



Engine Datasheet TCD8.7 1500 min⁻¹

Engine		
Type		TCD8.7
Speed	[min ⁻¹]	1500
Net frequency	Hz	50
Power standard		LTP
Power level		
Exhaust emission standard		Fuel optimized
General		
Aspiration		Turbo, CAC
No of cylinders		6
Configuration		in-line
Injection system		Common Rail
Displacement	[L]	8.7
Bore	[mm]	117
Stroke	[mm]	135
Compression ratio		17.5
Mean effective pressure	[bar]	26.6
Piston speed	[m/s]	6.75
Rotation (looking at flywheel)		ccw
No of teeth on flywheel ring gear		
Governor performance		
Speed droop (static) electr. gov.	[%]	0
Governing standards		
to ISO 8528 Parts 1 and 5		G3
Moment of inertia		
Flywheel (standard genset spec.)	[kg m ²]	1.92
Max. step load acceptance, 1st step	[%]	-
Sound power at full load, incl. cooling system ⁵	[dB(A)]	≤97dB(A)
Sound press. (1m average, full load), incl. cool. syst.	[dB(A)]	≤95.6dB(A)
Weight		
Engine dry, w/o cooling system	[kg]	818
Engine with cooling system	[kg]	898
Lubrication system		
Oil specification		TR0199-99-1217
Oil consumption (as % of fuel consumption)	[%]	0.1
Oil capacity (sump)	[L]	28
Min. oil pressure (warning)	[bar]	1.5
Min. oil pressure (shut down)	[bar]	
Max. permissible oil temperature (oil pan)	[°C]	120
Output		
Gross output(LTP or StandBy Power) ¹	[kW]	290
Fan reduction	[kW]	11
Net flywheel	[kW]	279
Electrical output ²	[kVA]/[kWe]	330
Alternator efficiency	[%]	93
Gross output(PRP or Prime Power) ^{1a}	[kW]	265
Gross output(Continuous Power) ^{1b}	[kW]	245
Fuel System		
Fuel consumption		
25% load ³	[l/h]	15.2
50% load ³	[l/h]	26.0
75% load ³	[l/h]	37.98
100% load ³	[l/h]	51.57
110% load ³	[l/h]	57.49



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25% load	[g/kWh]	210.33
50% load	[g/kWh]	196.31
75% load	[g/kWh]	191.57
100% load	[g/kWh]	195.01
110% load	[g/kWh]	198.11
Max. suction head of fuel feed pump	[m]	2

Cooling System

General engine cooling data

Max. perm. coolant outlet temperature	[°C]	105
Max. perm. flow resistance (cool. syst. and piping)	[bar]	0.3
Max. temperature of coolant (warning)	[°C]	108
Max. temperature of coolant (shutdown)	[°C]	113
Temperature at which thermostat starts to open	[°C]	82
Temperature at which thermostat is fully open	[°C]	95
Delivery of coolant pump	[m ³ /h]	213.9
Min. pressure before coolant pump	[bar]	0.075
Temperature at CAC outlet at standard conditions	[°C]	50

DEUTZ cooling system

Coolant capacity (engine)	[L]	14
Coolant capacity (incl. cooling unit)	[L]	24
Air to boil (max. permissible cool. air temp. at fan)	[°C]	53
Fan power consumption ⁴	[kW]	11
Cooling air flow	[m ³ /h]	21600
Air pressure loss		

Heat Balance

Heat dissipation (engine radiator) ⁶	[kW]	98.7
Heat dissipation (CAC) ⁶	[kW]	45.6

Inlet / Exhaust Data

Max. intake depression (Switch setting)	[mbar]	50
Combustion air volume	[m ³ /h]	1029
Max. exhaust back pressure	[mbar]	100
Max. exhaust gas temperature	[°C]	680
Exhaust gas flow (at above temp)	[m ³ /h]	1500
Exhaust flange / pipe diameter	[mm]	110

Electrical System

Voltage	[V]	24
Starter	[kW]	7.5
Alternator output	[A]	55A
Batteries (minimum capacity, cold start limit -5°C)	[Ah]	2 x 143

Powers (kW) in accordance with DIN ISO 14396.

1. Limited time power 100%, which is capable for up to 500 h/year of which maximum of 300 h/year is continuous running, not exceedable, but required power for governing purpose only has to be considered. Necessary supply of engine power usually 10% for governing purpose only.

1a Prime power 100% , average power output ≤ 80%, no time limitation, plus 5% additional power for governing purpose only.

1b Continuous power 100% , no time limitation, plus 10% power for governing purpose only.

2. Ratings in accordance with ISO 8525 LTP. Alternator efficiency please see datasheet. 1500 min⁻¹ = kVA, 1800 min⁻¹ = kW_e

3. At calorific value 42700 kJ/kg + 5 %, density 0.835 kg/dm³, temperature 280 K.

4. Technical data and max. permissible torque for fan drive see data sheet.

5. Sound power values measured in accordance with ISO 6798.

6. The heat quantities are valid for the dimensioning of the cooling system.

They are given for the engine with the highest fuel consumption.

All data are provided for informational purposes only and are subject to amendment.