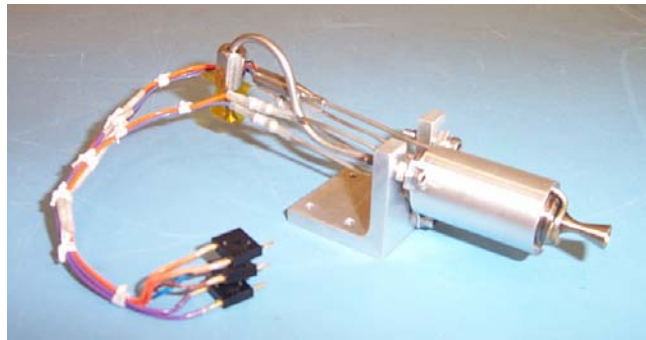


Low Power Resistojet

Applications

- Small satellite orbit correction and station keeping
- Enhancing performance of cold gas propulsion systems
- Vaporising liquefied gases



Flight thruster (remote valve configuration)

The resistojet can be used to augment the specific impulse performance achieved from a compressed gas or a liquefied gas propulsion system. The design is very flexible and the parameters specified can be varied over a large range to customise the thruster to mission requirements.

The thruster is qualified for various vibration spectrum. It has also been subjected to 3441 thermal cycles from 50°C to 500°C.

Features

- High performance, low cost
- Flexible design
- Nitrogen, Xenon, Butane, & other gases
- Measured performance: up to 100s
- Thrust: up to 100mN
- Operating temperature: up to 500°C
- Feed Pressure: up to 10bar
- Redundant heaters
- K-type thermocouple to monitor chamber temperature
- Heat shield included

Heritage (launch date)

- Alsat-1 (2002)
- UK-DMC-1 (2003)
- N1 (2003)
- Bilsat (2003)
- Giove-A (2005)
- Beijing-1 (2005)
- RapidEye (2008)
- UK-DMC-2 (2009)
- Deimos (2009)
- Nx (2011)
- N2 (2011)
- ADS-1b (2011)

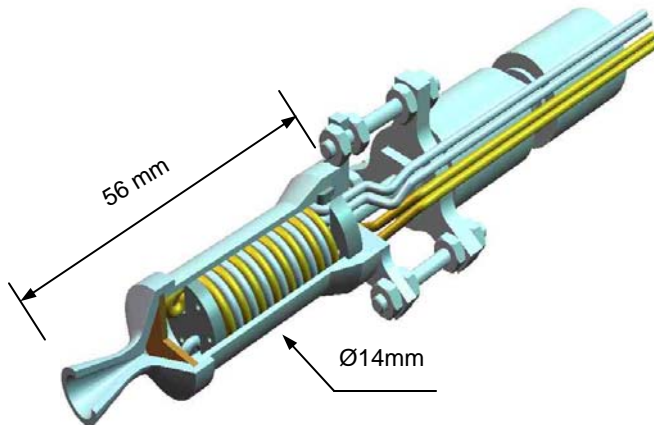
Interfaces

- 3 x Ø3 mm holes
- Operates from Bus voltage

Options

- Remote, single, or dual valve configuration

Low Power Resistojet



The achieved thruster specific impulse will vary according to propellant, power input, firing duration and thrust levels.

Redundant heater coils are wound inside the thrust chamber. This allows the propellant to be heated up to 500° C.

The flight proven flow control valves can be supplied integrated into the thrust chamber or in a remote configuration. The thruster is also supplied with a heat shield.

The thruster operates from bus voltage (no PPU is required).

SSTL is ISO9001:2008 certified

Subsystems are manufacture to:

- ECSS Q-ST-70-08C
- ECSS Q-ST-70-38C
- All work overseen by ESA- trained assembly staff

Standard delivery service includes:

- compliance testing
- vibration test
- thermal cycling
- user manual
- test results
- export license and shipping
- thermal vacuum testing available
- unit can be supplied prior to environmental testing

Surrey Satellite Technology Limited

SSTL has launched over 34 satellites gaining almost 200 years in-orbit experience. SSTL draws on its world-class expertise in both small satellite platform technology and high and medium resolution optical instruments. SSTL provides complete turn-key system solutions; spacecraft, ground station, launch, operations and image processing.

SSTL is unique in the space industry; able to design, manufacture and integrate multiple satellites in-house.

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Measured Performances	Xenon – 48 s N2 – 99 s Butane – 100 s
Mass	90 g (no valves)
Power	Heater: 28V DC, 15 W, 30 W, or 50W
Temperature	-20 to +60°C (operating)
Vibration	> 11.6 g _{rms} in all axis