

V5000

2-Way Normally Open or Normally Closed
Fuel Shut-Off Solenoid Valve

Valcor Aerospace - 2-Way Direct Acting Shut-Off Valve



DESCRIPTION

This Valcor valve is a two way, (normally closed or normally open), solenoid-operated shut-off valve used to control the flow of aviation fuels, non-corrosive gases, or non-aeromatic hydraulic fluids. The flow through the valve is controlled by the action of the plunger and the coil assembly. Energizing the coil causes an electromagnetic field which pulls the plunger and operates the valve. The magnetic force overcomes the mechanical force of the spring in the plunger and lifts the plunger from the coil stop. The seal disc is lifted out of the path of flow. De-energizing the coil releases the magnetic force holding the plunger and the mechanical force of the spring pushes the plunger and seal disc back to its de-energized position.

APPLICATION

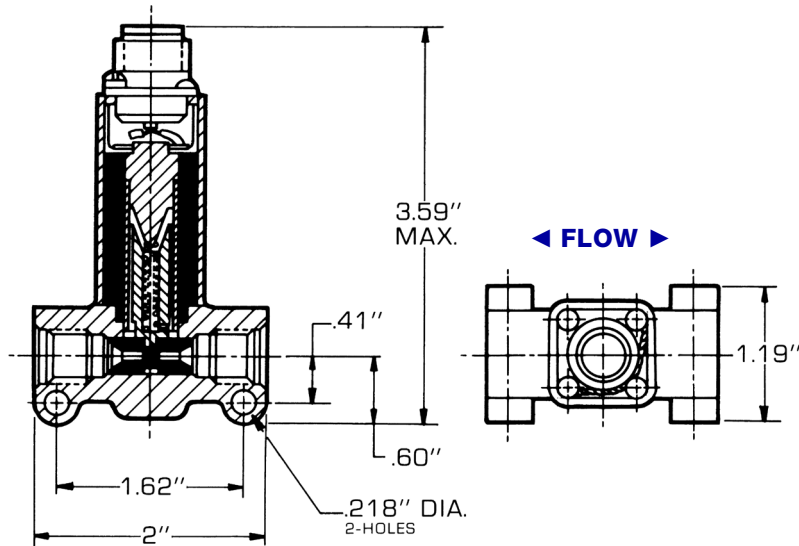
This type of valve is used on many APUs and engines. APUs can use multiple valves ganged together, for engine starting, running, and purging the fuel manifolds. These valves can also be used as firewall shutoff, deicing, and pilot valves for larger valves on commercial or military aircraft.

FEATURES

- Available in Normally Open and Normally Closed
- Temperature: -65°F to +250°F
- Operating Pressure: 0-1200 PSIG
- Proof Pressure: 1500 PSIG Max
- Burst Pressure: 3000 PSIG Max
- Flow: ESEO between 0.085-0.185, Cd=0.65
- Low Current: 0.68 amps max. @ 30 vdc @ 72°F (30 Ohms)
- 1.07 amps max @ 30 vdc @ 72°F (47 Ohms)
- Lightweight: 0.34 lbs approx.
- Low internal leakage: Liquid—0.5 cc/hr max. Gas—15 scc/minute max.
- Low external leakage: zero over range of 0 to 1500 PSIG
- Carbon floating seal: Tight leakage, reduce wear & friction
- Voltage: 18 to 30 vdc
- Life Cycles: 20,000 cycles
- No minimum operating pressure is required for tight sealing



SOLENOID VALVE SERIES 5000



Specifications

Operating Pressure and Flow Ranges

NORMALLY CLOSED CONFIGURATION

Equiv. Sharp Edged Orifice CD =.65	Operating Pressure (PSIG)		Ambient Temp.	Min. Volts DC	Cv
	30 OHM Coil	47 OHM Coil			
0.085	0-1200	0-1000	165°F	18	.14
0.102	1-600	0-400	165°F	18	.21
0.185	0-90	0-60	165°F	18	.67

NORMALLY OPEN CONFIGURATION

0.085	1-1200	0-1000	165°F	18	.14
0.102	0-800	0-600	165°F	18	.21
0.185	0-110	0-90	165°F	18	.67

These ratings are based on using JP4 Aviation Fuel. For higher temperatures, the pressure rating must be reduced. The following table approximates the derating required.

Temperature	Derating Factor
250°F	.71
350°F	.62
450°F	.54

Electrical Data

Voltage	18 to 30 VDC
Duty	30 OHM Coil, Continuous or Intermittent 47 OHM Coil, Continuous (Depends on application, cooling effect of fluid, etc.)
Current	At 30 VDC and at 72°F 1.07 amps max., for 30 OHM Coil 0.68 amps max., for 40 OHM Coil
Electrical Connector	MS 3102A-10SL-4P is standard. Other types are available. Location of receptacle of top or side of the solenoid is operational.

Leakage

External	Zero over range of 0 to 1500 PSIG
Internal	Liquid Service, 0.5 cc/hr max. range from 12" head to max. pressure. Gas service, as low as 15 scc/min., depending on application.