



Section: E Hydrocarbon Filtration

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



ENGINEERING YOUR SUCCESS.

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FBO Filter Assembly



FBO-10



FBO-14



FBO-14-HTR

Racors 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 25 gpm (95 lpm) or up to 75 gpm (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

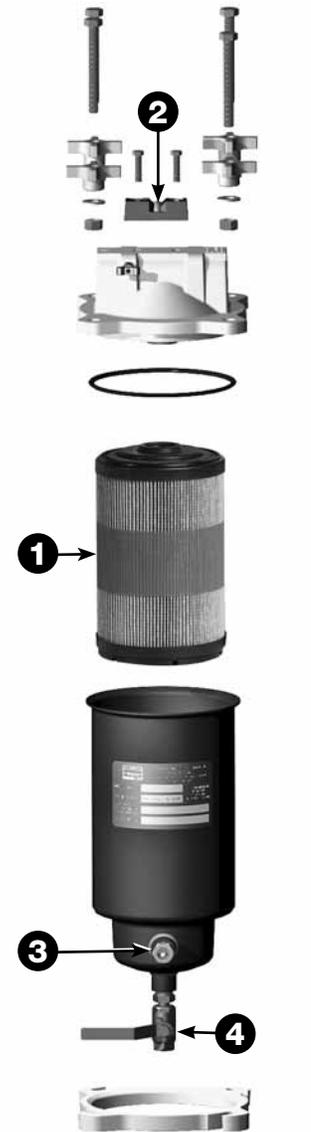
collar, which attaches the filter housing to the aluminum die-cast filter head with four bolts. The slotted locking ring collar allows maintenance personnel to hand-loosen the four collar bolts, rotate and lower the bowl assembly for element change outs. With new element installed, simply raise the bowl 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 wrenches or other special tools are required.

Applications:

- Jet fuel, aviation gas, diesel fuel, gasoline, kerosene, JP4, JP5 and JP8.
- Aviation fuel trucks.
- Aviation fueling cabinets.
- Diesel fuel dispensing system.
- Marine fuel docks.
- Fuel systems on large diesel engines.

FBO Assemblies

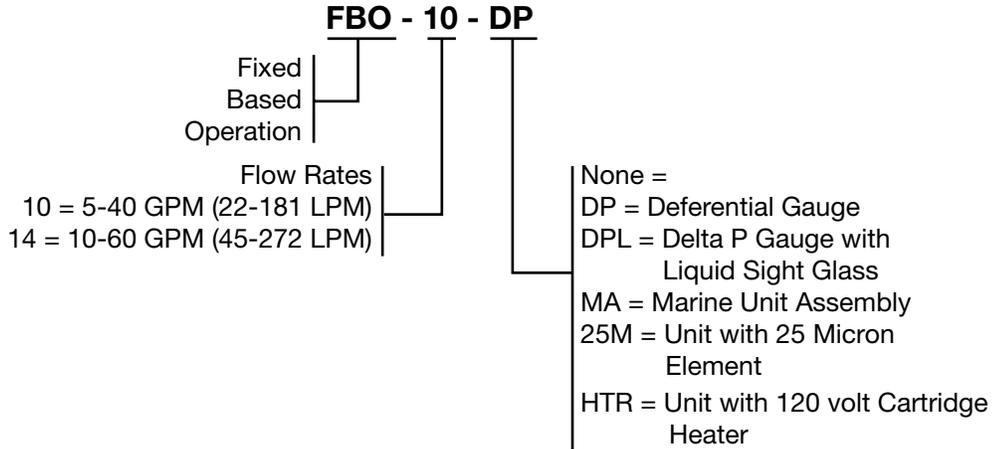
How to Order



Below is a guide to help customers order the right FBO assembly with the accessories you need.

Assembly	1 Element	2 Delta P Gauge	3 Sight Glass	4 Drain Valve
FBO-10	Order Separately			X
FBO-10-DP	Order Separately	X		X
FBO-10-DPL	Order Separately	X	X	X
FBO-10-25M	FBO-60332	X	X	X
FBO-14	Order Separately			X
FBO-14-DP	Order Separately	X		X
FBO-14-DPL	Order Separately	X	X	X
FBO-14-25M	FBO-60341	X	X	X
FBO-14-HTR	Order Separately	X	X	X

How to Order



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Performance

FBO-10	Flow Range	Maximum Flow Rates			Clean Dry	Change
		Diesel	Jet Fuel	Gasoline	Delta P	Delta P
Prefilter	5-40 GPM (18.9-151.4 LPM)	20 GPM (75.7 LPM)	40 GPM (151.4 LPM)	50 GPM (189.3 LPM)	Varies w/fluid and flow rate.	20 PSID
Filter Sep	5-35 GPM (18.9-132.5 LPM)	18 GPM (68.1 LPM)	35 GPM (132.5 LPM)	45 GPM (170.3 LPM)	Varies w/fluid and flow rate.	15 PSID
Absorber	5-25 GPM (18.9-94.6 LPM)	18 GPM (68.1 LPM)	35 GPM (132.5 LPM)	45 GPM (170.3 LPM)	Varies w/fluid and flow rate.	30 PSID
FBO-14	Flow Range	Diesel	Jet Fuel	Gasoline	Delta P	Delta P
Prefilter	10-60 GPM (37.9-227.1 LPM)	30 GPM (113.6 LPM)	60 GPM (227.1 LPM)	75 GPM (283.9 LPM)	Varies w/fluid and flow rate.	20 PSID
Filter Sep	10-50 GPM (37.9-189.3 LPM)	25 GPM (94.6 LPM)	50 GPM (189.3 LPM)	65 GPM (246.1 LPM)	Varies w/fluid and flow rate.	15 PSID
Absorber	10-37 GPM (37.9-140.1 LPM)	26 GPM (98.4 LPM)	55 GPM (208.2 LPM)	70 GPM (265.0 LPM)	Varies w/fluid and flow rate.	30 PSID

FBO Assemblies

Replacement Filters

Filters are used to protect the OEM supplied fuel system.

Water Separator

Water separator filters remove water and contaminants from hydrocarbon fuel streams and are the most popular filters.

Silicone Treated

Silicone treated fuel filters remove particle contaminants down to one micron.

Silicone filters can also be used upstream, before a fuel filter/water separator, to extend filter life.



