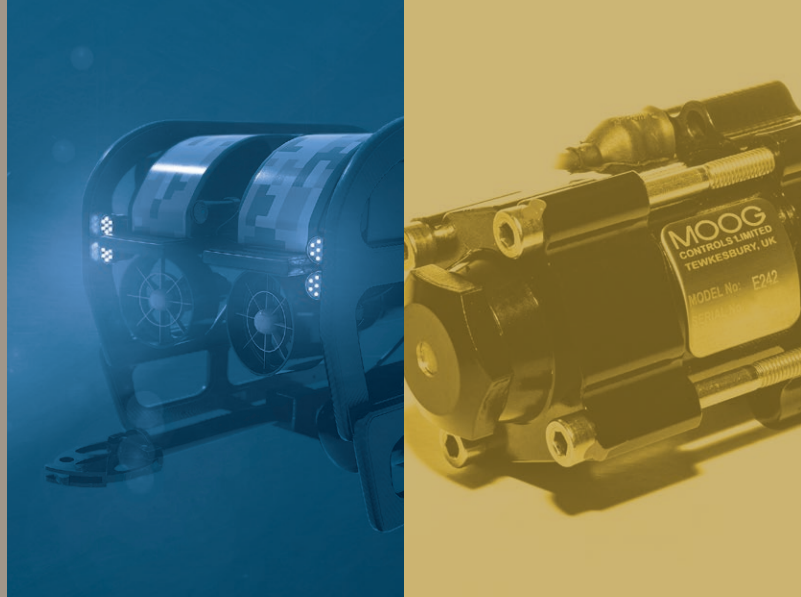


E242-700 SERIES

SUB MINIATURE DIRECT DRIVE VALVE FOR SUBSEA SYSTEMS

A compact Electro-Hydraulic Direct Drive Valve for use in high ambient pressure environments.



The E242-700 series direct drive servo valve is a development of the E242-200 Series widely used in Motorsport, Automotive Testing, Yacht Racing and other applications requiring a robust hydraulic control valve with high energy efficiency.

Moog's Direct Drive technology utilises a high performance linear motor to directly operate the valve spool. This approach yields the robust functionality of a proportional valve with the speed of response and control accuracy of a servo valve. The absence of the conventional servo valve pilot stage but retaining a precisely machined spool give a valve with unparalleled levels of energy efficiency. This feature has been successfully utilised in manually and battery powered hydraulic systems with strictly limited power

The E242-700 Series version features a vented motorcap allowing the valve to be used in applications subjected to high ambient pressures such as subsea devices where the valve is located in a pressure compensated chamber.



TWO BASIC VERSIONS OF THE E242-700 SERVOVALVE

- 1 An axis-cut (zero dead-band) version for closed-loop position, pressure and force control applications
- 2 A unit with 25% dead-band for open-loop control of position or velocity and switching applications

ADVANTAGES OF THE E242-700 VALVE

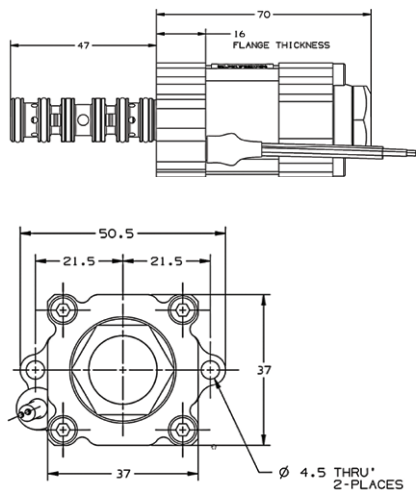
- Operating pressure range of 0 - 280 Bar (4061 psi)
- High peak flow capability of 18 l/min (4.75 US g/min)
- Compact package & low mass (439g) (15.48 oz)
- Low internal leakage for high efficiency
- High resistance to hydraulic contamination

INDUSTRY APPLICATIONS

- Subsea manipulators
- Thruster control
- Process valve actuation
- Exploration drilling
- Completion tool actuation.

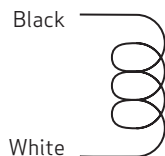
SPECIFICATIONS

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

TYPICAL TECHNICAL DATA E242-700 CARTRIDGE DDV PROPORTIONAL VALVE

Max Supply Pressure:	280 Bar
Rated Flow (Qr):	Rated flow Qr is specified at 70 bar supply pressure and 4-port connected. Consult Moog for details of flow rates at other pressures and operating modes
Standard Rated Flow	0.6 1.0 2.0 4.0 6.0 8.0 11.0 18.0 l/min
Leakage Flow (Ql): @ 140 Bar with 25 cSt Fluid	P>R port spool null leakages at 140 bar supply is typically < 1.0% of Qr
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 <120 mA Threshold <50 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.
Maximum Ambient Pressure	TBA
Connector Type:	Flying lead: PTFE insulated 24 AWG copper wire Lead length 350 mm
Mass:	429 gm

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

e-mail: info.uk@moog.com

www.moogilandgas.com

Moog is a registered trademark of Moog Inc. and its subsidiaries. All trademarks as indicated herein are the property of Moog Inc. and its subsidiaries. © July 2021 Moog Inc. All rights reserved. All changes are reserved.

E242-700 Datasheet CDL 64123

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

MOOG

Moog Industrial Group.

Ashchurch Parkway, Tewkesbury,
Glos. GL20 8TU UK

Tel: +44 (0)1684 858000