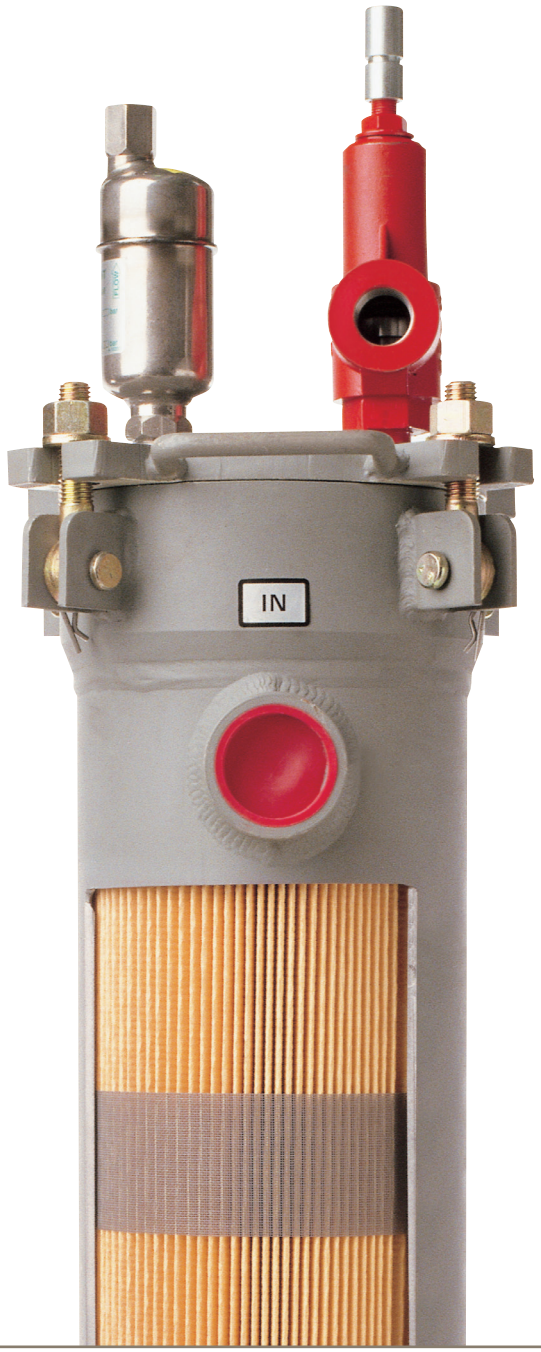
aerospace
climate control
electromechanical
filtration
fluid & gas handling
hydraulics
pneumatics
process control
sealing & shielding



Fuel Handling Products

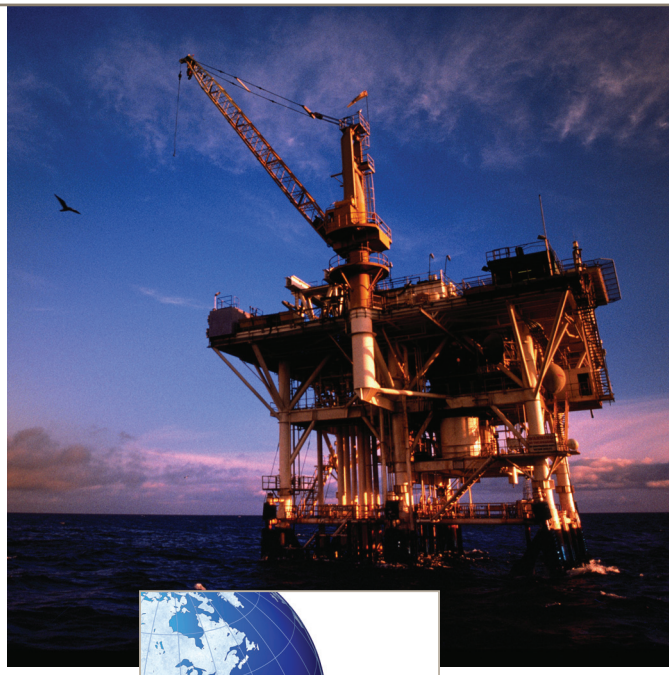
Hydrocarbon Vessels, Monitors, Replacement Cartridges, and Fuel Dispensing Systems

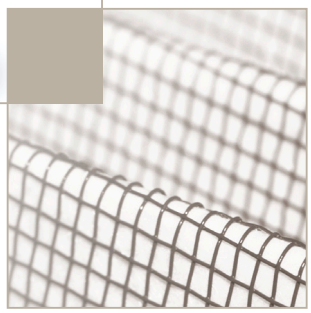
Parker Racor

ENGINEERING YOUR SUCCESS.

Start Clean...

Contents





About Racor

For over forty years, there has been one brand of fuel filtration systems that has earned the confidence and respect of engine and equipment builders, owners, and operators around the world—Racor. Leading-edge technology and continuous innovation are designed into every system, setting the global standard. In every configuration, at every flow rate, and in any operating environment, Racor is the most trusted name in engine protection.

Industrial Fuel Filtration. Start Here.

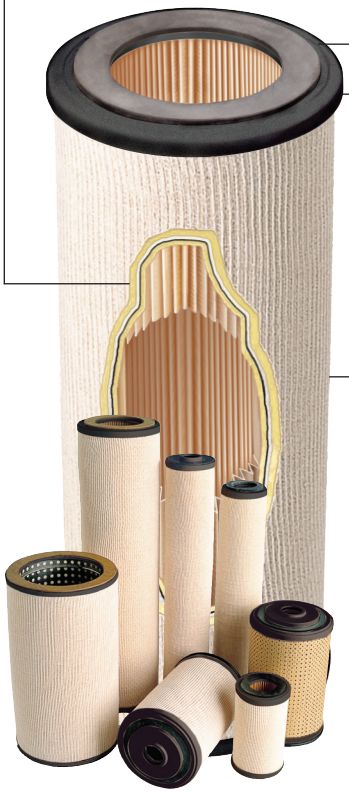
Why Racor?

Over the last 40 years, Parker's Racor Division has become the most trusted name in the engine, mobile, marine and stationary fuel filtration and water separation industries. Racor now has standard products available to filter virtually any fuel at any flow rate and can configure systems to meet customers' requirements for application, environment and other specific parameters.

State-of-the-art, advanced technology fuel filtration laboratories are currently located in North America and Europe. A separate, dedicated 2,500 USGPM EI engineering test facility is located in the United States and future laboratories are planned for Asia and South America.

