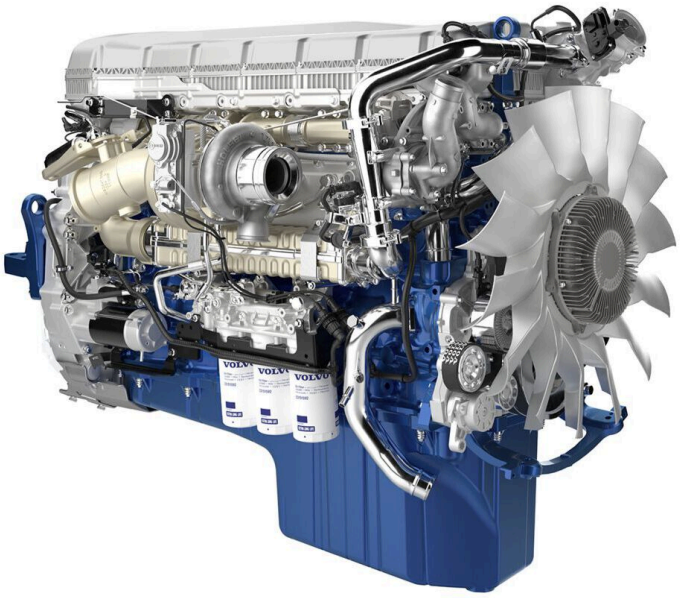
VOLVO

FACT SHEET

ENGINE VERSION

D17A780 EU6SCR



The D17A780 is a 780 hp with 3800 Nm, 17.3 litres, in-line, six-cylinder diesel engine. Equipped with an overhead camshaft, four valves per cylinder, common rail fuel injection and an efficient variable geometry turbo (VGT). The engine is very fuel-efficient and meets the Euro 6 exhaust emissions requirements.

The D17 engine is based on a robust design and uses precisely controlled electronic multiple fuel injections. The engine can run with B7/HVO fuel. The same performance is delivered using biofuels.

The D17 is a low-emission engine in terms of both exhaust gases and noise and is equipped with cooled Exhaust Gas Recirculation (EGR). The aftertreatment system, in the silencer, combines a Diesel Oxidation Catalyst (DOC), a Diesel Particulate Filter (DPF), a Selective Catalytic Reduction unit (SCR) and an Ammonia Slip Catalyst (ASC).

The D17 can be equipped with Volvo Engine Brake + and EPG (Exhaust Pressure Governor). These systems provide high braking effects, further improving safety and reducing wear on the wheel brakes.

PRODUCTIVITY

- Maximum torque within a broad rev range.
- Quick torque response ensures good driveability.
- High torque at low revs.
- Optimized engine braking effect with Volvo Engine Brake +.

ENERGY EFFICIENCY

- Optimised fuel efficiency in demanding operations.

DRIVER APPEAL

- Low noise levels.

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Efficient combustion for excellent driveability

Piston with wave pattern

The D17 is equipped with pistons with a wave pattern and inlet and outlet manifolds are designed for optimum combustion. The common rail fuel injection provides high injection pressure.

The VGT turbo enables maximized engine response resulting in excellent drivability. This design creates a fuel-efficient engine with high power and high torque.

Performance

The D17 engine is a responsive engine with a high torque available in the lower revs. The engine's quick response gives the truck a very good performance on-road and off-road. High torque and power ensure an efficient transport in every situation.

Fuel economy

Optimal combination of engine compression ratio, displacement and turbocharger give the truck a very good fuel consumption.

Low noise levels at idling

The D17 meets all the relevant noise levels requirements. The crankshaft and camshaft feature hydraulic vibration dampers that minimize noise and vibrations. Improved fuel pre-injection is used to further dampen noise at idling.

Crankcase ventilation

The D17 offers a choice of two types of closed crankcase ventilation. CCV-C is recommended down to -25 degrees Celsius. CCV-OX is only recommended for arctic markets.

Both system promotes an extremely clean and environmentally compatible engine.

Power take-off at the rear

The timing mechanism is located at the rear of the engine, which results in less vibration and permits the fitting of a rear-mounted power take-off.

The D17 can be equipped with a power take-off designed for propeller shaft operation or direct-mounted hydraulic pumps (also clutchable). PTO mounting on the engine's flywheel results in a dependable design and permits high torque levels, up to 1,000 Nm in continuous operation.

Fulfilling the Euro 6 standard

The components in the aftertreatment system serve two main purposes: To improve gas flow and make sure that the exhaust gases reach the aftertreatment system at optimum temperature, thus ensuring the emission level.

The cooled Exhaust Gas Recirculation (EGR) recirculates a small portion of the exhaust back to the charge air in order to reduce the amount of NO_X.

The Diesel Oxidation Catalyst (DOC) produces the nitrogen dioxide (NO_2) necessary for the Diesel Particulate Filter (DPF) to efficiently combust the particulates. In cold conditions, it also provides the heat needed for regeneration.

The DPF collects particulate matter (PM) until it is automatically burned off during regeneration.

In the mixing zone in the Selective Catalytic Reduction unit (SCR), the exhaust gases are sprayed with AdBlue®. When they reach the catalyst, the nitrogen oxides (NO_X) are efficiently transformed into harmless nitrogen gas and water.

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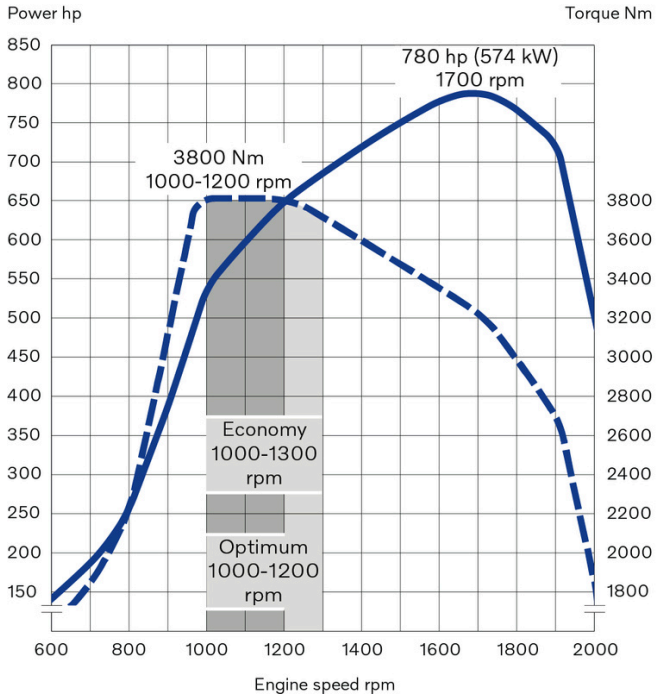
SPECIFICATION

Type designation	D17A780
Max power output at 1700 rpm	780 hp (574 kW)
Max revs	2000 rpm
Max torque at 1000–1200 rpm	3800 Nm
No. of cylinders	6
Bore	149 mm
Stroke	165 mm
Displacement	17.3 dm^3
Compression ratio	17.3:1
Exhaust brake effect (EPG) at 2200 rpm	246 kW
Engine braking effect (VEB+) at 2200 rpm	525 kW
Economy revs range	1000–1300 rpm
Optimum rev range	1000–1200 rpm
Oil-change volume incl. oil filter	approx. 42 l
Oil filters	2 full-flow, 1 bypass
Dry weight (base engine)	approx. 1402 kg



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