



NASA's Strategic Capabilities Assets Program

NASA GODDARD SPACE FLIGHT CENTER FACILITY 238 THERMAL VACUUM CHAMBER



Facility 238 at the Goddard Space Flight Center is a vertical thermal vacuum test chamber used for thermal vacuum and thermal balance testing, as well as for the bakeout of large test items. Test articles are normally loaded through the top of the chamber using the building crane; however, smaller payloads can be transported through the personnel entrance. Ports for electrical feedthroughs, liquid and gas penetrations, and viewing are located around the perimeter of the chamber. A clean tent at the chamber entrance provides a class 10,000 clean area.

TECHNICAL SPECIFICATIONS

Test pressure	1 x 10 ⁻⁶ Torr
Shroud temperature	
GN ₂ mode	-120 °C to +115 °C
LN ₂ mode	-190 °C
Chamber pumping speed	6.0 x 10 ⁴ liters/second

INTEGRAL INSTRUMENTATION

Pressure	Capacitance manometer (2)
	-Atm to 1 x 10 ⁻³ Torr
	Ion gauge 10 ⁻³ Torr to ultimate
Payload temperature	360 thermocouple channels
Contamination monitor	2 TQCMs, coldfinger, residual gas analyzer, scavenger plate

PHYSICAL CHARACTERISTICS

Test volume	3.4 meters in diameter x 4.3 meters high
Payload support	2,000 kilograms
Instrumentation ports	1 port 48 centimeters in diameter
	3 ports 28 centimeters in diameter

CONTACT INFORMATION

Ed Packard
NASA Goddard Space Flight Center
(301) 286-8747
E-mail: Ed.Packard@nasa.gov