

Supersonic Tunnel No. 1&2 – Cambridge University

Location: Cambridge	Designation: Transonic/supersonic Open Return blow down
Owner(s): Cambridge University Engineering Department, Trumpington Street, Cambridge, CB2 1PZ	Performance: Mach Number: 0.6 - 3.5 Maximum Flow Speed: 650m/s Reynolds No: 20 - 60x10 ⁶ /m Total Pressure: 146 - 950 kPa Dynamic Pressure: n/a Total Temperature: 285 K Turbulence intensity: n/k Run Time: 30-60s Typical Recharge Time: 20 mins
Test Section Size: 0.12m x 0.2m x 0.6m NOTE: Two similar working sections supplied which can be used alternatively, however, one features semi-permanent custom transonic inlet lip incidence/crosswind test section	
Operational Status: Active	Testing Capabilities: Model support: 3-component sting balance. Data Acquisition: Multiple channel simultaneous data acquisition. Pressure sensitive paint (steady flows), laser-based flow diagnostics (PIV and LDA) Outputs: Forces & moments, pressure (3-hole and 5-hole Pitot probes), surface pressure (tappings and PSP) and velocity (3-component LDA, 2-component PIV) Flow visualisation: high-speed shadowgraph and schlieren imaging, surface oil flow, liquid crystals, pressure sensitive paint.
Number and Type of Staff: Scientific: 1+ Technical Support: 1/2	
Test support: Workshop for wind tunnel model design, manufacture and modification capability	
Specialist Rigs: Ejector system for boundary layer suction in working section Transonic engine inlet rig (high incidence and cross-wind capability)	