



Product

TLB-180 Turning, Locking & Braking System

Application

Ice Breaker Propulsion Shaft

Highlights

- Custom direct hydraulic applied, spring released caliper brakes
- Integrated motor-driven geared pinion
- 140 kNm continuous turning torque at 0.6 rpm in both directions
- Braking and static locking torque rated up to 180 kNm
- Remote or local control
- Custom hydraulic power pack and control panel

A leading global marine propulsion system OEM required a unique drive shaft turning, locking and braking solution for use on a next-generation ice-breaking vessel. Controlled locally or from the bridge, the equipment fitted to each of the three propeller drives rotates and holds the propulsion shaft during maintenance. It also stops and locks the drive shaft to prevent the propeller from rotating when the vessel is moored in a flow stream.

To meet the challenging multi-function application requirements, Twiflex engineers worked closely with the OEM to develop a completely new custom solution. The unique Twiflex TLB-180 produces a continuous turning torque of 140 kNm at 0.6 rpm in both directions with a dynamic braking capacity and static locking torque rated up to 180 kNm.

The system features a 1.5m (4.9 ft.) diameter split disc with a gear tooth profile which easily mounts onto a flange without the need to disassemble the main propulsion shaft. A manual lever controls the motor-driven geared pinion, allowing the operator to slowly rotate the shaft to the desired alignment for maintenance work. Once in position, the operator can manually hold the shaft in place by energizing the caliper brakes or by engaging the manual locking device. The new brake design required a custom hydraulic power pack and control panel.

The system is also used to slowly rotate the shaft occasionally when the vessel is in port for an extended period of time, keeping the propeller free from marine growth.

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