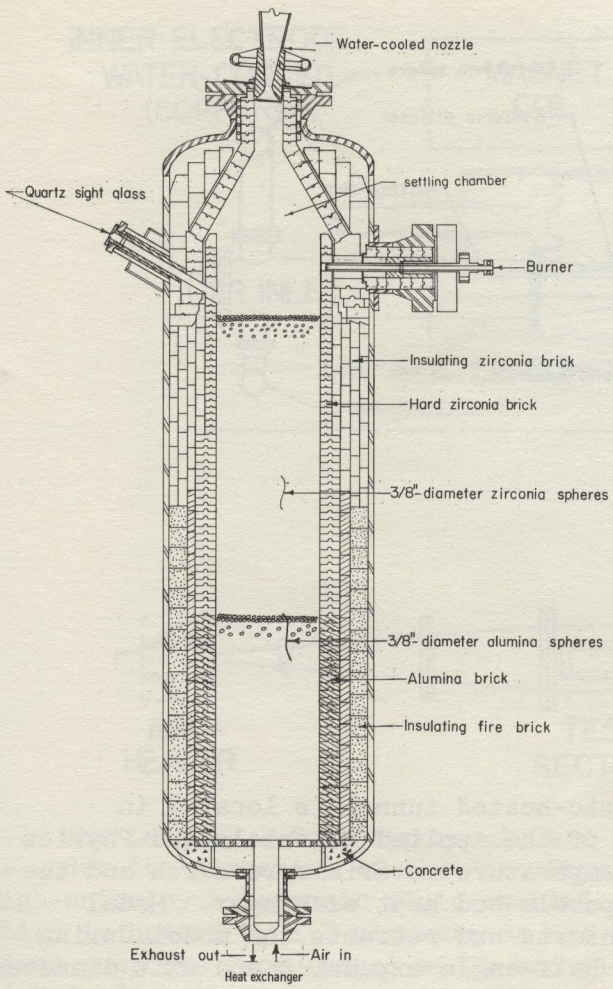
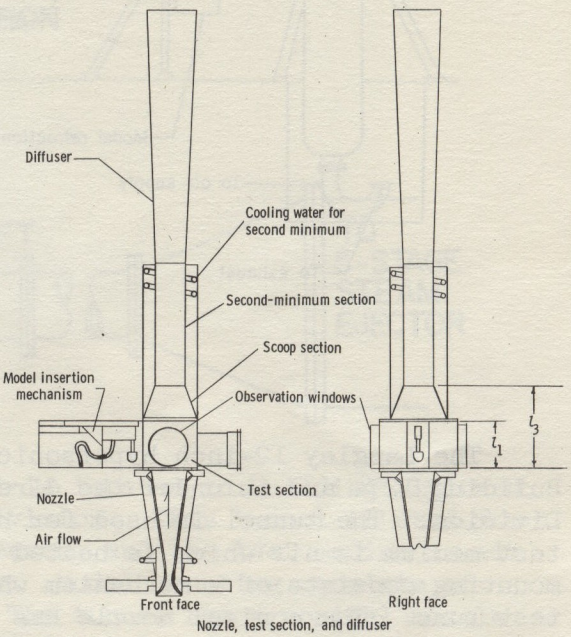
LANGLEY 11-INCH CERAMIC-HEATED TUNNEL





Nozzle, test section, and diffuser

The Langley 11-inch ceramic-heated tunnel is located in Building 1263 and is under the direction of the Applied Materials and Physics Division. The tunnel is used for high-temperature materials research, and the test media are air and nitrogen heated by a zirconia pebble-bed heat exchanger. Model mounting consists of a water-cooled model insertion mechanism to insert and retract the models during a test run. The facility consists of three nozzle systems. The Mach number 2 and Mach number 4 systems are free jets exhausting into the atmosphere. The Mach number 6 system has an open jet test section and diffuser exhausting into the atmosphere. Mach number 2 and Mach number 4 nozzles are contoured nozzles, and Mach number 6 nozzle is a conical nozzle. Operating conditions for the nozzle systems are as follows:

Mach number	2	4	6
Stagnation pressure, psia	115	800 to 1200	700 to 1200
Stagnation temperature, ^{o}R	2400 to 4000	2400 to 4000	2400 to 4000
Nozzle exit diameter, in.	1.30	4.0	10.6