

Imperial College 10x5 Low Speed Wind Tunnel

LS6

<p>Location: London</p>	<p>Designation: Low Speed Closed Return</p>
<p>Owner(s): Imperial College Aeronautics, Exhibition Road, London SW7 2AZ</p>	<p>Performance: Mach Number: 0.14 (max) Maximum Flow Speed: 45 m/s Reynolds No: 3.1×10^6/m (max) Total Pressure: Ambient Dynamic Pressure: up to 1.2 kN/m² Total Temperature: Ambient Turbulence intensity: 0.15% or better Run Time: Continuous Typical Recharge Time: n/a.</p>
<p>Test Section 1 Size: 3.14m x 1.52m x 20 m 3.41:1 contraction ratio.</p> <p>Test Section 2 (Return) Size: 5.8 m x 2.7 m x 17 m</p>	<p>Testing Capabilities: Model Support: internal 6-component sting mounted balance (20° yaw range turntable). Underfloor turntable +20deg yaw Rolling Road: 2.1m x 1.8m rubber/fabric belt, 45m/s, water cooled, variable profile belt suction system, twin variable speed boundary layer flow-control ahead of road. Data Acquisition: National Instruments multichannel ADC, 64 channel Pressure scanning. Outputs: Forces & moments, pressure, velocity (LDA, LDV, PIV). Flow visualisation: Video, surface fluorescent oilflow, smoke wand.</p>
<p>Operational Status: Active</p>	
<p>Number and Type of Staff: Scientific: n/k Technical Support: 1 – 5 technicians</p>	
<p>Test support: Fully equipped workshop for wind tunnel model design, CNC 4-axis mill, CNC 3-axis mill, CNC Lathe, CNC etching and cutting, a range of rapid prototyping manufacture and modification capability, 3D CAD support and drafting.</p>	
<p>Specialist Rigs:</p> <ul style="list-style-type: none"> • Air blowing: 10 bar max pressure. • Fully automated Road Vehicle testing to 50% scale models. • Automated Traverse system • Model motion control system (automated pitch, manual roll and yaw) • Full atmospheric boundary layer simulation capability. 	