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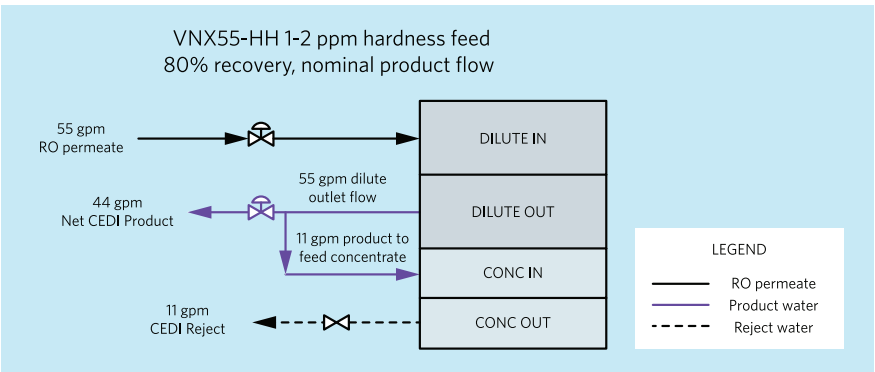
WATER TECHNOLOGIES

IONPURE® VNX55-HH HIGH HARDNESS CONTINUOUS ELECTRODEIONIZATION (CEDI) MODULES

IONPURE® VNX MODULE-VNX55-HH CONTINUOUS ELECTRODEIONIZATION MODULE

The VNX55-HH module is designed with proven Ionpure® continuous electrodeionization (CEDI) technology to produce high purity water. The internal design has been optimized to handle a high feed water hardness while still able to provide ultrapure water quality water at high flow rate required for many applications, specifically within the power industry

Each VNX55-HH industrial module has a nominal flow rate of 44 gpm (10m³/hr). Combining multiple VNX55-HH Modules provides for simplified systems design for high flow rate systems up to and greater than 1,000 gpm.



VNX55-HH Series Features

- Typically > 16 MΩ-cm product water resistivity
- 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 leak-free sealing with through-port gasket
- Continuous production of consistent quality
- Junction box for convenient and safe power connections

IONPURE® VNX55-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).

Material Construction

- Wetted components of the VNX module consist of: PVC (adapters), nylon/aBS, polypropylene, silicone, ion-selective membranes, ion exchange resins and thermoplastic elastomer.
- Housing is fiberglass reinforced plastic (FRP). Standard color is white with a glossy finish. Custom colors and labeling are available.
- The proprietary Flexmount™ bracket/end-block assembly is an epoxy painted aluminum casting suitable for securing modules to the frames and/or each other in Ionpure® system approved configurations.

Quality Assurance Standards

CE marked. Each module is factory tested to meet strict industry standards and is manufactured in an ISO 9001 and ISO 14000 quality and environmental management system.

Ordering Information

- Part number to use when ordering for vertical or horizontal installation use IP-VNX55-HH-2 (W3T324118).
- Each VNX module has four process connections; feed, concentrate feed, product and reject. PVC adapters (with dust covers) and plugs are provided with the module.
  - High purity 50 mm butt weld connection kits adapter (4)/plug (4) Natural polypropylene — Model #IP-VNX-CK-PP-2
  - Standard 1.5" female socket connection kits (4)/plug (4): PVC — Model #IP-VNX-CK-PVC-2
- 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	20 - 100 psi (1.4 - 7 bar)
Maximum Total Chlorine (as Cl_2)	<0.02 ppm
Iron (as Fe)	< 0.01 ppm
Manganese (as 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%**
Net Product Flow, Minimum	20 gpm (4.5 m^3/h)	23 gpm (5.2 m^3/h)
Net Product Flow, Nominal	44 gpm (10 m^3/h)	50 gpm (11.4 m^3/h)
Net Product Flow, Maximum	56 gpm (12.6 m^3/h)	62 gpm (14.1 m^3/h)
DC Voltage	0 - 600	0 - 600
DC Amperage	0 - 13.2**	0 - 13.2**
Product Water Quality		
Sodium (Na) Removal	≥ 99.5%	
Chloride (Cl) Removal	≥ 99.8%	
Product Resistivity	> 16 MΩ-cm*	
Silica (SiO_2) Removal	> 90%	

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

**Typical DC Amperage 0-8.

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)	84.0" (213.3 cm)	610 lbs (276.7 kg)	825 lbs (374.2 kg)

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