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# Pharmaceutical water systems

**Hygienic equipment for safe and efficient pharmaceutical water systems**



# Innovative hygienic equipment for pharmaceutical water systems

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**Alfa Laval LKH and LKH UltraPure**
Reliable and energy-efficient, these high-performance centrifugal pumps are ideal for facilitating continuous circulation and preventing biofilm buildup. The external shaft seal secures contamination-free operation, safe and easy leak detection, and easy maintenance. The open impeller facilitates high flow on the back of the impeller thereby preventing biofilm buildup. The Alfa Laval LKH UltraPure is available with a special shaft seal specifically designed for purified water or water for injection.

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**Alfa Laval Safety Valve**
This valve protects the tank and pipelines against overpressure that may arise from unexpected operating conditions.

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**Alfa Laval Unique DV-P UltraPure**
Linear flow characteristics make this diaphragm valve ideal for use as a regulating valve. A unique tightening mechanism secures safe and easy installation and maintenance.

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**Alfa Laval Unique DV-ST UltraPure**
With a wide range of valve and control unit configurations, these diaphragm valves secure optimized solutions for every duty in the water system. High-grade stainless steel with specified sulphur and low delta ferrite content is our standard offering. This secures easy, high-quality welding thereby minimizing the risk for rouge. Alfa Laval T and Tank Outlet Valves are offered in both block and forged materials. The forged versions use less material, which reduces the energy required for heating and weighs less thereby putting less stress on the piping.

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**Alfa Laval Pharma-line**
This high-quality shell-and-tube heat exchanger functions both as a heater and a cooler. Our strictly controlled manufacturing procedures secure a safe and high precision manufacturing process, minimizing the risk of cross contamination. We also offer a unique inspectable inner tube package.

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**Alfa Laval Pharma-X**
With its unique contamination-free tube-in-tube design, no internal welds, and full drainability on the product side, this compact heat exchanger is ideal for point-of-use cooling. Low hold-up volume and quick response time means instant cooling and minimal waste of water.

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**Alfa Laval Sani SB**
Ideal for the holding tank in a pharmaceutical water system, this easy-to-install spray head provides uniform wetting of the tank wall to prevent destruction or degradation of the passive layer and erosion of iron in the nozzles, minimizing the risk of rouge.

