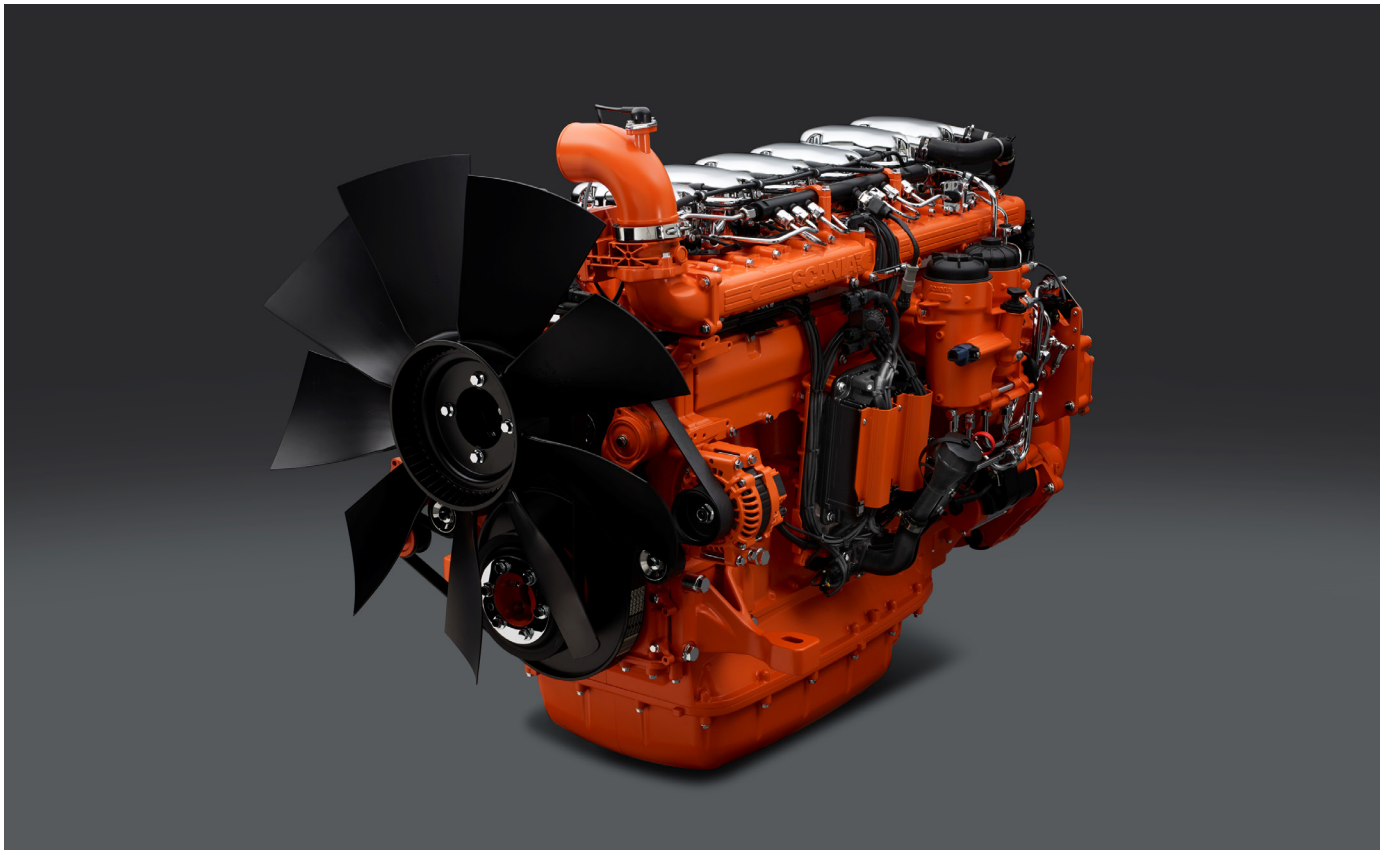
SCANIA POWER GENERATION ENGINE: EU STAGE V

13-LITRE ENGINE



Engine description

DC13 320A, 397-404 kW (450-450 kVA)

Engine speed	1,500/1,800 rpm
Emission compliance	EU Stage V
Rating	PRP
No of cylinders	6 in-line
Working principle	4-stroke
Displacement	12.7 litres
Weight	1,050 kg (excluding oil and coolant)
Oil capacity	34-45 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

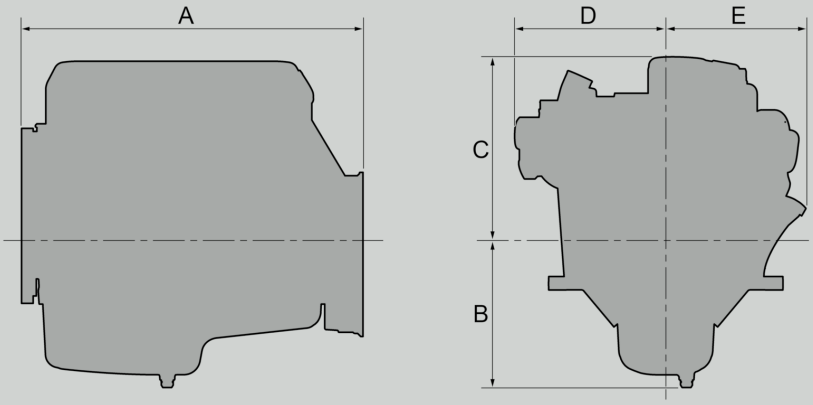
- Scania Engine Management System, EMS
- Extra high pressure fuel injection system, XPI
- Variable Geometry Turbocharger
- Saver ring in cylinder liner
- Fuel filter and extra pre-filter with water separator
- Thermal recirculation fuel heater
- Oil filter, full flow
- Centrifugal oil cleaner
- Oil cooler, 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

