

# Cranfield University 8 x 6 Low Speed Wind Tunnel

## LS2

<p><b>Location:</b> Cranfield, Bedfordshire</p>	<p><b>Designation:</b> Low Speed Closed Return</p>
<p><b>Owner(s):</b> School of Engineering Cranfield University Bedfordshire, MK43 0AL United Kingdom</p>	<p><b>Performance</b>  <b>Mach Number:</b> 0.15 (max)  <b>Maximum Flow Speed:</b> 5 – 50m/s  <b>Reynolds No:</b> <math>3.6 \times 10^6</math> /m (max).  <b>Total Pressure:</b> Ambient  <b>Dynamic Pressure:</b> up to 1.5 kN/m<sup>2</sup>  <b>Total Temperature:</b> Ambient  <b>Turbulence intensity:</b> &lt; 0.1%  <b>Run Time:</b> continuous.  <b>Typical Recharge Time:</b> n/a.</p>
<p><b>Test Section Size:</b> 2.4m x 1.8m. 7:1 Contraction ratio</p>	
<p><b>Operational Status:</b> Operational</p>	
<p><b>Number and Type of Staff:</b>  <b>Scientific:</b> n/k  <b>Technical Support:</b> 1 – 2 technicians</p>	
<p><b>Test support:</b> Workshop for wind tunnel model design, manufacture and modification capability.</p>	
<p><b>Specialist Rigs:</b></p> <ul style="list-style-type: none"> <li>• Quadrant for sting mounting.</li> <li>• High pressure air system for flow control (blowing and suction).</li> <li>• Rolling road (1.2m x 2.77m) for airspeeds up to 45m/s, with two stage boundary layer extraction system.</li> <li>• Automated active strut system for automotive models.</li> </ul>	<p><b>Testing Capabilities:</b>  <b>Model Support:</b> 6-component overhead balance on 360° rotating roof mounted turntable. Internal 6-component balance. 6-component under-floor balance on rotating floor turntable (<math>\pm 25^\circ</math> yaw). Four independent wheel drag load cells.  <b>Data Acquisition:</b> multiple channel high speed data acquisition system.  <b>Outputs:</b> Forces and Moments, pressure and velocity (PIV, 4-channel hot wire anemometer).  <b>Flow visualisation:</b> Multiple smoke filament flow seeding, high speed video, surface oilflow.</p>