

T4 Evo2 series



High speed engines
for fast boats



High performances & sturdy

Turbo Common Rail Engines

The T4 Evo2 series engines have been developed on the basis of the proven reliable Common Rail engine used on several Toyota four-wheel drive vehicles. The excellent power and torque in relation to the engines weight and compact size translate into clear advantages for both boaters and OEMs.

Fully optimized to meet market demands

Built with **ratings specifically designed for marine applications**, these engines deliver their torque at low rpm ensuring a faster hole-shot and stunning acceleration.

Whether the boat is fitted with a shaft line, a Stern Drive or an hydrojets transmission system, it will be equipped with the right horsepower and torque to match boaters demands.

Improved performance through technology

Innovation is the common thread running through the design of this new series of engines, which feature highly advanced technology.

By combining a **Common Rail injection system** and an **Electronic Control Unit**, the fuel system delivers ideal injection pressures for precise injection timing and optimized fuel combustion process. The **valves and the injectors** have also been adapted to withstand the rough conditions of marine applications.

To create the ideal engine operating temperature in all conditions, the **Cooling System** is designed to optimize coolant flow and manage coolant temperature within the cylinder block and cylinder head.

The compression ratio of 15:1 is by far one of the great advantages of these engines. It results in less heat build-up in the piston bowl and a more efficient combustion process and unmatched durability.

The **4 valves per cylinder and the 2 balancing shafts** complete the job and give an incredible smoothness with ultra-low vibration and noise.

The added values of the technologies employed result in best comfort for the boaters : more performance with low levels of vibration & noise emissions, low operating & maintenance costs and low fuel consumption.

Key benefits

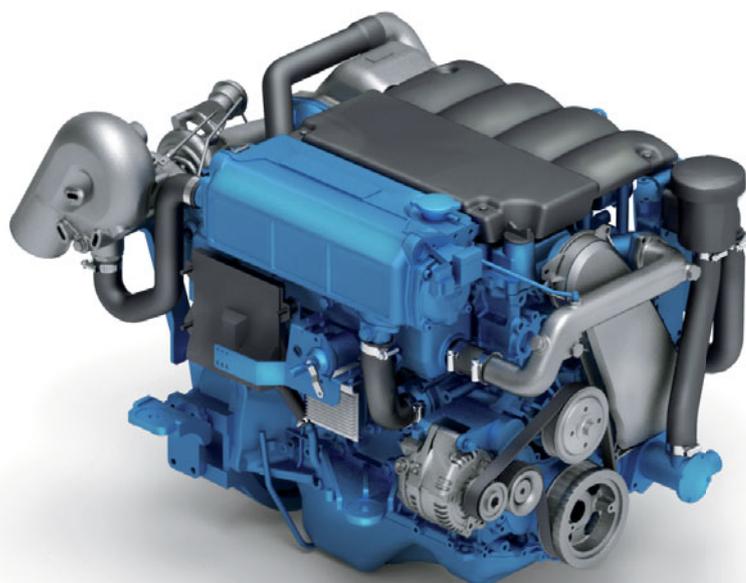
- Compact size, space-saving design,
- Ease of installation,
- Low-weight,
- Excellent low end torque capability & high tractive power with rapid reaction to commands,
- Excellent fuel economy,
- Fast turbo response to provide the precise volume of air for an excellent low end torque capability,
- Durability and reliability over time with low running costs,
- Low noise and vibrations,
- Available with Shaft Line, Stern Drive and Water Jet propulsion.
- World-wide service network,
- Nanni's service support,

T4 Evo2 series - Available versions

| Shaft Line & Water jet propulsion | | T4.200 | T4.230 | T4.265 |
|--|---------|-------------|-------------|-------------|
| Max output at engine flywheel (ISO 8665-1) | kW (hp) | 147.1 (200) | 169.1 (230) | 194.9 (265) |
| Stern Drive | | Z4.200 | Z4.230 | Z4.270 |
| Max output at engine flywheel (ISO 8665-1) | kW (hp) | 147.1 (200) | 169.1 (230) | 198.6 (270) |

Main features

- 4 cylinders in line,
- 4 stroke diesel engine watercooled, Common Rail direct injection system,
- Dual overhead camshafts (DOHC),
- 4 valves per cylinder & hydraulic valve lifters,
- 2 balancing shafts,
- Timing gear valve train,
- Turbo with wastegate combined with special lubrication and oil retention solutions,
- Wiring harness with secure connections for enhanced reliability.



