

PRO E-Cell* EU Series

Integrated RO/EDI Machines 10 to 23 m³/h 50 Hz



Features

- RO and EDI systems on common skid
- 2 pass RO with interpass caustic injection
- RO Pump VFDs and EDI Power control/DC Drive mounted on skid
- RO permeate flush sequence on shutdown and divert to drain on startup
- Siemens control system with Simatic PLC and HMI interface
- CE certified

Instrumentation

Flow Meters..... RO Permeates, RO Concentrates
EDI Product, EDI Concentrate, EDI Electrode
Pressure Gauge..... Pre & Post Cartridge Filter
Primary, Final, Interstage, RO Permeate,
RO Concentrate, RO Pump Discharge, EDI Feed, EDI
Product, EDI concentrate, EDI Electrode, EDI Dilute
Feed
Pressure Switch.....RO Feeds, RO2 Permeate
RO Concentrates
Pressure Transmitter RO Primary, RO Final
RO Permeate, EDI Product, EDI Concentrate,
EDI Electrode, EDI Dilute Feed
Conductivity/TempRO Feed, RO1 Permeate, EDI
Product (resistivity)
pH Meter.....RO Feed (both passes)
ORP RO Feed pass1

Options

- HART protocol instruments

Accessories

- PRO E-CELL EU Clean-in-Place unit
- PRO Multi-Media filters
- PRO Activated Carbon and Softeners
- PRO Chemical Feed Systems
- Transfer Pumps and Storage Tanks

Operating Parameters

Design Recovery RO..... 75% Pass 1; 85% Pass 2
Design Recovery EDI.....90-95%
Design Temperature 15°C
Operating Temperature Range5-29°C
System Inlet Pressure.....2-4 Bar
¹Recovery Rate can vary +/- 5%

Materials of Construction

High-pressure piping..... 1.4404 Stainless Steel
Low-pressure RO & EDI piping..... DIN PVC-U
EDI dilute piping DIN Standard Polypropylene
Frame Epoxy-coated carbon steel
Enclosure IP54
Fasteners/Victaulic..... Zinc-plated

Membrane Elements and Housings

Membrane elements.....GE AK-400
Average membrane flux..... 22lmh pass 1
33lmh pass 2
Membrane rejection..... 99.0 to 99.5%
Housing material.....Fiberglass
Housing Pressure Rating31 bar

EDI Stacks

Model GE E-Cell 3X
 Stack product flow rate, nominal 5 m³/hr
 Performance 16 MOhm-cm
 Silica Removal <10 ppb

Cartridge Filtration

Housing model GE HX-0740-80-V-316-A-EMEA
 Housing material 1.4404 Stainless Steel
 Cartridge filter 1-μ nom, ROSave.Zs*,
 RO.Zs01-40XK

PRO E-Cell Models

MODEL	PRO E-Cell EU-10DP	PRO E-Cell EU-20DP
RO Feed Rate:	19 m ³ /hr	34 m ³ /hr
RO Concentrate Rate:	4.8 m ³ /hr	9.5 m ³ /hr
EDI Product Rate:	9-12.4 m ³ /hr	18-24.8 m ³ /hr
EDI Concentrate Rate:	0.6 m ³ /hr	1.2 m ³ /hr
EDI Electrode Rate:	0.2 m ³ /hr	0.4 m ³ /hr
High pressure pumps		
Model:	CRN 20-14 Pass 1 CRN 15-14 Pass 2	CRN 45-7 Pass 1 CRN 45-7 Pass 2
Manufacturer:	Grundfos	Grundfos
Quantity:	2	2
Motor Power and type:	15kW TEFC Pass 1 11kW TEFC Pass 2	30 kW TEFC Pass 1 30 kW TEFC Pass 2
Installed Power:	26 KW	60. KW
Membrane Elements and Housings EDI Stacks		
Membrane Quantity:	20 Pass 1 ; 12 Pass 2	36 Pass 1 ; 18 Pass 2
Memb. Housing Style:	4 element long, 4 port	6 element long, 4 port
Banking Arrangement:	3→2 Pass 1 ; 2→1 Pass 2	4→2 Pass 1 ; 2→1 Pass 2
Stack Model :	GE E-Cell 3X	GE E-Cell 3X
Stack Quantity:	2	4
Power (DC drive, 400 VDC):	16 A max	32 A max
Cartridge Filtration		
Housing Model:	HX-0740-80-V-316-A-EMEA	HX-0740-80-V-316-A-EMEA
Housing Quantity:	1	2
Cartridge Filter Model:	ROSave.Zs, RO.Zs01-40XK	ROSave.Zs, RO.Zs01-40XK
Cartridge Filter Length:	40-inch (120 cm)	40-inch (102 cm)
Cartridge Filter Qty:	7	14
Installation and Utility Requirements		
RO Inlet Connection	DN50 Flange PN10	DN80 Flange PN10
EDI Product Outlet	DN40 Flange PN10	DN50 Flange PN10
RO1 Reject to Drain	DN25 Flange PN10	DN40 Flange PN10
RO2 Product Dump	DN40 Flange PN10	DN50 Flange PN10
EDI Product Dump	DN40 Flange PN10	DN50 Flange PN10
EDI Concentrate Outlet	DN15 Flange PN10	DN15 Flange PN10
EDI Electrode Outlet	DN15 Flange PN10	DN15 Flange PN10
Inlet Water Pressure:	2-4 bar	2-4 bar
Air Pressure:	5.5 barg, oil-free, 90 slpm	5.5 barg, oil-free, 90 slpm
Drain to be Sized for:	22 m ³ /hr	35 m ³ /hr
Power:	400VAC, 50hz, 3-Phase	400VAC, 50hz, 3-Phase
Skid Dimensions and Weights (approx.)		
Height:	2.4m	2.4m
Width:	1.4m	1.6m
Length:	5.8m	7.2m
Shipping Weight :	3,500kg	6,100kg
Operating Weight:	4,500kg	7,800kg

EDI product flow rate varies with conductivity, hardness/silica, temperature.



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