

RACOR®

SPIN-ON FILTER/SEPARATORS

220/225 INSTALLATION, OPERATION, PARTS AND SERVICE DATA

THE RACOR 20 SERIES SPIN-ON FUEL FILTER/SEPARATORS CAN SOLVE DIESEL FUEL PROBLEMS UNDER ANY OPERATING CONDITIONS IN THE WORLD.



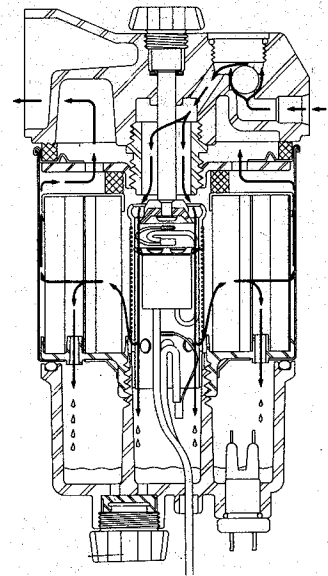
Advanced Filtration/Separation Technology

The unique design of the 20 Series directs the fuel flow to the expanded center core of the unit. The reduced velocity causes heavy liquid and solid contaminants to accumulate in the inner chamber of the filter/separator bowl. Then they are drained off through a positive seal drain valve. This primary separation or pre-cleaning stage gives extended element life.

The 20 Series Filter/Separator units are compact and easy to service.

Vacuum (Suction) Applications

The *Dual Media Replacement Filter Element* uses a new Racor two-stage process of Dual Phase Repelling Action and Dual Phase Filtration to remove virtually 100% of the remaining free water and damaging solid particulate contaminants from diesel fuel. Primer pump, vent cap and check valve are standard.



Pressure Applications

The *Multi-Media Coalescer Replacement Filter Element* is for pressure side installations where the fuel has passed through a transfer pump and a coalescing filtration action is necessary for a high degree of water removal effectiveness. With the coalescer replacement filter element, 99+ % of free and emulsified water and damaging solid particulate contaminants are removed. Vent cap is standard.

Options

Electrical in-filter heater — Metal Bowl — Service Indicator Package

220

Height 8" (203 mm)
 Width 4" (102 mm)
 Depth 4" (102 mm)
 Max. Flow Rate 30 gph (114 lph)
 Weight 1.75 lbs. (.79 kgs.)

Element Model No.	R24 Dual Media	C25 Coalescer
Dirt Capacity (Soft C-2A)	80 gms.	75 gms.
Dirt Removal Rating	96% at 2 micron w/A.C.F.T.D.	
Water Removal Efficiency Effluent:	less than 10ppm free water	less than 30ppm free water

225

Height 9.5" (241 mm)
 Width 4" (102 mm)
 Depth 4" (102 mm)
 Max. Flow Rate 45 gph (170 lph)
 Weight 2 lbs (.90 kgs.)

Element Model No.	R26 Dual Media	C27 Coalescer
Dirt Capacity (Soft C-2A)	117 gms.	107 gms.
Dirt Removal Rating	96% at 2 micron w/A.C.F.T.D.	
Water Removal Efficiency Effluent:	less than 10ppm free water	less than 30ppm free water

NOTE: Methanol, ethanol and alcohol-based additives will cause damage to the non-metal parts of the Racor unit and the entire engine system. When use of an additive is determined to be necessary, use only genuine RACOR DIESEL FUEL ADDITIVES. RACOR DIESEL FUEL ADDITIVES provide preventive maintenance protection all year 'round help cold weather starts, protect against damaging fungi, extend element life and maximize the efficiency of fuel filters and water separators. The use of other than genuine RACOR DIESEL FUEL ADDITIVES and REPLACEMENT ELEMENTS AND PARTS may void your RACOR WARRANTY.

Automotive Installation Kits

To insure safety in automotive applications, Racor recommends using only genuine Racor Automotive Mounting Bracket Kits. Our kits do not alter D.O.T. recommendations. See Automotive Installation Kits Chart, Page 7.

