

VOLVO PENTA INBOARD DIESEL TAMD163P

6-cylinder, 4-stroke, direct-injected, turbocharged marine diesel engine with aftercooler – crankshaft power* 500–566 kW (680–770 hp)

* Power rating – see Technical Data

The ultimate power alternative

The TAMD163P is a high-performance engine with a very long service life, dimensioned for high power outputs and designed for high speed, planing craft. With its narrow installation dimensions the TAMD163P is ideal for twin engine installations.

The engine is turbocharged and aftercooled with a high power/fuel consumption ratio, thus offering excellent fuel economy. The improved turbocharger gives the engine superior torque characteristics resulting in excellent acceleration and load variation response.

Durability and low noise levels

The Volvo Penta in-line six cylinder engine is a well-balanced unit with powerfully dimensioned crankshaft bearings. In addition, twin harmonic stabilizers ensure smooth, vibration-free operation. This, together with very low noise levels, provide the highest onboard comfort.

The cylinder block is dimensioned for extremely high power outputs and matched power to weight characteristics.

To maintain a controlled working temperature in cylinders and combustion chambers, the engine is equipped with piston cooling and freshwater-cooled oil cooler. The engine is also fitted with replaceable cylinder liners and valve seats/guides to ensure maximum durability and service life of the engine.

Low exhaust emission levels

The state of the art, high-tech injection and charging system with low internal losses contributes to excellent combustion and low fuel consumption. The TAMD163P complies with the IMO emission regulations.

Marine electrics

The two-pole electrical system is specifically adapted to demanding marine environments with remote and flex-mounted senders as well as moisture-proof connectors.

TAMD163P with
ZF 350A reverse gear



Ease of service and maintenance

Easily accessible service and maintenance points contribute to the ease of service of the engine.

Comprehensive service network

Volvo Penta has a well-established network of authorized service dealers in more than 100 countries throughout the world. These service centers offer genuine Volvo Penta parts as well as skilled personnel to ensure the best possible service.

Technical description:

Engine and block

- Reinforced cylinder block dimensioned for high output and low sound level. Cylinder block and cylinder heads of special alloy cast iron.
- Flywheel housing with connection acc. to SAE 1
- Separate cylinder heads. Gasketless sealing design
- Replaceable cylinder liners and valve seats/guides
- Four valves per cylinder
- Double vibration dampers
- Seven-bearing nitrocarburized crankshaft for low bearing load
- Oil-cooled, forged aluminum pistons
- Piston rings of Keystone type
- Rigid camshaft with well designed cams. Short stiff push rods and strong valve

springs. Roller cam followers for minimum friction.

Lubrication system

- Shallow oil sump
- Freshwater-cooled oil cooler
- Gear pump pressurized lubricating system
- Twin oil filters of spin-on type plus bypass oil filter
- Twin oil separating filters incl. overpressure valve for crankcase ventilation

Fuel system

- Powerful injection pump with centrifugal governor and smoke limiter. Short fuel rack travel for most rapid fuel injection alteration.
- Fuel feed pump
- Centrally located injectors
- Seven-hole injectors
- Fuel shut-off valve 24V, electrically operated
- Twin fine fuel filters of spin-on type

Turbocharger

- Freshwater-cooled turbocharger and exhaust manifold

Cooling system

- Tubular heat exchanger
- Seawater-cooled aftercooler
- Gear-driven freshwater pump and front-mounted seawater pump with neoprene impeller
- Freshwater filter with anti-corrosive agent

Electrical system

- 24V electrical system
- Rubber-suspended electrical terminal box with semiautomatic fuses

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TAMD163P

Technical Data

Engine designation TAMD163P
 No. of cylinders and configuration in-line 6
 Method of operation 4-stroke, direct-injected, turbocharged diesel engine with aftercooler
 Bore, mm (in.) 144 (5.67)
 Stroke, mm (in.) 165 (6.5)
 Displacement, l (in³) 16.12 (983.6)
 Compression ratio 17:1
 Dry weight, kg (lb) 1655 (3649)
 Weight with ZF 350A excl. water and oil, kg (lb) 1980 (4365)
 Crankshaft power,
 Rating 4, kW (hp) 2100 rpm¹⁾ 566 (770)
 Rating 4, kW (hp) 2100 rpm²⁾ 552 (751)
 Rating 3, kW (hp) 2100 rpm²⁾ 500 (680)
 Torque,
 Rating 4, Nm (lbf.ft) 2100 rpm²⁾ 2509 (1852)
 Rating 3, Nm (lbf.ft) 2100 rpm²⁾ 2274 (1678)
 Recommended fuel to conform to ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
 Specific fuel consumption,
 R 4, g/kWh (lb/hph) 2100 rpm²⁾ 226 (0.366)
 R 3, g/kWh (lb/hph) 2100 rpm²⁾ 223 (0.362)

¹⁾ Fuel temperature 25°C (77°F)
²⁾ Fuel temperature 40°C (104°F)

Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/litre at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

The engine complies with the IMO emission regulations.
 N.B. The product can also be used in an application with a higher rating than stated, e.g. R3 can be used for R4 or R5.

