



HYDROPURE
Transforming water

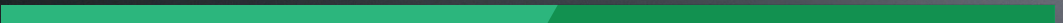
**WE UNDERSTAND
WATER BEST**



Introduction

Hydropure Systems Pvt Ltd., is a globally renowned company providing reliable solutions to the pharma industry for its high purity water and clean utilities requirements worldwide.

Hydropure undertakes turnkey contracts for the generation, storage and distribution of Purified Water, Water for Injection, Pure Steam and also manufactures customised process equipments for pharma, food and beverage and cosmetic products. Hydropure believes in continuous innovation and improvement, as a result our products maintain an edge over competing technologies and products.



A close-up photograph of water flowing from a metal pipe. The water is clear and dynamic, with visible splashes and bubbles. The background is a blurred industrial environment with various pipes and machinery, creating a bokeh effect with soft light spots.

World-Class Quality

Hydropure equipments meet international quality standards like ASME BPE, WHO, USP/EuPH/IP/BP and follow guidelines of ISPE, MHRA, CE and UL

High in Efficiency

Optimised plant recoveries and design ensure low water wastage and lower utility consumption

Innovative Design

Innovative plant design from Hydropure benefits the customers in saving operating costs, utilities and space

Complete Water Management Solution

Hydropure's ability to offer complete range of products and equipments help customers to have a single source for the complete water systems

Vision

To develop and deliver innovative and cost effective solutions for high purity Pharma grade water and safe drinking water

Mission

Partner with Customers to Serve the Society for providing Clean and Safe water

About Hydropure

Hydropure Systems Pvt Ltd; is a renowned Mumbai based Indian Company providing reliable and innovative solutions to pharma industry for its high purity water requirements.

The Company was established in Year 2001 and has successfully installed water systems in Asia, Europe, Africa and American continent.

While we meet the stringent needs of the pharma industry, cosmetic and semi-conductor industry is also benefitted with our equipments.

Hydropure Systems has an expertise in following technologies/processes :

- Ultrafiltration/Microfiltration for RO pre-treatment and post treatment for high purity applications
- Reverse Osmosis for reducing salinity of the water
- Ion Exchange process
- Electro-deionisation process for high purity applications
- Vapour Compression Technology for producing WFI
- Pharmaceutical Process Manufacturing
- Specialised high purity water distribution systems
- Sanitary Heat Exchangers for pharma applications

World relies on pure water





World Class Infrastructure

Hydropure Systems Pvt Ltd; has excellent infrastructure for plant fabrication and assembly near Mumbai. The facility is well equipped with latest machinery and state of art equipments for manufacturing activities. The testing equipments include boroscopy, videoscropy, dye penetration test, radiography, riboflavin test, surface finish test equipments etc. The facility is spread over an area of 40,000 Sq Feet. We have dedicated clean room area for manufacturing sterile equipments and separate R & D Centre for development of innovative products and solutions

Hydropure has a well trained and experienced team of engineers involved in design engineering and project execution.

Hydropure has successfully executed several projects in India and abroad and the list of happy customers is indeed a long one.

PURIFIED WATER GENERATION

Pre-treatment

Pre-treatment plays very important role in efficient and safe operation of the purified water generation system. The pre-treatment is designed with highest care using conservative design approach. The pre-treatment units are modular and are designed according to the raw water characteristics.



Media Filtration

Media filtration is an important first step to achieve clean water for RO feed. The sand media is carefully selected and graded to ensure best results. All pre-engineered standard packaged plants have FRP vessels with automatic operation facility. Manually operated filters can be provided on request. Automatic disc filtration in lieu of media filter is also available as an option.

Softener

Softener is necessary to remove hardness and ensure that the RO Membranes are not scaled during the operation. We use uniform particle size IX resin which gives highest regeneration efficiency and lowest outlet hardness. As a standard feature the Softeners are supplied with automatic operation facility. Manually operated softeners can be provided on request.

Ultrafiltration plants

Ultrafiltration ensures a consistent RO feed water quality of SDI less than 3.0 and achieve a better bacterial control. This minimises the membrane fouling and ensures long trouble free operation. The UF is hollow fine fibre constructed of either PVDF or modified PES to achieve a very high quality of the filtrate. Typically we adopt conservative approach in design of the UF to ensure long membrane life and trouble free operation. All UF plants are fully automatic.