Edition 04

Dimensions

A Overall length	1,378
B Centre of crankshaft to bottom	448
C Centre of crankshaft to top	665
D Centre of crankshaft to right-hand side	469
E Centre of crankshaft to left-hand side	472

All dimensions indicated in mm.



Technical data

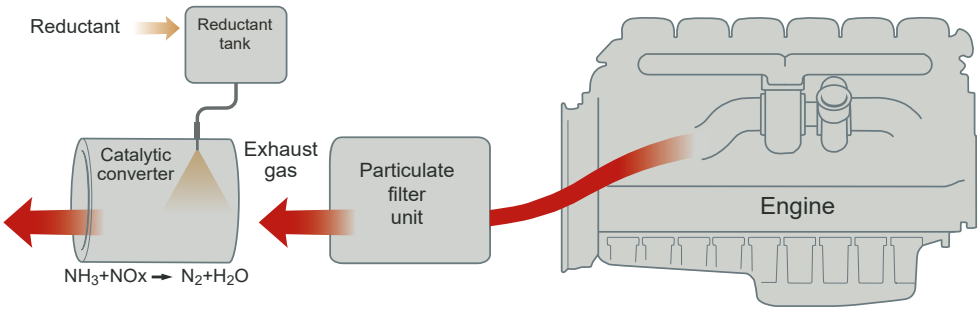
	1,500 rpm (50 Hz)	1,800 rpm (60 Hz)	Unit
Gross power	397	404	kW
	450	450	kVA
Gross torque	2,527	2,143	Nm
Fuel consumption			
at full load	192	200	g/kWh
at 3/4 load	188	194	g/kWh
at 1/2 load	193	198	g/kWh
Reductant consumption at full load	20	18	g/kWh
Heat rejection			
to coolant	131	136	kW
to exhaust gas	265	293	kW
to charge air	74	87	kW
to surrounding air	36	38	kW
Air consumption	31	35	kg/min
Air temperature			
upstream of charge air cooler	192	196	°C
downstream of charge air cooler	48	48	°C
Pressure in intake manifold	2.2	2.0	bar
Pressure drop in charge air cooler	0.10	0.15	bar
Exhaust flow	32	36	kg/min
Exhaust temperature	482	471	°C

PRP - Prime power: For continuous operation and unlimited yearly operating time at varying load. Max. mean load factor of 70% of rated power over 24 h of operation. 1 hour/12-hour period of overload to 110% load. Max. 25 h accumulated service time above 100% load per year.

This specification may be revised without notice.

SCANIA INDUSTRIAL AND POWER GENERATION ENGINES

EXHAUST GAS AFTERTREATMENT SYSTEM



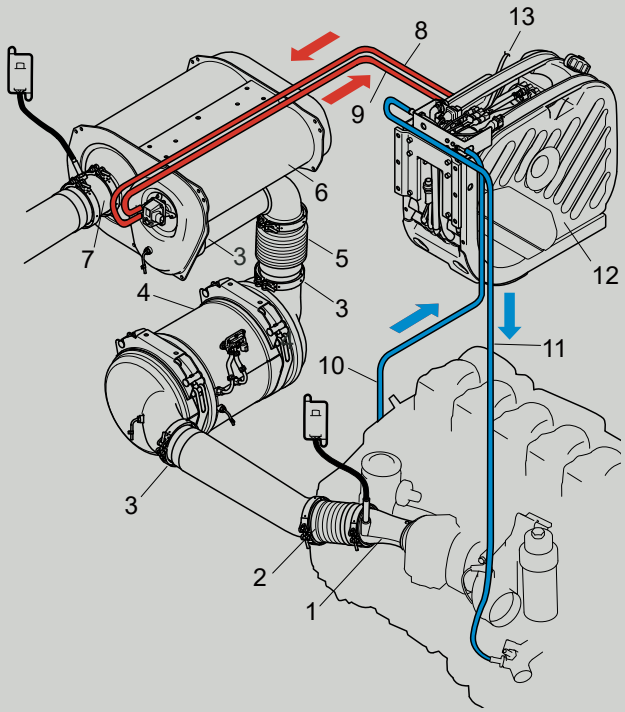
The emissions of particulate matter are filtered through a ceramic structure, that only allows particles smaller than a defined size to pass. When the filter is filled with soot particles to a specific amount, it is regenerated automatically.

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 emission compliant engines to reduce the NOx and particle content in the exhaust gases in the best possible way.

