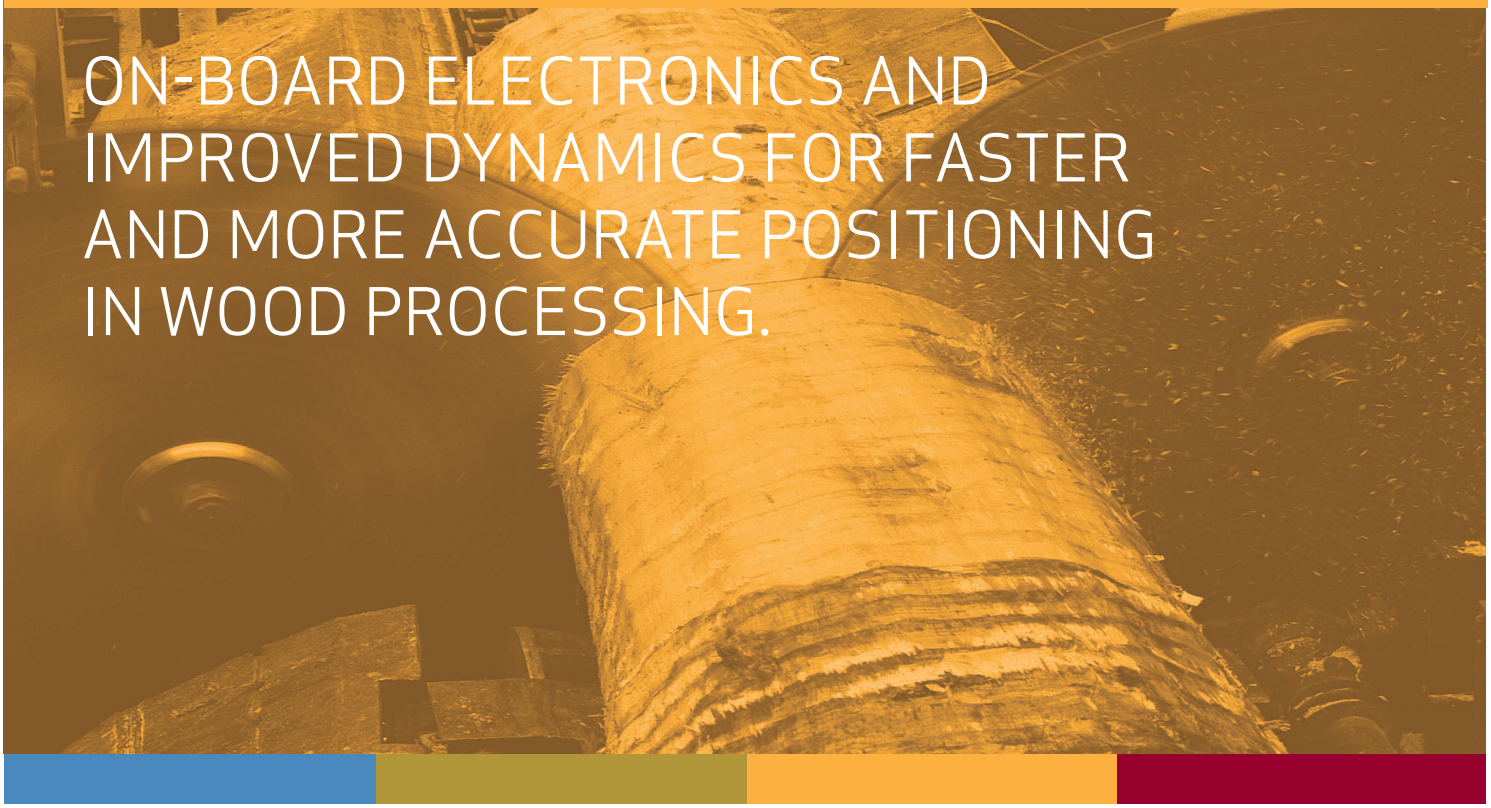
D660 SERVOJET® PILOTED SERVOVALVES



ON-BOARD ELECTRONICS AND IMPROVED DYNAMICS FOR FASTER AND MORE ACCURATE POSITIONING IN WOOD PROCESSING.

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.

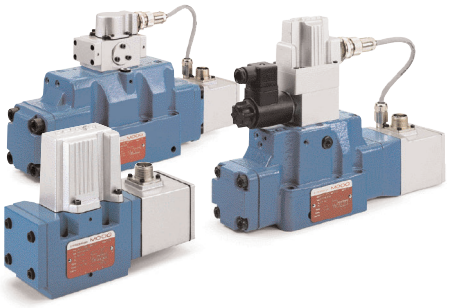
Moog's ServoJet® pilot stage reduces energy consumption and enhances the valves robustness. this pilot stage uses the jet pipe principle, which has been used reliably in various Moog valve versions for many years.