RO-EDI

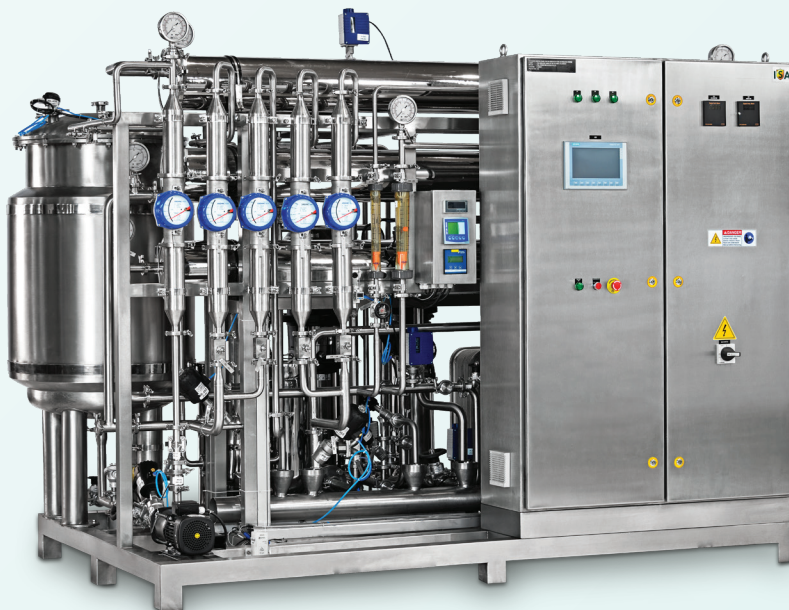
Before the filtered water is fed into RO, it is dosed with various chemicals to condition the water to ensure trouble free RO Plant operation.

The chemically conditioned water is passed through 5 microns Cartridge Filter to reduce the SDI. This fine filtered water is then fed to the Reverse Osmosis Block by means of a High Pressure Vertical Multistage pump.

The RO Block has two passes in which the Pass 1 permeate is treated through Pass 2 RO. The RO Membranes are housed in electro polished SS 316 L RO tubes fitted with SS 316 L piping, valves and fittings. The RO permeate is purified further by an EDI unit to achieve PW water quality.

An independent skid mounted CIP System is provided for RO cleaning and the hot water RO also includes a heat sanitisation system; it has an option of heating either by steam or by electricity.

Hydropure also offers next generation No Added Chemicals PW Generation System as an option. The advanced design offers advantage of chemical free operation of the RO.



PURIFIED WATER STORAGE AND DISTRIBUTION



The PW Storage and Distribution System is a key part of the Water Systems and is designed to prevent recontamination in the PW loop. It has online monitoring instruments to ensure that the appropriate water quality is maintained.

The PW is collected in SS 316L PW storage tank and is circulated through the user points by the process loop pumps. The loop return velocity is maintained by synchronising the Flow Transmitter and loop pumps with VFD through PLC. Loop is sanitized by heat exchangers in the return line or steam jacketed PW tank.

The PW tank is provided with spray ball assembly for the return line to ensure that entire inside tank surface is always wet.

The entire loop operation is fully automatic and the tank levels, loop piping velocity, temperature and conductivity is strictly controlled through PLC.

Typical Components of PW Storage & Distribution System are:

- Purified Water Storage Tank with accessories
- Loop piping with instruments and diaphragm valves
- Centrifugal sanitary pump.
- Point of use valves
- Instruments
- UV
- Control Panel



WFI GENERATION

Vapour Compression Distiller

Vapour Compression technology for production of Water for Injection offers considerable advantages like lower operating cost, reduced maintenance, smaller foot print and no requirement of cooling water. The VC Distiller does not need PW as feed water and can easily accept softened, chlorine free water with conductivity less than $150 \mu\text{s}/\text{cm}$.

Typical capacities range from 250 to 12,000 lph with an option of Aluminium Alloy and SS 316 L compressor.



Multi Column Distiller

Multi-Column Distillers are designed and manufactured according to cGMP guidelines to produce the Water for Injection. Each distiller contain multiple columns in which evaporation and condensation occurs to produce WFI.

Our distillers use double tube sheet heat exchangers and thin film falling technology to achieve highest quality WFI.

