SWJAL

PURE PROCESS



GENERATION | STORAGE | DISTRIBUTION | VESSELS

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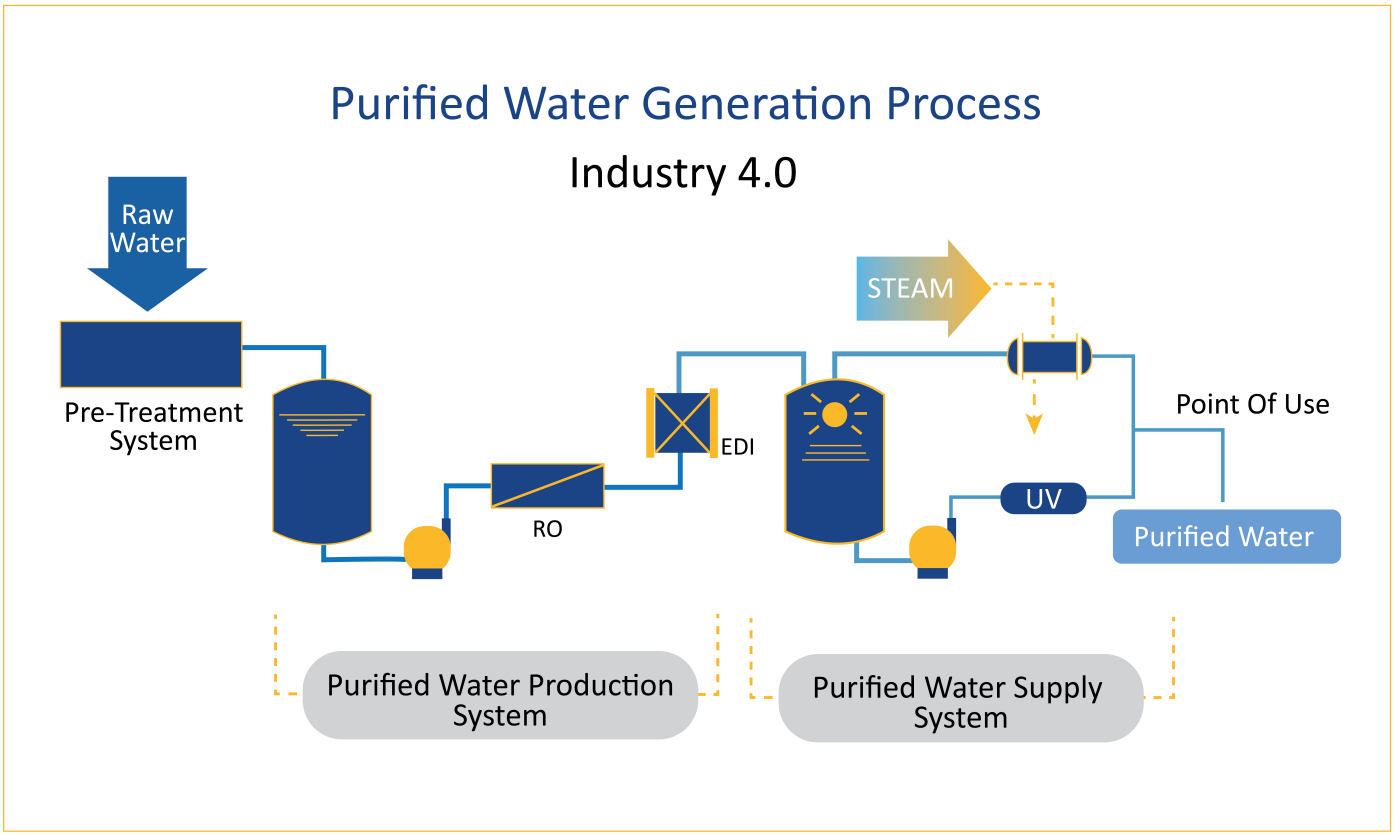
ISO 9001 - 15000 | ISO 14000 | ISO 45001

Purified Water Management Solutions

Swjal specializes in purified water management solutions, leveraging innovative technologies for efficient, cost-effective, and timely project execution.

Innovative Design & Industry 4.0

Our plant designs incorporate Industry 4.0 solutions, minimizing human intervention and offering customized solutions. Advanced technology reduces operating costs, utility usage, and space requirements.