T4 Evo2 series - Technical data

Engine Specifications

| | | |
|-------------------|---------|------------|
| Displacement | l | 2.982 |
| Compression ratio | | 15.0 : 1 |
| Bore | mm (in) | 96 (3.78) |
| Stroke | mm (in) | 103 (4.06) |
| Rated speed | rpm | 3600 |
| Idling speed | rpm | 700 |

Engine Dimensions

| | | |
|---------------------------------|----------|---------------|
| Overall length | mm (in) | 1042 (41) |
| Overall width | mm (in) | 697 (27.44) |
| Overall height | mm (in) | 735.3 (28.95) |
| Dry weight without transmission | kg (lbs) | 350 (771.61) |

Performances curves

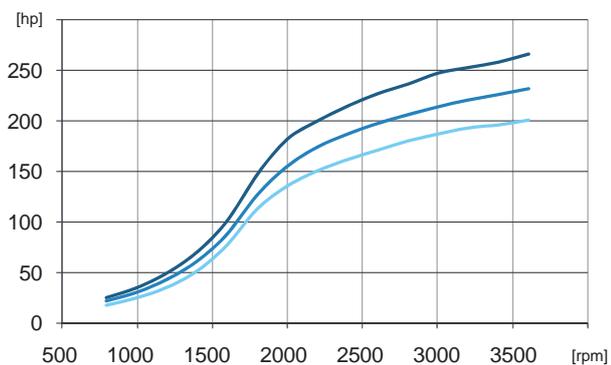
Shaft line and Water Jet

- T4.200 - 200 hp at 3600 rpm.
- T4.230 - 230 hp at 3600 rpm.
- T4.265 - 265 hp at 3600 rpm.

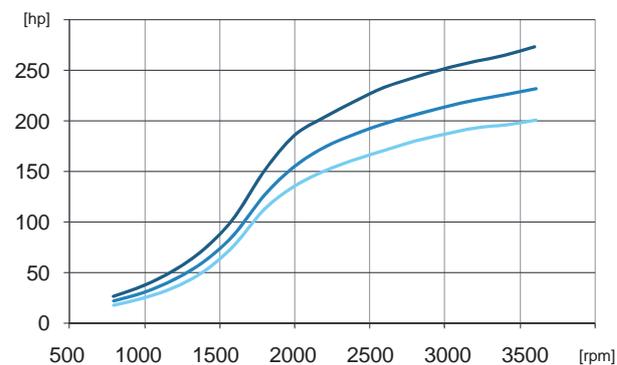
Stern Drive

- Z4.200 - 200 hp at 3600 rpm
- Z4.230 - 230 hp at 3600 rpm
- Z4.270 - 270 hp at 3600 rpm

