Electrical Feedback Servovalve with Integral Electronics

Series D769

Rated Flows 3.8 to 63 l/min ($\Delta p = 70$ bar)

Rated Pressure to 315 bar

Standard and High Response
Technical Data

**Rated Pressure**
- Standard: 15-210 bar
- High Pressure: 315 bar

**Back Pressure**
Valid to 210 bar

**Rated Flow availability at 70 bar** (1000 psi)
- Standard: 3.8, 9.5, 19, 38, 63 l/min ± 10%
- High Response: 3.8, 9.5, 19, 38, 63 l/min ± 10%

**Threshold**
- < 0.1%

**Hysteresis**
- < 0.5%

**Null Bias**
- < 1.0%

**Null Shift**
- with temperature change 55°C: < 1.0%
- with change in supply pressure between 80 - 110%: < max. 1.0%

* Valves at 3000 psi system

**Operating Temperature**
- -20°C to +80°C

**Null Leakage**
- First Stage: < 1.5 l/min
- Second Stage: dependent on null condition

**Pilot Stage Flow**
1 l/min

**Operating Fluid**
- Mineral based hydraulic fluid per DIN 51524
- Viscosity range 15 - 100 mm²/s cSt
- Cleanliness level: NAS class 4

**Seal Material**
- VITON
- Others available

**System Filtration**
- Supply filter without bypass

**Null Adjust**
- Flow out port C₁, when null adjust potentiometer turned clockwise

**Weight**
- 1.1 kg

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**Electrical Specification**

Supply Voltage
- ± 15 Vdc; ± 3%

Current Consumption
- 200 mA

**Electrical Connection**

**Valve with Voltage Command**

**Valve with Current Command**

**Polarity**

(***Input Signal***)
Spool position is proportional to the input signal (Uₜₑ) + 10 V at Pin D results in 100% spool stroke (P → C₁)

(***Output Signal***)
Positive ΔUₜₑ (or ΔIₑ) results in a negative ΔUₚ (spool position)

**Pilot supply must be present before energizing the power supply**
Typical Frequency Response of the Standard Valve at 3000 psi Supply

$\text{a} = \text{Model D769-406}$
$\text{b} = \text{Model D769-100, 103}$
$\text{c} = \text{Model D769-101, 102}$

Typical Frequency Response of High Response Valves at 3000 psi Supply

$\text{a} = \text{Model D769-233}$
$\text{b} = \text{Model D769-230, 231, 232}$

$\frac{I_p}{I_{210}}$

$90^\circ$ Phase @ Pressure $P$

$90^\circ$ Phase @ 210 bar

$a = 15 \text{ mm}^2/\text{s (cSt)}$
$\text{b} = 100 \text{ mm}^2/\text{s (cSt)}$
Notes:
   Recommended Torque: 25 Nm.
2. Port Size: P, R, C₁, C₂: 7.9 mm dia., PV: 3 mm dia.
3. Surface Finish: flat within 0.002 TIR.
4. Volume of cylinder ports: 4.0 cm³.
5. Dimensions less tolerance are for reference only.

Accessories:
Valve Tester D 129-013-1003
Mating Connector 4905414S6S
   (MS3106A-14S-6S)
Filter A67208
O-Ring for P, R, C₁, C₂ 45122-022
   (MS28775-013) 45122-013
   0.426 dia x 0.07”
O-Ring for ext. pilot supply port
   (MS28775-012)
   0.364 dia x 0.07”
### Ordering Information

#### Modell-Nummer
- **Input Command**
  - H: Voltage
  - I: Current

#### Typbezeichnung
- **Pilot Supply Pressure**
  - A: internal 210 bar 3000 psi
  - C: external 210 bar 3000 psi
  - E: internal 315 bar 4500 psi
  - G: external 315 bar 4500 psi
  - L: external 350 bar 5000 psi

- **Seal Material**
  - V: VITON

- **Electrical Connector**
  - 0: MS-3102 E-145-6 P

#### Manufacturer I.D.
- S0: Standard
- H0: High Response

#### Rated Flow
- **Flow at 1000 psi**
- **Valve Drop**
  - 04: 3.8 l/min
  - 10: 9.5 l/min
  - 19: 19 l/min
  - 38: 38 l/min
  - 63: 63 l/min

#### Maximum Supply Pressure
- **F**: 210 bar
- **J**: 315 bar
- **K**: 350 bar

#### Null Condition
- O: Axis Linear
- other null cuts available

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#### Standard Valves Model Numbers

with voltage input

<table>
<thead>
<tr>
<th>Rated Flow bei ΔP = 70 bar</th>
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<tbody>
<tr>
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<td></td>
<td>Pilot Supply internal</td>
<td>Pilot Supply external</td>
</tr>
<tr>
<td></td>
<td></td>
<td>S0..F0000VA</td>
<td>S0..F0000VC</td>
</tr>
<tr>
<td>(l/min, +/-10%)</td>
<td>(mm)</td>
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<tr>
<td>3.8</td>
<td>0.42</td>
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<td>D769-150</td>
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<tr>
<td>9.5</td>
<td>0.21</td>
<td>D769-101</td>
<td>D769-151</td>
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<td>D769-152</td>
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<tr>
<td>38</td>
<td>0.42</td>
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<td>D769-153</td>
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<tr>
<td>63</td>
<td>1.0</td>
<td>D769-406</td>
<td>D769-456</td>
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with voltage input

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<td>D769-252</td>
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<td>38</td>
<td>0.50</td>
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<td>D769-253</td>
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