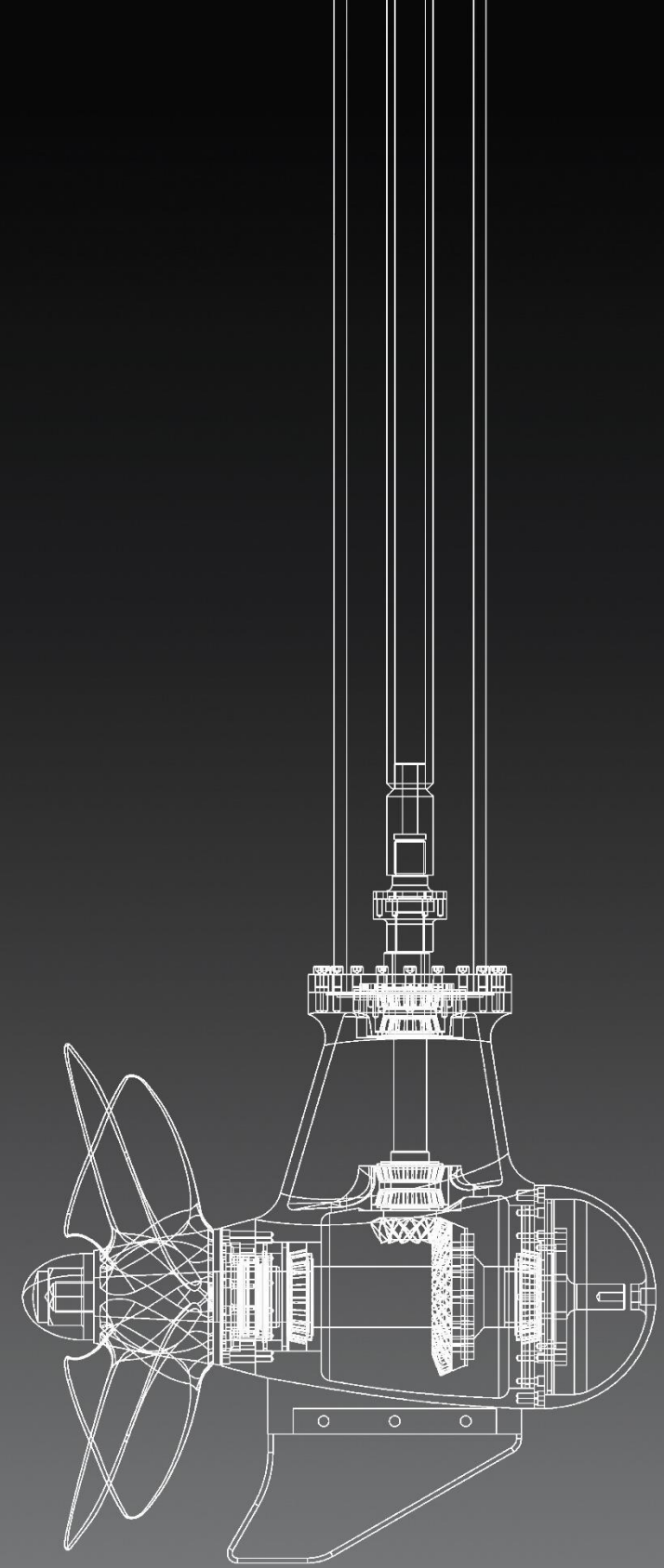


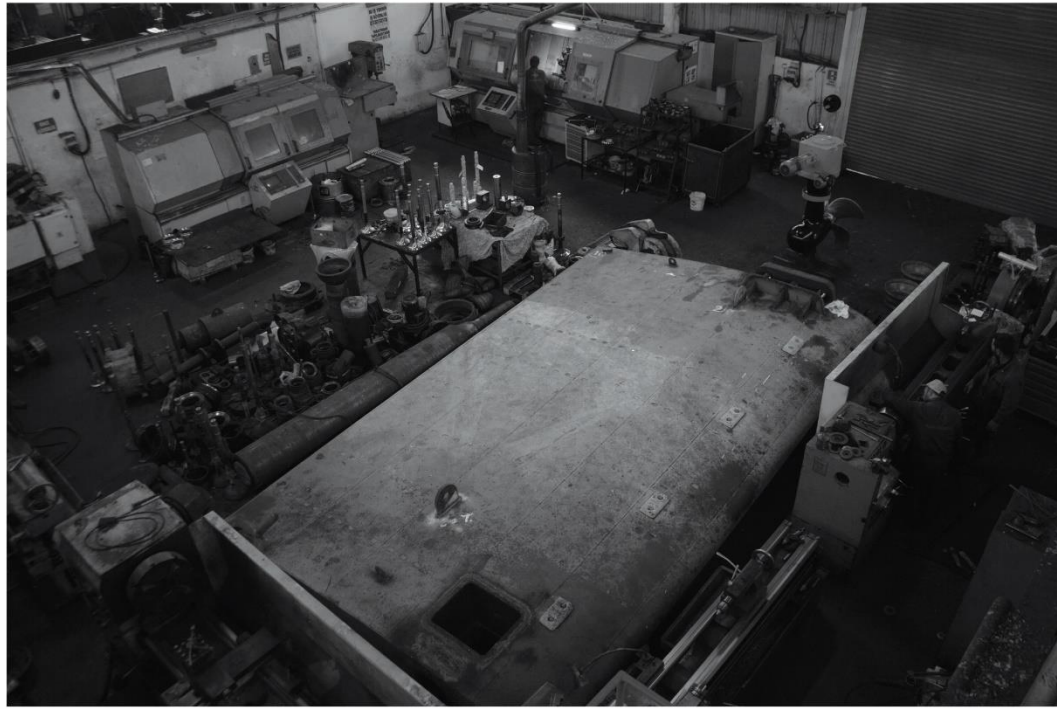
PROPULSION & MANOEUVRING
SYSTEMS

ÖZDE
DENİZCİLİK

YUCEL MASTER

Pendik/Istanbul
Phone: 0216 494 64 15
Fax: 0216 494 52 58
info@yucelmaster.com
www.yucelmaster.com





YUCEL MASTER COMPACT PROPULSION & MANOEUVRING SYSTEMS

Displaying activity in the field of maritime sector for over 15 years, with devotion to quality and respect to human and environment, Özde Denizcilik successfully completed many projects at home