



QUA's FEDI® GIGA Q-Connect Provides Ultrapure Water for Automobile Manufacturing



QUA®
An Aquatech Company

Client: Automobile Manufacturer in India

Plant Capacity: 30 m³/hr (0.72 MLD)

In the fast-evolving automotive sector, ultrapure water is a critical enabler of quality, reliability, and longevity. From extending battery life to ensuring defect-free paint finishes and scaling-free engine components, ultrapure water directly impacts vehicle performance and customer satisfaction.

Challenges:

A leading automobile manufacturer in India sought a high-purity water system capable of producing 30 m³/hr of ultrapure water with conductivity below 0.1 µS/cm and doing so sustainably, efficiently, and without chemical regeneration. Traditional ion exchange systems couldn't meet these expectations. The manufacturer required a compact, fully automated, zero-wastewater solution that would deliver 24/7 reliability with minimal maintenance.

QUA's Solution:

To meet the manufacturer's stringent ultrapure water requirements, QUA deployed its advanced FEDI® GIGA Q-Connect system - a pre-engineered, high-flow, high-purity electrodeionization (EDI) solution designed for modern industrial applications.

The FEDI® GIGA Q-Connect combines superior performance with engineering simplicity, delivering consistent ultrapure water for large-scale operations. Its innovative three-port design (feed, product, reject) simplifies integration, ensuring quick installation and faster deployment with minimal piping and reduced system complexity. Engineered for reliability, the system features a leak-proof configuration and modular construction, allowing easy maintenance and long-term operational stability. With a compact footprint, it integrates seamlessly into RO skids, optimizing plant space while maintaining high efficiency.



Moreover, its chemical-free operation supports sustainable practices by eliminating the need for regeneration chemicals. Integrated with multigrade and activated carbon filters, two-pass RO, and FEDI® GIGA Q-Connect as the final polishing stage, the system consistently delivers ultrapure water of the highest quality while enhancing overall operational efficiency.

Process Flow Diagram



Results:

The implementation of QUA's FEDI® GIGA Q-Connect enabled the automobile manufacturer to consistently produce 30 m³/hr of ultrapure water with conductivity below 0.1 µS/cm, fully meeting stringent quality standards while reducing footprint and operating costs. The chemical-free, fully automated system delivered zero wastewater from regeneration, enhanced operational efficiency, and eliminated manual intervention, aligning perfectly with the customer's sustainability and reliability goals.

This success showcases QUA's strong expertise in meeting the most demanding ultrapure water needs for industries like automobile manufacturing. With the integration of FEDI® GIGA Q-Connect, the client now benefits from a water treatment system that is reliable and environmentally responsible while setting a new standard for operational excellence.