



université PARIS-SACLAY

THERMIC TESTS

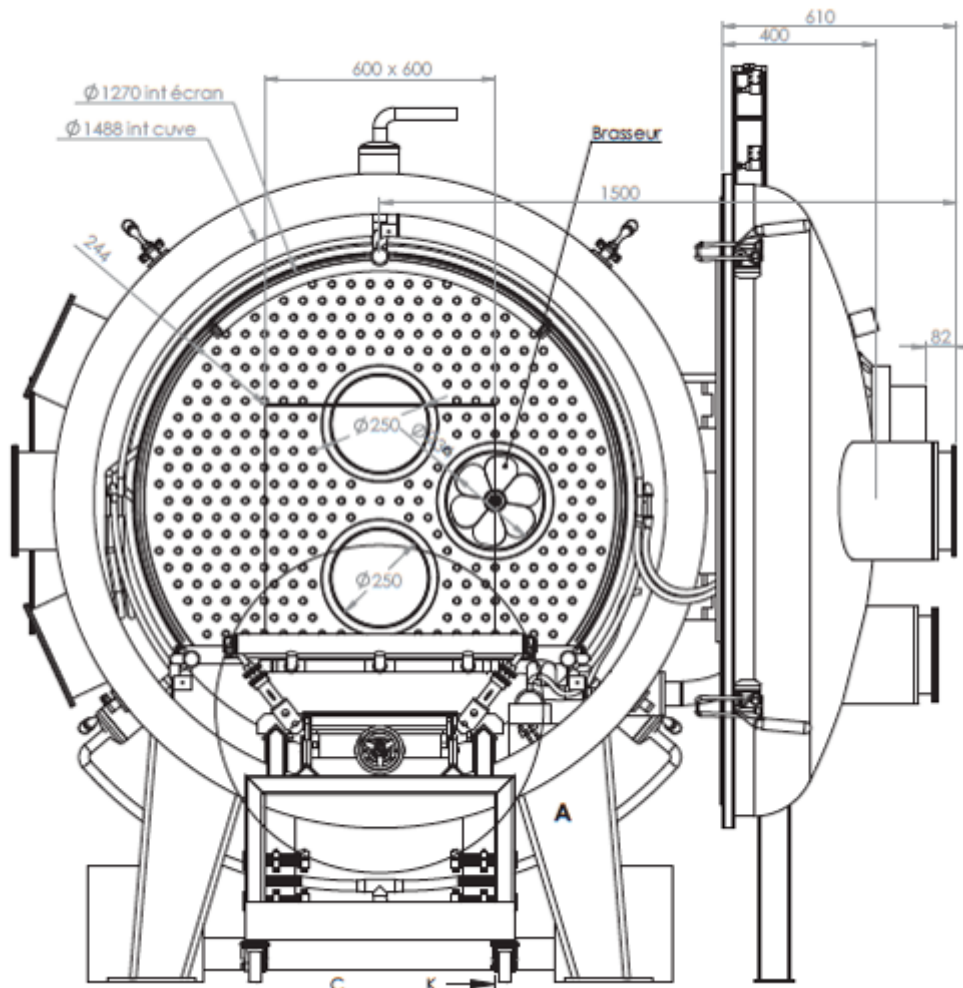
Thermal-optical vacuum tank

The PIT has a thermal-optical vacuum tank to simulate the environment of space. Integrated space instruments and subsystems can thus be tested under nominal vacuum and temperature conditions.

Characteristics of the tank

- » Circular tank installed in an ISO 8 clean space
- » Useable volume 60 x 60 x 160 cm
- » Max mass and max power of the specimen: 50 kg and 100 W
- » Temperature range: -70 ° C / + 110 ° C
- » Vacuum: $P < 10^{-7}$ mbar

- » Fully extractable conductive thermal plate decoupled from the tank structure and the ground by a Kinetic plate system
- » 3 internal radiative heat shields whose regulation is independent of the conductive plate
- » LN2 cryogenic trap ensuring optimal cleanliness of the specimens tested
- » Simulation of the Martian atmosphere possible (regulation between 5 and 20 mbar under CO₂)
- » 80 type T thermocouples
- » Programming and supervision of testing using DynaWorks software
- » 300 amu mass spectrometer
- » Possibility of coupling with the Mc Pherson monochromator



Photos: PIT, Intespace

Climatic chambers

The PIT provides two chambers for carrying out climate tests:

- » for temperature and pressure tests
- » short- and long-term climate aging testing of samples or assemblies by the action of temperature

Characteristics of the Servathin model climate chamber used for temperature and pressure tests



- » Usable volume: 48 x 62 x 52 cm
- » Temperature range: -60 ° C / + 100 ° C
- » Pressure range: 10 mbar / 1000 mbar
- » 20 type T thermocouples
- » Test control and supervision (Spirale 2 software)

Characteristics of the MPC model climate chamber used for the performance of climate aging tests



- » Usable volume: 55 x 55 x 68 cm
- » Temperature range: -65 ° C / + 100 ° C
- » 20 type T thermocouples
- » Observation window