



Ayurvedic Personal Care - India

FEDI Model: FEDI-2-30X

Flow: 3m³/hr

No. of Stacks: 1

Conductivity: consistently <1 µS/cm

Application: High purity water for production process

Project Background

The client is one of the leading and fastest growing personal and healthcare businesses in India.

Established in 1974, the company has a portfolio of over 300+ products, and has operations in more than 60+ countries.

The client's manufacturing plant in Vapi, Gujarat, India, required high purity water for use in the production process of one of their renowned Ayurvedic personal care product formulations. A purified water system, comprising of pretreatment followed by two pass RO followed by electrodeionization, was selected as the process scheme for generation of high purity water.

QUA Solution

After detailed evaluation of various EDI options, the consumer goods manufacturer selected QUA® Fractional Electrodeionization (FEDI®) as the most viable technology for their requirement due to local manufacturing and service support.

FEDI process is an advancement of EDI and was developed by taking into account the limitations of conventional EDI. QUA's FEDI has been an industry-leading product for over a decade and has been successfully providing high purity water in power stations, refineries, pharmaceutical plants, and more.

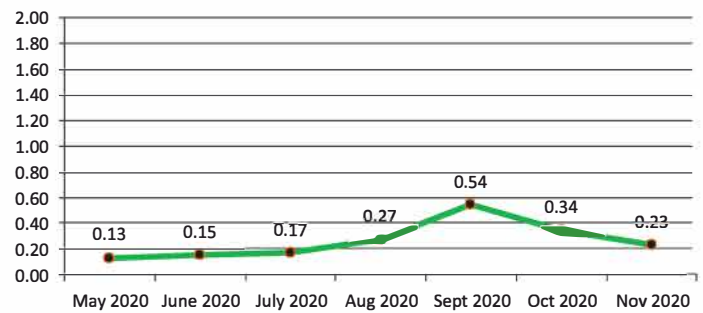
QUA supplied a FEDI-2-SV-30X stack for this application requiring 3m³/hr of product flow. The FEDI stack was supplied through a Pharmaceutical system integrator to the end user.

Results

The FEDI plant was commissioned in October 2017, and has been in continuous operation since then. The product water quality has been consistently less than 1 microS/cm, which has been able to fulfill the customer's high purity grade water requirement.

The customer has been very satisfied with FEDI's performance and has issued a performance certificate to that effect. The following graph shows the product water conductivity trend in 2020.

FEDI Average Product Conductivity <1µs/cm



About QUA

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

FEDI® Electrodeionization

Fractional Electrodeionization (FEDI) is an advanced EDI technology that was developed to address the limitations of conventional EDI. FEDI is a patented two-stage process that operates in a dual voltage configuration to reduce hardness scaling that may occur in conventional EDI.

FEDI's unique design maintains an acidic condition in the first stage and basic condition in the second stage of the electrodeionization concentrate chamber. This patented design reduces mineral scaling in the first stage and enhances silica removal in the second stage.