Case Study

BHA® PulsePleat® filter elements

A US roofing granules manufacturer solved high differential pressure, bag damage, and reduced filter replacement labor cost.

Challenge:

The Carter-Day™ dust collector was plagued by aggressive air-to-cloth ratio, short filter life, and restricted airflow due to high differential pressure. Abrasive dust and broken support cage welds often damaged bags, causing emissions. Production schedules limited the frequent spot-changing of filters to weekends when labor was at overtime pay rates.

Solution:

Parker Hannifin recommended the one-piece RF-Style PulsePleat filter elements to replace the original polyester felt bags and support cages. The BHA PulsePleat filter elements provided twice the surface area of the original bags in approximately half the length, so filters were above the high abrasion zone near the inlet, thus reducing costly failures.

Results:

- Total filtration area was doubled, and air-to-cloth ratio was reduced by 30%.
- Differential pressure decreased to 3.5”–4.0” w.c., a 71% reduction, and airflow increased by 34% to 50,000 ACFM.
- Particulate emissions were reduced from 10.73 lbs/hr to 0.48 lbs/hr at the same inlet loading.
- The one-piece filter element construction eliminated support cage damage and simplified installation, significantly reducing labor and maintenance costs.

BHA PulsePleat RF-style filter elements were direct replacements for traditional bags and cages in the Carter-Day collector and provided improved collection efficiency.

The one-piece design was easier to install, and the greater filter area of the pleated elements reduced air-to-cloth ratio and significantly lowered differential pressure.

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