

Filtration Group Technical Sales & Services Locations

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

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

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



Filter Division Europe

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

Fin-31700
Ujala 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.
Lida, Filter Division
05275-000 - Sao Paulo
- SP, **Brazil**
Phone: +55 (11) 847 1222
Fax: +55 (11) 847 1610

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

Parker Worldwide Sales Offices

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

Argentina • +54 (1) 752 4129

Australia • +61 (2) 634 7777

Austria • +43 (2622) 23501 5

Belgium • +32 (2) 762 1800

Brazil • +55 (11) 847 1222

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 (50) 258025

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

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

Brochure No. 7460 USA
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RACOR®

Lubrication Filtration Systems

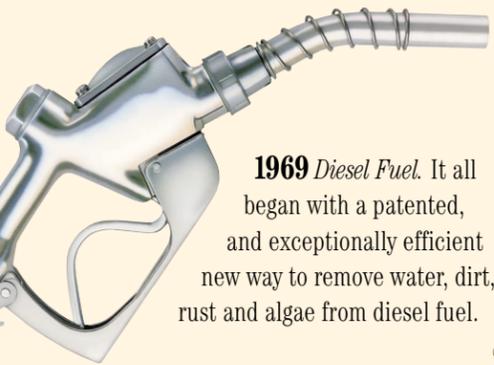
- Lube Oil
- Hydraulic Fluid
- Transmission Fluid
- Condition Monitors
- Cleaning Machines



Global Filtration
Technology

The World's Best Filtration Starts With The World's Best Engineering

Thirty years of innovation have made Racor the most trusted name in engine protection. It's easy to see why...



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

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

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



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

1991 The Environment. Along with protecting engines, Racor makes a commitment to products that protect the environment. The first is Lifeguard, a marine fuel/air separator that prevents fuel from escaping overboard from vent lines during refueling.



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



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



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



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



1994 Air. Engines gasping for a breath of fresh air breathe easy with the introduction of heavy-duty air filters.



1995 Engine Rooms. Racor starts cleaning up engine compartments with a crankcase ventilation system that keeps oily blow-by from coating turbochargers and other precision components.



1996 A plant expansion and equipment upgrade contributes to the evolution of the Modesto facility into a world class manufacturing location. Other manufacturing locations include South Carolina, Oklahoma, Brazil, England, Finland, Korea and South Africa.

1997 Racor Hydrocarbon Filters and Vessels debut—offering customers flow rates to 1000 gpm and higher. API Qualification (3rd Edition) received in 1999.



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

Read on for details about Racor Lubrication Filtration Products

Introduction
Inside Front Cover - 1

Cleanable Lubrication Filtration Systems  2-3

Direct Spin-On Full-Flow Cleanable Series  4-5

Remote-Mount Full-Flow Cleanable Series  6-7

Element Cleaning Systems  8-9

Cartridge Oil Filtration  10-11

Bypass Oil Filtration Series  12-13

Portable Oil Condition Monitoring Tools  14-15

High Capacity Oil Filtration Series  16-17

Hydraulic Fluid Filtration  18-21

Transmission Fluid Filtration  22

Remote Transmission Filtration  23

Additives  24-25

Fuel Filtration  26

Air Filtration  27

Technical Information  28

Invest In Your Business And The Environment At The Same Time

Lubrication filter changes, once routine, have become a very messy problem. It begins with the extensive, and expensive, inventory required for various engines and equipment. Then add EPA requirements that demand accurate inventories and disposal of used filters and the costly draining and crushing. Quickly, the cost of every oil filter change you make has skyrocketed. You can eliminate the entire expensive mess and improve filtration effectiveness at the same time. It's a permanent change – for the better. It's a change to Racor Lubrication Filtration Systems.

Full-Flow Cleanable Lubrication Filtration Systems



All of a sudden, filter disposal has become a financial drain.

Introducing systems that clean up the problem, the environment and your engines at the same time

With Racor Lubrication Filtration Systems, you can save your engines, save time, save money and even help save the environment. The revolutionary Full-Flow Cleanable Series is available in configurations that spin directly onto existing engine mounting heads or in remote-mount models. They replace lube oil and other filters with a cleanable stainless steel wire cloth filter. As standard equipment, an integral service indicator light signals the operator that the reusable filter has reached capacity. A quick wash-up in solvent and you're back in service.

Quick and easy parts cleaner wash-up

Compared to complicated cellulose filter disposal procedures, the Racor Full-Flow Lubrication Filtration Systems are a model of simplicity. They can be cleaned with a soft brush in a standard parts washing tank, or automatically and effectively cleaned in a Racor Element Cleaning System.



A better diagnostic tool

Inspecting cellulose filters for evidence of engine wear is a dirty and often inaccurate practice. Even worse, holes torn in paper elements allow damaging solids to flow through to precision components. Inspection of the wire cloth, on the other hand, is simple and provides a clear picture of contaminants and wear.



Your warranty is guaranteed

Racor filtration products extend the life and improve the performance of diesel and gasoline engines worldwide. All major OEM engine manufacturers recognize that proper filtration is a powerful tool in extending engine life cycles and many install Racor products as standard equipment. Racor guarantees the performance of its Lubrication Filtration Systems.



No more disposal worries

Disposing of waste filters has become time-consuming, complicated and costly. Used filters must be accounted for, drained, crushed, stored in expensive EPA-approved drums and then properly disposed of. Non-compliance is not only irresponsible, it can expose your operation to EPA scrutiny, fines and significant liability. By eliminating cellulose filters, Racor Full-Flow Lubrication Filtration Systems permanently eliminate the problem.



Eliminate your filter inventory

Stocking the dozens of sizes and types of filters is a waste of time, space and money. Instead of stacks of cellulose elements, you stock only a few wire cloth filters.



The Racor Spin-on oil filter threads directly onto virtually all engine lube oil heads. Clean up of the reusable wire cloth filter is straightforward; simply remove the oil filter drain plug in the bottom of the filter end cap to drain dirty oil. Then unscrew the filter end cap and drop the dirty filter screen out, clean and replace. It's the fastest, most innovative and environmentally friendly oil filter change in the business.

Full-Flow Series Benefits

- 1 No more disposal worries
- 2 Eliminates filter inventory
- 3 Valuable diagnostic tool
- 4 Extends engine life
- 5 Quick and easy maintenance
- 6 One-time investment
- 7 Full-Flow with built-in bypass
- 8 Indicator Light signals the need for service

Internal By-Pass Valve With "Time to Service" Light Switch

The Racor Spin-on oil filter assembly incorporates a "time to service" light switch as well as an internal by-pass valve for engine protection. The light switch operates a panel-mounted indicator light, which alerts the operator that it is time to service the oil filter. The light switch and by-pass valve comes as standard equipment on all of the LFS 700 LS series models.

Spins directly onto existing filter heads. LFS spin-on models are available for Caterpillar, Cummins, Detroit Diesel, Mack and Navistar engines.

The rugged heat-treated aluminum housing is designed for years and years of service. A high quality anodized finish means it will not rust or corrode.

Stainless steel wire cloth with special co-pleat design for durability, efficiency and long life.

(Shown: LFS 700 dual element, wire cloth filter for Cummins engines using LF3000 combination Full Flow/Bypass filter).

Filter Quickfill / Sampling Valve and Coupling available (optional)
LFS RK 46188 Adapter
LFS RK 46189 Coupling

Ten Minute Delay Service Filter Indicator (Optional) LFS RK 46134



Standard light feature signals when it's time for service and eliminates unnecessary downtime.

Direct Spin-On Full-Flow Application Guide

Application: Racor Filter Assembly:	Cummins LFS 700LS	Cummins/Detroit LFS 703LS	Detroit LFS 705LS KT	Caterpillar LFS 707LS KT	Isuzu LFS 710LS	Caterpillar LFS 712LS	International** LFS 714LS	International** FORD LFS 718LS
	All Engines (using LF-3000 B/P Filter element) L10, M11 NT Big Cam IV Series QSK19	C Series, L10, Big Cam IV, 230, 240, NTC-250, 290, 300, 350, 355, 370, 400 All KT All 53, 71, 6v92, 149 Series and Pre-1996 Series 60	Series 50 & 60, 1993 and on*	3116, 3208T, 3304, 3306 3126 MACK TRUCK EM-6, EN ENDT, EM-7* Volvo FLT	Mitsubishi FK & FM Series Truck GMC / Isuzu FVR with 8.4 Ltr. Volvo With John Deere 744E Industrial Isuzu Engine	3176, 3406, 3408, 3412, C-10, C-12, C-15 C-16	DT-466, 1994 and on	6.9L IDI, 7.3L IDI, 7.3L DI Power Stroke T444E

Filter Reference Data Cross-Over

	Cummins	Cummins/Detroit	Detroit	Caterpillar	Isuzu	Caterpillar	International**	International**
Fleetguard Fleetguard	LF-3000	LF670 LF3363^	LF3620^^ LF3671^	LF667 LF3379^	LF777	LF691A LF3566^	LF3640~	LF3344 LF3630
Baldwin Baldwin	BD103	B95-MPG^ B196	B495^^	B7600 B75	B7019	B99	B7030	B134 B7039
Wix Wix	51748	51812^ 51970	51971^^	51791 51788^	51728 51749	51792 51722	51799	51742 51734
Cummins	3318853	3313279						
Caterpillar Caterpillar				1R0739 1R0714		1R0716		
Detroit		23518524	25014504					
Isuzu					11324010521			
Mack				485-GB-3191				
International**							1819452-C1	1804442C1
Thread Size	2-1/4 x 12 UN	1-1/2 x 12 UN	1-5/8 x 12 UN	1-1/8 x 16 UN	1-3/8 x 16 UN	1-1/2 x 16 UN	M36 x 1.5	1-1/2 x 16

* Some Series 50 and 60 Detroit Diesel engines and some Mack engines use 2 filter assemblies. The LFS KT Kit provides 2 filter assemblies. ** Formerly Navistar
^ 3406C - 3176/22 psi ^ High efficiency/Upgrade synthetic media ^^ Requires 2 Filter assemblies ~ No By-pass in this filter

