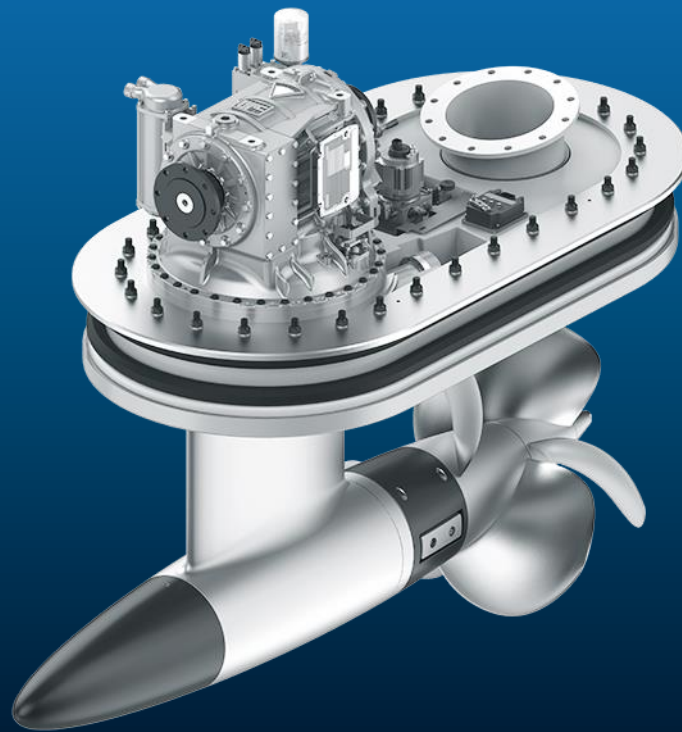




ZF POD 4600

Massimiliano Cotterchio | Sales | IBE



ZF POD 4600 - Introduction

ZF POD 4600 has been developed in order to bring **unrivalled performances and efficiency to large recreational and professional vessels**: the system provides speed and unmatched maneuverability to vessels up to 130 feet.

The **optimized hydrodynamic shape** significantly reduces the drag of the submerged part supporting the counter-rotating propellers and improves the overall horizontal thrust of the propulsion.

Inside the pods, ZF has leveraged its automotive and off-highway experience for a newly designed gearing. Its reduction ratio allows for **larger propellers, boosting efficiency even further**.

Compared to other pod systems on the market, the 4600 System is up to twice as powerful while still **consuming up to 20 percent less fuel than a traditional shaftline propulsion**.

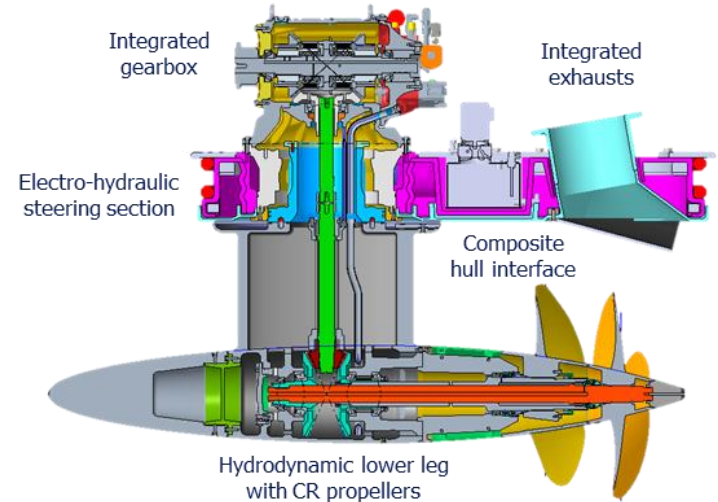
The 4600 system allows, on large vessels, to reduce the number of pod units necessary to reach the desired speed, which **reduces the onboard systems complexity and reduces the vessel's wet area**, further improving propulsion efficiency.

It first "set sail" in the **Grande 26M yacht by Azimut** and be presented to the public at this year's Cannes Yachting Festival in September.



