



FRACTIONAL ELECTRODEIONIZATION FEDI RX SPECIFICATIONS

10X, 20X AND 30X

QUA FEDI[®] Rx stacks for Pharma application features hot water sanitization ability at temperature 80 - 85°C. These stacks have the ability to produce high purity water up to 16 MOhms.cm using a patented process with double sets of electrodes per stack. FEDI[®] Rx stacks are available in 3 sizes (10X, 20X & 30X) and have application in Pharmaceutical, Biomedical & Laboratories where hot water sanitization is required.



Features

- High product water quality up to 16MOhms.cm
- Quick hot water sanitization at 80-85°C
- Tri – Clover fittings
- Exhaustion and regeneration not required before and after the hot sanitization
- Quick high product water quality after sanitization
- High recovery and Lower power consumption
- No salt dosing in concentrate
- High tolerance to feed water quality fluctuation
- FDA compliant
- CE Certified

Stack Flows:

Flow Condition-A: Feed Hardness ≤ 0.2 ppm (as CaCO₃)

| Parameters | Unit | 10X | 20X | 30X |
|----------------------------------|--------------------|------|------|------|
| Typical Product Flow | m ³ /hr | 1.2* | 2.3* | 3.5* |
| | gpm | 5.2 | 10 | 15.4 |
| Maximum Product Flow | m ³ /hr | 1.7 | 3.3 | 5.0 |
| | gpm | 7.5 | 14.5 | 22 |
| Minimum Product Flow | m ³ /hr | 0.5 | 1.0 | 1.5 |
| | gpm | 2.2 | 4.4 | 6.6 |
| Max. Concentrate Flow SV Mode | m ³ /hr | 0.09 | 0.17 | 0.25 |
| | gpm | 0.4 | 0.7 | 1.1 |
| Electrode Rinse Flow | m ³ /hr | 0.1 | | |
| | gpm | 0.44 | | |

Flow Condition-B: Feed Hardness ≥ 0.2 ppm and ≤ 1 ppm (as CaCO₃)

| Parameters | Unit | 10X | 20X | 30X |
|----------------------------|--------------------|------|------|------|
| Typical Product Flow | m ³ /hr | 1.2* | 2.3* | 3.5* |
| | gpm | 5.2 | 10 | 15.4 |
| Maximum Product Flow | m ³ /hr | 1.7 | 3.3 | 5.0 |
| | gpm | 7.5 | 14.5 | 22 |
| Minimum Product Flow | m ³ /hr | 0.5 | 1.0 | 1.5 |
| | gpm | 2.2 | 4.4 | 6.6 |
| Max. Concentrate 1 Flow | m ³ /hr | 0.09 | 0.17 | 0.25 |
| | gpm | 0.4 | 0.7 | 1.1 |
| Max. Concentrate 2 Flow | m ³ /hr | 0.09 | 0.17 | 0.25 |
| | gpm | 0.4 | 0.7 | 1.1 |
| Electrode Rinse Flow | m ³ /hr | 0.1 | | |
| | gpm | 0.44 | | |

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



Electrical SV Operation:

| Parameters | Unit | 10X | 20X | 30X |
|-----------------|------|-----|-----|-----|
| Voltage Typical | VDC | 110 | 210 | 300 |
| Voltage Maximum | VDC | 200 | 350 | 500 |
| Current Typical | Amp. | 4 | | |
| Current Maximum | Amp. | 6 | | |

Operating Conditions:

| Parameters | Unit | 10X, 20X, 30X |
|--|------|---------------|
| Recovery | % | up to 95 |
| Feedwater Temperature | °C | 10 – 50 |
| | °F | 50 – 122 |
| Pressure Drop (Feed to Product) @ typical flow | Bar | 1.4 – 2.4 |
| | psi | 20 - 35 |
| Max. Operating Pressure | bar | 6.9 |
| | psi | 100 |
| Recommended Operating Pressure | Bar | < 4.8 |
| | psi | < 70 |

Feed water Specifications:

| Parameters | Unit | Specifications |
|--|-------|----------------|
| Feed Conductivity Equivalent (FCE) (Including CO2) * | µS/cm | < 40 |
| pH | | 6– 9 |
| Silica (reactive) | ppm | < 1.0 |
| Total Hardness as CaCO3 | ppm | < 1.0 SV |
| TOC | ppm | < 0.5 |
| Heavy Metals (Fe, Mn etc.) | ppm | < 0.01 |
| Free Chlorine as Cl2 | ppm | < 0.05 |
| Feedwater SDI | | <1.0 |

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

Conditions during HWS

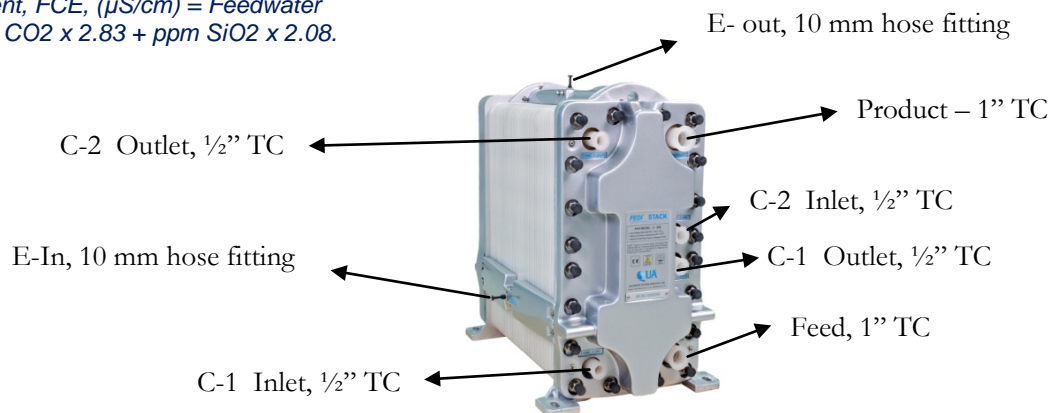
| Parameters | Unit |
|--------------------------------------|----------------------|
| Hot water quality | FEDI product water |
| Hot water temperature | 80-85 °C (176-185 F) |
| Maximum pressure during sanitization | 30psi/2bar |
| Sanitization duration | 1-2hrs |
| Flows during sanitization | Stack min flows |

Product water specifications:

| Parameters | Unit | Specifications |
|---------------------|-------|----------------|
| Product Resistivity | MΩ.cm | 5 - 18 |
| Silica (reactive) | ppb | <5 - 50 |

Weight & Dimensions:

| Parameters | Unit | 10X | 20X | 30X |
|-----------------------------|------|------|------|------|
| Weight (per Stack) | kg | 70 | 90 | 115 |
| | lbs | 154 | 198 | 253 |
| Shipping Weight (per Stack) | kg | 80 | 115 | 130 |
| | lbs | 176 | 253 | 286 |
| Length | mm | 363 | 530 | 697 |
| | inch | 14.3 | 20.9 | 27.4 |
| Width | mm | 400 | | |
| | inch | 15.7 | | |
| Height | mm | 619 | | |
| | inch | 24.4 | | |



The above information provides the general characteristics and description of FEDI® stack. We believe that the above information is correct as of this printing. However, the content of this datasheet might be subject to changes with further development of the product. Make sure FEDI® stacks are operated according to Operation and Maintenance guidelines. Contact us for assistance in selection of FEDI® stacks for your application. For additional information and local contacts: sales@quagroup.com or www.quagroup.com