Water Absorber

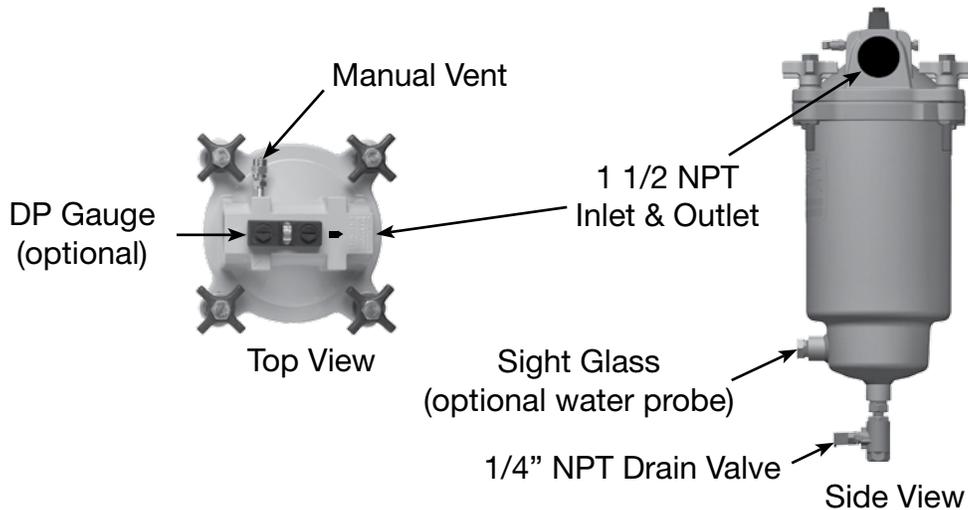
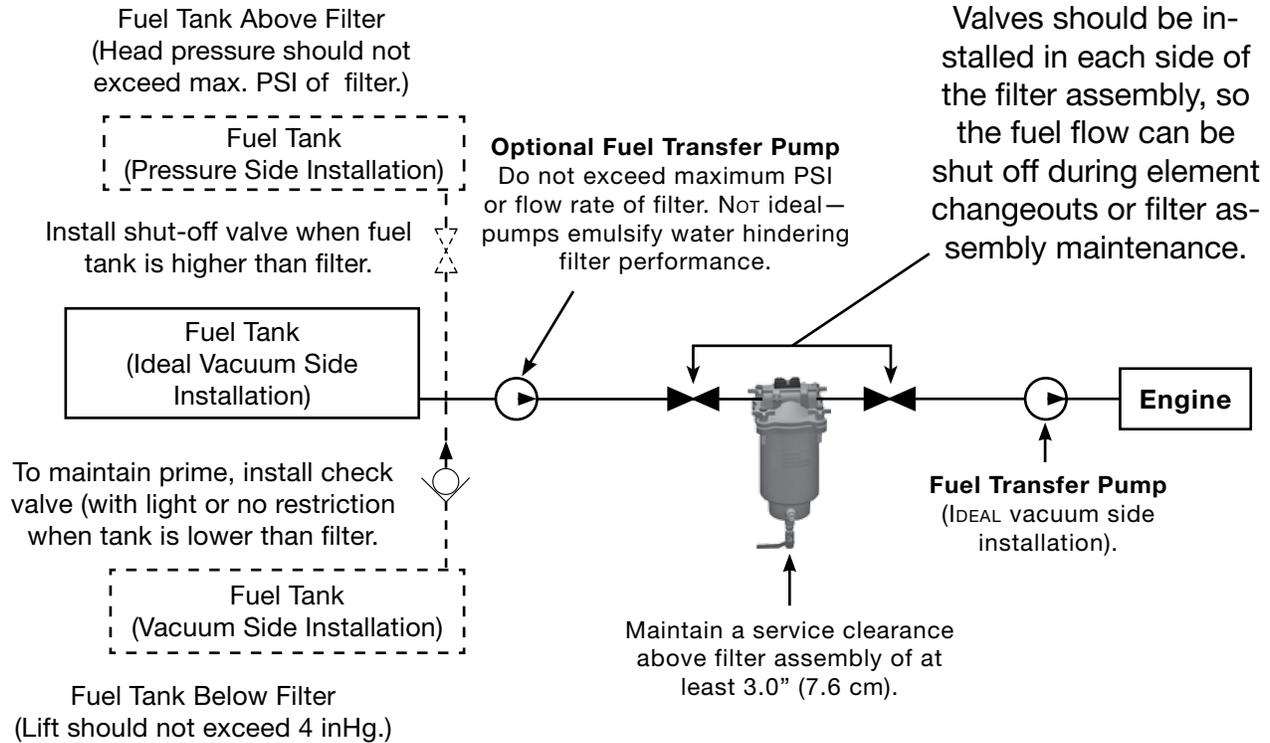
Water absorber filters absorb water and filter out contaminants from diesel fuel and other hydrocarbon streams.

FBO	Micron Rating	Water Separator	Silicone Treated	Water Absorber
 FBO-10 (6 x 10 Filter)	1	FBO 60327 FBO 60360 ²	FBO 60330	FBO 60333
	5	FBO 60328	FBO 60331	FBO 60334
	10	FBO 60353	FBO 60354	FBO 60335
	25	FBO 60329	FBO 60332	FBO 60342
 FBO-14 ¹ (6 x 14 Filter)	1	FBO 60336 FBO 60361 ²	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 72951 Monitor Adapter Plate enables the FBO-14 to take five RMO-210-4 monitor filters.

² API/EI 1583 5th Edition filters are certified for jet fuel applications.

Mounting Information



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FBO Assemblies

Replacement Parts

FBO-10 and FBO-14

	Part Number	Description
1.	72712	Handle Assembly
2.	Differential Pressure Gauge (DP Gauge) 72694 72783	15 PSI Gauge Kit 30 PSI Gauge Kit
3.	FBO Head Kits 72531	Head Kit with DP Gauge
4.	OV-13	O-ring kit
5.	72368	Spring kit
6.	72806 73166	FBO-10 Housing Assembly (includes #'s 5 & 8). FBO-14 Housing Assembly (includes #'s 5 & 8).
7.	72710 72349	1/2 " NPT Sight Glass Steel Water Sensor Adapter Female: 1/2 "-20 SAE Male: 1/2 "-14 NPT, length is 1 "
8.	71943-.25	1/4 " NPT Ball Valve
9.	72532 7581	Flange Installation Instructions

Optional Parts (not shown)

73231	1/2" DIA. 120 volt Cartridge Heater
73249	Optional Water Probe Bushing

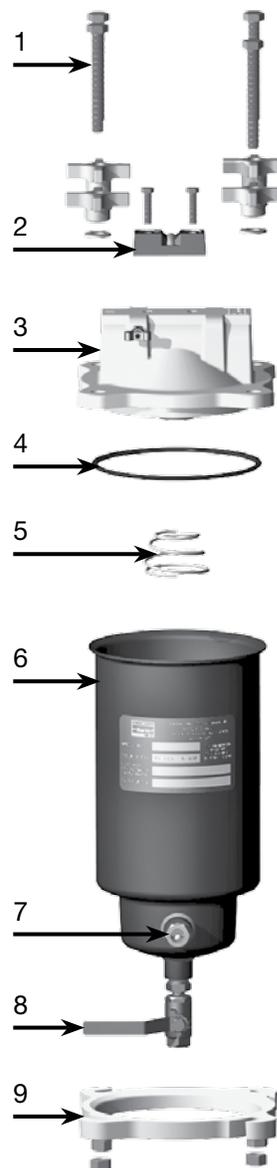


(optional) WIF Probe
RK 30880

1 1/2" NPT Inlet
and Outlet Ports



FBO Head



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 Inch 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 Inch Series cartridges that are qualified to MIL-M-81380. The FMI and FM 2 Inch Series Monitor Cartridges are designed to flow from the outside to inside at a rate of one gallon (3.79 liters) per inch of length. In addition, they are not disarmed when surfactants and fuel additives are present.

