

MARTE (Mars Simulation Chamber)

Objectives

Testing instruments and devices in Mars atmosphere and similar climate conditions, including powder generator. Space qualification of instrumentation. DHMR, and outgassing control in planetary protection procedures.

Environmental conditions

- Temperature range: From 80K to 450K in sample holder computer controlled.
- Temperature in the atmosphere range from 200K to 400K
- Atmosphere: vacuum base pressure 10^{-7} mbar by Turbo pump (LF flanges). Pressure stable until 3 mbar.
- Irradiation: Deuterium lamp, and 6 halogen lamps to simulate sun illumination at different azimuths

Technical parameters

- Dust storm module (Fe particles)
- Rotary and Turbo pumps
- Cooling by IN_2 , and heating by conduction and radiation
- Sample size: should fit on a 205mm x 205mm optical table. Maximum height 400mm
- Modular chamber, (diameter 500mm), possible to modified the volume in few hours
- Easy to connect electronic components.

