



# Genset Diesel Engines

## TECHNICAL SPECIFICATION 9-LITRE ENGINE DC9 303 - 356 KVA

The DC9 is a turbo charged 4-stroke diesel engine equipped with Engine Management System (EMS) and Electronically controlled unit injectors (EUI).

|                            |             |
|----------------------------|-------------|
| No. of cylinders           | 5 in line   |
| Displacement               | 8.87 litres |
| Bore                       | 127 mm      |
| Stroke                     | 140 mm      |
| Weight excl. oil and water | 887 kg      |

### Standard equipment

Unit injectors and control unit (Scania EMS). Side mounted turbo charger with high position, centrifugal lube oil cleaner, and full flow oil filter, fuel filter, fuel pre-filter with water separator, oil cooler, alternator 1-pole 100A 28V, starting motor 1-pole 5.5 kW 24V (EMS controlled). Flywheel SAE 14" for friction clutch, flywheel housing SAE1 of silumin, front mounted engine brackets. Operator's manual.

### Optional equipment

Optional (low type) oil sump, optional oil filling, flywheel 11.5" SAE1.

### Extra equipment

Pre-assembled radiator 1.0m<sup>2</sup> with charge-air cooler, fan cover, fan ring, expansion tank and protection covers, suction and pressure fans Ø711 and Ø787mm, soft or fixed engine suspension. Hydraulic pump, air compressor, ac compressor. Side mounted power take-off with a maximum continuous torque of 400 Nm (41 kpm). Crankshaft belt pulley with two extra grooves, various exhaust connections, silencer and air cleaner, engine heater, hand pump for oil draining, closed crankcase ventilation. Torsional vibration calculations for industrial applications.

### Engine description

**Cylinder block** Made of alloy cast iron. **Cylinder heads** Five individual cylinder heads. Unit injector technology with engine mounted electronic control unit. **Valves** Four valves per cylinder head. **Camshaft** Mounted in high position and of alloy steel. **Pistons and cylinder liners** Aluminium pistons. Cylinder liners of exchangeable wet type. **Connection rods** I-section pressforgings of alloy steel. **Crankshaft** Made of alloy steel with hardened and polished bearing surfaces. **Oil sump** Made of cast aluminium. **Flywheel** Made of cast iron. Direction of rotation seen from flywheel end – counter clockwise. **Electrical system** 1-pole 24V.

| Engine type                        |                                       | DC9 65A (303 - 356 kVA) |                |             |                |
|------------------------------------|---------------------------------------|-------------------------|----------------|-------------|----------------|
|                                    |                                       | 50 Hz                   |                | 60 Hz       |                |
|                                    |                                       | Prime Power             | Stand-by Power | Prime Power | Stand-by Power |
| Engine output, gross               | kW                                    | 266                     | 292            | 294         | 315            |
| Fan losses*                        | kW                                    | 5                       | 9              | 9           | 9              |
| kVA band**                         | KVA                                   | 303                     | 329            | 331         | 356            |
| Governor, type                     | Scania Engine Management System (EMS) |                         |                |             |                |
| <b>Spec. fuel consumption:</b>     |                                       |                         |                |             |                |
| 1/1 load                           | g/kWh                                 | 197                     | 198            | 202         | 202            |
| 3/4 load                           | g/kWh                                 | 197                     | 197            | 203         | 202            |
| 1/2 load                           | g/kWh                                 | 201                     | 200            | 205         | 205            |
| <b>Spec. lube oil consumption:</b> | g/kWh                                 | < 0.3                   |                | < 0.3       |                |
| Compression ratio                  | 18:1                                  |                         |                |             |                |
| <b>Heat rejection</b>              |                                       |                         |                |             |                |
| to cooling water                   | kW                                    | 100                     | 111            | 114         | 120            |
| to exhaust gas                     | kW                                    | 181                     | 205            | 209         | 227            |
| to charge air                      | kW                                    | 51                      | 53             | 62          | 64             |
| to surrounding air                 | kW                                    | 26                      | 29             | 30          | 31             |
| Air consumption                    | kg/min                                | 21                      | 22             | 24          | 25             |
| Exhaust flow                       | kg/min                                | 22                      | 23             | 25          | 26             |
| Exhaust temperature                | °C                                    | 485                     | 529            | 533         | 539            |

\*Fan losses: With recommended fan for +35 °C air-on temperature to cooling system.

\*\*Range, kVA: As per above note \*fan losses and with generator efficiency common on the market.

Speed variations according to ISO 3046/IV, Class A1, and ISO 8528-1, Class G2.

Output values: 0 to +3%. Fuel values: +/-3%.

### Prime power

**Prime power, ISO 8528:** For continuous operation and unlimited yearly operation time at varying load and with a max. mean load factor of 70% of rated power, 10% overload capacity 1h/12h.

