How Baldwin Can Help You

Baldwin has been a leader in mobile filtration for over seventy-five years.

Baldwin's manufacturing operation is vertically integrated - meaning we manufacture nearly every component used in our filters.

Baldwin's team of engineers, using the latest technology in 3-D CAD modeling and stereo lithographic prototyping, continues to identify innovative solutions for our customer's filtration needs.

Baldwin's state-of-the-art technical center performs extensive testing in the lab and in the field.

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TS 16949
ISO 9001
QUALITY SYSTEM CERTIFIED

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BALDWIN FILTERS®

Extreme Performance Air Filters

with ProTura® Nanofiber Technology

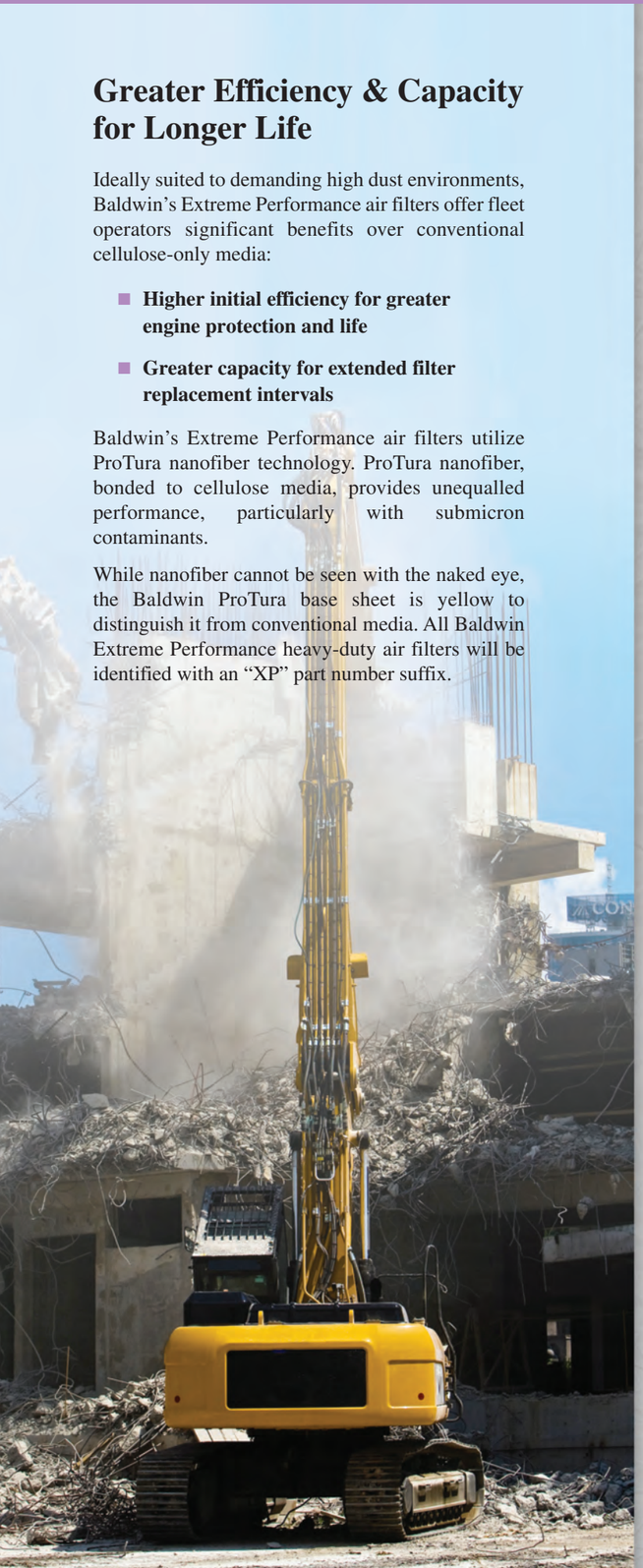
Greater Efficiency & Capacity for Longer Life

Ideally suited to demanding high dust environments, Baldwin's Extreme Performance air filters offer fleet operators significant benefits over conventional cellulose-only media:

- **Higher initial efficiency for greater engine protection and life**
- **Greater capacity for extended filter replacement intervals**

Baldwin's Extreme Performance air filters utilize ProTura nanofiber technology. ProTura nanofiber, bonded to cellulose media, provides unequalled performance, particularly with submicron contaminants.

While nanofiber cannot be seen with the naked eye, the Baldwin ProTura base sheet is yellow to distinguish it from conventional media. All Baldwin Extreme Performance heavy-duty air filters will be identified with an "XP" part number suffix.



