



FEDI®

The next generation of EDI

FEDI® Rx FRACTIONAL ELECTRODIONIZATION 5Rx, 10Rx, 20Rx and 30Rx

QUA® FEDI Rx stacks for pharmaceutical applications feature a hot water sanitization ability at 80 - 85°C. These stacks have the ability to produce high purity water up to 18 MOhms.cm using a patented process with double sets of electrodes per stack. FEDI Rx stacks are available in 4 sizes (5Rx, 10Rx, 20Rx and 30Rx) and have pharmaceutical, biomedical and laboratory application where high purity water is required. FEDI Rx stack can withstand 156 hot water sanitization cycles.

FEATURES

- High product water quality up to 18 MOhms.cm (0.055 µs/cm)
- FDA compliant, CE certified
- 156 hot water sanitization cycles at 80-85°C
- Tri-clover compatible connections
- Exhaustion and regeneration not required before and after hot water sanitization
- High recovery and low power consumption
- No salt dosing in concentrate
- High tolerance to feed water quality fluctuation

FLOW CONDITION-A

FEED HARDNESS ≤ 0.2 PPM (AS CaCO₃)

Parameters	Unit	5Rx	10Rx	20Rx	30Rx
Typical Product Flow	m ³ /hr gpm	0.6* 2.6	1.2* 5.2	2.3* 10	3.5* 15.4
Maximum Product Flow	m ³ /hr gpm	0.85 3.7	1.7 7.5	3.3 14.5	5.0 22
Minimum Product Flow	m ³ /hr gpm	0.25 1.1	0.5 2.2	1.0 4.4	1.5 6.6
Min. Concentrate Flow SV Mode	m ³ /hr gpm	0.025 0.11	0.05 0.22	0.10 0.44	0.15 0.66
Max. Concentrate Flow SV Mode	m ³ /hr gpm	0.05 0.2	0.09 0.4	0.17 0.7	0.25 1.1
Min. Electrode Rinse Flow	m ³ /hr gpm			0.06 0.26	
Max. Electrode Rinse Flow	m ³ /hr gpm			0.1 0.44	

Flows should be kept within these ranges for optimal performance

*Depending upon feed water hardness, to be confirmed by FEDI Engineering Tool

FLOW CONDITION-B

FEED HARDNESS ≥ 0.2 PPM AND ≤ 1 PPM (AS CaCO₃)

Parameters	Unit	5Rx	10Rx	20Rx	30Rx
Typical Product Flow	m ³ /hr gpm	0.6* 2.6	1.2* 5.2	2.3* 10	3.5* 15.4
Maximum Product Flow	m ³ /hr gpm	0.85 3.7	1.7 7.5	3.3 14.5	5.0 22
Minimum Product Flow	m ³ /hr gpm	0.25 1.1	0.5 2.2	1.0 4.4	1.5 6.6
Min. Concentrate Flow (Conc. 1 + Conc. 2) SV Mode	m ³ /hr gpm	0.05 0.20	0.10 0.44	0.20 0.88	0.30 1.32
Max. Concentrate Flow (Conc. 1 + Conc. 2) SV Mode	m ³ /hr gpm	0.10 0.44	0.18 0.79	0.34 1.50	0.50 2.20
Min. Electrode Rinse Flow	m ³ /hr gpm			0.06 0.26	
Max. Electrode Rinse Flow	m ³ /hr gpm			0.1 0.44	

Flows should be kept within these ranges for optimal performance

*Depending upon feed water hardness, to be confirmed by FEDI Engineering Tool



WEIGHT AND DIMENSIONS

Parameters	Unit	5Rx	10Rx	20Rx	30Rx
Weight (Per Stack)	kg lbs.	44 97	70 154	90 198	115 253
Shipping Weight (Per Stack)	kg lbs.	54 119	80 176	115 253	130 286
Length	mm inch	295 11.6	367 14.4	530 20.9	687 27.4
Width	mm inch	400 15.7			
Height	mm inch	619 24.4			

ELECTRICAL SV OPERATION

Parameters	Unit	5Rx	10Rx	20Rx	30Rx
Voltage Typical	VDC	60	110	210	300
Voltage Maximum	VDC	90	180	350	500
Current Typical	AMP	4.0			
Current Max	AMP	6.0			

CONDITIONS DURING HOT WATER SANITIZATION

Parameters	Unit
Hot Water Quality	FEDI Product Water
Hot Water Temperature	80-85°C (176-185 °F)
Maximum Pressure During Sanitation	30 psi / 2 bar
Sanitization Duration	1-2 hrs
Flows During Sanitation	Stack Minimum Flows

FEED WATER SPECIFICATIONS

Parameters	Unit	Specifications
Feed Conductivity Equivalent (FCE) (Including CO2) *	µS/cm	< 40
pH		6 - 10
Silica (Reactive)	ppm	< 1.0
Total Hardness as CaCO ₃	ppm	< 1.0 SV
TOC	ppm	< 0.5
Heavy Metals (Fe, Mn etc.)	ppm	< 0.01
Free Chlorine as Cl ₂	ppm	< 0.05
Feed Water SDI		< 1.0

*Feed Conductivity Equivalent, FCE, (µS/cm) = Feedwater conductivity (µS/cm) + ppm CO₂ x 2.83 + ppm SiO₂ x 2.08

PRODUCT WATER SPECIFICATIONS

Parameters	Unit	Specifications
Product Resistivity	MΩ.cm	Up to 18
Silica (SiO ₂) Reduction	%	Up to 95*

*Under specific feed conditions, refer to FEDI engineering tool

OPERATING CONDITIONS

Parameters	Unit	5Rx, 10Rx, 20Rx, 30Rx
Recovery	%	up to 95
Feed Water Temperature	°C °F	5 - 40 50 - 104
Pressure Drop (Feed to Product) @ Typical Flow	BAR PSI	1.4 - 2.4 20 - 35
Recommended Operating Pressure	BAR PSI	< 4.8 < 70
Max. Feed Pressure	BAR PSI	6.9 100