

RACOR®

Hydrocarbon Filter Vessels and Elements

- **Fuel Filtration Vessels and Systems**
- **API/IP Qualified Elements**
- **Filtration Elements**
- **Absorbent & Adsorbent Elements**



Parker



Technology.

Efficiency. Reliability. Confidence.

These are the essential ingredients in a successful, well-managed filtration program. In pipelines, bulk storage terminals, refineries, equipment and aircraft fueling, the stakes are high. There is a company that has become a preferred industry source, combining ASME advanced vessel design with API/IP leading-edge technology filter elements to deliver fail-safe efficiency and performance reliability. In a word, confidence. In a word, Racor.



FUEL



1969

It all began with a patented, exceptionally efficient fuel filter/water separator. Today, the Racor Turbine Series remains the preferred choice on land and sea.



1995

Today's alternative fuels are susceptible to the problems that result from water and solid contamination. Racor alternative energy filtration systems provide the solution.



1983

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



1987

With see-thru bowls or UL-listed, USCG accepted metal bowls Racor's diesel and gasoline filter/separators introduced convenience, reliability and peace-of-mind in one easy spin.

1997

High flow hydrocarbon vessels are manufactured to ASME standards and filters meet API/IP and military qualifications.



1991

Racor makes a commitment to the environment with Lifeguard, a fuel air separator that prevents fuel from escaping overboard from vent lines during refueling.



2002

The Racor Fuel Conditioning Module delivers consistent fuel pressure and volume to high pressure fuel injection systems under various speeds, loads and environmental conditions.



OIL



1992

Revolutionary, permanent full-flow oil filtration systems put an end to messy filter changes and expensive disposal. These remote mounts can be combined with Racor bypass oil filters and oil analysis to significantly extend oil changes.



1995

The Racor spin-on oil solution is ingenious and offers a permanent cleanable system that puts an end to frequent and messy on-board filter changes.

2001

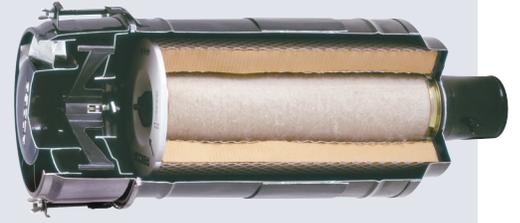
The LFS300 Series converts a standard disposable spin-on can to a premium cartridge oil filter that's crushable, burnable and increases capacity and efficiency.



AIR

1994

Engine's gasping for a breath of fresh air breathe easy with the introduction of heavy-duty air filters.



1995

Crankcase ventilation filter systems that keep oily blowby from coating turbochargers and precision components are introduced. While cleaning up engine compartments, Racor CCV™ systems meet new environmental regulations to control crankcase emissions.



1999

Racor debuts its own marine air intake filters to provide clean intake air and reduce turbo noise.



2002

High performance lightweight air filters protect engines from damaging contamination. A large media area reduces air flow resistance and provides higher dirt holding capacity.



COOLANT

HYDRAULIC



1993
Racor pioneers the use of coolant heating to improve fuel filtration and engine operation in winter.

1995
Racor additives help clean up coolant and fuel systems with ultra-high performance, ultra-concentrated additives. It's Racor protection in a bottle.



2001
The comprehensive fuel heating series expands with tank-type coolant heaters, as well as powerful self-regulating electric heaters... all designed to help you turn your back on old man winter.



1994
Racor engineers turn their attention to hydraulic systems and respond with innovative water-absorbing media that self-regulates its performance... swelling as it reaches capacity.



1996
Medium pressure hydraulic filters expand Racor's commitment to ultimate filtration for every engine, every system, every flow rate.



Introduction 2-3

FBO Filter Vessels and Elements . . . 4-5

Hydrocarbon Filter Vessels 6-14

Fuel Dispensing 15

Hydrocarbon Filter Elements 16-23

Natural Gas Elements 24

Fuel Recycling 25

More from Racor 26-29



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.



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.

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 and API/IP 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.



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.



Racor Division has been a qualified Department of Defense MIL SPEC supplier of coalescers, separators, fuel monitors and other related aviation fuel filters for many years. We are currently the prime supplier for the Department of Defense coalescers on an extended contract.

Qualified Military Filters

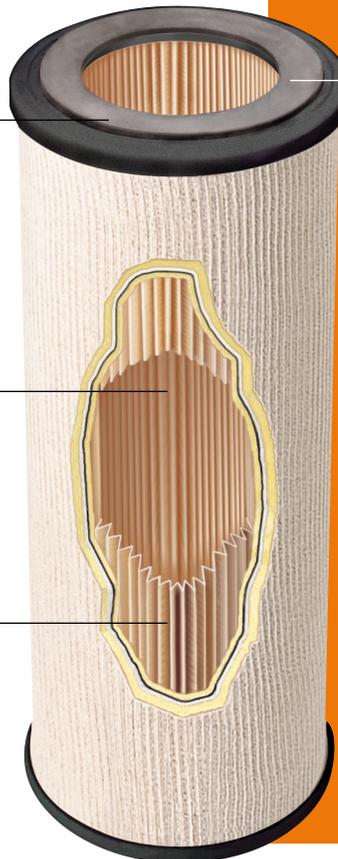
FILTER	MIL SPEC
Coalescer, DOD	MIL-F-8901F MIL-F-52308J
Coalescer, NAVY	MIL-F-15618F
Coalescer, AIR FORCE	MIL-F-27707-F
Coalescer	MIL-F-27704F
Fuel Monitor	MIL-M-81380C(AS)
Oil Water Separator	POP-L30
Filter	MIL-F-27717F
Coalescer/Separator	MIL-F-38007D



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 to 75 psid pressure requirements.

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



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.

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



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 25gpm/95lpm or up to 75gpm/230lpm 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.

Installations

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

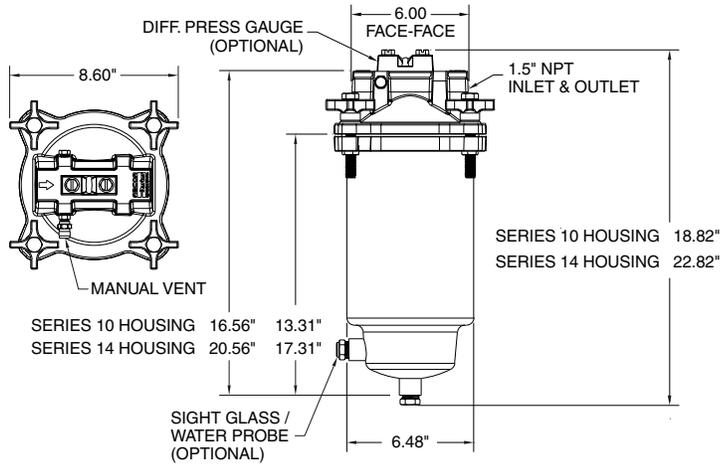
Standard Design Features

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

Performance Specifications

FBO-10	Maximum Flow Rates			Clean Dry	Change	
	Flow Range	Diesel	Jet Fuel	Gasoline	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
Prefilter	10-60 gpm	30	60	75	**	20 PSID
Filter Sep	10-50gpm	25	50	65	**	15 PSID

** varies with fluid and flow rate



Element Applications

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

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.

