200 Series

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.

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. All models also have a spin-on contaminant collection bowl. 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.

Options for the 200 Series filters include: 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.

215R

230R

245R

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Mobile Fuel Filtration

200 Series



Specifications	215R	230R	245R
Maximum Flow Rate	15 GPH (57 LPH)	30 GPH (114 LPH)	45 GPH (170 LPH)
Port Size	1/4"-18 NPTF	1/4"-18 NPTF	1/4"-18 NPTF
Total Number of Ports *(total inlets)* *(total outlets)*	3 1 2	3 1 2	3 1 2
Minimum Servace 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:[2] *(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_2O Removal Efficiency	99%	99%	99%
Operating Temperature	-40° to +200°F (-40° to +93°C)		

200 Series

How To Order

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

*	230R	M	12	2
Add * for 14 mm fuel ports. (omit if not desired)	Specify a model number: **215R**, **230R**, or **245R**.	Add **M** for a metal bowl. (omit if not desired)	Add **12** or **24** for a 12 or 24 volt dc heater[1]. (omit if not desired)	Specify a micron rating: **2**, **10**, or **30**.

[1] Use with Racor rely kit—see Accessories. Standard fuel ports are 1/4"-18 NPTF (SAE J476). Mounting head includes in-head primer pump.

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

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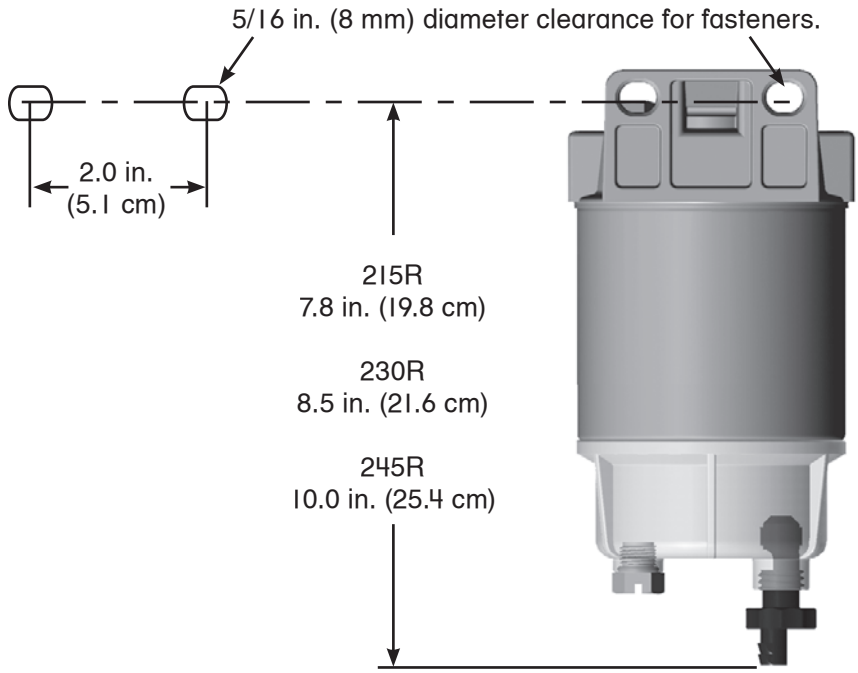
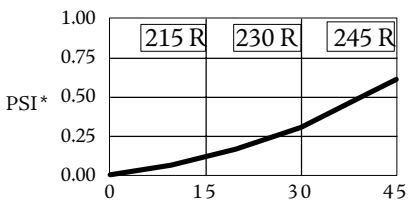
200 Series

