

SCANIA POWER GENERATION ENGINE: EU STAGE V

9-LITRE ENGINE



Engine description

DC09 320A. 223-225 kW (250-250 kVA)

Engine speed	1,500/1,800 rpm
Emission compliance	EU Stage V
Rating	PRP
No of cylinders	5 in-line
Working principle	4-stroke
Displacement	9.3 litres
Weight	950 kg (excluding oil and coolant)
Oil capacity	31-36 litres (standard oil sump)
Electrical system	1-pole 24 V

Scania's power generation engines for emission level EU Stage V are based on a robust design for superior operating economy and reliability. With their modular design, the engines offer easy installation for the producer of the equipment as well as easy access to daily checks and service for the operator. The engines can be fitted with many accessories such as air cleaners, PTOs, exhaust fittings and cooling packages, to suit a variety of installations.

Scania's EU Stage V engines are equipped with a Scania developed extra high pressure fuel injection system based on common rail technology, and a turbocharger optimized for operation in combination with the exhaust gas aftertreatment system. Together with Scania's Engine Management System, the result is an engine that fulfils the strictest exhaust emission requirements, with low fuel consumption and a high torque.

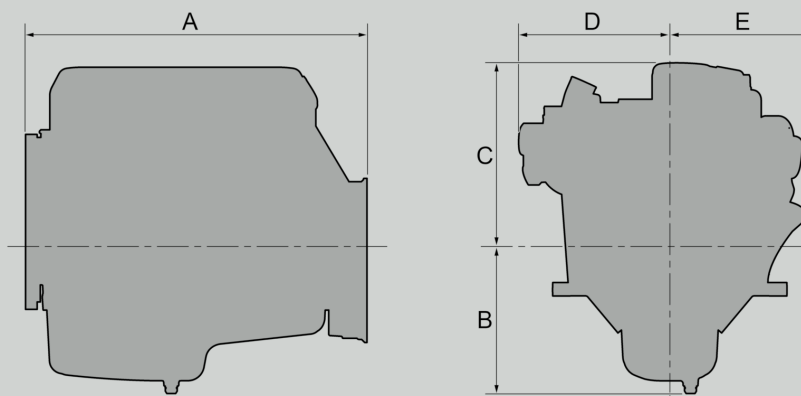
Standard equipment

- Scania Engine Management System, EMS
- Extra high pressure fuel injection system, XPI
- Variable Geometry Turbocharger
- Saver ring in cylinder liner
- Fuel filter and extra pre-filter with water separator
- Thermal recirculation fuel heater
- Oil filter, full flow
- Centrifugal oil cleaner
- Oil cooler, integrated in cylinder block
- Oil filler, in cylinder block
- Deep front oil sump
- Oil dipstick, in cylinder block
- Magnetic drain plug for oil draining
- Starter motor, 1-pole 6.0 kW
- Alternator, 1-pole 100 A
- Flywheel, SAE 14
- Silumin flywheel housing, SAE 1 flange
- Front-mounted engine suspension
- Particulate filter and SCR in 2-unit distributed aftertreatment system
- Open crankcase ventilation

Dimensions

A Overall length	1,214
B Centre of crankshaft to bottom	448
C Centre of crankshaft to top	665
D Centre of crankshaft to right-hand side	510
E Centre of crankshaft to left-hand side	472

All dimensions indicated in mm.