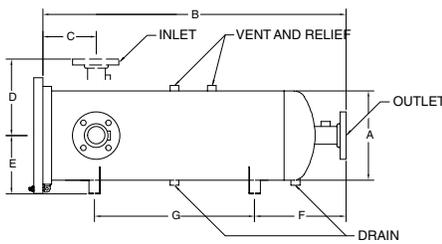
Review the element chart on this page for field applications.





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



Fuel Monitor Vessels

The RHFV 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

Standard Housing Data and Flow Rates

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

Weights and volumes are approximate.

Dimensional Data

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

Features

- ASME Code, Section VIII construction, stamped and 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 aluminum, 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.

Pressure Filter Vessels

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 or auto drain valves. Racor uses the latest CAD computer design systems, materials and processes to meet industry qualifications and customer's stringent field demands.



General Specifications

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	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	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	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	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	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



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

Pre-Filter Vessels

The RVMF Series Vertical Vessels are used with Racor Hydrocarbon FP, FS, and HIF coreless, high efficiency micronic 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

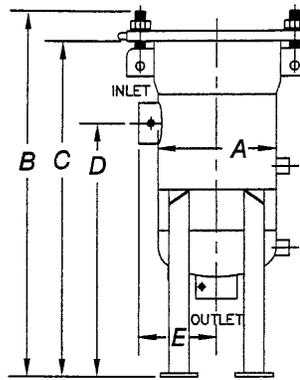
- Jet A, Jet A1
- JP4, JP5, JP8
- Diesel Fuel
- Kerosene
- Gasoline

Optional Accessories

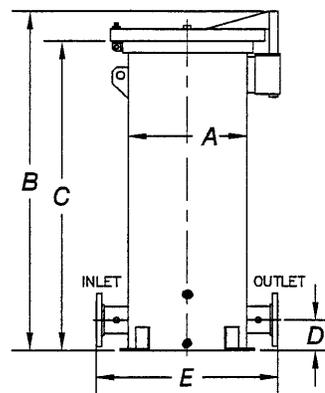
- Automatic air eliminator
- Differential pressure gauge
- Pressure relief valve
- Manual drain valve
- Sampling probes

Connections

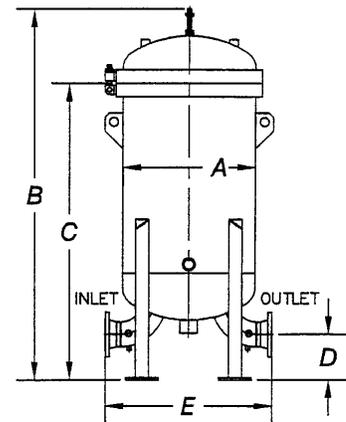
- Inlet and Outlet:
Style 1 – 3000# NPT coupling
Style 2 and 3 – 150# RF (ANSI) flanged
- Vent and relief valve: 3/4 inch NPT
- Differential pressure gauge/sample ports: 1/4 inch NPT



Style 1



Style 2



Style 3

Pre-Filter Vessels

Standard Housing Data and Flow Rates

Model No.	Flow Rate gpm	Liquid Volume			Required Cartridges qty.	Dry Weight	
		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.



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
- Knife-edge cartridge mounting seals

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
- Diesel Fuel
- Kerosene
- Gasoline

Installations

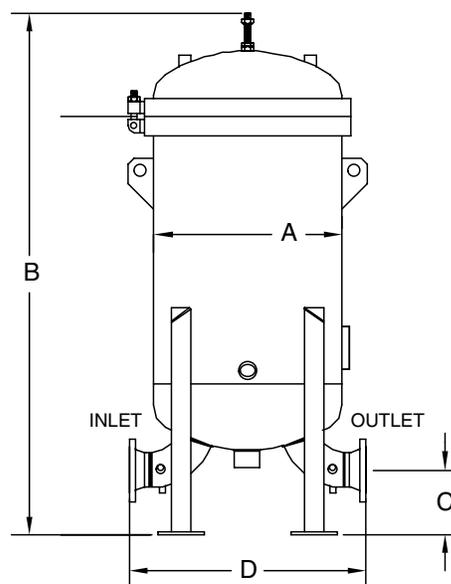
- Refineries
- Terminals
- Loading racks
- Mobile and marine fuel sites

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

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



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 Element Quantity	.5 Mic. "32 Series"	1 Mic. "54 Series"	2 Mic. "55 Series"	5 Mic. "58 Series"	25 Mic. "78 Series"	Separator Element Quantity	Silicone Treated Paper "05 Series"
	RVFS-222-122	2	CP-22632-TB	CP-22654-TB	CP-22655-TB	CP-22658-TB	CP-22678-TB	1
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



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

Clay and Carbon Vessels

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

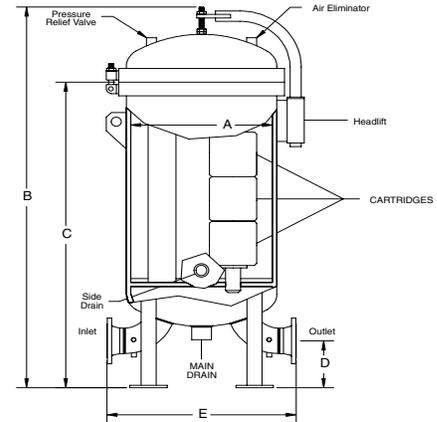
- Jet A, Jet A1
- Diesel Fuel
- Kerosene
- Gasoline

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

Optional Accessories

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



Standard Housing Data and Flow Rates

Model No.	Jet Fuel		Liquid Volume		Required Cartridges	Dry Weight	
	gpm	lpm	gallons	liters		lbs	kgs
RVCT-300	300	1136	250	946	45	1700	771
RVCT-500	500	1893	450	1703	72	3300	1497
RVCT-650	650	2460	630	2385	93	3800	1724
RVCT-850	850	3217	850	3217	120	5200	2359
RVCT-1050	1050	3974	1028	3891	150	6800	3084
RVCT-1250	1250	4731	1275	4826	180	8200	3719

Other sizes available on request. Weights and volumes are approximate.

NOTE: The RVCT Series Vessels can be fitted with either Racor hydrocarbon clay canisters (FCC), clay bags (FCB), or carbon canisters (FAC), carbon bags (FAB).

