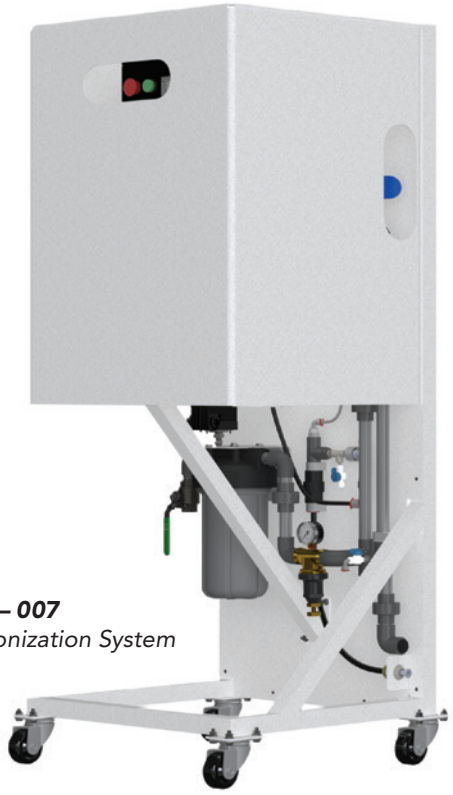
EDI–SERIES ELECTRODEIONIZATION SYSTEMS

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.



EDI – 007
EDI Electrodeionization System

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

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[A]	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[A] 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			
System Dimensions				
Approximate Dimensions[B] 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

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.

A. FCE = Conductivity + 2.79 (CO_2) + 1.94 (SiO_2). Example: Conductivity = 5.0µS / cm, CO_2 = 3.5 mg / l, SiO_2 = 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)
B. Does not include operating space requirements.