

VOLVO PENTA INBOARD DIESEL

D13-700

1515 kW (700 hp) crankshaft power acc. to ISO 8665

High Performance Work boat duty with low emissions

Volvo Penta's D13 in-line 6 diesel is developed from the latest design in modern diesel technology. The engine has a robust block with ladder frame, high pressure unit injector system, 4 valves per cylinder, "twin entry" waste gate turbo and after cooler. All together with the electronic engine management system results in a very smooth running engine with world-class diesel performance, combined with low fuel consumption and low emissions.



World-class torque with superb economy

The high pressure unit injector system, controlled by electronic management, with 4-valve technology, cross-flow inlet combined with twin entry turbo technology and air charge cooler ensure high power, efficient combustion with low fuel consumption, and with its incredible low end torque, 2570 Nm already at 1200 rpm ensures excellent acceleration with virtually no sign of smoke. The engine management system offers constant power output regardless of fuel temperature (5–55°C / 41–131°F), avoiding unnecessary power loss in warm climate.

High quality

The D13-700 is the same robust basic architecture as the Volvo Truck D9, D11, and D16 inline-6 diesel platform with a robust block design, wet liners, rear-end transmission, ladder frame and a single cylinder head with overhead camshaft operating 4 valves per cylinder and the injector. This contributes to smooth running, high reliability and long-term durability.

EVC-D

EVC-D, a new generation of the proven Electronic Vessel Control offers the best helmsman experience available! The new ergonomically designed controls engage smoothly and allow for

maneuvering with fingertip precision in any situation.

Integrated pushbuttons give easy access to functions such as Low Speed, Cruise Control and Single Lever Control, which allows for safe and easy handling.

Complete the helm with your choice from the full range of easy to read gauges and displays including the new 7" color display. Add the trip computer function for accurate fuel management and minimized environmental impact.

Engine synchronisation is of course standard in twin installations.

Ease of service and maintenance

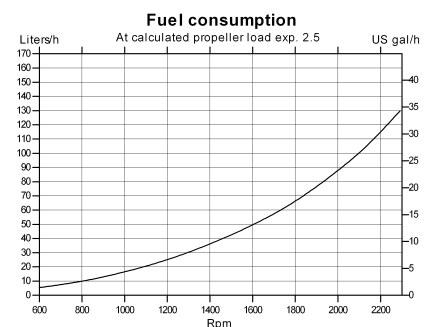
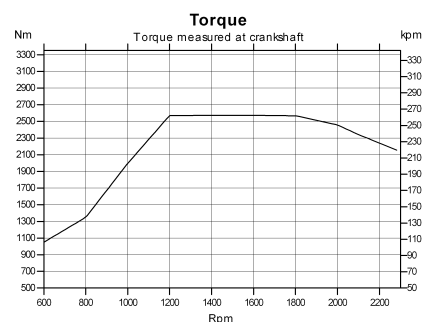
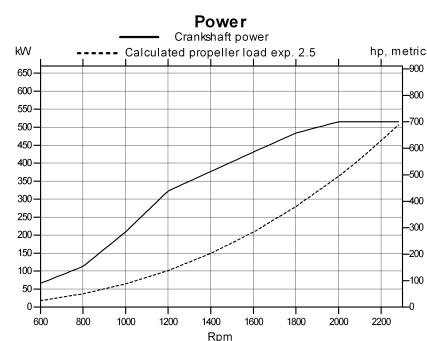
The EVC system features a self-diagnostic facility, which indicates in the wheelhouse if a failure should occur. The engine has a compact and clean design, and with all fluid filters plus seawater pump positioned at the port rear end, the engine is easy to service and maintain.

Meeting new emission standards

The high pressure unit injector system in combination with electronics and an advanced combustion system are setting new standards in minimizing noxious emissions and particulates. The engine is certified to the IMO NO_x, EU IWW, and US EPA Tier 2 requirements.