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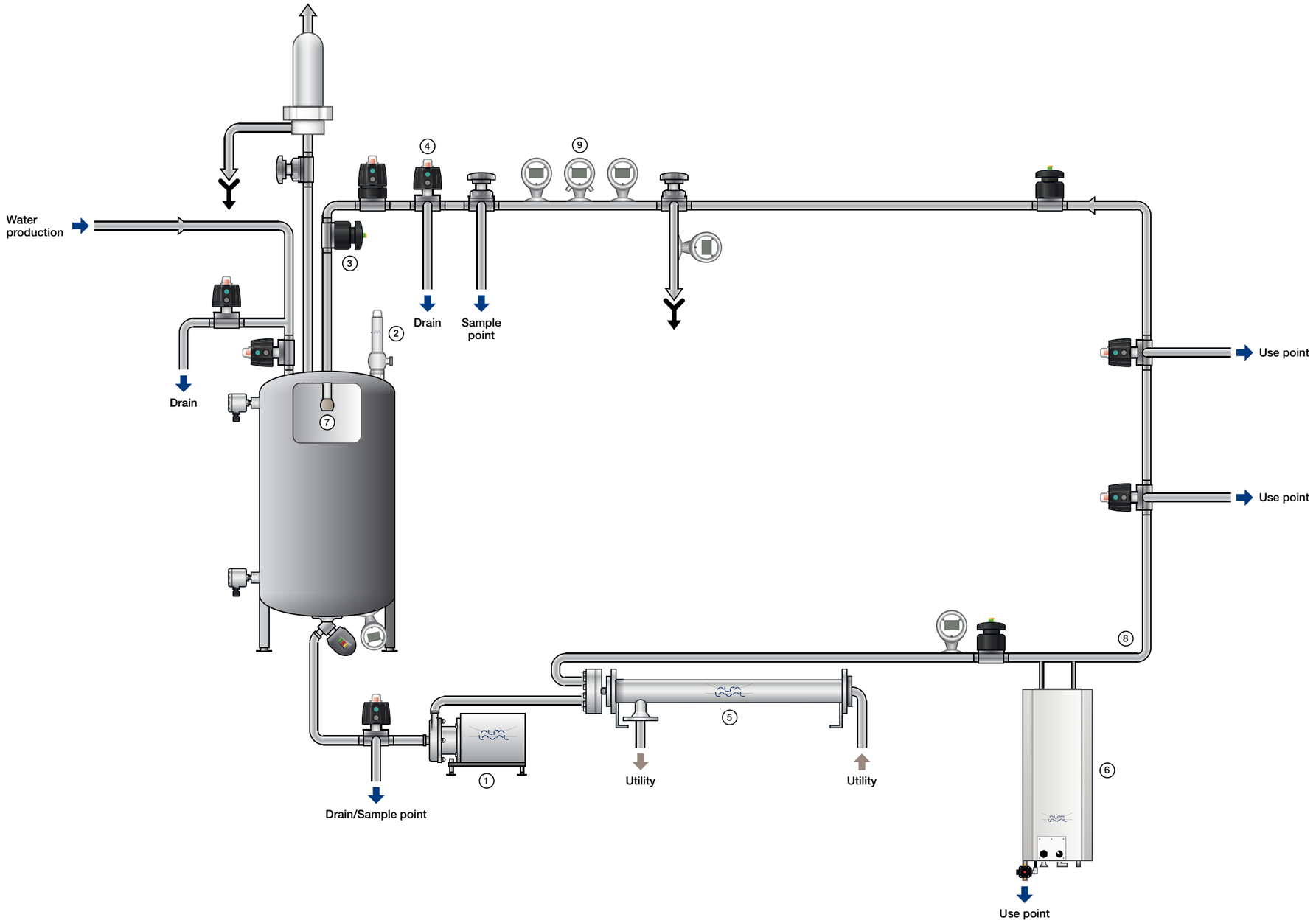
**Alfa Laval Tri-Clover® UltraPure Tubes & Fittings**
Our ISO 2037 and ASME BPE-certified tubes and fittings are manufactured under strict certified procedures with 100% incoming and outgoing inspection. With a proven track record of more than 90 years as a supplier to the pharmaceutical industry, we guarantee safe, easy and problem-free installation.

**Alfa Laval Q-doc**
Using Alfa Laval hygienic equipment for pharmaceutical water systems makes system and equipment validation exceptionally easy. Alfa Laval Q-doc, our cutting-edge documentation package for the pharmaceutical industry, encompasses every aspect of production, from raw material sourcing to the delivery of finished equipment, providing full transparency and traceability of all equipment and parts.






Schematic process diagram for a pharmaceutical water system using Alfa Laval hygienic equipment.

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**Alfa Laval Instrumentation**
We offer a large range of hygienic and accurate instrumentation equipment to monitor the water system.

- Alfa Laval Level Switches provide level indication in the holding tank.
- Alfa Laval Temperature Transmitters closely monitor water temperatures and temperature development.
- Alfa Laval Conductivity Transmitters measure conductivity and temperature.
- Alfa Laval Pressure Transmitters monitor the pressure in the loop.

# Distributing pharmaceutical water – continuously, economically and sustainably

Water is an essential ingredient to the manufacturing of pharmaceutical products. Proper design, installation, commissioning and validation of hygienic equipment for pharmaceutical water systems is critical in order to ensure the safe, continuous and efficient operations of the pharmaceutical manufacturing facilities as well as the quality of the final end products. Overcoming challenges, such as rouge and biofilm buildup as well as high energy costs and environmental emissions, is also a business imperative.

Alfa Laval helps pharmaceutical manufacturers control and secure the quality of water in the distribution loop – whether non-compendial water, purified water or water for injection. Our hygienic equipment makes it possible to maintain water quality within acceptable limits, delivering purified water to the points-of-use at the required flow and temperature while minimizing capital investment and operating and maintenance expenses. Our equipment combines sustainable performance with significant cost savings.

## Extending performance

**with the Alfa Laval 360° Service Portfolio**

The Alfa Laval 360° Service Portfolio maximizes the reliability and uptime of your hygienic pharmaceutical water system equipment equipment. The result is superior performance throughout the equipment life cycle to give you a competitive edge. Together with our global service network, we can help secure long-term performance.




**www.alfalaval.com/pharmawatersystems**

## Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuff, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

## How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com



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