

LENNTECH
WATER TREATMENT SOLUTIONS



Industrial water supply

Water is widely used in industry, whether it is encountered as raw water, process water or waste water.

Very often make-up water must be treated before entering the factory to ensure its quality and properties will meet the specifications required by the industrial process.

In addition, stringent discharge regulations and policies towards a (near) zero liquid discharge approach, there is a high demand for reducing water footprint in the industrial sector.

Lenntech is committed to provide state-of-the-art technological solutions for the preparation of make-up water for industrial uses. Next to its reliability developed thanks to many years of experience in the water treatment sector, Lenntech focuses on the optimization of **energy use and fresh water abstraction**, including strategies involving **recycle and reuse** of effluent water streams.

APPLICATIONS

- Boiler make-up water
- Cooling tower make-up water
- Make-up water
- Effluent water reuse
- Ultra pure water



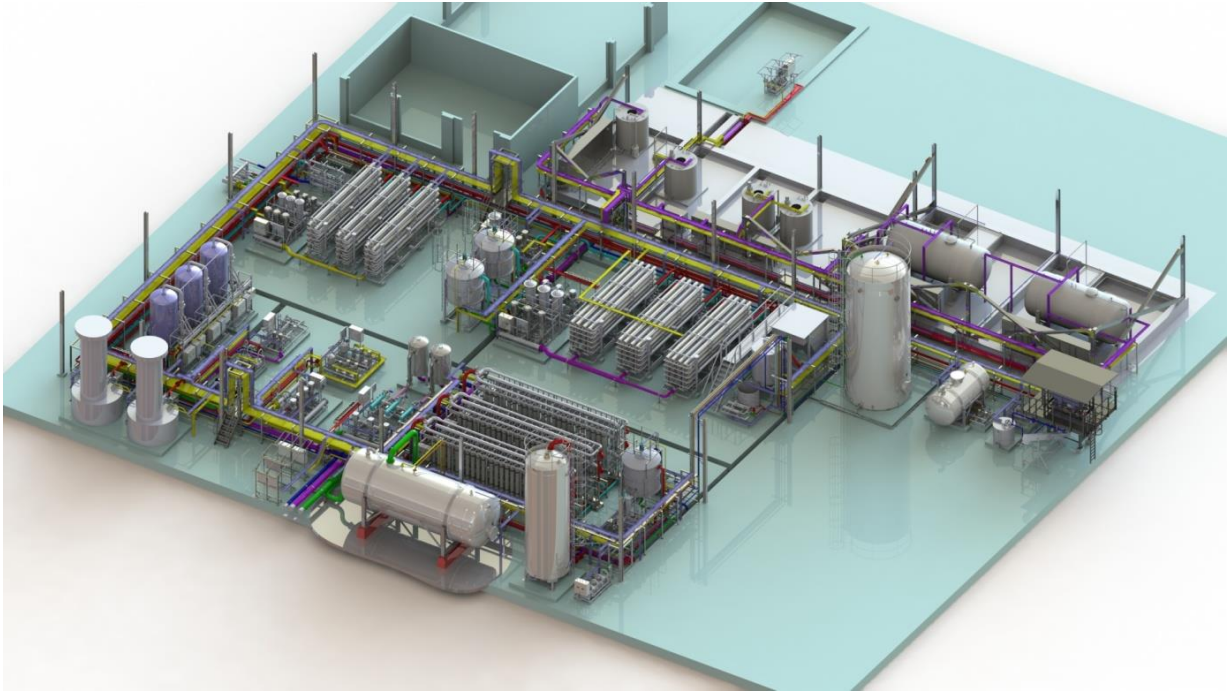
OUR SOLUTIONS

- Coarse and fine filtration
- Scale and corrosion control
- Microbiology control
- Boiler feed water treatment
- Condensate treatment
- Cooling tower make-up water treatment
- Cooling tower blow-down treatment
- Disinfection
- Desalination/demineralization
- Ultrapure water production
- Zero Liquid Discharge



OUR ADVANTAGES

- Engineered and custom designed solutions for unique water and equipment needs
- Turn-key solutions including design, engineering, manufacturing, automation, installation, maintenance and training
- State-of-art technologies for effective water and wastewater reuse
- Full team of engineers for best on-line assistance and on-site service and support
- Worldwide operation and assistance with all language capabilities to support local projects



3x70 m³/h boiler feed water system

Self cleaning filters | Ultra filtration | Micro filtration | Reverse Osmosis | Degassing towers | Mixed bed polishers | Regeneration stations | Chemical storage tanks | Neutralization pit | Dosing systems | Clean in place systems

OUR TECHNOLOGIES

Condensate polishing

Condensate polishers are important in systems using the boiling and condensing of water to transport or transform thermal energy. Using technology as **Ion exchange resin**, trace amounts of minerals or other contamination are removed from the system before such contamination becomes concentrated enough to cause problems by depositing minerals inside pipes, or within precision-engineered devices such as boilers.

