

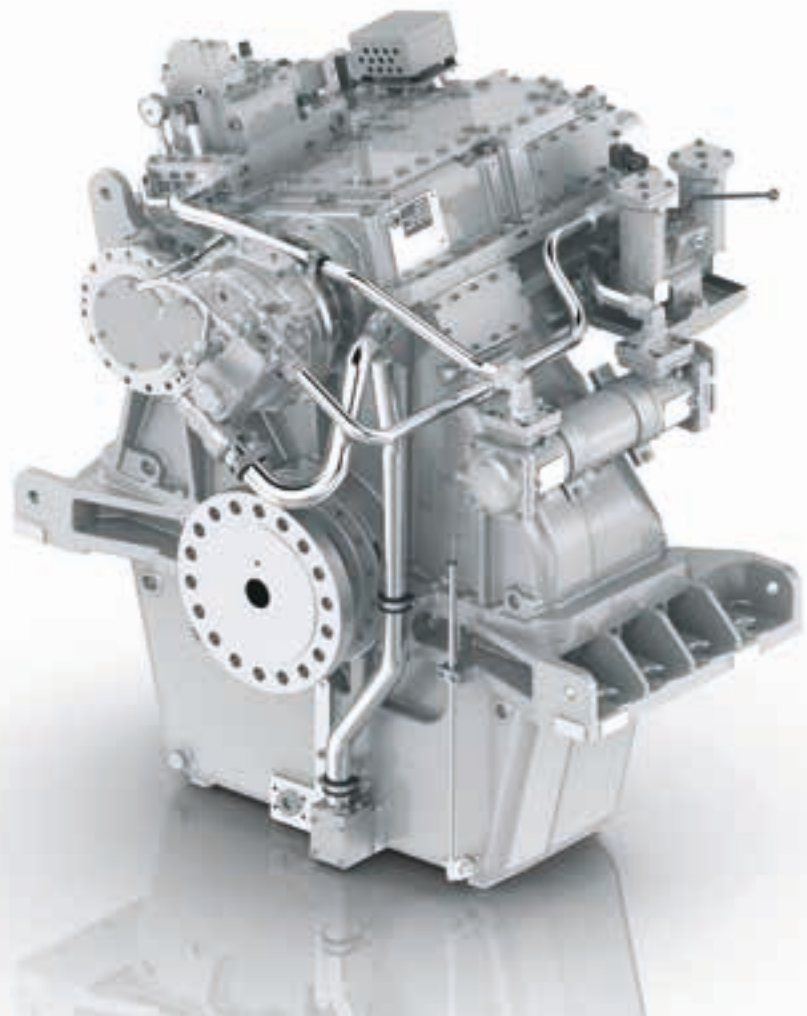
PRODUCT OVERVIEW



MARINE PROPULSION SYSTEMS



ZF'S BUSINESS UNIT "MARINE PROPULSION SYSTEMS" is a leader in the marine industry. Coordinated through its headquarters at the location ZF Padova, Italy, ZF Marine is worldwide present with approximately 1,000 employees and sales of 255 million Euro in 2014. ZF Marine supplies propulsion systems and components for all types of vessels – motor yachts, defense craft, high-speed ferries, workboats and commercial vessels, in a power range from 10 to 14,000 kW – to customers including major shipyards and engine manufacturers worldwide. The product portfolio includes a comprehensive range of transmissions (reversing, non-reversing and hybrid), propellers, steering systems and CANbus-compatible, electronic control systems, azimuth thrusters, tunnel thrusters and sail drives.



Tough  **Gear**

ZF FRIEDRICHSHAFEN AG

MARINE PROPULSION SYSTEMS



ZF is a global leader in driveline and chassis technology as well as active and passive safety technology. The company, which acquired TRW Automotive on May 15, 2015, is now represented at about 230 locations in some 40 countries. The two companies, that were still independent in 2014, achieved a sales figure exceeding €30 billion with 134,000 employees. As in previous years, both companies have invested approximately 5 percent of their sales in Research and Development (recently €1.6 billion) in order to be successful with innovative products. ZF is one of the top three automotive suppliers worldwide.

ZF's non-automotive business comprises the development and production of transmissions and axles for agricultural- and construction machinery, driveline technology for material handling systems, rail- and special vehicles, marine propulsion systems, aviation technology as well as gearboxes for wind turbines.

ZF annually invests about 5 % of its sales in research and development. Marine products benefit from ZF Group R&D investment e.g. through design of light gearboxes with high torque transfer rate, worldwide unique acoustics test bench, constant development of single parts.



ZF IS PROPULSION.



MOTION AND MOBILITY

MANUFACTURING AND SALES LOCATIONS



ZF Friedrichshafen AG
Marine Propulsion Systems
 Ehlersstr. 50
 88046 Friedrichshafen
 GERMANY
 Phone +49 7541 77 2207
 service.marine@zf.com

ZF Marine Krimpen B.V.
 Zaag 27, P.O. Box 2020
 2930 AA Krimpen aan de Lek
 THE NETHERLANDS
 Phone +31 180 331-000
 service.marine@zf.com

ZF Padova s.r.l.
 Via Penghe, 48
 35030 Caselle di Selvazzano (PD)
 ITALY
 Phone +39 049 8299-311
 info.zfpadova@zf.com

ZF Padova s.r.l. –
Location Arco
 Via S. Andrea, 16
 38062 Arco (Trento)
 ITALY
 Phone +39 0464 580-555
 service.marine@zf.com



ZF Faster Propulsion System Co., Ltd.