Applications:

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

Optional Accessories:

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

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

Features:

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



RHFM-A-200

Note: Contact Racor for sizing, selection, pricing and availability
Not recommended for use in aviation fuels with FSII.

RHFS Series

API/EI (IP) 5th Edition

Horizontal Coalescer Separator Vessel

The RVFS/5 Series Filter Water Separator Vessels are for use with Racor Hydrocarbon ACP and RAC Series Coalescers and SS, ST, RSS and RST Series Separator Cartridges. Racor hydrocarbon RVFS/5 Series two-stage vertical and horizontal coalescer/separator housings are designed to filter solids and separate free water from jet fuel. 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
- Kerosene

Installations

- Refineries
- Terminals
- Loading racks
- Hydrant carts and refuelers

Connections

- Inlet and Outlet: 150# RF (ANSI) flanged
- Main Drain: NPT
- Vent and pressure relief connection: NPT
- Differential pressure gauge/sample ports: 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 sight glass
- Water slug control valve
- Pilot control valve
- Rate of flow control valve



Note: Contact Racor for sizing, selection, pricing and availability

Features

- Carbon steel construction; other materials available
- ASME Code, Section VIII construction, stamped and certified
- 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-4556E
- Exterior: prime coated
- Knife-edge cartridge mounting seals



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RVCT Series

RVCT Series

The RVCT Series Vertical Vessels are used with Racor hydrocarbon clay elements to remove additives and surfactants from jet fuel, gasoline, kerosene and diesel. Carbon elements are used for deoiling industrial water, deodorization and decolorization of hydrocarbon solvents and the removal of chlorine.

Applications:

- Jet A, Jet A1
- Diesel Fuel
- Kerosene
- Gasoline

Optional Accessories:

- Automatic air eliminator
- Pressure relief valve
- Differential pressure gauge
- Sampling probes
- Manual drain valves
- Removable bundle assembly

Connections:

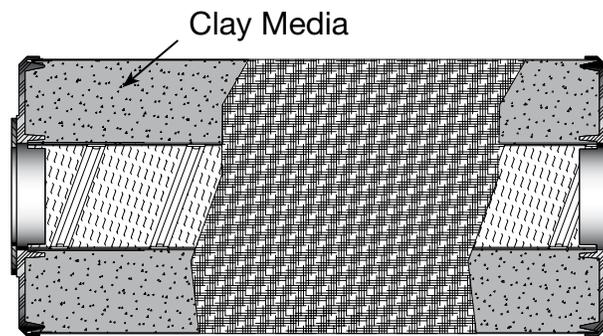
- Inlet and Outlet: 150RF (ANSI) flanged
- Main Drain: 2 inch NPT
- Side Drain: 1-1/2 inch NPT
- Vent and pressure relief connections: 3/4 inch NPT
- Differential Pressure Gauge/Sample ports: 1/4 inch NPT

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
- Inlet and outlet permanently marked
- Interior: epoxy-coated MIL-C-4556 E
- Exterior: prime coated



RVCT Unit



(FCC) Clay Canister

Note: Contact Racor for sizing, selection, pricing and availability

RVFS Vessels

Racor RVFS Series filter vessels offer a versatile, economical alternative to any competitor's vessels. Industry applications include removing liquid and solid contaminants from diesel fuel, gasoline, kerosene, aviation gas, jet fuel and other lubricating or hydraulic oils. RVFS vessels utilize proven filter design technology and can be used as coalescers, prefilterers, monitors or separators by changing internal components or flow direction or by selecting optional filter cartridges when ordering.

Optional Accessories:

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

Applications:

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



RVFS-1



RVFS-2



RVFS-3

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RVFS Series

RVFS Series Overview



Specifications	RVFS-1	RVFS-2	RVFS-3
Max Flow Rate	50 GPM (189 LPM)	100 GPM (378 LPM)	150 GPM (567 LPM)
Inlet & Outlet Port Size NPT	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
Vent & Relief Ports NPT	0.75 in. (1.9 cm)	0.75 in. (1.9 cm)	0.75 in. (1.9 cm)
Liquid Level Ports NPT	0.50 in. (1.3 cm)	0.50 in. (1.3 cm)	0.50 in. (1.3 cm)
Differential Gauge Ports NPT	0.13 in. (0.33 cm)	0.13 in. (0.33 cm)	0.13 in. (0.33 cm)
Maximum Pressure	250 PSI (17.2 bar)	250 PSI (17.2 bar)	250 PSI (17.2 bar)
Clean Pressure Drop	2 PSID (.14 bar)	2 PSID (.14 bar)	2 PSID (.14 bar)
Dirty Pressure Drop	15 PSID (1.04 bar)	15 PSID (1.04 bar)	15 PSID (1.04 bar)
Height	39.0 in. (99.1 cm)	51.0 in. (129.5 cm)	65.0 in. (165.1 cm)
Width	13.8 in. (35.1 cm)	13.8 in. (35.1 cm)	13.8 in. (35.1 cm)
Depth	13.5 in. (34.3 cm)	13.5 in. (34.3 cm)	13.5 in. (34.3 cm)
Weight dry	100 lbs (45 kg)	115 lbs (52 kg)	130 lbs (59 kg)
Service Clearance Above	16.0 in. (40.6 cm)	32.0 in. (81.3 cm)	47.0 in. (119.4 cm)
Operating Temperature	250° F (121.1° C)		

Note: Overall dimensions will vary depending on mounting leg or bulkhead method of installation.
 Consult factory for flow rates.
 Factory will require details of the application for proper sizing.

Diesel Fuel

Vessel	Micron	Coalescer	Water Separator ¹
RVFS-1 ²	1	OCP-15801	SP-15401
	5	OCP-15805	SP-15405
	10	OCP-15810	SP-15410
	25	OCP-15825	SP-15425
RVFS-2 ²	1	OCP-30801	SP-30401
	5	OCP-30805	SP-30405
	10	OCP-30810	SP-30410
	25	OCP-30825	SP-30425
RVFS-3 ²	1	OCP-44801	SP-44401
	5	OCP-44805	SP-44405
	10	OCP-44810	SP-44410
	25	OCP-44825	SP-44425

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¹ Synthetic (SS) and teflon (ST) water separators may be used in place of industrial paper (SP) water separators where cleaning and reusing of water separators is desired (see bulletin #7791 for more information).

² For RVFS-1, 2 and 3, customer must order one OCP and one SP filter. A fuel filter/water separator consists of one coalescer and one separator filter.

