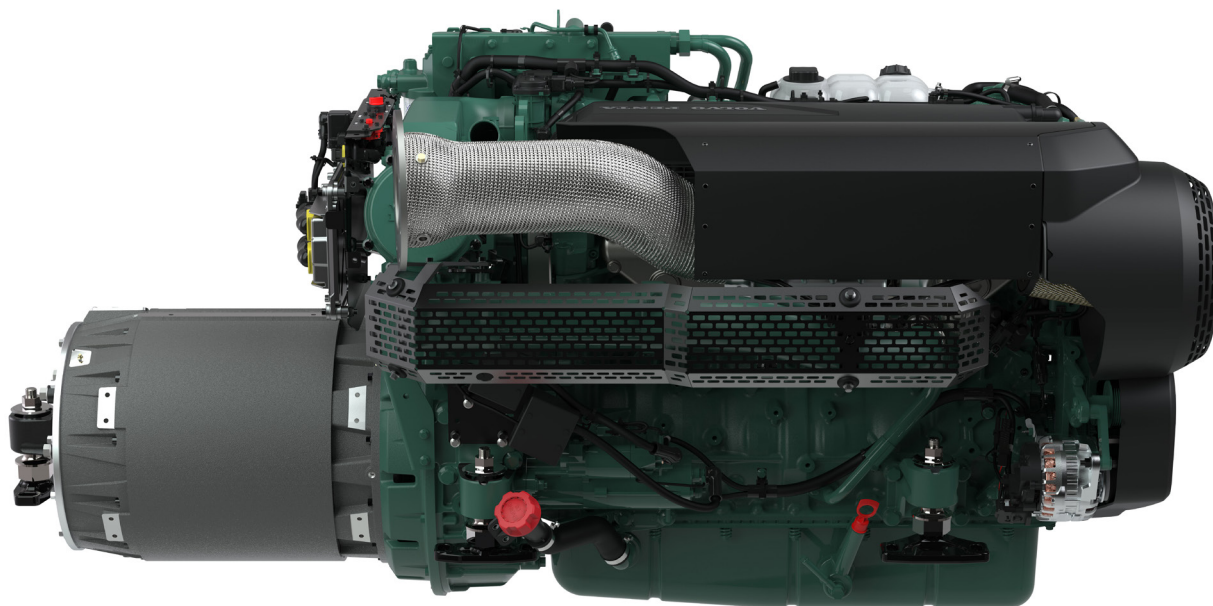


## VOLVO PENTA MARINE VARIABLE SPEED GENSET

# D8-MH (VG)

7.7 liter, in-line 6 cylinder

193 — 240 kWe



### Technical Data

Engine designation	D8 MH (VG)	
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	110 / 135	
Displacement, l (in <sup>3</sup> )	7.7 (469.7)	
Compression ratio	16.5:1	
Engine	D8 MH 300	D8 MH 405
Crankshaft Power HE/KC Cooling, kWm	221	296
Rating	1	2
Electrical Power, kWe @ rpm	193 @ 1800	240 @ 2100
Emission compliance	IMO II, IMO III, EU NRMM Stage V	IMO II, IMO III, US EPA Tier 3, China 2, EU NRMM Stage V
Specific fuel consumption HE/KC, g/kWh at kWe & rpm (IMO III)		
Peak efficiency	195 (182 kWe / 1600 rpm)	194 (200 kWe / 1600 rpm)
50%	199 (97 kWe / 1300 rpm)	196 (120 kWe / 1300 rpm)
75%	196 (145 kWe / 1400 rpm)	197 (180 kWe / 1500 rpm)
Rated power / rated speed	202 (193 kWe / 1800 rpm)	205 (240 kWe / 2100 rpm)
Recommended fuel to conform to	ASTM-D975, EN 590, JIS K2204 or HVO EN15940	

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 III for diesel electric propulsion.

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## Technical description

### Complete Variable speed Genset

- High system efficiency
- Possible to operate at multiple fix speeds or full variable speeds
- Light and compact Generator set
- Engine coupled to generator via flexible coupling
- Flexible mountings included
- Synchronization not needed
- Possibility to mix engine sizes
- Generator could be ordered with Marine classification according to DNV, LR, BV, RINA and ABS.

