



Genset Diesel Engines

TECHNICAL SPECIFICATION 12-LITRE ENGINE DC12 451 - 501 KVA

The DC12 is a turbo charged 4-stroke diesel engine equipped with Engine Management System (EMS) and Electronically controlled unit injectors (EUI).

No. of cylinders	6 in line
Displacement	11.7 litres
Bore	127 mm
Stroke	154 mm
Weight excl. oil and water	980 kg

Standard equipment

Unit injectors and Scania EMS electronic control unit (Engine Management System). Side mounted turbo charger with high position, centrifugal lube oil cleaner, oil filter, oil cooler, fuel pre-filter with water separator, fuel filter, alternator 1-pole 65A 28V, starting motor 1-pole 6.7 kW 24V, flywheel SAE 14", flywheel housing SAE1 of silumin, front mounted engine brackets, Operator's manual.

Optional equipment

Optional (low type) oil sump, optional oil filling, electrical system 2-pole 24V, alternator 2-pole 65A or 1-pole 100A.

Extra equipment

Pre-assembled radiator 1.0, 1.2 or 1.3 m² with charge-air cooler, fan cover, fan ring, expansion tank and protection covers, suction and pressure fans Ø787 and Ø912 mm, 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** Six 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** Composite pistons with aluminium bodies and steel crowns. 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 24 V.

Engine type		DC12 60A (451 - 501 kVA)	
		50 Hz Prime Power	50 Hz Stand-by Power
Engine output, gross	kW	399	437
Fan losses*	kW	11	11
kVA band**	KVA	451	501
Governor, type	Scania Engine Management System (EMS)		
Spec. fuel consumption:			
1/1 load	g/kWh	194	197
3/4 load	g/kWh	190	191
1/2 load	g/kWh	193	192
Spec. lube oil consumption:		g/kWh	
Compression ratio		16:1	
Heat rejection			
to cooling water	kW	154	170
to exhaust gas	kW	263	292
to charge air	kW	73	84
to surrounding air	kW	35	39
Air consumption	kg/min	30	31
Exhaust flow	kg/min	31	33
Exhaust temperature	°C	543	567

*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 continues 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/dm³

Viscosity of fuel

3.0 cSt at 40°C

Energy value

42700 kJ/kg

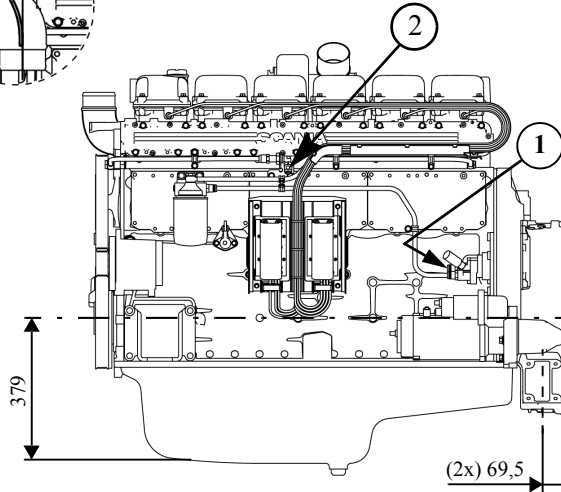
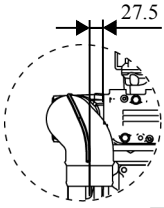
Stand-by Power

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

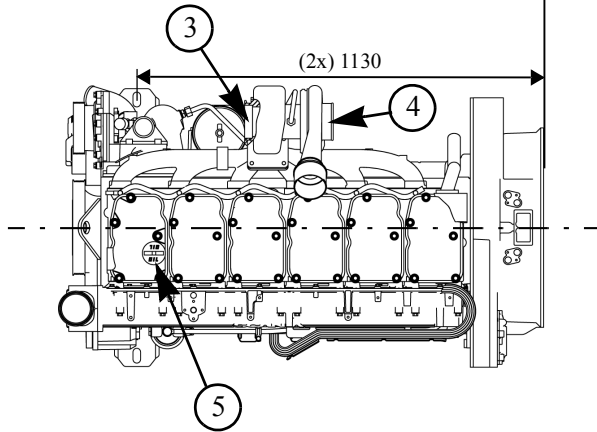
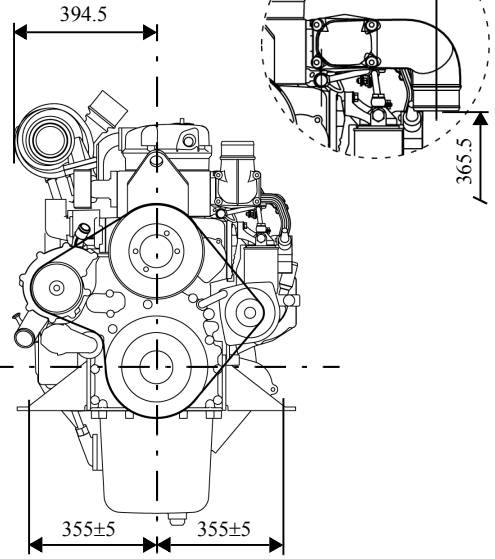
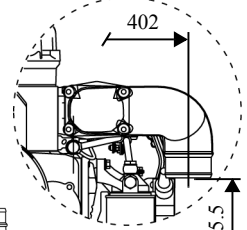
Not overloadable. Not for applications intended for more than 500 h/year service time. **Rating codes:** ISO 3046.

DC12 EMS

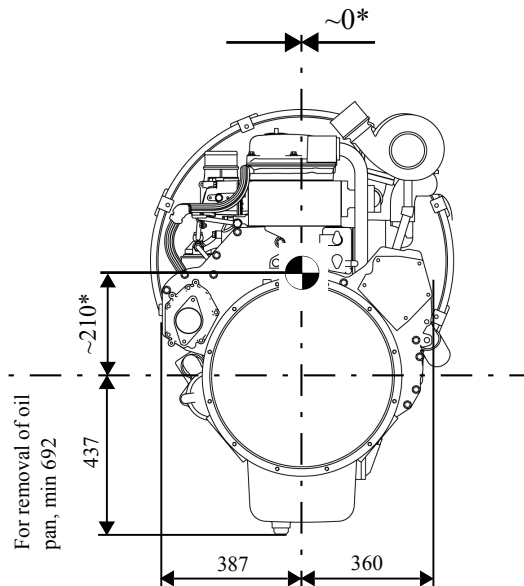
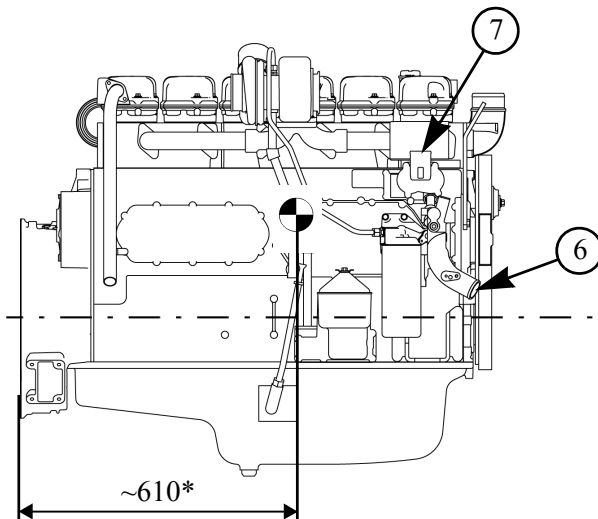
Optional design



Optional design



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.