

Membrane-Based Water for Injection (WFI) System

Our membrane-based WFI skid provides a simple, reliable solution for producing pyrogen-free water for injection (WFI) that meets all U.S. Pharmacopeia (USP) standards. The system combines state-of-the-art treatments in a modular design for flexibility and efficiency - water softening, carbon filtration, reverse osmosis (RO), continuous electrodeionization (CEDI), ultrafiltration (UF), and ultraviolet (UV). Customizable skids are available upon request.

PRETREATMENT SKID



ULTRAFILTRATION SKID



REVERSE OSMOSIS SKID

PAUL MUELLER COMPANY

Sizes

- 5, 10, 20, 30 and 50 GPM WFI systems

Models

- PT-RO-UF-5 through 50 (full system)
- PT-10 through 100 (pretreatment only)
- RO-5 through 50 (RODI skid only)
- UF-5 through 50 (UF skid only)

Modularity

- The softener (pre-treatment) skid includes dual pre-filters, dual softeners, a carbon filter, a UV light, and a break tank.
- RO & CEDI skid includes RO pre-filter, dual RO pumps, RO housings and membranes, and CEDI.
- UF skid includes ultrafiltration (UF) and ultraviolet (UV)
- The systems can be purchased separately or as one system
- UF skid designed to fit within RO skid for footprint minimization
- Can oversize portions of the system to branch off the RO or softener system and feed other utilities in the facility if needed.
- One centrally located control system with UL 508A certified control panels
- Distributed I/O capabilities
- Industrial-hardened Ethernet backbone
- Fully supported by factory-certified service technicians
- Supported by our in-house ISO 17025 calibration lab with onsite services

Designed for Sustainability

- Designed for pharmaceutical applications, including hot water sanitizable RO membranes
- The integrated control system controls the entire system and interfaces with other Mueller® water and steam systems.
- No plant steam or coolant is needed
- Includes recycling of water within the skid to minimize waste

Standard Features

- Fully operational, skidded, and tested at factory
- Reduces start-up time and site installation
- Full pharmaceutical turnover package (TOP)
- Chemical-free polypropylene butt-fusion welding on the pretreatment skid
- Dual filters and softener tanks for a continuous supply of softened water for carbon & UV treatment in the PT system
- Automated softening, carbon, and UV valving system based on defined water criteria
- Stainless steel tubing 25RA (SF2) for RO system and 20RA EP (SF5) for UF system
- Fully schedulable hot water sanitizable standard for RO system
- UV sanitizable carbon filter
- Full perimeter stainless steel framing for ease of installation and protection
- Backed by manufacturer's warranty
- Common, off-the-shelf control system
- Redundant RO feed pumps
- Adjustable feet are standard

Customizable Features

- Component manufacturers
- Programming
- Additional or limited instrumentation
- Network interfacing
- Sanitization methods
- Break tank size
- Interface with other Mueller equipment
- Power input capabilities
- UPS capabilities

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