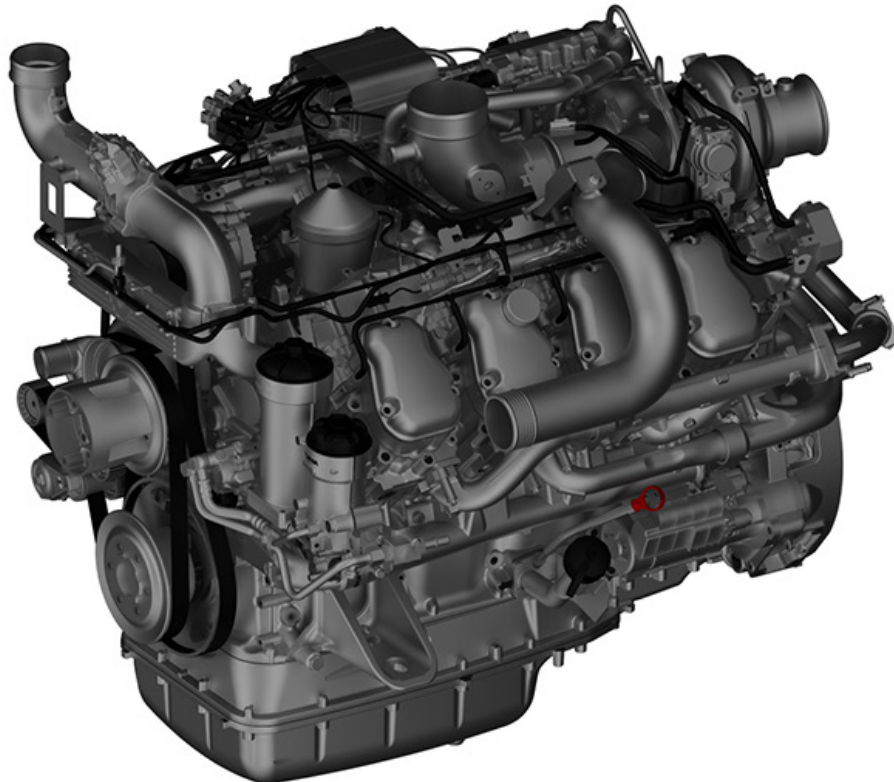


SCANIA INDUSTRIAL ENGINE: EU STAGE V

# 16-LITRE ENGINE



## Engine description

DC16 316A. 450 kW

|                     |                                      |
|---------------------|--------------------------------------|
| Engine speed        | 1,900 rpm                            |
| Emission compliance | EU Stage V                           |
| Rating              | ICFN                                 |
| No of cylinders     | 90° V8                               |
| Working principle   | 4-stroke                             |
| Displacement        | 16.4 litres                          |
| Weight              | 1,381 kg (excluding oil and coolant) |
| Oil capacity        | 40-48 litres (standard oil sump)     |
| Electrical system   | 1-pole 24 V DC                       |

Scania's industrial 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 flywheels, 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.

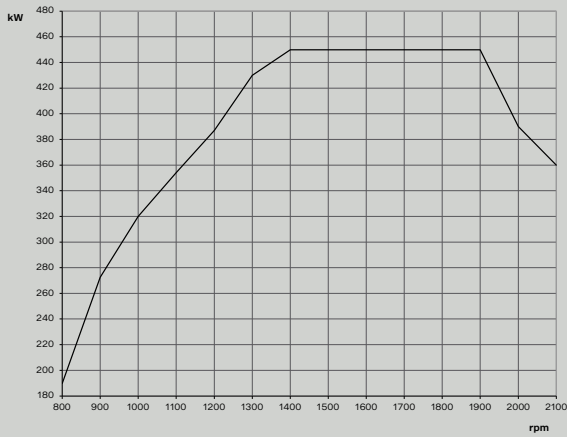
### Standard equipment

- Scania Engine Management System, EMS
- Extra high pressure fuel injection system, XPI
- Variable geometry turbocharger (VGT)
- Saver ring in cylinder liner
- Fuel filter and extra pre-filter with water separator
- Oil filter, full flow
- Centrifugal oil cleaner
- Oil cooler, integrated in cylinder block
- Oil filler, in valve cover
- Oil dipstick, in cylinder block
- Deep front oil sump
- Magnetic drain plug for oil draining
- Starter motor, 1-pole, 7.0 kW
- Alternator, 1-pole, 100 A
- Flywheel, for use with friction clutch
- Silumin flywheel housing, SAE 1 flange
- Front-mounted engine suspension
- Particulate filter and SCR in 2-unit distributed exhaust gas aftertreatment system
- Open crankcase ventilation