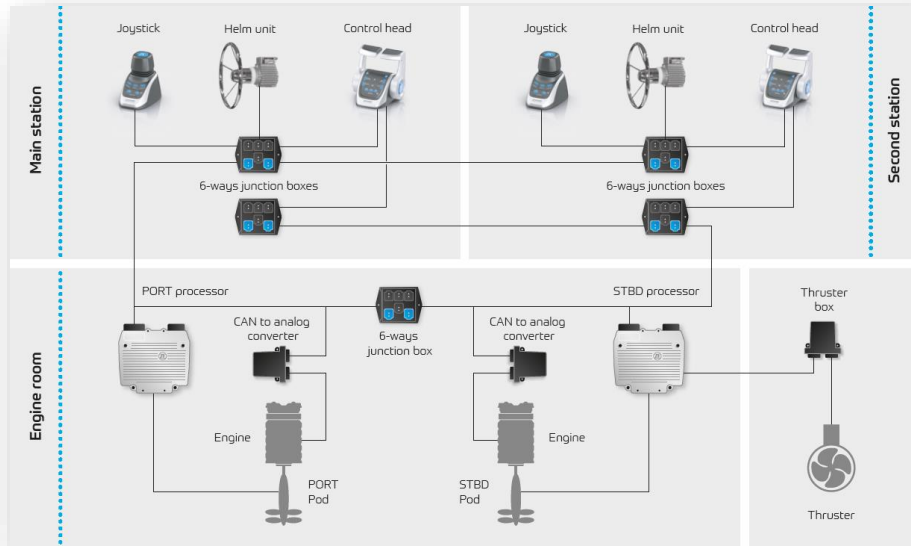
ZF POD 4600 – Main Characteristics

- ❑ **Pushing twin counter-rotating propellers** covering boat speeds from 20 to 32 knots
- ❑ Applicable on **planing and semi-displacement hulls**
- ❑ Suitable for both **recreational and professional applications** (Type Approval available)
- ❑ **Compatible with all the main OEM engines** up to 1.700 Hp
- ❑ **Electro-hydraulic steering** (+30°/-30°) and **hydraulic gear shift** (ratio 2,434) with proportional valves
- ❑ **Integrated exhaust system**
- ❑ **All main under water components built in NiBrAl and stainless steel**
- ❑ PTO (Power Take Off) already available while PTI (Power Take In) will be available soon for **hybrid propulsion**
- ❑ Interface with all **main autopilot systems**
- ❑ Interface with all **main bow and stern thrusters**
- ❑ **Joystick and iAnchor (Dynamic Positioning)** available
- ❑ **Lower unit safe release** in case of impacts with underwater objects
- ❑ Total weight **1.540kg** (each drive)



Application	Max rpm	Max Rating	Total hours/year
ZF Pleasure	2450	0,527 kW/rpm	500
ZF Light	2450	0,448 kW/rpm	2.000
ZF Medium	2250	0,342 kW/rpm	3.500

ZF POD 4600 – Electronics



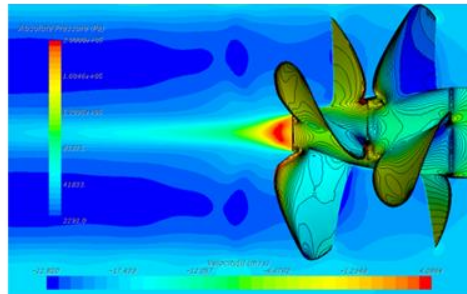
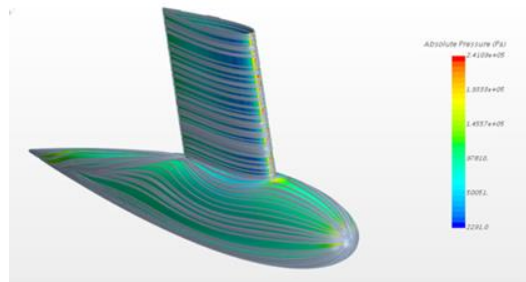
- ❑ **Full redundant** electronic architecture
- ❑ **“Plug&play”** solution
- ❑ Electronic helm, electro-hydraulic steering
- ❑ Robust new designed components for harsh environment (**IP67** on every component and harnesses),
- ❑ Control heads and joystick designed by the world-famous Italian designer **Giugiaro** (legendary automotive designer of countless supercars and popular everyday vehicles)
- ❑ **Advanced diagnostic/calibration**
- ❑ **CE marking and Type Approval**
- ❑ **ISO 25197 compliant**
- ❑ **Safety Integrity Level SiL2 (IEC61508)**