Aviation Fuel

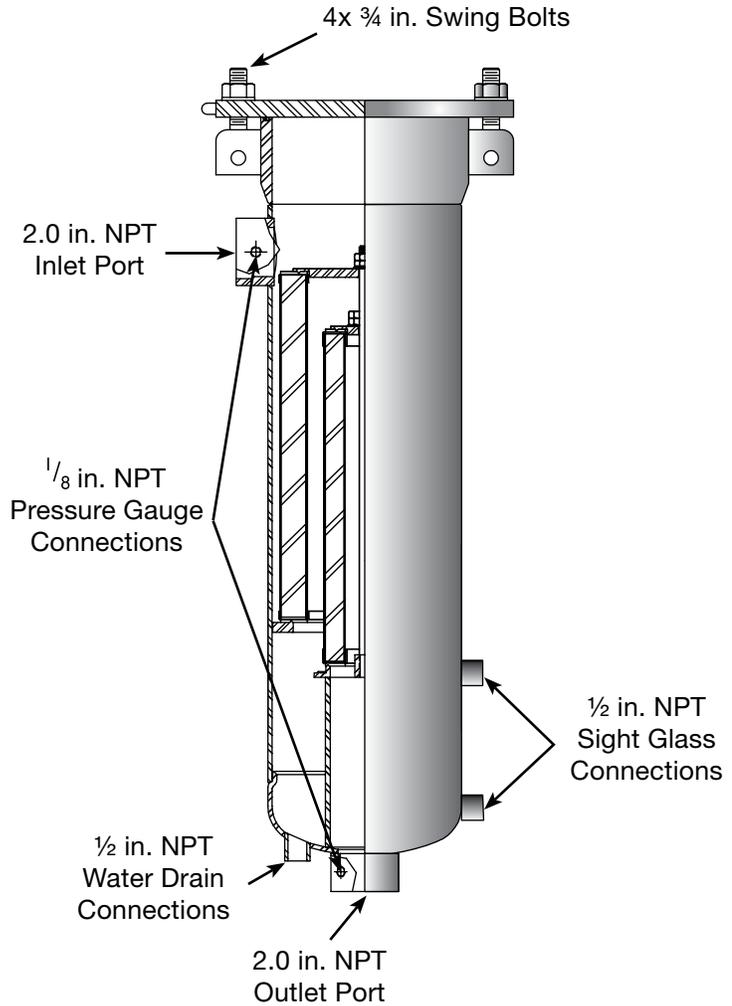
RVMF-1	Micron	Description	RVMF-1	Micron	Description
FP-14601	1	Silicone treated	FS-14601	1	Micro synthetic
FP-14605	5	Silicone treated	FS-14605	5	Micro synthetic
FP-14610	10	Silicone treated	FS-14610	10	Micro synthetic
FP-14625	25	Silicone treated	FS-14625	25	Micro synthetic
RVMF-2	Micron	Description	RVMF-2	Micron	Description
FP-29601	1	Silicone treated	FS-29601	1	Micro synthetic
FP-29605	5	Silicone treated	FS-29605	5	Micro synthetic
FP-29610	10	Silicone treated	FS-29610	10	Micro synthetic
FP-29625	25	Silicone treated	FS-29625	25	Micro synthetic
RVMF-3	Micron	Description	RVMF-3	Micron	Description
FP-44601	1	Silicone treated	FS-44601	1	Micro synthetic
FP-44605	5	Silicone treated	FS-44605	5	Micro synthetic
FP-44610	10	Silicone treated	FS-44610	10	Micro synthetic
FP-44625	25	Silicone treated	FS-44625	25	Micro synthetic

Note: All vessels come equipped with Viton o-rings. Compatible with biodiesel mixtures.

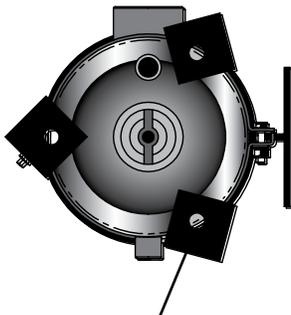
RVFS Series

Mounting Options

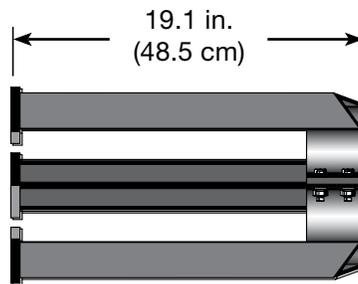
The RVFS has two filter mounting possibilities, one being a bulkhead mounting bracket that is adjustable, and the other is three mounting legs with holes drilled for stabilization.



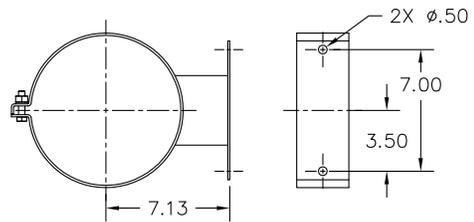
Bottom View



3 Holes 1 1/16 in.
on 8.4 in.
Bolt Circle



Mounting Legs



Bulkhead Mounting Bracket

Replacement Parts

RVFS-1, RVFS-2, RVFS-3

Part Number Description

1. **See Replacement Element Chart**
2. **Unit Bodies**
 RVFS-1
 RVFS-2
 RVFS-3
3. **Mounting Bracket**
 71982 Bulkhead Mounting Bracket
 71981 Adjustable Mounting Legs

Additional Parts (not shown)

72059	Differential Pressure Gauge
71679	Stainless Auto Air Eliminator
71943-.75	Brass Manual Air Vent
72060-.75	Stainless Manual Air Vent
71330-.125	Pressure Relief Valve 125 PSI
72482	Stainless Check Valve
70906	Brass Water Sight Glass 125 PSI
72061	Stainless Water Sight Glass 300 PSI
RK 30880	Water Probe Kit 12 vdc
71166	Auto Drain Valve
71943-.5	Brass Manual Drain Valve
72060-.5	Stainless Manual Drain Valve
7563	Installation Instructions



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RVFS Series

Safety Precautions

The following precautions are recommended for the safety of the operating personnel:

- 1. The fluid being filtered is volatile. No smoking is permitted in the area where the system pumps, storage tanks and filtering equipment are located.**
- 2. Any fluid spill must be cleaned up immediately. Dispose of all contaminated cleaning materials in a fire-safe container.**
- 3. Any clothing contaminated with fluid must be removed immediately and disposed of in a fire-safe container.**
- 4. Fluid resistant gloves must be worn when handling parts that have been in contact with the fluid.**
- 5. When servicing the filtering equipment, allow for maximum ventilation to disperse fumes. An air mask may be worn when servicing the vessel main body.**
- 6. Use only non-sparking tools when performing maintenance on the filtering equipment and on the fuel system components.**
- 7. Avoid any unnecessary contact of fluid to the skin or clothing. Always wear safety gloves and glasses.**
- 8. Avoid any spillage of liquid in the operating area. Any spills must be cleaned up immediately to reduce injury from slipping.**
- 9. Personnel should wash hands thoroughly after any maintenance to the filtering equipment or any of its components. Apply medication to any cuts or abrasions.**
- 10. Secure medical attention for any serious cuts, stomach discomfort or breathing difficulties that may be caused by excessive inhalation of fumes.**

Fire Hazard

Adequate fire fighting equipment should be provided for the operating area before conducting a fluid test and at all times when performing any maintenance or service work in the operating area. Provide “No Smoking” signs in the operating area.