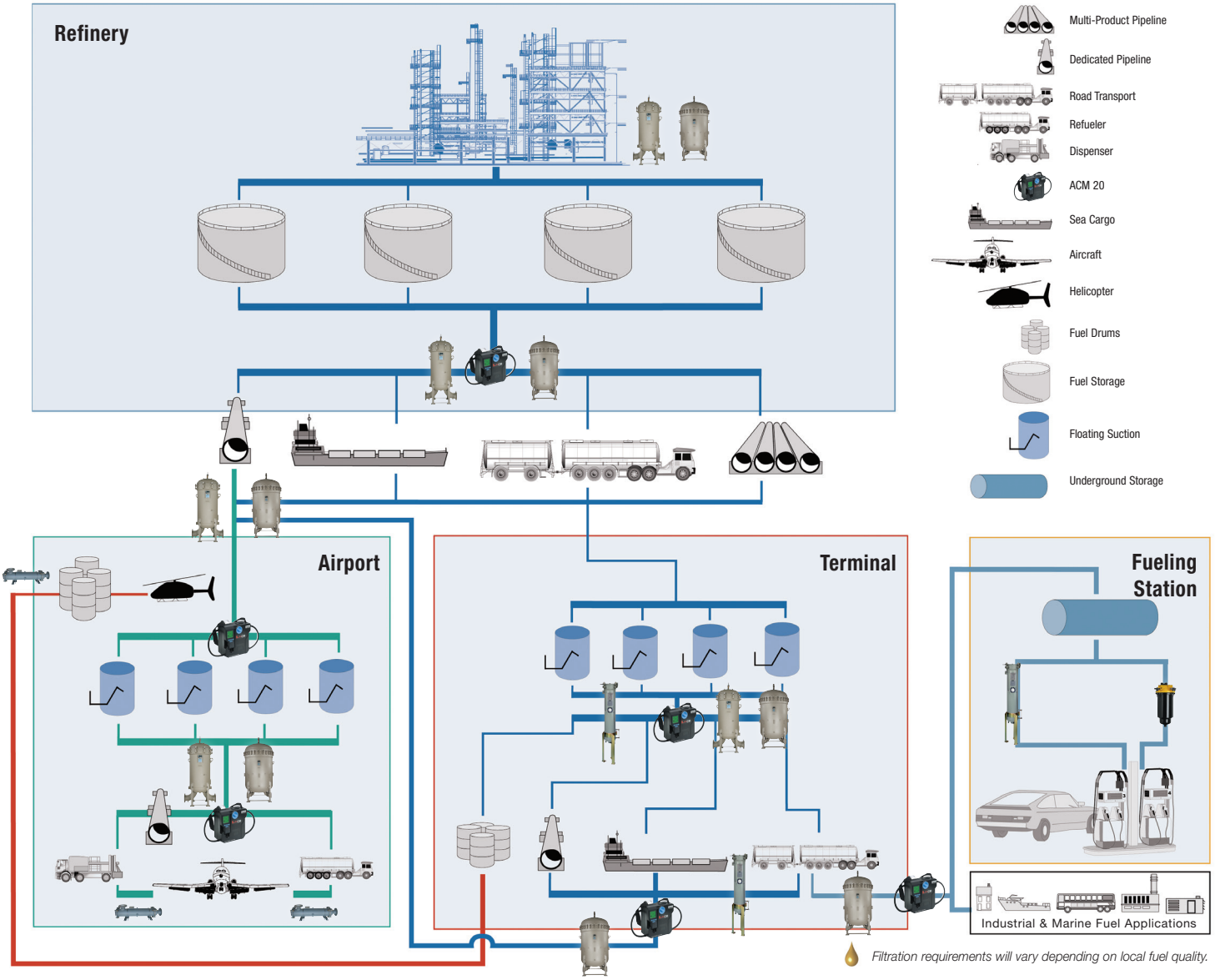
Superior Medias...

- Fiber blends and multiple layer media composition are designed specifically for each application.
- 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.
- Micronic first stage filtration combined with a resin impregnated glass coalescing bed that withstands differential pressures of 75 PSID without structural failure.



Racor has utilized its long-time experience in the fuel supply industry to produce the most advanced aviation fuel EI 1581-qualified filter/water separators, 1590-qualified microfilters and EI 1583-qualified monitors. Qualified vessels and a wide range of industry standard interchangeable products round out Racor's hydrocarbon fuel filtration product offering.

Filtration Overview



Filtration requirements will vary depending on local fuel quality.

Fueling Stations

Every time you add fuel, you add millions of tiny contaminants small enough to destroy injectors and pumps. Racor's RVFS/RVMF 1, 2, 3 and FBO Series provide the high quality filtration needs of fueling stations.

Terminal Fuel Ports

Fuel Ports are constantly receiving and transporting fuel. When fuel is transported it develops contaminants and debris, Racors combination of RVFS 1, 2, 3 and Industrial Filter Vessels will monitor and filter your fuel insuring that your fuel is always of the highest quality possible.

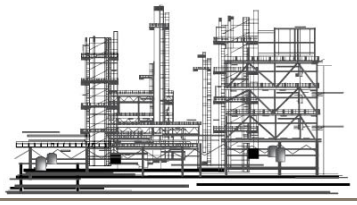
Refineries

Where it all starts...
From storage to transportation Refineries have high flow filtration needs. Racor's RHFS, RVFS, and RVMF Series industrial Filter Vessels and Hydrocarbon filtration elements make it possible to filter large amounts of fuel at high flow rates.

Airports

Airports have unique fuel needs which can require special EI certifications. Racor offers filtration applications which meet these certifications, however this brochure is focused on fuel handling outside of the airport gates which are not restricted to EI requirements.

The Refinery...



Refineries pump average fuel amounts of 200 to 600 GPM and can reach into the 1000's. These high flow rates require filtration systems which handle high flow rates while maintaining the highest quality filtration.

The Racor RHFS, RVMF, and RVFS offer the capacity to handle flow rates of up to 5000 GPM depending on viscosity.

Racor expanded its filter vessel product line for refineries. Vessels are designed and manufactured to meet ASME and CE/PED standards.

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

High Flow Filtration

RVMF Series

Model No.	Diesel	Jet Fuel
	gpm	gpm
RVMF-400-2-44	200	400
RVMF-600-3-44	300	600
RVMF-800-4-44	425	850
RVMF-1200-4-44	600	1200

RVFS Series

Model	Flow Rate	
	Diesel (gpm)	Kerosene (gpm)
RVFS-244-233	100	200
RVFS-344-333	150	300
RVFS-444-333	200	400
RVFS-556-444	300	600
RVFS-656-544	400	800
RVFS-856-644	500	1000
RVFS-956-744	600	1200

RHFS Series

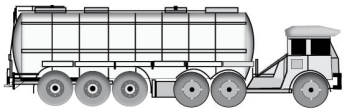
Model	Flow Rate	
	Diesel (gpm)	Jet Fuel (lpm)
RHFS-138-122	50	100
RHFS-238-122	100	200
RHFS-344-133	150	300
RHFS-344-144	200	400
RHFS-544-233	300	400
RHFS-556-244	400	800
RHFS-656-336	500	1000
RHFS-756-344	600	1200

Application

Each model offers a unique form of fuel filtration. Refer to pages 14-19 for more information on the RVFS, RVMF, and RHFS Series.

This unique form of filtration is attained by combining specific combinations of filtration elements. Page 17 breaks down the functionality of each replacement element and how they work to fit your need.

The Terminal...



Fuel terminals which house fuel supplies for re-fueling. Terminals generally pump fuel at what is considered to be a medium flow rate. Meaning that they do not pump as much fuel as a refinery, however they do pump more than a typical fuel station. These Terminals still require high quality industrial level filtration. The average Terminal will need a filtration systems which will allow up to pump 200 GPM. For this reason Racor recommends the RVFS and RVMF series. The RVFS and RVMF is available in three sizes to meet the needs of any Fuel Port Terminal.

The Racor RVFS Series filter vessels offer a highly efficient, versatile, economical and low maintenance solution for fuel delivery and industrial filtration applications. These vessels will accept Microfilters, Coalescer/Water Separator combinations and Monitor Water/Absorbers.

Used primarily in the diesel and kerosene re-fueling industry, these robust vessels can be seen on countless fuel dispensing locations providing clean dry safe fuel to modern diesel and heavy duty vehicles.

Flow Rate with Kerosene or Aviation Fuel		
Type	RVFS	RVMF
Size 1	50 GPM (189.3 LPM)	66 GPM (249.8 LPM)
Size 2	100 GPM (378.5 LPM)	133 GPM (503.5 LPM)
Size 3	150 GPM (567.8 LPM)	200 GPM (757.1 LPM)

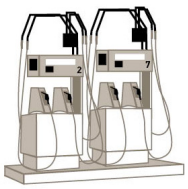
Flow Rate with Diesel Fuel		
Type	RVFS	RVMF
Size 1	25 GPM (94.6 LPM)	66 GPM (249.8 LPM)
Size 2	50 GPM (189.3 LPM)	133 GPM (503.5 LPM)
Size 3	75 GPM (283.9 LPM)	200 GPM (757.1 LPM)

Application

The RVFS and RVMF 1, 2, and 3 offer size options which allow fuel terminals to customize their vessels to meet the required filtration needs. These models also provide unique forms of filtration which vary based on the filtration elements selected.

For additional information regarding which option will best fit your filtration needs and how to order review information on pages 12-13.

The Fueling Station...



At the pump fueling stations require systems which allows for both medium and lower pump flows.

When receiving and dispensing fuel, these stations require medium flow rates. For medium flow rates Racor recommends the RVFS and RVMF with flow rate options 1, 2, and 3 similar to Fuel Terminals.

