

Electric Servo Actuators for Marine Applications



ENGINEERED TO MOVE

Diakont manufactures and delivers unique electromechanical actuators, based on our own-developed and patented Roller-Screws for easy replacement of hydraulic systems to reduce oil-leakage and minimize difficult maintenance. The main product features are:

1. High resistance to shock loads and vibrations.
2. Lower dimensions and mass parameters comparing to hydraulic systems and common planetary gears.
3. Back-drive motion under exceeded loads.
4. Environmentally friendly.

Diakont is a full-cycle supplier of marine actuation systems, which include not only actuators, but also actuator drivers and related services such as: on-ship tests assistance, spare units warehousing, field services, type/class approval support and reliable customer care.



Diakont Marine Actuators



Roller-Screw Technology

Roller Screw



Roller-Screw Gear

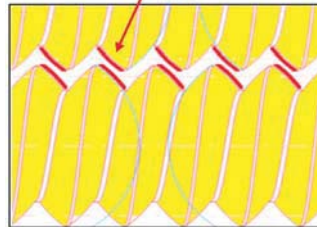
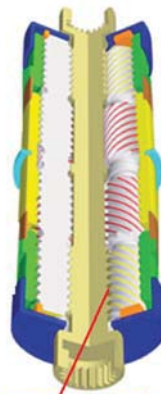


Diakont develops and manufactures Roller with optimized thread design, material hardness and machining, which ensures:

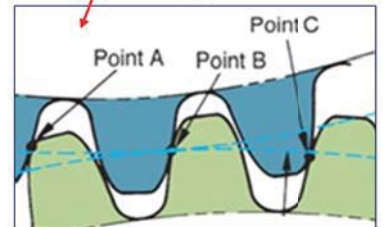
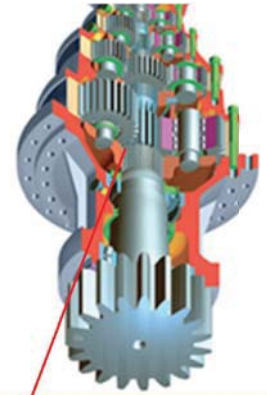
1. Best in class lifetime.
2. Improved shock load and vibration resistance.
3. Reduced weight and dimensions.

The advantages listed above are a result of over ten times the number of contact points in our roller-screw gear compared to standard planetary gears and ball screws. Reduced weight and dimensions are achieved due to just two stages of gears rather than the four to five stages found in typical planetary gear systems of similar ratios.

Roller-Screw Gear vs Planetary Gear



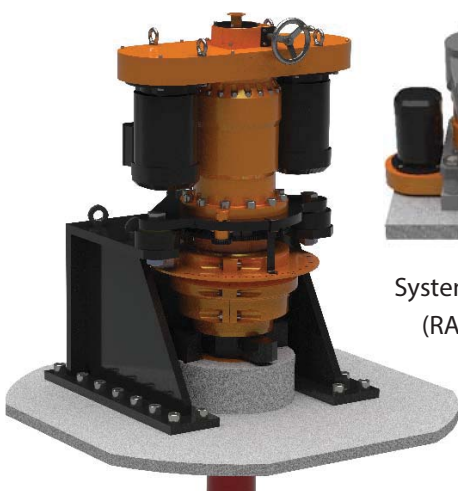
Diakont Roller-Screw Gear



Common Planetary Gear

Applications

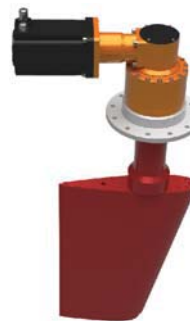
Diakont manufactures linear and rotary roller-screw actuators for steering systems, fin stabilizers and azimuth thrusters. In these applications both rotary and linear actuators can be used with different mounting and connections to the steering and stabilizing equipment: direct shaft mounting, connection with levers and pinion gears.



