FFM-EDI-4000F

The FFM-EDI Series Electrodeionization Modules with advanced core components designed for high-purity water production, widely used in industries with stringent water quality requirements such as semiconductors, photovoltaics, power generation, pharmaceuticals, and laboratories. The series adopts a modular design, integrating ion exchange resins and selective ion exchange membranes. Combined with a DC electric field, it enables continuous ion removal and in-situ resin regeneration without chemical regeneration, achieving green, environmental friendly, and continuous operation.

Performance Features

- ❖ Continuous High-Purity Water Production: Ensures stable water output quality, superior to traditional mixed bed ion exchange processes.
- ❖ Premium Ion Exchange Resin: Utilizes high-performance resin to guarantee consistent product water quality and extended operational cycles.
- ❖ Wide Operating Range: Capable of stable operation under varying feed water quality conditions.
- ❖ Low Maintenance & Operational Cost: Simple maintenance procedures significantly reduce downtime and labor costs. No chemical regeneration required.

Operating Parameters

Parameter	Specification
Operating Voltage:	DC 0 - 400V
Operating Current:	0 - 6A
Water Recovery Rate:	85% - 95%
Feed Water Pressure:	0.15 - 0.4 MPa
Operating Temperature:	5 - 45℃
Product Water Resistivity:	≥ 15 MΩ·cm @25℃
Flow Rate Range:	3.5 - 5.5 m^3/h

*For specialized applications or customized solutions, please contact FFM Inc. directly.

Application Scenarios

To ensure optimal performance and longevity of the module, the feed water must meet the following standards:

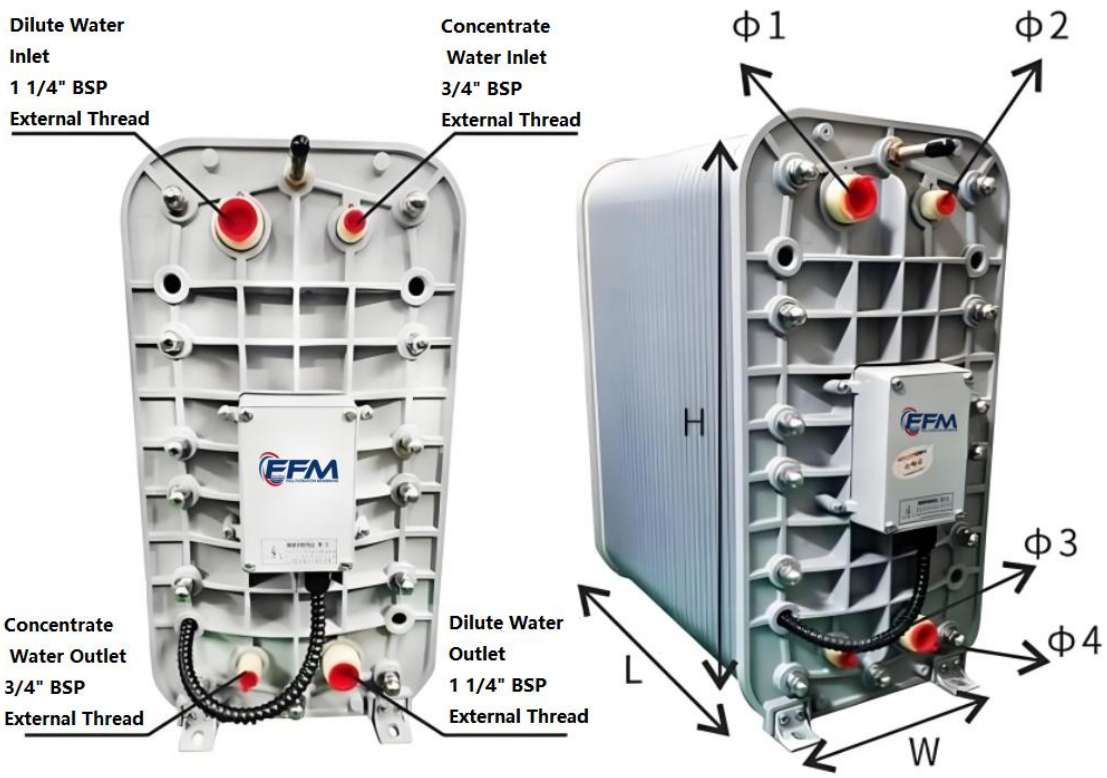
Conductivity:	< 40 μS/cm (< 3 μS/cm is optimal)
Silica (SiO_2):	< 1.0 ppm
Hardness (as $CaCO_3$):	< 1.0 ppm
pH Range:	4 - 11
Total Organic Carbon (TOC):	< 0.5 ppm
Free Chlorine (as Cl_2):	< 0.02 ppm
Fe, Mn, H_2S:	< 0.01 ppm

Critical Operating Instructions

- ❖ Thermal Management: Heat is generated when current passes through the EDI stack. Continuous water flow is required to dissipate this heat. Power must be immediately cut off if Dilute ,Concentrate, or Electrode Water flow is obstructed or stops to prevent stack burnout.

- Power Supply Requirements: The stack operating voltage is determined by internal resistance and optimal current. A stabilized DC power supply with a ripple factor ≤ 5% is mandatory.
- Chemical Cleaning: If external cleaning of the membrane stack is required, use a mild cleaning solution only. Never use solvents. Ensure power is disconnected before cleaning.

Connection & Dimensional Data



Model	L (mm)	W (mm)	H (mm)	Working Weight (kg)	Shipping Weight (kg)	Dilute water Inlet Φ1	Concentrate Water Inlet Φ2	Concentrate Water Outlet Φ3	Dilute water Outlet Φ4
FFM-EDI-4000F	666	320	605	100	123	DN32 External Thread	DN20 External Thread	DN20 External Thread	DN32 External Thread

Model	Min. Product Water Flow (m^3/h)	Normal Product Water Flow (m^3/h)	Max. Product Water Flow (m^3/h)	Recovery Rate	Pressure Drop (MPa)	Working Voltage	Working Current
FFM-EDI-4000F	3.5	4.0	5.5	85%-95%	0.14-0.2	DC 0-400V	0-6A