Dimensional Data

Model No.	Inlet/Outlet		Dimensions*										Anchor Bolt			
			A (I.D.)		B		C		D		E		Bolt Circle		Bolt Hole	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
RVCT-300	4	102	35 ¹ / ₄	895	126	3200	87	2210	6	152	32	813	32 ¹ / ₂	826	3/4	19
RVCT-500	4	102	42	1067	134	3404	90	2286	6	152	38	965	38 ¹ / ₂	978	7/8	22
RVCT-650	6	152	48	1219	141	3581	95	2413	8	203	44	1118	44 ¹ / ₄	1130	1 ¹ / ₈	29
RVCT-850	6	152	54	1372	145	3683	97	2464	8	203	50	1270	50	1270	1 ¹ / ₈	29
RVCT-1050	8	203	60	1524	153	3886	103	2616	9	229	56	1422	56	1422	1 ¹ / ₈	29
RVCT-1250	8	203	66	1676	155	3937	103	2616	9	229	60	1524	62	1575	1 ¹ / ₈	29

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

NOTE: Clay/Carbon cartridges/bags are not installed prior to shipment.

RVFS Series

Racor RVFS Series filter vessels offer a versatile, economical alternative to 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, pre-filters, monitors or separators by changing internal components or flow direction or by selecting optional filter cartridges when ordering.

Element choices include coalescers, separators, particulate, clay bags, pre-filters or water absorbing cartridges.

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 Maximum Flow Rates

Diesel @ 37 SSU

	Filter Sep.	Prefilter	Monitor	Clay
RVFS-1	25	66	29	N/A
RVFS-2	50	133	58	N/A
RVFS-3	75	200	87	N/A

Aviation @ 32 SSU

	Filter Sep.	Prefilter	Monitor	Clay
RVFS-1	50	66	58	N/A
RVFS-2	100	133	116	7
RVFS-3	150	200	174	14

Flow rates are in gpm.

Vessel Series	RVFS-1	RVFS-2	RVFS-3
Height	39" / 991 mm	51" / 1295 mm	65" / 1651 mm
Width	13.75" / 350 mm	13.75" / 350 mm	13.75" / 350 mm
Depth	13.5" / 343 mm	13.5" / 343 mm	13.5" / 343 mm
Dry Weight	100 lbs / 91 kgs	115 lbs / 113 kgs	130 lbs / 136 kgs
Minimum overhead space required for element change	16" / 406 mm	32" / 813 mm	47" / 1194 mm

Horizontal Filter Separator Vessels

Consult factory for specific vessel tech data and dimensions.

Vessel Series	Flow Rates	Fuels	Elements	Inlet/Outlet	Specifications	Coatings
RHFS-D-25	1500 gph / 5677 lph	Diesel Fuel	CP Coalescers Teflon®, Synthetic Separators	NPT RF Flange	Carbon Steel ASME Code, Section VIII	Internal – Epoxy External – Primer
RHFS-D-50	3000 gph / 11,354 lph					



Features

- Carbon steel construction; other materials available
- 250 psi ASME Code, Section VIII construction, stamped and certified
- Yellow zinc-plated swing bolt closure
- Buna-N o-ring cover seal
- Interior: epoxy-coated MIL-C4556 E
- 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

Element Options

	RVFS-1	RVFS-2	RVFS-3	Micron sizes
Silicone-treated Pleated Pre-filters	6" x 14"	6" x 30"	6" x 44"	0.5, 1, 2, 5, 10, 25
Clay Bags, Canisters	7" x 18"	7" x 18"	7" x 18"	N/A
Water Absorbing Elements	N/A	6" x 14"	6" x 14"	1, 5, 10, 25
OCP Coalescer	8" x 15"	8" x 30"	8" x 44"	1, 2, 5, 10, 25
Teflon® Separator	4" x 15"	4" x 30"	4" x 44"	Screen

For additional information, request brochure no. 7563.

Horizontal Filter Separator Vessels





Model 806 Fuel Filter/Water Separator



Model: 75/812 Fuel Filter/ Water Separator. Marine (MA) models with metal bowls are also available in the 800 Series.

800 Series

The Racor 800 Fuel Filter/Water Separator Series offers large diesel engine operators both ease of maintenance and continuous engine operation. Continuous operations include filter changeouts and the draining of accumulated water from the standard, see-thru, high impact bowls. If a metal bowl is required, add “MA” to the part number. Manifolded systems have sufficient fuel flow capacity for prime or standby power operations, commercial marine engines or other large engine applications.

The series includes the 806, 812, the dual manifolded 75/812 and the triple manifolded 79/812. The 800 Series is designed to filter water and solid contaminants from diesel fuel.

The units utilize proven Racor technology with Aquabloc II filtration, which filters down to ten microns, to purify diesel fuel before OEM engine filters are used. Protecting high tolerance injection components keeps engines running at peak performance and lowers maintenance costs. One inch (1") NPTF inlet and outlet ports allow for improved flow and less restriction. Options include see-thru or metal contaminant collection bowls, heaters, water sensors, air eliminators, water sight glasses, manual or auto drains and vacuum or differential pressure gauges. Options, including filter elements, vary depending on the vessel series. Please consult factory for available options. Electric pumps are for diesel applications only.

For additional information, request bulletin No. 22586 (812, 75812) or 22658 (79812) or consult factory for other options.



Vessel Series	806	812	75/812	79/812
Fuel Ports	1" NPT	1" NPT	1" NPT	1 1/4" NPT
Max. Flow Rate	360 gph / 1363 lph	720 gph / 2725 lph	1440 gph / 5450 lph	2160 gph / 8175 lph
Max. Working Pressure	30 PSI / 207 kPa	30 PSI / 207 kPa	30 PSI / 207 kPa	30 PSI / 207 kPa
Clean Pressure Drop	1.6 PSI / 11 kPa	3.2 PSI / 22 kPa	6.0 PSI / 41.4 kPa	5.2 PSI / 35.9 kPa
Temperature Rating	-10 F / +180 F -23 C / +82 C	-10 F / +180 F -23 C / +82 C	-10 F / +180 F -23 C / +82 C	10 F / +180 F -23 C / +82 C
Replacement Elements	RK 22788	RK 22610	RK 22610	RK 22610
Height	24" / 610 mm	34" / 855 mm	34" / 855 mm	34" / 855 mm
Width	9" / 226 mm	9" / 226 mm	18" / 476 mm	30" / 762 mm
Depth	9" / 229 mm	9" / 229 mm	16" / 394 mm	16" / 394 mm
Dry Weight	25 lbs / 11 kgs	22 lbs / 10 kgs	77 lbs / 35 kgs	160 lbs / 73 kgs
Collection Bowl Capacity	3.7 L	3.7 L	7.4 L	11.1 L
Minimum overhead space required for element change	6.0" / 152 mm	12" / 305 mm	12" / 305 mm	12" / 305 mm

RK 22610 Replacement Element Kit (contains one each of 8021 and 8022 filter elements and a lid gasket; 75812 requires 2 kits; 79812 requires 3 kits)

Spin On Protection At The Pump



Racor's Fuel Dispensing Filters are essential for stationary and overhead tanks and mobile service vehicles, so you can start protecting your investment at the source. With their easy- to-install heads, they remove virtually 100% of the contaminants from diesel fuel.

