The D660 ServoJet® Proportional Flow Control Valves with integrated on board electronics are throttle valves for 2-, 3-, 4- and 5-way applications. They are suitable for electrohydraulic position, velocity, pressure and force control systems, including those with high dynamic response requirements.

Moog’s ServoJet® pilot stage reduces energy consumption and enhances the valves robustness. This pilot stage uses the jet pipe principle, which has been used reliably in various Moog valve versions for many years.

The valve model numbers listed on back were specifically designed to withstand the harsh environment, vibration, and shock loads found in wood/lumber processing plants.

Benefits for the Wood Processing Industry

- Flexible design elements optimize the valve to your application
- Highest flow capability for high velocity applications
- Reduced spool drive area for improved dynamic response
- Fail-safe versions for user defined spool position at loss of power
- Improved ServoJet® pilot stage dynamics for high dynamic valve design
- Improved frequency response for superior control system performance
- High ServoJet® pilot stage pressure recovery for reliable operation
- Improved resistance to contamination reduces down time
The D660 Series Proportional Control Valves are 2-stage or 3-stage designs. The spool motion of the main stage is produced by a 1-stage or a 2-stage pilot valve. 2-stage proportional valves are mainly used when low threshold and good dynamic response with small signals are required. The 3-stage proportional valves are suitable for good dynamic response with large signals.

**Operation of the Multi-Stage Valve**

The position control loop for the main stage spool is closed by the integrated electronics. An electrical command signal (flow rate set point) is applied to the integrated position controller which drives the valve coil. The position transducer (LVDT) which is excited via an oscillator, measures the position of the main spool (actual value, position voltage).

This signal is then demodulated and fed back to the controller where it is compared with the command signal. The controller drives the pilot valve until the error between command signal and feedback signal is zero. Thus, the position of the main spool is proportional to the electrical command signal.

**Operation of the ServoJet® Pilot Stage**

The ServoJet pilot stage consists mainly of torque motor, jet pipe and receiver. A current through the coil displaces the jet pipe from its neutral position. This displacement combined with the special shape of the nozzle, directs a focused fluid jet from both receivers towards one receiver. The jet now produces a pressure difference in the control ports. This pressure difference results in a pilot flow, which in turn causes a spool displacement. The pilot stage drain is through the annular area around the nozzle to tank.

**Technical Data ServoJet® Valves**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Type Code</th>
<th>Notes</th>
<th>Flow (gpm @1000 psi total drop)</th>
<th>Flow (gpm @ 150 psi total drop)</th>
<th>Max Supply Pressure (on main stage)</th>
<th>Null Cut</th>
<th>Fail-Safe</th>
<th>Seal Type</th>
<th>Elec Conn</th>
<th>Input Command</th>
<th>Power Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>D661-5718</td>
<td>P60H0AMV6A0-P</td>
<td>Elec. Housing vibe damping plate</td>
<td>40</td>
<td>54</td>
<td>54</td>
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<td>D661-5712</td>
<td>P80H0AMV6A0-P</td>
<td>Elec. Housing vibe damping plate</td>
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<td>21</td>
<td>40</td>
<td>66</td>
<td>66</td>
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<tr>
<td>D661-4881(4088)</td>
<td>P80KABM4N5M5-O</td>
<td>Elec. Housing vibe damping plate</td>
<td>5000</td>
<td>5000</td>
<td>5000</td>
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<td>D662-4885(4821)</td>
<td>D01KABM4N5M5-O</td>
<td>0 to 1.5% overlap</td>
<td>Spool in Mid-Position</td>
<td>Fluorocarbon</td>
<td>6-Pin</td>
<td>+/-10VDC</td>
<td>+/-10VDC</td>
<td>+/-10VDC</td>
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<tr>
<td>D662-4886(4024)</td>
<td>D02KABM4N5M5-O</td>
<td>0 to 3% overlap</td>
<td>Spool in Mid-Position</td>
<td>Fluorocarbon</td>
<td>7-Pin</td>
<td>+/-10VDC</td>
<td>+/-10VDC</td>
<td>+/-10VDC</td>
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<tr>
<td>D663-4767(4002)</td>
<td>L03KABM4N5M5-O</td>
<td>0 to 3% overlap, Curvilinear</td>
<td>Spool in Mid-Position</td>
<td>Buna</td>
<td>7-Pin</td>
<td>+/-10VDC</td>
<td>+/-10VDC</td>
<td>+/-10VDC</td>
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</table>

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