Optional equipment:

Lubrication system

- Oil drain pump, electrical 24V
- Twin oil filter with shift valve

Fuel system

- Twin fuel filter/water separator with shift valve

Exhaust system

- Exhaust elbow, dry or wet
- Silencer, dry
- Flexible compensator, dry

Cooling system

- Seawater strainer
- Adapter for connection of extra expansion tank

Electrical system

- 24V/60A or 100A extra alternator
- Various instrument panels
- Cable harness in different lengths

Power transmission

- Auxiliary drive
- Extra pulley for crankshaft
- Hydraulic pump for steering and other duties

Reverse gear

- ZF 350A and MG51 14A

Other equipment

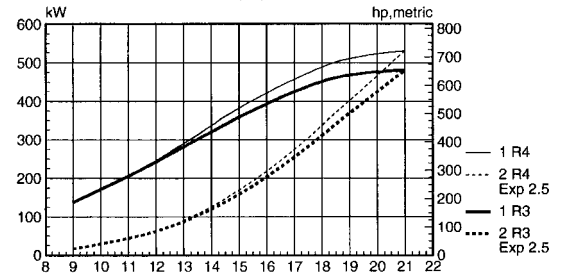
- 2" bilge/flush pump
- Belt guard
- White-painted engine and reverse gear
- Engine heater 2000 W, separately fitted

Contact your local Volvo Penta dealer for further information.

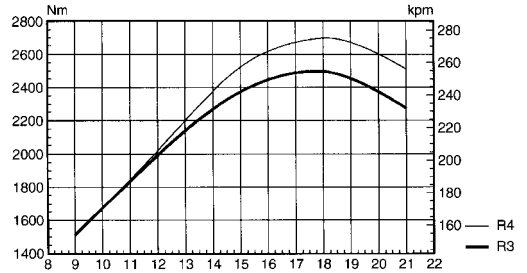
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

The engine illustrated may not be entirely identical to production standard engines.

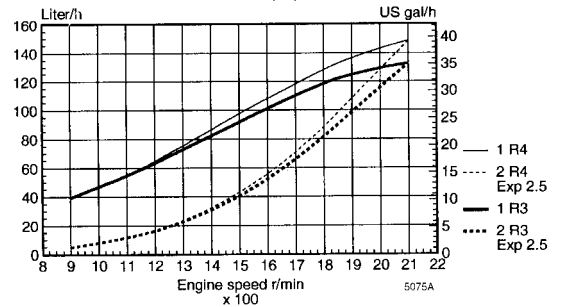
TAMD163P Power
 1. Propeller shaft power
 2. Calculated propeller load



TAMD163P Torque
 Torque measured at crankshaft

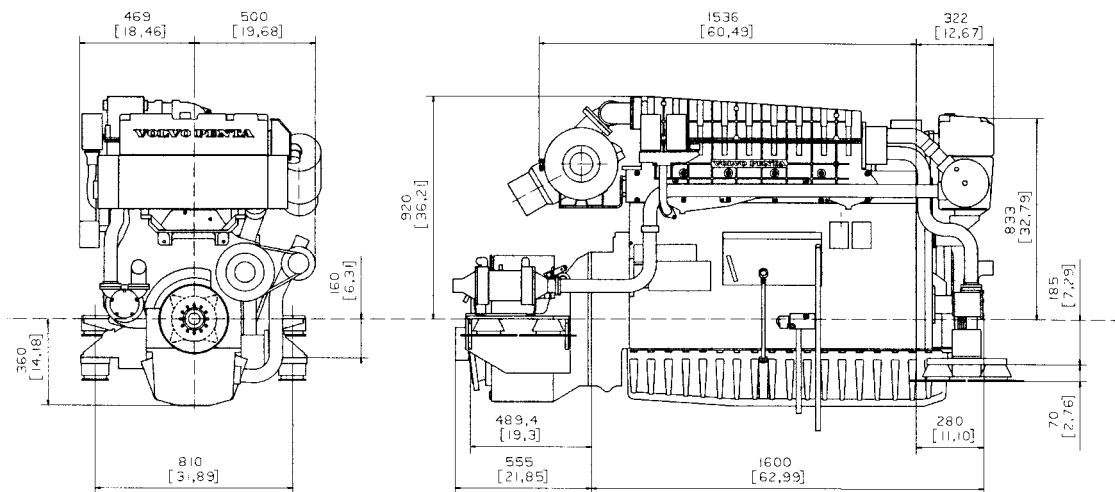


TAMD163P Fuel consumption
 1. At full load
 2. Based on calculated propeller load



Dimensions TAMD163P/ZF 350A

Not for installation.



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