

STERNER RAS

IDEAL FOR SAFE AND PROFITABLE
FARMING



Sterner has developed a space saving, low energy demand modular RAS concept. The concept builds on our focus towards water quality where

GOOD WATER QUALITY = GOOD ECONOMY

Optimal water quality provides optimal fish growth. Sterner's reference RAS systems have low FCR values and extremely low mortality on transfer to sea. Investment in water quality gives significantly better growth and survival.

LOW FCR = INCREASED RETURN ON INVESTMENT

Focus on
hydraulic
conditions and
correct pipe design
provides low risk
for sludge accumulation
and H₂S formation



The module design is based
on the **PLUG AND PLAY**
principle. Modules are space
saving with a low
energy demand.

STATE OF THE ART DESIGN

- CFD optimized tank hydraulics for gentle solids removal from fish tanks
- Gentle particle removal from the waterstream using the correct piping design, dimensioning and filtration methodology
- The Sterner MBBR uses significantly less energy than traditional MBBR designs
- Improved MBBR design gives improved control over bacterial growth and improved hygienic environment for the fish

OZONATION

Sterner has significant experience with use of ozone in RAS-operations. The low amounts of organics in circulation gives a reduced ozone demand.

Ozone is doses at concentrations which are safe for the fish while the positive effects of ozonation are maintained:

- Improved hygiene in the system
- ORP levels which ensure safer water chemistry
- Easier degradation of fats and proteins over the MBBR
- Lower fines concentrations in the system
- Improved oxygenation of the system

Model	RAS 4500	RAS 10 000
Feeding rate kg/day	4 500	10 000
Tank volume (m3)	4 600	9 860
Maximum biomass (kg/m3)	75	75
Fish Tank TSS (mg/l)	<10	<10
CO ₂ (mg/l)	<15	<15
TAN (mg/l)	<2	<2
CFD optimised tank hydraulics	yes	yes
CFD optimised MBBR	yes	yes
Area demand (m2)	1 600	2 600
Energy demand (kWh/kg feed)	4-6	4-6



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