University of Manchester Hypersonic Wind Tunnel
HS5

Instrumentation

- Three component (Lift/Drag/pitch moment) sting balance on arc sector mount (Aerotech).
- High Speed (Phantom V310 or Photron SAZ) or High Resolution (Digital SLR or Basler Ace machine vision cameras) Schlieren System (arc lamp excitation). Versatile system with high magnification available.
- Model deformation and deflection measurements (LAVision)
- FLIR IR A65SC compact camera
- Four-camera tomographic PIV System with nanopowder seeding (LAVision). Stereoscopic PIV Systems (LAVision, Dantec, and TSI). Multiple PIV lasers, including light arms and fibre guides (up to 200mJ per pulse).
- Pressure-Sensitive Paint systems using ratiometric or lifetime measurements of single component or binary coatings (PCO).
- Unsteady pressure transducer measurements using Kulite rugged transducers.

Capabilities

- Steady and Unsteady PSP measurements
- Simultaneous shape and surface pressure measurements.
- Steady and unsteady background oriented schlieren measurements.
- Boundary layer transition measurements using TSP or IR.
- Powered models (inlet blockage) and drop testing.
- Floor and ceiling plenum mounts for models or instrumentation. Half or full model configurations.
- Optical access from side and above tunnel. Removable and reconfigurable plates. Germanium window in plenum roof for IR measurements using IR camera.
- Tunnel patch panel to mount lights, cameras, sensors inside section easily.