Case Study

Foundry eliminates unplanned shutdowns and high differential pressure, extending filter life

Challenge

A large foundry in the Midwestern United States was having major difficulties with their Mold Line dust collector. It was a 7 compartment pulse jet Carborundum baghouse pulling about 250,000 ACFM. The baghouse was using standard polyester felt filters at about a 4.1/1 air to cloth ratio.

The foundry was forced to shut down for filter changes at least twice a year for a partial/full bag change. The worst compartments were only getting 6 month filter life. The filters were being blinded off by the fine particulate in the gas stream. The differential pressures would go over 8" and never recover. The filters and labor alone were costing the foundry just over $200K per year.

Solution

Parker Hannifin recommended switching the filter style from the felt bag and cage to spunbond polyester BHA® PulsePleat® filter elements. The increased cloth area would bring the air to cloth ratio down to 2.1/1. Also, the efficiency of the spunbond polyester media would not be as prone to blinding from the fine particulate in the gas stream.

The BHA PulsePleats were installed in two phases. The first installation addressed the most problematic compartments. The difference in the overall operation of the baghouse was immediately noticeable. Three months later the rest of the collector was converted to the pleated filters. The total cost of the conversion, parts and labor was $285K.

Result

- After 16 months the customer realized their return on investment in the BHA PulsePleat filters plus labor for installation. Eighteen months have passed since the full conversion began, 21 months since the initial compartments were installed. To date, the filters have had three times the life of the worst compartments.
- The differential pressure is operating in the 3"-5" range with no emissions.
- The BHA PulsePleat filters are so durable that they even survived the cleaning system being accidentally turned off for one week. When the situation was resolved, the differential pressures were easily recovered.
- Currently there are no plans to change the filters as they are operating well within spec. This foundry does not anticipate changing the filters for at least 12 more months.

PB1812-365

Parker Hannifin Corporation
Industrial Gas Filtration and Generation Division
11501 Outlook Street, Suite 100
Overland Park, KS 66211 USA
p: 800.821.2222 | f: 816.353.1873
e: filtration@parker.com
www.BHA.com

ENGINEERING YOUR SUCCESS.