

TMD22

*Life- and Rescue boat specification
4-cylinder, freshwater cooled, turbocharged marine diesel engine
Crankshaft power** 57.4 kW (78 hp)
Approved according to S.O.L.A.S.**

The TMD22 is a marine engine of advanced design manufactured from quality components and designed to fulfil customer requirements.

Service Life

The TMD22 is fitted with freshwater cooling as standard. This reduces internal corrosion and enables the engine to maintain a consistent and optimal working temperature under all conditions.

Comfort

Even running with very low vibration levels results from a dynamically balanced design and high efficiency rubber insulation.

The engine's high torque provides excellent operating characteristics to aid manoeuvring, particularly narrow harbors handling.

Additional on board comfort features are available from an extensive range of matched accessories.

Environment

An advanced combustion system increases fuel burning efficiency to minimize exhaust emission levels.

Transmissions

Several matched transmission options are available, each built for durability and smooth running.

Technical description:

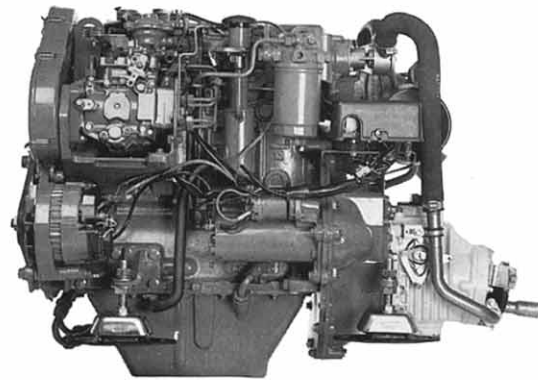
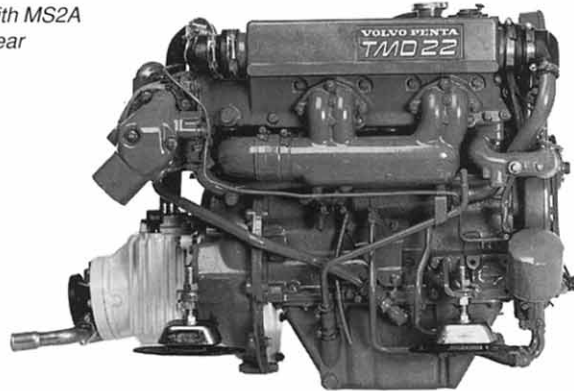
Engine and block

- Engine block manufactured from high grade cast iron and cylinder head and pistons of aluminium alloy
- Pistons fitted with two compression rings and a single oil scraper ring
- Oil cooled pistons
- Overhead camshaft
- Replaceable, hardened valve seats in cylinder head
- Flexible coupling on flywheel

Fuel system

- Flange mounted injection pump of rotor type with mechanical regulator for accurate speed control and smoke limiter
- Feed pump with hand primer
- Spin-on type fine fuel filter

TMD22 with MS2A
reverse gear



* 1983 amendments to the international convention for Safety of Life at Sea, 1974.

** Crankshaft power according to ISO 8665.

Cooling system

- Freshwater cooling system governed by thermostat and circulation pump
- Tubular heat exchanger with integral expansion tank
- Coolant system prepared for hot water outlet fittings
- Impeller pump for seawater system

Exhaust system

- Freshwater cooled exhaust manifold and seawater cooled exhaust elbow
- Exhaust gas-driven turbo compressor with wastegate technology

Lubrication system

- Spin-on fullflow oil filter
- Separate oil scavenger pipe
- Closed circuit crankcase ventilation
- Oil cooler

Electrical system

- 12V corrosion protected electrical system
- 14V/60A marine alternator
- Charging regulator with electronic sensor for voltage drop compensation
- Electrically operated stop
- Glow plugs for excellent cold starting
- Electric starter motor (1.8 kW output)
- Extension cable harness with plug-in connection available in 3 m length (other lengths available on request, 5 and 7 m)

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Instrument panel:

Standard panel, including:

- Rev counter
- Key switch
- Alarm (for monitoring temperature, oil pressure and charge rate)
- Instrument panel lighting
- Alarm test button

Choice of transmissions:

MS2A – reverse gear with 7° down angle output. Ratio 2.4:1 or 3.0:1.
MS2L – reverse gear with straight output.

- Housing of gravity die-cast aluminum alloy
 - Pattern-matched helical cut gears
 - Mechanical, molybdenum-coated cone clutch shift
 - Safety coupling with built-in overload protection
 - Internal oil cooler
- HURTH HBW-250. Ratio 2.7:1. Straight output for RH prop.

