# MARINE AND SHIP EQUIPMENT

Motion control products and services



Moog has been providing motion control technology for markets ranging from aviation to industrial machinery for over fifty years.

We also provide high performance motion control including ensuring realistic pilot training in flight simulators, ensuring safety in gas turbine power plants, and even controlling the braking, steering and fuel control in F1 race cars. The Moog brand is known for providing reliable long life performance in the most challenging applications around the world.

Moog meets or customer needs by providing deep application knowledge, focusing on adding value and delivering responsive global support. With our technology-neutral approach to engineering, we offer expertise in electro-hydraulic, electro-mechanical and electro-hydrostatic technologies and help you find the best motion control solution depends on the machine, the application, the region and the budget constraints.

#### PROVEN PROJECT-READY TECHNOLOGY FOR HARSH ENVIRONMENTS

As a leader in providing reliable, proven products and solutions in related markets such as Downhole and Subsea Oil and Gas Exploration, we have invested in obtaining certifications for use of our products in hazardous environments. Our engineers are also expert in designing for high temperature, high pressure environments for downhole tools and topside rigs as well as reliable micro-hydraulics for ROVs used in subsea applications.

Moog first brought its wide range of motion control technology to the international marine market twenty years ago. Capable of performing even in the harshest of operating environments, our products are helping to solve motion control challenges in market that demand reliable long life performance.

Our products include Electrohydrostatic Actuation Systems, a decentralized approach that combine the benefits of both electric and hydraulic technology, in order to enhance motion control even in the toughest environments. Depending on our customer's requirements these can be explosion and flame proof for use in hazardous locations, and can also be adapted to meet envelope size, and mounting and other requirements.

As a trusted motion control partner for the marine industry who understands your needs, we offer flexible, comprehensive and timely Moog Global Support services that can ensure your equipment operates reliably for round-the-clock operations.

Please contact us for further certifications.

## THE CHOICE FOR THE MARINE INDUSTRY

- Electro-hydraulic products, such as Servo and Proportional Valves, Cartridge Valves or Radial Piston Pumps, provide precise control of position, velocityand force.
- Our products have a broad range of explosion-proof and other certifications for use in hazardous environments.
- Deep application expertise to help you achieve high performance and maximum reliability even in challenging environments.

## REAL-WORLD APPLICATIONS EXPERIENCE

- Deck machinery applications
- Diesel engines
- Vessel stabilization systems
- Steering technology



### HIGH PERFORMANCE, CERTIFIED PRODUCTS

#### Servo Valves and Proportional Valves



- Direct and pilot operated designs
- 6, 10, 16, 25, 32 available
- · With analog and digital electronics
- Different design principles for pilot stages
- Various fieldbus interfaces available

#### Radial Piston Pump RKP





- 8 pump sizes between 19 cc and 250 cc per revolution available
- Continuous pressures up to 350 bar (5,000 psi) with 420 bar (6,000 psi) peak pressure
- Large selection of controls, including digital electro-hydraulic control (RKP-D)
- Suitable for special fluids
- Multiple arrangements possible

#### Servo Motors



- Compact, lightweight and ruggedized design
- Customized for different marine environments
- Explosion proof designs available
- Overload capacity for acceleration and deceleration from 0.1 kw to mega watt range

#### Electrohydrostatic Pump Unit







- Operation in four quadrant mode eliminating the need for control valve
- Special manifold interface enabling direct mounting and less piping
- High efficiency ensuring thermal stability and reduced losses
- Dual displacement reducing motor size and costs

Moog has offices around the world. For more information on Moog marine solutions visit our website or find the Moog office nearest you at:

#### www.moog.com/industrial

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Electro-Mechanical Products STAR PUBLISHING/Rev. A, April 2018, Id. CDL55099-en

#### MOOG GLOBAL SUPPORT™

Moog Global Support™ is our promise to offer world-class Repair and Maintenance Services delivered expertly by our trained technicians. With the reliability only available from a leading manufacturer with facilities around the world, Moog offers you service and expertise you can count on to keep your equipment operating as it should.

