Vessels are for use with Racor Hydrocarbon ACP/CP Series Coalescers and SP, SS, and ST Series Separator Cartridges. Racor hydrocarbon RVFS Series two-stage vertical coalescer/separator housings are designed to filter solids and separate two immiscible liquids. Using the correct combination of Racor hydrocarbon coalescer cartridges and second stage separator cartridges will provide the highest degree of water and solids removal.

## Applications

- Jet A, Jet A1
- JP4, JP5, JP8
- Diesel Fuel
- Kerosene
- Gasoline
- Bio-Diesel

## Installations

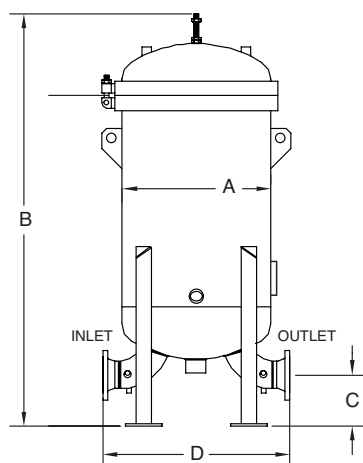
- Refineries
- Terminals
- Loading racks
- Mobile and marine fuel sites

## Connections

- Inlet and Outlet: 150# RF (ANSI) flanged
- Main Drain: 1 - 2 inch NPT
- Vent and pressure relief connection: 3/4 inch NPT
- Differential pressure gauge/sample ports: 1/4 inch NPT

## Optional Accessories

- Automatic air eliminator
- Pressure relief valve
- Differential pressure gauge
- Sampling probes
- Manual or automatic water drain valves
- Sump drain line heaters
- Liquid level gauge
- Water slug control valve
- Pilot control valve



## Features

- Carbon steel construction; other materials available
- 10.34 bar ASME Code, Section VIII construction, stamped and certified
- Yellow zinc-plated swing bolt closure
- Buna-N o-ring cover seal
- Hydraulic jack cover lift
- Inlet and outlet permanently marked
- Interior: epoxy-coated MIL-C-4556 E
- Exterior: prime coated
- Knife-edge cartridge mounting seals
- Stamped name plate

# Industrial Filter/Separator Vessels

## Standard Housing Data and Flow Rates

Model No.	Maximum Recommended Flow Rates At These Viscosities															
	1 CS		2.2 CS		3 CS		4 CS		5 CS		6 CS		8 CS		10 CS	
	31.0 SSU		33.0 SSU		36.0 SSU		39.0 SSU		42.3 SSU		45.5 SSU		52.0 SSU		58.8 SSU	
	GPM	LPM	GPM	LPM	GPM	LPM	GPM	LPM	GPM	LPM	GPM	LPM	GPM	LPM	GPM	LPM
RVFS-222-122	145	549	115	435	85	322	65	246	50	189	40	151	30	114	25	95
RVFS-244-233	290	1098	240	908	180	681	130	492	100	379	90	341	60	227	50	189
RVFS-344-233	435	1646	340	1287	250	946	190	719	150	568	125	473	90	341	75	284
RVFS-444-333	580	2195	480	1817	360	1363	260	984	200	757	180	681	120	454	100	379
RVFS-456-436	740	2801	615	2328	460	1741	335	1268	255	965	230	871	155	587	130	492
RVFS-656-536	1100	4164	915	3463	675	2555	500	1893	385	1457	335	1268	230	871	195	738
RVFS-856-736	1475	5583	1220	4618	915	3463	660	2498	510	1930	455	1722	305	1154	255	965
RVFS-1056-936	1850	7002	1530	5791	1150	4353	830	3142	640	2422	570	2157	380	1438	320	1211
RVFS-1256-1136	2220	8403	1835	6945	1375	5204	995	3766	765	2896	685	2593	455	1722	380	1438
RVFS-1456-1336	2585	9784	2140	8100	1605	6075	1160	4391	895	3388	800	3028	530	2006	445	1684
RVFS-1656-1536	2955	11185	2445	9254	1835	6945	1325	5015	1020	3861	915	3463	610	2309	510	1930
RVFS-2056-1936	3695	13986	3060	11582	2295	8687	1655	6264	1275	4826	1140	4315	760	2877	635	2403
RVFS-2456-2336	4435	16786	3670	13891	2755	10428	1990	7532	1530	5791	1370	5185	915	3463	765	2896
RVFS-2856-2736	5175	19587	4280	16200	3215	12169	2320	8781	1785	6756	1600	6056	1065	4031	895	3388

