

University of Southampton R.J.Mitchell Wind Tunnel

LS7

<p>Location: University of Southampton</p>	<p>Designation: Low Speed Closed Return</p>
<p>Owner(s): Engineering and the Environment University of Southampton Highfield, Southampton, SO17 1BJ United Kingdom</p>	<p>Performance: Mach Number: 0.15 (max) Maximum Flow Speed: 50 m/s Reynolds No: 3.64×10^6/m (max) Total Pressure: Ambient. Dynamic Pressure: Up to 1.58 kN/m² Total Temperature: Ambient t 292K. Turbulence intensity: < 0.2% Run Time: Continuous Typical Recharge Time: n/a.</p>
<p>Test Section Size: 3.6m x 2.5m x 10.5m 5:1 contraction ratio.</p>	
<p>Operational Status: Active</p>	<p>Testing Capabilities: Model Support: 6-component overhead balance with various mounting options, underfloor 2-component balance and two point motorised strut for vehicle work. Data Acquisition: multichannel simultaneous data acquisition. Outputs: Forces and moments; pressure, velocity (Stereo PIV, hot wire anemometry). Flow visualisation: Smoke, video, surface fluorescent oilflow.</p>
<p>Number and Type of Staff: Scientific: 5 Technical Support: 5+</p>	
<p>Test support: Workshop for wind tunnel model design, manufacture and modification capability.</p>	
<p>Notes: Formerly at Farnborough the tunnel was moved to Southampton in the 1980s to accommodate extensive motorsport work.</p> <p>Specialist Rigs:</p> <ul style="list-style-type: none"> • Rolling road (up to 40m/s) with dual stage boundary layer suction. • Dynamic model motion and acquisition systems have been developed previously and a new system is currently being manufactured. • Rotor rigs have been developed and used in this tunnel as well as propeller/rudder rigs. 	