and abroad and became one of the leading brands in the high-end segment of the sector.

COMPACT DESIGN

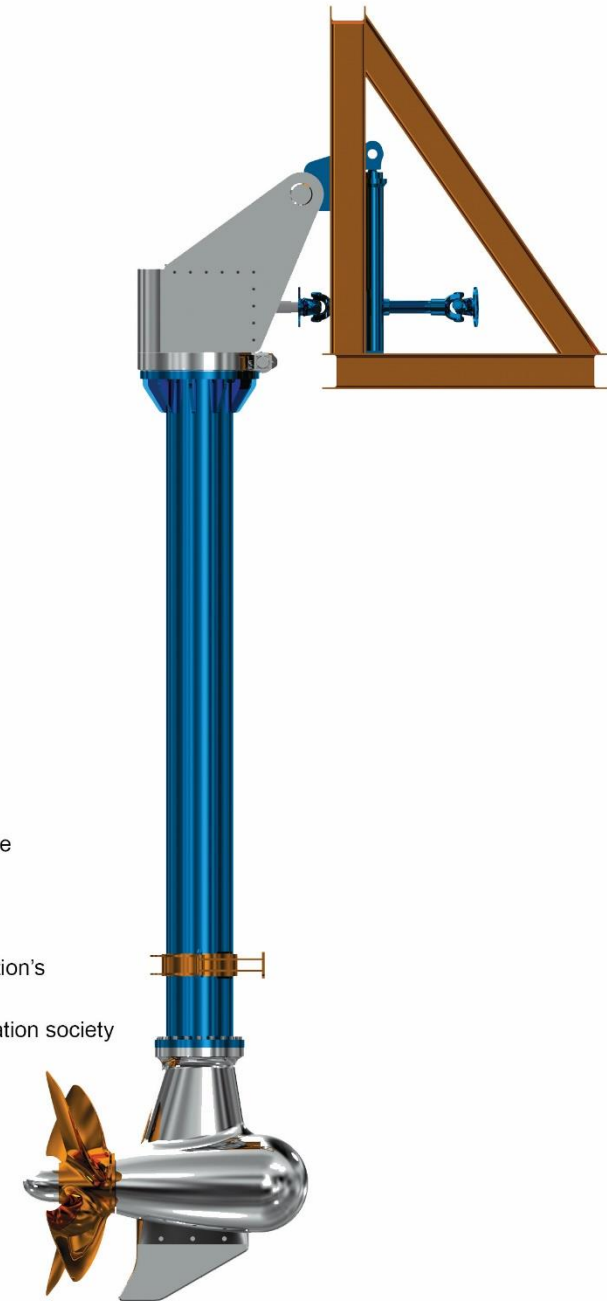
All the main equipment is placed on a single chassis, the installation of the system on the ship is completed in a very short time. There are hydraulic cylinders that allow the propeller to move up and down to keep the propeller efficiency at the highest level. The same hydraulic cylinders are lifted the propeller from water line to provide easy maintenance.

