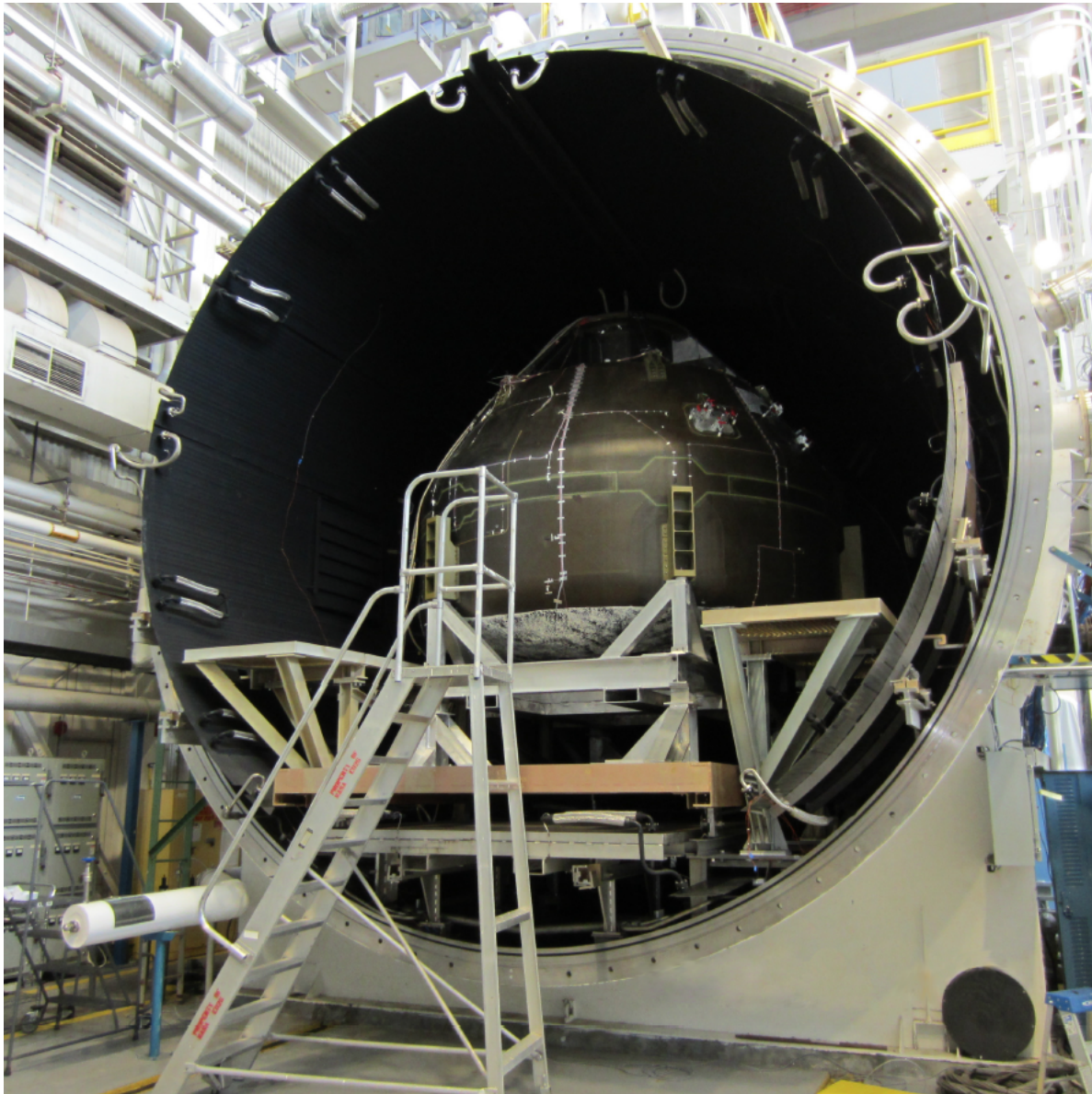


ETF V20



Chamber V-20 is a 20-foot thermal vacuum facility located at the NASA Marshall Space Flight center (MSFC) Environmental Test Facility (ETF) in Huntsville, AL. The pumping system for V-20 includes three 36-inch cryopumps, and three turbopumps. With its large vacuum capacity, V-20 is manifolded to other chambers to enable simulation of rapid depressurization typical of a vehicle launch. Chamber V-20 previously housed the International Space Station (ISS) Common Berthing Mechanism (CBM). This test setup was responsible for the assembly-level qualification test of the CBM required prior to its purchase from Boeing by NASA. During missions utilizing a CBM, V-20 was brought to conditions simulating the ISS orbit, and the CBM inside was used to simulate activities on orbit. Any problems encountered on orbit could be quickly simulated and resolved at MSFC, thereby providing real-time guidance to the ISS astronauts. The ETF and Boeing supported three successful missions in this manner. More recently, this chamber was also used to perform leak tests on the Orion Composite Crew Module.

Facility Capabilities:

Overall Dimension:	20' dia. x 28' deep
Test Article Area:	17' wide x 22' deep (see illustration)
Data System:	Pacrats IFIX
Temperature Range:	-170C to +200C
Pressure:	1×10^{-6} torr
Thermocouples:	486
LN ₂ Shroud:	Yes
Lamps:	9 Zones, 6x 1,600 watt IR Bulbs ea.
RGA:	Yes
TQCM:	Yes
Internal Camera:	IR and Color