

# Vantage™ VNX Electrodeionization Systems

## Optimized for Power and Microelectronics Industries

Vantage™ VNX systems by Siemens Water Technologies are pre-engineered and specifically designed to meet the demands of the power, microelectronics, and general industry customer. Standard VNX systems come in flow rates ranging from 100gpm to 600gpm nominal (22.7 to 136.3 m<sup>3</sup>/hr), combining multiple Ionpure® VNX modules on a frame with power supplies, controllers, piping, sample valves, cleaning connections, and pressure, flow and quality monitoring instrumentation.

Continuous electrodeionization is a safe, chemical-free way to take RO (reverse osmosis) water to a higher level of purity. VNX systems use our proven proprietary process to continuously produce an uninterrupted supply of high purity water, up to 17 megohm-cm, without the need for regeneration chemicals or deionization (DI) tanks.

Vantage™ VNX systems are available in three trim packaged models: Plus, Deluxe, and Select. Each trim package comes standard with PLC and HMI (human machine interface) and both 460VAC and 575VAC, 3PH, 60Hz. The Plus trim package features PVC piping, pressure gauges, and Signet flow and resistivity instrumentation. The Deluxe trim package features upgraded pressure, flow, and resistivity instrumentation. The Select trim package features upgraded instrumentation, 316L stainless steel piping, NEMA 3R stainless steel enclosure, and stainless steel frame.



### Vantage™ VNX System Features

- Rapid installation and start-up
- Low maintenance and operational costs
- Reliable compact design saving valuable floor space
- 100% leak-free module operation
- Superior alternative to mixed bed ion exchange systems
- No need for regeneration chemicals or deionization (DI) tanks
- Comprehensive factory testing in our ISO9001 certified facility prior to shipment
- Designed to meet IBC and seismic requirements

## System Specifications

Number of Modules on Skid	VNX 02		VNX 03		VNX 04		VNX 06		VNX 08		VNX 12	
Maximum product, gpm(m <sup>3</sup> /hr)	150 (34.1)		225 (51.1)		300 (68.1)		450 (102.2)		600 (136.3)		900 (204.4)	
Nominal Product, gpm(m <sup>3</sup> /hr)	100 (22.7)		150 (34.1)		200 (45.4)		300 (68.1)		400 (90.8)		600 (136.3)	
Minimum Product, gpm(m <sup>3</sup> /hr)	50 (11.4)		75 (17)		100 (22.7)		150 (34.1)		200 (45.4)		300 (68.1)	
Typical Recovery %	90-95		90-95		90-95		90-95		90-95		90-95	
Connections	PVC	316L SS	PVC	316L SS	PVC	316L SS	PVC	316L SS	PVC	316L SS	PVC	316L SS
Feed Inlet	4"	3"	4"	3"	4"	3"	6"	4"	6"	4"	8"	6"
Product/Divert Outlets	4"	3"	4"	3"	4"	3"	6"	4"	6"	4"	8"	6"
Reject Outlet	1.5"	1"	1.5"	1"	1.5"	1"	1.5"	1.5"	1.5"	1.5"	2"	2"
CIP Feed Inlet	4"	3"	4"	3"	4"	3"	6"	4"	6"	4"	8"	6"
CIP Product Outlet	4"	3"	4"	3"	4"	3"	6"	4"	6"	4"	8"	6"
CIP Reject Outlet	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	1.5"	2"	2"
Electrical Service Required												
Voltage	460 / 575 VAC											
Frequency (Hz)	3PH / 60Hz											
System Dimensions												
L x D x H (inches)	158 x 50 x 57		158 x 50 x 69		158 x 50 x 80		156 x 72 x 81		156 x 72 x 88		180 x 96 x 90	
(cm)	401 x 127 x 145		401 x 127 x 175		401 x 127 x 224		396 x 183 x 206		396 x 183 x 224		457 x 244 x 229	

## Common Specifications

DESIGN PARAMETERS*	
Configurations	Skids with 2,3,4,6, 8 and 12 modules
System Recovery (typical)**	90% – 95%
Inlet Pressure	45 psig (3.1 bar)
Inlet Temperature	60° F (15.56° C)
Throughput	50 gpm/module product water
Product Pressure	20 psig (1.37 bar)
GENERAL SPECIFICATIONS	
Frame Materials	Structural carbon steel or stainless steel
Module Model	VNX50-2
Plumbing, Valves, and Instrumentation	Market specific
OPERATING LIMITS	
Maximum Feed Temperature	113° F (45° C)
Minimum Feed Temperature	40° F (4.4° C)
Maximum Feed Pressure	100 psig (6.9 bar)
Minimum Feed Pressure	45 psig (3.1 bar)
Pressure Drop at Minimum Flow Rate	10-15 psid (0.69-1.03 bar)
Pressure Drop at Nominal Flow Rate	25-35 psid (1.72-2.41 bar)
Pressure Drop at Maximum Flow Rate	40-50 psid (2.76-3.45 bar)

\*If any of the operating conditions are not within the limits given, consult technical support for application assistance.  
 \*\*95% recovery may require 2-pass RO water.

## Feed Water Requirements\*

Feed Water Source	RO Permeate
Feed Water Conductivity Equivalent including CO <sub>2</sub> and Silica	<40 µS/cm
Silica (SiO <sub>2</sub> )*	<1 ppm
Iron, Mn, H <sub>2</sub> S, S	<0.01 ppm
Total Chlorine (as Cl <sub>2</sub> )	<0.02 ppm
Hardness (as CaCO <sub>3</sub> )	<1.0 ppm
Dissolved Organics (TOC as C)	<0.5 ppm
Operating pH Range	4-11

\*If any of the feed water parameters are not within the limits given, consult Siemens Water Technologies Technical Support for application assistance.

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