

# 804MA Series

## Marine Fuel Filter/Water Separators

Instruction Part Number 14378 Rev -



### Overview:

The 804MA Series fuel filter/water separators are designed to filter water and solid contaminants from diesel fuel and offer diesel engine operators ease of maintenance.

These assemblies feature legendary Racor Aquabloc®II technology (a 10 micron element is included as standard equipment) that protect high-tolerance injection components, keeps engines running at peak performance, and lowers maintenance costs. Large inlet and outlet ports allow for improved flow and less fuel flow restriction.



### Contact Information:

Parker Hannifin Corporation  
**Racor Division**  
P.O. Box 3208  
3400 Finch Road  
Modesto, CA 95353

phone 800 344 3286  
209 521 7860  
fax 209 529 3278  
racor@parker.com

[www.parker.com/racor](http://www.parker.com/racor)



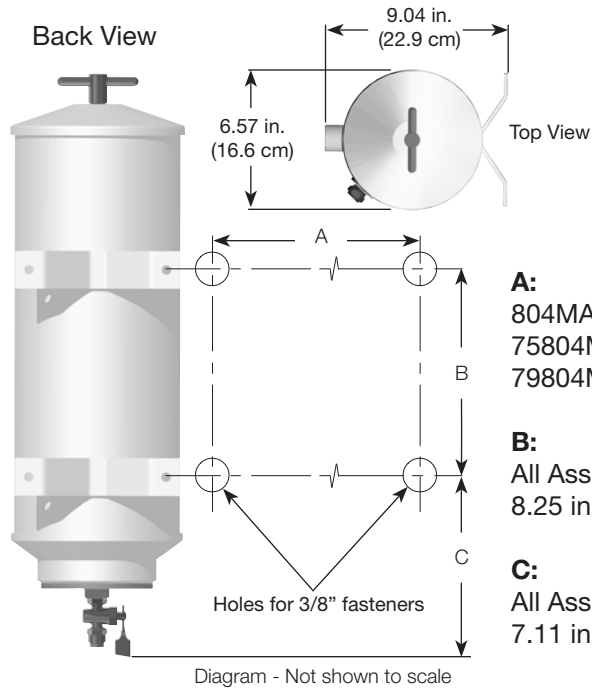
### Product Features:

- Removes 99% of free water
- Flow rates up to 540 GPH (2,044 LPH)
- Includes 2 inlets and 2 outlets for installation flexibility
- Water sight glass included as standard equipment
- Optional vacuum and compound gauges available

