

Ionics* ED for Brine Concentration

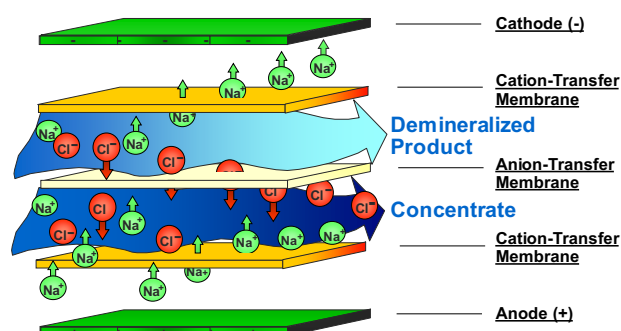
FACT SHEET

Electrodialysis Stack (300 Cell Pairs)

Description and Use

The Ionics ED Stack is an electrodialysis stack specially-designed with ion exchange membranes, spacers, and electrodes. The stack can be used for salt removal, producing separate dilute and concentrate streams.

Within the stack, an electric current is used to move anions through anion-selective membranes, cations through cation-selective membranes under a DC electric field, and to separate the brine stream into a dilute and a concentrate stream. The stacks can be operated in batch mode or continuous mode. The module design makes it easy to scale up, and the stacks can be installed in series, in parallel, or in matrix to achieve the desired treatment volume or target concentration.



Product Features

- Cell pairs of Ionics AR103P and CR61P Membranes designed for salt removal. For brine concentration, the recommended stack will be 300 cell pairs.
- Membrane active area of 0.28 m²/piece.

- Robust stack design that is capable of 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.

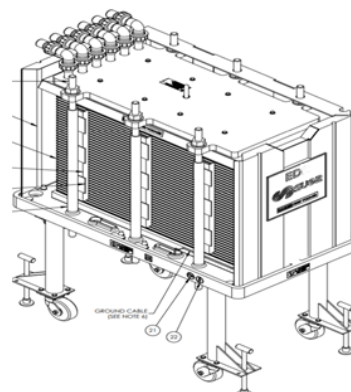
Materials of Construction

Welded Frame:	Painted Carbon Steel
Piping:	GF PROGEF PP
Anode:	Platinum with metal oxide coatings
Cathode:	Hastelloy C

Typical Performance

Under typical operating conditions of 250~350 A/m², 0.5~1.0 V/cell pair, with 1~10% feed solution, the ED system will produce a 16 to 20% concentrate stream with 80 to 90% water recovery. The treatment volume is up to 14 m³/h per stack (300 CP). The DC energy consumption is around 3-8 kWh/mt feed.

Stack Design



Feed Stream Guidelines

Temperature:	40 to 100°F (4 to 38°C)
Typical Feed Concentration:	1-10%
Operating Pressure:	2-4 bar (28-57 psi)
Turbidity:	< 5 NTU
TOC:	< 60 ppm (mg/l)
COD:	< 200 ppm (mg/l) as O ₂

Size and Weight

No. of Cell Pair	Typical Size (L*W*H) cm	Weight kg
125	133.68*71.32*110.00	780
140	133.68*71.32*112.19	810
150	133.68*71.32*113.64	830
160	133.68*71.32*115.09	850
180	133.68*71.32*117.45	890
300	133.68*71.32*134.34	1130