Multi Columns Distillers are available from 50 to 15,000 lph capacity with three to eight columns configuration.



WFI STORAGE AND DISTRIBUTION



WFI is collected in SS 316L storage tank and is circulated across the user points at 75 to 80 Deg C temperature with help of process loop pumps. The loop return velocity is maintained by synchronising the Flow Transmitter and loop pumps with VFD through PLC. Loop is sanitized by heat exchangers in the return line or steam jacketed WFI tank.

Typical Components of WFI Storage & Distribution System are:

- WFI Storage Tank with accessories
- Centrifugal sanitary pump
- Loop piping with instruments and diaphragm valves for various applications
- Point of use Valves
- Instruments
- POU Coolers for dispensing of cooled WFI
- Control Panel

PURE STEAM GENERATION AND DISTRIBUTION

Pure Steam Generators are designed and manufactured to ensure that the Pure Steam produced meet all the regulatory requirements.

Double tube sheet heat exchanger is used to evaporate the feed water and the pure steam thus produced is super saturated and free of moisture using specially designed separator.

The pure steam distribution is designed such that the least quantity of condensate enters the equipment to be sterilised. Components in contact with pure steam are of the same material and surface finish as the water distribution loops.

The typical components of the clean steam network are:

- Double tube sheet heat exchangers
- Piping & Fittings
- insulation
- Point of Use Valves
- Steam Traps
- Instruments
- Control Panel





WFI COOLER

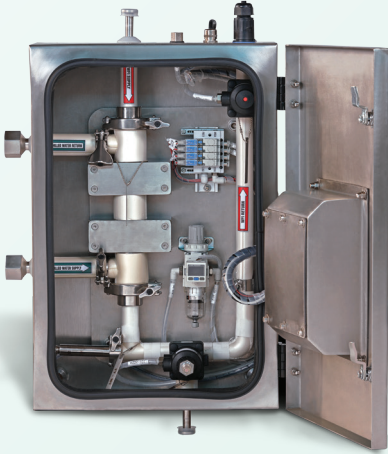
EFFORTLESS TEMPERATURE CONTROL SMART TECHNOLOGY

The POU Cooler is designed to dispense instant temperature controlled WFI. The POU's meet the high quality requirements and hygienic standards of the pharmaceutical industry featuring compact, high performance sanitary shell and tube heat exchangers in the double tube sheet configuration. Many features and options can be customized.

Construction Features

Heat Exchangers	Sanitary double tube sheet shell and tube
POU Cabinet	Closed SS 304 matt finish cabinet with locking arrangement
Electrical Enclosure	CE and UL compliant
Contact Surface	Contact surfaces finish are as per Pharma requirements
Passivation	POUs are cleaned & passivated
Instruments	Process instruments are provided for the safe POU operation
Valves	Sanitary diaphragm
Insulation	Chloride free PVDF insulation

Why Purex



- Dispense flow rates of 100 LPH (0.5 GPM) to 6000 LPH (25 GPM) at any range of temperatures
- Works as a subloop and complies with ASME BPE guidelines of maintaining velocity of 1.2 m/s to ensure that there is no microbial growth in the system
- Featuring double tube sheet heat exchanger which eliminates the risk of cross contamination
- POU performance remains unaffected by the loop pressure variations
- Optionally offers variable dispense flow rates with varying temperatures
- Advanced automation features allow integrated smart management of POU Systems and client's control system to optimize WFI loop performance
- Compliance to CFR 21, Part 11 guidelines (optional)
- Each and every unit undergoes FAT to ensure 100% validation

Product Series

Economy

PUREX ECONOMY model is the off the shelf solution. Dispensing is instant at the set point temperature. The dispensing temperature is visible on the display meter mounted on the cabinet door. This is a stand alone unit and operates in automatic mode with a single ON/OFF switch. Installation is easy with wall or skid mounting option.

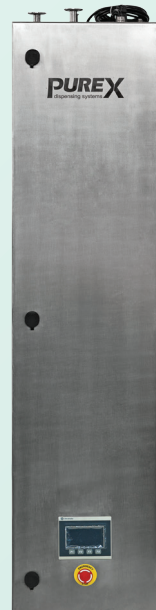
Advanced

The PUREX ADVANCED is a stand alone POU model and works in fully automatic and in manual mode.

