

Torque Measurement in Ship Lifts

Torque Transducer

Industry: Maritime

Summary

Customer Challenge

Vertical ship lifts are complex mechanical systems that raise and lower vessels between different water levels using synchronized lifting points. Each point is powered by a motor and gearbox connected through a rigid shaft system that must remain in perfect torque balance. If one motor fails, the others must instantly compensate to maintain stability. Accurate, real-time torque monitoring is critical to prevent system imbalance, mechanical failure, or safety risks.

Interface Solution

To ensure torque equilibrium and safe synchronized operation, Interface's AxialTQ™ Wireless Rotary Torque Transducer was installed at each of the four lifting points. Integrated into the rectangular synchronized shaft system, the AxialTQ™ captures and transmits precise torque data.

Results

Interface's AxialTQ™ Wireless Rotary Torque Transducers successfully measured the torque of the vertical ship lift. It now operates with confidence, safety and efficiency.

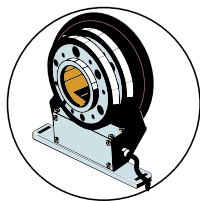
Materials

- Four AxialTQ™ Wireless Rotary Torque Transducer – Rotor – Stator – AxialTQ™ Output Module – supplied AxialTQ™ Assistant Software
- Customer PC or Laptop
- Customer four-post ship lift

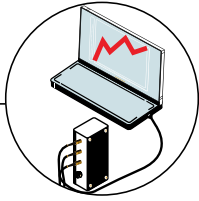
How It Works

1. Four AxialTQ™ Wireless Rotary Torque Transducers are attached to the four motors in the gearboxes that will run in order to lift the ship elevator system.
2. The motor, through the gearbox, rotates a drum. As the drum turns, it winds the cables or chains attached to the platform that the ship sits on. The torque and tension in the cables directly lift the weight of the ship.
3. The AxialTQ collects and monitors the torque data, making sure the ship lift motors are working properly.

AxialTQ™ Torque Transducer



Customer PC



AxialTQ™ Output Module with software

