



LANGLEY RESEARCH CENTER

FACILITY LOCATION Hampton, Virginia 23665
 FACILITY NUMBER 585
 FACILITY NAME 6-Inch x 19-Inch Transonic Tunnel
 FUNCTIONAL NAME Wind Tunnel, Transonic, 2-Dimensional, 6-In. x 19-In.
 TECHNOLOGICAL AREAS Two-dimensional airfoils; pressure distribution, wake surveys, schlieren flow photographs

INITIAL COST	\$ 50 K (est)	YR. BUILT	1935	STATUS CODE	Active
ACCUM. COST	\$ 222 K	NASA B.O.D.	1971	OWNER CODE	NASA
LIFE EXPECT.	10 Yrs.			OPER. CODE	NASA

CONTRACTOR NAME
 (if contr. oper.)

POTENTIAL

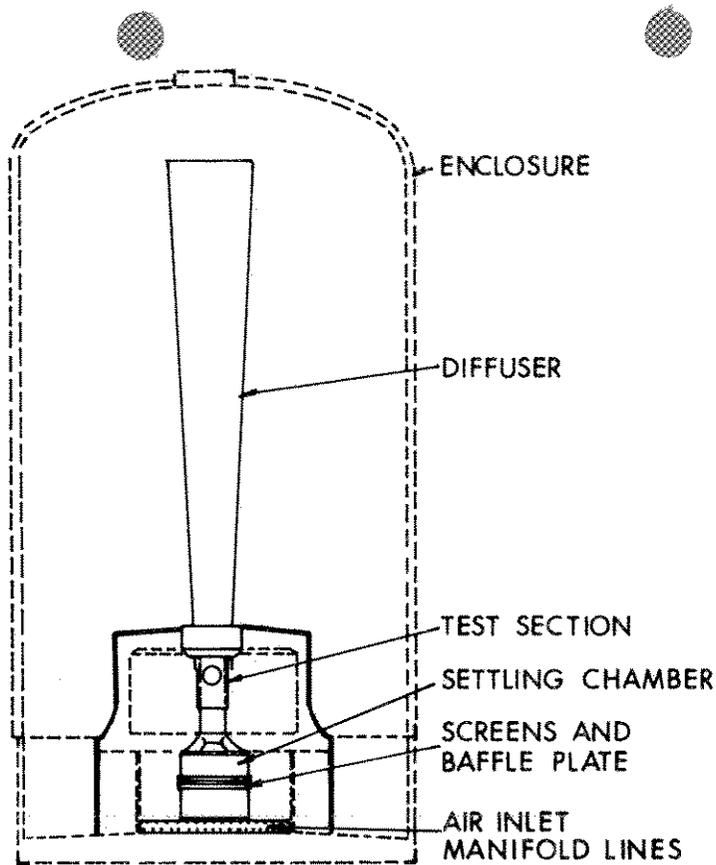
PLANS

OTHER INFO SOURCES Description and Calibration of the Langley 6 x 19-Inch Transonic Tunnel, NASA TN D-7182, 1973

COGNIZANT ORG. High-Speed Aircraft Division
 COMPONENT

LOCAL CONTACT FOR FURTHER INFO Chief, Research Facilities Engineering Division, Code 56.000; (804) 827-3171

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DESCRIPTION

This tunnel is a 2-dimensional facility with solid parallel sidewalls and slotted top and bottom walls. A supply of dry, compressed air provides blowdown operation. Time to pressurize the supply tanks is about 1-1/2 hr. The Mach number is varied by changing the stagnation pressure; thus there is no independent control of the Reynolds number. Angle of attack is set manually between runs. Typical models have a chord of 4 in. and span the 6-in. width of the tunnel.

CHARACTERISTICS

Mach Number: 0.5 to 1.2

Stagnation Pressure, psia: 17 to 30

Stagnation Temperature, °R: 450 to 530

Reynolds Number (based on 4-in. chord): 1.5×10^6 to 3.0×10^6

Running Time, sec: 240