Mounting Information

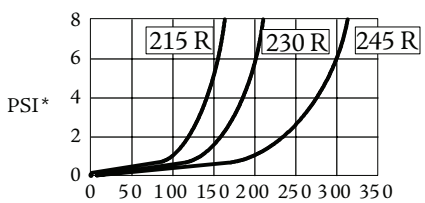


Test Data

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



Flow (GPH)
SAE J905 Fuel Flow Restriction

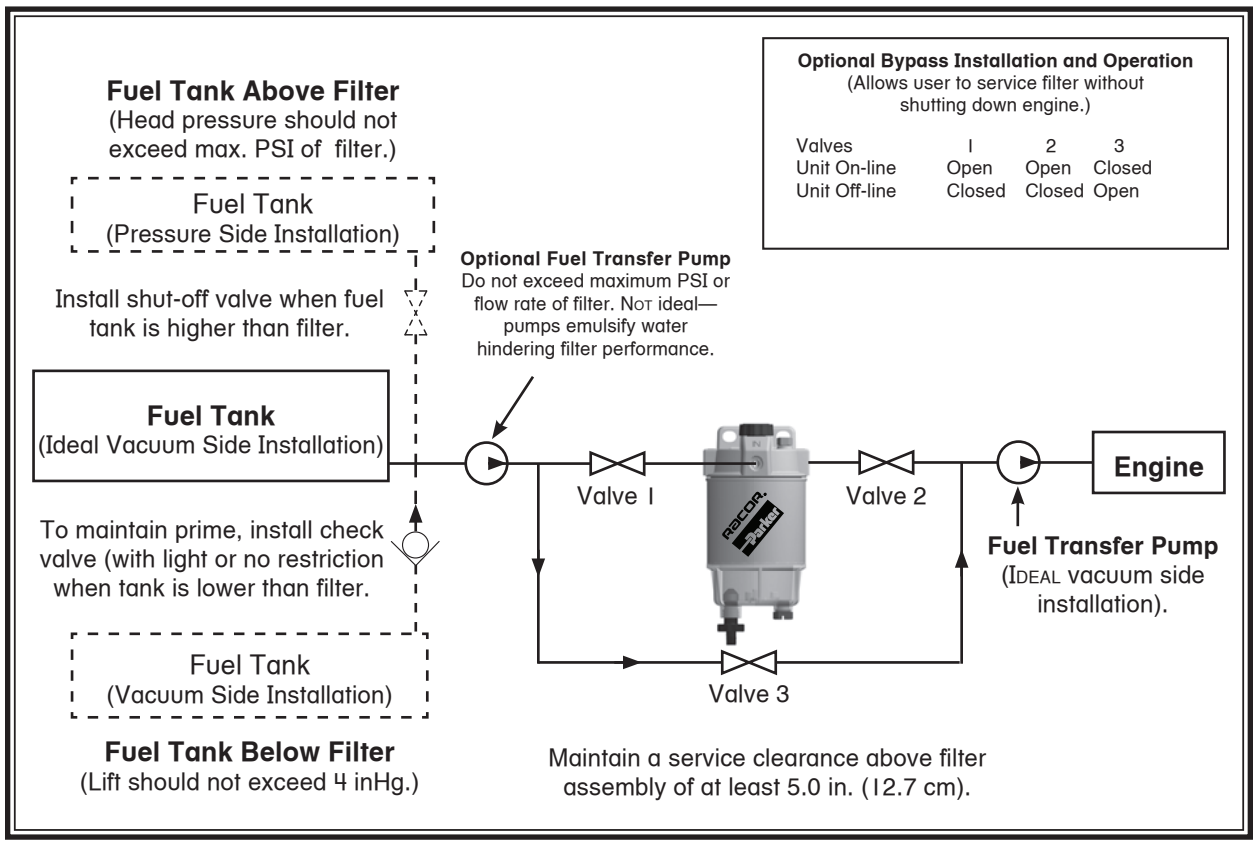


Grams
SAE J905 Solids Capacity
(using: SOFTC-2A; 10mic. elements)

PSI x 2.036=inHg. /PSI x

200 Series

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.

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200 Series

Installation

Exercise great caution when installing a 200 Series filter 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 Instructions and Installation Diagram and install as follows:

1. Make sure engine is off and cool to touch.
2. Apply thread sealant to 1/4" NPTF fittings.

   Warning: do not use thread tape as particles may break off and contribute to clogging element. Also, tape particles on **outlet** side of filter could jam or foul injectors.
3. Thread fittings into appropriate fuel ports and tighten snugly. Plug unused port, if any, with port plug and tighten snugly.
4. Mount filter vertically in a protected area and away from heat sources. Maintain at least 2.0 in. (5.1 cm) of clearance below filter for servicing.
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.

Service

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. Drain unit of fuel.
5. Remove bowl and set aside for rebuild. Dispose of used element properly.
6. Lubricate new element seals with motor oil or clean fuel and install onto new element.
7. Attach bowl to new element and install both onto mounting head. Tighten by hand only.
8. Connect water probe and heater connectors.
9. Open all fuel valves, if applicable.
10. Open vent plug and operate hand primer pump until fuel purges from vent.
11. Close vent plug and start engine. Correct as necessary with engine off.

200 Series

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). 200 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.

Warning! 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.

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

4. Tighten probe port plug or water probe snugly.
5. Follow priming instructions below.

Priming

1. Prime filter by removing bowl and element and filling with clean fuel.
2. Re-install bowl and element.
3. Verify all other connections are tight.
4. Start engine and check for leaks. Correct as necessary with engine off.

Trouble Shooting

If a 200 Series filter fails to hold prime, first check vent plug, 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.

