

Instruction manual

Marine Diesel engine

T4.165

T4.180

T4.200

Technical characteristics

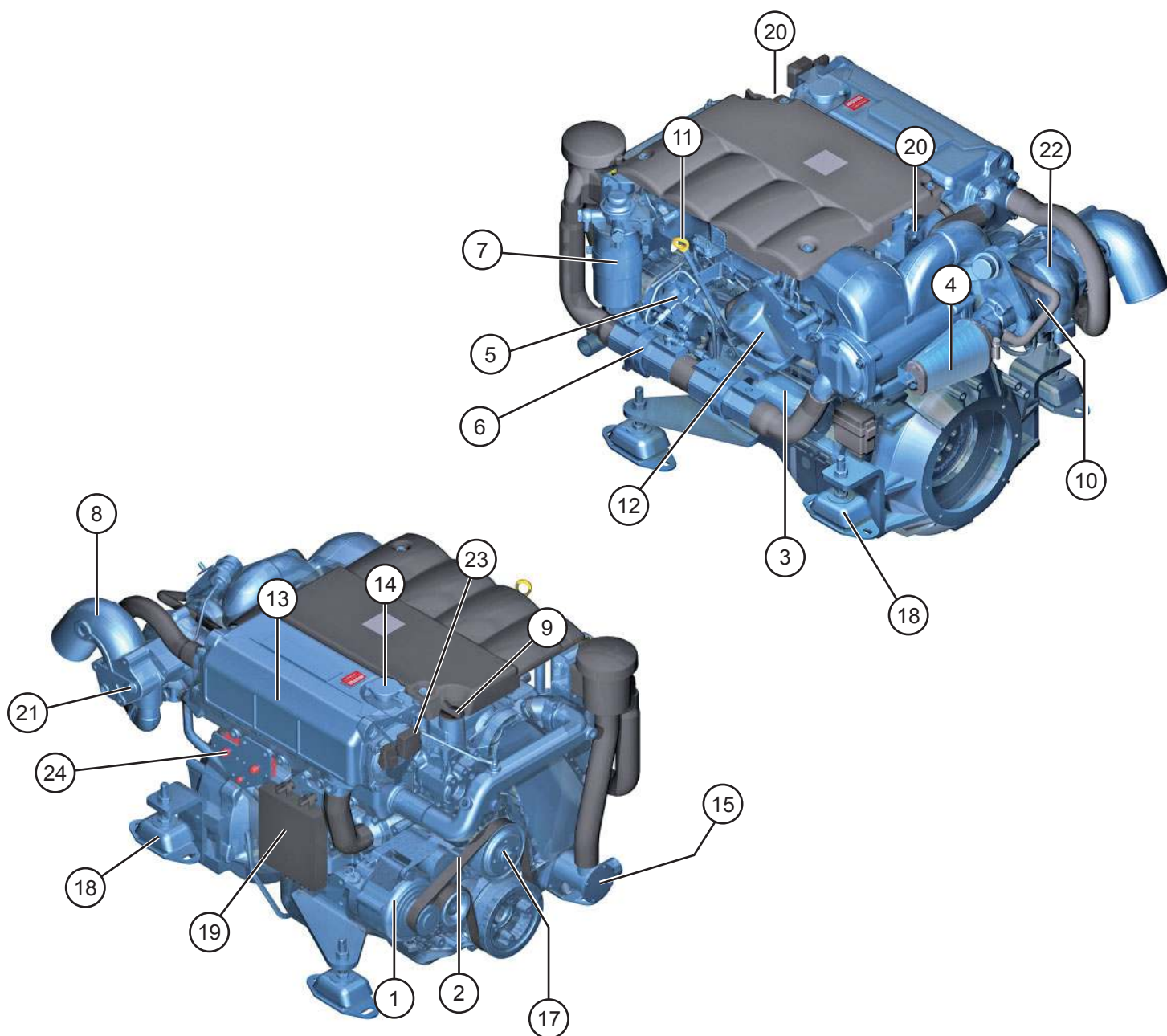
ENGINE SPECIFICATIONS	T4.165	T4.180	T4.200
Cycle	4 strokes Diesel		
Max. power - kW (hp)*	121,5 (165)	132,5 (180)	147,2 (200)
Number of cylinders / Arrangement	4 in line		
Displacement (cm ³)	2 982		
Fuel timing before TDC (°)	11.8° at 3400 rpm, ECM controlled		
Compression rate	17,9:1		
Aspiration	Turbo Intercooler		
Bore x stroke (mm)	96 x 103		
Maximum rpm speed at full throttle (rpm)*	3400 ± 50 rpm		
Idle rpm speed (rpm)*	750 ± 50 rpm		
No load rpm speed (rpm)*	4000 ± 50 rpm		
Theoretical fuel consumption (l/h)	27.1 @ 3400 rpm	29.8 @ 3400 rpm	34.9 @ 3400 rpm
Weight without gearbox (kg)	330		
INJECTION SYSTEM	T4.165	T4.180	T4.200
Injection	Direct Common Rail		
Injection order	1-3-4-2		
Injection pump	Denso HP3		
Injection pressure (bar)	up to 1800 bar, ECM controlled		
LUBRICATION	T4.165	T4.180	T4.200
Oil type (temperate climat)	API CD-SAE 15W40		
Oil pressure at idle speed (bar)	0.3		
Oil pressure at max speed (bar)	2.5 to 6.1		
Engine oil capacity (litre)	7.1		
COOLANT	T4.165	T4.180	T4.200
Coolant (litres) (50% water - 50% antifreeze)	15.5		
ELECTRICAL	T4.165	T4.180	T4.200
Battery capacity mini (Ah)	100-120		
Alternator	12V / 100A		
CONNECTIONS	T4.165	T4.180	T4.200
Exhaust (mm)	90		
Fuel (suction and return) (mm)	10		
Seawater (mm)	38		

* At engine flywheel, according to ISO 8665-1.

