IQ AND EQ CHEMICAL TANKERS

CASE STUDY

FLEET:	Stella Barging S.A.
SHIPYARD:	Breko Shipbuilding & Repair
DESIGNER:	RSN d.o.o – Shipdesign company
DIMENSIONS:	86 m x 11.45 m
BOW THRUSTERS:	1 VSG-1000L + KA 265 kW @ 1800 rpm
THRUSTER PERFORMANCE:	3 Veth L-drives, azimuth thrusters, type VL-400
ENGINES:	3 PM motors
POWER:	320 kW @ 1500 rpm
GENSET COP POWER:	2 DC13 320A 409 kVA @ 1500 rpm
GENSET COP POWER:	1 DC16 320A 531 kVA @ 1500 rpm

SITUATION

The *IQ* and *EQ* are twin chemical tankers pivotal in the fleet's modernization efforts. These vessels were designed for maximum efficiency and reliability and engineered to transport hazardous materials across diverse water conditions safely. To ensure optimal performance — even in increasingly common low-water levels—the shipowner sought a streamlined, all-in-one solution for propulsion and power. This need for a single point of contact led them to choose our company for its comprehensive and integrated solutions.

CREATE ALL-IN-ONE SOLUTION FOR PROPULSION AND POWER

CHALLENGE

The primary challenge in outfitting the *IQ* and *EQ* was ensuring efficient operation under future low-water conditions. It required in-depth consultations with the customer to identify the ideal propulsion system that balanced high efficiency with the ability to perform optimally at low tide. Careful planning was essential to selecting propulsion systems capable of handling shallow draft conditions. The complexity of managing power requirements for chemical tankers also demanded a robust, reliable solution seamlessly integrated across the vessels' systems.

BALANCE HIGH EFFICIENCY AND ABILITY TO PERFORM OPTIMALLY AT LOW TIDE

SOLUTION

To meet the stringent requirements of the *IQ* and *EQ*, we delivered a comprehensive propulsion package designed for efficiency and shallow water operations. The package included three Veth L-drive VL-400 thrusters, renowned for their performance in constrained water depths and generator sets to ensure a reliable power supply. Additionally, we integrated a Veth Steering Grid as the bow thruster, specifically chosen for its effectiveness in low-water conditions. By providing this complete package, we offered the customer a seamless, single-source solution that simplified integration and ensured cohesive system performance. This holistic approach met the vessels' immediate operational needs and provided a long-term solution for navigating evolving water level challenges.

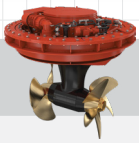
FULLY-INTEGRATED PROPULSION SYSTEM WITH VETH THRUSTERS AND STEERING GRID

> The *IQ* and *EQ* have delivered outstanding performance with their new propulsion systems, matching theoretical models used in planning and proving their reliability in low-water conditions. This success has boosted customer confidence and sparked plans to outfit two additional vessels with the same integrated solution.

RESULT

The *IQ* and *EQ* have delivered exceptional performance following the installation and deployment of the new propulsion system. The vessels have operated seamlessly, with real-world results aligning perfectly with the theoretical models used in planning. This validation of our pre-installation studies confirmed their ability to navigate low-water conditions effectively, meeting all operational expectations. The successful implementation has enhanced the reliability of the *IQ* and *EQ* and strengthened customer confidence. As a result, discussions are underway to equip the customer's following two vessels with a similar comprehensive package, further solidifying our role as a trusted partner in their fleet development.

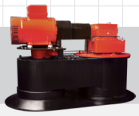
TWINDISC.COM



VETH L-DRIVES

Veth thrusters deliver essential benefits:

- 360° full thrust, thus optimum maneuverability
- Higher efficiency as a result of propeller design and angle
- Lower fuel consumption over total speed range
- Possibility for flexible suspension, which provides better insulation from noise and vibration
- Compact, easy-to-install construction allows for more room for passengers and cargo
- No separate reduction gearbox is needed from the engine output to the thruster input
- Safer, through shorter emergency stopping distance and improved maneuverability



VETH STEERING GRID

Veth Steering Grids help you achieve optimal thrust at minimum draft by the use of the horizontally mounted propeller. Key benefits include:

- No channels required
- Maximum thrust at minimum draft
- 360° steering
- Compact and easy to install
- Low maintenance due to robust construction

VETH PROPULSION BY TWIN DISC

Find more case studies at TWINDISC.COM