



TOTAL FILTRATION SERVICES

# Liquid Filter Bag Solution Saves Global Textile Manufacturer \$100,000

## Customer Case Study



### PROFILE

Filter experts from Total Filtration Services worked with process engineers from a global textile manufacturer to address concerns with failing liquid bag filters and to identify potential cost savings. The facility discussed in this case study is responsible for manufacturing media used in filters, medical pads, cleaning wipes, and other popular household products.

### CHALLENGE

During a scheduled visit, a TFS filter expert met with process engineers to discuss a challenge involving one of their multiple production lines where high-pressure water is used to hydro-entangle media fibers.

The customer was using a cotton-duck style liquid filter bag as a pre-filter before the water reached the header on the production line but after the DE (diatomaceous earth) filter. DE filters are used to remove sediment, dirt, hair, and other particulates that could clog the pores of the header.

If particulate gets through the DE filter, it could clog up the header strip, which would cause the product media to be inconsistent, when it needs to look the same. Entire rolls of media could be lost due to this type of issue (rolls can be about 10-15ft in diameter and about 10-15ft long).

### THE TFS SOLUTION

The engineers had been purchasing the cotton-duck style filter bag for several years and didn't know to use anything different, as their previous supplier hadn't worked with them to confirm they were still effective or to explore cost-savings opportunities.

The customer was spending about \$250,000 on liquid bags each year, but one of the production lines was experiencing an issue with bag failures. For this line, they had 80 bag vessels running in series, feeding into one header which has several hundred holes at 20-micron.

Upon reviewing the line, TFS confirmed the issue was due to the DE filters failing occasionally and overloading the cotton duck bag due to the weight of the bags when filled with water and particulate. When the filter bags failed, DE particulate entered the header and clogged the pores, resulting in product quality issues.

TFS worked with engineers to identify the correct bag for the brand of housing, as well as the flange and micron size. For those inexperienced in purchasing liquid bag filters, it's important to understand that not all housings are created equally. It is also important to know the brand and model number of the housing to select the correct flange for the bag top. Failure to use the correct flange will cause bypass, which allows particulate to get past the filter housing and cause issues with production.



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Once TFS identified the bag housing information, it was determined that a more cost-effective depth loading liquid bag would provide a more treacherous path for the particulate and would be the appropriate solution. TFS recommended a size 2, polypropylene liquid bag from AJR Filtration.

## RESULTS

TFS partnered with the engineers to setup a trial with the new liquid filter bags to see if they would hold up to the challenge of the application and stop the particulate.

During the trial, the new bags stayed in the housings for about a week before they needed to be changed. The bags successfully protected the header pores, even as their DE filters failed.

The customer was pleased with the results of the filter bag trial and was happy to finally have a partner who took the time to work directly with the engineers and improve their process.

The customer saved approximately \$110k in filter bags across all 6 production lines by utilizing TFS' technical expertise and switching to the AJR bag.