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200 Series

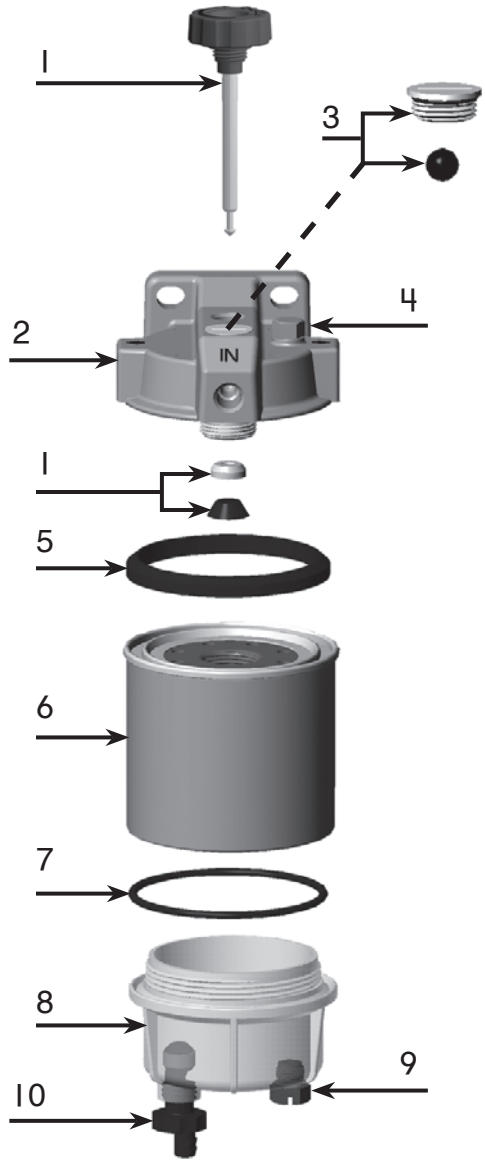
Replacement Parts

	Part Number	Description
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)
3.	**RK20011**	Check Ball and Plastic Cap Kit
	RK20742	Optional Metal Cap Kit
4.	**RK10110**	Metal Vent Plug Kit (3/8"-24 SAE threads)
5.	**22061**	Beveled Gasket
6.	(various)	Spin-on Elements (see Replacement Element chart)
7.	**RK22244**	Bowl O-ring Kit
8.	**RK22350-02**	Clear Bowl Kit (includes #'s 7-10)
	RK22354-01[1]	(same as above plus a 200 watt, 12 volt dc heater)
	RK22354-02[1]	(same as above plus a 200 watt, 24 volt dc heater)
	RK22368	Metal Bowl Kit (includes drain plug and O-ring)
	RK30499-01[1]	(same as above plus a 200 watt, 12 volt dc heater)
	RK30499-02[1]	(same as above plus a 200 watt, 24 volt dc heater)
9.	**RK20022**	Metal Plug (1/2"-20 SAE threads)
	RK20126	Plastic Plug (1/2"-20 SAE threads)
10.	**RK30476**	Self-venting Drain Kit

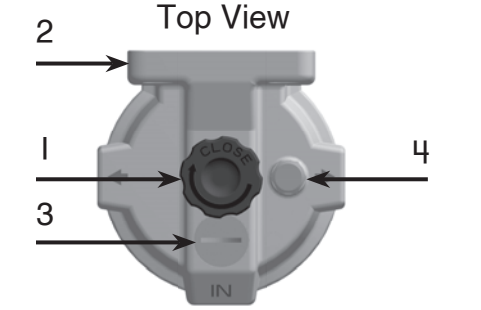
Additional Parts (not shown)

RK12041	Metal Port Plug Kit (1/4"-18 NPTF threads)
RK30876[1]	Heater Connector Kit
RK20075	Complete Seal Service Kit
22360	Installation Instructions

[1] Do not use on gasoline applications.



Top View



200 Series

Hand Primer Pump Upgrade

Old Head Kit RK20046
Old Primer Pump Kit# RK20025

New Head Kit RK20046-01
New Primer Pump Kit# RK20025-01

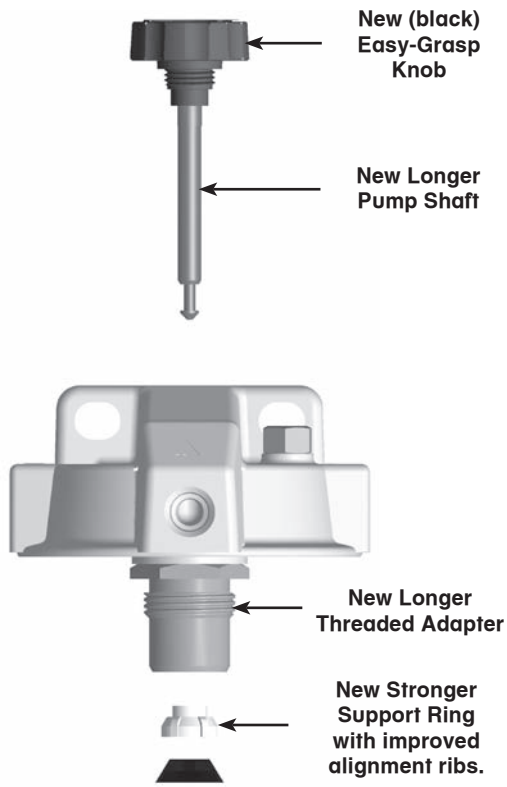
Benefits

- 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 stoke; 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

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