## Dimensional Data

Model No.	Dimensional / Physical Information															
	Inlet/Outlet Flange		Main Drain NPT		A		B		C		D		Dry Weight		Liquid Volume	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	Lbs.	Kgs.	Gal.	Ltr.
RVFS-222-122	2	51	1	25	16	406	52	1321	6	152	17	432	620	281	35	132
RVFS-244-233	3	76	1	25	18	457	77	1956	6	152	23	584	720	327	60	227
RVFS-344-233	4	102	1	25	20	508	78	1981	6	152	28	711	850	386	80	303
RVFS-444-333	4	102	1	25	24	610	80	2032	6	152	28	711	1000	454	115	435
RVFS-456-436	6	152	1	25	24	610	97	2464	7.5	191	36	914	1100	499	140	530
RVFS-656-536	6	152	1.5	38	28	711	108	2743	7.5	191	36	914	1400	635	200	757
RVFS-856-736	8	203	1.5	38	32	813	114	2896	9	229	46	1168	1900	862	270	1022
RVFS-1056-936	8	203	1.5	38	36	914	115	2921	9	229	48	1219	2300	1043	365	1382
RVFS-1256-1136	8	203	1.5	38	38	965	116	2946	9	229	48	1219	2500	1134	415	1571
RVFS-1456-1336	10	254	2	51	42	1067	118	2997	10	254	54	1372	3400	1542	530	2006
RVFS-1656-1536	10	254	2	51	48	1219	120	3048	10	254	60	1524	3800	1724	580	2195
RVFS-2056-1936	12	305	2	51	54	1372	125	3175	12	305	69	1753	4500	2041	900	3407
RVFS-2456-2336	12	305	2	51	60	1524	129	3277	12	305	71	1803	5700	2585	1160	4391
RVFS-2856-2736	14	356	2	51	66	1676	143	3632	14	356	80	2032	6500	2948	1390	5261

## Element Options

Model No.	Coalescer / Separator Element Selection Information Number							
	Coalescer	.5 Mic.	1 Mic.	2 Mic.	5 Mic.	25 Mic.	Separator	Silicone Treated Paper
	Element Quantity	"32 Series"	"54 Series"	"55 Series"	"58 Series"	"78 Series"	Element Quantity	"05 Series"
RVFS-222-122	2	CP-22632-TB	CP-22654-TB	CP-22655-TB	CP-22658-TB	CP-22678-TB	1	SP-22605-S
RVFS-244-233	2	CP-44632-TB	CP-44654-TB	CP-44655-TB	CP-44658-TB	CP-44678-TB	2	SP-33605-S
RVFS-344-233	3	CP-44632-TB	CP-44654-TB	CP-44655-TB	CP-44658-TB	CP-44678-TB	2	SP-33605-S
RVFS-444-333	4	CP-44632-TB	CP-44654-TB	CP-44655-TB	CP-44658-TB	CP-44678-TB	3	SP-33605-S
RVFS-456-436	4	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	4	SP-36605-S
RVFS-656-536	6	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	5	SP-36605-S
RVFS-856-736	8	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	7	SP-36605-S
RVFS-1056-936	10	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	9	SP-36605-S
RVFS-1256-1136	12	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	11	SP-36605-S
RVFS-1456-1336	14	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	13	SP-36605-S
RVFS-1656-1536	16	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	15	SP-36605-S
RVFS-2056-193	20	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	19	SP-36605-S
RVFS-2456-2336	24	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	23	SP-36605-S
RVFS-2856-2736	28	CP-56632-TB	CP-56654-TB	CP-56655-TB	CP-56658-TB	CP-56678-TB	27	SP-36605-S

# Fuel Monitor Vessels

The RHFM Series Horizontal Fuel Monitor Vessels, equipped with the FMI or FM Series Fuel Monitor cartridges, check the entire flow of fuel, collecting solids, absorbing water and ensuring only clean and dry fuel for delivery.

