

# D16-MH

**16.12 litre, in-line 6 cylinder**

368, 405, 441, 478 and 551 kW

IMO NOx Tier II and EU IWW Stage IIIA (for US EPA Tier 3, see separate Product Leaflet)



## Technical Data

Engine designation	D16 MH				
No. of cylinders and config.	In-line 6				
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with charge air cooler				
Bore/stroke, mm (in.)	144/165 (5.67/6.50)				
Displacement, l (in <sup>3</sup> )	16.12 (983.9)				
Compression ratio	17.5:1				
Dry weight bobtail, kg (lb)	1750 (3858)				
	Rating 1 1800 rpm	Rating 1 1800 rpm	Rating 1 1800 rpm	Rating 1 1800 rpm	Rating 2 1900 rpm
Crankshaft power, kW (hp)	368 (500)	405 (550)	441 (600)	478 (650)	551 (750)
Max. torque, Nm (lbf.ft) @ 1200 rpm	2766 (2040)	2907 (2144)	3092 (2283)	3263 (2406)	3271 (2412)
Specific fuel consumption, at 100 % load:					
g/kWh (lb/hph) @ 1400rpm	197 (0.32)	196 (0.32)	194 (0.31)	194 (0.31)	199 (0.32)
g/kWh (lb/hph) @ 1800rpm	209 (0.34)	209 (0.34)	209 (0.34)	210 (0.34)	209 (0.34)
Emission compliance <sup>1)</sup>	IMO NOx Tier II	IMO NOx Tier II	IMO NOx Tier II	IMO NOx Tier II	IMO NOx Tier II
	EU IWW Stage IIIA	EU IWW Stage IIIA	EU IWW Stage IIIA	EU IWW Stage IIIA	EU IWW Stage IIIA
Recommended fuel to conform to	ASTM-D975 1-D & 2-D, EN 590 or JIS KK 2204				
Flywheel housing/SAE size	14"/SAE1				

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. Ratings R1 & R2, see explanation in Volvo Penta's Product Guide.

<sup>1)</sup> For US EPA Tier 3, see separate Product Leaflet.

# D16-MH

## Technical description:

### 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 cross-flow inlet and exhaust ducts
- Gallery oil-cooled cast aluminum alloy pistons with three piston rings
- Rear-end transmission
- Open or closed crankcase ventilation

### Engine mounting

- Flexible engine mounting (option)

### Lubrication system

- Integrated oil cooler in cylinder block
- Twin full flow oil filters and by-pass filters of spin-on type

### Fuel system

- Electronic Unit Injectors, one per cylinder, vertically positioned at the center in between the four valves
- 5-hole high pressure injector nozzles
- Gear-driven fuel pump, driven by timing gear
- Electronically controlled central processing system (EMS – Engine Management System)
- Electronically controlled injection timing
- Twin spin-on fine fuel filters with change over valve

### Air inlet and exhaust system

- Air filter with replaceable inserts
- Mid-positioned twin entry turbocharger and charge air cooler

### Cooling system

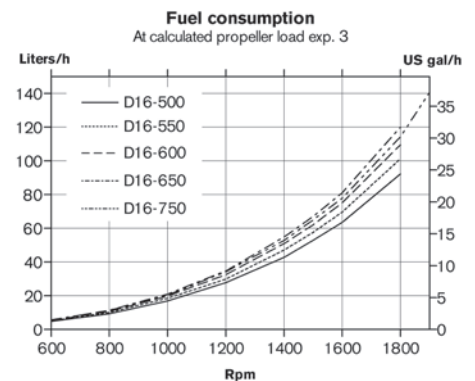
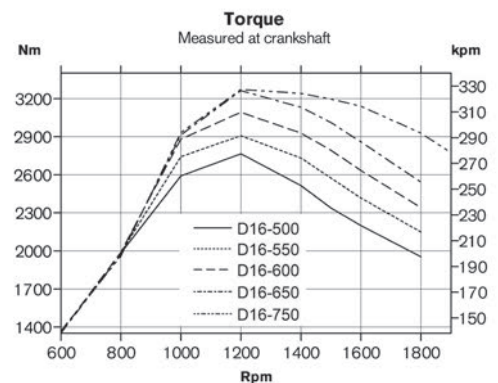
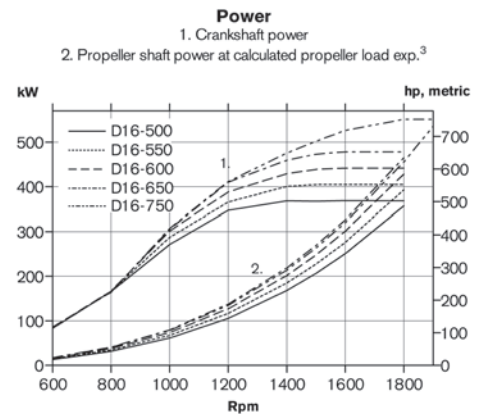
- Freshwater-cooled charge air cooler
- Seawater-cooled tubular heat exchanger
- Coolant system prepared for hot water outlet
- Easily accessible seawater impeller pump in rear end

### Electrical system

- 24V/110A alternator

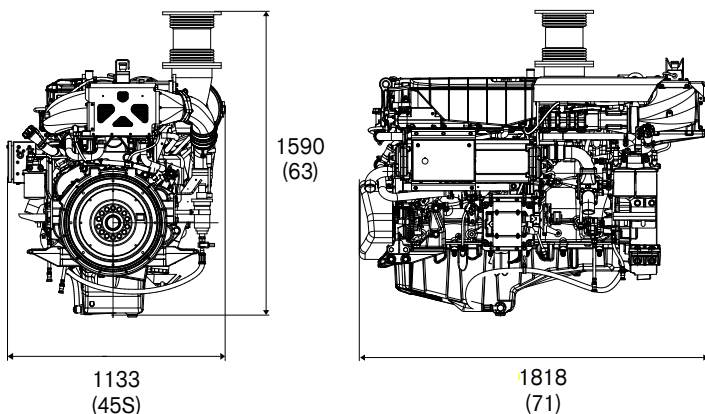
### Instruments/controls (option)

- Three options for onboard electronic control:
  1. EVC (Electronic Vessel Control), a type-approved system with integrated controls and features.
  2. MCC (Marine Commercial Control), an open system that is type-approved. Incl. separate safety shutdown system
  3. Open CAN Interface, engine delivered without control system. Different options with or without shut down senders and switches.



## Dimensions

Engine with Heat Exchanger. Dimensions in mm (in.).  
Not for installation.



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[www.dbmoteurs.fr](http://www.dbmoteurs.fr)  
[contactweb@dbmoteurs.fr](mailto:contactweb@dbmoteurs.fr)  
03 28 64 36 36

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DE (RE)MOTORISATION**



**VOLVO  
PENTA**

**AB Volvo Penta**

SE-405 08 Göteborg, Sweden  
[www.volvopenta.com](http://www.volvopenta.com)

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