

MINIATURE DDV PROPORTIONAL CARTRIDGE VALVE E242-200



High Contamination Resistance:

Designed for extreme environments such as motorsport, underwater exploration, and automotive testing where there's a critical need for high resistance to hydraulic contamination.

Direct Drive Valve (DDV) Technology:

Utilises a linear motor to directly manipulate the flow control spool, addressing the specific needs of challenging environments.

Robust Functionality: Combines the sturdy functionality of a proportional valve, ensuring reliable performance.

Speed and Accuracy: Offers the rapidity and precision of a servo valve, enabling quick and precise control.

Compact Design: Features a compact cartridge construction, ideal for space-saving installation.

Multi-Axis Applications: Perfectly suited for multi-axis applications that use a single manifold, providing versatile solutions for various needs.

Available in two basic versions

Axis-Cut (Q): Designed for use in position, pressure, and force control applications.








Sequential Gear Box Actuation (S):

Designed for the control of ratchet drum indexing mechanisms.

BENEFITS

- + Rated flow range from **0.6 lpm up to 18 lpm** meeting the requirements of the majority of motorsport applications.
- + High operating force of linear motor
- + Compact package suited to multi-axis systems
- + High reliability due to hydraulic contamination resistance
- + Suitable for challenging and extreme environments
- + An increase in operating pressure capability (up to 280 bar)
- + Improved levels of control accuracy & repeatability
- + Higher linear motor force for even higher levels of reliability

TYPICAL APPLICATIONS

-  Rally cars
-  Automotive damper testing
-  LMP sports-racing cars
-  High performance automotive
-  Oil & gas exploration and Subsea (thrusters)
-  Racing yachts
-  Autonomous robotics



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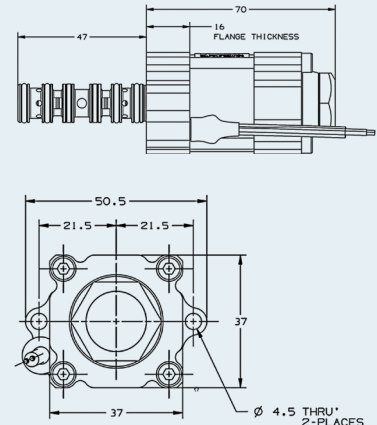
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SPECIFICATIONS

TYPICAL TECHNICAL DATA E242 CARTRIDGE DDV PROPORTIONAL VALVE

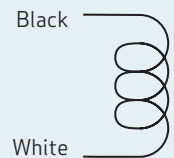
Max Supply Pressure:	280 Bar
Rated Flow (Q _r): (See below tabulated data for standard flow rates)	Rated flow Q _r is specified at 70 bar supply pressure and 4-port connected. Consult Moog for details of flow rates at other pressures and operating modes
Leakage Flow (Q _l): @ 140 Bar with 25 cSt Fluid	P>R port spool null leakages at 140 bar supply is typically < 1.0% of Q _r
Operating Fluids:	Mineral oil. Consult Moog for other fluid types
Electrical Input Signal:	+/- 1.0 A into a 6.4 Ohm, 0.01H load
Dynamic Performance at 25% signal:	-3 dB (bandwidth) 200 Hz, 90° phase lag 350 Hz (typical) Mechanical natural frequency of linear motor: 400 Hz, (Damping ratio 0.25)
Accuracy of Flow Control:	Full amplitude Hysteresis <140 mA Threshold <80 mA
Operational/Environmental Survivability Limits:	Thermal and Shock: 120 °C & 25 G shock load (Any axis) Corrosion Resistance: 240 hours to ASTM B117 Salt Spray Test.
Connector Type:	Flying lead: PTFE insulated 24 AWG copper wire Lead length 350 mm
Mass:	429 gm

TYPICAL GENERAL INSTALLATION INFORMATION



Electrical connections:

Polarity:
+ve signal to
White lead
gives flow out
of port A



For full installation information
see drawing number CC34203

FLOW CONTROL VALVE STANDARD MODEL NUMBERS

Bias: (spool offset with no input)	Standard range of E242-200 Series, Flow Control Axis Cut Valves Rated flow (l/min) @ 70 bar, in 4-port configuration.							
	0.6	1.0	2.0	4.0	6.0	8.0	11.0	18.0
None 0 %	E242-208	E242-218	E242-219	E242-266	E242-258A	E242-220A	E242-205A	E242-200A
P>A 15%	E242-234	E242-222	E242-223	E242-259	E242-262A	E242-229A	E242-227A	E242-206A
P>B 15%	E242-235	E242-233	E242-215	E242-261	E242-265A	E242-230A	E242-228A	E242-212A

SHIFT VALVE STANDARD MODEL NUMBERS

Bias	Standard range of E242-200 Series, Switching Valves Rated flow (l/min) @ 70 bar 4-port configuration		Note The option given has both return lands open until 30% signal and the pressure lands closing until 30% signal.
	A- 30% OLP, 30% ULR		
None 0 %	11.0	16.0	
	E242-203	E242-202	

For further information, visit:
www.moog.com/miniature

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

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Moog Industrial Group.
Ashchurch Parkway, Tewkesbury,
Glos. GL20 8TU UK
Tel: +44 (0)1684 858000