

VOLVO PENTA MARINE AUXILIARY DIESEL

D8-MG

7.7 liter, in-line 6 cylinder - Constant engine speed



D8-MG is a reliable, powerful, fuel-efficient and clean marine diesel engine. It's based on Volvo Group's proven engine platform and is designed by Volvo Penta to power a wide range of marine auxiliary applications.

This 7.7 liter turbocharged diesel engine has a robust and dependable design with an overhead camshaft, four valves per cylinder and precisely controlled electronic fuel injection. It features Volvo Group's proven combustion technology which creates an optimized fuel to air pressure ratio at any work load.

Together with Volvo Group's Engine Management System it offers powerful response, fuel efficiency and excellent emission performance. The robust cylinder block is fitted with a ladder frame for smooth operation and low noise.

Typical applications:

- Pumps
- Cranes
- Hydraulic power packs
- Air compressors
- High-pressure water systems
- Fire-fighting equipment
- Nitrogen pumps
- Dry bulk handling

- Proven design - built on Volvo Group technology
- Fuel-efficient and low emission levels
- Powerful response
- Low weight, noise and vibrations
- Type-approved
- Classifiable by all major societies
- Compact installation and easy to service

The engine can be equipped with a wide range of optional equipment and is available with Heat Exchanger (HE) or Keel Cooled (KC) cooling system.

Volvo Penta offers a type-approved systems for on-board electronic control. The Marine Commercial Control System (MCC) is easily integrated into the ship's control system.

The engine and equipment can be covered with the Extended Coverage which prolongs the standard warranty up to five years - or the corresponding number of running hours.

The compact and space saving design makes for easy installation and easily accessible service points.

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Technical data

General

Engine designation	D8 MG
No. of cylinders and configuration	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with charge air cooler
Bore, mm	110
Stroke, mm	135
Displacement, l	7.7 (469.7)
Compression ratio	16.5:1

Performance, fuel & emissions

Engine speed	1500 rpm	1800 rpm
Crankshaft power HE, kW	239	275
Crankshaft power KC, kW	239	275
Specific fuel consumption, g/kWh		
at 50% load	207	213
at 75% load	202	200
at 100% load	200	199
Emission compliance		
	IMOIII,	IMOIII,
	US EPA Tier 3,	US EPA Tier 3,
	EU NRMM (IWW) Stage V	EU NRMM (IWW) Stage V
Recommended fuel to conform to	ASTM-D975, EN 590, JIS K2204 or HVO EN15940.	

10% overload available acc. to class requirements. Fuel temperature 40°C (104°F). Technical data according to ISO 3046 Fuel Stop Power with a tolerance ±4%. Fuel with a lower calorific value 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 is certified according to IMO Tier II for diesel electric propulsion.

Heat Exchanger cooled system (HE)

Keel Cooled system (KC)

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Technical description

Engine and block

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

Lubrication system

- Seawater-cooled oil cooler
- Twin switchable oil filters as standard

Fuel system

- Common rail fuel injection system
- Gear-driven fuel pump and injection timing
- Engine Management System (EMS)
- Twin switchable fuel filters as standard

Air inlet and exhaust system

- Mid-positioned twin entry turbocharger with aftercooler
- Air filter with replaceable inserts
- Loss of sea water alarm

Cooling system

Two options available:

1. HE (Heat Exchanger)
 - Seawater-cooled tubular heat exchanger
 - Coolant system prepared for hot water outlet
 - Easily accessible seawater impeller pump in rear end
2. KC (Keel Cooling)
 - 1,5-circuit cooling system
 - Belt-driven centrifugal cooling water pump in HT circuit
 - Engine mounted expansion tank in HT circuit
 - Gear driven rubber impeller cooling water pump in CAC LT circuit

Control System

- The Marine Commercial Control System (MCC) is easily integrated into the ship's control system. Marine Commercial Control (MCC) a flexible and expandable control and monitoring system for classified installations. Incl. separate safety shutdown system.

Optional equipment

Engine

- Exhaust temperature indication
- Engine heater

Exhaust aftertreatment system

- SCR (Selective Catalytic Reduction)
- Aqueous UREA solution 32.5%
- Complete system – developed, certified, and serviced by one company.
- Fully integrated capabilities
- SCR unit reduces noise by up to 35 dBA
- Wide range of installation options available

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.

Contact your local Volvo Penta dealer for more information regarding Volvo Penta engines and optional equipment/accessories or visit www.volvopenta.com

