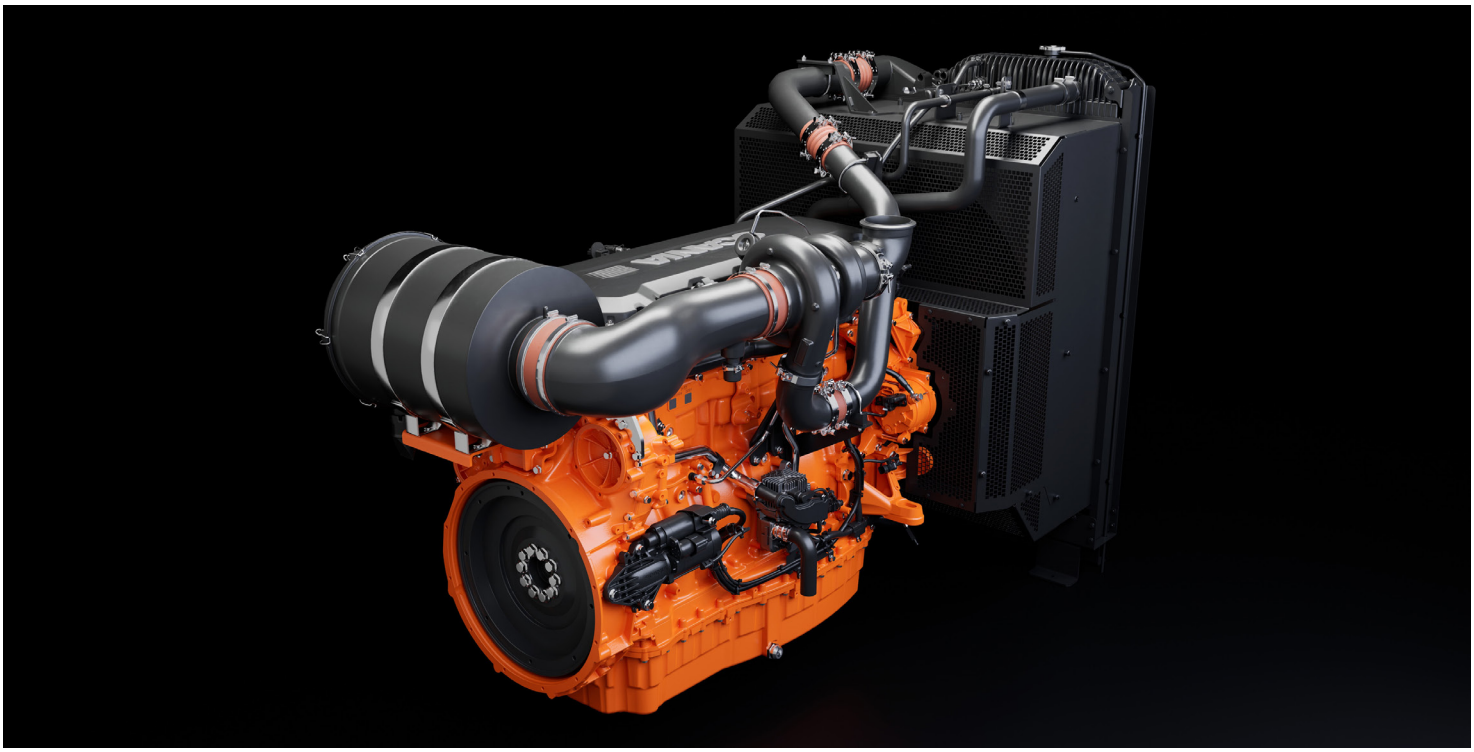
SCANIA

SCANIA POWER GENERATION ENGINE: $CO_2$ OPTIMISED

# 13-LITRE ENGINE



## Engine description

DC13 507A. 550-605 kVA (479-532 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.

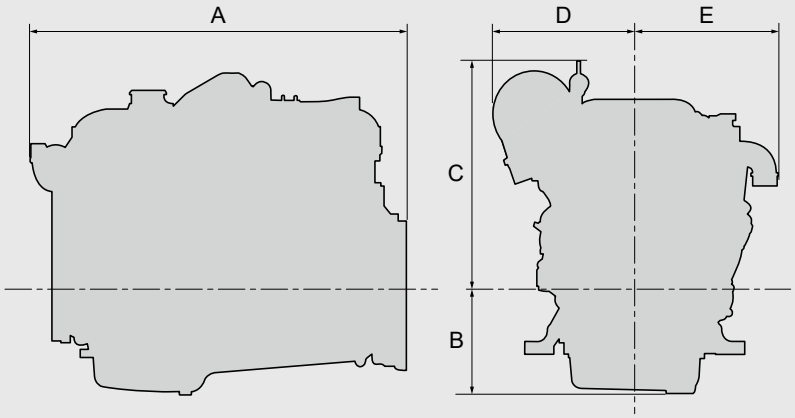
**Standard equipment**

- 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 | 550 | 605 | 550 | 605 | kVA |
| | 479 | 526 | 485 | 532 | kW |
| Gross torque | 3,049 | 3,349 | 2,573 | 2,822 | Nm |
| Fuel consumption | | | | | |
| at full load | 186 | 188 | 187 | 189 | g/kWh |
| at 3/4 load | 179 | 180 | 182 | 183 | g/kWh |
| at 1/2 load | 180 | 179 | 185 | 184 | g/kWh |
| Heat rejection | | | | | |
| to coolant | 139 | 153 | 142 | 157 | kW |
| to exhaust gas | 299 | 344 | 309 | 356 | kW |
| to charge air | 98 | 105 | 98 | 104 | kW |
| to surrounding air | 42 | 47 | 43 | 48 | kW |
| Air consumption | 36 | 37 | 39 | 40 | kg/min |
| Air temperature | | | | | |
| upstream of charge air cooler | 211 | 219 | 201 | 206 | °C |
| downstream of charge air cooler | 48 | 50 | 50 | 52 | °C |
| Pressure in intake manifold | 2.60 | 2.74 | 2.38 | 2.47 | bar |
| Pressure drop in charge air cooler | 0.11 | 0.11 | 0.15 | 0.15 | bar |
| Exhaust gas flow | 37 | 39 | 40 | 41 | kg/min |
| Exhaust gas temperature | 465 | 509 | 448 | 495 | °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.