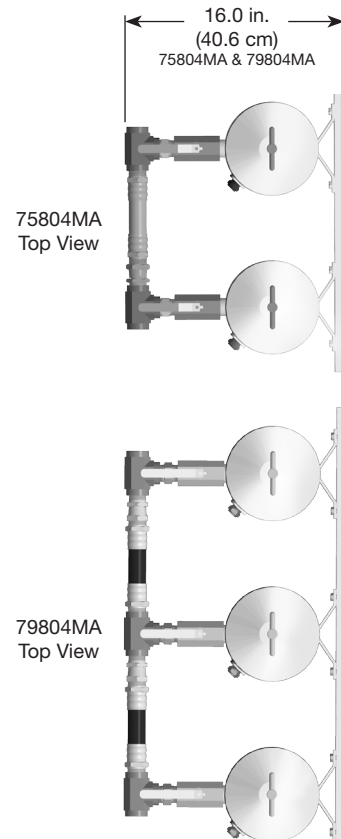


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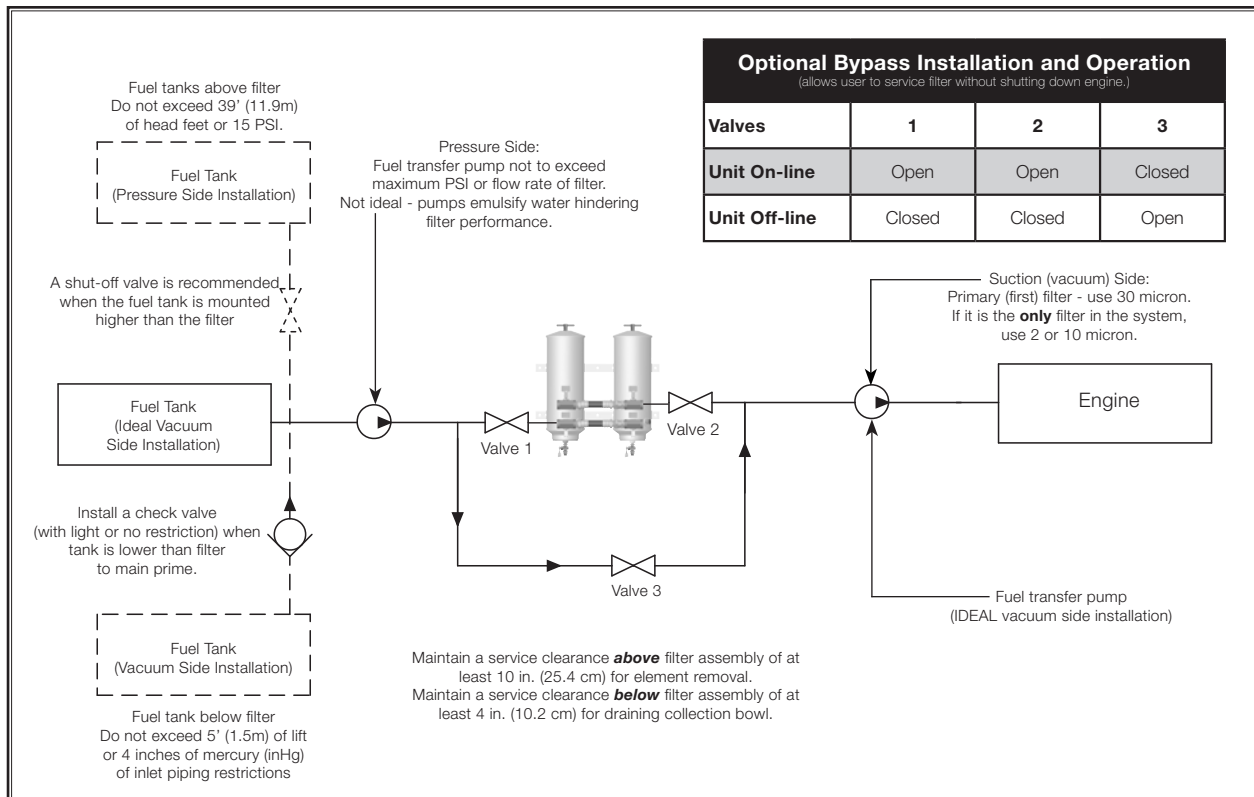
# Mounting Instructions



- A:**  
 804MA - 5.5 in. (13.8 cm)  
 75804MA - 20.25 in. (51.4 cm)  
 79804MA - 31.75 in. (80.6 cm)
- B:**  
 All Assemblies -  
 8.25 in. (20.9 cm)
- C:**  
 All Assemblies -  
 7.11 in. (18.1 cm)



# Installation Diagram



# Installation Guidelines

1. Obtain good ventilation and lighting.
2. Engine must be off for installation.
3. DO NOT smoke or allow open flames near installation.
4. Filter assemblies should be installed on vacuum side of fuel transfer pump for optimum water separating efficiency. See Installation Diagram.
5. Locate filter assembly between horizontal planes of bottom of fuel tank and inlet of fuel pump, if possible. If filter assembly is installed in an application where fuel tank is higher than filter, a shut-off valve must be installed between tank and filter assembly INLET. This will be used when servicing replacement elements.
6. Install assembly in a location which provides accessibility and protection from heat, flames, or accidental impacts. Always adhere to applicable local piping regulations and codes. Use maximum fuel line size possible and avoid reducers and elbows in order to keep restriction values as low as possible.
7. Apply thread sealant (no thread tapes) to inlet and outlet fittings prior to installing onto filter assembly.
8. When routing hose, avoid surfaces that will move, have sharp edges, or will get hot (such as exhaust piping).

## Priming The Unit

1. Close inlet fuel valve, if applicable.
2. Remove T-handle and lid from top of filter assembly.
3. Fill filter assembly with clean fuel.
4. Lubricate lid gasket and T-handle O-ring with clean fuel or motor oil.
5. Replace lid and T-handle and tighten snugly by hand only - do not use tools.
6. Open inlet fuel valve, if applicable.
7. Start engine and check for leaks. Correct as necessary with engine off and pressure relieved from filter.

