700 Series

Fuel Filter/Water Separators

Instruction Part Number 22909 Rev G

700 Series fuel filter/water separator assemblies are two-stage filtration and repriming systems. These complete fuel management systems isolate contaminants present in diesel fuels and trap them prior to reaching the fuel injection system, protecting the engine's fuel system from costly and premature failure.

Please read ALL instructions before beginning installation.

Contact Information:

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Required Materials:

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

- **Shop towels.**
- **Motor oil or clean diesel fuel.**
- **Two 7/8"-14 UNF fittings (SAE J1926).**
- **Fuel hose (biggest I.D. possible for application).**
- **3/8" mounting hardware.**

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Mounting

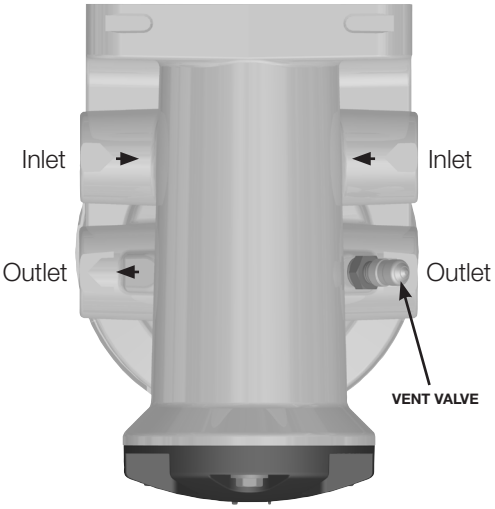
Keep all fuel lines and flow restrictions to a minimum. Use maximum size fuel hose possible. Do not use two 45° fittings where one 90° elbow will work.

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

Use 3/8″ diameter mounting hardware.

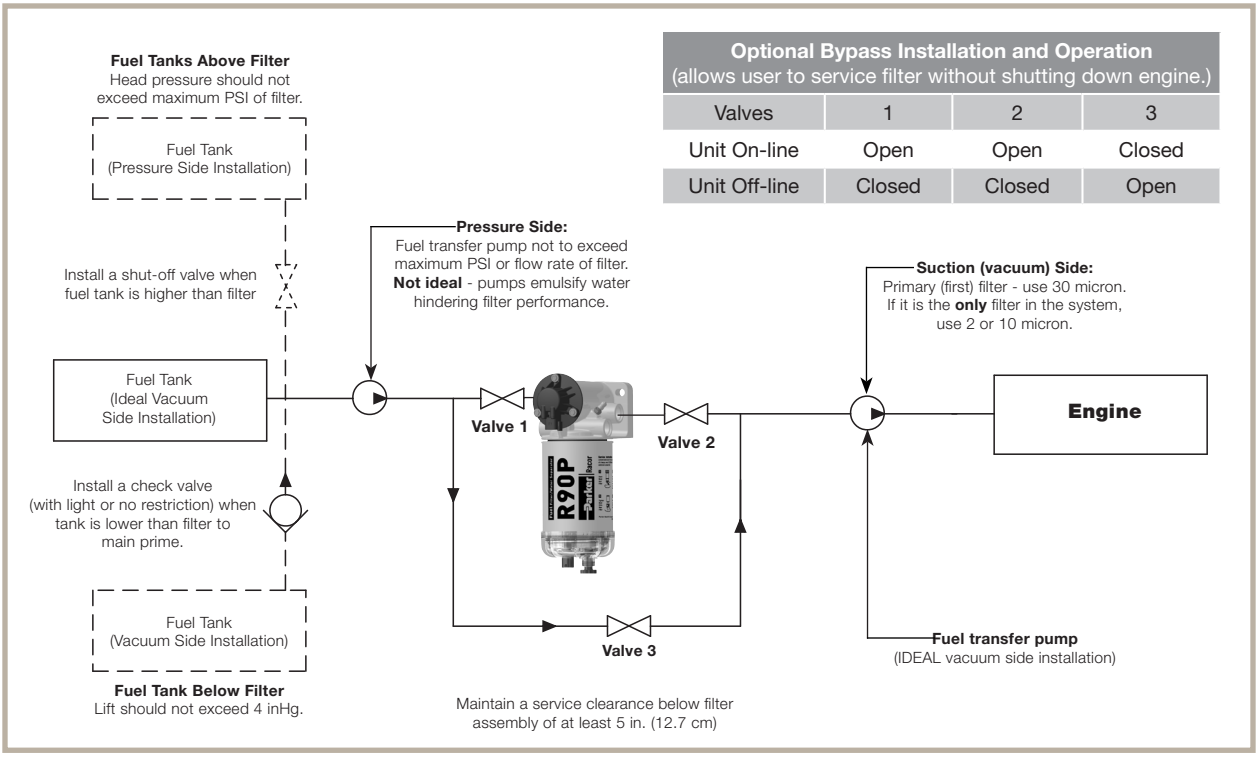
Mount filter vertically on suction (vacuum) side of fuel transfer pump (or injection pump).