Technical data

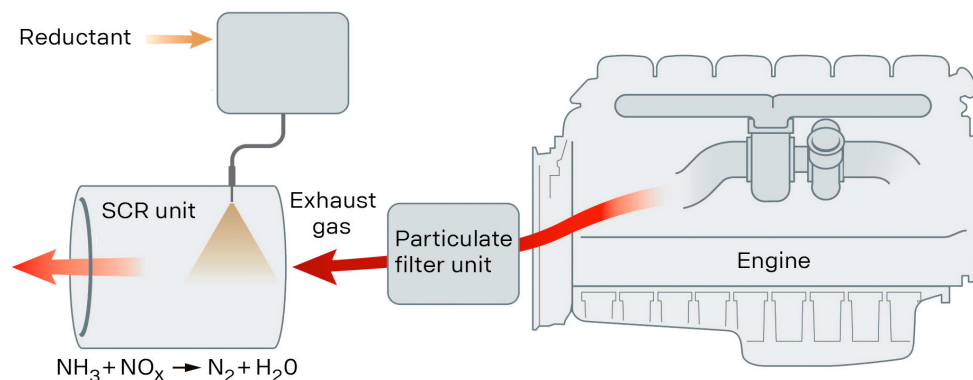
	1,500 rpm (50 Hz)	1,800 rpm (60 Hz)	Unit
Gross power	223	225	kW
	250	250	kVA
Gross torque	1,420	1,194	Nm
Fuel consumption			
at full load	197	199	g/kWh
at 3/4 load	197	200	g/kWh
at 1/2 load	204	213	g/kWh
Reductant consumption at full load	15	15	g/kWh
Heat rejection			
to coolant	82	83	kW
to exhaust gas	153	158	kW
to charge air	37	38	kW
to surrounding air	21	21	kW
Air consumption	19	21	kg/min
Air temperature			
upstream of charge air cooler	153	142	°C
downstream of charge air cooler	37	35	°C
Pressure in intake manifold	1.6	1.5	bar
Pressure drop in charge air cooler	0.05	0.05	bar
Exhaust flow	19	22	kg/min
Exhaust temperature	456	427	°C

PRP - Prime Power: For continuous operation at varying load.
Max. mean load factor of 70% of rated power over 24 h of operation. 1 hour/12 hour period above 100% load. Max. 25 h accumulated service time above 100% load per year.

This specification may be revised without notice.

EMISSION COMPLIANCE EU STAGE V

EXHAUST GAS AFTERTREATMENT SYSTEM



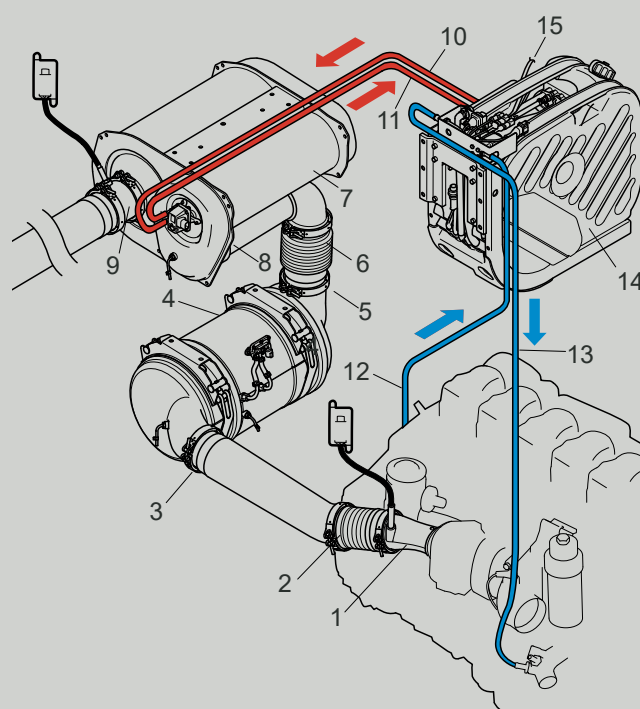
The emissions of particulate matter are filtered through a ceramic structure, that only allows particles smaller than a defined size to pass. When the filter is filled with soot particles to a specific amount, it is regenerated automatically.

SCR technology: A chemical process is started when reductant, a urea and water mixture, is injected into the exhaust gas stream. During injection, the water evaporates, and the urea breaks down to form ammonia. The ammonia then reacts with the nitrogen oxide gases in the catalytic converter and forms harmless products such as nitrogen gas and water.

SCR (Selective Catalytic Reduction) technology, in combination with a particulate filter and an oxidation catalytic converter (integrated in the particulate filter unit), is used on Scania's EU Stage V engines to reduce the NOx and particle content in the exhaust gases in the best possible way.

