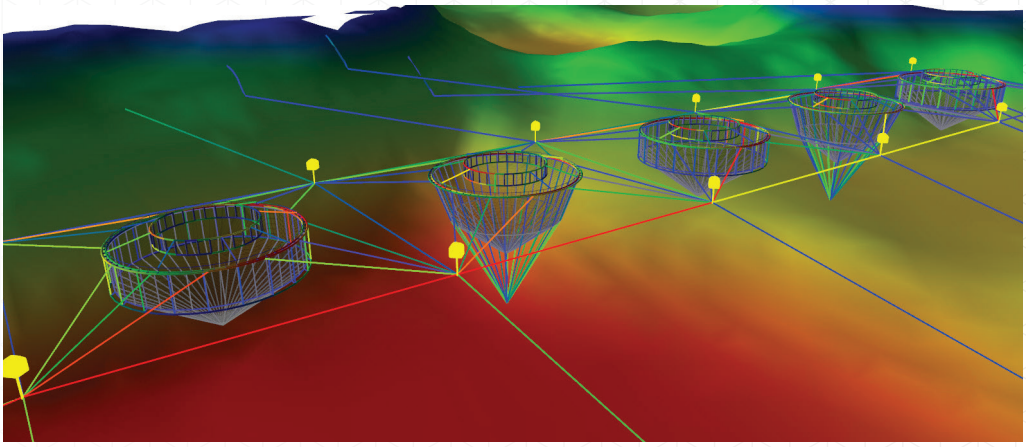
aquasim

SAFETY THROUGH TECHNOLOGY

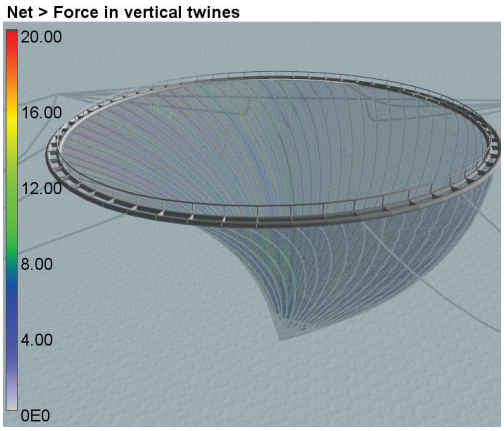
aquastructures

aquasim

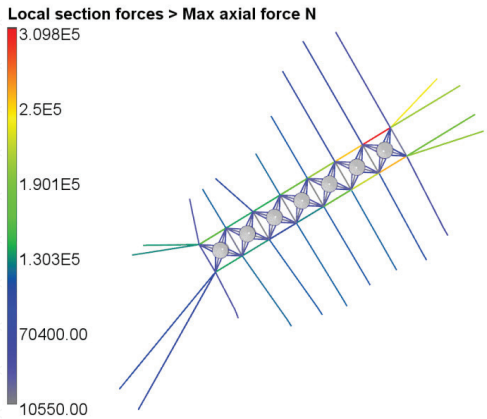


AquaSim is an analysis and simulation tool developed by **Aquastructures**. The software calculates impacts on marine constructions subjected to different loads. Typical loads are current, wind, waves and loads caused by marine operations. **AquaSim** is used by companies working with aquaculture equipment, as well as companies operating in the oil and gas industry. Typical applications for **AquaSim** are mooring analyses and other structural analyses, net analyses and analyses of marine operations.

AquaSim is a cutting-edge analysis tool for flexible constructions, and is based upon many years of research at the Norwegian University of Science and Technology (NTNU) in Trondheim. The development of **AquaSim** started when the industry demanded analysis tools providing possibilities to simulate constructions deforming heavily when subjected to current, waves and wind. In existing analysis tools at that time, the constructions were assumed to be rigid bodies, which would give wrong results when calculating the occurring stresses in the structures and mooring.

