

Filtration of effluent water from fish farms



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The major parts of waste in water from fish farms are in the form of particles.

In order to reduce the impact on downstream receiving waters, effective particle filters must be installed. Micro screens are the most efficient technology to remove these particles as they are removed from the water instantly without breaking or dissolve in the water.

This filter technology is very depended on size and strength of particles, only particles bigger than employed mesh holes, and particles which does not disintegrate, can be filtered out of the water.

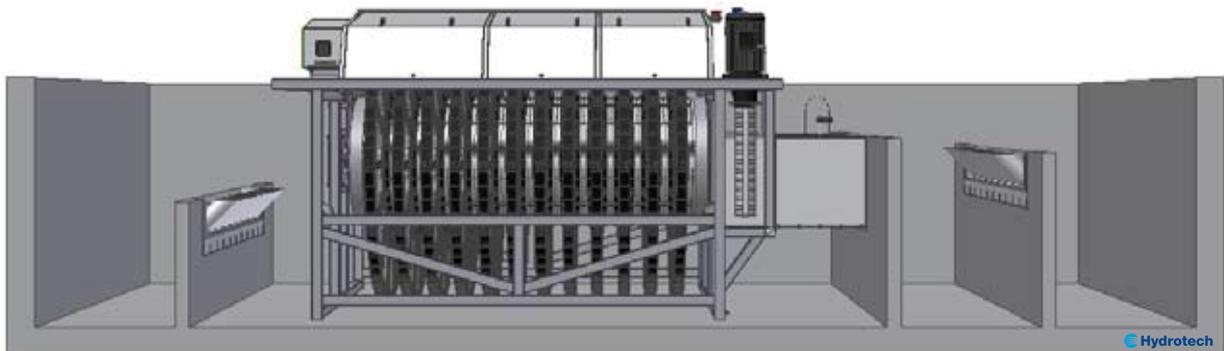
It is therefore important to ensure as big and strong particle sizes as possible.



Drumfilter placed at the end of the race-way, ensures effective filtration conditions as particles are not disintegrated by piping or falling over weirs.



Drumfilter placed at the end of an earth pond. After the filter is space for biofilter for conversion of ammonia and further reduction of organic material.



Example with a Hydrotech Discfilter installed in a concrete channel (side view)



Outlet from a large salmon farm. Filters are installed in parallel, one common inlet- and outlet channel.

Uneaten feed and feces are produced in the ponds or race-ways and will sink to the bottom, where they will disintegrate and when reaching a critical size be suspended and transported out of the system.

Following conditions must be considered to achieve optimal efficiency of a downstream filter:

Among others,

- ▶ Design of ponds/ tanks or race ways.
- ▶ Mechanical destruction of particles in the system.
- ▶ Feed quality.

Installations

Hydrotech Drumfilters are the optimal solution for very high flow installations as well.

Our engineers have developed more compact high capacity installations, using pipe overflow weirs.

Efficiency of filters are depended on particle sizes and thereby proper choice of filter opening.

Common filter openings vary from 40 to 100 micron.

Please contact Hydrotech for further information.

Effluents from fish farms

Scientists at the “Fischereiforschungsstelle Baden-Württemberg” in Germany, have developed a model for prediction of effluent concentrations of the most important nutrients and organic loading, in the effluent water from fish farms.

By the courtesy of the institute, please look at their homepage:

Fischery Station of Baden-Württemberg:

http://www.landwirtschaft-bw.info/servlet/PB/menu/1208744_12/index.html

