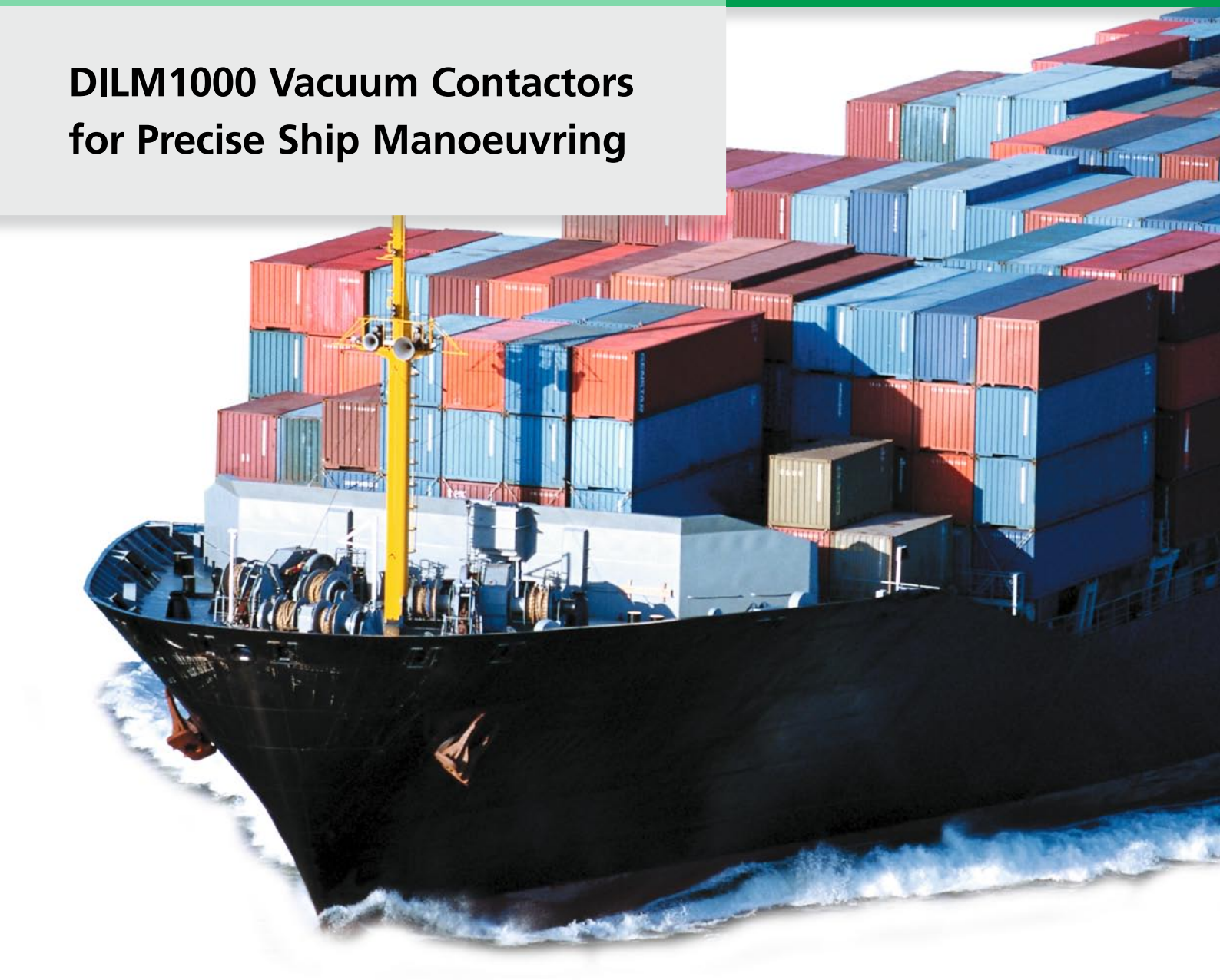
DILM1000 Vacuum Contactors for Precise Ship Manoeuvring



THE COMPANY

HDW-Hagenuk has been building ships for over 25 years and the company has been fitting ships with electrical equipment for nearly as long. Today the company is a subsidiary of HDW the largest shipbuilding company in Germany and is one of the leading system suppliers worldwide with its own manufacturing facilities. HDW-Hagenuk offers complete system solutions for merchant and marine shipping. The strength of HDW-Hagenuk's marine engineering is the wide range covered by its two leading divisions for marine electronics and marine electrical engineering. Service and system expertise is ensured in all areas from development, design and engineering, to supply, commissioning, and service right up to after-sales-support.

