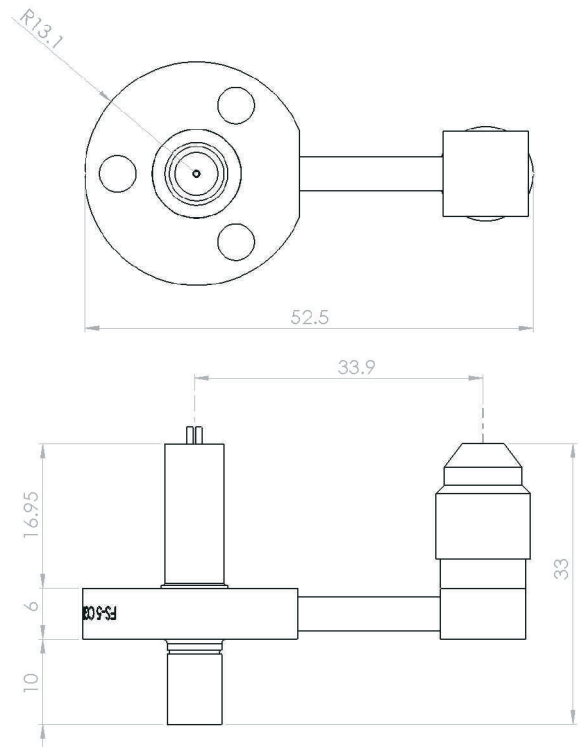
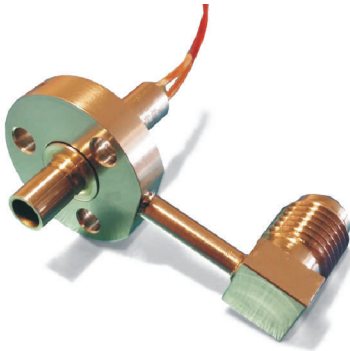


## Cold Gas Thruster (CGT)



AST's miniaturized nitrogen cold gas thrusters provide a thrust of 42 mN at more than 69 s specific impulse. The fast switching thruster allows very small impulse bits of 110  $\mu$ Ns. Combined with its exceptional lifetime of more than 1 billion ( $10^9$ ) actuations this opens up new operational modes of small satellite fine control.

The thrust level is linear with the inlet pressure. Together with our electronic pressure regulator it is possible to adjust the thrust level in flight.

The CGT has been fully qualified in the frame of the FORMOSAT 5 mission.

### Performance Characteristics

Operating Media	GN <sub>2</sub>
Inlet Pressure (MEOP)	1 ... 6 bar
Proof Pressure	2 x MEOP
Burst Pressure	4 x MEOP
Internal Leakage	< 10 <sup>-6</sup> sccs GHe
External Leakage	< 10 <sup>-8</sup> sccs GHe
Thrust	28 mN / bar 42 mN @ 1.5 bar N <sub>2</sub> nominal
Minimum Impulse Bit	110 $\mu$ Ns @ 1 bar
Specific Impulse	> 69 s
Weight	0.042 kg
Operating Voltage	22 ... 36 V pull in 50% hold
Coil Resistance	140 Ohm
Operational Temperature Range	-30° ... +80° C
Vibration	> 20g RMS
Lifetime	1 million actuations qualified 1 billion actuations demonstrated
Other media	GXe

**AST Advanced Space Technologies GmbH**  
 Zeppelinstrasse 9b  
 D-28816 Stuhr  
[www.ast-space.com](http://www.ast-space.com)