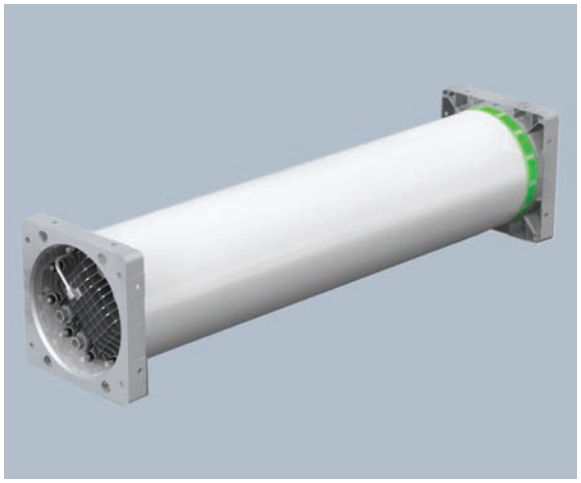
Ionpure® VNX50-HH High Hardness Continuous Electrodeionization(CEDI)Modules

Ionpure® VNX Module–VNX50-HH Continuous Electrodeionization Module

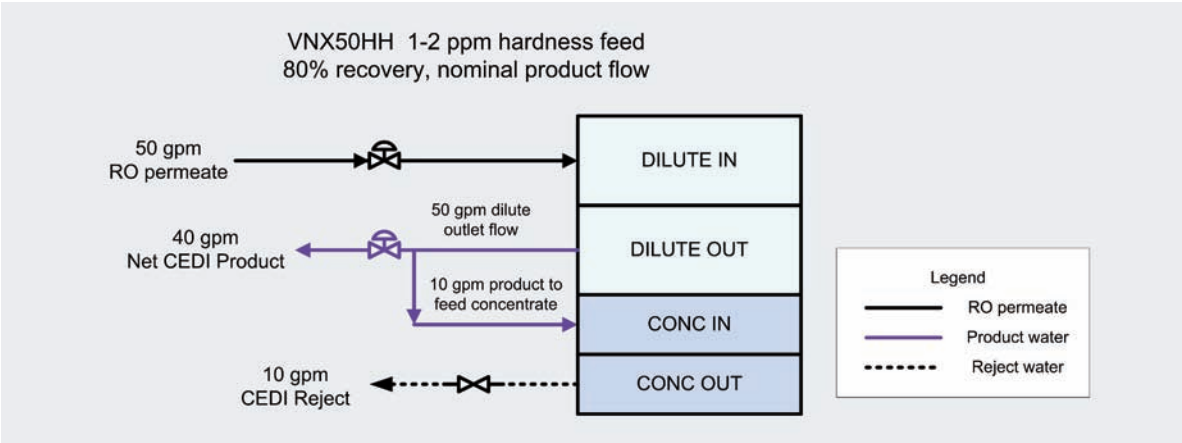
The VNX50-HH module is designed with proven Ionpure® continuous electrodeionization (CEDI) technology to produce high purity water. Performance has been optimized for higher feed water hardness and ultrapure water demands for the power industry.

Each VNX50-HH industrial module has a nominal flow rate of 40 gpm (9.1m^3/hr). Multiple 40 gpm modules provide for system designs with flow rates up to, and greater than 1000 gpm.



VNX50-HH Series Features

- 2 ppm (as $CaCO_3$) max feed water hardness
- In most cases can operate on single-pass RO permeate
- Resin, membrane and module construction optimized for feed water hardness tolerance
- No need for acid/caustic, neutralization systems or tank exchanges
- Significantly lower operating cost compared to conventional ion exchange systems
- Robust, guaranteed leak free operation
- Continuous production of consistent quality
- Junction Box for convenient and safe power connections



SIEMENS

Ionpure® VNX50-HH High Hardness Continuous Electrodeionization (CEDI)

OPERATING ENVIRONMENT

Installation should be indoors with no direct sunlight and it should have a maximum ambient room temperature of 113°F (45°C).

MATERIALS CONSTRUCTION

1. Wetted components of the VNX module consist of:

   Polyphenylene oxide, polypropylene, silicone, ion-selective membranes, ion exchange resins, and thermoplastic elastomer.
2. Housing is fiberglass reinforced plastic (FRP). Standard color is white with glossy finish. Custom colors and labeling are available.
3. The Flexmount bracket/end-block assembly (US patent 7,326,325) is an epoxy painted aluminum casting suitable for securing modules to the frames and/or each other in Ionpure approved configurations.

QUALITY ASSURANCE STANDARDS

CE marked. Each module is factory tested to meet strict Ionpure module and industry standards and is manufactured in an ISO 9001:2000 facility. The final assembled modules are factory tested to ensure interconnector and electrical integrity.

ORDERING INFO

1. Part number to use when ordering for vertical or horizontal installation use IP-VNX50HH-2.
2. Each VNX module has four process connections: Feed, Concentrate Feed, Product, and Reject. PVC adapters and port plugs are provided with the module.
3. Module electrical power connections are made through an on-board junction box.

MAXIMUM FEED WATER SPECIFICATIONS	
Feed Water Conductivity Equivalent, including CO_2 and Silica	< 40 µS/cm
Feed Water Source	RO permeate
Temperature	41–113˚F (5–45˚C)
Inlet Pressure	30–100 psi (2.1–7 bar)
Maximum Total Chlorine (as Cl_2)	<0.02 ppm
Iron (Fe)	<0.01 ppm
Manganese (Mn)	<0.01 ppm
Sulfide (S-)	<0.01 ppm
pH	4–11
Total Hardness (as $CaCO_3$)	≤ 2.0 ppm
Dissolved Organics (TOC as C)	< 0.5 ppm
Silica (SiO_2)	< 1.0 ppm

TYPICAL MODULE PERFORMANCE	
Operating Parameters	
Recovery	80–90%
Flow Rate: minimum @ 80% Recovery	20 gpm (4.5 m^3/hr)
Flow Rate: nominal @ 80% Recovery	40 gpm (9.1 m^3/hr)
Flow Rate: maximum @ 80% Recovery	50 gpm (11.4 m^3/hr)
DC Voltage	0–600
DC Amperage	0–8
Product Water Quality	
Sodium (Na) Removal	≥ 99.5%
Chloride (Cl) Removal	≥ 99.8%
Product Resistivity	≤ 0.1us/cm*
Silica (SiO_2) Removal	>90%*

* Note: Actual performance may be determined using the IP-Pro projection software available from Ionpure.

PHYSICAL SPECIFICATIONS					
Diameter	Width	Height	Length	Shipping Weight	Operating Weight
17.5" (44.45 cm)	20.0" (50.8 cm)	20.0" (50.8 cm)	84.6" (214.9 cm)	610 lbs (276.7 kg)	825 lbs (374.2 kg)

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