



RODI Systems™

Reverse Osmosis/EDI Systems 3,600 to 21,600 GPD

The Biolab RODI Reverse Osmosis/Electrodeionization systems are unique water purification systems that combine reverse osmosis and electro-deionization in intergrated units.

The RODI systems will produce high purity water low in TOC, microorganisms and particles with a resistivity up to 18.2 Megohm cm at flows up to 15 gpm. Biolab's RODI systems have several different purification modules to choose from (see chart below) that are based on flowrate and intended use. Our quality management system has been registered to ISO 9001:2008.



The Biolab RODI systems include a 1.0 micron prefilter, multistage high pressure RO booster pump, RO pressure vessels in a choice of materials, TFC RO membranes (4" membranes up to 15 gpm), EDI module(s), EDI power supply, high water recovery (optional), choice of piping materials, monitoring instrumentation, and manual & automated valves. The RODI system includes a main control panel (NEMA 4/12), which includes an EPROM and OIT terminal to operate both the RODI system and components such as pre and post treatment that will interface with the system. The system is completely pre-wired and pre-piped on one compact skid for fast, economical installation.

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

Optional Items

- Hot Water Sanitizable
- Various Piping Materials
- Stainless Steel Frame
- Brine Feeder
- Ultraviolet Sterilizer
- Nist Traceable Instrumentation
- High Water Recovery Design
- System Validation

Technical Data

EDI Module Design Parameters (per module)

Parameter	Mini MK-3	Maxi MK-3	Pharm MK-3	MiniHT MK-3	PharmHT MK-3
Product 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°C	45 to 38°C	50 to 38°C	40 to 38°C	40 to 38°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.

Product Specifications

Electrodeionization (EDI) System Specifications @ 25°C

Model Number	Stock Number	RO Element Quantity	EDI Module Type	Flowrate gpm (m3/hr)	Feed / Product Pipe Size (In)	Maximum Recovery%	Motor HP
RODI-2	2E719B-3RODI	2	Mini	1.5 (0.34)	3/4 / 1/2	70	3
RODI-3	3E719B-3RODI	3	Mini	3.5 (0.79)	3/4 / 3/4	70	3
RODI-4	4E719B-3RODI	4	Mini	5.0 (1.13)	3/4 / 3/4	70	5
RODI-6	6E619B-3RODI	6	Maxi	7.5 (1.70)	1 1/2 / 1	70	5
RODI-8	8E619B-3RODI	8	Maxi	10.0 (2.27)	1 1/2 / 1	70	7.5
RODI-10	10E619B-3RODI	10	Maxi	12.5 (2.84)	1 1/2 / 1	70	7.5
RODI-12	12E619B-3RODI	12	Maxi	15.0 (3.40)	1 1/2 / 1	70	7.5

Note: All weights and dimensions are approximate.

Feed Water Requirements*	Specifications
Feed Water Source	RO Permeate
Feed Water Conductivity Equivalent including CO ₂	< 40 uS/cm
Silica (SiO ₂)	< 1 ppm
Iron, Mn, H ₂	< 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.

Elements	Dimensions	Weights
2-6	83"W x 46"D x 86"	800 lbs
7-12	83"W x 60"D x 86"	1800 lbs

Ordering Information

Biolab EDI Part Number Matrix

Number of RO Modules

2 3 4 6 8 10 12

Module Type

E6 - MAXI MK-3 E9 - MINIHT MK-3
 E7 - MINI MK-3 E10 - PHARMHT MK-3
 E8 - PHARM MK-3

Piping Materials

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

Electrical Requirements

3 - 380/3/50 7 - 230/3/60
 4 - 420/3/50 8 - 460/3/60
 6 - 208/3/60 9 - 575/3/60

High Recovery Option

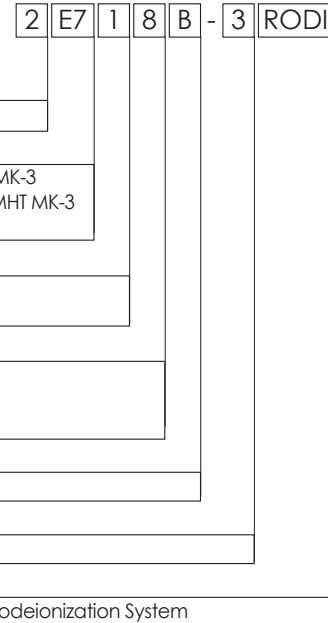
B - 316SS centrifugal

Controller Option

3 - PLC Controller

Unit Type

RODI - Reverse Osmosis / Electrodeionization System



Mar Cor Purification
 4450 Township Line Road
 Skippack, PA 19474-1429
 Tel: (484) 991-0220
 Toll Free: (800) 346-0365
 Fax: (484) 991-0230

Mar Cor Purification
 14550 28th Avenue North
 Plymouth, MN 55447
 Tel: (484) 991-0220
 Toll Free: (800) 633-3080
 Fax: (763) 210-3868

Mar Cor Purification
 3250 Harvester Road - Unit 6
 Burlington, ON L7N 3W9
 Tel: (905) 639-7025
 Toll Free: (800) 268-5035
 Fax: (905) 639-0425

Mar Cor Purification
 Sourethweg 11
 6422 PC Heerlen
 The Netherlands
 Tel: (+31) 45 5471 471
 Fax: (+31) 45 5429 695

Mar Cor Purification
 1A International Business
 Park, #05-01
 Singapore 609933
 Tel: (+65) 6227 9698
 Fax: (+65) 6225 6848