



Section: A Mobile Fuel Filtration

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



ENGINEERING YOUR SUCCESS.

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025 Series

In-Line Fuel Prefilters

025 Series In-Line Fuel Prefilters are the first stage in keeping your fuel clean. Dirt and grime in fuel can spell disaster. A secondary or final Racor filter should be installed after this filter for superior protection.

Installing a prefilter in your fuel system will increase overall filter life, saving you money.

Typical Mobile Applications:

- **ATV (4-wheeler)**
- **Small Gensets**
- **Small Tractors**
- **Any Small Engine**



**025-RAC-02
Shown**



Product Features:

025-RAC-01 and 025-RAC-02

- **1/4"-18 NPTF Ports**
- **15 GPH (57 LPH) with Diesel
25 GPH (95 LPH) with Gasoline**
- **Easy Spin-On Servicing**
- **Proprietary Aquabloc®II filter**
- **Easy Installation**
- **Saves Money**



025 Series

025 Series Overview



Specifications	025-RAC-01	025-RAC-02
Maximum Flow Rate: (with gasoline) (with diesel)	25 GPH (95 LPH) 15 GPH (57 LPH)	25 GPH (95 LPH) 15 GPH (57 LPH)
Inlet/Outlet Port Size	1/4"-18 NPTF	1/4"-18 NPTF
Replacement Filter	S2501	S2502
Micron Rating (nominal)	250	10
Minimum Service Clearance	3.0 in. (7.6 cm)	3.0 in. (7.6 cm)
Height	4.3 in. (10.9 cm)	4.3 in. (10.9 cm)
Width	2.3 in. (5.8 cm)	2.3 in. (5.8 cm)
Depth	2.1 in. (5.3 cm)	2.1 in. (5.3 cm)
Weight (dry)	0.3 lb (0.14 kg)	0.3 lb (0.14 kg)
Maximum Working Pressure ¹	100 PSI (6.9 bar)	100 PSI (6.9 bar)
Clean Pressure Drop	0.35 PSI (0.02 bar)	0.35 PSI (0.02 bar)
Water Removal Efficiency	12%	99%
Case Quantity	6	6
Ambient Fuel Temperature	-40° to 250°F (-40° to 121°C)	-40° to 250°F (-40° to 121°C)
Maximum Fuel Temperature	190°F (88°C)	190°F (88°C)

Special Notes: ¹Pressure installations acceptable up to maximum PSI shown. (vacuum installations recommended)

Installation Instructions

The following customer supplied materials should be on hand before beginning:

- **Two ¼"-18 NPT fittings.**
- **¼" hose (or larger) and hose clamps.**
- **Thread sealant (no thread tapes).**
- **¼" bolt (or lag bolt).**

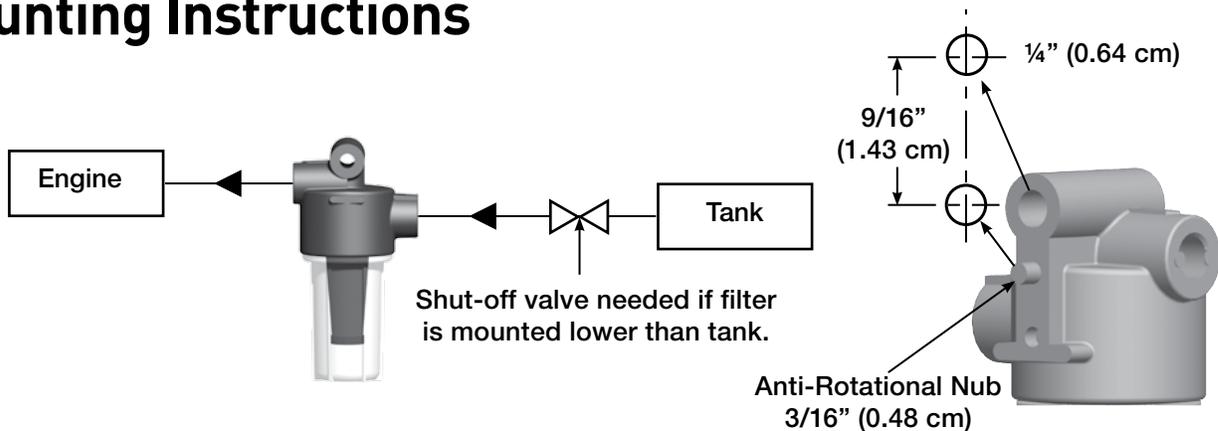
The 025 series filters are designed to be installed on suction (vacuum) side applications; (pressure side

installations are acceptable up to 100 PSI (6.9 bar)). Do not smoke or allow open flames around fuel or filters.

- 1. Make sure engine is off and cool to touch.**
- 2. Apply thread sealant to ¼" NPT fittings (do not use thread tapes as particles may break off and contribute to clogging filter).**
- 3. Thread fittings into fuel ports and tighten snugly.**

- 4. Mount filter vertically in a protected area and away from heat sources. Maintain at least 3 inches of clearance below filter for servicing. Follow mounting instructions below and use a ¼" bolt to secure filter to engine.**
- 5. Attach fuel lines to filter.**
- 6. Start engine and check for leaks. Correct as necessary with engine off.**

Mounting Instructions



Service Instructions

- 1. When water is visible in clear bowl or engine performance is reduced, service is required.**
- 2. Make sure engine is off and cool to touch.**
- 3. Spin clear bowl off of mounting head by turning in a counter-clockwise motion.**
- 4. Replace used filter with new filter (part number S2502).**
- 5. Lubricate bowl o-ring with clean motor oil.**
- 6. Thread bowl onto mounting head and tighten hand tight only - do not use tools.**
- 7. Start engine and check for leaks. Correct as necessary with engine off.**

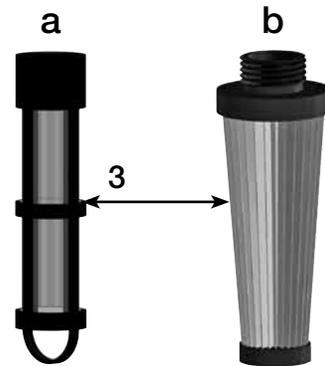
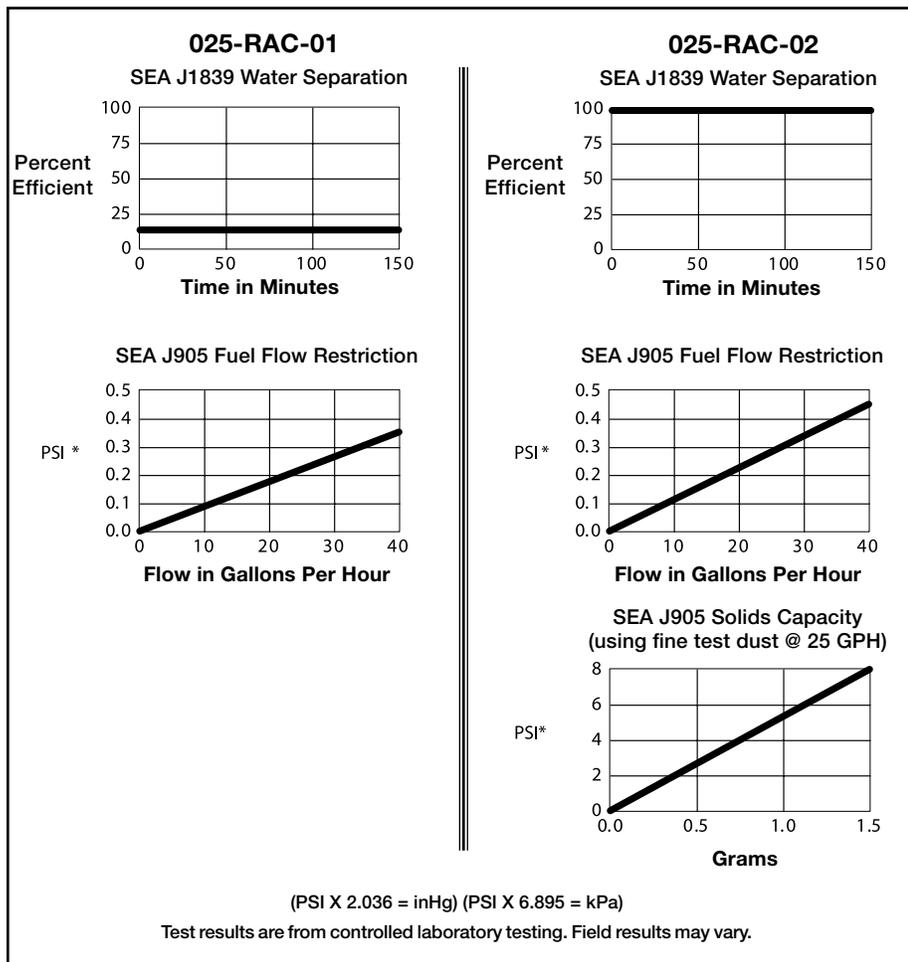
025 Series

Replacement Parts

025-RAC-01 or 025-RAC-02

Part Number	Description
1. RK 31390-05-03	Mounting Head Kit (1/4"-18 NPTF Ports)
2. N/A	Bowl O-ring
3. a: S2501 b: S2502	250 micron (for 025-RAC-01) Includes #2 10 micron (for 025-RAC-02) Includes #2
4. RK 31391	Clear Bowl Kit (includes #2)

Test Data



PS120 Series Strainer/Prefilters

PS120

Strainer/Prefilter

From personal watercraft to agricultural equipment, the PS120 Series high-flow diesel or gasoline strainer/prefilter is designed to protect fuel pumps, carburetors, injectors and related fuel system components. These innovative strainer/prefilters feature a heavy-duty die-cast aluminum mounting head, 4 port mounting versatility, a 200-260 micron cleanable nylon mesh screen, and a reusable clear water and sediment collection bowl.

The PS120 Series is ideal for equipment in environments with severe contamination and must be installed prior to, and in conjunction with, a Racor fuel filter/water separator. Strainers remove large droplets of free water and contaminants down to 200 micron. When used prior to engine fuel filter/water separator, extended filter life is realized.



Product Features

- **4-port aluminum mounting head with 3/8" or 1/2" NPTF threads**
- **Rugged construction**
- **Reusable collection bowl**
- **Easy to service and install**
- **200-260 micron cleanable mesh screen filter**
- **Use on any gasoline or diesel application.**
- **Removes large droplets of water and sediment**
- **Saves time and money**
- **Extends filter life**
- **Use in land and marine applications**



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

PS120 Series Strainer/Prefilters

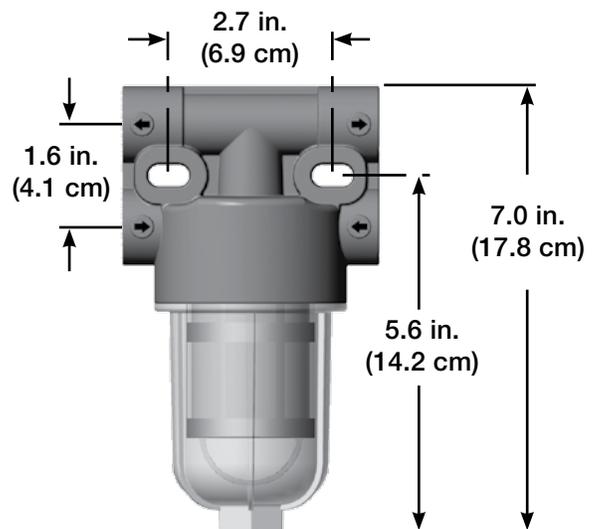
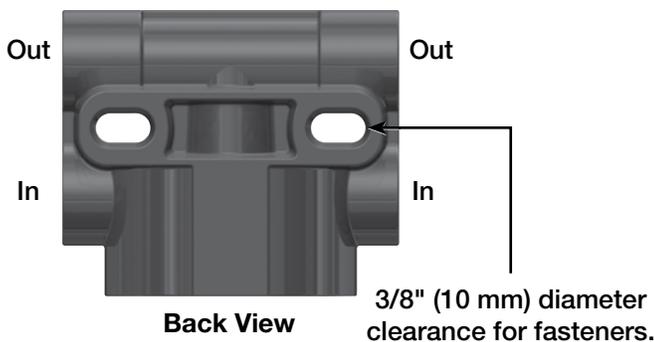
PS120 Series Strainer/Prefilters Overview



Specifications	PS120-01	PS120-02
Maximum Flow Rate	120 GPH (454 LPH)	120 GPH (454 LPH)
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.	Die-cast aluminum head with clear, reusable plastic bowl.
Micron Rating	200-260	200-260
Port Size	1/2" NPT Metal Plug Kit (one per kit)	3/8" NPT Metal Port Kit (two per kit)
Height	7.0 in. (17.8 cm)	7.0 in. (17.8 cm)
Width	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)
Maximum Working Pressure ¹	30 PSI (2.1 bar)	30 PSI (2.1 bar)
Clean Pressure Drop	0.9 PSI (0.1 bar)	0.9 PSI (0.1 bar)
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)	-40° to +250°F (-40° to +121°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.

Mounting Information



PS120 Series Strainer/Prefilters

Service Instructions

Mesh screen cleaning/replacement frequency is determined by contamination level in fuels. Fuel flow to engine becomes restricted as screen gradually plugs with contaminants, resulting in noticeable power loss and/or hard starting. As a guideline, clean screen every 500 hours, 10,000 miles, every other oil change, annually, or at first indication of power loss, whichever occurs first. Replace if mesh screen is damaged. Always carry extra replacement screens and fuel filters as one tankful of excessively dirty fuel can quickly plug a prefilter and a fuel filter/water separator filter.

- 1. Make sure engine is off and cool to touch.**
- 2. Close all fuel valves, if applicable, to make sure excess fuel does not spill during servicing.**
- 3. With a collection pan in place, slowly remove clear bowl and mesh screen.**
- 4. Clean screen with solvent and soft brush (or replace with new).**
- 5. Lube bowl o-ring with motor oil or clean fuel.**
- 6. Re-install mesh screen and clear bowl and tighten by hand only – do not use tools.**

- 7. Open all fuel valves, if applicable.**
- 8. Prime fuel system as instructed in engine manufacturers owner's manual.**
- 9. Start engine and check for leaks.**

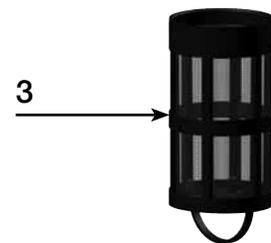
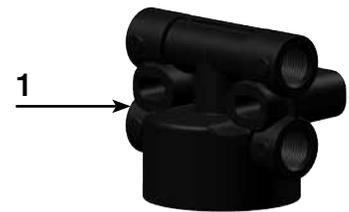
Note: Correct as necessary with engine off.

Replacement Parts

Part Number	Description
1. N/A	Mounting Head
2. N/A	O-ring (not available separately)
3. RK 51216	Mesh Screen Filter Kit (200-260 micron) (includes # 2)
4. RK51220	Clear Bowl Kit (includes # 2)

Additional Parts (not shown)

918-N8	PS120-01: 1/2" NPT Metal Plug Kit (one per kit)
22231	PS120-02: 3/8" NPT Metal Port Plug Kit (two per kit)
14387	Installation Instructions



PS120 Series Strainer/Prefilters

Installation Instructions

Exercise great caution when installing a PS120 Series strainer/prefilter to avoid a fire hazard. Do not smoke, allow open flame or excessive heat which could ignite a fire. Perform installation in a well ventilated area.

Refer to Mounting Information and Installation Diagram and install as follows:

- 1. Make sure engine is off and cool to touch.**
- 2. Apply thread sealant to 3/8" NPTF fittings (do not use thread tapes as particles may break off and contribute to clogging filter).**
- 3. Thread fittings into appropriate fuel ports and tighten snugly. Plug unused ports with port plugs and tighten snugly.**
- 4. Mount strainer/prefilter vertically prior to fuel filter/ water separator and in**

protected area away from heat sources. Maintain at least 3 in. (7.6 cm) of clearance below filter for servicing.

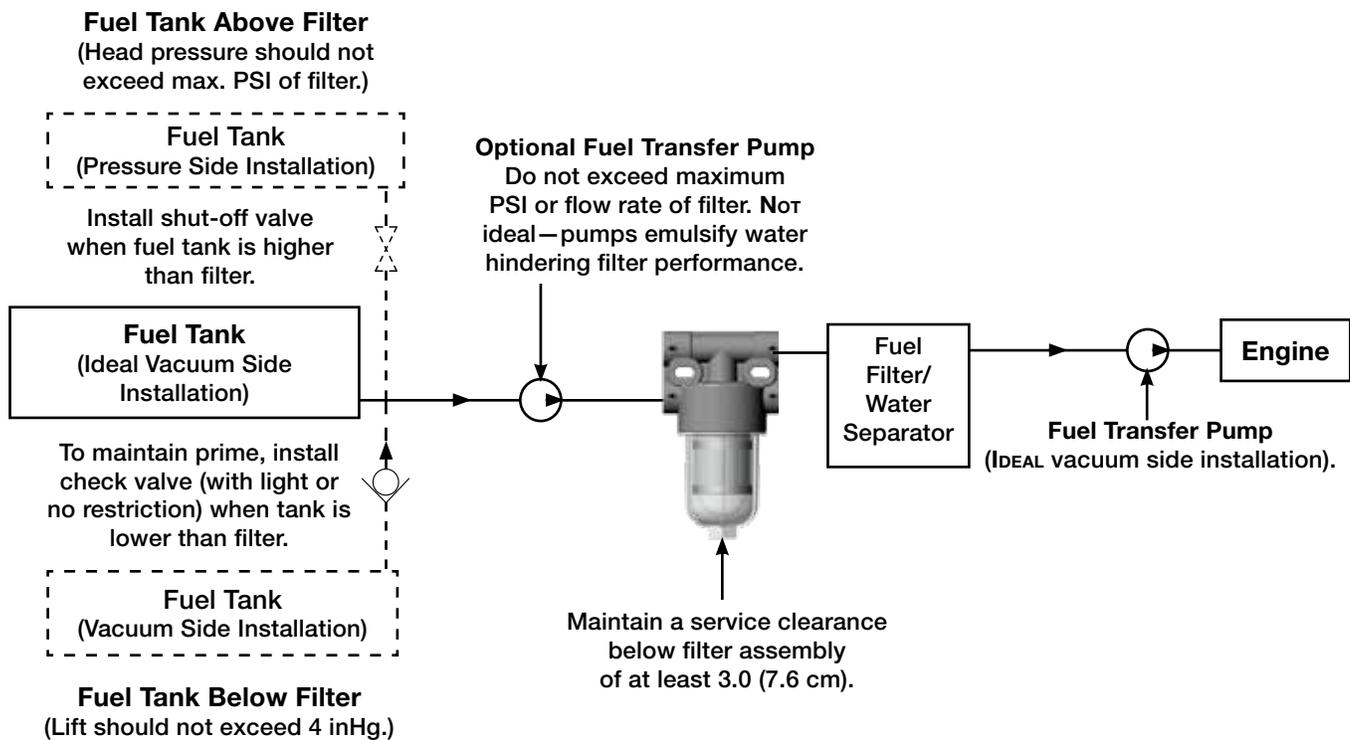
- 5. Attach fuel lines.**

Note: Avoid tight bends and rubbing areas when routing hose.

- 6. Prime fuel system as instructed in engine manufacturers owner's manual.**

- 7. Start engine and check for leaks. Correct as necessary with engine off.**

Installation Diagram



110A

Fuel Filter/Water Separator



The Racor 110A fuel filter/water separator features a variety of compact sizes to fit the most cramped engine compartments. All units feature 1/4"-18 NPTF inlet and outlet fuel ports and a unitized mounting bracket.

The 110A fuel filter/water separator optional accessories include: water detection kits, vacuum or compound gauges. High-capacity, Aquabloc®II cartridge elements which stop water, remove solid contamination, and are available in 2 or 10 micron.



Specifications

Maximum Flow Rate: (with diesel)	15 GPH (57 LPH)
(with gasoline)	35 GPH (132 LPH)
Inlet/Outlet Port Size	1/4"-18 NPTF
Total Number of Ports: (total inlets)	4 2
(total outlets)	2
Center Threads	N/A
Housing Material	Metal
Replacement Element and Micron Rating	R11S (2 micron) R11T (10 micron)
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	6.0 in. (15.2 cm)
Depth	3.3 in. (8.4 cm)
Width	3.2 in. (8.1 cm)
Weight (dry)	1.3 lb (0.59 kg)
Maximum Working Pressure¹	100 PSI (6.9 bar)
Available Options: (water sensor probe)	Yes
(heater)	No
Water in Bowl Capacity	1.2 oz. (36 ml)
Water Removal Efficiency	99%
Clean Pressure Drop	0.15 PSI (0.01 bar)
Case Quantity	6
Ambient Temperature Range	+10.4°F to +200°F (-12°C to +93°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.

100 Series

Top View

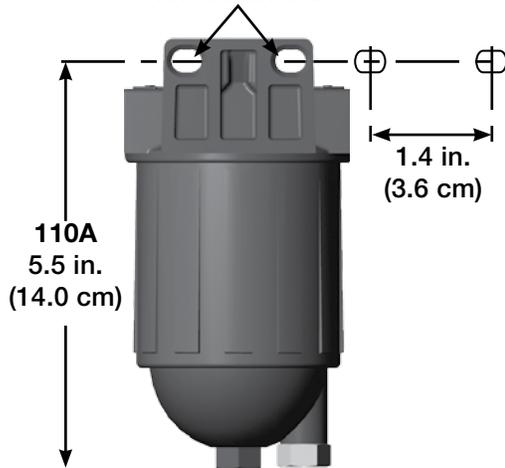
110A

Ports 1 and 3 are inlets.
 Ports 2 and 4 are outlets.
 Plug ports not used by fuel lines.



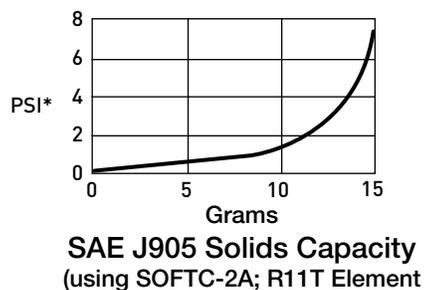
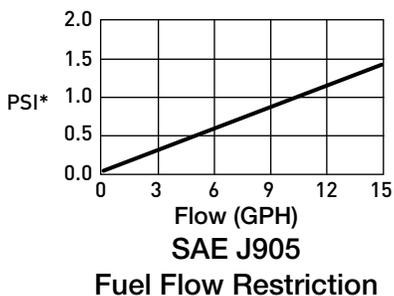
Back View

5/16 in. (.02 cm)
 diameter clearance
 for fasteners.



Test Data

(Test results are from controlled laboratory testing. Field results may vary.)



PSI X 2.036 = inHg. / PSI X 6.895 = kPa

Replacement Parts

110A

- | Part No. | Description |
|--------------------------------------|---------------------------------------|
| 1. N/A | Head Kit (not available) |
| 2. RK 10110 | Metal Vent Plug Kit
(3/8"-24 UNF) |
| 3. RK 21363 | Gasket/O-ring Kit |
| 4. Replacement Element (includes #3) | |
| R11S | 2 Micron |
| R11T | 10 Micron |
| 5. RK 21364 | Housing Kit
(includes #'s 5 and 6) |
| 6. RK 20022 | Metal Plug Kit
(1/2"-20 UNF) |

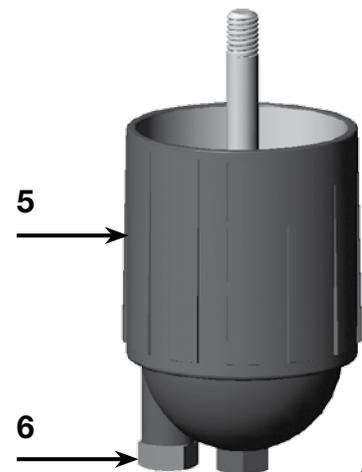
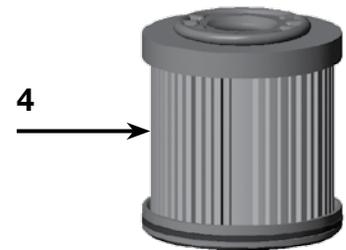
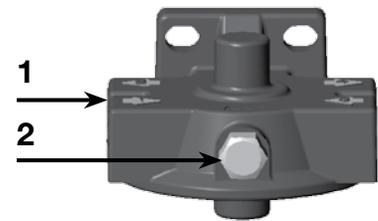
Additional Parts (not shown)

RK 30880E¹ Water Probe

RK 30817 Port Plug Kit
(2 plugs per kit)

21410 Installation Instructions

¹ Water probe must be used with a water detection module - see Accessories.



100 Series

120A

Fuel Filter/Water Separator



The Racor 120A fuel filter/water separator features a variety of compact sizes to fit the most cramped engine compartments. All units feature 1/4"-18 NPTF inlet and outlet fuel ports and a unitized mounting bracket.

These units feature Spin-On contaminant collection bowls. The clear bowls used with these models will not discolor from alcohol, additives, or UV light and have a leak-proof, positive seal drain for easy servicing. Water and contamination levels can be seen easily at a glance.

Metal bowls should be specified when filtering fuels in hazardous locations where equipment is exposed to flying gravel and debris.



Specifications	
Maximum Flow Rate: (with diesel)	15 GPH (57 LPH)
Inlet/Outlet Port Size	1/4"-18 NPTF
Total Number of Ports: (total inlets)	4
(total outlets)	2
Center Threads	M18 x 1.5
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.
Replacement Element	See Replacement Parts List
Micron Rating	See Replacement Parts List
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	6.5 in. (16.5 cm)
Depth	3.2 in. (8.1 cm)
Width	3.2 in. (8.1 cm)
Weight (dry)	1.1 lb (0.50 kg)
Maximum Working Pressure ¹	7.0 PSI (0.48 bar)
Available Options: (water sensor probe)	Yes
(heater)	No
Water in Bowl Capacity	1.8 oz. (52 ml)
Water Removal Efficiency	99%
Clean Pressure Drop	0.15 PSI (0.01 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +200°F (-40° to +93°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.	

120B

Fuel Filter/Water Separator



The Racor 120B fuel filter/water separator features a variety of compact sizes to fit the most cramped engine compartments. All units feature 1/4"-18 NPTF inlet and outlet fuel ports and a unitized mounting bracket.

These units feature Spin-On contaminant collection bowls. The clear bowls used with these models will not discolor from alcohol, additives, or UV light and have a leak-proof, positive seal drain for easy servicing. Water and contamination levels can be seen easily at a glance.

Metal bowls should be specified when filtering fuels in hazardous locations where equipment is exposed to flying gravel and debris.



Specifications

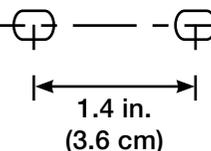
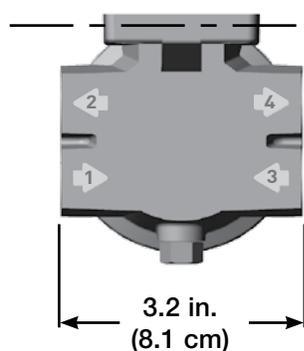
Maximum Flow Rate: (with diesel)	20 GPH (76 LPH)
Inlet/Outlet Port Size	1/4"-18 NPTF
Total Number of Ports: (total inlets)	4 2
(total outlets)	2
Center Threads	M18 x 1.5
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.
Replacement Element	See Replacement Parts List
Micron Rating	See Replacement Parts List
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	8.0 in. (20.3 cm)
Depth	3.2 in. (8.1 cm)
Width	3.2 in. (8.1 cm)
Weight (dry)	1.2 lb (0.54 kg)
Maximum Working Pressure ¹	7.0 PSI (0.48 bar)
Available Options: (water sensor probe)	Yes
(heater)	No
Water in Bowl Capacity	1.8 oz. (53 ml)
Water Removal Efficiency	99%
Clean Pressure Drop	0.15 PSI (0.01 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +200°F (-40° to +93°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.

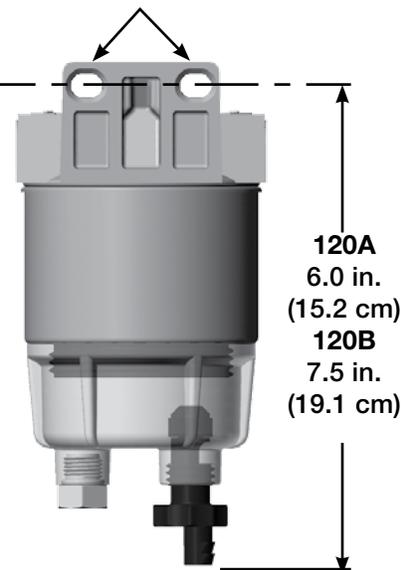
100 Series

Top View/Back View

120A and 120B
 Ports 1 and 3 are inlets.
 Ports 2 and 4 are outlets.
 Plug ports not used by fuel lines.

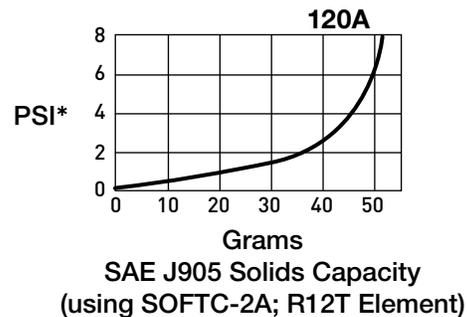
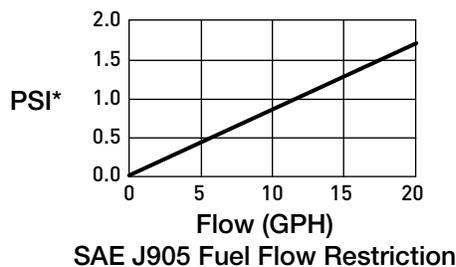


5/16 in. (.02 cm) diameter clearance for fasteners.

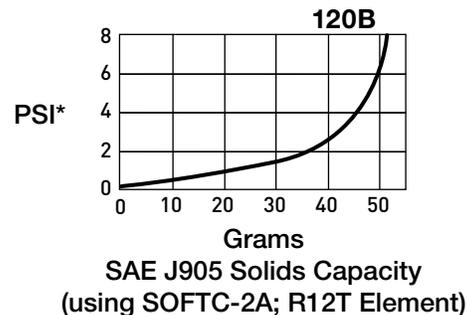
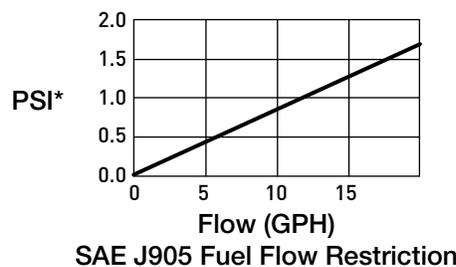


Test Data

(Test results are from controlled laboratory testing. Field results may vary.)



PSI X 2.036 = inHg / PSI X 6.895 = kPa



PSI X 2.036 = inHg / PSI X 6.895 = kPa

Replacement Parts

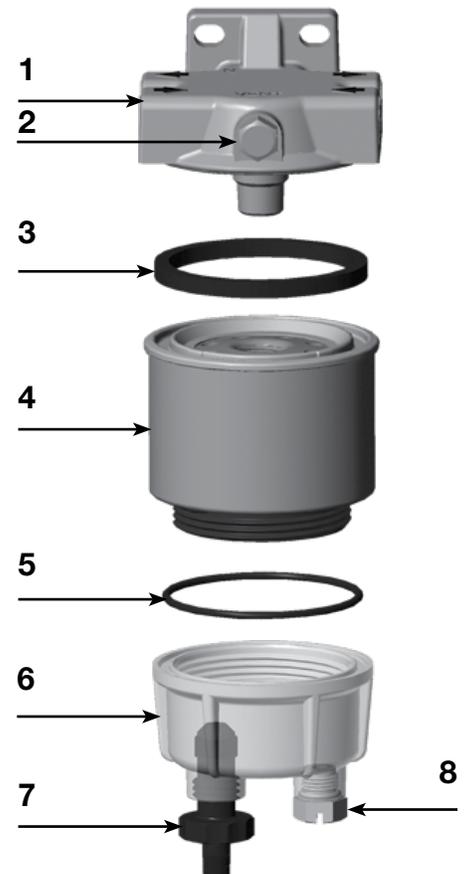
120A and 120B

<u>Part Number</u>	<u>Description</u>
1. RK 10214	Mounting Head Kit (1/4"-18 NPTF ports)
2. RK 10110	Metal Vent Plug Kit (3/8"-24 SAE threads)
3. RK 10503	Head Gasket Kit
4. Replacement Element (includes #'s 3 and 5)	
R12S	120A: 2 micron
R12T	120A: 10 micron
R12P	120A: 30 micron
R13S	120B: 2 micron
R13T	120B: 10 micron
R13P	120B: 30 micron
5. RK 10012	Bowl O-ring Kit
6. RK 10215	Clear Bowl Kit
7. RK 30476	Self-venting Drain Kit
8. RK 20126	Plastic Plug Kit (1/2"-20 SAE threads)

Additional Parts (not shown)

RK 30964 ¹	Water Probe Kit
RK 10109	Metal Bowl Kit
10219	Installation Instructions

¹ Water probe must be used with a water detection module—see accessories.



120A Shown above.

100 Series

140R

Fuel Filter/Water Separator



The Racor 140R fuel filter/water separator features a variety of compact sizes to fit the most cramped engine compartments. All units feature 1/4"-18 NPTF inlet and outlet fuel ports and a unitized mounting bracket.

These units feature Spin-On contaminant collection bowls. The clear bowls used with these models will not discolor from alcohol, additives, or UV light and have a leak-proof, positive seal drain for easy servicing. Water and contamination levels can be seen easily at a glance.

Metal bowls should be specified when filtering fuels in hazardous locations where equipment is exposed to flying gravel and debris.



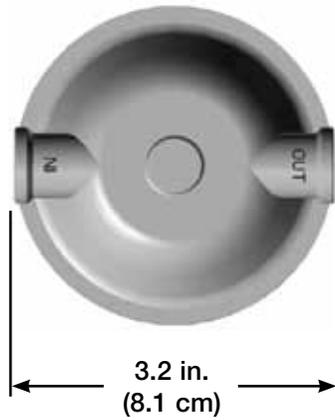
Specifications

Maximum Flow Rate: (with diesel)	15 GPH (57 LPH)
Inlet/Outlet Port Size	1/4"-18 NPTF
Total Number of Ports: (total inlets)	2 1
(total outlets)	1
Center Threads	M18 x 1.5
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.
Replacement Element	See Replacement Parts List
Micron Rating	See Replacement Parts List
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	6.0 in. (15.2 cm)
Depth	3.2 in. (8.1 cm)
Width	3.2 in. (8.1 cm)
Weight (dry)	1.1 lb (0.50 kg)
Maximum Working Pressure ¹	7.0 PSI (0.48 bar)
Available Options (water sensor probe)	No
(heater)	No
Water in Bowl Capacity	1.8 oz. (53 ml)
Water Removal Efficiency	99%
Clean Pressure Drop	0.15 PSI (0.01 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +200°F (-40° to +93°C)
Maximum Fuel Temperature	190°F (88°C)

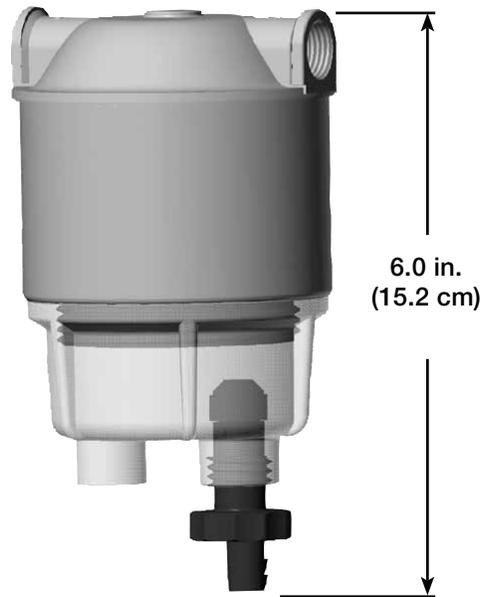
Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

140R

Top View

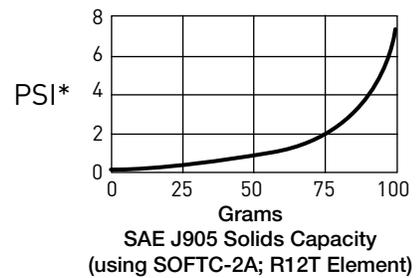
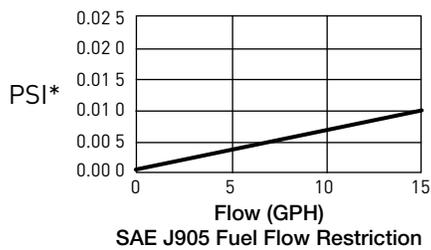


Front View



Test Data

(Test results are from controlled laboratory testing. Field results may vary.)



100 Series

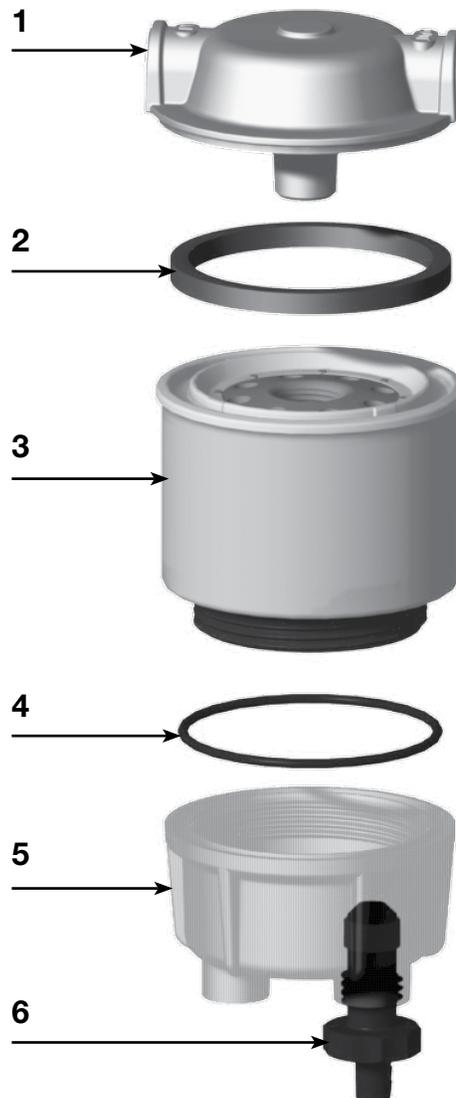
Replacement Parts

140R

<u>Part Number</u>	<u>Description</u>
1. RK 10216	Mounting Head Kit (1/4"-18 NPTF ports)
2. RK 10503	Head Gasket Kit
3. Replacement Element (includes #'s 2 and 4)	
R12S	2 micron
R12T	10 micron
R12P	30 micron
4. RK 10012	Bowl O-ring Kit
5. RK 10222	Clear Bowl with Drain Kit
6. RK 30476	Self-venting Drain Kit

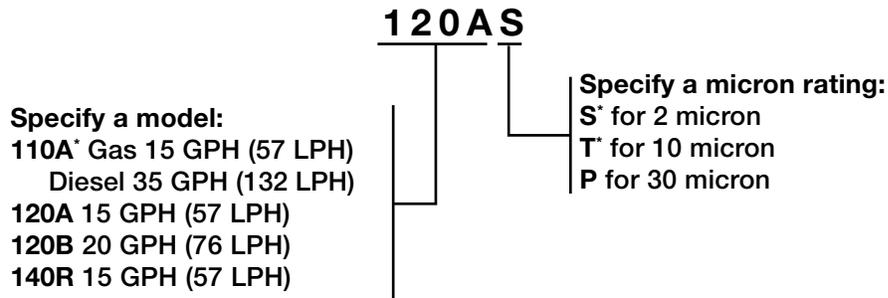
Additional Parts (not shown)

10192 Installation Instructions



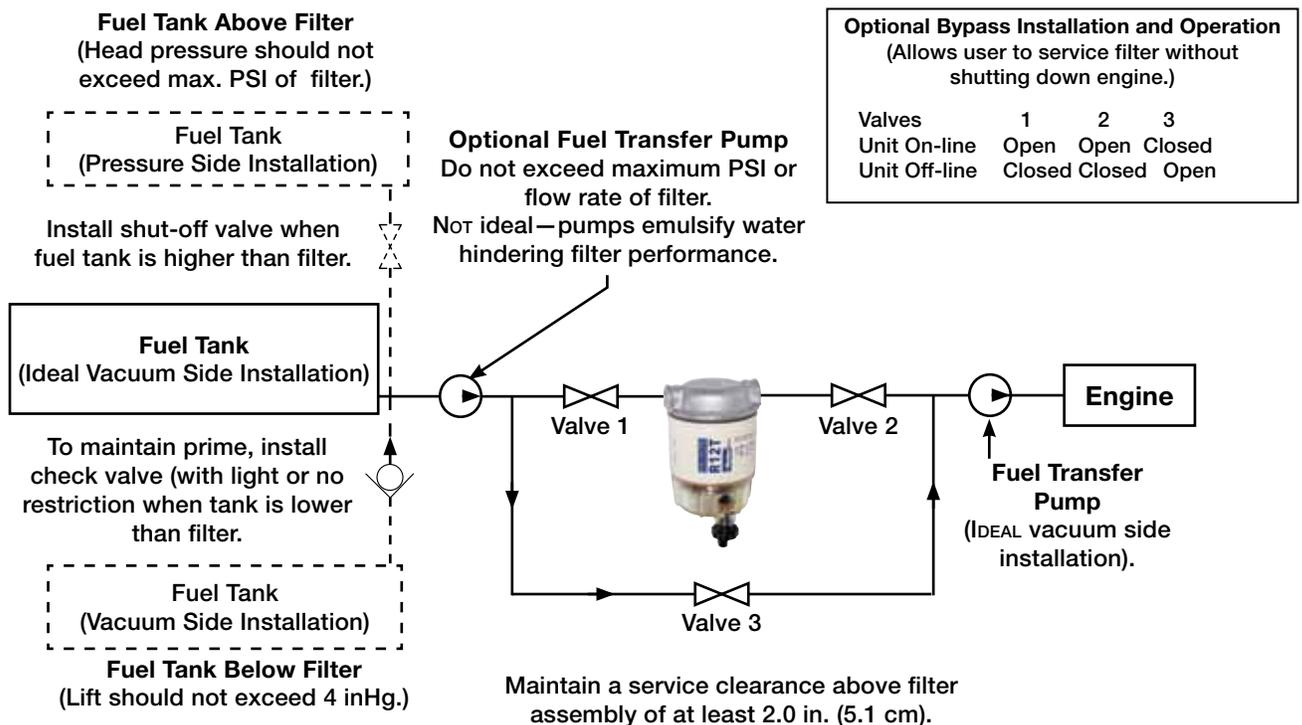
How to Order

(The example below shows how a part number is constructed.)



*110A is available in 2 and 10 micron only.

Installation Diagram



Installation diagram applies to all 100 Series filters. Model 120A shown above.
 Racor offers hose and fittings to complete this installation—see Accessories.

100 Series

100 Series Overview



Specifications	110A	120A	120B	140R
Maximum Flow Rate: (with diesel fuel) (with gasoline)	15 GPH (57 LPH) 35 GPH (132 LPH)	15 GPH (57 LPH) N/A	20 GPH (76 LPH) N/A	15 GPH (57 LPH) N/A
Port Size: (SAE J476)	1/4"-18 NPTF	1/4"-18 NPTF	1/4"-18 NPTF	1/4"-18 NPTF
Total Number of Ports: (total inlets) (total outlets)	4 2 2	4 2 2	4 2 2	2 1 1
Minimum Service Clearance	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
Center Threads	N/A	M18 x 1.5	M18 x 1.5	M18 x 1.5
Height	6.0 in. (15.2 cm)	6.5 in. (16.5 cm)	8.0 in. (20.3 cm)	6.0 in. (15.2 cm)
Depth	3.3 in. (8.4 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)
Width	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)
Weight (dry)	1.3 lb (0.59 kg)	1.1 lb (0.50 kg)	1.2 lb (0.54 kg)	1.1 lb (0.50 kg)
Clean Pressure Drop	0.15 PSI (0.01 bar)	0.15 PSI (0.01 bar)	0.15 PSI (0.01 bar)	0.01 PSI (0.0007 bar)
Max. Allowable Pressure ¹	100 PSI (6.9 bar)	7.0 PSI (0.48 bar)	7.0 PSI (0.48 bar)	7.0 PSI (0.48 bar)
Available Options: (water sensor probe) (heater)	Yes No	Yes No	Yes No	No No
Water in Bowl Capacity	1.2 oz. (36 ml)	1.8 oz. (52 ml)	1.8 oz. (53 ml)	1.8 oz. (53 ml)
H ₂ O Removal Efficiency	99%	99%	99%	99%
Operating Temperature	-40° to +200°F (-40° to +93°C)			
Special Notes: ¹ Pressure installations are applicable up to maximum PSI shown. Vacuum installation are recommended.				

215R

Fuel Filter/Water Separator



The Racor diesel Spin-On 200 Series features a variety of compact sizes to fit in the most cramped engine compartments.

All models are standard with 1/4"-18 NPTF (SAE J476) inlet and outlet fuel ports (14M ports also available) and a unitized mounting bracket.

They also include an in-head primer pump which allows the operator to hand prime the filter and simplifies service procedures.



Specifications	
Maximum Flow Rate: (with gasoline)	15 GPH (57 LPH)
Inlet/Outlet Port Size	1/4"-18 NPTF
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.
Replacement Element	see element chart
Micron Rating	see element chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	8.3 in. (21.1 cm)
Depth	4.0 in. (10.2 cm)
Width	3.9 in. (9.9 cm)
Weight (dry)	1.8 lb (0.82 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.12 PSI (0.008 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +200°F (-40° to +93°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.	

200 Series

230R

Fuel Filter/Water Separator



Options for the 230R filter/water separator with heater installed: water detection kits (for diesel applications only), vacuum or compound gauges, 12 or 24 volt dc (200 watt) heaters, hose and fittings, and metal bowls. Metal bowls should be specified when filtering fuels in hazardous locations where equipment is exposed to flying gravel and debris.



Specifications	
Maximum Flow Rate: (with gasoline)	30 GPH (114 LPH)
Inlet/Outlet Port Size	¼"-18 NPTF
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.
Replacement Element	see element chart
Micron Rating	see element chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	9.0 in. (22.9 cm)
Depth	4.0 in. (10.2 cm)
Width	3.9 in. (9.9 cm)
Weight (dry)	2.0 lb (0.91 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.31 PSI (0.02 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +200°F (-40° to +93°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.	

245R

Fuel Filter/Water Separator



All 200 Series filters feature Spin-On, high-capacity, Aquabloc®II replaceable filter elements which separate water, remove solid contamination, and are available in 2, 10, and 30 micron.

Filtration needs should be based on application, fuel quality, operating climates and maintenance schedules.

The see-through bowls used with these models will not discolor from alcohol, additives, or UV light and have a leak-proof, positive seal, self-venting drain for easy servicing. Water and contamination levels can be seen easily at a glance.



Specifications	
Maximum Flow Rate: (with gasoline)	45 GPH (170 LPH)
Inlet/Outlet Port Size	¼"-18 NPTF
Housing Material	Die-cast aluminum head with clear, reusable plastic bowl.
Replacement Element	see element chart
Micron Rating	see element chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	10.5 in. (26.7 cm)
Depth	4.0 in. (10.2 cm)
Width	3.9 in. (9.9 cm)
Weight (dry)	2.2 lb (1.0 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.61 PSI (0.04 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +200°F (-40° to +93°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.	

200 Series

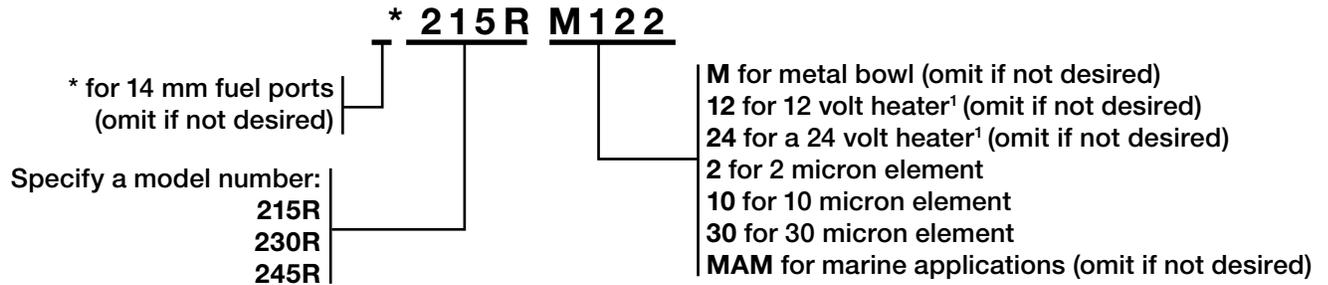
200 Series Overview



Specifications	215R	230R	245R
Maximum Flow Rate	15 GPH (57 LPH)	30 GPH (114 LPH)	45 GPH (170 LPH)
Port Size	¼"-18 NPTF	¼"-18 NPTF	¼"-18 NPTF
Total Number of Ports (total inlets) (total outlets)	3 1 2	3 1 2	3 1 2
Minimum Service Clearance	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
Element Threads	1"-14	1"-14	1"-14
Height	8.3 in. (21.1 cm)	9.0 in. (22.9 cm)	10.5 in. (26.7 cm)
Depth	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)
Width	3.9 in. (9.9 cm)	3.9 in. (9.9 cm)	3.9 in. (9.9 cm)
Weight (dry)	1.8 lb (0.82 kg)	2.0 lb (0.91 kg)	2.2 lb (1.0 kg)
Clean Pressure Drop	0.12 PSI (0.008 bar)	0.31 PSI (0.02 bar)	0.61 PSI (0.04 bar)
Max. Allowable Pressure ¹	30 PSI (2.07 bar)	30 PSI (2.07 bar)	30 PSI (2.07 bar)
Available Options: (water sensor) (heater)	Yes Yes	Yes Yes	Yes Yes
Water in Bowl Capacity	2.2 oz. (65 ml)	2.2 oz. (65 ml)	2.2 oz. (65 ml)
H ₂ O Removal Efficiency	99%	99%	99%
Operating Temperature	-40° to +200°F (-40° to +93°C)		
Special Notes: ¹ Pressure installations are applicable up to the maximum PSI shown. Vacuum installations are recommended.			

How To Order

(The example below illustrates how part numbers are constructed.)



¹ Use with Racor rely kit—see Accessories. Standard fuel ports are ¼”-18 NPTF (SAE J476). Mounting head includes in-head primer pump.

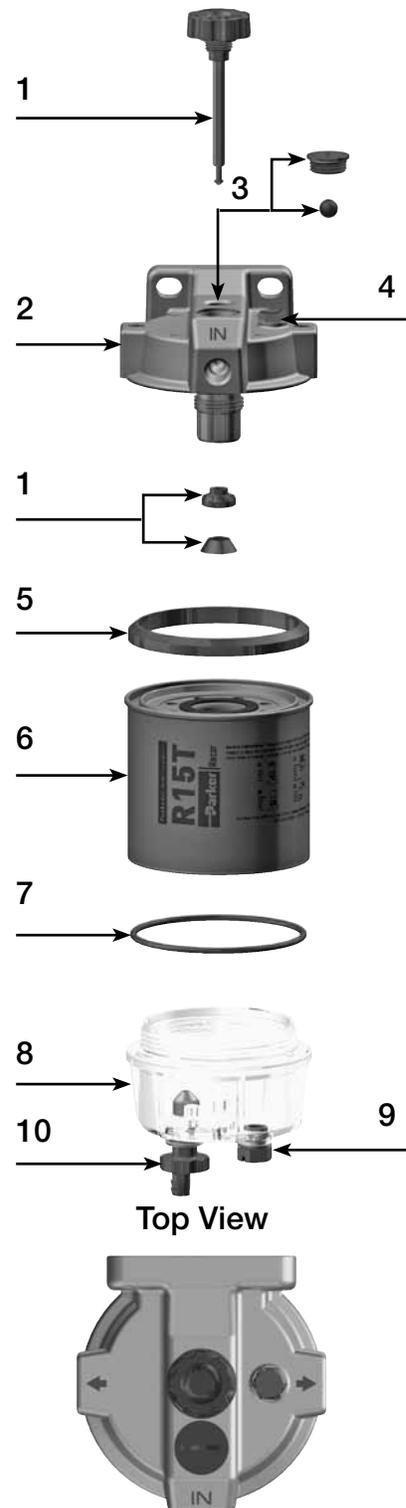
Replacement Elements

Replacement Elements (seals included)			
Model Number	2 Micron (Final Filtration)	10 Micron (Secondary Filtration)	30 Micron (Primary Filtration)
215R	R15S	R15T	R15P
230R	R20S	R20T	R20P
245R	R25S	R25T	R25P

200 Series

Replacement Parts

<u>Part Number</u>	<u>Description</u>
1. RK20025-01	Primer Pump Assembly Kit (includes #3)
2. RK20046-01	Mounting Head Kit (with 1/4"-18 NPTF Ports)
RK20049-01	Mounting Head Kit (with 14 mm x 1.5 Ports)
RK20717	Mounting Head Kit (no pump, 1/4"-18 NPTF Ports)
3. RK 20011-01	Check Ball and Plastic Cap Kit
RK 20742	Optional Metal Cap Kit
4. RK 10110	Metal Vent Plug Kit (3/8"-24 SAE threads)
5. RK22061	Beveled Gasket
6. (various)	Spin-On Elements (see Replacement Element chart)
7. RK 22244	Bowl O-ring Kit
8. RK 22350-02	Clear Bowl Kit (includes #'s 7-10)
RK 22354-01	(same as above plus a 200 watt, 12 volt dc heater)
RK 22354-02	(same as above plus a 200 watt, 24 volt dc heater)
RK 22368	Metal Bowl Kit (includes drain plug and O-ring)
9. RK 20022	Metal Plug (1/2"-20 SAE threads)
RK 20126	Plastic Plug (1/2"-20 SAE threads)
10. RK 30476	Self-venting Drain Kit
Additional Parts (not shown)	
RK 12041	Metal Port Plug Kit (1/4"-18 NPTF threads)
RK 30876	Heater Connector Kit
RK20075-01	Complete Seal Service Kit
22360	Installation Instructions



Hand Primer Pump Upgrade

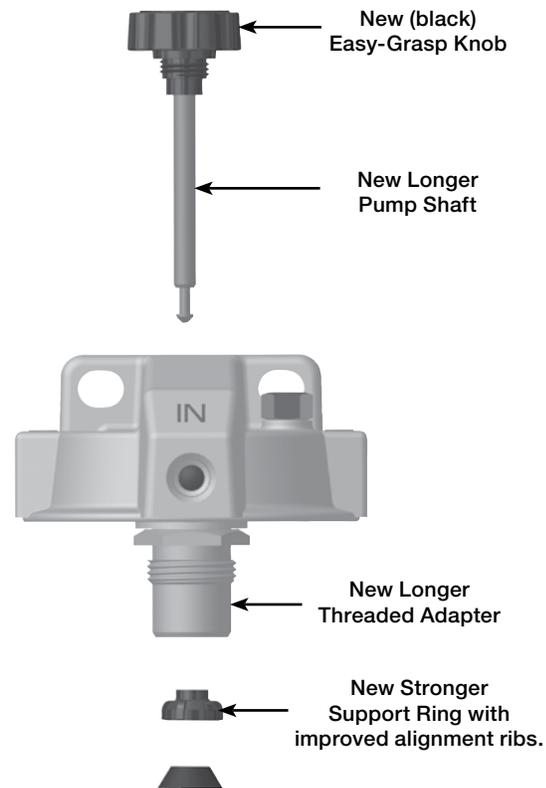
Benefits

- **Up to 37% increase in volume of fuel pumped per stroke**
- **Improved strength and alignment**
- **Improved ease of operation**
- **Reduced restriction in fuel flow**
- **Changeable in the field**

This enhancement is possible by increasing the stroke length, by about 1/2", on the pump shaft and the element threaded adapter. Additionally, the knob and support ring have been redesigned to be more robust.

This change also affects replacement kits for the primer pump and head assemblies. The new style primer pump requires an additional 0.5 inch of space above the assembly (2 inches total) to utilize the added length of stroke; however, the primer pump will perform as always without any mounting modifications.

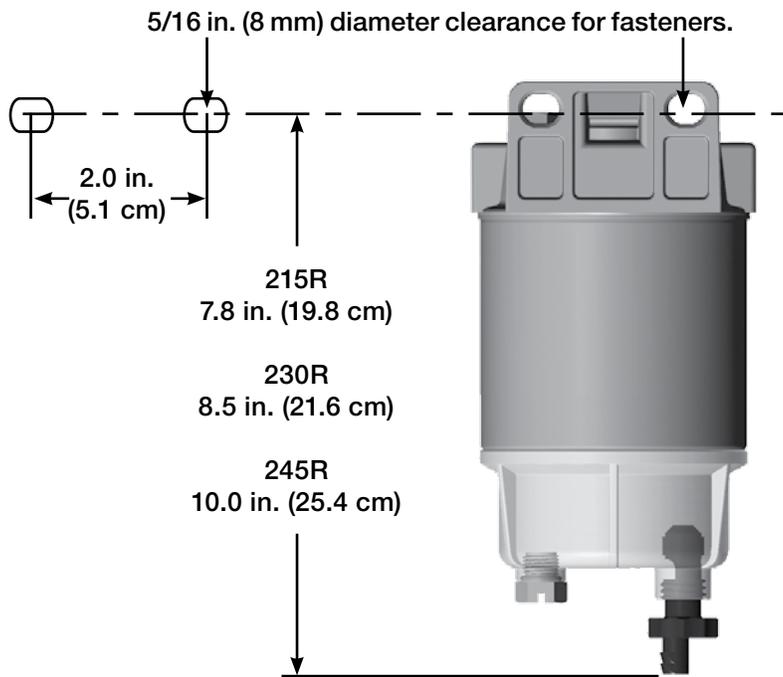
The new easy-grasp pump knob is larger than current knobs and the color will be changed from white to black to make a clear visual change between current pumps and newer versions.



New Primer Pump Assembly Exploded View

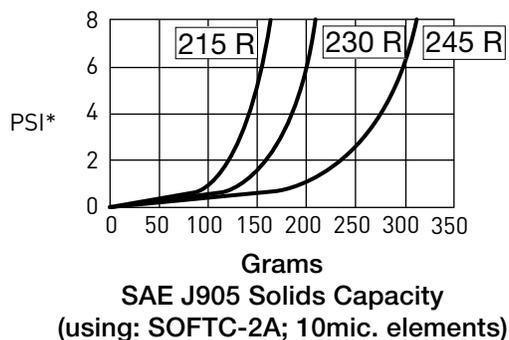
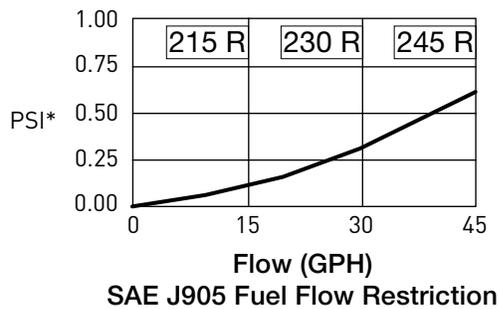
200 Series

Mounting Information



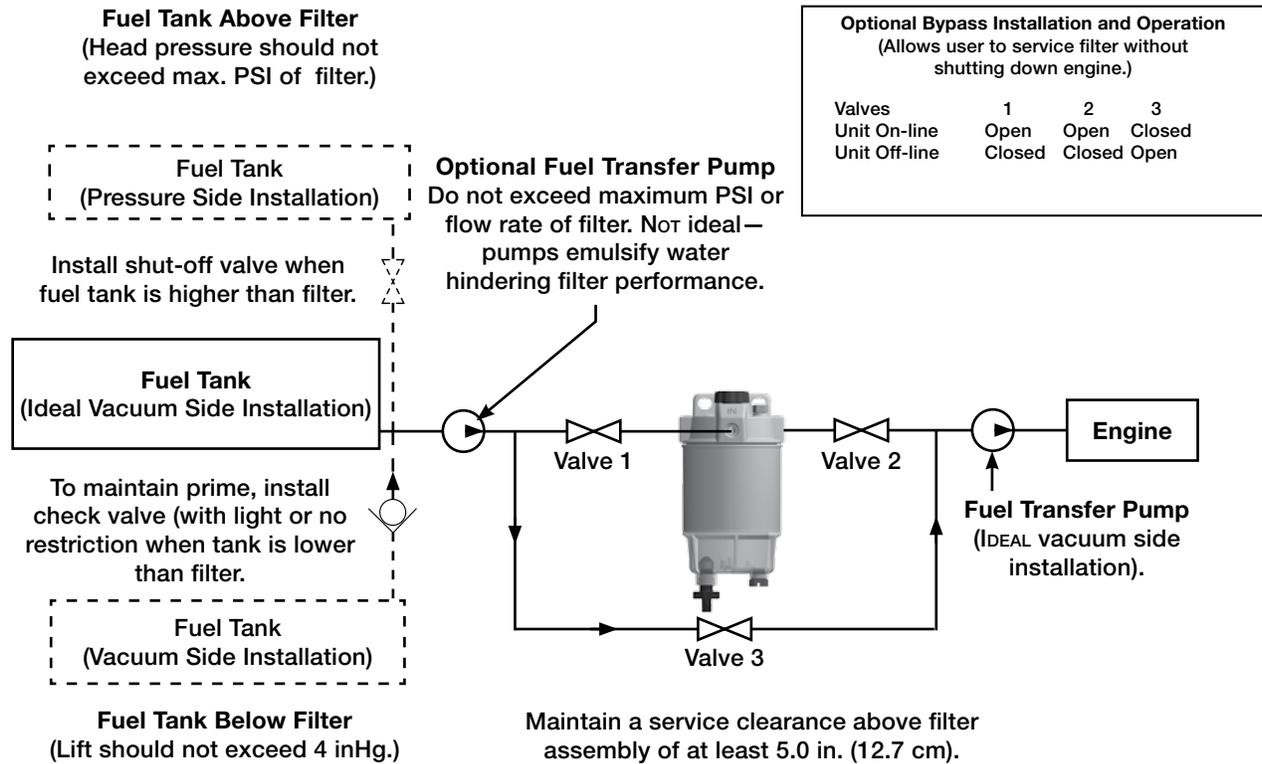
Test Data

(Test results are from controlled laboratory testing. Field results may vary by application.)



PSI x 2.036=inHg. /PSI x 6.895=kPa

Installation Diagram



Installation diagram applies to all 200 Series filters.
Model 215R shown above. Racor offers hose and fittings to complete this installation. See Accessories.

300 Series

325R

Fuel Filter/Water Separator



Racor's 325R Diesel Fuel Filter/ Heater/ Water Separators are specifically designed to handle today's tough fuel system problems. These units feature a standard in-head PTC heater and reusable see-thru contaminant collection bowl. They are different only in flow capacity and element size.

These units are recommended for suction (vacuum) side installations but they may also be installed on the pressure side up to 15 PSI maximum. The die-cast aluminum mounting head features standard 3/8" NPTF fuel ports.



Specifications

Maximum Flow Rate: (with diesel)	60 GPH (227 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF (SAE J476)
Replacement Element	see element chart
Micron Rating	see element chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	9.7 in. (24.6 cm)
Depth	4.8 in. (12.2 cm)
Width	4.4 in. (11.2 cm)
Weight (dry)	3.1 lb (1.4 kg)
Maximum Working Pressure ¹	15 PSI (1.03 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.17 PSI (0.01 bar)
Water in Bowl Capacity (with heater)	2.7 oz (82 ml) 2.3 oz (70 ml)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

330R

Fuel Filter/Water Separator



Racor's 330R Diesel Fuel Filter/ Heater/ Water Separators are specifically designed to handle today's tough fuel system problems. These units feature a standard in-head PTC heater and reusable see-thru contaminant collection bowl. They are different only in flow capacity and element size.