ZF POD 4600 – Propulsion Efficiency

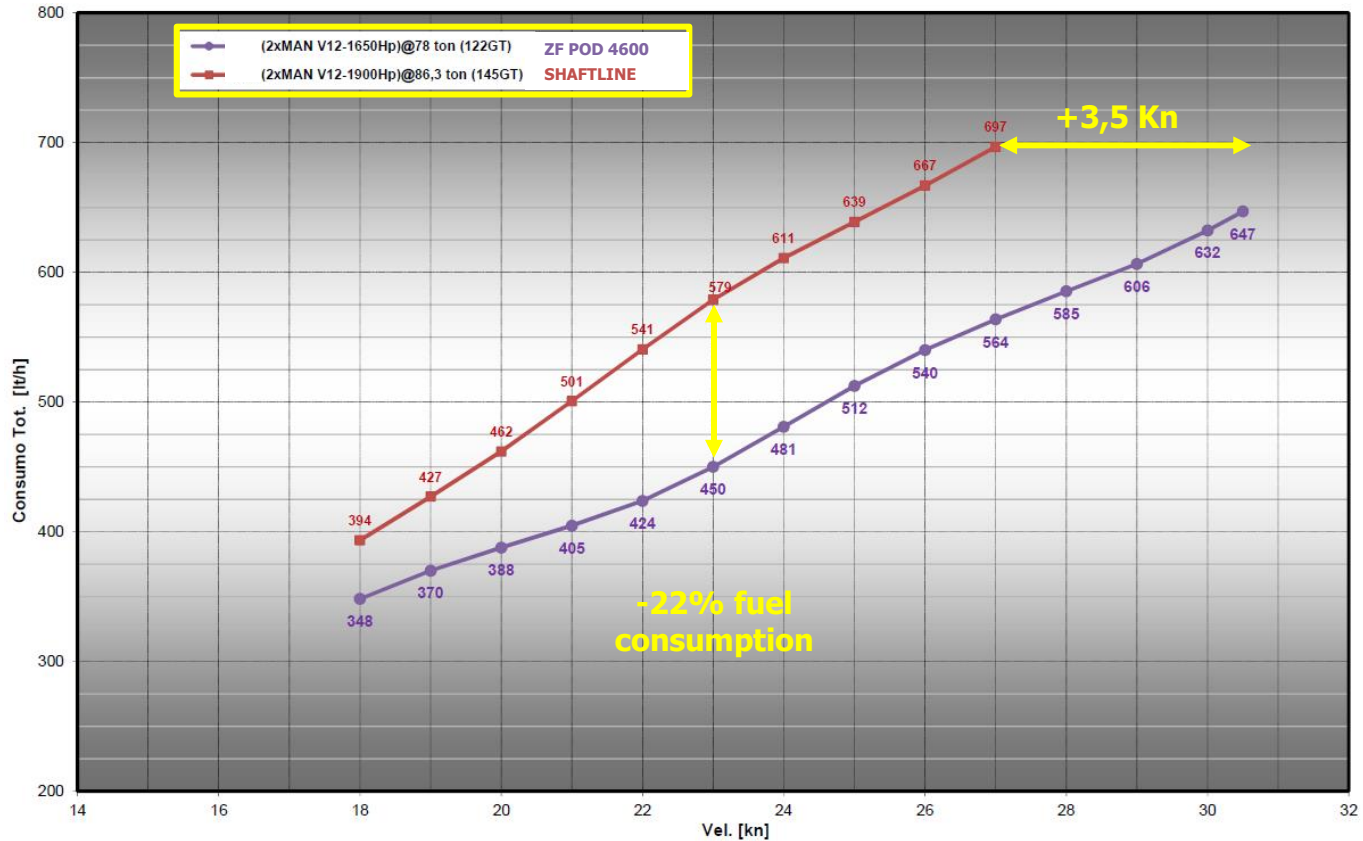
The ZF POD 4600 grants a **superior propulsive efficiency (up to 20%)** for several reasons:

- ❑ **higher efficiency of the counter-rotating propellers** (in comparison with std propeller with shaft-line)
- ❑ **horizontal thrust** (in comparison with the 8°/10° std inclined shaft-line)
- ❑ **no need of rudders** (and relative drag)

As a consequence, **less power and less fuel** are necessary to achieve the same speed of the a traditional vessel equipped with a shaft-line propulsion. Alternatively, with the same power, ZF POD 4600 achieve higher speed



