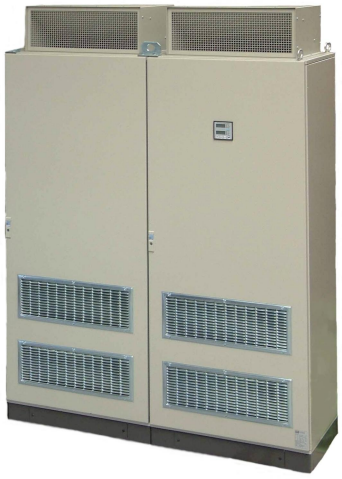
Eekels Elektrotechniek B.V.	SSEN03
PRODUCTS AND SERVICES	MARKET
Drive technology Thrusterdrive	Shipbuilding

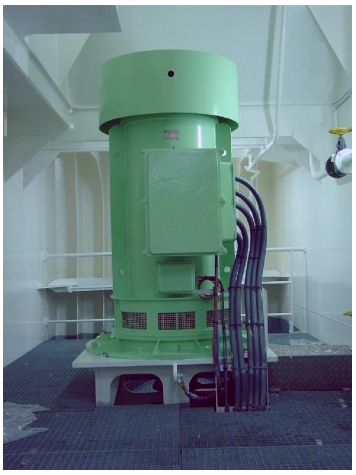
eekels
TBI techniek

Variable speed drive for bow/stern Thruster



EVE–frequency converter

BTC-Panel



Thrustermotor

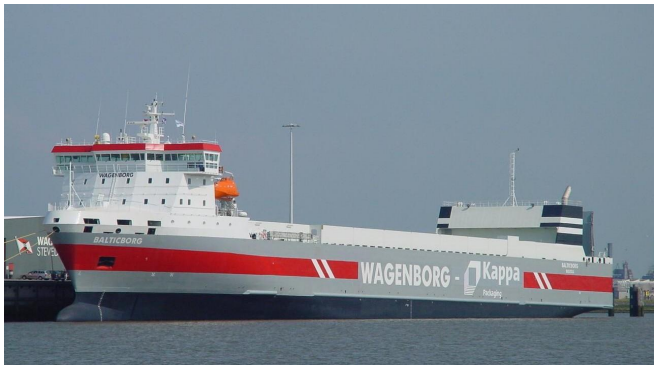
Characteristics of the Thruster Drive System

- Power up to 2,6 MW
- Standard motor (IP23 or IP54)
- DC-braking, if thruster is out of use
- Exact torque and speed control without the need of feedback devices.
- Simultaneous operation of bow- and stern thruster
- Reduced power facility
- Reliable
- Easy to control
- Standard control panel BTC
- Minimal cabling because of the bus concept
- Interface for Power Management System
- Interface for VDR

Eekels has over 25 years of experience in developing and manufacturing frequency converters. Because Eekels is also well known in developing ship installations, drives for thrusters are a logical spin off.

Architecture

The advanced Bow Thruster Control Panel makes it easy to control the EVE-frequency converter. The BTC includes interfacing with PMS and VDR. If there are more control locations (bridge and wing desks) the units are placed in a master/slave configuration. The EVE-frequency converter ensures smooth operating of the thruster by controlling the speed and torque of the motor.



Product range marine drive systems:

- Cargo pumps
- Cargo fans
- Cranes
- Winches
- Frequency converters up to 2,6 MW
- Bi-directional supply units and choppers
- Soft starters

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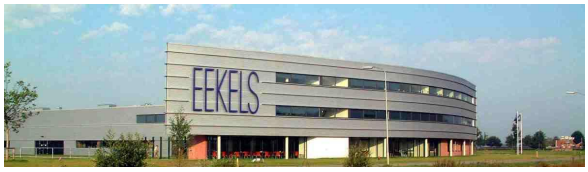

We deliver according to the EN directives and are ISO9001 certified.

SSEN03
October 2009
Data subject to change

Technical specifications

	Variable speed drive for bow/stern Thruster		
EVE-frequency converter	(Refer to standard documentation)		
Max. Motor power	2,6 MW		
Supply voltage range	400-690V/6 or 12 pulse		
Standard E-motor			
Protection class	IP 23 or IP 54		
Thermistor protection	PTC's		
Anti condensation heating	Yes		
Control Panels options	BTC-2*	Remote control**	Hardware control***
Power supply consumption	24 Vdc -25%..+30% / 500mA	24Vdc -25%..+30% 500mA	24Vdc-25%..+30% 24mA
IP class	Front IP65 / Rear IP00	n.a	n.a
Serial connection	RS-485 – Modbus	Rs-485 – Modbus	Hardware control - I/O
Standard output (digital)	2x digital out (24V / 250mA)		
Inputs / outputs PMS (digital)	4x digital in 24V/10mA 1x digital out 24V/250mA		
Output VDR (analog) command	-10 V to +10 V		
Size (h x w x d)	216 x 144 x 80 mm	n.a	n.a

Configuration