For lower pump flows Racor recommends the FBO series. The FBO Series has a variety of options to choose from with transportable options. The FBO Series size allows it to be used at locations where there is limited spacing available. The FBO offers the flexibility of a small filter vessel while maintaining the filtration quality large vessel.

FBO Series

FBO-10	Maximum Flow Rats	
	Diesel	Gasoline
Silicone Treated	25 GPM (95 LPM)	53 GPM (200 LPM)
Water Separator	20 GPM (76 LPM)	32 GPM (121 LPM)
Water Absorber	20 GPM (76 LPM)	45 GPM (170 LPM)
FBO-14	**Diesel**	**Gasoline**
Silicone Treated	30 GPM (113 LPM)	75 GPM (284 LPM)
Water Separator	25 GPM (95 LPM)	45 GPM (170 LPM)
Water Absorber	25 GPM (95 LPM)	70 GPM (265 LPM)

RVFS/RVMF

Flow Rate with Diesel Fuel		
Type	RVFS	RVMF
Size 1	25 GPM (94.6 LPM)	66 GPM (249.8 LPM)
Size 2	50 GPM (189.3 LPM)	133 GPM (503.5 LPM)
Size 3	75 GPM (283.9 LPM)	200 GPM (757.1 LPM)

Application

The FBO series offers a compact way to deliver high quality fuel filtration. Portable options are available with this high performance hydro carbon fuel filtration application. Pages 10-11 offers more information regarding one Racor's most request applications in fuel filtration.

The RVFS/RVFM 1, 2 and 3 offer an alternate form of filtration with options for higher flow rates. You can learn more about the RVFS/RVMF on pages 12-13 including how to order the application which best fits your needs.

The Airport...

Airport fueling stations have unique filtration needs due to certifications and restrictions. These certifications and restrictions separate the needs of airport fueling stations in two categories, in the fence and outside of the gate. Racor offers filtration products to fit both needs; however at this time we are focused on outside of the gate filtration which do not require EI certification.

Racor offers several options for high volume fuel filtration. For airports which receive large amounts of fuel Racor recommends the RVFS, RHFS, RVMF, RHFM and RVCT vessels for jet fuel filtration at all flow ranges.

For infromation regarding Jet fuel and API certified racor filtration vessels please review our Racor high flow fuel brochure 7537.

RHFM Series

Model	Flow Rate	
	gpm	lpm
RHFM-A-200	200	757
RHFM-A-300	300	1136
RHFM-A-600	600	2271
RHFM-A-900	900	3407
RHFM-A-1200	1200	4542

	Element Replacement		Flow Rate in GPM	Cross Reference	
	Racor Part Number	Nominal Length		Velcon	Facet
50/65mm	RMI-633-4-50MM	33	132	N/A	N/A
	RMI-633-65MM	33	132	N/A	N/A
Double Open Ended	RMI-611-4	11	44	ACI-61101L	FG-I-611-4
	RMI-614-4	14	56	ACI-61401L	FG-I-614-4
	RMI-622-4	22	88	ACI-62201L	FG-I-622-4
	RMI-629-4	28	114	ACI-62801L	FG-I-628-4
	RMI-633-4	33	132	ACI-63301L	FG-I-633-4
	RMI-638-4	38	152	ACI-63801L	FG-I-638-4
	RMI-644-4	43	173	ACI-64401L	FG-I-644-4
	RMI-656-4	56	224	ACI-65601L	FG-I-656-4
Thread Base	RMI-614-4-TB	14	56	ACI-61401LTB	FG-I-614SB-4
	RMI-622-4-TB	22	88	ACI-62201LTB	FG-I-622SB-4
	RMI-629-4-TB	28	114	ACI-62801LTB	FG-I-628SB-4
	RMI-633-4-TB	33	132	ACI-63301LTB	FG-I-633SB-4
	RMI-638-4-TB	38	152	ACI-63801LTB	FG-I-638SB-4
	RMI-644-4-TB	43	173	ACI-64401LTB	FG-I-644SB-4
	RMI-656-4-TB	56	224	ACI-65601LTB	FG-I-656SB-4

Application

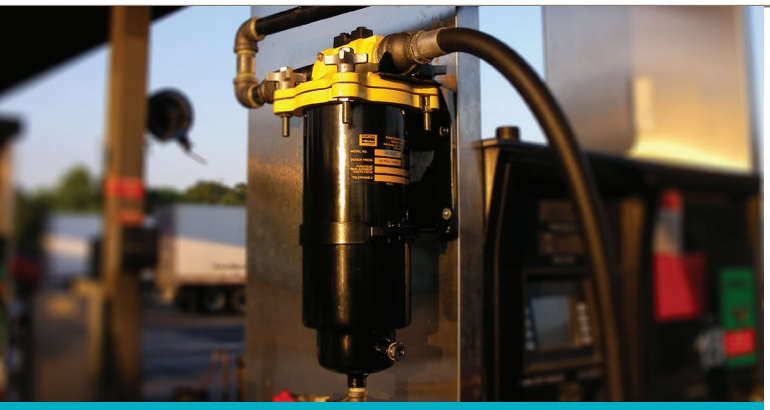
The RHFM Series is hydrocarbon fuel monitor which monitors the whole fuel flow and operates as a water absorber. This application can be used both in the airport and outside of the airport depending on model and filtration elements.

EI qualified RVMF/RVFS Series are recommended for airports for their ability to handle high fuel flows and for their specific models and applications uniquely designed to filter jet fuel.

For more information regarding these applications and more Racor products designed for jet fuel please review our 7537 Racor hIgh flow fuel brochure.

Product Details

FBO Series



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 aluminum die-cast filter head with four bolts. The closure hardware allows maintenance personnel – even one person – to easily change out the filter cartridge.

FBO Cartridges

Water Separator Filters remove water and contaminants and are the most popular filters.

Silicone Treated Filters remove particle contaminants down to one micron and can be used upstream, before a fuel filter/water separator, to extend filter life.

Water Absorber Filters absorb water and filter out contaminants from diesel fuel and other High Flow streams.

Meets and exceeds UL 1105 standards for marine application.

Design Features

- Die-cast aluminum head
- Steel filter bowl assembly
- Powder-coated components
- Locking ring collar
- 1 1/2" NPT Inlet and Outlet
- 10 bar @ 240°F max design pressure
- Manual drain valve
- Manual vent valve

Options

- Mounting bracket
- Sight glass
- Pressure diff. indicator
- Water Probe

Applications

- Diesel fuel, aviation gas, gasoline and kerosene

Installations

- Diesel fuel dispensing system
- Marine fuel docks
- Fuel systems on large diesel engines

Racors' FBO filter assemblies are designed to meet the toughest industrial refueling conditions and provide for easy cartridge change outs.

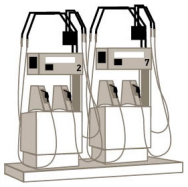
See bulletins 7589 and 7694 for more information.

