



Allen Gears



Lufkin Gears

Marine gearboxes Overview

January 11, 2021

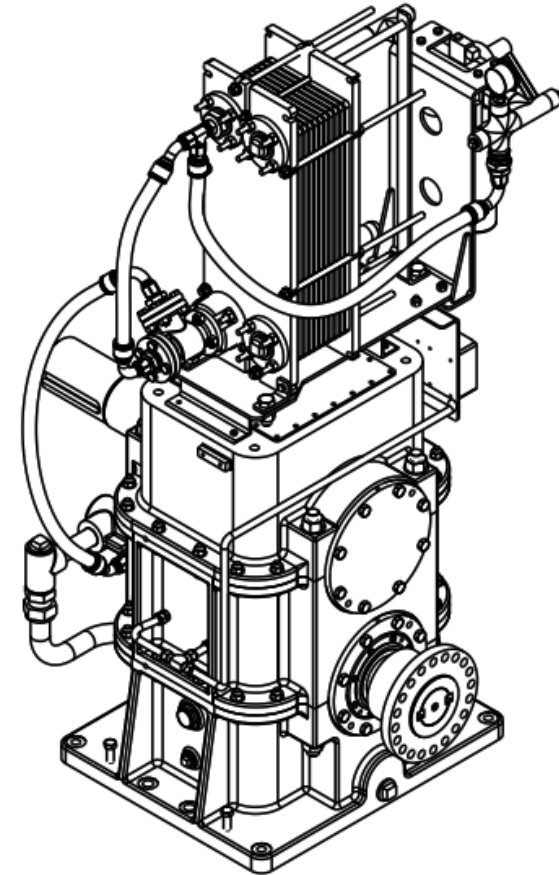
Copyright 2020 Baker Hughes Company. This material contains one or more registered trademarks of Baker Hughes Company and its subsidiaries in one or more countries. All third-party product and company names are trademarks of their respective holders.

Baker Hughes 

Gearbox for Ship Assist Tug:

MV1600S General data

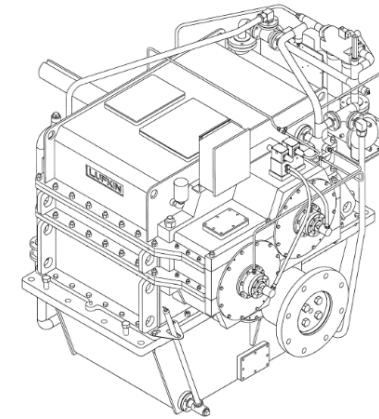
- Shaft arrangement: SISO – Vertical offset
- Driver: Diesel Engine 2525 kW (3386 hp) @ 1800 rpm
- Stern Drive Shaft @ 900 rpm
- Weight: 2588kg



Gearbox for Workboat: (Inland River Pushboat)

RHS2800HG General data

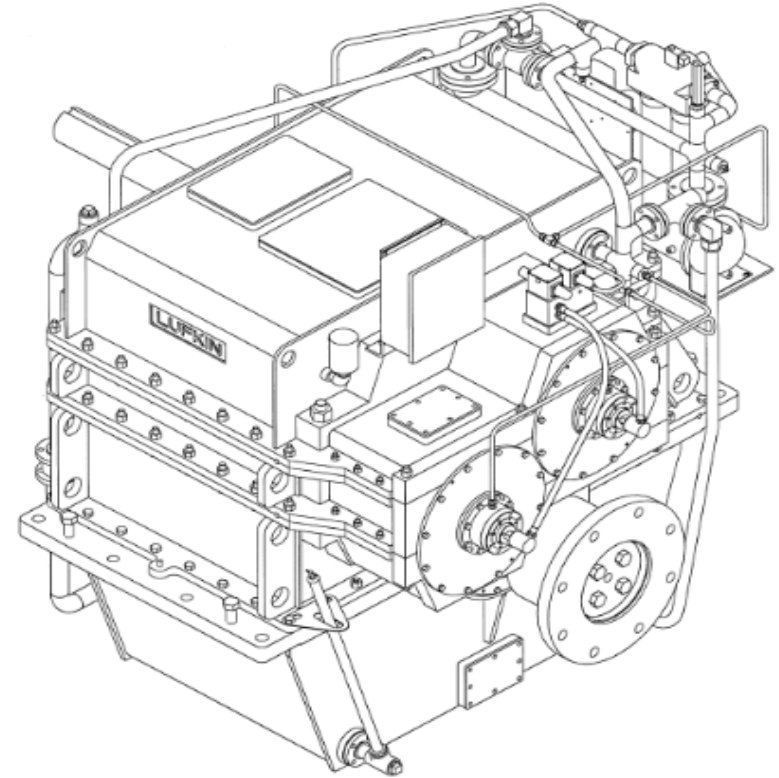
- Shaft arrangement: SISO – Vertical offset
- Reverse gear
- Axial load of the propeller supported by the Gearbox up to 445 kN
- PTO / PTI : Optional
- Driver: Diesel Engine 1300 to 3100 kW(1700 to 4200 hp) @ 700 to 1000 rpm
- FPP @ 110 to 190 rpm
- Weight: 12930kg



Gearbox for Workboat: (Blue-water ATB)

