

FILTRATION



PowerPleat air cleaners and filters from Donaldson Filtration Solutions incorporate the company's plastic RadialSeal design, which can lead to system simplification and downsizing without the need for external precleaners, the company said.

ANOTHER BREATH OF FRESH AIR

Donaldson adds to engine air filtration family with new PowerPleat air cleaners

BY JACK BURKE

Donaldson Filtration Solutions has updated its family of engine air filtration systems aimed at machines designed for operating in harsh, dusty environments.

The new PowerPleat line of two-

stage cleaners is available in a wide range of sizes, some of which are intended to serve as drop-in replacements for the company's FPG and FRG filtration systems. The PowerPleat filters cover an airflow range of 40 to 850

cfm and target a broad range of mobile equipment applications from skid-steer loaders to large wheel loaders.

PowerPleat air cleaners and filters incorporate the company's RadialSeal design, which helps eliminate the need for external precleaners, scavenged systems or additional mounting brackets, said Mike Anderson, director of engine air product management at Donaldson. The new units also include improvements in water resistance through the addition of more seals in the outlet and cover areas. The new design also offers more mounting

A Portable Way To Keep Diesel Fuel Clean

High-pressure common rail fuel injection systems have spread to more diesel designs as engine manufacturers continue to pursue increasingly stringent emissions standards.

And while they have performed as advertised, these sophisticated systems can be susceptible to damage from contaminants in the fuel. With today's fuel injection systems operating at injection pressures up to 36,000 psi and future systems expected to reach as high as 45,000 psi, it's easy to see why even the smallest particles could wreak havoc with precision fuel injection components.

To help equipment operators avoid those issues, Donaldson Filtration Solutions has developed a portable bulk diesel filtration product that is designed



The Donaldson Fuel Cart is designed to remove contaminants from diesel fuel. The cart incorporates a Piusi Panther electric pump capable of 21 gpm to filter the fuel through separate particulate and water absorbing elements.

to remove dirt, water and contaminants from diesel fuel in a single pass.

"Donaldson's customers need two things — a filter system that is easy

to install and one that can handle high flow rates," said Scott Grossbauer, global manager for clean fuel and lubricant solutions at Donaldson.

The Donaldson Clean Fuel Carts are designed to filter diesel fuel to an ISO 4406 cleanliness level of 14/13/11, which is beyond the requirements of the Worldwide Fuel Charter, the company said. Diesel fuel filtered to less stringent cleanliness levels won't always stop the contamination that can cause damage to HPCR fuel injection systems.

The cart uses a 24/12 V Piusi Panther electric pump with a flow rate of 21 gpm to pass the fuel through Donaldson's P568666 particulate filter and a PR70248 water-absorbing element, which is designed to stop all free and emulsified water. The cart includes a clear, 9.84 ft. long, 1 in.

options and multiple inlet/outlet configurations, Anderson said.

"In many cases, the air cleaner can be downsized, which also allows for system simplification," Anderson said. "That could mean the removal of external precleaners, ducts and brackets. All of that simplification and downsizing saves the OEM money. All around, we're really trying to make integrate into the vehicle much easier.

"There are so many different types of equipment in the market, the easier you can make it fit in any space, the better off we're going to be."

Space for components like air cleaners is an obvious key consideration to OEMs when they are designing machines, but it's also a critical issue for end user maintenance. Since a compact air cleaner that is hard to maintain is not a good solution, Anderson said access to the filters has been enhanced by moving the latching to the end cover.

Anderson added that while larger air cleaners have traditionally been constructed of metal or were metal/plastic hybrids, the new air cleaners are now all plastic. The product and

tooling designs also provided a lot of flexibility concerning configurations, he said. "We can do multiple inlets," he said. "We can do a clockwise or counterclockwise or center inlet."

Multiple outlet options are also available, including straight and 90°, with more than 100 radial positions possible, the company said. Further, welded or wrap around mounting bracket options provide hundreds of mounting configurations, Donaldson said.

Anderson added that the new design also includes reinforcement tubes in the inlet and outlet so the operator is less likely to cause damage when attending to the filter system. The PowerPleat filters incorporate Donaldson's nanofiber filtration media and are designed to provide a longer life than typical filters and offer 99.97% efficiency, he said.

"For this product line, it really comes back to how we can combine features and make it smaller," Anderson said.

"For much of this product line we were able to do that — downsize and provide system simplification."

The PowerPleat 4 through 10 units are designed to be a direct drop-in replacement for Donaldson FPG units. Covering an airflow range of 40 to 250 cfm, they are suitable for skid-steer loaders, small to medium agricultural machinery, light construction equipment, ATVs and lawn maintenance machinery, the company said.

The PowerPleat 11 through 15 sizes can accommodate airflows from 250 to 850 cfm and are a drop-in replacement for the Donaldson FRG filters. Typical applications include wheel loaders, hydraulic excavators, general construction and agricultural equipment and medium- and heavy-duty trucks. **dp**

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wide suction hose and a 13.12 ft. x 0.75 in. discharge hose.

"It's a lightweight, versatile tool that would be perfect for any construction site," Grossbauer said. "It can be used to pump fuel into equipment or it can be used to clean up a tank that has contaminated fuel in it."

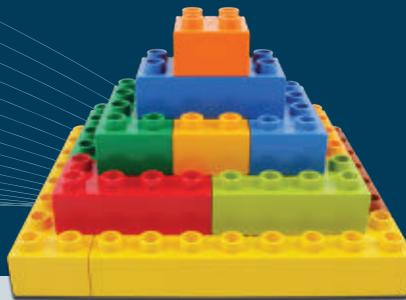
He said rental companies might want to include the portable filtration product to help ensure the customer is using clean fuel.

"No matter how dirty and wet the fuel is coming in, you're ensured clean, dry fuel coming out the other side," he said. "We believe that fuel issues shouldn't be operational issues we believe that our customers shouldn't be slowed down by dirt, fuel chemistry or water." **dp**

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