

# Centrifuge decanters



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## **Wastewater Applications**

# Wastewater Applications



## Sewage treatment plants



Sewage treatment is the process of removing contaminants from wastewater and household sewage, both domestic, commercial and institutional.

The waste water can not be re-entered in the same state as the final details such as the land , the sea, rivers and lakes are not able to receive an amount of pollutants to exceed its self-purifying capacity .

The purification treatment of urban sewage consists in a succession of several phases during which, from the waste-

water are removed the unwanted substances, which are concentrated in the form of sludge, giving rise to a final effluent is compatible with the self-purifying capacity of the environment .

The activated sludge are suspended in water of active biomass (batteri saprofiti, protozoa, amoeba, rotifers and other microorganisms) .

These sludges are the basis of biological oxidation systems, which are the most prevalent in traditional wastewater

DDE 474-200 centrifugal decanter suitable for sludge treatment in municipal WWTP





treatment plants.

The role of this biomass is to use the biodegradable organic substances present in the wastewater, degrading to compounds smaller and less dangerous part of which are used by the microorganisms themselves for nourishment and reproduction.

In managing the sludge (clarification, thickening and dewatering) the centrifugal decanter play a major role. Here follow the application of **quattro Separator** decanters.

### Thickening

The excess sludge produced in the stages of the biological processes have solid content of less than 1%. In order to reduce the amount of sludge to be treated is used a stage of thickening to perform a first separation and bring the average content of solids in the order of 5-8%. Just at this stage is the application of a decanter line HTDE (High Thickening Decanter) specially developed for this application.

The decanter HTDE exploit unlike other decanter the principle of separation in-current.

Recent studies, which take into account fixed costs (capital

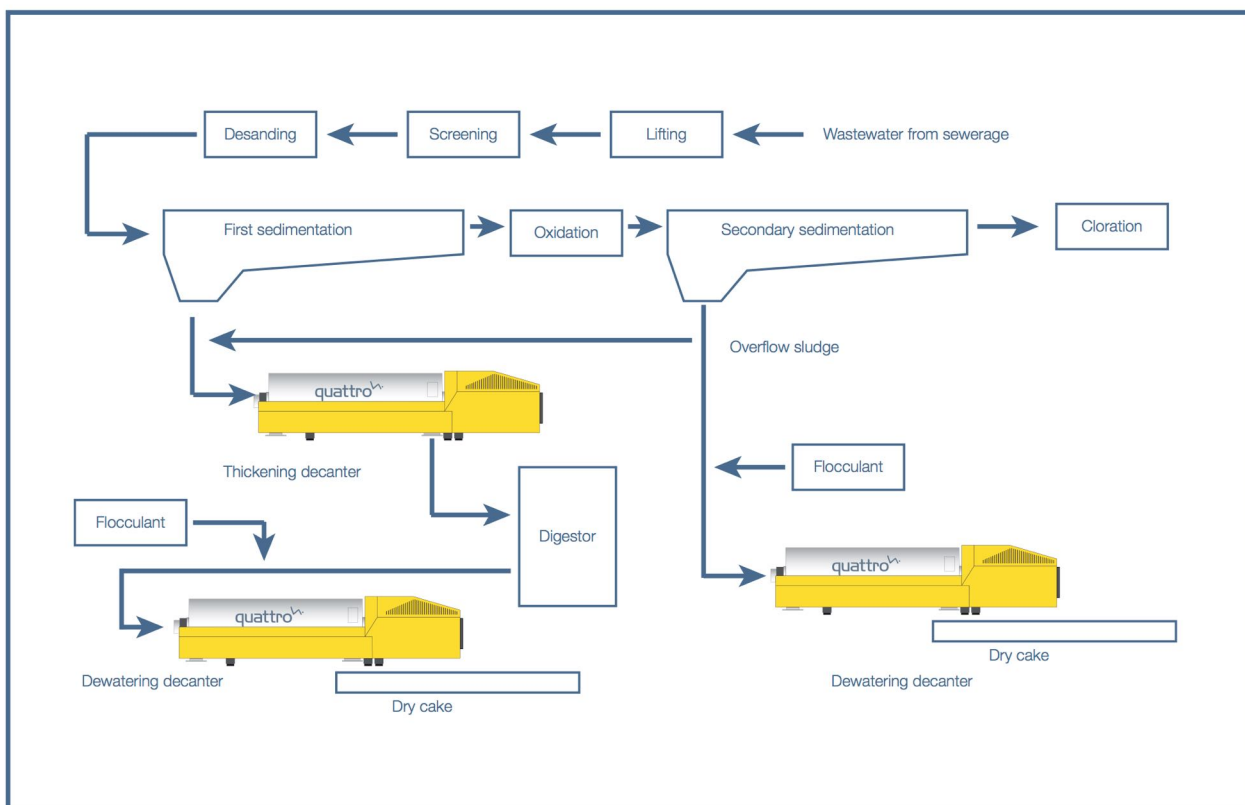
and labor) and variable (consumption of energy, water, polyelectrolyte and also spare parts), show that there are advantages for the benefit of the use of decanter sludge thickening compared to other thickening systems.

These benefits become incredibly important when it has to do with high flow rates and long processing times.

### Dewatering

In the wastewater treatment either municipal and Industrial, the

maximum sludge dewatering is the most critical factor. This procedure allows a huge reduction in the amount of material to dispose and therefore a huge reduction in cost of sludge management in any type of activity. quattro Separator has developed a series of decanters called DDE (Dewatering Decanter) that due to the high rotation speed and the developed geometries of passage, you greatly reduce the residual content of moisture in the dewatered sludge. The result of continuous technological development is now the complete range of decanter four series DDE Environment for dewatering sludge.



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