These units are recommended for suction (vacuum) side installations but they may also be installed on the pressure side up to 15 PSI maximum. The die-cast aluminum mounting head features standard 3/8" NPTF fuel ports.



Specifications	
Maximum Flow Rate: (with diesel)	75 GPH (284 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF (SAE J476)
Replacement Element	see element chart
Micron Rating	see element chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	11.0 in. (27.9 cm)
Depth	4.8 in. (12.2 cm)
Width	4.4 in. (11.2 cm)
Weight (dry)	3.1 lb (1.4 kg)
Maximum Working Pressure ¹	15 PSI (1.03 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.39 PSI (0.03 bar)
Water in Bowl Capacity (with heater)	2.7 oz (82 ml) 2.3 oz (70 ml)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.	

300 Series

3150R

Fuel Filter/Water Separator



Racor's 3150R Diesel Fuel Filter/Water Separators are specifically designed to handle high flow applications that require low restriction values.

These robust filters use a reusable see-thru contaminant collection bowl with an in-bowl heater option. The die-cast aluminum mounting head features standard 7/8" UNF O-ring inlet and outlet fuel ports. With a large 3/4" SAE port for easy fuel priming.

These units are recommended for suction (vacuum) side installations but they may also be installed on the pressure side up to 7 PSI maximum pressure.



Specifications

Maximum Flow Rate: (with diesel)	150 GPH (568 LPH)
Inlet/Outlet Port Size	7/8"-14 UNF (SAE J1926)
Replacement Element	see element chart
Element Threads	1 1/4"-12
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	13.6 in. (34.5 cm)
Depth	5.5 in. (14.0 cm)
Width	4.75 in. (12.1 cm)
Weight (dry)	3.6 lb (1.6 kg)
Maximum Working Pressure ¹	7 PSI (0.48 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.17 PSI (0.01 bar)
Water in Bowl Capacity (with heater)	2.7 oz (82 ml) 2.3 oz (70 ml)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

3250R

Fuel Filter/Water Separator



Racor's 3250R Diesel Fuel Filter/Water Separators are specifically designed to handle high flow applications that require low restriction values.

These robust filters use a reusable see-thru contaminant collection bowl with an in-bowl heater option. The die-cast aluminum mounting head features standard 7/8" UNF O-ring inlet and outlet fuel ports. With a large 3/4" SAE port for easy fuel priming.

These units are recommended for suction (vacuum) side installations but they may also be installed on the pressure side up to 7 PSI maximum pressure.



Specifications

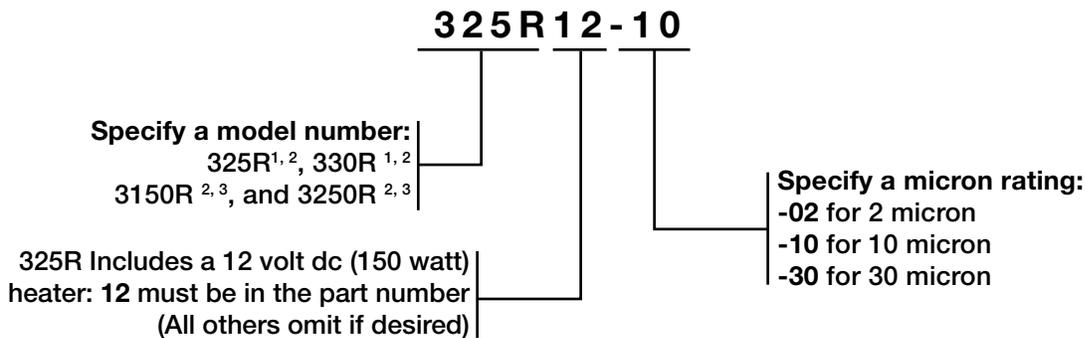
Maximum Flow Rate: (with diesel)	250 GPH (946 LPH)
Inlet/Outlet Port Size	7/8"-14 UNF (SAE J1926)
Replacement Element	see element chart
Element Threads	1 1/4"-12
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	17.3 in. (43.9 cm)
Depth	5.5 in. (14.0 cm)
Width	4.8 in. (12.2 cm)
Weight (dry)	4.6 lb (2.1 kg)
Maximum Working Pressure ¹	7 PSI (0.48 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	1.0 PSI (0.07 bar)
Water in Bowl Capacity (with heater)	2.7 oz (82 ml) 2.3 oz (70 ml)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.

300 Series

How to Order

(The example below illustrates how part numbers are constructed.)



¹ Filter includes **RK22010** for a 12 volt dc (150 watt) in-head Heater. see installation diagram.

² In-bowl heater option: **RK30900** for a 12 volt dc (200 watt) = 16.6 amps, **RK30924** for a 24 volt dc (200 watt) = 8.3 amps. Use with Racor relay kit. - see Accessories.

³ Standard fuel ports are 7/8"-14 UNF (SAE J1926). 10 micron element included as standard with this filters.

Replacement Elements			
Model Number	2 Micron (Final Filtration)	10 Micron (Secondary Filtration)	30 Micron (Primary Filtration)
325R	S3225S	S3225T	S3225P
330R	S3226S	S3226T	S3226P
3150R	N/A	S3238	S3238P
3250R	S3207S	S3207T	S3207P

300 Series Overview



Specifications	325R	330R	3150R	3250R
Maximum Flow Rate	60 GPH (227 LPH)	75 GPH (284 LPH)	150 GPH (568 LPH)	250 GPH (946 LPH)
Port Size	3/8"-18 NPTF (SAE J476)	3/8"-18 NPTF (SAE J476)	7/8"-14 UNF (SAE J1926)	7/8"-14 UNF (SAE J1926)
Total Number of Ports:	2	2	2	2
Inlets	1	1	1	1
Outlets	1	1	1	1
Min. Service Clearance	2.0 in. (5.1 cm)			
Element Threads	1"-14	1"-14	1 1/4"-12	1 1/4"-12
Height	9.7 in. (24.6 cm)	11.0 in. (27.9 cm)	13.6 in. (34.5 cm)	17.3 in. (43.9 cm)
Depth	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	5.5 in. (14.0 cm)	5.5 in. (14.0 cm)
Width	4.4 in. (11.2 cm)	4.4 in. (11.2 cm)	4.75 in. (12.1 cm)	4.75 in. (12.1 cm)
Weight (dry)	3.1 lb (1.4 kg)	3.2 lb (1.5 kg)	3.6 lb (1.6 kg)	4.6 lb (2.1 kg)
Clean Pressure Drop	0.17 PSI (0.01 bar)	0.39 PSI (0.03 bar)	0.68 PSI (0.05 bar)	1.0 PSI (0.07 bar)
Max. Allowable Pressure ¹	15 PSI (1.03 bar)	15 PSI (1.03 bar)	7 PSI (0.48 bar)	7 PSI (0.48 bar)
Water in Bowl Capacity (with heater) ²	2.7 oz (82 ml) 2.3 oz (70 ml)			
H ₂ O Removal Efficiency	99%	99%	99%	99%
Operating Temperature	-40° to +255°F (-40° to +124°C)			

¹Pressure installations are OK up to maximum PSI shown. Vacuum installations are recommended.

²Maximum power requirements for 3150R and 3250R in-bowl heater option: 12 volt dc (200 watt) = 16.6 amps, 24 volt dc (200 watt) = 8.3 amps. See Accessories for heater relay kits.

300 Series

Optional Accessories

(For models 325R and 330R)

Warning! Racor electrical options are for use on diesel fuel applications ONLY.

In-head 150 Watt PTC Heater

The in-head 150 watt heater is a cold weather starting aid and is thermostatically controlled when power is provided. The heater will automatically turn ON if the fuel temperature drops below 45°F (7°C) and will automatically turn OFF at about 75°F (24°C). Heat is supplied just below the inlet port to melt the wax crystals and allow fuel to efficiently pass through the element. The heater is operated by turning the ignition switch on for a minimum of five minutes prior to starting the engine. See installation diagram on this page.

- **Note: do not smoke or allow open flames near installation to reduce potential for fire.**
- **All wires should be 14 AWG (minimum).**
- **Wire/terminal connections should be soldered and crimped.**
- **Run wires in protected locations; avoid hot surfaces and places that may pinch or rub on wires.**
- **Disconnect battery ground cable before beginning installation.**
- **If vehicle has fused and ignition switch activated terminal on fuse block, then route 14 AWG wire to heater connector wire. This terminal should be capable of 16 amp load and be dedicated only to Racor heater.**
- **A Racor relay is recommended for safest method of installation. Use RK11861 for 12 vdc applications and RK11862 for 24 vdc applications. These kits include an in-line fuse and holder.**
- **An ON/OFF toggle switch may be used to control power to heater relay. This allows operator to cut power during summer use.**
- **Ground Racor filter to chassis by adding a ground wire, if necessary.**

RK 11-1570 (Water Sensor and Element Restriction Gauge)

This optional kit alerts the operator in the event accumulated water (about 80 ml) reaches the water probe or when element restriction has reached 7 inches of mercury. The gauge will illuminate either the 'DRAIN WATER' or 'CHANGE FILTER' lamps, respectfully. An audible buzzer will sound for 2 seconds and then go off. The light(s) will remain on until the

condition has been corrected. The sequence will repeat upon each initial power-up. After 2 seconds, both the lights and buzzer will go off (if no water or restriction is present). The gauge resets itself automatically.

- **Mount gauge in instrumentation panel (2 in. [5.1 cm] diameter hole required for mounting) or locate within instrumentation proximity.**
- **Attach wires as shown using provided hardware.**
- **Use provided wire ties to route wires neatly and away from heat or moving surfaces.**

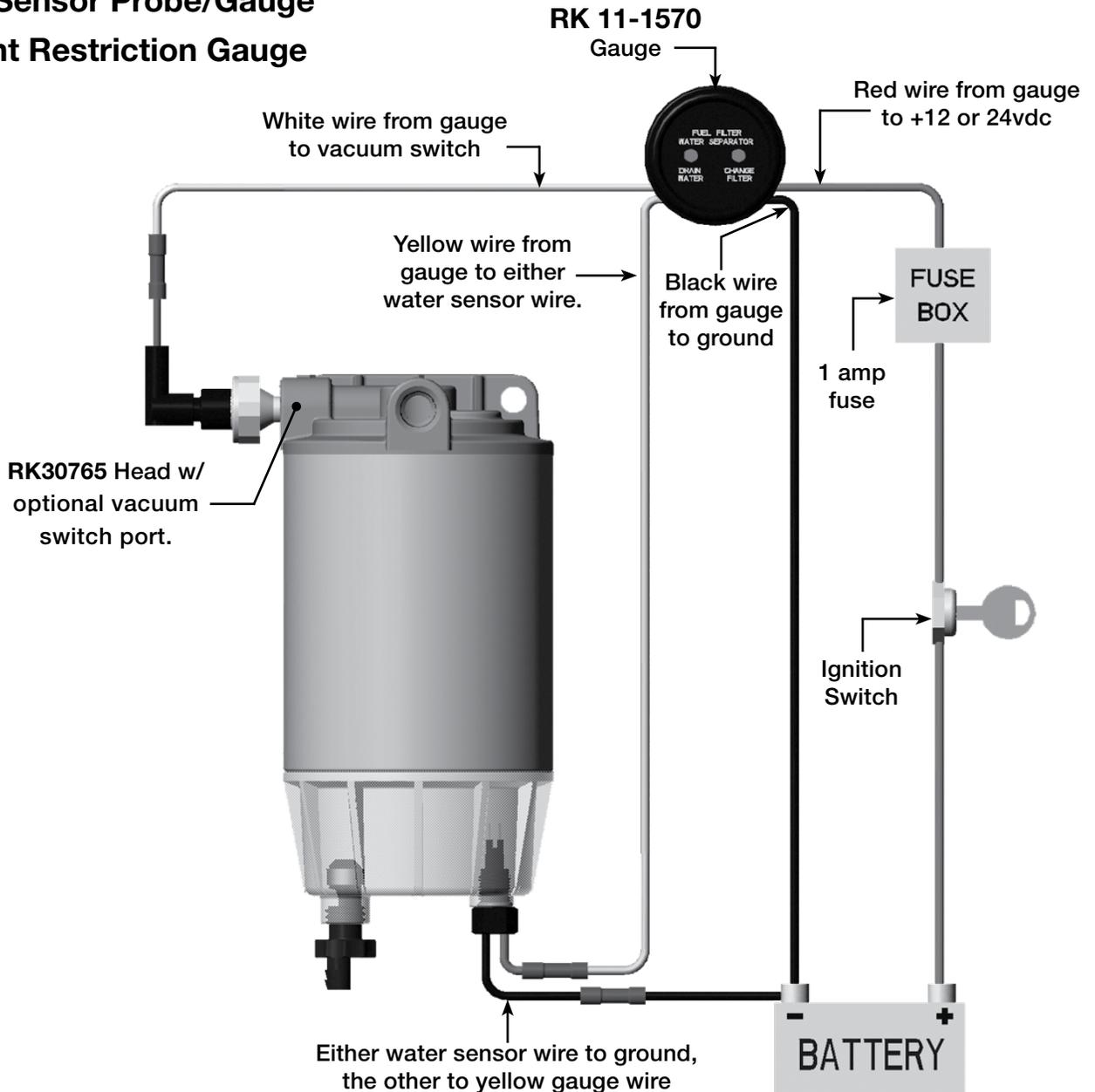
Testing the Installation

With the battery reconnected, turn the ignition switch to 'ON'. The self-diagnosis sequence will occur. Disconnect the vacuum switch and ground the terminal inside the

connector. After a short delay, the gauge will activate. Remove the water probe and jump the sensor tips, again the gauge should activate. Failures usually are due to poor connections.

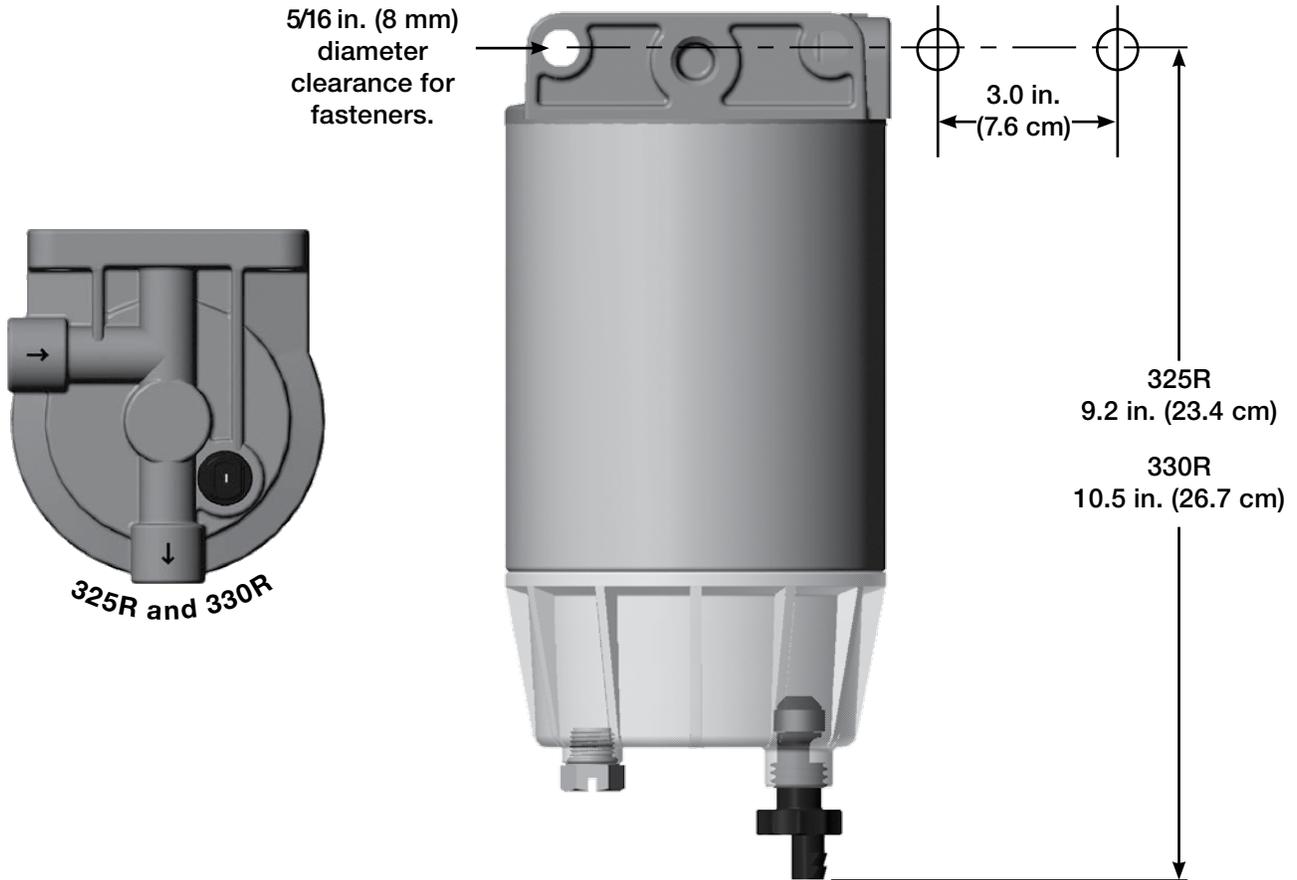
Installation Diagram

- Vacuum Switch
- Water Sensor Probe/Gauge
- Element Restriction Gauge

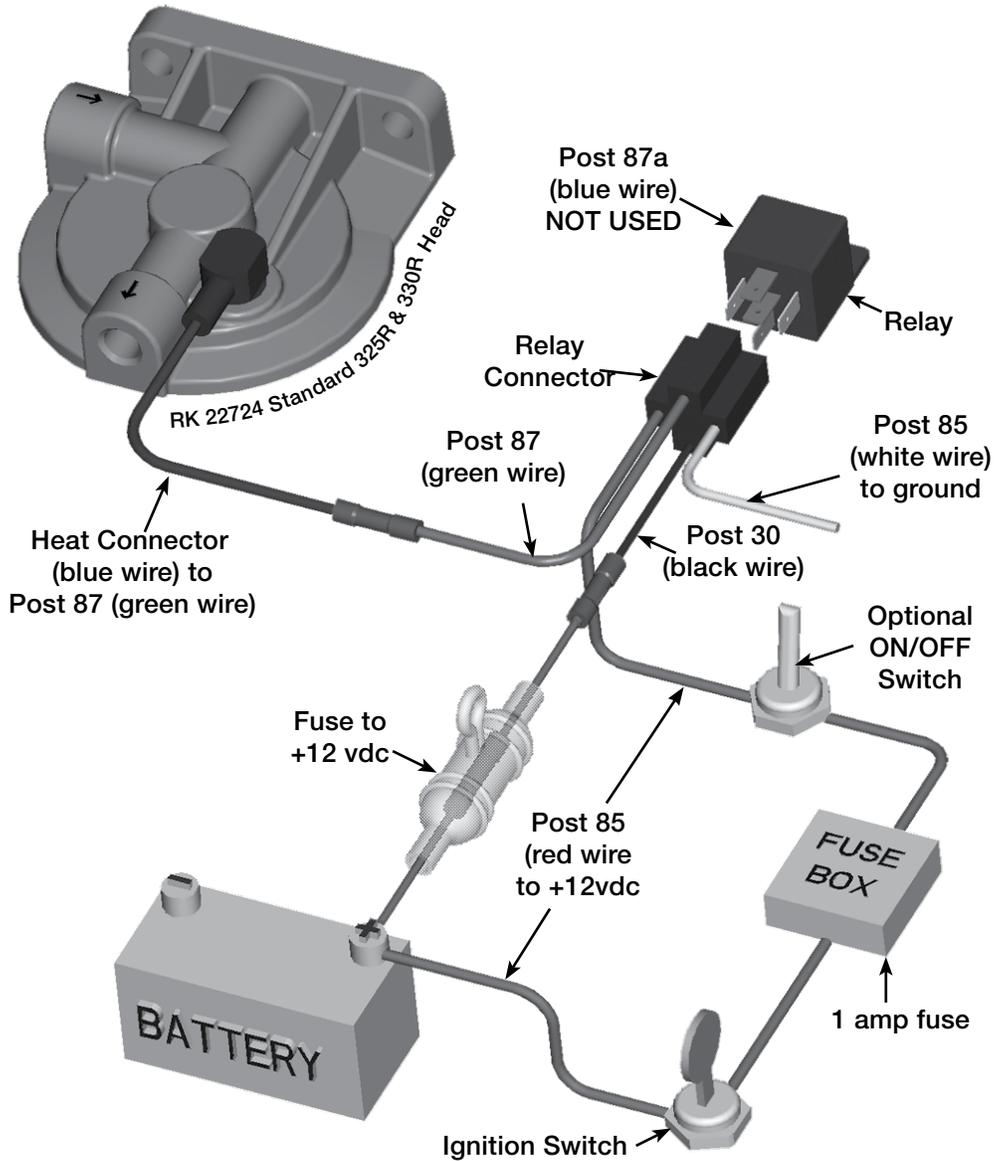


300 Series

Mounting Information

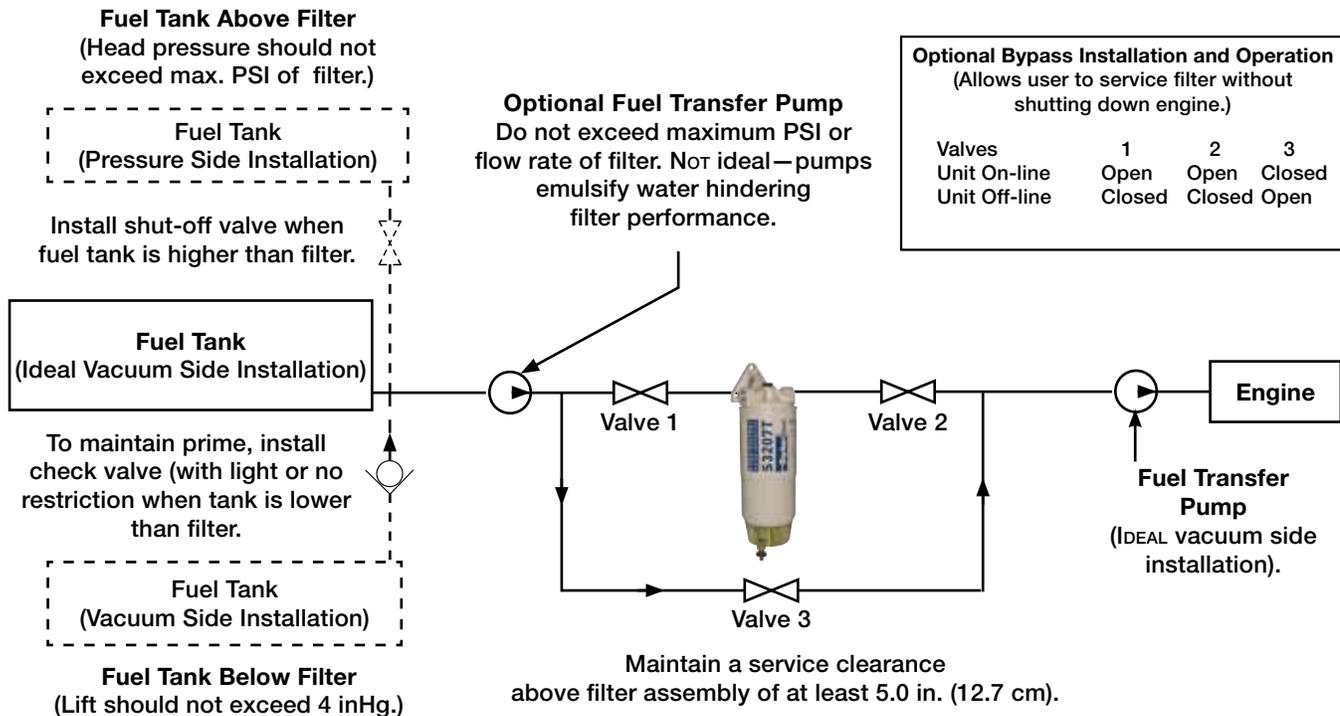


Heater Installation Diagram



300 Series

Installation Diagram

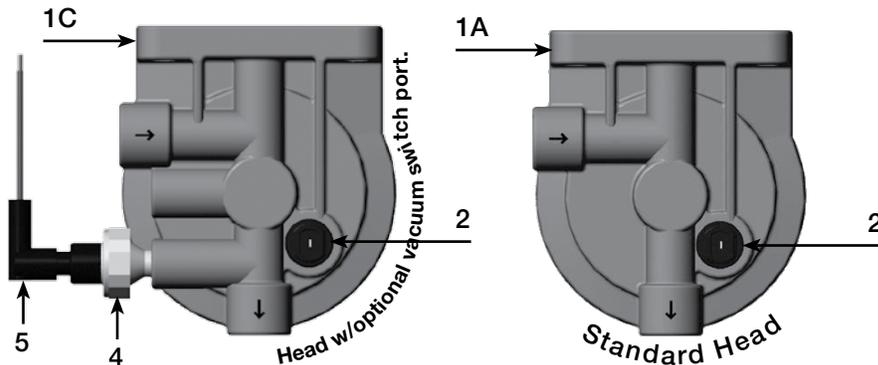
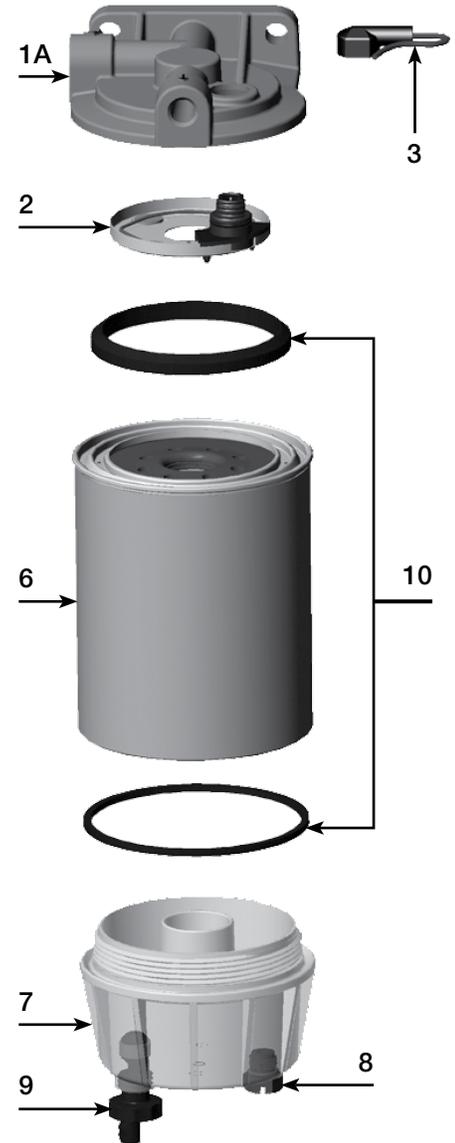


Installation diagram applies to all 300 Series filters.

Model 325R shown above. Racor offers hose and fittings to complete this installation - see Accessories.

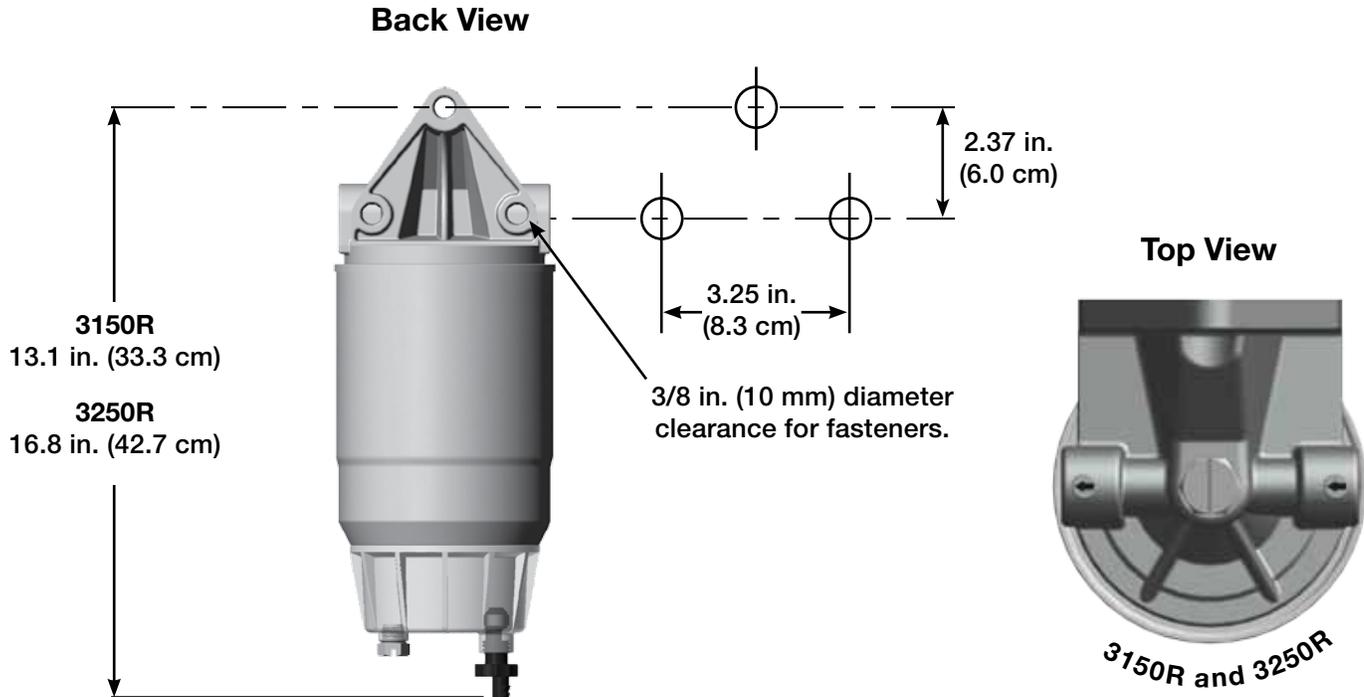
Replacement Parts

Part Number	Description
1A. RK 22724	Standard Mounting Head Kit
1B. RK 22724-01	Mounting Head Kit (no hole for heater)
1C. RK 30765	Mounting Head Kit (with optional vacuum switch port)
2. RK 22010	In-head Heater Kit 12 vdc (150 watt)
3. RK 20366	Heater Connector Kit
4. RK 20163	Optional Vacuum Switch Kit (preset at 7 inHg)
5. RK 21030	Vacuum Switch Connector Kit
6. Spin-On Elements (includes #12)	
325R	
S3225S	2 Micron
S3225T	10 Micron
S3225P	30 Micron
330R	
S3226S	2 Micron
S3226T	10 Micron
S3226P	30 Micron
	See "Replacement Element" chart
7. RK 30063	Clear Bowl Kit (with self-venting drain, probe plug and O-ring)
8. RK 20126	Plastic Probe Plug Kit (1/2"-20 UNF threads)
9. RK 30476	Self-venting Drain Kit (includes seal)
10. 22312	Gasket Pack
Additional Parts (not shown)	
30762	Installation Instructions



300 Series

Mounting Information



Installation Information

Exercise great caution when installing 300 Series filters to avoid fire hazards. Do not smoke, allow open flame or excessive heat which could ignite a fire. Perform installation in a well ventilated area.

Refer to Mounting Instructions and Installation Diagram and install as follows:

- 1. Make sure engine is off and cool to touch.**
- 2. Apply thread sealant to NPTF fittings (do not use thread tapes as particles may break off and contribute to clogging element). Apply motor oil or diesel fuel to UNF fitting O-rings. See Accessories for hose and fitting options.**
- 3. Thread fittings into appropriate fuel ports and tighten snugly.**
- 4. Mount filter vertically in a protected area and away from heat sources. Maintain at least two inches of clearance below filter for servicing.**
- 5. Attach fuel lines to filter. Avoid tight bends and rubbing areas when routing hose.**
- 6. Prime filter by removing element and bowl together and filling with fuel. Reinstall and tighten snugly by hand only.**
- 7. Connect water probe and heater wires, if equipped.**
- 8. Verify all connections are tight and start engine. Correct as necessary with engine off.**

Service Instructions

Element replacement frequency is determined by contamination level in fuels. Fuel flow to engine becomes restricted as element gradually plugs with contaminants, resulting in noticeable power loss and/or hard starting. As a guideline, change element every 500 hours, 10,000 miles, every other oil change, annually, or at first indication of power loss, whichever occurs first. Always carry extra replacement elements as one tankful of excessively dirty fuel can quickly plug a filter.

1. **Make sure engine is off and cool to touch.**
2. **Close all fuel valves, if applicable, to make sure excess fuel does not spill during servicing.**
3. **Disconnect water probe and heater connectors.**
4. **Open vent plug on mounting head, if equipped.**
5. **Open drain on bottom of bowl to drain filter.**
6. **Remove bowl and element; dispose properly.**
7. **Lubricate new seals with motor oil or clean fuel.**
8. **Attach bowl to new element.**
9. **Prime filter by filling element (with bowl attached) with fuel.**

10. **Re-install element and bowl and tighten by hand only - do not use tools.**
11. **Connect water probe and heater connectors.**
12. **Open all fuel valves, if applicable.**
13. **Verify all connections are tight and start engine. Correct necessary with engine off.**

Draining

Water is heavier than fuel and will settle to bottom of bowl and appear different in color if collected in a clear jar. In high humidity environments, check bowl frequently (daily if a poor fuel source is suspected). 300 Series bowls are equipped with a water probe port (water probe sold separately). A water sensing kit will alert the operator of a high water condition in the filter.

1. **Make sure engine is off and cool to touch.**
2. **Open vent plug, if equipped.**
3. **Drain water from filter by opening self-venting drain on bottom of bowl. Close as soon as all water has evacuated.**

Note: if drain is open too long, the entire filter assembly may drain completely of water and fuel.

4. **Tighten drain and vent plug snugly.**
5. **Follow Priming Instructions.**

Priming

1. **Prime filter by removing bowl and element (together) and filling with clean fuel.**
2. **Re-install bowl and element and tighten by hand only - do not use tools.**
3. **Verify all other connections are tight.**
4. **Start engine and check for leaks. Correct as necessary with engine off.**

Trouble Shooting

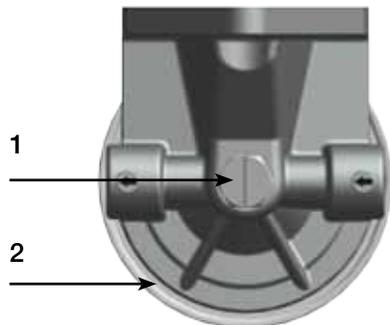
If a 300 Series filter fails to hold prime, first check vent plug (if equipped), drain valve, fittings and head/element/bowl are properly tightened. Next, check fuel line connections and verify that they are free of pinches or unnecessary bends and check to see if fuel tank strainer (or pick-up tube) is clogged. If problems persist and element is new, call Racor Technical Support at the number listed below.

300 Series

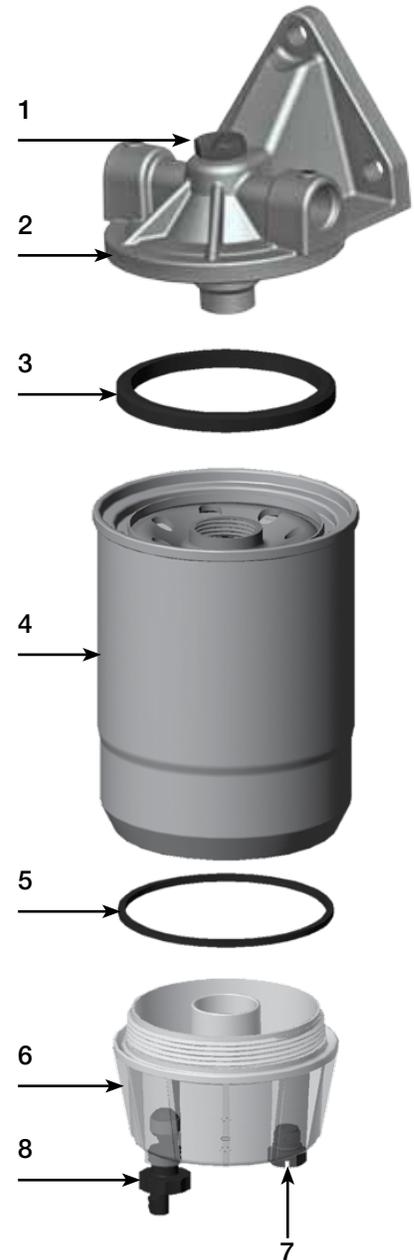
Replacement Parts

3150R and 3250R

<u>Part Number</u>	<u>Description</u>
1. 22351	Vent Plug Kit (3/4"-16 UNF threads)
2. RK 31547	Mounting Head Kit
3. N/A	Head Gasket (sold with element only)
4. Spin-On Elements (includes #'s 3 & 5)	
3150R	
N/A	2 Micron
S3238	10 Micron
S3238P	30 Micron
3250R	
S3207S	2 Micron
S3207T	10 Micron
S3207P	30 Micron
5. RK 30965	Bowl O-ring Kit
6. RK 30063	Clear Bowl Kit (with self-venting drain, probe plug and O-ring)
RK 30900	Same as RK30063 Plus a 12 vdc (200 watt) Heater
RK 30925	Same as RK30063 Plus a 24 vdc (200 watt) Heater
7. RK 20126	Plastic Probe Plug Kit (1/2"-20 UNF threads)
8. RK 30476	Self-venting Drain Kit (includes seal)
Additional Parts (not shown)	
30942	Installation Instructions

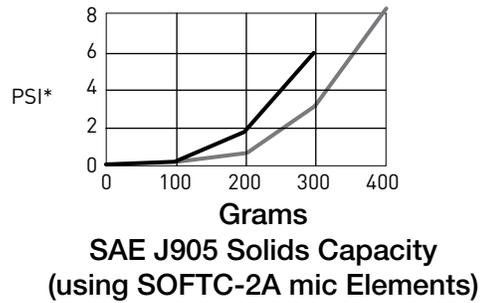
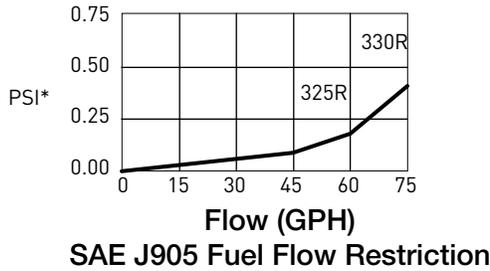


Top View

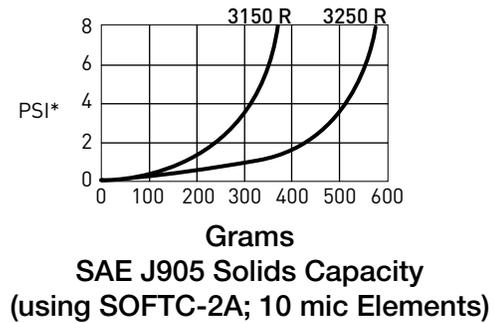
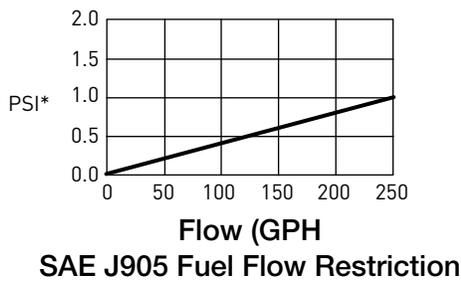


Test Data

325R and 330R



3150R and 3250R



(Test results are from controlled laboratory testing. Field results may vary.)
 (PSI X 2.036 = inHG) (PSI X 6.895 = kPa)

300RC Series

345RC

Fuel Filter/Fuel Heater/
Water Separator



Racor's 300RC Series Fuel Filter/ Heater/Water Separators are specifically designed to handle today's tough fuel system problems. These units feature a standard high efficiency coolant heat exchanger to heat incoming fuel and are only different in flow capacity and element size.

These units are recommended for suction (vacuum) side installations however the unit may be installed on the pressure side up to 30 PSI maximum. The die-cast aluminum mounting head features standard 3/8" NPTF fuel ports. The coolant heater features hose beads to accept standard 5/8" I.D. hose. Additionally, the coolant heat exchanger may be rotated 360° for installation versatility simply by loosening the center cap at the top of the unit. Either port may serve as the inlet or outlet.



Specifications

Maximum Flow Rate: (with diesel)	45 GPH (170 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Coolant Heater Ports	5/8" I.D. Hose Bead
Total Number of Ports:	4
Fuel Inlet	1
Fuel Outlet	1
Coolant Inlet	1
Coolant Outlet	1
Housing Material	Die-cast Aluminum
Element Center Threads	1"-14 SAE
Minimum Service Clearance (above filter)	5.0 in. (12.7 cm)
(below filter)	2.0 in. (5.1 cm)
Height	9.3 in. (23.6 cm)
Depth	4.8 in. (12.2 cm)
Width	4.4 in. (11.2 cm)
Weight (dry)	2.5 lb (1.1 kg)
Maximum Working Pressure¹	30 PSI (2.1 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.10 PSI (0.69 kPa)
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

360RC

Fuel Filter/Fuel Heater,
Water Separator



Racor's 300RC Series Fuel Filter/Heater/Water Separators are specifically designed to handle today's tough fuel system problems. These units feature a standard high efficiency coolant heat exchanger to heat incoming fuel and are only different in flow capacity and element size.

These units are recommended for suction (vacuum) side installations however the unit may be installed on the pressure side up to 30 PSI maximum. The die-cast aluminum mounting head features standard 3/8" NPTF fuel ports. The coolant heater features hose beads to accept standard 5/8" I.D. hose. Additionally, the coolant heat exchanger may be rotated 360° for installation versatility simply by loosening the center cap at the top of the unit. Either port may serve as the inlet or outlet.



Specifications

Maximum Flow Rate: (with diesel)	60 GPH (227 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Coolant Heater Port	5/8" I.D. Hose Bead
Total Number of Ports:	4
Fuel Inlet	1
Fuel Outlet	1
Coolant Inlet	1
Coolant Outlet	1
Housing Material	Die-cast Aluminum
Element Center Threads	1"-14 SAE
Minimum Service Clearance (above filter)	5.0 in. (12.7 cm)
(below filter)	2.0 in. (5.1 cm)
Height	11.0 in. (27.9 cm)
Depth	4.8 in. (12.2 cm)
Width	4.4 in. (11.2 cm)
Weight (dry)	2.7 lb (1.2 kg)
Maximum Working Pressure ¹	30 PSI (2.1 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.22 PSI (1.52 kPa)
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

300RC Series

390RC

Fuel Filter/Fuel Heater/
Water Separator



Racor's 300RC Series Fuel Filter/ Heater/Water Separators are specifically designed to handle today's tough fuel system problems. These units feature a standard high efficiency coolant heat exchanger to heat incoming fuel and are only different in flow capacity and element size.

These units are recommended for suction (vacuum) side installations however the unit may be installed on the pressure side up to 30 PSI maximum. The die-cast aluminum mounting head features standard 3/8" NPTF fuel ports. The coolant heater features hose beads to accept standard 5/8" I.D. hose. Additionally, the coolant heat exchanger may be rotated 360° for installation versatility simply by loosening the center cap at the top of the unit. Either port may serve as the inlet or outlet.



Specifications

Maximum Flow Rate: (with diesel)	90 GPH (341 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Coolant Heater Port	5/8" I.D. Hose Bead
Total Number of Ports:	4
Fuel Inlet	1
Fuel Outlet	1
Coolant Inlet	1
Coolant Outlet	1

Housing Material Die-cast Aluminum

Element Center Threads 1"-14 SAE

Minimum Service Clearance
(above filter) 5.0 in. (12.7 cm)
(below filter) 2.0 in. (5.1 cm)

Height 11.8 in. (30.0 cm)

Depth 4.8 in. (12.2 cm)

Width 4.4 in. (11.2 cm)

Weight (dry) 2.9 lb (1.3 kg)

Maximum Working Pressure¹ 30 PSI (2.1 bar)

Water Removal Efficiency 99%

Clean Pressure Drop 0.76 PSI (5.24 kPa)

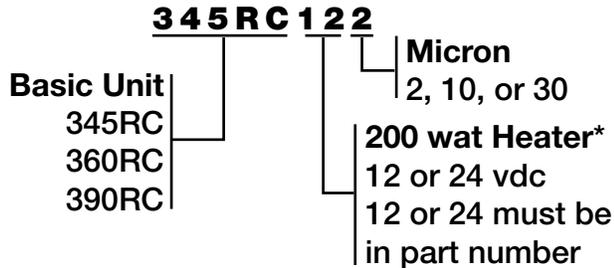
Ambient Temperature Range -40° to +250°F (-40° to +121°C)

Maximum Fuel Temperature 190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

How to Order

(The examples below illustrate how part numbers are constructed)



*Recommended for use with Racor Heater Relay Kit. See Accessories

Replacement Elements			
Model Number	2 Micron (Final Filtration)	10 Micron (Secondary Filtration)	30 Micron* (Primary Filtration)
345RC	R45S	R45T	R45P
360RC	R60S	R60T	R60P
390RC	R90S	R90T	R90P

*A secondary/final filter is required downstream.

Options

Always keep extra replacement elements on hand as one tank of poor quality fuel can clog a filter.

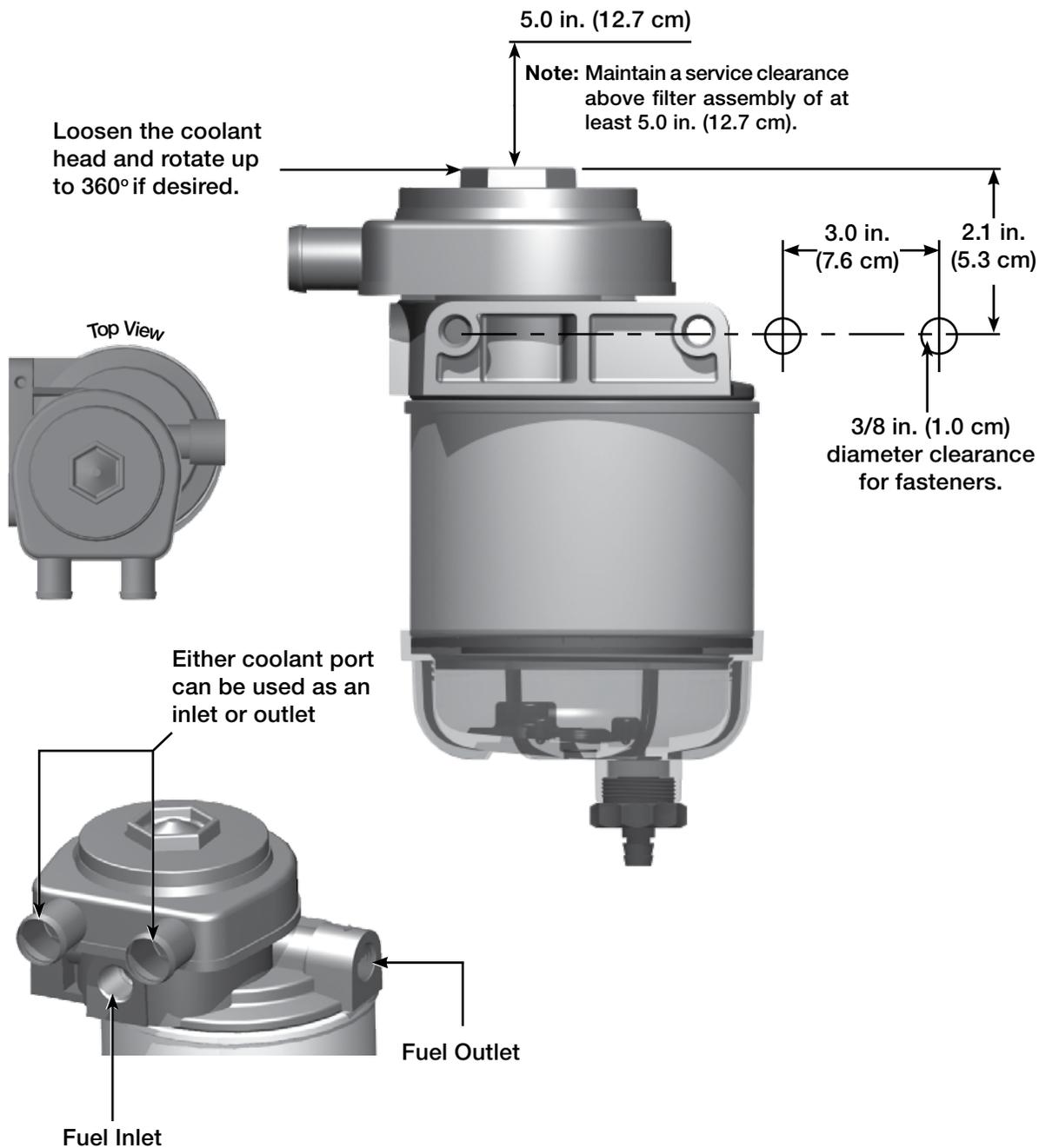
The reusable clear contaminant collection bowl allows the operator to check contamination build-up at a glance. When water is present, rotate the drain valve open to evacuate contaminants.

In-Bowl Heater: Besides the standard built-on head coolant heat exchanger, a powerful 12 or 24 vdc 200 watt in-bowl heater option is available to quickly warm the element fuel thus providing easier starting and optimum operating efficiency in cold weather or climates.

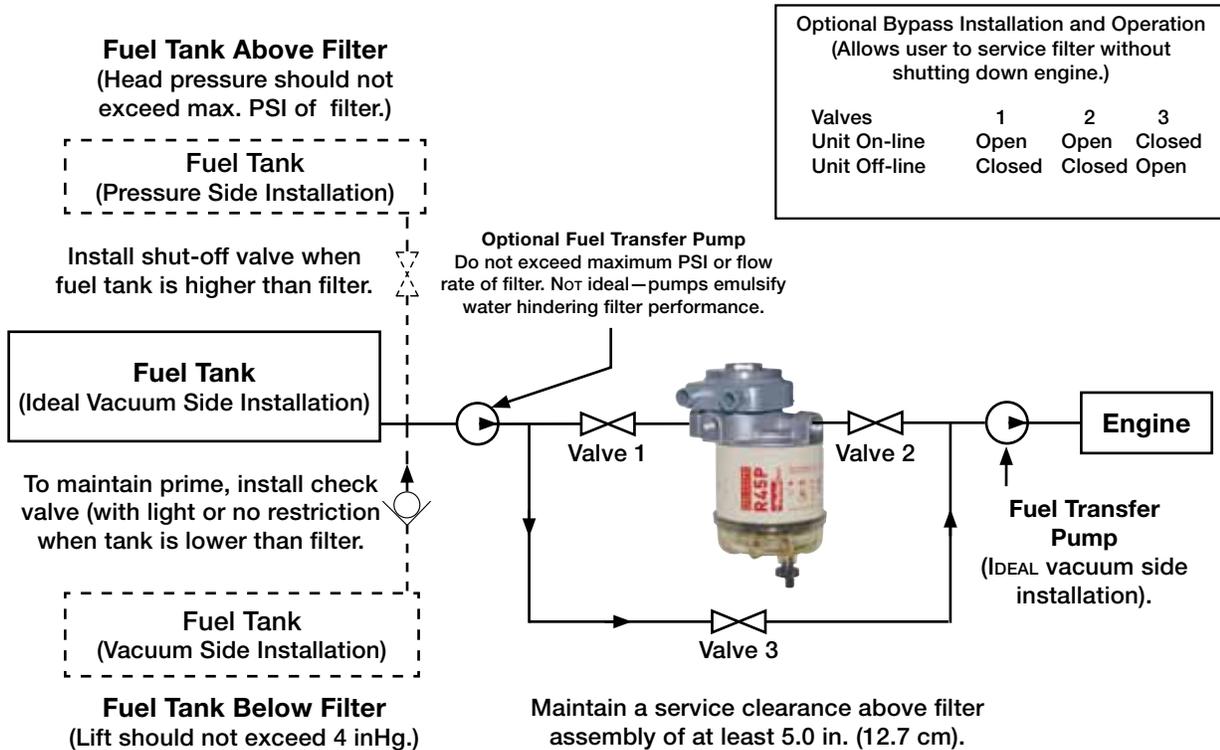
Water Sensor Probe: When used with a Racor Water Detection Kit, the in-cab module will alert the operator when it's time to drain the bowl. See Accessories.

300RC Series

Mounting Instructions



Installation Diagram



Installation diagram applies to all 300RC Series filters. Model 345RC shown above.

In-bowl 12 or 24 vdc Heater

The in-bowl 200 watt heater is a cold weather starting aid with an internal automatic thermostat that turns the heater on if the fuel temperature drops below 45°F (7°C). Heat is supplied just below the replacement element to melt the wax crystals and allow fuel to efficiently pass through the element. The heater will automatically turn off at about 75°F (24°C). The heater is operated by turning on the ignition switch for a minimum of five minutes prior to starting the engine. see Replacement Part list.



300RC Series

Coolant Hose Routing Instructions

The Racor coolant heat exchanger is plumbed from the pressure side of the coolant pump and coolant is returned to the suction side of the pump. If a coolant port is not available in the pump or engine block, the coolant may be supplied by tapping into the cab heater coolant supply as shown below. The heat exchanger head may be rotated to facilitate installation by loosening the center cap on top of the unit.

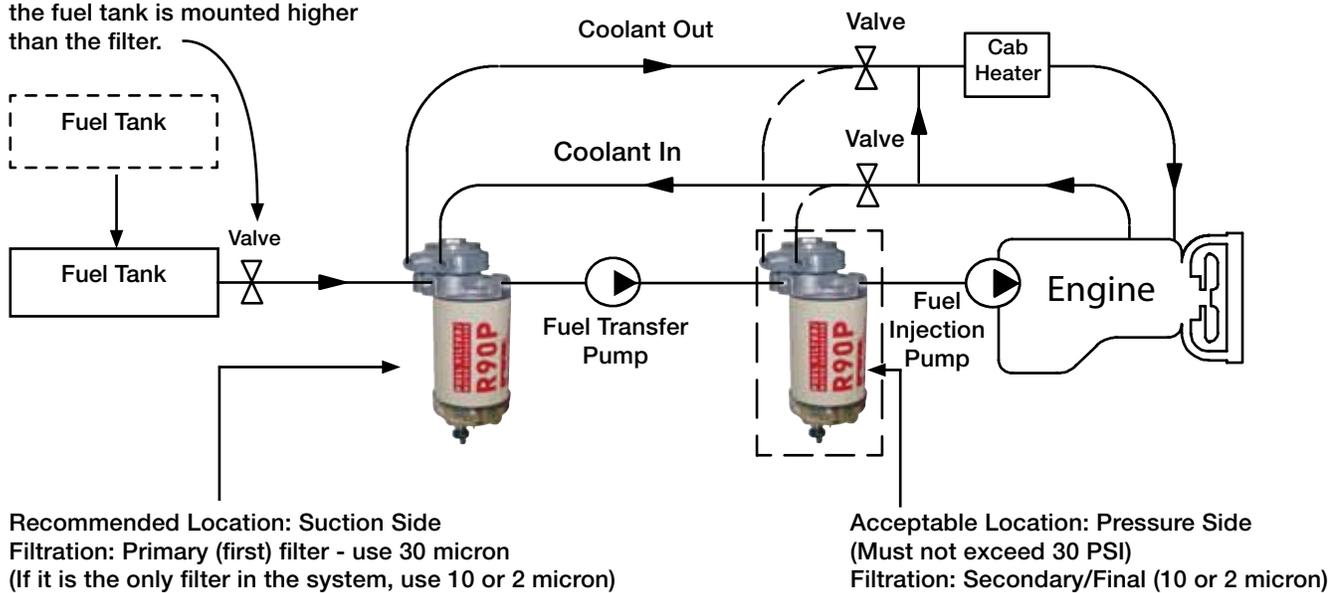
Either heat exchanger port may be used for the inlet or outlet (Valves are customer supplied).
 Note: Because of the high heat exchange efficiency of these units, customer supplied manual shut-off valves should be used to regulate coolant to the Racor unit.

Valve Positions:

Open: About equal flow through Racor and cab heater.

Closed: All coolant to the cab heater.

Note: A fuel shut-off valve (customer supplied) is recommended when the fuel tank is mounted higher than the filter.

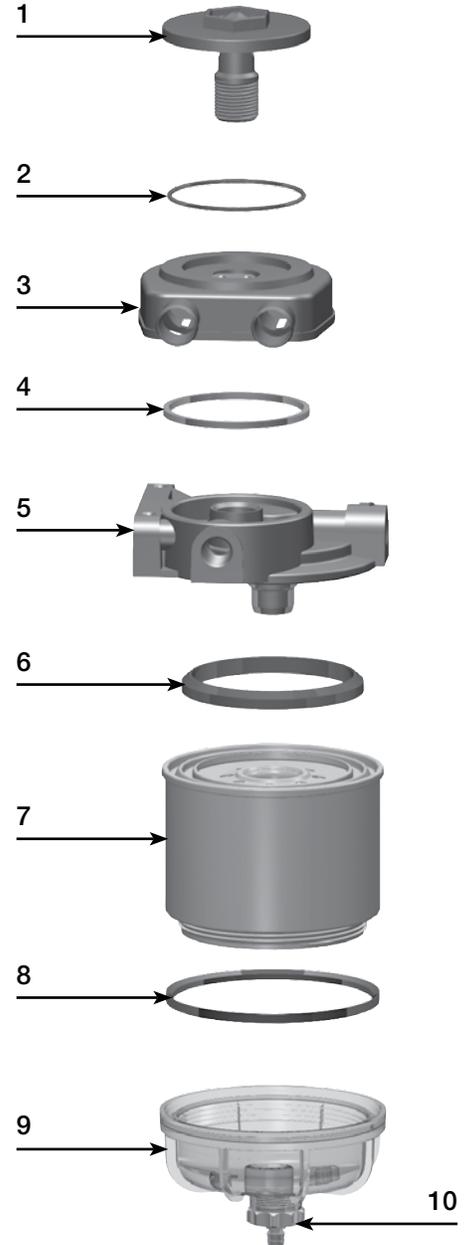


Replacement Parts

345RC, 360RC and 390RC

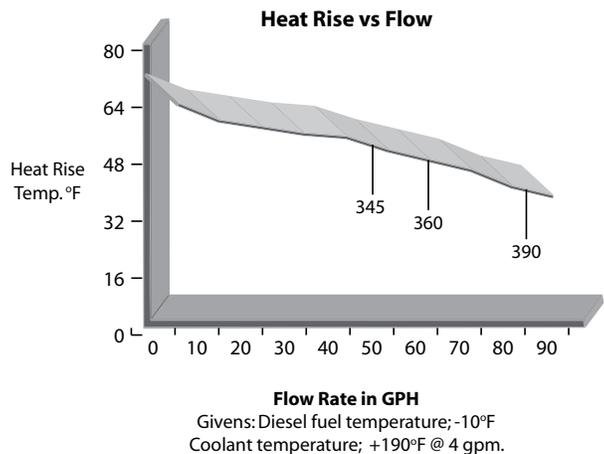
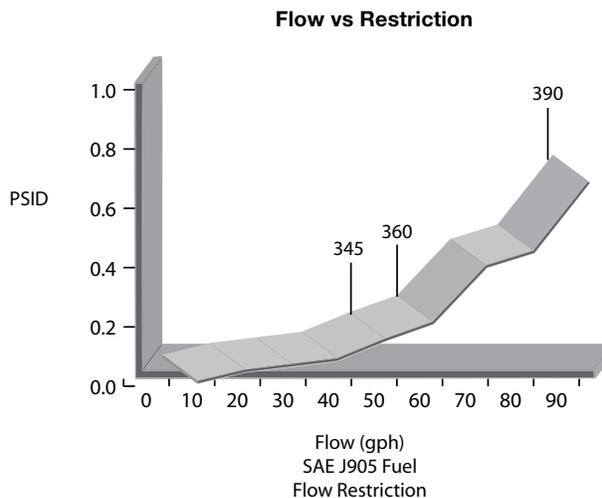
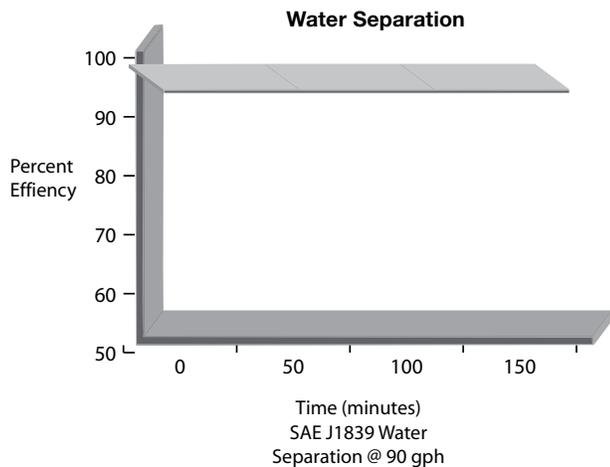
Part Number	Description
1. RK 30234	Heat Exchanger Cap Kit
2. RK 10012	Cap / Heat Exchanger O-ring
3. N/A	Heat Exchanger Kit
4. 30237	Square-cut Gasket
5. RK 22365-01	Head Kit
6. 21501	Gasket Pack
Replacement Elements (includes #6)	
7. R45S	2 micron
R45T	10 micron
R45P	30 micron
R60S	2 micron
R60T	10 micron
R60P	30 micron
R90S	2 micron
R90T	10 micron
R90P	30 micron
8. RK 22333	Bowl gasket Kit
9. RK 21113-13-06	Clear Bowl Kit, 9/16" SAE Ports
RK 21113-13	Bowl Kit with Probe 9/16" SAE Ports
RK 22266-01	Bowl Kit with Probe & 12 vdc Heater
RK 22266-02	Bowl Kit with Probe & 24 vdc Heater
RK 22266-03	Bowl Kit with Heater 12 vdc
RK 22266-04	Bowl Kit with Heater 24 vdc
10. RK 22329	Water Drain Kit
Additional Parts (not shown)	
RK 21199	Water Sensor Connector Kit
RK 22323	Heater Connector Kit
RK 22493	Complete Seal Service Kit
RK 21145 ¹	Water Probe Only 9/16" SAE
RK 11-1679	Port Plug 9/16" SAE

¹Must be used with a Water Detection Kit. see Accessories section.



300RC Series

Test Data



(Test results are from controlled laboratory testing. Field results may vary.)
(PSI X 2.036 = inHG) (PSI X 6.895 = kPa)

300RC Series Overview



Specifications	345RC	360RC	390RC
Maximum Flow Rate	45 GPH (170 LPH)	60 GPH (227 LPH)	90 GPH (341 LPH)
Fuel Port Size (SAE J476) Coolant Port Size	3/8"-18 NPTF Fits 5/8" I.D. Hose	3/8"-18 NPTF Fits 5/8" I.D. Hose	3/8"-18 NPTF Fits 5/8" I.D. Hose
Total Number of Ports:	4	4	4
Fuel Inlet	1	1	1
Fuel Outlet	1	1	1
Coolant Inlet	1	1	1
Coolant Outlet	1	1	1
Min. Service Clearance			
Above	5.0 in (12.7 cm)	5.0 in (12.7 cm)	5.0 in (12.7 cm)
Below	2.0 in (5.1 cm)	2.0 in (5.1 cm)	2.0 in (5.1 cm)
Element Center Threads	1"-14 SAE	1"-14 SAE	1"-14 SAE
Height	9.3 in. (23.6 cm)	11.0 in. (27.9 cm)	11.8 in. (30.0 cm)
Depth	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)
Width	4.4 in. (11.2 cm)	4.4 in. (11.2 cm)	4.4 in. (11.2 cm)
Weight (dry)	2.5 lb (1.1 kg)	2.7 lb (1.2 kg)	2.9 lb (1.3 kg)
Clean Pressure Drop	0.10 PSI (0.69 kPa)	0.22 PSI (1.52 kPa)	0.76 PSI (5.24 kPa)
Maximum Pressure	30 PSI (207 kPa)	30 PSI (207 kPa)	30 PSI (207 kPa)
Water in Bowl Capacity (with heater)	4.0 oz (118 ml) 3.5 oz (104 ml)	4.0 oz (118 ml) 3.5 oz (104 ml)	4.0 oz (118 ml) 3.5 oz (104 ml)
H ₂ O Removal Efficiency	99%	99%	99%
Operating Temperature	-40° to +255°F (-40° to +124°C)		

400 Series

445R

Fuel Filter/Water Separator



445R Spin-On fuel filter/water separators feature a hand (palm) operated fuel priming pump which simplifies service procedures and yields extremely low flow resistance due to its unique pump bypass characteristic.