Type approved

The engine and the control system is type approved by DNV



**VOLVO
PENTA**

D13-700

Technical description:

Engine and block

- Cylinder block made of cast iron
- One-piece cast-iron cylinder head
- Ladder frame fitted to engine block
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four-valve-per-cylinder layout with overhead camshaft and center position of unit injectors
- Each cylinder features cross-flow inlet and exhaust ducts
- Gallery oil-cooled cast aluminum alloy pistons with three piston rings
- Rear-end transmission

Engine mounting

- Flexible engine mounting

Lubrication system

- Integrated oil cooler in cylinder block
- Rear positioned twin full flow oil filter of spin-on type and by-pass filter

Fuel system

- Electronic high pressure unit injectors
- Gear-driven fuel pump and injection timing
- Electronically controlled central processing system (EMS – Engine Management System)
- Single fine fuel filter of spin-on type

Air inlet and exhaust system

- Twin entry turbo technology with freshwater-cooled charge air cooler
- Air filter with replaceable inserts
- Wet exhaust elbow/riser (option)

Cooling system

- Seawater-cooled plate heat exchanger
- Coolant system prepared for hot water outlet
- Easily accessible seawater pump in rear end of flywheel housing

Electrical system

- 24V/110A plus an optional extra 24V/110A alternator

Instruments/controls (option)

- Complete instrumentation including key switch and interlocked alarm
- EVC monitoring panels for single or twin installations

- Electronic shift and throttle
- Plug-in connectors
- EVC system color display

Reverse gear

- ZF325-1AE and ZF325IV, with low speed as option, electronically shifted
- MGX-5096A and MGX-5114IV, with Quick-Shift® and low speed as standard, electronically shifted

Optional equipment

Contact your Volvo Penta representative.

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	D13-700
No. of cylinders and configuration.....	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with charge air cooler
Bore/stroke, mm (in.)	131/158 (5.16/6.22)
Displacement, l (in ³).....	12.78 (779.7)
Compression ratio.....	16.5:1
Dry weight bobtail, kg (lb)	1450 (3197)
Crankshaft power, kW (hp) @ 2300rpm	515 (700)
Max. torque, Nm (lb.ft) @ 1200 rpm.....	2930 (2162)
Rating.....	3
Recommended fuel to conform to.....	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204
Specific fuel consumption, g/kWh (lb/hph) @ 2300 rpm	212 (0.343)

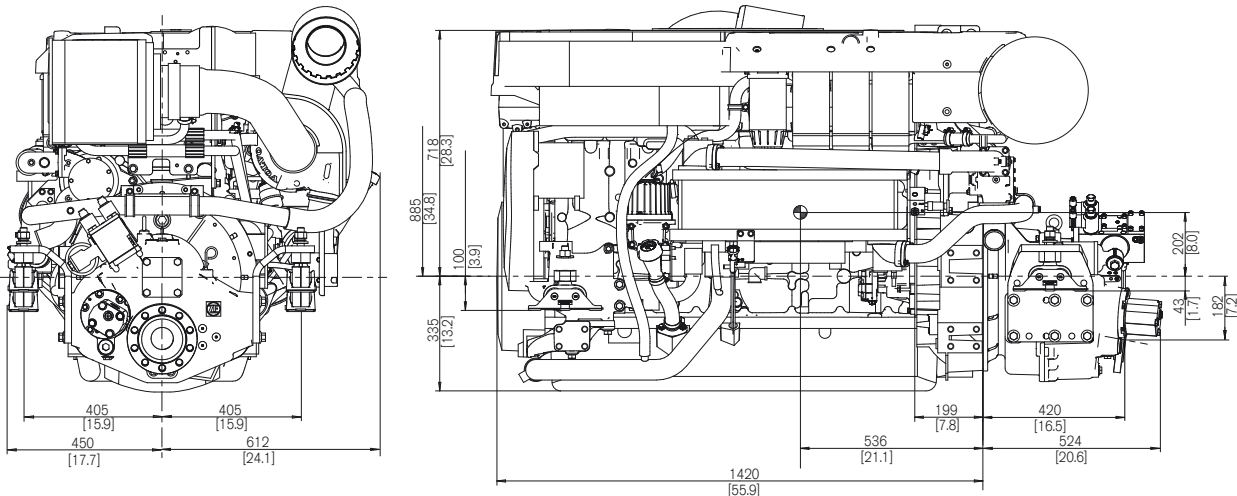
Technical data according to ISO 8665. With fuel having an LHV of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F).

Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

The engine complies with IMO NOx limits, EU RCD, and US EPA Tier 2

Dimensions D13-700 with ZF325-1AE

Not for installation



VOLVO PENTA

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