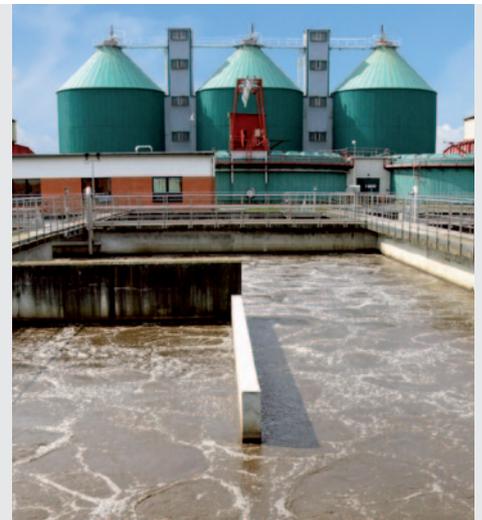


# Sewerage and effluent technology



Dosing units and systems  
Preparation and dosing stations  
Dosing and feeding pumps



Sulphide elimination

Phosphorus removal

pH stabilization

Prevention of crustations

Sludge conditioning

Recovery of phosphates

The compliance with legal provisions applicable to the municipal as well as industrial sewage treatment requires the use of high-quality and reliable systems engineering and dosing technology. **sera** dosing pumps, valves and dosing units have been successfully used for more than 65 years.

## The sera product range for sewage technology includes:

- Dosing devices for field tests with miscellaneous media
- Small dosing units and systems for water chemicals
- Diaphragm dosing pumps in dosing units for precipitation agents
- Preparation and dosing units for polymer solutions, among others, for the sludge conditioning
- Dosing units for lime milk
- Components for units applying modern chemical thermal sludge treatment methods



Controllable *sera* Diaphragm dosing pump



Standardised Polymer Unit SPU



Dosing for simultaneous precipitant

## Typical examples for the application of sera technology:

- Sulphide elimination using iron (III) chloride solutions ( $\text{FeCl}_2$ )
- Phosphorus elimination using iron (III) chloride sulphate solution ( $\text{FeClSO}_4$ )
- Minimizing chlamydobacteriales by using lime milk to stabilise the pH value
- Increasing the nutrient elimination with carbon sources
- Cleaning diaphragm with cleaning agents
- Preventing encrustations with organic acids or salt solutions
- Sludge conditioning with iron (III) chloride solution ( $\text{FeCl}_3$ ) and polymer solution
- Reclaiming phosphates from sludge
- Neutralisation with acids and bases



Standardised Compact Tank Dosing Unit CTD

Since products of a very different nature have to be tested for the sewage treatment time and time again, **sera** developed a mobile dosing device for field tests.



*Mobile Dosing Device MDG*

The low-maintenance and easy-to-use system consists of a solid stainless steel frame and houses a state-of-the-art pumping technology featuring the highest dosing accuracy, a flow rate indicator, an integrated relieve pressure valve and a continuously adjustable delivery flow.

To improve the sewage quality, precipitation methods are very often combined with flocculation processes. In case of the sewage pre-treatment by flotation, for example, **sera** pumps are used to add sodium hydroxide to adjust the pH-value, a metallic salt solution as a primary precipitation agent and a polymer solution as a flocculation aid.

The sewage treatment by means of decolourisation, neutralisation and heavy metal precipitation is linked with reliable **sera** technology as well as the water treatment.



*A dosing unit for metallic salt solutions designed for outdoor use*

Readily soluble solids such as aluminium sulphate or polymer can be efficiently prepared and added in a small dosing unit.

In order to prevent hydrogen sulphate from developing in sewers, **sera** has developed a number of dosing systems with which metallic salt solutions, for example iron (II) chloride ( $\text{FeCl}_2$ ) and iron (III) chloride ( $\text{FeCl}_3$ ) or newly developed combination products, can be fed into the sewer.

These dosing units are available for applications of different extend and are installed in weatherproof housings for outdoor use. In this case, the storage container for the respective metallic salt, which is part of the overall system, is usually installed underground. **sera** offers compact units for smaller applications with the storage containers integrated in the robust housing of the dosing unit.



*Container solution for the safe dosing of chemicals from IBC*



*Standardised Vertical Dosing Systems CVD*

## Locally present for our global customers

With local offices in England and South Africa and a worldwide sales and service network with more than 30 foreign representatives in more than 80 countries across all continents, **sera** guarantees optimum support for customers locally.



## Our representative offices

- |                        |               |              |              |
|------------------------|---------------|--------------|--------------|
| Algeria                | Denmark       | Lithuania    | South Africa |
| Angola                 | Ecuador       | Luxembourg   | South Korea  |
| Argentina              | Egypt         | Mexico       | Spain        |
| Austria                | Estonia       | Morocco      | Sweden       |
| Australia              | Finland       | Netherlands  | Switzerland  |
| Belgium                | France        | Norway       | Taiwan       |
| Bolivia                | Great Britain | Paraguay     | Thailand     |
| Bosnia and Herzegovina | Greece        | Peru         | Tunisia      |
| Brazil                 | Hungary       | Philippines  | Turkey       |
| Bulgaria               | Indonesia     | Poland       | UAE          |
| Burundi                | Ireland       | Romania      | Ukraine      |
| Byelorussia            | Israel        | Russia       | Uruguay      |
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