### Generator

- Permanent magnet generator technology
- Small, robust, light and efficient
- Water cooled
- Insulation Class H, Temperature rise Class F
- Double bearing
- IP65 as standard

### Standard EM-PMI375-T1100

- Low voltage connections done with connector, DEUTSCH HD34-24-47PE
- Anti-condensation heater, 230 V<sub>AC</sub>/130 W (+HEAT1)
- PT100 in bearing (+BTMP1)
- Redundant temperature surveillance of windings, PT100 (+TEMP5)
- Insulated bearing in N-end (+BIN)
- Rotating sensor, in-built non contact resolver, 6-pole pair, needed for non Danfoss inverters (+RES1)

### Engine and block

- Cylinder block and cylinder head 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
- Each cylinder features crossflow inlet and exhaust ducts
- Gallery oil cooled forged steel pistons, three piston rings
- Rear-end transmission
- Closed crankcase ventilation

### Lubrication system

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

### Fuel system

- Common rail fuel injection system
- Gear-driven fuel pump
- Electronically controlled injection timing
- Twin switchable fuel filters 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

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

Two options available:

1. MCC (Marine Commercial Control) an open system that is type approved, including separate safety shutdown system.
2. Open CAN Interface, engine delivered without control system. Different options with or without shut down senders and switches.

### Optional equipment

#### Engine

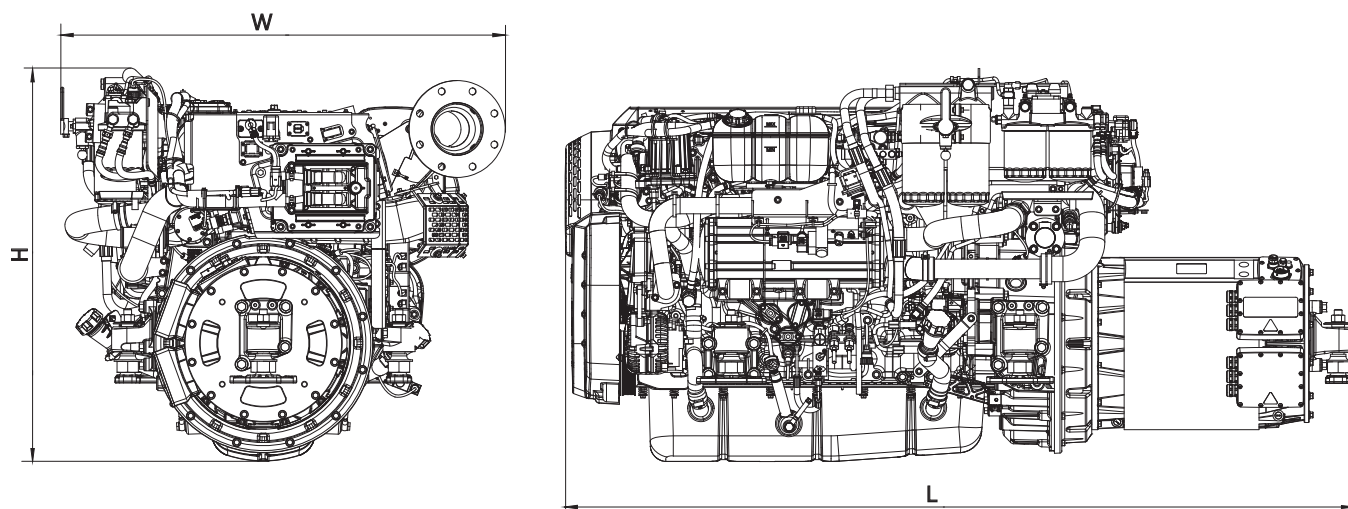
- Exhaust temperature indication
- Engine heater

#### Exhaust aftertreatment system

- SCR (Selective Catalytic Reduction)
- Aqueous UREA solution 32.5% or 40%
- 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

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## Technical Data HE/KC Genset (Class F)

### Power output at 1800 rpm 499 V<sub>AC</sub>, kW<sub>e</sub>

D8 MH 300 / EM-PMI375 T1100-2100 DUAL ..... 193

### Power output at 2100 rpm 485 V<sub>AC</sub>, kW<sub>e</sub>

D8 MH 405 / EM-PMI375 T1100-2400 DUAL ..... 240

### Inverter requirement

Nominal inverter switching frequency ..... 8 kHz

Minimal inverter switching frequency ..... 4 kHz  
(with limited speed 1,4 times nominal speed)

Fuel temperature 40°C (104°F). Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. 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.

### Dimensions L x W x H<sub>1</sub> (mm), not for installation

D8 MH / EM-PMI375 T1100 ..... 2037 x 1147 x 1014

### Weight HE, kg

D8 MH / EM-PMI375 T1100 ..... 1272

### Weight KC, kg

D8 MH / EM-PMI375 T1100 ..... 1264

H1 = Height including exhaust compensator

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](http://www.volvopenta.com)



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