Fact Sheet

Rolls-Royce

Rauma Brattvaag™

Electric, frequency controlled anchoring and mooring systems for merchant vessels

Rauma Brattvaag electric frequency controlled anchoring and mooring systems represent the latest and most advanced electric drive technology available. With over 60 years of experience, Rauma Brattvaag builds high quality, thoroughly workshop tested systems in an ISO 9001 certified environment.

These systems conform to major international standards and meet all rules and regulations presently in force.

Construction and structural design

The electric, frequency controlled anchoring and mooring systems consist of three basic components: the winch itself with an electric motor, a starter for the motor and one or more freely locatable control stands. This enables easy installation, even at a late stage of vessel's construction. Low installation costs are further reinforced by savings in power cablings. The supply cable is dimensioned according to the nominal current and only one cable is needed per motor. Compared with three speed motor, savings in cable weight amounts to about 50 % and in cable length about 30 %.

Starter and control systems

The frequency converter and brake resistor for the electric motor's speed and direction control is located in a splash proof steel housing, equipped with an ant condensation, stand-still heater and cooling. This cabinet contains all the control and protection devices needed for the system.

The frequency converter is of the closed-loop, vector-controlled type to ensure full control of the torque even at zero speed and it is provided with separate protection for motor and brake resistors. The winch is controlled throughout the speed range and in both directions by means of a controller, which can be mounted either on a fixed stand or in a portable unit. The fixed stand is protected against heavy seas and it contains all necessary settings, safety and monitoring devices.

Freely locatable control stand

Starter below deck

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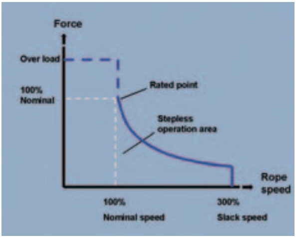
Electric motor

The electric motor is flange-mounted onto the gearbox. The virtually maintenance-free motor is of the squirrel-cage rotor type with no mechanical contact between the rotor and the stator. The motor is equipped with standstill heating, temperature sensors and a fail-safe brake. It is protected against heavy seas and tolerates all conditions from tropical heat to arctic cold.

Performance characteristics

In electric, frequency controlled systems, the winch rotation systems are directly controlled by the frequency of the voltage. In mooring winch use this provides smooth, stepless speed control from zero to maximum slack rope speed with superior stalling characteristics. In anchoring use the speed control is stepless from zero to nominal speed. Anchor nesting is easy because of good low-speed performance. Noise levels are low throughout the speed range because of ramp controlled accelerating and braking offering much better living and working environment for the passengers and the crew. Overload capacity can be specified individually case by case.

Electric system is always ready for immediate start, whatever are the climate conditions.



Options

Winches

- auto-tensioning system with continuous line tension monitoring. Automatic shutdown and alarm functions are standard in the sytem.
- remote control for drum brakes and clutches
- fixed or portable controllers
- centralised remote control console
- stainless steel brake drum surface

Windlasses

- automatic remote control for anchor lowering
- closed type gearing
- cable length indicator
- chain stoppers
- stainless steel brake drum surface

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Rolls-Royce

Rolls-Royce Oy Ab
P.O. Box 220, FIN 26101 Rauma, Finland
Tel: +358 (0) 2 83 791 Fax: +358 (0) 2 8379 4913
Rolls-Royce Marine AS
Dept. Deck Machinery - Brattvaag
Aarsundveien 24, N-6270 Brattvaag, Norway
Tel: +47 70 20 85 00 Fax: +47 70 20 86 00
www.rolls-royce.com