RHS3200HG General data

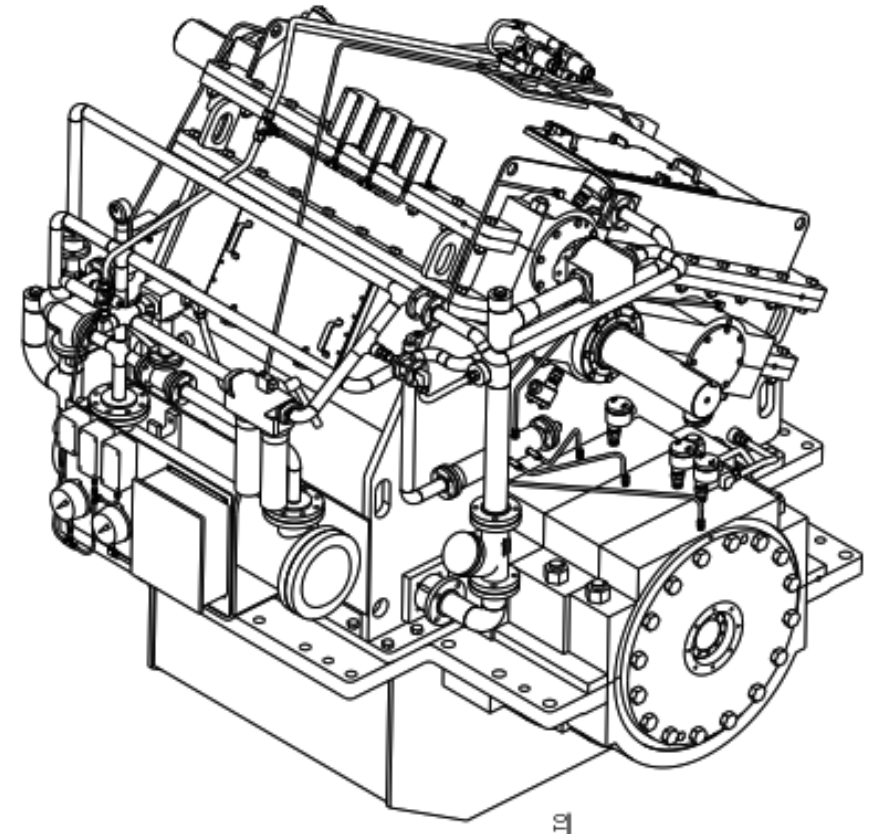
- Shaft arrangement: SISO – Vertical or horizontal offset
- Reverse gear
- Axial load of the propeller supported by the Gearbox up to 555 kN
- PTO / PTI : Optional
- Driver: Diesel Engine 1860 to 3730 kW (2500 to 5000 hp)@ 700 to 1000 rpm
- FPP @ 100 to 160 rpm
- Weight: 15400kg



Gearbox for Fishing Vessel :

VSQ4134-K-PTO General data

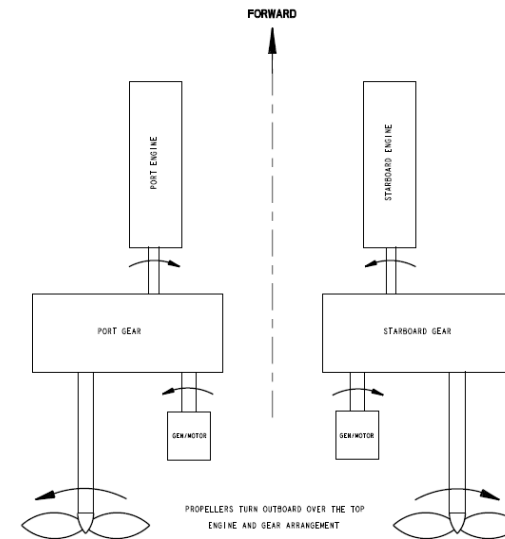
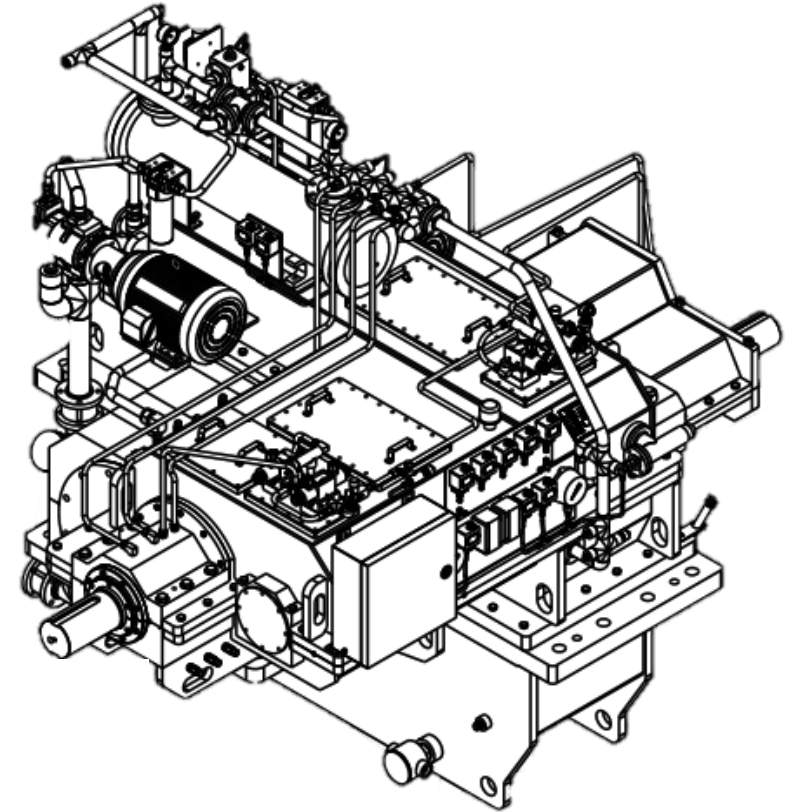
- Shaft arrangement: SISO – Vertical offset
- Reverse gear: Optional
- Axial load of the propeller supported by the Gearbox: 445 kN
- 1700 kW @ 1800 rpm PTO for generator
- Driver: Diesel Engine 2983 kW (4000 hp) @ 900 Rpm
- FPP @ 121 rpm
- Weight: 28800kg



Gearbox for Passenger Ferry :