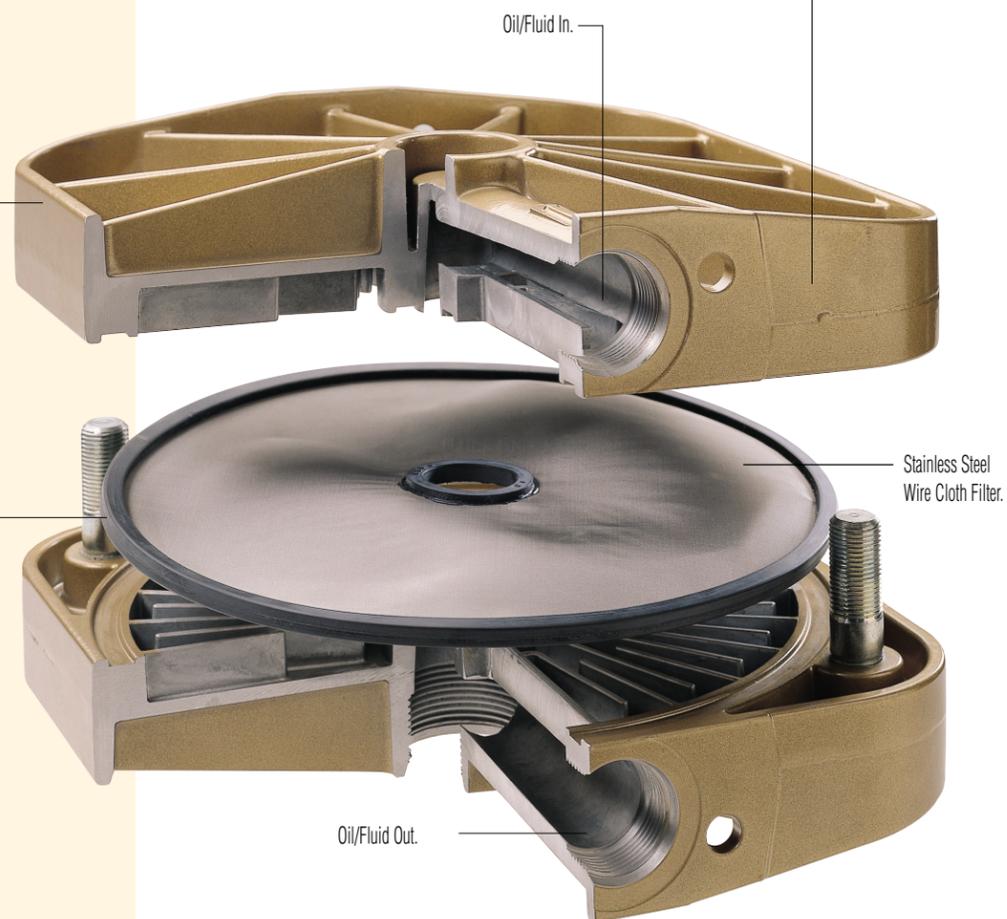
LFS 700 Series Spin-On Filter Specifications

	LFS 700	LFS 703	LFS 705	LFS 707	LFS 710	LFS 712	LFS 714	LFS 718
Flow Rate	45 gpm / 170 lpm	30 gpm / 114 lpm						
Element Pressure Diff. (psid)	.8 psi / .06 bar							
Weight	6.8 lb / 3.1 kg	6.2 lb / 2.8 kg	4.1 lb / 1.9 kg					
Diameter	4.5" / 11.4 cm							
Height Overall	12.25" / 31 cm	7.5" / 19.1 cm						
Clearance Required Filter Removal	21" / 53.3 cm	12" / 30.5 cm						
Micron Rating (Nominal)								
Outer Element	25	25	25	25	25	25	25	25
Inner Element	10	N/A						
Element Outer	LFS RK 750	LFS RK 759	LFS RK 757					
Element Inner	LFS RK 751							
Seal Kit	LFS RK 762	LFS 755	LFS 758					
Light Kit	LFS RK 356LSK							
Light Kit Time Delay	LFS RK 46134							
Resister Kit 24 volt	LFS RK 46545	All 24v						



The Racor Remote-Mount LFS can be easily installed for convenient access on trucks, buses, off-highway and industrial equipment, and in marine engine rooms. Whether for lube oil, hydraulic, coolant, power steering or transmission fluids, the stainless steel wire cloth filter presents an impenetrable path that solid particles and metal shavings simply can't get through.

On highway or at sea, durable electrostatically applied powder coated finish protects the unit against corrosive salt spray and abrasive solvents and cleaning agents.



The rugged die cast aluminum construction is designed for years and years of service. A high quality powder coated finish means it will not rust or corrode.

A positive O-ring seal prevents contaminants trapped by the wire cloth filter from escaping downstream where they can damage precision components. When the filter requires service, the service indicator light alerts the operator.



Ten Minute Delay Service Filter Indicator (Optional) LFS RK 46134



An adapter is available for easy hose connection to the existing oil filter mounting head. Installation of the complete Remote-Mount LFS system can take less than two hours.

The LFS remote mount 6" and 9" series filters incorporate a precision machined bypass relief valve designed to lower the restriction when the wire cloth requires service.

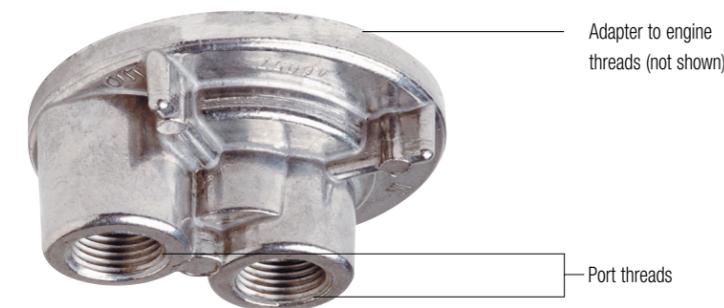
Remote-Mount Full-Flow Series Specifications



	LFS35	LFS60	LFS90
Maximum Flow Rate	6 gpm / 23 lpm	20 gpm / 76 lpm	45 gpm / 170 lpm
Maximum PSI (psi)	150 kg / 10.5 cm ²	150 kg / 10.5 cm ²	150 kg / 10.5 cm ²
Height	2.45" / 62.3 mm	3.50" / 89.3 mm	4.75" / 120.7 mm
Width	3.63" / 92.1 mm	6" / 152 mm	9.62" / 244.4 mm
Depth	3.63" / 92.1 mm	6" / 152 mm	9.50" / 241.3 mm
Weight	1.21 lbs. / 55 Kg	4.31 lbs / 1.95 Kg	12.55 lbs. / 5.69 kg
Ports	3/8" NPT	1 - 1/16" - 12 SAEJ1926	1 - 5/16" - 16 SAEJ1926
Micron Availability	28, 40	*28, 40, 60, 115	*28, 40, 60, 115
Service Indicator Light	YES	YES	YES

Notes: For accurate engine flow rates, consult your engine or equipment manual, manufacturer's agent or Racor distributor. Oil change frequencies are not affected and should be performed according to manufacturer's recommendations. The only accredited way to extend your oil change interval is through a formal lube oil analysis program, Racor part number LFS RK760.

*5, 10 micron available for LFS60, LFS 90 by-pass application.



*A custom adapter kit is available to retrofit the Remote-Mount Lubrication Filtration System to a spin-on port. O-ring or gaskets are available.

Spin-On Oil Filter Adapter & Replacement O-Ring Kits

Complete Kit Part No.	Replacement Seal Kit* Part No.	Adapter to Engine Threads	Adapter In/Out Port Threads
LFS CHV-A	N/A	1/4"-20(2) 5/16"-18(2)	1/2"-14 NPTF
LFS 112-36A	RK 46169	1"-12	1/2"-14 NPTF
LFS 11212-48A	RK 46045	1 1/2"-12	1 5/16"-12 SAE
LFS 11216-41A	RK 46170	1 1/2"-16	1/2"-14 NPTF
LFS 11216-48A	RK 46045	1 1/2"-16	1 5/16"-12 SAE
LFS 11216-50A	N/A	1 1/2"-16	1 5/16"-12 SAE
LFS 116-36A	RK 46169	1"-16	1/2"-14 NPTF
LFS 11816-36A	RK 46169	1 1/8"-16	1/2"-14 NPTF
LFS 11816-48A	RK 46045	1 1/8"-16	1 5/16"-12 SAE
LFS 1316-36A	RK 46169	13/16"-16	1/2"-14 NPTF
LFS 13816-48A	RK 46045	1 3/8"-16	1 5/16"-12 SAE
LFS 15812-48A	RK 46045	1 5/8"-12	1 5/16"-12 SAE
LFS 1815-31A	RK 46169	18 mm x 1.5	1/2"-14 NPTF
LFS 2015-31A**	RK 46169	20 mm x 1.5	1/2"-14 NPTF
LFS 2015-36A	RK 46169	20 mm x 1.5	1/2"-14 NPTF
LFS 2215-31A	RK 46169	22 mm x 1.5	1/2"-14 NPTF
LFS 3416-31A	RK 46169	3/4"-16	1/2"-14 NPTF
LFS 5818-31A	RK 46169	5/8"-18	1/2"-14 NPTF

*O-ring or gasket should be replaced if adapter is removed from engine, after being in service. RK 46169: Gasket, 2.48" I.D. RK 46045: O-ring, 3.73" I.D. RK 46170: Gasket, 3.10" I.D.

**Includes spacer plate.

NASCAR Proven

The Racor Full-Flow Series has been proven over thousands of miles of grueling competitive racing. For more than a decade, NASCAR finishers have run confidently, mile after mile, with LFS oil filtration systems.



Venomous, High Horsepower Monster Truck Reliability.

Racor Remote-Mount cleanable series Lubrication Filtration Systems fly high on the "Snakebite" Monster Truck! Power for this truck and other Bigfoot 4x4 monster trucks is provided by blown alcohol 1400 hp super-charged engines where oil filtration is put to the test. The rugged full-flow LFS replaces the standard spin-on filter and is used for primary engine lube oil filtration, as well as an engine saving diagnostic tool after many hours of grueling monster truck racing.

Racor LFS products are performance tested day after day on the road and the track with proven reliability.



