

## VOLVO PENTA MARINE AUXILIARY DIESEL

# D8-MH

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



**D8-MH 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 two options of type-approved systems for on-board electronic control: The type-approved MCC (Marine Commercial Control) or Open CAN Interface.

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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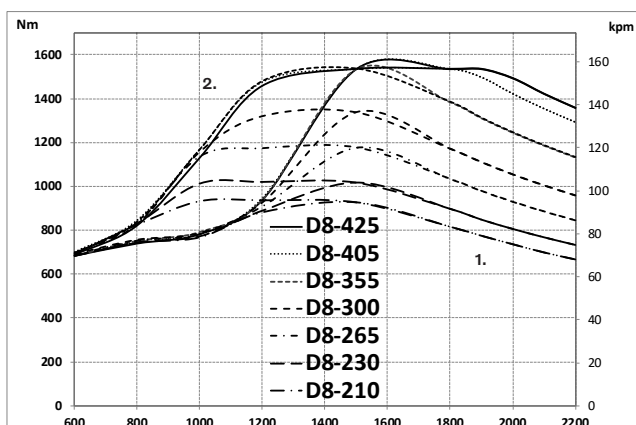
## Technical Data

Engine designation	D8 -MH						
Number of cylinders	in-line 6						
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with aftercooler						
Displacement, l	7.7 (469.7)						
Compression ratio	16.5:1						
Dry weight bobtail, kg (lb)	850 (1874)						
Rating	R1	R1	R1	R1	R1	R2	R2
Engine speed, rpm	1800 - 2200					2100 - 2200	
Crankshaft power, kW (hp)	154 (210)	169 (230)	195 (265)	221 (300)	261 (355)	296 (405)	313 (425)
Max. torque, Nm (lbf.ft)	928 (684)	1019 (752)	1178 (869)	1338 (987)	1536 (1133)	1536 (1133)	1536 (1133)
Emission compliance	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V	IMO III, US EPA Tier 3, EU NRMM (IWW) Stage V
Flywheel housing/SAE size	SAE 1 and SAE 2						
Specific fuel consumption	R1	R1	R1	R1	R1	R2	R2
@ 1800 rpm, g/kWh	210	208	204	201	197	-	-
@ 2100 rpm, g/kWh	-	-	-	-	-	207	209
@ 2200 rpm, g/kWh	230	225	216	212	211	210	213
Recommended fuel to conform to	ASTM-D975, EN 590, JIS K2204 or HVO EN15940.						

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.

## Torque at crankshaft



1. Steady state fullload  
2. Transient fullload

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## Technical description

### Engine and block

- Cylinder block made of cast iron
- One-piece cast-iron cylinder head
- Ladder frame fitted to engine block
- Replaceable dry 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.
- 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 (option)

### Lubrication system

- Seawater-cooled tubular oil cooler
- Twin switchable oil filter as standard

### Fuel system

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

### Air inlet and exhaust system

- Mid-positioned twin entry turbocharger with aftercooler
- Air filter with replaceable inserts
- Wet exhaust elbow (option)
- 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

### Electrical system

- 24V with extra 12V/115A or 24V/80A alternator

### Control systems

- Two options available:
  1. MCC a flexible and expandable control and monitoring system for classified installations. Incl. separate safety shut-down system.
  2. Open CAN Interface, engine delivered without control system. Different options with or without shut down senders and switches.
- Meets classification requirements of separate shutdown and monitoring system
- Easy to interface with leading suppliers of ship control systems
- Possibility to connect relays for remote control functions (potential free contacts)
- Classifiable by all major classification societies

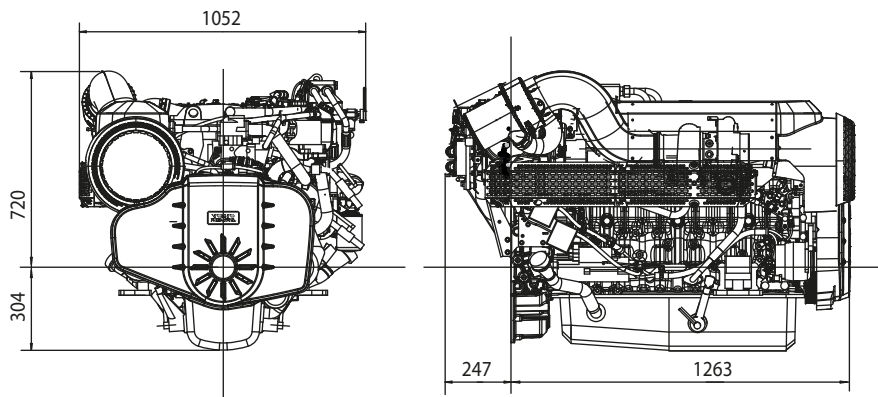
### Exhaust aftertreatment system

- 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

## Dimensions D8 MH

Not for installation, mm

### Engine with HE & KC



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.



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Contact your local Volvo Penta dealer for more information regarding Volvo Penta engines and optional equipment/accessories or visit [www.volvopenta.com](http://www.volvopenta.com)



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