VSQ900-K-PTI General data

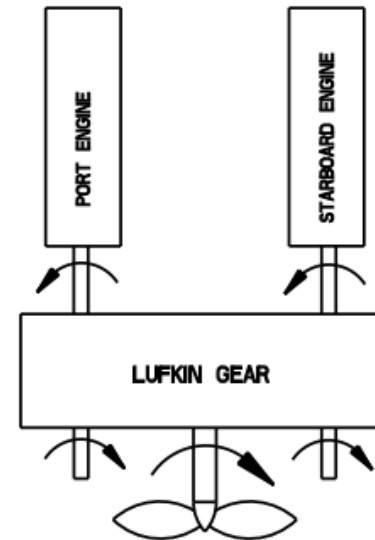
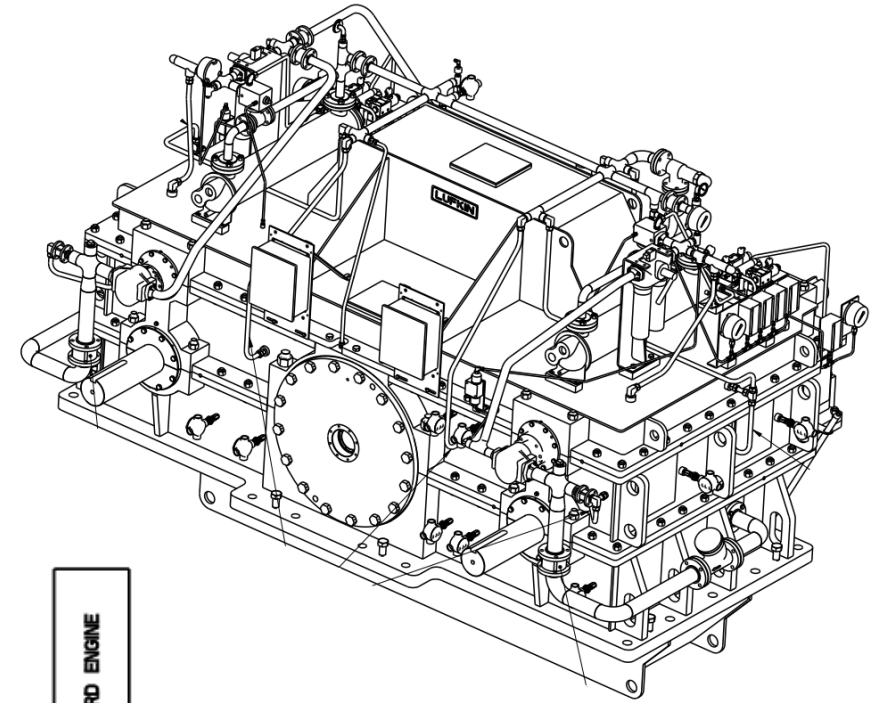
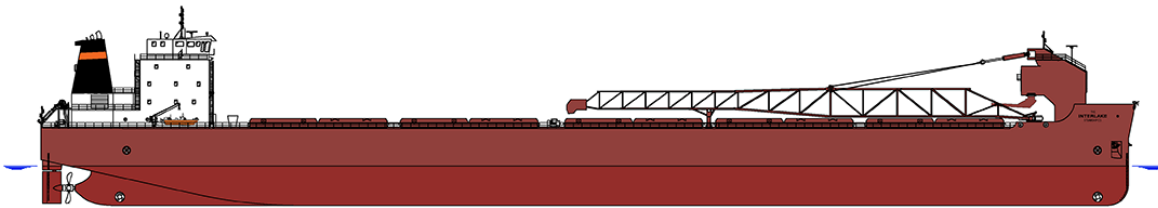
- Shaft arrangement: SISO – Vertical offset
- Axial load of the propeller supported by the Gearbox
- PTI/PTO: 2300 kW @ 1800 rpm PTO for generator
- Driver: Diesel Engine 3600 kW (4828 hp) @ 750 rpm
- Driven: CPP @ 150 rpm
- Weight: 24700kg



Gearbox for Cargo Ship :

CSQ11400-K-PTO General data

- Shaft arrangement: TISO – Horizontal offset
- Axial load of the propeller supported by the Gearbox
- PTO: 2x 2500 kW @ 1800 rpm for generator
- Driver: Diesel Engine 2983 kW (4828 hp) @ 900 rpm
- Driven: CPP @ 120 rpm
- Weight: 41178kg

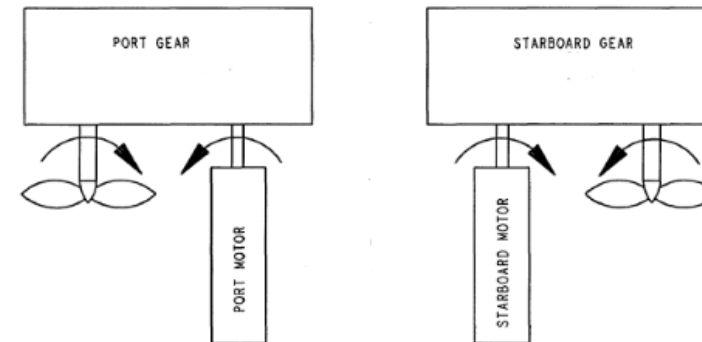
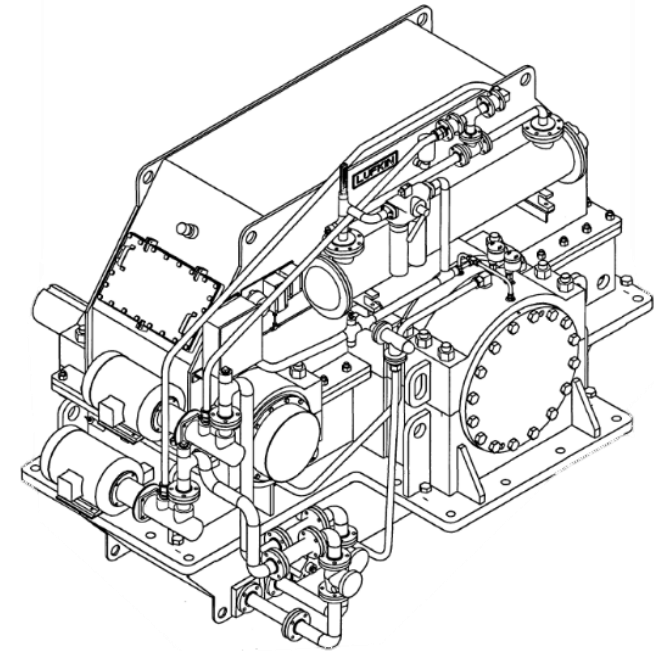


ENGINE AND GEAR ARRANGEMENT

Gearbox for Supply Vessel / Tanker / Bulk Carrier:

