

KEY ADVANTAGES

DIESEL

The common rail turbo charged diesel engine provides high efficiency and torque. This results in powerful thrust and acceleration, with the capacity to carry heavy loads. The engine runs on a large variety of fuels: EN 590, ASTM D 975 No. 1 and No. 2, JIS KK 2204, F54 and F75.

ENVIRONMENT

The use of highly refined, modern automotive-based engine technology significantly reduces the fuel consumption and provides for industry leading emission levels and subsequent minimized impact on the environment. The emission levels are approved by EPA TIER -3, IMO TIER II (MARPOL VI TIER II) and

SAFETY

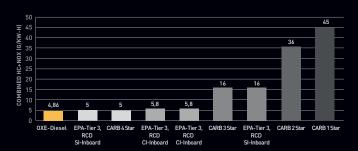
Diesel is a less flammable fuel and therefore safer to work with in hazardous environments. Robust design and guick shift capability lead to increased maneuverability and safer operation in fierce conditions. The OXE Diesel is designed to be safe in any environment.

Due to significantly lower fuel consumption than a comparable modern outboard, the OXE Diesel offers the market with an unprecedented range. Enabling users to go further and refilling from other vessels or marine based platforms.

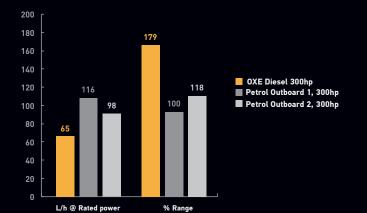
MAINTENANCE

Easily accessible service points combined with a modular design create a user-friendly product. Interchangeable gear ratio caters for various operational requirements. The reliable automotive powerhead keeps costs of maintenance and spare parts low. Longer service intervals ensure fewer disruptions in engine usage, increasing operations profitability and productivity.

COMPARISON OF REGULATIONS



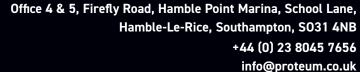
REDUCED FUEL CONSUMPTION LEADS TO SIGNIFICANTLY INCREASED RANGE





The OXE Diesel is the only outboard engine designed and built primarily for commercial users. It is designed for those who use their boat every day no matter the conditions and must to rely on their units for many hours every year. This innovation fills a vital new and central segment within the marine industry and cannot be compared to anything else currently on the market. Efficiency, Endurance, Power and Control.

PROTEUM















OXE DIESEL OUTBOARD

www.proteum.co.uk

OXE DIESEL OUTBOARDS

The OXE is the world's first high-performance diesel outboard. It combines the reliability and endurance of marine inboards with the flexibility and agility of outboard engines. OXE are the only outboards that complies with EPA Tier-3, IMO Tier II and RCD emissions and environmental standards. OXE Diesel engines are designed and built for commercial user according to commercial user demands.

Cimco Marine, the manufacturer behind the engine, started this project with the mission to design the first high output diesel outboard, the keywords were **Endurance**, **Reliability**, **Power and Control**. These words are now embedded within The OXE Diesel.

The patented technology has enabled Cimco to design a robust drive unit that will effectively transfer high torque diesel power from the engine to the propeller. A concept designed to include modular layout, easily accessible service points, interchangeable gear ratios and proven diesel technology, guarantees a product optimized for long service life.

The OXE Diesel is designed with the NATO "single-fuel" directive in mind. It is currently available in 125, 150, 175 and 200 hp versions, a 300 hp version is to be released in 2020.

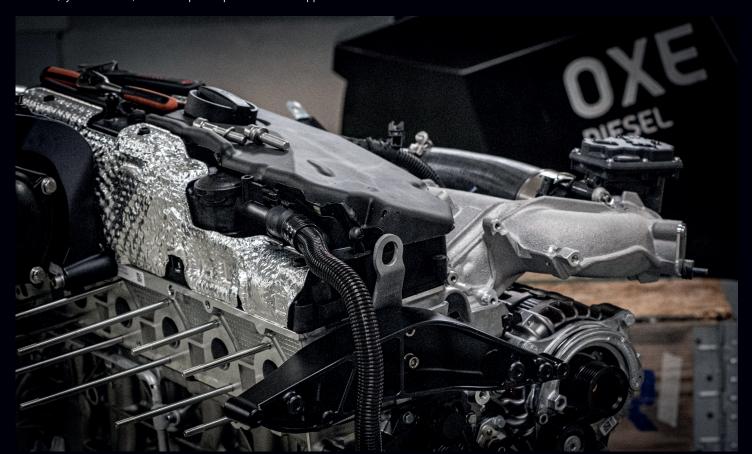
OXE outboards offer effective and safe solutions for: governmental, oil & gas, search and rescue and large commercial applications, and also for small craft fishermen, naval survey, tourism, yacht tender, taxi and pilot operations. All applications

where range, load carrying performance, pulling performance and running costs are significant factors.

The power heads used all OXE outboards are proven robust diesel engines, developed by market leaders from the automotive industry, they have been marinized and tested at length on the water, in dyno-test cells and in laboratories prior to reaching the market. The innovative design of the gearbox and the lower housing enables increased strength, high efficiency and high-speed capability.

FEATURES

- Power & Safety of Diesel
- Low emissions
- Low fuel consumption
- Quick Shifting
- Low Speed Control
- Joystick capability
- CAN based helm control system
- Dual helm capability
- Robust modular design
- Low drag propulsion housing
- Long service interval
- Directly replaceable with other outboards



The diesel engines used for OXE products has been adopted from the automotive industry. The twin turbo base engine used in the OXE 300 was designed to meet the most stringent emissions legislation, Euro 6. In relation to a vertically mounted outboard engine, a horizontally mounted engine reduces wear and improves heat dissipation.