Spray Cabinet Element Cleaning System

- Solvent Free
- Fast, Safe, Efficient
- Rugged Steel Tank
- High Pressure Cleaning Power
- Thermostatically Controlled Heat
- Filtration and Oil Removal Standard Equipment

Overview

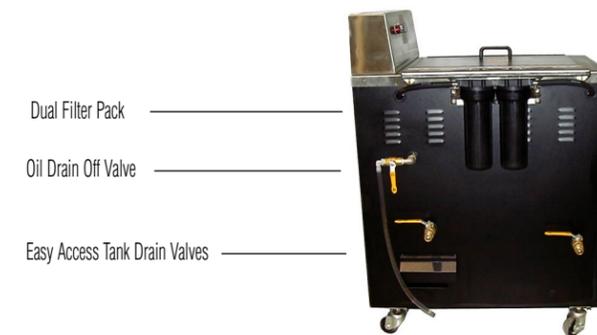
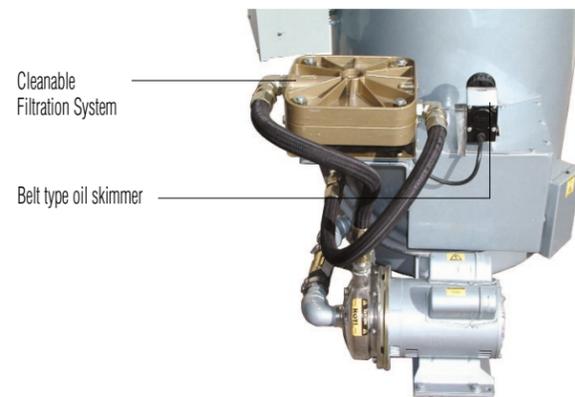
The Racor Spray Cabinet Element Cleaning System is a solvent free stand-alone element cleaning system. The machine contains an 18 gallon steel tank, with state of the art controls, pump and motor for extra cleaning power to remove the imbedded particles and oil sludge from the Racor stainless steel filter elements. The Spray Cabinet Element cleaning systems save time. Tests show a Racor element cleaning system is more than 70 percent faster than cleaning by hand and it is solvent free.

Completely Automated:

- User friendly NEMA rated electrical controls
- Circuit breakers for safety
- Stainless steel pump with industrial motor
- Heavy gauge steel construction
- Designed to clean all Racor pleated cleanable filters
- Cleans two filters at a time
- Easy top-load spray bars
- Lid safety shut-off switch
- Oil skimmer
- Filtration system
- Low liquid level protection (optional)

Specifications

Dimensions	40"W X 33"L X 57"H
Cm	102 W x 84 L x 145 H
Working Height	18" / 46 cm
Pump Motor	1.5 Hp, 230v Horizontal
Pump Output	42 psi / 2.9 Bar @ 24 gpm / 159 Lpm
Cabinet Construction	12 gauge steel
Solution Capacity (gallons / liters)	18 / 68
Lid Seal	Mechanical
Heat Source	4.5 kw, 230v
Power Requirements	230 Volt 60 Amp Circuit, 40 Amp Fuses (customer supplied) Connect wiring per local electrical codes
Spray Wash Detergent P/N LFS 46559	



Ultrasonic Element Cleaning System

- Solvent Free
- Fast, Safe, Efficient
- Rugged Stainless Steel Tank
- High Intensity 40kHz Ultrasonic Cleaning Power
- Thermostatically Controlled Heat
- Filtration and Oil Removal Standard Equipment

Overview

The Racor Ultrasonic Element Cleaning System is a solvent free stand-alone element cleaning system. The machine contains a 25 gallon stainless steel tank, with state of the art high intensity bonded transducers which produce 40kHz of cleaning power to remove the imbedded particles and oil sludge from the Racor stainless steel filter elements.

The ultrasonic cleaning systems save time. Tests show ultrasonic element cleaning is 70 percent faster than cleaning by hand and it is solvent free.

Completely Automated:

- Digital timer, temperature and ultrasonic power control.
- Low liquid level protection.
- Element basket included.
- Cleaning cycle includes automatic surface Sparge and oil skimmer.
- Two-Stage filter system.
- Heavy duty locking casters.

Specifications

Capacity (gallons / liters)	25 / 95
Ultrasonics	40kHz/1000w
Heat	2150 watts
Tank Dimensions	
inch	18 x 18 x 19
cm	46 x 46 x 48
Cabinet Dimensions	
inch	25 x 32 x 47
cm	64 x 81 x 119
Power Requirements	120v 20 Amp
Ultrasonic Detergent P/N LFS 46600	

LFS 300 Series Oil Filter Retrofit Kits

Overview

The Racor LFS 300 Series Retrofit Kits allow the conversion from a standard metal spin-on disposable canister to a premium cartridge oil filter. These revolutionary systems feature a crushable, burnable replacement cartridge element that offers increased capacity and efficiency.

The Racor 300 Series Lubrication Filtration Systems are unique in their configuration. They feature a spin-on die-cast aluminum canister that mounts directly to the engine in place of the existing spin-on filter.

The engineered design of the Racor cellulose filter element provides for an environmentally clean and efficient oil filter.

Applications

The models available will fit most Dodge, Ford, General Motors gasoline engines from 2.5L to 7.5L in trucks and the Dodge / Cummins "B" series 5.9L diesel engine.

Products

The retrofit kits come complete with the aluminum canister with the correct mounting thread on the end cap, a filter element in the canister, and a spare element for the next oil change.

Features

The LFS 300 Series Retrofit Kits are a three-piece design. They include an aluminum housing which screws directly onto the engine in place of the disposable filter element, a patented premium cellulose filter cartridge and the cartridge mounting end cap.

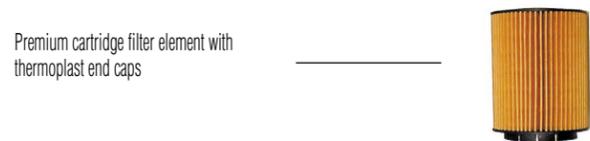
Simply remove the existing disposable oil filter and screw on the aluminum housing and tighten. This housing will stay on the engine and will not have to be removed to service the filter.

All retrofit kits include bottom and side drain plugs, and by-pass valves.

Available Threads: 3/4"-16, M18 x 1.5, 1"-16 UNF



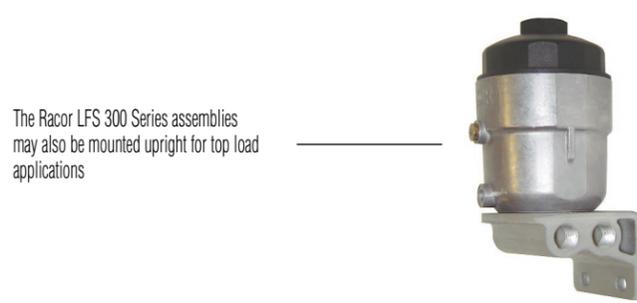
Sturdy die cast aluminum housing is secured permanently to the engine



Premium cartridge filter element with thermoplast end caps



Heavy-duty cap



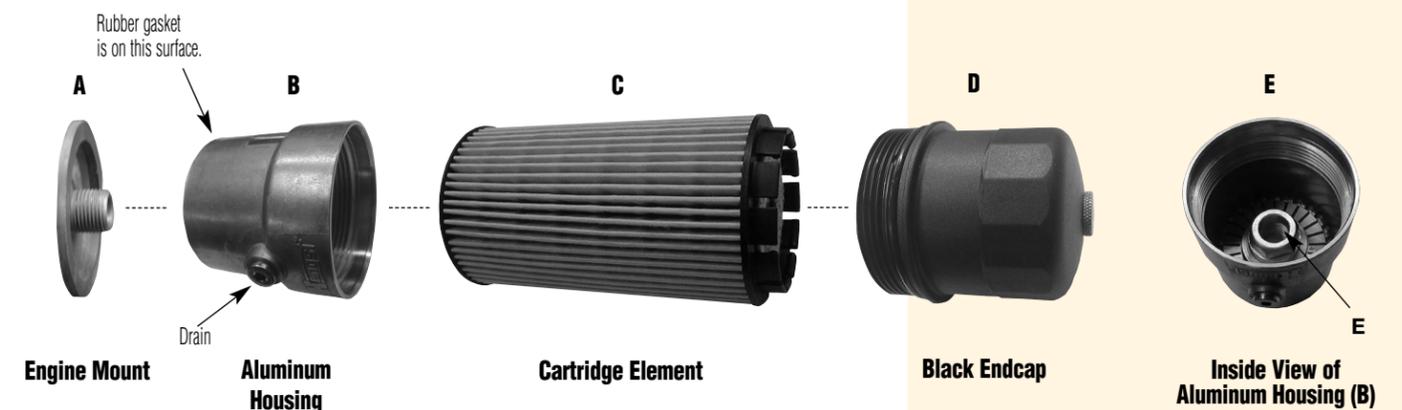
The Racor LFS 300 Series assemblies may also be mounted upright for top load applications

