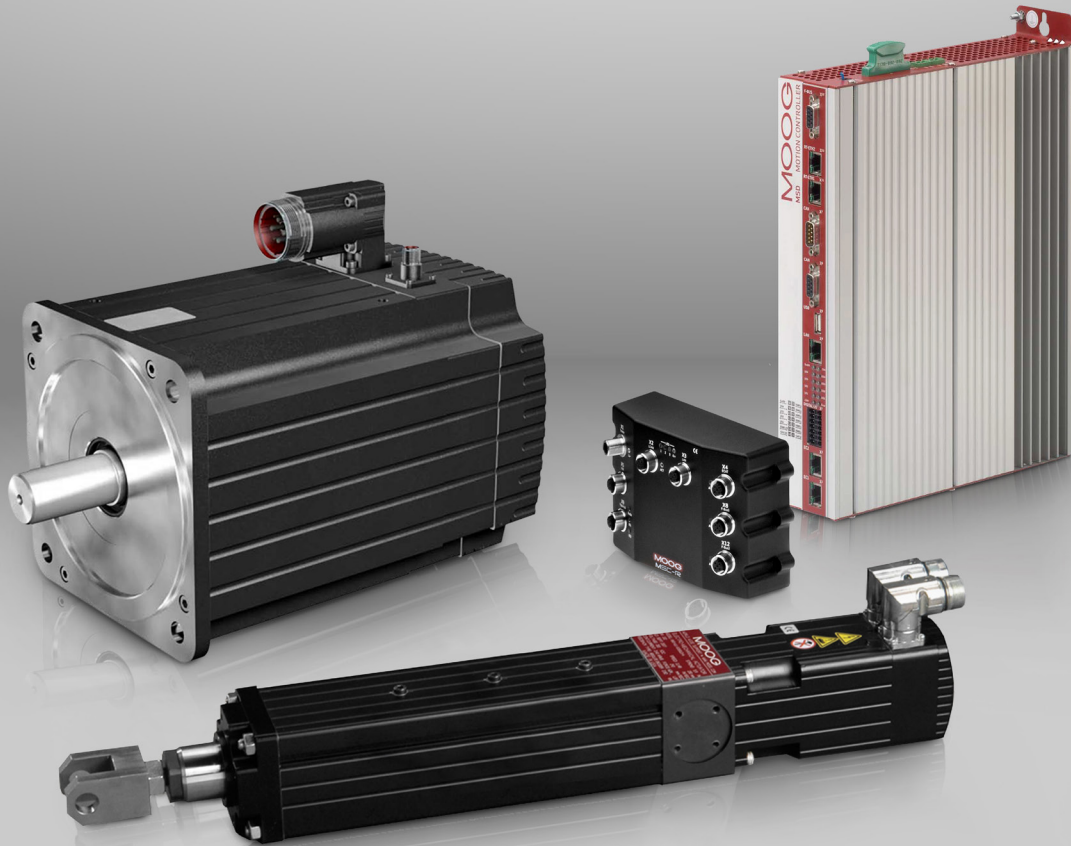


# ELECTRO-MECHANICAL PRODUCTS



April 2018

WORLD CLASS PRODUCTS FOR THE  
HIGHEST MACHINE PRODUCTIVITY

WHAT MOVES YOUR WORLD

**MOOG**

# MOOG WORLD CLASS ELECTRO-MECHANICAL PRODUCTS

With rising utility costs and increasing exposure to environmental action, design engineers need a solution that will help them incorporate an electric servo solution without sacrificing precision, speed or productivity.




Whenever the highest levels of motion control performance and design flexibility are required, you'll find Moog expertise at work. We can help you overcome your toughest engineering obstacles and enhance your products performance through collaboration, technological expertise and our products.

Moog offers world-class electro-mechanical products and systems, with products such as Servo Motors, Ball and Planetary Roller Screws, Actuators, Servo Drives and Motion and Machine Controllers, providing:

- Long lasting performance and reliability that increase your machine lifetime and your return on investment
- Easier installation, creating less downtime so you are operating sooner
- Higher efficiency helping you lower your energy consumption and reduce your maintenance effort

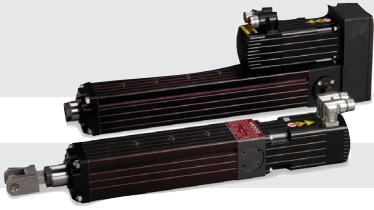
## SERVO MOTORS

Moog delivers an extensive product range of Servo Motors specifically designed for highly dynamic servo industrial applications.