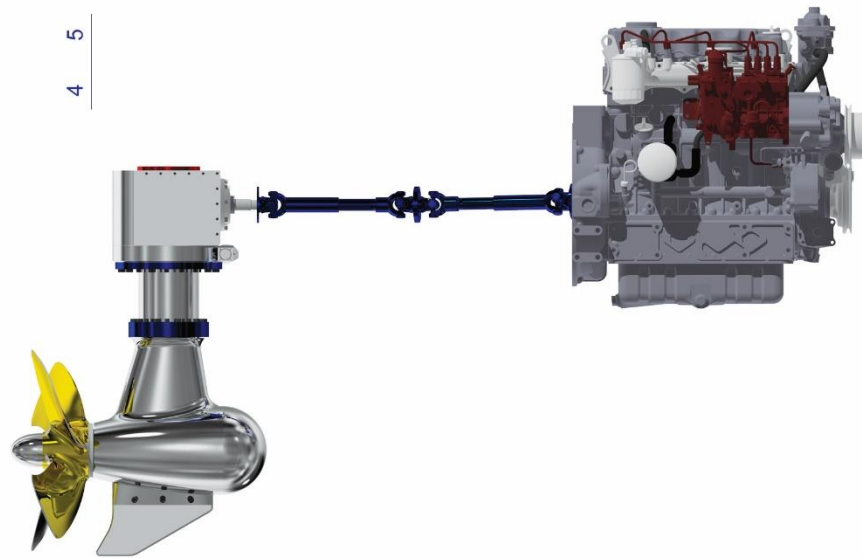
Yücel Master Propulsion & Manoeuvring Systems are divided into three main groups as electric, hydraulic and mechanically driven. The system is designed for electric-mechanical and hydraulic-mechanic driven hybrid systems.

Input Power	Input Power	Propeller Diameter
450 Hp	1800 rpm	1,0 meter
650 Hp	1800 rpm	1.25 meters
1000 Hp	1600 rpm	1.45 meters

PERFORMANCE OF THE SYSTEM

- Compact design suitable for all types of vessels
- Auto pilot system can be integrated
- System commissioning is provided in a very short time
- Ease of use and maintenance
- 360 ° high maneuverability
- Hydraulic or electrically driven units for emergencies
- High quality equipment for the heaviest marine condition's
- Minimal vibration and low noise level
- Design and manufacture for all international classification society





MECHANICALLY DRIVEN SYSTEM

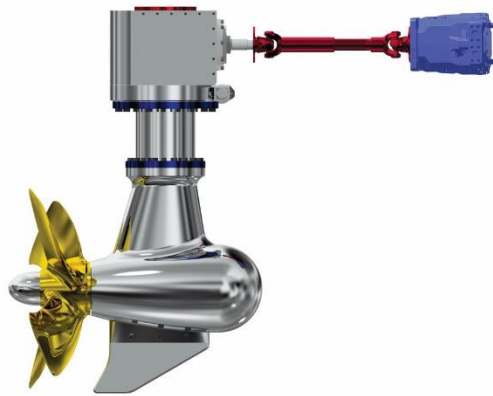
- Low commissioning costs
- System interface is simpler than hydraulic and electric systems
- Service speed in electric driven systems depends on batteries charging time so vessels with high power requirements are not suitable for use.
- In hydraulic driven systems, service speed depends on pumps and hydraulic motors so vessels with high power requirements are not suitable for use.
- Therefore, the use of mechanically driven systems is more suitable for vessels with high power requirements.

PROGRAMMABLE CONTROL SYSTEM FOR ENGINE CONTROL WITH MAXIMUM SAFETY

- Easily adaptable to hydraulically driven, electrically driven and mechanically driven systems
- The system is supplied from 2 separate 24 VDC power units
- A digitally programmable control system
- Motor speed and maneuvering position can be monitored from the bridge and steering gear room
- All warnings can be monitored from the bridge and steering gear room
- Easy access from all panels to all settings and service data.

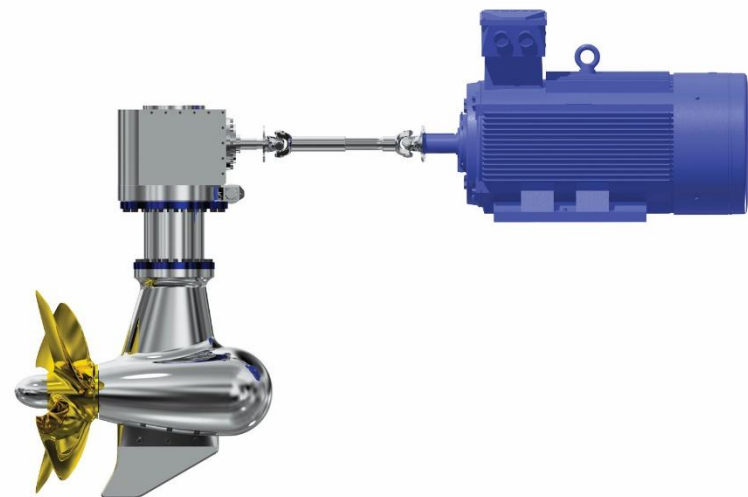
HYDRAULIC DRIVEN SYSTEMS

- Easy integration for environmentally friendly hybrid systems
- Take a small place compared to mechanically driven systems,
- The system can protect itself and ensure maximum efficiency in overloads by using intelligent pump and valve systems.
- Accurate speed adjustment can be made compared to diesel driven systems.
- Hydraulic systems have a long time
- As there is no mechanical connection, so hydraulic power units can be replaced with new ones if necessary.