These filters also feature multiple fuel ports (two inlets and two outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF (SAE J476). These filter assemblies provide flexibility during mounting to fit any engine application.



Specifications

Maximum Flow Rate: (with diesel)	45 GPH (170 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF (SAE J476)
Housing Material	Cast Aluminum
Replacement Element	See Element Chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	9.3 in. (23.6 cm)
Depth	4.5 in. (11.4 cm)
Width	4.8 in. (12.2 cm)
Weight (dry)	2.5 lb (1.1 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.17 PSI (0.01 bar)
Available Options: (water sensor) (heater)	Yes Yes
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.

460R

Fuel Filter/Water Separator



460R Spin-On fuel filter/water separators feature a hand (palm) operated fuel priming pump which simplifies service procedures and yields extremely low flow resistance due to its unique pump bypass characteristic.

These filters also feature multiple fuel ports (two inlets and two outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF (SAE J476). These filter assemblies provide flexibility during mounting to fit any engine application.



Specifications

Maximum Flow Rate: (with diesel)	60 GPH (227 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF (SAE J476)
Housing Material	Cast Aluminum
Replacement Element	See Element Chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	11.0 in. (27.9 cm)
Depth	4.5 in. (11.4 cm)
Width	4.8 in. (12.2 cm)
Weight (dry)	2.7 lb (1.2 kg)
Maximum Working Pressure¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.39 PSI (0.03 bar)
Available Options: (water sensor) (heater)	Yes Yes
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.

400 Series

490R

Fuel Filter/Water Separator



490R Spin-On fuel filter/water separators feature a hand (palm) operated fuel priming pump which simplifies service procedures and yields extremely low flow resistance due to its unique pump bypass characteristic.

These filters also feature multiple fuel ports (two inlets and two outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF (SAE J476). These filter assemblies provide flexibility during mounting to fit any engine application.



Specifications

Maximum Flow Rate: (with diesel)	90 GPH (341 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF (SAE J476)
Housing Material	Cast Aluminum
Replacement Element	See Element Chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	11.8 in. (30.0 cm)
Depth	4.5 in. (11.4 cm)
Width	4.8 in. (12.2 cm)
Weight (dry)	2.9 lb (1.3 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.95 PSI (0.07 bar)
Available Options: (water sensor) (heater)	Yes Yes
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

4120R

Fuel Filter/Water Separator



4120R Spin-On fuel filter/water separators feature a hand (palm) operated fuel priming pump which simplifies service procedures and yields extremely low flow resistance due to its unique pump bypass characteristic.

These filters also feature multiple fuel ports (two inlets and two outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/4"-16 UNF (SAE J1926). These filter assemblies provide flexibility during mounting to fit any engine application.



Specifications

Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	3/4"-16 SAE (SAE J1926)
Housing Material	Cast Aluminum
Replacement Element	See Element Chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	15.0 in. (38.1 cm)
Depth	4.5 in. (11.4 cm)
Width	4.8 in. (12.2 cm)
Weight (dry)	3.9 lb (1.8 kg)
Maximum Working Pressure ¹	15 PSI (1.03 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.85 PSI (0.06 bar)
Available Options: (water sensor) (heater)	Yes Yes
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Pressure installations acceptable up to maximum PSI shown. Vacuum installations are recommended.	

400 Series

4125R

Fuel Filter/Water Separator



4120R Spin-On fuel filter/water separators feature a hand (palm) operated fuel priming pump which simplifies service procedures and yields extremely low flow resistance due to its unique pump bypass characteristic.

These filters also feature multiple fuel ports (two inlets and two outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/4"-16 UNF (SAE J1926). These filter assemblies provide flexibility during mounting to fit any engine application.



Specifications

Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	3/4"-16 SAE (SAE J1926)
Housing Material	Cast Aluminum
Replacement Element	See Element Chart
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	14.5 in. (36.8 cm)
Depth	4.5 in. (11.4 cm)
Width	4.8 in. (12.2 cm)
Weight (dry)	3.9 lbs (1.8 kg)
Maximum Working Pressure ¹	15 PSI (1.03 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.85 PSI (0.06 bar)
Available Options: (water sensor) (heater)	Yes Yes
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Pressure installations acceptable up to maximum PSI shown.
Vacuum installations are recommended.

How to Order

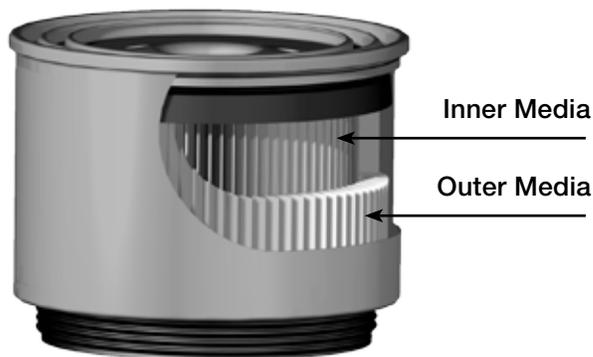
(The examples below illustrate how part numbers are constructed)

*	490R	12	2
Add an * for optional 16 mm fuel ports ¹ (omit if not desired)	Specify a model number: 445R, 460R, 490R, or 4120R.	Add 12 or 24 for a 12 or 24 volt dc heater ² . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ Standard fuel ports are 3/8"-18 NPTF (445R, 460R and 490R) and 3/4"-16 UNF (4120R). ² Use with Racor relay kit - see Accessories.			

Replacement Elements			
Model Number	2 Micron (Final Filtration)	10 Micron (Secondary Filtration)	30 Micron (Primary Filtration)
445R	R45S or R47S	R45T	R45P
460R	R60S	R60T	R60P
490R	R90S	R90T	R90P
4120R	R120S	R120T	R120P
4125R	R125S	R125T	R125P

Optional Dual Media Filter

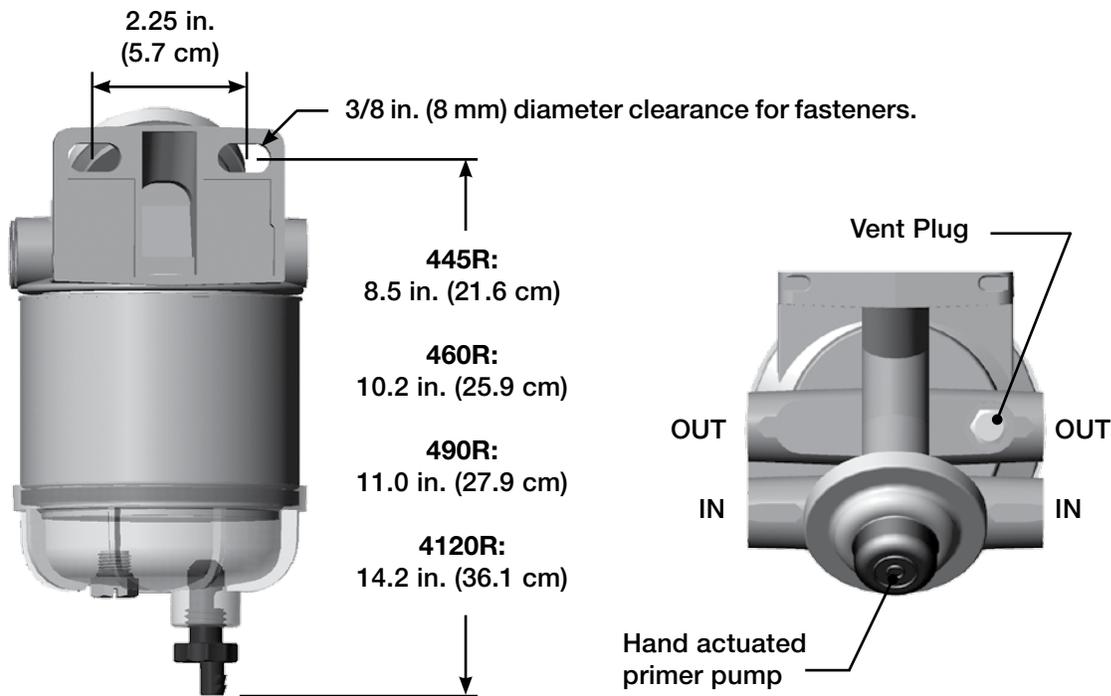
Dual-Layer media offers enhanced high dirt-holding capacity, and extended filter life. Dual-Layer media ensures more complete removal of all size contaminants. The R47S filter replaces the R45S Spin-On element, and provides removal efficiencies of 99.98% nominal on 2 micron particles. Still much greater than the 50-90% efficiency of most single-stage filters.



R47S Dual Media Filter

400 Series

Mounting Information



Installation Instructions

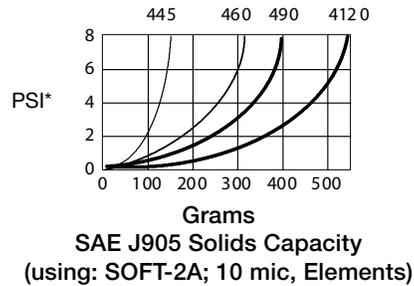
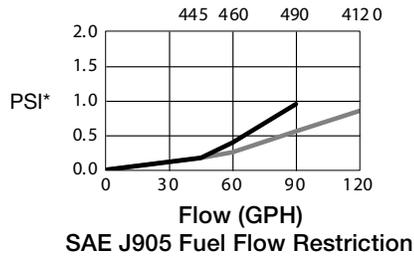
Refer to Mounting Instructions and Installation Diagram and install as follows:

1. **Make sure engine is off and cool to touch.**
2. **445R, 460R and 490R: Apply thread sealant to NPT fittings (do not use thread tapes as particles may break off and contribute to clogging element). 4120R: Apply motor oil or diesel fuel to O-ring on UNF fittings.**
3. **Thread fittings into appropriate fuel ports and tighten snugly. Plug unused ports (if any) with port plugs and tighten snugly.**
4. **Mount filter vertically in a protected area and away from heat sources. Maintain at least 2.0" (5.1 cm) of clearance below filter for draining water and servicing element.**
5. **Attach fuel lines to filter. Avoid tight bends and rubbing areas when routing hose.**
6. **Connect water probe and heater wires (if equipped).**
7. **Open vent plug and operate hand primer pump until fuel purges from vent.**
8. **Close vent plug and start engine. Correct as necessary with engine off.**

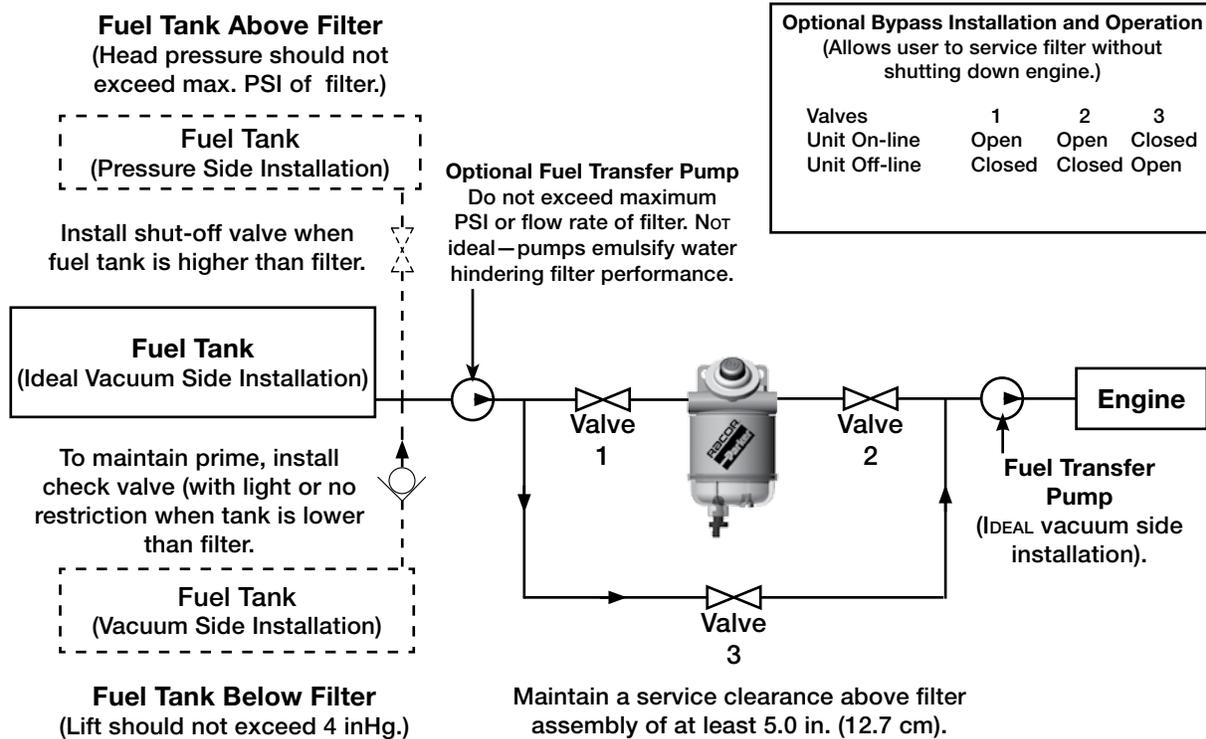
Test Data

(Test results are from controlled laboratory testing. Field results may vary.)

*PSI X 2.036 = inHg. (PSI X 6.895 = kPa)



Installation Diagram



Installation diagram applies to all 400 Series filters. Model 445R shown above. Racor offers hose and fittings to complete this installation - see Accessories.

400 Series

Service Instructions

Element replacement frequency is determined by contamination level in fuels. Fuel flow to engine becomes restricted as element gradually plugs with contaminants, resulting in noticeable power loss and/or hard starting. As a guideline, change element every 500 hours, 10,000 miles, every other oil change, annually, or at first indication of power loss, whichever occurs first. Always carry extra replacement elements as one tankful of excessively dirty fuel can quickly plug a filter.

1. **Make sure engine is off and cool to touch.**
2. **Close all fuel valves, if applicable, to make sure excess fuel does not spill during servicing.**
3. **Disconnect water probe and heater connectors, if equipped.**
4. **Open vent plug on mounting head.**
5. **Drain unit of fuel.**
6. **Remove bowl and element. Dispose element properly. Bowl is reusable.**

7. **Lubricate new element seals with motor oil or clean fuel and install only with new element.**
8. **Re-install bowl and tighten by hand only - do not use tools.**
9. **Connect water probe and heater connectors, if equipped.**
10. **Open all fuel valves, if applicable.**
11. **Operate hand primer pump until fuel purges from vent.**
12. **Close vent plug and start engine. Correct as necessary with engine off.**

Draining the Collection Bowl

Water is heavier than fuel and will settle to bottom of bowl and appear different in color if collected in a clear jar. In high humidity environments, check bowl frequently (daily if a poor fuel source is suspected). 400 Series bowls are equipped with a water sensor port that will accept a water probe (sold separately) and will alert operator of a high water condition in the filter.

Do NOT use water probe electronics in gasoline applications - an explosion could occur.

1. **Make sure engine is off and cool to touch.**
2. **Open vent plug.**
3. **Drain water from filter by opening self-venting drain. Close as soon as all water has evacuated. If drain is open too long, the entire filter may drain completely of water and fuel**
4. **Follow priming instructions.**

Priming Instructions

1. **Prime filter by operating hand primer pump until fuel spills out of vent port.**
2. **Close vent plug snugly.**
3. **Verify all other connections are tight.**
4. **Start engine and check for leaks. Correct as necessary with engine off.**

Trouble Shooting

If a 400 Series filter fails to hold prime, first check vent plug, drain valve, fittings, head, element and bowl are properly tightened. Next, check fuel line connections and verify that they are free of pinches

or unnecessary bends and check to see if fuel tank strainer (or pick-up tube) is clogged. If problems persist and element is new, call Racor Technical Support at the number listed below.

Replacement Parts

445R, 460R and 490R

Part Number	Description
1. RK 10110	Metal Vent Plug Kit (3/8"-24 SAE)
2. RK 22425	Mounting Head Kit (3/8"-18 NPTF) (includes head, #1, #3 and #4)
N/A	Mounting Head Kit (16 mm X 1.5) (includes same as RK22425)
3. RK 22798	Bypass Valve Kit
4. RK22998	Element Gasket Kit
5.	See Replacement Element Chart
6. RK 22333	Bowl Gasket Kit
7. Replacement Bowl Kits (includes bowl #6, #8 and #9)	
RK 21113-13-11	Clear Bowl Kit
RK 22616-01 ¹	Heated Clear Bowl Kit (same as above, 12 vdc heater)
RK 22616-02 ¹	Heated Clear Bowl Kit (same as above, 24 vdc heater)
8. RK 20126	Plug Kit (1/2"-20 SAE)
9. RK 30476	Self-Venting Drain Kit
10. RK 30964 ²	Water Probe Kit
Additional Parts (not shown)	
RK 22323 ¹	Heater Connector Kit
22209	Installation Instructions

¹ In-bowl heater may require a Heater Relay Kit. Power requirements (maximum) are: 12 vdc = 16.6 amps, 24 vdc = 8.3 amps.

² Water probe must be used with a Water Detection Kit - see Accessories.



400 Series

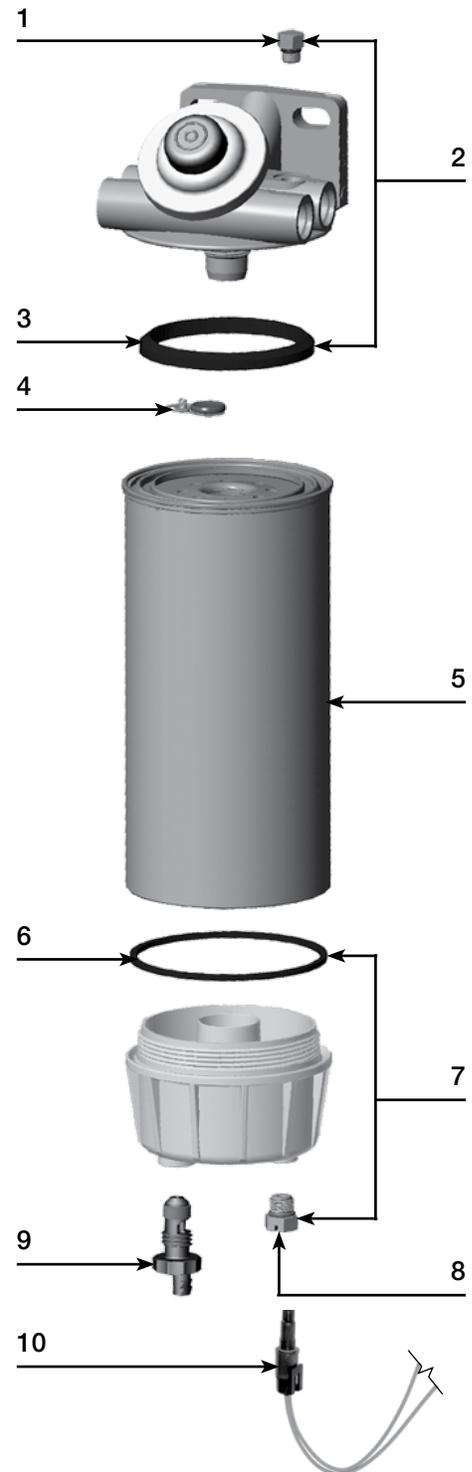
Replacement Parts

4120R

Part Number	Description
1. RK 10110	Metal Vent Plug Kit (3/8"-24 SAE)
2. RK 22168	4120R Mounting Head Kit (3/4"-16 SAE) (includes head, #1, #3 and #4)
3. RK 22606	Element Gasket (includes #3 and #6)
4. RK 22798	By-Pass Valve Kit
5. Replacement Elements:	
R120S	2 micron
R120T	10 micron
R120P	30 micron
6. RK 22606	Bowl O-ring
7. Replacement Bowl Kits (includes bowl #6, #8 and #9)	
RK 30063	Clear Bowl Kit
RK 30900 ¹	Heated Clear Bowl Kit (same as above, 12 vdc heater)
RK 30925 ¹	Heated Clear Bowl Kit (same as above, 24 vdc heater)
8. RK 20126	Plug Kit (1/2" SAE)
9. RK 30476	Self-Venting Drain Kit
10. RK 30964 ²	Water Probe Kit
Additional Parts (not shown)	
22209	Installation Instructions

¹ In-bowl heater may require a Heater Relay Kit. Power requirements (maximum) are: 12 vdc = 16.6 amps and 24 vdc = 8.3 amps - see Accessories.

² Water probe must be used with a Water Detection Kit - see Accessories.



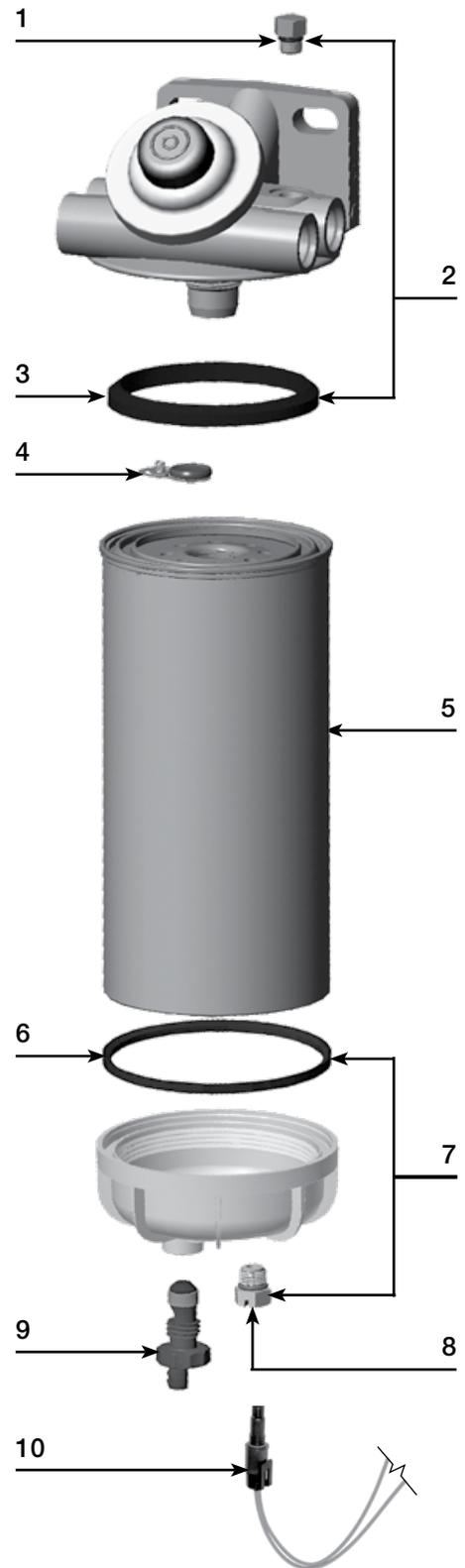
Replacement Parts

4125R

Part Number	Description
1. RK 10110	Metal Vent Plug Kit (3/8"-24 SAE)
2. RK 22168	4120R Mounting Head Kit (3/4"-16 SAE) (includes head, #1, #3 and #4)
3. RK 22606	Element Gasket (includes #3 and #6)
4. RK22798	By-Pass Valve Kit
5. Replacement Element:	
R125S	2 micron
R125T	10 micron
R125P	30 micron
6. RK 22333	Bowl Gasket Kit
7. Replacement Bowl Kits (includes bowl #6, #8 and #9)	
RK 21113-13-11	Clear Bowl Kit
RK 22616-01 ¹	Heated Clear Bowl Kit (same as above, 12 vdc heater)
RK 22616-02 ¹	Heated Clear Bowl Kit (same as above, 24 vdc heater)
8. RK 20126	Plug Kit (1/2"-20 SAE)
9. RK 30476	Self-Venting Drain Kit
10. RK 30964 ²	Water Probe Kit
Additional Parts (not shown)	
RK 22323 ¹	Heater Connector Kit
22209	Installation Instructions

¹ In-bowl heater may require a Heater Relay Kit. Power requirements (maximum) are: 12 vdc = 16.6 amps, 24 vdc = 8.3 amps.

² Water probe must be used with a Water Detection Kit - see Accessories.



400 Series

400 Series Overview



Specifications	445R	460R	490R	4120R	4125R
Maximum Flow Rate	45 GPH (170 LPH)	60 GPH (227 LPH)	90 GPH (341 LPH)	120 GPH (454 LPH)	120 GPH (454 LPH)
Port Size	3/8"-18 NPTF (SAE J476)	3/8"-18 NPTF (SAE J476)	3/8"-18 NPTF (SAE J476)	3/4"-16 SAE (SAE J1926)	3/4"-16 SAE (SAE J1926)
Total Number of Ports: (total inlets) (total outlets)	4 2 2	4 2 2	4 2 2	4 2 2	4 2 2
Min. Service Clearance	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
Center Threads	1"-14	1"-14	1"-14	1"-14	1"-14
Height	9.3 in. (23.6 cm)	11.0 in. (27.9 cm)	11.8 in. (30.0 cm)	15.0 in. (38.1 cm)	14.5 in. (36.8 cm)
Width	4.8 in. (12.2 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)
Depth	4.5 in. (11.4 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)	4.8 in. (12.2 cm)
Weight (dry)	2.5 lb (1.1 kg)	2.7 lb (1.2 kg)	2.9 lb (1.3 kg)	3.9 lb (1.8 kg)	3.9 lb (1.8 kg)
Clean Pressure Drop	0.17 PSI (0.01 bar)	0.39 PSI (0.03 bar)	0.95 PSI (0.07 bar)	0.85 PSI (0.06 bar)	0.85 PSI (0.06 bar)
Max. Allowable Pressure ¹	30 PSI (2.07 bar)	30 PSI (2.07 bar)	30 PSI (2.07 bar)	15 PSI (1.03 bar)	15 PSI (1.03 bar)
Available Options: (water sensor) (heater) ²	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
Bowl Capacity (water) (with heater)	4.0 oz. (118 ml) 3.5 oz. (104 ml)	4.0 oz. (118 ml) 3.5 oz. (104 ml)	4.0 oz. (118 ml) 3.5 oz. (104 ml)	2.8 oz. (82 ml) 2.4 oz. (70 ml)	2.8 oz. (82 ml) 2.4 oz. (70 ml)
H ₂ O Removal Efficiency	99%				
Operating Temperature	-40° to +255°F (-40° to +124°C)				

¹ Pressure installations are applicable up to maximum PSI shown. Vacuum installations are recommended.

² Maximum power requirements for in-bowl heater option: 12 vdc (200 watt) = 16.6 amps, 24 vdc (200 watt) = 8.3 amps. See Accessories section for heater relay kits, if needed.

WFH Series

Want proven reliability? A Racor WFH Fuel Heater/Water Separators are for today's high performance heavy-duty and smaller midrange engines. These lightweight aluminum units use engine coolant to produce a 47°F rise in fuel temperature, eliminating the need for fuel blending.

A WFH's three-stage water separation process is more than 99% effective in eliminating water from fuel under SAE J1839 test parameters.

Stage 1: A self-cleaning stripper screen removes water and solid contaminants from the fuel, so no primary fuel filter is required.

Stage 2: Fuel contaminants and water are drained by the driver through the unit's self-venting drain valve.

Stage 3: A floating check ball valve system guards against loss of prime during service.

WFH units require no schedule servicing, other than periodic water draining. The screen filtration system is also self-cleaning eliminating the need for additional maintenance. Separated water is quickly and easily eliminated through an integral self-venting drain valve with no loss of prime. WFH units are available with either a 12 volt or 120 volt preheater and optional thermostat, and a ACV (Automatic Coolant Valve). Unit cover rotates 360° for ease of installation on any existing engine configuration.



WFH424



WFH500



WFH525



WFH525/ACV

WFH Series

WFH424

Fuel Heater/Water Separator



Want proven reliability? A Racor 424 Fuel Heater/Water Separators are for today's high performance heavy-duty and smaller midrange engines. These lightweight aluminum units use engine coolant to produce a 47°F rise in fuel temperature, eliminating the need for fuel blending.

A 424's three-stage water separation process is more than 99% effective in eliminating water from fuel under SAE J1839 test parameters.

Stage 1: A self-cleaning stripper screen removes water and solid contaminants from the fuel, so no primary fuel filter is required.

Stage 2: Fuel contaminants and water are drained by the driver through the unit's self-venting drain valve.

Stage 3: A floating check ball valve system guards against loss of prime during service.



Specifications

Maximum Flow Rate: (with diesel)	60 GPH (227 LPH)
Inlet/Outlet Port Size	1/2 NPT
Housing Material	Aluminum
Replacement Element	Screen
Micron Rating	70
Minimum Service Clearance (below filter)	4.0 in. (10.2 cm)
Height	10.0 in. (25.4 cm)
Depth	5.9 in. (15.0 cm)
Width	5.3 in. (13.5 cm)
Weight (dry)	6.3 lbs (2.9 kg)
Maximum Working Pressure ¹	N/A
Water Removal Efficiency	99%
Clean Pressure Drop	0.04 PSI (0.28 kPa)
Case Quantity	N/A
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

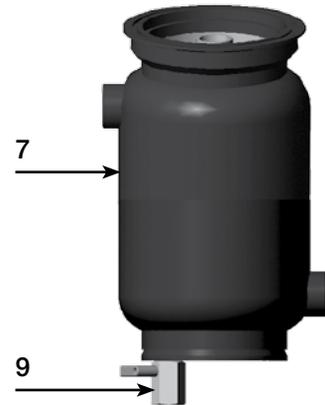
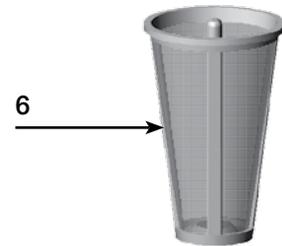
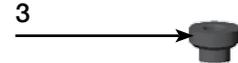
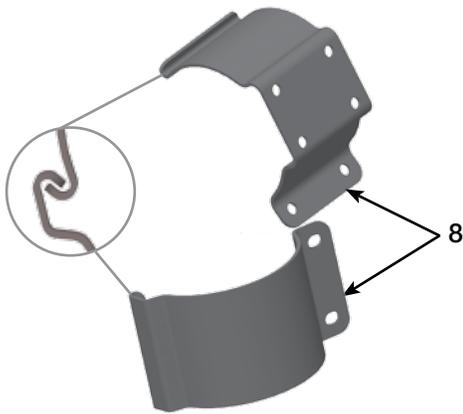
Replacement Parts

WFH424

<u>Part Number</u>	<u>Description</u>
1. WFH5760	Cover Clamp Kit
2. WFH5726X	424 Cover Kit
3. WFH5731C	Stopper Seal Kit
4. WFH5731K	Check Ball Kit
5. WFH5730P	O-ring Kit
6. WFH4732	70 Micron Screen Kit (includes #5)
7. WFH4738	424 Body Kit
8. WFH4736	Mounting Bracket Kit
9. WFH5742	Ball Valve Kit

Additional Parts (not shown)

BK38100L	Bolt Kit
WFH4750K	424 Complete Rebuild Kit



WFH Series

WFH500

Fuel Heater/Water Separator



Want proven reliability? A Racor 500 Fuel Heater/Water Separators are for today's high performance heavy-duty and smaller midrange engines. These lightweight aluminum units use engine coolant to produce a 47°F rise in fuel temperature, eliminating the need for fuel blending.

A 500's three-stage water separation process is more than 99% effective in eliminating water from fuel under SAE J1839 test parameters.

Stage 1: A self-cleaning stripper screen removes water and solid contaminants from the fuel, so no primary fuel filter is required.

Stage 2: Fuel contaminants and water are drained by the driver through the unit's self-venting drain valve.

Stage 3: A floating check ball valve system guards against loss of prime during service.



Specifications

Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	1/2 NPT
Housing Material	Aluminum
Replacement Element	Screen
Micron Rating	70
Minimum Service Clearance (below filter)	4.0 in. (10.2 cm)
Height	10.0 in. (25.4 cm)
Depth	5.9 in. (15.0 cm)
Width	5.3 in. (13.5 cm)
Weight (dry)	6.3 lbs (2.9 kg)
Maximum Working Pressure¹	N/A
Water Removal Efficiency	99%
Clean Pressure Drop	0.04 PSI (0.28 kPa)
Case Quantity	N/A
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

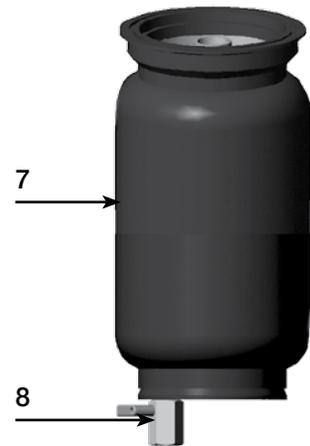
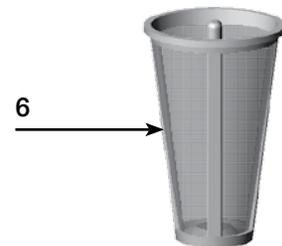
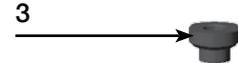
Replacement Parts

WFH500

<u>Part Number</u>	<u>Description</u>
1. WFH5760	Cover Clamp Kit
2. WFH5726B	525 Cover Kit
3. WFH5731P	Check Seal Packet
4. WFH5731K	Check Ball Kit (includes items 3, 4, & 5)
5. WFH5730P	O-ring Kit
6. WFH5732	70 Micron Screen Kit
WFH5732/30	30 Micron Screen Kit (includes o-ring)
7. WFH5038X	500 Body Kit (WFH500)
8. WFH5742	Ball Valve Kit
9. WFH5736S	(back) Mounting Bracket Kit
10. WFH5736	(front) Mounting Bracket Kit (includes 9 & 10)
11. N/A	12 vdc 200 watt Cartridge Heater (WFH500)

Additional Parts (not shown)

525B/V	Bolt Kit
WFH5750K	Rebuild Kit 70 Micron (all 500 series #'s 3-6)
WFH5750K/30	Rebuild Kit 30 Micron (all 500 series #'s 3-6)



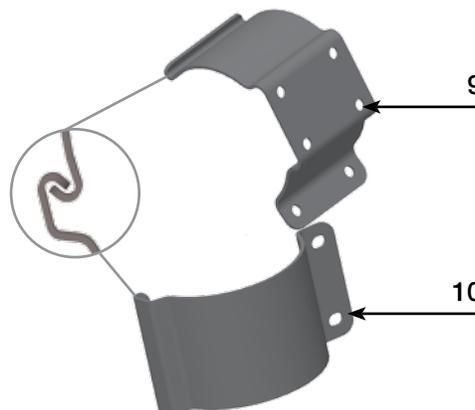
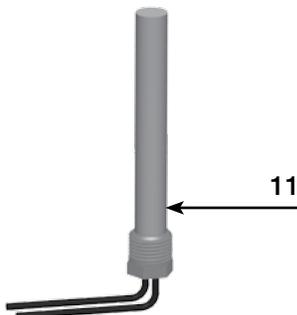
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WFH Series

WFH525

Fuel Heater/Water Separator



Want proven reliability? A Racor 525 Fuel Heater/Water Separators are for today's high performance heavy-duty and smaller midrange engines. These lightweight aluminum units use engine coolant to produce a 47° F rise in fuel temperature, eliminating the need for fuel blending.

A 525's three-stage water separation process is more than 99% effective in eliminating water from fuel under SAE J1839 test parameters.

Stage 1: A self-cleaning stripper screen removes water and solid contaminants from the fuel, so no primary fuel filter is required.

Stage 2: Fuel contaminants and water are drained by the driver through the unit's self-venting drain valve.

Stage 3: A floating check ball valve system guards against loss of prime during service.



Specifications

Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	1/2 NPT
Housing Material	Aluminum
Replacement Element	Screen
Micron Rating	70
Minimum Service Clearance (below filter)	4.0 in. (10.2 cm)
Height	10.0 in. (25.4 cm)
Depth	5.9 in. (15.0 cm)
Width	5.3 in. (13.5 cm)
Weight (dry)	6.3 lbs (2.9 kg)
Maximum Working Pressure ¹	N/A
Water Removal Efficiency	99%
Clean Pressure Drop	0.04 PSI (0.28 kPa)
Case Quantity	N/A
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

WFH525/ACV

Fuel Heater/Water Separator



Want proven reliability? A Racor 525 Fuel Heater/Water Separators are for today's high performance heavy-duty and smaller midrange engines. These lightweight aluminum units use engine coolant to produce a 47° F rise in fuel temperature, eliminating the need for fuel blending.

A 525's three-stage water separation process is more than 99% effective in eliminating water from fuel under SAE J1839 test parameters.

Stage 1: A self-cleaning stripper screen removes water and solid contaminants from the fuel, so no primary fuel filter is required.

Stage 2: Fuel contaminants and water are drained by the driver through the unit's self-venting drain valve.

Stage 3: A floating check ball valve system guards against loss of prime during service.



Specifications	
Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	1/2 NPT
Housing Material	Aluminum
Replacement Element	Screen
Micron Rating	70
Minimum Service Clearance (below filter)	4.0 in. (10.2 cm)
Height	10.0 in. (25.4 cm)
Depth	5.9 in. (15.0 cm)
Width	5.3 in. (13.5 cm)
Weight (dry)	6.3 lbs (2.9 kg)
Maximum Working Pressure ¹	N/A
Water Removal Efficiency	99%
Clean Pressure Drop	0.04 PSI (0.28 kPa)
Case Quantity	N/A
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Vacuum side installations only.	

WFH Series

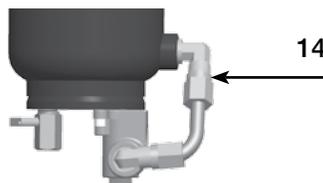
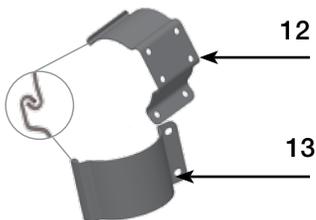
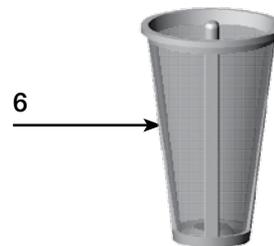
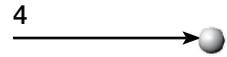
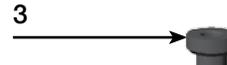
Replacement Parts

WFH525, WFH525/ACV

Part Number	Description
1. WFH5760	Cover Clamp Kit
2. WFH5726B	525 Cover Kit
3. WFH5731K	Stopper Seal Kit
4. WFH5731P	Check Ball Kit (includes items 3, 4 & 5)
5. WFH5730P	O-ring Kit
6. WFH5732	70 Micron Screen Kit
WFH5732/30	30 Micron Screen Kit (includes o-ring)
7. WFH5738X	525 Body Kit (WFH525/WFH525ACV)
8. WFH5742	Ball Valve Kit
9. WFH5736S	(back) Mounting Bracket Kit
10. WFH5736	(front) Mounting Bracket Kit (includes 9 & 10)
11. ACV4500	Automatic Coolant Shutoff Valve

Additional Parts (not shown)

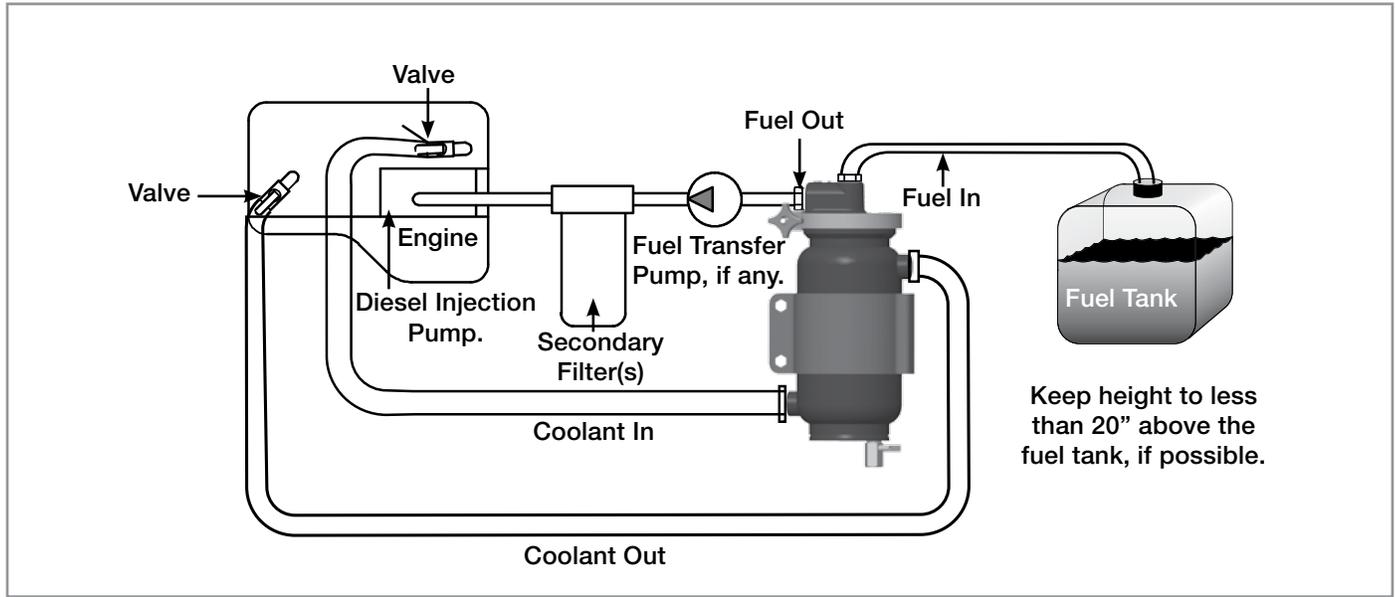
BK38100L	Bolt Kit
RK230045	120vdc Heater Kit



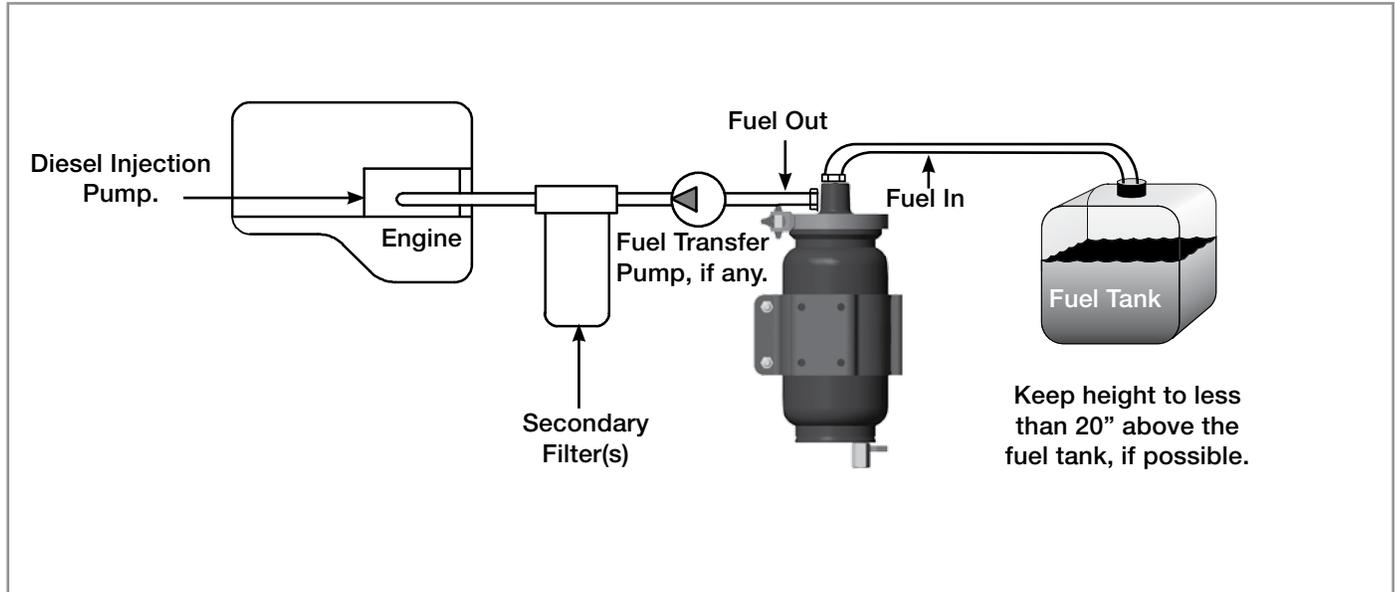
Optional ACV
(automatic coolant valve).

Installation Diagram

424 and 525 models



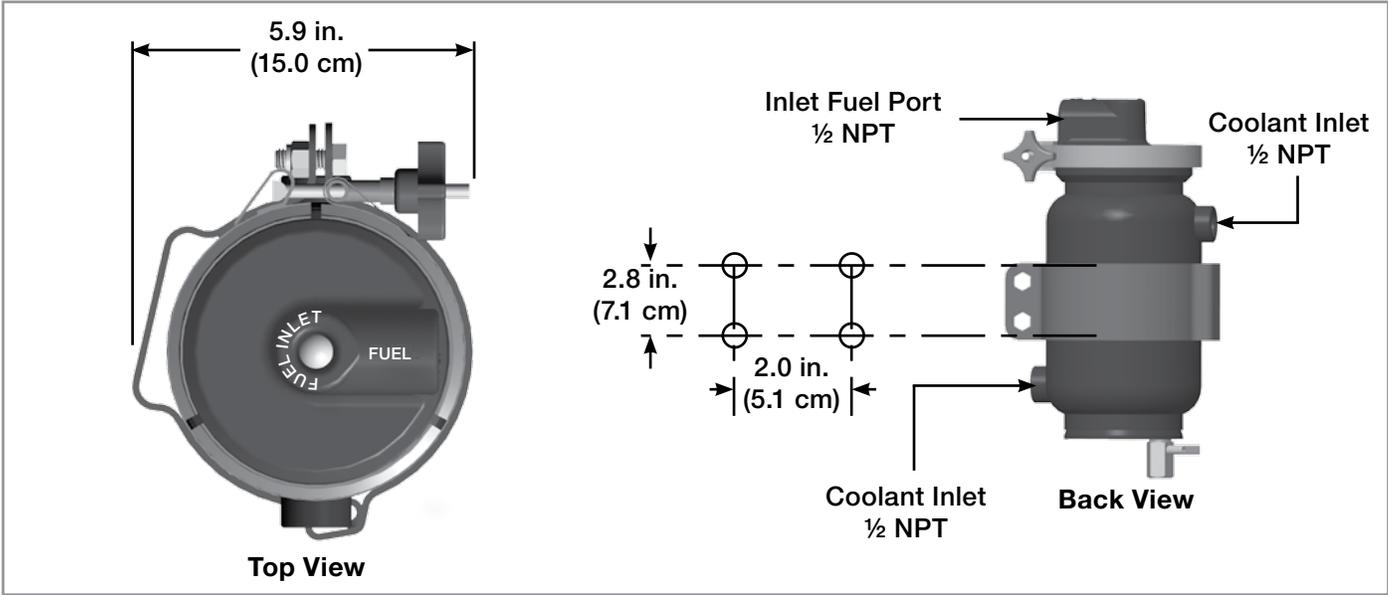
500 models



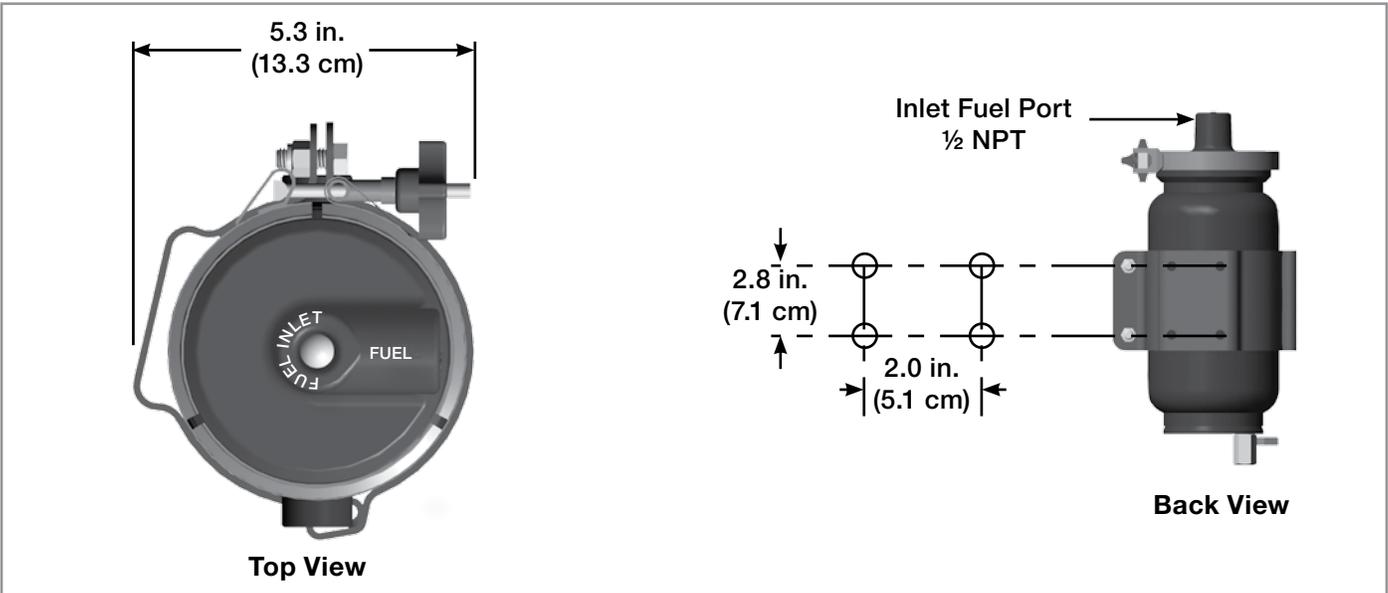
WFH Series

Mounting Information

424 models



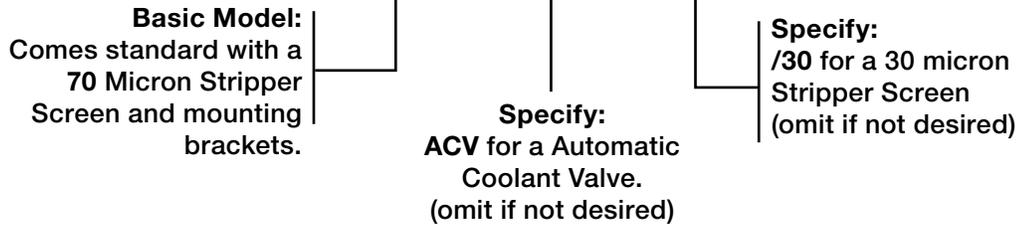
500 and 525 models



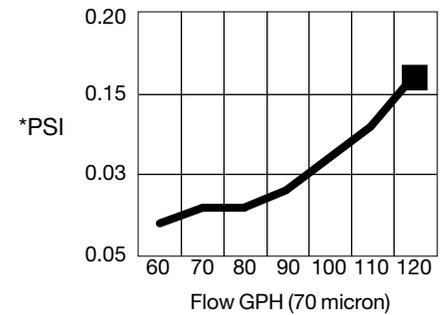
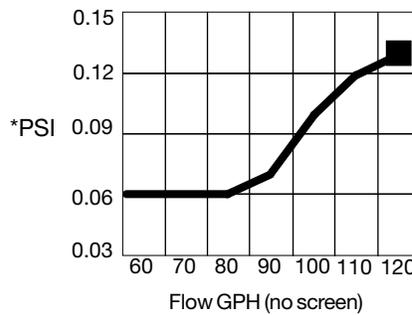
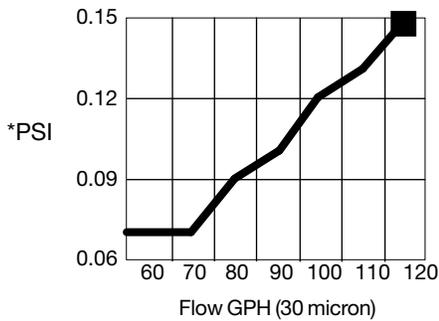
How to Order

(The example below illustrates how part numbers are constructed.)

WFH525ACV/30

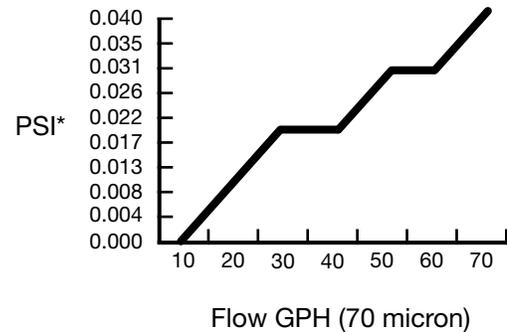
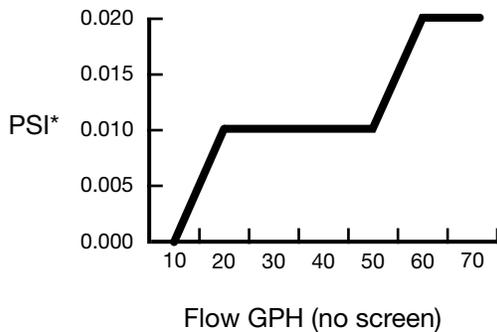


Test Data



PSI X 2.036 = inHg (PSI X 6.895 = kPa)

Test results are from controlled laboratory testing. Field results may vary by application.



*PSI X 2.036 = inHg (PSI X 6.895 = kPa)

WFH Series

Features and Benefits

- A. **Fuel Inlet:** Fuel flows in and is cleaned and heated before returning to engine.
- B. **Fuel Outlet:** Warm fuel escapes and is consumed by engine.
- C. **Cover Clamp:** Allows cover to be rotated 180° for ease and versatility of installation. Do not use tools, hand-tighten clamp only.
- D. **Cover:** The self piloting no thread clamp-on design allows the top cover to be positioned in any direction for fuel routing. The cover may be removed with fuel line intact, and without tools.
- E. **Internal Check Valve:** The floating check ball (check ball moves up and down through tube to ensure prime is not lost) valve system guards against loss of prime during fuel system service.
- F. **Coolant Outlet:** Coolant that was circulating through unit is now returning to engine.
 - 1. **Engine Off**
 - 2. **Engine Running**
- G. **Stripper Screen:** The FH/WS has a self-flushing screen that will not allow water to pass through, and it acts as a prefilter removing contaminants to 70 micron. Eliminating the need for a primary fuel filter, the assembly also comes with a 30 micron screen.
- H. **Self Venting Drain Valve:** Unique one-valve system for fast and simple water draining, it is easy for operators to drain unit.
- I. **Coolant Inlet:** Coolant enters unit to warm fuel and exits through outlet.
- J. **Automatic Coolant Valve (ACV):** Shuts off coolant supply at 80° F (26.6 c) to protect electronic engine controls from over heating. (Available for 525 models)
- K. **Mounting Bracket:** Two piece design, mount filter vertically only. (available for 525 and 500 models)
- L. **Optional:** 12 vdc 200 watt preheater cartridge (part number CH4.5 available for 500 models).
- M. **Optional:** 120 vdc 63 watt electric preheater (part number CH2.75-1 available for 500 models).

The 3-Stage Process

Stage 1.

Fuel enters the FH/WS through the cover's center port. The fuel travels down the isolator tube, pushing the check ball down, then passes through fuel slots on the bottom. The fuel changes direction and travels up and around the diffuser plate. The entire time it is being warmed by the surrounding hot water jacket.

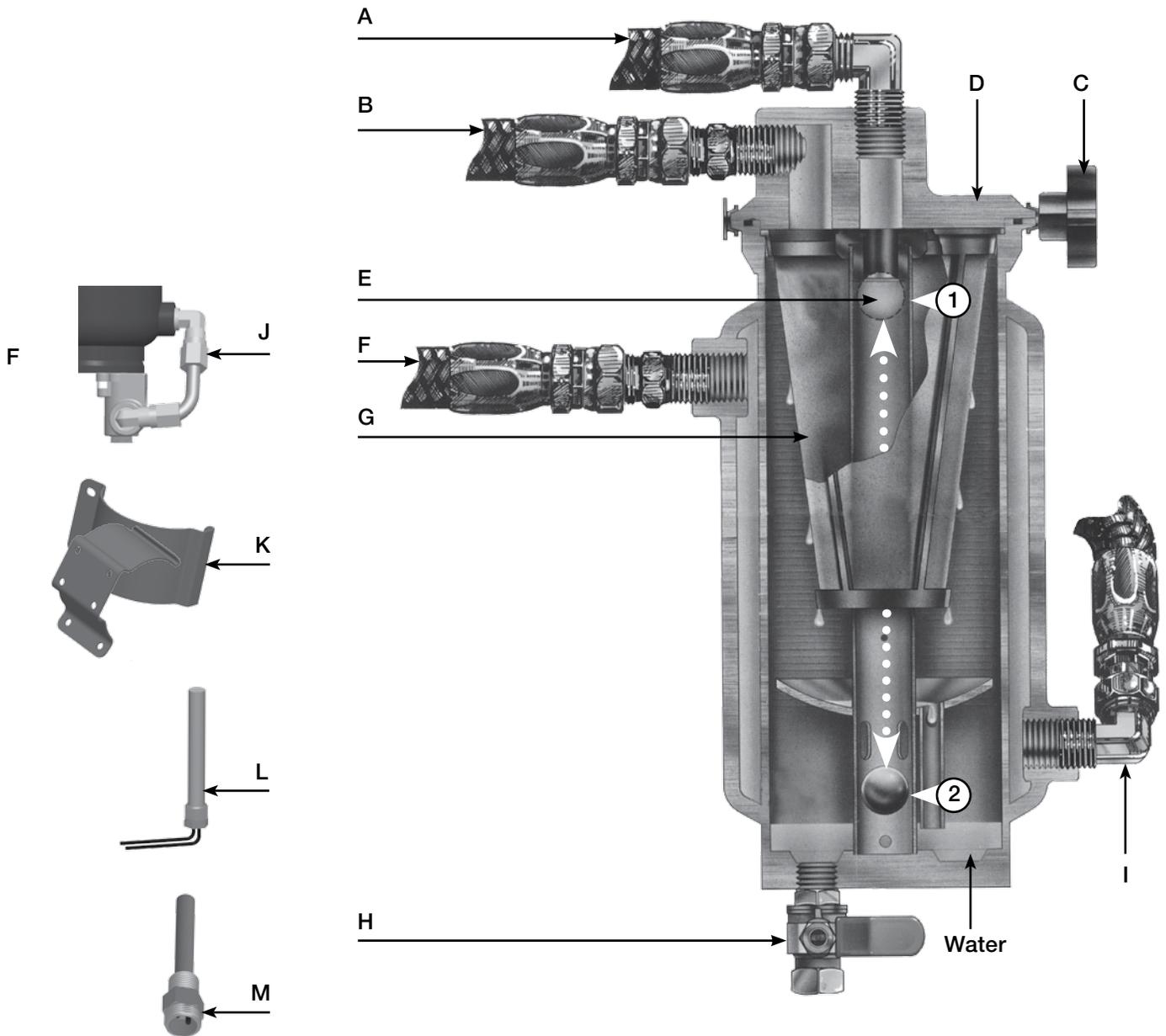
Stage 2.

Fuel then passes through the self flushing stripper screen where the contaminants and water are left behind to fall to the top of the diffuser plate. There, the contaminants settle below incoming fuel and collect at the base of the unit, where the contaminants and water are drained.

Stage 3.

Finally the clean, dry, and warm fuel exits the FH/WS unit through the cover's side port and then is ingested by the engine.

Please refer to page 79 for call out descriptions.



WFH Series

WFH Series Overview



Specifications	WFH424	WFH500	WFH525	WFH525/ACV
Flow Rate	60 GPH (227 LPH)	120 GPH (454 LPH)	120 GPH (454 LPH)	120 GPH (454 LPH)
Fuel Port Size	1/2 NPT	1/2 NPT	1/2 NPT	1/2 NPT
Coolant Port Size	1/2 NPT	N/A	1/2 NPT	1/2 NPT
Housing Material	Aluminum	Aluminum	Aluminum	Aluminum
Micron Rating	70	70	70	70
Width	5.3 in. (13.5 cm)	5.3 in. (13.5 cm)	5.3 in. (13.5 cm)	5.3 in. (13.5 cm)
Depth	5.9 in. (15.0 cm)	5.3 in. (13.5 cm)	5.3 in. (13.5 cm)	5.3 in. (13.5 cm)
Height	10.0 in. (25.4 cm)	15.8 in. (40.1 cm)	15.8 in. (40.1 cm)	15.9 in. (40.4 cm)
H ₂ O Removal	99%	99%	99%	99%
Coolant Ports	Yes	No	Yes	Yes
Heater Ports				
12 vdc Pre-heater	No	Yes	No	No
120 vdc Pre-heater	No	No	No	No
Automatic Coolant Valve (ACV)	No	No	No	Yes
Service Element	4 in.	4 in.	4 in.	4 in.
Operating Temperature	-40° to +250° F (-40° to + 124°C)			

645R

Fuel Heater/Water Separator



All 600 Series Spin-On fuel filter/water separators feature multiple fuel ports (4 inlets and 3 outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF for all models. These filter assemblies provide flexibility during mounting and fit any engine application.

Additional 600 Series features include Spin-On high capacity, Aquabloc® II replaceable filter elements which stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.



Specifications	
Maximum Flow Rate: (with diesel)	45 GPH (170 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Housing Material	Aluminum
Replacement Element	See Element Chart
Center Threads	1"-14
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	8.5 in. (21.6 cm)
Depth	4.5 in. (11.4 cm)
Width	4.5 in. (11.4 cm)
Weight (dry)	2.4 lb (1.09 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.01 PSI (0.001 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Vacuum side installations only.	

600 Series

660R

Fuel Heater/Water Separator



All 600 Series Spin-On fuel filter/water separators feature multiple fuel ports (4 inlets and 3 outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF for all models. These filter assemblies provide flexibility during mounting and fit any engine application.

Additional 600 Series features include Spin-On high capacity, Aquabloc® II replaceable filter elements which stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.



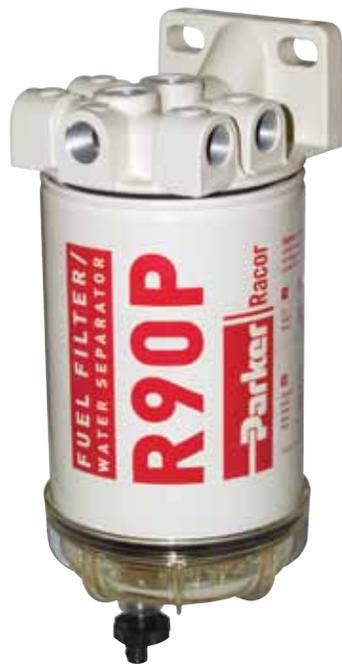
Specifications

Maximum Flow Rate: (with diesel)	60 GPH (227 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Housing Material	Aluminum
Replacement Element	See Element Cart
Center Threads	1"-14
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	10.2 in. (25.9 cm)
Depth	4.5 in. (11.4 cm)
Width	4.5 in. (11.4 cm)
Weight (dry)	2.6 lb (1.18 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.05 PSI (0.003 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

690R

Fuel Heater/Water Separator



All 600 Series Spin-On fuel filter/water separators feature multiple fuel ports (4 inlets and 3 outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF for all models. These filter assemblies provide flexibility during mounting and fit any engine application.

Additional 600 Series features include Spin-On high capacity, Aquabloc® II replaceable filter elements which stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.