## Service

### Draining the Collection Bowl

Check for water daily with the sight glass. Drain off water and contaminants by opening the petcock valve. If more than 40 ml of fluid is drained, follow Priming The Unit above. Otherwise, start engine and allow air to purge from system prior to operating equipment at normal loads.

### Filter Replacement

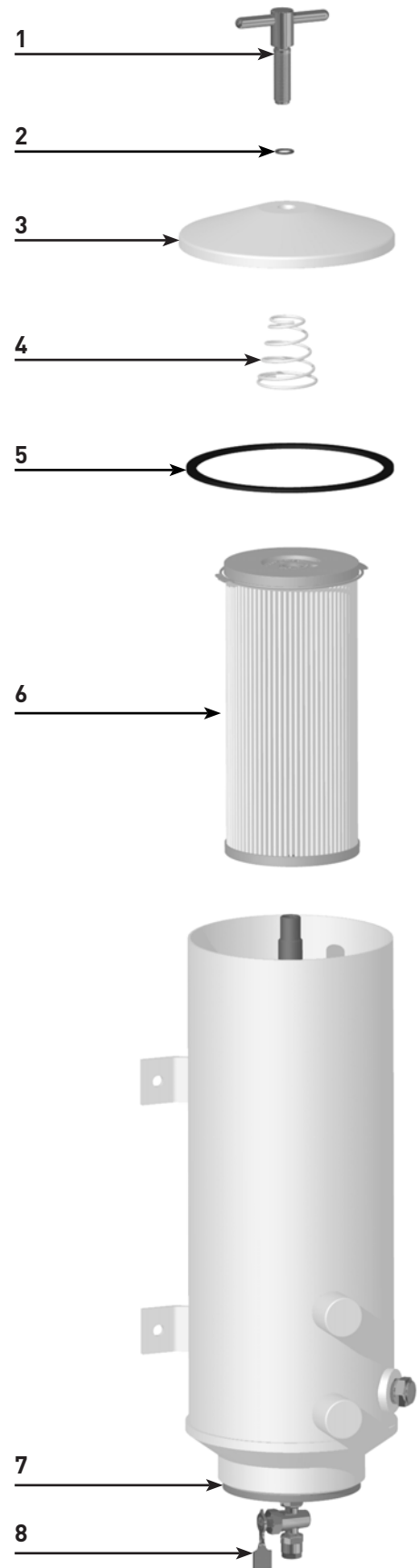
Frequency of filter replacement is determined by the contamination level in fuel. Recommended service intervals are as follows: every 500 hours, annually, or at the first indication of powerloss, whichever comes first. Note: foul smelling fuel is an indication of microbiological contamination. A change in fuel source and Racor fuel additives are recommended. *Always carry extra replacement filters as one tankful of excessively contaminated fuel can plug a filter.*

1. Close inlet fuel valve (if applicable) and completely drain filter assembly.
2. Remove T-handle, lid, and lid gasket.
3. Remove filter from inside housing and dispose of properly.
4. Install only new Racor filters.
5. Install new lid gasket, RK 22609, into lid groove.
6. Prime fuel system following manufacturer's procedure or refer to Priming The Unit.