Top View



Back View

Installation Diagram



Installation

Maintain a safe working environment. Obtain good ventilation and do not smoke or allow open flames near 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 lubricant to o-rings, and install fittings into appropriate inlet and outlet ports. Tighten snugly. Install port plugs in unused ports and tighten snugly.

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

Draining Water

Frequency of water draining 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.

Element Replacement

Replace element every 10,000 miles, 500 hours, every other oil change, if power loss is noticed, or annually, whichever occurs first.

Operation

For initial installation, repriming, or to restart after running out of fuel.

Turn ignition to ON position—**do not start engine**.

Remove cap from vent valve. Press and **hold** PRIME button on control panel **(12 volt only)—**this will activate primer pump and yellow ‘prime’ LED will illuminate.

Push button to start pump and fill assembly. Release button when system is filled **(24 volt only)**.

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.

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.

Installing the Control Panel

(12 volt System Only)

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.

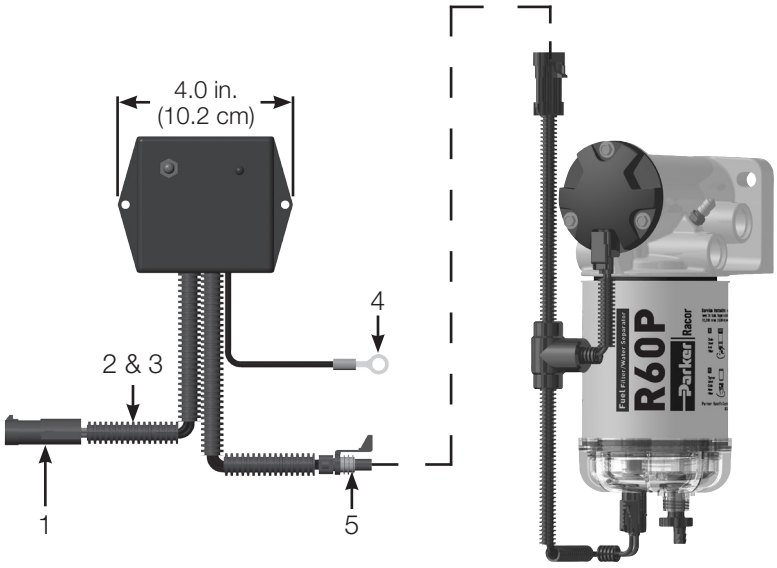
Use control box as a template to mark locations for mounting holes. Drill holes and mount control box.

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

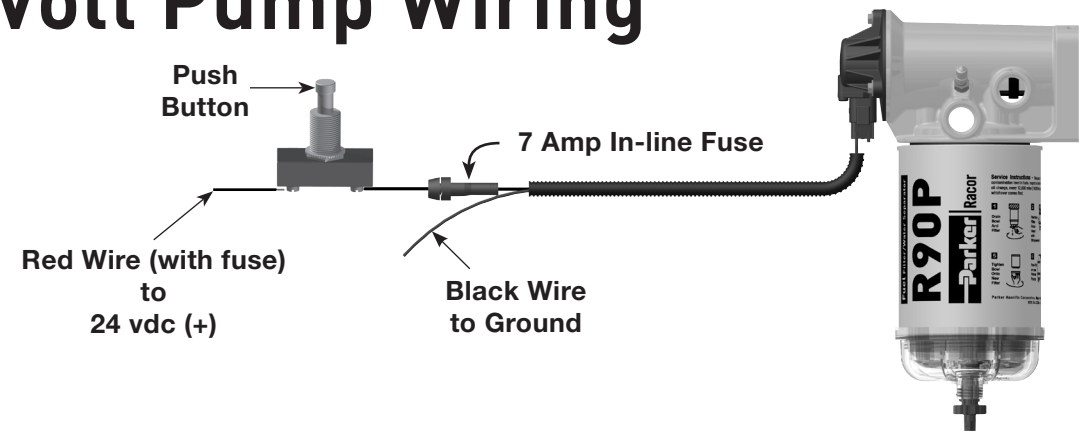
Use wire ties to secure wiring.

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.

12 Volt Control Panel **12 Volt Filter Assembly**

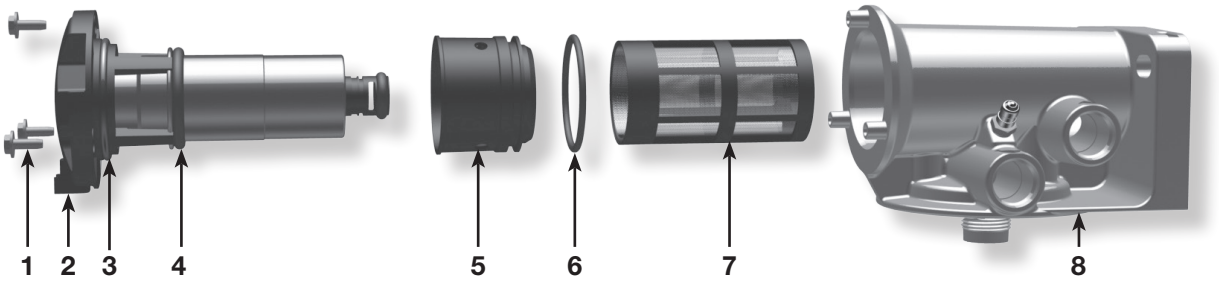


24 Volt Pump Wiring



Primer Pump Kits

(12 volt pump shown below)



12 volt Primer Pump Kit Parts List	
1.	Screws
2.	Pump
3.	Cover O-ring
4.	Body 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.	Cover O-ring
4.	Body 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)	

Notes: Completely drain assembly. Tear-down is performed in numerical order as shown (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 (scratch and debris free).

