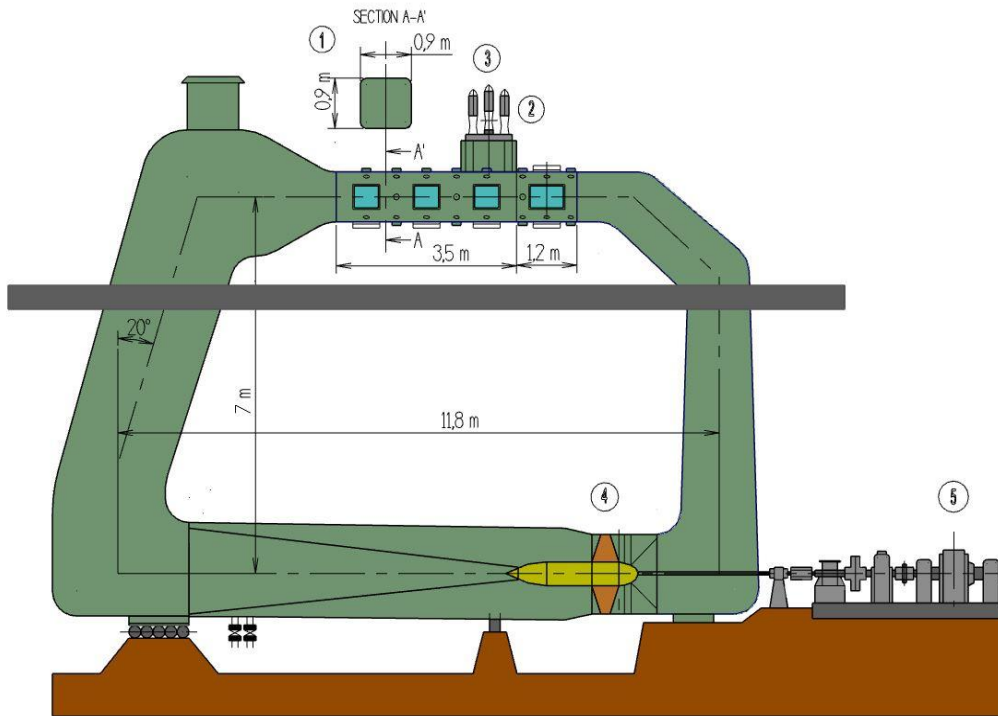


EL PARDO MODEL BASIN – CEHIPAR
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CEHIPAR CANAL
 DE EXPERIENCIAS
 HIDRODINÁMICAS
 DE EL PARDO

CAVITATION TUNNEL



- 1 Test section
- 2 Thrust and torque dynamometer
- 3 Propeller motor
- 4 Axial flow impeller
- 5 Impeller motor

DESCRIPTION OF FACILITY	Vertical plane, closed recirculating, variable speed and pressure, de-aerator.
TYPE OF DRIVE SYSTEM	1.5 m diameter fixed pitch four-blade axial flow impeller. 220 kW, 300 rpm.
TOTAL MOTOR POWER	220 kW, 3000 rpm
WORKING SECTION MAX. VELOCITY	11 m/s Characteristics: rectangular 0.9 m x 0.9 m with rounded corners, length 3.5 m.
MAX. & MIN. ABS. PRESSURES	20 – 157 kPa
CAVITATION NUMBER RANGE	$\sigma_n = 0.32 - 13$

INSTRUMENTATION	<ul style="list-style-type: none"> - Dynamometer (60 kW). - 5-hole pitot tube. - Laser – Doppler velocity scanner. - Hydrophones and pressure transducers. - Accelerometers. - Strobe lights. - High speed camera system
TYPE AND LOCATION OF TORQUE AND THRUST DYNAMOMETER	<p>Thrust range: ± 12250 N Torque range: ± 1100 N</p>
PROPELLER OR MODEL SIZE RANGE	150 – 450 mm
TEST PERFORMED	<p>Cavitation observation test and cavitation inception test in uniform flow and non-uniform flow by wire mesh screen and behind dummy model.</p> <p>Nominal and effective wake measurements.</p> <p>Hull pressure fluctuation measurements.</p> <p>Propeller noise measurements and analysis.</p> <p>Thrust and torque measurements.</p> <p>Erosion prediction test with soft surface blades models.</p> <p>Tilted propellers performance test and analysis (up to 12°).</p> <p>Appendages tests.</p>
OTHER REMARKS	
PUBLISHED DESCRIPTION	De Mazarredo Beutel, L., “ <i>El túnel de cavitación</i> ”. Revista Ingeniería Naval, 1954.