Cranfield University 8'x 4' Boundary Layer Wind Tunnel

LS3

Location: Cranfield, Bedfordshire

Designation: Low Speed
Open Return

Owner(s):
School of Engineering
Cranfield University
Bedfordshire, MK43 0AL
United Kingdom

Performance
Mach Number: n/a
Maximum Flow Speed: 0.5 – 16m/s
Reynolds No: 0.36 x 10_6 /m - 1.16 x 10_6 /m.
Total Pressure: Ambient
Dynamic Pressure: up to 162 N/m_2
Total Temperature: Ambient
Turbulence intensity: < 0.1%
Run Time: continuous.
Typical Recharge Time: n/a.

Test Section Size: 2.4m x 1.2m x 15m.

Operational Status: Operational

Number and Type of Staff:
Scientific: n/k
Technical Support: 1 – 2 technicians

Testing Capabilities:
Model Support: 6-component overhead balance. Computer controlled 3-axis traverse system. 360_o rotating floor mounted turntable.
Data Acquisition: multiple channel high speed data acquisition system.
Outputs: Forces and Moments, pressure and velocity (PIV, 4-channel hot wire anemometer).
Flow visualisation: Multiple smoke filament flow seeding, high speed video, surface oilflow. Hydrocarbon analyser for plume dispersion studies.

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

Specialist Rigs:
- Interchangeable turbulence grids and surface roughness elements for atmospheric boundary layer simulation.
- High pressure air system (blowing and suction).