

Ionics* V20 EDR stack

Electrodialysis Reversal (EDR) Stack for TDS Removal



Description and Use

The Ionics V20 EDR Stack is for low and intermediate flow rates up to 150 GPM (34 m³/h) per line. It utilizes several key technology developments to deliver an EDR stack and systems with significantly smaller footprints and lower capital costs than previous generations of SUEZ's Ionics EDR product line. To achieve many different demineralization rates, stacks can be designed for both hydraulic staging inside a single stack as well as set in series within a system.

Applications

Ionics V20 EDR stacks are used on a range of water types for the removal of charged contaminants such as general total dissolved solids (TDS), nitrate, arsenic, radionuclides, fluoride, sulfate, and chloride. The most typical applications are:

- Desalination of ground and surface brackish water for potable use
- TDS removal from tertiary-treated wastewater for irrigation or to meet discharge requirements
- Recovery of industrial waste water

Product Features

- Up to 300 cells of Ionics ion exchange membranes and Ionics V20 spacers, configurable for number of cells, hydraulic staging, and membrane type.
- Recessed molded spacer design means no membrane exposure to the exterior of the stack. This reduces leakage and increases operational safety of the EDR stack.
- Up to 33 m² of active membrane area.
- Molded fiber reinforced plastic (FRP) end blocks for easy maintenance.
- Robust stack design that is capable of clean-in-place (CIP) and can also be easily removed and disassembled for cleaning, maintenance, and component replacement if needed. Spare parts can easily be stored on site.

Certifications

- NSF STD 61 - Drinking Water
- EU 1935/2004/EC - Water and Food Contact
- BSE/TSE EMEA/410/1-No Materials of Animal Origin
- CE Compliant

Materials of Construction

Endplate:..... Molded FRP
Piping:CPVC
Electrodes:..... Platinum with metal oxide coatings or ion exchange resin coated carbon electrodes

Find a contact near you by visiting www.suezwatertechnologies.com and clicking on "Contact Us."

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Feed Stream Guidelines

Temperature: 40 to 158°F (4 to 70°C)
 Typical Feed Cond: 100-4000 mg/l
 Operating Pressure: 2-4 bar (28-57 psi)
 Silica (Reactive): 145 ppm
 Turbidity: 5 NTU
 TOC: <60 ppm (mg/l)
 COD: <200 ppm (mg/l) as O₂
 Manganese, Aluminum: <0.1 ppm (mg/l)

Stack Configurations¹

cells x stages	typical nominal flow rate in gpm (m ³ /h)	single pass salt cut %
V20-300x1	75-150 (17-34)	25-32%
V20-200x1	50-100 (12-24)	25-32%
V20-150x1	38-75 (9-18)	25-32%
V20-150x2	38-75 (9-18)	44-54%
V20-100x2	25-50 (6-12)	44-54%
V20-100x3	25-50 (6-12)	58-69%

Anion Membrane Types: AR204T, AR908T

Cation Membrane Types: CR67T

Electrode Types: Platinum, Carbon

¹Contact SUEZ - Water Technologies & Solutions commercial engineering team for proper equipment sizing to achieve desired flow rate and demineralization level.

Contact Us

If you would like to learn more about how SUEZ can provide an EDR solution for your TDS removal needs, please visit:

www.suezwatertechnologies.com/contact-us