HS5350-KTB General data

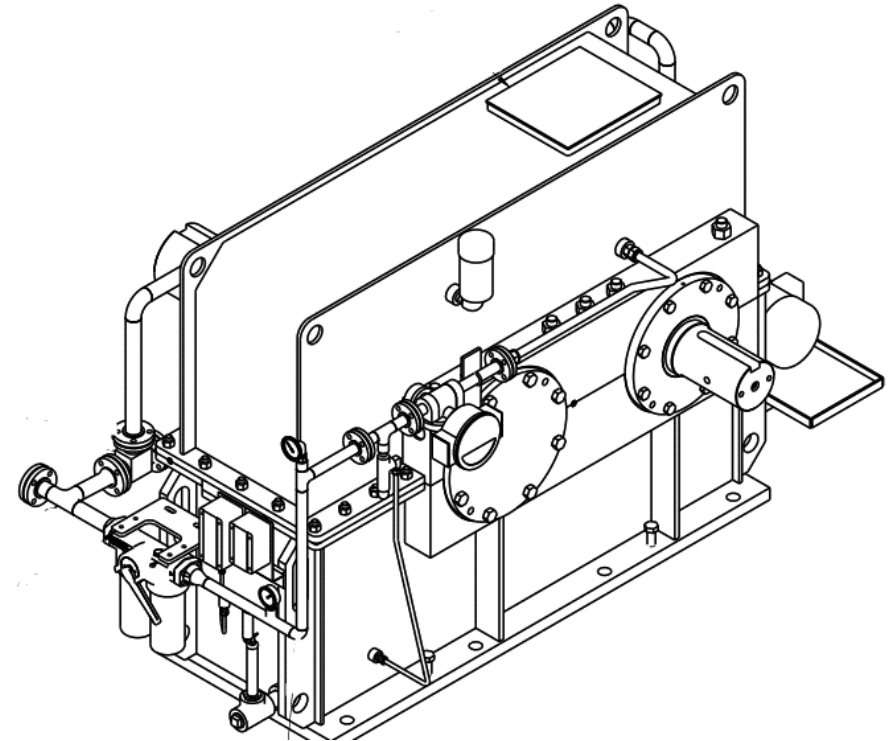
- Shaft arrangement: SISO – Horizontal offset
- Driver: Electric Motor 4650 kW (6236 hp) @ 700 rpm
- Axial load of the propeller supported by the Gearbox: 689 kN
- Driven: FPP @ 105 rpm
- Weight: 25855 kg



Gearbox for Dredge Application :

SF3000S General data

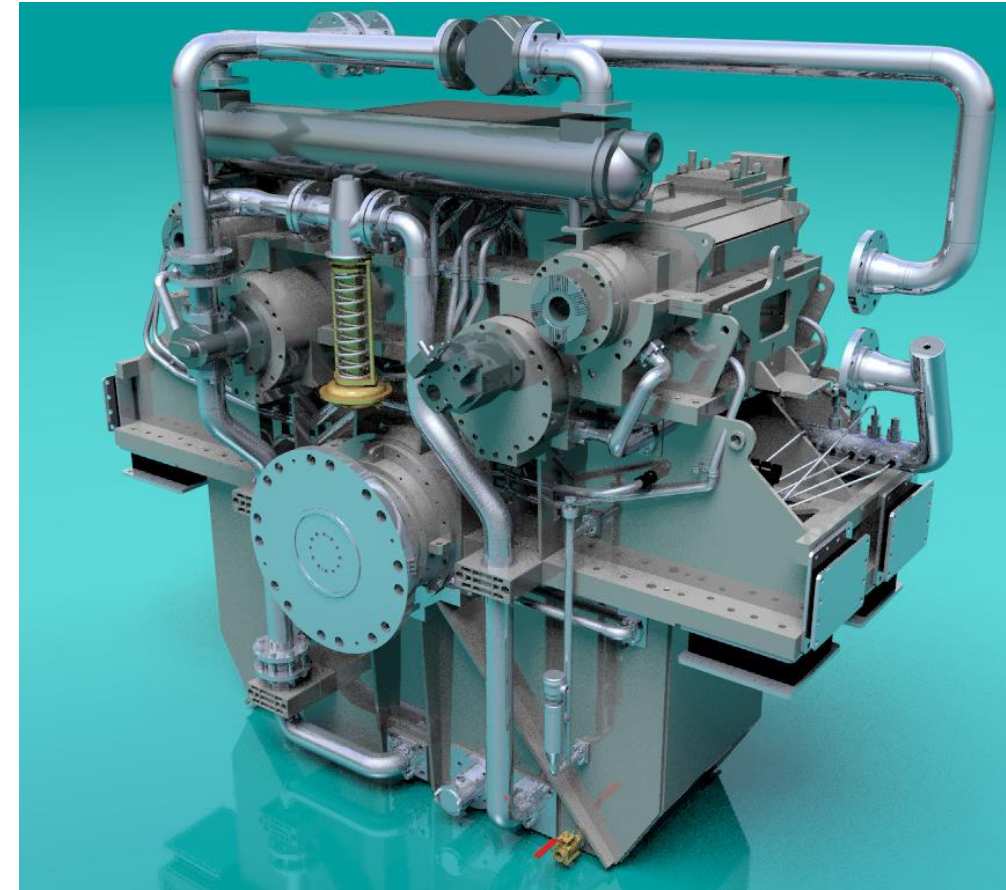
- Shaft arrangement: SISO – Horizontal offset
- Driver: Diesel Engine 3730 kW (5000 hp) @ 900 rpm
- Driven: Dredge Pump
- Weight: 6350kg



Center Propulsion Gearbox for Fast Attack Craft:

