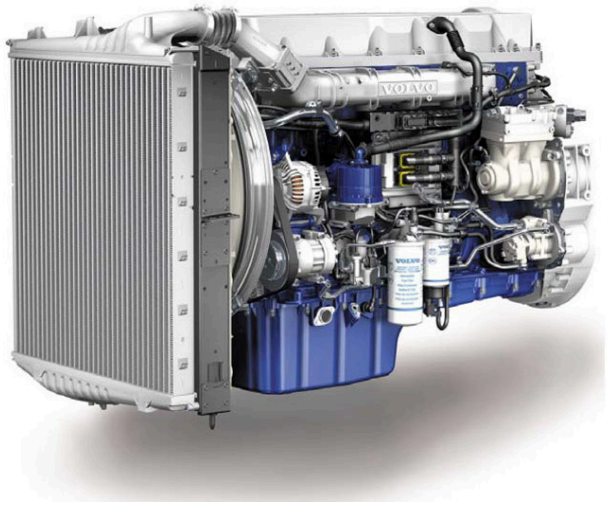
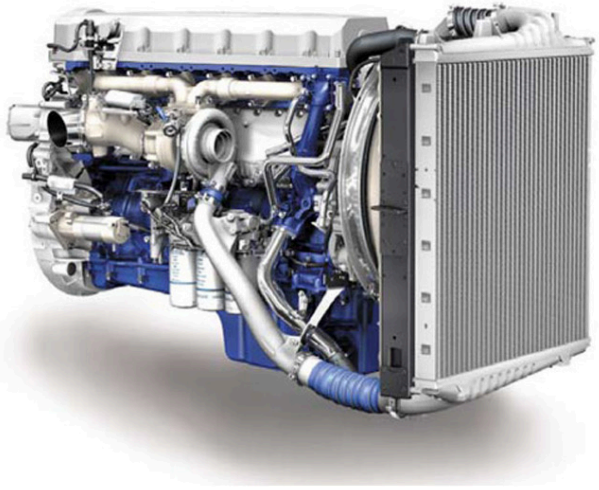
FACT SHEET

ENGINE VERSION

D13C380, EU5SCR-M





The D13C380 is a 380 hp 12.8 litres in-line, six-cylinder diesel engine equipped with an overhead camshaft, four valves per cylinder and unit injectors. The engine meets the EU exhaust emissions requirements according to the Euro 5 standards.

The D13C380 is designed for heavy long-haul and construction operations. It is based on a robust and dependable design with an overhead camshaft, four valves per cylinder and precisely controlled electronic fuel injection.

The engine is designed for low fuel consumption, good driving properties and high availability. 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 D13C380 is a low-emission engine regarding both exhaust gases and noise level. Owing to aftertreatment of exhaust emissions with SCR (Selective Catalytic Reduction) technology, the engine is approved to the EU's Euro 5 standards.

The D13C380 can be equipped with VEB, VEB+ (Volvo Engine Brake) or EPG (Exhaust Pressure Governor). These systems provide very high braking effects, further improving safety and reducing wear on the wheel brakes.

ENERGY EFFICIENCY

- Fuel-efficient.

PRODUCTIVITY

- Maximum torque within a broad rev range.
- High engine braking effect with VEB, VEB+ or EPG(option).
- Rear-mounted power take-off with a high power output (option).
- Closed crankcase ventilation (option).

UPTIME

- Oil drain 100.000 km, or once a year, with VDS-4.

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VOLVO

FACT SHEET

ENGINE VERSION

D13C380, EU5SCR-M

Efficient combustion for excellent driveability

The D13C is equipped with unit injectors that provide a high injection pressure. The combustion chamber and inlet manifold are designed for optimum combustion. The gas-fill ratio is extremely high, which contributes to the high efficiency.

This design creates a fuel-efficient engine with high power and immense torque within a broad rev range. This gives the D13C excellent driveability.

Meets emissions requirements with SCR technology.

In order to supplement the optimum combustion technique the exhaust gases are after-treated by SCR technology (Selective Catalytic Reduction).

In this process, AdBlue is injected into the exhaust gases before they pass through an SCR catalytic converter. There the AdBlue reacts with the nitrogen oxides in a process that significantly reduces emissions.

With this system, the D13C is approved to EU emissions standards according to Euro 5.

Low noise emission at idling

The D13C meets the relevant noise emission requirements. The crankshaft and camshaft feature hydraulic vibration dampers, which minimise noise and vibrations. The pre-injection of the fuel is used to further dampen noise at idling.

SPECIFICATION

Type designation	D13C380, EU5SCR-M
Max power output at 1400–1900 rpm	380 hp (280 kW)
Max revs	2100 rpm
Max torque at 1000–1400 rpm	1900 Nm
Number of cylinders	6
Bore	131 mm
Stroke	158 mm
Displacement	12.8 dm^3
Compression ratio	17.8:1
Exhaust brake effect (EPG) at 2300 rpm	185 kW
Engine braking effect (VEB) at 2300 rpm*	300 kW
Engine braking effect (VEB+) at 2300 rpm*	375 kW
Economy rev range	1000–1500 rpm
Optimum rev range	1150–1400 rpm
Oil change volume, including oil filter	approx. 33 l
Oil filters	2 full-flow, 1 bypass
Cooling system, total volume	approx. 38 l
Dry weight (base engine)	approx. 1121 kg

*** VEB/VEB+ available as options.**

Closed crankcase ventilation.

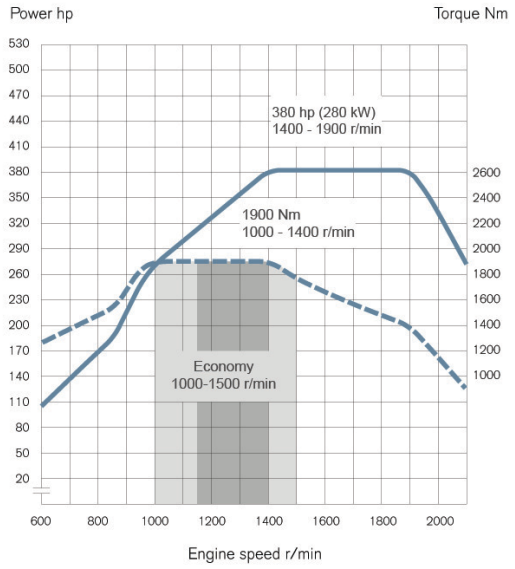
The D13C is available with closed crankcase ventilation. The system is known as CCV-C (crankcase ventilation – Closed). The crankcase gases in the valve cover are returned to the turbocharger via an oil separator with a centrifuge. The oil mist is separated in the maintenance-free centrifuge system, so there is no need for filter replacements.

Owing to the recycled crankcase gases, this system promotes a very clean and environmentally compatible engine.

Timing and power take-off at the rear

The engine timing mechanism is located at the rear and drives the power steering pump, oil pump, fuel feed pump and air compressor. It is a compact, quiet and thoroughly sealed design that saves weight. With the timing at the rear, the engine's cooling is also improved since the flow of the incoming cooling air is not obstructed.

The D13C can be equipped with a power take-off designed for propeller shaft operation or direct-mounted hydraulic pumps. Mounting the PTO on the engine's flywheel results in a dependable design and allows for higher torque levels, up to 1000 Nm in continuous operation.



Volvo retains the right to modify design and specifications without prior notification.