Cold Weather

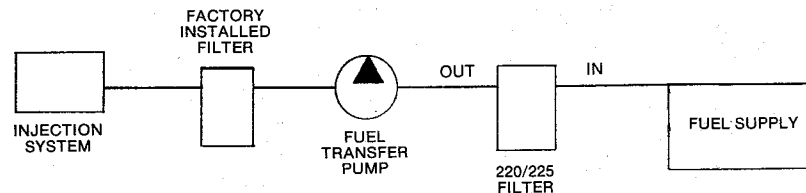
For applications operating in cold weather, mount the Racor Fuel Filter/Water Separator inside the engine compartment and use the optional Racor In-Filter Fuel Heater.

The RX-100 Cold Weather Diesel Additives are also recommended for easy cold weather operations.

Vacuum/Suction Side Installation — Element R-24/R-26

- Any secondary or pressure side filters located between pump and engine should be serviced and left in place.
- Mount the Racor Fuel Filter/Water Separator vertically on the vacuum side of the fuel pump, transfer pump or nonremovable filters, whichever comes first. Maintain 2.0" (50.8 mm) vertical clearance below filter housing for removal of replaceable element.

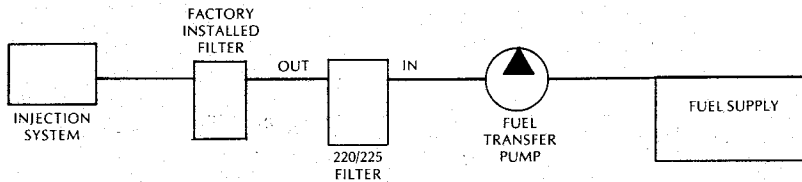
Vacuum Side



Pressure Side Installation (7 p.s.i. Maximum) — Element C-25/C-27

- Any secondary and/or pressure side filters located between pump and engine should be serviced and left in place.
- Mount the Racor Fuel Filter/Coalescer Water Separator after the fuel transfer pump and before any factory installed pressure filter.

Pressure Side








Any factory installed fuel by-pass or return lines should be left in place.

3. FUEL LINES

Use quality diesel fuel hose in the maximum fuel line size applicable to reduce restriction

4. FITTINGS

RACOR FITTINGS CHART

RACOR FITTING	PART NO.	UNIT USAGE	T1	T2
Straight Thread w/O-Ring 90° Elbow Male JIC37° 	9010-6-4 9010-6-6	500/220/225 500/220/225	9/16-18-w/O-Ring 9/16-18-w/O-Ring	7/16-20 9/16-18
Straight Thread w/O-Ring Male JIC37° 	9020-6-4 9020-6-6	500/220/225 500/220/225	9/16-18-w/O-Ring 9/16-18-w/O-Ring	7/16-20 9/16-18
Straight Thread w/O-Ring ★ Female Pipe 	9040-6-4 9040-6-6	500/220/225 500/220/225	9/16-18-w/O-Ring 9/16-18-w/O-Ring	1/4-18 Pipe Thd. 3/8-18 Pipe Thd.
Progressive Barb Hose Fitting 	9010-HF-6-5/6	500FG/220/225	9/16-18-w/O-Ring	5/16 (8mm) and 3/8 (10mm) Hose
Progressive Barb Hose Fitting 	9020-HF-6-5/6	500FG/220/225	9/16-18-w/O-Ring	5/16 (8mm) and 3/8 (10mm) Hose

T-1 — unit port side
T-2 — fuel line side

- NOTE: For mounting flexibility, there are two outlet ports. Utilize the most convenient outlet port for your application. The unused outlet port is to be plugged with the provided plug fitting.
- PRIMING THE FUEL FILTER/WATER SEPARATOR SYSTEM
Unit Without Primer Pump:
 - Fill Bowl Element Assembly with clean diesel fuel.
 - Spin Bowl Element Assembly onto Head.*Unit With Primer Pump:*
 - Spin Bowl Element Assembly onto Head.
 - Loosen pump knob *and vent knob*.
 - Prime unit until fuel purges at vent.
 Close pump knob and vent knob.
- Start engine and check for any leaks. (NOTE: If the engine is difficult to start or runs rough, check that gaskets are undamaged and properly seated, reprime if required.)

