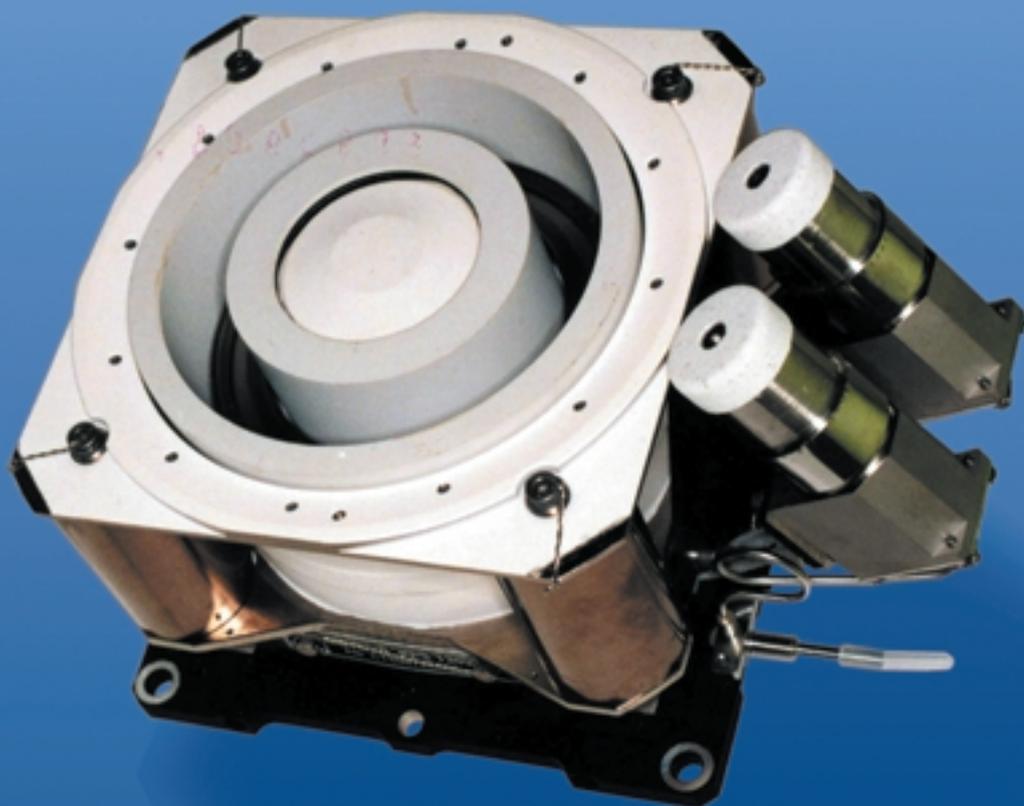


# PPS<sup>®</sup>1350

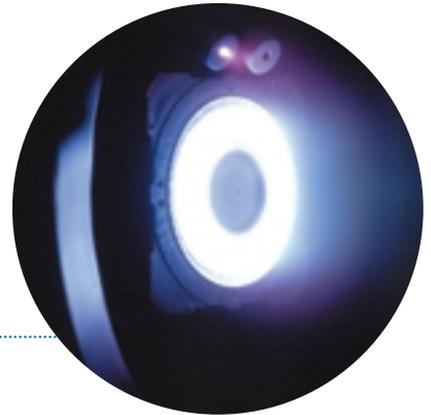
## STATIONARY PLASMA THRUSTER



# PPS®1350 STATIONARY PLASMA THRUSTER



Assembly of a PPS®1350.



Simulated altitude test.

The PPS®1350 stationary plasma thruster is designed for orbit control and orbital transfer of satellites and spacecraft. It generates extremely high specific impulse, which means significant weight savings over conventional chemical propulsion for all types of satellite platforms. In addition, the PPS®1350 offers an excellent thrust to electrical power ratio, which enables limiting pulse lengths, or reducing the total number of thrusters.

The PPS®1350 generates thrust by ejecting xenon ions at very high speed; these ions are accelerated in an electric field and confined in an electromagnetic field. A xenon flow control system comes with the thruster.

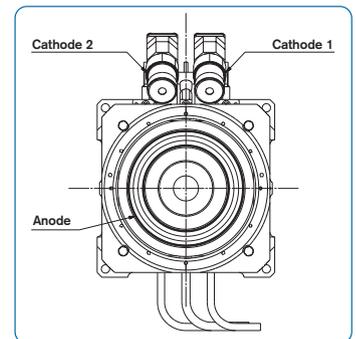
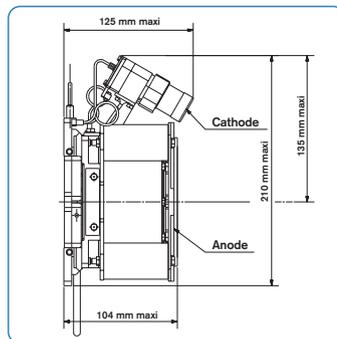
The PPS®1350 has proven its efficiency on the ESA lunar probe SMART-1, which was placed in observation orbit around the Moon on March 2005. At that time, the PPS®1350 had logged over 4,600 hours of operation, a world record for this type of propulsion.

## Features

- Stable operation over a wide power range: 1,200 to 1,600 W.
- Low startup power.
- Proven performance at extreme temperatures, from -60°C to +160°C.
- Reduced beam divergence (40°).
- Ions leaving the thruster are neutralized to avoid transferring an electric charge to the satellite.

## Performance specifications

- |                                              |                       |
|----------------------------------------------|-----------------------|
| • Power (nominal)                            | 1,500 W               |
| • Thrust                                     | 92 mN                 |
| • Specific impulse                           | 1,800 sec.            |
| • Specific power                             | 16.3 W/mN             |
| • Minimum impulse delivered                  | <3 N.s                |
| • Total impulse delivered                    | 2.10 <sup>6</sup> N.s |
| • Number of cycles                           | 7,800                 |
| • Discharge current                          | 4.28 A                |
| • Efficiency                                 | 55%                   |
| • Supply voltage                             | 300 to 350 V          |
| • Xenon feed pressure                        | 2.5 to 2.8 bar        |
| • Xenon class                                | high purity           |
| • Mass (including 2 Xe flow control systems) | 5.3 kg                |



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