Infrastructure & Quality

With state-of-the-art manufacturing infrastructure and an experienced Team, we manufacture world-class systems quickly. We meet international quality standards including ASME BPE, WHO, USP/EuPH/IP/BP, and follow ISPE, GAMP 5, MHRA, CE, and UL guidelines.

Installation, Commissioning & Validation

Our team adapts swiftly to site conditions, ensuring on-time, fully commissioned systems. We provide complete documentation support for smooth system validation.

Quick Service & AMC

Swjal's trained team offers timely troubleshooting and problem-solving. We partner with you for preventive maintenance training, ensuring high system uptime.

Compliance with Customer URS and International Standards

We comply with the latest international pharmacopeia guidelines, ASME BPE, cGMP, WHO, GAMP 5 (including 21 CFR Part 11), and UL and CE certified electrical panels.

Purified Water System

Pre-treatment

Pre-treatment is a crucial component ensuring the efficient and safe operation of water generation systems. These pre-treatment units are modular in design and meticulously tailored to accommodate the specific characteristics of the raw water source.

Media Filtration,Softner & Ultra Filtratioin

Swjal Process's Media Filtration & Softener System Plants for High Purity Water Systems feature pre-engineered standard packages equipped with Fiberglass Reinforced Plastic (FRP) vessels, ensuring automatic operation for seamless functionality. Upon request, manually operated filters can be accommodated. Additionally, the option for automatic disc filtration as an alternative to media filtration is available.

Softeners within our systems utilize uniform particle size Ion Exchange (IX) resin, maximizing regeneration efficiency while minimizing outlet hardness. Automatic operation capability is included as a standard feature.

Our Ultrafiltration (UF) plants are designed for full automation and can be configured for either dead-end plant operation or continuous bleed, tailored to suit the specific characteristics of the feed water source.

Feature	Specification
Usage/Application	Indsutrial
Voltage	Vertical
Cleaning System	Automatic
Working Temperature	25 to 35 Degree C
Type Of Control	Auto
Vessel Height	1 - 2 Meter
Max Water Recovery Rate	100%
Automation Grade	Semi-Automatic
Material	FRP
Powet source	Electric
Water Source	Borewell Water
Capacity	500 - 50000 Litre/Hour



RO EDI System

Swjal's RO-EDI systems deliver pharmaceutical-grade water, ranging from 250 to 50,000 liters per hour. Tailored to diverse needs, our setups boast standard features like chemical dosing units and two-pass RO setups crafted from electro-polished stainless steel. After RO purification, Electrodeionization (EDI) ensures utmost purity.

Our Clean-In-Place (CIP) system simplifies maintenance, while optional thermal sanitization methods, using steam or electric heating, guarantee hygiene. Embracing sustainability, we offer a No Added Chemicals PW Generation System, minimizing environmental impact by eliminating harsh chemicals from the RO process. Swjal remains dedicated to providing top-tier solutions while prioritizing eco-friendliness.

Feature	Specification
Water Source	RO Water
Voltage	Dc Voltage
Cleaning System	Automatic
Flow Rate	1m3/hour
Pre-Filtration	RO System
Phase	2 Phase
Use/Application	Purified Water Generation
Water Recovery Rate	90%
Treated Water Quality	Less Tha n 1.2 us/cm
Permeate Output	1000LPH
Water Source	less than 20 PPM



Post Ultrafilteration

After Electro-Deionization (EDI), the implementation of an Ultrafiltration (UF) system featuring membranes with a 6000 Dalton molecular weight cutoff further elevates the purification process. This subsequent stage effectively eliminates smaller contaminants, yielding water characterized by significantly reduced endotoxin levels, a critical parameter for diverse applications.

Optionally, a post-EDI UF system can integrate a Total Organic Carbon (TOC) reduction UV lamp. Offered in either 194 nm or 254 nm wavelengths, this UV treatment serves to bolster bacterial control, thereby guaranteeing that the final product meets rigorous purity standards.

Water For Injection(WFI)



Multi Column Distiller

Swjal's an advanced solution for the generation of high-purity Water for Injection (WFI) with our multi-column distillation systems. These systems adhere strictly to current Good Manufacturing Practice (cGMP) guidelines, reflecting our commitment to quality and compliance.

