ATEK
DRIVE SOLUTIONS
BRAKES·GEARS·MOTORS

# CUSTOM SHAFT BRAKES FOR YOUR SHIPS

Status as of 05/2025

# YOUR VISION, OUR MISSION: INNOVATIVE SOLUTIONS FOR ALL TYPES OF SHIPS

Experience **first-class quality and comprehensive service –** whether for luxury yachts, research vessels, fishery protection boats, naval ships, or submarines. We passionately embrace every challenge and collaborate with renowned partners to continuously expand our range of shaft braking systems.

**Our customised system solutions** offer everything from a single source: from the initial idea and concept realisation and adaptation through to **steel construction, pipework, hydraulics and control as well as repair and maintenance services.** With technical expertise and experience, we provide **innovative solutions** that go far beyond the standards of conventional braking systems.

Rely on custom-engineered solutions precisely tailored to your requirements and benefit from our extensive know-how. Place your trust in us to turn your visions into reality.

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# CUSTOMISED BRAKE SYSTEMS FOR YOUR SPECIFIC REQUIREMENTS

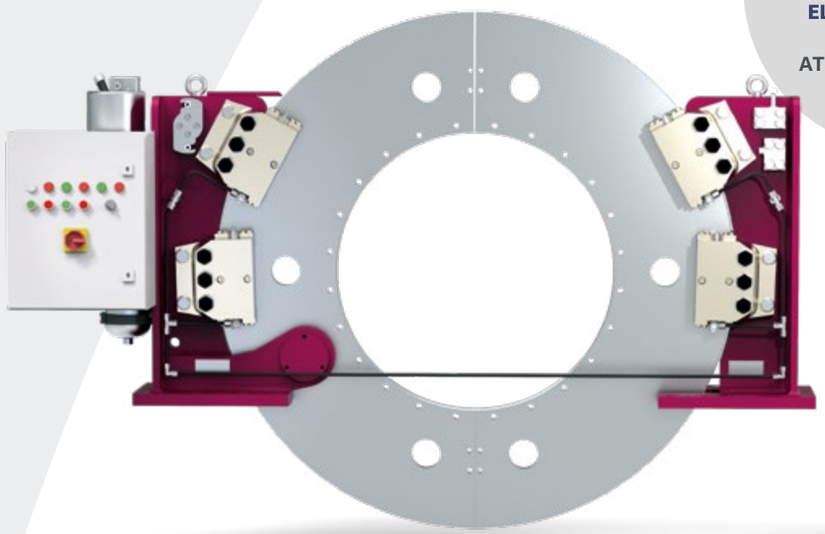
We develop and configure complete braking systems individually according to your needs.

**Our specialized services include:**

- Design, calculation and construction of hydraulic systems, steel construction, control systems, wiring and pipework
- Customised paintwork, up to the ‘Highest Yacht Standard’

We pay close attention to maritime climate challenges such as saltwater, humidity, heat, and frost. With specialized coatings, surface treatments, and the use of corrosion-resistant materials, we ensure maximum durability and reliability. Rely on us to meet your unique requirements with the utmost precision and excellence.

RIETSCHOTEN
ELEPHANT BRAKES
powered by
ATEK Drive Solutions



Products may differ from illustrations


**In shipbuilding, ATEK Drive Solutions provides not only individual components, but above all fully configured brake systems.**

**Your advantages with our customised solutions:**

- Safe locking of shafts and propellers
- No impairment of maneuverability on sailing vessels
- Securing moving parts during maintenance and service work, for example during diver deployment
- Safety and control when braking the propeller shaft during reversing maneuvers

**Our comprehensive service portfolio:**

- Shock proofing, e.g., according to British Marine Standard BR3021
- Toothed or smooth brake discs
- Split or solid brake discs, with hubs for radial installation
- Mounting and removal devices for split discs
- Stainless steel brake discs
- Individual turning, locking, and braking options
- Component approval according to national classification societies such as DNV GL, Bureau Veritas, Lloyd’s Register of Shipping
- Technical acceptance of systems directly at our facility
- Customized coloring possible

**Put your trust in our expertise for maximum performance and safety at sea.**

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# QUALITY AND EFFICIENCY AT THE CUTTING EDGE OF TECHNOLOGY

To ensure the **latest in technology at all times,** we place the **highest value on quality materials, machinery, and components.** Our employees regularly take part in internal and external trainings to ensure **pinpoint delivery according to customer specifications.**

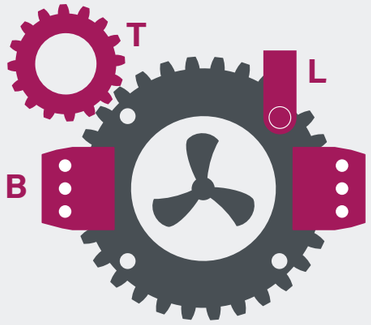
A special benefit for our customers is our **short delivery times.** Thanks to optimized workflows, efficient inventory management, and proactive production planning, we ensure timely delivery of all products. This minimizes waiting times and enables you to implement your projects quickly and reliably.

