

D633/D634

DIRECT DRIVE SERVOVALVES

Proven to run faster, position better and drive through dirt for wood processing



The D633 and D634 Series are Direct Drive Valves (DDV) with electric closed loop spool position control. These valves are throttle valves for 3-, 4-, and 2x2 way applications. They are suitable for electrohydraulic position, velocity, pressure and force control systems, including those with high dynamic response requirements.

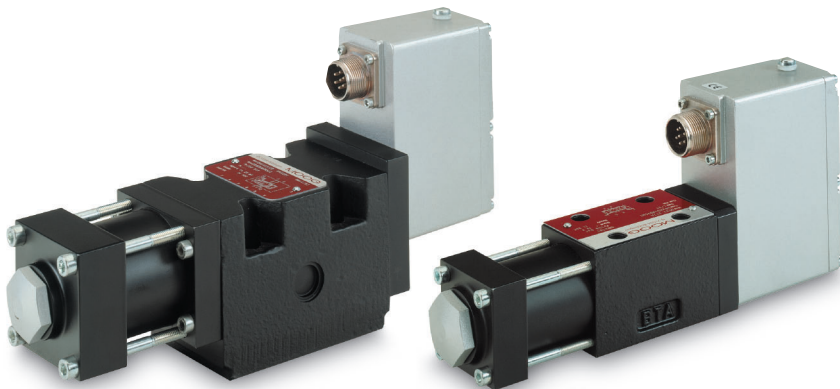
Competitors proportional solenoid systems require two solenoids with more cabling for the same function. Another solution uses a single solenoid, working against a spring. In case of current loss in the solenoid, the spring drives the spool to the end position by passing through a fully open position. This can lead to uncontrolled load movements.

The Moog DDV spool drive device is a permanent magnet linear force motor that can actively stroke the spool from its spring centered position in both directions. This is an advantage when compared to proportional solenoids with one force direction only. The closed loop spool position electronics and pulse width modulated (PWM) drive electronics are integrated into the valve and require a 24VDC power supply.

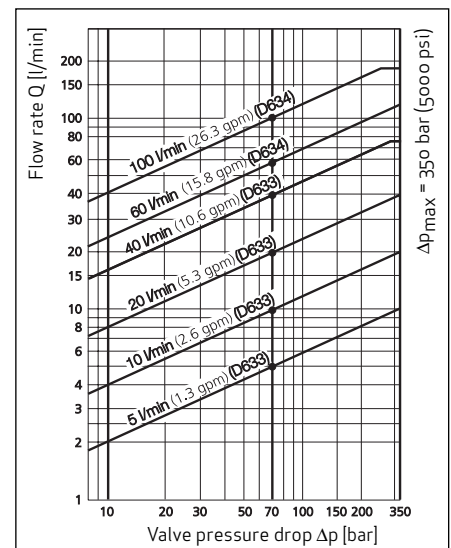
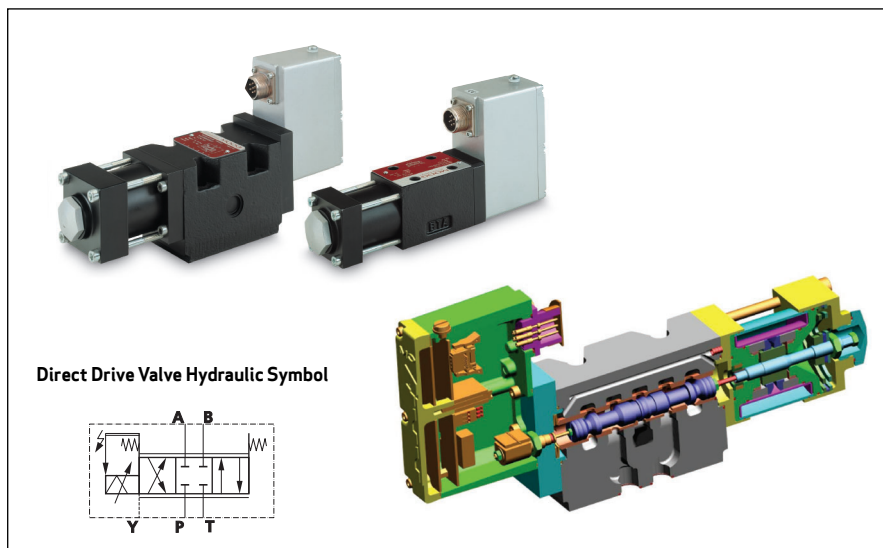
The valve model numbers listed in the chart on the back were specifically designed to withstand the harsh environment, vibration, and shock loads found in wood/lumber processing plants.