Specifications

Basic Models	LFS 331	LFS 333	LFS 335	LFS 339
Engine Application	Dodge Truck – gasoline Model years 1991-1999	General Motors Truck – gasoline Model years 1981-1998	Ford Truck – gasoline Model years 1977-1999	Dodge Truck – diesel Model years 1986-2000
Displacement / VIN**	2.5L 4cyl. / G, K, P 3.0L V6 / 3 3.3L V6 / R 3.8L V6 / L 3.9L V6 / X 5.2L V8 / Y 5.9L V8 / 5, Z	2.8L V6 2WD / B, R 3.1L V6 / D 3.8L V6 / K 4.3L V6 / N, Z, B, X 4.3L V6 (high perf.) / W 5.0L V8 4WD / H 5.7L V8 4WD / K, R	2.0L 4cyl. / C 2.3L 4cyl. / A 2.8L V6 / S 2.9L V6 / T 3.8L V6 / 3 4.0L V6 / X, E 4.9L V6 / B, E, 9, Y 5.0L V8 / F, G, N 5.8L V8 (H-STD thrd only) / H, G, F 6.6L V8 / S, Z 7.5L V8 / A, J, L, G	5.9L 6cyl. Diesel Cummins B Series
Flow Rate, maximum	9 GPM (34 LPM)	9 GPM (34 LPM)	16 GPM (61 LPM)	16 GPM (61 LPM)
Thread Size	3/4"-16 UNF	18 mm X 1.5	3/4"-16 UNF	1"-16 UNF
Housing Nut Size	1 1/6 inch (27 mm)	1 1/16 inch (27 mm)	1 1/16 inch (27 mm)	1 1/6 inch (27 mm)
Replacement Element	LFS 331-3RE	LFS 331-3RE	LFS 335-7RE	LFS 339-41RE
Element Removal	7 inches (177.8 mm)	7 inches (177.8 mm)	8 inches (203.2 mm)	9 inches (228.6 mm)
Maximum Pressure	150 PSI (10.3 Bar)	150 PSI (10.3 Bar)	150 PSI (10.3Bar)	150 PSI (10.3 Bar)
Bypass Setting	11 PSI (.75 Bar)	20 PSI (1.4 Bar)	11 PSI (.75 Bar)	20 PSI (1.4 Bar)
Height	5.6 inches (142.0 mm)	5.6 inches (142.0 mm)	5.9 inches (149.1 mm)	7.1 inches (179.1 mm)
Diameter	3.4 inches (86.1 mm)	3.4 inches (86.1 mm)	4.2 inches (106.9 mm)	4.2 inches (106.9 mm)
Weight (dry)	1.1 lb (0.5 kg)	1.1 lb (0.5 kg)	1.6 lb (0.7 kg)	1.9 lb (0.9 kg)

** VIN vehicle identification number. VIN code for Dodge, Ford and General Motors on model years 1972-1980 are the 5th character. Model years 1981-1999 are the 8th character.

Mounting Photos



Now, engine owners have the opportunity to combine the Racor Full-Flow Lubrication Filtration System with a highly efficient, environmentally safe Bypass Oil Filtration System.

The Racor Bypass Oil Series removes dirt, varnish, ash, tar, soot and other contaminants that full-flow filters cannot remove from your engine's oil. The system also removes condensed water, which forms component-damaging acids if left in the oil.

The Racor Bypass Oil Series removes contaminants down to one micron, which minimizes wear and extends engine component life.

The polishing effect of the Racor Bypass Oil Series and the use of the Racor Oil Analysis system will allow the engine oil service intervals to be extended. By reducing the disposal of waste oil, the system also contributes to preserving the environment.



Easy-install mounting bracket.

The cartridge element is made of an efficient combination of a cotton and cellulose woven media.

Reusable spin-on steel canister mounted to a rugged aluminum head.

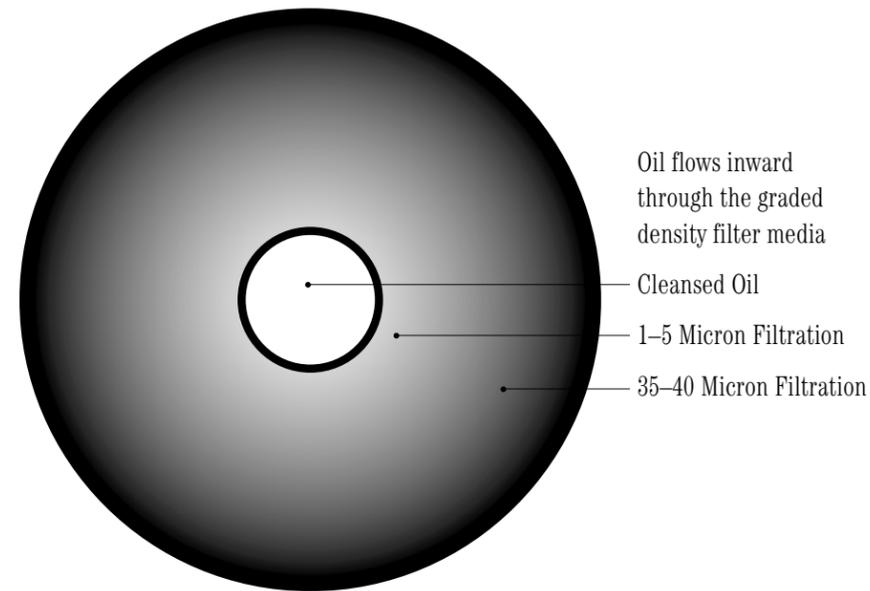
The engineered design of the filter element provides more efficient filtration for a significantly longer period of time than pleated cellulose, stacked disc and other cartridge filters.

Bypass Oil Series Benefits

- 1 Extends the miles between oil changes
- 2 Saves maintenance costs and downtime
- 3 Keeps oil cleaner longer, reducing oil consumption and disposal
- 4 Extends engine life and "re-build" intervals
- 5 Keeps engines better lubricated which means reduced wear
- 6 Removes damaging water

Superior Oil Filtration

The winding pattern of the element creates many identical spiral passageways, tapered in cross section so as to trap the larger particles near the outer portion of the element and the smaller particles as the oil flows inward through the element. Solids are filtered by entrapment in the filter media throughout the entire depth of the element. Reduces damaging particle count by 94%.



Oil flows inward through the graded density filter media

Cleansed Oil

1-5 Micron Filtration

35-40 Micron Filtration

Superior Solid Filtration

The Bypass Oil Series filter element is a 1 micron filter element. With surface filters, particles tend to stack up on a single plane, thereby "loading" the filter and cutting off flow. The Bypass Oil Series filter element is a "depth" filter trapping different size particles at varying depths within the element, so loading is virtually eliminated.

The Bypass Oil Series filter element is a depth filter with more media volume and a superior moisture retention material – cotton.

Pleated cellulose and centrifuge filters don't have the media volume that the Bypass Oil Series filter element does. Also, stacked disc, pleated and mulched cellulose media filters are not effective for the removal of water from engine lube oil.

Bypass Series Oil Filter Specifications

Part Number	LFS-800	LFS-801	LFS-802	LFS-820	LFS-825
Replacement Element (P/N)	LFS-800BPE	LFS-801BPE	LFS-802BPE	LFS-820BPE	LFS-825BPE
Engine Size/Horse Power	up to 150 hp	150 - 250	250 - 400	400 - 500	500 - 800
Sump Capacity	2.5 gal / 9.5 ltr	6 gal / 19 ltr	15 gal / 57 ltr	30 gal / 114 ltr	45 gal / 170 ltr
Flow Rate	.3 gpm / .9 lpm	.4 gpm / 1.4 lpm	.5 gpm / 1.9 lpm	1 gpm / 3.8 lpm	1.5 gpm / 5.7 lpm
Canister Cap	.13 gal / .5 ltr	.3 gal / .9 ltr	.5 gal / 1.9 ltr	2.5 gal / 9.5 ltr	3.5 gal / 13.3 ltr
Orifice Size	.040" / 1 mm	.040" / 1 mm	.040" / 1 mm	.093" / 2.4 mm	.101" / 2.6 mm
Port Size	1/8" npt	1/4" npt	1/4" npt	1/2" npt	1/2" npt
Height	5.5" / 14 cm	7.5" / 19.1 cm	11" / 27.9 cm	14.5" / 36.8 cm	20" / 50.8 cm
Width	4" / 10.2 cm	5.25" / 13.3 cm	5.25" / 13.3 cm	9" / 22.9 cm	9" / 22.9 cm

The OilChek, Portable Oil Monitor

The oil monitor measures the effect of all the contaminants and the electro chemicals that occur in synthetic and petroleum based oils. This is achieved by detecting and measuring the oil's dielectric constant.

By comparing the measurements obtained from used and unused oils of the same make and grade, the oil monitor is able to determine the degree of change in the oil's dielectric constant. Dielectric change is directly related to the contamination level and degradation of the oil and may allow the user to achieve longer intervals between oil changes and immediately detect increased mechanical wear, coolant dilution, and increased fuel dilution, resulting in the loss of the oils lubricating properties.

Portable, On-Site Lubricating Oil Monitoring

Fluid Types:

- Engine Oil
- Transmission Fluid
- Hydraulic Fluid

Customer:

- Individual
- Fleets, Large and Small
- Manufacturing
- Construction Equipment
- Marine Vessels

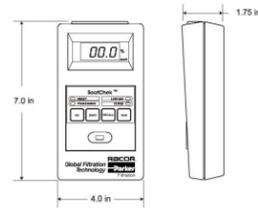
Uses:

- Ongoing Wear / Oil Condition Monitoring
- Failure Diagnosis
- Extended Oil Drain Interval

Benefits

Immediate on-site oil condition monitoring for diagnostic and early warning of impending failure.

Time Frame: 5 -10 Minutes



Portable On-Site Soot Analysis

SootChek™ is a hand held, battery operated diagnostic tool that measures soot concentration levels in diesel engine lubricating oil up to 10% and higher, without sample preparation or solvents.

Customers:

- Fleet Operators
- Transit Authorities
- Service Stations
- Construction Maintenance Shops
- Preventative Maintenance Personnel
- Marine

Benefits:

The SootChek™ gives an immediate and accurate measurement of the engine oil soot. This on-site soot measurement enables the maintenance personnel to know exactly when the oil needs to be changed due to high soot levels.

Time Frame: 45 Seconds



Diagnostic Meter For Pressure-Temperature-Flow and Speed Systems:

- Pneumatic
- Hydraulic

Customer, Service and Repair Of:

- Mining Equipment
- Truck, Heavy Equipment
- Manufacturing
- Construction Equipment
- Marine Vessels
- Stationary Systems

Function:

Measure and display:

- Pressure
- Temperature
- Flow
- Rotational Speed

Benefits:

- Diagnosis
- Systems Monitoring
- Calculate Power and Flow Run-out

Time Frame: Real Time

- Easy operation
- Rugged Design
- Compact Dimensions
- Large Display
- Auto Sensor Recognition
- MIN/MAX Memory
- Hold Function
- Pressure Differential
- Low Power Consumption
- Data Output For PC
- External Power Supply

Complete Engine Lube Oil Analysis Kit



Lube oil sampling allows the prediction of oil quality, which can be used to determine optimum maintenance schedules, as well as for early warning signs of internal engine problems.