Certain specifications may vary according to your order

The recommended cruising speed is 200 rpm below the maximum rpm speed at full throttle

Main parts of the engine



Non-binding photographs. The coupled equipment and accessories can vary according to your level of equipment.

- | | |
|----------------------------------|--------------------------|
| 1. Alternator | 13. Heat exchanger |
| 2. Alternator belt | 14. Coolant filler port |
| 3. Starter | 15. Sea-water pump |
| 4. Air filter | 16. Exchanger drain plug |
| 5. Injection pump | 17. Coolant pump |
| 6. Acceleration control | 18. Flexible suspensions |
| 7. Fuel filter | 19. ECU |
| 8. Water injection exhaust elbow | 20. Hoisting rings |
| 9. Oil filler port | 21. Anode |
| 10. Oil drain port | 22. Turbocompressor |
| 11. Oil gauge | 23. Fuses box |
| 12. Oil filter | 24. Circuit breaker |

Inspection and adjustment of the levels

Oil level

⚠ Warning !: The oil checks must always be performed with the engine stopped and cold. Be careful, these fluids are flammable. Do not smoke in the vicinity of these fluids and do not allow for any sparks or flame in the vicinity.

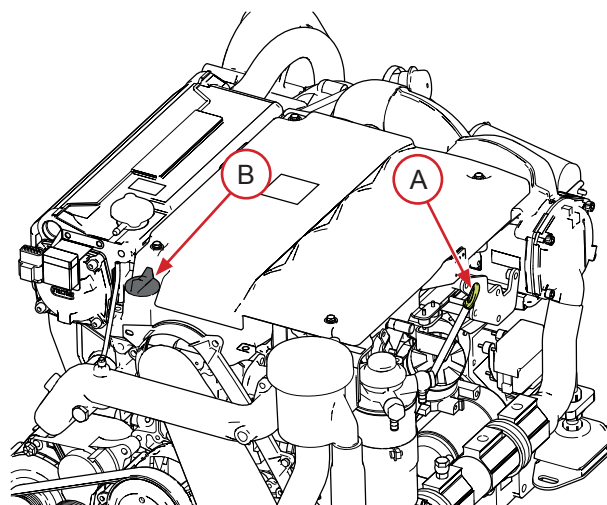
A. Oil gauge

B. Oil filler port

Engine casing oil: remove the gauge, wipe off the gauge and reinstall it in the gauge tube.

Pull out the gauge again and check the oil level. It should be located between the min. and max. positions on the gauge.

If necessary, top up the oil level: open the air filler port, pour the recommended oil (see technical appendices) to reach the max level indicated on the gauge without exceeding the max level. Close the oil filler port.



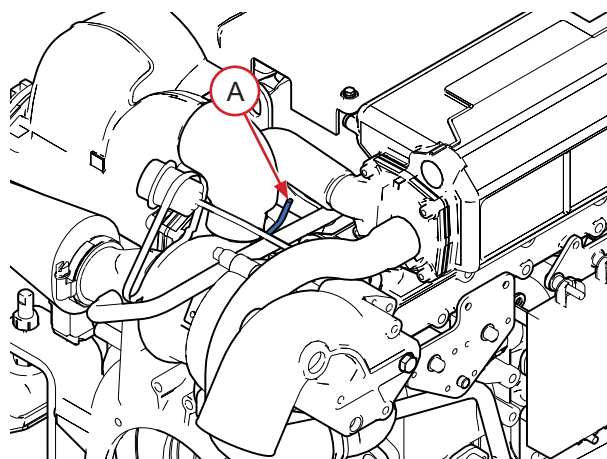
Draining the engine oil

⚠ Warning !: Hot oil can burn. Avoid any contact with the skin. Observe the environment protection rules.

A. Oil drain port

The oil is removed using a drain pump, preferably: engine slightly warm.

- Fully pump out all the oil
- Fill with new oil
- Check the oil level using the gauge
- Do not exceed the maximum level



Air filter

A. Air filter

B. Clamps

⚠ Warning !: Be sure no impurities get into the engine.

Remove the clamp from the hose and remove the filter. Remove the spring inside the filter. If necessary, clean the filter by washing it with soapy water. Then, rinse the filter with clear water. Press the filter to remove any water and to dry it.

NANNI DIESEL has designed a cleaning kit which is suited to certain models of air filters.

Use of this kit is recommended on our engines to perform effective cleaning and ensure good engine « breathing ».