S.O.L.A.S.*

The S.O.L.A.S. requirements specify the following demands that the engine should fulfill.

- withstand free fall of 3 metres
- start safely within 2 min. at -15°C
- stop automatically when capsizing (on enclosed boats only)
- work submerged in water to the crankshaft centreline
- run properly at angle of 10° listed and 10° tilt, simultaneously
- starting by two independent power sources

* The engine is designed to comply with the latest S.O.L.A.S. regulations. The engine is tested and approved by several authorities and classification associations (list available on request).

Accessories

- Engine controls and steering systems
- Additional instrument panels and instruments
- Extra alternator kits
- Battery and battery switches
- Hot water systems
- Separate expansion tanks
- Cooling water seacocks, strainers and hoses
- Exhaust systems and hull fittings
- Fuel systems including filters, pipes etc.
- Pulleys and universal brackets for power take-off (PTO)
- Propeller shaft systems and propellers
- Chemical products – paints, oils, cleaners etc.
- Keelcooling, optional
- Flex. engine mounts

Contact your local Volvo Penta dealer for further information.

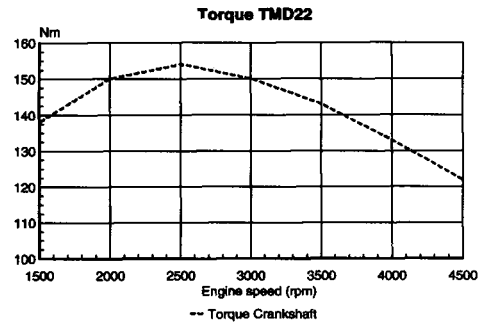
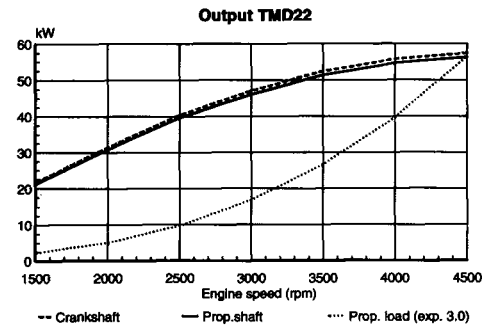
Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

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

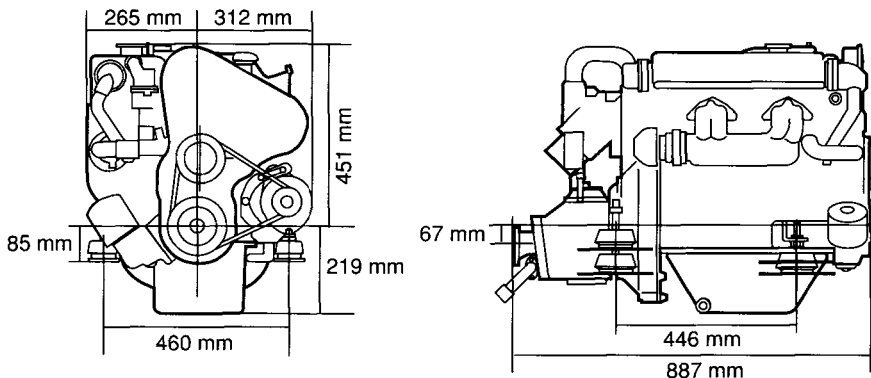
Technical Data

Engine designation	TMD22
Crankshaft power ^{1) 2) 4)} kW (hp)	57.4 (78)
Propeller shaft power ^{3) 4)} kW (hp)	56.0 (76)
Engine speed, rpm	4100–4500
Displacement, l (cu. in.)	2.0 (122)
Number of cylinders	4
Bore/stroke, mm (in.)	84/89 (3.3/3.5)
Compression ratio	17:1
Dry weight with reverse gear MS2A/MS2L, kg (lb)	237 (522.1)
Dry weight with reverse gear HURTH HBW250, kg (lb) ..	240 (528)

- 1) Crankshaft power according to ISO 8665 or SAE J 1228
- 2) The power will be reduced by transmission losses
- 3) Propshaft power according to ISO 8665 or the basically compatible standards SAE J 1228 and ICOMIA 28-83
- 4) Power rated in accordance with NMMA procedure



Dimensional Drawings



Not for installation

VOLVO PENTA

Customized for VOLVO PENTA according to S.O.L.A.S. requirements by:

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