



# Genset Diesel Engines

## TECHNICAL SPECIFICATION 12-LITRE ENGINE DC12 401 - 459 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 m<sup>2</sup> 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 (401 - 459 kVA)				
	50 Hz		60 Hz		
		Prime Power	Stand-by Power	Prime Power	Stand-by Power
Engine output, gross	kW	356	399	384	406
Fan losses*	kW	11	11	11	11
kVA band**	KVA	401	451	434	459
Governor, type	Scania Engine Management System (EMS)				
<b>Spec. fuel consumption:</b>					
1/1 load	g/kWh	192	194	193	194
3/4 load	g/kWh	190	190	192	191
1/2 load	g/kWh	195	193	197	196
<b>Spec. lube oil consumption:</b>					
	g/kWh	< 0.3		< 0.3	
Compression ratio		16:1			
<b>Heat rejection</b>					
to cooling water	kW	136	154	147	156
to exhaust gas	kW	232	263	245	261
to charge air	kW	59	73	72	78
to surrounding air	kW	31	35	32	34
Air consumption	kg/min	27	30	32	33
Exhaust flow	kg/min	28	31	33	34
Exhaust temperature	°C	524	543	489	502

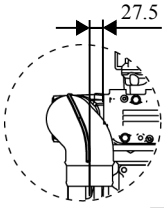
\*Fan losses: With recommended fan for +35 °C air-on temperature to cooling system.  
 \*\*Range, kVA: As per above note \*fan losses and with generator efficiency common on the market.  
 Speed variations according to ISO 3046/IV, Class A1, and ISO 8528-1, Class G2.  
 Output values: 0 to +3%. Fuel values: +/-3%.

Prime power	Stand-by Power
<b>Prime power, ISO 8528:</b> 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. <b>Rated codes:</b> ISO 3046, ISO 8528.	<b>Maximum Stand-by Power:</b> For operation under normal varying load during a power outage. Not overloadable. Not for applications intended for more than 500 h/year service time. <b>Rating codes:</b> ISO 3046.

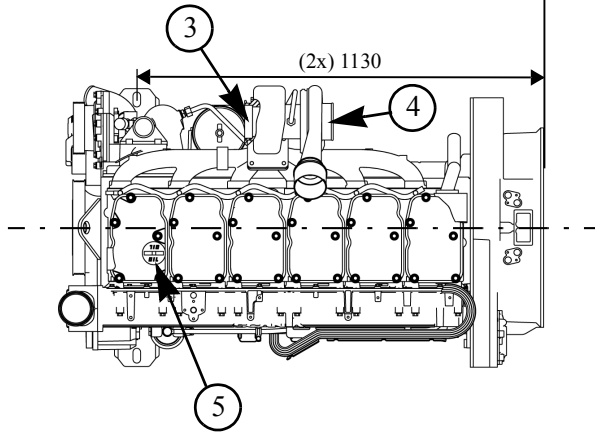
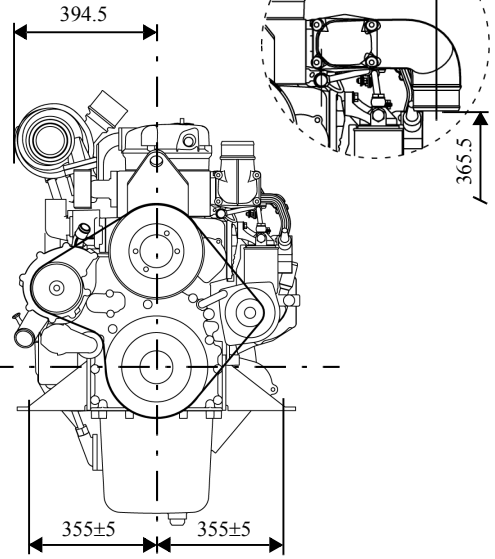
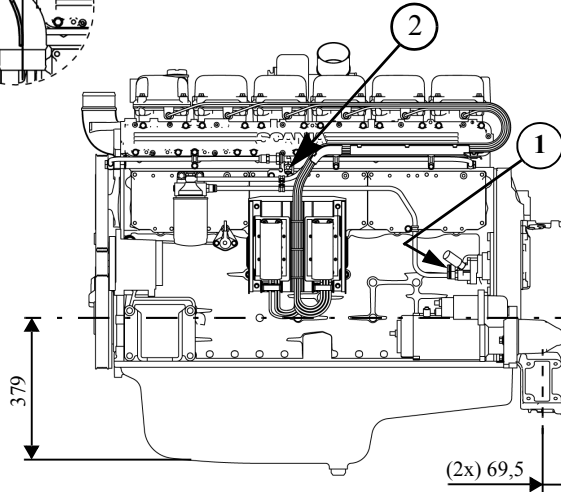
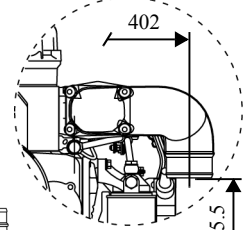
Test conditions
Air temperature +25°C
Barometric pressure 100 kPa (750 mmHg)
Humidity 30%
Diesel fuel acc. to ECE R 24 Annex 6
Density of fuel 0.840 kg/dm <sup>3</sup>
Viscosity of fuel 3.0 cSt at 40°C
Energy value 42700 kJ/kg

# DC12 EMS

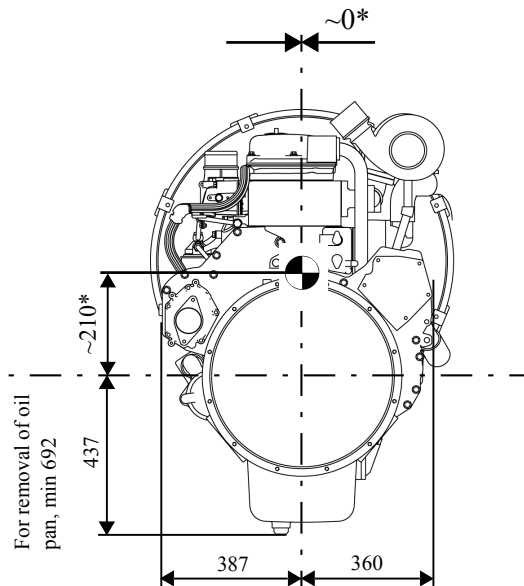
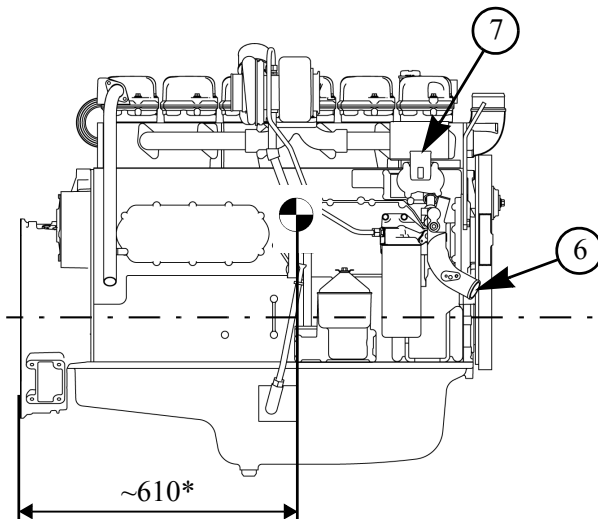
Optional design



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.