

RENTWEAR Inc. Trusts KONSOLIDATOR™ UF System to Meet Local Discharge Limits



Overview

RENTWEAR Inc. is a full-service textile rental company serving the Canton, OH community since 1972. They offer rental and cleaning of a variety of commercial textiles including uniforms, aprons, floor mats, linens, and towels. RENTWEAR's customers range across food service, transport, and technical service groups that require frequent service and reliable high-quality cleaning.

Previously, RENTWEAR relied on a conventional treatment system including a shaker screen, free floating oil separation, equalization tank, and addition of bio-enzymes to treat the wastewater from their laundry process. This method of treatment was unreliable for meeting discharge limits for oil and grease levels per the local publicly owned treatment works (POTW), resulting in citations and potential business closures.

Objective

Seeking to reduce oil and grease content in their spent wash water from their laundry process and meet limits to allow for discharge into the city sewer, RENTWEAR turned to Koch Separation Solutions (KSS) for help.

Solution

KSS offered a competitive solution with a KONSOLIDATOR™ ultrafiltration (UF) system featuring FEG PLUS® tubular membranes to treat about 10,000 gpd (about 38 m³/day) and reduce oil and grease to permissible discharge levels. Choosing from seven standard system sizes, RENTWEAR selected the K160 model which is comprised of 160 tubular membranes and has an active membrane area of 352 ft² (32.7 m²). The KONSOLIDATOR UF modular system is designed to operate efficiently within a compact footprint and easily connects to and controls ancillary equipment.

The FEG PLUS tubular membranes are robustly designed and are the ideal solution for wastewater contaminated with oil and grease, heavy metals, and suspended solids from a variety of feed sources. FEG PLUS membranes feature an open-channel configuration that can process maximum feed TSS concentrations up to 500,000 mg/L. The tubular configuration allows for mechanical cleaning using spongeballs that scrub accumulated solids from the membrane surface, promoting extended membrane life.



Achievements

KSS came highly recommended to RENTWEAR by another KSS client. KSS demonstrated its value-added solution capability by collaborating with the RENTWEAR team during initial bench testing, final design, and installation. The UF system eliminated the need for specialized chemicals and pretreatment, offering a sustainable solution compared to other technologies. The complete KONSOLIDATOR™ UF integrated package fit into the existing laundry facility, saving on potential building expansion and civil work. KSS technicians trained RENTWEAR technical staff on proper operation of the system to achieve optimal performance which allowed RENTWEAR to save on additional labor costs and ensuring a quick and easy commissioning. KSS continues to support RENTWEAR's operation through maintenance, service, and replacement membranes.

Takeaways

Through KSS' KONSOLIDATOR UF system, RENTWEAR is able to meet their local POTW discharge limits on oil and grease, allowing the business to promote sustainability and earning them the Environmental Compliance Award from the Mayor of Canton, OH. The new treatment process has even allowed them to expand their business by reviving their shop towel processing without worry of impending fines and violations from the POTW. They also benefit from reduced surcharges for BODs and TSS and eliminated the need for chemically enhanced treatments.

"We received support and assistance from KSS throughout the entire sales, installation, and start-up process," said Chris Clay, President at RENTWEAR. "The system has worked exactly how KSS promised, and we have achieved the results we wanted and needed in order to maintain compliance with our local POTW."

KSS is honored to have had the opportunity to work collaboratively with RENTWEAR to achieve an economically and environmentally sustainable separation solution.



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