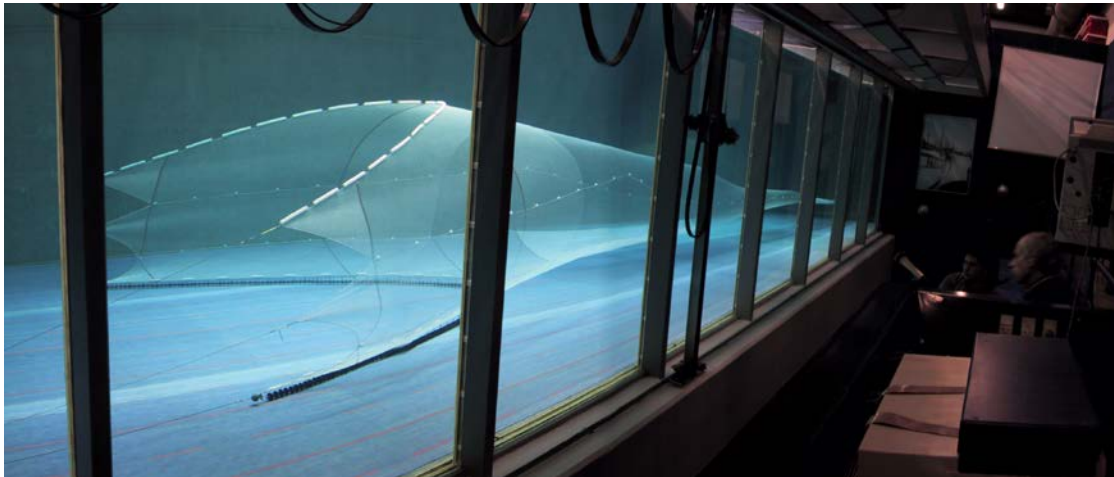


The North Sea Science Park Flume Tank

Managed and operated by SINTEF Ocean

Modern testing facility for fishing gear with a long history of servicing the net manufacturers and fishermen from all over the World



Technical information:

Dimensions

Over-all: L: 30, H: 6, W: 8 m
Measuring section 21.3, 2.7, 8 m.
Volume of water: 1200 m³.
Windows: 20 2x3 m

Propulsion

Four propellers and motors of 55 KW generate the flow.

Velocity

Maximum water speed: 1 m/s
Max. Simulated towing speed in scale 1:5: 4,5 knots
Max. Simulated towing speed in scale 1:20: 12 knots

Artificial bottom

Conveyer belt type made of nylon. Speed adjustable, can be locked with water speed.

Equipment for measuring

Object measuring: A full measurement of geometry in three dimensions is made by remote controlled video system.

Resistance and drag: Load cells using strain gauge technology. Series of load cells can measure strain from a few grams to 100 kg. Measurements are monitored by a data-logger system and converted to full-scale values.

Motion capture

Qualisys Track manager software combined with 6 underwater cameras and 6 above surface cameras is used for a full measurement of dynamic behaviour of solid and flexible test objects.

Lights

Above the tank: 18 x 150 W daylight LED floodlights.
Movable on a 3x2 m frame: 3 x 1.500 W floodlights.

Video

Movable cameras are permanently displaying: Front view, in colour, top view (two cameras for spread measuring), side view (for height measuring).
Video acquisition for documenting tests.
Underwater cameras positioned in the flume tank to visualise the test objects from different viewpoints.
PTZ cameras with far-end control capabilities via Zoom, for virtual participation in testing on a distance.

Associated facilities

Net loft

SINTEF has its own staff of skilled net makers and a net loft for constructing and altering the models.

Mechanical workshop.

SINTEF also has facilities for production of models of trawl doors and scale models of subsea structures like pipeline end terminals, pipeline end manifolds or other structures made in steel.

Activities and Services

Testing fishing gear

Trawl manufacturers and research institutions from all over the world have tested more than 800 different designs of fishing gear; mainly trawls, but also Danish seines, Scottish seines and gill nets.

Training and courses

The flume tank is ideal for demonstrating the performance of fishing gear for an audience. SINTEF run workshops for fishermen, researchers, administrators and others interested to know about fisheries technology, fishing gear performance, selectivity of cod-end and trawls, etc.

Test of aquaculture installations

Manufacturers of net cages and complete installations have used the facility of tests and demonstration purposes.

Test in still water, currents, waves and combination of waves and current. Behaviour documented by video footage and motion capture.

Research projects

The flume tank is a vital instrument in a vast number of research projects.

Testing subsea installations

Tests with subsea installations and fishing gear to investigate the impact when fishing gears are towed towards the installations.

Costs

The hire is calculated on an hourly basis, and is highly dependant on the range of services required: type of measurements, photos, video footage etc. Please ask for a quotation.