Specifications

Maximum Flow Rate: (with diesel)	90 GPH (341 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Housing Material	Aluminum
Replacement Element	See Element Chart
Center Threads	1"-14
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	11.2 in. (28.4 cm)
Depth	4.5 in. (11.4 cm)
Width	4.5 in. (11.4 cm)
Weight (dry)	2.7 lb (1.22 kg)
Maximum Working Pressure ¹	30 PSI (2.07 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	0.29 PSI (0.02 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

600 Series

6120R

Fuel Heater/Water Separator



All 600 Series Spin-On fuel filter/water separators feature multiple fuel ports (4 inlets and 3 outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF for all models. These filter assemblies provide flexibility during mounting and fit any engine application.

Additional 600 Series features include Spin-On high capacity, Aquabloc® II replaceable filter elements which stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.



Specifications

Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Housing Material	Aluminum
Replacement Element	See Element Chart
Center Threads	1"-14
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	14.1 in. (35.8 cm)
Depth	4.5 in. (11.4 cm)
Width	4.5 in. (11.4 cm)
Weight (dry)	3.9 lbs (1.8 kg)
Maximum Working Pressure ¹	15 PSI (1.03 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	2.65 PSI (0.18 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

6125R

Fuel Heater/Water Separator



All 600 Series Spin-On fuel filter/water separators feature multiple fuel ports (4 inlets and 3 outlets) and a unitized mounting bracket for installation convenience. Inlet and outlet threads are 3/8"-18 NPTF for all models. These filter assemblies provide flexibility during mounting and fit any engine application.

Additional 600 Series features include Spin-On high capacity, Aquabloc® II replaceable filter elements which stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.



Specifications

Maximum Flow Rate: (with diesel)	120 GPH (454 LPH)
Inlet/Outlet Port Size	3/8"-18 NPTF
Housing Material	Aluminum
Replacement Element	See Element Chart
Center Threads	1"-14
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	13.9 in. (35.3 cm)
Depth	4.5 in. (11.4 cm)
Width	4.6 in. (11.7 cm)
Weight (dry)	3.9 lb (1.8 kg)
Maximum Working Pressure ¹	15 PSI (1.03 bar)
Water Removal Efficiency	99%
Clean Pressure Drop	2.65 PSI (0.18 bar)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Vacuum side installations only.

600 Series

600 Series Overview



Specifications	645R	660R	690R	6120R	6120R
Maximum Flow Rate	45 GPH (170 LPH)	60 GPH (227 LPH)	90 GPH (341 LPH)	120 GPH (454 LPH)	120 GPH (454 LPH)
Port Size (SAE J476)	3/8"-18 NPTF	3/8"-18 NPTF	3/8"-18 NPTF	3/8"-18 NPTF	3/8"-18 NPTF
Total Number of Ports: (total inlets) (total outlets)	7 4 3	7 4 3	7 4 3	7 4 3	7 4 3
Min. Service Clearance	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
Center Threads	1"-14	1"-14	1"-14	1"-14	1"-14
Height	8.5 in. (21.6 cm)	10.2 in. (25.9 cm)	11.2 in. (28.4 cm)	14.1 in. (35.8 cm)	13.9 in. (35.3 cm)
Depth	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)
Width	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)	4.5 in. (11.4 cm)
Weight (dry)	2.4 lb (1.09 kg)	2.6 lb (1.18 kg)	2.7 lb (1.22 kg)	3.9 lb (1.8 kg)	3.9 lb (1.8 kg)
Clean Pressure Drop	0.01 PSI (0.001 bar)	0.05 PSI (0.003 bar)	0.29 PSI (0.02 bar)	2.65 PSI (0.18 bar)	2.65 PSI (0.18 bar)
Max. Allowable Pressure ¹	30 PSI (2.07 bar)	30 PSI (2.07 bar)	30 PSI (2.07 bar)	15 PSI (1.03 bar)	15 PSI (1.03 bar)
Available Options: (water sensor) (heater) ²	Yes Yes	Yes Yes	Yes Yes	Yes Yes	Yes Yes
Bowl Capacity (water) (with heater)	4.0 oz. (118 ml) 3.5 oz. (104 ml)	4.0 oz. (118 ml) 3.5 oz. (104 ml)	4.0 oz. (118 ml) 3.5 oz. (104 ml)	2.8 oz. (82 ml) 2.4 oz. (70 ml)	2.8 oz. (82 ml) 2.4 oz. (70 ml)
H ₂ O Removal Efficiency	99%				
Operating Temperature	-40° to +255°F (-40° to +124°C)				

¹ Pressure installations are applicable up to maximum PSI shown. Vacuum installations are recommended.

² Maximum power requirements for in-bowl heater option: 12 vdc (200 watt) = 16.6 amps, 24 vdc (200 watt) = 8.3 amps - see Accessories section for heater relay kits, if needed.

How to Order

*** 6 4 5 R 1 2 2**

Add an * for optional 16 mm fuel ports¹. (omit if not desired)

Specify a model number: 645R, 660R, 690R, 6120R or 6125R

Specify a micron rating: 2, 10, or 30.

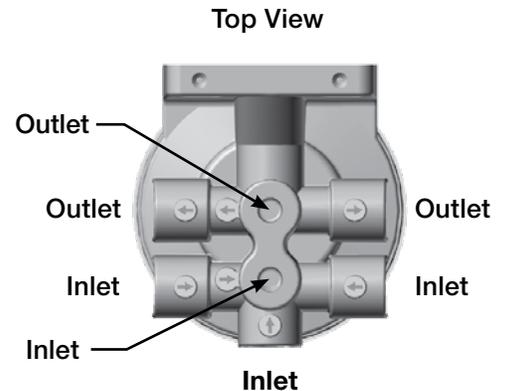
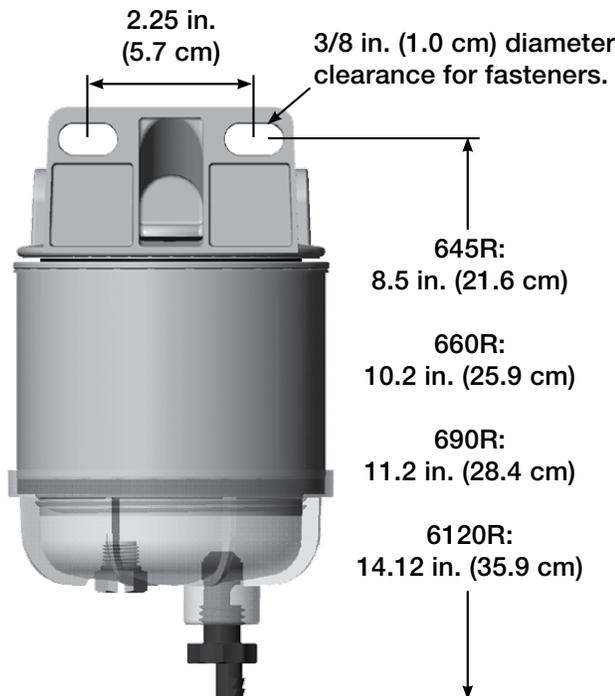
Add 12 or 24: for a 12 or 24 volt dc heater². (omit if not desired)

¹ Standard fuel ports are 3/8"-18 NPTF.

² Use with Racor relay kit - see Accessories.

Replacement Elements			
Model Number	2 Micron (Final Filtration)	10 Micron (Secondary Filtration)	30 Micron (Primary Filtration)
645R	R45S	R45T	R45P
660R	R60S	R60T	R60P
690R	R90S	R90T	R90P
6120R	R120S	R120T	R120P
6125R	R125S	R125T	R125P

Mounting Information



600 Series

Replacement Parts

645R, 660R and 690R

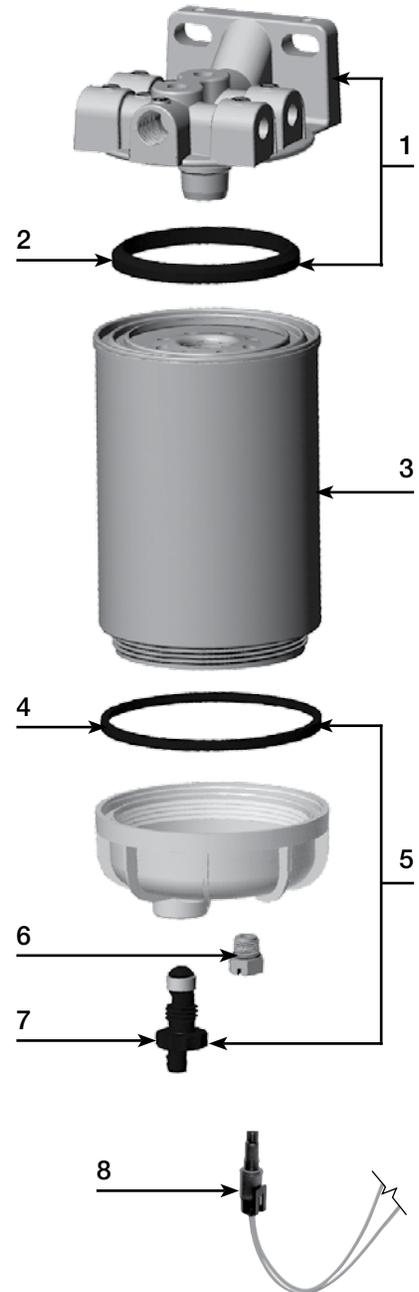
Part Number	Description
1. RK22098	Mounting Head Kit (3/8"-18 NPTF) (includes #2 & Plug Kit 3/8" NPT)
RK 22423	Mounting Head Kit (Metric) (16 mm X 1.5) (includes #2)
2. RK22998	Element Gasket Kit
3.	See Replacement Element Chart
4. RK 22333	Bowl Gasket Kit
5.	Replacement Bowl Kits (includes bowl, #4 , #6 and #7)
RK 21113-13-11 ¹	Clear Bowl Kit
RK 22616-01 ²	Heated Clear Bowl Kit (same as above, 12 vdc heater)
RK 22616-02 ²	Heated Clear Bowl Kit (same as above, 24 vdc heater)
6. RK 20126	Bowl Plug Kit (1/2" SAE)
7. RK 30476	Drain Valve Assembly Kit
8. RK 30964 ³	Water Probe Kit

Additional Parts Not Shown

01SP-6S	Metal Plug (3/8" NPTF)
22231	Plug Kit 3/8" NPT
RK 22323	Heater Connector Kit
22249	Installation Instructions

Notes:

- ¹ Includes water probe port plug 1/2" SAE.
- ² In-bowl heater may require a Heater Relay Kit.
Maximum power requirements are: 12 vdc =16.6 amps,
24 vdc = 8.3 amps.
- ³ Water probe must be used with a Water Detection Kit
- see Accessories.



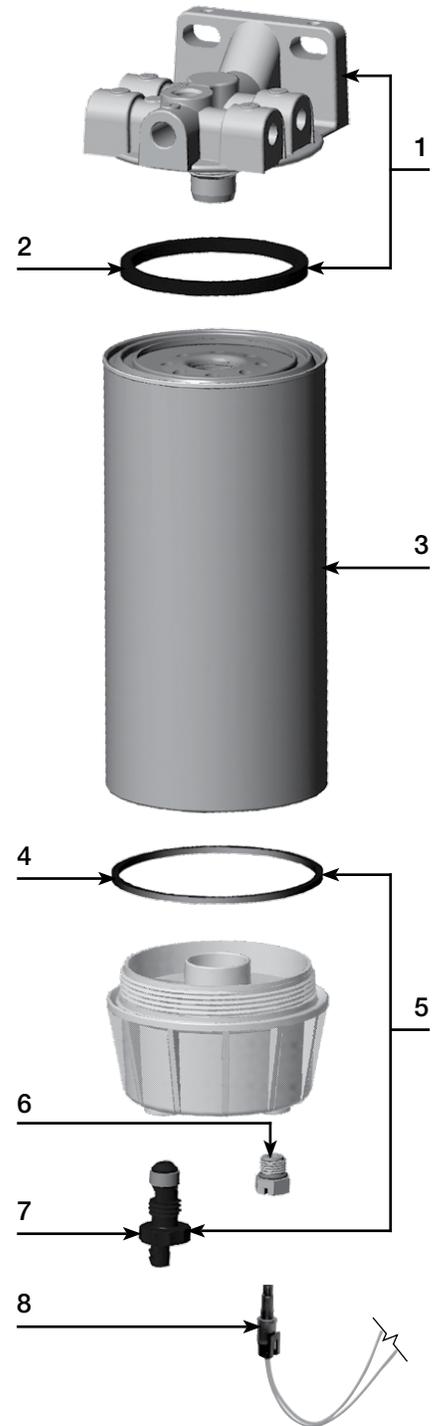
Replacement Parts

6120R

Part Number	Description
1. RK22098	Mounting Head Kit (3/8"-18 NPTF) (includes #2 & Plug Kit 3/8" NPT)
RK 22423	Mounting Head Kit (Metric) (16 mm X 1.5) (includes #2)
2. RK22998	Element Gasket Kit
3.	See Replacement Element Chart
4. RK 30965	Bowl Gasket Kit
5.	Replacement Bowl Kits (includes Bowl, #4, #6 and #7)
RK 30063 ¹	Clear Bowl Kit
RK 30900 ²	Heated Clear Bowl Kit (same as above, 12 vdc heater)
RK 30925 ²	Heated Clear Bowl Kit (same as above, 24 vdc heater)
6. RK 20126	Bowl Plug Kit (1/2" SAE)
7. RK 30476	Self-Venting Drain Kit
8. RK 30964 ³	Water Probe Kit
Additional Parts (not shown)	
01SP-6S	Metal Plug (3/8" NPTF)
22231	Plug Kit 3/8" NPT
RK 30876	Heater Connector Kit
RK 30058	Drain Valve Seal Kit
22249	Installation Instructions

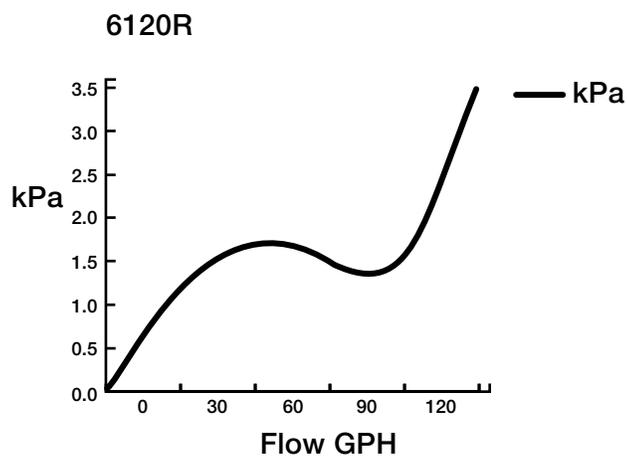
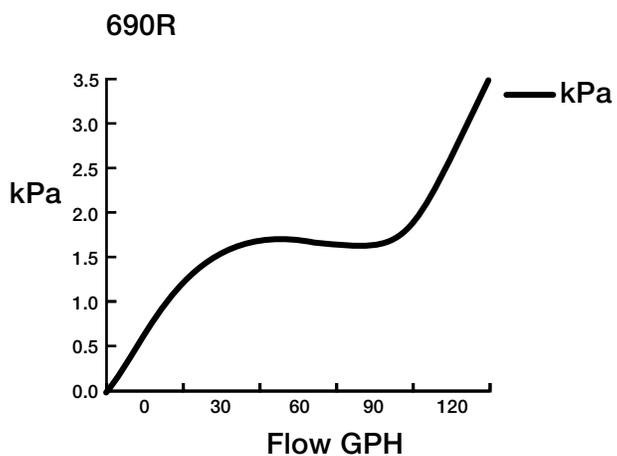
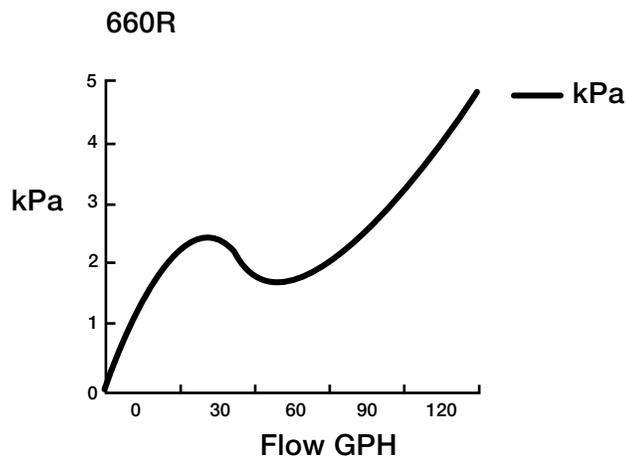
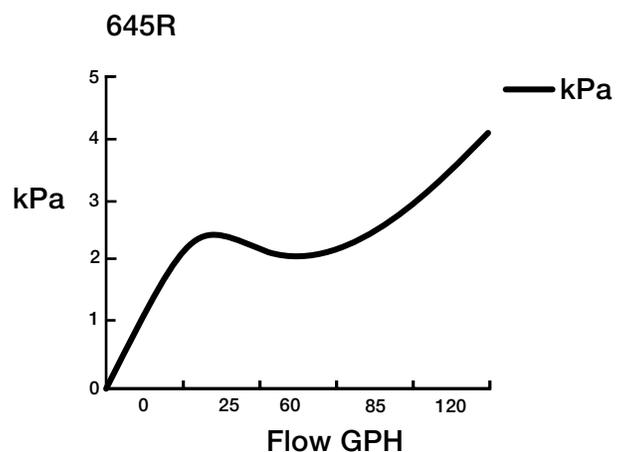
Notes:

- ¹ Includes water probe port plug 1/2" SAE.
- ² In-bowl heater may require a Heater Relay Kit.
Maximum power requirements are: 12 vdc =16.6 amps,
24 vdc = 8.3 amps.
- ³ Water probe must be used with a Water Detection Kit
- see Accessories.



600 Series

Test Data



Test results are from controlled laboratory testing. Field results may vary.
(PSI X 2.036 = inHG) (PSI X 6.895 = kPa)

Nautilus Series fuel filter/water separators use a unique, patented coalescing Spin-On element that enhances centrifugal force thereby pulling 99% of the suspended free water from fuel. The Nautilus element, S6464, is self-cleaning and does not require replacement under normal operating conditions; it is not a particulate removing filter.

The 6400/6401 models feature an internal heat exchanger, which uses hot engine coolant to heat the incoming fuel. The fittings fit 5/8" I.D. coolant hoses and attach to the pressure side, up to 35 PSI (2.4 bar), of the engine cooling system.

Additionally, the 6401 model also includes an internal coolant shut-off valve which is automatically

controlled by a thermostat which opens at approximately 45°F (7.2°C) and closes at 100°F (37.7°C).

Heating the fuel dissolves paraffin wax crystals that form when diesel fuel is chilled thus enabling water separation to occur more efficiently and prevents downstream fuel filters from plugging with wax and/or ice crystals.

Nautilus assemblies are for PRIMARY filtration and separation use only. A secondary filter is required downstream. Model 6400 features a coolant heat exchanger as standard; a customer supplied shut-off valve may be required. Model 6401 features an internal automatic thermostat (shuts off coolant flow to heat exchanger to control fuel temperature).



6400/6401

Specifications	6400/6401
Maximum Flow Rate: (with S3226P element) (with S6464 coalescer element)	75 GPH (284 LPH) 120 GPH (454 LPH)
Port Size: (inlet/outlet fuel) (coolant fittings)	7/8"-14 SAE 5/8" Hose Barb
Service Filter Element	S6464 or S3226P
Service Clearance (below filter)	2.0 in. (5.1 cm)
Center Threads	1"-14
Height	16.5 in. (41.9 cm)
Width	6.0 in. (15.2 cm)
Depth	6.0 in. (15.2 cm)
Weight (dry)	11.3 lb (5.1 kg)
Clean Pressure Drop	0.5 PSI (0.03 bar)
Max. Allowable Pressure	15 PSI (1.03 bar)
Bowl Capacity (water) (to probe tips) (with Heater)	2.8 oz. (82 ml) 2.4 oz. (70 ml)
H₂O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to +124°C)

Nautilus

How to Order

(the example below illustrates how a part number is constructed)

6401	N
Specify: 6400 (no thermostat valve), or 6401 (with thermostat valve)	Specify: ¹ N coalescer element. (omit if not desired)

¹ 30 micron S3226P element is standard unless N option is selected for coalescer element (see below).

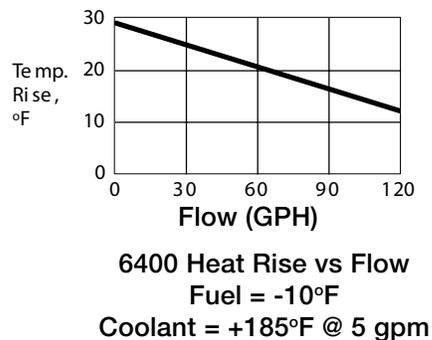
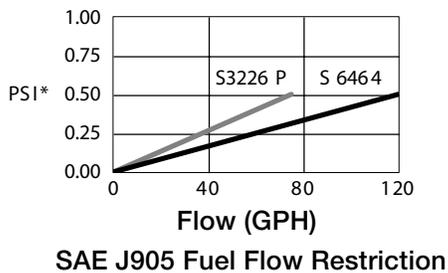
Replacement Elements

S6464	S3226P
Coalescer Element (removes water only from fuel; does not remove sediment). This filter is self-cleaning and does not require replacement under normal operating conditions.*	30 Micron Element (removes sediment and separates water)*

*A secondary/final filter must be in the downstream fuel system.

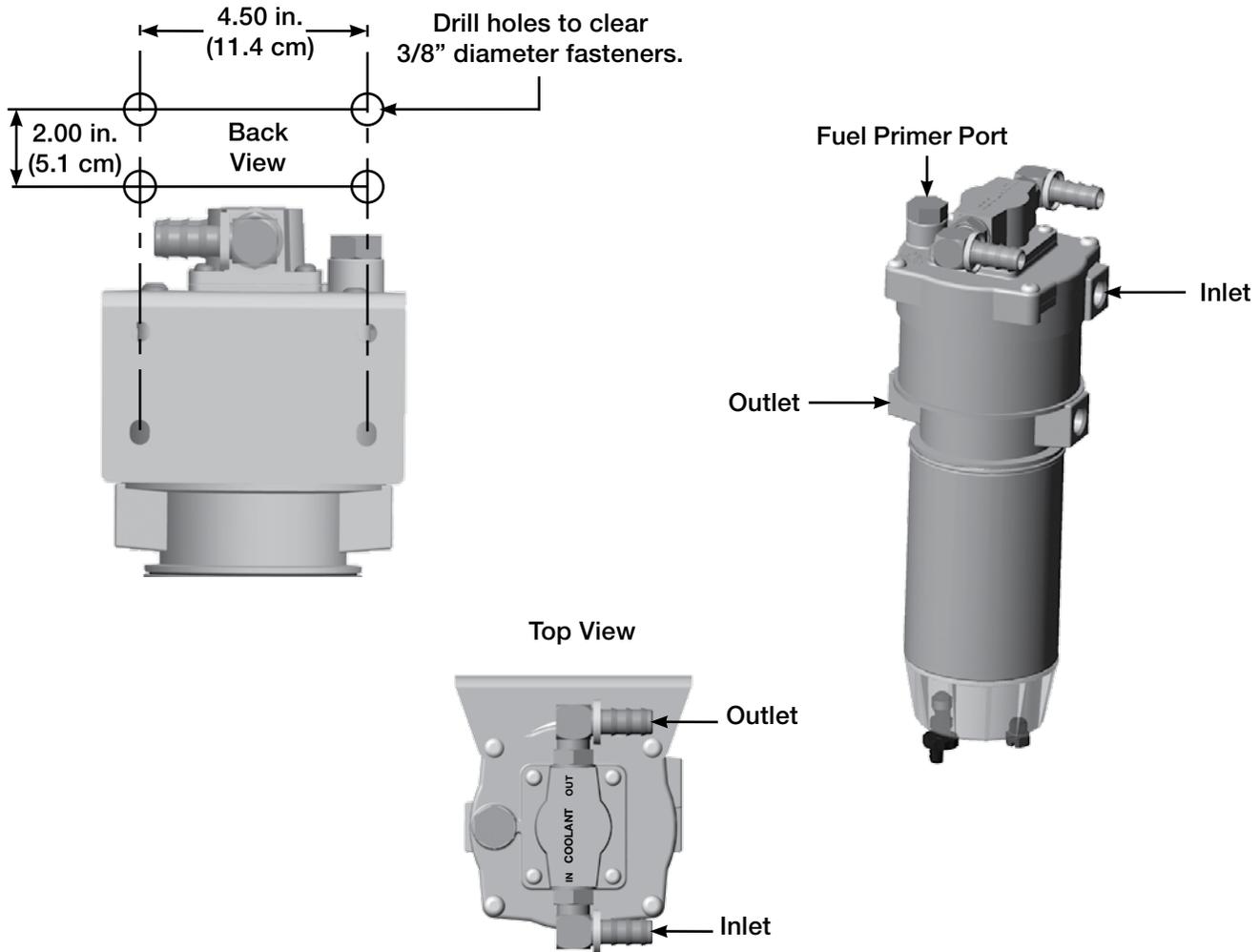
Test Data

Test results are from controlled laboratory testing. Field results may vary by application.



*PSI X 2.036 = inHg / PSI X 6.895 = kPa

Mounting Information



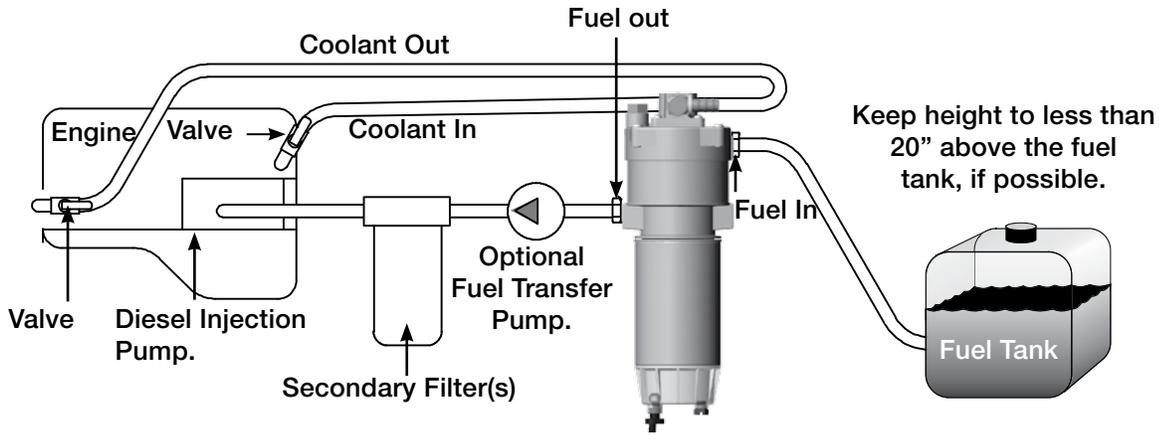
Important:

The fuel and coolant port orientation may be changed to suit any installation. Fuel ports may face opposite direction by repositioning L-bracket on opposite side along with clamp bracket. Torque 5/16" bracket fasteners to 20 ft. lbs.

Coolant fittings may be repositioned within a 180° arc by loosening the locknuts. Reposition and tighten locknuts snugly. Coolant in/out manifold may be repositioned opposite as shown; torque 1/4" fasteners to 20 ft. lbs.

Nautilus

Installation Diagram



Coolant Plumbing Alternatives

Parallel System with a cab heater.

Manual shut-off valves (customer supplied) maybe used to regulate coolant to the Racor unit for summer use, if desired.

Valve Positions:

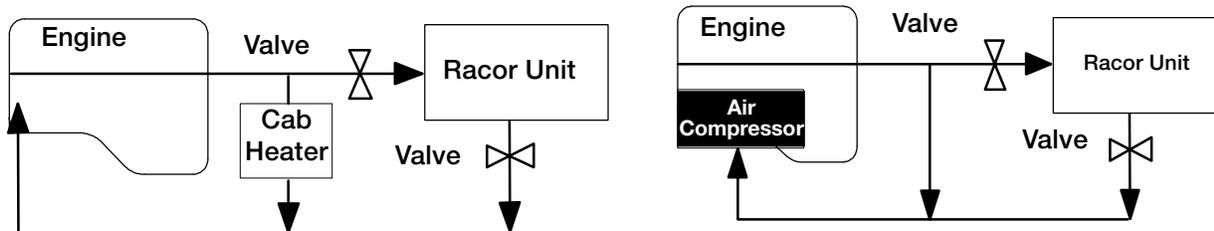
Open: About equal flow through Racor and cab heater. Closed: All coolant to the cab heater.

Parallel System with an air compressor.

Manual shut-off valves (customer supplied) may be use, if desired.

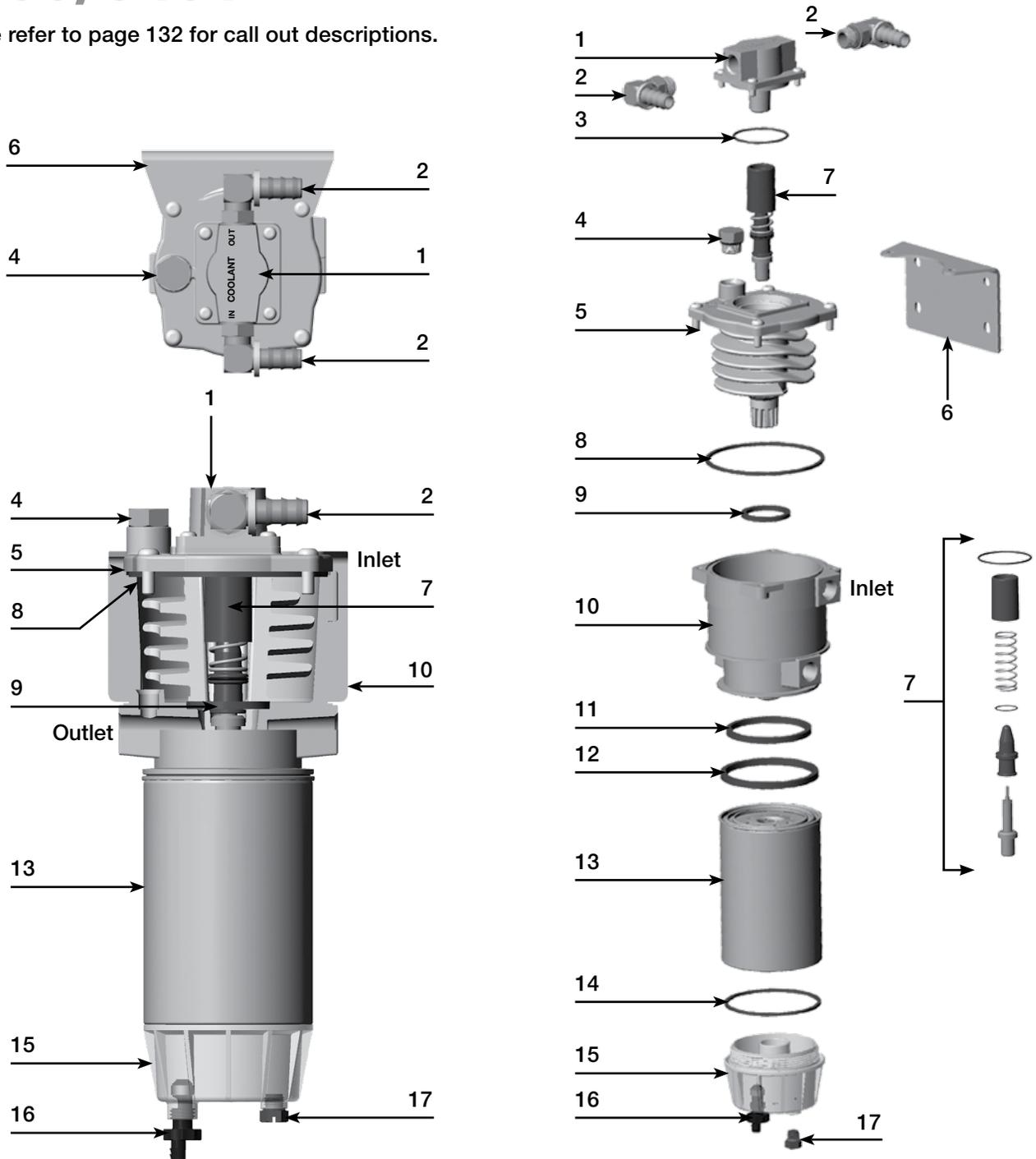
Valve Positions:

Open: About equal flow through Racor and air compressor. Closed: All coolant to the air compressor



6400/6401

Please refer to page 132 for call out descriptions.



Nautilus

Replacement Parts

6400 / 6401

<u>Part Number</u>	<u>Description</u>
1. RK 16070	Coolant Head Kit (includes #3)
2. 913-O10-H10	Standard Elbow Fitting (5/8" hose barb)
913-O10-H12	Optional Elbow Fitting (3/4" hose barb)
3. 16083	Coolant Head O-ring
4. RK 11911	Priming Port Plug Kit
5. RK 16007	Heat Exchanger Kit (includes #'s 8 and 9)
6. RK 16073	L-Bracket Kit
7. RK 16086 (includes #3)	Thermostat Valve Kit
8. 16083	Coolant Head O-ring
9. 16029	Heat Exchanger Base Seal
10. RK 16076	Head Assembly Kit (includes #'s 8 and 9)
11. 20505	Element Gasket (for S6464 coalescing element)
12. 40685	Element Gasket (for S3226P 30 micron element)

<u>Part Number</u>	<u>Description</u>
13. S6464	Water Coalescing Element (includes #11 and 14)
S3226P	30 Micron Filter Element (includes #12 and 14)
14. 30965	Bowl Gasket
15. Replacement Bowls (includes #'s 14 to 17)	
RK 30063	Bowl and Drain Kit
RK 30900¹	Same as Above with 12 vdc Heater
RK 30925¹	Same as Above with 24 vdc Heater
16. RK 30476	Self-venting Drain Valve Kit
17. RK 20126	Water Port Plug Kit
Additional Parts (not shown)	
RK 16040	Complete Seal Service Kit
RK 30964²	Water Probe Kit
16104	Installation Instructions

Notes:

¹ In-bowl heater may require a heater relay kit.

² Water probe must be used with a water detection kit
- see Accessories.

RK12963

Retrofit Kit/Filtration System



The RK12963 is a one-time retrofit kit for 90S1230C Integrated assemblies which incorporates a high quality water probe (with connectors), an indestructible metal bowl and a high-capacity 30 micron element. Once the retrofit from a 200200 element is complete, customers would then purchase the S3230P replacement element for their next service.

Note: All Racor filter materials and seals are compatible with ultra-low sulphur diesel (ULSD) fuel and B2 to B20 Biodiesel.

The RK12963 Retrofit Kit includes bushing, water sensor and metal bowl, filtration element is sold separately, and all other parts shown are unavailable.



Specifications	
Maximum Flow Rate: (with diesel)	60 GPH (341 LPH)
Inlet/Outlet Port Size	7/8"-14 UNF (SAE J1926)
Typical Application	General use
Replacement Element	S3230P
Micron Rating	30
Minimum Service Clearance (above filter) (below filter)	N/A N/A
Height	5.5 in. (14.0 cm)
Diameter	3.8 in. (9.7 cm)
Solids Capacity	13.7 oz
Weight (dry)	N/A
Maximum Working Pressure ¹	N/A
Water Removal Efficiency	99%
Pump Voltage	12 vdc
Case Quantity	1
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)
Notes: ¹ Vacuum side installations only.	

RK12963

RK12963 Retrofit Kit Overview

The 90S1230C Integrated assemblies are two-stage filtration and repriming systems featuring a solid-state controlled electronic priming pump, electronic air purge, a cleanable pre-filter with a stainless steel element and a fuel filter/water separator. These complete fuel management systems isolate contaminants present in diesel fuel and trap them prior to reaching the fuel injection system, protecting the engine's fuel system from costly and premature failure.

Pictured below are some of the components included with this kit. Detailed teardown and rebuild instructions are also included.

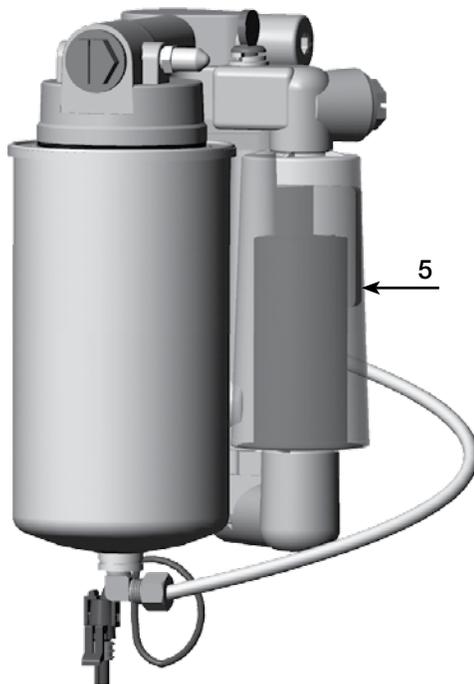


	<u>Part Number</u>	<u>Description</u>
1.	0102-6-2	Bushing
2.	30899	Water Sensor
3.	30745	Metal Bowl

(sold separately)

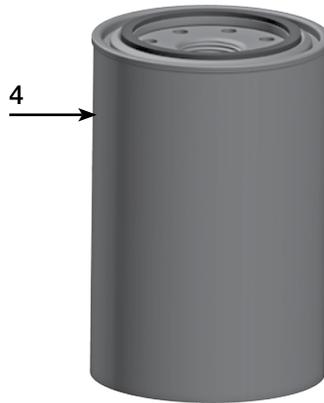
4.	S3230P	Replacement Element
5.	300200	Prescreen 200 micron (includes O-rings)

Before

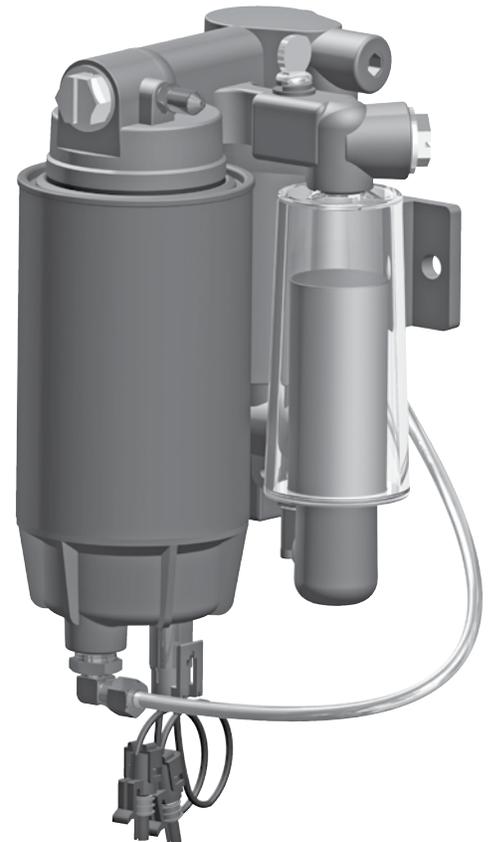


Integrated Assembly
(not the RK12963)

After



S3230P Filter sold separately.
Only Item parts 1-3 are included in the RK12963.



Integrated Assembly
(not the RK12963)

Dual Spin-On Series

Dual Spin-On Series

Racor quality provides twice the filtration capacity! The Racor Engine Dual Spin-On Series is designed to directly replace existing engine fuel filters and features high-capacity Aquabloc II elements that remove contaminants and water.



Dual Spin-On Series

75/B32009

Dual Filter/Water Separator



The Racor Dual Spin-On Series provides twice the filtering capacity in one compact and robust package. A shut-off valve located in the mounting head can switch to the clean filter so that the dirty filter may be serviced (servicing filters is not possible while engine is running).

These assemblies feature Aquabloc® II replaceable filter elements that stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.

Note: All Racor filter materials and seals are compatible with ultra-low sulphur diesel (ULSD) fuel and B2 to B20 Biodiesel.



Specifications

Maximum Flow Rate: (one filter on-line) (two filters online)	60 GPH (227 LPH) 120 GPH (454 LPH)
Inlet/Outlet Port Size	7/8"-14
Housing Material	Aluminum
Replacement Element	See Element Chart
Center Threads (UNF JIC) ¹	16mm X 1.5
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	12.4 in. (31.5 cm)
Depth	5.3 in. (13.5 cm)
Width	8.4 in. (21.3 cm)
Weight (dry)	N/A
Maximum Working Pressure ²	30 PSI (2.1 bar)
Water Removal Efficiency	99%
Solids Capacity (with one filter) (with two filters)	13.7 oz. (388 g) 27.4 oz. (777 g)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Units are standard with M18 X 1.5 (ISO9974-1) O-ring face seal fuel ports. 75/B32009 includes two adapter fittings to 7/8"-14 UNF JIC. ²Vacuum side installations.

Dual Spin-On Series

75/B32016

Dual Filter/Water Separator



The Racor Dual Spin-On Series provides twice the filtering capacity in one compact and robust package. A shut-off valve located in the mounting head can switch to the clean filter so that the dirty filter may be serviced (servicing filters is not possible while engine is running).

These assemblies feature Aquabloc® II replaceable filter elements that stop water, remove solid contamination, and are available in 2, 10 and 30 micron. Filtration needs should be based on application, fuel quality, operating climates, and maintenance schedules.

Note: All Racor filter materials and seals are compatible with ultra-low sulphur diesel (ULSD) fuel and B2 to B20 Biodiesel.



Specifications

Maximum Flow Rate: (one filter on-line) (two filters online)	20 GPH (75 LPH) 40 GPH (151 LPH)
Inlet/Outlet Port Size	3/4"-16
Housing Material	Aluminum
Replacement Element	See Element Chart
Center Threads¹	16mm X 1.5
Minimum Service Clearance (below filter)	2.0 in. (5.1 cm)
Height	10.3 in. (26.2 cm)
Depth	4.9 in. (12.4 cm)
Width	7.6 in. (19.3 cm)
Weight (dry)	N/A
Maximum Working Pressure²	30 PSI (2.1 bar)
Water Removal Efficiency	99%
Solids Capacity (with one filter) (with two filters)	6.4 oz. (182 g) 12.8 oz. (363 g)
Case Quantity	6
Ambient Temperature Range	-40° to +250°F (-40° to +121°C)
Maximum Fuel Temperature	190°F (88°C)

Notes: ¹Units are standard M18 X 1.5 (ISO9974-1) O-ring face seal fuel ports.
The 75/B32016 includes two adapter fittings to 3/4"-16 UNF JIC
²Vacuum side installations only.

Dual Spin-On Series

How to Order

75/B32009M-10

Select an assembly by flow rate:

75/B32016: 40 GPH (151 LPH)

75/B32009: 120 GPH (454 LPH)

Specify M for a metal bowl:

Use metal bowls on gasoline applications.
(omit if not desired)

Specify a micron rating:

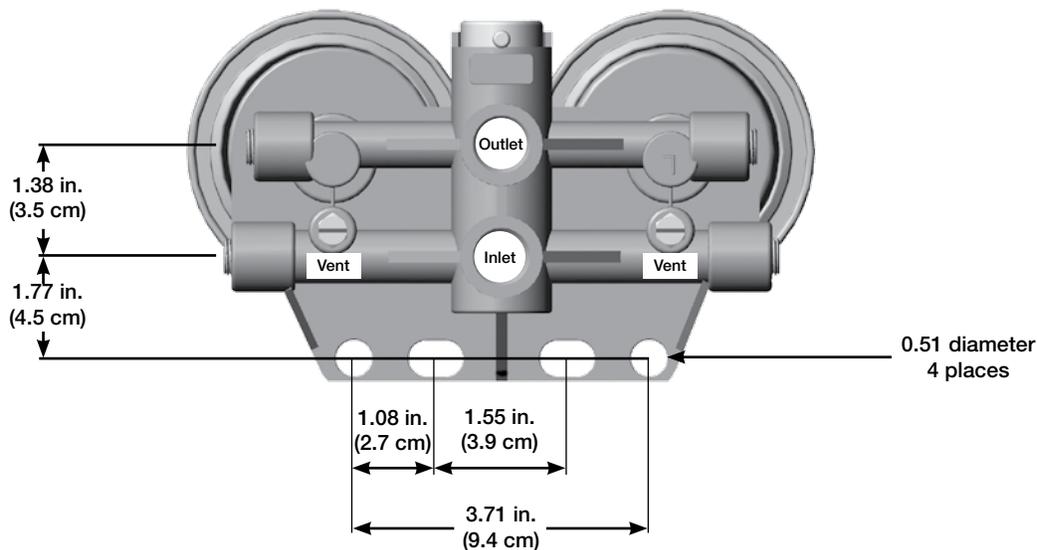
-2 for 2 micron,
-10 for 10 micron, or
-30 for 30 micron.

Replacement Elements

Model	2 micron (Final)	10 micron (Secondary)	30 micron* (Primary)
75/B32016	S3216S	S3216T	S3216P
75/B32009	S3209S	S3209T	S3209P

* A secondary/final filter is required downstream.

Mounting Information



Dual Spin-On Series

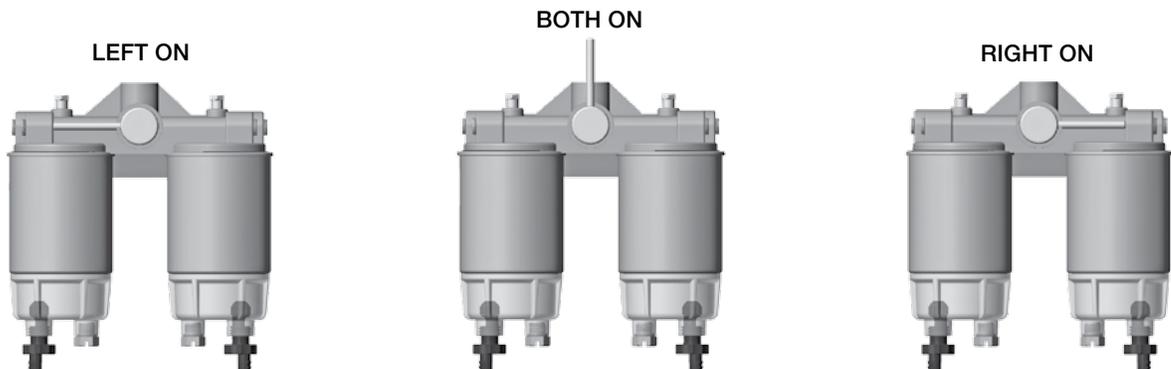
Dual Spin-On Series Overview



Specifications	75/B32009	75/B32016
Maximum Flow Rate: (one filter on-line) (two filters online)	60 GPH (227 LPH) 120 GPH (454 LPH)	20 GPH (75 LPH) 40 GPH (151 LPH)
Port Size (UNF JIC)¹	7/8"-14	3/4"-16
Height	12.4 in. (31.5 cm)	10.3 in. (26.2 cm)
Width	8.4 in. (21.3 cm)	7.6 in. (19.3 cm)
Depth	5.3 in. (13.5 cm)	4.9 in. (12.4 cm)
Center Threads	16mm X 1.5	16mm X 1.5
Solids Capacity: (with one filter) (with two filters)	13.7 oz. (388 g) 27.4 oz. (777 g)	6.4 oz. (182 g) 12.8 oz. (363 g)
Available Options: (water sensor) (heater)	Yes Yes	Yes Yes
Operating Temperature	-40° to +255°F (-40° to +124°C)	

¹ Units are standard with M18 X 1.5 (ISO9974-1) O-ring face seal fuel ports. The 75/B32016 includes two adapter fittings to 3/4"-16 UNF JIC and the 75/B32009 includes two adapter fittings to 7/8"-14 UNF JIC.

The Selection Valve



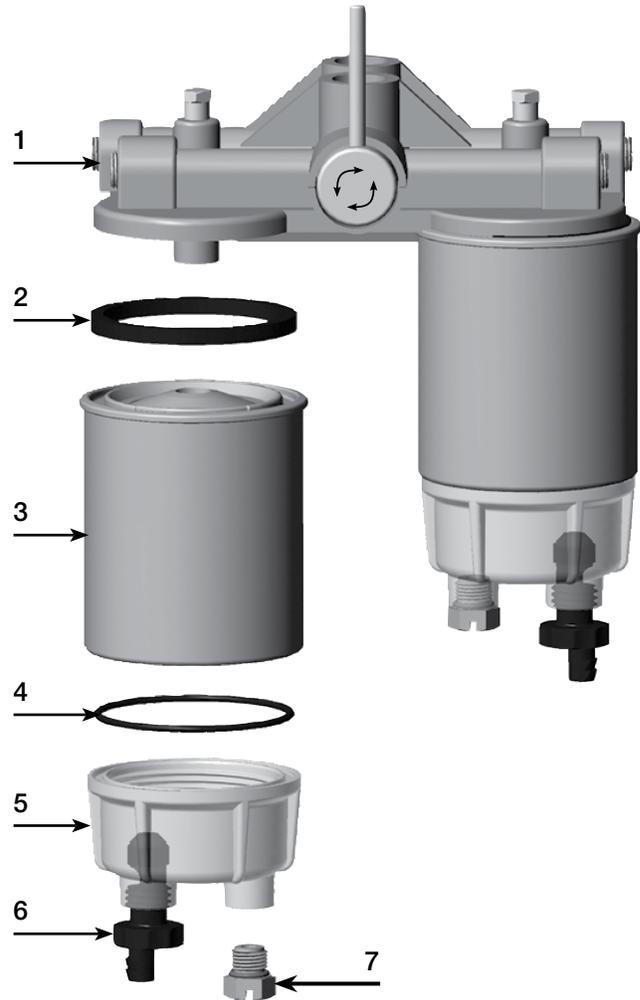
Do not service filters with engine on.

Dual Spin-On Series

Replacement Parts

75/B32009 and 75/B32016

<u>Part Number</u>	<u>Description</u>
1. 30628	Dual Filter Head
2. RK 10503	Element Gasket Kit
3.	See Replacement Element Chart
4. RK 30076	75/B32009 Bowl O-ring Kit
RK 10012	75/B32016 Bowl O-ring Kit
5.	Replacement Bowl Kits (includes bowl, #'s 4 to 7)
RK 30051	75/B32009 Clear Bowl Kit
RK 30473	75/B32009 Metal Bowl Kit (no probe port)
RK 10215	75/B32016 Clear Bowl Kit
RK 10109	75/B32016 Metal Bowl Kit (no probe port)
6. RK 30476	Drain Valve Kit
7. RK 20126	1/2" SAE Plug with O-ring
Additional Parts (not shown)	
30837	75/B32009 Adapter Fitting (7/8"-14 UNF JIC)
30945	75/B32016 Adapter Fitting (3/4"-16 UNF JIC)



Engine Spin-On Series

Engine Spin-On Series

Racor quality in one easy spin!
The Racor Engine Spin-On Series is designed to directly replace existing engine fuel filters and features high-capacity Aquabloc® II elements that remove contaminants and water. Optional accessories may include: mounting heads, fuel heaters, water detection kits, hose, fittings and more. A wide variety of Engine Spin-On Series assemblies are available to fit most applications.



And many more...

Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Engine Spin-On Series

How to Order

B120	S
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B120
Maximum Flow Rate	120 GPH (454 LPH)
Replacement Element: (2 micron) (10 micron) (30 micron)	R120S R120T R120P
Element Height	8.5 in. (22.0 cm)
Bowl and Element Height	12.0 in. (30.5 cm)
Diameter	4.38 in. (11.1 cm)
Center Threads	1"-14
Solids Capacity	18.2 oz. (515 grams)
Case Quantity	6
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



B120S
Assembly

Cross References

All Racor R120S replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
Caterpillar: 129-0373 133-5673	TP1417	BF1260 BF1283	FS19590 FS19591 FS19934	PS8450	F75994	33780

Engine Spin-On Series

Replacement Parts

B120

	<u>Part Number</u>	<u>Description</u>
1.	RK20505	Element Gasket
2.	Replacement Elements:	
	R120S	2 micron
	R120T	10 micron
	R120P	30 micron
3.	RK30965	Bowl O-ring
4.	RK30480	Standard Bowl Assembly (no water sensor port - see note below)
	RK30063	Clear Bowl Kit (non-heated)
	RK30900	Heated, Clear Bowl Kit (12 volt dc, 200 watt, no water sensor port)
	RK30925	Heated, Clear Bowl Kit (24 volt dc, 200 watt, no water sensor port)
5.	Bowl and Element Assembly (includes #'s 1 - 4)	
	B120S	2 micron
	B120T	10 micron
	B120P	30 micron
	Additional Parts (not shown)	
	RK30880	Water Detection Kit (other kits are available - see Accessories)
	RK21539	Gasket Pack (includes #'s 1 and 3)



The standard B120 bowl does not have a water sensor port.
 Bowls with water sensor ports are available as replacement kits (see item #4 above).
 Do not use water sensors on gasoline applications.

Engine Spin-On Series

How to Order

S3201	S
Basic Model Number (includes element and bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	S3201
OEM Applications	Cummins or ThermoKing
Maximum Flow Rate	90 GPH (341 LPH)
Element Height	7.4 in. (18.8 cm)
Bowl and Element Height	10.6 in. (26.9 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	1"-14
Solids Capacity	11.6 oz. (329 grams)
Case Quantity	12
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



S3201S
Filter

Cross References

All Racor S3201 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

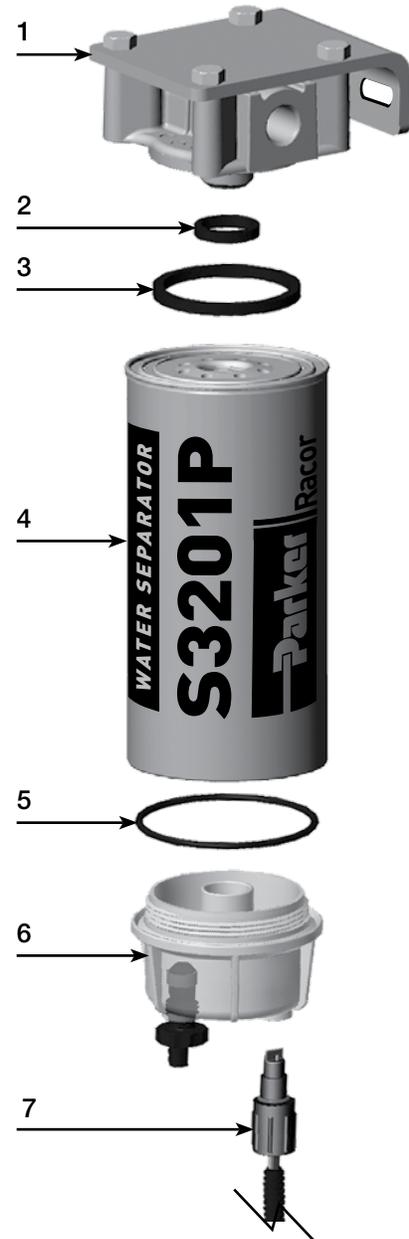
OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
Cummins: 3308638	PF2101 PF2101F	BF1212 BF1249	FS1212 FS1242	PS10713 PS3712	F60024 K50010	33405MP 33405
Caterpillar: 1R-0716	PF879	BF1252 BK6227	LF691 LF691A	PH3335	L60069 L65236	33621 33242
Ford: FL 326		BK6247 BK6435	LF9691A		L65969	51792 51792EC
General Motors: 6439658		FB1311				51792MP 51792XD

Engine Spin-On Series

Replacement Parts

B32001

<u>Part Number</u>	<u>Description</u>
1. RK30287	Optional Mounting Head Kit (7/8"-14 UNF Ports)
2. 30563	Thread Gasket
3. RK_10503	Element Gasket
4. Replacement Elements (includes #'s 2 to 5)	
S3201S	(2 micron)
S3201T	(10 micron)
S3201P	(30 micron)
5. RK_30076	Bowl O-ring
6. RK30475	Optional Clear Bowl Kit (no water sensor port - see note below)
RK30051	Non-heated, Clear Bowl Kit
RK30895	Heated, Clear Bowl Kit (12 vdc, 200 watt, no water sensor port)
RK30924	Heated, Clear Bowl Kit (24 vdc, 200 watt, no water sensor port)
RK30745-01	Non-heated, Metal Bowl Kit
7. RK30880	Water Detection Kit (other kits are available - see Accessories)
Additional Parts (not shown)	
30562	Gasket Pack (includes #'s 2, 3, and 5)



The standard S3201 bowl does not have a water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #6 above).

Engine Spin-On Series

How to Order

B32002	S
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32002
OEM Applications	Detroit Diesel
Maximum Flow Rate	90 GPH (341 LPH)
Replacement Element: (30 micron)	S3202
Element Height	7.4 in. (18.8 cm)
Bowl and Element Height	10.6 in. (26.9 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	1"-12
Solids Capacity	19.6 oz. (557 grams)
Case Quantity	12
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32002
Assembly

Cross References

All Racor B32002/S3202 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
General Motors:	TP1057	BF1213	FS19513	P3376	F76033	33442
15587140	TP1278	BF5813	FS19520	PS6830	F66065	33418
15618921	TP1281	BF5800	MK13045	PCS1144	F60025	33118
Ford:		BF5810	MK13057	PCS5060G	F60096	33118P
FD817		PF826	FF206	PH7405A		
Volvo:		BK6652	FF5207	P1146G		
8064271		BF584	FF211	P1147G		

Engine Spin-On Series

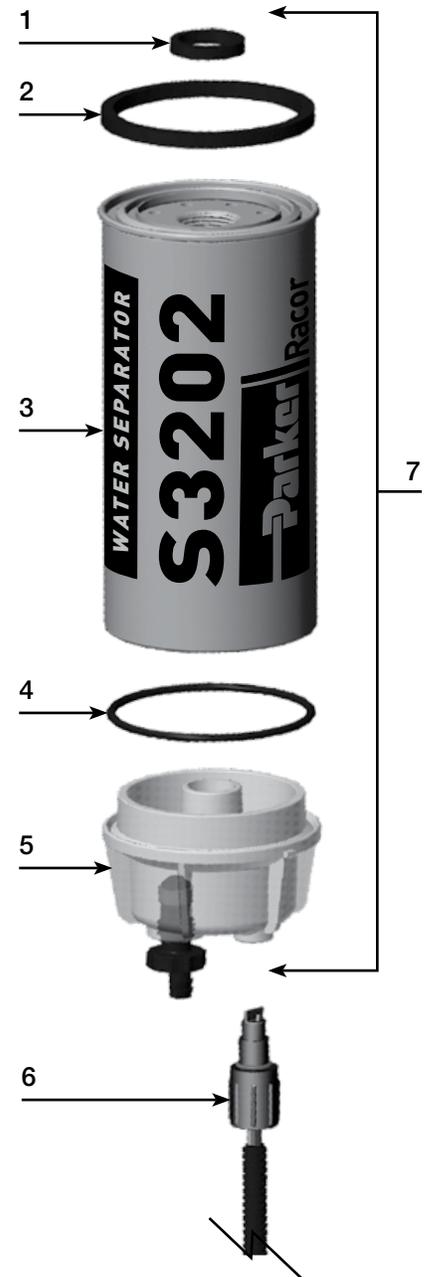
Replacement Parts

B32002/S3202

<u>Part Number</u>	<u>Description</u>
1. 30563	Thread Gasket
2. RK20505	Element Gasket
3. Replacement Element (includes #'s 1 to 4) S3202	(30 micron)
4. RK_30076	Bowl O-ring
5. RK30475	Clear Bowl Kit (no water sensor port - see note below)
RK30051	Clear, Non-heated Bowl Kit
RK30745-01	Non-heated, Metal Bowl Kit
RK30895	Heated, Clear Bowl Kit (12 volt dc, 200 watt, no water sensor port)
RK30924	Heated, Clear Bowl Kit (24 volt dc, 200 watt, no water sensor port)
6. RK30880	Water Detection Kit (other kits are available - see Accessories)
7. Bowl and Element Assembly (includes #'s 1 - 5) B32002	(30 micron)

Additional Parts (not shown)

21381	Gasket Pack (includes #'s 1, 2, and 4)
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The standard B32002 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #5 above).

Engine Spin-On Series

How to Order

B32003	S
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32003
OEM Applications	Caterpillar or Navistar
Maximum Flow Rate	90 GPH (341 LPH)
Replacement Element: (2 micron)	S3203
Element Height	5.5 in. (14.0 cm)
Bowl and Element Height	8.7 in. (22.1 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	1"-14
Solids Capacity	7.1 oz. (201 grams)
Case Quantity	12
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32003
Assembly

Cross References

All Racor B32003/S3203 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

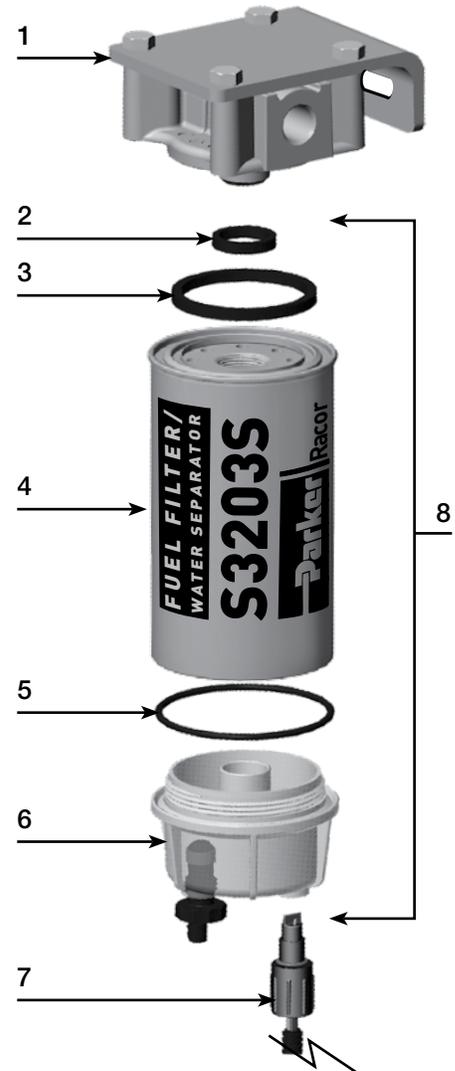
OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
Caterpillar: 1A-3479	TP877 TP877F	BF1214 BF1225	FS1225 FS1214	PS6831 P1104	F50015 F60053	33340 33341
General Motors: 6439676	TP972 TP972F	BF7525 BF7923	FF185 FF185J	P1118	F60132 F60026	33352 33356
Volvo: 3130947		BF979 BF970	FF5137 FF5245		F60027 F60232	33439 33107
Mercedes-Benz: 390 092 0001		BF957	MK13103		F65213	33109

Engine Spin-On Series

Replacement Parts

B32003/S3203

<u>Part Number</u>	<u>Description</u>
1. RK30287	Optional Mounting Head Kit (7/8"-14 UNF ports)
2. 30563	Thread Gasket
3. RK_10503	Element Gasket
4. Replacement Element (includes #'s 2 to 5) S3203	(2 micron)
5. RK_30076	Bowl O-ring
6. RK30475	Clear Bowl Kit
(no water sensor port - see note below)	
RK30051	Clear, Non-heated Bowl Kit
RK30745-01	Non-heated, Metal Bowl Kit
RK30895	Heated, Clear Bowl Kit
(12 volt dc, 200 watt, no water sensor port)	
RK30924	Heated, Clear Bowl Kit
(24 volt dc, 200 watt, no water sensor port)	
7. RK30880	Water Detection Kit
(other kits are available, see Accessories)	
8. Bowl and Element Assembly (includes #'s 2 - 6) B32003	(2 micron)
Additional Parts (not shown)	
30562	Gasket Pack (includes #'s 2, 3, and 5)



The standard B32003 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #6 above).