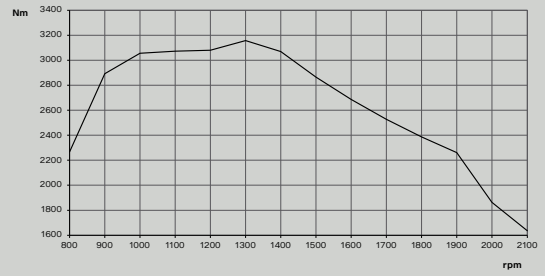
**ICFN - Continuous service:** Rated output available 1/1 h. Unlimited h/year service time at a load factor of 100%.

# Power charts

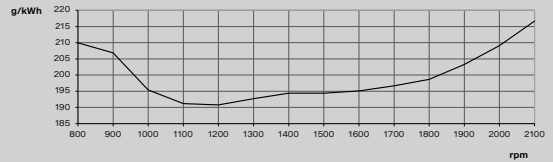
## Power



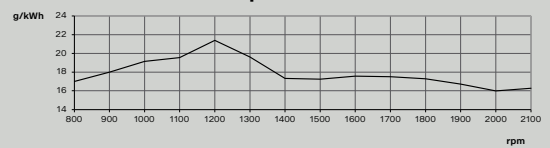
## Torque



## Fuel consumption

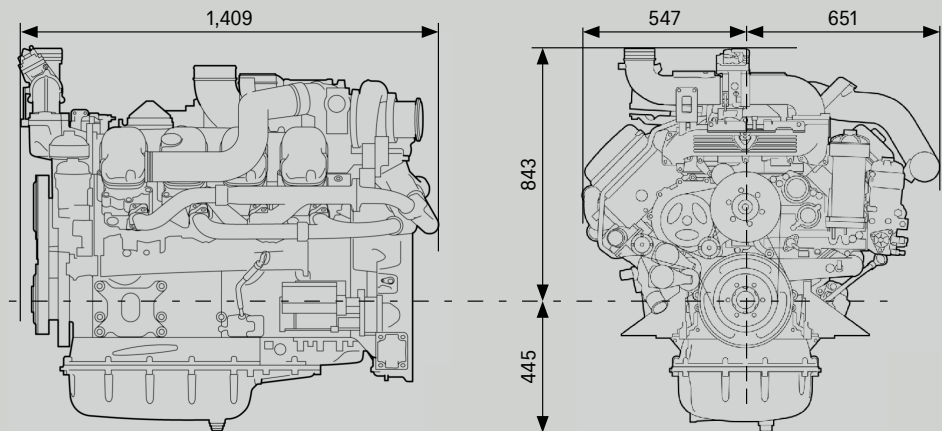


## Reductant consumption



**Test conditions:** Air temperature 25°C. Barometric pressure 100 kPa (750 mmHg). Humidity 30%. Diesel fuel according to ECE R 24 Annex 6. Density of fuel 0.840 kg/dm<sup>3</sup>. Viscosity of fuel 3.0 cSt at 40°C. Energy value 42,700 kJ/kg. **Power test code:** ISO 3046. Power and fuel values ±3%.