# 804MA

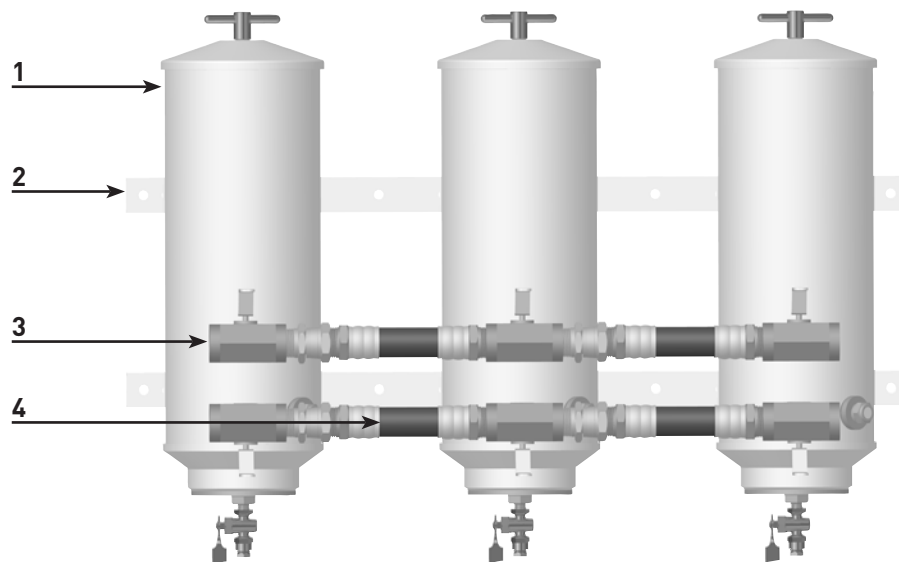
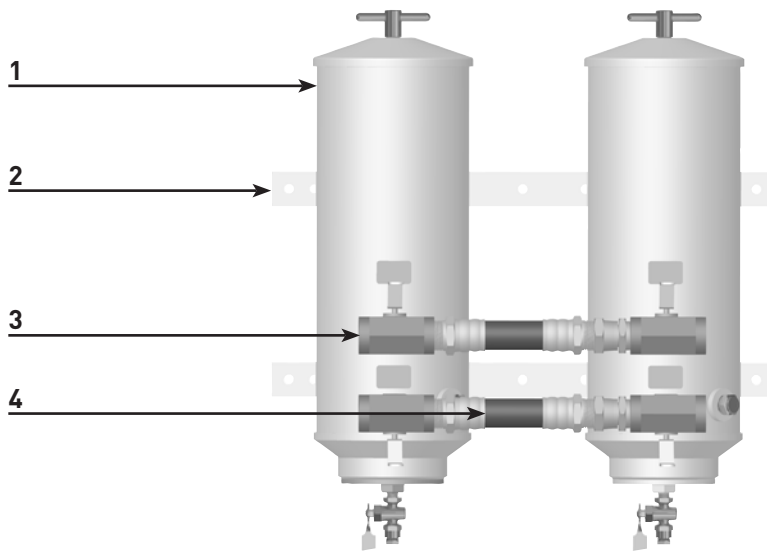
## Replacement Parts

<u>Part No.</u>	<u>Description</u>
1. <b>RK 22688</b>	T-handle Kit (includes T-handle and T-handle O-ring)
2. <b>11350</b>	T-handle O-ring
3. <b>RK 22682</b>	Lid Kit (includes lid, lid gasket, lid spring, and T-handle w/O-ring)
4. <b>N/A</b>	Lid Spring
5. <b>RK 22609</b>	Lid Seal Kit (includes lid gasket and T-handle O-ring)
6. <b>2020TM-OR</b>	10 Micron Replacement Filter
7. <b>RK 22675</b>	Bottom Plate Kit
8. <b>RK 19492</b>	U.L Listed Drain Valve Kit (Brass, with plug)



# 75804MA and 79804MA Replacement Parts

<u>Part No.</u>	<u>Description</u>
1. See 804MA Replacement Parts	
2. N/A	Manifold Mounting Brackets
3. RK22898	Ball Valve Kit
4. RK22897	Hose and Fitting Kit

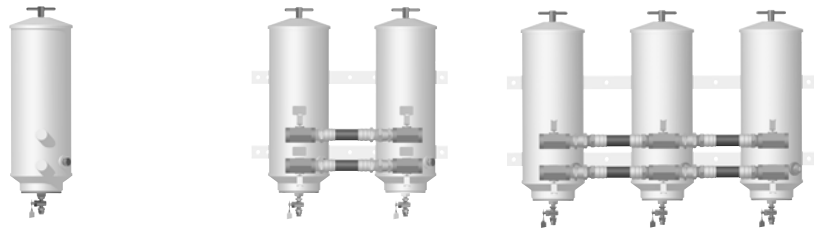


# Troubleshooting Procedures

A major cause of power loss or hard starting is result of an air leak (or clogged filter). If your unit will not prime or fails to hold prime, check that drain,

bowl and filter are properly tightened. Next, check all fitting connections and ensure fuel lines are not pinched or clogged with contaminants. If problems

persist (and filter is new) call Racor Technical Service for assistance: (800) 344-3286 or (209) 575-7555.