Custom

PUREX CUSTOM is designed to meet the client's specific requirement. Most features and options can be customized.

This model can dispense the WFI at varied temperature and flow rates. Its operation is PLC controlled fully automatic and can communicate with other PLCs or SCADA.



MANUFACTURING VESSELS AND PROCESS EQUIPMENTS



Hydropure's Manufacturing & Process Vessels are a result of Pharmaceutical and BioPharma manufacturer's requirement of solutions for achieving highest purity, precision and quality. Custom designed and manufactured by experienced team of engineers, the customer can rely on our vessels for the critical processes

The manufacturing vessels are constructed of high quality SS 316 L in compliance with the customer's application and regulatory standards like ASME BPE guidelines.

Our Manufacturing and Process Vessels are smart and fully automatic, operate through IPC and comply with the 21 CFR Part 11 and GAMP 5 requirements.

Hydropure Offers

- Mixing tanks and vessels
- Media preparation vessels
- Filtration skids
- Smart tanks and vessels
- Fermentation vessels
- Bioreactors for media preparation, feed hold, harvest hold, clarification hold vessels, buffer preparation and filtration hold
- Vaccine blending vessels
- CIP and SIP vessels
- Virus inactivation systems
- Bio-Kill and Decontamination systems
- Custom-engineered and custom-built equipment for unique applications

Functional specifications

- Volume: 5 to 30,000 liters nominal capacity
- Material: stainless steel 316L
- Surface finish: < 0.4 μm Ra Electropolished (SF4 as per ASME BPE) internally
- Pressure: Full vacuum upto 10 bar (g)
- Temperature: -20°C to 200 °C
- Cleaning options: CIP / SIP
- Design: Single, double and triple wall design, heatable, insulated

Applications

Pharmaceuticals	Bio-Pharmaceuticals
• Sterile Solutions	• Vaccines
• Vial	• Human Insulin
• Ampoules	• Serums
• LSVP and SVP Solutions	• Plasma Fracination
• Aerosols	• Bacteria and cell cultures
• I V Fluids	

Certifications that Hydropure can provide:

- ASME Section VIII, Div. 1 "U" (optional)
- ASME BPE standards
- CE/PED and UL

Documentation & Tests

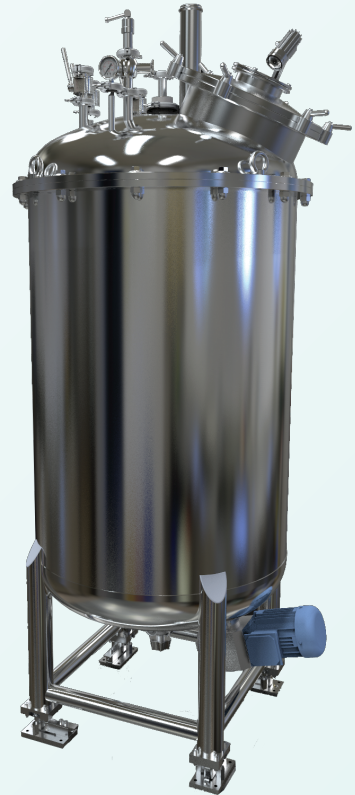
The technical documentation package includes the following:

- Section 1: Design Documentation
- Section 2: Component Description
- Section 3: Hardware and Software Documentation
- Section 4: Welding Documentation
- Section 5: Operating and Instruction Manuals
- Section 6: Validation Protocols

Factory Acceptance Test:

We have dedicated FAT bays with all necessary utilities and can offer following

- Test A: Mechanical Component Acceptance Test
- Test B: Electrical Acceptance Test
- Test C: Functional Test
- Stage wise inspection



PURE STEAM SAMPLE COOLER



The Pure Steam Sample Cooler is designed for sampling of Pure Steam by maintaining the sterile conditions while sampling. The trolley mount design is easy to connect the pure steam sampling point to sample cooler and operate with chilled water as cooling media. The pure steam sample cooler meets the high quality requirements and sterile sampling environment in pharmaceutical industry.

