

# FEDI<sup>®</sup>

The next generation of EDI

High Purity Water for Pharmaceutical Application  
with FEDI<sup>®</sup> Rx Fractional Electrodeionization





**QUA's FEDI®-Rx has provided a perfect replacement for other manufacturer's EDI stack. The stack was delivered in 2 days and has been delivering high purity water consistently since then.**

### Customer Challenge

A global pharmaceutical instrument and system manufacturer, located in Northern India, required consistent high purity, pharmaceutical grade water for their process. The process scheme chosen to produce high purity water consisted of a softener, a reverse osmosis system and an electrodeionization (EDI) unit as the final polisher to achieve the desired water conductivity.

The client's existing electrodeionization system, with another manufacturer's EDI, was not able to deliver the desired product water quality, below  $1\mu$  S/cm. This was due to variable feed water conditions, primarily due to presence of  $\text{CO}_2$  in the water. As a result, their production was adversely affected and the client faced a shutdown. Service also became a key issue as the customer was not satisfied with the existing EDI manufacturer's support.

They urgently started exploring other EDI options, with the least lead time for delivery. They expected the EDI supplier to understand the problem and work closely with them to resolve the quality concerns at the earliest possible.

Softener



Reverse Osmosis



EDI



## QUA Solution

**FEDI Model:** FEDI-2-10Rx

**No. of Streams:** 1 x 3.3 gpm (1 x 0.75 m<sup>3</sup>/hr)

**Conductivity:** 0.06 µS/cm

After a detailed technical evaluation, the client elected QUA's FEDI<sup>®</sup>-2-10Rx as a perfect fit for their requirement. FEDI-Rx is a flexible solution that allows for more tolerance to feed water fluctuations, thus reducing cleaning frequency. The FEDI-Rx series stacks can be hot water sanitized at 85°C water temperature. The wetted components of the stacks conform to US FDA requirements, are CE certified, and come with tri-clover end connections. FEDI-Rx stacks can produce water quality up to 18 megaOhms.

Since delivery time was critical to ensure uninterrupted production, QUA delivered FEDI-Rx in **two days**, enabling the client to resume production immediately. QUA's dedicated technical support team provided outstanding pre and post-sales

support, to the client, and QUA's representative was present at site throughout commissioning. The client's operation team was given comprehensive training on the operation of FEDI-Rx, and troubleshooting. QUA has been closely monitoring the site along with the client's operations team, to ensure smooth operation of the FEDI system.

Softener



Reverse Osmosis

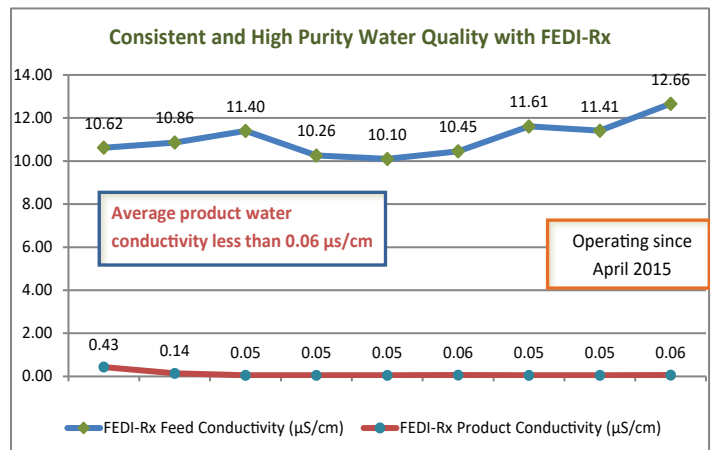


**FEDI**<sup>®</sup>

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The FEDI-Rx module was commissioned in 2015, and has been delivering consistent high purity water of conductivity less than 1 microS/cm **since then**. The following graph, representing the product water conductivity trend over a period of time, shows how QUA's FEDI has been successfully providing a consistent high purity water solution for the pharmaceutical manufacturer's process requirements.



## FEDI® Rx Electrodeionization

QUA's FEDI® Rx is specifically designed to meet the high purity water requirements of the pharmaceutical manufacturing industry.

FEDI® Rx features:

- High product water quality up to 18 MΩ.cm (0.06 µS/cm)
- FDA compliant wetted component and CE certified product
- High recovery and low power consumption
- Hot water sanitization at 80-85°C
- Tri-clover compatible connections
- Reduced cleaning frequency
- Exhaustion and regeneration not required before/after sanitation

## About QUA

QUA is an innovator of advanced membrane technologies that manufactures and provides filtration products to address the most demanding water challenges.



**Q-SEP®**

HOLLOW FIBER  
ULTRAFILTRATION



**FEDI®**

FRACTIONAL  
ELECTRODEIONIZATION



**CeraQ™**

CERAMIC  
MEMBRANES



**EnviQ™**

MEMBRANE  
BIOREACTOR