Automotive Wind Tunnel – Loughborough University

Location: Loughborough University, Epinal Way, LE11 3TU

Designation: Open circuit, closed throat, large wind tunnel for both automotive and aeronautical research.

Owner(s): Loughborough University, School of Aeronautical and Automotive, Chemical and Materials Engineering

Performance:

Mach Number: 0.15
Maximum Flow Speed: 50 m/s (Design speed: 45 m/s)
Reynolds No.: 3.44×10^6 /m
Total Pressure: Ambient
Dynamic Pressure: 1.5kPa
Total Temperature: Ambient
Turbulence intensity: 0.15%
Run Time: Continuous

Test Section Size: 1.92m (W) x 1.32m (H) x 3.6m (L) Contraction Ratio of 7.4:1

Operational Status: Active

Testing Capabilities:

- 6-component underfloor load balance
- 2D2C low-speed PIV
- 3D high-speed PTV
- 3D Tomographic PIV
- High-speed multi-hole probes
- 2C hotwire system
- 180 channel, 400Hz pressure transducer
- Unsteady pressure transducers

Test support:

Internal model manufacturing and printing facility.

Specialist Rigs:

- 6-Component, underfloor, virtual-centre balance (Maximum model weight is 30kg).
- Model rigs which cater for different aerodynamic models spanning automotive, sport and aerospace applications.