Racor elements feature a super absorbent, chemically treated media that absorbs 25 times its weight in water, "locking it in" as a barrier against free and emulsified water. There is no bypass valve, which ensures that fuel is completely protected. As the media swells, it significantly reduces the fuel flow rate, signaling a need to replace the element.

Racor offers filter protection down to 10 microns. Flow rates range from 15 to 100 gpm. Element service is clean and easy – there's no cartridge to replace – just spin on a new Racor filter element.

Fuel dispensing filters can be used with diesel fuel or gasoline.



Filter Heads

Part No.	HH07500	FDH12500	FDW125DD
Port Size	3/4" NPT	1 1/4" NPT	1 1/2" NPT
Element	FDW 3525 / 3825	FDW 51125	FDW 51125(2)
Element Thread	1" – 12 UNF	1 1/2" – 16 UNF	1 1/2" – 16 UNF
Flow Rate	15 gpm	50 gpm	100 gpm (Dual unit)

Water Removing Filters

Part No.	FDW 3525	FDW 3825	FDW 51125
Nominal Micron Rating	25	25	25
Element Size	3.7 D x 5.5 L	3.7 D x 8.0 L	5.0 D x 11.0 L
Element Thread	1" – 12 UNF	1" – 12 UNF	1 1/2" – 16 UNF
Application	Truck fueling tanks; service station pumps	Truck or yard fueling tank; marinas	Truck terminal or truck stop pumps; marinas

Maximum operating pressure of Fuel Dispensing Filter Heads and Water Removing Filters is 175 PSI (1207kPa). 10 micron elements available through special order.

Racor's global reputation as a reliable supplier is the result of a focused effort to identify needs, explore opportunities and meet customer requirements.





Features

- Coreless, crushable and incinerable
- No perforated center tube allows 100% utilization of the coalescing media. This eliminates media blinding often found in conventional coalescer designs
- No metal components
- Removes emulsified water and particulates from the jet stream
- Available in standard industry lengths
- Solids removal down to 0.3 micron
- Glass-filled nylon end caps are standard, eliminating corrosion and offering excellent thermal stability
- Maximum differential pressure is 75 PSID
- Maximum operating temperature is 240° F (115° C)
- pH range from 5 to 9
- Buna-N gaskets are standard

API Coalescer Cartridges

Applications

API-qualified coalescers are required in the jet's fuel supply and delivery system.

Racor Hydrocarbon Vessels – equipped with API Coalescer Products (ACP) Series coalescers and companion separator cartridges – have been tested and qualified to API Bulletin 1581.

Racor can supply coalescers and separators in vessels flowing 125 gallons per minute up to 1,200 gallons per minute.

Products

Racor's API qualified coalescers feature multi-layered media and a fiberglass coalescing shell. This unique combination of media allows Racor to offer one of the industry's most efficient coalescers available, offering low initial pressure drop and long life. Racor's API coalescers offer 50% more media than the competition.

Racor manufactures API coalescer cartridges to fit most industry vessels. Consult factory for cross references, dimensions and cartridge specifications.

How They Work

Racor Hydrocarbon API Coalescer Cartridges utilize the finest available filtration fiberglass, which results in maximum water coalescence. The fiberglass shell design results in large, uniform water droplets which will drop immediately to the vessel sump.

The coalescer shell combines with multi-layer pleated media to offer superior coalescence and dirt holding capacity.



Coalescer Cartridges

Applications

Applications for high flow coalescer cartridges include commercial marine vessels, marine fuel docks, loading racks, fuel storage terminals, pipelines and refineries.

Racor Hydrocarbon Coalescer Cartridges have been proven in military and commercial applications. They are widely used in industrial applications and meet numerous MIL-SPEC requirements. Racor coalescer cartridges are widely used by the U.S. Department of Defense at air bases and on board aircraft carriers.

Products

A large, pleated filtration surface area and thick, high density coalescing glass media deliver superior dirt holding capacity, excellent coalescing ability and clean, dry fuel to the end user. End cap configurations are compatible with common industry filtration vessels including Facet, Faudi, Velcon and Kaydon.

Racor manufactures coalescer cartridges to fit most industry vessels. Request Racor Hydrocarbon Technical Bulletin No. 7513 for cross reference information. For optional dimension and cartridge specifications, consult the factory. If application in severe operating conditions is required, alternative construction and materials are available.

How They Work

Coalescer cartridges feature a high-quality, pleated media and a fiberglass coalescing shell to maximize coalescence of free or emulsified water droplets and remove ultra-fine solids. Coalescer cartridges are installed in a two-stage filter/separator as the primary stage in removing water and particles from hydrocarbon fluids.



Features

- 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 = 240°F (115°C).
- 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.



Features

- API-qualified separator cartridges.
- Cartridges to fit most industry vessels.
- Teflon®-coated screen at 60 micron. Teflon® is cleanable.
- Silicone-impregnated pleated paper media provides filtration barrier to one micron.
- Synthetic screen with 40 micron filtration barrier can be cleaned and reused.
- 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.

Separator Cartridges

Applications

These high flow hydrophobic barrier elements are used to separate water from various hydrocarbons such as jet fuel, diesel fuels, insulating oil, other motor fuels and light hydrocarbons.

Products

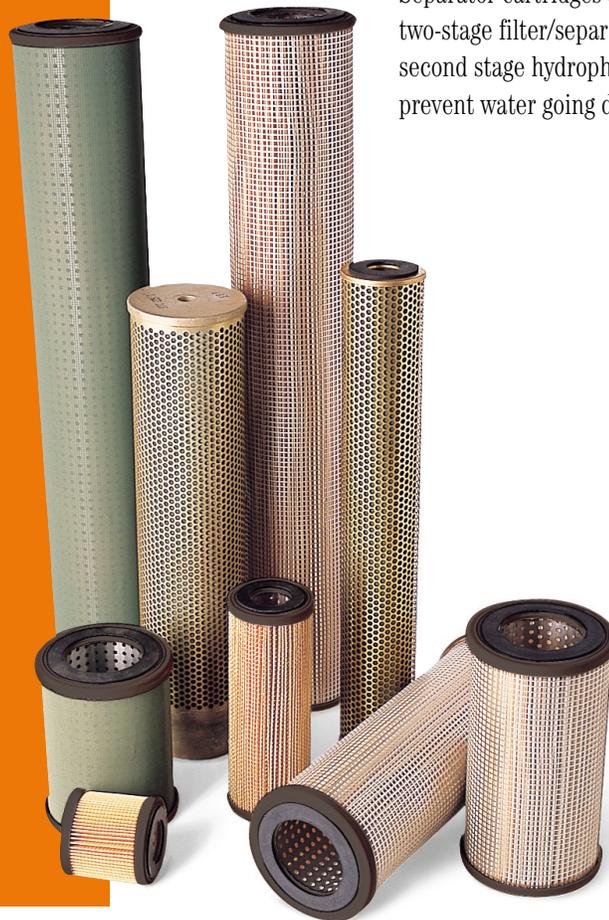
Racor offers a wide range of silicone-treated, pleated paper, Teflon® and synthetic hydrocarbon separator cartridges. The high performance separator cartridges are specially designed, tested and qualified to work with Racor coalescer cartridges and are interchangeable with standard industry separators. End cap mounting configurations are compatible with Facet, Faudi, Kaydon and Velcon.

