

# Diesel Fuel Conditioning Module – Racor P Series | #P4210NH

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The Racor P Series is a Diesel Fuel Conditioning Module that comes equipped with an electric fuel pump, a fuel filter/water separator, a contaminant collection bowl with a water sensor, and a thermostatically-controlled PTC-type electric pre-heater.

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## Technical Specifications

**Micron Rating:**

98% at 10 microns

**Flow Rate:**

40 gph/151 lph

**Product Series:**

Cartridge FF/WS Pump, P-Series

**Brand:**

Racor

**For Fluid Type:**

Diesel/B20

**Mounting Type:**

Bracket Included

**Bowl Type:**

Black Engineering Plastic

**Pump Type:**

12V DC, Brushed; Priming & Continuous duty, 40 gph/151 lph maximum output

**Heat Type:**

DC 12V DC, 150 W

**Clean Pressure Drop:**

0.5 psi, 3.4 kPa

**Port Size:**

3/8" -18 NPT X2

**Compatible Element:**

R58095-10, -02, -30

**Height:**

9 in/22.9 cm

**Depth:**

5.2 in/13.2 cm

**Width:**

4.5 in/11.4 cm

**Water Sensor Option:**

Standard

**Optional Accessories:**

See Product Overview & Support Tabs

**Application:**

All fuel delivery

~~Today's sensitive high pressure diesel fuel injection systems demand complete removal of damaging water and solid contaminants. At the same time, fuel additives mixed with diesel and biodiesel have made fuel contaminant and water removal more challenging than ever before.~~

The patented Racor P Series Diesel Fuel Conditioning Module (DFCM) was developed to protect all new and existing diesel fuel injection systems that require a priming or continuous duty pump to provide fuel system pressure or intermittent priming operations. Its innovative modular design incorporates all of the low pressure fuel components required by the latest generation of electronically-controlled fuel injection systems in a single package, including a powerful brushed electric fuel pump, a high efficiency fuel filter/water separator, a contaminant collection bowl with a water sensor, and a thermostatically-controlled PTC-type electric pre-heater. An electrical harness, pump control module, and water-in-fuel detection kit is included.

All Racor P Series modules utilize Racor's proprietary Aquabloc® filtration elements. Aquabloc® is a unique engineered media that incorporates pleat-spacing corrugations and a graduated pore structure to increase dirt-holding capacity and extend filter life. The media is waterproof and rustproof, capturing contaminants while the specially treated surface separates and coalesces water from the fuel; causing the water to gather into large droplets that then fall into the clear collection bowl. Aquabloc® elements are available in three different ratings, including:

30 micron (98%@30 micron) – Ideally suited as a pre-filter to protect downstream filters from excessive contamination. Extends the life of on-engine filters.

10 micron (98%@10 micron) - Captures more contaminants than 30 micron elements, and is more effective at stopping water. Extends the life of the entire fuel system.

"2" micron (98%@4 microns) – Provides maximum water removal and filtration and is capable of protecting all modern injection systems, while greatly extending the life of difficult-to-service on-engine filters.

P Series diesel fuel condition modules are available in several configurations. The P Series product line featured here uses conventional brushed pumps; suitable for low vibration installations. A "smart" brushless pump system is also available for on-engine and high-vibration locations. It can be programmed to monitor and control fuel delivery and pressure via a built-in computer module. This pump analyzes fuel system conditions and communicates with the engine's electronic control unit (ECU), which then responds to the changing operating conditions.

For additional information on the P Series smart brushless pump DFCM, please contact Parker Racor Division at [racortech@parker.com](mailto:racortech@parker.com).

#### How it works:

P Series diesel fuel conditioning modules feature a primary pleated fuel filter cartridge that blocks particle contamination and free water. Clean, dry fuel then enters the integral fuel pump, which supplies flow and pressure to the rest of the fuel system. The module can be used in a continuous flow mode at 0.32 gpm (1.2 lpm), or as an intermittent priming pump. A pressure relief valve limits pressure to 10 psi (69 kPa), and an in-head PTC heater helps with cold starting.

#### Markets:

- Agriculture
- Construction
- Power Generation
- Oil and Gas
- On- and Off-highway

#### Applications:

- Diesel and Biodiesel Engines

#### Benefits:

- Removes water that enters the system through condensation in the fuel tank. Any water present in the fuel stream will support bacterial growth, which can cause clogged filters and result in the formation of corrosive acids. Susceptible components then rust and corrode, leading to erosion and wear of critical fuel system components.

- Removes particles present in air that are introduced during fueling, such as sand and silica.
- Removes dominant particles from overheated and degraded diesel fuel, which coat filters with black asphaltene-like substance, leading to power loss and engine shutdown.



- Prevents costly injector damage and increases operational life of downstream filters.
- Saves time and money by eliminating unplanned maintenance and unscheduled downtime from system component failure.
- Filter materials and seals are compatible with ultra-low sulfur diesel and biofuels up to B20 blend.

#### Features:

- Aquabloc® engineered media elements with 98% efficiency at 4, 10 or 30 micron
- Three system flow rates available: 30, 40 or 50 gph (114, 151, 189 lph)
- Equipped with integrated electric fuel pump rated at 0.32 gpm (1.2 lpm) at 10 psi (69 kPa), fuel filter/water separator, contaminant collection bowl with a water sensor, and a thermostatically-controlled PTC-type electric pre-heater.
- Innovative, modular fuel filter/water separator, bottom load design
- Vacuum side fuel conditioning module protects pump
- Available in three housing sizes with 3/8" NPT fuel ports.
- Environmentally friendly, biodiesel compatible filter cartridge
- Self-venting drain and water-in-fuel sensor
- A removable and reusable contaminant collection bowl is standard on all models (P3 and P5 Series have transparent collection bowls; the P4 Series has a black non-transparent bowl).
- Operating Temperature: -40°F to +255°F (-40°C to +121°C)
- P3 and P4 modules can be upgraded to a P5 by using the P5 replacement element and bowl.

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## CAD Drawings + Files

No CAD files available



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