755 Series Servovalves

The 755 Series is a high-performance, two-stage design that covers the range of rated flows from 1 to 10 gpm at 1000 psi valve drop. These valves consist of a jet pipe pilot stage driven by a double air gap, dry torque motor, and a sliding spool second stage. The proprietary jet nozzle is designed for long life and repeatable valve to valve performance. The jet is protected with a field replaceable filter. Mechanical feedback of spool position is provided by a simple cantilever spring. The valve design is simple and rugged for dependable long life operation.

Specifications:

Fluid Supply: 755 Series Servovalves are intended to operate with constant supply pressure.

Supply Pressure:
- Minimum: 200 psi (14 bar)
- Maximum Standard: 3000 psi (210 bar)

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:
- Minimum: -40°F (-40°C)
- Maximum: +275°F (+135°C)

Rated Flow Tolerance: ±10%

Symmetry: < 10%

Hysteresis: < 3%

Threshold: < 1/2%

Null Shift:
- with temperature 100°F variation < 2%
- with acceleration to 10g < 2%
- with supply pressure 1000 psi change < 2%
- with return pressure 0 to 500 psi < 2%

Frequency Response: Typical response characteristics for 755 Series Servovalves are shown in Figures 1 and 2.

Step Response: Typical transient responses of 755 Series Servovalves are shown in Figure 3. The straight line portion of the response represents saturation flow from the pilot stage which will increase with higher supply pressures.
Standard Electrical Configuration

Torque motor coils

Connector pins A B C D

External connections and electrical polarity for flow out control port No. 2 are:

single coil: A+, B-; or C+, D-
series coils: tie B to C; A+, D-
parallel coils: tie A to C and B to D; A & C+, B & D-

Accessories:

Flushing Block: PN A01704-001
Mating Electrical Connector:
PN 49054F-014S-002S
(MS 3106F-014S-002S)
Pigtail Available
Suggested Mounting Bolts:
PN A01407-524
.190-32UNF x 1.5 Long
Socket Head Cap Screw
Subplate Manifold:
PN 45739-003A-005

Notes:

Valve Weight: 1.31 lbs. (0.59Kg)
Null Adjust: Flow bias is continually varied for a given control port as the null adjust is rotated.
Surface Finish: Surface to which valve is mounted requires 63 (\( \sqrt[63]{\text{V}} \)) finish, flat within 0.002 (0.05) TIR.