



SCRAT

Spherical Compact Rechargeable Air Thruster

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OBJECTIVES

Ambiental test of a low-thrust cold-gas actuator

Evaluation of performance (thrust and total impulse) in different ambient conditions (i.e. different altitude)

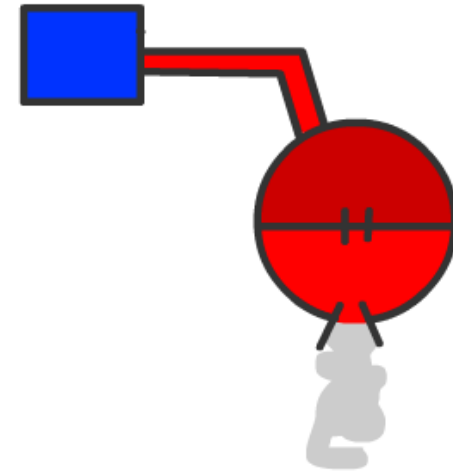
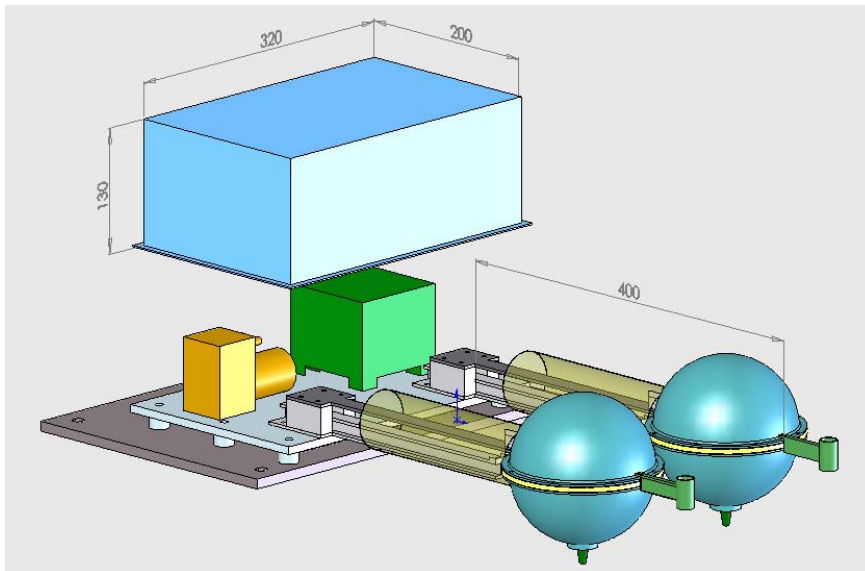
Evaluation of atmospheric temperature, pressure and density profiles

Density is indirectly derived from pressure and temperature or drag measurement



Main goal

To test a micro air thruster designed, manufactured and tested by our team with the support of the University of Padova and CISAS



1. The micro-compressor pressurizes the first stage of the actuator
2. The first valve regulates the air transfer to the second stage
3. The second check valve regulates the thrust delivering

TEAM MEMBRES ROLES

- Marco Chiaradia
Design of the experiment
- Lorenzo Olivieri
Dynamics
- Ruggero Comisso, Matteo Duzzi
Electrics and electronics
- Giulio Di Donato, Leonardo Barilaro
Structural design
- Gabriele Rodeghiero
Data analysis