Mechanical system

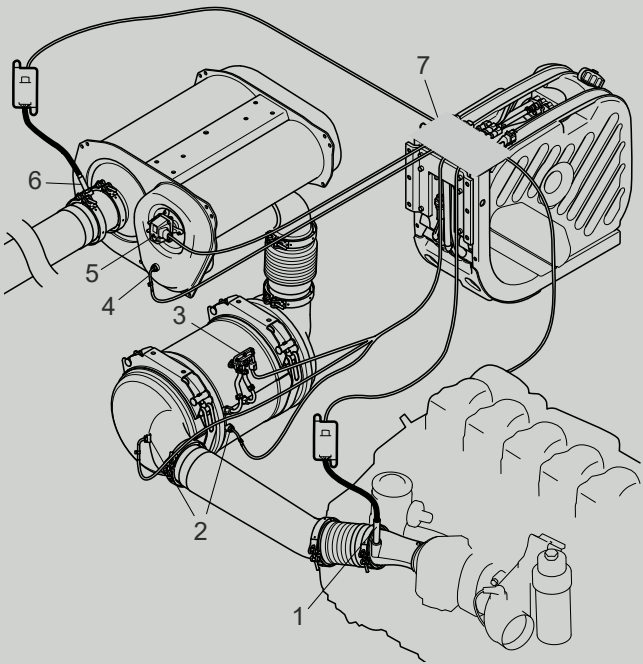
	Standard	Optional
1 Exhaust bend	20° bend	90° bend, exhaust brake
2 Exhaust bellows	-	√
3 Exhaust flange	-	Ø114, 130, 155 mm
4 Particulate filter unit	with 90° outlet	with straight outlet
5 Exhaust flange	-	Ø114, 130, 155 mm
6 Exhaust bellows SCR	-	√
7 SCR unit	without outlet bend	with 90° outlet bend
8 Exhaust flange	-	Ø114, 130, 155 mm
9 NOx flange from SCR unit	Ø127 mm, V-clamp	Ø114, 130, 155 mm
10 Reductant pressure hose	2.5 m	4.0 m, 5.0 m, 6.5 m
11 Reductant return hose	2.5 m	4.0 m, 5.0 m, 6.5 m
12 Coolant hose for heating of tank and pump	-	-
13 Coolant return hose	-	-
14 Reductant tank	38 l	45 l, 60 l, 63 l, 70 l
15 Reductant tank bleed hose	0.8 m	3.3 m



Electrical system

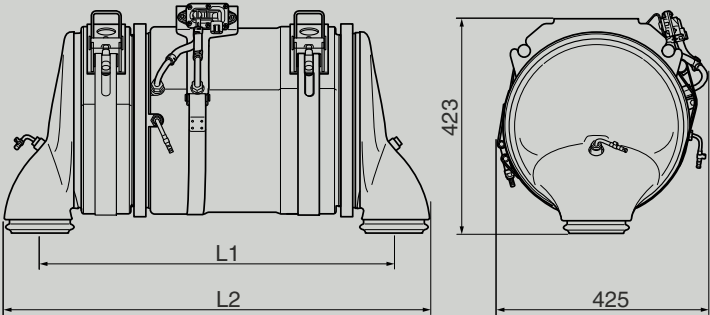
- 1 NOx sensor upstream with control unit
- 2 Exhaust gas temperature sensors on particulate filter unit
- 3 Differential pressure sensor
- 4 Exhaust gas temperature sensor on SCR unit
- 5 Reductant doser
- 6 NOx sensor downstream with control unit
- 7 Electrical interface to exhaust gas aftertreatment system

All components are standard equipment. Standard cable length 3.0 m, optional length 4.5 m, 6 m (9 m).



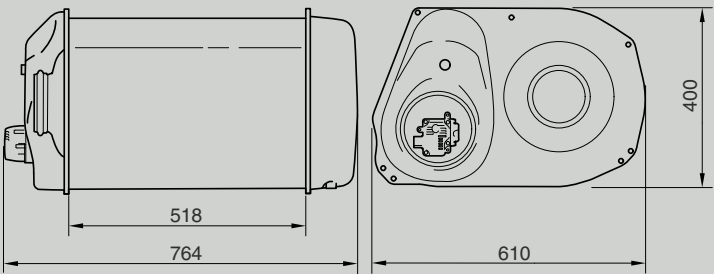
Particulate filter unit

Engine	L1	L2	Weight
DC09	603 mm	747 mm	27 kg
DC13	679 mm	823 mm	31 kg



SCR unit

Weight: 65 kg



Reductant tank, 38 litres

Available sizes	Total volume	Filling volume
38 litres	50 litres	38 litres
45 litres	60 litres	45 litres
60 litres	75 litres	60 litres
63 litres	80 litres	63 litres
70 litres	90 litres	70 litres