Engine Spin-On Series

How to Order

B32004	S
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32004
OEM Applications	Navistar
Maximum Flow Rate	40 GPH (151 LPH)
Replacement Element: (2 micron) (10 micron) (30 micron)	S3204S S3204T S3204P
Element Height	4.0 in. (10.2 cm)
Bowl and Element Height	7.2 in. (18.3 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	1"-14
Solids Capacity	9.0 oz. (255 grams)
Case Quantity	12
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32004S
Assembly

Cross References

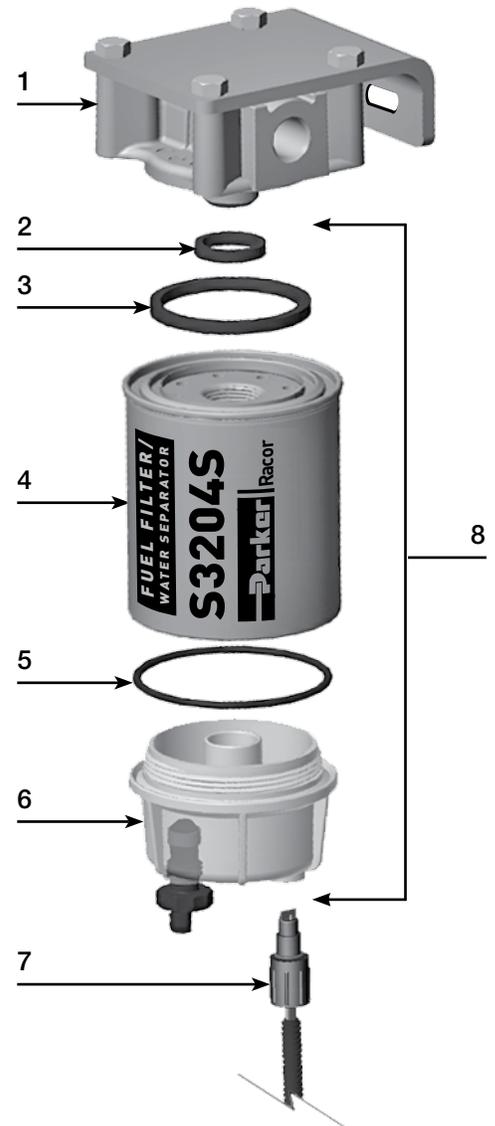
All Racor B32004/S3204 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
General Motors: 25011690	TP1002 TP1254	BF1220 BF1214	FF196 FS1220	PS6831 PCS5063	F60026 F50131	33239 33439
Ford: FD 818 FD 818-FP	TP1290 TP1291	BF984 BF1240 BF891	FS1214 FS1244	P1120 P1107 P9350 PS3712	F50022	33452 33378

Replacement Parts

B32004/S3204

Part Number	Description
1. RK30287	Optional Mounting Head Kit (7/8"-14 UNF ports)
2. 30563	Thread Gasket
3. RK_10503	Element Gasket
4. Replacement Elements (includes #'s 2 to 5)	
S3204S	(2 micron)
S3204T	(10 micron)
S3204P	(30 micron)
5. RK_30076	Bowl O-ring
6. RK30475	Clear Bowl Kit (no water sensor port - see note below)
RK30051	Clear, Non-heated Bowl Kit
RK30745-01	Non-heated, Metal Bowl Kit
RK30895	Heated, Clear Bowl Kit (12 volt dc, 200 watt, no water sensor port)
RK30924	Heated, Clear Bowl Kit (24 volt dc, 200 watt, no water sensor port)
7. RK30880	Water Detection Kit (other kits are available - see Accessories)
8. Bowl and Element Assembly (includes #'s 2 - 6)	
B32004S	(2 micron)
B32004T	(10 micron)
B32004P	(30 micron)
Additional Parts (not shown)	
30562	Gasket Pack (includes #'s 2, 3, and 5)



The standard B32004 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #6 above).

Engine Spin-On Series

How to Order

B	P
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	S3205
OEM Applications	Mack
Maximum Flow Rate	90 GPH (341 LPH)
Replacement Element: (30 micron)	S3205
Element Height	6.3 in. (16.0 cm)
Bowl and Element Height	9.8 in. (24.9 cm)
Diameter	4.38 in. (11.1 cm)
Center Threads	1"-14
Solids Capacity	19.1 oz. (541 grams)
Case Quantity	6
H ₂ O Removal efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



S3205
Assembly

Cross References

All Racor S3205 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
General Motors:	TP1253	BF1219	FS1219	PCS5064	F60029	33419
6439296	WF12	BK6185	MK13064	PR393	W50475	24428
6439297	WF12F	BK6708	MK13065	PH49A	K50003	24526
Ford:	PF1267	BK6722	MK13168	P6697	K50004	24536
FW 7	PF857	BW5178	WF2015	P3431	L50068	24556
FL 307			WF2083		L56069	51791

Engine Spin-On Series

Replacement Parts

S3205

<u>Part Number</u>	<u>Description</u>
1. RK_10503	Element Gasket
2. Replacement Elements (includes #'s 1 to 3) S3205	(30 micron)
3. RK_30965	Bowl O-ring
4. RK30480	Optional Clear Bowl Kit (no water sensor port - see note below)
RK30063	Non-heated, Clear Bowl Kit
RK21640	Non-heated, Metal Bowl Kit
RK30900	Heated, Clear Bowl Kit (12 volt dc, 200 watt, no water sensor port)
RK30925	Heated, Clear Bowl Kit (24 volt dc, 200 watt, no water sensor port)
5. RK30880	Optional Water Detection Kit (other kits are available - see Accessories)
Additional Parts (not shown)	
22310	Gasket Pack (includes #'s 1 and 3)



Engine Spin-On Series

How to Order

P	
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	S3206
OEM Applications	Caterpillar
Maximum Flow Rate	90 GPH (341 LPH)
Replacement Element: (2 micron)	S3206
Element Height	8.5 in. (21.6 cm)
Bowl and Element Height	12.0 in. (30.5 cm)
Diameter	4.38 in. (11.1 cm)
Center Threads	1"-14
Solids Capacity	18.2 oz. (515 grams)
Case Quantity	6
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



S3206
Assembly

Cross References

All Racor S3206 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
Caterpillar: 129-0373 133-5673	TP1417	BF1265 BF1283	FS19934 FS19590 FS19591 FS19934	PS8450 PS9263	F75994	33780 33892

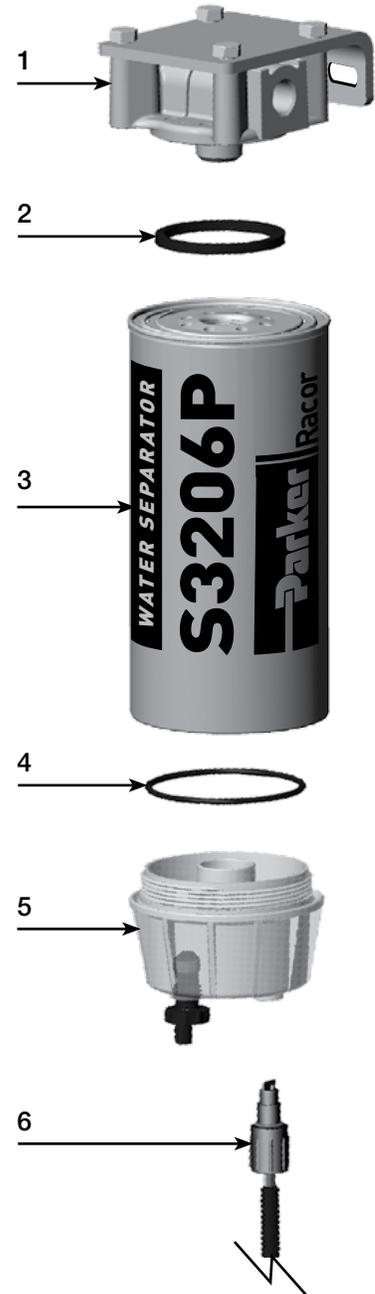
Engine Spin-On Series

Replacement Parts

S3206

- | <u>Part Number</u> | <u>Description</u> |
|---|---|
| 1. RK30287 | Optional Mounting Head Kit (7/8"-14 UNF ports) |
| 2. RK_10503 | Element Gasket |
| 3. Replacement Elements (includes #'s 2 to 4)
S3206 | (2 micron) |
| 4. RK_30965 | Bowl O-ring |
| 5. RK30480 | Optional Clear Bowl Kit (no water sensor port - see notes below) |
| RK30063 | Non-heated, Clear Kit |
| RK21640 | Non-heated, Metal Bowl |
| RK30900 | Heated, Clear Bowl (12 volt dc, 200 watt, no water sensor port) |
| RK30925 | Heated, Clear Bowl (24 volt dc, 200 watt, no water sensor port) |
| 6. RK30880 | Optional Water Detection Kit (Other kits are available - see Accessories) |

Additional Parts (not shown)
22310 Gasket Pack
 (includes #'s 2 and 4)



Engine Spin-On Series

How to Order

B32007P	P
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32007P
OEM Applications	Cummins
Maximum Flow Rate	180 GPH (681 LPH)
Replacement Element: (2 micron) (10 micron) (30 micron)	S3207S S3207T S3207P
Element Height	10.0 in (25.4 cm)
Bowl and Element Height	13.5 in. (34.3 cm)
Diameter	5.1 in. (13.0 cm)
Center Threads	12mm X 1.25
Solids Capacity	28.4 oz. (804 grams)
Case Quantity	6
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32007P
Assembly

Cross References

All Racor B32007P/S3207P replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
N/A	N/A	BF1357	FS19946	N/A	N/A	33942

Engine Spin-On Series

Replacement Parts

B32007P/S3207P

<u>Part Number</u>	<u>Description</u>
1. RK_31547	Optional Head Kit
2. N/A	Filter gasket (Included with gasket)
3. S3207P	30 Micron Filter (Includes #2 and #4)
4. RK 30965	Bowl Gasket
5. RK 30480	Clear Bowl Kit (no prob port)
RK 30063	Clear Bowl Kit (with prob port)
RK 21640	Metal Bowl Kit (with prob port)
RK 30900	Heated Bowl Kit (12vdc, 200 watt no prob port)
RK 30925	Heated Bowl Kit (24 vdc, 200 watt, no probe port)
6. RK30880E	Water Probe Detection Kit



The standard B32007P bowl has no water sensor port.
Other bowls with water sensor ports are available as replacement kits (see item #5 above).

Engine Spin-On Series

How to Order

B32008	P
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32008
OEM Applications	Deutz or Volvo
Maximum Flow Rate	30 GPH (114 LPH)
Replacement Element: (2 micron) (10 micron) (30 micron)	S3208P S3208T S3208S
Element Height	5.25 in. (13.3 cm)
Bowl and Element Height	7.25 in. (18.4 cm)
Diameter	2.85 in. (7.2 cm)
Center Threads	16mm X 1.5
Solids Capacity	9.7 oz. (275 grams)
Case Quantity	12
H ₂ O Removal Efficiency	99%
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32008
Assembly

Cross References

All Racor B32008P/S3208P replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

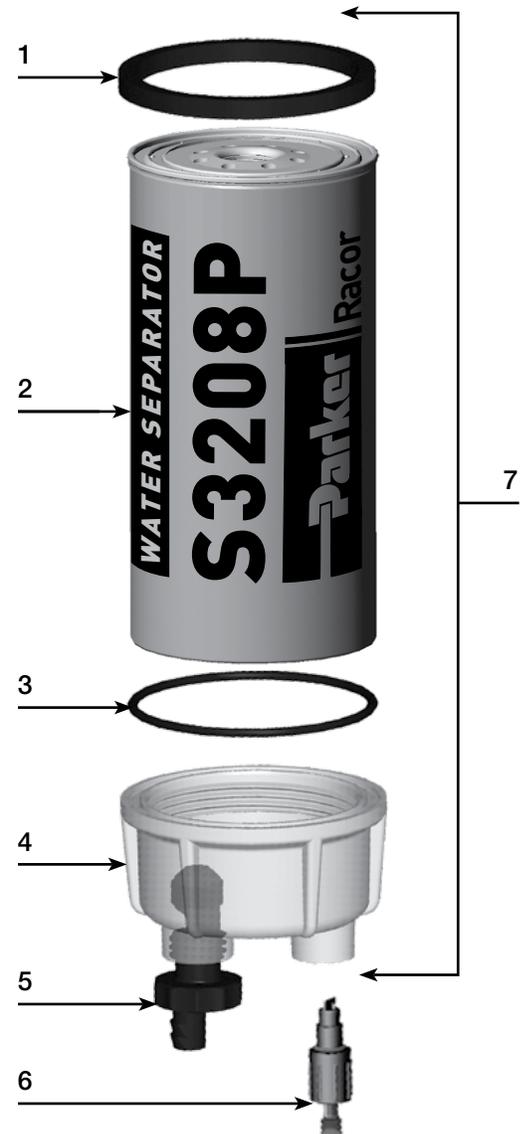
OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
Cummins: 3843760 3903202	TP1069 TP1294 TP858	BF1221 BF1226 BF586	FS1221 FS1251 MK12405	PS8428 P8043 P1145A	F64424 F64746 F65166 F60152 F60217 KC18	33724 33472 33472MP
Ford: F3HZ-9365-A		BF5587-D BF7921	FS19560 FS19599			
General Motors: 25011999		BK6418 BK6485				

Engine Spin-On Series

Replacement Parts

B32008P/S3208P

<u>Part Number</u>	<u>Description</u>
1. RK_10503	Element Gasket
2. Replacement Elements (includes #'s 1 to 3) S3208P	(30 micron)
3. RK_10012	Bowl O-ring
4. N/A	Clear Bowl Kit (no water sensor port - see notes below)
RK10215	Non-heated, Clear Bowl Kit
RK10109	Non-heated Metal Bowl Kit
5. RK_30476	Self-venting Drain
6. RK30880	Water Detection Kit (other kits are available - see Accessories)
7. Bowl and Element Assembly (includes #'s 1 - 4) B32008P	(30 micron)



The standard B32008 bowl has no water sensor port.
Other bowls with water sensor ports are available as replacement kits (see item #4 above).

Engine Spin-On Series

How to Order

B32009	S
Basic Model Number (includes element & bowl)	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32009
OEM Applications	Mann
Maximum Flow Rate	60 GPH (227 LPH)
Replacement Element: (2 micron) (10 micron) (30 micron)	S3209S S3209T S3209P
Element Height	5.5 in. (14.0 cm)
Bowl and Element Height	8.8 in. (22.4 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	16mm X 1.5
Solids Capacity	13.7 oz. (388 grams)
Case Quantity	12
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32009S
Assembly

Cross References

All Racor B32009/S3209 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

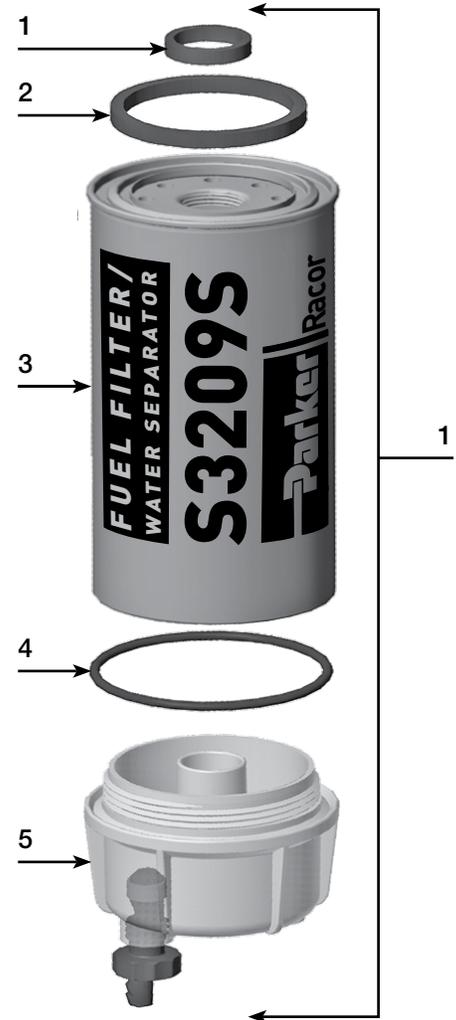
OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
N/A	N/A	BF980	FF4070	N/A	N/A	N/A

Engine Spin-On Series

Replacement Parts

B32009/S3209

<u>Part Number</u>	<u>Description</u>
1. 30563	Thread Gasket
2. RK_10503	Element Gasket
3. Replacement Elements (includes #'s 1 to 4)	
S3209S	(2 micron)
S3209T	(10 micron)
S3209P	(30 micron)
4. RK_30076	Bowl O-ring
5. RK30475	Clear Bowl Kit
(no water sensor port - see note below)	
RK30051	Non-heated, Clear Bowl Kit
RK30745-01	Non-heated, Metal Bowl Kit
RK30895	Heated, Clear Bowl Kit
(12 vdc, 200 watt no water sensor port)	
RK30924	Heated, Clear Bowl Kit
(24 vdc, 200 watt no water sensor port)	
6. Bowl and Element Assembly (includes #'s 1 - 5)	
B32009S	(2 micron)
B32009T	(10 micron)
B32009P	(30 micron)
Additional Parts (not shown)	
RK30880	Water Detection Kit
(other kits are available - see Accessories)	
30562	Gasket Pack
(includes #'s 1, 2, and 4)	



The standard B32009 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #5 above).

Engine Spin-On Series

How to Order

B32012	S
Basic Model	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32012
OEM Applications	GM or Detroit Diesel
Maximum Flow Rate	90 GPH (341 LPH)
Replacement Element: (30 micron)	S3212
Element Height	4.0 in. (10.2 cm)
Bowl and Element Height	7.3 in. (18.5 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	1"-12
Solids Capacity	8.2 oz. (233 grams)
Case Quantity	12
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32012
Assembly

Cross References

All Racor B32012/S3212 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

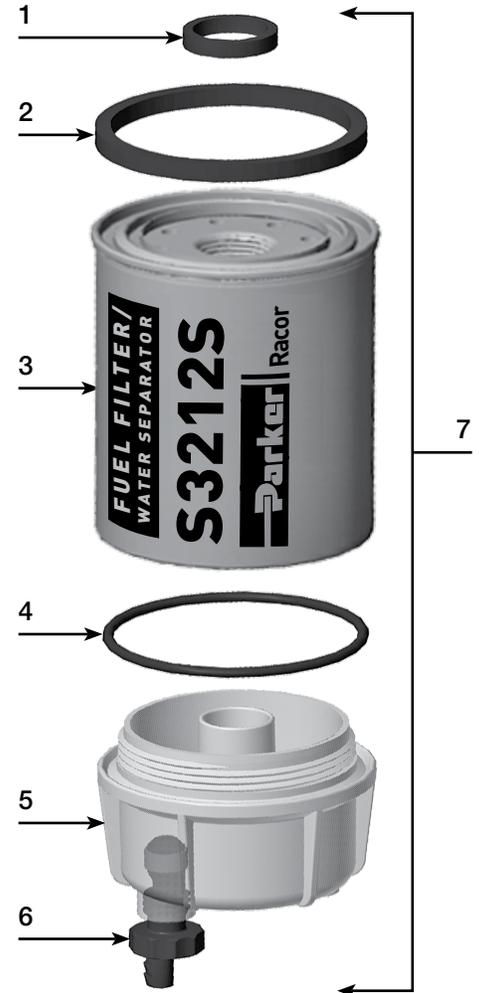
OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
General Motors: 25011285	12944 T944	BF1266 BF781	FS19965 FF5034	P3710	F60266	33123

Engine Spin-On Series

Replacement Parts

B32012/S3212

<u>Part Number</u>	<u>Description</u>
1. 30563	Thread Gasket
2. RK20505	Element Gasket
3. Replacement Elements (includes #'s 1 to 4) S3212	(30 micron)
4. RK_30076	Bowl O-ring
5. RK30475	Clear Bowl Kit (no water sensor port - see note below)
RK30051	Non-heated, Clear Bowl Kit
RK30745-01	Non-heated, Metal Bowl Kit
RK30895	Heated, Clear Bowl Kit (12 vdc, 200 watt, no water sensor port)
RK30924	Heated, Clear Bowl Kit (24 vdc, 200 watt, no water sensor port)
6. RK30476	Self Venting Drain Kit
7. Bowl and Element Assembly (includes #'s 1 - 5) B32012	(30 micron)
Additional Parts (not shown)	
RK30880	Water Detection Kit (other kits are available - see Accessories)
21381	Gasket Pack (includes #'s 1, 2, and 4)



The standard B32012 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #5 above).

Engine Spin-On Series

How to Order

B32016	S
Basic Model	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	B32016
Maximum Flow Rate	20 GPH (76 LPH)
Replacement Element: (2 micron) (10 micron) (30 micron)	S3216S S3216T S3216P
Element Height	4.0 in. (10.2 cm)
Bowl and Element Height	5.85 in. (14.9 cm)
Diameter	2.85 in. (7.2 cm)
Center Threads	16 mm X 1.5
Solids Capacity	6.4 oz. (182 grams)
Case Quantity	12
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32016S
Assembly

Cross References

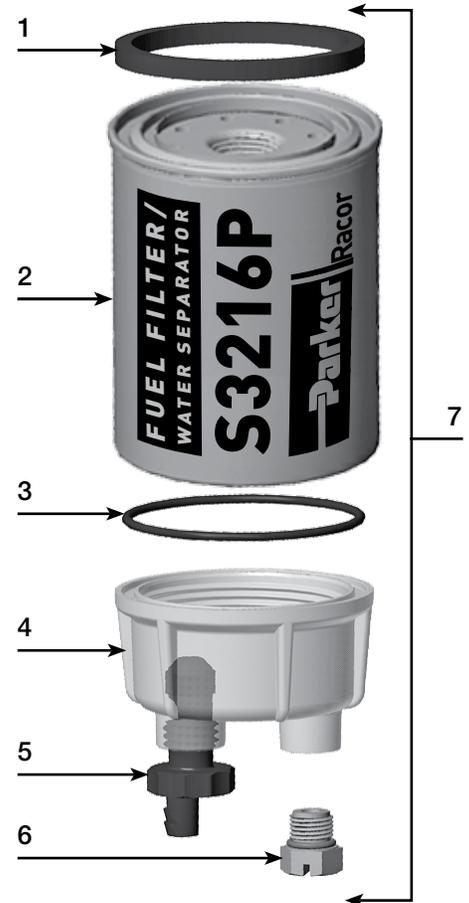
All Racor B32016/S3216 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Replacement Parts

B32016/S3216

<u>Part Number</u>	<u>Description</u>
1. RK_10503	Element Gasket
2. Replacement Elements (includes #'s 1 to 3)	
S3216S	(2 micron)
S3216T	(10 micron)
S3216P	(30 micron)
3. RK_10012	Bowl O-ring
4. N/A	Clear Bowl Kit
RK10215	Non-heated, Clear Bowl Kit
RK10109	Non-heated, Metal Bowl Kit
5. RK30476	Self Venting Drain Kit
6. RK_20126	Water Sensor Port Plug ½" SAE (includes O-ring)
7. Bowl and Element Assembly (includes #'s 1 and 3)	
B32016S	(2 micron)
B32016T	(10 micron)
B32016P	(30 micron)
Additional Parts (not shown)	
RK30880	Water Detection Kit
(other kits are available - see Accessories)	



Engine Spin-On Series

How to Order

B32029	S
Basic Model	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	S3229
Maximum Flow Rate	90 GPH (341 LPH)
Replacement Element: (10 micron)	S3229
Element Height	7.3 in. (18.5 cm)
Bowl and Element Height	10.6 in. (26.9 cm)
Diameter	3.82 in. (9.7 cm)
Center Threads	1"-12
Case Quantity	12
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32029
Assembly

Cross References

All Racor B32029/S3229 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
N/A	N/A	N/A	N/A	N/A	N/A	N/A

Engine Spin-On Series

Replacement Parts

B32029/S3229

<u>Part Number</u>	<u>Description</u>
1. 30563	Thread Gasket
2. 20505	Element Gasket
3. Replacement Element (includes #'s 1 to 4) S3229	(10 micron)
4. 30076	Bowl O-ring
5. RK30475	Standard Bowl Kit (no water sensor port - see notes below)
RK30051	Non-heated, Clear Bowl Kit
RK30745-01	Non-heated, Metal Bowl Kit
RK30895	Heated, Clear Bowl Kit (12 vdc, 200 watt, no water sensor port)
RK30924	Heated, Clear Bowl Kit (24 vdc, 200 watt, no water sensor port)
6. RK30476	Self Venting Drain Kit
Additional Parts (not shown)	
RK30880	Water Detection Kit (other kits are available - see Accessories)
21381	Gasket Pack (includes #'s 1, 2, and 4)



The standard B32029 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #5 above).

Engine Spin-On Series

How to Order

B32038	S
Basic Model	Specify a micron rating: S (2 micron) T (10 micron) P (30 micron)

Specifications	S3238
Maximum Flow Rate	150 GPH (568 LPH)
Element Height	6.4 in. (16.3 cm)
Bowl and Element Height	9.9 in. (25.1 cm)
Diameter	4.38 in. (11.1 cm)
Center Threads	1 1/4"-12
Case Quantity	6
Operating Temperature	-40° to +255°F (-40° to 124°C)



B32038
Assembly

Cross References

All Racor B32038/S3238 replacement elements meet or exceed OEM specifications and replace all of the following filter numbers:

OEM	AC	Baldwin	Fleetguard	Fram	Purolator	Wix
Volvo: 85104856	N/A	BF1355 BF1355-SP	FS19799	PS9707	F76045	33938

Engine Spin-On Series

Replacement Parts

B32038/S3238

- | Part Number | Description |
|---|---|
| 1. RK31547 | Optional Mounting Head Kit (7/8"-14 UNF port) |
| 2. 30604 | Element Gasket |
| 3. Replacement Elements (includes #'s 2 to 4)
S3238 | (10 micron) |
| 4. 30965 | Bowl O-ring |
| 5. RK30480 | Clear Bowl Kit (no water sensor port - see note below) |
| RK30063 | Non-heated, Clear Bowl Kit |
| RK21640 | Non-heated, Metal Bowl Kit |
| RK30900 | Heated, Clear Bowl Kit (12 volt dc, 200 watt, no water sensor port) |
| RK30925 | Heated, Clear Bowl Kit (24 volt dc, 200 watt, no water sensor port) |
| 6. Bowl and Element Assembly (includes #'s 2 - 5)
B32038T | (10 micron) |

Additional Parts (not shown)

- | | |
|----------------|--|
| RK30880 | Water Detection Kit (other kits are available - see Accessories) |
| 22311 | Gasket Pack (includes #'s 2 and 4) |

3.25 in. (8.3 cm) diameter clearance for 3 fasteners.



The standard B32038 bowl has no water sensor port.
Bowls with water sensor ports are available as replacement kits (see item #5 above).

Engine Spin-On Series

Engine Spin-On Series Overview

Part Number	Description	Max Flow Rate	Thread	Micron Rating	Height	Diameter	Solids Capacity	Typical Application
B120S B120T B120P	Bowl & Element	120 GPH (454 LPH)	1"-14	2	12.0 in. (30.5 cm)	4.4 in. (11.2 cm)	18.2 oz. (515 g)	General Use
R120S R120T R120P	Element Only			10 30				
B32001T B32001P	Bowl & Element	90 GPH (341 LPH)	1"-14	10	10.6 in. (26.9 cm)	3.8 in. (9.7 cm)	11.6 oz. (329 g)	Cummins or ThermoKing
S3201S S3201T S3201P	Element Only			2 10 30				
B32002	Bowl & Element	90 GPH (341 LPH)	1"-12	30	10.6 in. (26.9 cm)	3.8 in. (9.7 cm)	19.6 oz. (557 g)	Detroit Diesel
S3202	Element Only			30				
B32003	Bowl & Element	90 GPH (341 LPH)	1"-14	2	8.7 in. (22.1 cm)	3.8 in. (9.7 cm)	7.1 oz. (201 g)	Caterpillar or Navistar
S3203	Element Only			2				
B32004S B32004T B32004P	Bowl & Element	40 GPH (151 LPH)	1"-14	2	7.2 in. (18.3 cm)	3.8 in. (9.7 cm)	9.0 oz. (255 g)	Navistar
S3204S S3204T S3204P	Element Only			10 30				
S3205	Element Only	90 GPH (341 LPH)	1"-14	30	6.3 in. (16.0 cm)	4.4 in. (11.2 cm)	19.1 oz. (541 g)	Mack
S3206	Element Only	90 GPH (341 LPH)	1"-14	2	8.5 in. (21.6 cm)	4.4 in. (11.2 cm)	18.2 oz. (515 g)	Caterpillar
S3207S S3207T S3207P	Element Only	180 GPH (681 LPH)	1 1/4"-14	2 10 30	9.9 in. (25.1 cm)	5.1 in. (13.0 cm)	28.4 oz. (804 g)	Cummins
B32008P	Bowl & Element	30 GPH (114 LPH)	16mm X 1.5	30	7.3 in. (18.5 cm)	2.9 in. (7.4 cm)	9.7 oz. (275 g)	Deutz or Volvo
S3208S S3208T S3208P	Element Only			2 10 30				
B32009P	Bowl & Element	60 GPH (227 LPH)	16mm X 1.5	30	8.8 in. (22.4 cm)	3.8 in. (9.7 cm)	13.7 oz. (388 g)	Mann
S3209S S3209T S3209P	Element Only			2 10 30				

Engine Spin-On Series

Engine Spin-On Series Overview

Part Number	Description	Max Flow Rate	Thread	Micron Rating	Height	Diameter	Solids Capacity	Typical Application
B32011	Bowl & Element	90 GPH (341 LPH)	1"-14	10	8.6 in. (21.8 cm)	3.6 in. (9.1 cm)	8.2 oz. (232 g)	Cummins
S3211	Element Only			10	5.5 in. (14.0 cm)			
B32012	Bowl & Element	90 GPH (341 LPH)	1"-12	30	7.3 in. (18.5 cm)	3.8 in. (9.7 cm)	8.2 oz. (233 g)	GM or Detroit Diesel
S3212	Element Only			30	4.0 in. (10.2 cm)			
B32016S B32016T B32016P	Bowl & Element	20 GPH (76 LPH)	16mm X 1.5	2 10 30	5.9 in. (15.0 cm)	2.9 in. (7.4 cm)	6.4 oz. (182 g)	General Use
S3216S S3216T S3216P	Element Only			2 10 30	4.0 in. (10.2 cm)			
B32022	Bowl & Element	90 GPH (341 LPH)	1"-14	30	10.6 in. (26.9 cm)	3.8 in. (9.7 cm)	19.6 oz. (557 g)	General Use
S3222	Element Only			30	7.4 in. (18.8 cm)			
S3223	Element Only	90 GPH (341 LPH)	1"-14	30	8.5 in. (21.6 cm)	4.4 in. (11.2 cm)	18.2 oz. (515 g)	General Use
B32025S B32025T B32025P	Bowl & Element	60 GPH (227 LPH)	1"-14	2 10 30	8.4 in. (21.3 cm)	4.4 in. (11.2 cm)	10.8 oz. (305 g)	General Use
S3225S S3225T S3225P	Element Only			2 10 30	5.0 in. (12.7 cm)			
B32026S B32026T B32026P	Bowl & Element	75 GPH (284 LPH)	1"-14	2 10 30	9.6 in. (24.4 cm)	4.4 in. (11.2 cm)	19.1 oz. (541 g)	General Use
S3226S S3226T S3226P	Element Only			2 10 30	6.3 in. (16.0 cm)			
S3229	Element Only	90 GPH (341 LPH)	1"-12	10	7.3 in. (18.5 cm)	3.8 in. (9.7 cm)	18.2 oz. (515 g)	General Use
B32030S B32030T	Bowl & Element	60 GPH (227 LPH)	1"-14	2 10	8.8 in. (22.4 cm)	3.8 in. (9.7 cm)	13.7 oz. (388 g)	General Use
S3230S S3230T S3230P	Element Only			2 10 30	5.5 in. (14.0 cm)			
B32038 B32038P	Bowl & Element	150 GPH (568 LPH)	1 1/4"-12	10 30	9.9 in. (25.1 cm)	4.4 in. (11.1 cm)	28.4 oz. (804 g)	General Use
S3238 S3238P	Element Only			10 30	6.4 in. (16.3 cm)			

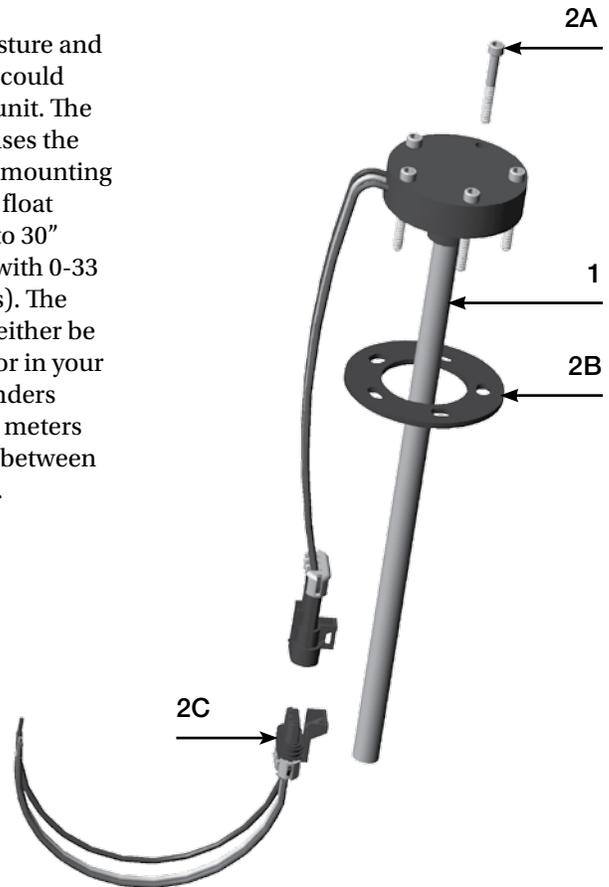
FS240 Series Fuel Senders

FS240 Series

Racor FS240 Series Electronic Fuel Senders are rugged and reliable, 100% solid state and designed for use in any 12 or 24 volt petroleum based product. They provide a continuous readout of the fuel level in the tank, and eliminate the need to continuously replace mechanical senders. FS240 Fuel Senders can be used in either stand alone application or they can be integrated with our Hot STK fuel heaters.

The FS240 Electronic Fuel Sender consist of a sensor probe and an amplifier which is located in the mounting plate assembly. All components are encapsulated in an

epoxy resin to seal out moisture and other contaminants which could affect the operation of the unit. The mounting plate assembly uses the same standard, 5 hole SAE mounting bolt pattern as mechanical float sending units. They fit 12" to 30" tanks and are compatible with 0-33 ohm fuel gauges or (meters). The meter (receiving unit) can either be remotely located close by, or in your dash. FS240 Series Fuel Senders can drive either one or two meters simultaneously (switching between the meters is not required).



How to Order

(The examples below illustrate how part numbers are constructed).

FS240/	20
Basic Model Number	Specify a Tank Diameter: 20, 21, 22, 23, 24, 25, 26, or 27

Note: Additional lengths and styles are available; contact Racor Technical Support.

FS240 Replacement Part List

Part No.	Description
1. FS240/	Basic Fuel Sender Assembly
2. FS2703K	Mounting Kit

Includes:

- A. (5) 10/32" x 1.5" Screws
- B. (1) Adaptor Plate Gasket
- C. (1) Female Pigtail

FS240 Series Fuel Senders

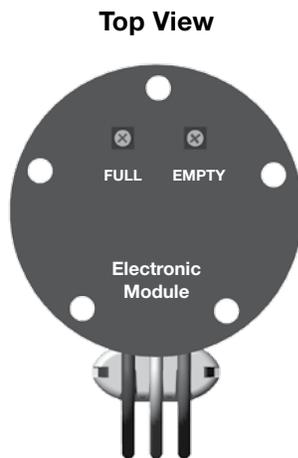
FS240 Series

General Instructions

Disconnect battery before beginning. Do not over-tighten mounting bolts; torque to a MAXIMUM of 15 in. lbs. This unit is calibrated at the factory for the EMPTY setting. The FULL setting may require a slight adjustment. Adjustment screws are located on top of module. Note: When ignition switch is on, fuel sender will show FULL for a few seconds, then drop back to the actual fuel level.

Wiring Instructions

Ground existing wire directly to frame using appropriate fasteners and ring terminals.



Red wire to ignition power (12 or 24 volt).
White wire to existing send wire off old sender.
Black wire to existing ground wire off old sender.

Note: If excess water is present in fuel tank, sender will show a false FULL reading until excess water is removed.

Re-calibration Instructions

Racor Electronic Fuel Senders are preset at the factory. Due to variance in fuel gauges and fuel tank filler neck placement, the fuel gauge may not show exactly FULL. The EMPTY level is nonadjustable. Note: Re-calibrate FULL level ONLY if needle variance is too extreme.

1. Calibration procedures require two people (one to monitor fuel gauge, another to set adjustment screw). Note: Verify tank is full of fuel.
2. Turn ignition switch on.
3. Make adjustments carefully with small Phillips screwdriver. It may be necessary to remove silicone sealant from adjustment screw before adjustments are possible. Caution: Be careful when removing silicone sealant to avoid damage to adjustment screw.

4. Carefully turn FULL adjustment screw to full clockwise position.
5. Turn adjustment screw counter-clockwise very slowly, as a small rotation will cause a large needle movement. Keep turning until desired location is obtained on fuel gauge. If needle passes desired location, repeat procedure by turning screw clockwise until needle moves above desired position and then turn adjustment screw counter-clockwise again. Always set as needle is falling.
6. After calibration is complete, seal adjustment screws with a generous coat of a silicone sealant.

Warning: Use of other than Racor components can cause damage and voids warranty.

ParFit™ Products

For on/off highway vehicles and stationary equipment, ParFit fuel filter products protect expensive system components not only from microscopic solid contaminants, but from damaging water as well. ParFit products are engineered and manufactured to meet stringent quality requirements and Original Equipment Manufacturer (OEM) specifications for service life and efficiency.

When you specify ParFit filters, you know you're doing everything you can to protect your equipment, extend its life-cycle and effectiveness, and improve your bottom line. Models are available for direct spin-on replacement and with integral, die cast aluminum heads. The complete ParFit series includes OEM replacement filter/separators for the most popular diesel engines including: Navistar, Cummins, Detroit Diesel, Ford and Caterpillar. This means that you get the engine protection you want at a very competitive price.



And many more...

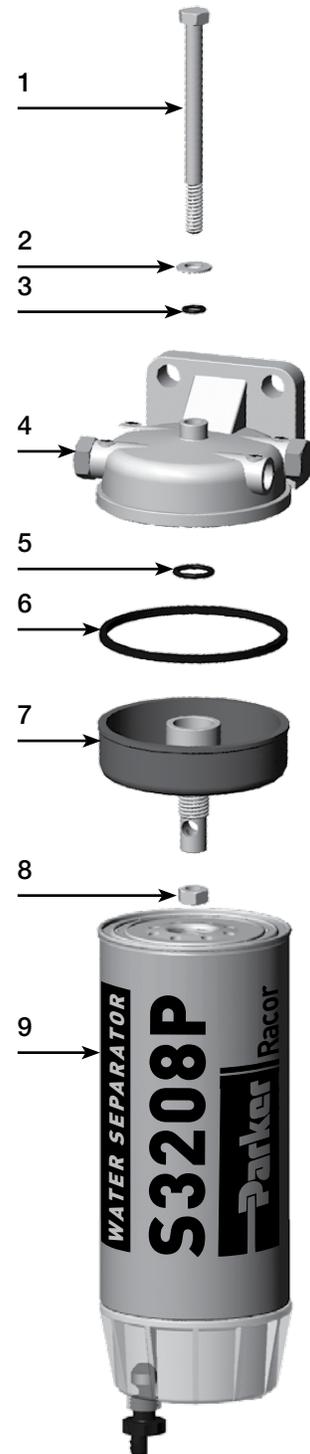
IN CAV Filter Adapter Kit

Filter adapter kit IN CAV converts old C.A.V. filter head canister and glass bowl units into a Spin-On filter assembly. This kit allows the use of Racor B32008 or B32016 Spin-On filters that feature patented clear Spin-On contaminant collection bowls and self-venting drains.

Fits:

- **Ford**
- **Perkins**
- **Massey**
- **Saab**
- **Volvo-Penta**
- **Ford Lehman engines, up to 70 HP.**

PFCAV Adapter Kit includes numbers 1, 2, 3, 5, 6, 7, and 8. Number 4 is the CAV mounting head and number 9 is a Racor B32016 filter assembly.



ParFit™ Products

100 Series

Specifications	PF101
Maximum Flow Rate	65 GPH (246 LPH)
Maximum Working Pressure:	25 PSI (172 kPa)
Element Part Number: (2 micron) (10 micron) (30 micron)	PF101-2 PF101-10 PF101-30
Height	3.25 in. (8.3 cm)
Diameter	4.25 in. (10.8 cm)
Weight (dry)	0.4 lb (0.2 kg)
Operating Temperature	-50° to +225°F (-45° to +107°C)



200 Series

Specifications	PF201
Maximum Flow Rate	120 GPH (454 LPH)
Maximum Working Pressure:	25 PSI (172 kPa)
Element Part Number: (2 micron) (10 micron) (30 micron)	PF201-2 PF201-10 PF201-30
Height	4.6 in. (11.7 cm)
Diameter	6.1 in. (15.5 cm)
Weight (dry)	1.0 lb (0.5 kg)
Operating Temperature	-50° to +225°F (-45° to +107°C)



PFF19528

Specifications	PFF19528
Application	Dodge Truck with 5.9L Diesel Engine (Model Years 1997 to 1999)
Maximum Flow Rate	30 PSI (2.1 bar)
Maximum Working Pressure	30 PSI (2.1 bar)
Element Part Number	(2 micron)
Height	4.4 in. (11.2 cm)
Diameter	3.6 in. (9.1 cm)
Center Threads	N/A
Solids Capacity	5.1 oz (144.6 g)
Weight (dry)	0.4 lb (0.2 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)
Additional Part (not shown)	54039 Gasket Pack



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FS19522, FS19528	33349	L5021F	PF7610, PF7651, PF7751	P551310	CS8323

PFF297

Specifications	PFF297
Application	Various Off-Road and Stationary
Maximum Flow Rate	N/A
Maximum Working Pressure	N/A
Element Part Number	5 micron
Height	4.3 in. (10.9 cm)
Diameter	3.5 in. (8.9 cm)
Center Threads	N/A
Solids Capacity	N/A
Weight (dry)	N/A
H ₂ O Removal Efficiency	N/A
Operating Temperature	N/A



ParFit™ Products

PF F3368

Specifications	PF F3368
Application	Ford 6.6 and 7.8L
Maximum Flow Rate	30 GPH (114 LPH)
Maximum Working Pressure	N/A
Element Part Number	2 micron
Height	5.1 in. (13.0 cm)
Diameter	4.4 in. (11.2 cm)
Center Threads	1"-14
Solids Capacity	N/A
Weight (dry)	N/A
H ₂ O Removal Efficiency	99%
Operating Temperature	N/A



PFF50216

Specifications	PFF50216
Application	GM 560 & 800 Duramax Engine (Model Years 2001 to 2010)
Maximum Flow Rate	50 GPH (189 LPH)
Maximum Working Pressure	50 gph
Element Part Number	2 micron
Height	6.4 in. (16.3 cm)
Diameter	4.0 in. (10.16 cm)
Center Threads	3.38 in.
Solids Capacity	N/A
Weight (dry)	16 oz. (45 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-46° to 107°C)



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FS20002	33960XE	LFF6012	BF7827	P550833	PS9059B

PFF5510

Specifications	PFF5510
Application	Mercury, Mercruiser, Yamaha, Suzuki, Honda and Tohatsu
Maximum Flow Rate	30 GPH (114 LPH)
Maximum Working Pressure	30 PSI (2.1 bar)
Element Part Number	10 micron
Height	4.2 in. (10.7 cm)
Diameter	3.6 in. (9.1 cm)
Center Threads	11/16"-16
Solids Capacity	N/A
Weight (dry)	N/A
H ₂ O Removal Efficiency	99%
Operating Temperature	N/A



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FF5059	33225	LFF3808	BF791	P550677	PS3808

PFF58567

Specifications	PFF58567	
Application	Chevrolet Express Van, GMC Savana	
Maximum Flow Rate	50 GPH (189 LPH)	
Maximum Working Pressure	30 PSI (2.1 bar)	
	Secondary	Primary
Micron Rating	2 micron	10 micron
Height	6.4 in. (16.3 cm)	3.9 in. (9.9 cm)
Diameter	4.2 in. (10.7 cm)	3.7 in. (9.4 cm)
Center Threads	3.4 in. (8.6 cm)	N/A
Solids Capacity	N/A	N/A
Weight (dry)	16 oz. (0.45 kg)	16 oz. (0.45 kg)
H ₂ O Removal Efficiency	99%	N/A
Operating Temperature	N/A	N/A



ParFit™ Products

PFF67555A

Specifications		PFF67555A		
Application	Detroit Diesel 13/15 Engines			
Maximum Flow Rate	Prescreen	Coalescer	Final	
Micron Rating	N/A	10 micron	4 micron	
H ₂ O Removal Efficiency	99%			
Note: Does not include prescreen				

PFF67555

Specifications		PFF67555		
Application	Detroit Diesel 13/15 Engines			
Maximum Flow Rate	Prescreen	Coalescer	Final	
Micron Rating		10 micron	4 micron	
H ₂ O Removal Efficiency	99%			



PF F829B

Specifications		PF F829B
Application	Navistar 7.3L Diesel Engines in Ford E & F Series Vehicles	
Maximum Flow Rate	20 GPH (75.7 LPH)	
Maximum Working Pressure	30 PSI (2.1 bar)	
Element Part Number	PFF829B (7 micron)	
Height (with metal bowl)	5.5 in. (14.0 cm)	
Diameter	4.3 in. (11.0 cm)	
Center Threads	1-14 UNS	
Solids Capacity	12.3 oz (350 g)	
Weight (dry)	1.2 lb (0.54 kg)	
H ₂ O Removal Efficiency	99%	
Operating Temperature	-50° to +225°F (-45° to +107°C)	
Additional Parts (not shown)	PFRK20567-Metal Bowl Kit IN RK21057-Clear Bowl Kit	



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FS1278, FS1281	33217, 33217MP	LFF5824, LFF5824B	BF1222, BF1222SP	P553375	PS6554, PS6554A

PFF830

Specifications	PFF830
Application	Navistar 7.3L medium duty trucks & buses with diesel engines.
Maximum Flow Rate	30 GPH (114 LPH)
Maximum Working Pressure	30 PSI (2.1 bar)
Micron Rating	40 micron
Height:	
(with bowl)	6.0 in. (15.2 cm)
(without bowl)	5.25 in. (13.3 cm)
Diameter	4.3 in. (11.0 cm)
Center Threads	1-14 UNS
Solids Capacity	13.9 oz (395 g)
Weight (dry)	1.2 lb (0.54 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)
Additional Parts (not shown)	PFRK20567-Metal Bowl Kit IN RK21057-Clear Bowl Kit



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FS1291 FS19547, FS79551	33232 33411	LFF3579, LFF1223 LFF3290, LFF3292	BF1345, BF1223, BF1329, BF1348	P550729	PS8186 PS7713, PS7170

PF F831

Specifications	PF F831
Application	Navistar 6400 Series with diesel engines
Maximum Flow Rate	30 GPH (114 LPH)
Maximum Working Pressure	30 PSI (2.1 bar)
Micron Rating	40 micron
Height:	
(with bowl)	5.5 in. (14.0 cm)
(without bowl)	4.0 in. (10.2 cm)
Diameter	4.3 in. (11.0 cm)
Center Threads	1-14 UNS
Solids Capacity	13.9 oz (395 g)
Weight (dry)	1.2 lb (0.54 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)
Additional Parts (not shown)	PFRK20567-Metal Bowl Kit IN RK21057-Clear Bowl Kit



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FS1287, FS19532, FS19551	33231 33411	LFF3345 LFF5766, LFF8038	BF1223 BF1223SP	P550730	PS7716 PS8187, PS8486

Fuel Dispensing Elements Overview



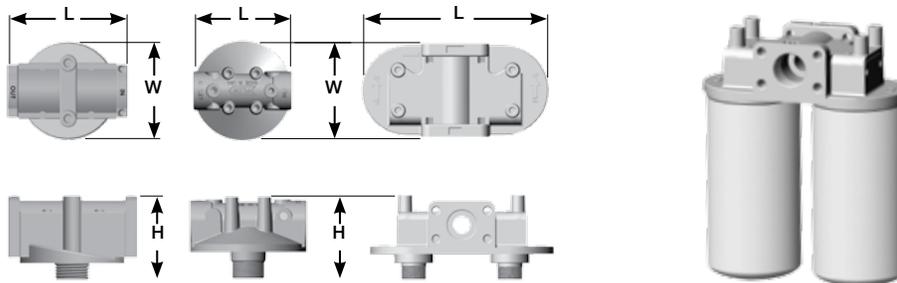
Specifications	PFFDW3525	PFFDW3825	PFFDW51125
Maximum Flow Rate	450 GPH (1703 LPH)	900 GPH (3406 LPH)	3000 GPH (11356 LPH)
Max. Working Pressure	100 PSI (689.6 kPa)	100 PSI (689.6 kPa)	100 PSI (689.6 kPa)
Micron Rating	25	25	25
Height	5.0 in. (12.7 cm)	8.0 in. (20.3 cm)	11.0 in. (27.9 cm)
Diameter	4.0 in. (10.2 cm)	4.0 in. (10.2 cm)	5.0 in. (12.7 cm)
Center Threads	1"-12	1"-12	1.5"-16
Solids Capacity	0.5 oz. (15.6 g)	1.0 oz. (28.7 g)	2.0 oz (56.5 g)
Water Capacity	8.4 oz. (0.2 L)	15.4 oz. (0.5 L)	30.3 oz (0.9 L)
Weight (dry)	1.2 lb (0.5 kg)	1.5 lb (0.7 kg)	2.8 lb (1.3 kg)
H ₂ O Removal Efficiency	99%		
Operating Temperature	-50° to +225°F (-45° to +107°C)		

Optional Mounting Heads



Specifications	PFHH07500	PFFDH12500	23179001**
Maximum Flow Rate	900 GPH (3,406 LPH)	3000 GPH (11,356 LPH)	6000 GPH (22,712 LPH)
Fuel Ports	0.75" NPT	1.25" NPT	1.5" NPT
Height	2.5 in. (6.4 cm)	3.5 in. (8.9 cm)	4.5 in. (11.4 cm)
Length	3.8 in. (9.7 cm)	5.3 in (13.5 cm)	11.3 in. (28.7 cm)
Width	3.0 in. (7.6 cm)	5.3 in. (13.5 cm)	5.5 in. (14.0 cm)
Weight	0.7 lb (0.3 kg)	1.3 lb (0.6 kg)	6.0 lb (2.7 kg)
Gasket Pack (5 pc)	N/A	INGCSG100	INGCSG100
Operating Pressure	100 PSI (6.9 bar)	100 PSI (6.9 bar)	100 PSI (6.9 bar)

**23179001 dual head. Please call Parker's Hydraulic Filter Division to order (419.644.4311).



PFF4595

Specifications	PFF4595
Application	7.3L Navistar T444E Powerstroke: 1994 - 1999
Micron Rating	2 micron
Maximum Flow Rate	20 GPH (76 LPH)
Height	4.0 in. (10.2 cm)
Diameter	3.5 in. (8.9 cm)
Weight (dry)	0.4 lb (0.2 kg)
Solids Capacity	12.3 oz (350 g)
Lid Gasket Part Number	31226
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram	Motorcraft
FS1298	33517	L3508F	PF7578 PF7678	P550966	CS8323	FD4595

PFF4596

Specifications	PFF4596
Application	7.3L Navistar T444E Powerstroke: 1999 - current
Maximum Flow Rate	20 GPH (76 LPH)
Maximum Working Pressure	30 PSI (2.1 bar)
Micron Rating	7 micron
Height	2.8 in. (7.1 cm)
Diameter	3.6 in. (9.1 cm)
Solids Capacity	12.3 oz (350 g)
Weight (dry)	0.3 lb (0.1 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)
Additional Parts (not shown)	Filter Cap Kit-RK 31449



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram	Motorcraft
FF5418	33518	L4596F L5788F	PF7698	P550437	CS8629	FD4596

PFF4606

Specifications	Secondary Fuel Filter	Primary Fuel Filter
Application	Ford 6.0L Powerstroke Engines. Model Years 2003 to 2006	
Micron Rating	4 Micron	10 Micron
Height	2.5 in. (6.4 cm)	3.1 in. (7.9 cm)
Diameter	2.3 in. (5.8 cm)	3.7 in. (9.4 cm)
Weight (dry)	1.8 oz	4.6 oz
Gasket Pack	Included	
Filter Life	15,000 miles	
H ₂ O Removal Efficiency	99%	
Operating Temperature	-40° to +250°F (-40° to +121°C)	



(includes both elements)

Cross Reference

Amsoil	Wix	Honeywell	Baldwin	Napa	Carquest	Hastings	Champion Lab
FFK60	33600	CS98153	PF7852KIT	3600	86600	FF1158	L4606F

PFF4616 (formerly PFF4604)

Specifications	Secondary Fuel Filter	Primary Fuel Filter
Application	Ford 6.0L Powerstroke Engines. Model Years 2003 to 2006	
Maximum Flow Rate	34 GPH (130 LPH)	34 GPH (130 LPH)
Maximum Working Pressure	58 PSI (4.0 bar)	58 PSI (4.0 bar)
Micron Rating	4 micron	10 micron
Height	2.6 in. (6.6 cm)	4.4 in. (11.2 cm)
Diameter	2.3 in. (5.8 cm)	3.4 in. (8.6 cm)
Weight (dry)	0.1 lb (0.05 kg)	0.3 lb (0.1 kg)
Solids Capacity (with both filters)	0.2 oz (5.7 g)	
Gasket Pack	21746	
H ₂ O Removal Efficiency	99%	
Operating Temperature	-50° to +225°F (-45° to +107°C)	



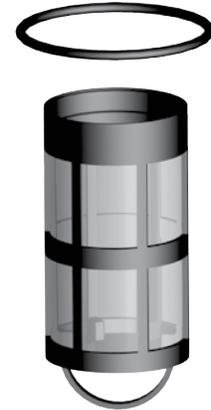
(includes both elements)

Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Motorcraft
FS19797	33599	L4604F	PF7812KIT	P550527	FD4604

PFFRK51216

Specifications	PFFRK51216
Application	Pre-Filter
Maximum Flow Rate	N/A
Maximum Working Pressure	N/A
Micron Rating	200-260
Height	4.4 in. (11.2 cm)
Diameter	1.9 in. (4.8 cm)
Weight (dry)	N/A
Solids Capacity	N/A
Gasket Pack	RK51218
Water Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)
Replacement Parts	RK 51216-Prescreen Element Kit



PFF5525

Specifications	PFF5525
Application	Hydraulic Spin-On
Max. Working Pressure	100 PSI (6.9 bar)
Micron Rating (98% nominal)	25 micron
Height	8.8 in. (22.4 cm)
Diameter	3.8 in. (9.7 cm)
Center Threads	1-12 UNF - 2b
Weight (dry)	1.9 lb (0.9 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)



Par◊**Fit**™ Products

PFF5527

Specifications	PFF5527
Application	Ford F550, F650 Trucks
Maximum Flow Rate	30 GPH (114 LPH)
Maximum Working Pressure	40 PSI (2.8 bar)
Micron Rating	30 micron
Height	4.0 in. (10.2 cm)
Diameter	3.6 in. (9.1 cm)
Center Threads	1"-14 UNS-2A
Solids Capacity	10.0 oz (277 g)
Weight (dry)	0.7 lb (0.3 kg)
H ₂ O Removal Efficiency	99%
Operating Temperature	-50° to +225°F (-45° to +107°C)
Additional Parts	RK22350-Replacement Bowl



Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Fram
FS19904	33736	L4597F	BF7806	P550553	PS91110

PFF5548

Specifications	PFF5548
Application	International MaxxForce 9 model year 2007 I-326 engine
Maximum Flow Rate	50 GPH (189 LPH)
Maximum Working Pressure	30 PSI (206 kPa)
Micron Rating	2 Micron Aquabloc
Height	5.0 in. (12.7 cm)
Diameter	3.2 in. (8.1 cm)
Center Threads	N/A
Solids Capacity	N/A
Weight (dry)	3.4 oz (0.1 kg)
H ₂ O Removal Efficiency	95%
Operating Temperature	-50° to +225°F (-45° to +107°C)



PFF4617 (formerly PFF5550)

Specifications	Secondary Fuel Filter	Primary Fuel Filter
Application	F-Series Super-Duty Pickups with 6.4L V8 Powerstroke Diesel Engines (FD-4609) Model Years 2008 2010	
Maximum Flow Rate		
Maximum Working Pressure	30 PSI (2.1 bar)	30 PSI (2.1 bar)
Micron Rating	4	10
Height	4.8 in. (12.2 cm)	4.4 in. (11.2 cm)
Diameter	3.6 in. (9.1 cm)	3.4 in. (8.6 cm)
Weight (dry)	7.4 oz	4.4 oz
H ₂ O Removal Efficiency	99%	
Max Fuel Temperature	190°F (88°C)	



(includes both elements)

PFF5556

Specifications	PFF5556
Application	Itech 1-6 Prescreen kit
Maximum Flow Rate	N/A
Maximum Working Pressure	N/A
Micron Rating	200-260
Height	4.4 in. (11.2 cm)
Diameter	1.9 in. (4.8 cm)
Center Threads	N/A
Solids Capacity	N/A
Replacement Gasket	RK51218
H ₂ O Removal Efficiency	Screen
Operating Temperature	-50° to +225°F (-45° to +107°C)



PFF558095

Specifications	Secondary Fuel Filter	Primary Fuel Filter
Application	Fuel Filter/Water Separator Kit For GM610 Van	
Maximum Flow Rate	34 GPH (130 LPH)	34 GPH (130 LPH)
Maximum Working Pressure	58 PSI (4.0 bar)	58 PSI (4.0 bar)
Micron Rating	4 micron	10 micron
Height	2.6 in. (6.6 cm)	4.4 in. (11.2 cm)
Diameter	2.3 in. (5.8 cm)	3.4 in. (8.6 cm)
Weight (dry)	0.1 lb (0.05 kg)	0.3 lb (0.1 kg)
Solids Capacity (with both filters)	0.2 oz (5.7 g)	
Gasket Pack	Included	
H ₂ O Removal Efficiency	99%	
Operating Temperature	-50° to +225°F (-45° to +107°C)	



(includes both elements)

Cross Reference

Fleet Guard	Wix	Luber Finer	Baldwin	Donaldson	Motorcraft
FS19797	33599	L4604F	PF7812KIT	P550527	FD4604

PFF32715

Specifications	Primary Fuel Filter	Secondary Fuel Filter
Application	Parfit V8 Primary and Final Fuel Element Service Kit with seals	
Micron Rating	4 Micron	10 Micron
Height	2.5 in. (6.4 cm)	3.1 in. (7.9 cm)
Diameter	2.3 in. (5.8 cm)	3.7 in. (9.4 cm)
Weight (dry)	1.8 oz	4.6 oz
Gasket Pack	Included	
Filter Life	15,000 miles	
H ₂ O Removal Efficiency	99%	
Operating Temperature	-40° to +250°F (-40° to +121°C)	



(includes both elements)

PFFG01 Filter Glove

Application

The Racor Filter Glove fits most marine and auto filters. The Filter Glove fits conveniently onto the bottom of Spin-On filters.

Product

The Racor Filter Glove is made with a durable, soft poly-blend material that is not effected by fuel, oil, heat or cold. The Filter Glove allows for easy cleaning and reusing every time you service a filter or element.

How It Works

Push the Filter Glove firmly on to most filters (3" to 4" in diameter). The Filter Glove is designed with 10 tapered fingers to allow that the Filter Glove fits snugly on the filter. Unscrew the filter or element (a bowl or strap wrench might be needed). When the filter is broken loose, the oil or fuel will leak down the sides and will be caught in the bottom of the Filter Glove. This process will help you avoid mess in bilges, driveways and help protect our environment.



PFFG01 Filter Glove

Interceptor to Parfit Cross Reference Guide

Navistar 6.9l Complete Replacement Fuel Filters

Interceptor Part Number	ParFit Part Number	Description
IN BF811 (Obsolete)	PF BF811	Replaces standard fuel filter on 6.9L diesel in Ford E & F Series vehicles
IN F811 (Obsolete)	PF F811	Replacement Fuel Filter for above.
IN RK30785 (Obsolete)	N/A	Water Sensor Kit for PF BF811 applications. Replaces the OEM water sensor

Navistar 6.9l Complete Replacement Assemblies

Interceptor Part Number	ParFit Part Number	Description
IN RK30787 (Obsolete)	N/A	Navistar 6.9L Replacement Kit for Ford F Series trucks (uses IN F829B filter)
IN RK30801 (Obsolete)	N/A	Navistar 6.9L Replacement Kit for Ford E Series vans (uses IN F829B filter)
IN RK20567 (Obsolete)	PFRK20567	Replacement Metal Bowl Kit for IN F811 (PF F811, IN F829B (PF F829B), IN F830 and IN F831 (PF F831)
IN RK21057	N/A	Replacement Clear Bowl Kit for IN F811 (PF F811, IN F829B (PF F829B), IN F830 and IN F831 (PF F831)

Replacement Filters For OEM Applications

Interceptor Part Number	ParFit Part Number	Description
IN F829B (Obsolete)	PF F829B	Navistar 7.3L diesel in Ford E & F Series vehicles, 2 micron
IN F830	N/A	Navistar 7.3L medium-duty trucks and buses, 40 micron
IN F831 (Obsolete)	PF F831	Navistar 6400 Series fuel heater/filter/water separators, 40 micron
IN F4595	N/A	Navistar T444E (7.3L) Powerstroke (model 1994 to 1999)
IN F4596 (Obsolete)	PFF4596	Navistar T444E (7.3L) Powerstroke (model 1999 to current)
IN F4597 (Obsolete)	N/A	Ford 550 and 650 with Cat engines and cold weather element
IN F19528	N/A	Dodge trucks with a Cummins engine, replacement element (model 1998 & 1999)
IN F296 (Obsolete)	N/A	CAV: Replaces CAV7111/296
IN F796	N/A	IN F796 CAV: Replaces CAV7111/796
IN F3368 (Obsolete)	PF F3368	Ford 6.6L/7.8L engines, 1991 to 1992
IN FR26P Obsolete	N/A	Ford 6.6L/7.8L engines, 1985 to 1990
IN F18786 Obsolete	N/A	Replaces Stanadyne Fuel Filter No.18667 (square, box-type)
IN F19797 Obsolete	N/A	Replaces Stanadyne Fuel/Water Separator No.19856 (square, box-type)
IN F52525 Obsolete	N/A	Replaces Webb #52525 / DDC Applications

Interceptor to Parfit Cross Reference Guide

Replacement Filters for Dahl

Interceptor Part Number	ParFit Part Number	Description
IN 101-2 (Obsolete)	PF101-2	100, 2 Micron
IN 101-10 (Obsolete)	PF101-10	100, 10 Micron
IN 101-30 (Obsolete)	PF101-30	100, 30 Micron
IN 201-2 (Obsolete)	PF201-2	200, 2 Micron
IN 201-10 (Obsolete)	PF201-10	200, 10 Micron
IN 201-30 (Obsolete)	PF201-30	200, 30 Micron
IN 301-10 (Obsolete)	PF301-10	300, 10 Micron
IN 301-30 (Obsolete)	PF301-30	300, 30 Micron

Transmission Filters For Allison Automatic Transmissions

Interceptor Part Number	ParFit Part Number	Replaces	Description	Application
IN TA2062	N/A	DDA 23042062 and Pall 1309836	Spin-On Filter, 6 micron microglass media (1 1/2"-16 threads)	School bus, and refuse collection vehicles
IN TA60075Q (Obsolete)	N/A	Allison # 23018853	Cartridge Filter	N/A
IN TA60076Q (Obsolete)	N/A	Allison # 23049373	Cartridge Filter	N/A
IN TA6898 (Obsolete)	N/A	Allison # 29526898	Cartridge Filter	World Transmission
IN TA6899 (Obsolete)	N/A	Allison # 29526899	Cartridge Filter	World Transmission
IN HF60058 (Obsolete)	N/A	DDA 23049373 and Pall 13112668	Cartridge Filter	Construction, mining logging and other off-road vehicles
IN HF60074 (Obsolete)	PFHF60074	DDA 23040988 and Pall HC8200SDN8Z	Cartridge Filter	Transit bus and refuse vehicles

Water Absorbing Filters

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Diameter	Length	Media Area Sq in. (Sq cm)	Solids Capacity	Water Capacity	Maximum Operating Pressure
IN FDC3510G (Obsolete)	N/A	10	1.5"-16	3.8 in (9.7 cm)	5.0 in (12.7 cm)	480 / 3096	0.3 oz (9.04 g)	N/A	100 PSI (689.6 kPa)
IN FDC3530G (Obsolete)	N/A	30	1.5"-16	3.8 in (9.7 cm)	5.0 in (12.7 cm)	480 / 3096	0.3 oz (9.04 g)	N/A	100 PSI (689.6 kPa)
IN FDW3510 (Obsolete)	N/A	10	1"-12	3.8 in (9.7 cm)	5.0 in (12.7 cm)	190 / 1226	0.5 oz (13.7 g)	8.4 oz (247 ml)	100 PSI (689.6 kPa)
IN FDW3510A (Obsolete)	N/A	10	1"-12	3.8 in (9.7 cm)	5.0 in (12.7 cm)	335 / 2161	(0.5 oz (13.7 g)	5.9 oz (175 ml)	100 PSI (689.6 kPa)
IN FDW3525 (Obsolete)	PFFDW3525	25	1"-12	3.8 in (9.7 cm)	5.0 in (12.7 cm)	190 / 1226	0.6 oz (15.6 g)	8.4 oz (247 ml)	100 PSI (689.6 kPa)

Interceptor to Parfit Cross Reference Guide

Water Absorbing Filters

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Diameter	Length	Media Area Sq in. (Sq cm)	Solids Capacity	Water Capacity	Maximum Operating Pressure
IN FDW3810A (Obsolete)	N/A	10	1"-12	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	608 / 3920	1.4 oz (39.5 g)	10.7 oz (315 ml)	100 PSI (689.6 kPa)
IN FDW3825 (Obsolete)	N/A	25	1"-12	3.8 in. (9.7 cm)	8.0 in. (20.3 cm)	350 / 2258	1.0 oz (28.7 g)	15.4 oz (455 ml)	100 PSI (689.6 kPa)
IN FDW3830 (Obsolete)	N/A	30	1"-12	3.8 in. (9.7 cm)	8.0 in. (20.3 cm)	350 / 2258	1.0 oz (28.7 g)	15.4 oz (455 ml)	100 PSI (689.6 kPa)
IN FDW51125 (Obsolete)	PFFDW51125	25	1.5"-16	5.0 in. (12.7 cm)	11.0 in. (27.9 cm)	689 / 4444	2.0 oz (56.5 g)	30.3 oz (896 ml)	100 PSI (689.6 kPa)

Filter Heads

Interceptor Part Number	ParFit Part Number	Center Thread	Port Size	Fuel Flow Rate	Filter Application	Bypass Setting	Restriction Gauge	Gauge Port
IN HH07500 (Obsolete)	PFHH07500	1"-12	3/4" NPT	15.0 GPM (56.8 LPM)	FDW3525 FDW3825	No	Optional	1/8" NPT
IN FDH12500 (Obsolete)	PFFDH12500	1.5"-16	1.25" NPT	50.0 GPM (189.3 LPM)	FDW51125	No	Optional	1/8" NPT
IN FDH125DD	N/A	1.5"-16	1.5" NPT	100.0 GPM (378.5 LPM)	FDW51125 (2)	No	Optional	1/8" NPT

CAV Filter Adapter Kit

Interceptor Part Number	ParFit Part Number	Description	Application
IN CAV	N/A	Adaptor Kit	Ford, Perkins, Massey, Saab, Volvo-Penta, and Ford Lehman

Filter Adapter Kit IN CAV turns old C.A.V. Filter Head, cannister and glass bowl units into a spin-on filter. Fits Ford, Perkins, Massey Ferguson, Saab, Volvo-Penta and more! This kit allows the use of Interceptor Spin-On Filters that feature the patented see-thru, spin-on contaminant collection bowl: IN B32008 or IN B32016. For engines up to 70 HP.