ELECTRIC DRIVEN SYSTEMS

- Easy integration for environmentally friendly hybrid systems
- High efficiency can be made compared to diesel systems
- High efficiency with frequency converters
- Reduced space compared to diesel systems
- Low noise and vibration level
- Low speed maneuvering enable the system to react very quickly
- As there is no mechanical connection, so generator units can be replaced with new ones if necessary.
- Maintenance cost and maintenance time is quite low



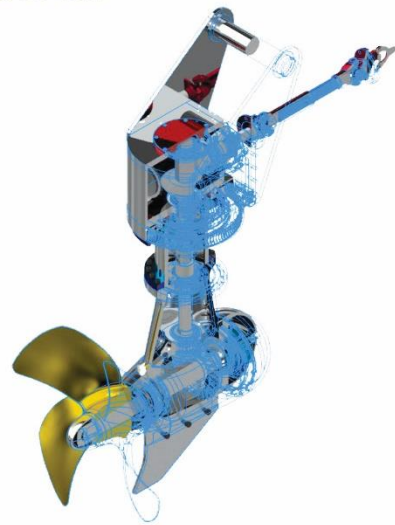
HIGH MANOEUVRING
CAPABILITY UNDER
HEAVY SEA CONDITIONS



FINITE ELEMENT ANALYSIS AND GEAR CALCULATIONS FOR OPTIMUM SECURITY OF THE SYSTEM

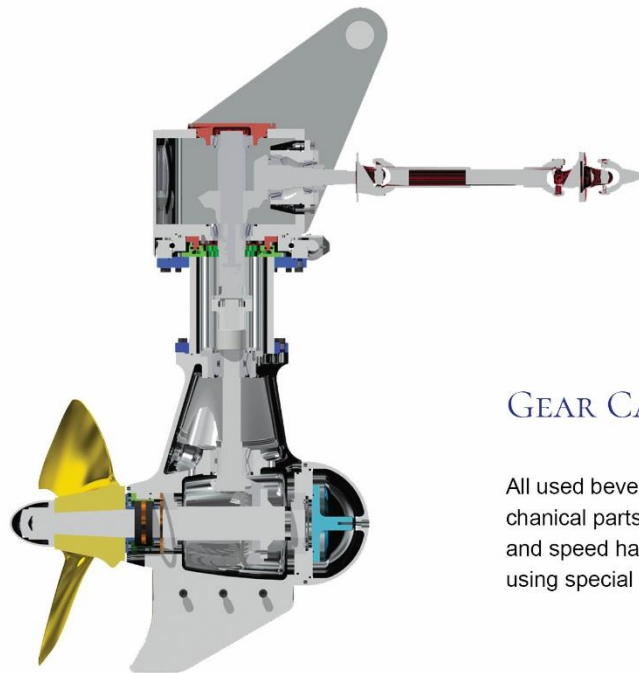
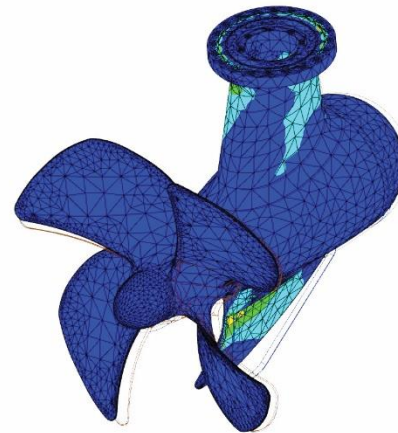
HYDRODYNAMIC ANALYSIS (CFD)

In order to increase fuel efficiency, reduce the environmental impacts and increase the safety level, the streamlines are modeled, and the propeller and body design is made by the computational fluid dynamics method.



STRUCTURAL ANALYSIS

Dynamic and static analysis has been performed by the finite element analysis method in order to increase life time, resisting structure and light body weight.



GEAR CALCULATION

All used bevel gear pairs and roller bearings of mechanical parts which are working under high torque and speed has been calculated and optimized with using special computer programs.



YUCEL MASTER
MAXIMUM QUALITY



HIGH PRECISION

