



Imperial College 10x5 Low Speed Wind Tunnel

LS6

Location: London	Designation: Low Speed Closed Return
Owner(s): Imperial College Aeronautics, Exhibition Road, London SW7 2AZ	Performance: Mach Number: 0.14 (max) Maximum Flow Speed: 41 m/s Reynolds No: $3.1 \times 10^6/m$ (max) Total Pressure: Ambient Dynamic Pressure: up to 1.2 kN/m ² Total Temperature: Ambient Turbulence intensity: 0.15% or better Run Time: Continuous Typical Recharge Time: n/a.
Test Section 1 Size: 3.04m x 1.52m x 20 m 3.41:1 contraction ratio. Max speed: 41 m/s. Test Section 2 (Return) Size: 5.7 m x 2.8 m x 18 m Max. speed: 12 m/s.	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, 41m/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.
Operational Status: Active	
Number and Type of Staff: Scientific: n/k Technical Support: 1 – 5 technicians	
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.	
Specialist Rigs: <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.	