# Dimensions



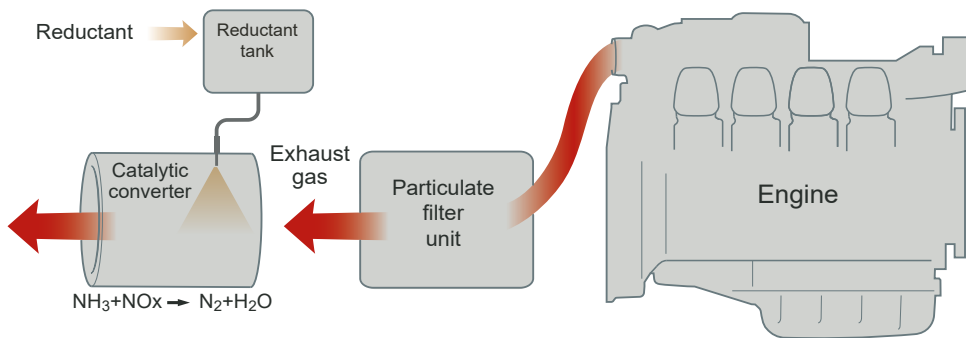
All dimensions indicated in mm.

# Technical data

|  | Engine speed (rpm) |       |       |       |       |
|--|--------------------|-------|-------|-------|-------|
|  | 1,200              | 1,500 | 1,800 | 1,900 | 2,100 |
| Gross power (kW)                           | 387                | 450   | 450   | 450   | 360   |
| Gross power (hp, metric)                   | 526                | 612   | 612   | 612   | 490   |
| Gross torque (Nm)                          | 3,080              | 2,865 | 2,387 | 2,262 | 1,637 |
| Fuel consumption at full load (g/kWh)      | 191                | 194   | 199   | 203   | 217   |
| Reductant consumption at full load (g/kWh) | 21                 | 17    | 17    | 17    | 16    |
| Heat rejection to coolant (kW)             | 141                | 154   | 156   | 161   | 150   |

## EMISSION COMPLIANCE EU STAGE V

# EXHAUST GAS AFTERTREATMENT SYSTEM



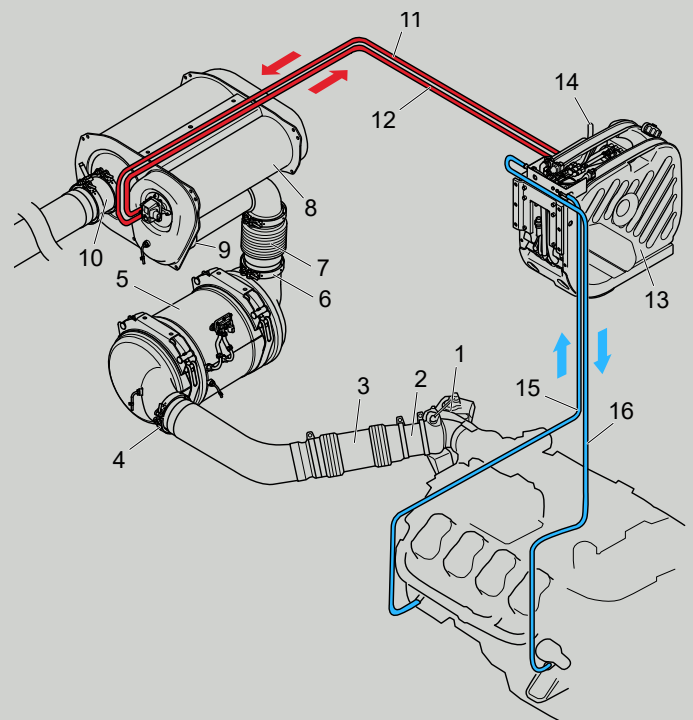
The emissions of particulate matter are filtered through a ceramic structure, that only allows particles smaller than a defined size to pass. When the filter is filled with soot particles to a specific amount, it is regenerated automatically.

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 NO<sub>x</sub> and particle content in the exhaust gases in the best possible way.