OXE 300 HP DIESEL OUTBOARD

To meet commercial customer demands the OXE Diesel has been designed with ease of maintenance and service in mind. All service points for daily maintenance checks are located at the front deck side of the engine to make service and maintenance as easy and straight forward, even in the harshest of conditions.

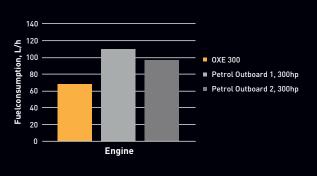
As the OXE Diesel is designed as an outboard package, it is replaceable. Service and overhauls can thereby be performed away from the boat by just replacing the power unit. This increases the time on water for the boats.

An OXE has integral clockwise and counter- clock- wise rotational capability - the user is free to place the engine on any side of the back of the boat, reducing the need for multiple spare engines to ensure redundancy.

OXE engines significantly reduces emissions and fuel consumption compared to petrol outboard standards with matched horse powers.

Based on performance tests, the OXE 300 consumes 40% less fuel compared to a 300 hp petrol fueled outboard. Carbon dioxide is reduced by more than 35%, carbon monoxide by more than 99% and combined hydrocarbons and NOx by more than 70%. This significant reduction in fuel consumption and emissions contributes to reduced environmental impact.

FUEL CONSUMPTION WOT



Technical data - OXE Diesel

Engine type:	Diesel, L6
Displacement:	3.0 L
Intake:	Turbocharged, intercooled
Torque:	680 Nm at 1750 rpm
Power:	300 HP at 4200 - 4400 rpm
Fuel:	Diesel
	EN 590, ASTM D 975 No.1
	No.2. JIS KK2204, F54 & F75
Weight:	395 kg

Alternator output:	180 Amp
Rig length:	25" or 33"
Cooling:	Closed cooling circuit
Starting:	Electric
Steering:	Electronic Power Steering
Shift:	CANbus, Electro-hydraulic
Clutch:	Hydraulic multi-friction plate
Gear ratios:	1.59:1 and 2.37:1
Dimensions (25" leg), LHW	1170 x 1900 x 740 mm

The majority of OXE Diesel users are commercial operators, they expect their

engines to run 1000+ hours every year, This usually contributes to a break even

period for the OXE compared to a pleasure craft outboard well under a year

in use. The 40+% fuel savings contributes to a big difference for commercial

operators. Not only does the OXE 300 reduce operational cost and increase user

safety, it also increases the operational range by more than 60%, allowing users

OXE 300 HP TORQUE / POWER / FUEL CONSUMPTION

to be safer, go further and become more productive.

OXE 300 HP NOW FOR SALE



COMPARING AN OXE TO A PLEASURE CRAFT PRODUCT

The OXE is designed and built for commercial users, in contrast to petrol outboards, designed for the leisure market. Comparing an OXE to other outboards or I/O systems is as feasible as comparing a car to a truck. The car is not designed to carry heavy loads every day just as a truck would be impractical for taking the family to the weekend retreat. In short, they are two different products, built for different segments. For the commercial operator Endurance, Reliability, Power and Control is key.

OXE 300 is a TWIN turbo diesel configuration that provides its full 680Nm of torque at the crankshaft already at 1750rpm, at 1000rpm the engine provides over 500Nm at the crankshaft. These are torque numbers that are previously unheard of in the outboard industry and that provides end user with massive bollard pulling power as well as fast whole-shot acceleration. Perfect for pushing, pulling or carrying heavy loads over long periods of time.

The unique OXE gearbox allows for over 700NM (520 ft-lb) at the crankshaft which is significantly more than what the regular bevel gears systems with under water gearboxes are built for. The robust gearbox opens up for new features and fields of service than what pleasure craft outboards or I/O systems are designed for or needs. Due to the unique gearbox design and interchangeable gear ratio (1.59:1 and 2.37:1), high torque output can be delivered already at very low rpm on the propeller shaft, OXE products can therefore handle larger propeller dimensions, providing operators with increased flexibility. The low speed control, enabled by the gearbox, makes it possible for the user to remain in control also in low speed maneuvers. Ideal for precision maneuvering close

to marine installation or other vessels such as windfarms, on water construction sites, marine survey operations and providing supply to boats.

The break-even period when comparing to run an OXE 300 to a 300hp pleasure craft petrol outboard varies between 500 and 1000 hours, based on purchase of the products and fuel cost alone. Taking into account that the OXE 300 also has longer operational life span, less cost for maintenance and increased safety, this break-even period is reduced further, increasing the financial profit for the operation.

The fact that most pleasure craft users only uses their engines under 100hrs per year means that it does not make financial sense to opt for an OXE Diesel. The pleasure craft users that still choses OXE does so for other factors, like safety, operational range, higher amp output, cabin heat or increased maneuverability.



The name OXE, pronounced ['au, 'eks, 'i:] is Swedish for ox. The name reflects the fundamental concepts from which this product has been developed - Endurance, Reliability, Power and Control - all significant attributes of an ox. Using OXE as the product name also pays tribute to the hard work, stubbornness and relentless effort the team has spent to fulfil the demands of the heavy-duty marine market, inventing the OXE Diesel - products worthy of end users trust.