

Fuel Pre-Filter Funnel Systems

Racor Product Bulletin

Fuel Filter Funnel



Applications

For filtering fuels such as gasoline or diesel. Widely used as a means to **pre-filter** while fueling.

Products

The **Racor Fuel Filter Funnel (RFF)** family is a new heavy-duty, fast-flow, filter-in-a-funnel that separates damaging free water and contaminants from gasoline, diesel, heating oil, and kerosene.

The new **RFF** family of products are capable of removing free water and solids down to .005 or .003 inch and allows you to visually inspect the integrity of your fuel supply as you refuel.

Dirt and water are practically unavoidable in stored fuel, causing microbial growth, corrosive acids, electrolysis, and rust. These contaminants can plug filters, corrode components, decrease efficient combustion, and can cause engine shut-down or system failure.

You can combat these problems by refueling with the RFF. Every time you transfer fuel from one container to another you should pass it through an RFF system.

The RFF family is manufactured using industrial grade black **electro-conductive** polypropylene. Carbon powder is injected into the plastic so that the RFF will conduct static electricity. The bonding or grounding capability of the RFF is an important safety feature. Always use proper fuel handling procedures and follow local, state, and federal regulations.

Features and Benefits

- Rugged construction
- PTFE coated stainless steel filter
- Four sizes, four flow rates
- Electro-conductive plastic material
- Corrosion resistant
- Self cleaning
- No parts to replace

The **RFF** is useful for people who use an internal combustion engine such as a vehicle, lawn mower, chain saw, weed whacker, snow blower, snow machine, ATV, generator, boat motor, agricultural equipment, race car, airplane, helicopter, or motorcycle.

- **RFF1C (small)**
6" H x 3.5" dia.
2.7 gallons per minute
149 micron
- **RFF3C (medium)**
9" H x 5.5" dia.
3.9 gallons per minute
149 micron
- **RFF8C (large)**
10" H x 8.5" dia.
5 gallons per minute
149 micron
- **RFF15C (high flow)**
10" H x 8.5" dia.
15 gallons per minute
74 micron

Petroleum products flowing over a plastic surface generate static electricity. Caution should be taken to ensure that the RFF is grounded to reduce static electricity buildup and reduce the chance of explosions or fire. Electrically bond the funnel by using a wire with a metal clip on each end and clamp one to the upper rim of the funnel and the other to the fueling source. For example the metal gas can or the nozzle from the pump.



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How They Work

The Racor RFF family comes with a stainless steel filter or filters built right in. As you pour your fuel through the funnel observe the sump area of the funnel. If the fuel contains free water it will collect in the sump, because water is heavier than fuel. When you have a substantial amount of water (approximately 1 cup), dispose of it properly and resume fueling.

When properly used, the filter will separate **FREE WATER** from hydrocarbon fuels. Free water is the collection of water molecules in the bottom of fuel cans, tanks, or drums formed when fuel is stored for even short periods of time. The free water formation is due to condensation in the air and/or the separation of water molecules from fuel. Water may be present in hydrocarbon fuels as free water or as an emulsion, small droplets of water suspended in the fuel. Water may be emulsified in fuel by vibration or by emulsifying additives such as alcohol, or detergents. The RFF filter will not remove emulsified water. Install **Racor fuel filter/water separators** to remove emulsified water from your fuel delivery or engine fuel system.

- Excessive head pressure can force water through the funnel. If most of the filter is covered with water, the head pressure of a full funnel can force water through the filter. As water is observed collecting in the bottom of the funnel or the flow rate begins to slow, stop fueling and properly dispose of the water and contaminants from the RFF and then continue fueling.
- 2-cycle oil contains dispersants, (detergents) which may allow some water to pass the screen. The only safe way to filter out water is add the 2-cycle **oil** to the tank **before** filtering the fuel through the funnel. Additives containing **alcohol** can emulsify and bind water (see above). The filter cannot remove this bound water, add additives **after** fueling.
- **DO NOT ATTEMPT TO REMOVE** the filter from the funnel. The filter is permanently attached to the funnel.
- The RFF is designed to work with fuels only. **CAUTION:** Do not use the RFF for anything but filtering fuels. Other liquids may compromise the effectiveness of the filter.
- Another purpose for using these filters is to facilitate the **inspection** of fuel for contamination in the form of solids (down to .005 or .003 inch) and free water. Don't forget to always check the fuel filter sump for water. If water or contamination is found, dispose of properly.
- To test the RFF, fill with water roughly 1/3 the way up the screen. This amount of water should not pass through the filter. Keep this amount in mind when using the RFF knowing that the head pressure caused by the weight of more than this amount of water in the funnel may cause water to pass through the PTFE coated stainless steel screen.
- Always dispose of water, contaminants, or dirty fuel in a proper manner.
- Periodically inspect the funnel for physical damage.
- Store the funnel properly as some fuel may remain on the surfaces.



