

SDRx Storage and Distribution System

GENERAL INFORMATION

The SDRx sanitizable system is a standardized platform for the storage and distribution of water for the pharmaceutical industry. Designed to deliver and maintain high quality water with minimal microbial growth, the SDRx System employs the use of premium components and sanitary stainless-steel tubing.

The hot water or ozone sanitizable storage and distribution systems maximize water quality by maintaining five process controls: (1) distribution flow rate, (2) loop pressure, (3) loop temperature, (4) microbial management in tank, piping and loop, and (5) a method to regularly sanitize the storage tank, distribution components and distribution loops.

The SDRx system is designed to enhance Evoqua's standard VRx generation systems or any custom generation system. It has configurable options to match unique applications and process preferences. This proven product line is engineered and designed to produce reliable, high quality water distribution at an economical cost and highly competitive lead times.

SDRx SYSTEM FEATURES

- Standardized pharmaceutical system with three flow rates
- USP Purified Water or Water for Injection applications
- Comprehensive GAMP compliant validation documentation package and protocols including detailed engineering/design documents and certifications
- Utilizes pre-engineered stainless-steel storage tanks or existing storage tanks on site
- Allen-Bradley or Siemens PLC/HMI for ease of use
- Wet FAT performed on all systems for ease of installation and fast start-up
- Single point electrical, pneumatic, and drain connections, simplifying field install requirements
- Four selectable operational modes for dual pump systems: (1) alternating, (2) one pump online, (3) one pump online with periodic flush through second pump, and (4) parallel operation with each pump providing 50% of the flow



SDRx SYSTEM BENEFITS

- Reliable, high quality water distribution
- Maximum microbial management
- Ease of operation and maintenance
- System can be designed for hot water and/or ozone
- Supports sustainability goals with efficient water and power consumption
- Unsurpassed local service support with industry expertise



The SDRx System features a simple design with stainless-steel tubing to ensure the highest quality.

Process Components

PROCESS WATER EQUIPMENT

Distribution Pump	Stainless steel sanitary centrifugal VFD controlled pump
Steam Heat Exchanger	Stainless steel shell and double tube heat exchanger for hot water sanitization
Controls Panel	IP65 rated controls enclosure
Power Panel	IP54 rated fan cooled enclosure
Process Piping	Stainless steel tube sanitary, 25 Ra interior finish (Optional <20 Ra for WFI applications)

OPTIONAL PROCESS WATER COMPONENTS

USP Purified Water and WFI Storage Tank with Spray Balls	Water entry point for the SDRx system is an insulated, sanitary stainless steel tank with 304SS sheathing
Cooling Exchanger	Stainless steel shell and double tube heat exchanger for water tempering
UV Unit lamp (minimum 30 mJ/cm ²)	Stainless steel chamber with 254 nm UV bulbs
PLC/HMI	Allen-Bradley with 7" touch screen
Ozone	Electrolytic or corona discharge

GENERAL SPECIFICATIONS

Description	Model 1	Model 2	Model 3
Distribution Tubing Size	1.5"	2"	3"
Maximum Point-of-Use gpm (m ³ /hr)	32 gpm (7.3 m ³ /hr)	59 gpm (13.4 m ³ /hr)	140 gpm (31.8 m ³ /hr)
System Outlet Pressure	80 psig (5.51 bar)		
Distribution Loop Back Pressure	30–50 psig (2.07–3.44 bar)		
Inlet Feed Water Temperature	35°F–176°F (1.67°C–80°C)		
Frame Construction	304 stainless steel—box tube and channel		
Electrical and Power Panels	304 stainless steel		

PROCESS COMPONENTS SPECIFICATIONS

Loop specifications	1.5" up to 940 equivalent feet*	2" up to 4,450 equivalent feet*	3" up to 11,300 equivalent feet*
Pump specifications	Sanitary, 316L SS or equivalent, 25 Ra wetted surface finish, capable of 100 psi boost pressure, inverter duty ready motor		
UV specifications	316L stainless steel; 15 Ra wetted surface finish; 254 nm wavelength; validated lamps; 304 stainless steel, UL Type 3R control cabinet		
Tank specifications	316L stainless steel; 25 Ra wetted surface finish; ASME rated, full vacuum to 50 psi; insulated with 304 stainless steel sheath; removable legs; custom spray ball(s) with coverage testing; vortex breaker		

*Loop equivalent length based on smallest tank available, 30 psi back pressure, and maximum point-of-use flows. See the product specifications for details.



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Allen-Bradley is a trademark of Rockwell Automation. Covered by U.S. Patent No. 8,045,849 and patent pending under European Patent application no. 06760631.9.

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