Specifications	804MA	75804MA	79804MA
<b>Maximum Flow Rate</b>	180 GPH (681 LPH)	360 GPH (1,363 LPH)	540 GPH (2,044 LPH)
<b>Port Size</b>	1" NPT	1" NPT	1" NPT
<b>Element Replacement</b>	2020TM-OR (1 per assembly)	2020TM-OR (2 per assembly)	2020TM-OR (3 per assembly)
<b>Micron Rating</b>	10	10	10
<b>Height</b>	23.1 in. (58.9 cm)	23.1 in. (58.9 cm)	23.1 in. (58.9 cm)
<b>Width</b>	7.0 in. (17.8 cm)	21.8 in. (55.8 cm)	33.3 in. (84.6 cm)
<b>Depth</b>	9.0 in. (22.9 cm)	16.0 in. (40.6 cm)	16.0 in. (40.6 cm)
<b>Weight (dry)</b>	24.0 lb (10.9 kg)	73.0 lb (33.11 kg)	109.0 lb (49.44 kg)
<b>Min. Service Clearance</b> <b>Above</b> <b>Below</b>	10.0 in. (3.8 cm) 4.0 in. (10.2 cm)	10.0 in. (3.8 cm) 4.0 in. (10.2 cm)	10.0 in. (3.8 cm) 4.0 in. (10.2 cm)
<b>Max. Working Pressure</b>	30 PSI (2.07 bar)	30 PSI (2.07 bar)	30 PSI (2.07 bar)
<b>Differential Pressure</b>	3.3 PSI (0.23 bar)	3.3 PSI (0.23 bar)	3.3 PSI (0.23 bar)
<b>Water Removal Efficiency</b>	99%	99%	99%
<b>Ambient Temp. Range</b>	-10° to +180°F (-23° to +80°C)		
<b>Max. Fuel Temperature</b>	190°F (32°C)		

# Accessories

## Vacuum Gauges

Vacuum gauges are available to monitor element condition and as the filter slowly becomes clogged with contaminants the restriction (resistance to flow) increases. The fuel pump still tries to draw

fuel (suction) but because of restriction, less fuel is delivered to the engine and instead more air is pulled from it (fuel de-gassing). Results can cause an engine to lose power and eventually stall.

By installing a vacuum gauge in the fuel system, on the outlet side of the filter, visual monitoring of element condition is possible.

Specifications		RK 11-1676E
<b>Description</b>		Silicone dampened, 0-30 inHg.
<b>Threads</b>		1/4" NPT bottom boss mount.
<b>Dimensions</b>		2.0" W x 1.1" D
<b>Dial</b>		2 in.
<b>Weight</b>		0.3 lb (0.1 kg)
Special Notes: For severe vibration applications, mount gauge on stable, remote location and connect using flexible tubing.		



Specifications		1606B
<b>Description</b>		Includes gauge and two fittings. Instrument panel installation.
<b>Threads</b>		1/4" NPT back bracket mount.
<b>Dimensions</b>		2.0" W x 1.9" D
<b>Dial</b>		2 in.
<b>Weight</b>		0.4 lb (0.2 kg)
Special Notes: For severe vibration applications, mount gauge on stable, remote location and connect using flexible tubing.		



Specifications		RK 11233
<b>Description</b>		Silicone dampened, 0-30 inHg. Instrument panel installation.
<b>Threads</b>		1/4" NPT back bracket mount.
<b>Dimensions</b>		2.0" W x 1.9" D
<b>Dial</b>		2 in.
<b>Weight</b>		0.4 lb (0.2 kg)
Special Notes: For severe vibration applications, mount gauge on stable, remote location and connect using flexible tubing.		



## 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		RK 19476
<b>Description</b>		0-25 inHg / 0-15 PSI.
<b>Threads</b>		1/4" NPT bottom mount.
<b>Dimensions</b>		2.0" W x 1.1" D
<b>Dial</b>		2 in.
<b>Weight</b>		0.2 lb (0.1 kg)
Special Notes: For severe vibration applications, mount gauge on stable, remote location and connect using flexible tubing.		



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