Mechanical system

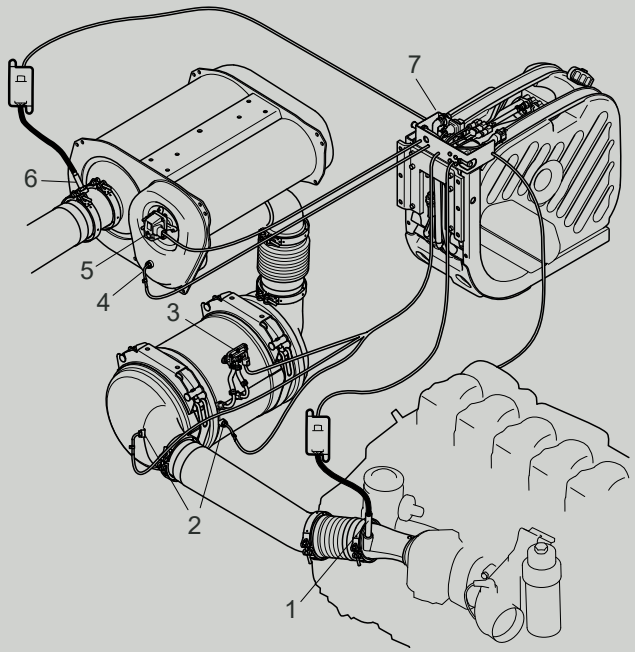
	Standard	Optional
1 Exhaust bend	20° bend	90° bend, exhaust brake
2 Exhaust bellows	-	√
3 Exhaust flanges	-	Ø114, 130, 155 mm
4 Particulate filter unit	with 90° outlet	with straight outlet
5 Exhaust bellows SCR	-	√
6 SCR unit	without outlet bend	with 90° outlet bend
7 NOx flange downstream	Ø127 mm, short,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



Electrical system

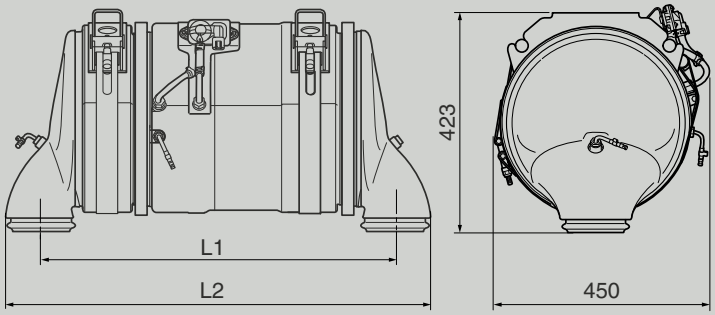
1 NOx sensor upstream with control unit
2 Exhaust gas temperature sensors
3 Differential pressure sensor
4 Exhaust gas temperature sensor
5 Reductant doser
6 NOx sensor downstream with control unit
7 Electrical interface to exhaust gas aftertreatment system

All components are standard equipment. Standard cable length 3.0 m, optional 4.5 m, 6 m (9 m).
Differential pressure sensor also available for remote mounting.



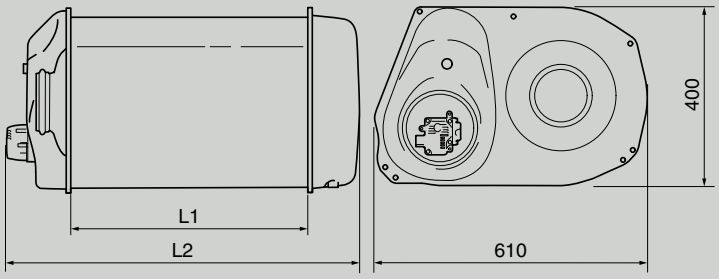
Particulate filter unit

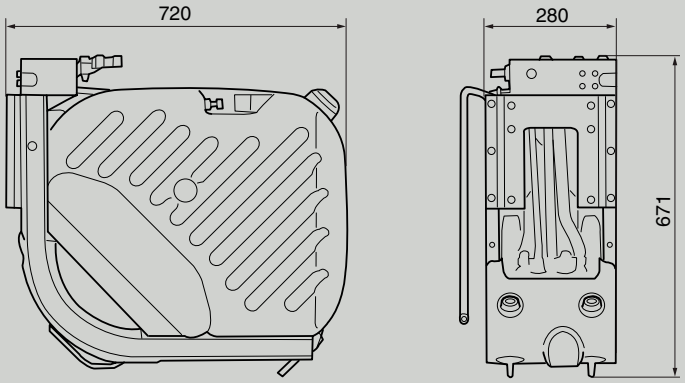
Engine	L1	L2	Weight
DC09	603 mm	747 mm	27 kg
DC13	679 mm	823 mm	31 kg



SCR unit

Engine	L1	L2	Weight
DC09, DC13 <331 kW	518 mm	764 mm	65 kg
DC13 >331 kW	595 mm	841 mm	73 kg



Reductant tank, 38 litres

Available sizes (filling volume)	Total volume
38 litres	50 litres
45 litres	60 litres
60 litres	75 litres
63 litres	80 litres
70 litres	90 litres