

In-line Flow Control Valve

- High Pressure Solenoid Valve



The well-established 'SVS01' is family of **in-line Flow Control Valves** which have been flying for more than twenty years.

A variant has now been developed to enable a MEOP of up to 120bar. As with the low pressure variant, it is a mono-stable solenoid, using a single coil to energise the movement of a suspended sealing armature.

This assembly is located using a diaphragm spring to ensure a non-sliding fit.

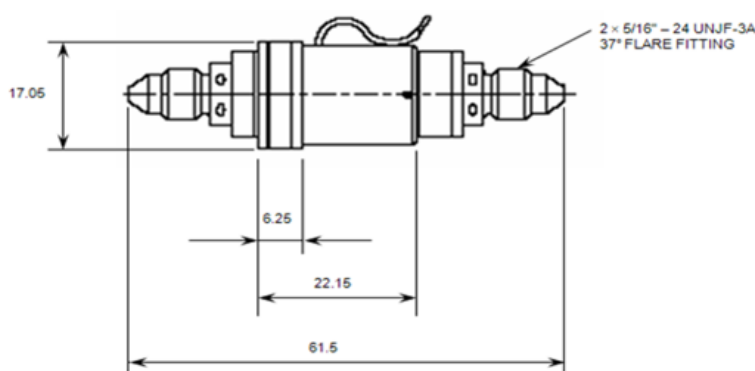
The armature to seat profiles have been designed to minimise flow discontinuities, thereby reducing the susceptibility to contamination induced failures.

The valve uses a flat faced seal to reduce the risk associated with valve internal leakage due to a high cycle life.

When in the unpowered state, system pressure forces and a spring, work together to keep the armature held in the closed position.

The inlet filter rating and mechanical interfaces can be customised to suit the customer requirements.

The valve was used on the Proba 2 mission for ESA.



High Pressure Valve with alternative inlet and outlet connections

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Operating Media	Xenon, GN ₂ , GHe, CF ₄ , Butane, Propane
Maximum Operating Pressure	120 bar
Proof Pressure	180 bar
Burst Pressure	300 bar
Flow Rate / Pressure Drop	> 15 l/min GN ₂ with 6 bar ΔP
Internal Leakage	< 1 x 10 ⁻³ scc/s GHe at 120 bar
External Leakage	< 1 x 10 ⁻⁶ scc/s GHe at 120 bar
Opening Response	< 10 ms (at 24V and 120 bara)
Closing Response	< 10 ms (at 34V and 2 bara)
Operating Cycle Life	300,000 cycles
Filter Rating	25 μm absolute
Wetted Materials	AISI304L, Radiometal 4550, PTFE Grade 1 Type S
Hardware Mass	< 60 gram
Envelope -Diameter	∅ 17.06mm
Input Voltages, high pressure	<20 Vdc with 120 bara
Input Voltages, low pressure	>1.5 Vdc with 2 bara
Coil Resistance	>41 Ohm
Options	Interfaces can be fully customised
Electrical Interface	Flying leads
Fluidic Interface	Stub tube or threaded AS4395 fitting
Technology Readiness Level	Flight Qualified, TRL9



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