- 1. Opening the access cover before the vessel is securely mounted may cause the vessel to become unstable and could result in vessel falling over.**
- 2. Correctly identify the inlet and outlet connections before connecting the vessel in the system. The unit will not perform properly should the connections be reversed.**
- 3. Turn off any heating devices before performing any maintenance or service work.**
- 4. Due to the toxic effects of some of the additives used in liquid hydrocarbon products, care should be taken in handling any parts that have been in contact with liquid product.**
- 5. Filter vessel must be relieved of internal pressure, drained or vented before removal or repair of any accessory option.**
- 6. Do not over-tighten packing nuts or other connections. Stripped threads on the fittings may result in leaky joints. Replace any damaged fittings or parts before the filter vessel is put into operation.**

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RVFS Series

Industrial Filter/Separator Vessels

The RVFS Series Filter/Water Separator Vessels are for use with Racor Hydrocarbon 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
- Kerosene
- Gasoline, Diesel Fuel

Installations:

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

Connections:

- Inlet/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

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
- Inlet and outlet permanently marked
- Interior: epoxy-coated MIL-C-4556 E
- Exterior: primer coated
- Knife-edge cartridge mounting seals



RVFS-244-233

Note: Contact Racor for sizing, selection, pricing and availability

Microfilter Vessels

The RVMF Series Vertical Vessels are used with Racor Hydrocarbon FP, FS, and HIF coreless, high efficiency microfilter series cartridges. 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 cartridges providing clean product downstream.

Applications

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

Optional Accessories

- Automatic air eliminator
- Differential pressure gauge
- Pressure relief valve
- Manual drain valve
- Sampling probes
- Liquid level sight glass

Features

- Carbon steel construction.
- 150 psi ASME Code, Section VIII construction, stamped and certified.
- 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.



RVMF-400-2-44

Note: Contact Racor for sizing, selection, pricing and availability

RVMF Series



Specifications	Flow Rate (Jet Fuel)	Flow Rate (Diesel)
<i>RVMF-400-2-44</i>	400 GPM (1514 LPM)	200 GPM (757 LPM)
<i>RVMF-600-3-44</i>	600 GPM (2271 LPM)	300 GPM (1135 LPM)
<i>RVMF-800-4-44</i>	850 GPM (3217 LPM)	425 GPM (1608 LPM)
<i>RVMF-1200-6-44</i>	1200 GPM (4542 LPM)	600 GPM (2271 LPM)

Electrostatically Conductive 2" Monitor Elements - (Out to In)

Design Features

The Racor RMO-E monitors are tested and qualified in accordance with the EI (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. Works even in the presence of surfactants and additives in the fuel. Fully interchangeable with other EI (IP) approved elements. Less than 0.26 mg/l average of solids in the effluent.

Filter monitor vessels fitted with monitor elements are used on aircraft refueling vehicles, hydrant dispensers and other mobile fueling equipment.

This element is qualified to the latest addendum to EI (IP) 1583, 4th edition and is electrically conductive to dissipate electrostatic charges!

Technical Details

- **Tested and qualified to EI (IP) 1583, 4th ed.**
- **Nominal Filtration: 1 micron**
- **Changeout differential pressure: 25 psid**
- **Min. collapse pressure: 175 psid**
- **Recommended service time: 12 months¹**
- **Recommended storage time:² 36 months¹**
- **Operating temp.: 176°F (max)**
- **Electrical Resistance: <15 MOhm**
- **O-ring in NBR (Buna-N)**
- **Flow direction: Outside to Inside**
- **Outside diameter: 2"**
- **Labeling according to EI (IP) 1583, 4th Edition (manufacture date, ID-Number, etc.)**

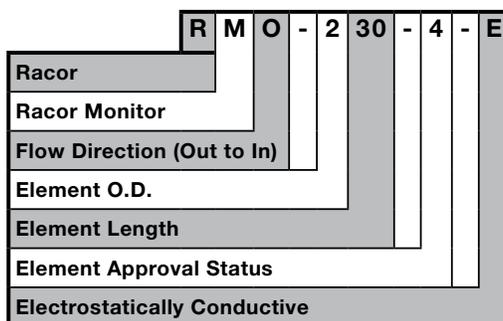
¹ Manufacturer recommendation

² If in original packaging, at 68°F, and a maximum of 50% humidity after date of shipment from manufacturers stock.

NOTE: Not recommended for use in aviation fuels with FSII.



Element Nomenclature



Part Number	Nominal Length (in.)	Flow Rate		Cross Reference	
		GPM	LPM	Velcon	Facet
RMO-205-4-E	5	5	19	CDF-205N	
RMO-210-4-E	10	10	38	CDF-210N	
RMO-215-4-E	15	15	57	CDF-215N	
RMO-220-4-E	20	20	76	CDF-220N	
RMO-225-4-E	25	25	95	CDF-225N	
RMO-230-4-E	30	30	114	CDF-230N	

RMO Series

2" Monitor Elements - (Out to In)

Design Features

The Racor RMO monitors are tested and qualified in accordance with the EI (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. Works even in the presence of surfactants and additives in the fuel. Fully interchangeable with other EI (IP) approved elements. Less than 0.26 mg/l average of solids in the effluent.

Filter monitor vessels fitted with monitor elements are used on aircraft refueling vehicles, hydrant dispensers and other mobile fueling equipment.

Technical Details

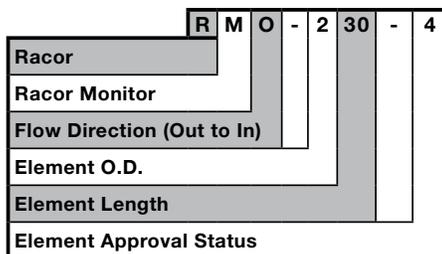
- **Tested and qualified to EI (IP) 1583, 4th ed.**
- **Nominal Filtration: 1 micron**
- **Changeout differential pressure: 25 psid**
- **Minimum collapse pressure: 175 psid**
- **Recommended service time: 12 months¹**
- **Recommended storage time:² 36 months¹**
- **Operating temperature: 176°F (max)**
- **O-ring in NBR (Buna-N)**
- **Flow direction: Outside to Inside**
- **Outside diameter: 2"**
- **Labeling according to EI (IP) 1583, 4th Edition (manufacture date, ID-Number, etc.)**

¹ Manufacturer recommendation

² If in original packaging, at 68°F, and a maximum of 50% humidity after date of shipment from manufacturers stock.

NOTE: Not recommended for use in aviation fuels with FSII.

Element Nomenclature



Part Number	Nominal Length (in.)	Flow Rate		Cross Reference	
		GPM	LPM	Velcon	Facet
RMO-205-4	5	5	19	CDF-205K	FG-205-4
RMO-210-4	10	10	38	CDF-210K	FG-210-4
RMO-215-4	15	15	57	CDF-215K	FG-215-4
RMO-220-4	20	20	76	CDF-220K	FG-220-4
RMO-225-4	25	25	95	CDF-225K	FG-225-4
RMO-230-4	30	30	114	CDF-230K	FG-230-4

Separator Elements API/IP Qualified

Design Features

For the separation of water from aviation fuels in accordance with API 1581 3rd edition and API/IP 5th edition.

