

# EXPLOSION-PROOF DIGITAL CONTROL SERVO AND PROPORTIONAL VALVES

Optimized machine functionality in potentially hazardous environments



Companies that need products with global safety certifications face many challenges including the need for the highest safety, reduced downtime in 24/7 operations and expert technical support. Moog's newest explosion-proof offering is a range of digital valves with advanced parameter setting, condition monitoring and remote diagnostic capabilities. Available in a full range of sizes with both pressure and flow control versions, this family of products is certified according to ATEX, IECEx, and FM regulations (ATEX/IECEx II 2G Ex db eb IIC T4 Gb and NEC 505/FM US Class I, Zone I, AEx d e IIC T4 Gb). Axis Control Valve versions are also available.

Moog has extensive experience in designing and manufacturing products for demanding environments and first introduced certified valves for use in explosive environments in 1972. As the leader in valves with digital technology since 2000, Moog is able to offer explosion-proof valves with the safety, reliability and advanced technology needed by industries with potentially explosive environments. Advanced digital technology with parameter setting, condition monitoring and remote diagnostics enables you to maximize uptime in your operations.

To reduce downtime due to installation and maintenance, Moog incorporates a unique feature in the explosion-proof Digital Control Valve Series called hot pluggable connector capability which enables you to connect and disconnect the valve with the electrical supply switched on.



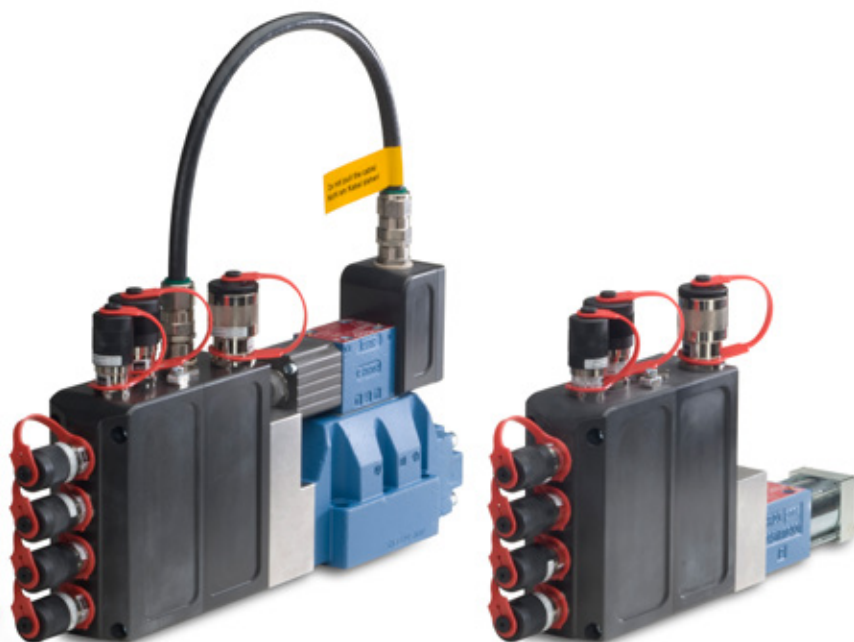
## FEATURES AND BENEFITS

- **Flexibility:** Since control parameters may be downloaded using the fieldbus or a high level PLC program, the valve control function can be tuned during the machine operating cycle
- **Increased uptime:** Integrated continuous monitoring of a range of important valve and system functions and remote diagnostics
- **Fieldbus data transfer:** With an electrically isolated fieldbus interface, valve parameters can be changed on site or remotely
- **Easier maintenance:** Hot pluggable connectors can be mated and unmated while powered, reducing downtime during maintenance
- **Easy to use interface:** Save time with software engineered for usability

## APPLICATIONS

- Oil and gas exploration
- Gas turbines
- Power generation
- Maritime equipment
- Chemical processing

Free easy-to-use Valve Configuration Software is included.



# SPECIFICATIONS

## Digital electronics

Control electronics are completely integrated within this valve series, incorporating a microprocessor-based system for executing all key functions via embedded software. This offers flexibility for the valve to adapt to a wide range of operating conditions, while maintaining high accuracy and repeatability. In particular, it enables highly optimized system performance even with significant variations in pressure and temperature.

## Fieldbus interfaces

The built-in fieldbus interface (e.g. CANopen®, Profibus-DP® or EtherCAT®) enables adjustment of operating parameters, controlling the valve and monitoring of performance. In a safe private or virtually private network you can communicate directly with the valve from anywhere in the world.

This valve is also available in a version without a fieldbus interface that is controlled using analog inputs and includes a service connector for setting parameters.

## Axis control

In addition, this family of products includes the Axis Control Valve (ACV) which controls the position, velocity or force of the actuator in the external system. The control mode can be changed during the machines cycle as commanded by external inputs.

Moog's team of application engineers can assist you in selecting the correct valve and applying it easily in your design.

## TECHNICAL DATA

Model	Valve function	Size according to ISO 4401	Maximum flow	Rated flow
<b>Direct operated valves</b>				
D636K	Flow	03	75 l/min (19.8 gpm)	5/10/20/40 l/min (1.3/2.6/5.3/10.6 gpm)
D638K	Flow and pressure			
D637K	Flow	05	180 l/min (47.6 gpm)	60/100/160 l/min (15.9/26.4/42.3 gpm)
D639K	Flow and pressure			
<b>Pilot operated valves</b>				
D671K	Flow	05	180 l/min (47.6 gpm)	30/60/80/2 x 80 l/min (7.9/15.9/21.1/2 x 21.1 gpm)
D941K	Flow and pressure			
D672K	Flow	07	600 l/min (158.5 gpm)	150/250 l/min (39.6/66.0 gpm)
D942K	Flow and pressure			
D673K	Flow	08	1,100 l/min (291 gpm)	350 l/min (92.4 gpm)
D943K	Flow and pressure			
D674K	Flow	08	1,500 l/min (396.3 gpm)	550 l/min (145.3 gpm)
D944K	Flow and pressure			
D675K	Flow	10	3,600 l/min (951 gpm)	1,000/1,500 l/min (264.2/396.3 gpm)

Please see [www.moog.com/industrial](http://www.moog.com/industrial) for further details.

- Rated flow depends on option selected either at  $\Delta p_N$  35 bar/spool land (500 psi/spool land) or at  $\Delta p_N$  5 bar/spool land (75 psi/spool land)
- Maximum operating pressure 350 bar (5,000 psi)
- Temperature range -20 (-40 °C on request) to +60 °C (-4 (-40 °F on request) to +140 °F) ambient temperature, -20 (-40 °C on request) to +80 °C (-4 (-40 °F on request) to +176 °F) depending on certified temperature class according to ATEX/IECEX and NEC 505/FM US
- Hydraulic function: 2-way, 3-way, 4-way, 5-way and 2x2-way versions
- Valve Configuration Software is provided as part of this product package
- For more information refer to the appropriate catalogs

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

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Explosion-proof Digital Interface Valve  
Rev. B, April 2019, CDL31326-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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