



University of Oxford T6 Free Piston Reflected Shock Tunnel

HS2

Location: Oxford	Designation: Hypersonic impulse facility
Owner(s): Osney Thermofluids Laboratory Department of Engineering Science University of Oxford Parks Road, Oxford, OX1 3PJ United Kingdom	Performance Working gas: Air, Mars, Titan, Venus, ... Mach Number: 6, 7 and 8 Maximum Flow Speed: 8 km/s Reynolds No: 50×10^6 /m Total Pressure: 75 MPa (max) Total Temperature: up to 5,000 K Turbulence intensity: not known Run Time: up to 3 ms Typical Turn Around Time: 1 hr
Test flow size: 0.2-0.3 m (diameter). Test section size: 0.9x0.9x1.2 m	
Operational Status: Under installation	Testing Capabilities: Model Support: Remote actuated support (+/- 20 degree AoA and +/-10 degree BoA) Data Acquisition: NI PXI –128 channels @ 2 MHz/channel. 4 Channel Oscilloscope up 5 GHz. Freeflight DAQ up to 6 channels, 20 kHz Data Ports: 3 x 35 channel Measurement hardware: Megahertz Schlieren at full HD resolution, laser based optics, high response pressure transducers, high response bespoke thin film heat transfer gauges, high current and voltage power supplies
Number and Type of Staff: Scientific: 3 Technical Support: 2	
Test support: Workshop for wind tunnel model design, manufacture and modification capability. Test Controller	
Specialist Rigs: Boundary layer stability and transition Supersonic/Hypersonic Intake Supersonic combustion studies Freeflight testing Thin Film Gauge sensitivity and frequency response calibration Pressure transducer sensitivity and frequency response calibration	