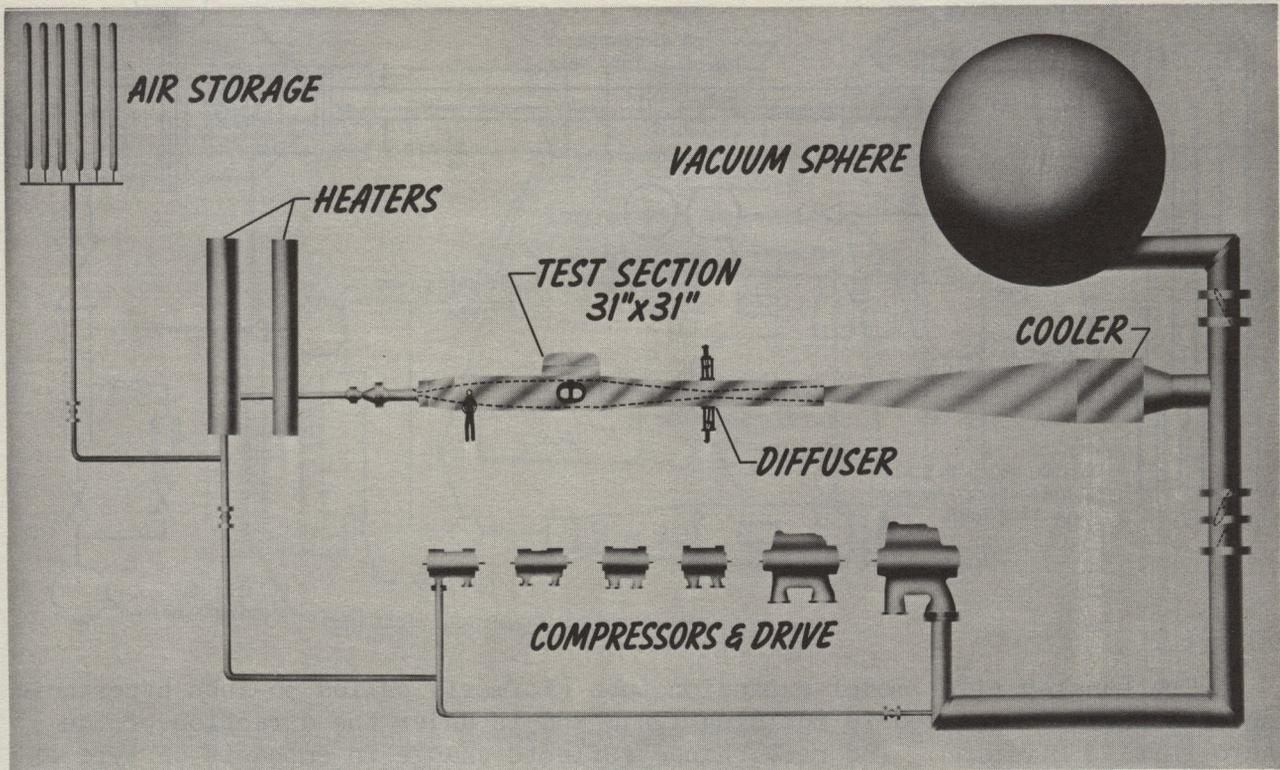


LANGLEY CONTINUOUS-FLOW HYPERSONIC TUNNEL



L-1990

The Langley continuous-flow hypersonic tunnel is located in Building 1251 and is under the direction of the Aero-Physics Division. This tunnel is used for heat-transfer and aerodynamic tests at Mach number 10 and Mach number 12. The test medium is air, heated by an electrical resistance heater. Model mounting allows for variable angles of attack and yaw on models up to 13 inches in span and 5 feet in length. There are two 31-inch-square interchangeable test sections for Mach number 10 and Mach number 12. The tunnel is closed circuit with vacuum tank for starting. Examples of operating conditions are as follows: Mach number 10 nozzle has been run over a pressure range from 15 to 100 atm (150 atm capability), at 1400° F and Reynolds numbers per foot from  $0.5 \times 10^6$  to  $1.7 \times 10^6$ . At 26-atm pressure, the calibrated Mach number was 10.1, with a test core 14 inches square. The Mach number 12 nozzle has only been run blow-down (20-second run). At 60 atm and 1900° F, the calibrated Mach number was 11.9 with a test core of 9 inches.