Cranfield University 8 x 6 Low Speed Wind Tunnel

LS2

Location: Cranfield, Bedfordshire

Designation: Low Speed
Closed Return

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

Performance
Mach Number: 0.15 (max)
Maximum Flow Speed: 5 – 50m/s
Reynolds No: 3.6 x 10^6 /m (max).
Total Pressure: Ambient
Dynamic Pressure: up to 1.5 kN/m^2
Total Temperature: Ambient
Turbulence intensity: < 0.1%
Run Time: continuous.
Typical Recharge Time: n/a.

Test Section Size: 2.4m x 1.8m.
7:1 Contraction ratio

Operational Status: Operational

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

Testing Capabilities:
Model Support: 6-component overhead balance on 360° rotating roof mounted turntable. Internal 6-component balance. 6-component under-floor balance on rotating floor turntable (±25° yaw). Four independent wheel drag load cells.
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.

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

Specialist Rigs:
- Quadrant for sting mounting.
- High pressure air system for flow control (blowing and suction).
- Rolling road (1.2m x 2.77m) for airspeeds up to 45m/s, with two stage boundary layer extraction system.
- Automated active strut system for automotive models.