The 728 Series Abort Valves are high performance, two-stage servovalves intended for use in motion simulation applications requiring high flow. The maximum rated flow for a symmetric configuration is 130 gpm at 1000 psi drop. These valves are typically custom configured for specific application requirements.

The design features of these valves include factory set flow stops, long life hardened CRES spool and sleeves, "simulator" null cuts to minimize pressure changes through zero flow, factory set flow change limits during abort and customer adjustable "abort" flow settings. Optional configurations include asymmetric second stages, units without abort feature and second stage spool position feedback or monitoring using a LVDT or DCDT for custom applications.

Specifications:
Fluid Supply: 728 Series Abort Valves are intended to operate with constant supply pressure.
Supply Pressure:
- 3000 psi (210 bar) max.
- 1000 psi (70 bar) min. (200 psi (15 bar) without abort option)
Return Pressure:
- 30 psi (2.1 bar) max. recommended
Proof Pressure:
- 150% of supply pressure at P port
- 100% of supply pressure at R port
Fluid:
Compatible with common hydraulic fluids
Recommended viscosity range:
- 60-450 SUS @ 100°F
- (10-97 cSt @ 38°C)
Cleanliness Level:
ISO DIS 4406 code 16/13 max.
14/11 recommended
Operating Temperature:
- 0°F to 180°F (-20°C to 80°C)
Rated Flow Tolerance: ±10%
Hysteresis: < 3.0%
Threshold: < 0.30%
Null Shift*: < 3.0 g
Null Leakage*: < 2.5 gpm (9.5 lpm)
Frequency Response: See figure 1
Step Response: See figure 2
Abort Response Flow: See figure 3
Abort Response Acceleration: See figure 4
Smoothness*: < 0.06 g
Stability*: < 0.03 g

*parameters measured on a 4.0 inch bore, 3.0 inch hydraulic cylinder with 6250 lb vertical load.

MOOG
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**728 Series SERVOVALVES**

**Standard Electrical Configuration**

- **Servovalve Electrical Schematic**
- **Abort Solenoid**

**Servovalve Polarity:** External connections for flow out control port No. 2 are:
- Single coil: A+ B- or D+ C-
- Series coils: tie C to D, A+ B-
- Parallel coils: tie A to D and B to C; A& D+, B& C-

*Abort Solenoid Polarity: Valve aborts with flow out control port No. 2 with loss of signal. Coil rated at 12 watts continuous duty operation.*

**Accessories:**

- **Flushing Block:** PN 43949
- **Mating Electrical Connectors:**
  - Valve: PN 49054F14S2S (MS3106F14S-25)
  - Solenoid: PN 49054F10SL4S (MS3106F10SL4S)
- **Suggested Mounting Bolts:**
  - .625-11 UNC x 2.50 long (8)
  - Torque to 480-540 in-lb.
- **Subplate:** PN 43948-1
  - 4 ports (SAE 1/4" - 12 UN straight threaded)
  - Thread ports for 1/2" dia. tube

**Notes:**

- **Valve Weight:** 45 lb (20.4 kg)
- **Base O-Ring Size:** (Viton 90 durometer) (4 req'd) PN 42082-264 (univ. -221)
- **Null Adjust:** Flow out of control port No. 2 will increase with clockwise rotation.
- **Abort Adjust:** Flow out of control port No. 2 will decrease with clockwise rotation. Adjustable range from zero to rated flow.
- **Surface Finish:** Surface to which valve is mounted requires finish, flat within 0.004 [0.10] TIR.

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