FC-20-1-120V-Kit

FBO Filter Cart

- Heavy Duty Construction
- Corrosion Resistant
- 17 GPM Pump
- Cam Lock Fittings
- Hose Kit
- Cord Reel
- FBO-14 Assembly

How to Order



FBO Series

Steps to Order

1. Choose flow rate and filter application (Note fuel type)
2. Match to filter assembly
3. Add fitration element (If applicable)

Performance Specifications

FBO-10	Maximum Flow Rats			Change
	Diesel	Kerosene	Gasoline	Delta P
Silicone Treated	25 GPM (95 LPM)	35 GPM (132 LPM)	53 GPM (200 LPM)	15 PSI
Water Separator	20 GPM (76 LPM)	21 GPM (79 LPM)	32 GPM (121 LPM)	15 PSI
Water Absorber	20 GPM (76 LPM)	35 GPM (132 LPM)	45 GPM (170 LPM)	30 PSI
FBO-14	**Diesel**	**Kerosene**	**Gasoline**	**Delta P**
Silicone Treated	30 GPM (113 LPM)	50 GPM (189 LPM)	75 GPM (284 LPM)	15 PSI
Water Separator	25 GPM (95 LPM)	30 GPM (113 LPM)	45 GPM (170 LPM)	15 PSI
Water Absorber	25 GPM (95 LPM)	55 GPM (208 LPM)	70 GPM (265 LPM)	30 PSI

FBO Unit Assemblies

Assembly	Delta P Gauge	Sight Glass	Drain Valve
FBO-10	N/A	N/A	N/A
FBO-10-DP	X	N/A	N/A
FBO-10-DPL	X	X	X
FBO-10-25M	X	X	X
FBO-10-HTR[1]	X	X	X
FBO-14	N/A	N/A	N/A
FBO-14-DP	X	N/A	N/A
FBO-14-DPL	X	X	X
FBO-14-25M	X	X	X
FBO-14-HTR[1]	X	X	X
FBO-14-DPL-DUPLEX	X	X	X

Replacement Elements

Available FBO Cartridges	Micron Rating	Water Separator	Silicone Treated	Water Absorber
FBO-10 (6 X 10)	1	FBO 60327	FBO 60330	FBO 60333
	5	FBO 60328	FBO 60331	FBO 60334
	10	FBO 60353	FBO 60354	FBO 60355
	25	FBO 60329	FBO 60332	FBO 60335
FBO-14 (6 X 14)	1	FBO 60336	FBO 60339	FBO 60342
	5	FBO 60337	FBO 60340	FBO 60343
	10	FBO 60356	FBO 60357	FBO 60358
	25	FBO 60338	FBO 60341	FBO 60344

[1]Note: Includes 120 volt AC explosion proof heater for stationary applications only. UL listed versions are available as part numbers FBO-10-MA and FBO-14-MA. See bulletin 7694.

DFBO-14-IN (industrial)
DFBO-14-MA (marine)

DFBO Duplex Unit

The new DFBO duplex filter brings Racor FBO filters a new twist. The new duplex design ensures that fuel is efficiently filtered all the time with a simple twist of the handle.

ABS, LR, GLR, RINA and DNV Certified

FBO-14-DPL-Duplex

FBO Duplex Stand

- Heavy Duty Construction
- Corrosion Resistant
- 17 GPM Pump
- Cam Lock Fittings
- Hose Kit
- Cord Reel
- FBO-14 Assembly

FC-30-110V

FBO Filter Dolley

- Compact Design
- 10 GPM Pump
- Control Box with Timer
- Safety Shut Down and High Water Alarm
- LED indicators for Element Replacement
- FBO-10 Assembly

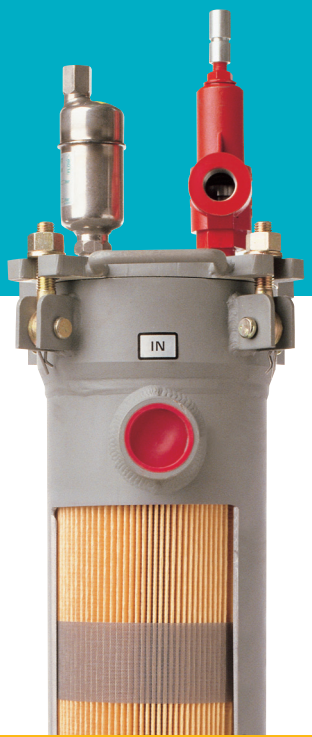
Product Details

RVFS/RVMF

RV Series Vessels

The Racor RV Series filter vessels offer an unparalleled high efficiency, versatile, economical and low maintenance solution to many fuel delivery and industrial filtration applications.

Used mainly in the diesel and kerosene re-fueling industry, these robust vessels can be seen on countless fuel dispensing locations providing clean dry safe fuel to modern diesel and heavy duty vehicles. Equally these vessels can be used for kerosene, AV gas, heating oils, gasoline and numerous other hydrocarbon fuels.



ABS Certified
for marine application

Optional Accessories

- Automatic air eliminator
- Pressure relief valve
- Differential pressure gauge
- Water level sight glass
- Manual water drain valve
- Support legs
- Wall mount brackets

Features

- Carbon steel construction; other materials available.
- 250 psi ASME Code, Section VIII construction, stamped and certified.
- Yellow zinc-plated swing bolt closure.
- Fluorocarbon O-ring cover seal.
- Interior: epoxy-coated MIL-FRF-4556F.
- Exterior: prime coated.
- Knife-edge cartridge mounting seals.

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.

Applications Include

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

See bulletins 7563 for more information.

Flow Rate with Diesel Fuel		
Type	RVFS	RVMF
Size 1	25 GPM (94.6 LPM)	66 GPM (249.8 LPM)
Size 2	50 GPM (189.3 LPM)	133 GPM (503.5 LPM)
Size 3	75 GPM (283.9 LPM)	200 GPM (757.1 LPM)
Flow Rate with Kerosene or Aviation Fuel		
Type	RVFS	RVMF
Size 1	50 GPM (189.3 LPM)	66 GPM (249.8 LPM)
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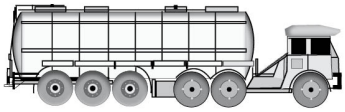
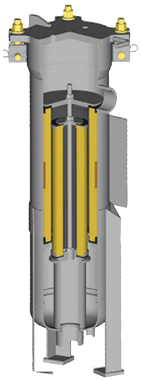
Size 3	150 GPM (567.8 LPM)	200 GPM (757.1 LPM)

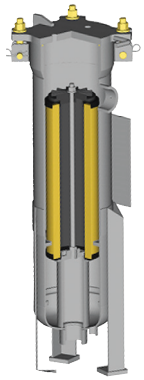
How to Order





Coalescer/Separator

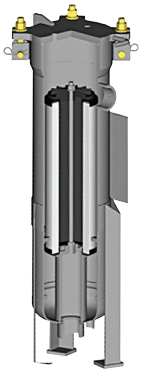
Mounting shown - Racor's HOCP and HSP coalescer and separator series. The coalescer cartridge provides primary filtration as well as coalescing free water. The clean fuel passes through the separator barrier and into the outlet of the housing. The coalesced water droplets are repelled by the hydrophobic barrier and collect in the sump of the housing. The sump should be drained daily.



HFP Cartridge Installation

Mounting shown – Racor's cellulose HFP microfilter series. These elements offer 95% filtration efficiency of particulates and are available in micron ratings of 1, 5, 10, 25.

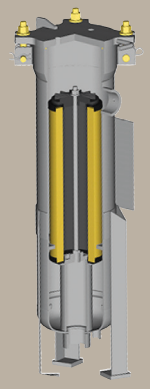
When ordering for an HFP installation, Kit 73193-1, 2, or 3 is required based on unit ordered.



HFS Cartridge Installation

Mounting shown – Racor's patented HFS synthetic microfilter series features a water resistant, all synthetic media and provides 99.7% + efficiency at the stated 1, 5, 10 & 25 micron ratings.

When ordering for an HFS installation, Kit 73193-1, 2, or 3 is required based on unit ordered.



HFW Cartridge Installation

Mounting shown – Racor's combination water absorbing/filtration HFW filter elements will absorb free water from fuels to less than 15 ppm and offers 95% filtration efficiency. These elements are available in ratings of 1, 5, and 10 microns.

When ordering for an HFW installation, Kit 73193-1, 2, or 3 is required based on unit ordered.

