

WITTENSTEIN motion control provides intelligent and integrated mechatronic actuation systems of the highest reliability for rotary and linear motion.

WITTENSTEIN subsea electric actuators and underwater defense actuation systems set standards in operational performance, reliability and durability. When it comes to **low noise, low magnetic signature**, long-term corrosion resistance of surfaces and materials in saltwater environment, extreme shock resistance or short-term overload of drive systems, we are uniquely qualified.

Our products open new horizons for all motion control applications on board of underwater platforms (submarines, AUVs, ROVs, subsea installation) and support design transitions from legacy hydraulic systems to electromechanical systems.

WITTENSTEIN motion control develops both customer-specific mechatronic drive systems that conform to military standards for extreme environmental conditions and subsea electric actuators for propulsion motors.

Undersea Applications

WITTENSTEIN offers customized solutions to support system integrators in supplying next generation systems for the underwater warfare:

Submarine

- Steering & Hydroplane Actuation Systems
- Mast raising Equipment
- Towed Array Handling Systems
- Weapon Handling & Launching Systems
- Communication Buoyant Wire Antenna Systems
- Valve Actuation & fluid pumps
- Auxiliary or back-up propulsion

ROV – Underwater Robotics

- Electric arms
- TMS systems (Tether Management Systems)
- Actuator component for subsea HPU applications



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WITTENSTEIN – one with the future
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WMC_Subsea-Defense-Applications_en-2020_Changes reserved!



Solutions for Undersea Defense Applications

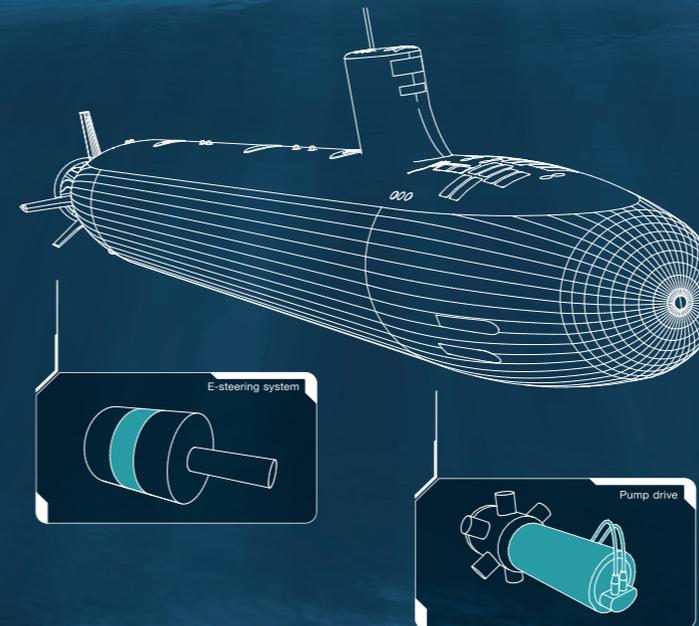
Your Benefits:

- System engineering to customer specification
- Tried-and-tested manufacturing processes
- Longer operating times
- Low acoustic profile
- Small footprint



Mechatronic Actuation Systems Undersea Defense Applications

Undersea
since 2001



Our Know-how:

In-house design and manufacturing of mechatronic solutions which are:

- Highly integrated
- Highly reliable
- Highly accurate and dynamic
- Built for extreme environmental conditions
- Built to fit under strict space restrictions

Integrated Systems from One Source: WITTENSTEIN motion control



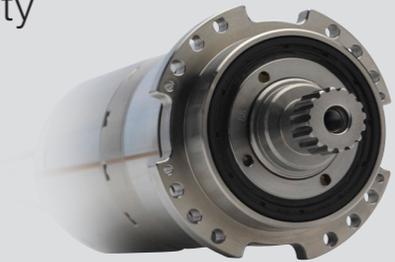
Specialized in power and control electronics for high and low voltage technology

- Product range from 18V up to 600V AC/ 900V DC bus voltage
- AC 3 phase input with active PFC, optional
- Up to 1,000A output current
- Customized housings and electric interfaces
- Ambient temperature up to 165°F / 75°C
- Resistant against shock and vibrations
- EMC-qualified
- Protected against explosions (ATEX), optional
- Full redundancy, optional
- Digital controllers with field proven software
- Several control interfaces (CANopen, EtherCAT)



Specialized in gear technology with low-backlash, highest precision, highest reliability

- Based on widely deployed WITTENSTEIN technology
- Product range up to 40,000 Nm output torque
- Planetary gear ratios 4:1 to 220:1 standard, others optional
- Extraordinary overload capacity
- Extremely high mechanical stiffness
- Standard backlash < 1 arc min
- Ambient temperatures -67°F ...+260°F / -55°C ...+125°C
- WITTENSTEIN special gear technology: hollow shaft, highest load density



Specialized in brushless servomotors with high performance technology

- Product range from 10W up to 200kW & 18V to 900V
- Ambient temperature up to 480°F / 250°C
- Operation in high radiation environment, optional
- Operation in oil and other fluids, optional
- Pressure resistant up to 25,000 psi / 1,800 bar
- Extremely high power density
- Extraordinary overload capacity
- Several feedback options
- Full redundancy, optional
- Direct drive up to 1000Nm

