



# Genset Diesel Engines

## TECHNICAL SPECIFICATION 16-LITRE ENGINE DC16 501 - 550 KVA

The DC16 is a turbo charged 4-stroke diesel engine equipped with Engine Management System (EMS) and Electronically controlled unit injectors (EUI).

No. of cylinders	8 in 90° V
Displacement	15.6 litres
Bore	127 mm
Stroke	154 mm
Weight excl. oil and water	1290 kg

### Standard equipment

Unit injectors and Scania EMS electronic control unit (Engine Management System). Turbo charger, exhaust bend 90°, centrifugal lube oil cleaner, oil filter, oil cooler, fuel pre-filter with water separator, fuel filter, alternator 1-pole 100A 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 oil filling, starter 2-pole 6.7kW 24V.

### Extra equipment

Pre-assembled radiator 1.3 m<sup>2</sup> with charge-air cooler, fan cover, fan ring, expansion tank and protection covers, fan Ø965 mm, stiff or fixed engine suspension. Air compressor, Side mounted power take-off with a maximum continuous torque of 400 Nm (41 kpm). front mounted power take-off with a maximum continuous torque of 635 Nm (65 kpm). Crankshaft belt pulley with two extra grooves, various exhaust connections, silencer and air cleaner, engine heater, manual or electrical pump for oil draining, closed crankcase ventilation. Torsional vibration calculations for industrial applications.

### Engine description

**Cylinder block** Made of alloy cast iron. **Cylinder heads** Individual cylinder heads. Unit injector technology with engine mounted electronic control unit. Steel gasket between block and cylinder heads. **Valves** Four valves per cylinder head. **Timing gear train** Mounted at the flywheel end of the crankshaft. **Camshaft** One camshaft for each cylinder row. **Pistons** Aluminium bodies and steel crowns. **Oil cooler** Mounted inside the engine block and of multi-plate 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	DC16 45A (501 - 550 kVA)				
	50 Hz		60 Hz		
		Prime Power	Stand-by Power	Prime Power	Stand-by Power
Engine output, gross	kW	439	481	438	480
Fan losses*	kW	13	13	12	12
kVA band**	KVA	501	550	501	550
Governor, type	Scania Engine Management System (EMS)				
<b>Spec. fuel consumption:</b>					
1/1 load	g/kWh	196	196	199	200
3/4 load	g/kWh	197	197	199	199
1/2 load	g/kWh	199	198	204	202
<b>Spec. lube oil consumption:</b>					
	g/kWh	< 0.3		< 0.3	
Compression ratio	18:1				
<b>Heat rejection</b>					
to cooling water	kW	164	179	166	183
to exhaust gas	kW	309	337	312	345
to charge air	kW	91	106	111	127
to surrounding air	kW	36	39	34	37
Air consumption	kg/min	38	41	46	48
Exhaust flow	kg/min	39	43	47	50
Exhaust temperature	°C	462	466	399	414

\*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.

