



## ZF Moves Full Steam Ahead Presenting New Driveline Solutions at Leading Marine Trade Show METSTRADE

- **The all-new ZF 400 marine transmission family is a perfect fit for a multitude of marine applications**
- **The Sail Drive SD15 is the newest addition to ZF's product line for sailboats**

**Friedrichshafen/Amsterdam. ZF is reinforcing its position as a leader in marine driveline systems at this year's METSTRADE, the world's largest B2B trade show for marine equipment and accessories. Here ZF will present its comprehensive marine transmission portfolio, which includes the brand new ZF 400 transmission model range for outputs up to a maximum 735 kW, and the ZF Sail Drive SD15 drive unit for partially motorized sailboats. These new products will enable ZF to offer manufacturers and ship captains the right solution for a plethora of applications.**

### **ZF 400 Transmission family – all new, more flexible, intelligent**

The completely new ZF 400 marine transmission family further expands ZF's portfolio of innovative driveline solutions for seagoing vessels. The model series is rated up to 735 kW (1000hp) and covers a range of possible transmission ratios and layout configurations. Since it can be installed in a down angle, integrated V, remote V or parallel configuration (also available for work vessels), shipyards, shipbuilders, naval architects and fleet owners enjoy great flexibility when designing or retrofitting motorized ships, such as yachts or fishing boats. With a power density of up to 0.3195 kW/rpm (0.4282hp/rpm), the ZF 400 is the perfect fit for a broad range of recreational and commercial applications.

The transmission family is already meeting the most important standards of international classification organizations. Additional approval type tests can be arranged according to customer demand.



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**Smart add-on functions and zero local emissions thrust**

Integrated into the ZF 400 is ZF's Supershift2 shifting technology. This improved clutch pack design negates the need for an additional hydraulic circuit, resulting in fast shifting response and smooth gear changes even at low speed. Customers can also order an optional embedded electronic control unit for better proportional valve adjustment, granting even smoother shifting and trolling. A smart alert feature helps users schedule maintenance appointments predictively. The ZF 400 series is furthermore compatible with an e-motor (installed in a sandwich configuration), allowing the vessel to cruise locally emission-free. This reduces fuel consumption, noise and pollution.

**Efficiency and comfort: ZF Sail Drive SD15**

Sail Drives (SD) by ZF offer skippers a highly efficient and comfortable system for motoring while not under sail. ZF's long standing experience with this type of propulsion has led to an important addition to its existing range of sail drives. The SD15, a larger version of the tried and true SD12, can handle up to 110 kW (150hp) engine output. Designed to support contemporary and advanced engine interfaces, the SD15 offers boat builders increased design flexibility, as the engine can be positioned facing the bow or the stern. No particular settings or alignments are necessary.

The propulsion system is robust and reliable, and can be matched with a large range of fixed or foldable propellers. The SD15 propels the vessel powerfully both in forward and reverse with the help of a hydraulically actuated multidisc wet clutch. The exceptional efficiency of the SD15 is obtained through a design that positions the propeller exactly parallel to the moving direction of the hull of the vessel. This reduces the hydrodynamic resistance of the immersed section of the drive and maximizes thrust efficiency.

**Unmatched maneuvering**

In addition to the new SD15, ZF is also expanding its Sail Drive series with the optional integrated maneuvering system SPP (ZF Steerable Pod



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Propulsion). SPP is simple to install and maintain, and makes docking a sail boat as easy as parking a car.

SPP combines a completely rotatable submerged Sail Drive leg with the bow thruster of the vessel. Using ZF's Joystick Maneuvering System (JMS) an intuitive joystick-and-throttle based interface, vessel handling is simplified. For instance, the operator can vary speed simply through steering knob movements. This makes docking, mooring and anchoring comfortable and reliable, even on busy waterways and in the tightest of mooring slips.

Captions:

- 1) With outputs up to a maximum of 735 kW (1000hp), multiple transmission, ratio and layout configurations, the new ZF 400 transmission series gives manufacturers and fleet operators a high degree of flexibility for new designs and retrofittings.
- 2) The new ZF Sail Drive SD15 (left) offers skippers a highly efficient and comfortable system for motoring while not under sail. Combined with optional integrated maneuvering system SPP (right), this drive unit provides unmatched maneuvering.

Images: ZF

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**ZF Friedrichshafen AG**

ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company has a global workforce of 146,000 with approximately 230 locations in some 40 countries. In 2017, ZF achieved sales of €36.4 billion. ZF is one of the largest automotive suppliers worldwide.

ZF allows vehicles to see, think and act. The company invests more than six percent of its sales in research and development annually – in particular for the development of efficient and electric drivelines and also in striving for a world without accidents. With its broad portfolio, ZF is advancing mobility and services in the automobile, truck and industrial technology sectors.

In the Industrial Technology Division, ZF pools its activities for off-road applications. These include the development and production of transmissions and axles for agricultural and construction machinery along with driveline technology for forklift trucks, rail and special vehicles. The division is also responsible for the worldwide business of marine propulsion systems, aviation technology as well as the development and production of gearboxes for wind turbines and industrial applications. Test systems for all kinds of applications in driveline and chassis technology are also included in the division's portfolio.

For further press information and photos, please visit: [www.zf.com](http://www.zf.com)