The Racor LFS RK760 engine lube oil analysis kit comes complete with sample bottle, prepaid mailer, and documents for logging necessary information for the lab to properly analyze and report their findings to the customer. The standard non-urgent report is returned by mail indicating PPM, (parts per million of 21 base metals, coolant/fuel dilution as well as TBN, (total base number). In most cases requiring immediate action, the customers are telephoned or faxed the test results.

Mail-In Lubricating Oil Analysis Kit

Fluid Types:

- Engine Oil
- Transmission Fluid
- Hydraulic Fluid

Customer:

- Individual
- Fleets, Large and Small
- Manufacturing
- Construction Equipment
- Marine Vessels

Uses:

- Ongoing Wear / Oil Condition Monitoring
- Failure Diagnosis
- Extended Oil Drain Interval

Benefits:

Machinery / oil condition monitoring, extended oil drain intervals and failure analysis.

Time Frame: 3 to 11 days.

High Capacity Oil Filtration Series



LFS FFP 2020 Series

- Two different sizes available:
Duplex - 79.3 gal / min / 300 l / min
Quad - 105.8 gal / min / 400 l / min
- Visual or electrical differential pressure indicator.
- Integral three-way valve.
- Integral bypass valves.



LFS FFP 2045 Series

- Two different sizes available:
(Elements per side)
One element 264.5 gal / min / 1000 l / min
Two element 476.2 gal / min / 1800 l / min
- Horizontal mounting.
- Separate three-way valve housing.
- Integral bypass valves.



LFS FFP 1300 Series

- Three different heights available:
17.9" / 430 mm
27.1" / 650 mm
50.4" / 1210 mm
- Combine 2, 4, 6 and 8 filter housings on one common header.
- Three-way valve for filter change during operation.



LFS FFP 2035 Series

- Two different sizes available:
Duplex - 211.6 gal / min / 800 l / min
Quad - 317.5 gal / min / 1200 l / min
- Visual differential pressure indicator.
- Integral three-way valve.
- Integral bypass valves.



LFS FFP 2040 Series

- Three different sizes available:
Duplex - 317.5 gal / min / 1200 l / min
Triple - 396.8 gal / min / 1500 l / min
Quad - 476.2 gal / min / 1800 l / min
- Separate three-way valve housing.
- Integral bypass valves.

LFS FFP 2060 Series

- Horizontal mounting w/three elements per side.
- 846.6 gal / min / 3200 l / min.
- Separate three-way valve housing.
- Integral bypass valves.
- Same elements as LFS FFP 2040 filter.

Filter Application List

Horsepower	Max Flow
0-800	300 lpm / 79.3 gpm
800-1300	400 lpm / 105.7 gpm
1300-2000	800 lpm / 211.4 gpm
2000-4500	1200 lpm / 317 gpm
4500-6000	1500 lpm / 396.3 gpm
6000-9000	1800 lpm / 475.6 gpm
9000-15000	3600 lpm / 845.4 gpm

Notes: For accurate engine flow rates, consult your engine or equipment manual, manufacturer's agent or Racor distributor. Oil change frequencies are not affected and should be performed according to manufacturer's recommendations. The only accredited way to extend your oil change interval is through a formal lube analysis program.

Approximate Horsepower vs Lube Oil Flow for Diesel Engines.

Filter Part Number	Maximum Oil Flow	Elements	Micron Ratings*	Weight	Bypass Valve	Max. Operating Pressure
LFS 1300 Series 2,4,6 and 8 vessels 3 heights available 430 mm, 650 mm and 1210 mm	264.2 gal / min 1000 l / min	Green element available Adptr. For Pall 8300 C100 Element	25 micron	Single 34 kg / 75 lb One/Side 150 kg / 331 lb Two/Side 250 kg / 551 lb Three/Side 350 kg / 772 lb Four/Side 450 kg / 992 lb	Yes/Integrated 3.5 Bar 50.75 psi	30 Bar 435 psi
LFS FFP 2020A Duplex Filter	79.3 gal / min 300 l / min	1 primary per unit 1 safety element per res.	Cellulose 15 micron nom Glass fiber 3-25 micron abs Metal mesh 25-500 micron	23 kg / 51 lb	Yes/Integrated Open 2 Bar/29 psi Delta p indicator Visual or Electrical	10 Bar 145 psi
LFS FFP 2020B Two units per side	105.8 gal / min 400 l / min	2 primary per unit 1 safety element per res.	Same as above	28 kg / 62 lb	Yes/Integrated Delta p indicator Visual or Electrical	10 Bar 145 psi
LFS FFP 2035A Duplex Filter	211.6 gal / min 800 l / min	2 primary per unit 1 safety element per res.	Cellulose 15 micron nom Glass fiber 5-25 micron abs Metal mesh 25-250 micron	49 kg / 108 lb	Yes/Integrated Open 2 Bar/29 psi Delta p indicator Visual	12 Bar 174 psi
LFS FFP 2035B Two units per side	317.5 gal / min 1200 l / min	3 primary per unit 2 safety elements per res.	Same as above	63 kg / 139 lb	Yes/Integrated Open 2 Bar/29 psi Delta p indicator Visual	12 Bar 174 psi
LFS FFP 2040-2...2S Duplex Filter	317.0 gal / min 1200 l / min	2 primary per unit 1 secondary per unit 15 micron primary 60 micron wire mesh sec.	Cellulose 15 micron Glass fiber 5-25 micron Metal mesh 35-60 micron	240 kg / 529 lb	Yes/Integrated Open 2 Bar/29 psi	8 Bar 116 psi
LFS FFP 2040-2...3S Three units	396.0 gal / min 1500 l / min	2 primary per unit 1 secondary per unit 15 micron primary 60 micron wire mesh sec.	Cellulose 15 micron Glass fiber 5-25 micron Metal mesh 35-60 micron	350 kg / 772 lb	Yes/Integrated Open 2 Bar/29 psi	8 Bar 116 psi
LFS FFP 2040-2...4S Four units	476.0 gal / min 1800 l / min	2 primary per unit 1 secondary per unit 15 micron primary 60 micron wire mesh sec.	Cellulose 15 micron Glass fiber 5-25 micron Metal mesh 35-60 micron	418 kg / 922 lb	Yes/Integrated Open 2 Bar/29 psi	8 Bar 116 psi
LFS FFP 2045A Horizontal Filter	264.2 gal / min 1000 l / min	1 primary per unit 1 secondary per unit	Cellulose 15 micron primary Wire screen 60 micron secondary	115 kg / 254 lb	Yes/Integrated Open 2 Bar/29 psi	10 Bar 145 psi
LFS FFP 2045B Horizontal Filter	476.0 gal / min 1800 l / min	2 primary per unit	Cellulose 15 micron primary Wire screen 60 micron secondary	145 kg / 320 lb	Yes/Integrated Open 2 Bar/29 psi	10 Bar 140 psi
LFS FFP 2060 Duplex Horizontal	846.6 gal / min 3200 l / min	Primary - 3 Ele/unit Secondary - 1 Ele/unit Same element as LFS FFP 2040	Cellulose 15 micron Glass fiber 5-25 micron Metal mesh 35-60 micron	390 kg / 860 lb	Yes/Integrated	10 Bar 145 psi
LFS FFP 2065 Vertical version of LFS FFP 2045 w/3 way valve from LFS FFP 2060	528 gal / min 2000 l / min	2 primary per unit Same element as LFS FFP 2045	Cellulose 15 micron primary Wire screen 60 micron secondary	350 kg / 772 lb	Yes/Integrated	12 Bar 174 psi

* Abs = Absolute rated filter
Nom = Nominal rated filter

Water Removal Composite Filters



Racor water-absorbing hydraulic filters feature a specially designed media that traps not only solid contaminants like dirt and rust, but damaging water as well. As the element fills with water and plugging occurs, flow is restricted and the head goes into a bypass mode. Water-absorbing spin-on hydraulic filters are available for virtually any application and are available in a 10 micron rating. To make monitoring easy, Racor offers a range of heads with pressure restriction gauges, including large diameter heads with standard, color coded bar gauges.

Water Absorbing Media

Part Number	Micron Rating	Center Thread	Filter Dia.	Filter Length	Media Area	Capacity Solids	Capacity H2O	Typical Beta Rating
IN HW 3510	10	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	190 in ² / 1226 cm ²	13.68 g	247 ml	10 / 18
IN HW 3510A	10	1 1/8"-16	3.7" / 9.4 cm	5.5" / 14 cm	190 in ² / 1226 cm ²	13.68 g	247 ml	10 / 18
IN HW 3525	25	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	190 in ² / 1226 cm ²	15.58 g	247 ml	14 / 23
IN HW 3810	10	1"-12	3.7" / 9.4 cm	8" / 20.3 cm	350 in ² / 2258 cm ²	25.2 g	455 ml	10 / 18
IN HW 3825	25	1"-12	3.7" / 9.4 cm	8" / 20.3 cm	350 in ² / 2258 cm ²	28.7 g	455 ml	14 / 23
IN HW 5710	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	383 in ² / 2470 cm ²	27.58 g	498 ml	10 / 18
IN HW 5725	25	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	383 in ² / 2470 cm ²	31.40 g	498 ml	14 / 23
IN HW 51110	10	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	689 in ² / 4444 cm ²	49.61 g	896 ml	10 / 18
IN HW 51125	25	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	689 in ² / 4444 cm ²	56.50 g	896 ml	14 / 23
IN HW 33RB	10	3/4"-16	3" / 7.6 cm	3" / 7.6 cm	60 in ² / 387 cm ²	4.32 g	78 ml	18-Oct
IN HW 35RB	10	1"-12	3.8" / 9.7 cm	5" / 12.7 cm	190 in ² / 1226 cm ²	13.68 g	247 ml	14 / 23
IN HW 57RM	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	383 in ² / 2470 cm ²	27.58 g	498 ml	18-Oct

Maximum operating pressure: 100 psi / 1207 kPa.

Silicone Impregnated Cellulose Filters



Racor resin-impregnated hydraulic filters include media that traps solid contaminants like dirt and rust as it repels water. Resin-impregnated hydraulic filters are available for virtually any application and are available in a 10 micron rating. To make monitoring easy, Racor offers a range of heads with pressure restriction gauges, including large diameter heads with standard, color coded bar gauges.