## Mechanical system

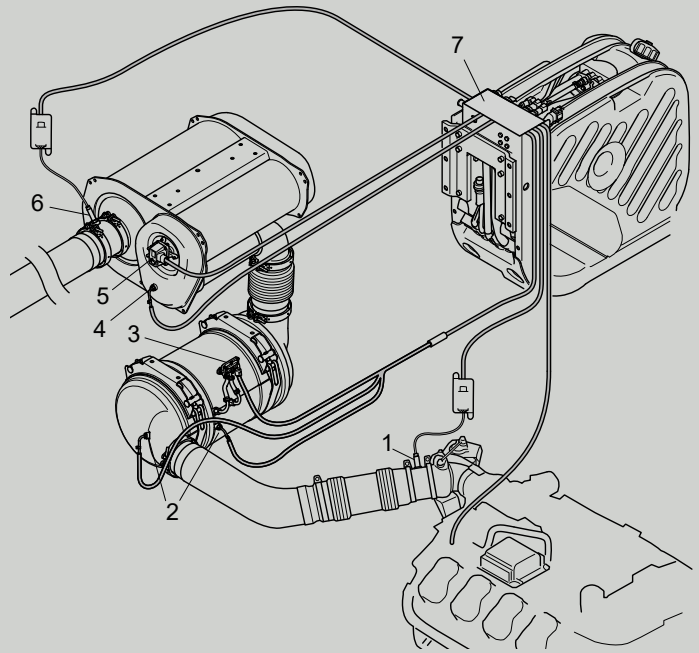
|  | Standard         | Optional               |
|--|------------------|------------------------|
| 1 Exhaust brake                              | -                | √                      |
| 2 NO <sub>x</sub> flange upstream            | √                | -                      |
| 3 Exhaust bellows                            | -                | √                      |
| 4 Exhaust flange                             | -                | Ø114, 130, 155 mm      |
| 5 Particulate filter unit                    | with 90° outlet  | with straight outlet   |
| 6 Exhaust flange                             | -                | Ø114, 130, 155 mm      |
| 7 Exhaust bellows SCR                        | -                | √                      |
| 8 SCR unit                                   | √                | -                      |
| 9 Exhaust flange                             | -                | Ø114, 130, 155 mm      |
| 10 NO <sub>x</sub> flange downstream         | Ø127 mm, V-clamp | Ø114, 130, 155 mm      |
| 11 Reductant pressure hose                   | 2.5 m            | 4.0 m, 5.0 m, 6.5 m    |
| 12 Reductant return hose                     | 2.5 m            | 4.0 m, 5.0 m, 6.5 m    |
| 13 Reductant tank                            | 38 l             | 45 l, 60 l, 63 l, 70 l |
| 14 Reductant tank bleed hose                 | 0.8 m            | 3.3 m                  |
| 15 Coolant hose for heating of tank and pump | -                | -                      |
| 16 Coolant return hose                       | -                | -                      |



## Electrical system

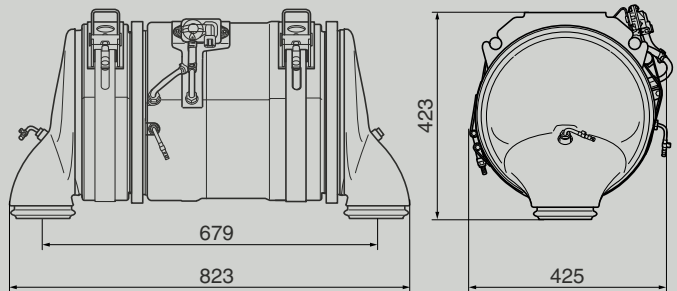
- 1 NOx sensor upstream with control unit
- 2 Exhaust gas temperature sensors
- 3 Differential pressure sensor
- 4 Exhaust gas temperature sensor
- 5 Reductant doser
- 6 NOx sensor downstream with control unit
- 7 Electrical interface to exhaust gas aftertreatment system

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



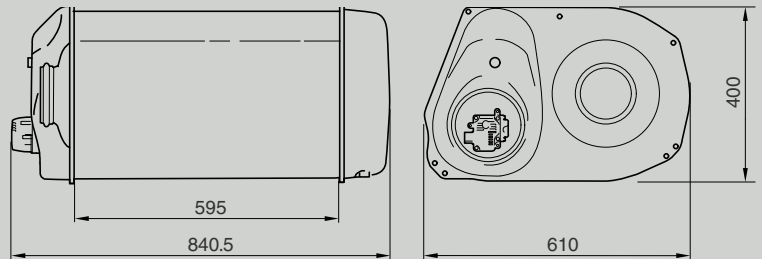
## Particulate filter unit

Weight: 31 kg



## SCR unit

Weight: 73 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      |

