

Case Study

Reducing the Total Cost of Ownership in a Healthcare Facility

A major healthcare facility on the East Coast needed to reduce their Total Cost of Ownership (TCO) on a MERV 16 filtration system.



PROBLEM

Reduce the Total Cost of Ownership for their MERV 16 filtration system used in the facility



SITE

Major healthcare facility on the East Coast



OUTCOME

Dramatic savings achieved by transitioning to Tri-Dek® and MERV 16 bag filters from pleated filters and rigid V-Banks.

IDENTIFYING THE ISSUE

This facility had two side-by-side RTU rooftop units that were using offshore-manufactured MERV 16 V-Banks and pleated prefilters. The final filters had a very high initial system resistance, resulting in increased energy consumption.

These units were also logistically difficult to service. Transporting a large number of filter boxes to and from the rooftop units was time-consuming and labor-intensive. Altogether, these factors contributed to a high total cost of ownership (TCO), prompting the facility to seek cost-saving alternatives.

IMPLEMENTING A SOLUTION

After a detailed assessment, the MANN+HUMMEL team proposed filters designed to meet the facility's goals. The pleated prefilter was upgraded to the Tri-Dek® 15/40 3-ply panel/link filter. Tri-Dek® filters offer an extended service life, easier change outs, and require fewer boxes to transport, ship, and dispose of—making them more efficient than traditional pleats.

The MERV 16 V-Bank filters were replaced with MERV 16A ProPocket Nano+ bag filters, which feature high dust holding capacity (DHC), extended service life, MERV 16A mechanical efficiency, and a more compact shipping and storage footprint compared to V-Banks. These recommendations were implemented—and the results followed.



Total filter savings per change-out amounted to nearly \$4,400

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THE RESULTS

MANN+HUMMEL filtration products significantly reduced the total operating cost. The initial system pressure drop decreased from 0.88 in. w.g. to 0.61 in. w.g.—a 31% reduction—resulting in substantial energy savings, especially when combined with the system's extended service life.

Additionally, there was a 50% savings in change-out labor, and the total filter savings per change-out amounted to nearly \$4,400. This figure does not include savings from filter disposal or the reduced labor required to remove used filters from the rooftop—an area that also saw a 50% reduction.

MANN+HUMMEL not only helped the healthcare facility achieve its goals but also reduced its carbon footprint by minimizing shipping needs and used filter disposal—all while continuing to provide MERV 16A protection for patients and staff.



MANN+HUMMEL ProPocket Nano+ bag filter - MERV 16A



The MERV 16 V-Bank filters that were replaced

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