Silicone Cellulose Media

Part Number	Micron Rating	Center Thread	Filter Dia.	Filter Length	Media Area	Capacity Solids	Capacity H2O	Typical Beta Rating
IN HC 3510	10	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	480 in ² / 3096 cm ²	9.04 g	N/A	10 / 18
IN HC 3525	25	1"-12	3.7" / 9.4 cm	5.5" / 14 cm	450 in ² / 2903 cm ²	12.54 g	N/A	25 / 48
IN HC 3810	10	1"-12	3.7" / 9.5 cm	8" / 20.3 cm	878 in ² / 5663 cm ²	16.68 g	N/A	10 / 18
IN HC 3825	25	1"-12	3.7" / 9.6 cm	9" / 20.3 cm	826 in ² / 5328 cm ²	23.13 g	N/A	25 / 48
IN HC 5710	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	950 in ² / 6128 cm ²	18.05 g	N/A	10 / 18
IN HC 5725	25	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	900 in ² / 5805 cm ²	25.2 g	N/A	25 / 48
IN HC 51110	10	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	1710 in ² / 11030 cm ²	32.49 g	N/A	10 / 18
IN HC 51125	25	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	1620 in ² / 10449 cm ²	45.36 g	N/A	25 / 48
Micro Glass Media								
IN HMG 3606	6	1 1/2"-16	3.75" / 9.5 cm	6" / 15.2 cm	240 in ² / 1548 cm ²	16.32 g	N/A	3 / 6 / 07
IN HM 5710	10	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	510 in ² / 3290 cm ²	56.1 g	N/A	9 / 18 / 19
Stainless Steel Media								
IN HSSM57	100	1 1/2"-16	5" / 12.7 cm	7" / 17.8 cm	200 in ² / 1290 cm ²	N/A	N/A	144
IN HSSM511	100	1 1/2"-16	5" / 12.7 cm	11" / 27.9 cm	315 in ² / 2032 cm ²	N/A	N/A	144

Maximum operating pressure: 100 psi / 1207 kPa.

Medium Pressure Hydraulic Filters



Racor hydraulic filters for medium pressure applications are rated to 3,000 psi, and are crafted from corrosion-resistant anodized aluminum. An optional pop-up indicator signals the bypass condition and need for element replacement; however, a built-in bypass valve allows the system to continue operating in an unfiltered condition. Two flow rates and housing lengths accept a 10 micron element – with the extended lengths providing longer element life and larger sump capacity.

Filtration Specifications

Part No.	HP60077	HP60080	HP60083	HP60086
Flow Rate	20 gpm / 76 lpm	20 gpm / 76 lpm	50 gpm / 189 lpm	50 gpm / 189 lpm
Length	Standard	Extended	Standard	Extended
Pressure	3000 psi / 210 bar	3000 psi / 207 bar	3000 psi / 207 bar	3000 psi / 207 bar

Medium Pressure Hydraulic Fluid Filter Specification

Part Number	Service Element	Micron Rating	Beta Rating	Max Operating Pressure	Max Flow Rating
Cellulose					
HP60077C	FC60078	10	8 / 14	3000 psi / 207 bar	20 gpm / 76 lpm
HP60080C	FC60081	10	6 / 16	3000 psi / 207 bar	20 gpm / 76 lpm
HP60083C	FC60084	10	4 / 12	3000 psi / 207 bar	50 gpm / 189 lpm
HP60086C	FC60087	10	6 / 17	3000 psi / 207 bar	50 gpm / 189 lpm
Microglass					
HP60077M	FC60079	10	2 / 5	3000 psi / 207 bar	20 gpm / 76 lpm
HP60080M	FC60082	10	2 / 6	3000 psi / 207 bar	20 gpm / 76 lpm
HP60083M	FC60085	10	2 / 6	3000 psi / 207 bar	50 gpm / 189 lpm
HP60086M	FC60088	10	3 / 7	3000 psi / 207 bar	50 gpm / 189 lpm

C = Cellulose
M = Microglass



Reservoir Breather Filters Specifications

Part Number	Micron Rating	Center Thread	Filter Dia.	Filter Length	Media Area	Capacity Solids	Capacity H2O	Typical Beta Rating
IN HW 33RB	10	3/4"-16	3.0" / 7.6 cm	3.0" / 7.6 cm	60 in / 387 cm	4.32 g	78 ml	10 / 18
IN HW 35RB	10	1"-16	3.75" / 9.5 cm	5.0" / 12.7 cm	190 in / 1226 cm	13.68 g	247 ml	14 / 23
IN HW 57RB	10	1 1/2"-16	5.0" / 12.7 cm	7.0" / 17.8 cm	383 in / 2470 cm	27.58 g	498 ml	10 / 18



Reservoir Breather Filters

Reservoir breather filters provide precision hydraulic components with special protection against wear particles and destructive moisture. The use of reservoir breather filters is especially critical in high humidity areas or where moisture is present near hydraulic systems. Racor reservoir breathers contain a unique filter media which removes both dirt and moisture. The spin-on design provides ease of service. Consult factory for details.



Racor Hydraulic Filtration Systems remove solid contamination and water from petroleum based fluids such as hydraulic fluid and gear and lube oils. Racor filter carts can be used to prefilter fluids, transfer fluids or to clean existing systems. In all cases, it makes remote, on-demand filtering for contaminant-free fluids fast and convenient. The Racor Hydraulic Filter Cart is standard with a 10 gpm pump, 40 micron inlet filter and down to 3 micron outlet filter elements. The standard seals are Buna nitrile.

Benefits

- Both units feature an industrial quality precision gear pump for smooth, quiet, reliable service.
- Removable filter housing top covers for simple, clean servicing of the two elements.
- Two filters ensure pump protection and two-stage for long element life.
- A wide variety of particulate filter elements are available to obtain desired cleanliness levels. The WR element removes “free-water” from filtered fluids upon contact with the polymer filter.
- A standard visual indicator on the filter head tells when it is time to change the elements.
- The inlet and outlet hoses are 11' long and include rigid PVC wands for easy handling.
- The lightweight portable steel frame includes a built-in drip pan beneath the filters and pump to help keep work areas safe and clean.



Hydraulic Filter Cart

Fluid cleanliness levels are a function of initial contamination levels, contamination ingress rates, reservoir size and filter element efficiency. The chart below lists time requirements to achieve certain cleanliness levels, based on the assumptions noted.

Performance

Reservoir Capacity	Hours Required	Proj. Cleanliness Level (ISO*)
50 gal / 189 ltr	0.5	18 / 15
50 gal / 189 ltr	1.0	15 / 12
50 gal / 189 ltr	2.5	14 / 11
100 gal / 379 ltr	1.5	16 / 13
100 gal / 379 ltr	2.5	15 / 12
100 gal / 379 ltr	4.0	14 / 11
200 gal / 757 ltr	2.5	17 / 14
200 gal / 757 ltr	3.5	16 / 13
200 gal / 757 ltr	5.0	15 / 12

*International Standards Organization

Hydraulic Cart Specifications

Basic Models	HFC 60039-5	HFC 60039-10
Fluid Filtered	Petroleum based fluids such as hydraulic, gear and lube oils	
Available Fiber Elements	40W, 40SA, 20C, 10C, 03C, 10B, 03B, WR	
Maximum Flow Rate	5 gpm / 19 lpm	10 gpm / 38 lpm
Maximum Pressure	25 psi / 1.7 bar	25 psi / 1.7 bar
Height	40.5" / 1029 mm	40.5" / 1029 mm
Width	25.5" / 648 mm	25.5" / 648 mm
Depth	19" / 483 mm	19" / 483 mm
Weight-Dry	110 lbs / 50 kg	110 lbs / 50 kg
Operating Temperature	Using Buna Nitrile seals: -40° / +225° F / -40° / +107° C Using Viton*: -20° / +300° F / -29° / +149° C	

*Viton is a registered trademark of Dupont

Hydraulic Cartridge Elements

Part No.	Media	Description	Case Qty.
IN H60039	40SA	40 Micron, Synthetic	1
IN H60045	40W	20 Micron, Wire Mesh	1
IN H60042	20C	10 Micron, Cellulose	1
IN H60044	10B	10 Micron, Microglass	1
IN H60041	10C	40 Micron, Cellulose	1
IN H60043	03B	3 Micron, Microglass	1
IN H60040	03C	3 Micron, Cellulose	1
IN H60065	WR	Water Removing Media	1

The elements do not include the housing cover O-ring.

Guardian Specifications

Basic Model	GLT60006
Fluid Filtered	Petroleum based and Water emulsions
Available Fiber Elements	74W, 40W, 25W, 20C, 10C, 10B, 03B, WR
Maximum Flow Rate	4 gpm / 15 lpm
Maximum Pressure	50 psi / 3.5 bar
Port Thread, Inlet / Outlet	1/2"-14 NPTF
Hose Connection Thread	3/4"-11 1/2 NH
Height	8.50" / 216 mm
Width	7.75" / 197 mm
Depth	15.75" / 400 mm
Weight-Dry	24 lbs / 11 kg
Operating Temperature	-15° / +120° F / +26° / +49° C



Guardian®: A Handy Way To Transfer Fluids

Contamination is sometimes added to a new fluid during processing, mixing, handling or storage. If your fluid system is sensitive to the harmful effects of contamination, the Guardian Portable Filtration System may be ideal for your application.



This handheld solution is ideal for smaller, more difficult to reach locations—in marine engine rooms, or on large equipment.

Guardian Replacement Elements

Part No.	Media	Description	Case Qty.
IN G60000	74W	74 Micron, Wire Mesh	1
IN G60002	40W	40 Micron, Wire Mesh	1
IN G60001	25W	25 Micron, Wire Mesh	1
IN G60010	20C	20 Micron, Cellulose	2
IN G60006	10C	10 Micron, Cellulose	2
IN G60007	10B	10 Micron, Microglass	2
IN G60008	03B	3 Micron, Microglass	2
IN G60009	WR	Water Removing Media*	2

The element end cap (cover) O-ring is reusable and is not included with service elements.
*Water capacity is 1.5 fluid ounces (45 milliliters)





Racor quality replacement filter elements for the Allison automatic transmissions, meet or exceed original equipment manufacturers specifications.