In addition, we offer the option to deliver **products as individual components to ensure simple and flexible onsite assembly.** This provides our customers with maximum efficiency, adaptability and reliability.

Our brakes are used both on the main drive and on the **thruster,** where they prevent the unintended rotation of the propeller when the vessel is propelled by the main engine. They are usually more **cost-effective** than motor brakes and also **reduce wear on moving parts,** as the propeller can be securely locked.



# TURNING, LOCKING, BRAKING – COMBINE AS YOU WISH




A classic shaft brake system consists of a **turning unit (Turning), a locking device (Locking), and a shaft brake (Braking), a power unit for brake activation (e.g. hydraulics) and a control system.**

But there is a simpler way: We supply **custom-designed systems** ranging from straightforward, cost-effective solutions to complex premium configurations, with numerous possible combinations – for example, systems without a turning unit or with a cylinder-actuated turning system. **Combine according to your requirements and preferences.**

**Braking**

- Rapid shaft stoppage
- Support during reversing
- Improved maneuverability
- Support for shaft deceleration
- Prevent hydrodynamic rotation while out of operation

**Turning**

- Shaft turning at low speed, e.g. in the harbor, even with the gearbox disengaged
- Controlled shaft rotation during installation, maintenance, and service

**Locking**

- Shaft locking during maintenance and service work
- Prevention of hydrodynamic rotation while not in operation

# THE SHAFT BRAKE SYSTEM IN DETAIL

**Hydraulic Power Unit**

- Compact, modular configuration
- With valve unit
- Membrane accumulator with certification

**Monitoring Unit**

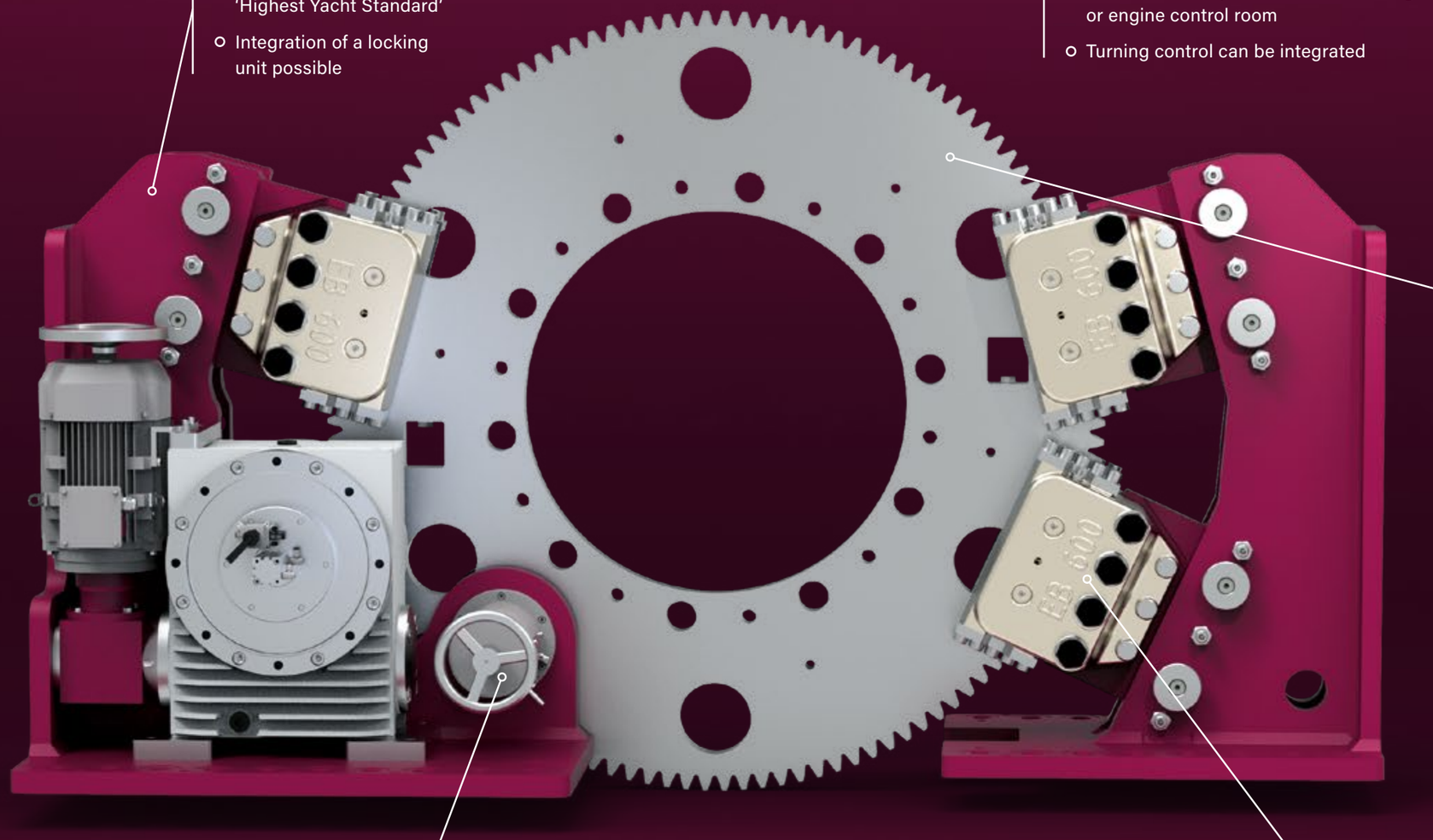
- Monitors required braking torque
- Controllable via pressure switch and/or transmitter
- Certified pressure switch