Ranges	 <b>Compact Dynamic</b>	 <b>Maximum Dynamic</b>	 <b>Explosion Proof</b>	Advantages
Continuous Torque (Nm)	from 0.15 to 74.2	from 2.2 to 1,034	from 0.52 to 66.68	<ul style="list-style-type: none"> <li>• Simple tools for easy configuration to meet your exact application needs</li> <li>• High dynamic and low inertia driving improved machine throughput</li> <li>• Industrial standard interfaces provide compatibility with mechanical and electrical systems</li> </ul>
Peak Torque (Nm)	from 0.50 to 240	from 10 to 2,012	from 1.0 to 239.3	
Speed (rpm)	Up to 11,700	Up to 11,700	Up to 7,800	
Size (mm)	6 Frames: from 40 to 190	7 Frames: from 40 to 190	3 Frames: from 70, 140, 190	
<b>Moog Servo Motors at a glance</b>	<ul style="list-style-type: none"> <li>• Superior motor dynamics improving cycle time</li> <li>• Modular and compact lightweight construction</li> <li>• Proprietary, low cog design for smooth low speed operation</li> <li>• Flexible options for easy integration</li> <li>• Available as frameless package</li> <li>• Custom windings and designs</li> <li>• Explosion Proof Dynamic Brushless Servo Motor</li> </ul>			

## ELECTRO-MECHANICAL LINEAR SERVO ACTUATORS

Moog Electro-Mechanical Linear Servo Actuators are the ideal solution for high performance industrial applications that need maximum speed and force.

Ranges	 <b>Electro-Mechanical Linear Servo Actuators</b>	Advantages
Continuous Force (kN)	from 1.0 to 96	<ul style="list-style-type: none"> <li>• Convenient configuration allows the actuator to be tailored to the exact needs of the application</li> <li>• High force density to minimize space requirements</li> <li>• High dynamic load capacity to provide operation long life</li> <li>• Electronic nameplate provide Plug and Play capability with Moog drives</li> <li>• Industrial standard interface provide compatibility with third party drives</li> </ul>
Peak Force (kN)	from 3.6 to 115.6	
Rod Speed (mm/sec)	Up to 1,600	
Stroke Length (mm)	Up to 2,500	
<b>Moog Electro-Mechanical Linear Servo Actuators at a glance</b>	<ul style="list-style-type: none"> <li>• Inline and foldback design when space is at premium</li> <li>• Variety of motor windings for optimum performance</li> <li>• Several screw leads for speed/force variations</li> <li>• Ball screw and roller screws available</li> </ul>	

## SINGLE AND MULTI-AXIS SERVO DRIVES

Moog Servo Drives provide fully digital control over position, velocity or torque for synchronous, asynchronous, linear or torque servo motors.


<p><b>Ranges</b></p>	<p><b>Servo Drives MSD Series</b></p> 
<p>Continuous Current (amps)</p>	<p>from 4.0 to 450</p>
<p>Peak Current (amps)</p>	<p>from 8.0 to 765</p>
<p>Operating Voltage (VAC)</p>	<p>from 115 to 460</p>
<p><b>Moog Servo Drives at a glance</b></p>	<ul style="list-style-type: none"> <li>• Available in a wide variety of power sizes and fieldbus communication options that work with virtually all machine designs</li> <li>• Deliver high dynamics, reliability, smooth low-speed performance, thermal management for operation in demanding environments</li> <li>• Offer motion control functionality for every application</li> </ul>

### Advantages

- Modular design enables flexible configuration for multi axis systems
- Compact form factor minimizing machine cabinet space
- Shared power supply and DC bus
- Active bus control – steady bus control for machines that may be used internationally under different voltages

## CUSTOMIZABLE SINGLE AXIS SERVO DRIVES

Consistent high dynamic performance, control accuracy and easy-to-adapt motion control templates.

