

LANGLEY RESEARCH CENTER

FACILITY LOCATION Hampton, Virginia 23665
FACILITY NUMBER 1251
FACILITY NAME Unitary Plan Wind Tunnel
FUNCTIONAL NAME Wind Tunnel, Unitary Plan
TECHNOLOGICAL AREAS Force, moment, pressure-distribution, and heat transfer studies

INITIAL COST	\$ 15,427 K	YR. BUILT	1951	STATUS CODE	Active
ACCUM. COST	\$ 26,095 K	NASA B.O.D.	1952	OWNER CODE	NASA
LIFE EXPECT	Indef.			OPER. CODE	NASA

CONTRACTOR NAME
(if contr. oper.)

POTENTIAL

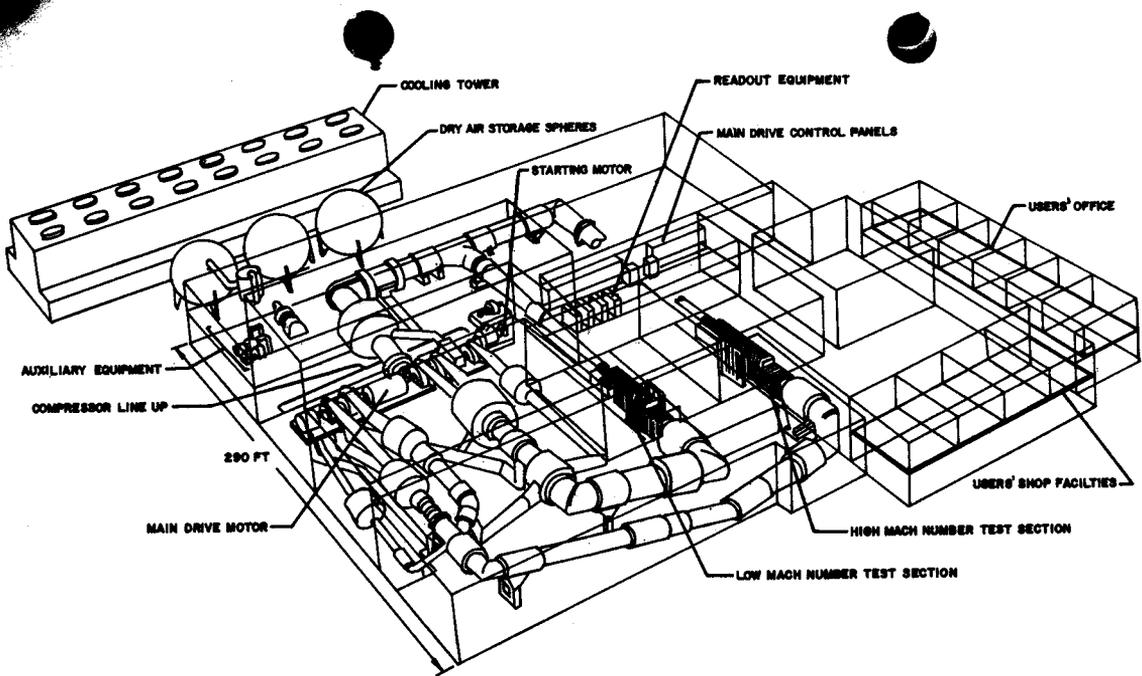
PLANS

OTHER INFO SOURCES Manual for Users of the Unitary Plan Wind Tunnel Facilities of the National Advisory Committee for Aeronautics, 1956

COGNIZANT ORG. High-Speed Aircraft Division
COMPONENT

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

January 1974



DESCRIPTION

The test medium is air. Model mounting consists of various sting arrangements: axial, lateral, and rotary movement, and side-wall support. There are 2 test sections, each 4 ft x 4 ft x 7 ft long.

The normal operating temperature is approximately 150°F with heat bursts to 300°F available for heat-transfer studies.

CHARACTERISTICS

Test Section Number 1

Mach Number:	1.47	to	2.86
Stagnation Pressure, psia:	3.0 to 27		3.0 to 45
Dynamic Pressure, lb/ft ² :	186 to 1670		83 to 1250
Reynolds Number, per ft:	0.78 x 10 ⁶		0.42 x 10 ⁶
	to		to
	7.05 x 10 ⁶		6.32 x 10 ⁶

Test Section Number 2

Mach Number:	2.29	to	4.63
Stagnation Pressure, psia:	3.0 to 26		15.0 to 125
Dynamic Pressure, lb/ft ² :	128 to 1115		95 to 794
Reynolds Number, per ft:	0.57 x 10 ⁶		0.81 x 10 ⁶
	to		to
	4.94 x 10 ⁶		6.81 x 10 ⁶