The second stage of the water removal process is completed using either a Teflon™ or synthetic separator element. The fuel flows from the coalescer element and enters the separator element from outside to inside. 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 under gravity into the water collection sump.

Technical Details

- Tested and qualified to API 1581, 3rd Edition, Group II, Class B & C and API/IP 1581 5th edition, Category C, Type S.
- Effective water barrier.
- Reusable (when inspection guidelines are followed).
- Flow direction: out to in
- Operating temperature: 176°F (max)
- Seals in NBR (Buna-N)
- Separator screen:
 - Hydrophobic Teflon™ coated stainless steel mesh.
 - Hydrophobic treated fine screen synthetic mesh

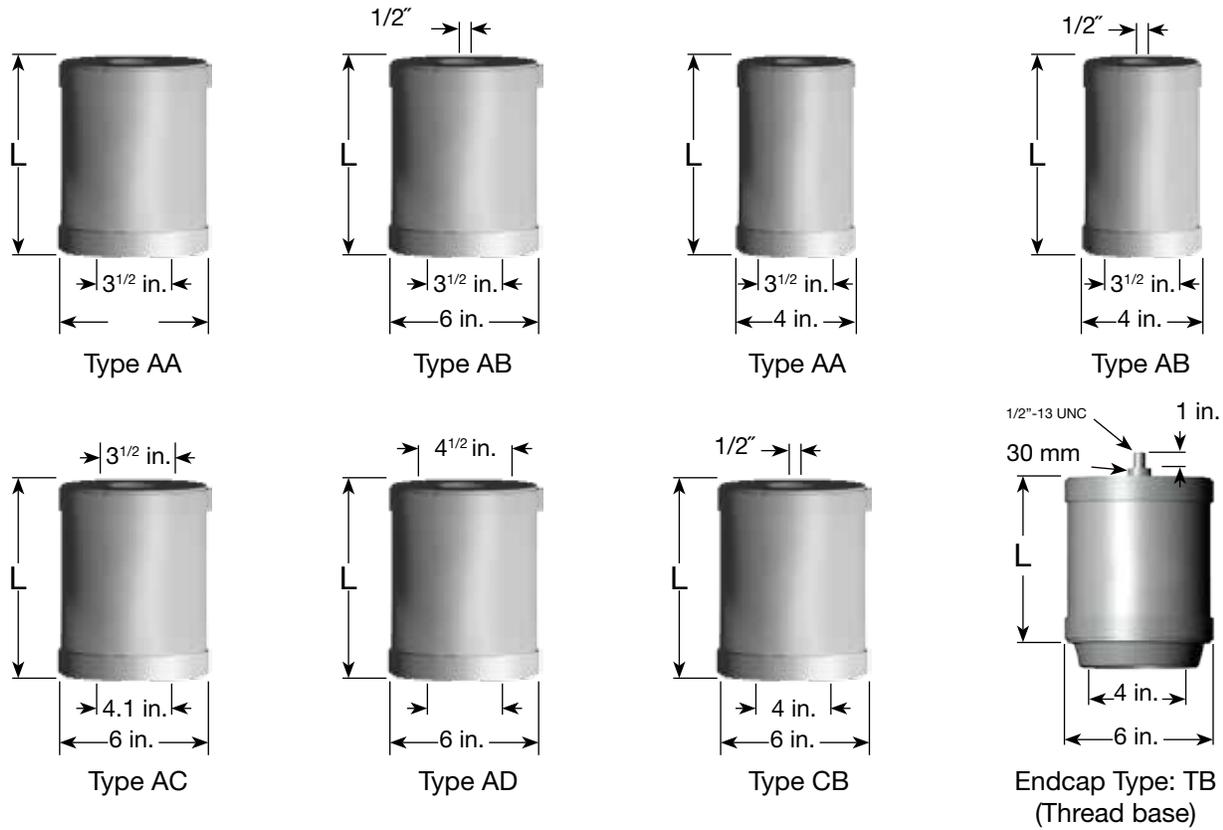


Element Nomenclature

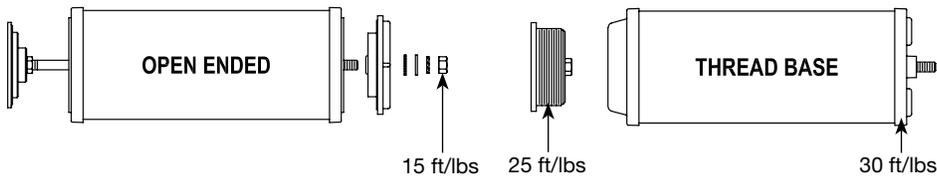
R	ST	-	6	33	-	AA	Endcap Configuration	
Racor						Suffix	I.D. Top Endcap	I.D. Bottom Endcap
Separator Type: ST - Teflon SS - Synthetic						AA	3 1/2"	3 1/2"
Element O.D.						AB	Closed, 1/2" I.D. Hole	3 1/2"
Element Nominal Length: 6", 11", 12", 14", 22", 24", 29", 33", 36", 40", 43", 48", 56"						AC	3 1/2"	4.1"
						AD	3 1/2"	4 1/2"
						CB	Closed, 13mm I.D. Hole	4"
						TB	Thread Base	4 1/2"

RST & RSS Series

Separator Elements



Torque Settings



Conversion Table			
ft/lbs	inch/lbs	kg/m	Nm
5	60	0.70	7
15	180	2.07	20
20	240	2.80	27
25	300	3.50	34
30	360	4.15	40

6" Monitor Elements - (In to Out)

Design Features

The Racor RMI monitors are tested and qualified in accordance with the EI (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. Works even in the presence of surfactants and additives in the fuel. Fully interchangeable with other EI (IP) approved elements. Less than 0.26 mg/l average of solids in the effluent.

Filter monitor vessels fitted with monitor elements are used on aircraft refueling vehicles, hydrant dispensers and other mobile fueling equipment.

Technical Details

- **Nominal filtration: 1 micron**
- **Changeout differential pressure: 25 psid**
- **Min. burst pressure: 175 psid**

- **Recommended service time: 12 months¹**
- **Recommended storage time:² 24 months¹**
- **Operating temperature: 176°F (max)**
- **Inner tube in epoxy painted steel**
- **Seals in NBR (Buna-N)**
- **Flow direction: Inside to Outside**
- **Outside diameter: 6"**
- **Thread base endcaps made out of Polyamide**
- **Labeling according to EI (IP) 1583, 4th ed. (date of manufacturing, ID-Number, etc.) on the endcap**

¹ Manufacturer recommendation

² Original packaging, 68°F and max. 50% humidity after date of shipment out of manufacturers stock.

NOTE: Not recommended for use in aviation fuels with FSII.



