

Hydrotech filters in recirculated systems



Hydrotech filters in recirculated systems (RAS)

Fish farming in recirculated systems are one of the most expanding ways of producing fish and other species for the aquaculture industry. New technologies and better understanding of essential processes have facilitated this development.

Hydrotech is in front with cutting edge technologies, always looking for new ways to improve products to fit customer's needs.

Tests have proved Hydrotech Drumfilters perform better.



Testing Drumfilter at an eel farm

The unique design of Hydrotech Drumfilters have proved to ensure higher

flow capacity and better efficiency than other comparable systems.

A team of biologist and engineers are available for support of costumers.

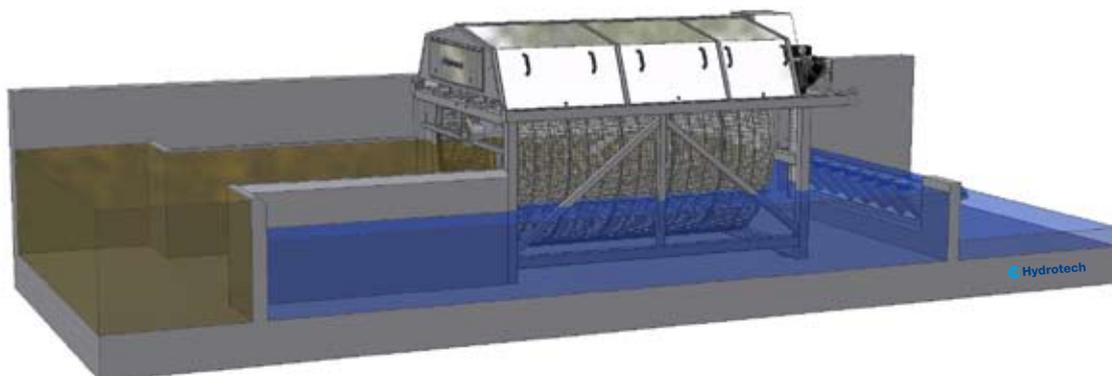
For optimal use of Drumfilters they must be properly sized and installed.

Special versions are available with a view to meet

the special needs in Recirculated systems, eg. the special 1A version, which includes a special tank, which is needed to ensure proper running condition for filters installed on top of reservoirs.



HDF2007-1A, installed on top of a moving bed biofilter



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

Installation of micro-screens in RAS

Compared to competing technologies Hydrotech filters ensures a *gentle* and *immediate* removal of particles.

Particles must not be accumulated in the recirculated flow, as is the case with many different in-line and pressurized systems such as bead- and sandfilters, claimed to be both particle traps and biofilters at the same time.

The two processes must be separated in order to have optimal particle separation, without leaking of dissolved substrate to the water, as well as an optimal environment for the biofilter.

Hydrotech filters are therefore usually installed upstream biofilters, reducing the organic loading on bio-

filters. This ensures stable conditions in biofilters and optimal conversion of ammonia to nitrate (nitrification).

Optimal condition for micro screens

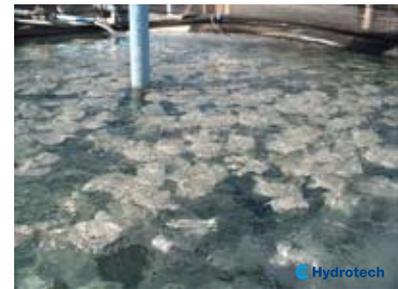
A lot of issues must be considered when designing RAS, otherwise particles may be dissolved or destroyed before they reach the screen.

Just to mention some:

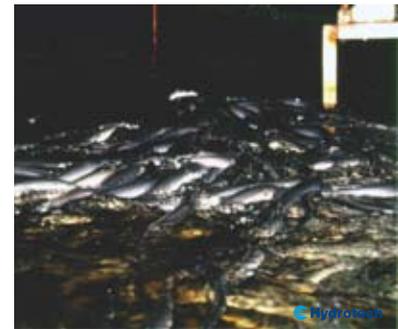
- ▶ Shape of the tanks
- ▶ Outlets
- ▶ Stocking densities of fish
- ▶ Pipes and distance to micro screens
- ▶ Aeration in tanks for oxygen supply
- ▶ Choice of filter opening in micro screen
- ▶ Type of feed

Many fish- crustacean and mollusk species are farmed in RAS today.

Combining the know-how on biofilter technology and microscreens makes it today possible to farm both salt- and fresh water species:



Turbot



Eel



RAS salmon farm, with round tanks for efficient removal of particles

Please feel free to contact Hydrotech for further information.

