

AUTOMOTIVE PLANT CASE STUDY

From Manual Media to Magnetic Screens: A Smarter Filtration Solution



How a Tier-1 Automotive Supplier Solved Costly Compressor Filtration Challenges by Replacing Manual-Cut Polyester Media with Custom-Fit, Reusable PreVent Screens

Background

The customer is a Tier-1 supplier to the automotive industry located in Grand Rapids, MI. They manufacture automotive interior, exterior and wheel trim and have several facilities with applications requiring filtration.

Challenges

While visiting one of the customer's facilities, they asked Total Filtration Services (TFS) to enter the compressor room to see if their team could supply intake filters on compressor units. Upon reviewing the application, TFS observed the current solution included the use of bulk rolled polyester media, which was manually cut by the maintenance team to fit each unit.

While able to supply the media, TFS informed the customer of the air bypass issue the current solution was producing, as the media wasn't always cut accurately and often didn't fit into the frames. As a result, each unit was at risk of being corroded and causing compressed air tools and equipment to fail.

Solution

TFS recommended the customer apply the PreVent System from Permatron, which is an electrostatic polypropylene screen sized to fit each unit and applied magnetically for easy installation and removal. The PreVent screen is a washable filter that can be re-used by simply blowing-off dust and debris with compressed air or washing with detergent if oils are present. The air intake filter screens are able to improve the level of protection for their equipment and improve efficiency by eliminating the manual cutting process.

Each unit was measured so screens could be supplied at the exact dimensions needed to prevent bypass.

Upon receiving the product, the customer was impressed with how easy it was to install the PreVent, as Permatron's innovative system requires no drilling or tools. By using magnets, the PreVent System was easily installed and can be removed in minutes, without the need for special service or equipment shutdown.

For customers without metal, the PreVent System can be adhered by using a steel plate adapter with high strength tape adhesive that can be permanently affixed to the surface.

"TFS was able to recommend a solution that went beyond the customer's initial request and lowered the total cost of ownership."

Veronica Edens
Territory Manager, Total Filtration Services

Results

Since being applied, the maintenance team is extremely satisfied with the new solution and plan to order a spare set of screens for each unit for quick change outs. They are also considering using the product throughout their facility to ensure all equipment is protected at all times.

Significant process improvements and cost savings were achieved in the following ways:

- Customer equipment is adequately protected and no longer at risk of being clogged with debris which required costly repairs.
- Elimination of manual cutting of media allows the maintenance team to re-allocate resources and avoid potential injuries from repetitive motion and lacerations.
- Eliminated waste resulting from both excess and dirty media.
- Achieved cost savings by using a re-usable product instead of continually replacing media.