Silicone-treated pleated paper separator cartridges offer the maximum filtration capacity, utilizing media with a large surface area and water-repelling characteristics. Changeouts should be made on the same maintenance schedule as the vessel's coalescer cartridges.

Teflon®-coated and synthetic separator cartridges, when properly handled and cleaned, offer extended use and lower overall cost to operators. When proper procedures are followed, these cartridges will last through several coalescer cartridge changes.

How They Work

Separator cartridges are installed in a two-stage filter/separator vessel as the second stage hydrophobic barrier to prevent water going downstream.



Fuel Monitors

Application

Racor Hydrocarbon Fuel Monitor (FMI) Series cartridges are qualified to the API/IP Specification 1583, The Institute of Petroleum Specifications and Qualification Procedures for Aviation Fuel Monitors with absorbent elements. Aviation fuel monitors are used as the final check in the fuel delivery system to ensure only clean and dry fuel is dispensed.

Products

The Racor Hydrocarbon 2" (51 mm) outside diameter FMI Series cartridges are available in standard lengths 5", 10", 15", 20", 25" and 30". Designed to flow from the outside to inside at a rate of 1-gpm (3.79LPM) per lineal inch with 1-micron nominal filtration. Tested and qualified to less than 5 ppm of free and emulsified water. FMI Series 2" cartridges are designed to monitor the fuel quality and shut down the fuel flow when hit with a slug of water. Designed with no metal components and glass filled nylon end caps, makes this product environmentally friendly.

How They Work

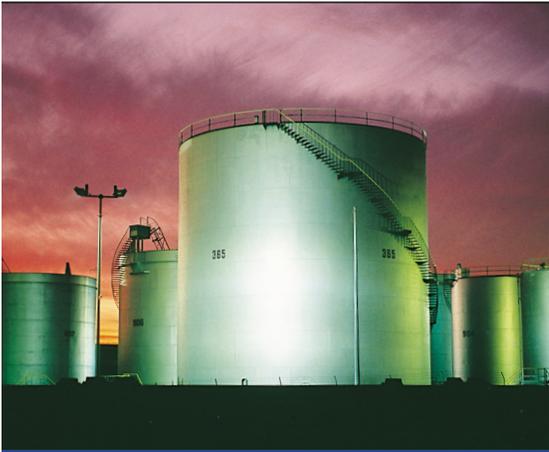
The FMI Monitor cartridges are made with multi-layered media to first provide maximum solids holding to mechanically filter out particulates, and then a cross-linked polymer absorbent media to trap and hold free and emulsified water. Either or both of these phenomena result in an increase of differential pressure with a subsequent reduction in the fuel flow. The fuel system can then be examined for the contamination source before proceeding with the fueling operation. The FMI Fuel Monitor cartridge is truly a monitor, ensuring that only clean and dry fuel is dispensed.



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

Features

- 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 byproducts 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
- 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
- Collapse strength exceeds 180-psi differential pressure
- Not affected by temperatures varying from -65° F to 160° F (-54 C° to 71° C)
- No metal components reducing disposal costs



Features

- Maximum surface area offers optimum contamination holding capacity.
- High flow rate, low initial pressure drop.
- Micron rating from 40 micron down to 0.5 micron.
- Cartridges to fit most popular industry filter vessels.
- Collapse pressure = 75 PSID.
- pH range from 5 to 9.
- 240°F (115°C) 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.

Pleated Media Cartridges

Applications

Pleated media filter cartridges have a broad range of high flow filtration applications including aviation gas, jet fuel, diesel fuel, gasoline, lubrication and hydraulic oils and other hydrocarbon fuels. Typical applications include commercial marine vessels, marine fuel docks, loading racks, aircraft fueling equipment, fuel storage terminals, pipelines and refineries.

If application in severe operating conditions is required, alternative construction and materials are available. Consult the factory for products to meet demanding filtration requirements.

Products

Racor Pleated Media Filter Cartridges are manufactured with high grade, silicone-treated media and synthetic fibers. Filter cartridges are available in the most popular lengths or they can be stacked to meet end user requirements.

How They Work

A variety of carefully selected grades of filtration media guarantees maximum efficiency and superior dirt holding capacity with low pressure drop. The combination of cartridge design and media pleating ensures that operators benefit from long filter life, reducing overall maintenance costs and providing high value for each dollar spent on filtration.

Racor Pleated Media Filter Cartridges are utilized in the primary stage to remove contaminants prior to the fuel entering the coalescer/separator vessel.



Synthetic Pleated Media Cartridges

Applications

Pleated synthetic media cartridges are specifically designed for high flow applications where long life, high efficiency filtration is required. This product family offers up to 3 to 4 times the life of glass and cellulose composite filter elements and efficiency of 99.7% of its micron rating.

The 1 micron and 5 micron have been designed, tested and qualified to exceed the requirements of API/IP 1590 Specifications and qualification procedures for aviation fuel microfilters.

Product applications include filtration of aviation gas, jet fuels, diesel fuel, gasoline, lubrication and hydraulic oils and other refined hydrocarbon products including xylene, naphtha, etc. Typical applications include fuel storage terminals, pipelines, refineries, loading docks, airport fuel storage, marine fuel docks and marine transfer tank fuel filtration.

Products

Racor Hydrocarbon pleated synthetic filters are manufactured entirely with synthetic fibers. As a result they last 3 to 4 times longer than standard paper elements in the presence of as little as 100 ppm water. The element family is available in the most popular lengths and can be stacked to meet the overall length requirement of the filter vessel. The product family has been designed and tested to exceed the requirement of the Institute of Petroleum Microfilter Qualification Test Procedure. Consult factory for qualification test report.