GPV850 General data

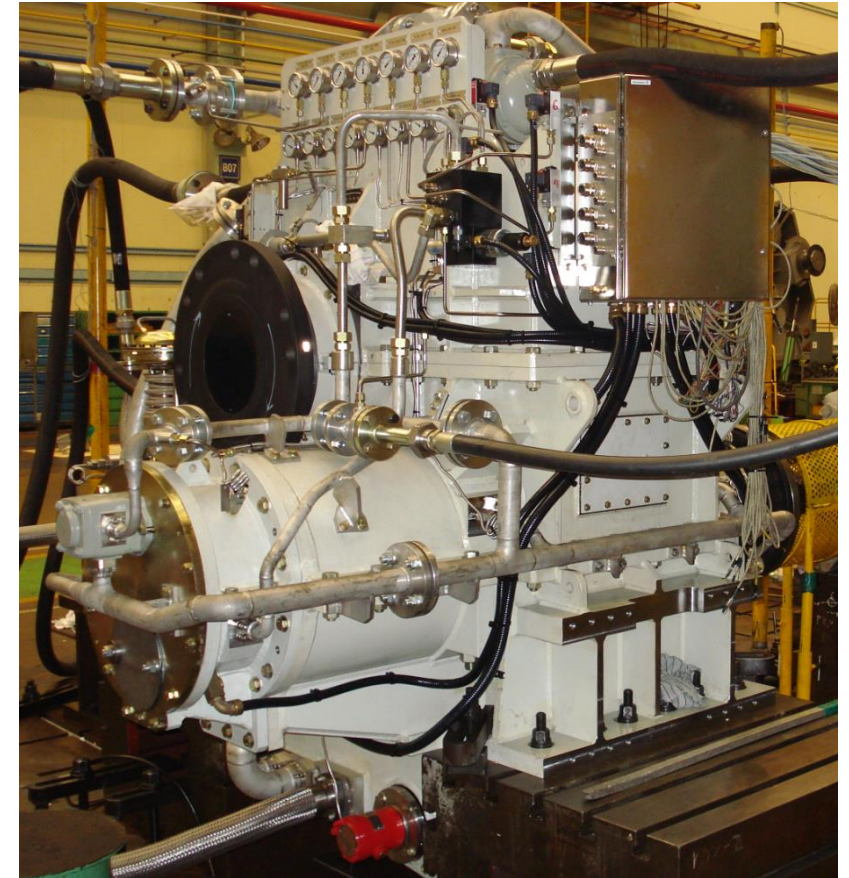
- Shaft arrangement: TISO – Horizontal & Vertical offset
- Driver: 2 gas turbines 4200 kW each (5600 hp) @ 7000 rpm
- Driven: Waterjet 8400 kW @ 715 rpm
- Weight: 4875 kg (Aluminum casing, EBW wheel)



Wing Propulsion Gearboxes for Fast Attack Craft:

63HL600 General data

- Shaft arrangement: SISO – Horizontal & Vertical offset
- Driver: Diesel engine 5800 kW (7800 hp) @ 1319 rpm
- Driven: Waterjet @ 570 rpm
- Weight: 5700 kg



Main Propulsion Gearbox for Stealth Corvette:

CPV854 General data

- Shaft arrangement: Three In – Single Out CODOG*– Horizontal & vertical offset
 - Drivers: 2 Gas Turbines 4000 kW each(5365 hp) @ 16000 rpm
+ 1 Diesel Engine 1300 kW (1740 hp) @ 2291 rpm
 - Driven: 2 water jets @ 280 rpm DE mode, 524 rpm GT mode
 - Weight: 5000 kg (Aluminum casing)
- * (Combined Diesel Or Gas)



Main Propulsion Gearbox for Luxury Yacht :

320HL340 General data

- Shaft arrangement: COGAG* EPICYCLIC/PARALLEL– TISO Vertical & Horizontal offset
- Drivers: 2 Gas Turbines 3427 kW each(4600 hp) @ 16061 rpm
- Driven: Water jet @ 1017 rpm
- Weight: 4810 kg (Aluminum casing)

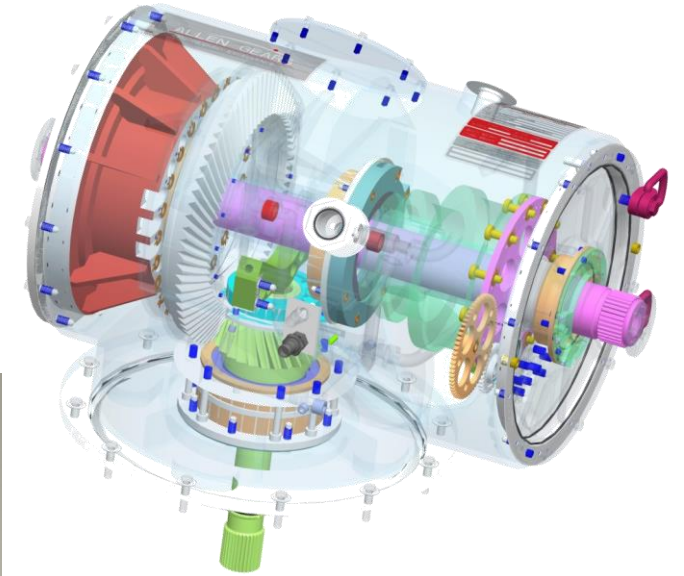
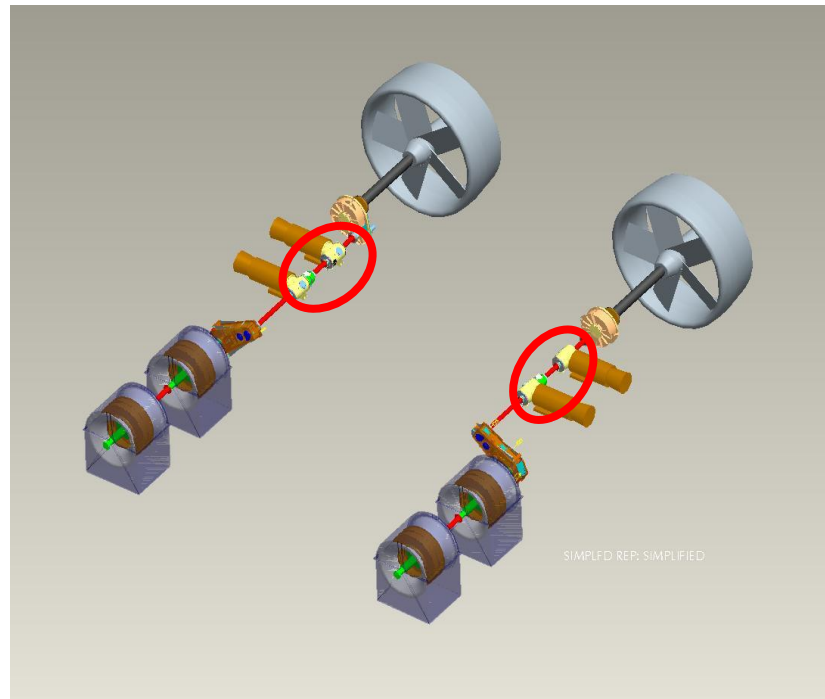
* (Combined Gas And Gas)



