

alkitronic® CASE STUDY tugboat with VSP gearbox maintenance

Our sales partner in Israel reliably bolts any machinery using alkitronic® brand torque multipliers, especially in the mining and transport industries. After participating in a tender for the maintenance of a tugboat with Voith Schneider Propeller (VSP), we prevailed over the other competitors on the strength of our technical expertise. This has enabled us to get our foot in the door of ship maintenance.



Figure 1: An image of the tugboat with VSP to be serviced.

COMPANY PROFILE

The client specialises in the transport and logistics industry. It tendered the maintenance of a tugboat with VSP, in which we were successful.

INITIAL SITUATION

The transport and logistics industry constitutes a vigorous economic sector in Israel. It covers freight shipping not only by road, rail and air, but also by water. Tugboats are usually called in for larger ships that have to be manoeuvred to their berths in harbours, for example. They can also be used for moving drilling rigs or as salvage tugs, depending on the model. These ships require a powerful propulsion system that can be engaged to pull or push other vessels. They also need to possess a great deal of manoeuvrability. Such characteristics are fulfilled, in part, by the Voith Schneider Propeller (VSP).

Our project in Israel involved VSP gearbox maintenance. Servicing such drives presents an extremely complex routine task that requires a great deal of concentration, along with the right tools.



Figure 2: Inside the equipment room – Here: The Voith Schneider Propeller gearbox ready for service.

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THE SOLUTION

alkitronic® delivers a full range of solutions for every bolting application. Whether electric, battery-powered or hydraulic; alkitronic® caters for every application with the right torque multiplier.

The client specified a hydraulic bolting solution for VSP gearbox maintenance. We therefore opted for the hydraulic torque multiplier AT 20 and our alkitronic® Velox pump. Bolting processes can thus be carried out with the utmost precision, force and safety, even in the tightest of spaces.

The AT 20 ensures repeatable and easy tightening and loosening. The alkitronic® torque multiplier is particularly suitable for use in the confined spaces of the VSP gearbox. Stacos with width across flats 55, 65 and 85 were also employed.



Figure 3: Our sales partner provided the service vehicle to the client. The AT 20, Velox pump and 5m AHDS hydraulic hoses are on it. The Stacos are kept in the drawer.

Using alkitronic® torque multipliers: The AT hydraulic-driven rotary torque multiplier

- ✓ **Robust and ergonomic:** Rugged, ergonomically shaped housing design made of high-strength aluminium-titanium alloy.
- ✓ **Simple and easy:** Uncomplicated handling, lightweight. Quickly switch the torque output square from tightening to loosening.
- ✓ **Durable and safe:** Torsionally rigid, heavy-duty one-piece construction. Excellent working safety due to sophisticated and sustainable design.
- ✓ **Economical:** Long service life, reliable bolting, low maintenance.



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ALTERNATIVES

Two alternatives to the hydraulic solution are the EFCip electric torque multiplier and the battery-driven EAF.

EFCIP TECHNICAL DATA



- ✓ Safe and uninterrupted work in any weather (moisture, rain) is guaranteed with IP54 protection.
- ✓ Low running costs: Maintenance-free, low-wear and brushless synchronous motor with excellent efficiency
- ✓ Consistently higher bolting quality compared to ratcheting bolting tools, thanks to continuously rotating bolting.
- ✓ Simple 1-finger operation for fast, comfortable work.
- ✓ High-contrast OLED display ensures perfect readability in a wide range of weather conditions.
- ✓ Menu-guided intuitive operation, multilingual with control and warning messages.

EAF TECHNICAL DATA



- ✓ Fully automatic built-in "relaxation function": It is often impossible to move the torque multiplier to a new nut at the end of a tightening operation due to torsional forces. This relaxation function quickly and safely "releases" the DMA reaction arm while simultaneously releasing the torsional stress in the torque multiplier.
- ✓ Low running costs: The brushless synchronous motor is maintenance-free and low-wear.
- ✓ Health and Safety: Lightweight, ergonomic design, low noise emission. No noise protection measures necessary.
- ✓ High performance: Two Li-Ion battery packs ensure up to 360 bolting operations in succession. LED charge-level indicator directly on the battery.

ADDITIONAL INFORMATION

For any questions about our alkitronic® products and applications, please contact us at info@alkitronic.com. Our employees at home and abroad are happy to offer you tailor-made solutions so you can also easily and reliably master your challenges.