



# SLUDGE TREATMENT PLANTS

The wastewater deriving from the industrial activity, in particular tanning, zootechnical and agricultural, contains large quantities of suspended solids.

Their removal through specific treatment plants causes the production of high amount of sludge (both primary, biological and tertiary).

In the last years, the cost of the residual sludge elimination suffers a continuous and sensible increase, representing a significant percentage of the total costs incurred for the operation and management of the plant.

The need to develop suitable sludge dehydration systems is therefore evident, allowing the volume reduction and consequently the costs linked to transport and disposal.

The dehydration of the sludge has positive effects on the hygienic and sanitary management of the wastewater treatment plant: the wet sludge is more subject to putrefaction anaerobic phenomena, origin of bad odours.

Deltacque can design and supply many sludge treatment solutions. The objective of this process is the reduction of the humidity contained in the sludge through a series of chemical, physical and mechanical processes, able to decrease the volume and then make more manageable and economic its elimination to the final disposal.



**DeltAcque**

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# MAIN STAGES OF SLUDGE TREATMENT



## CHEMICAL TREATMENT

Carried out in a special collection and mixing tank, it consists in the addition of flocculant and coagulant products for the sludge pre-condition, in order to increase its dehydration skill for the subsequent phases.

The combined action of the chemical products and the air blown into the tank to carry out the correct mixing, guarantees the complexation of the malodorous molecules, minimizing the production of unpleasant odours in the sludge treatment area.

## THICKENING

In this phase takes place the thickening of the sludge in gravimetric way, obtaining sludge with lower volumes up to 3-4 times.

The thickening can be:

- static type: the tank is built with conical bottom where the sludge settles and naturally gathers;
- dynamic type: circular section tank equipped with bottom scraper with rotating brushes that mechanically collects the settled sludge, conveying it towards the bottom hopper.



## MECHANICAL DEHYDRATION

It represents the last phase of the entire cycle. On the basis of the needs, it is carried out through filter press or centrifuge extractor, obtaining a final sludge characterized by a 30-40% dry content.

CERTIFIED QUALITY  
MANAGEMENT SYSTEM

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UNI EN ISO 9001:2015

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