Features:

- Self draining
- SIP capable
- Fully automatic/manual
- SS 316L construction with electropolished surface
- Trolley mount design to perform sampling anywhere in production facility
- Double tube sheet shell & tube heat exchanger

Capacity:

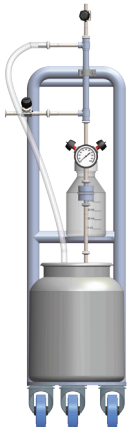
Steam: 6Kg/Hr condensate @100°C
Chilled water: 60 LPH @ 8°C

Operating Conditions:

Steam : 3 BarG @ 145°C
Chilled water: 2 BarG @ 8°C

Product Specifications:

MOC : SS 316L
Surface finish : SF4 as per ASME BPE
Waste tank : 50 Ltrs, SS 304
Trolley : SS 304
End connections : 1/2" TC end on process & utility side



QUALITY POLICY

Quality pledge

We want to be ranked as the "best" in our business and are committed to being very aggressive in our attitude towards quality and customer service. Quality is not just another goal, it is our basic strategy for success and growth.

Priority

Our customers demand and warrant a high quality product; it is our responsibility to give them what they need. If customer requirements are unclear, then it our job to get a better understanding of their requirements/specifications. If we fail at any time, then we must determine what went wrong and assure that it doesn't happen again.

Objectives

Our quality objectives are to furnish high quality products, on time, and at the lowest cost. The attainment of such objectives will lead to, customer satisfaction, enhanced performance at the application level, and ongoing improvements in process efficiency. Once an objective is achieved, it should be recognized and reset to stimulate further quality improvement. To reach our objectives, we will have to maintain a constant focus on quality with full dedication, commitment, and teamwork.

Vision

Our journey is Total Quality Management; fully satisfying our customers' requirements through a process of continuous improvement. It's a long term commitment aimed at continuously improving the way we work, providing a safe work environment, managing our business processes, and supplier selection/retention. It is our goal to posture our company for market expansion, thereby providing improved job security and quality of life for all.

Quality First

We will not allow quality to take second place behind cost or schedule. All employees have the right to question their supervisor's decisions or actions if they feel that quality is being compromised.

CUSTOMERS SPEAK



Hydropure has supplied more than 12 Water Systems to Emcure over a period of five years. Their plants are well engineered and executed in time. Their unique products like WFI Coolers have added a considerable value to Emcure. The after sales support is very good and I recommend Hydropure for their excellent expertise in Pharma Water Systems.

Mr. Sunil Desale
Director Engineering & Projects
Emcure Pharmaceuticals Ltd.

We have been associated with Hydropure Systems for 6 years now. Our organization has been highly benefited by their excellent up-to-date technical knowledge. They work closely with us, inspect our project needs and find an efficient mutually acceptable solution. Their service support is commendable and easy to approach. To end it all, the desired result is always achieved that exceeds our expectations.

I see Hydropure Systems as one of the top three similar system suppliers in the country.

**Mr. D V Saraiya, Director Operations,
Dalal Mott Macdonald Pvt. Ltd.**

Hydropure is the Quality driven, committed & reliable vendor for Pharma water system requirement for all types of formulations i.e. injectable ,solid oral etc. It is more than 5 years of trouble free, successful and meaningful association of Hydropure with Zydus BSV Pharma Pvt .Ltd Matoda. From late 2008 at ZBSV none of the system has required any sort of rectification or break down or redesigning. This proves the quality of the system. The vendor has helped us in all points for upgradation of the system, SOPs and validation too. We have found that Hydropure Services and support is very Prompt and reliable. Among all vendors we think Hydropure is Best and prompt.

**Mr. Ajay Shah, Sr.G.M.(Operations) Zydus
BSV Pharma Pvt. Ltd. Matoda**

We always believe that a good partner is important for any project execution. We find Hydropure Systems as our trust-worthy partner backed with good technical expertise. In our association with them for over 3 years we have found their equipment performance and uptime to be good as per agreed specifications. Their service philosophy has always been prompt response and cordial approach to close any issue.

Mr. Swapan Chatterjee, M & W Group

We highly recommend Hydropure Systems for their better understanding of pharmaceutical grade of water and good optimum design for the required output and maximum efficiency. We are associated with them for 8 to 10 years and have always experienced better documentation beyond the regular expectations. Their service support is excellent with flawless execution at site.

**Mr. Lalit Patro, VP Projects Macleods
Pharma**

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