RVFS Coalescer/Separator Cartridge Options

***HOCP Coalescer Cartridge - Requires Matching HSP filter or optional HSS, HST cleanable separator filters

Vessel Series	1 micron	5 micron	10 micron	25 micron
RVFS-1	HOCP-15801	HOCP-15805	HOCP-15810	HOCP-15825
RVFS-2	HOCP-30801	HOCP-30805	HOCP-30810	HOCP-30825
RVFS-3	HOCP-44801	HOCP-44805	HOCP-44810	HOCP-44825

*****HSP Separator Cartridge - Pleated Paper**

RVFS-1	HSP-15401	HSP-15405	HSP-15410	HSP-15425
RVFS-2	HSP-30401	HSP-30405	HSP-30410	HSP-30425
RVFS-3	HSP-44401	HSP-44405	HSP-44410	HSP-44425

HSS Synthetic Separator - Optional

RVFS-1	HSS-15401
RVFS-2	HSS-30401
RVFS-3	HSS-44401

HST Teflon Treated Separator - Optional

RVFS-1	HST-15401
RVFS-2	HST-30401
RVFS-3	HST-44401

RVMF Separator Cartridge Options

HFP Silicon Treated - Pleated

RVMF-1	HFP-14601	HFP-14605	HFP-14610	HFP-14625
RVMF-2	HFP-28601	HFP-28605	HFP-28610	HFP-28625
RVMF-3	HFP-43601	HFP-43605	HFP-43610	HFP-43625

HFS Synthetic Fiber

RVMF-1	HFS-14601	HFS-14605	HFS-14610	HFS-14625
RVMF-2	HFS-28601	HFS-28605	HFS-28610	HFS-28625
RVMF-3	HFS-43601	HFS-43605	HFS-43610	HFS-43625

HFW Water Absorbing Separator

RVMF-1	HFW-14605	HFW-14625
RVMF-2	HFW-14605 (x2)*	HFW-14625 (x2)*
RVMF-3	HFW-14605 (x3)*	HFW-14625 (x3)*

* For Element Stacking Add Center Seal #70872.

RVFS/RVMF 1, 2, 3 Series

RVMF, RVFS

Vertical and Horizontal Filter/Water Separator Vessels

The RVFS/RHFS Series Filter/Water Separator Vessels are for use with Racor industrial HCP Coalescers and HSP, HSS or HST Separators. Racor industrial RVFS (vertical) and RHFS (horizontal) vessels and elements separate free water from fuel. Using the correct combination of Racor industrial fuel coalescer cartridges and second stage separator cartridges will provide the highest degree of water and solids removal.

EI 1581 5th edition compliant vessels available.

RVMF Series

Microfilter Vessels

The RVMF Series Vertical Vessels use Racor HFP, HFS, and HIF/HIFO coreless, 1, 5, 10, or 25 micron, high efficiency microfilter series cartridges. Racor industrial fuel filter housings are designed for removing solid contaminants such as dirt, rust, pipe scale and other types of solids from fuels. Racor industrial vessels are designed for a single pass through the high efficiency cartridges providing clean product downstream.

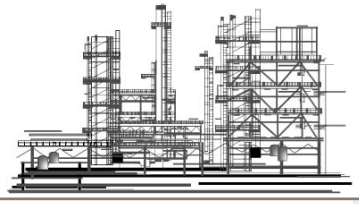
EI 1590 compliant vessels available.

See bulletins 7589 and 7694 for more information.

Features

- Carbon steel construction
- 150 psi ASME Code, Section VIII construction
- Zinc plated swing bolt closure
- Fluorocarbon O-ring cover seal
- Hydraulic jack cover lift furnished on 14 in. and larger vessels
- HIF center tubes when required
- Inlet and outlet are permanently marked
- Interior: epoxy-coated MIL-PRF-4556 F; Exterior: prime coated
- Knife-edge cartridge mounting seals
- Rod mount cartridge hardware

and RHFS



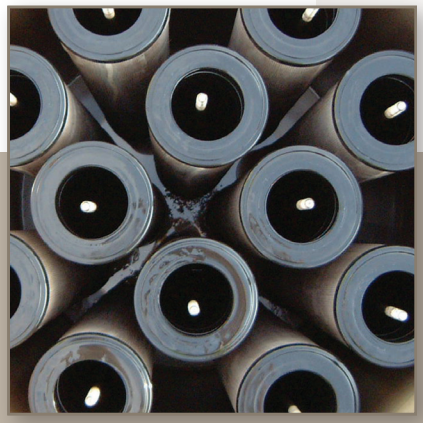
RVFS Series

RHFS Series

Vertical and Horizontal Filter/Water Separator Vessels

The RVFS/RHFS Series Filter/Water Separator Vessels are for use with Racor industrial HACP, HCP, and RAC Series Coalescer and HSP, HSS, HST, RSS and RST Series Separator Cartridges. Racor industrial RVFS (vertical) and RHFS (horizontal) Series two-stage coalescer/separator housings are designed to filter solids and separate free water from fuel. Using the correct combination of Racor industrial fuel coalescer cartridges and second stage separator cartridges will provide the highest degree of water and solids removal.

EI 1581 5th edition compliant vessels available



Ordering Instructions

Industrial filter vessels come in three types RVMF, and RVFS, RHFS. When ordering a vessel keep in mind of the various size options and filtration needs. Each vessel requires you to choose a combination of coalescer and separator cartridges. On pages 16-17 is a breakdown of each element. Pages 18-19 shows compatibility between Vessels and Elements.

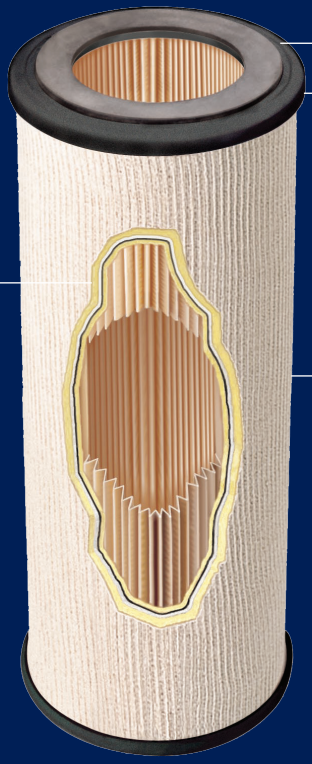
Applications

- Jet A, and Jet A1
- JP4, JP5, and JP8
- Biodiesel
- Diesel
- Kerosene
- Gasoline

Filtration

Racor Coalescer Filters

- Fiber blends and multiple layer media composition are designed specifically for each application.
- 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.
- Micronic first stage filtration combined with a resin impregnated glass coalescing bed that withstands differential pressures of 75 PSID without structural failure.



Coalescer Filters:

These filters remove free and emulsified water, physical contamination, and are specifically designed for Diesel and Kerosene. They can also be used with other types of fuels and hydrocarbon distillates from the refinery through the distribution system.

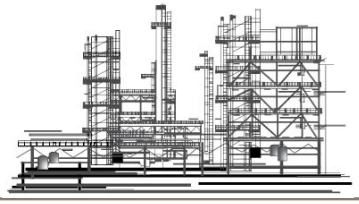
Coalescer/Separator

Mounting shown - Racor's HOCP and HSP coalescerand separator series. The coalescer cartridge provides primary filtration as well as coalescing free water. 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 collect in the sump of the housing. The sump should be drained daily.

HIF/HIFO - Incinerable Coreless Filters:

These filters are designed to remove solids from jet fuels, diesel fuels, gasoline, kerosene and aviation gas. They are also used for solids removal from industrial lubricating, hydraulic and insulating oils.

Elements



HSP - Silicon Treated Cartridges:

With silicon impregnated cellulose paper these filters offer maximum filtration capacity utilizing a large media surface area.

HST - Teflon® Coated Cartridges:

When properly handled and cleaned, these filters offer extended use and lower overall cost to operators.

HSS - Synthetic Cartridges:

These filters provide an excellent water barrier in addition to being reusable. The cartridge is produced with standard corrosion resistant materials and as with the Teflon filter, with proper handling and cleaning, will also last through several coalescer cartridge changes.

HFS - Synthetic Microfilters:

These unique synthetic microfilters utilize the latest in microglass media technology to provide superior filtration efficiency, dirt holding capacity, and filter life.

HFP - Pleated Microfilters:

These filters are manufactured with high grade, silicone-treated media and synthetic fibers. The HFP filters are used to remove particulate contamination in diesel fuel, biodiesel mixtures, and other petroleum distillates, before reaching downstream coalescer filters and expensive system components.

HOCP - Coalescer Filters:

Unlike other coalescer filters, the HOCP filters flow from outside to in and are specifically designed for use in the RVFS series vessels.

The HOCP filters remove both free and emulsified water and contaminants from various types of fuels.

