NANOFILTRATION FOR PAINT SHOP

Slovakia, 192 m^3/d

Aim of the Project

The Nanofiltration unit (Feed & Bleed configuration) is designed to treat UF permeate from the Ecoat process. The main goal was to reduce the electrical conductivity of the feed water and be able to reuse the product water in the rinsing stage at one of the major automotive companies in Europe/USA.

Lenntech has engineered and built the Nanofiltration system fully automated and in compliance with very strict client requirements.

This system allows the rejection of specific components while allowing part of the biocide to pass through, resulting in a massive reduction of chemical use. The feed water containing certain levels of solvents is treated by a special type of membranes that have been carefully tested and selected for this specific type of applications.

The Cleaning In Place is an automatic process and is triggered based on the pressure drop over the membranes.

Scope of Work

- Engineering, manufacturing and assembly
- SS316 piping
- Silicon-free produced water
- Nanofiltration membranes tested and carefully selected
- Automatic CIP cleaning sequence
- Advanced PLC design for integration into client's SCADA
- Top brand equipment selected according to client's preferences

FEED WATER QUALITY

Conductivity: <1500 µS/cm
Temperature: 30-35 °C

PRODUCT WATER QUALITY

Conductivity: <150 µS/cm

Key accomplishments

REDUCES WATER USAGE

800 MIL.
L/per year OF DEMI WATER

CONDUCTIVITY
<300
µS/cm

WATER RECOVERY
62%

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