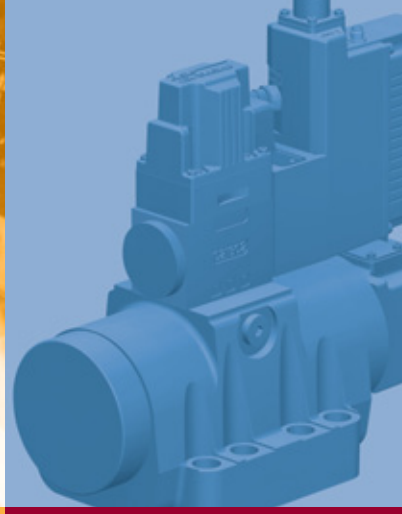
PILOT-OPERATED SERVO VALVE WITH SERVOJET® PILOT VALVE (D792 SERIES)

Improved resistance to vibration and contamination



The D792 Series has been valued by machine builders for many years for its high dynamics and very high flow capabilities up to 1,000 l/min (250 gpm). Over time our customers expressed a need for this product to offer this same performance even when installed in remote areas with extreme environments, high vibration levels and potential oil contamination levels.

Moog is now offering D792 Servo Valves with a ServoJet® pilot valve. This pilot valve was first introduced in 1998 and is known for its proven superior reliability and ruggedness can now withstand in conditions with high vibration and oil contamination.

D792 Servo Valves have also a 3-stage valve design that enables: Superior dynamics, low threshold and hysteresis, and excellent stability at null. The ServoJet® pilot valve offers these advantages while adding a more robust design with a tenfold increased minimal clearance for oil flow compared to the previous nozzle flapper design. The result is a a highly robust, high flow valve suitable for even more machine applications.

All ServoJet® pilot valves have electrical position feedback (LVDT) to ensure that the effects of wear over the lifetime will not degrade the control performance of the valve.

Optional external pilot valve supply and return connections via additional x and y ports in the valve body increase the flexibility of this product based on the hydraulic system design needed. The ServoJet pilot valve has a maximum operating pressure of 350 bar (5,000 psi).

The digital control electronics provides the opportunity to allow machine builders to optimize the performance of equipment using advanced features of our Digital Control Servo Valves (DCV) and Axis Control Valves (ACV) technologies.

ADVANTAGES

- Improved vibration resistance
- Enhanced contamination resistance
- Very high flow rate on small port pattern
- High dynamics
- Increased machine performance through more valve tuning options, valve diagnostics and faster commissioning
- Easy automation when using fieldbus

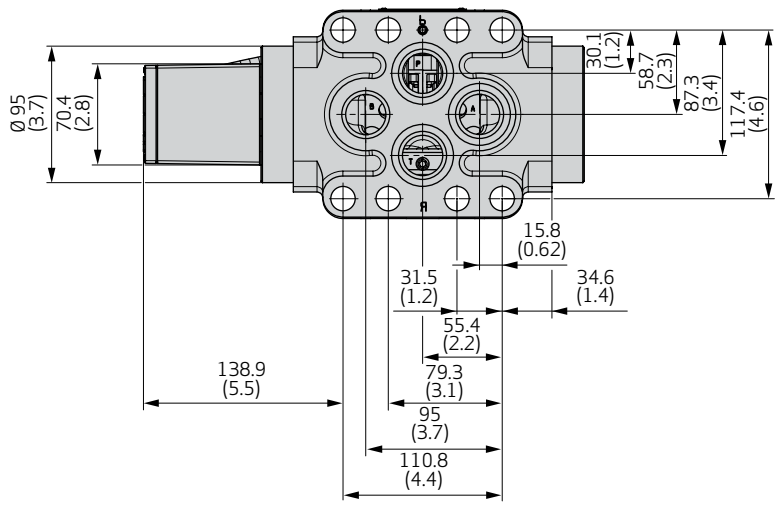
APPLICATIONS

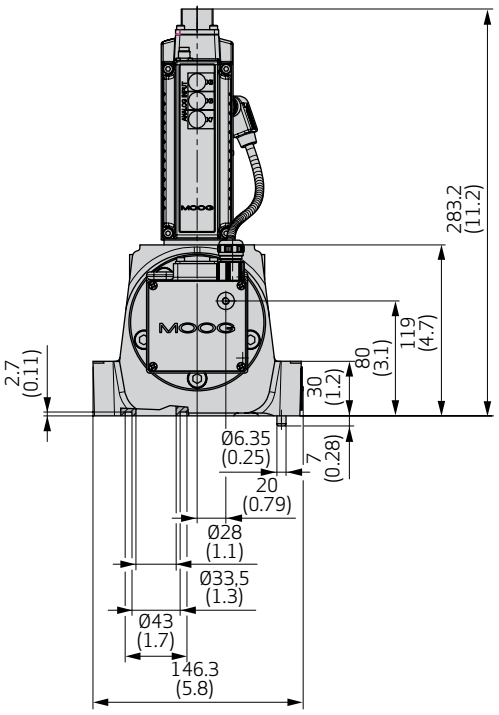
- Steel production
- Test equipment
- Metal forming and presses
- Steam turbines

TECHNICAL DATA

Model	**D792**			
Valve design	3-stage, with standard spool			
Pilot valve	2-stage ServoJet® D670			
Rated flow at Δp_N 35 bar (500 psi)/spool land	400 l/min (106 gpm)	630 l/min (166 gpm)	800 l/min (211 gpm)	1,000 l/min (264 gpm)
Step response time for 0 to 100 % stroke	4 to 6 ms	4 to 6 ms	6 to 8 ms	10 to 12 ms
Installation position	Any			
Weight	17 kg (37.5 lb)			
Storage temperature range	-40 to +80 °C (-40 to +176 °F)			
Ambient temperature range	-20 to +60 °C (-4 to +140 °F)			
Vibration resistance	30 g, 3 axis, 10 Hz to 2 kHz			
Shock resistance	50 g, 6 directions			
Hydraulic Data				
Leakage flow (rate) (≈ zero lap)[1)]	10 l/min (2.6 gpm)	14 l/min (3.7 gpm)	14 l/min (3.7 gpm)	14 l/min (3.7 gpm)
Pilot flow static[1)]	2 l/min (0.5 gpm)			
Pilot flow for 100 % step[1)]	20 l/min (5.3 gpm)			
Hydraulic fluid	Hydraulic oil as per DIN 51524 parts 1 to 3 and ISO 11158. Other fluids upon request.			
Temperature range of the hydraulic fluid	-20 to +80 °C (-4 to +176 °F)			
Recommended viscosity range at 38 °C (100 °F)	15 to 45 mm^2/s (cSt)			
Viscosity range at 38 °C (100 °F)	5 to 400 mm^2/s (cSt)			
Recommended cleanliness class according to ISO 4406				
For functional safety	19/16/13			
For longer service life	17/14/11			
Frequency response ± 5 %	> 110 Hz			
Threshold, typical	< 0.1 %			
Hysteresis, typical	< 0.2 %			
Null shift at ΔT = 55 K (131 °F)	< 1.5 %			

1) Measured at 210 bar (3,000 psi) pilot or operational pressure, oil viscosity 32 mm^2/s and oil temperature 40 °C (104 °F)





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

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Pilot-operated Servo Valve - D792 Series
PIM/Rev. A, June 2014, CDL42340-en

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

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