



# University of Southampton Anechoic Wind Tunnel LS8

<b>Location:</b> Southampton	<b>Designation:</b> Anechoic Wind Tunnel
<b>Owner(s):</b> University of Southampton Southampton SO17 1BJ United Kingdom	<b>Performance:</b> <b>Mach Number:</b> 0.23 <b>Maximum Flow Speed:</b> 80 m/s <b>Reynolds No:</b> $5.4 \times 10^6/m$ <b>Total Pressure:</b> 1.04 bars <b>Dynamic Pressure:</b> Up to $3.9 \text{ kN/m}^2$ <b>Total Temperature:</b> Ambient to 296K <b>Turbulence intensity:</b> n/k <b>Run Time:</b> Continuous <b>Typical Recharge Time:</b> n/a.
<b>Test Section Size:</b> 1.0m x 0.75m ~8:1 contraction ratio. <b>Anechoic Chamber Size:</b> 8.15m x 5.5m x 4.75m	<b>Testing Capabilities:</b>  <b>Acoustic:</b> Farfield microphones and phased microphone array <b>Flow visualisation:</b> Video, surface fluorescent oilflow. <b>Aerodynamic loads:</b> Capability to measure surface pressures and loads <b>Laser Measurements:</b> Capability to perform particle image velocimetry measurements
<b>Operational Status:</b> Under construction	
<b>Number and Type of Staff:</b> <b>Scientific:</b> 5-8 <b>Technical Support:</b> 1-2	
<b>Test support:</b> Workshop for wind tunnel model design, manufacture and modification capability.	
<b>Specialist Rigs:</b> <ul style="list-style-type: none"><li>• Arc of farfield microphones that can be traversed to obtain comprehensive directivity information</li><li>• Simultaneous microphone array and laser diagnostics</li><li>• It will be a unique facility within the UK that is able to conduct airframe noise and loads tests, as well as some specialist propulsive (engine) research</li></ul>	