

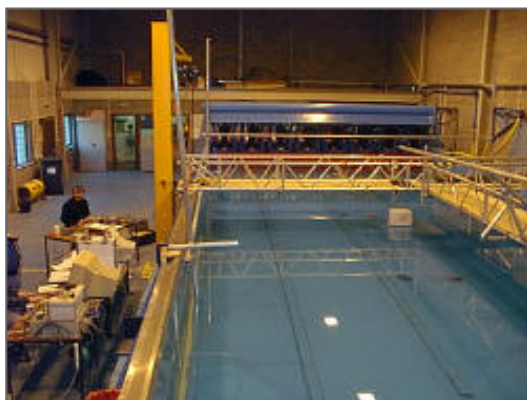
Archived News

:: New State of the Art Wave Tank 24/04/02

Our new multi-directional shallow water wave-tank facility is now in its final stages of commissioning. The new tank is 20m long x 6m wide x 1.5m deep. It is equipped with the latest displacement piston type wavemaker. The new wave tank is in addition to our single direction wave energy testing centre which we have been operating since 1995.

Verifying mathematical models with results from wave tank testing is essential for the development of wave energy devices. The new test facilities will enable us to intensify model testing of our floating wave energy devices.

The new wave tank is fitted with absorbing random piston wavemakers which use a displacement technique that allows perfect flat front piston action without using seals.



Multi-Directional Wave Tank Specification

:: Size

20m long x 6m wide x 1.5m deep

:: Wavemakers

Instrumentation & Software

- :: Industrial PC**
- :: 10 Channel strain gauge amplifier / conditioning unit**
- :: 6 Channels of water/wave height probe amplifiers**
- :: 2 x Analogue to Digital boards for 64 true differential channels.**
- :: Labtech Notebook and Instrunet software for data acquisition.**
- :: 6 motion response sensors**
- :: 12 x 250N Waterproof load cells**
- :: 12 x Linear Displacement Transducers**
- :: 2 x 500N Axial Load cells**
- :: 2 Tri-axial load cells (500N)**
- :: 10 IP68 rated miniature absolute pressure transducers (0-200mbar).**
- :: MKS Differential pressure transducers (+/-500 Pa)**
- :: MKS Differential pressure transducers (+/-100 torr)**
- :: Submersible Bi-axial Load Table, capacity 3kN (subject to detailed model layout)**
- :: Model making workshop**
- :: Video and stills photographic facilities**

Single Direction Wave Tank Testing Facilities

Wavegen's hydraulic laboratory has been specifically developed for measuring the performance of wave energy systems in the near shore and coastal environments. The absorbent wave paddle produces both regular and irregular wave, and can simulate extreme spectra at a scale of 40:1 at

8 independent piston wavemakers.
Each paddle is independently
driven by brushless AC servo
motor and supplied with force
absorption feedback control
electronics

:: **Seas**

Mixed, short crested

:: **Spectra**

Pierson Moskovitch, ISSC, Scott
Bretschneider, Neumann,
Gaussian, Mitsuyasu and
JONSWAP

water depths up to 20m. Real sea
conditions can be simulated for specific
locations worldwide.

Specification:

- :: Maximum depth at paddle 1.2m
- :: 3.7m wide Active paddle - AC
servo motor driven
- :: Floor dimensions - 18.3m x 3.7m
(60ft x 12ft)
- :: Standard Layout - Staged 1:25
- :: slope, wave absorbent beach and
walls

[back to Archived News](#) ..