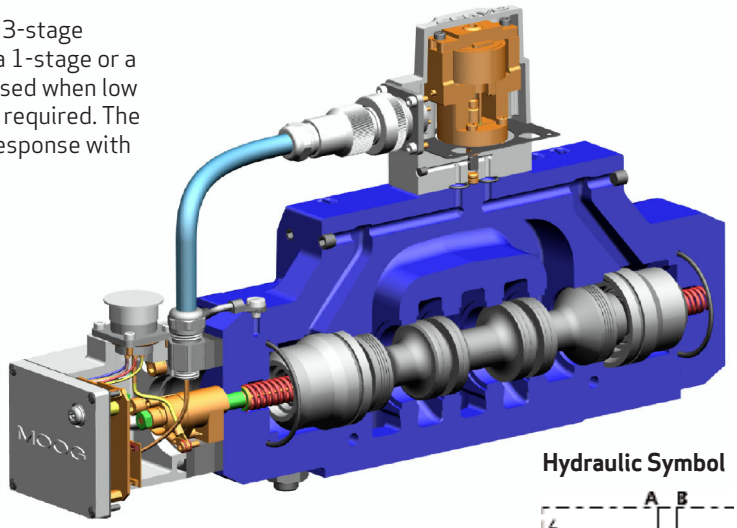
The valve model numbers listed on back were specifically designed to withstand the harsh environment, vibration, and shock loads found in wood/lumber processing plants.

Benefits for the Wood Processing Industry

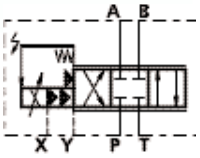
- Flexible design elements optimize the valve to your application
- Highest flow capability for high velocity applications
- Reduced spool drive area for improved dynamic response
- Fail-safe versions for user defined spool position at loss of power
- Improved ServoJet® pilot stage dynamics for high 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.





Hydraulic Symbol



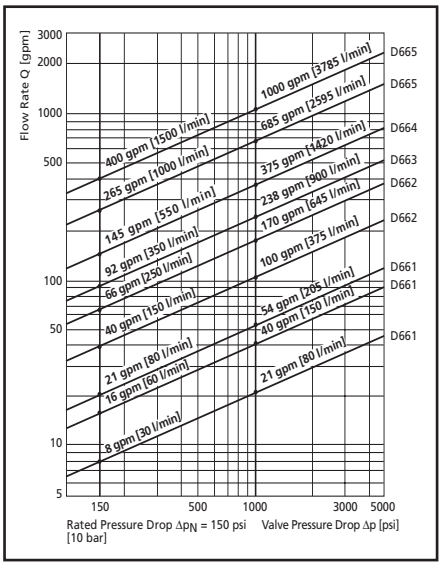
Operation of the ServoJet® Pilot Stage

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.

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.



Technical Data ServoJet® Valves

Model Number	D661-5718	D661-5712	D661-4881 (4088)	D662-4885 (4821)	D662-4886 (4024)	D662-4887 (4812)	D663-4767 (4002)
Type Code	P60H0AM4V6A0-P	P80H0AM4V6A0-P	P80KABM4NSM5-0	D01KABM4NSM5-0	D02KABM4NSM5-0	D02KYBM4NSM5-0	L03KABM4NSM5-0
Notes			Elec. Housing vibe damping plate	Elec. Housing vibe damping plate	Elec. Housing vibe damping plate	Elec. Housing vibe damping plate	Elec. Housing vibe damping plate
Flow (gpm @1000 psi total drop)	40	54	54	100	170	170	238
Flow (gpm @ 150 psi total drop)	16	21	21	40	66	66	92
Max Supply Pressure (on main stage)	5000	5000	5000	5000	5000	5000	5000
Null Cut	Servo 0 to 1.5% overlap	Servo 0 to 1.5% overlap	Servo 0 to 3% overlap	Servo 0 to 3% overlap	Servo 0 to 3% overlap	Proportional 0 to 3% overlap, Curvilinear	Proportional 0 to 3% overlap
Fail-Safe	Spool in Mid-Position	Spool in Mid-Position	Spool in Mid-Position	Spool in Mid-Position	Spool in Mid-Position	Spool in Mid-Position	Spool in Mid-Position
Seal Type	Fluorocarbon	Fluorocarbon	Buna	Buna	Buna	Buna	Buna
Elec Conn	6-Pin	6-Pin	7-Pin	7-Pin	7-Pin	7-Pin	7-Pin
Input Command	+/-10VDC	+/-10VDC	+/-10VDC	+/-10VDC	+/-10VDC	+/-10VDC	+/-10VDC
Power Supply	+15VDC	+15VDC	+24VDC	+24VDC	+24VDC	+24VDC	+24VDC

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