How They Work

Synthetic filtration media has been selected and tested to achieve exceptional efficiency 99.7% at the stated micron rating, up to 1 kg of dirt holding capacity per 14" length cartridge and less than 1.5 PSID pressure drop at 4.64 gallons per inch of filtration media. The unique media construction ensures that the operator realizes a triple benefit of long filter life, increasing fuel through-put from reduced filter change-out down time and increasing the life of similar micron rated down stream coalescers by up to 10 times.

Racor synthetic media filter elements are used as the primary filtration stage to remove contaminants before the fuel is transferred into the pipeline, storage tanks or the filter/separator vessel.



Features

- 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, 5, 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 1.3 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



Features

- The crushable filter element has no metal components.
- Crushable element, reduces disposal volume by up to 85%.
- “W” Pleats large surface area 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.
- Maximum operating temperature: 240°F (115°C).
- Flow direction: outside to in.
- Glass filled nylon end caps are standard, eliminating corrosion and offering excellent thermal stability.
- Buna N gaskets standard.
- Recommended cartridge changeout 20 PSID.
- Available in micron ratings of 1, 2, 5, 10 and 25.

HIF Coreless Elements

Applications

HIF coreless high efficiency elements are designed to remove solids from jet fuels, diesel fuels, gasoline, kerosene and aviation gas. They are also used for solid removals from industrial lubricating, hydraulic and insulating oils.

HIF elements, produced with Racor’s new “W” pleating technology, offer customers superior contaminant loading and eliminate filter element pleat blinding. Pleat blinding blocks effective contaminate loading of filter pleats, shortens element life and increases filter changeouts.

Products

HIF Coreless elements are offered in standard industry sizes and micron ratings to fit most standard industry vessels. They feature silicone-treated cellulose media and high impact resistant, glass-filled nylon end caps. End caps are sealed to the filter media with a specially formulated adhesive.

Glass-filled nylon end caps will not dent, permit fluid bypass and eliminate operator cuts that can occur when changing out elements made with metal end caps.

How They Work

HIF Coreless elements use the industry’s most efficient silicone-treated media and offer 30% more contaminate holding capacity than comparable standard pleated elements. These media, combined with the “W” pleats, make maximum use of pleats for total element contaminate loading.

HIF Coreless Elements are designed to fit on competitor’s coreless center tubes.



Water Absorbing Elements

Applications

The Racor Water Absorbing Cartridge Series (FW) contains versatile filter media that remove both water and micron contaminants from liquid fuels and lubricating oils. Each FW cartridge will hold up to four quarts of water and up to 196 grams of solids. FW cartridges are effective in removing emulsified and free water from diesel fuel, gasoline, hydraulic fluids, aviation gas and other hydrocarbons. In some applications multi-pass filtration may be necessary to reach desired fluid cleanliness.



Products

Racor FW cartridges are compatible with competitor's filter vessels and interchangeable with many industry replacement elements. Racor also offers water removing spin-on filters in popular industry sizes and micron ratings.

How They Work

Water is chemically locked into the media and is held in suspension, preventing downstream contamination. The use of surfactants or water dispersing diesel fuel additives will not hinder water removal. FW cartridges will remove water down to less than 5 PPM.

As FW cartridges restrict with dirt or water, fluid flow significantly slows as cartridges reach maximum contamination or water holding capacity. It is recommended that differential pressure gauges be used with FW cartridges.

When using FW or Spin-on Cartridges to remove water from hydraulic fluids, the reservoir should be drained and refilled with clean dry fluid before the new cartridge is installed. A milky color indicates the hydraulic fluid has a high water PPM count and has exceeded the water removal capabilities of industry-available, water-removing filters.

Features

- Designed to fit most vessels sized for 5 x 12, 6 x 14, 7 x 18 and 8 x 22 cartridges.
- Micron ratings 1, 5, 10 and 30.
- Spin-on filters also available.
- 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.



Clay Bags and Canisters

Applications

Clay canisters and bags are especially important in the removal of surfactants from jet fuels. Surfactants or surface acting agents and fuel additives are often injected at various points of fuel distribution. These surfactants and additives must be removed before the fuel flows through the filter/separator or they will disarm the coalescer element.

Clay canisters and bags are also specified for surfactant removal from kerosene, gasoline, diesel fuels and industrial lubricating, hydraulic and insulating oils.

Products

Racor clay canisters (FCC) and clay bags (FCB) are constructed with the finest Georgia Attapulgus clay and use maximum media surface area to offer outstanding clay media filtration. This construction offers maximum water resistance and absorption capabilities. Our clay bags and canisters are designed to fit standard industry vessels where 7 x 18 or 7 x 19 cartridges are used. Sturdy bail or strap handles assist maintenance personnel during change-outs. Our construction minimizes shipping damage and media settling during transit.

How They Work

Attapulgus clay exhibits high surfactant absorption while resisting water saturation. This combination provides maximum protection for down stream coalescer elements, which are so important in jet fuel and other fuel filtration.

Features

- 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.

RCFG Filter/ Coalescer Elements

Racor hydrocarbon nominal rated RCFG filter/coalescer elements have the following characteristics:

- The molded fiberglass tube is 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 bonded to the center core to protect the ends of the fiberglass media. A special sealant material is used to bond the media, core and end cap to prevent channeling and by-pass. Buna-N gaskets are adhered to the endcaps with a state of the art adhesive. The adhesive is resistant to most hydrocarbon liquids.



Application

The Racor hydrocarbon RCFG elements are designed to filter-coalesce liquid droplets as well as fine dirt particles from natural gas without excessive pressure differential build-up.

Specifications

Length	12", 24", 36"
Outside Diameter	3-1/2"
Inside Diameter	2.06"
Normal Micron Ratings	0.5 & 1.0
Micron	
Recommended	
Change-Out Differential	15 PSI
Maximum Operating Temp.	240° F
Minimum Operating Temp.	-20° F

RFG Vapor Phase Elements

Racor hydrocarbon nominal rated RFG filter/coalescer elements have the following characteristics:

- The molded fiberglass tube of glass fibers is bonded with inert phenolic binders.
- The welded perforated steel core adds protection against collapse at high differential pressures.
- The metal end caps are adhesively bonded to the center core to protect the ends of the fiberglass media. A special sealant material is used to bond the media, core and end cap to prevent channeling and by-pass. Buna-N gaskets are adhered to the end caps with a heat cured urethane adhesive. The adhesive is resistant to most hydrocarbon liquids.

Application

The Racor hydrocarbon RFG elements are designed to filter-coalesce liquid droplets as well as fine dirt particles from natural gas without excessive pressure differential build-up.

Specifications

Length	12", 24", 36"
Outside Diameter	3-1/2"
Inside Diameter	2.06"
Normal Micron Ratings	0.5 & 1.0 Micron
Recommended Change-Out Differential	15 PSI
Maximum Operating Temperature	275° F
Minimum Operating Temperature	-20° F

Activated Carbon Cartridges

Applications

The adsorptive characteristics of activated carbon are used principally to remove chemically soluble contaminants from both gas and liquid process streams responsible for turbidity, color, odor, taste, etc. Principal applications include glycol and amine stream purification, dye and color removal from textile wastes, color, odor and taste from process and make-up waters and dry cleaning solution purification.