HCP - Coalescer Filters:

These filters remove free and emulsified water and solid contamination from various types of fuels and hydrocarbon fluids. 1, 5, 10, and 25 micron filters ensure fuel quality that meets or exceeds the fuel cleanliness requirements of the Worldwide Fuel Charter (ISO 4401 code 18/16/13), when challenged with ASTM Type A3 test dust.

HFW-Water Absorbing Filters

The RVMF Vertical Vessels use Racor HFP, HFS, and HIF/HIFO coreless, 1, 5, 10, or 25 micron cartridges. Racor industrial fuel filter housings are desired for removing solid contaminants such as dirt, rust, pipe scale and other types of solids from fuels. Uniquely designed for a single pass through the high efficiency cartridges providing clean product downstream. This vessel is also used to house HFW water absorbing elements to provide clean and dry fuel.
EI 1590 complaint vessels available.

Product Details

Filter vessels

Part No.	Rated Flow Max						Elements Required			
	Diesel Fuel			Jet Fuel			Qty		Element Length in.	
	GPM	M³/Hr	LPM	GPM	M³/Hr	LPM	Media	Sep.	Media	Sep.
Vertical Filter Water Separator - Industrial										
RVFS-244-233	100	23	379	200	45	757	2	2	43 in.	33 in.
RVFS-344-333	150	34	568	300	68	1136	3	3	43 in.	33 in.
RVFS-444-3	200	45	757	400	91	1514	4	3	43 in.	33 in.
RVFS-556-444	300	68	1136	600	136	2271	5	4	56 in.	43 in.
RVFS-656-544	400	91	1514	800	182	3028	6	5	56 in.	43 in.
RVFS-856-644	500	114	1893	1000	227	3785	8	6	56 in.	43 in.
RVFS-956-744	600	136	2271	1200	273	4542	9	7	56 in.	43 in.
RVFS-1256-1136	738	167	2791	1475	335	5583	12	11	56 in.	36 in.
RVFS-1656-1536	1000	227	3785	2000	454	7570	16	15	56 in.	36 in.
RVFS-1856-944	1250	284	4731	2500	568	9463	18	9	56 in.	43 in.
RVFS-3056-1544	1875	426	7097	3750	852	14194	30	15	56 in.	43 in.
RVFS-4056-2044	2500	568	9463	5000	1136	18925	40	20	56 in.	43 in.
Horizontal Filter Water Separator - Industrial										
RHFS-138-122	50	11	189	100	23	379	1	1	38 in.	22 in.
RHFS-238-122	100	23	379	200	45	757	2	1	38 in.	22 in.
RHFS-344-133	150	34	568	300	68	1136	3	1	43 in.	33 in.
RHFS-344-144	200	45	757	400	91	1514	3	1	43 in.	43 in.
RHFS-544-233	300	68	1136	600	136	2271	5	2	43 in.	33 in.
RHFS-556-244	400	91	1514	800	182	3028	5	2	56 in.	43 in.
RHFS-656-336	500	114	1893	1000	227	3785	6	3	56 in.	36 in.
RHFS-756-344	600	136	2271	1200	273	4542	7	3	56 in.	43 in.
Vertical Microfilter/Pre - Filter-Industrial										
RVMF-400-2-44	200	45	757	400	91	1514	2	N/A	43 in.	N/A
RVMF-600-3-44	300	68	1136	600	136	2271	3	N/A	43 in.	N/A
RVMF-800-4-44	400	91	1514	800	182	3028	4	N/A	43 in.	N/A
RVMF-1200-6-44	600	136	2271	1200	273	4542	6	N/A	43 in.	N/A
RVMF-2200-11-44	1100	250	4146	2200	500	8327	11	N/A	43 in.	N/A

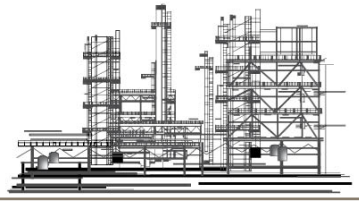
Steps to Order

1. Choose horizontal or vertical
2. Choose Fuel Type
3. Choose flow rate
4. Review Elements Required
5. Select Elements (Order Separately)

All vessels equipped with DP gauge, sight glass, air eliminator PRV and sampling ports.

For custom builds call (800) 344-3286

with elements



Filtration Elements					
Coalescer Media			Water Separator		
Industrial Coalescer	0.5 micron Ind. Coalescer	0.5 micron HP Coalescer	Si Treated Paper Step.	Synthetic Separator	Teflon Separator
Vertical Filter Water Separator - Industrial					
HCP-436XX-TB	HACP-436-3-TB	HACP-436-3-TB	HSP-336XX-S	HSS-33601-S	HST-33601-S
HCP-436XX-TB	HACP-436-3-TB	HACP-436-3-TB	HSP-336XX-S	HSS-33601-S	HST-33601-S
HCP-436XX-TB	HACP-436-3-TB	HACP-436-3-TB	HSP-336XX-S	HSS-33601-S	HST-33601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-366XX-S	HSS-36601-S	HST-36601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-366XX-S	HSS-36601-S	HST-36601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
Horizontal Filter Water Separator - Industrial					
HCP-386XX-TB	HACP-386-3-TB	HACP-386-5-TB	HSP-226XX-S	HSS-22601-S	HST-22601-S
HCP-386XX-TB	HACP-386-3-TB	HACP-386-5-TB	HSP-226XX-S	HSS-22601-S	HST-22601-S
HCP-436XX-TB	HACP-436-3-TB	HACP-436-5-TB	HSP-336XX-S	HSS-33601-S	HST-33601-S
HCP-436XX-TB	HACP-436-3-TB	HACP-436-5-TB	HSP-336XX-S	HSS-33601-S	HST-33601-S
HCP-436XX-TB	HACP-436-3-TB	HACP-436-5-TB	HSP-336XX-S	HSS-33601-S	HST-33601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-366XX-S	HSS-36601-S	HST-36601-S
HCP-566XX-TB	HACP-566-3-TB	HACP-566-5-TB	HSP-436XX-S	HSS-43601-S	HST-43601-S

Vertical Microfilter / Pre - Filter-Industrial

Synthetic	Pleated Paper
HFS-436XX	HFP-436XX
HFS-436XX	HFP-436XX
HFS-436XX	HFP-436XX
HFS-436XX	HFP-436XX
HFS-436XX	HFP-436XX

* XX = micron rating (01, 05, 10, 25).
It is recommended that HCP and HSP media micron ratings match if selected.

How to match vessels with elements

Filter Separator Vessel:

RHFS - Combine HCP or HACP 6” coalescer with HSP, HSS or HST 6” water serapator.
RVFS 1, 2, 3 - Comibine HOCP 8” coalescer with HSP, HSS or HST 4” water separator. (See page 13)
RVFS - Combine HCP or HACP 6” coalescer with HSP, HSS or HST 6”.

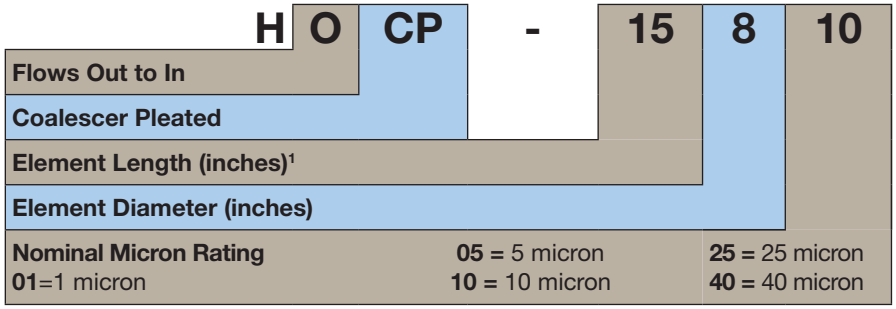
Microfilter Vessel:

RVMF - HFS, HFP, HIF, HIFO or HFW.

