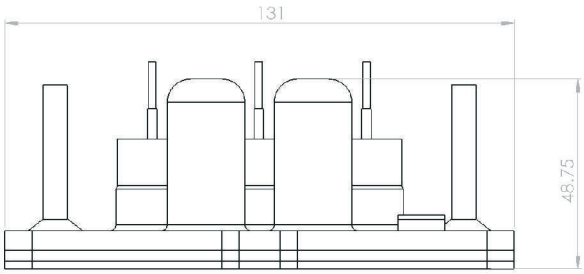
Advanced Space Technologies GmbH

Electronic Pressure Regulator (EPR)

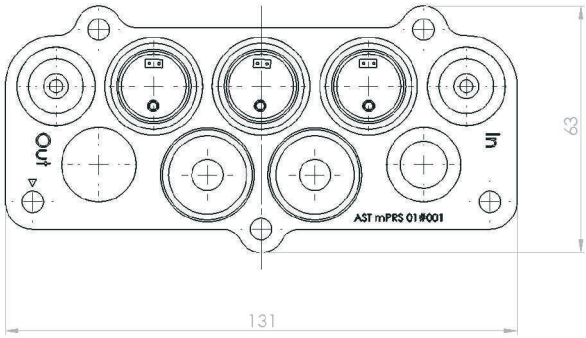


AST's two-stage electronic pressure regulator is used to provide a constant Xenon pressure at the inlet of an electric propulsion sytem.

The regulator accepts a tank pressure of 300 bar for modern systems with alternative propellants like Krypton.

The fully welded device provides a tripple barrier against propellant loss, so no further latch valve is required to build a redundant system. Zero leakage capability eliminates the need of relief valves in the low pressure node. Particle filters in inlet and outlet protect the unit during handling and integration.

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, GN2)
Inlet Pressure (MEOP)	5 … 300 bar
Outlet Pressure	1 … 5 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
Max. Flow Rate (fine mode)	> 50 mg/s GXe
Max. Flow Rate (coarse mode)	> 250 mg/s GXe
Ripple (fine mode)	< 20 mbar
Weight	0.65 kg
Average Power Consumption	< 10 W
Operating Voltage	< 24 V
Operational Temperature Range	-20° … +60° C
Vibration	> 20g RMS each axis
Redundancy	triple barrier against propellant loss (three serial valves)

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