Fuel Recycling Systems

Racor Recycling Systems can be used to remove water and contamination from diesel fuel, kerosene and light hydrocarbons in day tanks and fuel tanks. Tank recycling reduces the cost of engine fuel filters and maintenance requirements. The 800-OF3 wall/bulkhead mount model and the 800D-5REC portable buggy offers continuous or timed operation to meet operators demanding schedules. Filter assemblies feature genuine Aquabloc II® elements, see-thru collection bowls which allow quick visual inspection and easy to use manual drain valves.



800D-5REC Mobile Filter Buggy

Racor's portable filter buggy removes water and contamination from diesel fuel, kerosene and light hydrocarbons. The unit's light weight permits field maintenance operations with minimum effort. The unit flows up to 3 gallons per minute with a clean element low pressure drop of 1.5 PSI.

Additional details can be obtained from Racor catalog no. 7480F.

Specifications

	800D-5REC	800D-OF3	8250D
Maximum Flow Rate GPH/LPH	180 / 681	180 / 681	250 / 946
Maximum Working Pressure PSI/kPa	N/A	N/A	15 / 103
Service Filter Element Number required/unit	2020TM-OR 2	2020TM-OR 2	S3207 1
Port Sizes	1/2" NPT	1/2" NPT	1 1/4" NPT
Height in/mm	46 / 1168	46 / 1168	16 / 411
Width in/mm	20 / 508	20 / 508	5.3 / 135
Depth in/mm	24 / 610	24 / 610	5.3 / 135
Weight (dry) Lbs./kgs.	82 / 37	57 / 26	3.1 / 1.4
Clean Pressure Drop PSI / kPa	1.5 / 10.2	1.2 / 8.5	1.0 / 6.9
Bowl/Sump Water Capacity	610 ml	610 ml	82 ml
Operating Temperature -23° to 82° C	-10° to 180° F -23° to 82° C	-10° to 180° F	-10° to 180° F -23° to 82° C



800-OF3 Fuel Recycling System can be mounted on a bulkhead and plumbed directly to fuel tanks or engines.

The wall or bulkhead mounted systems recycle diesel fuel to cleanup day tanks or fuel tanks. Systems offer continuous or timed operation to meet operators demanding schedules. Fuel tank recycling offers maximum engine filtration life and reduces engine maintenance costs. Vacuum gauges and water sensors alert operators when element changeouts or draining water are needed. Various element ratings are available for engine filtration and fuel cleanliness compatibility.

8250D

The new high-flow 8250D recycling system has 1 1/4" NPT ports and is designed for severe service in-line applications that do not require a mounting bracket. Maximum flow rate is 250 gph and a 10 micron primary Aquabloc II filter element and see-thru bowl is standard.



8250D Fuel Recycling System

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 and API/IP qualifications.

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.



BVFS Series

Coolant & Electric Heaters

Racor offers a complete line of fuel and coolant heaters that let you turn your back on winter. These include self-regulating electric heaters, battery warming pads and a new series of coolant heaters. In addition, there are in-filter heaters to aid cold weather starting.



Fuel Filter/Water Separators

The worlds #1 brand of Fuel Filter/ Water Separators – Turbine and spin-on designs for diesel and gasoline with see-thru and metal collection bowls.



Turbine Series Marine Manifold



Diesel Spin-On Series with optional primer pump and integral heater.



Alternative Energy

Racor offers the industry's first and most complete line of alternative fuel filter/coalescers and prefilter/strainers. From pipeline to engine – they deliver the ultra-fine filtration required by alternative fuels.

Fuel Recycling Systems

To remove water and contamination from diesel fuel, kerosene and light hydrocarbons in day tanks and fuel tanks. In portable, bulkhead and in line configurations.



Model 8250D

Heavy Duty Air Cleaners & Replacement Elements

Racor has expanded its air filtration family of products to include Heavy Duty Air Cleaners and replacement air filter elements (Formerly Farr Transportation Products Group). These high-capacity, efficient and flexible products expand the breadth of line that Racor customers have grown to expect.

Brochure number 7567



Heavy Duty Combination Air Filters & Pre-cleaners

Racor Combination Air Filters and Pre-Cleaners are designed to be connected to the air intake or to replace the existing standard air cleaner on diesel and gasoline engines. There is a wide range of centrifugal pre-cleaners and combination air filter/centrifugal pre-cleaners for agricultural machinery; earth-moving equipment; stationary engines; generator sets; trucks, buses and recreational vehicles; material handling equipment; snow removal equipment and street sweepers.

Brochure numbers 7555, 7558, 7559, 7560, 7561 and 7562



Marine Air Filter/Silencers & Crankcase Ventilation Filtration Systems

Racor Marine Air Filter/Silencers and Crankcase Ventilation Filtration Systems help to keep marine engines and engine rooms contaminant and vapor free. The patented CCV™ contains Racor's high-performance Vaporbloc™ filter made with depth loading, engineered fiber coalescing media. The marine air filter/silencer contains a washable media and is designed to connect easily to the Racor CCV™ to complete the system.

Brochure numbers 7496 and 7501



Marine Air Replacement Filters

Racor now offers replacement filters for marine applications. These filters are direct replacements for the intake air filter portion of various brands of air filters/silencers.

Brochure number 7501



Cleanable Oil Filtration Systems

These revolutionary systems replace lube oil and other filters with a cleanable stainless steel wire cloth filter. The service alert signals that the reusable filter has reached capacity. A quick wash-up in a solvent and you're back in operation.



- For diesel or gasoline engines
- A reliable diagnostic tool
- More cost effective than paper-type oil filters
- Filter disposal and related liabilities are eliminated



Full-Flow Remote-Mount LFS

Bypass Oil Filtration Systems

Removes dirt, varnish, ash, tar, soot and other contaminant along with condensed water which forms damaging acids if left in the oil.



Bypass Oil BFS

Brochure number 7460

Sentinel Engine Protection System

Sentinel slows to idle down diesel engines before minor problems cause major damage. Sentinel Systems protect engines from:

- Loss of oil pressure
- Loss of coolant
- High oil and coolant
- Mechanical reliability is a proven benefit

Brochure number 7544



We've Bottled Racor Protection

Racor Additives are performance-enhancing products for all climates and seasons. There are several convenient sizes, including one and 2.5 gallon bottles and a 16 oz. bottle that makes measuring quick and easy. The high concentration of active ingredients in Racor additives allows for higher treatment rates. All Racor Fuel Additives are alcohol-free.

Technical CD-Rom

Racor Parts, Service and Technical Information is available on CD-Rom.

