

Memtrex* HFE improves productivity in chemical processing industry application



Figure 1: Memtrex HFE Filter

challenge

A large chemical manufacturing customer in North America recently trialed the SUEZ Memtrex HFE filters in one of their production processes. The company was looking for improved productivity and lower total operating cost.

The manufacturing process was a batch operation, which included multiple formulations containing organic halides and acids. Organic solvents used were primarily isoparaffins, similar to nonane or decane.

Cartridge filtration was required to remove solid organic acid precipitate from the formulation. The company had been using another brand of filters to protect the processing equipment downstream from particulate plugging, scaling and acid corrosion.

solution

SUEZ Water Technologies & Solutions presented the Memtrex HFE filter (Figure 1) to the customer. The customer was interested in the potential performance benefits and the longer anticipated lifetime of an all-fluoropolymer filter in their application.

The customer agreed to trial the Memtrex HFE 0.2-micron filters on their process stream. Monitoring equipment used to measure pressure drop was used throughout the trial. Filter particle removal efficiency was determined by monitoring the downstream process for plugging, scaling and corrosion.

results

The process validation test with the Memtrex HFE was a complete success. Production management viewed the performance and cost savings (less downtime for downstream equipment maintenance, cleaning) as a “simple decision” and initiated the required steps to implement its use.

With Memtrex HFE, the pressure drop was low throughout the duration of the trial (7 months) and the superior chemical resistance of the all-fluoropolymer cartridge filter afforded consistent filter performance throughout the trial. Memtrex HFE provided effective protection for the downstream process. Maintenance time was decreased ~50% because of less plugging and corrosion downstream. This resulted in an overall increase in throughput and productivity in the process.

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Memtrex HFE background

Memtrex HFE are made entirely from fluoropolymer materials including Halar (ECTFE) (Halar is a trademark of Ausimont.), and PTFE. Halar is an industrial-grade fluoropolymer with excellent solvent resistance. MHFE filters can withstand the harshest process conditions due to its construction using these highly resistant materials. Providing broad chemical compatibility, you can count on our filters to produce consistent, uniform process streams in your most demanding filtration applications. Some of the features and benefits of Memtrex HFE are:

- High flow rates
- High-purity results with absolute rated efficiencies (99.9% filtration efficiency at rated pore size based on ASTM F795 and F661 test methods)
- Outstanding performance in harsh chemical environments
- Manufactured and packaged in a cleanroom environment for assured cleanliness
- Typical applications include:
 - Chemicals
 - Microelectronics
 - Pharmaceuticals