Racor filters utilize special cellulose and fiberglass media combined with wire reinforcements, to combat the transmission pressure surges and heat buildup automatics face in the field.

These products stand up to the demanding stop and go operations of today's trucks, busses and heavy equipment.

In addition to price and quality, the range of interchange elements allows the users to acquire more of their replacement elements from one quality source.

Some of the manufacturers that Racor element part numbers will fit include, Detroit, GMC, Baldwin, Pall, Donaldson and Fleetguard.

Allison Transmission Replacement Elements

Part No.	Replaces	Description	Specifications		
			Diameter	Length	Thread
IN TA60075Q	23018853	Cartridge	3.8" / 9.6 cm	16.84" / 43 cm	
IN HF60074Q	23040988	Cartridge	3.5" / 8.9 cm	8.2" / 21 cm	
IN TA2062	23042062 1309836	Spin-On Pall	3.8" / 9.6 cm	5.0" / 13 cm	1 1/2-16"
IN HF60058	23049373	Cartridge	3.1" / 7.8 cm	13" / 33 cm	
IN TA60076Q	23049373	Cartridge	3.1" / 7.8 cm	13" / 33 cm	
IN TA60075Q	23049374	Cartridge	3.8" / 9.6 cm	16.84" / 43 cm	
IN TA6898	29506337	Cartridge	3.1" / 7.8 cm	6.0" / 15 cm	
IN TA60075Q	29510912	Cartridge	3.8" / 9.6 cm	16.84" / 43 cm	
IN HF60074Q	29510918	Cartridge HC8200SDN8Z	3.5" / 8.9 cm	8.19" / 21 cm	
IN TA6898	29526898	Cartridge	3.1" / 7.8 cm	6.0" / 15 cm	
IN TA6899	29526899	Cartridge	3.1" / 7.8 cm	4.0" / 10 cm	

LFS 22825 Automatic Transmission Filter Kit

- Extend Transmission Life
- Extend Service Intervals
- Reduce Maintenance Costs

Overview

- The Racor LFS 22825 automatic transmission filter kit includes all hardware, fittings and mounting bracket for a simple installation.
- Quality Parker hose assemblies are available separately for easy installation.
- The spin-on filter element is manufactured with synthetic media specifically designed for transmission fluid use.
- The powder coated multi-port head is machined with four large 3/8" NPT ports for high flow and ease of installation.
- Simply cut the steel tube going to the transmission cooler and slip on the Parker Flareless tube fittings and tighten.

Applications

The universal mounting bracket, filter and fittings are easily adapted to fit most any vehicle frame rail or transmission crossover brace.

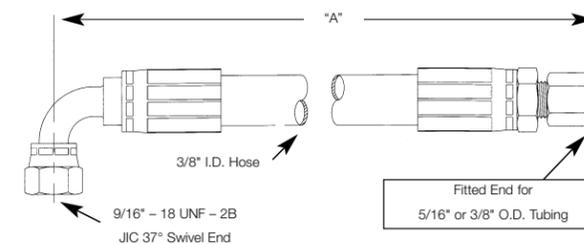
High quality hose assemblies are available in varying lengths and two different transmission cooler line tube sizes to allow the installation on the most popular automatic transmissions using 5/16" and 3/8" transmission cooler tubes.

Features

- Heavy 1/4" steel plate mounting bracket, pre-drilled and black powder-coated
- Die-cast aluminum head, powder-coated gloss black with four 3/8" NPT ports
- High efficiency 6 micron micro-glass filter element
- Plated hardware and Parker JIC and Ferulok Flareless fittings
- Steel wire reinforced Parker hydraulic hose



Order hoses separately. See chart.



Simple Installation Procedures

- Refer to the Racor P/N 22826 Transmission Filter Kit Installation instructions for detailed instructions.
- Service the transmission by changing the fluid and the internal filter.
- Locate a suitable mounting place for the heavy-duty filter "L" bracket on the transmission crossover mount or the chassis frame rail. Pre-assembled hose assemblies are available from Racor Division – see chart below.
- Mount the filter assembly with supplied hardware and fittings.
- Install hoses to the filter head fittings and run them to the tube going to the transmission cooler. Refer to the vehicle manual to determine the correct tube.
- Use the two hoses to determine where to cut the tube to the cooler just after the first bend. No flare is required when using the Parker "flareless" fittings.
- Rotate the short tube at the transmission fitting around to face towards the rear of the vehicle, and connect the filter inlet hose.
- Connect the remaining hose from the filter to the cut tube running to the transmission cooler. Make sure hoses are secured and away from the exhaust. Start the engine and check fluid level when warm.
- Actual installation procedures may vary depending upon vehicle and model.

Specifications

Two hose assemblies required per kit.	
Hose Length = "A"	Racor Part Number
Hose Assembly:	
5/16" Tube x 28" Lg.	LFS 22822-01
5/16" Tube x 30" Lg.	LFS 22822-02
5/16" Tube x 32" Lg.	LFS 22822-03
5/16" Tube x 34" Lg.	LFS 22822-04
5/16" Tube x 42" Lg.	LFS 22822-05
5/16" Tube x 48" Lg.	LFS 22822-06
3/8" Tube x 30" Lg.	LFS 22821-01
3/8" Tube x 32" Lg.	LFS 22821-02
3/8" Tube x 35" Lg.	LFS 22821-03
3/8" Tube x 36" Lg.	LFS 22821-04
3/8" Tube x 42" Lg.	LFS 22821-05
3/8" Tube x 48" Lg.	LFS 22821-06

Hose assemblies have 9/16"-18 90 Degree Swivel one end and 5/16" or 3/8" straight end for tubing connection.

Replacement Element

Racor Part Number
LFS TF1006RE



We've Bottled Racor Protection

The all-new Racor Additive line includes performance enhancing products for all climates and seasons. There are several convenient sizes, including 1 and 2.5 gallon bottles, and also a 16 oz. bottle that makes measuring quick and easy.

The high concentration of active ingredients in Racor additives allows for higher treatment rates. Compare and save!

All Racor Fuel Additives are alcohol-free.

Diesel Biocide



Racor Diesel Biocide is a multifunctional petroleum distillate fuel additive. It is used to help maintain color stability and clarity; control bacteria, fungi, organic reaction and sludge formation; inhibit against corrosion; and disperse existent sludge. Racor Diesel Biocide utilizes advanced chemistry of organic sulfur compounds to combat all forms of bacteria in fuel/water environments.

- Kills faster and longer and more forms of algae and bacteria than other brands
- Kills both aerobic and anaerobic fungi
- Concentrated, extended time formula
- EPA approved as both a biocide and aftermarket fuel additive
- Prevents internal corrosion of fuel delivery system and engine components due to microbial fouling
- Provides superior mixing with fuel at all temperatures
- Fuel and water soluble
- Does not cause foaming
- Stabilizes fuel color and clarity



EPA Est. No. 1448-172-47099.
EPA Reg. No. 072342-CA-001.

Gasoline Conditioner Plus+



Racor Gasoline Conditioner Plus+ is a diluted multifunctional gasoline additive which cleans as it protects. Racor Gasoline Conditioner Plus+ is designed for secondary treatment applications. It can be used with all types of internal combustion systems and gasoline blends. By cleaning the engine's fuel injectors and carburetor, it provides better combustion, better fuel economy and lower exhaust emissions.

- Cleans the fuel delivery and the intake system, providing improved fuel economy and reduced emissions
- Protects intake system against corrosion
- Use with leaded or unleaded gasoline and gasohol
- Prevents accumulation of deposits
- Improves efficiency of fuel filter/waters separators through demulsification
- Will not harm lube oil or catalytic converters
- Stabilizes quality of stored gasoline

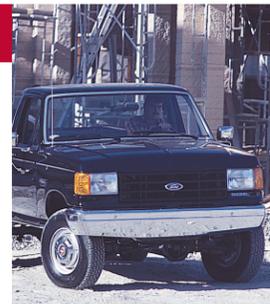


Diesel Winter Plus+



Racor Diesel Winter Plus+ is added to middle petroleum distillates such as No. 2 heating oil or diesel fuel to improve their low temperature operability as measured by pour point and cold filter plugging point. Racor Diesel Winter Plus+ prevents the plugging of lines, filter screens and valves and allows the fuel to flow freely down to -32° F (-36° C). Diesel Winter Plus+ contains a deicer, which can help reduce line freezing.

- Improves fuel flow and facilitates cold weather starting
- Inhibits fuel icing, waxing and gelling in cold weather
- Depresses the pour point of diesel fuel
- Improves efficiency of fuel filter/water separators through demulsification
- Contains a cetane improver and a deicer
- Smoother, quieter engine operation
- Prevents corrosion
- Stabilizes fuel quality during prolonged storage



Diesel Conditioner Plus+



Racor Diesel Conditioner Plus+ is a multi-functional diesel fuel additive for all-season use. Its contains a cetane improver which enhances power delivery, starting, and helps engines run smoother and quieter. Racor Diesel Conditioner Plus+ passes the Cummins L10 superior rating for detergency as demonstrated in low and high sulfur fuel.

- Contains lubricity additives to reduce friction; prevents wear and tear, extending engine life
- Dissolves gums and varnishes; keeps the injection system clean
- Improves fuel economy and lowers emissions
- Reduces injector coking
- Stabilizes fuel quality during prolonged storage
- Reduces sediment formation which can result in reduced maintenance
- Reduces corrosion and rust formation in tanks and lines
- Improves efficiency of fuel filter/water separators through demulsification
- Eases starting, increases power



Lube Oil Treatment



Racor Lube Oil Treatment is a fluorocarbon oil additive which contains an advanced, highly effective polymer lubricant. It provides a superior thin coating to protect precision engine parts and does not contain PTFE or Teflon®, which have been known to fall from suspension and clog precision engine components. Racor Lube Oil Treatment may be used with diesel and gasoline engines and is compatible with all motor oils including synthetics.

- Reduces noise and heat in diesel and gasoline engines
- Anti-corrosion formula
- Compatible with all motor oils including synthetics
- Increases mileage, engine life and performance
- Reduces friction on cold start up
- Prevents premature wear on piston rings and cylinder walls, reducing harmful exhaust emissions



Coolant Treatment



Racor Coolant Treatment is a combination corrosion inhibitor and iron oxide/scale dispersant. Its unique formulation protects all types of metals, including aluminum, in diesel and gasoline engine cooling systems.

