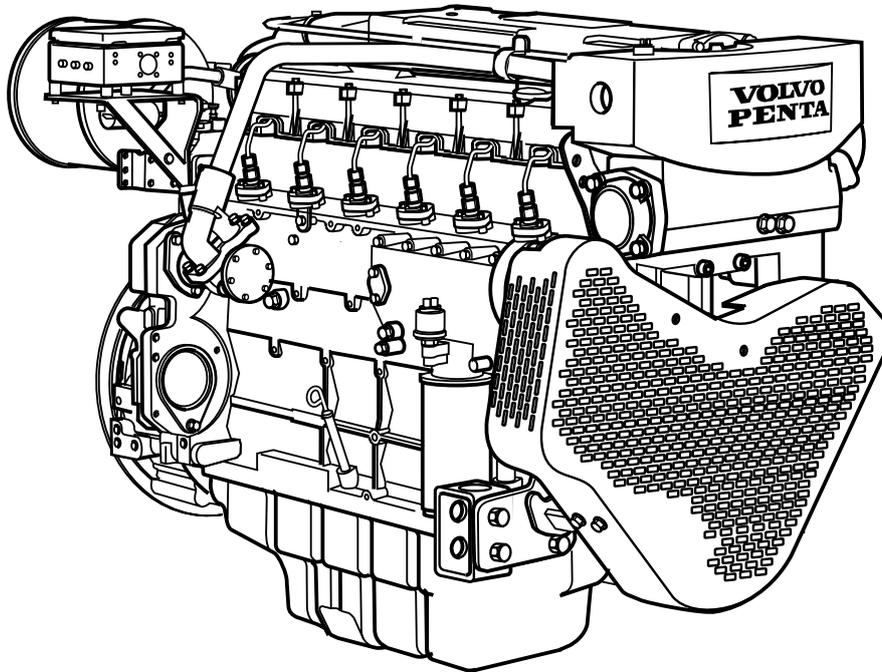


D7C TA

7.15 litre, in-line 6 cylinder - Variable engine speed

146, 166, 169, 182 and 195 kW

IMO NOx Tier II and CCNR2



D7C TA is a reliable, type-approved, marine diesel engine. It's designed by Volvo Penta to power a wide range of marine auxiliary applications.

The rigid in-line 6 cylinder block has a high-pressure injection system with single injection pump and six-hole injection nozzles that operate under high pressure. In combination with the turbo and charge-air-cooler, the engine has high torque, low fuel consumption and low emission levels. The robust design, including a stable engine block and over-sized crankshaft bearings provide 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

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

- Rigid and robust design
- Fuel-efficient and low emission levels
- Responsive
- 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 a Heat Exchanger (HE) or Keel Cooled (KC) cooling 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.

D7C TA

Technical data

General

Engine designation	D7C TA
Displacement, litre (in ³)	7.15 (436)
Configuration and number of cylinders	in-line 6
Method of operation	4-stroke, direct-injected, turbocharged diesel engine with charge air cooler
Bore/stroke, mm (in.)	108/130 (4.25/5.12)
Compression ratio	17.6
Dry weight bobtail HE ¹⁾ , kg (lb)	760 (1676)
Dry weight bobtail KC ²⁾ , kg (lb)	740 (1631)
Flywheel housing/SAE size	10"/11,.5"/SAE2, 10"/11,.5"/SAE3, 14"/SAE1

Performance, fuel & emissions

Rating ³⁾	1	1	2	2	2
Engine speed, rpm	1900	2300	1900	2100	2300
Crankshaft power, kW (hp)	146 (199)	166 (226)	169 (230)	182 (248)	195 (265)
Max. torque, Nm (lb.ft) @ 1500 rpm ⁴⁾	758 (559)	764 (563)	904 (667)	904 (667)	904 (667)
Spec. fuel consumpt. at 100% load:					
g/kWh (lb/hph) @ 1200 rpm	220 (0.356)	220 (0.356)	222 (0.36)	225 (0.365)	225 (0.365)
g/kWh (lb/hph) @ 1500 rpm	211(0.342)	211 (0.342)	211 (0.342)	212 (0.343)	212 (0.343)
g/kWh (lb/hph) @ 1800 rpm	211 (0.342)	211 (0.342)	211 (0.342)	211 (0.342)	211 (0.342)
g/kWh (lb/hph) @ 1900 rpm	212,5 (0.344)	212,5 (0.344)	213,5 (0.346)	212,5 (0.344)	212 (0.343)
g/kWh (lb/hph) @ 2100 rpm		218 (0,353)		218 (0,353)	218 (0,353)
g/kWh (lb/hph) @ 2300 rpm		230 (0.373)			228 (0.369)
Emission compliance	IMO NOx Tier II				
	CCNR2	CCNR2	CCNR2	CCNR2	CCNR2

Recommended fuel to conform to ASTM-D975 1-D and 2-D, EN 590 or JIS KK 2204

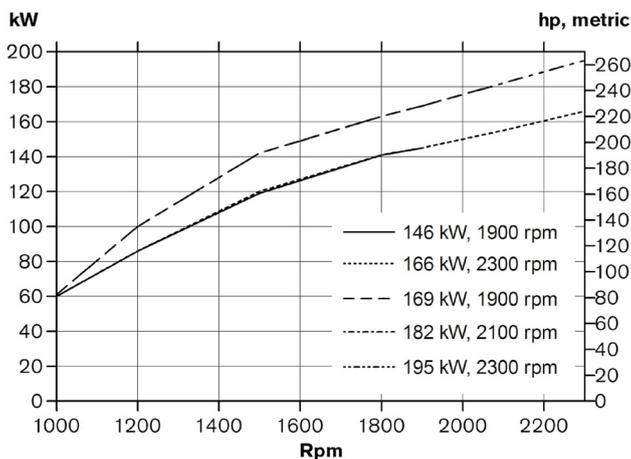
Technical data according to ISO 3046 Fuel Stop Power and ISO 8665. Fuel with a lower calorific value of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.