Service

I. DRAINING THE SEPARATOR BOWL

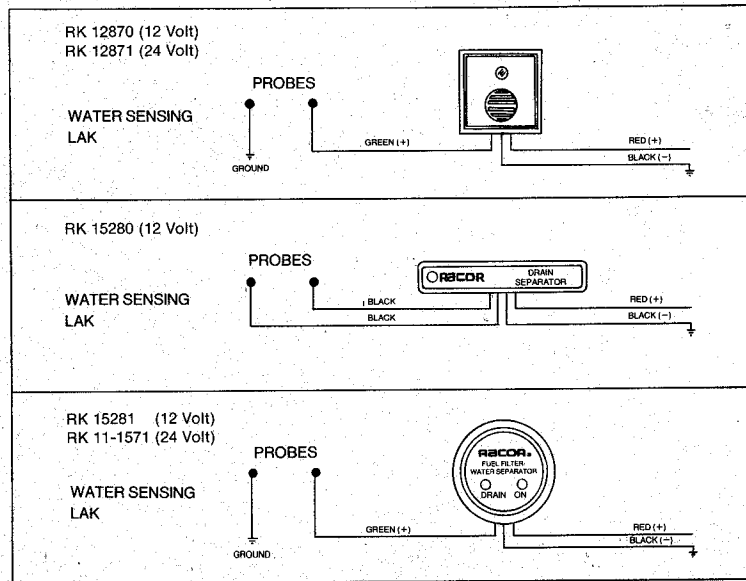
- Loosen vent plug.
- Drain bowl
- Reprime unit by pumping the priming pump. (vent must be open)
- Tighten pump knob and vent knob into filter separator head.

II. ELEMENT CHANGE INSTRUCTIONS

- Loosen vent plug. Drain unit.
- Remove element with bowl connected.
- Remove bowl and discard filter properly.
- Clean bowl, O-Ring gland, O-Ring.
- Lubricate O-Ring with clean diesel fuel and place in bowl gland.
- Spin bowl onto new element. CAUTION: Do not over tighten.
- Lubricate element gasket with clean diesel fuel.
- Unit Without Primer Pump:*
 - Fill Bowl/Element Assembly with clean diesel fuel.
 - Spin Bowl/Element Assembly onto Head.
- Unit With Primer Pump:*
 - Spin Bowl/Element Assembly onto Head.
 - Loosen pump knob *and vent knob*.
 - Prime unit until fuel purges at vent.
- Close pump knob and vent knob.

LIGHT ALARM KIT SERVICE PACKAGE

Customer Wiring Illustration



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For a period of one (1) year from and after the date of purchase of a new Racor product, Racor warrants and guarantees only to the original purchaser-user that such a product shall be free from defects of materials and workmanship in the manufacturing process. The warranty period for pumps and motors is specifically limited to ninety (90) days from date of purchase. A product claimed to be defective must be returned to the place of purchase. Racor, at its sole option, shall replace the defective product with a comparable new product or repair the defective product. This express warranty shall be inapplicable to any product not properly installed and properly used by the purchaser-user or to any product damaged or impaired by external forces. THIS IS THE EXTENT OF WARRANTIES AVAILABLE ON THIS PRODUCT. RACOR SHALL HAVE NO LIABILITY WHATSOEVER FOR CONSEQUENTIAL DAMAGES FLOWING FROM THE USE OF ANY DEFECTIVE PRODUCT OR BY REASON OF THE FAILURE OF ANY PRODUCT. RACOR SPECIFICALLY DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED INCLUDING, WITHOUT LIMITATION, ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE (EXCEPT FOR THOSE WHICH APPLY TO PRODUCT OR PART THEREOF THAT IS USED OR BOUGHT FOR USE PRIMARILY FOR PERSONAL, FAMILY, OR HOUSEHOLD PURPOSES), WARRANTIES OF DESCRIPTION, WARRANTIES OF MERCHANTABILITY, TRADE USAGE OR WARRANTIES OF TRADE USAGE.

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INSTALLATION INSTRUCTIONS
Racor Part No. 7238
8-86/5M