Engine Gearbox for Hovercraft :

GBL804 General data

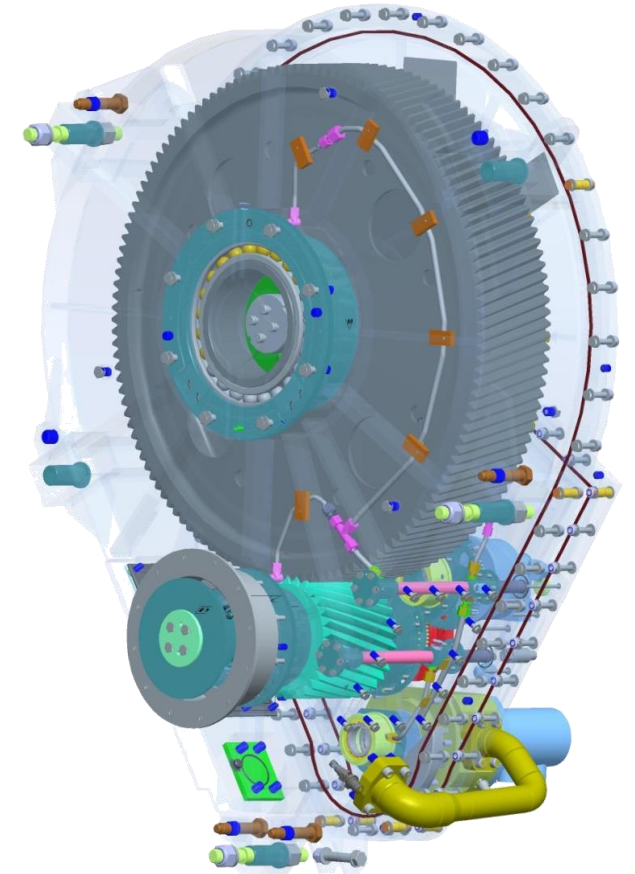
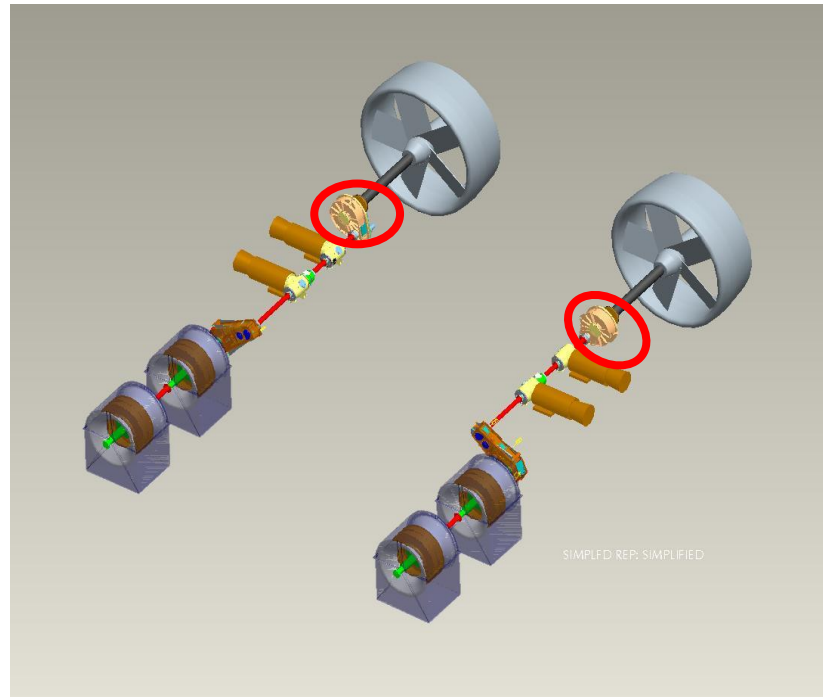
- Shaft arrangement: SITO – Bevel gear
- Drivers: Gas Turbine 3261 kW (4373 hp) @ 16000 rpm
- Driven: Lift Fans & propulsion gearboxes @ 5797 rpm
- Weight: 218 kg (Aluminum casing)



Propulsion Gearbox for Hovercraft :

