University of Southampton Anechoic Wind Tunnel

LS8

Location: Southampton

Designation: Anechoic Wind Tunnel

Owner(s):
University of Southampton
Southampton
SO17 1BJ
United Kingdom

Performance:
Mach Number: 0.23
Maximum Flow Speed: 80 m/s
Reynolds No: 5.4×10^6/m
Total Pressure: 1.04 bars
Dynamic Pressure: Up to 3.9 kN/m^2
Total Temperature: Ambient to 296K
Turbulence intensity: n/k
Run Time: Continuous
Typical Recharge Time: n/a.

Test Section Size: 1.0m x 0.75m
~8:1 contraction ratio.
Anechoic Chamber Size: 8.15m x 5.5m x 4.75m

Operational Status: Under construction

Testing Capabilities:

Acoustic: Farfield microphones and phased microphone array
Flow visualisation: Video, surface fluorescent oilflow.
Aerodynamic loads: Capability to measure surface pressures and loads
Laser Measurements: Capability to perform particle image velocimetry measurements

Number and Type of Staff:
Scientific: 5-8
Technical Support: 1-2

Test support:
Workshop for wind tunnel model design, manufacture and modification capability.

Specialist Rigs:

- **Arc of farfield microphones that can be traversed to obtain comprehensive directivity information**
- **Simultaneous microphone array and laser diagnostics**
- **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**