Racor Hydrocarbon FMI 2" Series Monitor Cartridges are qualified to the latest edition of API/IP Specifications 1583 Qualification Procedures. The vessels can also be equipped with FM 2" Series cartridges. The FMI

and FM 2" Series Monitor Cartridges are designed to flow from the outside to inside at a rate of 1 US GPM per inch of length. In addition, they are not disarmed when surfactants and fuel additives are present.

## Features

- Carbon steel construction; other material available
- 10.3 ASME Code, Section VIII construction, stamped and certified
- Yellow zinc plated bolted closures
- Buna-N o-ring cover seal
- Cartridge spider assembly
- 220 PSI deckplate hydrotest
- Interior: epoxy-coated MIL-C-4556 E
- Exterior: prime coated
- Multi-position inlet connection and mounting saddles
- Patent Pending design

## Optional Accessories

- Automatic air eliminator
- Pressure relief valve
- Differential pressure gauge
- Sampling probes
- Manual drain valve
- Cover inter-lock safety device

## Applications

- Jet A, Jet A1
- JP4, JP5, JP8
- Diesel Fuel
- Kerosene
- Gasoline
- Bio Diesel

## Connections

- Inlet and Outlet: 150# RF (ANSI) flanged
- Main Drain: 3/4 inch NPT
- Vent and pressure relief connection: 3/4 inch NPT
- Differential pressure gauge connection: 1/4 inch NPT
- Sampling connection: 1/4 inch NPT

## Standard Housing Data and Flow Rates

Model	Flow Rate		Required Cartridges		Liquid Volume		Dry Weight	
	gpm	lpm	qty.	Model	gallons	liters	lbs.	kgs.
RHFM-A-200	200	757	10	FMI-20203	7 1/2	28	324	147
RHFM-A-300	300	1136	10	FMI-30203	10	38	362	164
RHFM-A-600	600	2271	20	FMI-30203	20	76	395	179
RHFM-A-900	900	3407	30	FMI-30203	30	114	470	213
RHFM-A-1200	1200	4542	40	FMI-30203	40	151	503	228

Weights and volumes are approximate.

## Dimensional Data

Model	Inlet/ Outlet	Dimension*														Cover Type mm
		A		B		C		D		E		F		G		
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	
RHFM-A-200	3	76	8 5/8	219	39	991	6	152	8	203	7 1/2	191	13	330	19	483 FLAT
RHFM-A-300	3	76	8 5/8	219	49	1245	6	152	8	203	7 1/2	191	13	330	29	737 FLAT
RHFM-A-600	4	102	12 3/4	324	51	1295	7	152	10	254	10	254	14	356	28	711 FLAT
RHFM-A-900	6	152	14	356	53	1346	7	178	11	279	10	254	15	381	26	660 FLAT
RHFM-A-1200	6	152	16	406	54	1372	7	178	11	279	11	279	15	381	26	660 FLAT

Custom designs available. \*Dimensions are reference only. For exact dimensions, request drawing for applicable model number.



# Pressure Filter Vessel Summary

Racor's growing vessel product line includes prefilters, vertical and horizontal two-stage coalescers, fuel monitors and clay treaters. The vessels are offered with a full option line including air eliminators, pressure relief valves, differential pressure gauges, liquid level gauges, water slug control valves, heaters and manual. Racor uses the latest CAD computer design systems, materials and processes to meet industry qualifications and customer's stringent field demands.



## General Specifications

## Features

- ASME Code, Section VIII construction, stamped & certified.
- Designed for low pressure drop.
- Designed for easy element changeouts.
- A variety of positive element seal designs are available.
- Welded carbon steel construction is standard. Alternative material types, including stainless steel and aluminium, can be designed to meet application requirements.
- A variety of interior and exterior surface coatings are available for your specification.
- Large capacity sumps are incorporated into each design.
- CAD provides fast and accurate custom vessel designs.

