



AQUA AURA

Leading Technologies

Drinking Water Applications



Drinking Water Sludge treatment in Drinking water process



Drinking water

Water purification is the removal of coarse contaminants from the water to get water that is fit for household consumption for land irrigation or even for industrial uses.

With the gradual depletion of natural sources of drinking water (deep water), it is increasingly using surface water (seas, rivers, lakes and reservoirs). These sources of supply, due to the specific characteristics of the water and/or the degree of pollution, must be subjected to cycles of purification treatments necessary to modify these characteristics and improve its quality.

The purification is carried out by passing the raw water through various types of installations for the organic and inorganic material removal.

The method used for removal can be of a physical, chemical-physical and biological, function of the type of substances to be eliminated from raw water entering the plant.

The substances that must be removed during the

purifying treatment can be of natural origin such as:

- iron
- manganese
- hydrogen sulphide
- sulphates

anthropogenic origin:

- heavy metals (antimony, arsenic, lead)
- hydrocarbons
- pesticides
- solvents
- ammonia
- nitrates
- ecc.

or microbiological:

- plankton
- benthos
- fungi
- protozoa
- bacteria (pathogenic or environmental origin)
- viruses



Sludge treatment

Sludge from the various purification treatments (screening, sedimentation, flocculation, etc.) undergo chemical treatments, biological or physical/thermal before their final disposal/reuse.

The primary objective of the sludge treatment is to minimize the volume of the sludge, increasing the solid fraction, so as to minimize the cost of transportation and disposal costs.

Precisely for this purpose quattro Separator decanters are used in water treatment plants.

Thickening

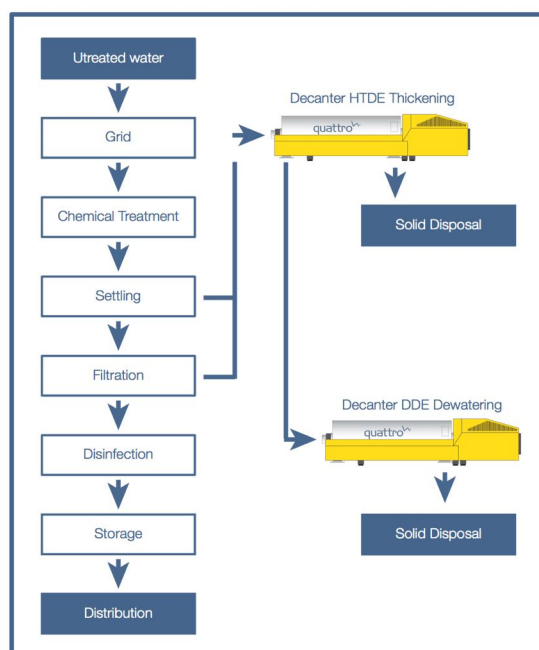
The excess sludge produced in the stages of the biological processes have solid content of below 1%. In order to reduce the amount of sludge to be treated, a phase of thickening is used to perform a first separation and bring the average content of solids in the order of 5-8%. At this stage is applied the decanter HTDE (High Thickening DEcanter) specially developed for this purpose.

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 in use a decanters for sludge thickening compared to other thickening systems. These advantages become incredibly important when it has to do with high flow rates and long process 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, greatly reduce the residual content of moisture in the dewatered sludge. The result of continuous technological development is now the complete range of decanter series DDE for dewatering sludge.



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