

EDI – Series Electrodeionization Systems

AXEON EDI – Series Electrodeionization Systems are a superior option to conventional mixed-bed deionization. EDI does not require regeneration and there are no chemicals used for operation. Ultrapure water is processed by taking reverse osmosis permeate water and feeding it into the EDI system which uses electricity to continuously drive ions through deionization resins and ion selective membranes, thus producing a small concentrate stream.

The **AXEON EDI – Series Electrodeionization Systems** are available in four flow ranges up to 7 gallons per minute (GPM). Additional systems can be arranged in parallel for increased capacities.

Features

- Easy Operation with Minimal Instrumentation
- 2 MΩ DI Sensor with Red/Green Indicator Lights
- Compact Aluminum Skid
- Sleek, Clean, Modular Design
- Operates Independently from RO System
- Internal Flow Orifices
- Includes 5-Micron Pre-filter
- Feed, Product and Concentrate Sample Ports
- No Concentrate Recirculation or Brine Injection
- Thin-Cell Efficient Technology
- Thin-Concentrate Non-Scaling Technology
- Unique Non-Scaling Electrode System
- Patented Excellion™ Membrane

Benefits

- No Operator Flow Settings; Flow Control is Internal
- Reliable, Uninterrupted 24/7 Operation
- Operating Cost (Electrical) is Pennies Per Day
- Greatly Reduces Disruptive Customer Site Visits
- Chemical-Free, Environmentally Friendly
- Flexible – Easy to Expand Modular EDI System Design
- Reliable – No Recirculation System Components to Fail
- Ideal Whenever Ion Exchange Tanks are not Economically or Logistically Feasible
- Ultrapure Water Quality Greater than 2 mΩ/cm (0.05 μS/cm)
- High Recovery of 90%+
- Ideal to Lease for Recurring Revenue and Rapid ROI



EDI – 007
EDI Electrodeionization System

Know Higher Standards™

AXEON EDI – Series Electrodeionization Systems

| Product Specifications | | | | |
|--|--|--|--|--|
| Models | EDI – 001 | EDI – 003 | EDI – 005 | EDI – 007 |
| Design | | | | |
| Nominal Capacity (gpm / lpm) | 1 / 3.8 | 3 / 11.3 | 5 / 18.9 | 7 / 26.5 |
| Operating Pressure Nominal – Maximum (psi / bar) | 40 – 75 / 3 – 5 | 40 – 75 / 3 – 5 | 40 – 75 / 3 – 5 | 40 – 75 / 3 – 5 |
| Nominal Discharge Concentrate + Electrode (gpm / lpm) | 0.10 / 0.38 | 0.3 / 1.14 | 0.5 / 1.9 | 0.7 / 2.65 |
| Nominal Recovery % | 90 | 90 | 90 | 90 |
| Feed Water Specifications | | | | |
| Feed Conductivity ¹ | Optimum FCE <9µS/cm Max FCE 33µS/cm | | | |
| Total CO ₂ + HCO ₃ | < 5 mgn CO ₂ + HCO ₃ (Optimum < 2 mg/l CO ₂ + HCO ₃) | | | |
| Hardness | < 1.0 ppm @ 90% recovery (ask about higher hardness) | | | |
| Organics | < 0.5 ppm TOC | | | |
| Metals | < 10 ppb | | | |
| Feed Temp | Optimum: 15° C – 30° C Range: (5° C – 35° C) | | | |
| Feed pH | Optimum: 7.0 – 7.5 Range: 5.0 – 9.5 | | | |
| Feed Chlorine | ND | | | |
| Silica, SiO ₂ | < 0.5 ppm | | | |
| System Component Specifications | | | | |
| Pressure Gauge | At Filter Outlet: Stainless Steel Case, Bronze Internals. Glycerin-filled | | | |
| Pressure Regulator | Nickel Plated Bronze 3/4". Set at 40 psi (2.7 bar) | | | |
| Piping | 3/4" PVC, Schedule 80 | | | |
| Valves | Inlet Isolation Ball Valve, 2 Sample Valves | | | |
| Flow Control | Product, Concentrate & Electrode Flow Control Orifices | | | |
| Switches | Off/On Switch, Feed Low Pressure Cut-out, Concentrate Low Flow Cut-out | | | |
| Filters | 5 Micron Prefilter, 4.5" x 10" | | | |
| Concentrate | 1/2" QC | | | |
| Feed / Product | 3/4" FNPT | | | |
| Product Quality | 2 MΩ DI Quality Indicator with Red – Green Indicator & Alarm Typical Product Quality: 5 – 18.2 MΩ *Depends on FCE ¹ of RO Permeate | | | |
| System Electrical | | | | |
| Power Usage – Nominal | 200W | 300W | 400W | 600W |
| Power Usage – Maximum | .8kW | 1.5kW | 1.6kW | 1.5kW |
| Electrical Input | 178 – 264 VAC, 50/60Hz, 1 – Phase, FLA 20A | | | |
| Systems Dimensions | | | | |
| Approximate Dimensions* L x W x H (in / cm) | 25.75 x 25.75 x 60 / 65.41 x 65.41 x 152.40 | 25.75 x 25.75 x 60 / 65.41 x 65.41 x 152.40 | 25.75 x 25.75 x 60 / 65.41 x 65.41 x 152.40 | 25.75 x 25.75 x 60 / 65.41 x 65.41 x 152.40 |
| Approximate Weight (lbs / kg) | 125 / 56 | 137 / 62 | 145 / 66 | 161 / 73 |

1: FCE = Conductivity + 2.79 (CO₂) + 1.94 (SiO₂). Example: Conductivity = 5.0µS/cm, CO₂ = 3.5 mg/l, SiO₂ = 0.5 mg/l, FCE = 5.0+2.79 (3.5)+1.94 (0.5) = 15.71µS/cm Note: Conductivity (µS/cm) ~ 2.22 TDS (mg/l)

* Does not include operating space requirements.

Note: EDI Systems must have a reverse osmosis permeate feed at 30 – 40 psi and a flow rate that is 10% greater than the rated product flow of the EDI.

