



Fleetguard[®]

NanoForce™ Air Filters.

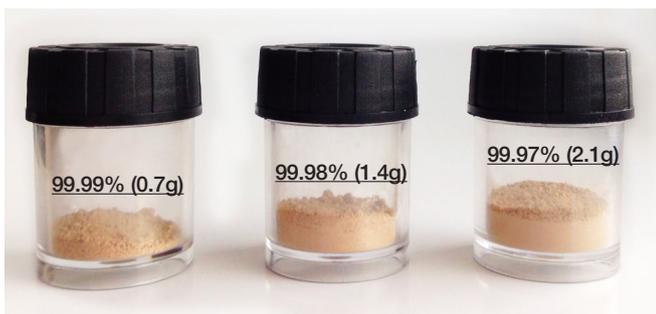
A new alternative in superior air filtration for heavy duty, diesel-powered equipment.

The Cleanest Engine Air.

NanoForce AF879NF and AF899NF air filters deliver the cleanest combustion air possible for large construction and mining engines. Nanofibre, when combined with newly enhanced pleating and pleat stabilisation, delivers optimal air filter performance for superior engine protection and a low cost of equipment operation.

Small Numbers. Big Protection.

0-5 micron particles are trying to attack your engine! It's critical to use a filter that can fight particles this small. Conventional cellulose air filters might give you up to 99.97% dust removal efficiency at best, but NanoForce with 99.99% efficiency stops more of the engine-killing particles by reducing the amount of dust and dirt that can reach your engine during a typical filter service interval. Small improvements add up to big engine protection!



Vials illustrate 3X more dust may reach the engine through a filter with 99.97% efficiency vs. NanoForce filter with 99.99% efficiency.

Based on 7,000 g filter capacity.

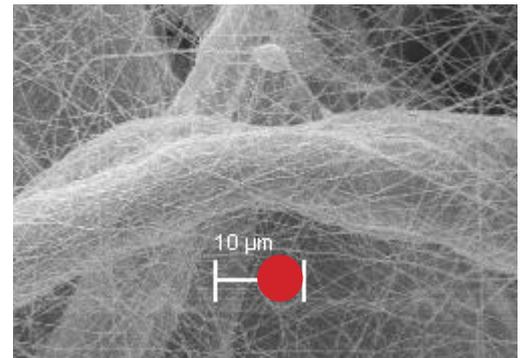
Leveling the Dusty Battle Field.

In the world of large off-highway equipment, small particles can quickly bring productivity to a halt. Due to the use of air pre-cleaners, the typical primary air filter is challenged with

capturing dust particles in the 0-5 micron size range. These tiny dust particles wreak havoc on pistons, rings, liners and many other engine parts. NanoForce filters combat tiny particles at a submicron level, removing and retaining the particles before they reach engine components.

NanoForce nanofibres are significantly smaller in diameter than a coarse human hair. The nanofibres work together with the base cellulose media to provide the most advanced air filtration engine protection available in the industry today.

Fibre Magnification 500x



The red circle represents a dust/dirt particle of 5 micron size. NanoForce media provides a barrier to small, but harmful particles.

Australian Made for Australian Conditions.

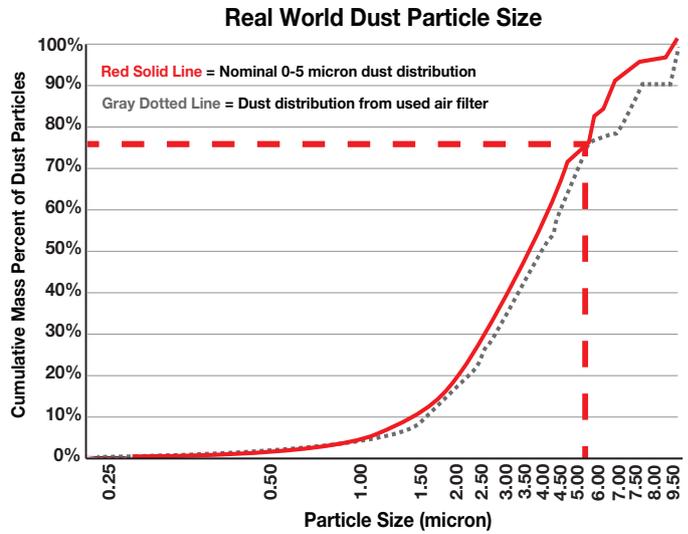
NanoForce filters are manufactured at Cummins Filtration's World-Class Production Facility in Melbourne, Australia using only the finest quality components and workmanship. Cummins Filtration has been manufacturing air filters in Australia for Australian conditions for over 20 years so we know what your equipment needs to run stronger, longer. We supply what you demand and exceed expectations every time. Local manufacturing ensures continuity of supply; you get the products you need on time, every time.

Real World Testing.

When your equipment is exposed to small, difficult to filter dust particles, you need an air filter that's made for your work environment. Nearly 75% of the dust found in used air filters is smaller than 5 micron. NanoForce air filters are specifically designed to block and trap these extremely small particles. NanoForce significantly reduces downtime, which is critical to mine site operations.

NanoForce filters were subjected to rigorous testing in the Cummins Filtration laboratory using industry standard nominal 0-5 micron dust to accurately measure the effectiveness of the filters when faced with typical job site conditions. The dust particles used are proven to be identical to real world dust.

The graph shown at right illustrates the common nature of the dust particle size distribution between the mine site and the nominal 0-5 micron laboratory dust. Informed equipment operators know to consider dust types when comparing air filter performance values.



ensuring **real world** results



NanoForce filters were subjected to field trials on equipment in active mine sites across two continents to further test their effectiveness. Australian trials were conducted on a Liebherr 994 Excavator and Caterpillar 789 dump trucks at a coal mine during a 12 month period. The results proved NanoForce filters could achieve the service interval goal without sacrificing long filter life. No premature signs of high filter restriction were shown and a greater dust capturing efficiency of 99.99% was achieved using NanoForce filters.

providing **2X** filter change interval

- Based on four pieces of equipment at active mine sites
- Based on filter change by filter restriction measurement (not time)
- Results may vary due to equipment, air pre-cleaners, dust conditions at work site, engine exhaust entering the air cleaner, equipment duty cycle, etc.

Features & Benefits

- Nanofibre filter media provides 99.99% filtration efficiency; the best engine protection available
- 3X the engine protection vs. conventional filters; quantifiable reduction in wear particles
- Long service interval - 2X longer service life achieved versus conventional air filter; fewer air filter changes
- Robust construction enhanced with nanofibre media; reliable engine protection
- Advanced pleat geometry, spacing and stabilisation; superior engine protection and longest filter service life

Best Warranty in the Business.

The Cummins Filtration Warranty extends to our entire line of products, ensuring the same promise of performance and coverage beyond the competition. Visit cumminsfiltration.com to learn more about the competitive benefits of the Cummins Filtration Warranty.