Vessel Series	Flow Rates	Fuels	Elements	Inlet/Outlet	Specifications	Coatings
Prefilters	Up to 5,000 gpm Up to 18,925 lpm	Jet A, Jet A 1 JP 4,5,8 Diesel Fuel Kerosene Gasoline Bio-Diesel	FS Pleated FP Pleated FP W Pleats HIF coreless Water Absorbing	NPT RF Flange	Carbon Steel ASME Code, Section VIII	Internal – Epoxy External – Primer
Vertical Filter Separators	Up to 5,000 gpm Up to 18,925 lpm	Jet A, Jet A 1 JP 4,5,8 Diesel Fuel Kerosene Gasoline Bio-Diesel	CP & ACP(API/IP) Coalescer Teflon®, Synthetic & Paper Separators	NPT RF Flange	Carbon Steel ASME Code, Section VIII	Internal – Epoxy External – Primer
Horizontal Filter Separators	Up to 1,400 gpm Up to 5,300 lpm	Jet A, Jet A 1 JP 4,5,8 Diesel Fuel Kerosene Gasoline Bio-Diesel	CP & ACP(API/IP) Coalescer Teflon®, Synthetic & Paper Separators	NPT RF Flange	Carbon Steel ASME Code, Section VIII	Internal – Epoxy External – Primer
Clay Treaters	Up to 1,800 gpm Up to 6,813 lpm	Jet A, Jet A 1 Diesel Fuel Kerosene Gasoline Bio-Diesel	7 X 18 inch Bags or Canisters	NPT RF Flange	Carbon Steel ASME Code, Section VIII	Internal – Epoxy External – Primer
Fuel Monitors	Up to 1,200 gpm Up to 4,542 lpm	Jet A, Jet A 1 JP 4,5,8 Diesel Fuel Kerosene Gasoline Bio-Diesel	2 inch (API/IP) & MIL SPEC M-81380C (AS)	NPT RF Flange	Carbon Steel ASME Code, Section VIII	Internal – Epoxy External – Primer

For specific vessel tech data and dimensions, consult product specification sheets

# Fluid Condition Monitoring



Current practice in the aviation industry is to use a visual, 'clear and bright' test to make sure that the fuel being supplied from our refineries is free from solid matter and undissolved water at normal ambient temperatures.

This test is subjective and cannot detect those contaminants that can really do damage to the engine and its critical tolerance fuel control components in today's modern aero engines.



- Particle counting has been in lab environments since the 1960's.
- Recognised as an industry approved method.
- Counts particulate distribution in hydraulic fluids.
- Conforms with ISO/NAS and SAE standards.

- Lab performance in the field.
- Small, portable and self powered data storage.
- Dynamic 2 minute test procedure.
- Simple operation.
- Calibration to ISO standards (ISO 11171).
- Particle counts per ml.
- Sample particle distribution analysis.
- Connects to existing aviation sampling points.



## Applications

- Determination of particle size distribution for filter testing.
- Determination of water content in fuel.
- Filter performance monitoring.
- Pipeline commission trials.
- Future development for telemetric analysis.

## Hydraulic



Parker Filtration's global reputation as a reliable supplier of superior hydraulic and lubrication filtration products, fluid power products and fluid condition monitoring equipment, is the result of a focused and integrated development and manufacturing system. A range of products that cover many markets and most applications.

## Marine



It's easy to see why Parker Racor is the most trusted name in marine filtration. Experienced sailors and marine system designers know that a fuel filter failure can stop a craft dead in the water. For nearly four decades, Racor has designed and manufactured diesel fuel filter/water separators that represent the standard in the marine industry.

## Engine Air Filtration Systems



Fresh air. That's what Racor air filtration is all about. Because when engines breathe easier they perform better – with more power, more torque and with improved fuel economy. The Racor lineup includes heavy duty air cleaners and pre-cleaners, crankcase ventilation, marine filter/silencers, cabin air filters and replacement filters. All are super high efficiency, with engineered, application-specific media that improves performance as it extends service life.

## Fuel and Water



Parker Racor fuel and oil filtration systems provide quality protection for engines operating in any environment, anywhere in the world. Racor's tried and trusted range of Spin-On fuel filter/water separators and the legendary Turbine Series represent, to customers, OEMs and end users alike, the very best in fuel filtration solutions.



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