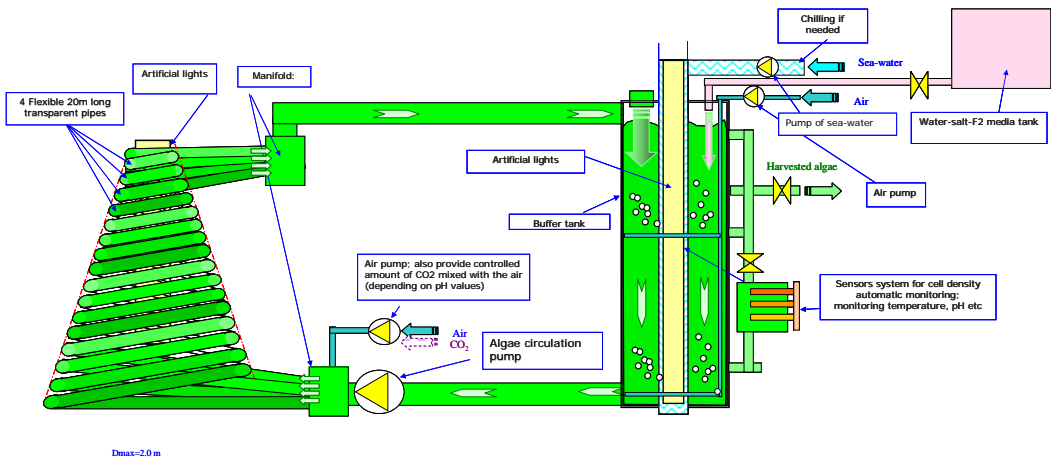


## Research project ALFA – Automated live algae production for aquaculture hatcheries

**Akvaplan-niva are the coordinators of an EU funded CRAFT research project to design an fully automated live algae photobioreactor for the fish and shellfish hatcheries in Europe.**



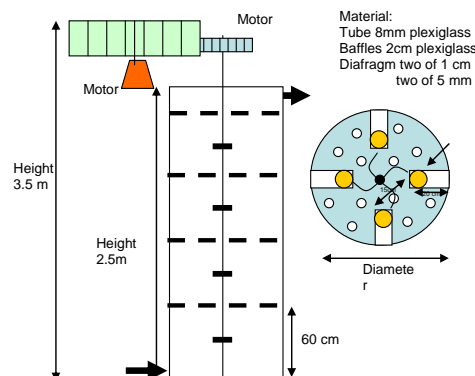
### Development of the photobioreactor

Akvaplan-niva together with other research institutes and hatchery partners have developed an innovative fully automated system for the continuous production of algae as live feed in aquaculture hatcheries. This system provides optimal nutritional conditions, both natural and artificial illumination and a feedback controlling system for the temperature, the nutrient content, the pH and the CO<sub>2</sub> concentration of the water.

The project developed 3 prototypes that were then built and tested.

### Prototype algae reactors

One prototype was based on medium sized flexible tubes to capture sunlight during the day and to use artificial light during the night. Another was based on a large bore cylinder with internal rotors for mixing the algae.



The other prototype was based on an improved algae sac system but adapted to

continuous production and light use efficiency



### Akvaplan-niva's competence

Akvaplan-niva provided the following services for the project:

- Project Management and coordination
- Conceptual design of equipment
- Detailed design of equipment
- Selection of materials
- Testing production performance
- Report writing
- Commercialisation of the research