

TAMD31/HS1

Pleasure Duty (PD)

4-cylinder, 4-stroke, direct-injected turbocharged marine diesel engine with aftercooler and HS1 reverse gear. Certified 96 kW (130 hp)*

* Crankshaft power according to ISO 8665

Economic marine engine

TAMD31 is a reliable and economic marine engine with considerable power resources and is specially developed for planing craft. With its compact dimensions, it is excellent for twin installation.

Direct injection

Direct injection (DI) results in a low thermal load and low fuel consumption compared with swirl chamber engines (IDI) with the same cylinder capacity. The engines also have a longer service life.

The advanced combustion system minimizes exhaust emission levels and enhances overall enjoyment of boating. The engine has been certified to meet the requirements for usage on the Swiss Lake Constance – probably the most exacting demands on marine engines in the world.

Turbocharging

The engine is turbocharged with an exhaust-driven turbocompressor. More air can be forced into the cylinder in this way with the result that more fuel can be injected and the engine runs more efficiently. Since combustion takes place in a turbo engine with excess air, the exhaust gases are cleaner than in a naturally-aspirated engine.

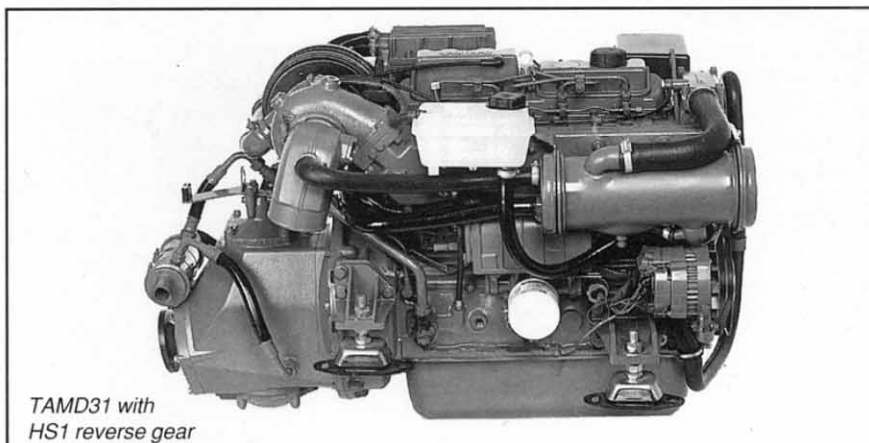
The turbo also acts as an additional silencer both on the induction side and on the exhaust side.

Aftercooler

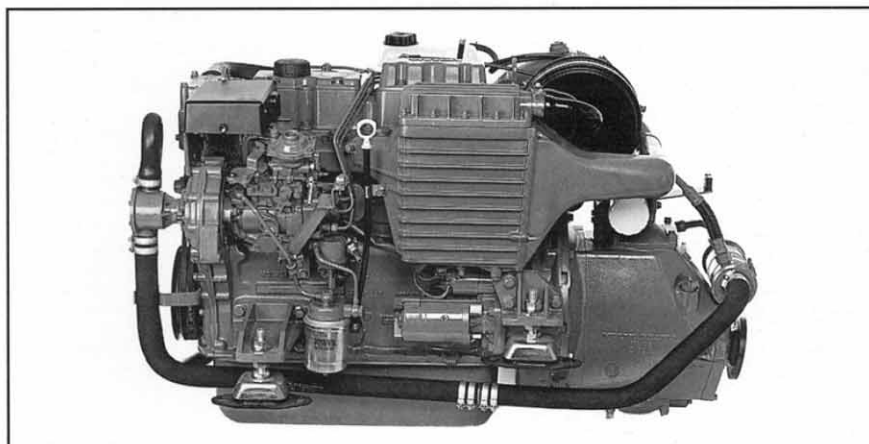
The air heats up and expands when it is compressed. In other words, it takes up more space. The aftercooler cools the compressed and heated air and raises its oxygen content so that the engine can use the fuel more efficiently.

HS1 reverse gear

Volvo Penta's hydraulically shifted reverse gear has been specially developed with a view to increasing the standard of comfort on board leisure craft in terms of quiet running, greater reliability and enhanced efficiency.



TAMD31 with
HS1 reverse gear



These benefits originate from a hydraulic shifting mechanism and advanced gear technology that uses spiral bevel gears throughout the gear train. Volvo Penta's new reverse gear is unique in this respect, resulting in an overall efficiency as high as 96%.

Another unique solution is the vertical shaft that together with an 8° down angle provides for both compact installation and the ability to run left- and right-hand rotation with the same ratio, efficiency and durability.

At Volvo Penta, focus is on developing the complete drive line ensuring perfectly matched engine/transmission packages for high torque, operational reliability, reduction of engine noise and vibrations. Standards of comfort unsurpassed giving the maximum of boating pleasure.