ZF POD 4600 – Efficiency Results



ZF POD 4600 – Further Advantages

INCREASE IN ONBOARD SPACE: superior propulsion efficiency also means smaller engines and smaller fuel tanks, resulting in more onboard living space. Additionally the engines can be mounted further aft in the vessel, reducing the engine room dimensions, resulting in increased space for accommodation

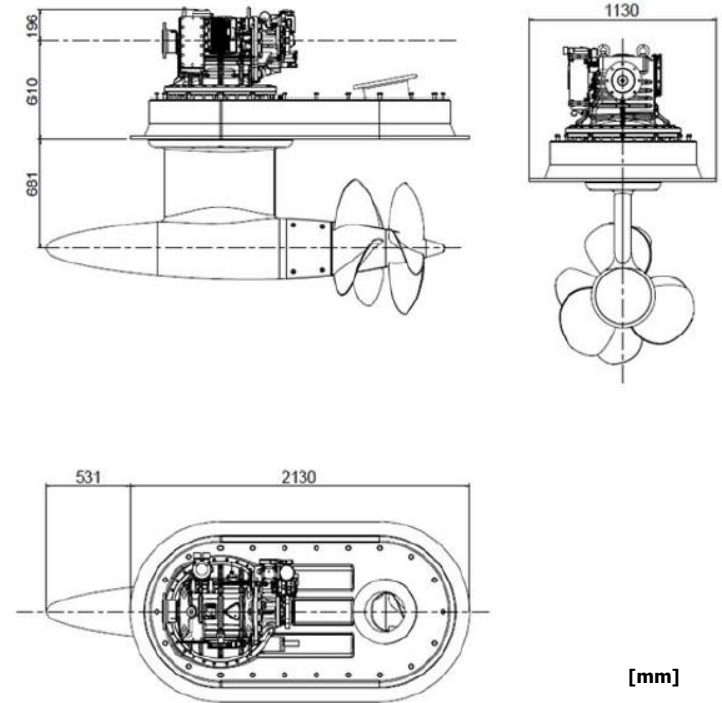
COMFORT: the elastic connection of the ZF POD 4600 to the hull and the softer engine elastic mounts (not having any propeller thrust to resist) reduce substantially structural vibrations and consequently structural noise

HANDLING AND MANOUVERABILITY: this is another major-league advantage of POD propulsions. The thrust can be directed wherever the need, the system can guarantee unmatched performances both in maneuvering and high speed. PODs are designed to be operated independently, which allows to improve mooring&docking maneuvers and also grants precise dynamic positioning

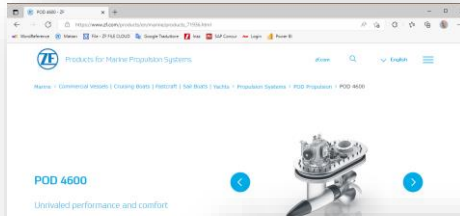


ZF POD 4600 – General Data

Crankshaft power [kw / hp]	up to 1,291 / 1,700 @ 2,450 rpm
ZF Duty	pleasure, light and medium
Single unit dry weight, incl. propellers, approx. [kg / lb]	1,540 / 3,395
Installation	twin/multiple
Max. speed range [knots]	20 to 32
Propellers, counter-rotating, [mm / inch]	up to 978 / 38.5
Reduction ratio (integrated clutch)	2,434
Exhaust system	integrated
PTO/PFI [kw / hp]	130 / 174
Steering	electro-hydraulic, +30°/ -30°
Maneuvering	joystick & dynamic positioning
Hull interface	tunnel / deadrise



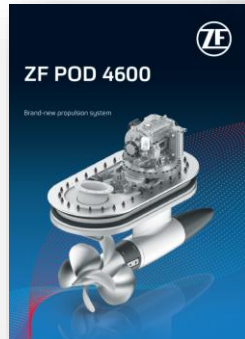
ZF POD 4600 – Available Promotional Data



www.zf.com/products/en/marine/
ZF Marine website has been updated with ZF POD 4600



<https://zfmarinemobility.com/>
ZF Marine virtual showroom has been updated with ZF POD 4600



Product brochure



<https://www.youtube.com/watch?v=Z2XFzSbUJMU>
Product video available on YouTube



Current presentation

ZF POD 4600 – Next Promotional Events

- ❑ **GENOVA Boatshow** (22nd – 27th September 2022)
- ❑ **FLIBS (Fortlauderdale, USA)** (26th – 30th October 2022)
- ❑ **METS (Amsterdam)** (15th – 17th November 2022)



Thank you

