



evoqua
WATER TECHNOLOGIES



PURITAS® VRx SYSTEM

The PURITAS® VRx System is a Hot Water Sanitizable (HWS) system built on a standardized platform for the generation of compendial water. The system is the latest evolution of the highly successful Apex® and PreVUE® Systems from Evoqua. Designed for minimization of microbial growth, the PURITAS VRx System employs the use of all stainless steel tubing and chlorine injection at the front of the skid. The PURITAS VRx System is engineered with the industry leading CDI-LX™ module and our patented S3 capabilities that provide for maximum efficiencies and ease of use.

The PURITAS VRx System has configurable options to match each unique application, process preferences and challenging feed water sources. This evolutionary and robust standardized design, eliminates engineering delays and is offered with competitive lead times.

PURITAS VRx System Benefits

- Efficient in both water and power consumption, with utility monitoring
- Chlorinated break tank to minimize bacterial growth
- Modular programming with premium PLC/HMI (Evoqua or Allen-Bradley)
- Fully operational wet FAT performed on all systems allowing for easy installation and fast start-up
- Unsurpassed industry service and maintenance teams with industry/product expertise
- Comprehensive GAMP compliant validation documentation package and protocols, including detailed engineering/design documents and certs
- Designed for ease of operation, sampling and operator access/maintenance to all components
- Integrates with proper applied pretreatment to suit all feed waters, including our pioneered series softening process

PURITAS VRx System Features

- Standardized pharmaceutical system with five flow rates (4 - 45 gpm)
- Selectable process water components*
- Three selectable operational modes: S3 rapid sanitization, high recovery recirculation up to 100% and start/stop/standby flush
- Designed to minimize microbial growth
- Energy efficient design with integrated cost saving features

*(Equipment options available on the next page.)



The PURITAS VRx System offers a sophisticated design that includes intricate stainless steel tubing throughout the skid to ensure the highest quality of water.

PROCESS COMPONENTS

Process Water Equipment		Optional Process Water Components	
Chlorinated Break Tank with Spray Ball	Water entry point for the PURITAS™ VRx system is a stainless steel break tank which is chlorinated by a metering pump and solution tank on either feed or recirculated water	Cooling Exchanger	Stainless steel shell and tube heat exchanger for water tempering
Booster Pump	Stainless steel vertical multi-staged centrifugal VFD controlled pump	Activated Carbon Filter	Stainless steel vessel, 100 psig with optional chlorine analyzer
Steam or Electric Heat Exchanger	Stainless steel shell and tube heat exchanger for hot water sanitization and water tempering	Bisulfite Chemical Injection	Feed forward design, metering pump, solution tank and mixer, low level switch and 2 chlorine analyzers with automatic rate controlled by the PLC
Dechlorination	3 options available	Carbon Block Filter	5.0 micron hot water sanitizable carbon cartridge placed in the pre-filter if this option is selected
Pre-Filter	Stainless steel housing with 5.0 micron filter	Pre RO-Ultra Violet Lamp	Stainless steel chamber with 254 nm lamp (minimum 30 mJ/cm ²)
1st Pass RO Pump	Stainless steel vertical multi-staged centrifugal VFD controlled pump	2nd Pass RO Pump	Stainless steel vertical multi-staged centrifugal VFD controlled pump
1 Pass RO	Fiberglass reinforced composite vessels, 450 psig	2 Pass RO	Fiberglass reinforced composite vessels, 450 psig
RO Membranes	Full fit thin film composite, hot water sanitizable membranes	Membrane Degasifiers	Stainless steel housing X50 hot water sanitizable membranes
CEDI Modules	CDI-LX™ hot water sanitizable modules	Caustic Chemical Injection	pH adjustment unit including metering pump, solution tank and pH monitor with automatic rate control by system control
Controls Panel	IP65 rated controls enclosure	Final UV Unit	Stainless steel chamber with 254 nm lamp (minimum 30 mJ/cm ²)
Power Panel	IP54 rated fan cooled enclosure	Final Filter .01/.05 UF	Sanitary stainless steel housing sized for either 0.1 micron cartridge filter or a 0.05 micron cartridge ultra filter
Process Piping	Stainless steel tube sanitary, 25Ra interior finish	PLC/HMI	Evoqua or Allen-Bradley with 15" touch screen

GENERAL SPECIFICATIONS

Description	Model				
	4	8	18	25	45
Nominal Product gpm (m ³ /hr)	4 gpm (0.91 m ³ /hr)	8 gpm (1.82 m ³ /hr)	18 gpm (4.09 m ³ /hr)	25 gpm (5.68 m ³ /hr)	45 gpm (10.2 m ³ /hr)
Nominal Recovery %	75% (2 pass 82.5%)				
Inlet Pressure	20 - 100 psig (1.3 - 6.8 Bar)				
Inlet Feed Water Temperature	40 °F - 77 °F (4.5 °C - 25 °C)				
Nominal Product Pressure	20 psig (1.3 bar)				
Frame Construction	Carbon steel or 304 stainless steel — box tube and channel				
Electrical and Power Panels	Carbon steel or stainless steel (will align with frame material choice)				



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