The 761HR Series is a very high performance, two-stage design that provides excellent dynamic response, hysteresis, and threshold (resolution). Electrical feedback of spool position is provided by a unique non-contacting spool position transducer* located at the center of the spool and bushing assembly. Integral electronics provide closed-loop position control of the spool and a buffered spool position output for monitoring.

* Patent Number 5,244,002

### Specifications

**Fluid Supply:** 761HR Series Servo valves are intended to operate with constant supply pressure.

**Supply Pressure:**
- Minimum: 200 psi (14 bar)
- Lower-call Factory
- Maximum Standard: 3000 psi (210 bar)
- Maximum (special order): 5000 psi (350 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: -4°F (-20°C)
- Maximum fluid viscosity: 6000 SUS
- Maximum: +185°F (+85°C)

**Rated Flow Tolerance:**
- ±2% typ., ±10% max

**Symmetry:**
- ±2% typ., ±10% max

**Hysteresis:**
- 0.10% typ., 0.22% max

**Threshold:**
- ±0.02% typ., ±0.037% max
- (measurement limited by a/n ratio)

**Null Shift:**
- With temperature, 100°F variation: < 4% with acceleration to 10g: < 0.75%
- With supply pressure 1000 psi change: < 0.75% with return pressure 0 to 500 psi: < 0.75%

**Frequency Response:** Typical spool position response characteristics are shown in Figures 1, 2, and 3 for various input amplitudes.

**Step Response:** Typical transient responses are shown in Figure 4.

### Table

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Flow (1000 psi)</th>
<th>Internal Leakage (1000 psi)</th>
<th>Rated Input (differential)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>gpm</td>
<td>lpm</td>
<td>gpm</td>
</tr>
<tr>
<td>761-010A</td>
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<tr>
<td>761-012A</td>
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<tr>
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<td>&lt; 0.45</td>
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<tr>
<td>761-014A</td>
<td>15.0</td>
<td>57.0</td>
<td>&lt; 0.45</td>
</tr>
</tbody>
</table>

Optional designs are available with special spool/bushing size configurations. Optional input ratings: 1-5, 4-20, 10-50, 20-100, & ±10 mA, 0-5 & 0-10 volts. Available seal materials: BUNA (Std.), VITON or EPR.

### Diagrams

- **Figure 1:** 1, 2, 1/2, and 3 gpm Servo valves
- **Figure 2:** 10 gpm Servo valves
- **Figure 3:** 15 gpm Servo valves
- **Figure 4:** Step Responses

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The diagram includes a series of graphs and figures illustrating frequency and step responses, with specific data points and characteristics highlighted for each model.