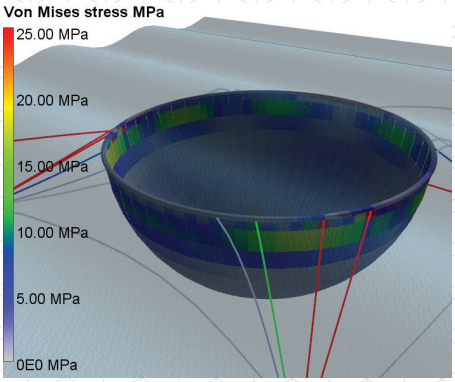


Net analyses

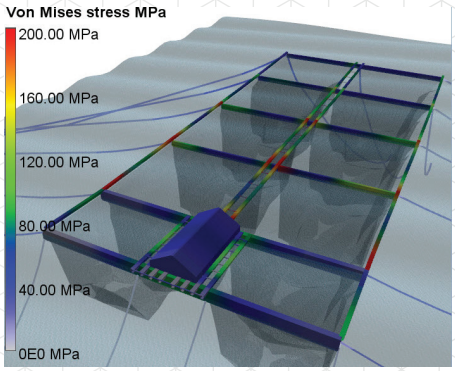


Mooring analyses

Most mooring analyses and structural analyses related to the Norwegian aquaculture industry is up to this date performed with the use of AquaSim. In **AquaSim**, one can easily construct a numerical model with mooring systems, floating collars and nets, in a graphical user interface. **AquaSim** has the possibility to simulate nets made from nylon or plastic, with or without lice skirts. Analyses can also be performed on constructions using impermeable nets, or other solid and/or stiff constructions consisting of e.g. plastic , glass fibre or concrete.



Impermable nets

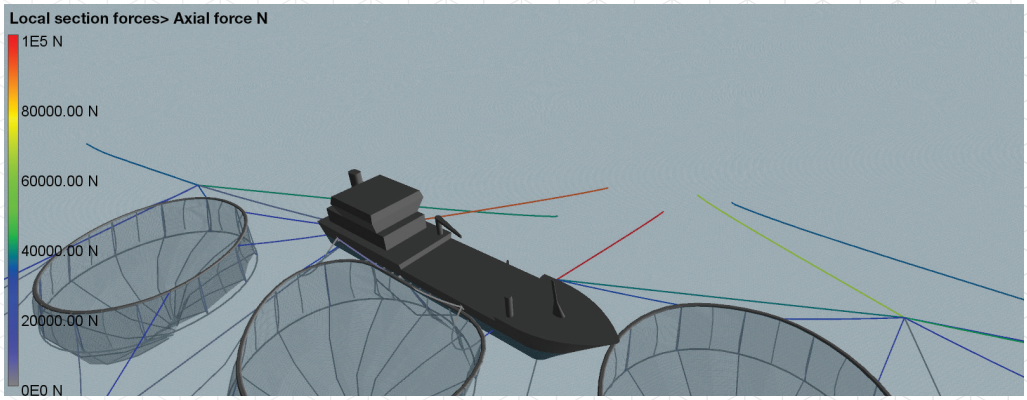


Global analyses

Typical areas of use:

- Mooring analyses
- Global analyses
- Net analyses
- Marine operations

In addition, aquasim can be used for a variety of other purposes, where it is desirable to visualize forces in structures.



Operations

AquaSim performs time domain simulations and calculates the interaction between stiff and flexible components of different materials, cross sections and elasticity. It is therefore an ideal tool for the analysis of plastic constructions or flexible steel constructions. **AquaSim** has been verified through a number of analytic studies, as well as model and full-scale experiments.

Aquastructures AS is Norway's leading supplier of engineering and certification services to the aquaculture industry.

We also own and develop the analysis tool **AquaSim**, which is used for calculations and visualizations of mooring systems, marine operations, structures etc.

We offer mooring analyses, product certifications, certification of aquaculture facilities, ROV inspections, site surveys and other engineering services.

aquastructures

Trondheim - Oslo - Bergen - Rørvik - Alta

Aquastructures AS
Kjøpmannsgata 21, N-7013 Trondheim
Tel: +47 73 83 17 47 • mail@aquastructures.no
www.aquastructures.no