

# 4.6

CHEMICAL AND INDUSTRIAL PARKS



Water and wastewater  
technology for the chemical  
and industrial parks

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# Water and wastewater technology for the chemical and industrial parks

## Wastewater quality and process concepts

Contamination of wastewater from chemical and industrial parks depends on the structures of the businesses in the parks, and generally consists of many different constituents, which also occur in large concentrations. The wastewater treatment process must therefore be designed precisely for the wastewater constituents that exist, so that at the end of the treatment process the required discharge limits can be achieved for direct or indirect discharge of the wastewater. The organic substances contained in the wastewater are mostly readily biologically degradable, although frequently lacking nutrients for functioning biological wastewater treatment have to be added. In most cases a combination of the process steps named below has proven successful. In Germany the industrial wastewater treatment plant approval and monitoring regulations (Industriekläranlagenzulassungs- und Überwachungsverordnung - IZÜV) define the procedure and requirements for the issue of a permit for the direct discharge of wastewater which comes from IED (EU Industrial Emissions Directive) plants. Existing plants and discharges from existing plants, which have only recently become IED plants must fulfil the new requirements of the IED Directive from 7 July 2015.

The following **process steps** are used generally – depending on the size of operation – for the treatment of **wastewater from chemical and industrial parks**:

- Mechanical wastewater pretreatment
- Flotation
- 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 **chemical and industrial parks**.

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

- Grit trap units/filter screens
- Mixing and balancing tanks/neutralisation
- Flotation plants
- Sedimentation basins/buffer basins
- Anaerobic wastewater treatment
- Aerobic biological treatment (incl. nitrification and denitrification)
- Nutrient metering (N, P)
- Filtration plants
- Disinfection plants
- 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 chemical and industrial parks.**

**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

WATER	Equipment components	Waterworks	Drinking water treatment	Water storage plants	
	Screens	Flushing equipment	Weirs	Scumboards	
WASTE WATER	Flow controllers	Valves			
	Stormwater overflow tanks	Stormwater treatment plants	Combined waste- and floodwater	Special structures for airports	
	Precipitants with metering stations	SBR clean water decanters	SBR vertical agitators	Floating sludge decanters	Turbid water
WASTE WATER TREATMENT	Municipal wastewater treatment plants	Industrial wastewater treatment plants	Reconstruction and optimisation	SBR plants	TRIUNO compact wastewater treatment plants
	Equipment components	Sludge treatment / digestion			
ENERGY	PLC technology / process control technology	Complete electrical/ I&C systems	Remote control (telecontrol) systems	Evaluation / logging	Web-based camera system
	Process control loop block	Outdoor cabinet systems	Monitoring small wastewater treatment plants	Energy data recording	
	Testing explosion protection	Energy monitoring	Medium-voltage switching autorisation		
AUTO-MATION					