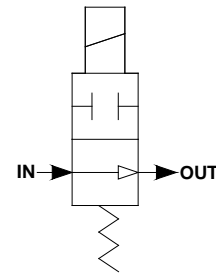
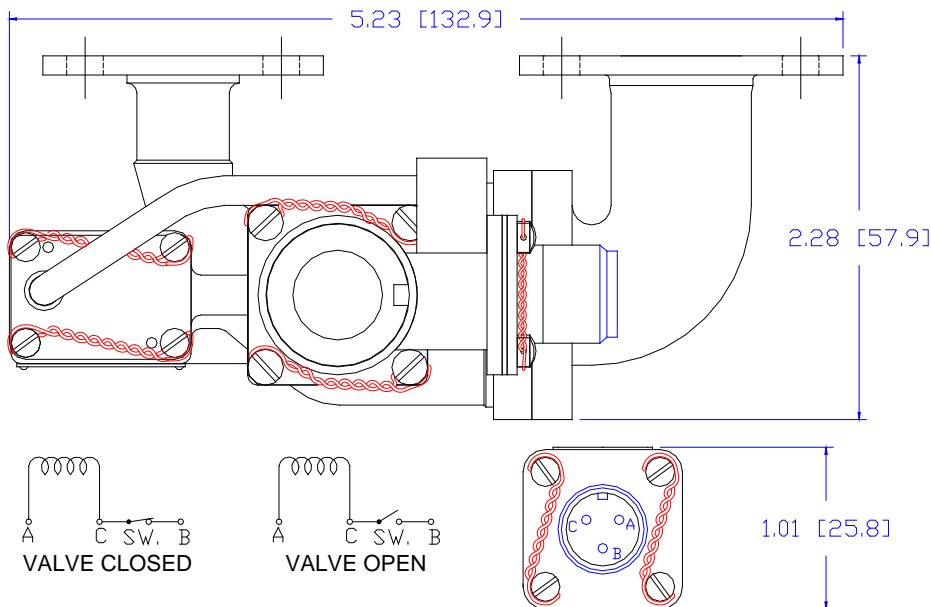


ANTI-ICE SOLENOID VALVE

PILOT OPERATED, HIGH TEMPERATURE SOLENOID VALVE FOR PNEUMATIC ANTI-ICE SYSTEMS

COMPONENT FEATURES

- Flight qualified in multiple applications
- Multi-stage design thermally isolates electrical elements
- Switch provides positive indication of poppet position
- Pressure piloted poppet minimizes required power
- No elastomers – All seats match ground for low leakage
- Constructed of high temperature corrosion resistant materials
- Precision castings & brazements are extremely lightweight
- Specially configured to the requirements of each system
- Mounting flanges for use with high temperature gaskets



FLOW SCHEMATIC

SPECIFICATIONS

1.0 Valve Type: Normally Open Solenoid Valve	7.0 Seat Leakage: 0.003 lb/hr (max)
2.0 Configuration: Pilot Operated	8.0 Electrical
3.0 Media: Turbine Engine Compressor Bleed Air	8.1 Voltage: 18 to 30 vdc
4.0 Pressure	8.2 Current: 0.5 amp (max) @ 30 vdc
4.1 Operating: 13 to 150 psig [1.9 to 11.4 bar]	8.3 Duty Cycle: Continuous
4.2 Proof: 225 psig [16.5 bar]	8.4 Insulation Resistance: $1 \times 10^8 \Omega$ (min)
4.3 Burst: 375 psig [26.9 bar] (min)	8.5 Position Indicator Type: Switch, NO
5.0 Temperature	9.0 Response: 200 msec (mechanical)
5.1 Ambient: -65°F to +250°F [-54°C to 121°C]	10.0 Weight: 1.45 Lb (0.66 Kg)
5.2 Media: -65°F to +700°F [-54°C to 371°C]	
6.0 Flow Rate: 522 lb/hr [234 kg/hr]	

SOUTH BEND CONTROLS

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BULLETIN SV-300

ANTI-ICE SOLENOID VALVE TECHNOLOGY

WHAT IS IT?

- Solenoid-operated, normally open pneumatic valve, two-stage piloted configuration.
- Continuous duty control of 700°F engine bleed air in ambient temperatures up to 250°F.
- Precision brazed assembly with primary components of high temperature tolerant stainless steel.
- A high temperature switch is included as a positive position indicator to the pilot.

HOW DOES IT WORK?

The basic elements include: Pilot Solenoid, Piloted Piston, Piston Spring, Piston Orifice, & Position Indicator Switch.

In the de-energized state, the supply pressure overcomes all other forces and shifts the piloted piston to the open position, allowing flow. With the piston in the open position, the position indicator switch is actuated closing the switch contacts.

Energizing the pilot solenoid compresses a poppet against a seat. This isolates the chamber under the piloted piston from low pressure. Downstream pressure is bled through the piston orifice into the piston chamber. The pressure force within the piston chamber combined with spring preload shifts the piston to the closed position. With the piston closed, the position indicator switch is not actuated and its contacts are in the open position.

HOW IS IT USED?

The valve controls the flow of turbine compressor bleed air for anti-icing purposes. The high temperature air is routed to both the engine nacelle inlet ring and the turbine center hub (bullet) on twin engine business class jet aircraft.

Related product: see Tech Data Bulletin SV-306 for Turbine Bleed-Air Solenoid Valve information.



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