Interceptor to Parfit Cross Reference Guide

Hydraulic Filters - Low Pressure

Interceptor Hydraulic Water Absorbing Filter elements feature a specially-designed media which absorbs damaging water. By also trapping solid contamination, like dirt and rust, the media protects precision hydraulic components from abrasion.

As the element fills with water and plugging occurs, fluid flow slows and the filter head will go into a by-pass mode. Interceptor Spin-On filters are available for virtually all applications and can be specified in 10 and 25micron nominal ratings (3micron

is available upon request). They are engineered and manufactured under the most up-to-date quality control processes to meet or exceed original equipment specifications.

Silicone Cellulose Filter

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Diameter	Length	Media Area Sq in. (Sq cm)	Solids Capacity	Maximum Operating Pressure
IN HC3510 (Obsolete)	PFHC3510	10	1"-12	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	480 / 3096	0.3 oz (9.0 g)	100 PSI (689.6 kPa)
IN HC3525 (Obsolete)	PFHC3525	25	1"-12	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	450 / 2903	0.4 oz (12.5 g)	100 PSI (689.6 kPa)
IN HC3810 (Obsolete)	N/A	10	1"-12	3.8 in. (9.7 cm)	8.0 in. (20.2 cm)	878 / 5665	0.6 oz (16.7 g)	100 PSI (689.6 kPa)
IN HC3825 (Obsolete)	N/A	25	1"-12	3.8 in. (9.7 cm)	8.0 in. (20.2 cm)	826 / 5329	0.8 oz (23.1 g)	100 PSI (689.6 kPa)
IN HC5710	N/A	10	1.5"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	950 / 6128	0.6 oz (18.1 g)	100 PSI (689.6 kPa)
IN HC5725	N/A	25	1.5"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	900 / 5805	0.9 oz (25.2 g)	100 PSI (689.6 kPa)
IN HC51110	N/A	10	1.5"-16	5.0 in. (12.7 cm)	11.0 in. (27.9 cm)	1710 / 11030	1.1 oz (32.5 g)	100 PSI (689.6 kPa)
IN HC51125 (Obsolete)	PFHC51125	25	1.5"-16	5.0 in. (12.7 cm)	11.0 in. (27.9 cm)	1620 / 12449	1.6 oz (45.4 g)	100 PSI (689.6 kPa)

Interceptor to Parfit Cross Reference Guide

Water Absorbing Filter

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Diameter	Length	Media Area Sq in. (Sq cm)	Solids Capacity	Water Capacity	Maximum Operating Pressure
IN HW3825 (Obsolete)	N/A	25	1"-12	3.8 in. (9.7 cm)	8.0 in. (20.3 cm)	350 / 2258	1.0 oz (28.7 g)	15.4 oz (455 ml)	100 PSI (689.6 kPa)
IN HW5710	N/A	10	1 1/2"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	383 / 2470	1.0 oz (27.6 g)	16.8 oz (498 ml)	100 PSI (689.6 kPa)
IN HW5725 (Obsolete)	PFHW5725	25	1 1/2"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	383 / 2470	1.1 oz (31.4 g)	16.8 oz (498 ml)	100 PSI (689.6 kPa)
IN HW51110	N/A	10	1 1/2"-16	5.0 in. (12.7 cm)	11.0 in. (27.9 cm)	689 / 4444	1.7 oz (49.6 g)	30.3 oz (896 ml)	100 PSI (689.6 kPa)
IN HW3510 (Obsolete)	N/A	10	1"-12	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	190 / 1226	0.5 oz (13.7 g)	8.4 oz (247 ml)	100 PSI (689.6 kPa)
IN HW3510A (Obsolete)	N/A	10	1 1/8"-16	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	190 / 1226	0.5 oz (13.7 g)	8.4 oz (247 ml)	100 PSI (689.6 kPa)
IN HW3825 (Obsolete)	N/A	25	1"-12	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	190 / 1226	0.6 oz (15.6 g)	8.4 oz (247 ml)	100 PSI (689.6 kPa)
IN HW3810 (Obsolete)	N/A	10	1"-12	3.8 in. (9.7 cm)	8.0 in. (20.3 cm)	350 / 2258	0.9 oz (25.2 g)	15.4 oz (455 ml)	100 PSI (689.6 kPa)
IN HW51125	N/A	25	1 1/2"-16	5.0 in. (12.7 cm)	11.0 in. (27.9 cm)	689 / 4444	2.0 oz (56.5 g)	30.3 oz (896 ml)	100 PSI (689.6 kPa)

Stainless Steel Mesh Filters

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Diameter	Length	Media Area Sq in. (Sq cm)	Solids Capacity	Water Capacity
IN HSSM57 (Obsolete)	N/A	100 Mesh	1 1/2"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	200 / 1290	N/A	N/A
IN HSSM511 (Obsolete)	N/A	100 Mesh	1 1/2"-16	5.0 in. (12.7 cm)	11.0 in. (27.9 cm)	315 / 3291	N/A	N/A

Micro Glass Filters

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Diameter	Length	Media Area Sq in. (Sq cm)	Solids Capacity	Water Capacity
IN HMG3606 (Obsolete)	N/A	6	1 1/2"-16	3.8 in. (9.7 cm)	6.0 in. (15.2 cm)	240 / 1548	0.6 oz (16.3 g)	N/A
IN HM5710 (Obsolete)	N/A	10	1 1/2"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	510 / 3291	2.0 oz (56.1 g)	N/A

Interceptor to Parfit Cross Reference Guide

Hydraulic Filters - Medium Pressure

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 housings lengths accept a 10 micron element with extended lengths providing longer element life and larger sump capacity.

Interceptor Part Number	ParFit Part Number	Flow Rate	Pressure	Element Length
IN HP60077 (Obsolete)	N/A	20.0 GPM (75.7 LPM)	3000 PSI (206 bar)	Standard
IN HP60080 (Obsolete)	N/A	20.0 GPM (75.7 LPM)	3000 PSI (206 bar)	Extended
IN HP60083 (Obsolete)	N/A	50.0 GPM (189.3 LPM)	3000 PSI (206 bar)	Standard
IN HP60086 (Obsolete)	N/A	50.0 GPM (189.3 LPM)	3000 PSI (206 bar)	Extended

Hydraulic Filter Heads

1. Specify L or R. L provides the standard color-coded bar restriction gauge on the side of the head with the flow direction going to your left. R has the flow going to the right.

2. MP signifies a multi-port head. The multi-ports are for an optional in-head vacuum gauge, such as the IN HG 15LF.

Interceptor Part Number	ParFit Part Number	Center Thread	Port Size	Flow Rate	Application	Bypass Setting	Restriction Gauge	Gauge Port	Maximum Operating Pressure
N/A	PFHH07500	1"-12	3/4" NPT	15 GPM (56 LPM)	N/A	N/A	N/A	N/A	175 PSI (12.1 bar)
N/A	PFFDH12500	1.5"-16	1.3" NPT	50 GPM (189 LPM)	N/A	N/A	Optional	1/8" NPT	100 PSI (6.9 bar)
IN HH07503 (Obsolete)	N/A	1"-12	3/4" NPT	15 GPM (56 LPM)	3500/3800 Series	3 PSI (0.2 bar)	Optional	1/8" NPT	175 PSI (12.1 bar)
IN HH07515	N/A	1"-12	3/4" NPT	15 GPM (56 LPM)	3500/3800 Series	15 PSI	Optional	1/8" NPT	175 PSI (12.1 bar)
IN HH07525	N/A	1"-12	3/4" NPT	15 GPM (56 LPM)	3500/3800 Series	25 PSI	Optional	1/8" NPT	175 PSI (12.1 bar)
IN HH07515MP ²	N/A	1"-12	3/4" NPT	15 GPM (56 LPM)	3500/3800 Series	15 PSI	Optional	1/8" NPT	175 PSI (12.1 bar)
IN HH07525MP ² (Obsolete)	N/A	1"-12	3/4" NPT	15 GPM (56 LPM)	3500/3800 Series	25 PSI	Optional	1/8" NPT	175 PSI (12.1 bar)
IN HH12515L ¹ (Obsolete)	N/A	1.5"-16	1.3" NPT	50 GPM (189 LPM)	5700/5100 Series	15 PSI	Standard	1/8" NPT	175 PSI (12.1 bar)
IN HH12515R ¹	N/A	1.5"-16	1.3" NPT	50 GPM (189 LPM)	5700/5100 Series	15 PSI	Standard	1/8" NPT	175 PSI (12.1 bar)
IN HH12525L (Obsolete)	PFFHH12525L ¹	1.5"-16	1.3" NPT	50 GPM (189 LPM)	5700/5100 Series	25 PSI	Standard	1/8" NPT	175 PSI (12.1 bar)

Interceptor to Parfit Cross Reference Guide

Hydraulic Filter Heads

- 1. Specify L or R. L provides the standard color-coded bar restriction gauge on the side of the head with the flow direction going to your left. R has the flow going to the right.**
- 2. MP signifies a multi-port head. The multi-ports are for an optional in-head vacuum gauge, such as the IN HG 15LF.**

Interceptor Part Number	ParFit Part Number	Center Thread	Port Size	Flow Rate	Application	Bypass Setting	Restriction Gauge	Gauge Port	Maximum Operating Pressure
IN HH12525R (Obsolete)	PFHH12525R ¹	1.5"-16	1.3" NPT	50 GPM (189 LPM)	5700/5100 Series	25 PSI	Standard	1/8" NPT	175 PSI (12.1 bar)
IN HH12515MP (Obsolete)	PFHH12515MP ²	1.5"-16	1.3" NPT	50 GPM (189 LPM)	5700/5100 Series	15 PSI	Optional	1/8" NPT	175 PSI (12.1 bar)
IN HH12525MP (Obsolete)	PFHH12525MP ²	1.5"-16	1.3" NPT	50 GPM (189 LPM)	5700/5100 Series	25 PSI	Optional	1/8" NPT	175 PSI (12.1 bar)

Replacement Pressure Gauge

IN HG15LF

Compound Pressure Vacuum Gauge

- **1.5" Dial, Liquid Filled,**
- **Stainless Steel Enclosure, and**
- **1/8"NPT Back Mount.**



Hydraulic Reservoir Breathers

RESERVOIR BREATHERS

Reservoir breather filters provide precision hydraulic components with special protection against wear particles and destructive moisture. These inherent contaminants can damage and destroy close tolerance pumps, motors, actuators, valves, and other hydraulic-driven parts. Their useful life can be severely reduced and expensive costs incurred for downtime and replacement parts. The use of reservoir breather filters

is especially critical in high humidity areas or where moisture is present near hydraulic systems.

Interceptor Hydraulic Reservoir Breather Filters contain a dual-purpose ten (10) micron media which removes both dirt and moisture from hydraulic reservoir air. The Spin-On design provides ease of service and they fit in most mobile, marine and off-highway applications.

Change the breather after each 500 hours of operation. More frequent replacement may be required when operated in heavily contaminated areas. Under such conditions, increase replacement frequency to every 250 hours.

Interceptor to Parfit Cross Reference Guide

Reservoir Breather Adapters

Reservoir Breathers

Reservoir breather filters provide precision hydraulic components with special protection against wear particles and destructive moisture. These inherent contaminants can damage and destroy close tolerance pumps, motors, actuators, valves, and other hydraulic-driven parts. Their useful life can be severely reduced and expensive costs incurred for downtime and replacement parts. The use of reservoir breather filters is especially critical in high humidity areas or where moisture is present near hydraulic systems.

Interceptor Hydraulic Reservoir Breather Filters contain a dual-

purpose ten (10) micron media which removes both dirt and moisture from hydraulic reservoir air. The Spin-On design provides ease of service and they fit in most mobile, marine and off-highway applications.

Change the breather after each 500 hours of operation. More frequent replacement may be required when operated in heavily contaminated areas. Under such conditions, increase replacement frequency to every 250 hours.

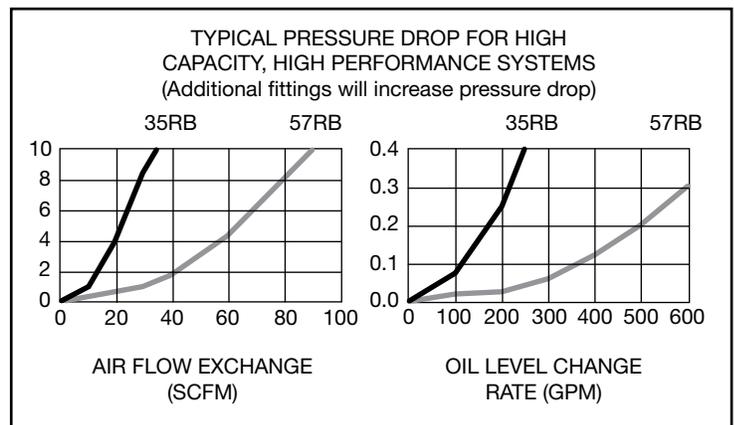
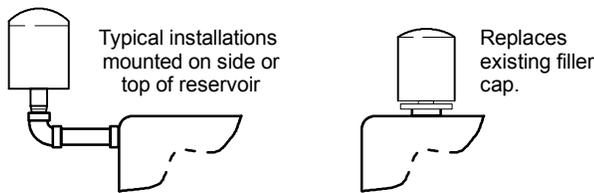
Interceptor simplifies installation to the tank with the use of adapters which include O-rings for an air-tight seal and are listed for all Interceptor Reservoir Breathers below. A pipe

flange, weld collar, etc. may be used to connect the adaptor to the reservoir, if needed. Make sure that air is not able to leak around the adaptor. When mounting on the side of the reservoir, the installation should be as high as possible to stay above the surface of the fluid. See illustrations below.

Selection

Find the maximum rate of reservoir drawdown or air flow exchange rate for your application. As a rule, clean pressure drop should be limited to 0.18 psid (5" H₂O).

Use the graphs shown, if applicable.



Specifications

Interceptor Part Number	ParFit Part Number	Micron Rating	Center Thread	Filter Diameter	Filter Length	Media Area (Sq. in./cm)	Solids Capacity	Water Capacity
IN HW33RB (Obsolete)	N/A	10	3/4"-16	3.0 in. (7.6 cm)	3.0 in. (7.6 cm)	60 / 387	0.2 oz (4.3 g)	2.6 oz (78 ml)
IN HW35RB (Obsolete)	N/A	10	1"-16	3.8 in. (9.7 cm)	5.0 in. (12.7 cm)	190 / 1226	0.5 oz (13.7 g)	8.4 oz (247 ml)
IN HW57RB	N/A	10	1.5"-16	5.0 in. (12.7 cm)	7.0 in. (17.8 cm)	383 / 2470	1.0 oz (27.6 g)	16.8 oz (498 ml)

Turbine Series

Turbine Series



500FG



900FH



75500FGX



75900FHX

Turbine Series

Turbine Series filter assemblies are designed to be installed on the vacuum side of the fuel transfer pump for best efficiency and protect precision engine components from dirt, rust, algae, asphaltines, varnishes, and especially water which is prevalent in engine fuels. They remove contaminants from fuel using the following legendary three stage process.

Stage One: Separation

As fuel enters the filter assembly, it moves through the centrifuge and spins off large solids and water droplets which fall to the bottom of the collection bowl.

Stage Two: Coalescing

Small water droplets bead-up on the surface of the conical baffle and cartridge element. When heavy enough, they too fall to the bottom of the bowl.

Stage Three: Filtration

Proprietary Aquabloc® II cartridge elements repel water and remove contaminants from fuel down to two micron (nominal). They are waterproof and effective longer than water absorbing elements.

Features and Benefits

- Available in several sizes to fit any application.
- Heavy duty construction.
- Installs quickly.
- Available in 2, 10, and 30 micron.
- Easy to service.
- Clear collection bowl
- Self-venting water drain.

Optional accessories may include: water detection kits, 12 or 24 volt dc heaters, heavy-duty fuel hose and fittings. see Accessories section.



771000FHX



1000FH

Turbine Series Overview



Specifications	500FG	900FH	1000FH
Maximum Flow Rate: (one unit online) (two units online) (three units online)	60 GPH (227 LPH) N/A N/A	90 GPH (341 LPH) N/A N/A	180 GPH (681 LPH) N/A N/A
Port Size (female threads)	3/4"-16 UNF (SAE J1926)	7/8"-14 UNF (SAE J1926)	7/8"-14 UNF (SAE J1926)
Min. Service Clearance: (above assembly) (below assembly)	5.0 in. (12.7 cm) 2.0 in. (5.1 cm)	7.5 in. (19.1 cm) 2.0 in (5.1 cm)	10.0 in. (25.4 cm) 2.0 in. (5.1 cm)
Replacement Element: (2 micron) (10 micron) (30 micron)	(1 Per Assembly) 2010SM-OR 2010TM-OR 2010PM-OR	(1 Per Assembly) 2040SM-OR 2040TM-OR 2040PM-OR	(1 Per Assembly) 2020SM-OR 2020TM-OR 2020PM-OR
Height	11.5 in. (29.2 cm)	17.0 in. (43.2 cm)	22.0 in. (55.9 cm)
Depth	4.8 in. (12.2 cm)	7.0 in. (17.8 cm)	7.0 in. (17.8 cm)
Width	5.8 in. (14.7 cm)	6.0 in. (15.2 cm)	6.0 in. (15.2 cm)
Weight (dry)	4.0 lb (1.8 kg)	6.0 lb (2.7 kg)	10.0 lb (4.5 kg)
Clean Pressure Drop	0.25 PSI (1.7 kPa)	0.30 PSI (2.1 kPa)	0.43 PSI (3.0 kPa)
Maximum Pressure¹	15 PSI (1 bar)	15 PSI (1 bar)	15 PSI (1 bar)
Water In Bowl Capacity: (per bowl)	3.7 oz (109 ml)	10.3 oz (305 ml)	10.3 oz (305 ml)
Available Options:² (water detection kit) (12 or 24 volt dc heater) (vacuum gauge)	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes
H₂O Removal Efficiency	99%		
Operating Temperature	-40° to +255°F / -40° to +124°C		

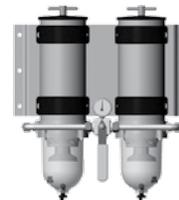
¹ Pressure installations are applicable up to the maximum PSI shown. Vacuum installations are recommended.

² Not for use on gasoline applications.

Note: Units with 1/2" NPT ports are available, contact the factory.

Turbine Series

Turbine Series Overview



Specifications	75500FGX	75900FHX	751000FHX
Maximum Flow Rate: (one unit online) (two units online) (three units online)	60 GPH (227 LPH) 120 GPH (454 LPH) N/A	90 GPH (341 LPH) 180 GPH (681 LPH) N/A	180 GPH (681 LPH) 360 GPH (1363 LPH) N/A
Port Size	3/4"-16 UNF (SAE J1926 female threads)	7/8"-14 UNF (SAE J514 male threads)	7/8"-14 UNF (SAE J514 male threads)
Min. Service Clearance: (above assembly) (below assembly)	5.0 in. (12.7 cm) 2.0 in. (5.1 cm)	7.5 in. (19.1 cm) 2.0 in. (5.1 cm)	10.0 in. (25.4 cm) 2.0 in. (5.1 cm)
Replacement Element: (2 micron) (10 micron) (30 micron)	(2 Per Assembly) 2010SM-OR 2010TM-OR 2010PM-OR	(2 Per Assembly) 2040SM-OR 2040TM-OR 2040PM-OR	(2 Per Assembly) 2020SM-OR 2020TM-OR 2020PM-OR
Height	11.5 in. (29.2 cm)	17.0 in. (43.2 cm)	22.0 in. (55.9 cm)
Depth	9.5 in. (24.1 cm)	11.0 in. (27.9 cm)	11.0 in. (27.9 cm)
Width	14.5 in. (36.8 cm)	18.8 in. (47.8 cm)	18.8 in. (47.8 cm)
Weight (dry)	17.0 lb (7.7 kg)	23.0 lb (10.4 kg)	30.0 lb (13.6 kg)
Clean Pressure Drop	0.7 PSI (4.8 kPa)	1.7 PSI (11.7 kPa)	3.7 PSI (25.5 kPa)
Maximum Pressure¹	15 PSI (1 bar)	15 PSI (1 bar)	15 PSI (1 bar)
Water In Bowl Capacity: (per bowl)	3.7 oz (109 ml)	10.3 oz (305 ml)	10.3 oz (305 ml)
Available Options:² (water detection kit) (12 or 24 volt dc heater) (vacuum gauge)	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes
H₂O Removal Efficiency	99%		
Operating Temperature	-40° to +255°F / -40° to +124°C		

¹ Pressure installations are applicable up to the maximum PSI shown. Vacuum installations are recommended.

² Not for use on gasoline applications.

Note: Units with 1/2" NPT ports are available, contact the factory.

How to Order

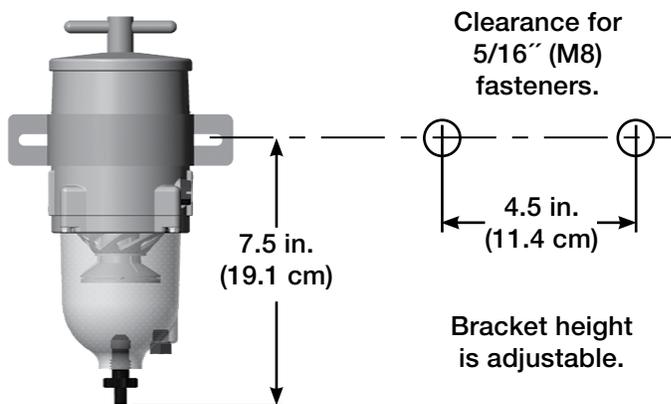
(The example below illustrates how part numbers are constructed.)

500FG	12	2
Specify 500FG for 3/4"-16 UNF ports or *500FG for 16M ports.	Add 12 for a 12 volt dc heater or 24 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 150 watt heater, use with a Racor relay kit - see Accessories.		

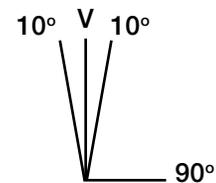
Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2010SM-OR	2010TM-OR	2010PM-OR

All 2010 Series filters are 2.7" tall by 3.1" in diameter.
Not all configurations are available - contact Technical Support for more information.

Mounting Instructions



Note: Mount filter assembly as close to vertical (V) as possible. For best efficiency, do not exceed 10° from V.

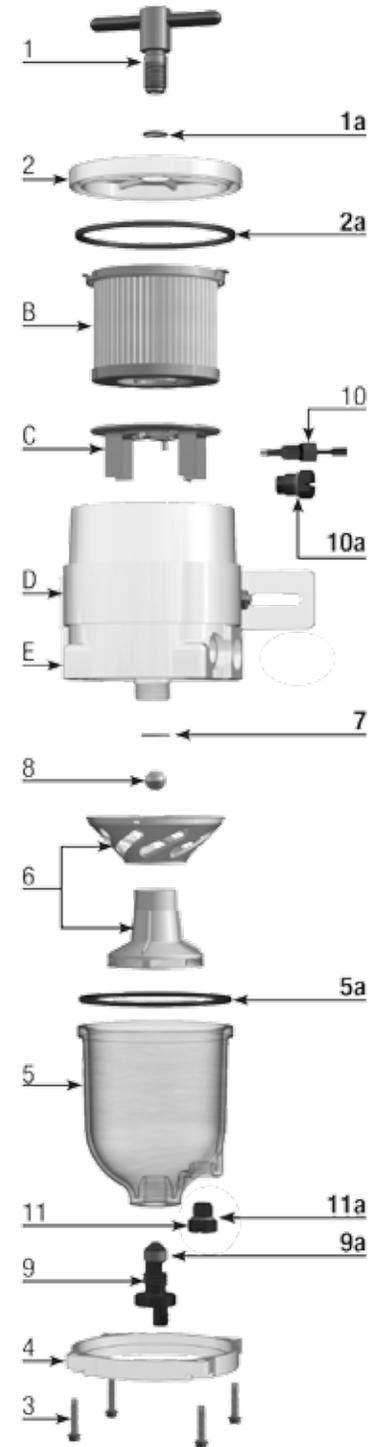


Turbine Series

Replacement Parts

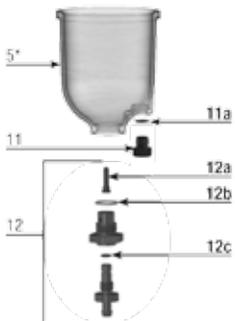
500FG

Part Number	Description
1 RK 11888	T-handle and O-ring Kit (9/16"-18 UNF Threads) <i>Hand Tighten</i>
1a 11350	T-handle O-ring
2 RK 15078 (FG)	Lid Kit
2a 15005	Lid Seal
B 2010SM-OR (2 micron) 2010TM-OR (10 micron) 2010PM-OR (30 micron)	Replacement Filter (All Models)
C RK 15383-01	Heater Kit (12 vdc, 300 watt)
RK 15383-02	Heater Kit (24 vdc, 300 watt)
3 RK 15081	Bowl Fasteners (4) Tighten to 60 in. lbs (6.78 Nm)
4 RK 15065 (FG)	Bowl Ring Kit
5 RK15405 (FG>2002) RK 15279-01 (FG<2002)	Clear Bowl Kit (includes 5, 5a, 9, 9a, 11 & 11a)/Clear Bowl Kit (includes 5*, 5a, 11 & 11a)
5a 15374	Bowl Seal
6 RK 15013D	Turbine Centrifuge and Conical Baffle Kit Hand Tighten
7 (not sold seperately)	Check Ball Seal
8 RK 15010B	Check Ball Kit (includes 7)
9 RK 30476 (FG>2002)	Self-venting Drain Kit tighten to 30 in. lbs (3.39 Nm)
9a (not sold seperately)	Drain Gasket
10 RK 21067	Heater Feedthru Kit Tighten to 15 in. lbs (1.69 Nm)
RK 11-1679	Feed-thru Plug Kit Tighten to 15 in. lbs (1.69 Nm)
10a 43506	Feed-thru or plug O-ring
11 RK 21069	Water Probe Kit Tighten to 15 in. lbs (1.69 Nm)
RK 20126 (FG)	Bowl Plug Kit Tighten to 15 in. lbs (1.69 Nm)
11a (not sold seperately)	Water Probe or Plug O-ring
12 RK 11780 (FG<1993)	Drain Assembly Kit
12a (not sold seperately)	Drain Seal (Finger)
12b (not sold seperately)	Drain Body O-ring
12c (not sold seperately)	Drain O-ring
13 RK 30488 (FG 1994-2002)	Drain Assembly
9a (not sold seperately)	Drain Gasket
12b (not sold seperately)	Drain Body O-ring
D RK 15378 (FG)	Clamp Bracket Kit
RK 11838	Carraige Bolt Kit
E (not sold seperately)	500 Body/Housing

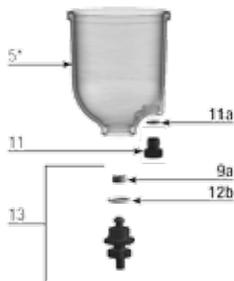


Drain Configurations

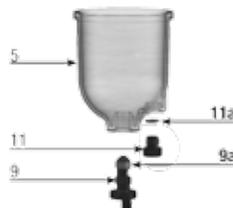
RK 11780 Drain Kit (1993 & Older)



RK 30488 Drain Kit (1994-2002)



RK 30476 Drain Kit (2002-Current)



How to Order

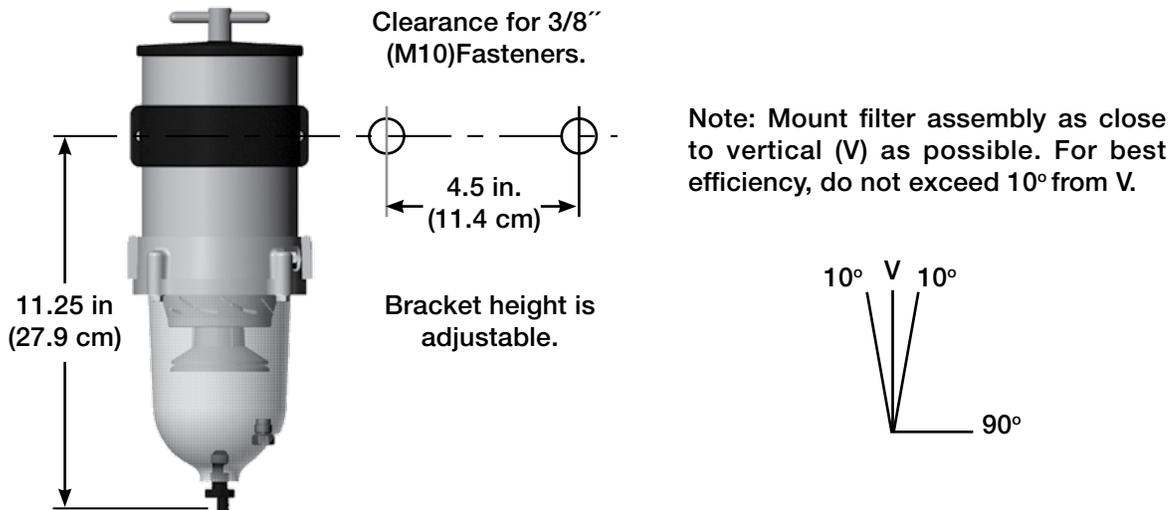
(The example below illustrates how part numbers are constructed.)

900FH	312	2
Specify 900FH for 7/8"-14 UNF ports or 902FH for 22M ports.	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2040SM-OR	2040TM-OR	2040PM-OR

All 2040 Series filters are 4.6" tall by 4.7" in diameter.
 Not all configurations are available - contact Technical Support for more information.

Mounting Instructions



Turbine Series

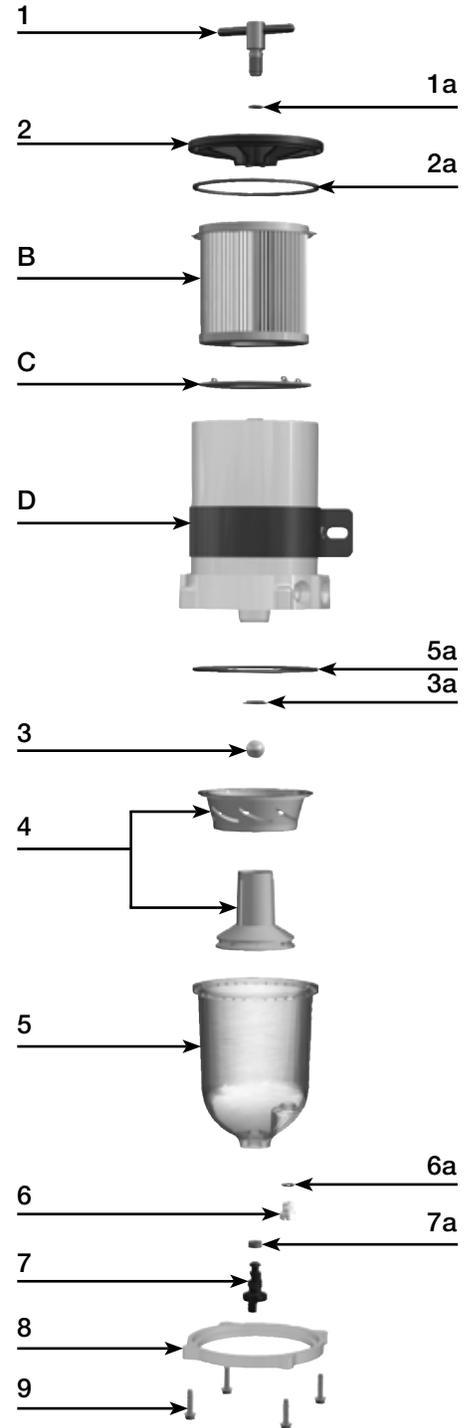
Replacement Parts

900FH

		Description
1	RK 11-1945	T-handle and O-ring Kit (9/16"-18 UNF Threads) <i>Hand Tighten</i>
1a	11350	T-handle O-ring
2	RK 11-1927-01	Lid and Gasket Kit
2a	11007	Lid and Bowl Gasket
B	2040SM-OR (2 micron) 2040TM-OR (10 micron) 2040PM-OR (30 micron)	Replacement Filter (All Models)
C	RK 11-1800-01	Heater Kit (12 vdc, 300 watt)
	RK 11-1800-02	Heater Kit (24 vdc, 300 watt)
D	RK11-2005	Mounting Bracket hardware included
3	RK 11028B	Check Ball and Spring Kit (includes 7)
3a	<i>(not sold seperately)</i>	Check Ball Seal
4	RK 15013D	Turbine Centrifuge and Conical Baffle Kit Hand Tighten
5	RK 11-1938	Clear Bowl Kit (includes 5, 5a, 6, 6a, 7 & 7a)
5a	15374	Bowl Seal
6	RK 20126	Water Probe Bowl Plug Kit
6a	<i>(not sold seperately)</i>	Water Probe or Plug O-ring
7	RK 30476 (FG>2002)	Self-venting Drain Kit tighten to 30 in. lbs (3.39 Nm)
7a	<i>(not sold seperately)</i>	Drain Gasket
8	RK 11037A	Bowl Ring Kit
9	RK 11542	Bowl Fasteners (4) Tighten to 60 in. lbs (6.78 Nm)
N/A	RK 11-1978	Check Ball and Spring Kit not shown see note 3
N/A	RK 11-1939	Centrifuge/Conical Baffle Kit
N/A	RK 32204	Water Sensor Probe Kit

Notes:

- ¹ In-filter heater kits require a Heater Relay Kit - see Accessories section of this catalog. Maximum power requirements for in-filter heaters are: 25 amps for 12 vdc and 12.5 amps for 24 vdc.
- ² Water probe must be used with Water Detection Kit - see Accessories section of this catalog. Water probe features a detachable harness connector.
- ³ Spring Kit on all 900 or 1000 Turbine Series fuel filter/water separator assemblies for those applications with insufficient back pressure. Do Not use this kit on 500 Turbine Series assemblies.



How to Order

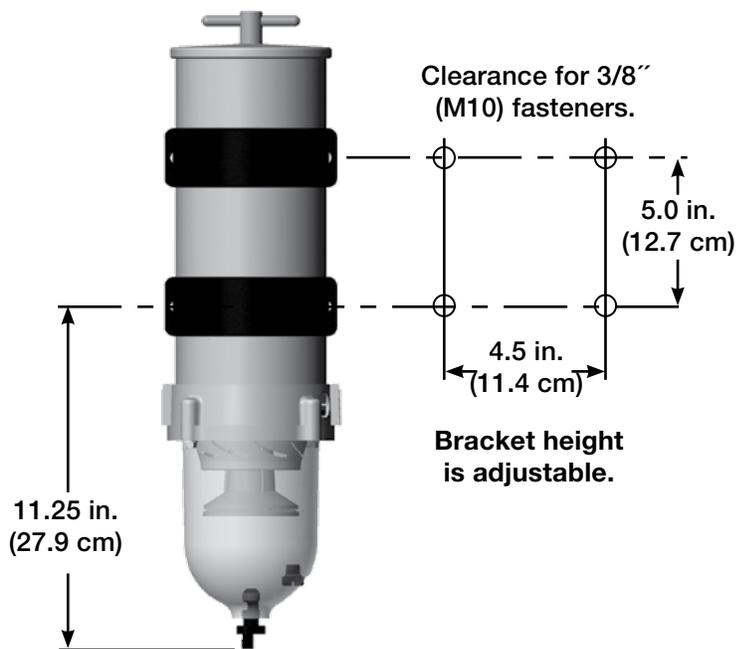
(The example below illustrates how part numbers are constructed.)

1000FH	312	2
Specify 1000FH for 7/8"-14 UNF ports or 1002FH for 22M ports.	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

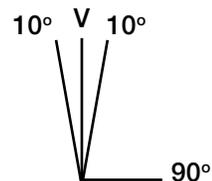
Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2020SM-OR	2020TM-OR	2020PM-OR

All 2020 Series filters are 9.6" tall by 4.7" in diameter.
 Not all configurations are available - contact Technical Support for more information.

Mounting Instructions



Note: Mount filter assembly as close to vertical (V) as possible. For best efficiency, do not exceed 10° from V.



Turbine Series

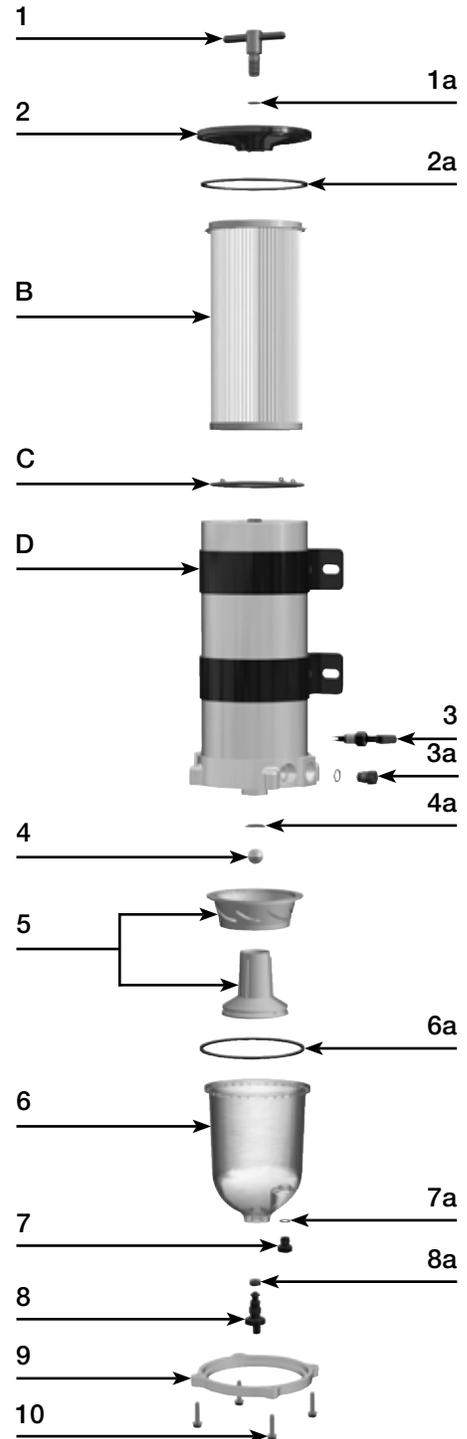
Replacement Parts

1000FH

Part Number	Description
1 RK 11-1945	T-handle and O-ring Kit (9/16"-18 UNF Threads) <i>Hand Tighten</i>
1a 11350	T-handle O-ring
2 RK 11-1927-01	Lid and Gasket Kit
2a 11007	Lid and Bowl Gasket
B 2020SM-OR (2 micron) 2020TM-OR (10 micron) 2020PM-OR (30 micron)	Replacement Filter (All Models)
C RK 11-1800-01	Heater Kit (12 vdc, 300 watt)
RK 11-1800-02	Heater Kit (24 vdc, 300 watt)
D RK11-2005	Mounting Bracket hardware included
3 RK 201067	Feed Thru Assy for Heater
3a RK 11-1679	Feed Thru Plug
4 RK 11028B	Check Ball Kit (includes 4a)
4a (not sold separately)	Check Ball Seal
5 RK 11-1939	Turbine Centrifuge and Conical Baffle Kit <i>Hand Tighten</i>
6 RK 11-1938	Clear Bowl Kit (includes bowl, drain, bowl gasket and plug kit)
6a 11007	Lid and Bowl Gasket
7 RK 21026	Water Probe Port Plug Kit
7a 43506	Feed-thru or Plug O-ring
8 RK 30476 (FG>2002)	Self-venting Drain Kit tighten to 30 in. lbs (3.39 Nm)
8a (not sold separately)	Drain Gasket
9 RK 11037A	Bowl Ring Kit (5" diameter)
10 RK 11542	Bowl Fasteners (4) Tighten to 60 in. lbs (6.78 Nm)
N/A RK 11-1952	Complete Seal Service Kit (not shown)
N/A RK11-1978	Checkball and Spring Kit (not shown)

Notes:

- ¹ In-filter heater kits require a Heater Relay Kit - see Accessories section of this catalog. Maximum power requirements for in-filter heaters are: 25 amps for 12 vdc and 12.5 amps for 24 vdc.
- ² Water probe must be used with Water Detection Kit - see Accessories section of this catalog. Water probe features a detachable harness connector.
- ³ Spring Kit on all 900 or 1000 Turbine Series fuel filter/water separator assemblies for those applications with insufficient back pressure. Do Not use this Kit on 500 Turbine Series assemblies.



How to Order

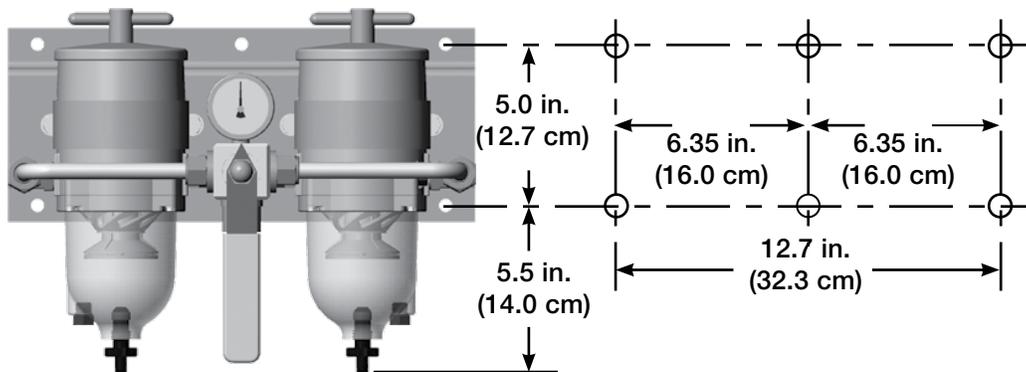
(The example below illustrates how part numbers are constructed.)

75500FGX	12	2
Base model with 3/4"-16 UNF fuel ports (SAE J1926)	Add 12 for a 12 volt dc heater or 24 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 150 watt heater, use with a Racor relay kit - see Accessories.		

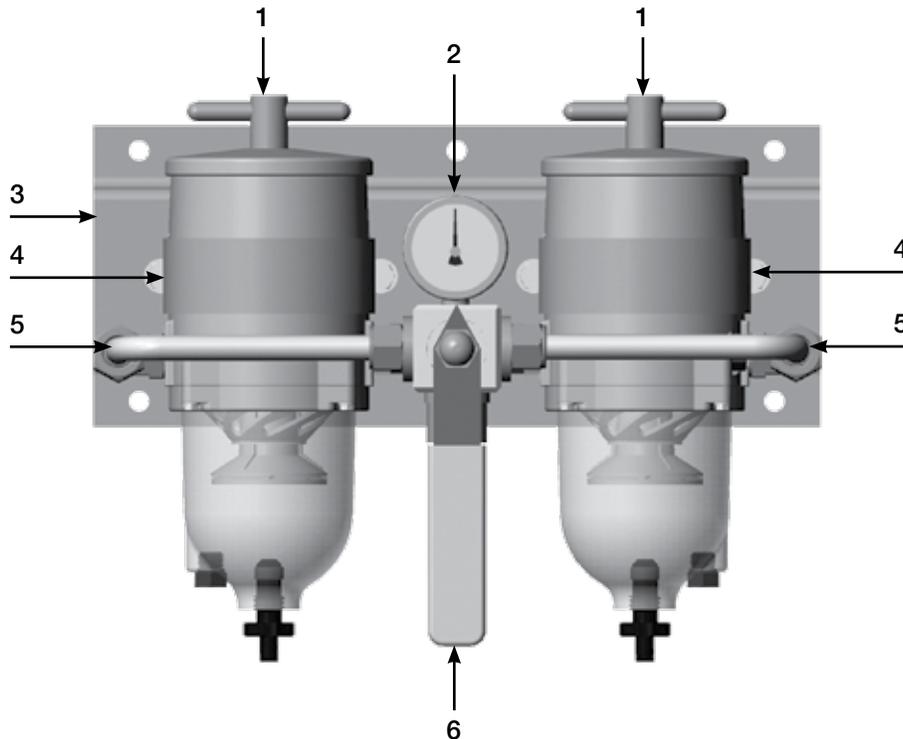
Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2010SM-OR	2010TM-OR	2010PM-OR

Note: 75500FGX assemblies use TWO elements (one per 500FG housing).
Not all configurations are available - contact Technical Support for more information.

Mounting Instructions



Turbine Series



Replacement Parts

75500FGX

<u>Part Number</u>	<u>Description</u>
1. 500FG	See 500FG Replacement Parts List
2. RK11-1676E	Gauge Assembly Kit
3. RK 15329	Main Bracket Kit
4. RK 15378	Housing Bracket
RK 11838	Housing Bracket Hardware (5/16"-18, not shown)
5. RK 15391	Rigid Tubing and Fittings Kit
6. RK 15390	Heavy-Duty Valve Assembly Kit
RK15419	

How to Order

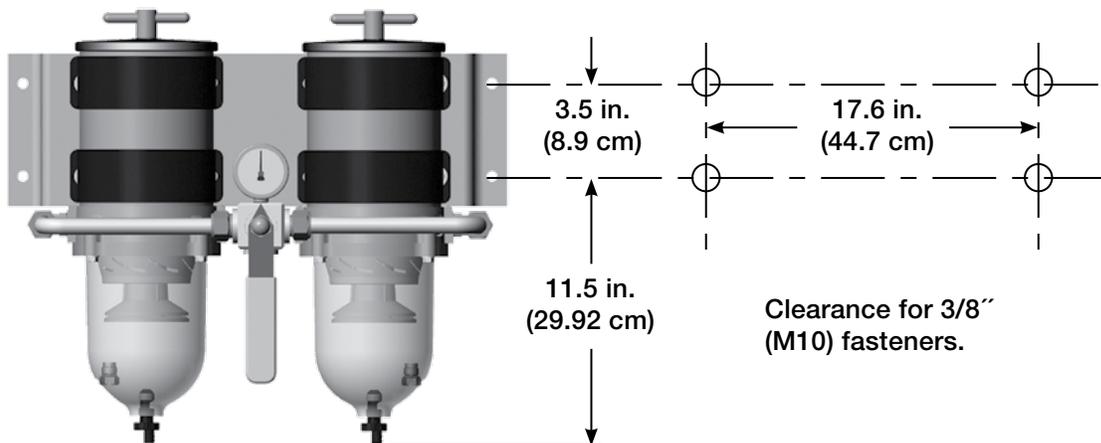
(The example below illustrates how part numbers are constructed.)

75900FHX	312	2
Base model with 7/8"-14 UNF fuel ports (SAE J514)	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

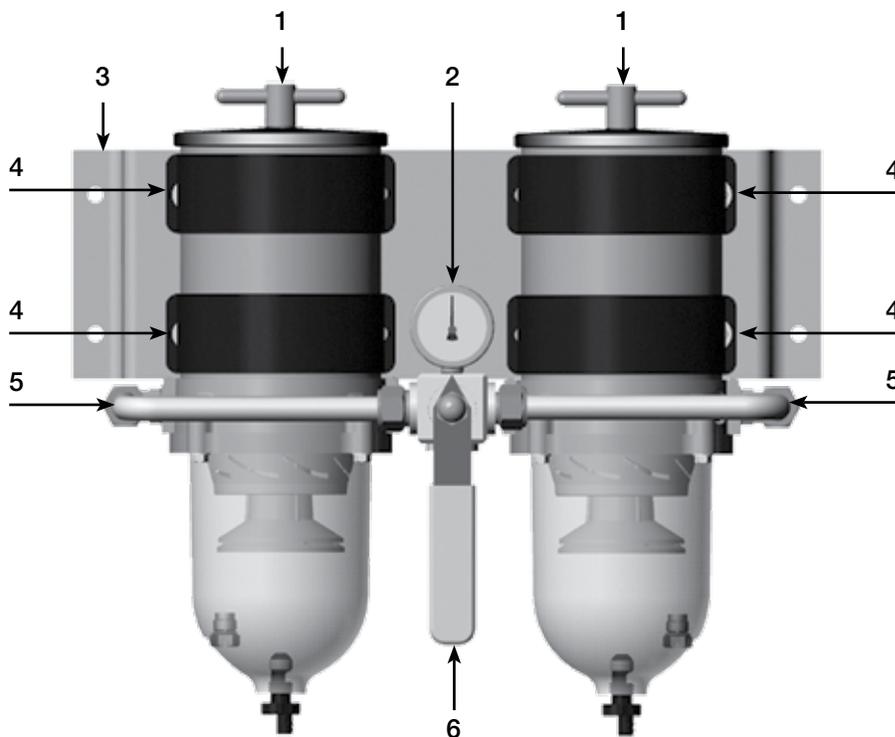
Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2040SM-OR	2040TM-OR	2040PM-OR

Note: 75900FHX assemblies use TWO elements (one per 900FH housing).
 Not all configurations are available - contact Technical Support for more information.

Mounting Instructions



Turbine Series



Replacement Parts

75900FHX

Part Number	Description
1. 900FH	See 900FH Replacement Parts List
2. RK11-1676E	Gauge Assembly Kit
3. RK 19486	Main Bracket Kit
4. RK 11815-103	Housing Bracket (includes hardware)
5. RK 19475	Rigid Tubing and Fittings Kit
6. RK 19473	Valve Assembly Kit
RK 19506	Valve Service Kit (not shown)

How to Order

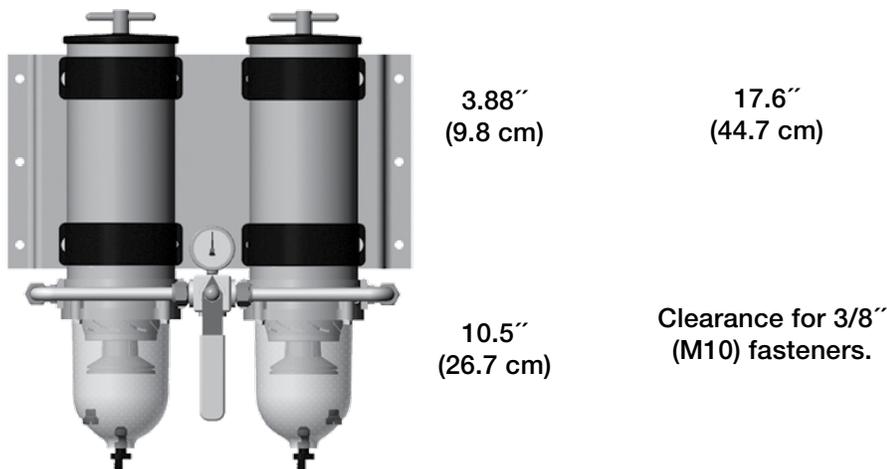
(The example below illustrates how part numbers are constructed.)

751000FHX	312	2
Model with 7/8"-14 UNF fuel ports (SAE J514).	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

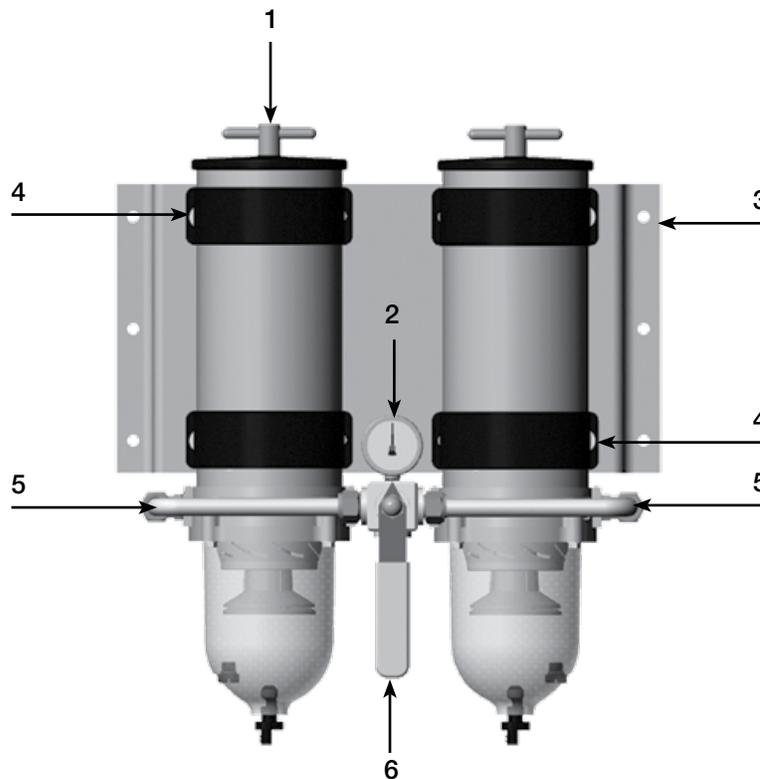
Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2020SM-OR	2020TM-OR	2020PM-OR

Note: 751000FHX assemblies use TWO elements (one per 1000FH housing).
Not all configurations are available - contact Technical Support for more information.

Mounting Instructions



Turbine Series



Replacement Parts

751000FHX

<u>Part Number</u>	<u>Description</u>
1. 1000FH	See 1000FH Replacement Part List
2. RK11-1676E	Gauge Assembly Kit
3. RK 11-1777	Main Bracket Kit
4. RK 11815-103	Housing Bracket (includes hardware)
5. RK 19475	Rigid Tubing and Fittings Kit
6. RK 19473	Valve Assembly Kit
RK 19506	Valve Service Kit (not shown)

Turbine Series Overview



Specifications	731000FH	771000FH	791000FHV
Maximum Flow Rate: (one unit online) (two units online) (three units online)	N/A 360 GPH (1363 LPH) N/A	N/A N/A 540 GPH (2044 LPH)	180 GPH (681 LPH) 360 GPH (1363 LPH) 540 GPH (2044 LPH)
Port Size (male threads)	3/4"-14 NPT (SAE J476)	1"-11.5 NPT (SAE J476)	3/4"-14 NPT (SAE J476)
Min. Service Clearance: (above assembly) (below assembly)	10.0 in. (25.4 cm) 2.0 in. (5.1 cm)	10.0 in. (25.4 cm) 2.0 in. (5.1 cm)	10.0 in. (25.4 cm) 2.0 in. (5.1 cm)
Replacement Element: (2 micron) (10 micron) (30 micron)	(2 Per Assembly) 2020SM-OR 2020TM-OR 2020PM-OR	(3 Per Assembly) 2020SM-OR 2020TM-OR 2020PM-OR	(3 Per Assembly) 2020SM-OR 2020TM-OR 2020PM-OR
Height	22.0 in. (55.9 cm)	22.0 in. (55.9 cm)	22.0 in. (55.9 cm)
Depth	12.0 in. (30.5 cm)	12.0 in. (30.5 cm)	11.8 in. (30.0 cm)
Width	16.5 in. (41.9 cm)	21.5 in. (54.6 cm)	21.5 in. (54.6 cm)
Weight (dry)	26.0 lb (11.8 kg)	39.0 lb (17.7 kg)	52.0 lb (23.6 kg)
Clean Pressure Drop	1.7 PSI (11.7 kPa)	1.7 PSI (11.7 kPa)	2.5 PSI (17.2 kPa)
Maximum Pressure¹	15 PSI (1 bar)	15 PSI (1 bar)	15 PSI (1 bar)
Water (per bowl) Capacity:	10.3 oz (305 ml)	10.3 oz (305 ml)	10.3 oz (305 ml)
Available Options:² (water detection kit) (12 or 24 vdc heater) (vacuum gauge)	Yes Yes Yes	Yes Yes Yes	Yes Yes Yes
H₂O Removal Efficiency	99%		
Operating Temperature	-40° to +255°F / -40° to +124°C		

¹Pressure installations are applicable up to the maximum PSI shown. Vacuum installations are recommended.

²Not for use on gasoline applications. Note: Units with 1/2" NPT ports are available, contact the factory.

Turbine Series

How to Order

(The example below illustrates how part numbers are constructed.)

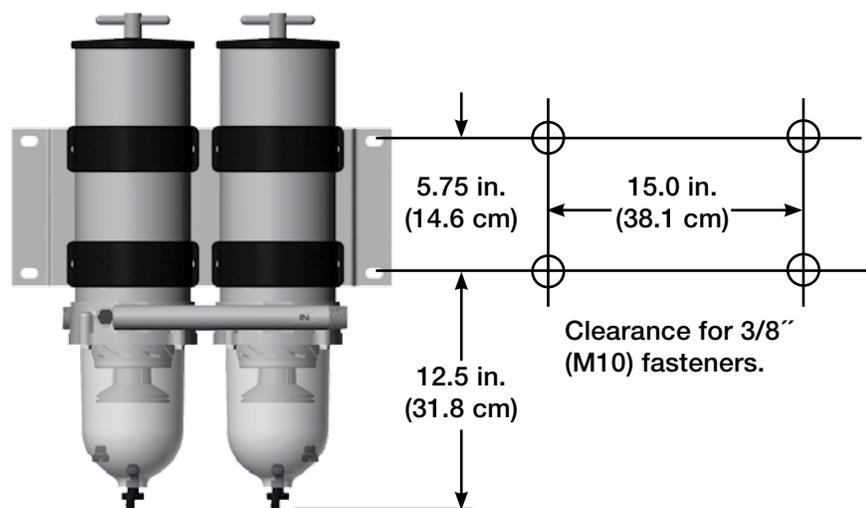
731000FH	312	2
Base model with 3/4"-14 UNF fuel ports (SAE J514).	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2020SM-OR	2020TM-OR	2020PM-OR

Note: 731000FH assemblies use TWO elements (one per 1000FH housing).

Not all configurations are available - contact Technical Support for more information.

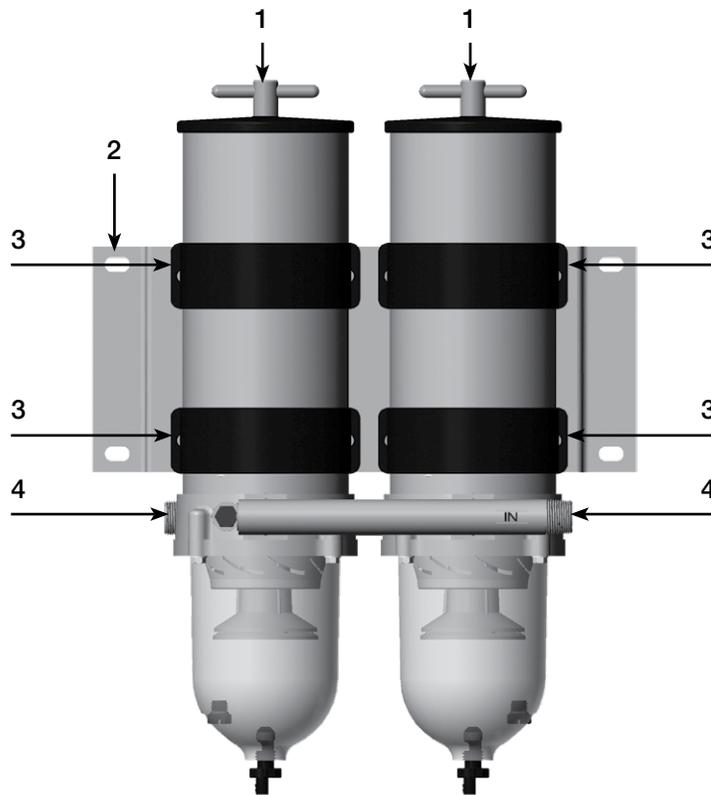
Mounting Instructions



Replacement Parts

731000FH

	<u>Part Number</u>	<u>Description</u>
1.	1000FH	See 1000FH Replacement Parts List
2.	11065	Main Bracket
3.	RK 11815-103	Housing Bracket (includes hardware)
4.	RK 11892	Inlet or Outlet Manifold Tube (with 3/4"-16 NPT threads)



Turbine Series

How to Order

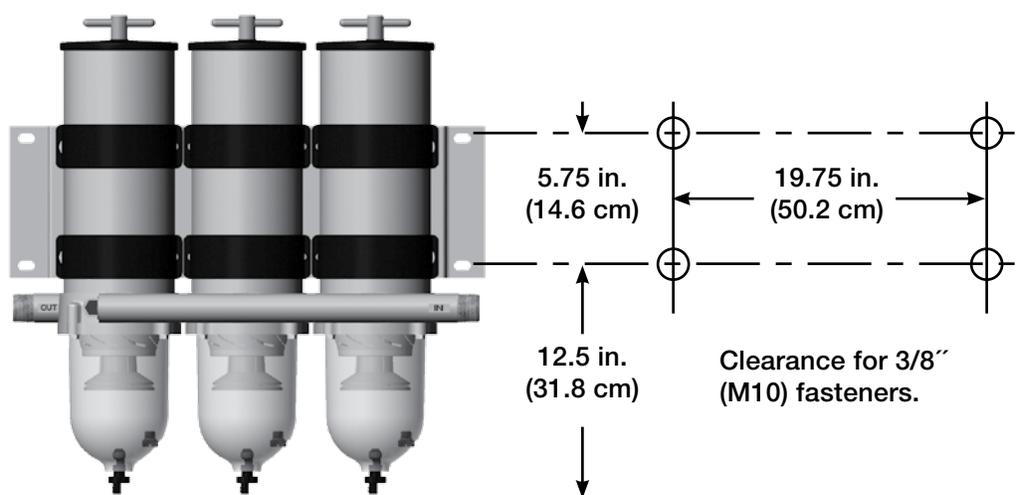
(The example below illustrates how part numbers are constructed.)