How to order

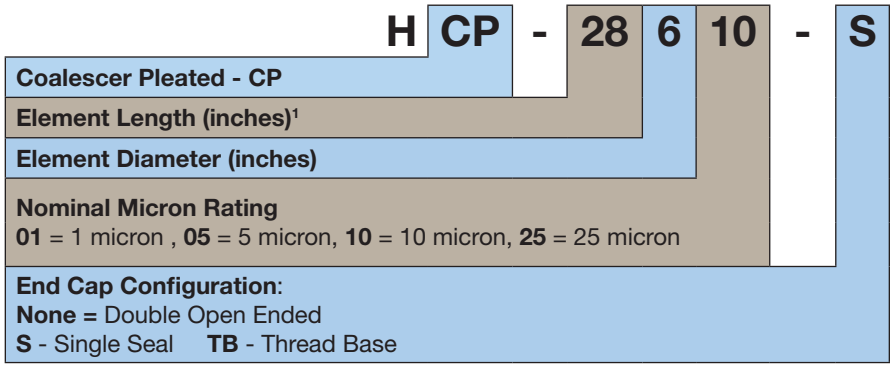
HOCP

HOCP filters remove both free and emulsified water and solid contamination from various types of fuels, including hydrocarbon fluids. Typical applications include bulk fuel dispensing applications, refineries with process streams, finished product at petrochemical plants, petrochemical storage, distribution systems, and at the point of consumption.



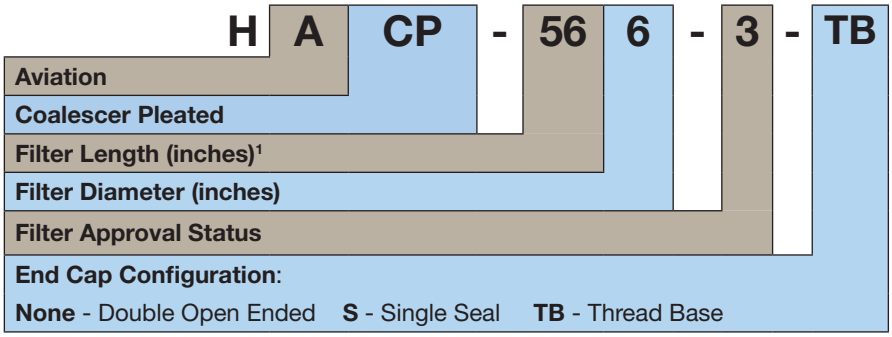
HCP

These filters remove free and emulsified water and solid contamination from various types of fuels and hydrocarbon fluids. 1, 5, 10, and 25 micron filters ensure fuel quality that meets or exceeds the fuel cleanliness requirements of the Worldwide Fuel Charter (ISO 4401 code 18/16/13), when challenged with ASTM Type A3 test dust.



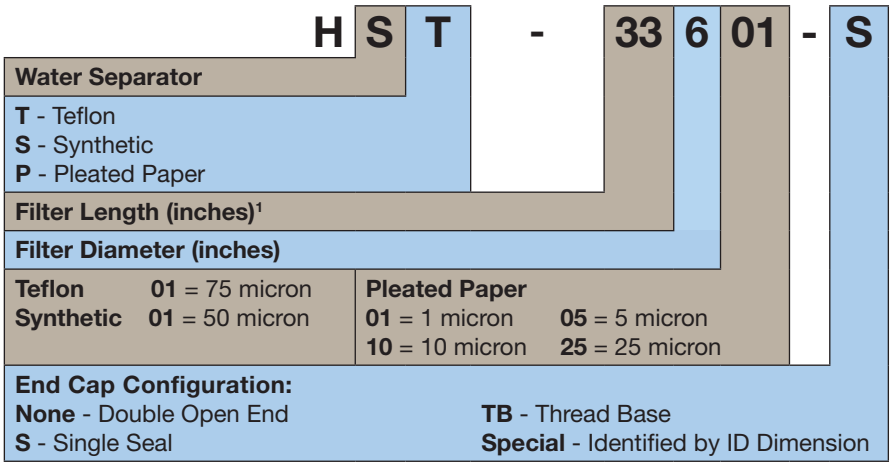
HACP

These filters remove free and emulsified water, physical contamination, and are specifically designed for aviation turbine fuel (Jet A, Jet A1). They can also be used with other types of fuels and hydrocarbon distillates from the refinery through the distribution system.



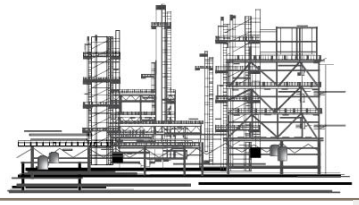
HST, HSS, HSP

HSS and HST filter separators conform to API/EI 1581 aviation application standards when matched with HACP coalescer filters. HSP, HSS and HST filter separators are suitable for use in industrial hydrocarbon applications when matched with HCP, HOCP, HACP coalescer filters. Typical applications for these separators include jet, diesel, and biodiesel fuels.



[1]Filter length is nominal of the media pack and does not represent the overall filter length. Depending on the end-cap configuration, the nominal overall filter length will be an additional 0.625 to 1.750 inches in length.

elements



HFS, HFP

These filters remove free and emulsified water and solid contamination from various types of fuels and hydrocarbon fluids. 1, 5, 10, and 25 micronfilters ecsure fuel qpality that meets or exceeds the fuel cleanliness requirements of the Worldwide Fuel Charter (ISO 4401 code 18/16/13), when challenged with ASTM Type A3 test dust.

H FS - 28 6 10 - S

- **Filter Synthetic - FS**
  Filter Paper Pleated - FP
- **Element Length (inches)**[1]
- **Element Diameter (inches)**
- **Nominal Micron Rating**
  01 = 1 micron , **05** = 5 micron, **10** = 10 micron, **25** = 25 micron
- **End Cap Configuration**:
  None = Double Open Ended
  S - Single Seal **TB** - Thread Base
- **Element Wrap:**
  W3 - Perforated Metal Outer Wrap
  W5 - Perferated Oil Board Outer Wrap

HIF, HIFO

The Hydrocarbon Incinerable Filter Series high efficiency coreless pleated paper filter cartridges are designed to effectively remove solid contaminants. The filtration of potable liquids is not recommended with this series of filter cartridges.

H IF O - 14 6 - 7

- **Incinerable Filter**
- **Seal**
  O = Double Open Ended
  - = Single Open Ended
- **Nominal Media Pack Length**
- **Nominal O.D.** (I. D. = 3.8")
- **Micron Rating** **1** = 1 micron, **4** = 5 micron, **5** = 10 micron, **7** = 25 micron

RMI, RMO

The Racor RMI and RMO monitors are tested and qualified in accordance with the APA/IP 1583, 4th edition (qualification procedures for Aviation Fuel Filter Monitors with absorbent type elements). Less than 15 ppm of free water in the effluent. Fully interchangeable with other APA/IP approved elements. Provides superior fuel cleanliness.

R M I - 6 33 - 4 - TB

- **Racor**
- **Element Type Monitor**
- **Flow I-(in to Out) O-(Out to In)**
- **Element O.D.**
- **Element Nominal Length**
- **EI 1583 Edition**
- **Endcap Configuration**

RST, RSS

The separator element is manufactured from hydrophobic material and is designed to repel water droplets that are carried over from the coalescer element. These water droplets are retained on the separator element surface until they become large enough to fall by gravity into the water collection sump.

