

8-Foot High Temperature Tunnel

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Activity:

National Aeronautics and Space Administration
Langley Research Center

HAMPTON , Virginia 23681
United States

Updated as of: Mar 20, 1996

Facility Type:

- [Propulsion Testing](#)
- [Wind Tunnels](#)
- [Wind Tunnels, Hypersonic](#)

Description:

The 8-Foot High Temperature Tunnel is a true-temperature hypersonic blowdown facility that achieves the required energy levels by burning methane in air under pressure. The combustion gases can also be enriched with oxygen to produce a 21 percent oxygen test medium. The facility's size, testing range, and long run times make it unique in its ability to test propulsion systems, to verify structural components, and provide detailed aerothermal loads definition at flight conditions. The facility has Mach 4 and Mach 5 nozzles, and oxygen enrichment capability. The facility is supported by 6000 psi air and methane storage, LOX, hydrogen, and silane systems. Other supporting systems include automated control, 1556 channel data, acquisition and processing, and real-time and post-run display systems.

Available data file(s)

- [Hypersonic Wind Tunnel Facilities](#)

Facility Capability:

- [hypersonic tunnel](#)
- [propulsion research test](#)
- [scramjet test](#)
- [wind tunnel/hypersonic](#)

Parameters:

Name	Unit of Measure	Values		Type
<u>altitude simulation</u>	feet	60000.0	130000.0	Range
<u>dynamic pressure</u>	pounds/sq-foot	250.0	1800.0	Range
<u>mach #</u>	unitless	4.0	7.2	Range
<u>reynolds #</u>	millions per foot	0.3	2.5	Range
<u>run time</u>	seconds	1.0	120.0	Range
<u>test section diameter</u>	feet	8.0	8.0	Discrete
<u>test section length</u>	feet	12.0	12.0	Discrete
<u>total pressure</u>	psia	160.0	3500.0	Range
<u>total temperature</u>	degrees-rankine	1640.0	3560.0	Range

Programs Supported:

Program	Customer	Start	End
<u>Space Shuttle</u>	<u>National Aeronautics and Space Administration</u>	1975	1988
<u>DOD Reentry Vehicles</u>	<u>Department of Defense</u>	1975	1988
<u>NASP CDE</u>	<u>USAF/NASA</u>	1993	1995

Status:

Percent Utilization: 100%
Based On: 2
Occupancy Year: 1960
Current Status: Active
Condition: Good
Non Owner Use: Yes
Military: Yes
Civilian Government: Yes
Commercial: Yes

Contact:

For information concerning the facility described on this page contact:

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[Return to the Major Facility Home Page.](#)