GPV410 General data

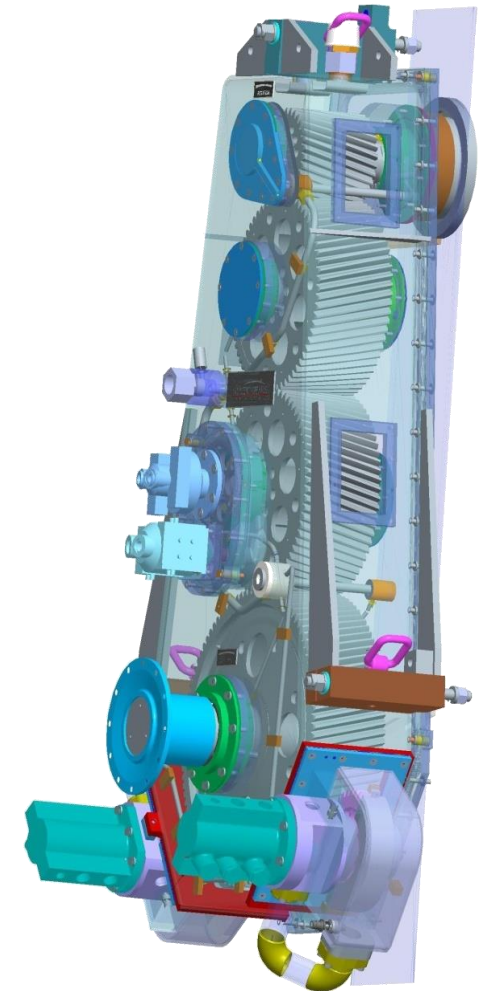
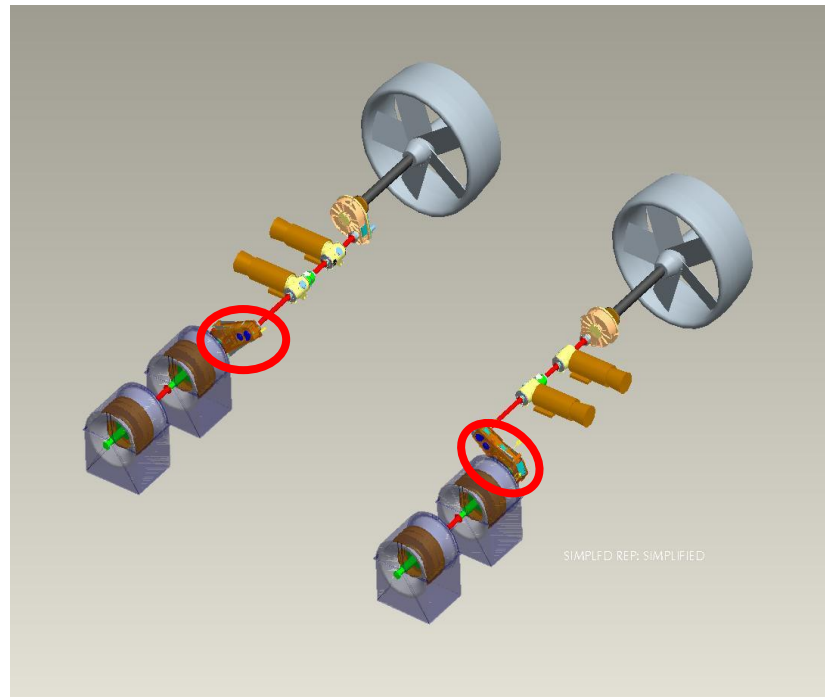
- Shaft arrangement: SISO – Vertical offset
- Axial deflection of the propulsion shaft absorbed by gearbox ball spline
- Drivers: Gas Turbine 3942 kW each (5286 hp) @ 5797 rpm
- Driven: Propulsion Fans 1298 rpm
- Weight: 650 kg (Aluminum casing)



Lift-fan Gearbox for Hovercraft :

GPV710 General data

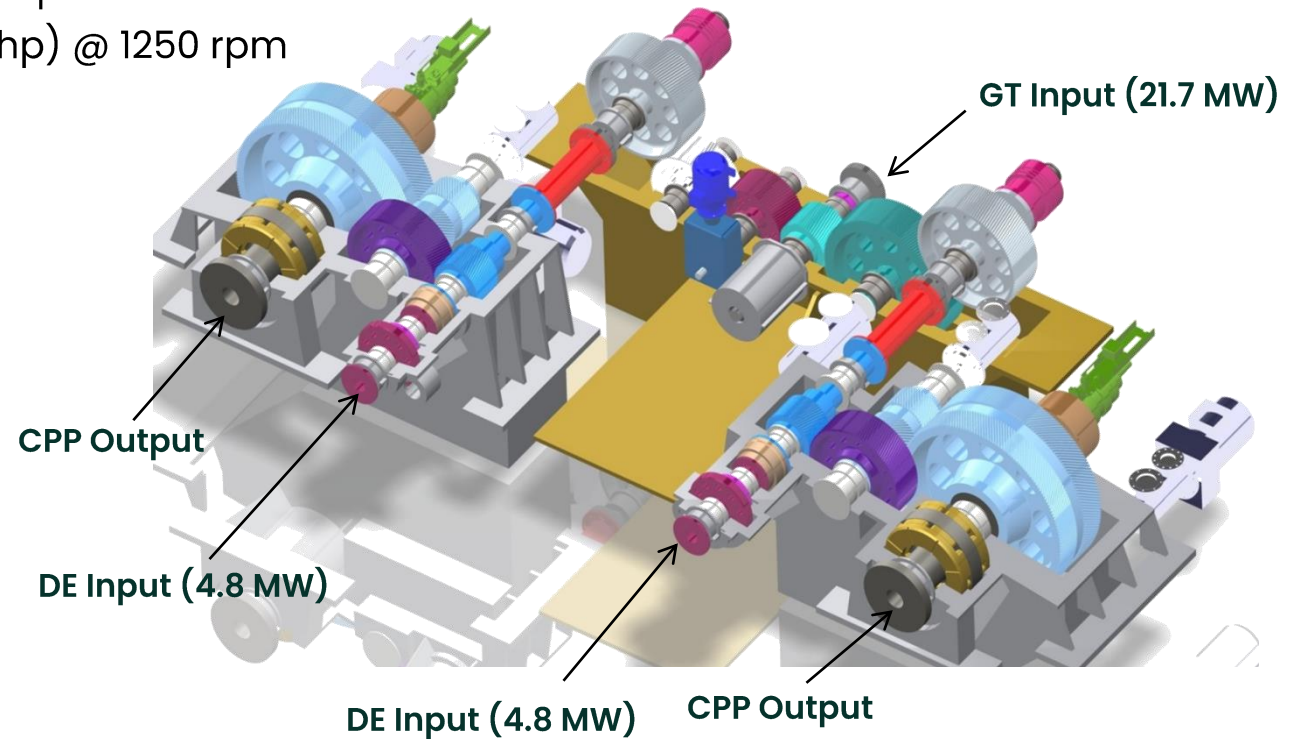
- Shaft arrangement: SISO – Vertical & Horizontal offset
- Extended center distance for desired shaft arrangement
- Drivers: Gas Turbine 2580 kW each(3460 hp) @ 5797 rpm
- Driven: Lift Fans @ 1698 rpm
- Weight: 620 kg (Aluminum casing)



Cross-connect Propulsion Gearbox for Auxiliary Ship:

GPH2000 and DPH2000 General data

- Shaft arrangement: CODOG*– Horizontal offset
- Axial load of the propeller supported by the Gearbox
- Drivers: 1 Gas Turbine 21.7 MW (29100 hp) @ 3600 rpm
+ 2 Diesel Engines 4800 kW each (6400 hp) @ 1250 rpm
- Driven: 2 CPP @ 221 rpm
- Weight: 1x 37500 and 2x 44750 kg
- * (Combined Diesel Or Gas)