R ST - 3 3 - AA

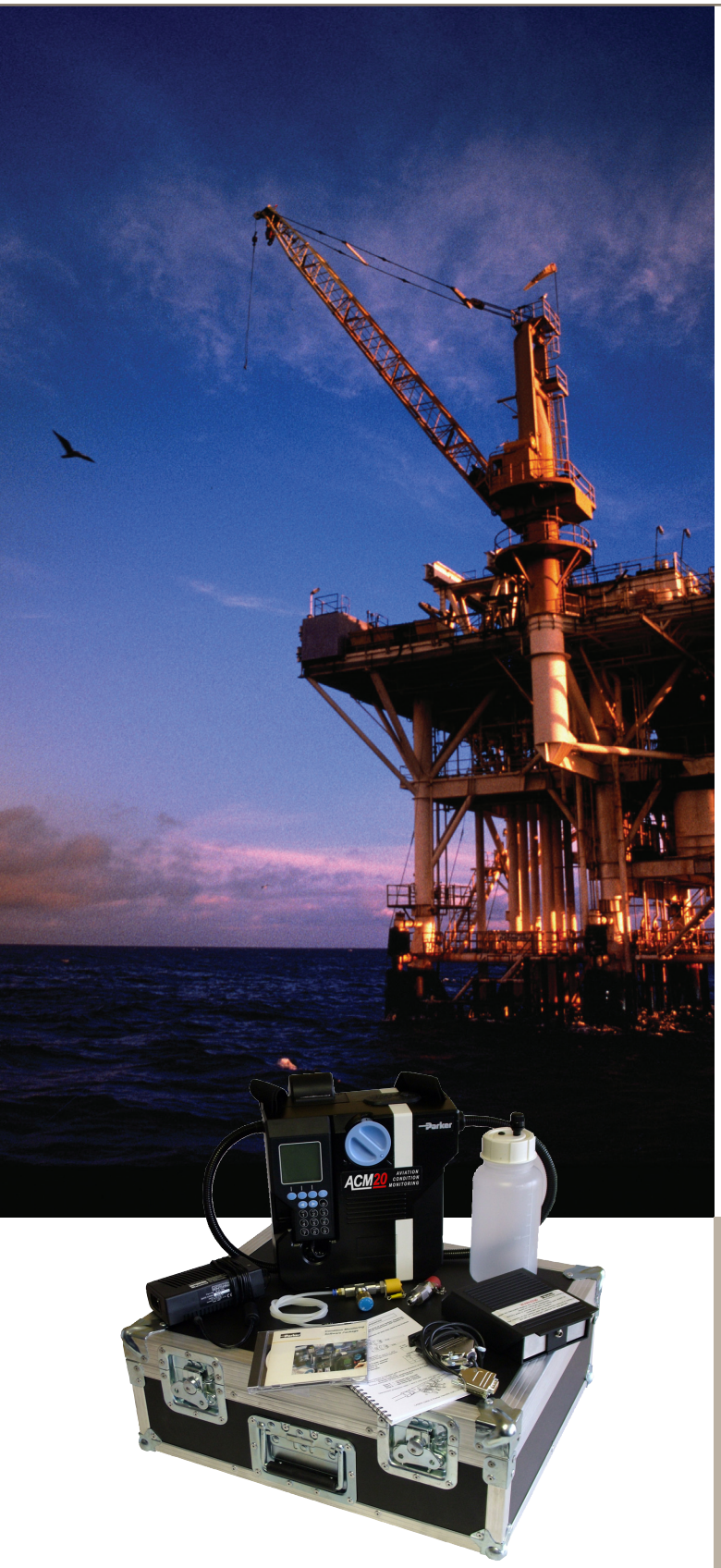
- Racor
- **Separator Type:**
  ST - Teflon®
  SS - Synthetic
- Element O.D.
- Element Nominal Length (in inches): 6, 11, 12, 14, 22, 24, 29, 33, 36, 40, 43, 48, 56

Endcap Configuration

Suffix	I.D. Top Endcap	I.D. Bottom Endcap
AA	3 1/2″	3 1/2″
AB	Closed, 1/2″ I.D. Hole	3 1/2″
AC	3 1/2″	4.1″
AD	3 1/2″	4 1/2″
CB	Closed, 1/2″ I.D. Hole	4″
TB	Thread Base	4 1/2″

Product Details

ACM20 Series



ACM202022US or ACM202024US (W/Lab Kit)

The Parker ACM20 Portable Particle Counter has been developed from existing technology for monitoring contamination in Hydrocarbon fuels, in accordance with the Energy Institute (EI) Method IP 564.

In addition, the ACM can also be used to monitor various fuels from existing sampling points in locations from refineries, pipelines, distribution terminals, airport fuel supply systems.

* Hot works permit required for online sampling (ATEX Zone II unit available).

Product Specifications:

- Construction: Case-Lexan structural foam and ABS Hand-held display - ABS Keypad flurosilicone rubber
- Components: Brass, plated steel, stainless steel and aluminium
- Seals: Fluorocarbon
- Hoses: Nylon (Kevlar braided microbore). St. steel armoured ends
- Flow Rate: 25 - 50ml/min (dictated by ODU)
- Fluid Compatibility: Hydrocarbon Fuel, Mineral Oil. For other fluids consult Parker
- Fuse: 1.25 amp fast blow fuse included for overload protection
- ACM202022 Technology: Patented flow cell, light obscuration
- Repeatability/Accuracy: As per or better than ISO 11171
- Coincidence: 40,000 particles per ml
- Viscosity Range: 1-100 centistokes
- ACM20 Weight: 17.6 lb (8 kg)
- Carrying Case Weight: 11 lb (5 kg)

Fuel Applications

Oil Refinery

Distribution Terminals/Hubs

Storage

Airport Fuel Farm

Pipeline Commissioning

Oil and Gas Platforms

fluid condition monitors

ACM202032US or ACM202034US (W/Lab Kit)

ACM20Z2 is designed to be used to monitor various fuels from existing sampling points hazardous locations from refineries, pipelines, in distribution terminals, airport fuel supply systems all the way through to the point of uplift into aircraft. With Zone 2 classification, the ACM20Z2 is the worlds only ATEX approved particle counter.

In many industries, worker awareness needs to be maintained at a high level to ensure the safety of their operation. This is particularly relevant to offshore oil-drilling and gas-drilling crews, given the interactive and hazardous nature of their work. The Zone 2 ACM20 portable particle analyzer is a tried and tested technology designed, proven and approved as a fluid contamination monitor that crews are using and trusting in such hazardous and demanding environments.

Product Specifications:

- Construction: Unit - stainless steel; Carrying case - ABS Hand-held display; ABS Keypad - polyester membrane
- Components: Brass, plated steel, stainless steel and aluminium
- Seals: Viton
- Hoses: Nylon (Kevlar braided microbore)
- Flow Rate: 25 - 50ml/min (dictated by ODU)
- Fluid Compatibility: All fuels. For other fluids consult Parker
- Internal rechargeable battery: Note: ONLY to be charged outside of hazardous area, with the unit switched off
- 1.25A fast blow fuse included for overload protection Return to Parker Hannifin if fuse is blown
- ACM202032 technology: Unique optical scanning system
- Repeatability/Accuracy: Better than 5% (typical)

Oil Delivery Unit (Lab Kit)

- The Oil Delivery Unit (ODU) laboratory kit is a peristaltic pump unit that allows fuel to be pumped through the ACM20 for testing purposes offline.
- Height: 5.9 in (150mm); Width: 5.9 in (150mm); Depth 6.7 in (170mm)
- Weight: 3.7 lb (1.7 kg)
- Power Requirement: Can be run from the 12-volt ACM20 power supply or from another suitable supply via the connecting lead supplied.
- Fuse: 0.5 amp fast blow fuse included for overload protection.
- Minimum Flow Rate: 15ml/min.

Worldwide Filtration Manufacturing Locations

North America

Compressed Air Treatment

Filtration & Separation/Balston
Haverhill, MA
978 858 0505
www.parker.com/balston

Filtration & Separation/Finite
Oxford, MI
248 628 6400
www.parker.com/finitefilter

Purification, Dehydration & Filtration Division
Lancaster, NY
716 685 4040
www.parker.com/pdf

Sales Office
Charlotte, NC
704 921 9303
www.parker.com/pdf

Engine Filtration & Water Purification

Racor
Modesto, CA
209 521 7860
www.parker.com/racor

Racor
Holly Springs, MS
662 252 2656
www.parker.com/racor

Racor
Beaufort, SC
843 846 3200
www.parker.com/racor

Racor – Village Marine Tec.
Gardena, CA
310 516 9911
desalination.parker.com

Hydraulic Filtration

Hydraulic Filter
Metamora, OH
419 644 4311
www.parker.com/hydraulicfilter

Process Filtration

Process Advanced Filtration
Oxnard, CA
805 604 3400
www.parker.com/processfiltration

Europe

Compressed Air Treatment

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