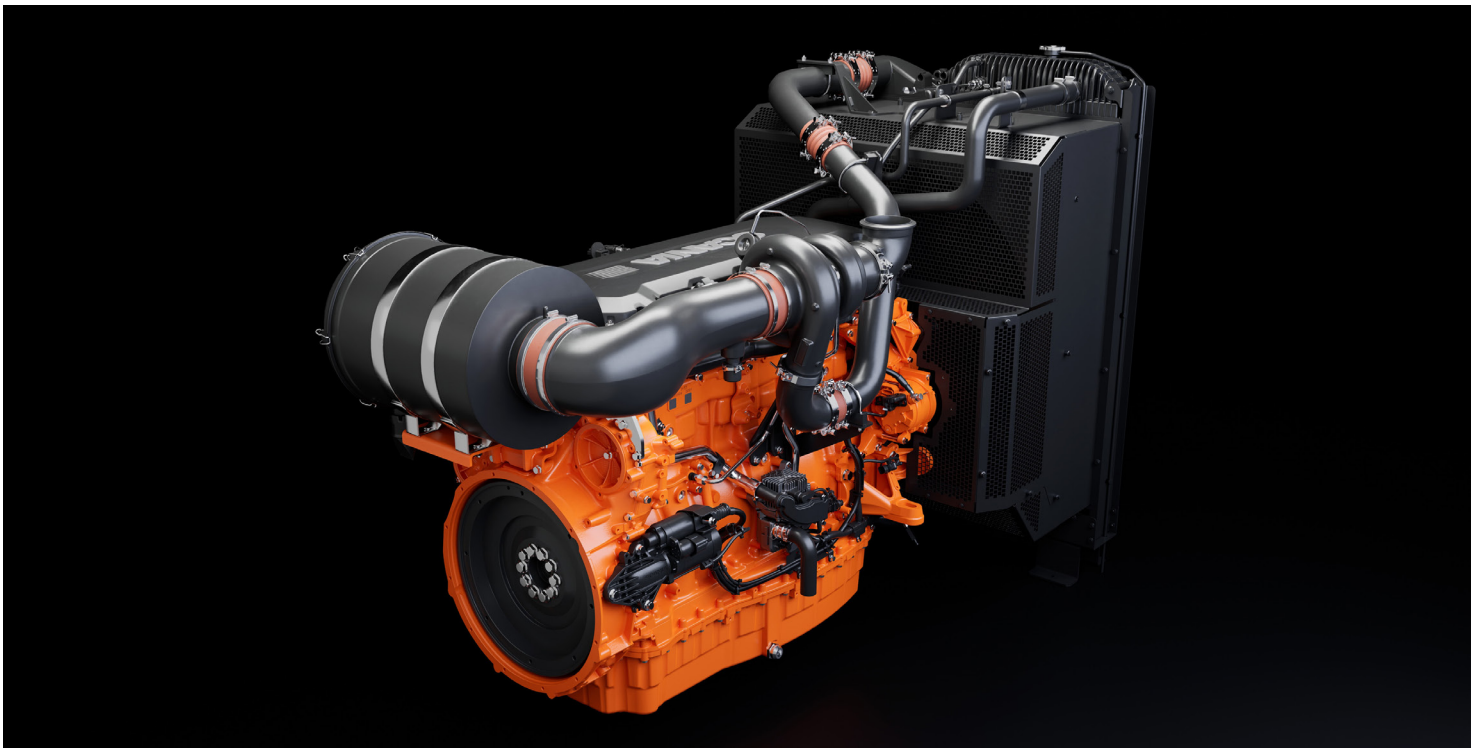
SCANIA POWER GENERATION ENGINE: CO_2 OPTIMISED

13-LITRE ENGINE



Engine description

DC13 507A. 400-440 kVA (355-395 kW)

Engine speed	1,500/1,800 rpm
Emission compliance	CO_2 optimised, unregulated
Rating	PRP, ESP
No of cylinders	6 in-line
Working principle	4-stroke
Displacement	12.7 litres
Weight	1,074 kg (excluding oil and coolant)
Oil capacity	28-38 litres (standard oil sump)
Electrical system	1-pole, 24 V DC

Scania's CO_2 optimised power generation engines are based on the next generation engine platform, which provides superior economy and reliability. 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 cooling package, air cleaners and exhaust fittings, to suit a variety of installations.

