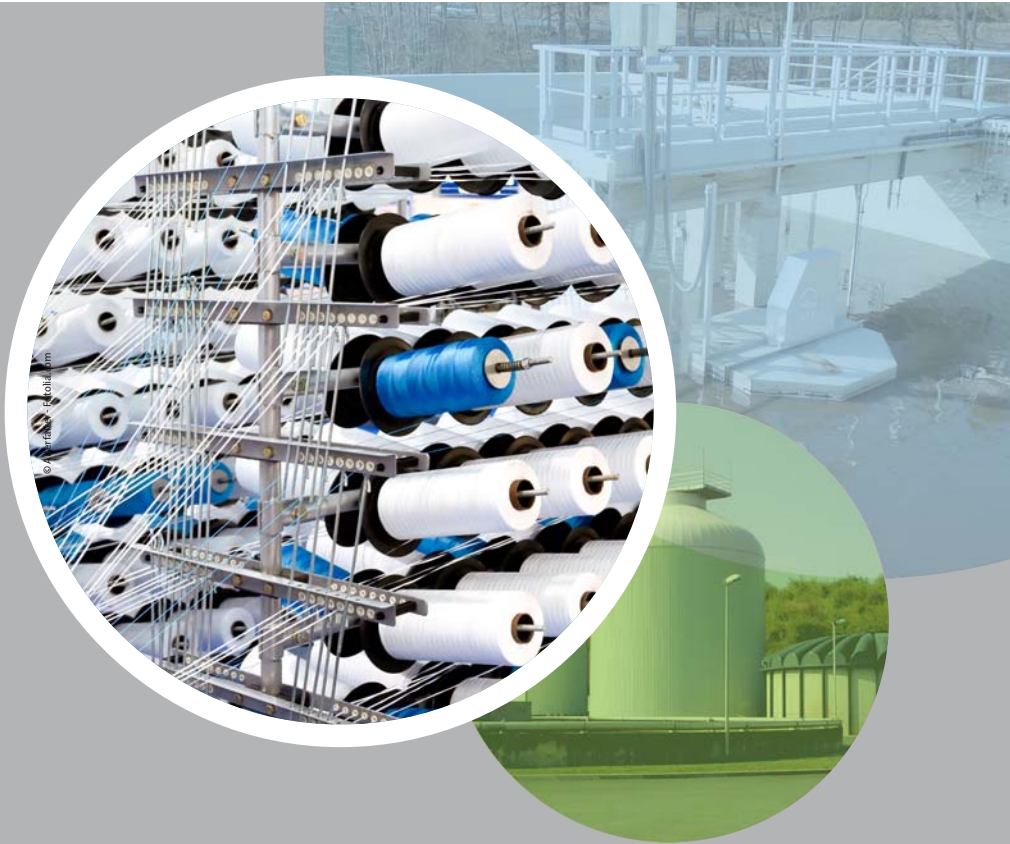


4.5

TEXTILE INDUSTRY



Water and wastewater
technology for the textile
industry

4.5



Water and wastewater technology for the textile industry

Wastewater quality and process concepts

Textile manufacturing requires substantial quantities of fresh water, which in turn produce correspondingly large quantities of cost-intensive wastewater. Depending on the process steps the wastewater produced contains: organic substances (COD/BOD5), size, tensides (surfactants), organic complexing agents, dyes, halogenated organic compounds, sulphites and heavy metals. Wastewater from the textile industry is readily biologically degradable, if the largely lacking nutrients N and P are added accordingly. Wastewater treatment requirements vary depending on the size of the business and the wastewater quantity. Due to the large diversity of the individual finishing processes, the wastewater load should be determined on a process basis. In general the wastewater is largely treated in-house and then in municipal wastewater treatment works. In the cases of direct discharge into a receiving water, process combinations consisting of the process steps named below have proven successful. In Germany the minimum requirements of the wastewater regulations (Abwasserordnung - AbwV) Annex 38 (textile production, textile finishing) must be complied with for direct discharge of the treated wastewater into a receiving water.

The following **process steps** are used generally – depending on the size of the operation – for the treatment of **wastewater from the textile industry**:

- Mechanical wastewater pretreatment
- Flotation with chemical precipitation/flocculation
- Storage and homogenisation
- Neutralisation
- Biological treatment
 - Anaerobic wastewater treatment
 - Aerobic wastewater treatment (SBR/MBR plants)
- Filtration
- Sludge treatment and energy generation from biogas
- Waste air treatment
- Automation (E-I&C technology, process and remote monitoring, etc.)

We have the optimum solution

The **wks group** offers **turnkey, integrated solutions** and **individual concepts** for water and wastewater treatment in the **textile industry**.

The optimum process technology is selected, taking into consideration the operational requirements, the need to minimise disposal quantities and energy consumption and/or to generate energy. This technology can be used for the respective wastewater composition and results in the required discharge limits.

Process engineering, mechanical engineering and automation: The **wks group** of companies unites all technical know-how required to implement technical industrial water treatment tasks.

From individual advice, development, to production, installation, commissioning, through to maintenance/service and optimisation, we work with strong partners.

The **wks group** supplies **products and plant components from its own production facility**. Here the focus is on fittings, pipes and vessels made of stainless steel. Experienced engineers, and specialised fitters and welders ensure effective project completion, from the production of individual products through to mechanical equipment for complete, turnkey plants. In all projects we guarantee reliability, on schedule completion and flexibility.



Range of services

- Turnkey plant construction
- Consulting and planning
- Process engineering
- Construction work
- Mechanical engineering
- Automation
- Installation
- Maintenance and service
- Training
- Optimisation
- Operation management

Range of products

- Filter screens
- Oil removal
- Mixing and balancing tanks/neutralisation
- Catalytic oxidation of the sulphides
- Flotation plants with chemical precipitation/flocculation
- Aerobic biological treatment (incl. nitrification and denitrification)
- Permeate storage tanks
- Dye removal
- Chemical metering and storage
- Sludge treatment
 - Sludge dehydration
 - Sludge thickening
 - Sludge drying

Our experience – your advantage

Our know-how acquired from almost **25 years' of successful water industry plant construction**, our knowledge, our technologies and innovations in **industrial water treatment** are the **guarantor** for an important part of **your economic business success!**

We develop and offer cross-product and cross-system solutions for new build, reconstruction and optimisation of **water and wastewater plants for the textile industry.**

Your advantage: Our expertise in processing and mechanical engineering, automation systems, products and plants – we have precisely what you need or develop it for you!



Products and systems

