Thruster Flow Control Valve

- Chemical/Green/Cold Gas Propulsion Valve

Nammo Space has a range of solenoid valves for propulsion system and thruster applications.

The SVS06 range of flow control valves for propulsion applications are compatible with a wide range of propellants used in chemical and green propulsion.

The valve is a normally closed, non-sliding fit, with dual or single coil designs. The valve is a fully welded construction.

The inlet fitting is 3/8” Tube or AS4395 (straight or 90°) and the outlet flange incorporates the interface for the thruster.

The solenoid actuator is used to open the valve for steady state flow, and can also be used in pulse mode. The valve is fitted with redundant coils for improved reliability.

The valve is a fully welded structure, ensuring a zero external leak rate.

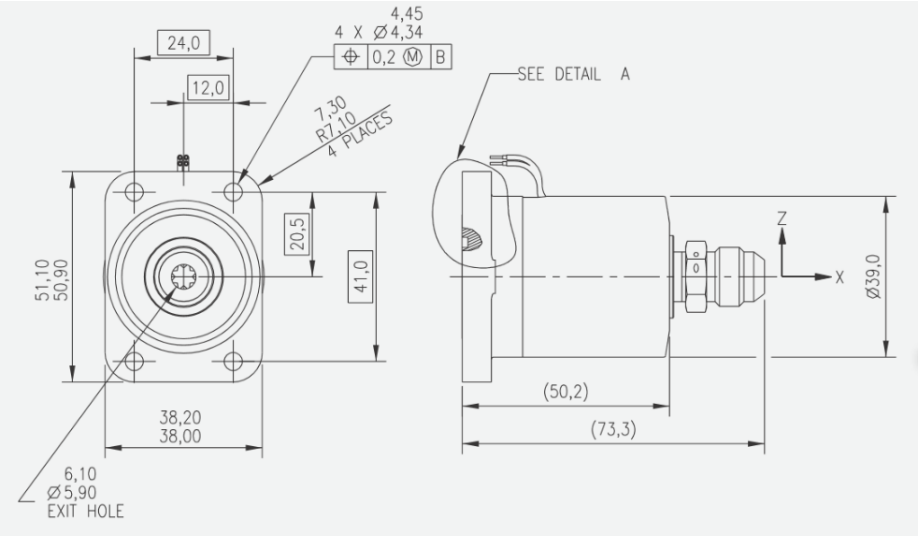
The inlet includes a 25µm particle filter.

The outlet flange incorporates the interface with the thruster or other equipment. This is typically a bolted flange interface.

The solenoid coils are located in a replaceable sleeve, mounted on the valve core.

There are a variety of power and voltage options for the valve.

An internal heater can be supplied as an option for this valve.



Typical interface details for the Apogee Engine Valve, which can be configured for the customer at both inlet and outlet

Thruster Flow Control Valve

- Chemical/Green/Cold Gas Propulsion Valve

SVS06 Variant	AEV	HTAEV	CGTV	FCV HTP
Model Number	SVS06-02, SVS06-07	SVS06-11	SVS06-14	SVS06-16
Propellant	N_2O_4, MON-3, MMH, Hydrazine (N_2H_4)	N_2O_4, MON-3, MMH, Hydrazine (N_2H_4)	GN2	H2O2
MEOP	22 bara	22 bara	28.6 bara	28 bara
Proof Pressure	42 bara	33 bara	43 bara	42 bara
Proof/Burst	83 bara	55 bara	71.5 bara	70 bara
Pressure Drop/Flow	<2 bar, 95 g/s H_2O	<2.2bar, 180g/s H_2O	<4bar, 36.8g/s GN2	<2.4bar, 153g/s H2O2
Internal Leakage	8 x10^{-4} scc/s GHe	1 x10^{-4} scc/s GHe	1 x10^{-4} scc/s GHe	1 x10^{-4} scc/s GHe
External Leakage	1 x10^{-6} scc/s GHe	1 x10^{-6} scc/s GHe	1 x10^{-6} scc/s GHe	1 x10^{-6} scc/s GHe
Operating Voltage	18 Vdc to 27 Vdc 26 Vdc to 35.5 Vdc	18 Vdc to 27 Vdc	22 Vdc to 33.6 Vdc	24 Vdc to 32 Vdc
Opening Response	< 30ms	< 50ms	< 30ms	<20 ms
Closing Response	< 35ms	< 50ms	< 30ms	<20 ms
Power	38.0W or 31.5W	41.7W	<45W	<50W
Cycle Life	6000	6000	6,000	8,000
Mass	<0.44kg	<0.68kg	0.42kg	<0.48kg
Filtration	25µm abs	25µm abs	Optional	25µm abs
Wetted Materials	316L, 304L, 430, PTFE	316L, 304L, 430, PTFE	316L, 304L, 430, PTFE	316L, 304L, 430, PTFE
Electrical Connection	Flying leads	Flying leads	Flying leads	Flying leads
Inlet	3/8" Tube Stub or AS4395 Fitting	3/8" Tube Stub or AS4395 Fitting	3/8" AS4395 Fitting	3/8" AS4395 Fitting
Outlet	4 bolt Flange	4 bolt Flange	4 bolt Flange	4 bolt Flange
Internal Heater	2W at 35 Vdc	3W at 27 V	Optional	Optional
Temperature Range	-29°C to +102°C	0°C to +130°C	-20°C to +60°C	15°C to +80°C
Technology Readiness	TRL 8	TRL 8	TRL 9	TRL 8

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