The removal of minerals has the secondary effect of maintaining the pH balance of the water at or near neutral (a pH of 7.0) by removing ions that would tend to make the water more acidic. This reduces the rate of corrosion where water comes in contact with metal.

Lenntech **Mixed bed condensate polishing systems** can be supplied with internal or external regeneration systems and are engineered to be in continuous operation. Depending on the water quality of the condensate stream, some pre-treatment is required. Typical pre-treatment technologies include **activated carbon adsorption** for the removal of TOC or **cationic ion exchange** to remove any possible pH adjustment chemicals.



Boiler feed water

Proper treatment of boiler feed water is an important part of operating and maintaining a boiler system. As steam is produced, dissolved solids become concentrated and form deposits inside the boiler. This leads to poor heat transfer and reduces the efficiency of the boiler. Feed water containing high level of dissolved solids, such as Chlorides, Silica, Potassium, Sodium and others may reach super saturation and consequent precipitation and scale can occur. In addition, feed water containing a high concentration of dissolved solids will result in a high boiler blow down.

By removing dissolved solids, the make-up water can be reduced and will result in high savings on energy consumption. Lenntech **Boiler feed water Treatment plants** are designed to remove dissolved solids from raw water through, **Ion-exchange softening, Reverse Osmosis, Electrodeionization or Mixed Bed polishers**. The above mentioned technologies often require pre-treatment of the raw water. Typical pre-treatment technologies include **multimedia filtration** and **cartridge filters** or alternatively, **ultrafiltration** technology that provides a very high product quality, reducing operation costs in the treatment placed downstream.

Cooling towers

The machines and processes of industry, generate tremendous amounts of heat, which must be continuously dissipated if those machines and processes are to continue to operate efficient. A cooling tower is an installation that retreats heat from water by evaporation or conduction.

The industries use cooling water in various processes. As a result, there are also various types of cooling towers. There are cooling towers that create process water that can only be used once, before it is discharged. There are also cooling towers that create water that can be reintroduced in the production process. Lenntech **cooling towers** are designed for obtaining optimum process conditions.

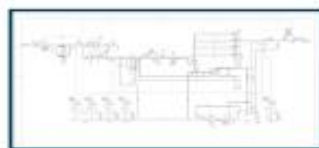
LENNTECH

WATER TREATMENT SOLUTIONS

Design



Engineering



Automation



Manufacturing



Transport



Commissioning



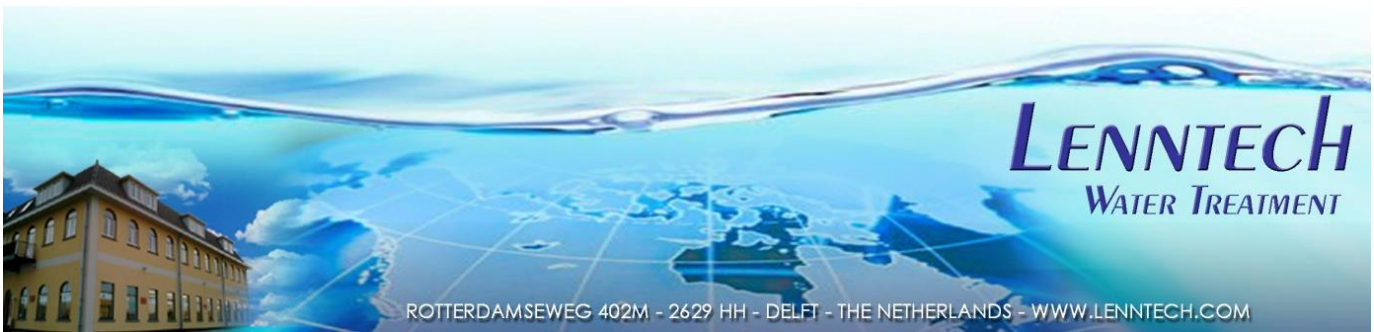
Maintenance



Training



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Lenntech is currently active in more than 130 countries worldwide, providing ultimate water treatment solutions for all sorts of applications, from domestic equipment to industrial turnkey plants.

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Lenntech performs as an organization that strains itself at all time to secure quality, business continuity, continuous improvement, sustainability, satisfied clients, safe working conditions and prevention of pollution. All according to legislation and regulations.

Lenntech works on management system of continuous improvement in the field of quality, safety, health and environment. In addition this management system meets the ISO 9001:2008, the ISO 14001:2004, the OHSAS 18001:2007 and VCA* 5.1 requirements so that the implementation of the system can be verified and confirmed by independent parties.

