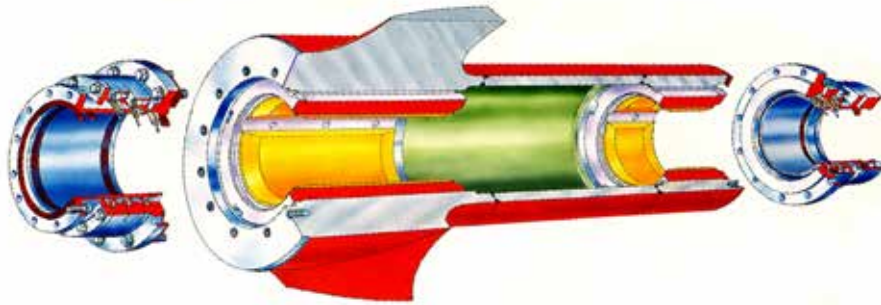




## MARINE EQUIPMENT



Simplex sterntube seals, made by SKF Marine, have been setting the standard for all other manufacturers since 1948.

### Simplex oil lubricated seals

- standard three-ring system
- leakproof system (3 rings)
- multisafe system (4 rings)
- airspace non-pollution system (4 rings)
- conversion to Simplex seal
- upgrade kits from SC1 and SC2 to latest SC3 design

### Simplex water lubricated seals

- SC2 and SC3 lip type seals
- Carboplan mechanical seals
- Simplan mechanical seals

### Bulkhead seals

- gas tight seals
- Centrax seals

### Flexitube

Complete sterntubes with white metal bush bearings, fully piped and ready to install. Design allows compensation of axial movement.

These sterntubes are customised, complete sterntube solutions offering fast and simple installation and easy alignment with the highest possible level of industrially manufactured quality.

### Net protection

We offer two systems of net protection, which can either be used separately or installed together, if additional protection is required for operation in waters with a dense presence of fishing lines.

Both systems can be retrofitted provided that there is sufficient space, our expert designers can help identify the best solution for each vessel.

### Guarantee

all components are guaranteed for 12 months

### Insurance

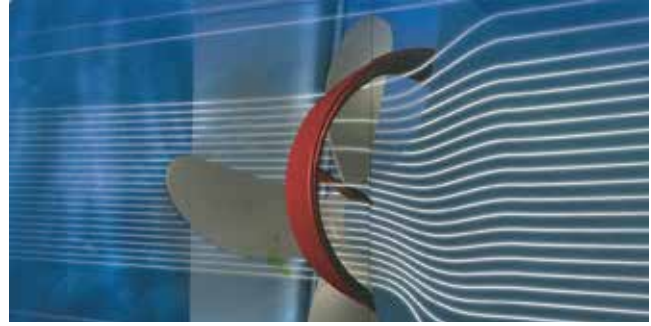
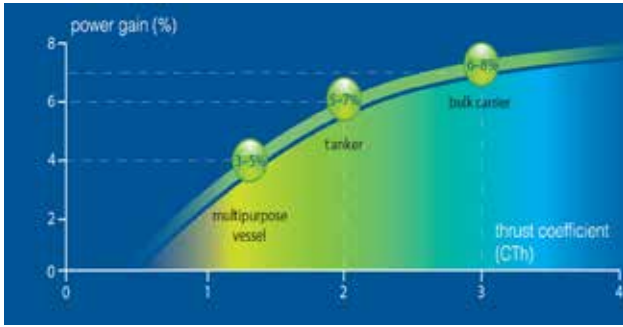
£5m product liability insurance



*net protection ring*

### Contact

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## Rudders and manoeuvring systems

Hamburg-based Becker Marine Systems is the market leader for high-performance rudders and manoeuvring solutions for all types of vessel. There are many different designs to select from in order to optimise the rudder system to your particular application, all of them with better performance than standard shipyard supplied products.

### Becker Mewis Duct® and Becker Twisted Fin®

The Mewis Duct® is an innovative energy-saving device for full form, slower ships. This device allows either significant power savings at a given speed or alternatively allows the vessel to travel faster at any given power level. The Twisted Fin® is a design suitable for faster vessels. Both devices are mounted in front of the propeller together with an integrated fin system. They have no moving parts, and are best suited to single shaft vessels with a high-block coefficient where power savings of up to 8% can be achieved. The device has proved to be increasingly popular, with over 900 systems ordered since its introduction in 2008. It can be fitted to both new builds and existing vessels.

The main benefits are:

- power savings of an average of 6%; where there is a high-block coefficient power savings of 8% and more are possible
- with a Becker rudder power savings of up to 10% can be achieved
- reduction of NOx and CO2 emissions
- available for both new builds and retrofits
- reduced vibrations and pressure pulses
- no moving parts, no service necessary
- return on investment in as little as 12 months
- installation typically within four days

### State of the art manoeuvring - Becker Intelligent Monitoring System (BIMS)

BIMS is an innovative development which optimises rudder movements, reducing drag and preventing stalling.

The new technology monitors current forces and torque on the rudder while processing and storing the data in a computer unit. By using standard computer interfaces the unit is integrated into a vessel's network.

The BIMS system then provides current and historic rudder data to any other specified system on the local network. Additional information provided by the BIMS system can be used to improve and refine navigation, positioning, performance control and load monitoring.