Technical description:

Engine and block

- Cylinder block and cylinder head made of cast iron for good corrosion resistance and long service life
- Oil-cooled pistons with two compression rings and one oil scraper ring
- Replaceable wet cylinder liners
- Replaceable valve seats
- Five-bearing crankshaft

Fuel system

- Rotor-type injection pump with a mechanical governor for accurate speed control
- Smoke limiter
- Fine filter with water separator
- Feed pump with hand primer
- Electrically-operated stopping device

Cooling system

- Thermostatically regulated freshwater cooling
- Tubular heat exchanger with separate transparent expansion tank
- Gear-driven seawater pump with rubber impeller
- Coolant system prepared for hot water outlet

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TAMD31/HS1 Certified

Inlet system

- Inlet system designed to produce optimal air rotation which provides perfect combustion. This results in high power and low fuel consumption.
- Inlet silencer with replaceable filter
- Closed crankcase vent system

Exhaust system

- Seawater-cooled exhaust elbow of cast iron with a stainless steel insert

Turbocharging system

- Exhaust-driven freshwater-cooled turbo-charger

Lubrication system

- Pressure lubrication system with easily replaced full-flow oil filter on the side of the engine
- Tubular oil cooler that can be cleaned

Engine mounting

- Elastic suspension consisting of 4 rubber pads with adjustable anchorage plates for dampening of sound and vibration

Reverse gear

- Spiral bevel gears which results in smooth running at all speeds

- Hydraulically operated clutch for smooth shifting
- Matched drop center and 8° down angle for compact installation and minimum propeller shaft angle
- Retrofit, fits into the same installation measurements as MS4-5 reverse gear and features integrated SAE4 adaptor flange
- When under sail propeller shaft can rotate 24 hours without engine start
- Seawater-cooled oilcooler

Electrical system

- 12V corrosion-protected electrical system, complete with instrumentation
- 14V/60A marine alternator
- Charging regulator with battery sensor for voltage drop compensation
- The alternator is prepared for a bulkhead-mounted double-diode set which automatically distributes the charge current to two separate battery circuits
- Automatic 40 A fuse with reset button
- Starter motor power 3.0 kW

Instrument panel:

Complete panel or separate instruments fitted with:

- Key switch
- Temperature gauge
- Instrument lighting
- Oil pressure gauge
- Alarm for temperature, oil pressure and charging
- Voltmeter
- Rev counter
- Hour meter
- Fuses
- Alarm test

Miscellaneous

- 3, 5 or 7 m extension cable for the instrument panel with plug-in connector

Accessories

An extensive range of accessories for:

- Fuel system
- Cooling system
- Control system
- Instruments
- Electric system
- Comfort & Safety
- Propellers
- Maintenance

For detailed information, please see Accessory catalogues.

Technical Data

Engine designation	TAMD31D Certified
Crankshaft power ¹⁾ kW (hp)	96 (130)
Propeller shaft power ²⁾ kW (hp)	88 (120)
Engine speed range, rpm	3700-3900
Displacement, l (cu. in.)	2.4 (146)
Number of cylinders	4
Bore/stroke, mm (in.)	92/90 (3.62/3.54)
Compression ratio	17.5:1
Dry weight with HS1, kg (lb)	400 (881)
Gear ratios HS1	1.96:1 and 2.63:1

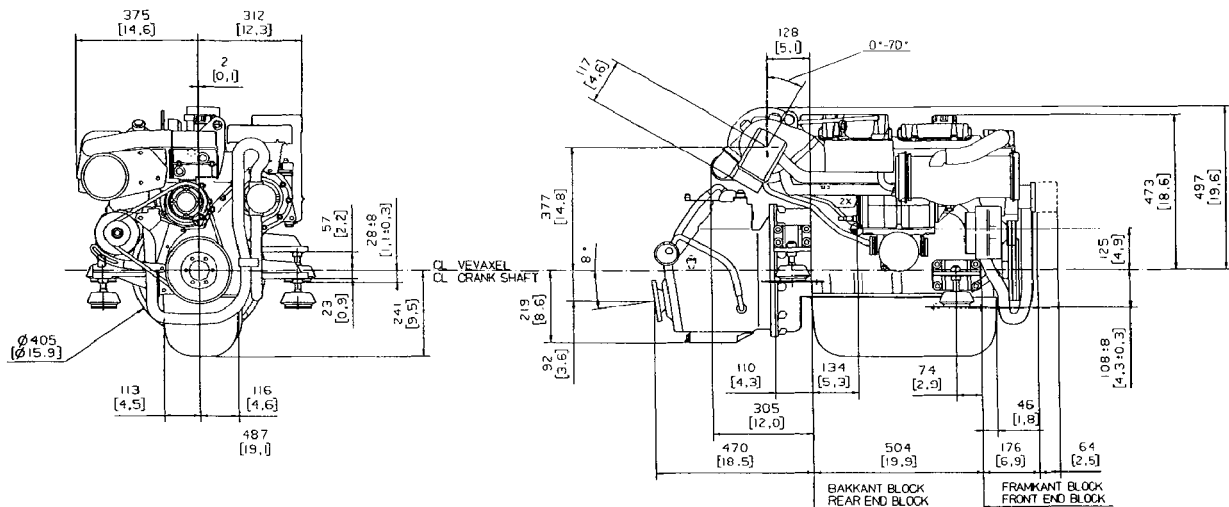
1) Crankshaft power according to ISO 8665
2) Prop. shaft power according to ISO 8665

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.

Dimensional Drawings (No. 891885)



Not for installation

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