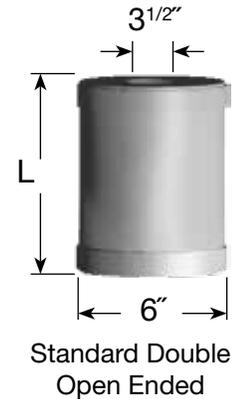
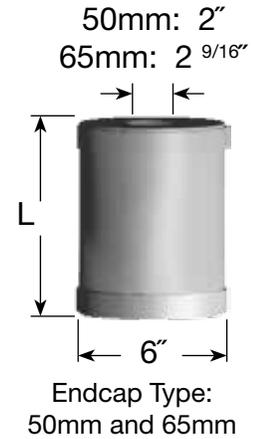
Element Nomenclature

	R	M	I	-	6	33	-	4	-	TB
Racor										
Element Type Monitor										
Flow Direction (In to Out)										
Element O.D.										
Element Nominal Length										
Element Approval Status										
Endcap Configuration										

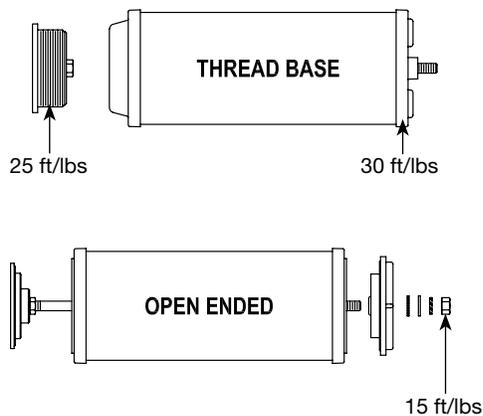
RMI Series

Cross Reference

	Racor Part Number	Nominal Length	Flow Rate in GPM	Cross Reference	
				Velcon	Facet
50/65MM	RMI-633-4-50MM	33	132		
	RMI-633-4-65MM	33	132		
Double Open End	RMI-611-4	11	44	ACI-61101L	FG-1-611
	RMI-614-4	14	56	ACI-61401L	FG-1-614
	RMI-622-4	22	88	ACI-62201L	FG-1-622
	RMI-628-4	28	114	ACI-62801L	FG-1-628
	RMI-633-4	33	132	ACI-63301L	FG-1-633
	RMI-638-4	38	152	ACI-63801L	FG-1-638
	RMI-643-4	43	173	ACI-64401L	FG-1-644
	RMI-656-4	56	224	ACI-65601L	FG-1-656
Thread Base	RMI-614-4-TB	14	56	ACI-61401LTB	FG-1-614SB
	RMI-622-4-TB	22	88	ACI-62201LTB	FG-1-622SB
	RMI-628-4-TB	28	114	ACI-62801LTB	FG-1-628SB
	RMI-633-4-TB	33	132	ACI-63301LTB	FG-1-633SB
	RMI-638-4-TB	38	152	ACI-63801LTB	FG-1-638SB
	RMI-643-4-TB	43	173	ACI-64401LTB	FG-1-644SB
	RMI-656-4-TB	56	224	ACI-65601LTB	FG-1-656SB



Torque Settings



Conversion Table			
ft/lbs	inch/lbs	kg/m	Nm
5	60	0.70	7
15	180	2.07	20
20	240	2.80	27
25	300	3.50	34
30	360	4.15	40



Coalescer Elements API Qualified

Design Features

For the Separation of Water and Solids from Aviation Fuels in accordance with API 1581 3rd Edition.

API filter water separators are fitted with coalescer elements and separators which are required in jet fuel supply and delivery systems. These include fixed refueling installations, pipe lines and tank farms as well as aircraft refueling vehicles, hydrant dispensers and other mobile fueling equipment. Racor API coalescers and separators are also commonly used in other hydrocarbon fuel streams where high efficiency filtration and water separation are required.

Technical Details

- Tested and qualified to API 1581, 3rd Edition, Group II, Class B & C
- Nominal Filtration: 1 micron
- Changeout Differential Pressure: 15 psid
- Minimum Burst Pressure: 75 psid
- Recommended Service Time: 24 months¹
- Recommended Storage Time: 36 months¹
- Operating Temperature: 176°F (max)
- Flow Direction: inside to outside
- Outside Diameter: 6 inch
- Metal parts in epoxy coated steel
- Seals in NBR (Buna-N)
- Thread based endcaps made out of Polyamide
- Labeling according to API (date of manufacture, ID Number, etc.) on the endcap

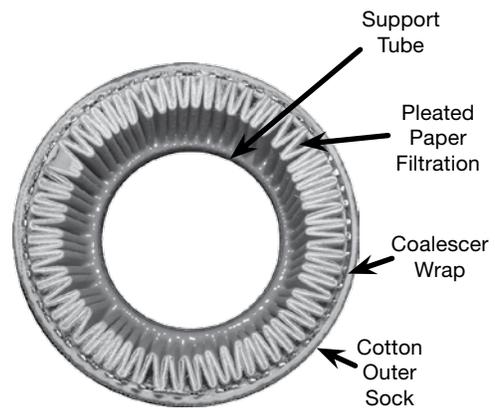
¹ Manufacturer recommendation

² Original packaging, 68°F and max. 50% humidity after date of shipment out of manufacturers stock.



Element Nomenclature

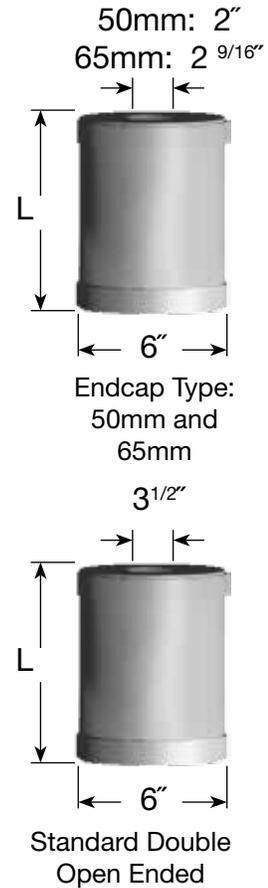
	R	A	C	-	6	56	-	3	-	TB
Racor										
API Qualified										
Coalescer										
Element O.D.										
Element Nominal Length										
Element Approval Status										
Endcap Configuration										