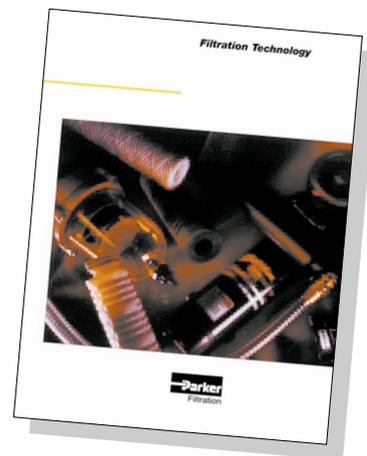
Order part number 7480F-CDRom @\$5.00 each. The information is also available online at www.parker.com/racor; click on Technical Information.



Filtration Technology

The second edition of Filtration Technology is now in print. Parker's 250-page illustrated textbook covers the broadest range of filtration information ever assembled under one cover. The text is designed for anyone interested in industrial filtration, including engineers, educators, managers, distributors, salespeople and students.

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Designs, manufactures and distributes industrial and commercial sealing devices and related products by providing superior quality and total customer satisfaction.



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Parker Hannifin is a leading global motion-control company dedicated to delivering premier customer service. A Fortune 200 corporation, we are listed on the New York Stock Exchange with PH as our symbol. Our components and systems comprise over 1,000 product lines that control motion in a wide spectrum of essential uses in some 1,200 industrial and aerospace markets. Parker is the only manufacturer to offer its customers a choice of hydraulic, pneumatic, and electro-mechanical motion-control solutions.

Our company has the largest distribution network in its field, with over 6,000 distributors serving more than 300,000 customers worldwide.

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To be a leading worldwide manufacturer of components and systems for the builders and users of durable goods. More specifically, we will design, market and manufacture products controlling motion, flow and pressure. We will achieve profitable growth through premier customer service.

Product Information

Parker Hannifin's North American customers seeking product information, the location of a nearby distributor or repair services will receive prompt attention by calling the Parker Product Information Center at our toll-free number: 1-800-C-PARKER (1-800-272-7537). In the United Kingdom, a similar service is available by calling 0500-103-203.

Filtration Group Technical Sales & Services Locations

Parker Worldwide Sales Offices

Filtration and Separation Division

100 Ames Pond Drive
Tewksbury, MA 01876-0962
Phone: (978) 858-0505
Fax: (978) 858-0198

260 Neck Road
Haverhill, MA 01835-0723
Phone: (978) 858-0505
Fax: (978) 374-8093

500 Glaspie Street
Oxford, MI 48371
Phone: (248) 628-6400
Fax: (248) 628-1850

611-M Hammonds Ferry Road
Linthicum, MD 21090
Phone: (410) 636-7200
Fax: (410) 636-7206

Hydraulic Filter Division

16810 Fulton County Road #2
Metamora, OH 43540
Phone: (419) 644-4311
Fax: (419) 644-6205

1273 N. Church Road
Moorestown, NJ 08057
Phone: (856) 866-9002
Fax: (856) 866-9112

Racor Division

3400 Finch Road
P.O. Box 3208
Modesto, CA 95353
Phone: (800) 344-3286
Phone: (209) 521-7860
Fax: (209) 529-3278

301 Downing Ave
Henryetta, OK 74437
Phone: (800) 451-7299
Phone: (918) 652-4481
Fax: (918) 652-8882

302 Parker Drive
Beaufort, SC 29902
Phone: (843) 846-3200
Fax: (843) 846-3231

805 North West Street, PO Box 6030
Holly Springs, MS 38635
Phone: (662) 252-2656
Fax: (662) 252-8992

Process Filtration Division

6640 Intech Blvd.
Indianapolis, IN 46278
Phone: (317) 275-8300
Fax: (317) 275-8410

State Road 66
Tell City, IN 47856
Phone: (812) 547-2371
Fax: (812) 547-2380

Filter Division Europe

Churwell Vale
Shaw Cross Business Park
Dewsbury, England WF12 7RD
Phone: (44) 1924 487000
Fax: (44) 1924 487060

Fin-31700
Urdala As., Finland
Phone: (358) 3 54 100
Fax: (358) 3 54 10100

Teollisuustie 2
89400 Hyrynsalmi
Finland
Phone: (358) 8 6532500
Fax: (358) 8 6532520

Oude Kerkstreet 4
P.O. Box 258
4870 AG Etten-Leur
The Netherlands
Phone: (31) 76 508 53 04
Fax: (31) 76 508 53 12

Filtration Group Headquarters

6035 Parkland Blvd.
Cleveland, OH 44124-4141
Phone: (216) 896-3000
Fax: (216) 896-4021
<http://www.parker.com/filtration>

Parker Hannifin Ind. e Com.
Ltda, Filter Division
05276-977 - Sao Paulo
- SP, **Brazil**
Phone: +55 (11) 3917 1407
Fax: +55 (11) 3917 7898

Parker Hannifin Korea Limited
902 Dae Heung Bldg.
648-23 Yeoksam-dong
Kangnam-ku, Seoul,
Korea 135-080
Phone: 82 2 561 0414
Fax: 82 2 556 8187

Contact Parker's worldwide service and distribution network by calling:

Argentina • +54 (3227) 44 4129
Australia • +61 (2) 634 7777
Austria • +43 (2622) 23501 5
Belgium • +32 (2) 762 1800
Brazil • +55 (11) 3917 1407
Canada • 1-800-272-7537
Central & South America/Caribbean • 1-305-470-8800
China • +86 (21) 6445 9339
Czech Republic • +42 613 41701
Denmark • +45 (43) 541133
Finland • +358 3 54 100
France • +33 02 54 74 03 04
Germany • +49 (3727) 90991
Hong Kong • +852 2428 8008
Hungary • +36 (1) 25 22 539
India • +91 (22) 577 1671
Italy • +39 (2) 451921
Japan • +81 (45) 861 3811
Korea • +82 (2) 561 0414
Mexico • 1-800-272-7537
Netherlands • +31 (541) 58500
New Zealand • +64 (9) 573 1523
Norway • +47 (64) 867760
Poland • +48 (22) 8634942
Singapore • +65 261 5233
South Africa • +27 (11) 3927280
Spain • +34 (1) 6757300
Sweden • +46 (8) 760 2960
Taiwan • +886 (2) 8787 3780
Thailand • +662 693330
United Arab Emirates • +971 (2) 788587
United Kingdom +44 1442 238100
United States of America • 1-800-272-7537
Venezuela +58 (2) 238 5422

anything  Possible.

Parker Hannifin Corporation
Racor Division
P.O. Box 3208
Modesto, CA 95353 USA
800/344-3286
209/521-7860
Fax 209/529-3278
<http://www.parker.com/racor>
e-mail: racor@parker.com

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