

Electrodeionization Systems

Electrodeionization Systems 7,200 to 230,400 GPD

The Biolab EDI Series Electrodeionization System is a revolution in chemical-free deionization that is cost-effective for all flow rates.

No regeneration chemicals are needed, no hazardous waste stream is produced, operation is simple, continuous, and facility requirements are reduced. Biolab's Electrodeionization systems have several different modules to choose from (see chart below). Our quality management system has been registered to ISO 9001:2000



The Biolab EDI system included the following components EDI module(s), EDI power supply, high water recovery (optional), choice of piping materials, monitoring instrumentation, manual & automated valves. The EDI system also includes a main control panel (NEMA 4/12), which includes a PLC and OIT terminal to operate both the EDI system and components that will interface with the system such as pre and post treatment. The system is completely pre-wired and pre-piped on one skid for fast economical installation.

EDI Module Design Parameters (per module)

Parameter	Mini MK-2	Maxi MK-2	Pharm MK-2	MiniHT MK-2	PharmHT MK-2
System Flow	2.5 to 6.7 gpm	7.5 to 20 gpm	7 to 20 gpm	2.5 to 6.7 gpm	7 to 20 gpm
Product Quality	> 16 Mohm.cm	> 16 Mohm.cm	> 10 Mohm.cm	> 10 Mohm.cm	> 10 Mohm.cm
Nominal Recovery	80 to 95%	80 to 95%	80 to 95%	80 to 95%	80 to 95%
Temperature	40 to 38 ^o C	45 to 38 ^o C	50 to 38 ^o C	40 to 38 ^o C	40 to 38 ^o C
Inlet Pressure	45 to 100 psig	45 to 100 psig	45 to 100 psig	45 to 100 psig	45 to 100 psig

Note: HT models are designed to be fully heat sanitizable.

Electrodeionization (EDI) System Specifications @ 25°C

Model Number	Stock Number	Module Quantity	Min-Flowrate gpm (m ³ /hr)	Max-Flowrate gpm (m ³ /hr)	Feed / Product Pipe Size (In)	Maximum Recovery%	Concentrate in (mm)
EDI-MINI	1E215B-2EDI	1	2.5 (0.6)	6.7 (1.5)	3/4 / 3/4	95	1/2 (1.27)
EDI-1	1E115B-2EDI	1	7.5 (1.7)	20 (4.5)	1 / 1	95	3/4 (1.91)
EDI-2	2E118B-2EDI	2	15 (3.4)	40 (9.0)	2 / 2	95	3/4 (1.91)
EDI-4	4E118B-2EDI	4	30 (6.8)	80 (18.2)	2 / 2	95	1 (2.54)
EDI-6	6E118B-2EDI	6	45 (10.2)	120 (27.3)	3 / 3	95	1 (2.54)
EDI-8	8E118B-2EDI	8	60 (13.6)	160 (36.3)	3 / 3	95	1 (2.54)

Note: All weights and dimensions are approximate.

Feed Water Requirements*

Feed Water Source	RO Permeate
Feed Water Conductivity	
Equivalent including CO ₂	< 40 uS/cm
Silica (SiO ₂)	< 1 ppm
Iron, Mn, H ₂ S	< 0.01 ppm
Total Chlorine (as Cl ₂)	< 0.02 ppm
Hardness (as CaCO ₃)	< 1.0 ppm
Dissolved Organics (TOC) (as C)	< 0.5 ppm
Operating pH Range	4 - 11

*If any of the feed water parameters are not within the limits given, consult one of our application specialists for assistance.

Modules	Dimensions	Weights
1-2	66"W x 33"D x 80"H	1400 lbs
2-3	66"W x 60"D x 80"H	1700 lbs
4-5	81"W x 76"D x 86"H	2000 lbs
6-8	81"W x 92"D x 86"H	2300 lbs

Specifications

Standard Product Ordering Information

Biolab EDI Part Number Matrix

Number of EDI Modules

1	2	3	4	5	6	7	8
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Module Type

E1 - MAXI MK-2	E4 - MINIHT MK-2
E2 - MINI MK-2	E5 - PHARMHT MK-2
E3 - PHARM MK-2	

Piping Materials

1 - PVC	3 - PVDF
2 - PP	4 - 316 SS

Electrical Requirements

2 - 230/1/60	5 - 115/1/60	8 - 460/3/60
3 - 380/3/50	6 - 208/3/60	9 - 575/3/80
4 - 420/3/50	7 - 230/3/60	

High Recovery Option

B - 316SS centrifugal	N - None
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Controller Option

0 - LTP Local termination panel	3 - PLC Controller
2 - Full E-Prom w/digital conductivity	

Unit Type

EDI - Electrodeionization system

8	E1	1	8	B	-	2	EDI
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Typical Applications

- Pharmaceutical preparations
- Biological Engineering
- Central Laboratory Water
- Power Industry
- Humidification
- Rinsing of Electronic Components
- Glassware Rinsing
- Preparation of Process Chemicals

Standard Features

- Skid mounted
- Integral power supply
- Operational instruments
- Epoxy coated steel frame
- Pressure gauges
- Flow meters
- Prewired / Preplumbed
- Factory Tested

Options Available

- Hot water sanitizable
- Various piping materials
- Stainless steel frame
- Brine feeder
- Ultraviolet Sterilizer
- NIST traceable instrumentation
- High water recovery design
- System Validation

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