ADVANTAGES

- Moog's Direct Drive Valves (DDV) have spool driving forces that are twice those of a servo solenoid valve
- Increased operation at limits (at high pressure drops)
- Directly driven by a permanent magnet linear force motor with high force level
- No pilot oil flow required
- Pressure independent dynamic performance
- Low hysteresis and low threshold
- Low current consumption at and near hydraulic null
- Standardized spool position monitoring signal with low residual ripple
- Electric null adjust
- Can be configured with an offset fail-safe mode; with loss of supply voltage, broken cable or emergency stop, the spool shifts to a predetermined offset flow condition



SPECIFICATIONS



TECHNICAL DATA DIRECT DRIVE VALVES

| Model Number | Type Code | Notes | Flow (gpm @ 1000 psi total drop) | Flow (gpm @ 150 psi total drop) | Maximum Supply Pressure | Null Cut (on main stage) | Fail-Safe | Seal Type | Electrical Connector | Input Command | Power Supply |
|--------------|--------------|---|----------------------------------|---------------------------------|-------------------------|---------------------------------|--------------------------|--------------|----------------------|---------------|--------------|
| D633-303B | R02K01M0NSM2 | | 1 | 0.5 | 5000 | Servo 0 to 1.5% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |
| D633-317B | R04K01M0NSM2 | | 2 | 1 | 5000 | Servo 0 to 1.5% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |
| D633-308B | R08K01M0NSM2 | | 5 | 2 | 5000 | Servo 0 to 1.5% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |
| D633Z570B | R16K01M0NSM2 | Vibration resistant internal connector | 10 | 4 | 5000 | Servo 0 to 1.5% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |
| D634Z395C | R24K02M0NSM2 | Vibration resistant internal connector and localized plotting | 16 | 6 | 5000 | Servo 0 to 1.5% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |
| D634Z549A | R40K02M0NSM2 | Vibration resistant internal connector and localized plotting | 26 | 10 | 5000 | Servo 0 to 1.5% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |
| D634-1019 | P24KA6MOVSM2 | | 16 | 6 | 5000 | Proportional 0 to 3% overlap | Spool in Mid-Position | Fluorocarbon | 7-Pin | ±10 VDC | +24 VDC |
| D634-1003 | P40KA6MOVSM2 | | 26 | 10 | 5000 | Proportional 0 to 3% overlap | Spool in Mid-Position | Fluorocarbon | 7-Pin | ±10 VDC | +24 VDC |
| D634-1001 | P60KA6MOVSM2 | | 42 | 16 | 5000 | Proportional 0 to 3% overlap | Spool in Mid-Position | Fluorocarbon | 7-Pin | ±10 VDC | +24 VDC |
| D634Z1044 | P60KA6M0NSM2 | Vibration resistant internal connector | 42 | 16 | 5000 | Proportional 0 to 3% overlap | Spool in Mid-Position | Buna | 7-Pin | ±10 VDC | +24 VDC |

The position control loop for the spool with position transducer and linear force motor is closed by the integrated electronics. An electric signal corresponding to the desired spool position is applied to the integrated electronics and produces a pulse width modulated (PWM) current to drive the linear force motor. An oscillator excites the spool position transducer (LVDT) producing an electric signal proportional to spool position.

The demodulated spool position signal is compared with the command signal and the resulting spool position error causes current in the force motor coil until the spool has moved to its commanded position, and the spool position error is reduced to zero. The resulting spool position is thus proportional to the command signal.

Moog has offices around the world. For more information or the office nearest you, contact us online.

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This technical data is based on current available information and is subject to change at any time by Moog. Specifications for specific systems or applications may vary.

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