

PRODUCT BROCHURE

WATEX WATER-SOFTENING SOLUTIONS

Twin, Duplex and multi-vessel water-softening systems

Local technical support for industrial and commercial applications

WATEX water-softening systems reduce water hardness and help protect pipework, heat exchangers, boilers and process equipment. Watex Estonia OÜ supports system selection, project design, commissioning and after-sales service.

Watex Estonia OÜ

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The configuration is selected according to raw-water quality, required capacity and operating mode.



WATEX | Technological solutions and Equipment for Water treatment

Water softening

WATEX has more than 10 years' experience in engineering efficient water-treatment plants with a long service life and minimal maintenance requirements. Water-softening units are a routine part of designing a new water-treatment plant. Our challenge is to select the right plant for the right application, using the competence, technical know-how and experience of our engineers.

Why softening?

Softened water is important in many industries for process water, including rinsing, humidification, ingredient water and boiler water. Softening prevents limescale deposits in pipework, steam boilers, district-heating installations, hot-water units and heat exchangers. It extends the service life of industrial water-based applications and improves the operation of solar-heating systems and air-conditioning units.

Problems

Hardness



Calcium and magnesium hardness salts form limescale deposits on heat exchangers, nozzles, fittings, pipework and sanitary equipment. Fine technical equipment can rapidly fail or consume more energy.

Solution

These problems are solved by softening with ion-exchange resin regenerated with sodium chloride (NaCl).

WATEX offers several configurations: WATEX CMS Twin for continuous production; WATEX CMS Duplex for parallel production; and Triplex systems with several vessels in line. Standard modules provide up to 50 m³/h per unit. Custom modules can provide up to 150 m³/h.

How does a softener work?

- Water softeners are ion-exchange filters that remove positively charged ions.
- They mainly remove calcium (Ca²⁺) and magnesium (Mg²⁺), known as hardness ions. WATEX softeners operate automatically and are rated by the amount of hardness removed before regeneration is required.
- A water softener collects hardness ions in its filter media and flushes them away during regular regeneration.

Benefits of Industrial Water Softening

- Reduced scale formation
- Initial and long-term cost savings
- Improved process-equipment efficiency
- Reduced maintenance, chemical and detergent costs
- Reduced energy and water consumption

Applications

- Boiler & cooling-tower make-up water
- Ultra-soft water for oil-field steam injectors
- Ingredient, process and utility water for food and beverage manufacturing
- Reverse osmosis (RO) and deionisation (DI) pre-treatment

Softening plant series

WATEX CMS TWIN



WATEX CMS DUPLEX



APPLICATION

WATEX CMS TWIN and WATEX CMS DUPLEX are water-softening systems for process- and drinking-water applications. They reduce water hardness and iron content.

OPERATING PRINCIPLE

The softener columns operate alternately. After regeneration, one column remains on standby and starts filtering when the other column enters regeneration. The system provides softened water continuously at a constant flow rate.

The softener columns operate simultaneously. When one column regenerates, the system provides water at half of its normal flow rate.

FILTER PERFORMANCE

Filter-media regeneration uses sodium chloride (NaCl) brine prepared from salt tablets. The filter columns contain cation-exchange resin, which reduces hardness and iron concentration in water. The control units regenerate automatically. Filter-media capacity is calculated from the resin quantity and raw-water quality.

TANK OPTIONS

Softener vessels can be made of galvanised or food-grade-coated steel, fibreglass or stainless steel. The brine-tank volume is matched to the softener capacity to reduce the frequency of salt refilling.

FILTER CONTROL

WATEX CMS softeners are equipped with Clack WS CI control units and a built-in flow meter that initiates filter-media regeneration according to water consumption. The columns do not regenerate simultaneously, so the system supplies softened water 24 hours a day. Regeneration starts when the media's treatment capacity is reached. Flow-meter control reduces regeneration water and salt use. Settings are retained during a power failure. Washing time, frequency, reagent consumption and other parameters can be adjusted.

EQUIPMENT MAINTENANCE

The main routine task is refilling the brine tank with salt tablets. Annual maintenance is recommended.

RECOMMENDATIONS

Test the raw-water chemical composition before selecting the equipment. Install a mechanical prefilter upstream to ensure a long equipment service life.



Watch company
WATEX
presentation here!

WATEX Estonia customer service and technical support are located in Peetri, Estonia



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