



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

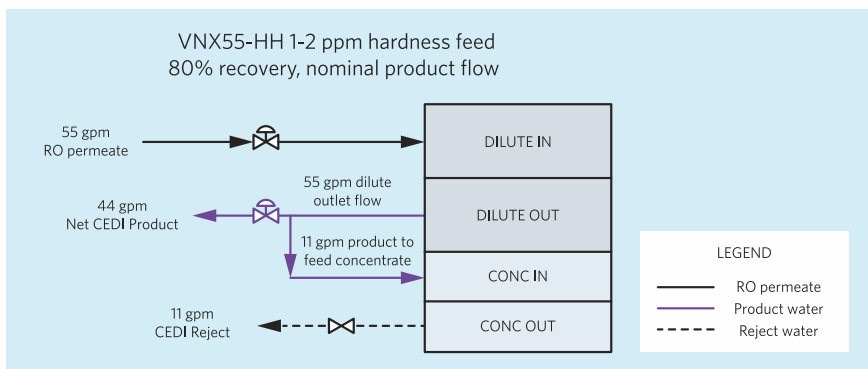
### IONPURE® VNX MODULE VNX55-HH CONTINUOUS ELECTRODEIONIZATION MODULE

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 (10m<sup>3</sup>/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 M $\Omega$ -cm product water resistivity
- 2 ppm (as CaCO<sub>3</sub>) 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 <sub>2</sub> 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 <sub>2</sub> )	<0.02 ppm
Iron (as Fe)	< 0.01 ppm
Manganese (as Mn)	< 0.01 ppm
Sulfide (S <sup>-</sup> )	< 0.01 ppm
pH	4 - 11
Total Hardness (as CaCO <sub>3</sub> )	∅ 2.0 ppm
Dissolved Organics (TOC as C)	< 0.5 ppm
Silica (SiO <sub>2</sub> )	∅ 1.0 ppm

### Typical Module Performance

#### Operating Parameters

RECOVERY	80%	90%
Net Product Flow, Minimum	20 gpm (4.5 m <sup>3</sup> /h)	23 gpm (5.2 m <sup>3</sup> /h)
Net Product Flow, Nominal	44 gpm (10 m <sup>3</sup> /h)	50 gpm (11.4 m <sup>3</sup> /h)
Net Product Flow, Maximum	56 gpm (12.6 m <sup>3</sup> /h)	62 gpm (14.1 m <sup>3</sup> /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 Mj -cm*
Silica (SiO <sub>2</sub> ) 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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