**Rated codes:** ISO 3046, ISO 8528.

### Test conditions

|                     |                          |
|---------------------|--------------------------|
| Air temperature     | +25°C                    |
| Barometric pressure | 100 kPa (750 mmHg)       |
| Humidity            | 30%                      |
| Diesel fuel acc. 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        | 42700 kJ/kg              |

### Environment:

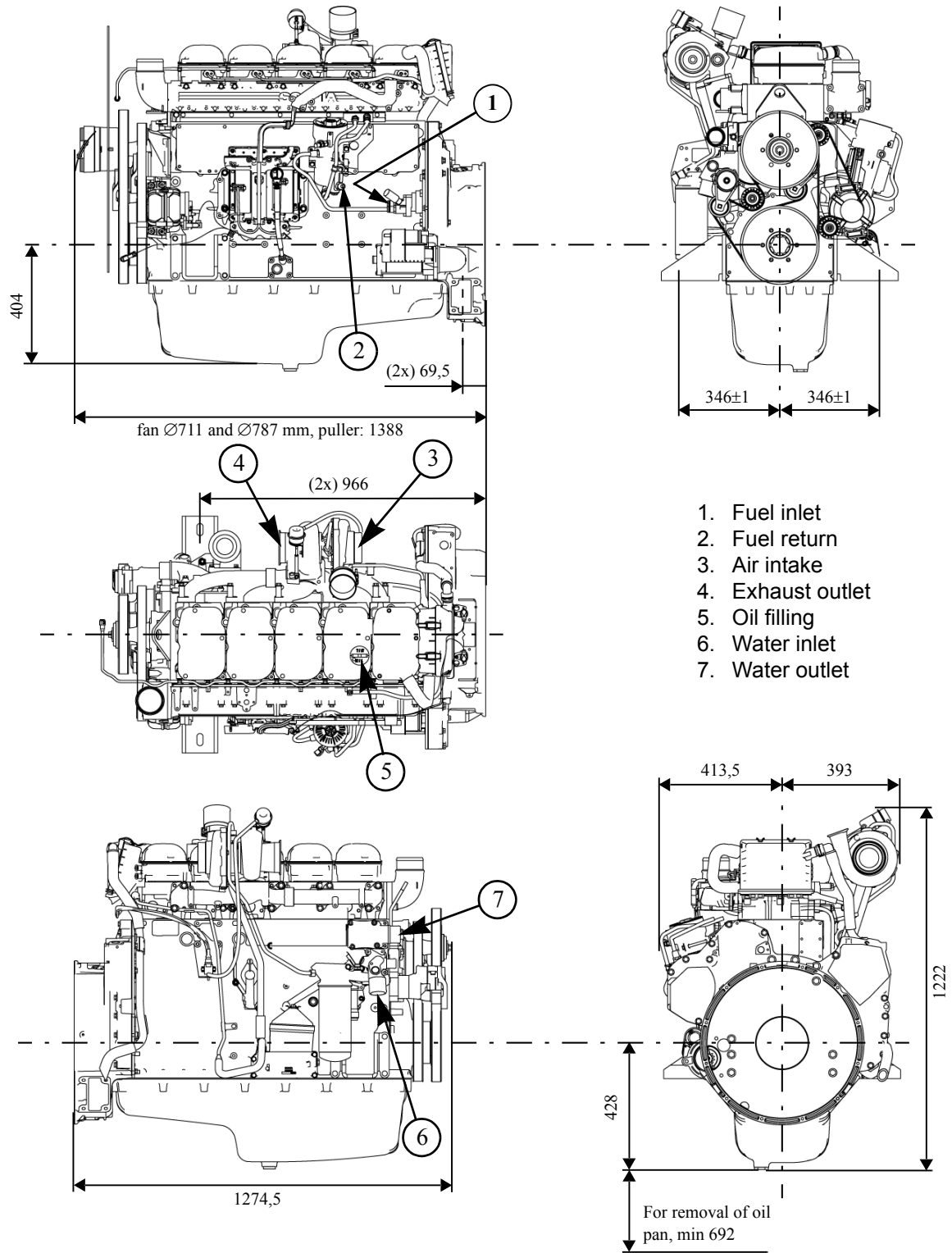
This engine complies with EU Stage II emission regulation levels.

### Stand-by Power

**Maximum Stand-by Power:** For operation under normal varying load during a power outage.

Not overloadable. Not for applications intended for more than 500 h/year service time. **Rating codes:** ISO 3046.

# DC9



1. Fuel inlet
2. Fuel return
3. Air intake
4. Exhaust outlet
5. Oil filling
6. Water inlet
7. Water outlet



This specification may be revised without notice.