### 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.

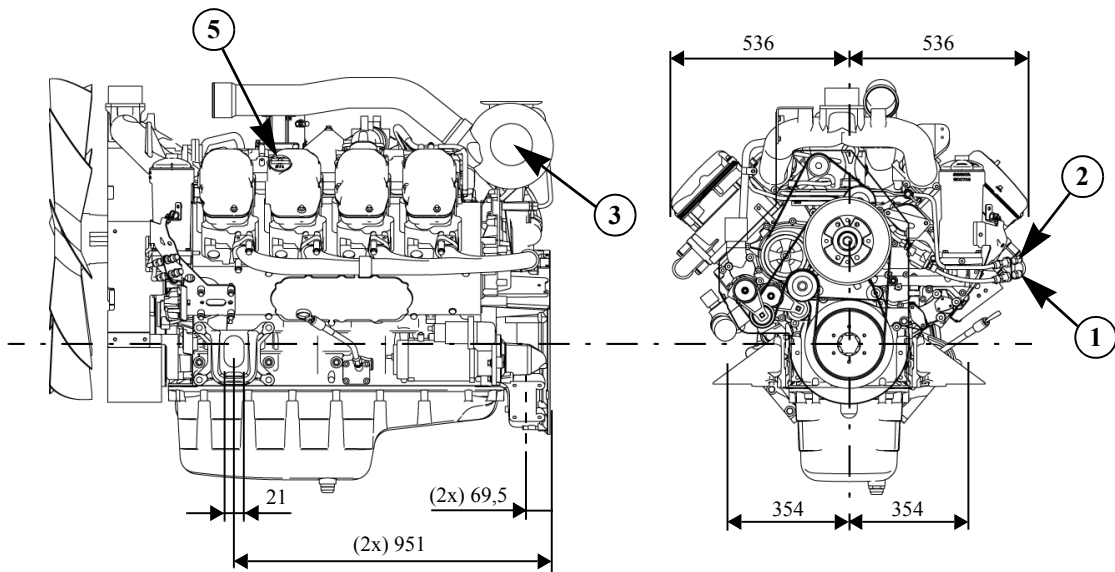
### Test conditions

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

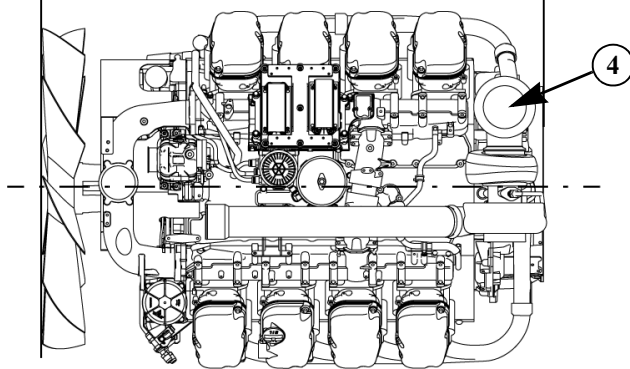
### Environment:

Complies to EU Stage II and US Tier 2 emission regulation levels.

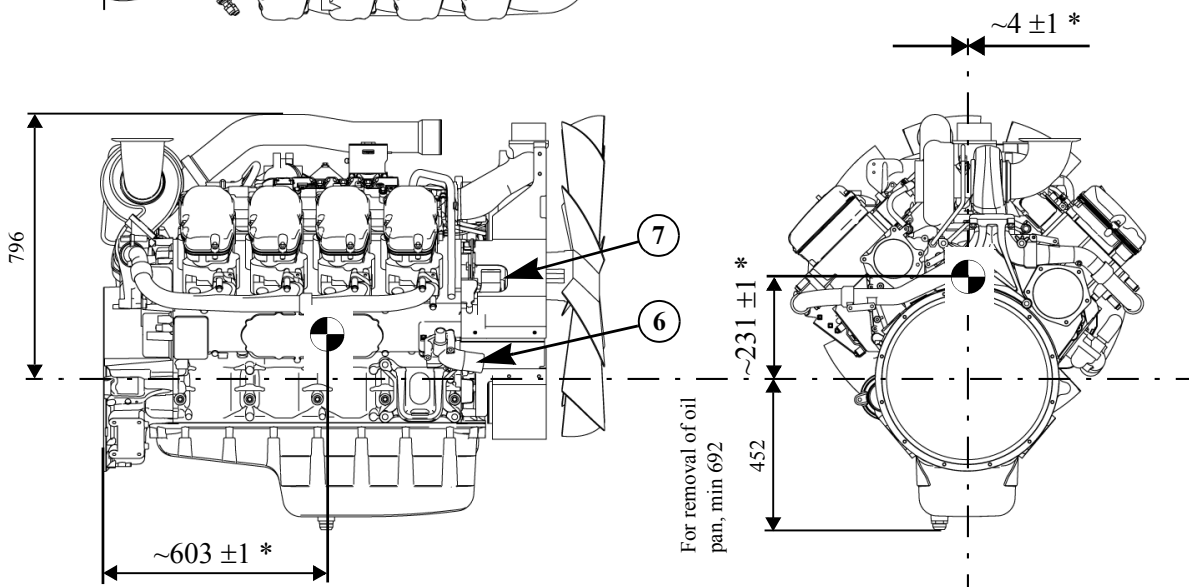
# DC16



fan Ø912 mm: Puller 1428, Pusher 1452  
fan Ø787 mm: Puller 1432, Pusher 1454



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



This specification may be revised without notice.