- Stabilizes engine coolants helping prevent the formation of abrasive gel-like deposits
- Helps condition cooling system water by neutralizing hard water salts
- Contains an inhibitor to help protect all metals in the engine cooling system from corrosive attack
- Formulated to maintain heat transfer in all closed cooling systems
- Helps prevent overheating
- Disperses silica deposits
- Contains an anti-foam agent
- For diesel and gasoline engines



Part No.	Description	Size	Treats
ADT 1116	Diesel Cond. Plus	16 ounces	320 gallons
ADT 1201	Diesel Cond. Plus	1 gallon	2,560 gallons
ADT 1325	Diesel Cond. Plus	2.5 gallons	6,400 gallons
ADT 1555	Diesel Cond. Plus	55 gallon drum	140,800 gallons
ADT 2116	Diesel Biocide	16 ounces	1,280 gallons
ADT 2201	Diesel Biocide	1 gallon	10,240 gallons
ADT 2325	Diesel Biocide	5 gallons	51,200 gallons
ADT 2555	Diesel Biocide	55 gallon drum	563,200 gallons
ADT 4116	Diesel Winter Plus	16 ounces	128 gallons
ADT 4201	Diesel Winter Plus	1 gallon	1,024 gallons
ADT 4325	Diesel Winter Plus	2.5 gallons	2,560 gallons
ADT 4355	Diesel Winter Plus	55 gallon drum	56,320 gallons
ADT 5116	Gasoline Cond. Plus	16 ounces	320 gallons
ADT 5325	Gasoline Cond. Plus	2.5 gallons	6,400 gallons
ADT 5555	Gasoline Cond. Plus	55 gallon drum	140,800 gallons
ADT 7116	Lube Oil Treatment	16 ounces	2 gallons
ADT 7201	Lube Oil Treatment	1 gallon	16 gallons
ADT 7555	Lube Oil Treatment	55 gallon drum	880 gallons
ADT 8116	Coolant Treatment	16 ounces	8 gallons

A convenient spout extension is available for quick, clean service. The spout fits 16 oz. bottles only. Order part no. 21644.

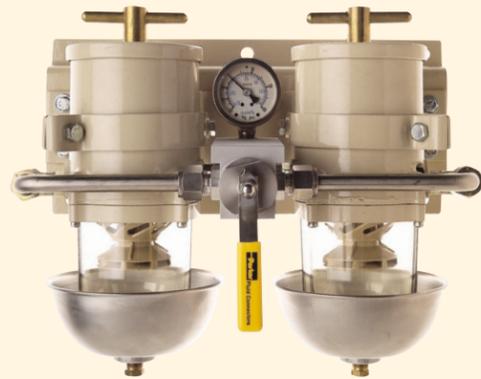


Order Brochure No. 7518 for additional information.

Fuel Filter/Water Separators

- Turbine and spin-on designs for diesel and gasoline
- Powerful heaters, integral primer pumps, and service indicator options
- See-thru and metal collection bowls

Order Brochure No. 7529, Fuel Filtration Products



Turbine Series Marine Manifold

Hydrocarbon Filter Vessels and Elements

- High efficiency and high value in a compact package
- Complete range of filter elements
- Flow rates to 1000 gpm+

Order Brochure No. 7537, Hydrocarbon Filtration Products



RVFS Series

Alternative Fuels

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



Model 8250D

Fuel Recycling Systems

- Remove water and contamination from diesel fuel, kerosene and light hydrocarbons in day tanks and fuel tanks
- Portable, bulkhead and in line configurations

Engine Components and Systems

Sentinel Engine Protection System

Sentinel Mechanical Engine Protection Systems slow to idle or shut 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 temperatures

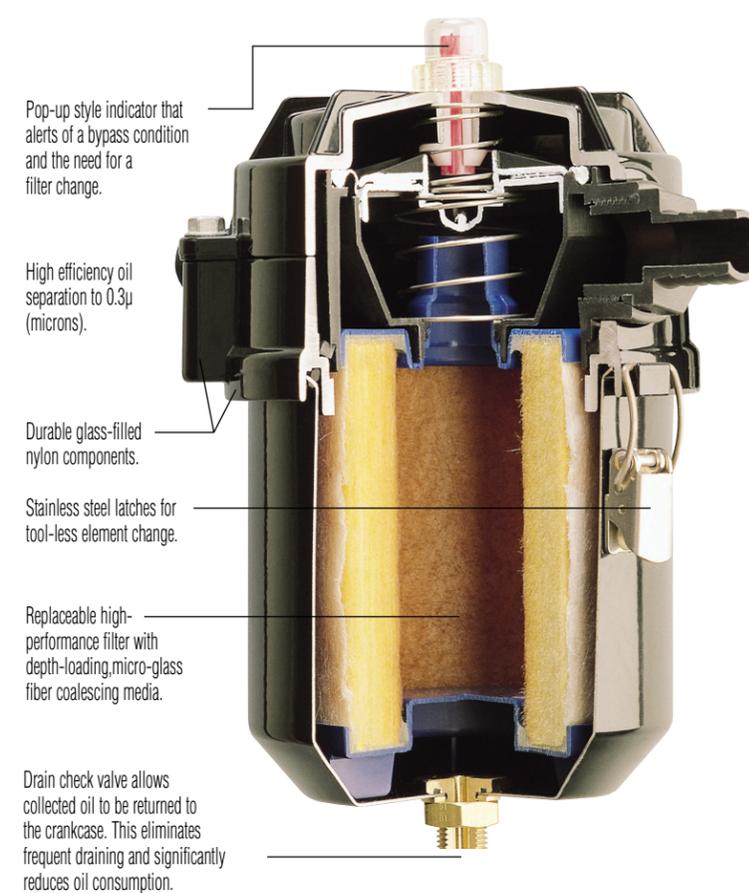
Also available:

- Fuel Modules / Integrated Systems
- Heaters
- Hose and Fittings



Order Brochure No. 7544, Sentinel Engine Components and Systems

CCV® Crankcase Ventilation Filter Systems



Pop-up style indicator that alerts of a bypass condition and the need for a filter change.

High efficiency oil separation to 0.3µ (microns).

Durable glass-filled nylon components.

Stainless steel latches for tool-less element change.

Replaceable high-performance filter with depth-loading, micro-glass fiber coalescing media.

Drain check valve allows collected oil to be returned to the crankcase. This eliminates frequent draining and significantly reduces oil consumption.

Maximum continuous operating temperature, -40°F to +240°F.

CCV® Crankcase Ventilation Filter Systems

- Keeps engine compartments and components clean.
- Prevents clogging of engine intakes, turbochargers and intercoolers.
- Improves reliability and maintainability of diesel engines.
- Superior efficiency and performance.
- Reduces environmental pollution from crankcase emissions.
- Replacement filter is crushable and burnable.
- Reduces smoke and odor in the immediate environment.
- Installed as original equipment by major manufacturers worldwide.



CCV8000

CCV6000

CCV4500

Heavy-Duty Engine Air Filtration

A complete line of heavy-duty engine air filters and precleaners is now available from Racor. The Series includes

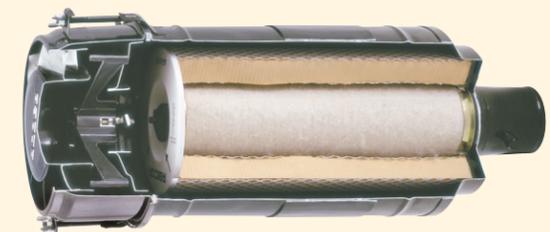
- Combination dynamic or static precleaner/air filters
- Standard air filters
- On-highway and off-highway underhood air precleaners
- On-highway, off-highway and industrial air precleaners

The combination systems provide the security of a primary and safety element with an efficient precleaner in a single-connection, compact package.

The precleaners are self-powered and self-cleaning, requiring no electrical or exhaust gas power to dispose of separated particles. They extend engine air filter life and prolong engine and turbocharger life while reducing downtime. A wide range of models is available for a variety applications and flow rates. Adjustable mounting bands make installation quick and easy.

AFCS Series Heavy Duty Combination Dynamic Precleaner / Filters

For Off-Highway / Industrial Applications and On-Highway Under Hood Applications

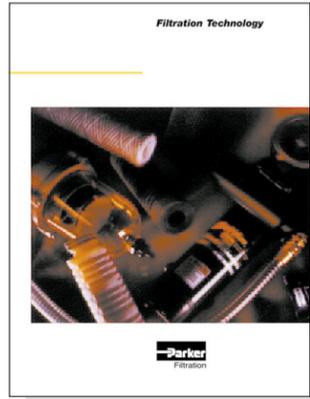




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209/521-7860

Filtration Technology

The entire technical catalogue of Racor Parts, Service and Technical Information is now available only on CD Rom. Order the complete #7480 catalogue on CD Rom for \$5.00 each plus shipping and handling. To order please call Racor customer service.



Parker Racor Division Quality Management System



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Aerospace Group

A leader in the development, design, manufacture and service of control systems and components for aerospace and related high technology markets, achieving profitable growth through premier customer service.

Automation Group

A leading supplier of pneumatic and electro-mechanical components and systems to automation customers worldwide.

Climate & Industrial Controls Group

Designs, manufactures and markets system-control and fluid-handling components and systems to refrigeration, air-conditioning and industrial customers worldwide.

Filtration Group

Designs, manufactures and markets quality filtration and clarification products, providing customers with the best value, quality, technical support and global availability.

Fluid Connectors Group

Designs, manufactures and markets rigid and flexible connectors and associated products used in pneumatic and fluid systems.

Hydraulics Group

Designs, produces and markets a full spectrum of hydraulic components and systems to builders and users of industrial and mobile machinery and equipment.

Instrumentation Group

A global leader in the design, manufacture and distribution of high-quality critical flow components for worldwide process instrumentation, ultra-high-purity, medical and analytical applications.

Seal Group

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



About Parker Hannifin Corporation

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.

Parker's Charter

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.