**Position Indicator for Locking Unit**

- Visual check of locking bolt position
- Assists in positioning the brake disc for locking bolt engagement
- Optional: with inspection window

**Mounting Base**

- Coatings up to ‘Highest Yacht Standard’
- Integration of a locking unit possible




**Locking Unit**

- Sensor-monitored locking operation prevents engine startup when locked

**Control System with Operating Time Monitoring**

- Signal contact/start-up protection when in shaft and/or turning operation
- Remote control possible from the bridge or engine control room
- Turning control can be integrated

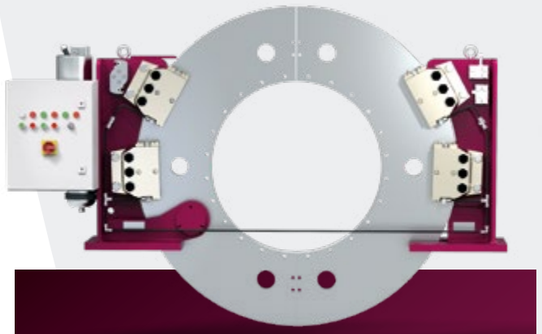
**Brake Disc**

- Various variants possible, with customized holes for locking if required
- Optional external toothing for turning drives
- Easy to replace or retrofit
- User-friendly installation (split version: simple radial assembly)
- Optional: split brake disc, mounting and removal device

**Disc Brake**
(Fig. EB 600)

- Nickel-plated or corrosion-protected available

# FROM RESEARCH VESSEL TO LUXURY YACHT



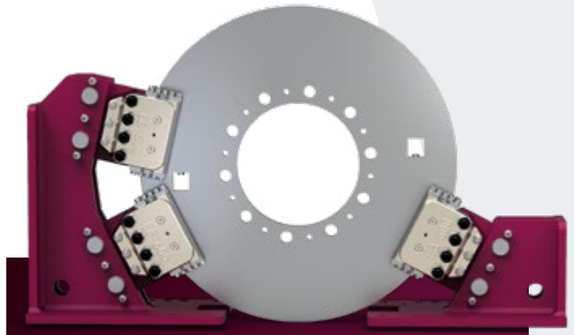
### Shaft brake system with locking device

- Braking torque: **60 kNm**
- Operating pressure: **50–60 bar**
- Locking torque: **227 kNm**
- Brake disc: **1500 × 50 mm**
- Rotational speed: **50 rpm**
- Hydraulic power unit: **CA-2.4**
- **Incl. control system**

### Shaft brake system

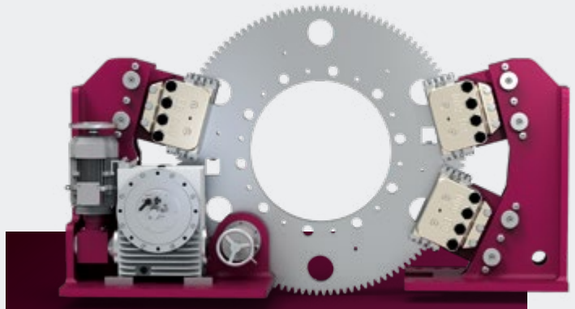
- Braking force at 100 bar: **274 kN**
- Max. operating pressure (open): **0.5 bar**
- Max. operating pressure (closed): **6 bar**
- Pressure multiplier ratio: **1/16**

# OUR REFERENCE PROJECTS



### Shaft brake system

- Braking torque (static): **370 kNm**
- Brake disc: **1550 × 50 mm**
- Operating pressure (static): **150 bar**
- Rotational speed: **77 rpm**



### Shaft brake system with locking device and turning gear

- Braking torque (static): **370 kNm**
- Brake disc: **Ø 1536 × 65 mm**
- Operating pressure (static): **150 bar**
- Locking torque: **900 kNm**
- Rotational speed: **70 rpm**
- Turning gear breakaway torque: **50 kNm**
- Turning gear continuous torque: **25–33.3 kNm**
- Shockproof design of the brake system

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