

4-cylinder, 4-stroke, direct-injected turbocharged marine diesel engine with aftercooler. 96–110 kW (130–150 hp)*

* Crankshaft power according to ISO 8665

Reliable marine engine

AD31L/P is a reliable and economic marine engine with considerable power resources, 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.

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

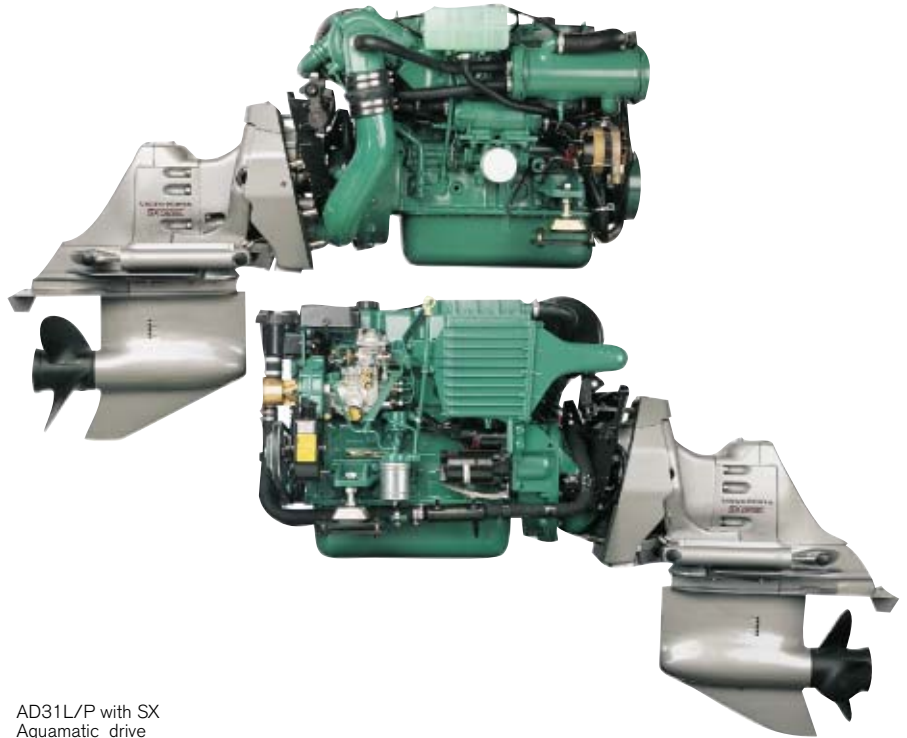
The air heats up and expands when it is compressed. In other words, it takes up more space. The aftercooler cools the compressed and heated air and raises its oxygen content so that the engine can use the fuel more efficiently.

Low exhaust emission levels

The direct injection, turbocharging and aftercooler contribute to minimizing noxious exhaust emissions and enhancing overall enjoyment of boating. The engine is certified according to SAV.

Aquamatic

The SX single propeller drive is of the most modern design with exhaust through the propeller hub for quiet and efficient operation. Cone clutch for easy and smooth shifting. Pattern-matched spiral bevel gears for optimum strength and minimum gear whine. Break-away shaft coupling to prevent costly drivetrain repairs.



AD31L/P with SX
Aquamatic drive

Hydrodynamic design of the lower drive housing ensures excellent course stability both at high speed and when maneuvering at low speeds and reverse.

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 that you enjoy the best possible service.

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

Engine mounting

- Flexible mounting which provides sound and

vibration insulation. The engine has two adjustable rubber mounts in front of the engine and rubber suspension between fly-wheel housing and transom shield

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

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

Air inlet and exhaust system

- Inlet system designed to produce optimal air rotation which provides perfect combustion. This results in high power and low fuel consumption
- Air inlet silencer with replaceable filter
- Closed crankcase vent system
- Seawater-cooled exhaust elbow of cast iron with a stainless steel insert
- Complete connection for exhaust outlet through the drive
- Exhaust-driven freshwater-cooled turbo-charger

AD31/SX

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
- Seawater strainer

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 fuse with manual reset
- Starter motor power 3.0 kW
- Extension cable harness with plug-in connection available in various lengths

Instrument panel:

Separate instruments and harness or complete panel fitted with:

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

Drive

- Single propeller drive which can be run with both right- and left-hand propellers
- Cone clutch
- Coolant water intake for the engine located at the lower part of the drive
- Pattern-matched spiral bevel gears
- Through-hub exhaust
- Overload protection sleeve (break-away coupling)
- The drive can be tilted 55°
- The drive can be turned 28° in each direction
- Built-in kick-up function to reduce possible damage, in the event the drive strikes an underwater object
- Belt-driven power steering pump (option)
- Active corrosion protection as accessory

Power Trim

- Electrically operated hydraulic system for trimming the drive for best driving comfort
- An analog instrument for indication of trim angle

Accessories

An extensive range of accessories for:

- Fuel system
- Cooling system
- Control system
- Steering system
- Instruments
- Electric system
- Comfort & Safety
- Propeller & Drive
- Maintenance

For detailed information, please see Accessory catalogues.

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.

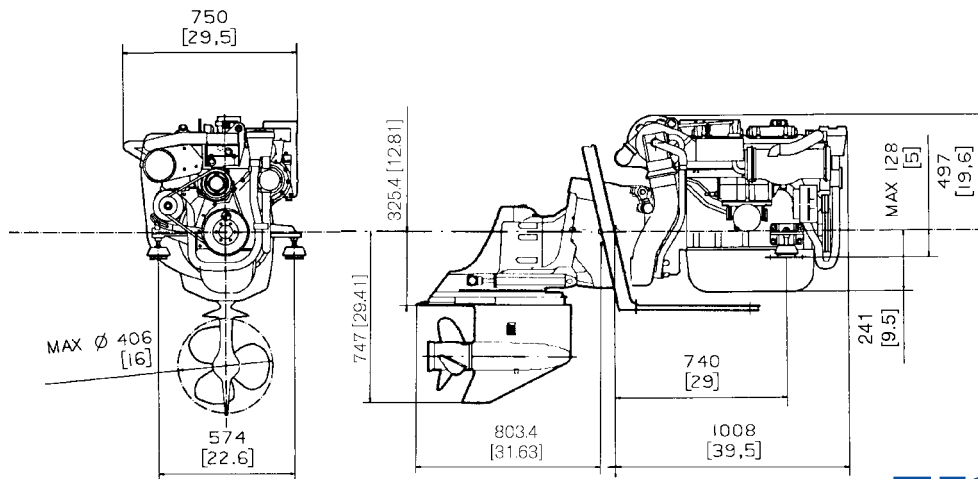
Technical Data

	AD31P	AD31L
Engine designation.....	AD31P	AD31L
Crankshaft power, kW (hp)	110 (150)	96 (130)
Propeller shaft power, kW (hp).....	104 (141)	90 (122)
Engine speed, rpm.....	3900	3800
Displacement, l (in ³)	2.4 (146)	2.4 (146)
Number of cylinders	4	4
Bore/stroke, mm (in.).....	92/90 (3.62/3.54)	92/90 (3.62/3.54)
Compression ratio	17.5:1	17.5:1
Volvo Penta Aquamatic drive.....	SX	SX
Ratio.....	1.79:1	1.79:1
Dry weight with SX, incl. prop., kg (lb).....	438 (966)	438 (966)
Duty rating	R5	R5

Technical data according to ISO 8665. Fuel with a lower calorific value of 42,700 kJ/kg and density of 840 g/liter at 15°C (60°F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.
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.
The engine is certified according to SAV.

Dimensions

Not for installation



VOLVO PENTA

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