771000FH	312	2
Base metal with 1"-11 1/2 NPT fuel ports (SAE J476).	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2020SM-OR	2020TM-OR	2020PM-OR

Note: 771000FH assemblies use THREE elements (one per 1000FH housing).
Not all configurations are available - contact Technical Support for more information.

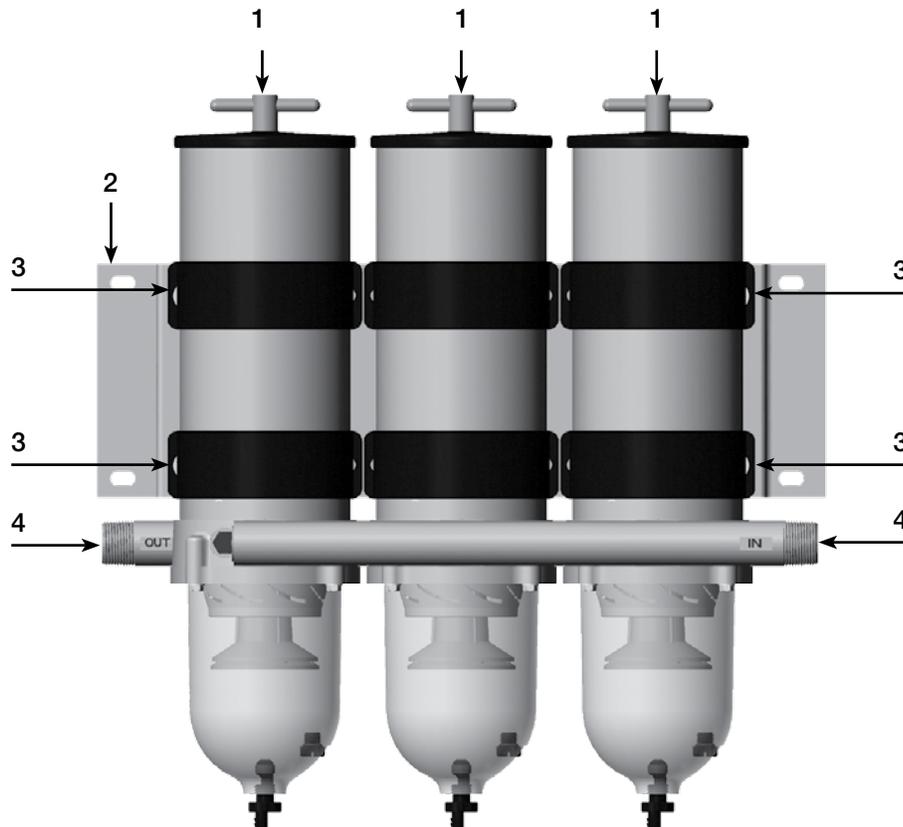
Mounting Instructions



Replacement Parts

771000FH

<u>Part Number</u>	<u>Description</u>
1. 1000FH	See 1000FH Replacement Parts List
2. 18998	Main Bracket Kit
3. RK 11815-103	Housing Bracket (includes hardware)
4. 11076	Inlet or Outlet Manifold Tube (with 1"-11 1/2 NPT threads)



Turbine Series

How to Order

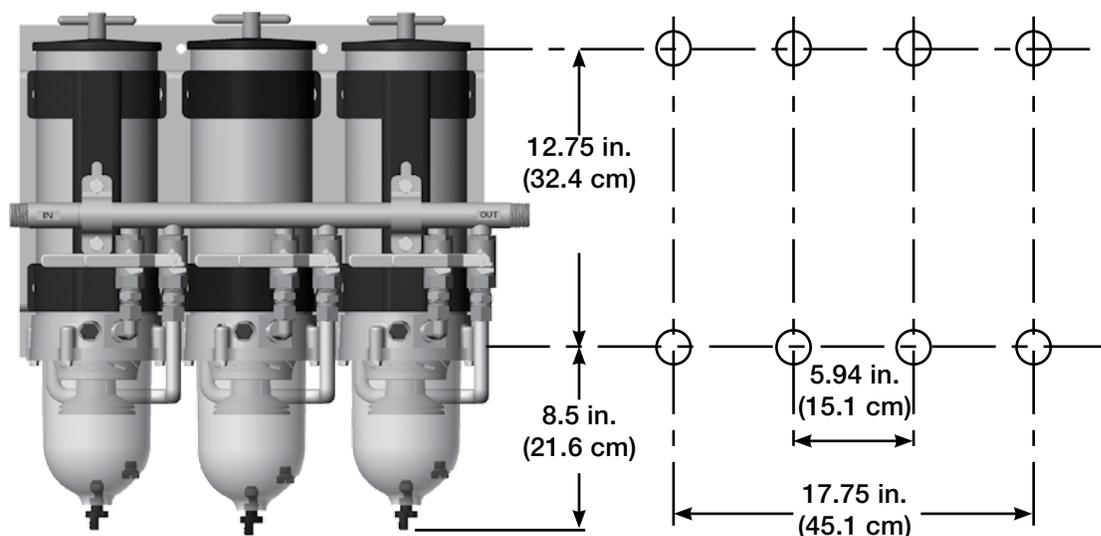
(The example below illustrates how part numbers are constructed.)

791000FHV	312	2
Base model with 3/4"-14 NPT fuel ports (SAE J476).	Add 312 for a 12 volt dc heater or 324 for a 24 volt dc heater ¹ . (omit if not desired)	Specify a micron rating: 2, 10, or 30.
¹ 300 watt heater, use with a Racor relay kit - see Accessories.		

Replacement Elements (seals included)		
2 micron (Final Filtration)	10 micron (Secondary Filtration)	30 micron (Primary Filtration)
2020SM-OR	2020TM-OR	2020PM-OR

Note: 791000FHV assemblies use THREE elements (one per 1000FH housing).
Not all configurations are available - contact Technical Support for more information.

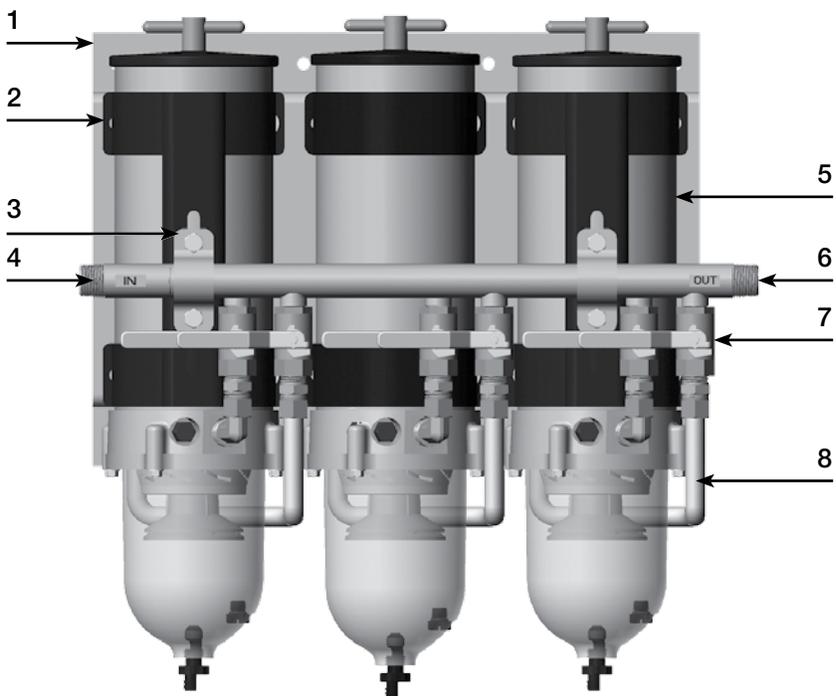
Mounting Instructions



Replacement Parts

791000FHV

<u>Part Number</u>	<u>Description</u>
1. 11-1632	Main Bracket
2. RK11-2007	Clamp Bracket Kit
3. 11-1761	'U' Bracket Kit
4. 19460	Inlet Manifold Kit
5. 1000FH	See 1000FH Replacement Parts List
6. 19461	Outlet Manifold Kit
7. RK 11073	1/2" Ball Valve Kit
8. 11-1626	Formed Tubing Kit



Turbine Series

Troubleshooting

New filter installations must be filled with fuel and the fuel system must be adequately primed following the engine manufacturer's recommendations. Existing installation difficulties are usually associated with improper priming procedures or damage to the unit or fuel system. The result is either internal air suction or external fuel leakage. Diagnose with the following steps:

- 1. Check fuel tank level and verify fuel delivery valves are open.**
- 2. Verify T-handle, bowl fasteners and fuel fittings are tight and bowl drain is closed.**
- 3. If element is new, check potential restriction at fuel tank draw tube. An in-tank strainer may be plugged.**
- 4. Review other troubleshooting instructions to uncover other solutions.**

Correct external fuel leaks immediately! These conditions result in reduced engine performance such as: hard starting, stalling, reduced power and fire hazards.

Correct Application

It is very important that Turbine Series filter assemblies are not 'under specified' for the application. The maximum fuel flow rating of the filter assembly must not be exceeded; doing so will reduce efficiency and de-gas (pull air from) the fuel.

Filter Elements

Replacement elements are available in 2, 10 and 30 micron ratings (nominal). Filtration needs are based on application, fuel quality,

maintenance schedules and operating climates. A simple rule to remember is... the finer the filtration, the more frequent the filter change interval.

Always carry extra replacement elements with your equipment as one tankful of excessively contaminated fuel can plug an element quickly.

When clogged to maximum capacity, elements will have a brown to black color or tar like contaminants may be present - this is normal.

An appearance of a multi-colored slime (which may have a foul odor) is an indication of microbiological contamination. This condition must be treated immediately. Racor offers a wide variety of gasoline and diesel additives to prevent and treat these problems; see 'Additives' section of this catalog. Severe conditions must be corrected by a repair facility.

Never operate a filter assembly without the element in place. The element safety valve on the fuel return tube will not expose the outlet hole if the element is removed. Instead, punch the emergency tab on the top of the element and leave in place.

Warning! Puncturing the emergency tab will bypass all filtration and send unfiltered fuel to your engine. Service the element as soon as possible to avoid harmful contaminants flowing downstream to the engine.

Water Sensors

This feature alerts the operator of a high-water condition. The bowl must be drained of water at the earliest convenience. A Racor water detection module is needed to work with the in-

bowl sensor. The unit should activate when the water reaches the sensor tips (and when they measure below 47,000 or 100,000 ohms of resistance, depending on the detection module used). If not, the tips may be fouled with a coating. Remove the sensor and clean the tips with a cloth. Run a jumper wire between the tips with the ignition ON to test the system. Difficulties usually lie in the wire connections, power source, or an independent ground.

Heaters

In-filter heaters are starting aids only, but may be left on during cold operations to supply additional heat. The 150 and 300 watt heaters are an extremely reliable option, but MUST be powered via a relay switch due to the initial amperage surge at start-up: 25 amps at 12 vdc and 12.5 amps at 24 vdc. They do not activate unless the fuel is below 50°F (10°C) and automatically deactivate at 80°F (28°C).

Heater Testing

The heater can only be tested when the thermostat is closed (fuel temperature is below 50°F or 10°C). With a voltmeter attached to external wiring, and engine off, power should drop when heater is switched on. (Option - remove the heater and place in a freezer until the temperature is under 50°F (10°C). Remove the heater and repeat the above test).

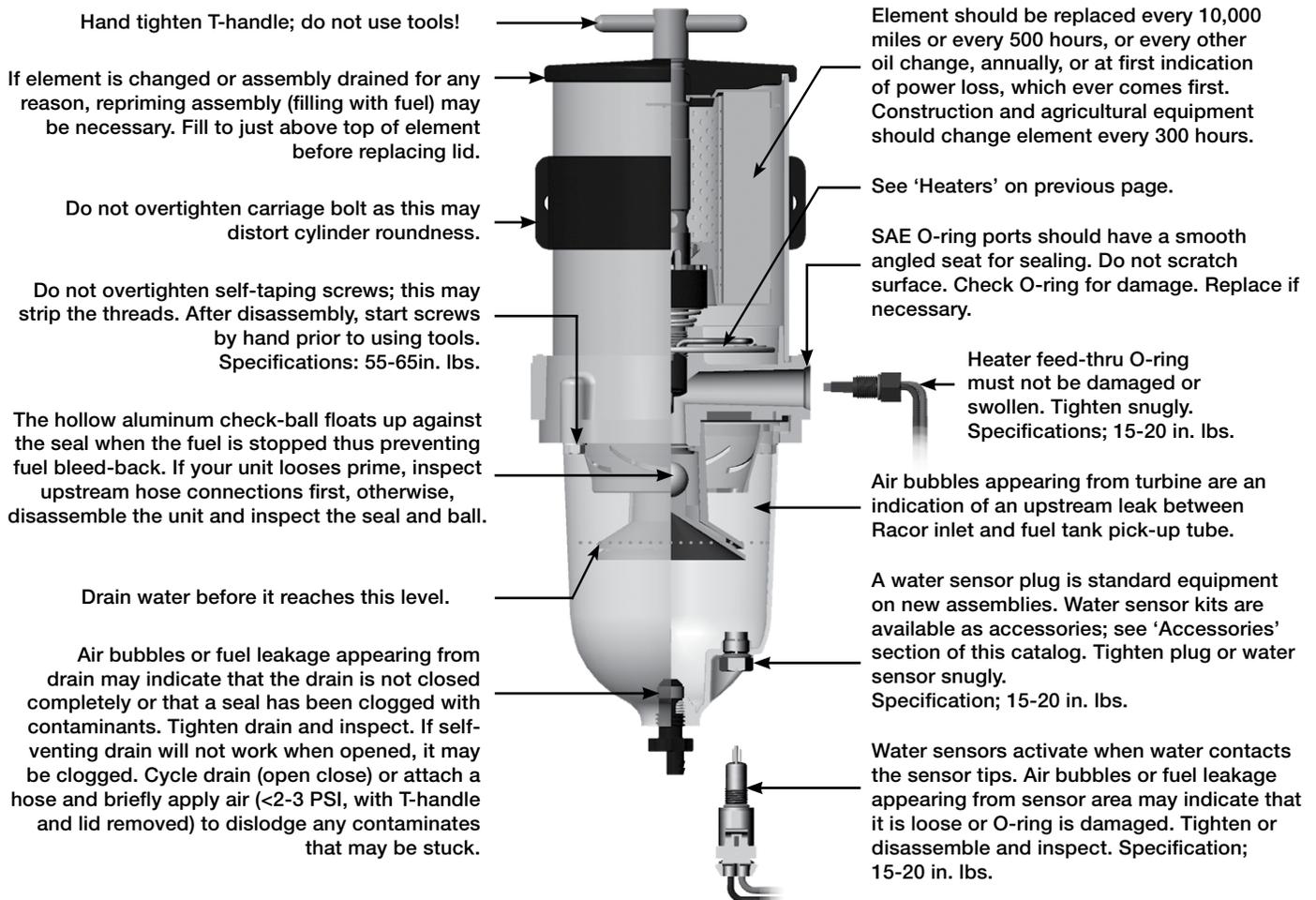
Troubleshooting

All Racor Turbine Series filters are 100% tested to ensure a leak-proof, quality product.

Apply Parker Super O-lube (part number RK31605) or equivalent to all seals at major attachment points to maintain integrity, seal elasticity, to

fill small voids and provide protection from degradation. Perform the following checks with the engine OFF (and applicable valves closed). For replacement parts, refer to the appropriate 'Replacement Parts' section of this catalog.

Damaged, worn, or dirty seals will allow air ingestion. Inspect and replace all seals as needed. Lube all seals with Parker Super O-Lube. Clean sealing surfaces thoroughly of dirt and debris every time an element is replaced.

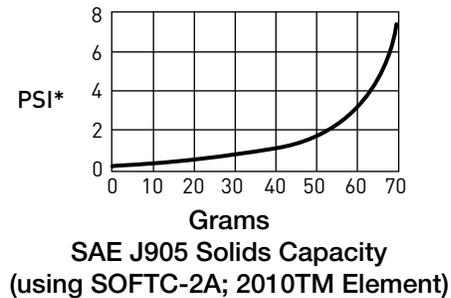
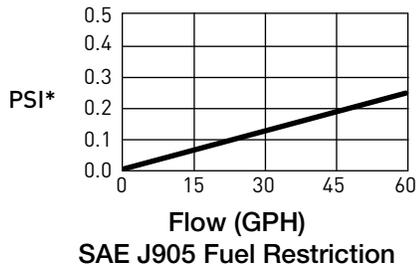


Turbine Series

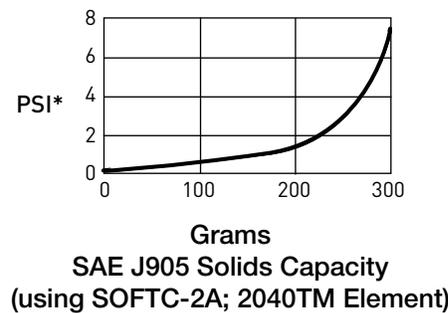
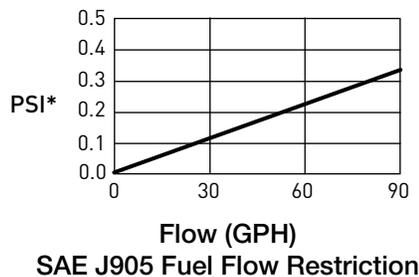
Test Data



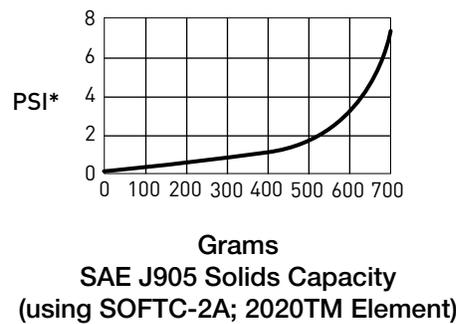
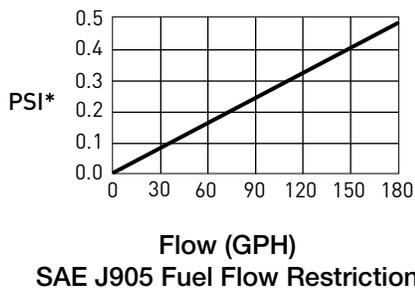
500FG



900FH



1000FH



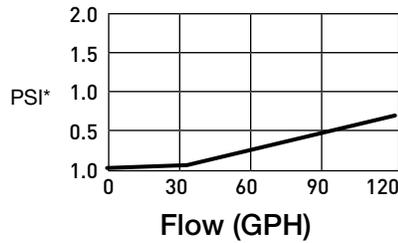
(Controlled laboratory test. Field results may vary.)

(PSI X 2.036 = inHg) (PSI X 6.895 = kPa)

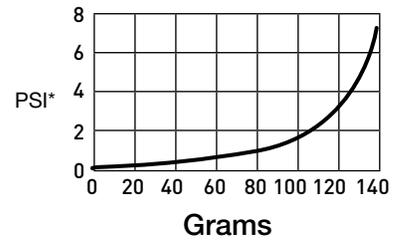
Test Data



75500FGX



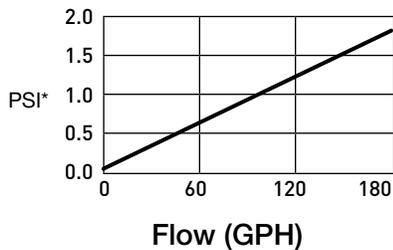
SAE J905 Fuel Flow Restriction



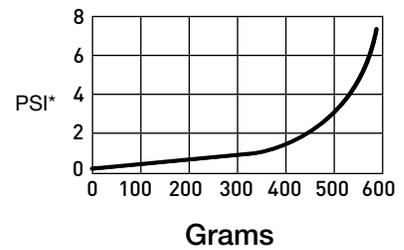
SAE J905 Solids Capacity
(using SOFT-2A; 2040TM Element)



75900FHX



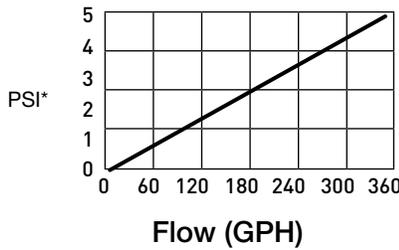
SAE J905 Fuel Flow Restriction



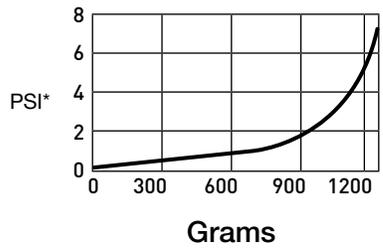
SAE J905 Solids Capacity
(using SOFT-2A; 2040TM Element)



751000FHX



SAE J905 Fuel Flow Restriction



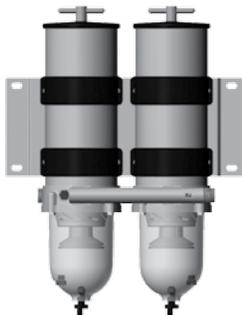
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(using SOFT-2A; 2020TM Element)

(Controlled laboratory test. Field results may vary.)

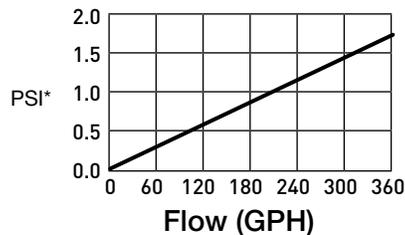
(PSI X 2.036 = inHg) (PSI X 6.895 = kPa)

Turbine Series

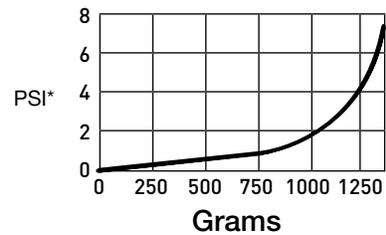
Test Data



731000FH



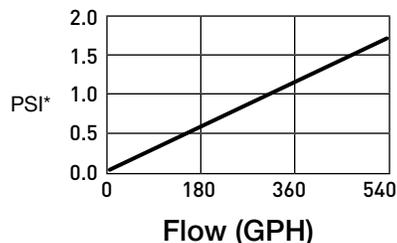
SAE J905 Fuel Flow Restriction



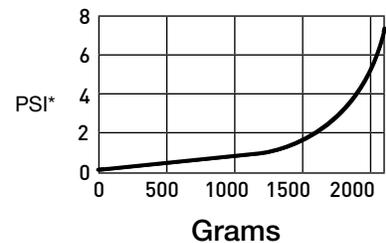
SAE J905 Solids Capacity
(using SOFT-2A; 2020TM Element)



771000FH



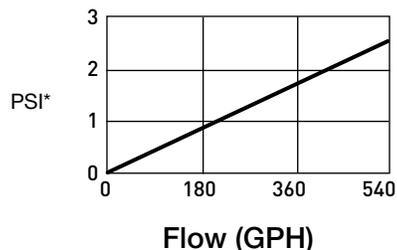
SAE J905 Fuel Flow Restriction



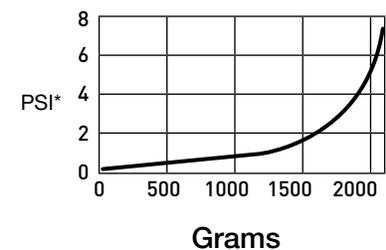
SAE J905 Solids Capacity
(using SOFT-2A; 2020TM Element)



791000FHV



SAE J905 Fuel Flow Restriction



SAE J905 Solids Capacity
(using SOFT-2A; 2020TM Element)

(Controlled laboratory test. Field results may vary.)

(PSI X 2.036 = inHg) (PSI X 6.895 = kPa)

Filter Pump

Overview

ADVANCED DSP CONTROLLER TECHNOLOGY

The Racor sensorless Digital Signal Processor (DSP) controller allows for precise fuel flow management and diagnostics tailored to customer specifications using flexible software routines. Precision control of fuel flow, current draw, motor rpm, and system pressure is possible using the internal DSP and/or with input from the Electronic Control Unit (ECU). DSP technology provides peripheral capabilities such as fault isolation and reporting of critical system parameters - in short, total fuel management for optimum engine performance.

- **Fixed speed operation – flow does not vary with load**
- **Variable speed operation – controlled by input signal from ECU**
- **Built-in test and diagnostics with output signal capability**

GEROTOR PUMP

Racor’s advanced gerotor pump uses the same proven technology used in lubrication pumps in the aircraft industry. It offers the benefits of fewer parts, smaller size, and lighter weight than other pumps of the same capacity.

- **Fewer parts than gear or vane-style pumps**
- **Smaller size and lighter weight than pumps with the same capacity**
- **Greater contamination resistance**
- **Proven aerospace design**
- **2 lpm to 4 lpm possible at 60 psi**

BRUSHLESS DC MOTOR

Most electric DC motors use carbon “brushes” to conduct the electrical current to the “commutator” that serves to sequentially polarize the motor windings and induce rotation. Racor’s brushless DC motor windings are sequentially polarized to rotate the pump shaft by high speed electronic switching, controlled by a DSP, not by brushes rubbing and making sparks on a metallic commutator. No brushes means nothing to wear out, and no possibility of brush debris in the fuel. Brushless motors are more efficient than brushed motors and have unsurpassed reliability and long life. The brushless motor’s shaft directly drives the gerotor gear, creating a unique, positive displacement pump assembly.

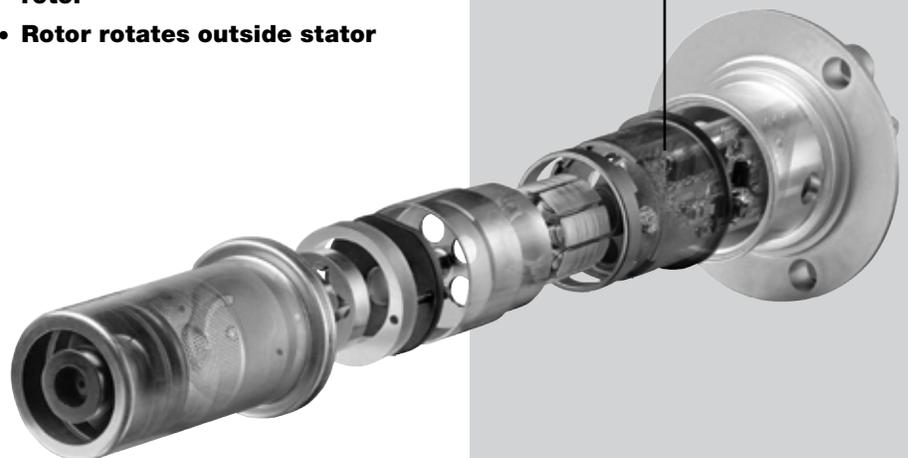
- **Design proven up to 26V DC, 10A continuous power**
- **Resistant to vibration and can be engine mounted**
- **8-pole, 9-slot configuration**
- **Rotor: cylindrical magnet and rotor**
- **Rotor rotates outside stator**

Instant Fuel Flow at “Key On” – Automatic Priming, No More Hard Starts

Whether the fuel filter/water separator is frame or engine-mounted, Racor brushless filter pumps offer the industry’s most advanced and robust electronic fuel management systems. Important system benefits include the possibility of variable flow fuel delivery and monitoring of the entire fuel system...even when the engine is not running. No more fuel leak-back issues, no more hard starts. This is the next generation of fuel management and conditioning, for the next generation of diesel engines.

ELECTRONIC CONTROLLER

With DSP controller technology, engine operating specifications can be met with flexible software routines, instead of costly hardware re-designs. Current, velocity, and pressure parameters can be programmed with greater precision.



Filterpumps

P Series

Fuel Conditioning Modules



Product Features:

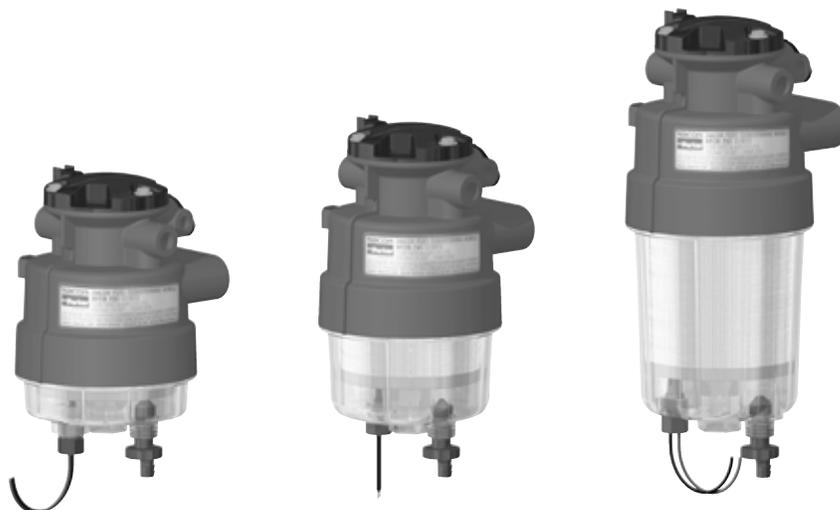
- **Durable, quiet 12V DC roller-cell electric fuel pump for intermittent or continuous duty.**
- **Thermostatically controlled PTC-style electric (150-watt) heater.**
- **Aquabloc®II Filter Technology**
- **Removable and reusable contaminant collection bowl.**
- **Water-in-fuel (WIF) sensor.**
- **Standard: 12V DC brushed pump motor.**
Optional: 12V or 24V DC brushless pump motor.



The patented P Series diesel fuel conditioning module was developed for installation on any diesel engine fuel injection system. P Series assemblies are available in three sizes and all feature 3/8" NPT fuel ports. This innovative and modular fuel filter/water separator incorporates low-pressure fuel system components into a single package. The P Series Diesel Fuel Conditioning Module is available with a brushless pump. Please contact Racor Division for information on specific applications.



Specifications



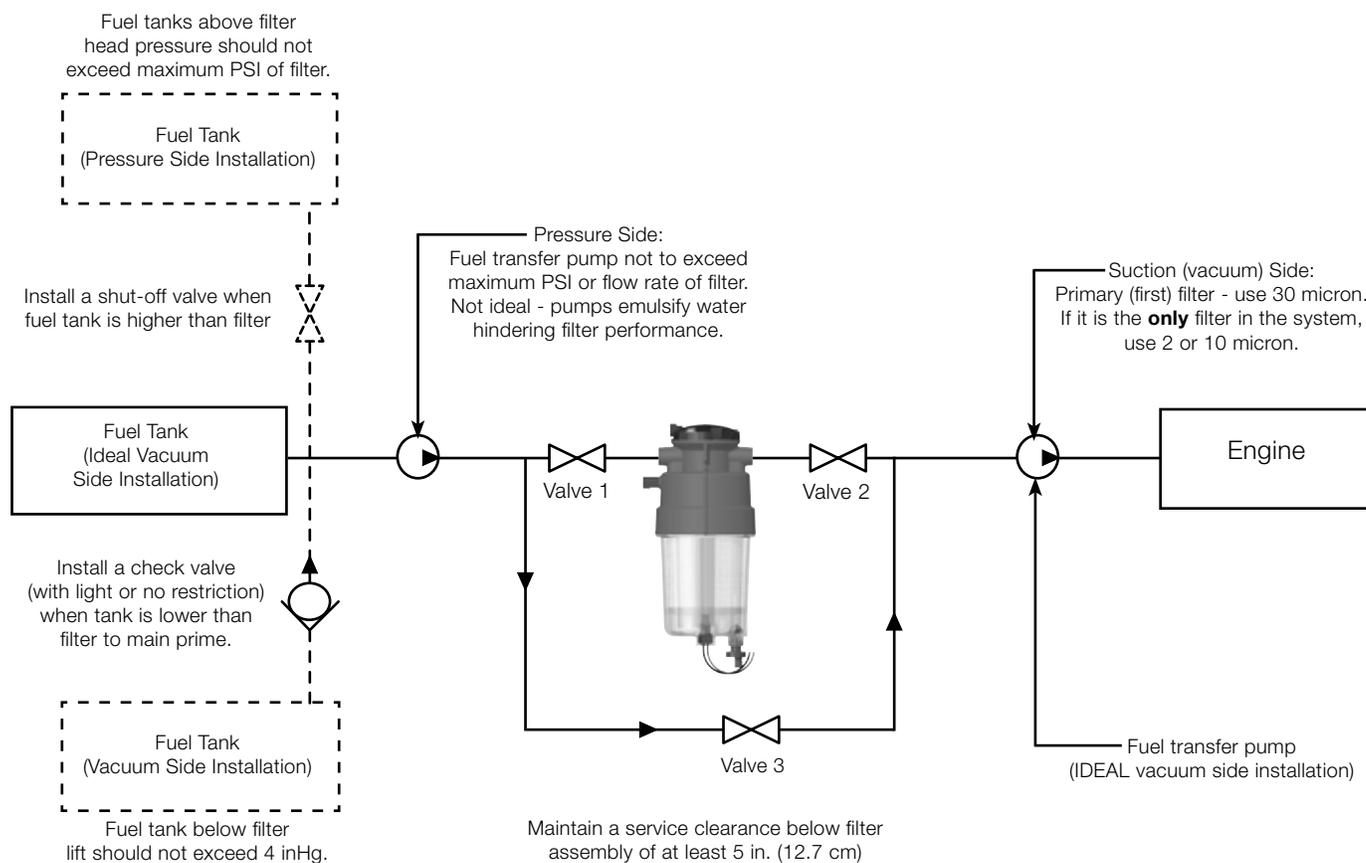
	P3	P4	P5
Max. Flow Rate	30 GPH / 114 LPH	40 GPH / 170 LPH	50 GPH / 227 LPH
Clean Pressure Drop	0.4 psi / 2.8 kPa	0.5 psi / 3.4 kPa	0.8 psi / 5.5 kPa
Max. Pump Output at 14 volts / 70 psi (480 kPa) / 6.2 amps	40 GPH / 151 LPH		
Pump Output Pressure	10 to 70 psi (60 kPa to 480 kPa)		
Standard Fuel Port Size (SAE J476)	3/8" – 18 NPT		
Biodiesel Compatible	B2 to B20		
Replacement Filters 2 micron 10 micron 30 micron	R58060-2 R58060-10 R58060-30	R58095-2 R58095-10 R58095-30	R58039-2 R58039-10 R58039-30
Min. Service Clearance	2.5" (28 mm)		
Height	7.7" (196 mm)	9.0" (229 mm)	11.5" (292 mm)
Depth	5.2" (132 mm)		
Width	4.8" (122 mm)		
Weight (dry)	3.4 lb (1.5 kg)	3.8 lb (1.7 kg)	4.2 lb (1.9 kg)
Features:¹ Water Sensor Heater Pressure Regulator (10 psi) Pump By-pass Flow Valve	Standard Standard Standard Standard		
H₂O Removal Efficiency	99%		
Operating Temperature	-40° to +255°F / -40° to +121°C		

¹ Not for use with gasoline applications.

Filterpumps

Installation Diagram

Optional Bypass Installation and Operation (Allows user to service filter without shutting down engine.)			
Valves	1	2	3
Unit On-line	Open	Open	Closed
Unit Off-line	Closed	Closed	Open



How to Order

(The example below illustrates how part numbers are constructed.)

P4	2	10	N	H
Specify a flow rate: P3 for 30 GPH, P4 for 40 GPH, or P5 for 50 GPH	2 must be in the part number. (It specifies a 12 vdc pump)	Specify micron rating: 02 for 2 micron, 10 for 10 micron, or 30 for 30 micron	N must be in the part number. (It specifies standard 3/8" NPT ports)	H must be in the part number. (It specifies a 12 vdc, 150 watt heater)

For continuous run pump operation, contact Technical Support at number listed below.

Mounting & Port Information

Keep all fuel lines and flow restrictions to a minimum.

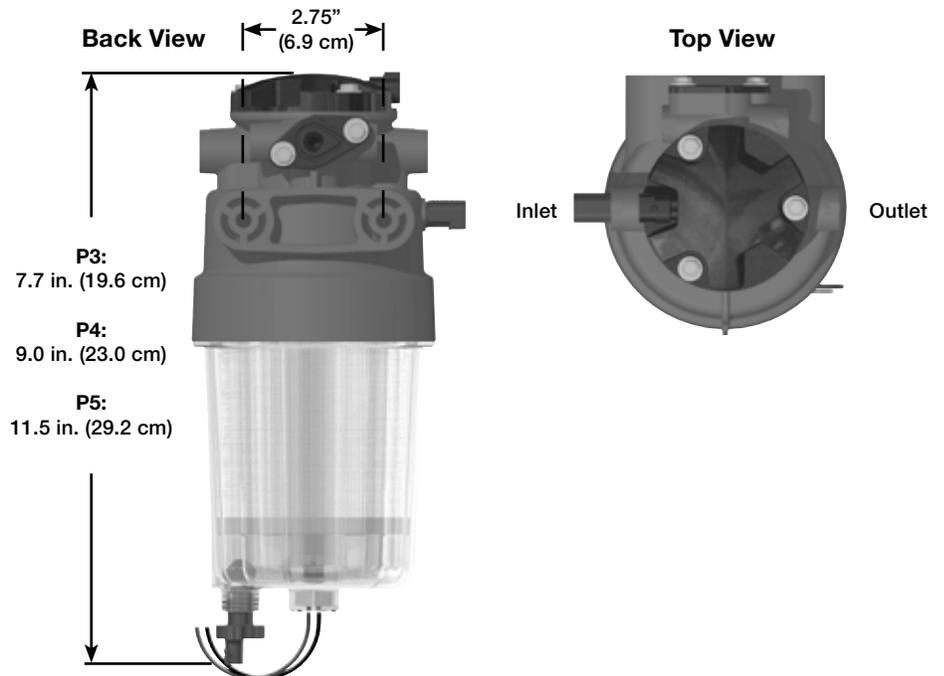
Use maximum size fuel hose possible.

Do not use two 45° fittings where one 90° elbow will work.

Avoid sharp bends, surfaces that move, sharp edges, or hot areas such as exhaust piping.

Use 3/8" mounting hardware.

Mount filter vertically.



Filterpumps

P Series Replacement Parts

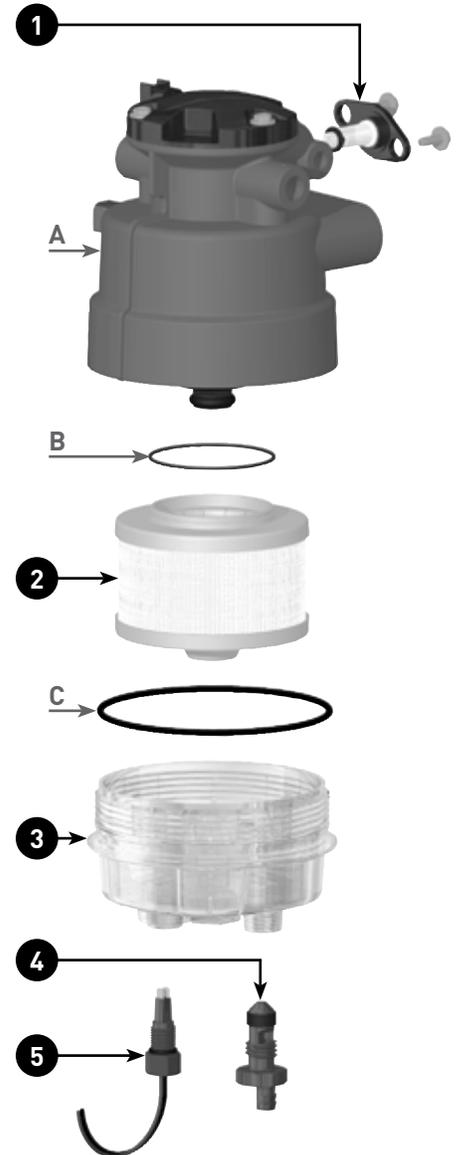
Part No.	Description
1. RK58075	Pressure Regulator
2. Replacement Filters	See Chart Below - includes B, C
3. 58179 58180 58181	Clear Bowl (P3) - includes 4, 5 Clear Bowl (P4) - includes 4, 5 Clear Bowl (P5) - includes 4, 5
4. RK30476	Drain Valve Kit
5. RK21069	Water Probe Kit

Replacement Filters

	P3	P4	P5
2 Micron	R58060-02	R58095-02	R58039-02
10 Micron.	R58060-10	R58095-10	R58039-10
30 Micron	R58060-30	R58095-30	R58039-30

Additional Parts

Part No.	Description
RK58107	6-way Electrical Harness Kit
58137	Mating Connector Harness
58132	Under-dash Control Panel



Spin-On Series With Electric Priming



Product Features:

- **12 or 24 volt Priming Pump**
- **100 micron prefilter screen**
- **Aquabloc®II Filter Technology**



The Racor 700 Series is equipped with state-of-the-art fuel pumps with either brush or brushless DC motors. In brushless versions, the motor shaft directly drives the gerotor, creating a unique, positive displacement pump. The gerotor has fewer parts than gear or vane pumps, and the sensorless control technology of the brushless DC motor make this product the most reliable filter and pump assembly on the market. The brushless pump assembly is ideal for tough on-engine applications. For off-engine mounting, brushed pumps are a more economical alternative.

The 700 Series Integrated Fuel Filter/Water Separators have a two-stage filtration and repriming system featuring a 12 or 24 volt solid-state controlled electronic priming pump, a vent valve to purge air, a 100 micron prefilter screen, a 10 or 30 micron Aquabloc®II Spin-On filter (see specifications), a water sensor probe, a clear collection bowl and a weather proof control box. This complete fuel management system isolates contaminants present in diesel fuels and traps them prior to reaching the fuel injection system, protecting against costly and premature failure.

Filterpumps Overview

700 Series

Models shown with factory installed filter elements



Specifications	745R30	760R30	790R30	790R3024
Power	12 volt	12 volt	12 volt	24 volt
Max. Flow Rate	45 GPH (170 LPH)	60 GPH (227 LPH)	90 GPH (341 LPH)	90 GPH (341 LPH)
Port Size (SAE J1926)	7/8"-14 UNF	7/8"-14 UNF	7/8"-14 UNF	7/8"-14 UNF
Height	10.8 in. (27.4 cm)	11.8 in. (30.0 cm)	12.8 in. (32.5 cm)	12.8 in. (32.5 cm)
Width	4.3 in. (11.0 cm)	4.3 in. (10.9 cm)	4.3 in. (10.9 cm)	4.3 in. (10.9 cm)
Depth	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)
Weight (dry)	5.5 lb (2.5 kg)	5.7 lb (2.6 kg)	5.9 lb (2.7 kg)	6.5 lb (3.0 kg)
Clean Pressure Drop	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)
Case Quantity	6	6	6	6
Micron Rating	30	30	30	30
Minimum Service Clearance	2.0 in (5.1 cm)	2.0 in (5.1 cm)	2.0 in (5.1 cm)	2.0 in (5.1 cm)
Maximum Working Pressure	15.0 PSI	15.0 PSI	15.0 PSI	15.0 PSI
Water Removal Efficiency	99%	99%	99%	99%
Ambient Temp. Range	-40° to +250°F (-40° to +121°C)			
Max. Fuel Temp.	190°F (88°C)			

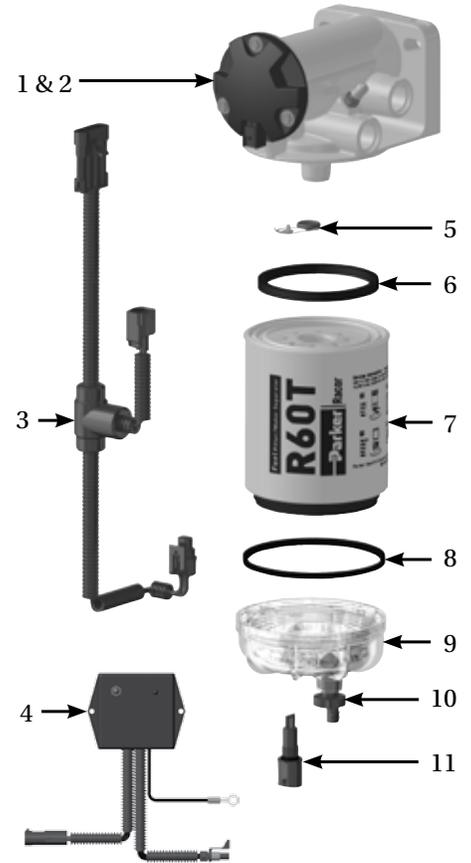
Models shown with factory installed filter elements



Specifications	7125R10	7125R1024	7125R30	7125R3024
Power	12 volt	24 volt	12 volt	24 volt
Max. Flow Rate	120 GPH (455 LPH)	120 GPH (455 LPH)	120 GPH (455 LPH)	120 GPH (455 LPH)
Port Size (SAE J1926)	7/8"-14 UNF	7/8"-14 UNF	7/8"-14 UNF	7/8"-14 UNF
Height	15.2 in. (38.5 cm)	15.2 in. (38.5 cm)	15.2 in. (38.5 cm)	15.2 in. (38.5 cm)
Width	4.3 in. (11.0 cm)	4.3 in. (11.0 cm)	4.3 in. (11.0 cm)	4.3 in. (11.0 cm)
Depth	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)	6.5 in. (16.5 cm)
Weight (dry)	6.9 lb (3.1 kg)	6.9 lb (3.1 kg)	6.9 lb (3.1 kg)	6.9 lb (3.1 kg)
Clean Pressure Drop	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)
Case Quantity	6	6	6	6
Micron Rating	30	30	30	30
Minimum Service Clearance	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)	2.0 in. (5.1 cm)
Maximum Working Pressure	15.0 PSI	15.0 PSI	15.0 PSI	15.0 PSI
Water Removal Efficiency	99%	99%	99%	99%
Ambient Temp. Range	-40° to +250°F (-40° to +121°C)			
Max. Fuel Temp.	190°F (88°C)			

Replacement Parts

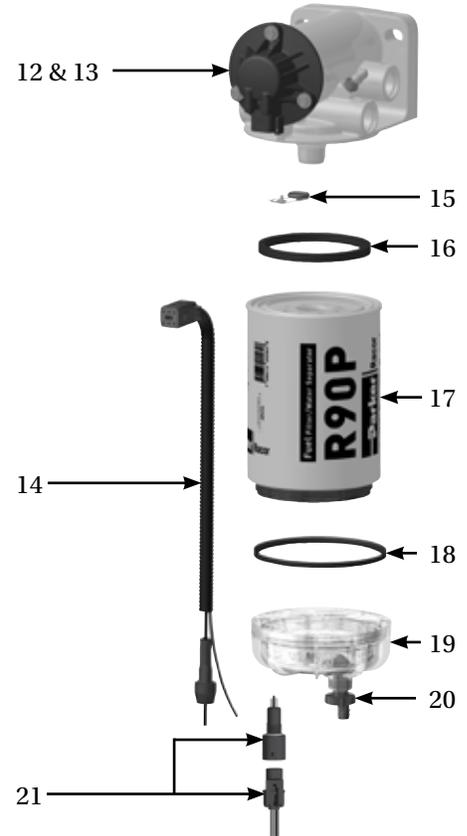
12 Volt Parts		Description		
1. RK22895	Replacement Pump Head with Pump			
2. RK22933	Primer Pump Kit (Includes pump, o-rings, screws, pre-screen element and more. Does NOT include mounting head.)			
3. RK22902	Wire Harness Kit			
4. RK22943	Control Panel Kit			
5. RK 22798	Bypass Valve Kit			
6. RK 21501	Gasket Kit (Includes #'s 6 and 8)			
7. (see below)	Replacement Elements			
<u>Model</u>	<u>2 Micron</u>	<u>10 Micron</u>	<u>30 Micron</u>	
745R	R45S	R45T	R45P	
760R	R60S	R60T	R60P	
790R	R90S	R90T	R90P	
7125R	R125S	R125T	R125P	
8. RK 21501	Gasket Kit (Includes #'s 6 and 8)			
9. RK 21113-13-11	Clear Bowl Kit (Includes #'s 8 and 10)			
10. RK 30476	Self-venting Drain Kit			
11. RK 30902	Water Sensor Probe Kit			
Additional Parts (not shown) RK11-1970 RK22934	Port Plug Kit Prescreen Element Kit (100 micron)			



Questions? Contact Technical Support:
800 344 3286 or 209 521 7860 ext. 7555
e-mail: racortech@parker.com

Filterpumps

24 Volt Parts	Description		
12. RK23085	Replacement Pump Head with Pump		
13. RK23087	Primer Pump Kit (Includes pump, o-rings, screws, pre-screen element and more. Does NOT include mounting head.)		
14. RK23088	Push Button/Harness Kit		
15. RK 22798	Bypass Valve Kit		
16. RK 21501	Gasket Kit (Includes #'s 16 and 18)		
17. (see below)	Replacement Elements		
<u>Model</u>	<u>2 Micron</u>	<u>10 Micron</u>	<u>30 Micron</u>
790R	R90S	R90T	R90P
7125R	R125S	R125T	R125P
18. RK 21501	Gasket Kit (Includes #'s 16 and 18)		
19. RK 21113-13-11	Clear Bowl Kit (Includes #'s 19 and 20)		
20. RK 30476	Self-venting Drain Kit		
21. RK 30964	Water Sensor Probe Kit/Connector		
Additional Parts (not shown)			
RK11-1970	Port Plug Kit		
RK22934	Prescreen Element Kit (100 micron)		



Installation & Maintenance

Please read ALL instructions before beginning installation.

Maintain a safe working environment. Obtain good ventilation and do not smoke or allow open flame near the installation.

The engine must be off and cool to touch before beginning installation.

This filter assembly will replace stand-alone primary fuel filters that may be installed on the engine. Remove existing primary filter, if applicable, and dispose of properly.

Apply thread sealant to fittings, lubricant to o-rings and install fittings into the appropriate inlet and outlet ports. Tighten snugly. Install port plugs in unused ports and tighten snugly.

Connect fuel hose to the inlet/outlet fittings and use hose clamps where appropriate.

Completely drain assembly. Tear-down is performed in numerical order shown above (1-8). Rebuild assembly in reverse order (8-1), substituting new parts for old. On rebuild, lubricate all O-rings with motor oil or clean diesel fuel and tighten screws to 50 in. lbs (maximum).

Important: Insure inside face of cover is flush with pump body and all flat surfaces are clean (free of scratches and debris).

Prescreen filter can be cleaned and inspected before replacement.

Clean in solvent bath with a soft brush. Flush with diesel fuel. Gently blow dry with air, if necessary.

Prime the system and check for leaks. Correct as necessary with engine off.

Operation For Repriming Unit:

(for initial installation, repriming, or to restart after running out of fuel).

- 1. Turn ignition to ON position; do not start engine.**
- 2. Remove cap from vent valve. Press and hold PRIME button on control panel; this will activate primer pump and yellow 'prime' LED will illuminate.**
- 3. Press and hold vent valve open to release excess air from filter. Release vent valve at first indication of fuel. Warning! If vent valve is kept open too long, a pressurized stream of fuel will exit creating a potentially hazardous situation. Continue to hold PRIME button for about 30 seconds (or until unit is primed) and release. Note: fuel flow will bypass pump when not in use.**
- 4. Start engine and run at high idle for about three minutes. Note: The engine may run rough while remaining air is forced through the fuel system.**

Draining Water:

Frequency of water draining or filter replacement is determined by the contamination level of the fuel. Drain bowl frequently if contaminated fuel

is suspected or when remote water-in-fuel lamp illuminates.

Filter Replacement:

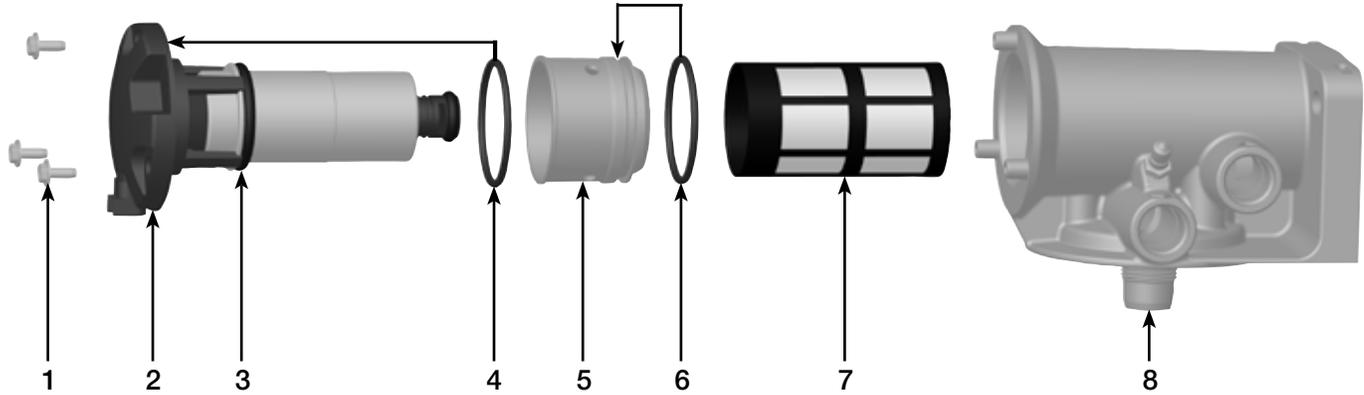
Replace filter every 10,000 miles, 500 hours, every other oil change, if power loss is noticed, or annually, whichever occurs first. Note: Always carry extra replacement elements as one tankful of excessively dirty fuel can plug a filter. To replace filter:

- 1. Disconnect water sensor connector and drain any water from the see-thru bowl.**
- 2. With a collection pan in place, remove filter and bowl assembly from mounting head.**
- 3. Remove see thru bowl from filter and dispose properly. Bowl is reusable.**
- 4. Lubricate gasket on new filter with motor oil or diesel fuel and spin new filter (without bowl) onto mounting head. Hand tighten only.**
- 5. Clean bowl of debris. Lubricate new bowl O-ring, place in gland of bowl and spin bowl onto new filter. Hand tighten only.**
- 6. Reattach water sensor connector.**
- 7. Open fuel tank outlet valve, if applicable, and follow Operation instructions to reprime system.**



Filterpumps

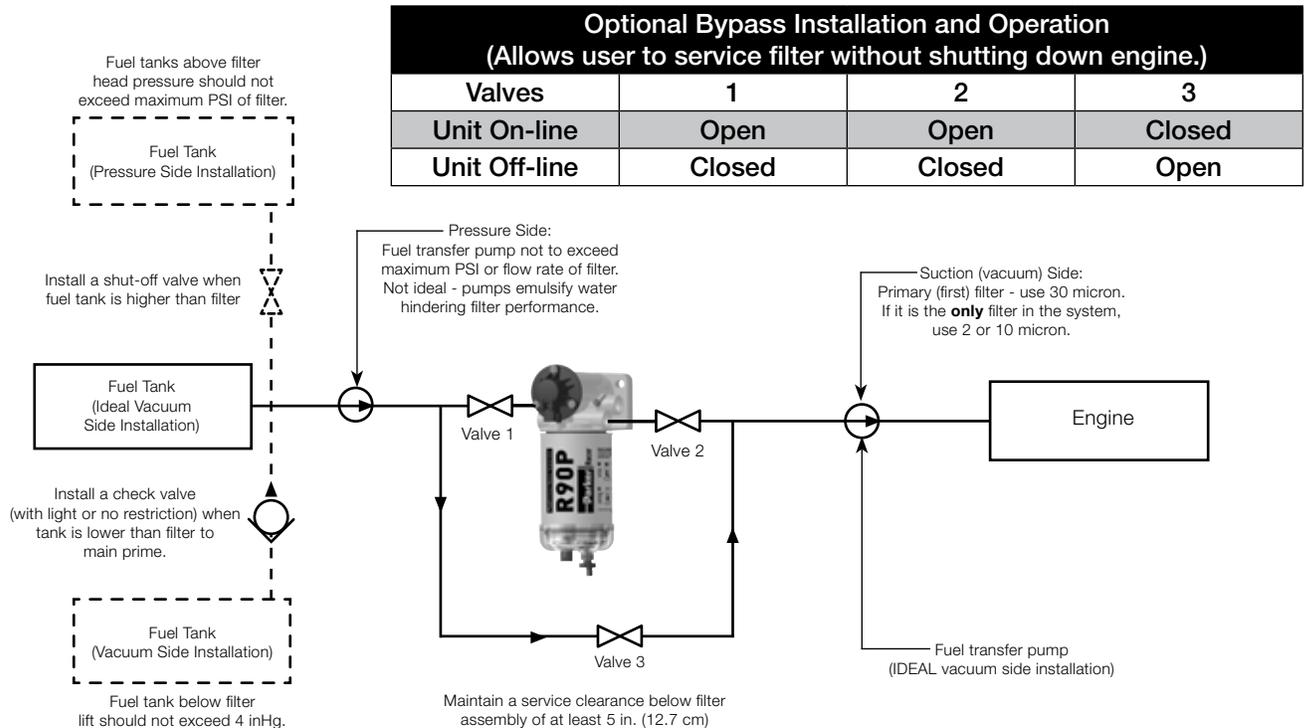
Primer Pump Parts Breakdown



12 volt Primer Pump Kit Parts List	
1.	Screws
2.	Pump
3.	Body o-ring
4.	Pump/Head o-ring
5.	Adapter
6.	Adapter o-ring
7.	Prescreen Element
8.	Mounting Head
RK22895 Primer Head Kit (Includes all parts shown)	
RK22933 Primer Pump Kit (Includes numbers 1-7)	
RK22934 Prescreen Kit (Includes numbers 3-7)	

24 volt Primer Pump Kit Parts List	
1.	Screws
2.	Pump
3.	Body o-ring
4.	Pump/Head o-ring
5.	Adapter
6.	Adapter o-ring
7.	Prescreen Element
8.	Mounting Head
RK23085 Primer Head Kit (Includes all parts shown)	
RK23087 Primer Pump Kit (Includes numbers 1-7)	
RK22934 Prescreen Kit (Includes numbers 3-7)	

Installation Diagram



Mounting & Port Information

Keep all fuel lines and flow restrictions to a minimum.

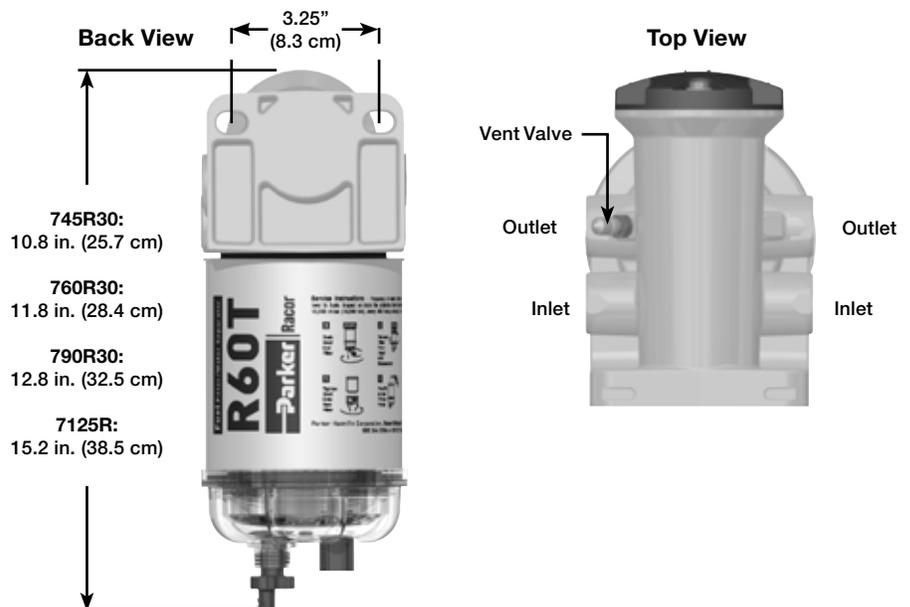
Use maximum size fuel hose possible.

Do not use two 45° fittings where one 90° elbow will work.

Avoid sharp bends, surfaces that move, sharp edges, or hot areas such as exhaust piping.

Use 3/8" mounting hardware.

Mount filter vertically on suction (vacuum) side of fuel transfer pump (or injection pump).



Filterpumps

Installing the Control Panel 12 Volt

- 1. Monaco Connector:**
(cut off if installing on any other application).
- 2. Green Wire:**
To remote warning light or cap off.
- 3. Red Wire:**
To 7.5 amp fuse, then to +12 volt dc power.
- 4. Black Wire:**
To ground.
- 5. To Filter Connector.**

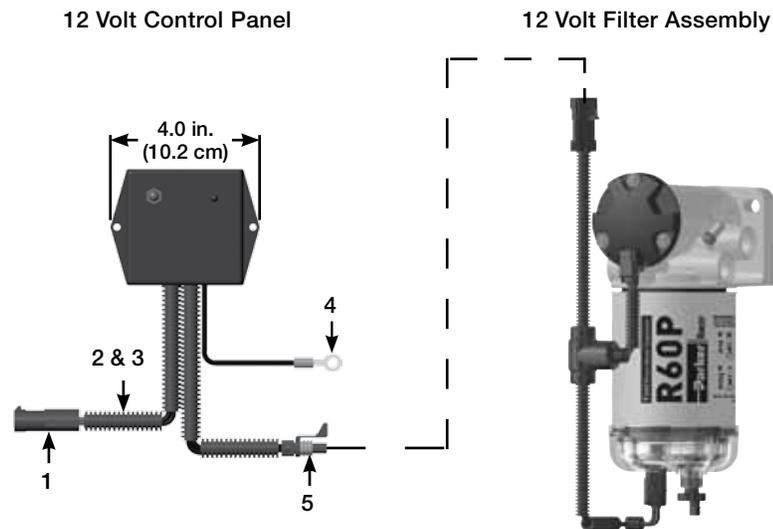
Install control panel in engine compartment. Mount control panel on a solid surface and in an area that is visible and easily accessible.

Use control box as a template to mark locations for mounting holes. Drill holes and mount control box.

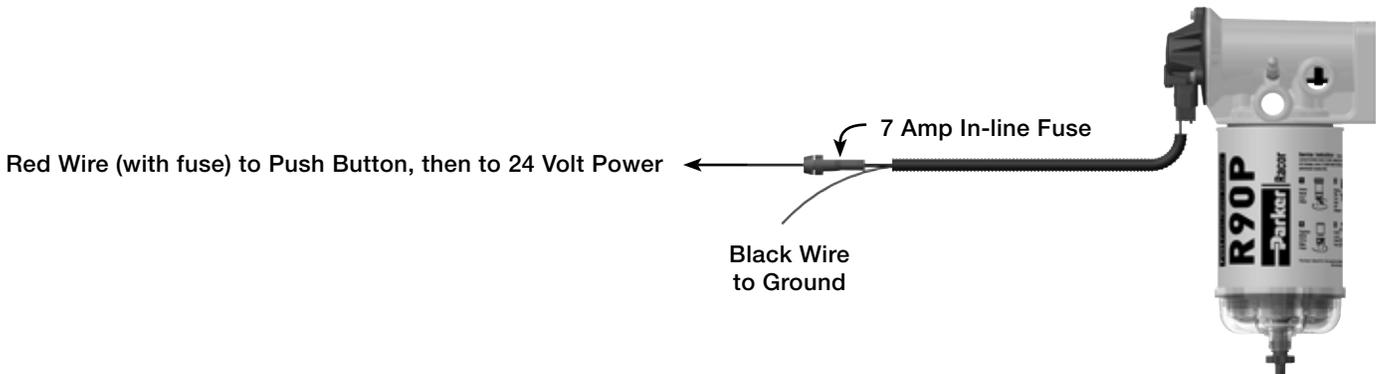
Route the filter wiring harness to control panel and attach connectors; push firmly until safety lock engages.

