



TOTAL FILTRATION SERVICES

Improving Cleanroom Filtration for an Appliance Manufacturer

Customer Case Study



PROFILE

This case study focuses on TFS helping a property management company that provides maintenance services for a major appliance manufacturer in the Memphis, Tennessee area. The facility involved is a 750,000-square-foot manufacturing plant with over 530 employees who assemble, paint, and ship kitchen appliances to major home improvement retailers.

CHALLENGE

The manufacturer was already partnering with TFS to supply filters for their powder coating process — in addition to other key applications in the plant — and were looking to improve the efficiency of the filtration used in their clean room where they do enamel-based coating.

TFS was introduced to the building owner, a large property management company responsible for facility maintenance, which included purchasing and changing out the HVAC filters throughout the facility and in the clean room.

At the time, the maintenance team was using an older, but well-respected MERV 8 pleated filter for the clean room feeding air to the enamel paint booth. However, the appliance manufacturer was looking for a more efficient filter to reduce the amount of particulates getting into the enamel, which causes paint defects that leads to re-work, increased labor expenses, higher scrap rates, and downtime.

THE TFS SOLUTION

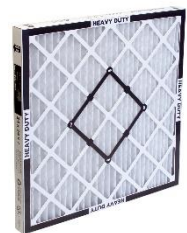
Upon meeting with the process engineer to discuss his concerns, a TFS filter expert recommended the Airguard DPHD from Parker.

This pleated air filter offers improved dirt holding capacity over the existing solution and its closest competitor (226 grams vs 161 grams). The existing product featured older filter media with a MERV 8 rating, whereas the Airguard DPHD was released in 2017 and maintains its MERV 9 rating throughout the life of the filter while not restricting airflow.

After learning about the more efficient product and reviewing the datasheet, the customer agreed to run a four-week trial with the Airguard DPHD in multiple areas within the plant to measure its performance and ensure it was the right solution.

Key highlights about the Airguard DPHD include:

- Heavy moisture resistant beverage board framing.
- MERV 9 through the life of the filter.
- Low pressure-drop and dust-holding capacity of 226 grams (or 8oz).
- Initial resistance of 0.28" W.G.
- Can last up to 4x longer than standard commercial pleats.





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- Heavy duty, corrosion resistant galvanized wire laminated to the media to form the pack, with twice the wire strand weight and thickness over commercial pleats.

RESULTS

The results of the four week trial concluded that the Airguard DPHD performed significantly better than the previous solution and was the right filter for the application for the following reasons:

- Improved efficiency - During the trial, the customer performed multiple particle counts in the clean room and confirmed a 3-5% improvement.
- Increased filter life - The increased durability and dirt holding capacity resulted in the Airguard DPHD lasting more than a month longer than the previous filter. The increased time between change outs also allowed the maintenance crew to focus on improving other areas of the plant.
- Lower TCO - The Airguard DPHD lowered the customer's total cost of ownership by offering a better filter at better price, in addition to reducing labor expenses through fewer filter change outs.

The building owner has been using the Airguard DPHD for more than a year and continues to be impressed by the value this innovative filter delivers, as well as the service provided by the filter experts at Total Filtration Services.