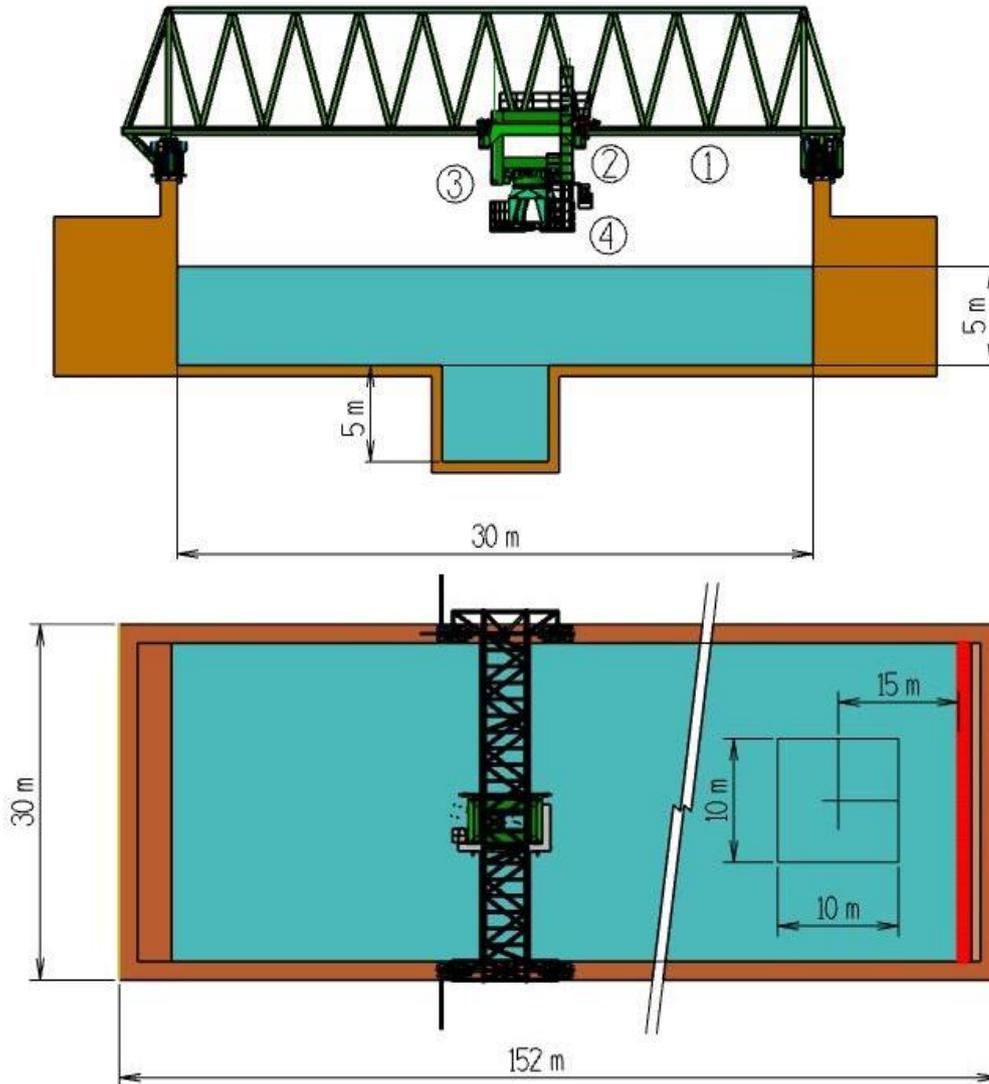


EL PARDO MODEL BASIN – CEHIPAR  
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CEHIPAR CANAL  
 DE EXPERIENCIAS  
 HIDRODINÁMICAS  
 DE EL PARDO

SHIP DYNAMICS LABORATORY (152 x 30 x 5 m)



- 1 Main carriage X-axis
- 2 Sub-carriage Y-axis
- 3 Incremental carriage  $\Delta X$
- 4 Turret  $\Psi$

**DESCRIPTION OF CARRIAGE**

The CPMC (Computerized Planar Motion Carriage) consists of a main carriage that runs over the total length of the tank and spans the full width of the basin. Beneath hangs the sub-carriage which sweeps the width of the tank.

	Under the sub-carriage the incremental carriage is capable to absorb the fastest model movements. All the system can rotate without limit in both directions thanks to the turret.
TYPE OF DRIVE SYSTEM AND TOTAL POWER	Electrical
MAXIMUM CARRIAGE SPEED	X – 4.3 m/s Y – 3.5 m/s $\Delta X$ – 1 m/s $\Psi$ – 30 °/s
OTHER CAPABILITIES	The height of the turret can be adjusted to the test requirements.
WAVE GENERATION CAPABILITY	The wave maker is located in one of the 30 m sides. Its 60 flaps with independent motion, together with the use of wall reflection allows the generation of all types of waves with a good quality and inside a wide useful area: <ul style="list-style-type: none"> <li>• Longitudinal and oblique regular waves with a length range of 1 – 15 m, heights up to 0.9 m, and directions up to 45°.</li> <li>• Long and short crested Seas with up to 0.37 m significant wave height.</li> <li>• Spectra of standard or arbitrary shape.</li> <li>• Reproduction of Wave Groupness Characteristics.</li> <li>• Episodic waves.</li> </ul>
WAVE MAKER TYPE AND EXTENT	Hydraulic.
BEACH TYPE AND LENGTH	In the opposite side of the wave generator, a steel chip beach is disposed.
METHOD OF IRREGULAR WAVE GENERATION	
OTHER CAPABILITIES	
INSTRUMENTATION	Dynamometers: 6-components, rudder, torque and thrust. Load cells for mooring lanes. Wave sensors and relative movement. Accelerometers. Surface and underwater video tape systems. Pressure collectors, etc.
MODEL SIZE RANGE	2 – 4.5 m.
MODEL TRACKING TECHNIQUES	Optical tracking system that allows measuring the 6 movements of a model without contact. Two techniques are employed: automatic tracking of a predefined path or free model tracking.
TEST PERFORMED	Seakeeping tests in waves and wind from arbitrary direction.

OTHER REMARKS	Resistance and self-propulsion tests in calm water and waves. Force oscillating tests in calm water and waves in any of the 6 degrees of freedom. Captive or free sailing manoeuvring tests in calm water and waves. Test on offshore platforms, moored objects, etc.
PUBLISHED DESCRIPTION	Not available.