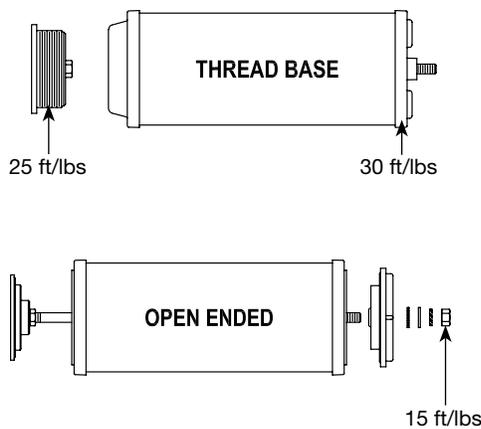
RAC Series

Cross Reference

		Cross Reference		
	Racor Part Number	Length	Velcon	Facet
50 & 65MM	RAC-622-3-65MM	22		CA-22-W
	RAC-633-3-50MM	33		CA-33-A
	RAC-633-3-65MM	33		CA-33-W
	RAC-638-3-65MM	38		CA-38-W
Double Open Ended	RAC-611-3	11	I-61185 or I-61187	CA-11-3 or CAA-11-9
	RAC-614-3	14	I-61485 or I-61487	CA-14-3 or CAA-14-9
	RAC-622-3	22	I-62285 or I-62287	CA-22-3 or CAA-22-9
	RAC-628-3	28	I-62885 or I-62887	CA-28-3 or CAA-28-9
	RAC-633-3	33	I-63385 or I-63387	CA-33-3 or CAA-33-9
	RAC-638-3	38	I-63885 or I-63887	CA-38-3 or CAA-38-9
	RAC-643-3	43	I-64485 or I-64487	CA-43-3 or CAA-43-9
	RAC-656-3	56	I-65685 or I-65687	CA-56-3 or CAA-56-9
Thread Base	RAC-614-3-TB	14	I-61485-TB or I-61487-TB	CA-14-3-SB or CAA-14-9-TB
	RAC-622-3-TB	22	I-62285-TB or I-62287-TB	CA-22-3-SB or CAA-22-9-TB
	RAC-628-3-TB	28	I-62885-TB or I-62887-TB	CA-28-3-SB or CAA-28-9-TB
	RAC-633-3-TB	33	I-63385-TB or I-63387-TB	CA-33-3-SB or CAA-33-9-TB
	RAC-638-3-TB	38	I-63885-TB or I-63887-TB	CA-38-3-SB or CAA-38-9-TB
	RAC-643-3-TB	43	I-64485-TB or I-64487-TB	CA-43-3-SB or CAA-43-9-TB
	RAC-656-3-TB	56	I-65685-TB or I-65687-TB	CA-56-3-SB or CAA-56-9-TB



Torque Settings



Conversion Table			
ft/lbs	inch/lbs	kg/m	Nm
5	60	0.70	7
15	180	2.07	20
20	240	2.80	27
25	300	3.50	34
30	360	4.15	40



Coalescer Elements API/IP Qualified

Design Features

For the Separation of Water and Solids from Aviation Fuels in accordance with API/IP 1581 5th Edition.

API/IP filter water separators are fitted with coalescer elements and separators which are required in jet fuel supply and delivery systems. These include fixed fueling installations, pipe lines and tank farms as well as aircraft refueling vehicles, hydrant dispensers and other mobile fueling equipment. Racor API/IP coalescers and separators are also commonly used in other hydrocarbon fuel streams where high efficiency filtration and water separation are required.

Technical Details

- Tested and qualified to API/IP 1581, 5th Edition, Category C, Type S specifications
- Nominal Filtration: 1 micron
- Changeout Differential Pressure: 15 psid
- Minimum Burst Pressure: 75 psid
- Recommended Service Time: 24 months¹
- Recommended Storage Time: 36 months¹
- Operating Temperature: 176°F (max)
- Flow Direction: inside to outside
- Outside Diameter: 6 inch
- Metal parts in epoxy coated steel
- Seals in NBR (Buna-N)
- Thread based endcaps made out of Polyamide
- Labeling according to API/IP (date of manufacture, ID Number, etc.) on the endcap

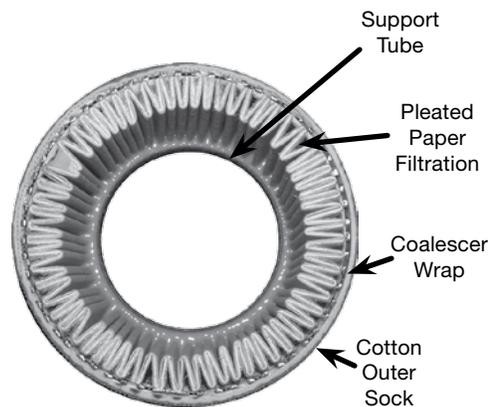
¹ Manufacturer recommendation

² Original packaging, 68°F and max. 50% humidity after date of shipment out of manufacturers stock.



Element Nomenclature

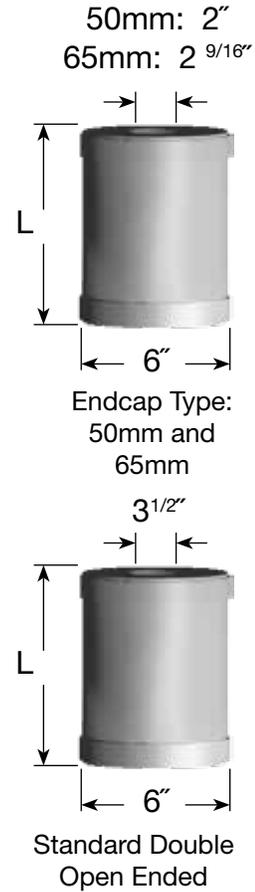
	R	A	C	-	6	56	-	5	-	TB
Racor										
API/IP Qualified										
Coalescer										
Element O.D.										
Element Nominal Length										
Element Approval Status										
Endcap Configuration										



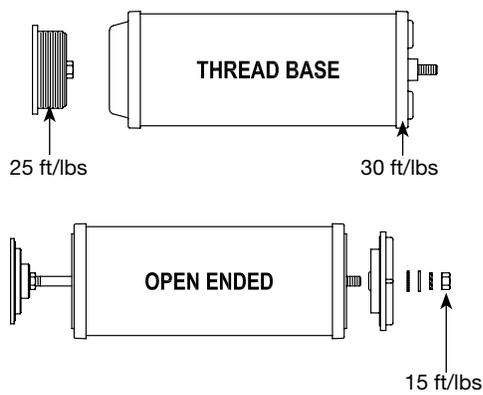
RAC Series

Cross Reference

		Cross Reference		
	Racor Part Number	Nominal Length	Velcon	Facet
50 & 65MM	RAC-622-5-65MM	22		
	RAC-633-5-50MM	33		
	RAC-633-5-65MM	33		
	RAC-638-5-65MM	38		
Double Open Ended	RAC-611-5	11	I-611C5	CA-11-5
	RAC-614-5	14	I-614C5	CA-14-5
	RAC-622-5	22	I-622C5	CA-22-5
	RAC-628-5	28	I-628C5	CA-28-5
	RAC-633-5	33	I-633C5	CA-33-5
	RAC-638-5	38	I-638C5	CA-38-5
	RAC-643-5	43	I-644C5	CA-43-5
	RAC-656-5	56	I-656C5	CA-56-5
Thread Base	RAC-614-5-TB	14	I-614C5-TB	CA-14-5-SB
	RAC-622-5-TB	22	I-622C5-TB	CA-22-5-SB
	RAC-628-5-TB	28	I-628C5-TB	CA-28-5-SB
	RAC-633-5-TB	33	I-633C5-TB	CA-33-5-SB
	RAC-638-5-TB	38	I-638C5-TB	CA-38-5-SB
	RAC-643-5-TB	43	I-644C5-TB	CA-43-5-SB
	RAC-656-5-TB	56	I-656C5-TB	CA-56-5-SB



Torque Settings



Conversion Table			
ft/lbs	inch/lbs	kg/m	Nm
5	60	0.70	7
15	180	2.07	20
20	240	2.80	27
25	300	3.50	34
30	360	4.15	40



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