

HIGH RESPONSE SERVO PROPORTIONAL VALVE J840 SERIES

THE MOST ADVANCED
SERVO PROPORTIONAL VALVE
FOR ULTRA HIGH SPEED
INJECTION MOLDING

The J840 Series is Moog's top of the range servo proportional valve for ultra high speed injection molding machines. It provides the fastest acceleration and deceleration of injection cylinders and smooth V/P change over. The simple structure of its pilot valve reduces the effect of oil contamination. On-board electronics provide high response and stable performance through feedback control.

The challenges

Realizing higher speed and faster response to increase the applications where ultra thin wall molding can be used

Improving the reliability of ultra high speed injection molding machines

Reducing machine assembly times

Our solution

Higher speed and better dynamics

The J840 Series owes much of its superior dynamic and static characteristics to a high performance pilot stage with outstanding response and stability. Dynamic performance and controllability are also improved by optimization of both flow direction and spool shape in the main stage to reduce pressure losses and reduce the effect of fluid viscosity change. Step response is an incredible 8 ms.

Greater reliability

The pilot stage is a compact, direct drive servovalve with a high output, high power rate force motor. It is very resistant to contamination because it is a voice coil direct drive type with greater radial clearance and increased stroke on the spool. The internal amplifier is 24VDC and a regulator is used to provide a stable power supply to the internal amplifier to reduce the effect of fluctuations in supply voltage. An LVDT is attached to the spools of both the main and pilot stages to provide spool position feedback.

Easy installation

The J840 Series has an internal amplifier which means setting control parameters is easy. Installation is simple because there is no drain, so machine assembly time is reduced.

Supported by Moog expertise

Moog has a wealth of experience in providing OEMs with innovative hydraulic motion control solutions for injection molding applications. Moog revolutionized the plastics industry in the late 1970s when we designed the world's first closed-loop injection motion control. Today we are still setting the industry on its heels with high performance servovalves for ultra high speed injection molding machines.

Our design engineers work collaboratively with customers, providing the guidance, support and expertise they need to overcome their toughest motion control challenges and move their ideas forward.

Technical data

		J842	J843	J844
Mounting pattern	ISO/NG	04 (D07/NG16)	06 (D08/NG25)	
Main port size		ϕ19	ϕ27	ϕ32
Rated flow	ΔP=0.5MPa	150/200	350	500
	ΔP=3.5MPa	250/500	900	1300
Operating pressure		21 MPa		
Proof pressure		31.5 MPa		
Return pressure		7 MPa (21 MPa when external pilot)		
Step response		7 ms	7 ms	8 ms
Power supply		24VDC		
Command signal		±10V (±10mA, 4-20mA selectable)		
Spool monitoring		±10V (±10mA, 4-20mA selectable)		
Mass		13.6 kg	21.6 kg	21.6 kg



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