

PURON[®] MBR Promotes Wastewater Reuse at Leading Indian Textile Plant



Overview

GMS Processors Pvt. Ltd. is based out of Tirupur, Tamil Nadu, the eighth largest city in the state. Located along the Noyyal river, Tirupur is a major textile and knitwear hub contributing to 90% of the total cotton knitwear exports in India. GMS Processors is one of the leading manufacturers and exporters of cotton knit fabrics and garments.

The textile industry is known to produce large amounts of wastewater and has long been at the center of global sustainability efforts. Having previously directed their wastewater effluent to a common effluent treatment plant (CETP), GMS Processors recognized the need for an in-house wastewater treatment plant to recycle their effluent to promote reuse and drive down disposal costs.

Objective

GMS Processors aimed to install a wastewater treatment plant on site to treat effluent to such levels so that the water could be recycled back to the dye house.

Solution

Koch Separation Solutions (KSS) supplied a PURON[®] MBR to the effluent treatment plant (ETP) built by Water Next Solutions (WN) for the GMS Processors facility. The plant has a treatment capacity of 1.4 MLD (nearly 370,000 gallons per day) and uses a 3-step design comprising of biological treatment, the MBR for solid-liquid separation, and reverse osmosis (RO) membrane filtration. The PURON MBR allows the plant to consistently filter water with a turbidity less than 0.5 NTU and an SDI less than 3 for trouble-free operation downstream in the RO system.

KSS PURON MBR ultrafiltration membranes completely retain suspended solids in the bioreactor, thereby producing higher quality effluent than conventional technologies while remaining unaffected by biological upsets. The system uses a virtually unbreakable reinforced hollow fiber membrane with tight pore distribution for optimal performance. The patented single header design and central aeration system eliminate the build-up of hair and fibrous material that may lead to clogging.



Achievements

KSS was selected by WN as the membrane supplier due to the technological benefits of PURON MBR technology as well as previously successful collaborations on many other MBR projects across the region. Mr. Pranay Behl, Co-Founder of WN states, “the MBR is the most important component of the entire effluent treatment plant, and it is of utmost importance to choose the right membrane module. With the combined experience of both Water Next Solutions and KSS, we pride ourselves in treating difficult effluents with ease at this location with minimal manpower.”

Takeaways

Although the MBR system has provided consistent treatment since commissioning in July 2019, KSS continues to support the plant operators in an on-going effort to optimize system performance. A team of engineers and field-service technicians have provided frequent site visits and remote data monitoring services, which have led to the optimization of plant operation.

“Our ETP is one of the most technologically advanced, state-of-the-art plants in the entire region and we take pride in showcasing this to other end users who are planning to install or upgrade their ETPs,” says Mr. Sharan Karnani, Director of GMS Processors.

Implementing the MBR and after-sales services has led to decreased energy consumption, cleaning chemical reduction, more stable system performance, and an overall lower cost-of-ownership for GMS Processors.



Koch Separation Solutions, Inc.

850 Main Street, Wilmington, MA 01887

Main: +1-978-694-7000 • Fax: +1-978-657-5208 • Toll Free: +1-888-677-5624

For complete contact information and listing of our global locations, visit www.kochseparation.com
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