Gearbox for Auxiliary Power Generation

ACSG22 General data

- Shaft arrangement: SISO – Compound epicyclic
- Driver: Diesel engine 4500 kW (6000 hp) @ 14591 rpm
- Driven: Generator @ 1800 rpm
- Weight: 2580 kg



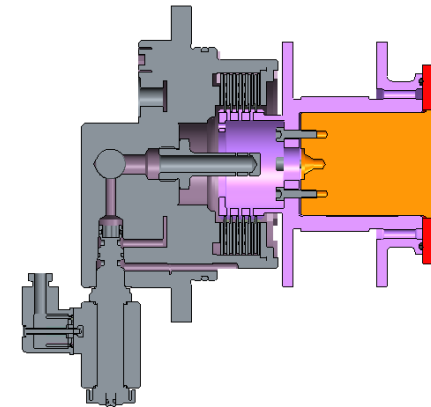
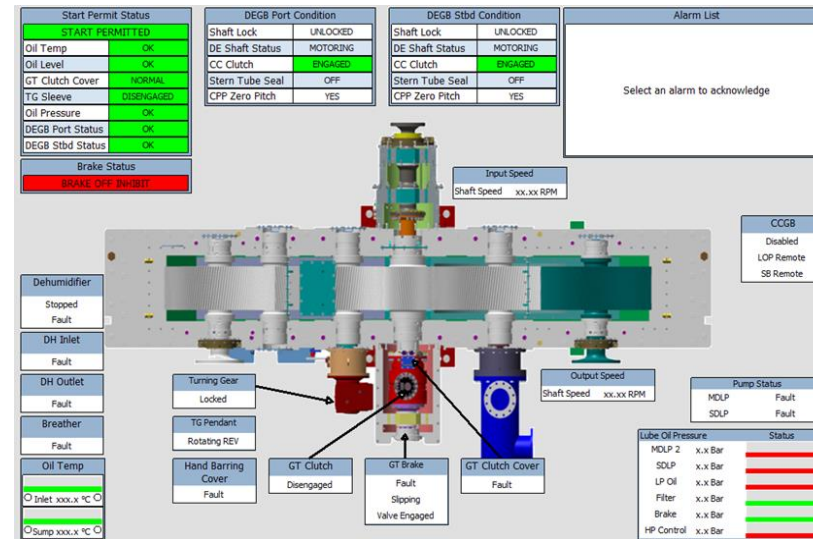
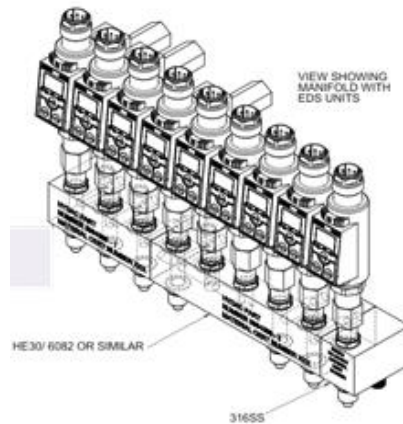
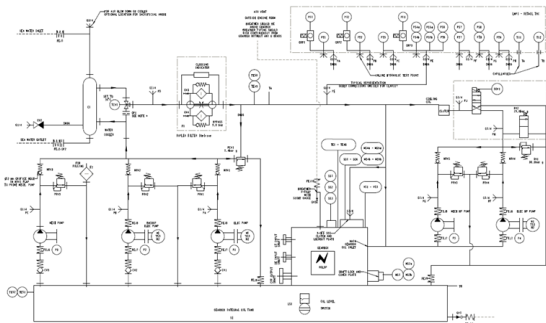
Gearbox Auxiliaries

- Mechanical PTO Pumps
- Standby Electric Pumps
- Oil filters
- Heaters and Coolers
- Pressure Regulating Valves
- Temperature Control Valves
- Position Control Valves
- Dehumidifiers

- Temperature Sensors
- Pressure Sensors
- Vibration Sensors
- Oil Condition Sensors
- Proximity Sensors

- Temperature Gauges
- Pressure Gauges
- Digital Displays
- Local Control Interface
- Human Machine Interfaces (HMI)
- Remote Control/Monitoring
- Data logging
- Motor starter box

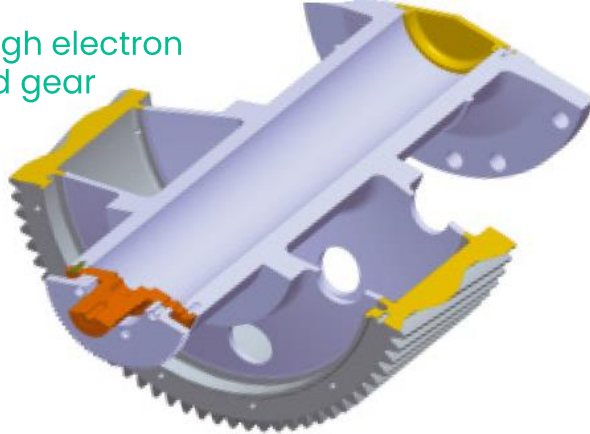
- Overrunning Clutch
- Multi Disk Clutch
- Shaft Brake
- Shaft Lock
- Turning Gear



Electron Beam Welding Technology



Section through electron beam welded gear



Applied in construction of geared rotors and shafts.

Aerospace techniques that ensure a robust and reliable product.

Components weighing as much as 50% less than alternative light weight marine solution.

- Thin sections.
- No filler material.
- High level of weld integrity and strength properties.
- Highly localised heating.

Certifications

Certifications:

Classification Societies:

We have long experience of working according to the rules of the following Classification Societies;

- LR Lloyd's Register
- BV Bureau Veritas
- ABS American Bureau of Shipping
- DNV GL Det Norse Veritas, Germanischer Lloyds

Other bodies have been reviewed and can be applied.

ICE Class:

We have realized many propulsion systems taking in consideration ice strengthening and associated classification.

Military project:

We have been involved in several military projects, applying the associated rules and our team is trained to work on export-controlled projects.



Allen Gears

a Baker Hughes business



Lufkin Gears

a Baker Hughes business