

E-Cell* MK-5 EDI EU Systems

FACT SHEET

WATER TECHNOLOGIES



Electrodeionization (EDI) EU Systems



Base System Features

- 1 to 12 stacks for flow range of 3.4 - 76.3 m³/h
- Power supply compatible with 400VAC/50Hz
- Individual stack current monitoring
- Flow & pressure transmitters, ability to connect to control system
- IP55 Terminal Box - all wiring terminated at terminal box
- Standard Instrumentation package
 - Burkert Paddlewheel flow sensors on Dilute Out, Concentrate Out, and Electrode Outlet
 - Burkert Resistivity analyzer and sensor on Dilute Outlet
 - Endress + Hauser pressure transmitters on all streams

Optional Features

- Premium Instrumentation package
 - Endress + Hauser Vortex flow transmitters on Dilute and Concentrate Outlet
 - Endress + Hauser conductivity analyzer and sensor on Dilute Outlet
 - Endress + Hauser pressure transmitters on all streams
- Dilute Inlet Divert Valve Assembly
- Control Panel including Siemens S7 1200 Programmable Logic Controller (PLC) with TP1200 Human-Machine Interface (HMI)

Quality Assurance

Certification: CE
(Conformité Européenne)

Facility: ISO 9001:2000

Full Factory Acceptance Test (FAT) completed on each system before shipment.

Instrumentation

Flow..... Dilute (Product) Outlet
Concentrate Outlet
Electrode Outlet

Pressure..... Dilute Inlet, Dilute Outlet
Concentrate Inlet, Concentrate Outlet
Electrode Outlet

Resistivity..... Dilute Inlet
(optional)
Dilute Outlet

Feed Water Requirements

Total Exchangeable Anions < 25.0 ppm
(as CaCO₃) (TEA) Including CO₂ as calculated by E-Calculator
pH 4 – 11
Hardness < 1.0 ppm (as CaCO₃)
Silica (Reactive) < 1.0 ppm
SDI (15 min) < 1
TOC < 0.5 ppm
Total Chlorine < 0.05 ppm
Fe, Mn, H₂S < 0.01 ppm

Operating Parameters¹

Outlet (Dilute) Product Quality > 16 MOhm-cm
Outlet Product Silica Guarantee Down to < 5ppb
Recovery: Up to 95%

Temperature: 4.4 to 40°C
Feed Pressure: 4.1 to 6.9 bar
Dilute Pressure Drop: 1.4 to 2.8 bar
Input Voltage: 400VAC 50Hz

Material of Construction & Ratings

Welded Frame: Painted Carbon Steel
Dilute Piping: Sch. 80 PVC
Concentrate Piping: Sch. 80 PVC
Flanges: DIN
Power Panel: IP55
Control Panel/Terminal Box: IP55
Control Panel Power: 24VDC

E-Cell EDI EU Systems

Model	MK-5-EU-2	MK-5-EU-4	MK-5-EU-8	MK-5-EU-12
Number of Stacks	1 - 2	3 - 4	5 - 8	10 - 12
Type of E-Cell EDI stack	MK-5	MK-5	MK-5	MK-5
Flow Rates:				
Product Flow Nominal	10 m ³ /h	20 m ³ /h	40 m ³ /h	60 m ³ /h
Range	3.4 – 12.7 m ³ /h	10.2 – 25.4 m ³ /h	17.0 – 50.9 m ³ /h	34.0 – 76.3 m ³ /h
Concentrate Outlet Flow (Depends on Recovery & Product Flow) ²	0.19 - 1.74 m ³ /h	0.57 - 3.48 m ³ /h	0.95 - 6.97 m ³ /h	1.89 - 10.45 m ³ /h
Electrode Outlet Flow (Nominal)	0.16 m ³ /h	0.32 m ³ /h	0.64 m ³ /h	0.95 m ³ /h
Dimensions:				
Overall Dimensions (Width x Length x Height)	1.1m x 1.3m x 2.2m	1.1m x 1.9m x 2.2m	1.7m x 2.6m x 2.3m	1.7m x 3.3m x 2.3m
Inlet Piping	DN50	DN65	DN100	DN100
Product Outlet Piping	DN40	DN65	DN80	DN100
Rinse Outlet Piping	DN40	DN65	DN80	DN100
Concentrate Outlet Piping	DN20	DN25	DN40	DN40
Electrode Outlet Piping	DN15	DN15	DN15	DN15
All piping sizes are provided for nominal flow rates at 90% recovery.				
Shipping Weight (Approx.)	925 kg	1400 kg	2400 kg	3125 kg
Electrical:				
Maximum Output @ 400VDC	10.4 Amps	20.8 Amps	41.6 Amps	62.4 Amps
Connection Requirement	13 kVA	21 kVA	36 kVA	52 kVA

¹ Performance, flow rate per stack, recovery, and power consumption are all dependent on inlet feed water quality and temperature. An E-Calculator projection must be completed for proper system design & for any performance guarantee to be provided.

² Concentrate outlet flow at 95% max recovery and minimal product flow of 3.4m³/h/stack to 87% recovery and maximum product flow of 6.4m³/h/stack.

WANT TO LEARN MORE?

 <https://aquaanalytic.ae/>

 +31 715 69 01 51

 info@aquaanalytic.ae