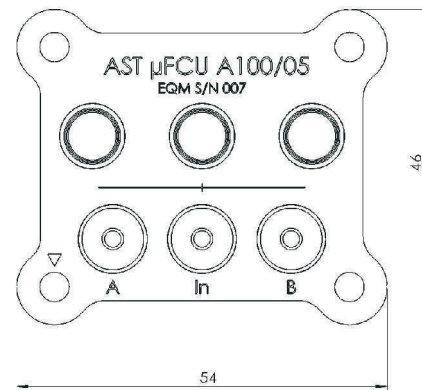
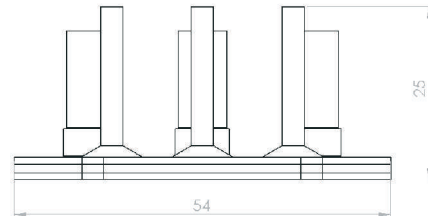
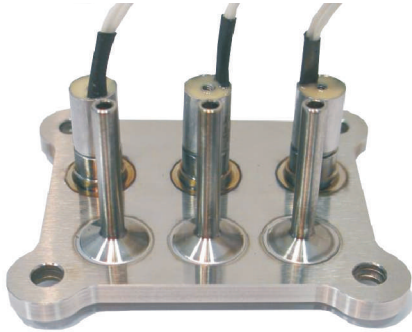


Flow Control Unit (μ FCU)



AST's miniaturized flow control unit (μ FCU) provides two independently controlled Xenon gas flows for electric propulsion systems.

The fully welded device shows an ultra low leakage to avoid any propellant loss. Particle filters in inlet and outlet protect the unit during handling and integration.

The full scale flow of the μ FCU can be adjusted to the mission requirements by modifying the resistance of internal flow channels.

An exceptional low mass and size combined with low cost in series production are achieved by the use of AST's fluid SMD technology.

Performance Characteristics	
Operating Media	GXe (GKr)
Inlet Pressure (MEOP)	0.5 ... 8 bar
Proof Pressure	1.5 x MEOP
Burst Pressure	2.5 x MEOP
Internal Leakage	$< 10^{-6}$ sccs GHe
External Leakage	$< 10^{-8}$ sccs GHe
Full Scale Flow Rate Line A	0.15 mg/s; 2 mg/s; 5 mg/s; 10 mg/s (depending on internal channel resistance)
Full Scale Flow Rate Line B	0.2 mg/s; 0.5 mg/s; 2.5 mg/s (depending on internal channel resistance)
Throttle Ratio	better 1 : 10
Weight	0.063 kg
Average Power Consumption	< 2.5 W
Operating Voltage	24V
Operational Temperature Range	-30° ... $+80^{\circ}$ C
Vibration	$> 21g$ RMS
Control Mode	Close loop on thruster parameter (e.g. anode current) Open loop with temperature compensation
Particle Filters	$5\mu\text{m}$ (abs) in inlet and outlet

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