ProTura® Nanofiber Provides Enhanced Filtration

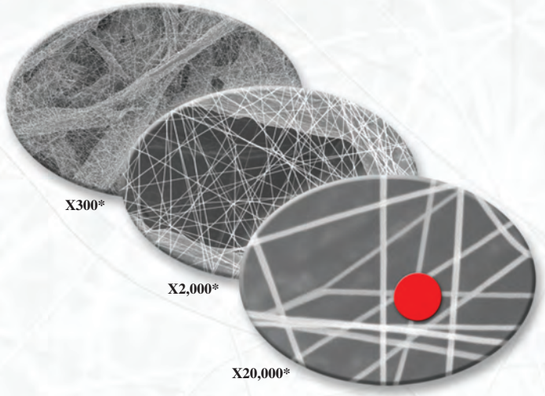
The ProTura Story

Demanding high dust environments require high performance filtration. In these environments, it is crucial that the air filter removes submicron contaminant particles in order to best protect and increase the life of the engine. At the same time, it is also important that the air filter captures high amounts of those contaminants to extend filter replacement intervals. The goal is better engine protection and longer filter service life.

With this in mind, Baldwin Filters is introducing a line of Extreme Performance heavy-duty air filters, which utilize our patent pending, proprietary ProTura nanofiber technology.

ProTura nanofiber air filters feature a lattice-like structure composed of submicron diameter fibers bonded to cellulose media. This structure provides filtration that is markedly different from that which can be achieved with conventional cellulose media alone.

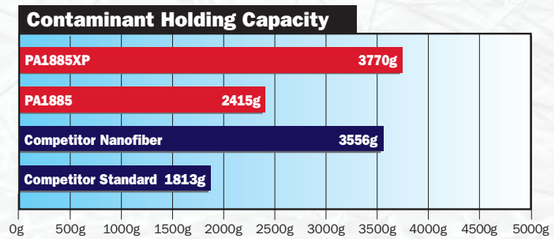
With ProTura media, fine contaminant particles - down to the submicron level - tend to load on the media surface rather than penetrating deeper into the media. The result is higher initial contaminant removal efficiency and lower flow restriction.



The red dot represents a particle that is one micron in diameter.
**Degree of magnification.*

Invisible to the naked eye, ProTura nanofibers are approximately 1800 times smaller in diameter than a coarse human hair. A fine yet tough structure composed of these nanofibers, bonded to a cellulose sheet, provides remarkable filtration performance.

Over time, these submicron particles tend to form a "cake" of contaminant on the media surface and, from normal application vibration, tend to fall from the media to the bottom of the housing (on the dirty side of the filter). More submicron particles then collect on the filter surface and this process is continuously repeated. The contaminant is removed from the housing by the housing dust ejector. As a result, the filter is able to capture greater amounts of contaminant than filters with conventional media during a normal service interval. Extreme Performance filters enable extended filter replacement intervals.



ISO 5011 Test: Flow Rate 800 CFM, ISO Fine Test Dust, Termination at 30" of Water

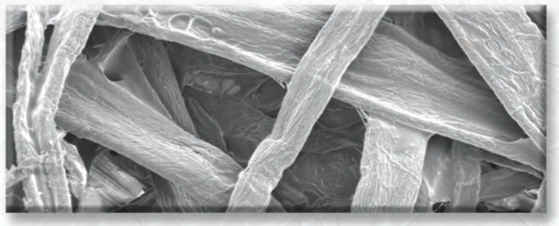
Baldwin Filters does not recommend the washing of air filters and does not warrant filters which have been washed.
Baldwin Filters recommends using an air restriction indicator to determine maximum service life.

Performance Advantages vs. Conventional Cellulose Media

Baldwin Extreme Performance air filters with ProTura nanofiber technology offer high performance for demanding applications and environments:

- **Higher initial efficiency**
- **Greater capacity and service life**
- **Lower restriction**
- **Longer engine life**
- **Lower operating costs**

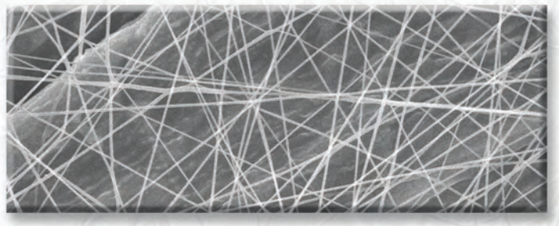
Cellulose Fibers



X600*

Conventional cellulose fibers are significantly larger than ProTura nanofiber, with larger spaces between fibers. Contaminant loads deep in the media, resulting in higher restriction and shorter service life.

Extreme Performance ProTura Nanofibers



X5,000*

Baldwin Extreme Performance filters feature the finest fibers in the industry, with average fiber diameters of about 90nm (a nanometer is one billionth of a meter). More contaminant is captured on the media surface, resulting in lower restriction.

Initial Efficiency