¹⁾ Heat Exchanger cooled system (HE), ²⁾ Keel Cooled system (KC)

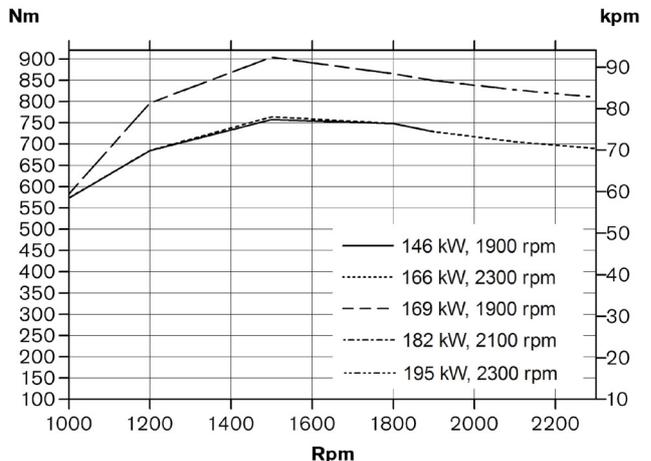
³⁾ Rating 1: Heavy Duty Commercial operation. Rating 2: Medium Duty Commercial operation.

⁴⁾ Measured at crankshaft.

Power at crankshaft



Torque at crankshaft



D7C TA

Technical description

Engine and block

- Cylinder block, head and flywheel housing made of cast iron
- Belt guard
- Nitrocarburized transmission gears
- Press-hardened crankshaft
- Forged aluminum pistons
- Cylinder liners of wet type

Lubrication system

- Oil filler in valve cover
- Oil sump made of cast iron
- Manual oil drain pump
- Rotary lubrication oil pump
- Freshwater-cooled oil cooler
- Full flow oil filters of spin-on type
- Closed crankcase ventilation system

Fuel system

- Fuel feed pump
- Fine fuel filter of spin-on type
- Unit pumps
- Six-hole injectors
- Mechanical governor with smoke limiter
- Fuel stopping solenoid 24V

Heat Exchanger cooled system (HE)

- For seawater- and central-cooled engines
- V-belt-driven freshwater pump
- Gear-driven seawater pump
- Engine-mounted tubular heat exchanger with integrated expansion tank

Keel cooled system (KC)

- 2-circuit keel cooling system
- Gear-driven pump (LT circuit)
- Belt-driven pump (HT circuit)
- Engine-mounted expansion tank (HT circuit)

Electrical system

- 2-pole 24V electrical system, 24V/55A alternator, 24V 4kW starter
- Senders and switches:
 - Tachometer
 - Lubrication oil pressure
 - Cooling-water temperature
 - Cooling-water level
- Rubber-suspended electrical terminal box with semi-automatic fuses and plug-in connection

Optional equipment

Engine

- Flexible suspension for engine

Lubrication system

- Shallow oil sump
- Twin oil filters, for remote mounting

Fuel system

- Hand pump
- Jacketed fuel pipes
- Single fuel/water separating pre filter
- Twin fuel filters, for remote mounting

Exhaust system

- Exhaust elbow, wet
- Exhaust elbow, dry, with integrated flexible compensator
- Silencer, dry

Cooling system

- Engine-mounted tubular heat exchanger with integrated expansion tank
- Seawater filter

Electrical system

- 1-pole 12V electrical system, 12V/95A alternator, 12V/3.1kW starter
- 24V/140A alternator
- Engine heater 230V/600W
- Senders:
 - Charge air pressure
 - Gearbox oil pressure
- Cable harness in different lengths
- Various instrument panels

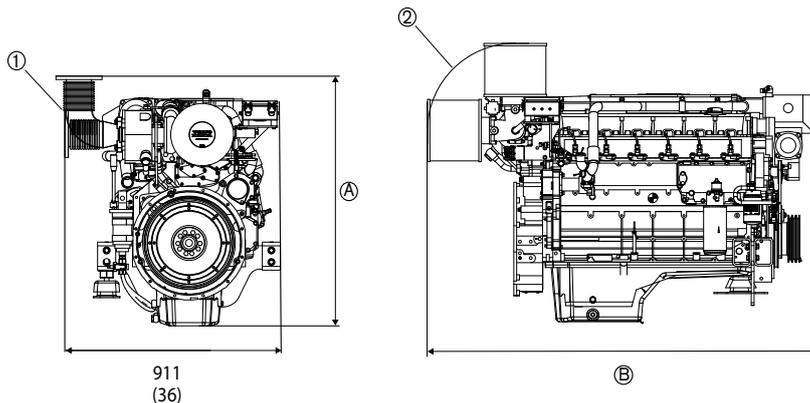
Power transmission

- PTO crankshaft front end, type stub shaft
- Hydraulic pump for steering and other duties

Dimensions

Not for installation, mm (in.)

Engine with HE (illustrated) & KC



Ⓐ HE 1192 (47) KC 1199 (47)

① HE: 90° or straight (option), KC: 90°.

Ⓑ HE 1290 (51) KC 1114 (44)

② Adjustable position.

Volvo Penta is part of the Volvo Group, the world's leading manufacturer of trucks, buses, construction equipment and diesel engines. Volvo Penta has approximately 4,000 dealers in some 130 countries.

For further information, please contact your local Volvo Penta dealer or visit www.volvopenta.com.

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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