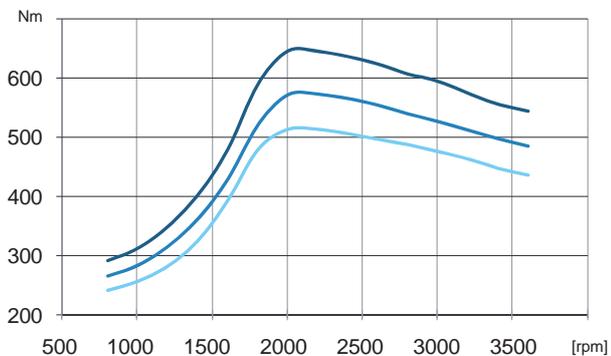
Power at crankshaft



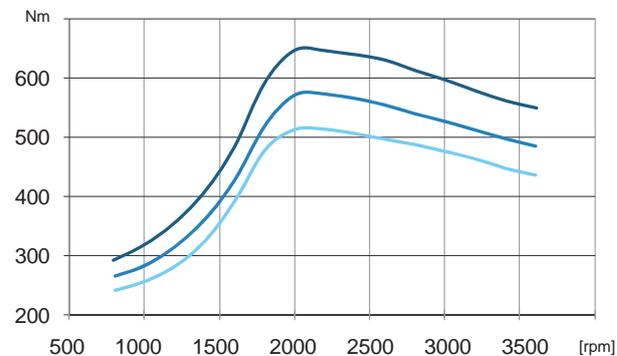
Power at crankshaft



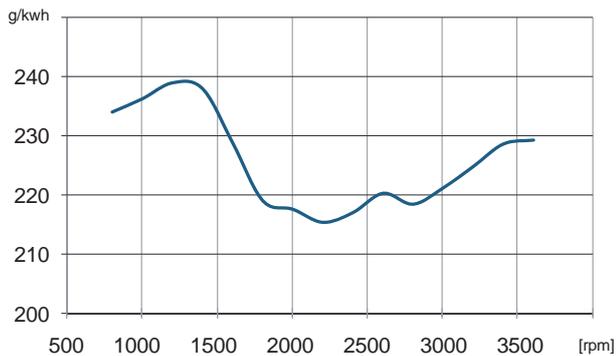
Torque at crankshaft



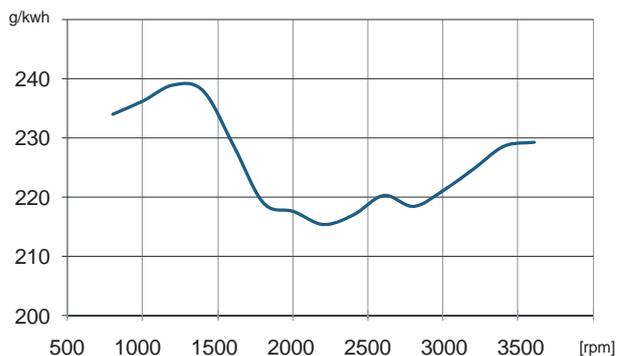
Torque at crankshaft



Specific fuel consumption



Specific fuel consumption



Application type



■ Planning hull



■ Semi-planning hull



■ Fast Rescue boat
■ Patrol Boat

Nanni SOLAS approved engines

A further proof of our quality commitment

Designing and producing SOLAS certified engines is one of our core activity. During the development, we always focus both on the special characteristics required for the SOLAS homologation and on the arduous conditions of use. That's why we build strong and reliable engines.

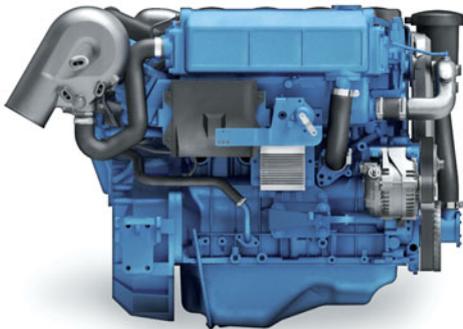


Fast Rescue and Patrol boats

The T4 Evo2 series engines are intended to be SOLAS certified to power fast rescue and patrol boat, either with Shaft Line, Stern Drive or Water Jet propulsion system.

Thanks to both the remarkable features and reliability of the Toyota engine base and the Nanni's expertise regarding marine applications, these engines are made to fulfil the needs of reliability, low maintenance costs and ease of use, while observing the strict requirements of the SOLAS certification related to marine engines.

The SOLAS engines are based on standard engine equipped with special devices to be able to meet the SOLAS requirements such as the capability to endure vessel capsizing without any mechanical damage and allow immediate starting in very low temperature.



Joystick manoeuvring system

Easy manoeuvring

This marine's propulsion control systems are at the leading edge of electronics technology. The products incorporate well-proven hardware and software to ensure reliability, easy operation and maintenance. A wide range of systems means optimum equipment can be chosen to specifically match the type of vessel or application – single engine, multi-engine or multi-station.

Joystick Maneuvering System

The Joystick Manoeuvring System (JMS) provides the helmsman with simple and intuitive boat control.

Controlling engines, transmissions and thrusters in a traditional shaft-line vessel, the JMS provides an unbeatable ease of control. Manoeuvres such as moving sideways to the dock or 360° rotation, difficult with standard control levers, become easy operations

The electronic JMS system also controls the throttle of the engines and shifts the transmissions with automatically controlled bow and stern thruster to provide the precise speed needed for smooth manoeuvring and easy docking.



Instrument panel

The T4 Evo2 series engines come as standard with instrument panel **specially adapted to withstand marine applications**. They are sealed, corrosion-resistant and fit with build-in LED lighting for better illumination.

The tachometer has an LCD display for operating hours and volt-meter function. It also include all necessary warning displays.

All instrument are available either as a complete kit build into a panel or as separate instruments delivered with clip-on bezels to match all dashboard style.

Classic styling and quite simple but yet **effective and durable**.





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