Scania's next generation inline engines are equipped with a Scania-developed extra high pressure fuel injection system based on common rail technology, which provides good fuel economy and a high torque. Together with Scania's Engine Management System, the result is an engine that delivers high power and low fuel consumption.

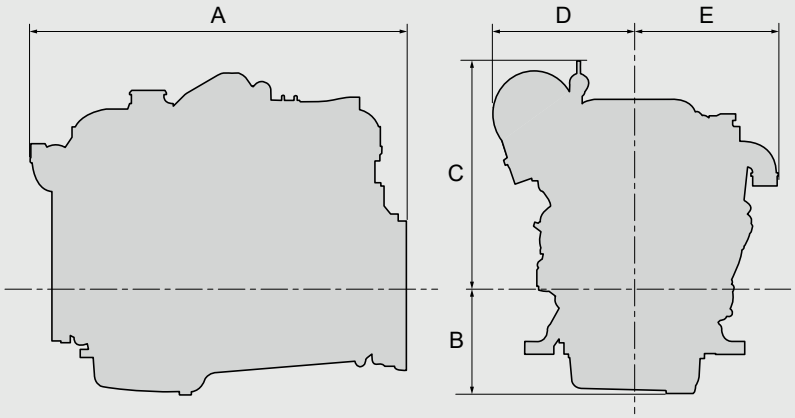
Standard equipment

- Scania Engine Management System, EMS
- Extra high pressure fuel injection system, XPI
- Wastegate control turbocharger
- Dual overhead camshaft (DOHC)
- Saver ring in cylinder liner
- Engine-mounted fuel filter and extra pre-filter with water separator, for separate mounting
- Deep front oil sump
- Oil filter, full flow
- Oil cooler, integrated in cylinder block
- Oil filler and dipstick, short, left-hand side
- Magnetic drain plug for oil draining
- Starter motor, 1-pole, 5.5 kW (EMS-controlled)
- Alternator, 1-pole 100 A (EMS-controlled)
- Flywheel SAE 14
- Aluminum flywheel housing, SAE 1 flange
- Front-mounted engine brackets
- Open crankcase ventilation
- Front- and rear-mounted lifting eyes

Dimensions

A Overall length	1,400
B Centre of crankshaft to bottom	370
C Centre of crankshaft to top	815
D Centre of crankshaft to right-hand side	508
E Centre of crankshaft to left-hand side	513

All dimensions indicated in mm.



Technical data

	1,500 rpm (50 Hz)		1,800 rpm (60 Hz)		
	PRP	**ESP**	**PRP**	**ESP**	**Unit**
Gross power	400	440	400	440	kVA
	355	389	361	395	kW
Gross torque	2,260	2,476	1,915	2,096	Nm
Fuel consumption					
at full load	179	180	182	183	g/kWh
at 3/4 load	179	178	184	183	g/kWh
at 1/2 load	184	182	191	189	g/kWh
Heat rejection					
to coolant	108	115	113	121	kW
to exhaust gas	200	224	207	232	kW
to charge air	61	71	70	78	kW
to surrounding air	30	33	31	34	kW
Air consumption	28	30	33	35	kg/min
Air temperature					
upstream of charge air cooler	164	178	167	176	°C
downstream of charge air cooler	35	39	40	42	°C
Pressure in intake manifold	1.72	1.96	1.78	1.94	bar
Pressure drop in charge air cooler	0.09	0.10	0.12	0.12	bar
Exhaust gas flow	29	31	34	36	kg/min
Exhaust gas temperature	408	422	368	389	°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.

ESP - Stand-by power: For operation under normal varying load during a power outage. Not overloadable. Max mean load factor of 70% of rated power over 24 hours of operation. Not for applications intended for more than 200 hours/year.