System with direct baller coupling (analogue of rotary vane steering gear)



System with shifted coupling (RAM-type steering gear)



Rotary actuators for fin stabilizers



Linear actuators for fin stabilizers



Rotary actuators for Azimuth Thrusters control

Specifications

Linear actuators

| Model | Rated Force, N | Max Velocity, mm/s |
|-----------|----------------|--------------------|
| DA140-22 | 36 300 | 100 |
| DA140-25 | 22 300 | 200 |
| DA99-W22 | 17 300 | 150 |
| DA99-W35 | 13 000 | 300 |
| DA99-W25 | 9 700 | 300 |
| DA99-W312 | 6 050 | 750 |
| DA78-22 | 6 250 | 150 |
| DA78-35 | 4 600 | 300 |
| DA78-25 | 3 500 | 300 |
| DA99-W212 | 4 300 | 750 |
| DA67-22 | 2 670 | 208 |
| DA67-210 | 723 | 833 |

Rotary actuators

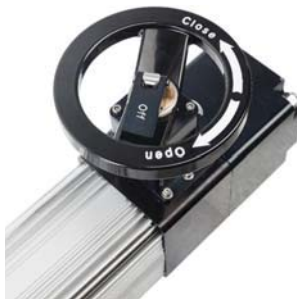
| Model | Rated Torque, Nm | Max. ang. speed, deg/sec* |
|--------|------------------|---------------------------|
| DRA150 | 150 000 | 9 |
| DRA100 | 100 000 | 9 |
| DRA65 | 65 000 | 9 |
| DRA25 | 25 000 | 9 |
| DRA10 | 10 000 | 90 |
| DRA5 | 5 000 | 90 |
| DRA1 | 1 200 | 90 |

*Speed can be modified

Product Features



Two motors with different voltage levels for uninterrupted power supply



Manual override for manual steering in case of power loss



Mechanical Indication of rudder blade and fin flap position



Limit switches and mechanical end limiters for steering range limitations



Control units for easier connection with ship control



Anti-fungus and corrosion proof coatings

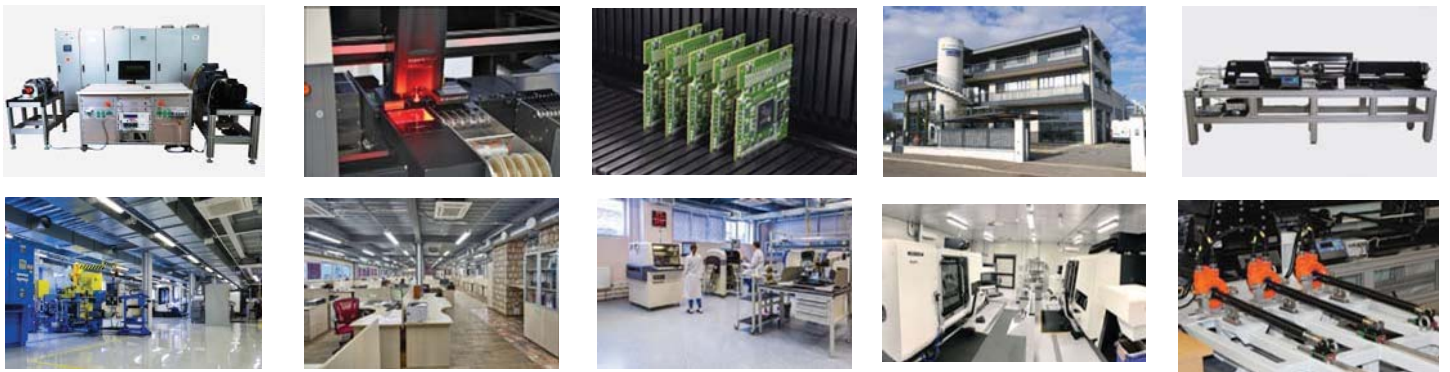
Service

Diakont facilities and references



- Local technical support and equipment supply from Diakont facilities in Italy, USA, Russia and China.
- Mobile team of Diakont engineers, which can visit any part of the world for integration, start-up and maintenance support.
- New developments and customization by our team of 450+ engineers.
- Joint testings with OEMs: lifetime, FAT, on-ship tests, etc.
- Technical support in all time zones.
- Type/Class approval implementation and support.

Diakont Company and Manufacturing Capabilities



Italy

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China

Shanghai - coming soon