Use wire ties to secure wiring.

Connect black wire to ground. Connect red wire through a 7.5 amp in-line fuse to a constant 12 volt dc power source. Connect green wire to an optional remote warning light, if equipped, or cap off.



24 Volt



Lift Pump Filters



The Lift Pump Filter (LPF) has been proven on many original equipment applications. No electrical contacts. No bearings or diaphragms to wear out or fatigue. Endurance life almost doubles nearest competitor.

Two bolt mounting makes installations easy. Nothing to adjust. The pump is self priming to 10 ft.

Stainless steel design allows for no opportunity for corrosion.

The LPF is specifically designed to provide a constant, smooth, dependable supply of fuel to the engine. Priming the fuel system with the LPF removes the air allowing for normal operating conditions. Its small compact design allows for installation in numerous applications where space is an issue.

Product Features:

- 12 or 24 volt Priming Pump
- 100 micron prefilter screen
- Aquabloc®II Filter Technology

Specifications	23084	23082
Power (Voltage)	12 volt	24 volt
Max. Flow Rate	30 GPH (114 LPH)	30 GPH (114 LPH)
Filter Micron Rating	80 micron	80 micron
Port Size (SAE J1926)	1/8"-27 NPTF	1/8"-27 NPTF
Height	7.1 in. (18.0 cm)	7.1 in. (18.0 cm)
Width	3.2 in. (8.1 cm)	3.2 in. (8.1 cm)
Depth	3.5 in. (8.9 cm)	3.5 in. (8.9 cm)
Weight (dry)	2.3 lb (1.0 kg)	2.3 lb (1.0 kg)
Clean Pressure Drop	0.70 PSI (4.8 kPa)	0.70 PSI (4.8 kPa)
Shut-off Pressure (Min. - Max.)	9 - 11.5	9 - 11.5
Ambient Temp. Range	-40° to +250°F (-40° to +121°C)	
Max. Fuel Temp.	190°F (88°C)	

Filterpumps

Mounting & Port Information

Keep all fuel lines and flow restrictions to a minimum.

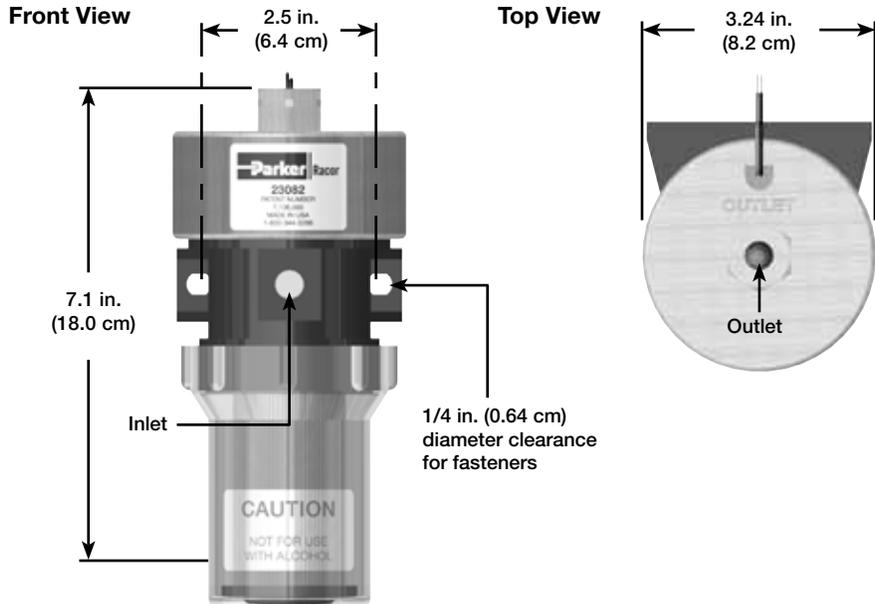
Use maximum size fuel hose possible.

Do not use two 45° fittings where one 90° elbow will work.

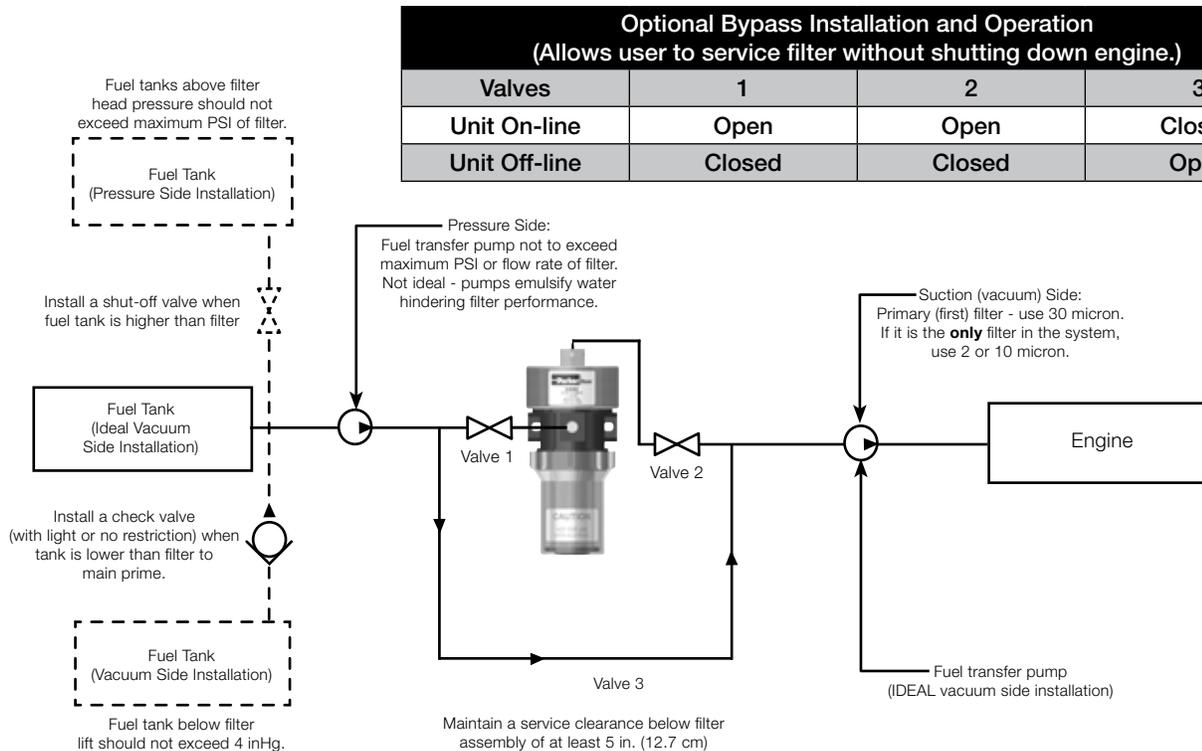
Avoid sharp bends, surfaces that move, sharp edges, or hot areas such as exhaust piping.

Use 1/4" mounting hardware.

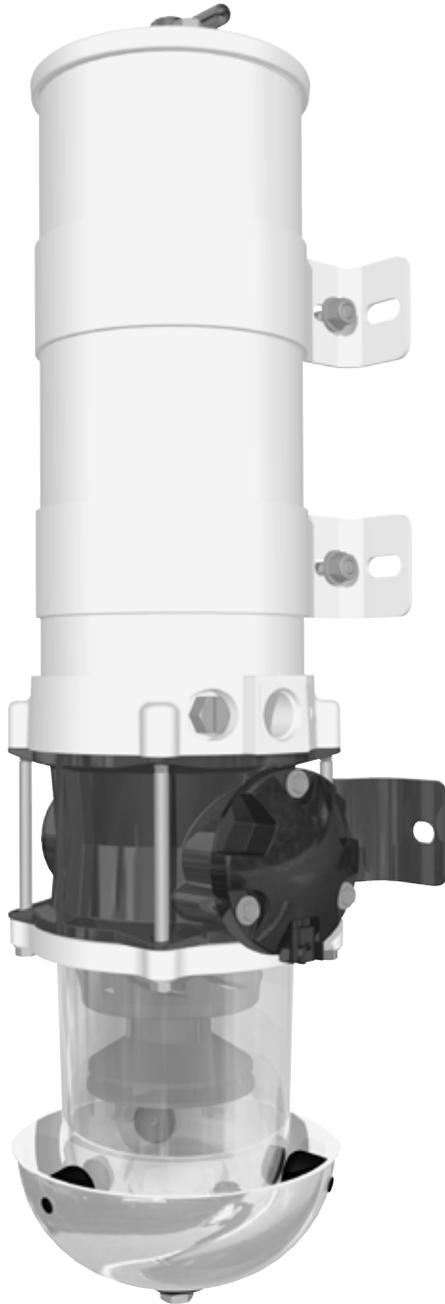
Mount filter vertically on suction (vacuum) side of fuel transfer pump (or injection pump).



Installation Diagram



Turbine Series Electric Primer Pump Kit



Product Features:

- **Easy installation.**
- **Pump adds only 3.3" to the over all assembly.**
- **60 gallons per hour flow rate while in priming mode.**
- **12 VDC brushed electric motor.**
- **24 VDC brushless electric motor.**
- **100 micron pre-screen.**
- **One size fits several models.**
- **Kit includes wiring harness and controller switch.**
- **Allows for electric re-priming of filter and fuel system.**
- **Not for use as continuous duty.**



The Fuel Primer Pump Kit is an innovative and proprietary system consisting of a pre-screen filter, a flow bypass circuit and a roller cell pump powered by a 12VDC brushed motor or a 24VDC brushless motor.

When the switch is activated the fuel is drawn into the pre-screen and then pumped through the housing refilling the unit with fuel. When not in use the primer pump system is bypassed and the Racor fuel filter/water separator functions normally.

The Primer Pump Kit works on Racor duplex and triplex systems also. This will allow one Racor primer pump to prime the other filter or filters in a manifold system such as a 751000MAX for example.

1000MA with Electric Priming Pump (RKP1912) installed on a sport fishing yacht.

Filterpumps

800D-5REC-D

Heavy-Duty Filter/Recycler Buggy

Installation and Service Instructions

Instruction Part Number 14406 Rev -

This mobile unit can serve a variety of applications at various locations using minimal floor space. It is generally used in a truck service shop for filtering/recycling/transferring fuel from tank to tank. Used for this purpose they remove contaminants from fuel using the following legendary three stage process:

Stage 1 - Separation

As fuel enters the assembly, it moves through the centrifuge and spins off large solids and water droplets, which are heavier than fuel, and fall to the bottom of the collection bowl.

Stage 2 - Coalescing

Small water droplets bead-up on the surface of the conical baffle and cartridge filter. When heavy enough, they too fall to the bottom of the collection bowl.

Stage 3 - Filtration

Proprietary Aquabloc[®] II cartridge filters repel water and remove contaminants from fuel down to 2 micron (nominal).

Product Features:

- **Portable and easy to use**
- **Replacement filters available to 2 micron**
- **Easy to service**
- **Simple installation**
- **Heavy-duty construction**
- **Increased fuel efficiency**
- **Clear collection bowl**
- **Self-venting water drain**

Operating the Recycler

Place Fuel Tank Suction Line (15 ft max. length) so that fuel is drawn from bottom most portion of the tank. The Fuel Tank Return Line (15 ft max. length) is to return filtered fuel to the top of fuel tank (see Operation Diagram below).

Priming/Maintenance Instructions

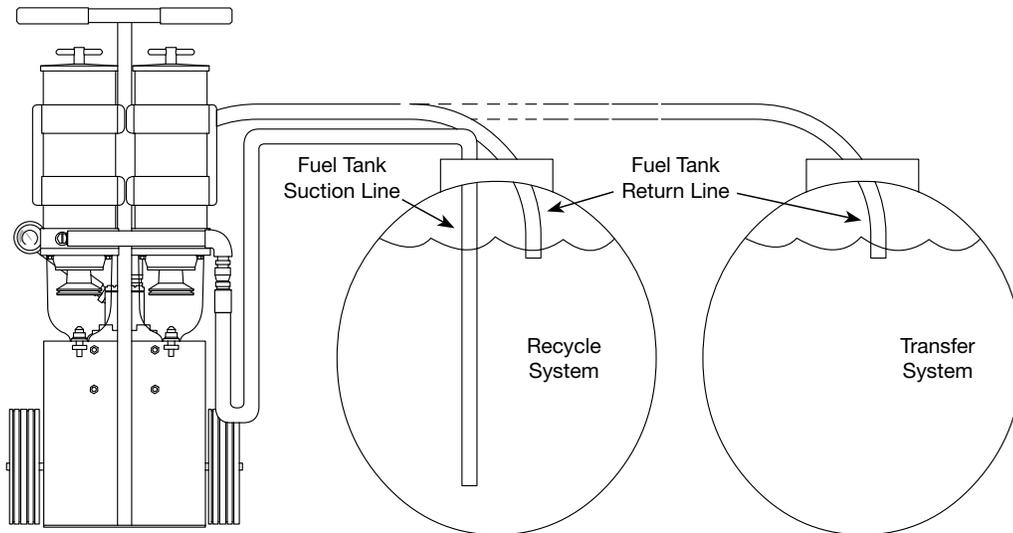
- 1. Switch pump off.**
- 2. Open drain valves on bottom of filters. Drain all contaminants. Close drain valves.**
- 3. Remove T-handles and lids from top of filter housings.**
- 4. Fill filter housings with clean fuel.**
- 5. Lubricate lid gaskets and T-handle O-rings with clean fuel or motor oil.**
- 6. Replace lids and T-handles, tighten snugly by hand - do not use tools.**

Filter Replacement

- 1. Switch pump off.**
- 2. Remove T-handles and lids.**
- 3. Remove filters by holding bail handles and slowly pulling upward with a twisting motion. Dispose of properly.**
- 4. Install new filters.**
- 5. Fill filter housings with clean fuel.**
- 6. Lubricate lid gaskets and T-handle O-rings with clean fuel or motor oil.**
- 7. Replace lids and T-handles, tighten snugly by hand - do not use tools.**



Operation Diagram



Troubleshooting

Mechanical Symptom	Solution	Electrical Symptom	Solution
Unit will not prime.	Unit not filled with fuel. (see priming instructions)	Unit will not turn on.	Motor impellar is bound. (carefully turn motor fan in rear with a screwdriver.)
	T-handle not tight. (tighten)		Loose wiring. (tighten)
	Hose fittings are loose. (tighten)		Motor overheated and turned off. (turn power off allowing motor to cool.)
Drain valve open. (close valve)			
No fuel flow or low flow, high vacuum restriction, or poor filter life.	Filters clogged. (replace filters)	Caution: Turn off power when performing check list on motor.	
	Hose restricted. (check hose length, may be a pinched or plugged hose.)		
	Viscosity of fuel too high. (fuel must be heated.)		

Filterpumps

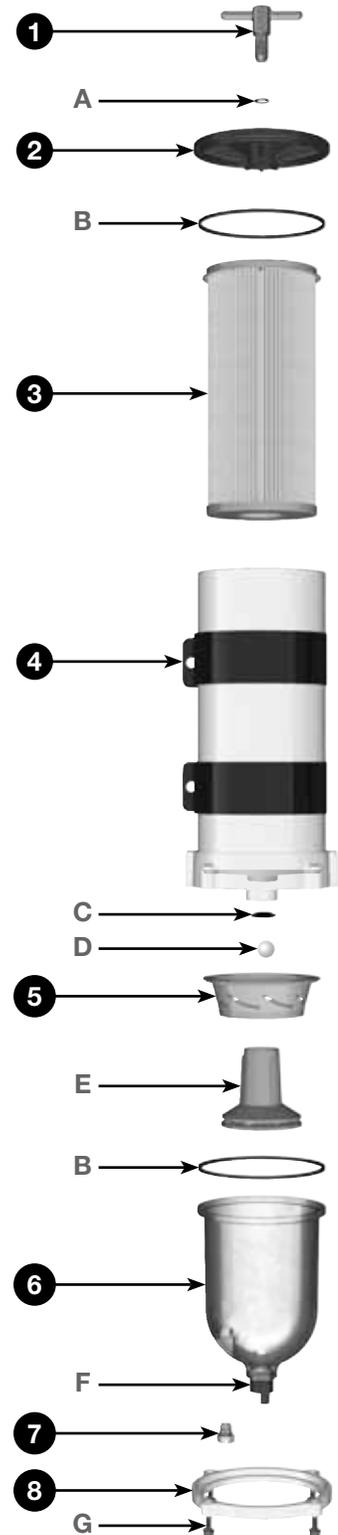
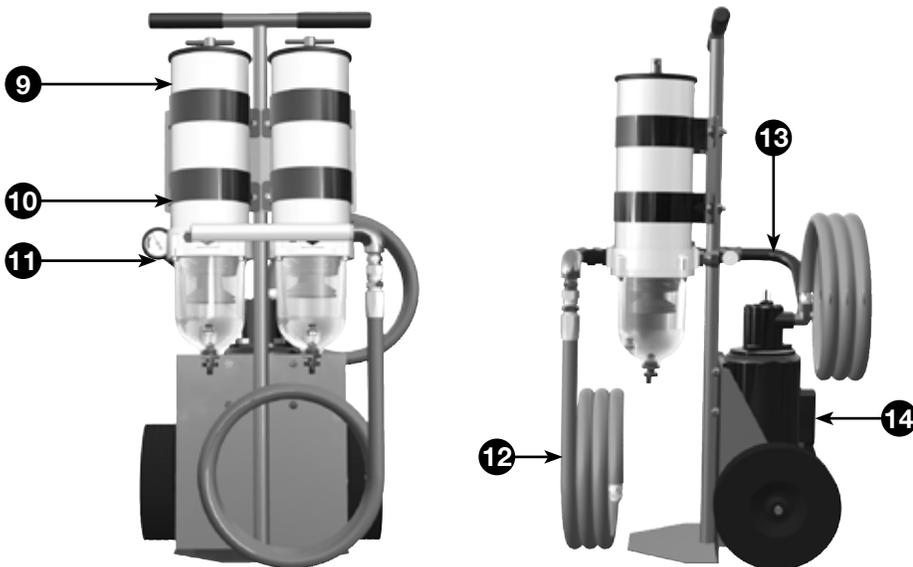
Replacement Parts

1000FH10

Part No.	Description
1. RK 11-1945	T-handle and O-ring Kit (includes A)
2. RK11-1927-01	Lid Kit (includes B)
3. 2020TM-OR	Replacement Filter (10 Micron) (includes A & B) Other filter options: 2020SM-OR (2 micron) 2020PM-OR (30 micron)
4. RK 11815-103	Mounting Bracket Kit
5. RK 11-1939	Conical Baffle and Turbine Centrifuge Kit (includes B, C, D, & E)
6. RK 11-1938	See-thru Bowl with Drain and Plug Kit (includes B, F, & 7)
7. RK 20126	Bowl Plug Kit
8. RK 11037A	Bowl Ring (includes B & G)
G. RK 11542	Cap Screw Kit

800D-5REC-D

Part No.	Description
9. 1000FH10	Fuel Filter/Water Separator (X2)
10. RK 11815-103	Mounting Bracket Kit
11. Contact Factory	Compound Gauge Kit
12. Contact Factory	STK Hose
13. Contact Factory	Hose Assembly Pipe Inlet
14. Contact Factory	Pump Motor 3GPM 110/220 Kit

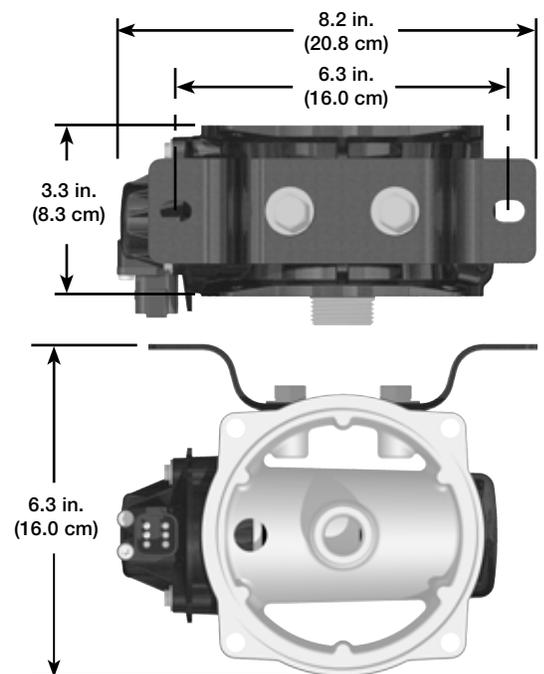
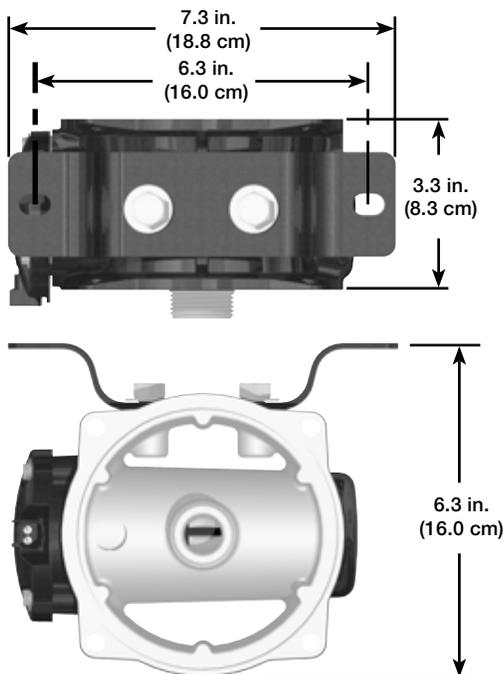


Filterpumps Overview



	RKP1912	RKP1924
Power (Voltage)	12 volt (Brushed)	24 volt (Brushless)
Max. Flow Rate	60 GPH (227 LPH)	60 GPH (227 LPH)
Filter Micron Rating	100 micron	100 micron
Height	3.3 in. (8.4 cm)	3.3 in. (8.4 cm)
Width	7.3 in. (18.8 cm)	8.2 in. (20.8 cm)
Depth	6.3 in. (16.0 cm)	6.3 in. (16.0 cm)
Weight (dry)	2.3 lb (1.0 kg)	2.3 lb (1.0 kg)
Ambient Temp. Range	-40° to +250°F (-40° to +121°C)	
Max. Fuel Temp.	190°F (88°C)	

Mounting & Dimensions

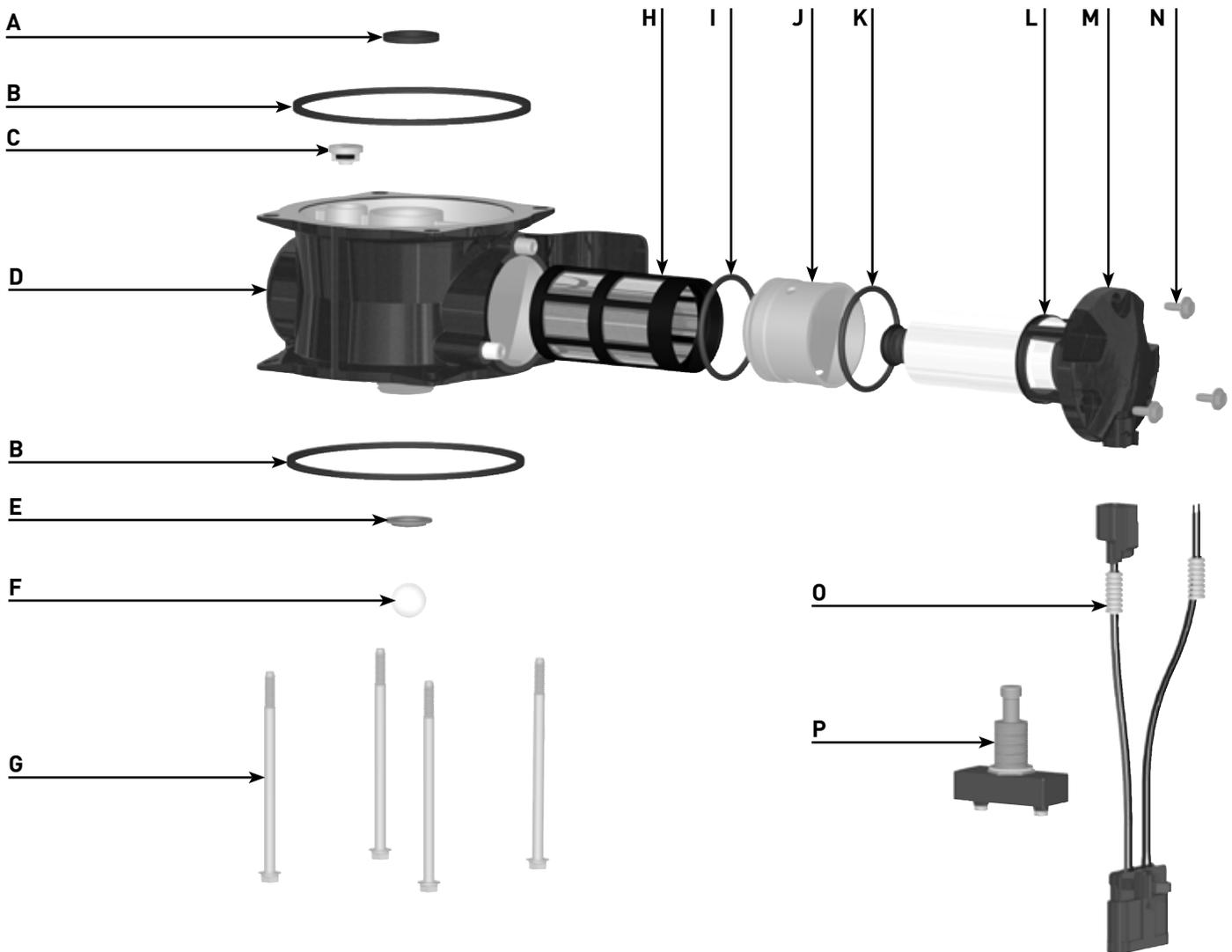


Questions? Contact Technical Support:
 800 344 3286 or 209 521 7860 ext. 7555
 e-mail: racortech@parker.com

Filterpumps

RKP1912 Part Breakdown

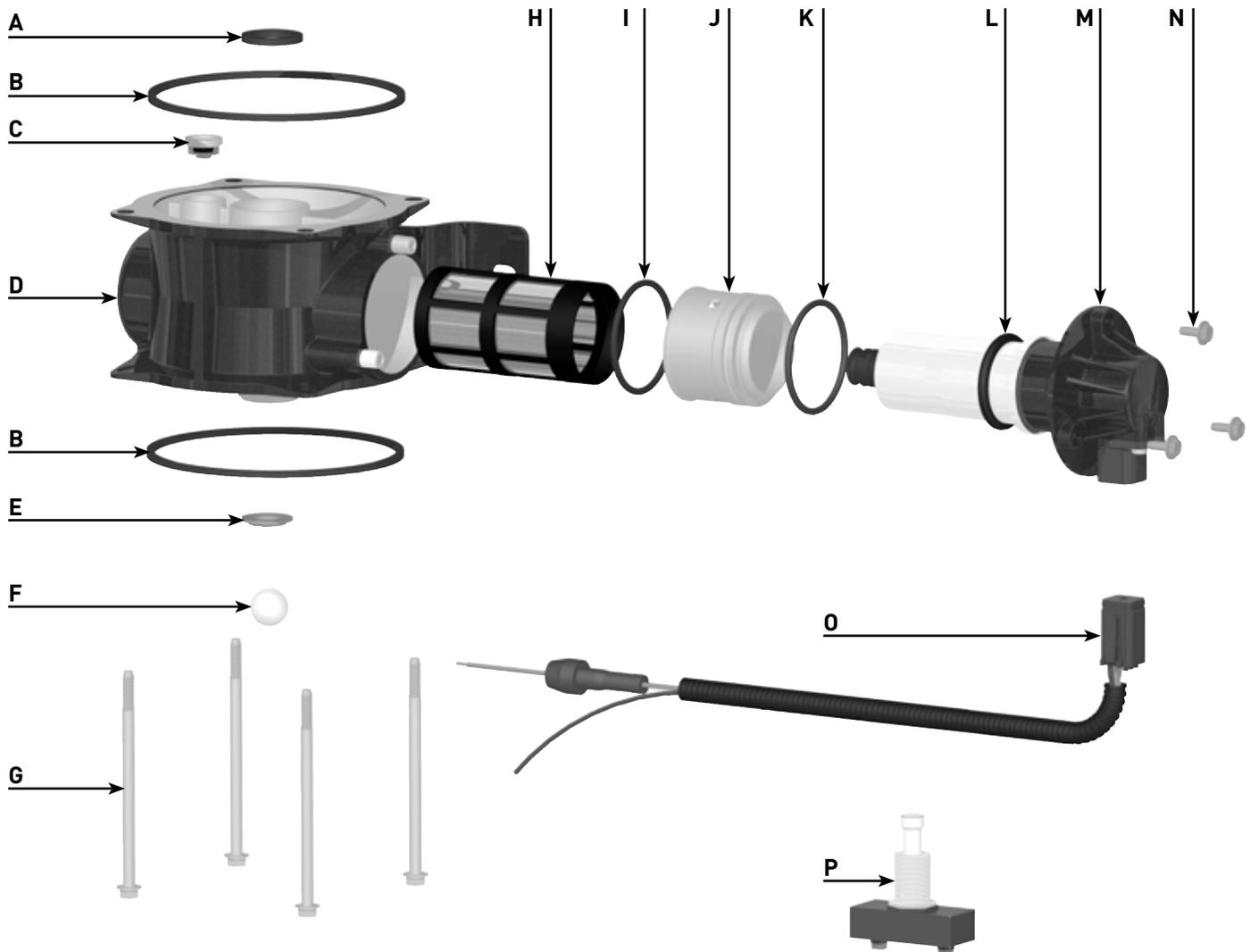
Description		Description	
A	Rubber Gasket	I	Adapter O-ring
B	Housing O-ring (x2)	J	Adapter
C	Check Valve - Primer Pump	K	Pump O-ring
D	Primer Pump Housing	L	Body O-ring
E	Checkball - Gasket	M	12V Primer Pump
F	Checkball	N	Pump/Head Screws (x3)
G	Mounting Screws (x4)	O	12V Connector Harness
H	Prescreen Element - RK22934	P	Push Button Switch



RKP1924 Part Breakdown

Description	
A	Rubber Gasket
B	Housing O-ring (x2)
C	Check Valve - Primer Pump
D	Primer Pump Housing
E	Checkball - Gasket
F	Checkball
G	Mounting Screws (x4)
H	Prescreen Element

Description	
I	Adapter O-ring
J	Adapter
K	Pump O-ring
L	Body O-ring
M	24V Primer Pump
N	Pump/Head Screws (x3)
O	24V Connector Harness
P	Push Button Switch



Questions? Contact Technical Support:
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 e-mail: racortech@parker.com

Accessories

FPM-050

Fuel Polishing Module

How it works, the advantages of daily fuel polishing

As diesel fuel warms through engine use or the daily heat of the sun, its natural capacity to absorb water increases, dissolving and dispersing a percentage of any water in the tank. When the fuel cools, this dissolved water desorbs into a bacteria harboring emulsified suspension. By flowing the fuel gently over many hours, the FPM maximizes your filter's ability to separate this difficult to remove emulsion and filter out particles.

Benefits:

- **Daily fuel maintenance keeps fuel dry, promoting a bacteria-free environment & preventing contaminant build-up**
- **Reduces the need to use expensive fuel treatments and additives**

- **Patented solid state technology consumes only 150 mA, minimizing battery drain and enabling continuous fuel maintenance. Unit can be run off a small solar panel**
- **Breakthrough technology allows for fuel maintenance during engine down time and off-season storage**



Specifications	FPM-050
Filtration Rate	50 gallons per day (up to 350 gallons per week)
Power Requirements	less than 2 watt (less than 3A-hrs per day)
Internal Pressure Drop	less than 0.5 PSI
Voltage Requirements	10-16 VDC, 12 VDC nominal
Approximate Dimensions (Body)	3.8" L x 2.47" H x 2.14" D
Approximate Dimensions (with Bracket)	3.87" L x 4.48" H x 2.14" D
Ports (Inlet & Outlet)	$\frac{3}{8}$ " NPTF, Recirculation - $\frac{1}{4}$ " NPTF
Weight	less than 2 lbs.
Acceptable Fuels	diesel, biodiesel, kerosene
Connections	includes 18 AWG leads

Note: Actual flow rate is system dependent
 Note: Not compatible with gasoline or other flammable liquids

FPM-PTC-12

Programmable Timer/Controller for FPM

Benefits:

- **Easy to install enclosure can be flush - or surface - mounted**
- **Programmable timer can control common appliances to save energy and increase safety and security**
- **Customize to any schedule with up to 8 daily switching cycles**
- **Compatible with 12 VDC systems and appliances**
- **Enables unattended fuel polishing when used with a Parker Fuel Polishing Module**
- **Splash proof enclosure protects timer from harsh environments**



Specifications	FPM-PTC-12
Switch Type	single pole/single throw
Switch Current Rating	10 A at 25°C, 16 at 40°C
Operating Voltage	12 VDC nominal
Connections	includes 18 AWG leads
Operating Range	14° F (-10°C) to 131°F (55°C)
Overall Size	3.95" diameter x 1.68" deep (including cover)
Approximate Weight	0.75 lbs
Mounting	#4 screws recommended

Accessories

REF600LE

Solid State Electronic Flasher



Overview:

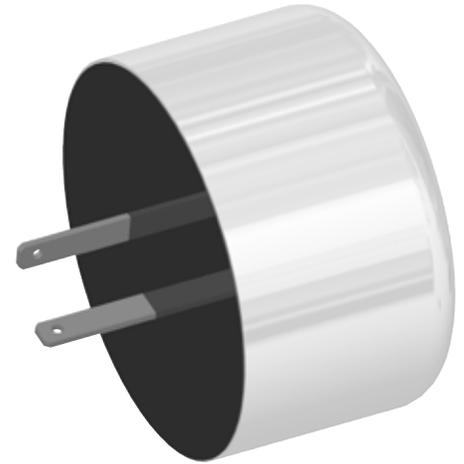
The REF600LE is suitable for today's longer rigs requiring more lamps, as well as many special need vehicles. These 12 volt power houses generate over 100 million flashes per flasher for optimum value. Proven reliable in years of field testing, each flasher features overload and short protection, 14-bulb capacity, no ground wire, and can be reset.

Product Features:

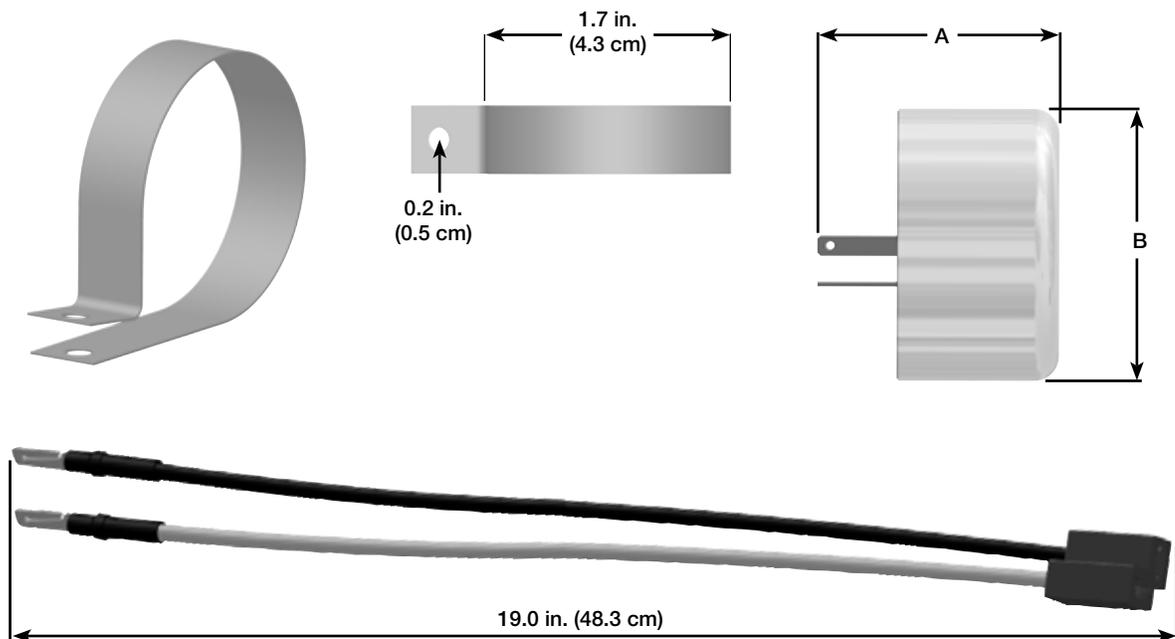
- **Overload and Short Protection**
- **Fallout History of Less Than One Tenth of One Percent**
- **14-Bulb Capacity**
- **Handles 30 Amps**
- **No Ground Wire**
- **Resettable**

Specifications

REF600LE	
Power Supply	12 Volt
Power Handling	30 Amps
Maximum Bulb Capacity	14
Flash Count	>100,000,000
Depth (A)	1.5 in. (3.8 cm)
Diameter (B)	1.7 in. (4.3 cm)
Weight	0.3 lb (0.14 kg)



Dimensions



Accessories

Replacement Parts

<u>Part Number</u>	<u>Description</u>
1. REF600LE	Solid State Electronic Flasher (includes #'s 2 and 3)
2. N/A	Mounting Clamp
3. N/A	Wire Harness

Additional Parts (not shown)
14391 Installation Instructions



RK22936 No Spill Filler Spout

These versatile filler spouts have unlimited uses. They fit many Racor products including additives bottles and the flexible design allows users to bend the spout for flow control. This kit includes 4 hanging strips with 12 pieces on each strip; that's a total of 48 pieces per kit.



RK 31605 Parker Super O-lube

Another great product that helps with the installation of our filter assemblies and ensures a correct seal. Parker Super O-lube has a silicone base and will not harm O-rings, seals and other gaskets. Available in a 2 oz. tube which gives you plenty to go around. One 2 oz. tube per kit.



RK 22628 Bowl Wrench

Racor offers a hand wrench to remove all metal and see-thru Spin-On bowls that feature external ribs. By simply fitting the wrench over the bowl ribs, the bowl can be removed from the replaceable Spin-On element, or filter housing with little effort. The wrench is made of a corrosion proof, high-impact, high-strength engineered polymer. One bowl wrench per kit.



Accessories

Water Probe Kits

Racor offers a wide selection of water probes, each designed for use with particular models and installation requirements. These probes are available in various configurations to fit every Racor filter/separator. The water probe is only a component in the water detection system and will

not work without a Racor electronic detection module (see next two pages).

The **RK30880** has the electronic detection module built-in to its design and has the simplest installation procedure. Multiplex units must use

one probe for each collection bowl but only one water detection module is needed. Wiring instructions are supplied with each water detection module sold Use the guide below to find the correct probe for your application.



Specifications	RK 21069	RK 30964	RK 30880
Threads	1/2"-20 Threads	1/2"-20 Threads	1/2"-20 Threads
Description	One piece design with two wires. Requires a detection module.	Includes detachable 2-wire connector. Requires a detection module.	Includes detachable 3-wire connector, built-in detection electronics and under-dash warning light. Probe sends ground signal to light.
Voltage	12 or 24 vdc	12 or 24 vdc	12 or 24 vdc
Power Draw: (12 volt) (24 volt)	N/A	N/A	5 Milliamps 10 Milliamps
Maximum Load	N/A	N/A	1 Amp
Weight	0.03 lb (0.01 kg)	0.02 lb (0.01 kg)	0.4 lb (0.2 kg)

Caution: Never wire a water probe directly to voltage or another brand of detection module.

RK 21069 Replacement Part List

RK 21069 Water Probe
(one piece design)



RK 30964 Replacement Part List

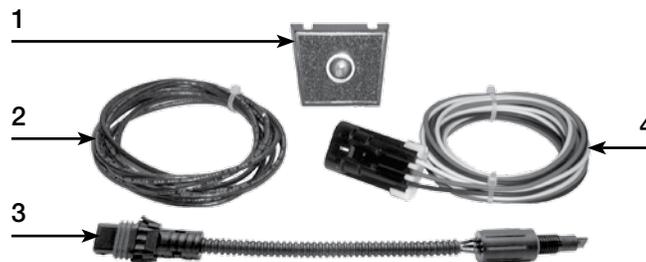
1. RK 30902 Water Probe
2. 30904 Connector



RK 30880 Replacement Part List

(individual components NOT sold separately)

1. Light Panel
2. 14GA Black Wire
3. Water Probe with Male Connector
4. Three Wire Female Connector



Accessories

Water Detection Modules

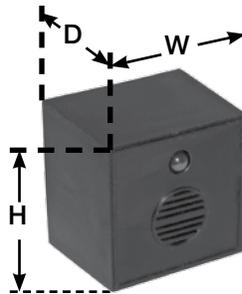
Racor Water Detection Kits are available in a wide selection for various installation requirements. Under dash, in-dash and remote mount, these solid-state units may be used with any Racor fuel filter/water separator and water probe. They are manufactured

using the highest quality materials and are all 100% electrically tested.

An electric detection module analyzes electrical resistance at the water probe and determines if water is present. If so, the detection module operates to indicate water, based on

its features listed below. All units reset automatically after water is removed (unless specified). All water detection module kits include an RK21069 water probe.

Under Dash



Specifications	RK 12870	RK 12871	RK 20725	RK 20725-24
Voltage	12 vdc	24 vdc	12 vdc	24 vdc
Features	Light and Buzzer	Light and Buzzer	Light Only	Light Only
Description	Lamp illuminates and buzzer sounds when water is detected. Water must be drained to reset light and stop buzzer.	Same as RK12870	Green ON lamp illuminates with power and red DRAIN lamp illuminates when water is detected. Includes initial power-up self diagnosis feature & circuit protection.	Same as RK20725
Dimensions	1.4" H x 1.25" D x 1.4" W	1.4" H x 1.25" D x 1.4" W	1.0" H x 1.5" D x 2.0 W	1.0" H x 1.5" D x 2.0 W
Power Draw	1 Milliamp	1 Milliamp	10 Milliamps	10 Milliamps
Max. Internal Load	30 Milliamps	30 Milliamps	30 Milliamps	30 Milliamps
Weight	0.2 lb (0.1 kg)	0.2 lb (0.1 kg)	0.4 lb (0.2 kg)	0.4 lb (0.2 kg)

11-1048 Conversion Kit

Introduction

The 11-1048 conversion kit converts a RK12870 or RK12871 electronic water detection module from under-dash mounting to in-dash see image below.

Description

1. Mounting Bracket
2. Face Plate
3. (2) #6 x 3/8" Screws

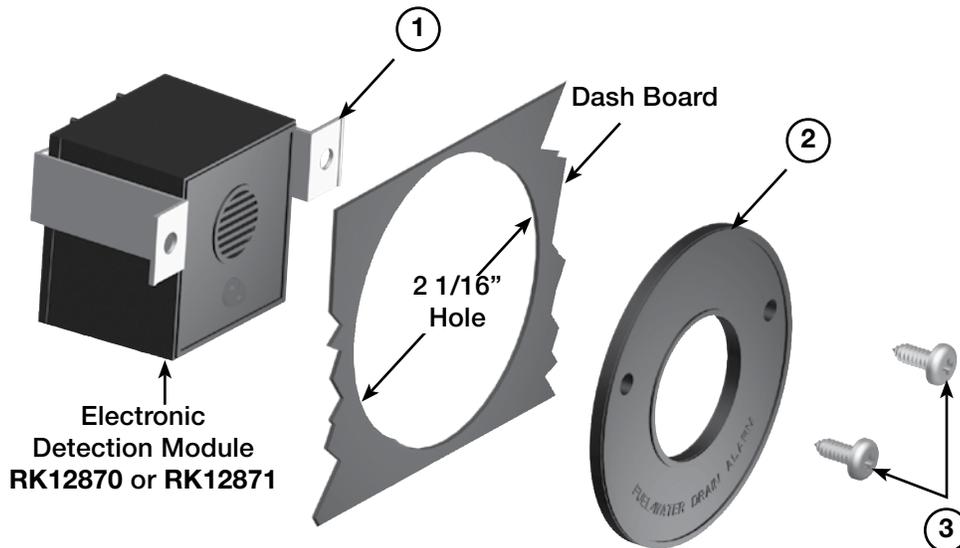
Installation

Slide metal bracket onto back of a electronic detection module. Verify bracket fits snugly between raised bracket guides on alarm's back cover.

Insert face plate onto 2 1/16" diameter hole. Align holes in face plate at top half of opening. Insert screws into face plate holes.

While holding face plate and screws in place, bring electronic detection module with attached metal bracket up behind opening. Align holes in metal bracket with screws.

Tighten screws with Phillips screw driver until assembly is snug—do not overtighten. (see 11-1049 Installation Instructions for more information).



Accessories

Water Detection Modules In Dash



Specifications	RK 20726	RK 11-1570
Voltage	12 or 24 vdc	12 or 24 vdc
Features	Light & Buzzer	Light & Buzzer
Description	Red DRAIN lamp illuminates continuously and buzzer sounds momentarily when water is detected. Power-up self diagnosis feature and circuit protection included.	Includes pre-set vacuum switch (12in.Hg.), connector and outlet adapter fitting. The red DRAIN or CHANGE FILTER lamps illuminate continuously and buzzer sounds momentarily when water is detected.
Dimensions¹	2.2" Diameter x 3.2" Depth	2.2" Diameter x 2.0" Depth
Power Draw: (12 volt) (24 volt)	3 Milliamps 13 Milliamps	3 Milliamps 14 Milliamps
Max. Internal Load	30 Milliamps	30 Milliamps
Weight	0.4 lb (0.2 kg)	0.9 lb (0.4 kg)

¹ Cut 2.0" diameter hole to mount gauges in instrument panel.

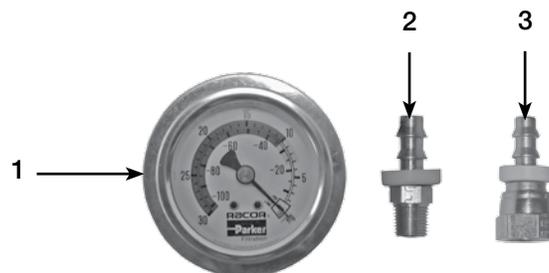
Remote-Mount Water Detection Modules



Specifications	RK14329	RK14321	14332
Voltage	12 vdc	24 vdc	12 vdc
Features	Sends Hot (+) Signal	Sends Hot (+) Signal	Sends Ground (-) Signal
Description	Receives a signal from a water probe or vacuum switch (not included) and then sends a signal to a horn or lamp. Must be used with a relay if power draw is over 1 amp.	Same as RK14329 but sends 24 vdc hot (+) signal.	Same as RK14329 but sends 12 vdc ground (-) signal
Dimensions	0.7" H x 2.5" D x 2.8" W	1.0" H x 1.5" D x 2.0 W	1.0" H x 1.5" D x 2.0 W
Power Draw	14 Milliamps	10 Milliamps	10 Milliamps
Max. Internal Load	30 Milliamps	30 Milliamps	30 Milliamps
Weight	0.3 lb (0.1 kg)	0.4 lb (0.2 kg)	0.4 lb (0.2 kg)

1606B Part List

- 1. RK11233 Vacuum Gauge
- 2. 7232-4 Adapter Fitting (1/8" NPTM x #4 (1/4") hose)
- 3. 7234-4 Adapter Fitting (1/4" swivel x #4 (1/4") hose)
- 11-1115 Installation Instructions



Accessories

Vacuum Gauges

Vacuum gauges are available to monitor element condition and as the filter element slowly becomes clogged with contaminants the restriction (resistance to flow) increases. The fuel pump still tries to draw fuel (suction) but because of this restriction less fuel is delivered to the engine and instead more air is pulled from it (fuel de-gassing). These results can cause the engine to lose power and eventually stall.

By installing a vacuum gauge in your fuel system (at the outlet side of the Racor filter) visual monitoring of element condition is possible at a glance. At the first indication of decreased performance, note the dial reading or apply the 'red line' decal provided with most kits. This will assist in knowing when to change the filter at the next interval.



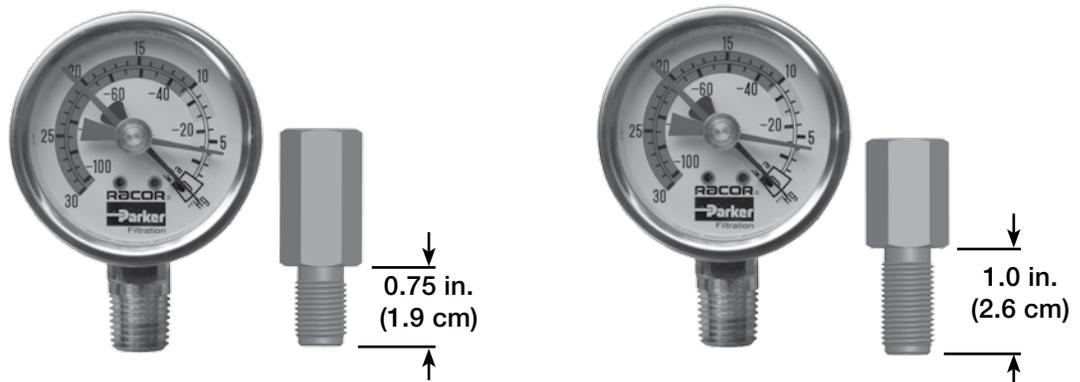
Specifications	RK 11233	1606B
Description	Silicone dampened, 0-30 inHg. Instrument panel installation.	Includes gauge and two fittings (see below). Instrument panel installation.
Threads	¼" NPT back bracket mount.	¼" NPT back bracket mount.
Dimensions	2.0" W x 1.9" D	2.0" W x 1.9" D
Dial	2 in.	2 in.
Weight	0.4 lb (0.2 kg)	0.4 lb (0.2 kg)

Special Notes: For severe vibration applications, mount the gauge on a stable, remote location and connect to the source using flexible tubing. After September 1999, Racor converted many liquid-filled gauges to new silicone dampened movement. This new (dry) technology provides a vibration resistant design that never leaks fluid or requires adjustments due to temperature or altitude variations.

T-handle Vacuum Gauge

T-handle vacuum gauges are available to monitor element condition and as the filter element slowly becomes clogged with contaminants the restriction (resistance to flow) increases. The fuel pump still tries to draw fuel (suction) but because of this restriction less fuel is delivered to the engine and instead more air is pulled from it (fuel de-gassing). These results can cause the engine to lose power and eventually stall.

By installing a vacuum gauge in your fuel system (at the outlet side of the Racor filter) visual monitoring of element condition is possible at a glance. At the first indication of decreased performance, note the dial reading or apply the 'red line' decal provided with most kits. This will assist in knowing when to change the filter at the next interval.



Specifications	RK11-1969	RK 11-1669
Description	500FG units only. T-handle vacuum gauge kit includes gauge & 11-1969 Fitting 9/16"-18 UNF	For 900FH & 1000FH units only. T-handle vacuum gauge kit includes gauge & 11-1668 Fitting, 9/16"-18 UNF
Threads	1/4" NPT bottom boss mount.	1/4" NPT bottom boss mount.
Dimensions	2.0" W x 1.1" D	2.0" W x 1.1" D
Dial	2 in.	2 in.
Weight	0.3 lb (0.1 kg)	0.3 lb (0.1 kg)

Special Notes: For severe vibration applications, mount the gauge on a stable, remote location and connect to the source using flexible tubing. After September 1999, Racor converted many liquid-filled gauges to new silicone dampened movement. This new (dry) technology provides a vibration resistant design that never leaks fluid or requires adjustments due to temperature or altitude variations.

Accessories

Compound Gauge Kits

Compound gauges are recommended for applications where pressure is occasionally present. These conditions are typically a result of 'head' pressure which is present in overhead fuel tank installations. Whatever the reason, compound gauges should be

used because damage may result if a straight vacuum only gauge is used. Liquid filled (glycerin) gauges are recommended for high-vibration and pulsation applications (not engine mounted).



Specifications	RK11-1676E
Description	0-25 inHg / 0-15 PSI.
Threads	1/4" NPT bottom mount.
Dimensions	2.0" W x 1.1" D
Dial	2 in.
Weight	0.2 lb (0.1 kg)

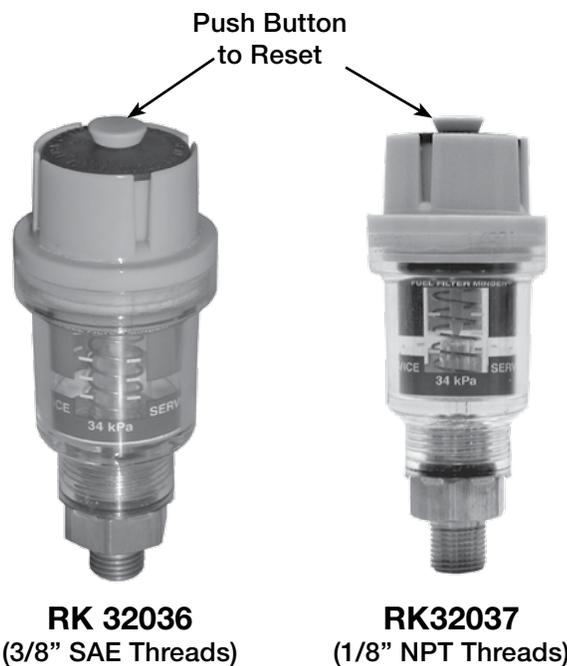
Special Notes: For severe vibration applications, mount the gauge on a stable, remote location and connect to the source using flexible tubing.

Vacuum Restriction Indicators

RK 32036 and RK32037

Vacuum restriction indicators monitor element condition as the filter slowly becomes clogged with contaminants. As the element gets dirty, restriction increases and less fuel is delivered to your engine causing the engine to lose power and eventually stall.

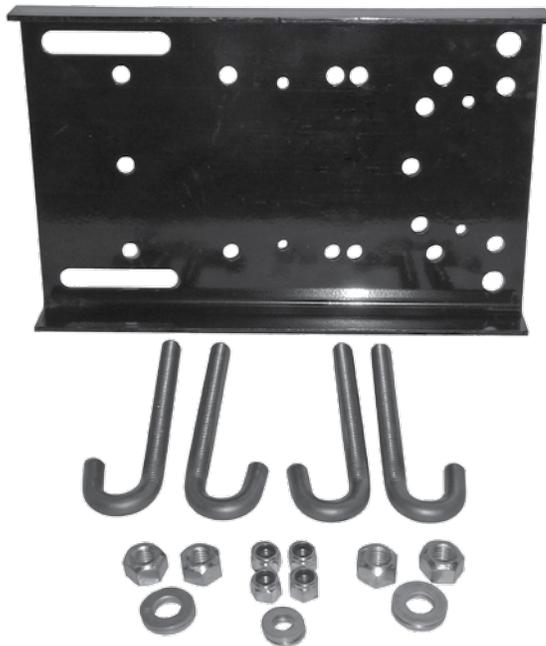
By installing a vacuum indicator in your fuel system, visual monitoring of element condition is possible at a glance, increasing fuel system troubleshooting efficiency, eliminating guess work, and lengthening element change intervals.



CAUTION: Do not use with gasoline applications!

Accessories

Mounting Bracket Kit



Specifications		RK 11-1518
Description	Frame Rail Mounting Bracket Kit. Features an adjustable powder coated 10 gauge steel design to fit frame rails up to 10" X 3 3/4" and 1 3/16" thick. Includes mounting hardware.	
Weight	6.0 lb (2.7 kg)	

OEM Kits

RK 31923

F540/550 Bracket, Hose and Fittings Kit:
 This kit is designed for use with 1999 and newer 2 wheel drive (2WD) and 4 wheel drive (4WD) vehicles. For this application the 645R30 model fuel filter/water separator (30 micron primary filter element) is suggested - order separately. For colder climate applications, the heated version is recommended: 645R1230 (this model includes a 12 vdc, 200 watt in-bowl heater - order relay kit number RK 11861 unless your vehicle can accommodate a 17 amp draw at startup).



RK32313

DMAX Primary Fuel Filter Kit:
 This primary fuel filter kit was designed specifically for General Motors pickups (extended cab and crew cab only) with 6.6L Duramax Diesel engines.

Kit Includes:

Qty	Part No.	Description
1	11-1962	Primary Filter Label
1	RK 11861	12v Heater Relay Kit
4	11801	3/8"-16 X 1.5 Capscrews
8	11080	3/8" SAE Flat Washers
4	11901	3/8"-16 Self-locking Hexnuts
12	11114	6 3/4" Plastic Wire Ties
2	11-1220	3/8" Ring Terminals
2	12252	Wire Splice Connectors
2	911-N6-H8	3/8" NPT X 1/2" Hose Fittings
2	32280	1/2" Hose X 1/2" Tube Fittings
4	50016	#10 Hose Clamps
1	660R1210	Fuel Filter/Water Separator
1	32312	#8 X 36" Rubber Hose
1	32311	Filter Bracket
1	32314	Water Sensor/Harness Kit

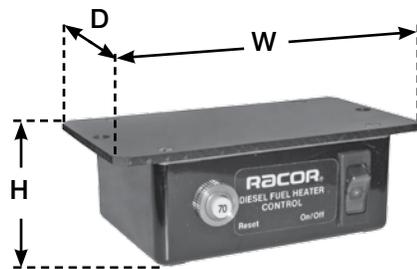
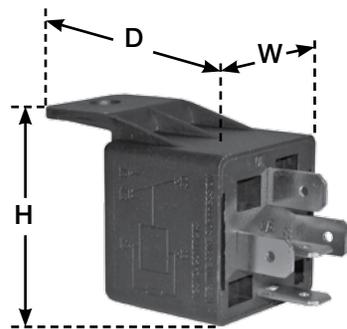
Illustration does not show all components.



Accessories

Electrical Heater relay Kits

The following relay kits may be necessary when installing Racor Heater Kits due to the power demand. Standard OE fuses, wiring and alternators may be unable to carry the load without overheating or potential shorting, creating a serious condition.



Specifications	RK 11861	RK 11862	RK 19490-12	RK 19490-24
Description	Heater Relay Kit, Includes fuse and holder.	Heater Relay Kit, Includes fuse and holder.	Heavy-Duty Relay Kit	Heavy-Duty Relay Kit
Voltage	12 vdc	24 vdc	12 vdc	24 vdc
Detection Module	Remote Mount	Remote Mount	Under Dash	Under Dash
Maximum Watts	300	360	600	900
Maximum Amps	25	15	50	37
Dimensions	1.3" H x 1.6" D x 1.1" W	1.3" H x 1.6" D x 1.1" W	1.7" H x 2.9" D x 5.1" W	1.7" H x 2.9" D x 5.1" W
Weight	0.3 lb (0.1 kg)	0.3 lb (0.1 kg)	1.6 lb (0.7 kg)	1.6 lb (0.7 kg)

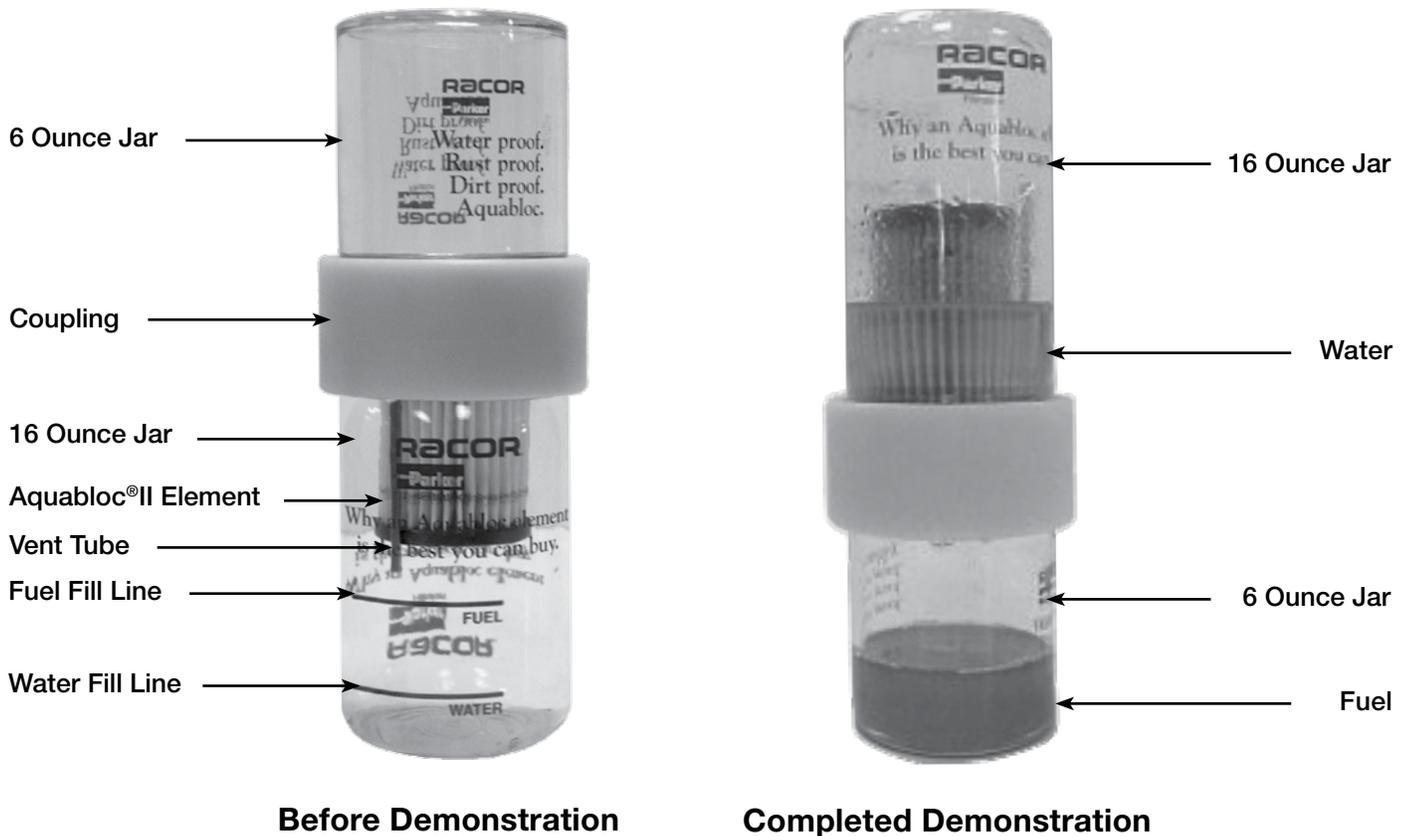
Caution: If you are uncertain if your electrical system can provide the additional power draw, consult your equipment dealer or qualified electrician.

12879

Aquabloc®II Demonstration Unit

The Racor Attache Aquabloc®II Demonstration Unit is a unique way of showing the exceptional water separation capabilities of our Aquabloc®II paper media. This demonstration will show that our Aquabloc®II paper media will easily separate a fuel/water mixture and

allow fuel to pass through the element while water is blocked and held back. This demonstration can be repeated many times with the same element and will prove that Racor Aquabloc®II elements are far superior than other elements on the market.



Accessories

025-RAC-13



Specifications	025-RAC-13
Maximum Flow Rate (with gasoline)	12 GPH (45 LPH)
Inlet/Outlet Port Size	3/8" Hose Bead
Replacement Element	N/A
Micron Rating (nominal)	12
Minimum Service Clearance	1.0 in. (2.5 cm)
Height	3.5 in. (8.9 cm)
Diameter	2.1 in. (5.3 cm)
Weight (dry)	0.1 lb (0.05 kg)
Maximum Working Pressure ¹	10 PSI (0.7 bar)
Water Removal Efficiency	N/A
Case Quantity	1
Ambient Fuel Temperature	-10° to 180°F (-23° to 82°C)
Maximum Fuel Temperature	160°F (71°C)

Special Notes: ¹ Pressure installations acceptable up to maximum PSI shown (vacuum installations recommended)

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