17, Dayou 1st Street
 Dafa Industrial District
 Daliao District
 83163 Kaohsiung City
 TAIWAN, R.O.C.
 Phone +886 7 787 1831
 info.kaohsiung@zf.com

- **Product Competence Center / Manufacturing Location**
- **Regional / Sub-Regional Competence Center**
- **Local Competence Center**

TRANSMISSIONS

ZF 12 / ZF 15 / ZF 25 / ZF 30
 ZF 45 / ZF 63 / ZF 85 / ZF 200
 ZF 300 / ZF 500 / ZF 600



Motor Yachts / Commercial Vessels

ZF 2000 / ZF 3000 / ZF 5000 / ZF 9000
 ZF 11000 / ZF 23000 / ZF 24000 / ZF 30000
 ZF 40000 / ZF 53000 / ZF 60000 / ZF 83000
 ZF 3300 PTI / ZF 5300 PTI / ZF 9300 PTI
 ZF 24300 SG / ZF 30300 SG / ZF 40300 SG



Superyachts / Commercial Vessels / Patrol Vessels / Fast Ferries

ZF W200 / ZF W300 / ZF W600
 ZF W1000 / ZF W2000 / ZF W3000
 ZF W5000 / ZF W7000 / ZF W10000
 ZF W11000 / ZF W17000 / ZF W30000
 ZF W40000 / ZF W60000 / ZF W80000
 ZF W90000 / ZF W100000



Commercial Vessels (i.e. Barges, Cargo Vessels, Ferries, Tugs, Tankers)

SAIL DRIVES

ZF SD 10 / ZF SD 12 / ZF S2



Sailing Yachts

THRUSTER SYSTEMS

TUNNEL THRUSTERS

ZF TT 1000 FP / ZF TT 2000 FP / ZF TT 3000 FP
 ZF TT 400 FP / ZF TT 4000 FP / ZF TT 5000 FP
 ZF TT 6000 FP / ZF TT 7000 FP / ZF TT 8000 FP
 ZF TT 4000 CP / ZF TT 5000 CP

CONTRA ROTATING AZIMUTH THRUSTERS

ZF AT 2000 WM-CR / ZF AT 3000 WM-CR
 ZF AT 400 WM-CR / ZF AT 4000 WM-CR
 ZF AT 5000 WM-CR

RETRACTABLE AZIMUTH THRUSTERS

ZF AT 2000 RT-FP / ZF AT 3000 RT-FP / ZF AT 400 RT-FP
 ZF AT 4000 RT-FP / ZF AT 5000 RT-FP / ZF AT 6000 RT-FP
 ZF AT 7000 RT-FP / ZF AT 8000 RT-FP

WELL MOUNTED AZIMUTH THRUSTERS

ZF AT 2000 WM-FP / ZF AT 3000 WM-FP / ZF AT 400 WM-FP
 ZF AT 4000 WM-FP / ZF AT 5000 WM-FP / ZF AT 6000 WM-FP
 ZF AT 7000 WM-FP / ZF AT 8000 WM-FP

SHALLOW DRAUGHT THRUSTERS

ZF SDT 2000 FP / ZF SDT 3000 FP / ZF SDT 4000 FP
 ZF SDT 5000 FP / ZF SDT 6000 FP

DECK MOUNTED AZIMUTH THRUSTERS

ZF AT 2000 DM-FP / ZF AT 3000 DM-FP
 ZF AT 400 DM-FP / ZF AT 4000 DM-FP
 ZF AT 5000 DM-FP / ZF AT 6000 DM-FP

REMOTE CONTROL SYSTEMS*

ZF ThrusterCommand

* Integral part of thruster system



Superyachts / Government Vessels / Commercial Vessels (i.e. Supply Vessels, Cargo Vessels, Ferries)



Commercial Vessels (i.e. Maintenance and Support Vessels, River Push Boats, Dredgers)



Commercial Vessels (i.e. Support and Supply Vessels, Barges, AHTS Vessels)



Commercial Vessels (i.e. Cable Layers, Jack-up Vessels, Barges, Carriers, Ferries)

SURFACE DRIVE SYSTEMS

SeaRex 120 S / SeaRex 140 S / SeaRex 160 S



Motor Yachts / Government Vessels

FIXED PITCH PROPELLERS

ZF FP KCA / ZF FP KCA-S / ZF FP NACA
 ZF FP KA / ZF FP NR / ZF FP EV / ZF FP NF
 ZF FP SSP



Motor Yachts



Commercial Vessels

CONTROLS

CONTROL SYSTEMS

ZF MicroCommand / ZF MiniCommand
 ZF ClearCommand / ZF Premium ClearCommand
 ZF CruiseCommand / ZF SmartCommand



CONTROL HEADS

ZF SmartCommand 5200 / ZF MiniCommand 4200
 ZF MC 2000-1 / ZF MC 2000-2 / ZF MC 2000-4
 ZF 460 / ZF 463 / ZF Handheld Remote
 ZF Tournament Lever



SmartCommand OPTIONS

ZF Joystick Maneuvering System (JMS)
 ZF SteerCommand



Motor Yachts / Commercial Vessels



Motor Yachts / Sport Fishing Boats / Commercial Vessels

ZF Padova s.r.l.

Via Penghe, 48
35030 Caselle di Selvazzano (PD)
ITALY
Phone +39 049 8299 311
Fax +39 049 8299 550
info.zfmarine@zf.com

**ZF Friedrichshafen AG
Marine Propulsion Systems**

Ehlersstr. 50
88046 Friedrichshafen
GERMANY
Phone +49 7541 77-2207
Fax +49 7541 77-4222
info.zfmarine@zf.com

ZF Marine Krimpen B.V.

Zaag 27, P.O. Box 2020
2930 AA Krimpen aan de Lek
THE NETHERLANDS
Phone +31 180 331000
Fax +31 180 331099
info.zfmarine@zf.com

www.zf.com/marine



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