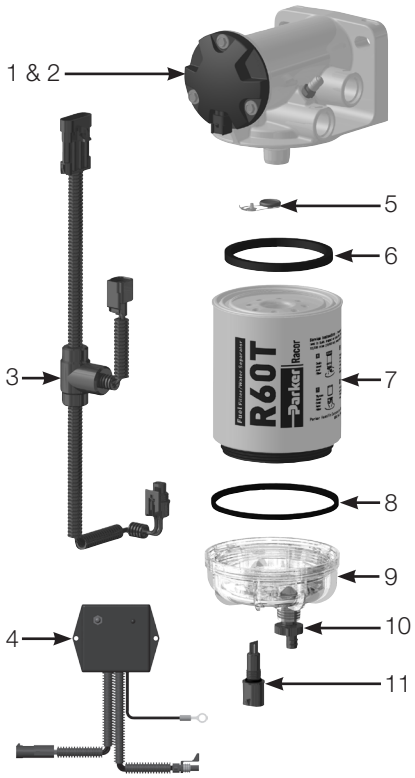
Prescreen filter can be cleaned and inspected for any holes or rips before replacement.

Clean in solvent bath with a soft brush and flush with diesel fuel.

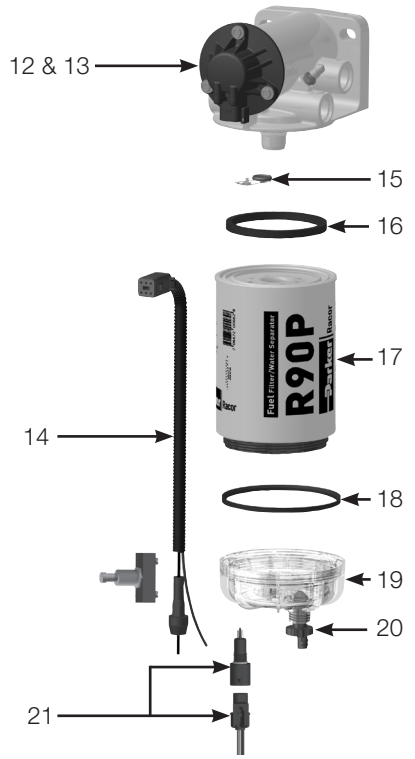
Prime the system and check for leaks. Correct as necessary with engine off.

Replacement Parts Lists

12 Volt Parts	Description		
1. RK22895	Replacement Pump Head with Pump		
2. RK22933	Primer Pump Kit (Includes pump, o-rings, screws, prescreen 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 Filters		
Model	**2 Micron**	**10 Micron**	**30 Micron**
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)		



24 Volt Parts	Description		
12. RK23085	Replacement Pump Head with Pump		
13. RK23087	Primer Pump Kit (Includes pump, o-rings, screws, prescreen 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 Filters		
Model	**2 Micron**	**10 Micron**	**30 Micron**
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** **RK22934**	Port Plug Kit Prescreen Element Kit (100 micron)		



Specifications

Models shown with factory installed filter elements

	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)
Priming Flow Rate	48 GPH (180 LPH)	48 GPH (180 LPH)	48 GPH (180 LPH)	60 GPH (227 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. (10.9 cm)	4.3 in. (10.8 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 (2.49 kg)	5.7 lb (2.59 kg)	5.9 lb (2.68 kg)	6.5 lb (2.95 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)
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

	7125R10	7125R1024	7125R30	7125R3024
Power	12 volt	24 volt	12 volt	24 volt
Max. Flow Rate	120 GPH (454 LPH)	120 GPH (454 LPH)	120 GPH (454 LPH)	120 GPH (454 LPH)
Priming Flow Rate	48 GPH (180 LPH)	60 GPH (227 LPH)	48 GPH (180 LPH)	60 GPH (227 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. (38.6 cm)	15.2 in. (38.6 cm)	15.2 in. (38.6 cm)	15.2 in. (38.6 cm)
Width	4.3 in. (10.9 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)	6.9 lb (3.13 kg)	6.9 lb (3.13 kg)	6.9 lb (3.13 kg)	6.9 lb (3.13 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)
Ambient Temp. Range	-40° to +250°F (-40° to +121°C)			
Max. Fuel Temp.	190°F (88°C)			

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