Our multi-column distillation systems are engineered with multiple columns, each facilitating a sequence of evaporation and condensation processes. Through this iterative purification mechanism, water undergoes successive stages of refinement, resulting in the attainment of exceptional WFI quality.

Features

- Enhanced Purity with Multi-Column Design
- Cascaded Heat Recovery
- Precise Control for Consistent Quality
- Long-Lasting Performance
- Simplified Operation and Maintenance

Pure Steam Generation & Distribution

Swjal Process Pure Steam Generators guarantee top-notch sterilization. Our systems minimize water droplets reaching your equipment with efficient heat exchangers and specialized separators.

We use the same high-grade, el ectro-polished stainless steel (SS316L) throughout, for both the water loops and components in contact with the pure steam. This ensures consistent purity and optimal performance, meeting all regulatory requirements.

Features

- Superior sterilization with minimal water droplets.
- High-grade SS316L stainless steel construction.
- Efficient heat exchangers for optimal performance.
- Specialized separators for purity assurance.
- Consistent purity for regulatory compliance.



PW/WFI Storage & Distrubution System

Swjal's High Purity Water (PW) & Water for Injection (WFI) Storage Tanks, meticulously engineered to exceed the industrial standards of the pharmaceutical and biopharmaceutical industries. Manufcatured from premium 316L stainless steel Sheet and finished with electro-polishing, our tanks guarantee absolute zero contamination, minimizing risks and ensuring the integrity of your water supply.

Swjal's PW/WFI storage tanks are equipped with integrated air filtration systems and spray balls, facilitating efficient cleaning and sterilization processes. With our tanks, you can trust in the safe and reliable storage of your critical WFI for injections, maintaining the uncompromised quality essential for pharmaceutical operations.



Features

- Enhanced microbial control for purity.
- Real-time monitoring for precision.
- Customizable configurations for diverse needs.
- Scalable solutions for future expansion.
- Optimal efficiency for cost savings.
- Eco-friendly design for sustainability.



PW/WFI Storage Tanks

Swjal's high-grade water storage tanks are built to surpass pharmaceutical industry standards. Made from top-notch stainless steel and polished for utmost purity, these tanks ensure contamination-free water, safeguarding your supply.

Equipped with built-in air filters and spray balls, Swjal's tanks guarantee efficient cleaning and sterilization. Store your WFI for injections with confidence, knowing our tanks preserve the uncompromised quality your pharmaceuticals require.

Features

- Electro-polished stainless steel construction.
- Minimizes contamination risks effectively.
- Integrated air filtration for purity.
- Ensures safe WFI storage.
- Optimal design for maximum hygiene.
- Reliable storage for critical injections.

Manufacturing Vessels

Swjal crafts custom process vessels for pharmaceutical, biopharmaceutical, cosmetic and chemical industries. Their skilled engineers use top-grade stainless steel (SS304L/SS316L) to meet your needs, following strict cGMP standards (ASME BPE). These fully automated vessels with IPC technology provide complete control and oversight, ensuring purity, precision, and quality for your critical processes, all compliant with 21 CFR Part 11 and GAMP 5.



Features

- Expert engineering for optimal performance.
- Crafted from premium SS316L material.
- Fully automatic operation for efficiency.
- Seamless compliance with cGMP standards.
- Bioprocessing Equipment standards.
- Built to exceed industry standards.
- Real-time monitoring and control.
- MOC- 304C/316C etc..



Demineralization(DM) Water Plant

Swajal's demineralization systems are designed to deliver ultra-pure water through a technologically advanced ion exchange process. These systems effectively remove mineral ions, both positive and negative, using separate cation and anion resin beds, or a combined mixed-bed configuration for optimal efficiency. This process results in demineralized (DM) water that is essential for various industries relying on contaminant-free water, such as power generation, pharmaceutical manufacturing, and electronics production.

Features

- High purity water output.
- Ion exchange for mineral removal.
- Automated controls.
- Integrates with pretreatment.
- Regenerable resins for reduced waste.
- Customizable for various applications.
- Scalable to fit water treatment needs

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CLIENTELE

HETERO Biopharma	meil	NSL SUGARS
almelo	therapiva	HONOUR™
UNIQUE BIOTECH	Alta Laboratories Ltd.	Adds life to health Goldline Pharma
SHRUTI DRUGS	IND-SWIFT	HETERO
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