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RFF Series

Fuel Filter Funnels



The Racor Filter Funnel (RFF) family is a new heavy-duty, fast-flow, filter-in-a-funnel that separates damaging free water and contaminants from gasoline, diesel, heating oil, and kerosene.

RFF funnels are capable of removing free water and solids down to 0.003 inch and allows you to visually inspect the integrity of your fuel supply as you refuel.

Dirt and water are practically unavoidable in stored fuel, causing microbial growth, corrosive acids, electrolysis, and rust. These contaminants can plug filters, corrode components, decrease efficient combustion, and can cause engine shutdown or system failure.

Great for refueling lawn mowers, chain saws, snow machines, ATVs, power generators, boat motors, PWCs, RVs, helicopters, motorcycles, etc. Racor filter funnels are for people who need clean dry fuel on the go.



Contact Information:

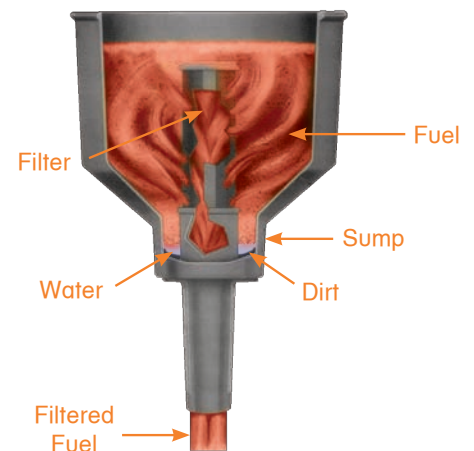
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Product Features:

- Rugged Construction
- PTFE Coated Stainless Steel Filter
- Four Sizes, Four Flow Rates
- Electro-Conductive Plastic Material
- Corrosion Resistant
- Self Cleaning
- No Parts To Replace



ENGINEERING YOUR SUCCESS.



Specifications	RFF1C	RFF3C	RFF8C	RFF15C
Max. Flow Rate	2.7 GPM (10.2 LPM)	3.9 GPM (14.8 LPM)	5 GPM (18.9 LPM)	15 GPM (56.8 LPM)
Micron Rating	127 micron	127 micron	127 micron	76 micron
Height	6.0 in. (15.2 cm)	9.0 in. (22.9 cm)	10.0 in. (25.4 cm)	10.0 in. (25.4 cm)
Diameter	3.5 in. (8.9 cm)	5.5 in. (14.0 cm)	8.5 in. (21.6 cm)	8.5 in. (21.6 cm)
Weight	0.2 lb (0.09 kg)	0.3 lb (0.14 kg)	0.6 lb (0.27 kg)	1.0 lb (0.45 kg)

How They Work

The Racor Filter Funnel comes complete with a built-in DuPont Teflon® PTFE (polytetrafluoroethylene) coated stainless steel screen filter. As fuel is being filtered, free water and contaminants collect on the bottom. Because water is heavier than fuel, free water will settle to the bottom. When you have a substantial amount of water (approximately 1 cup), dispose of it properly and resume refueling.

When properly used, the filter will separate free water from hydrocarbon fuels. Free water is a collection of water molecules in the bottom of fuel cans, tanks, or drums, formed when fuel is stored for even short periods of time. The free water formation is due to condensation in the air and/or separation of water molecules from fuel.

Water may be present in hydrocarbon fuels as free water or as an emulsion, small droplets of water suspended in fuel. Water may be emulsified in fuel by vibration or by emulsifying additives such as alcohol, or detergents. The RFF filter will not remove emulsified water. Instead,

install a Racor fuel filter/water separator to remove emulsified water from your fuel delivery or engine fuel system.

Excessive filling will cause pressure and can force water through the funnels filter. If funnel filter is more than 1/3 covered with water and flow rate begins to slow, stop fueling immediately, properly dispose of water and contaminants from the funnel, then continue fueling.

2-cycle oil contains detergents, which may allow some water to pass through the filter screen. The only safe way to filter out water is to add the 2- cycle oil to the tank after filtering the fuel through the funnel. Additives containing alcohol can emulsify and bind water to fuel. The filter cannot remove this bound water. Add additives after fueling.

Do not attempt to remove the filter from the funnel, filter is permanently attached to the funnel.

The RFF is designed to work with fuels only. **CAUTION!** Do not use the RFF for anything but filtering fuels, other liquids

may compromise the effectiveness of the filter.

Another purpose for using a RFF is to facilitate the inspection of fuel for contamination in the form of solids (down to 0.003 inch) and free water. Don't forget to check the fuel filter sump for water. If water or contamination are found, dispose of properly.

To test the RFF, simply fill with water, roughly 1/3 the way up the screen. This amount of water should not pass through the Teflon® coated filter screen. Keep this amount in mind when using the RFF knowing that the head pressure caused by the weight of more than this may cause water to pass through the screen.

Always dispose of water, contaminants, or dirty fuel in a proper manner.

Periodically inspect the funnel for physical damage. Store the funnel properly as some fuel may remain on the surfaces.