<p><b>Ranges</b></p>	<p><b>Servo Drives CSA Series (formerly DS2110)</b></p> 
<p>Continuous Current (amps)</p>	<p>from 3.0 to 140</p>
<p>Peak Current (amps)</p>	<p>from 11 to 300</p>
<p>Operating Voltage (VAC)</p>	<p>from 65 to 510</p>
<p><b>Moog Servo Drives at a glance</b></p>	<ul style="list-style-type: none"> <li>• Available in 7 power sizes up to 300 amps peak current</li> <li>• Replacement or retrofit product for DS2110, DS2100 and DS2000XP</li> <li>• Explosion-proof versions available with CSA, UL and ATEX certifications</li> </ul>

### Advantages

- Ideal for applications requiring integrated axis motion control
- Flexible performance supports several feedback devices, encoders and resolvers
- Maximum motor efficiency is maintained with FOC
- Works seamlessly with Moog Servo Motors and Actuators

## MOTION AND MACHINE CONTROLLERS

Moog offers a wide range of Machine and Motion Controllers and Software to meet your specific needs.

<p><b>Ranges</b></p>	<p><b>Motion and Machine Controllers</b></p> 
<p><b>Moog Motion and Machine Controllers at a glance</b></p>	<ul style="list-style-type: none"> <li>• Motion Controllers and Software for electric and hydraulic servo actuation applications that offer rapid set-up</li> <li>• Motion Controllers with high vibration resistance and extended resistance against fluid contamination and corrosion for use in harsh environments</li> <li>• Machine Controllers available in modular design for high flexibility and effortless implementation into new systems</li> </ul>

### Advantages

- Modular design enables the solution to be scaled to the needs of the machine
- Capable of EH and EM motion control
- Industry standard fieldbus enables convenient integration with other machine elements (sensors, drives, etc.)
- Designed to perform in harsh environments
- Resistant against various aggressive fluids

# PROFESSIONAL SERVICES TAILORED TO YOUR UNIQUE NEEDS

Moog Global Support is our promise to help maintenance professionals worldwide maximize uptime and get more from your machine investment. We are your trusted service partner for responsive support and motion control know-how.



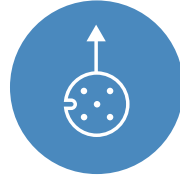
## FACTORY REPAIR

Ensure "like-new" performance in your machine

Moog's factory repair services deliver less unplanned downtime

Minimize risk of poor repair by non-authorized repair facilities with no access to authentic Moog parts, product specifications, valve test parameters or upgrades

Gain expertise—and warranty protection—available only from the OEM



## LONG-LIFE RETROFITS/UPGRADES

Take advantage of long-life replacements for motion control products to achieve better productivity

Improve the quality and performance of underperforming machines with retrofit components that incorporate the latest technology upgrades

Work with Moog technical experts who can recommend a course of action to add extra reliability to your operations

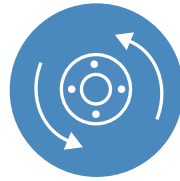


## HANDS-ON TRAINING

Get hands-on training from Moog trainers using Moog equipment in our facilities or on-site at yours

Learn how to effectively manage installation and troubleshooting on your own

Speed up repair and maintenance in order to maximize uptime



## OEM REPLACEMENT PRODUCTS

Moog is the only provider of OEM replacement products/spares

Ensure industry-leading performance in your machine

Take advantage of global availability of spare parts when you need them

Secure guaranteed turnaround on parts with flexible product exchange programs designed for peace of mind



## PROFESSIONAL FIELD SERVICE

Reduce risk and keep machines up and running faster with expert support

Supplement your staff with expert professionals who know your applications

Benefit from less downtime and access to original drawings and documentation

Available in person, online, over the phone and via remote diagnostic tools



## FLEXIBLE SERVICE AGREEMENTS

Shift from unplanned "break and fix" approach to planned maintenance that will minimize risk of failure

Tailor a flexible and bundled program that focuses on your operating challenges

Reduce your total cost of ownership while taking a proactive approach to O&M services

**MOOG** AUTHORIZED DISTRIBUTOR

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Moog Electro-Mechanical Products Brochure  
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