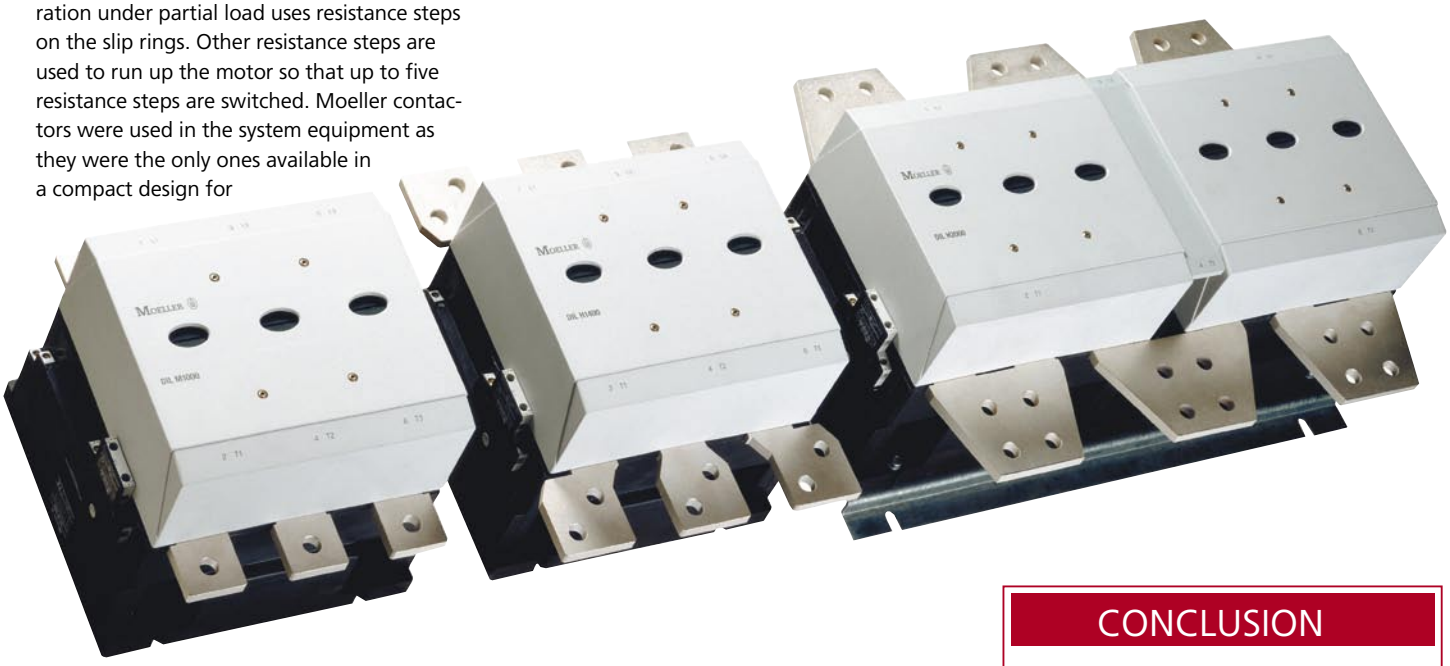
Modern ships are fascinating, especially as they are high-tech products. Development engineers at HDW-Hagenuk are integrating innovations from IT directly in products and systems for marine electronics/electrical engineering. In addition to technical expertise, the integration of technologies requires a high degree of flexibility as well as an exact knowledge of the market and customer requirements. Bow thrusters represent a new field of business. Being the only supplier of compactly designed AC-3 contactors for motor ratings above 820 A, Moeller in Bonn was commissioned to equip the HDW-Hagenuk systems.

New business field: bow thrusters

As a supplier for Jastram GmbH & Co KG, HDW-Hagenuk built the control panels for bow thrusters. Bow thrusters are used on ships for manoeuvring, for example, in harbours. HDW-Hagenuk marine engineering developed the electrical equipment for bow thrusters using 500 kW slip ring motors. The rated current of the motor is 875 A at 400 V. The bow thruster is used for manoeuvres to port and to starboard and requires a reversing contactor circuit for two motor directions.

The bow thruster also had to operate in three output stages: 70, 85 and 100 percent. Operation under partial load uses resistance steps on the slip rings. Other resistance steps are used to run up the motor so that up to five resistance steps are switched. Moeller contactors were used in the system equipment as they were the only ones available in a compact design for motor loads in AC-3 operation with a rated current above 820 A.

HDW-Hagenuk used two electrically interlocked DILM1000/22 vacuum contactors for the reversing circuit. DILM1000/22 contactors are suitable for switching motors up to a rated current of 1000 A. The resistance steps are switched with five additional contactors of type DIL4M115 to DILM500.



CONCLUSION

The requirements of practical applications often give rise to new ideas which HDW-Hagenuk implements in marketable results, such as the ECDIS electronic sea map or the design of a ship's bridge with state-of-the-art flat screens. Two congenial partners were found for the design of electrical equipment for bow thruster. Moeller emphasised its traditional expertise in the construction of switching and protective devices with the extension of its product range – right up to the highest motor ratings.

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