Engine Datasheet D17 1500 min^{-1}

Engine		
Type		D17
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]	16.25
Bore	[mm]	142
Stroke	[mm]	171
Compression ratio		18.7
Mean effective pressure	[bar]	
Piston speed	[m/s]	8.55
Rotation (looking at flywheel)		ccw
No of teeth on flywheel ring gear		121
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 m²]	1.42
Max. step load acceptance, 1st step	[%]	80%
Sound power at full load, incl. cooling system[5]	[dB(A)]	110,3
Sound press. (1m average, full load), incl. cool. syst.	[dB(A)]	94.5
Weight		
Engine dry, w/o cooling system	[kg]	1280
Engine with cooling system	[kg]	
Lubrication system		
Oil specification		TR0199-99-1217
Oil consumption (as % of fuel consumption)	[%]	0.1
Oil capacity (sump)	[L]	30
Min. oil pressure (warning)	[bar]	0.8
Min. oil pressure (shut down)	[bar]	0.6
Max. permissible oil temperature (oil pan)	[°C]	130
Output		
Gross output(LTP or StandBy Power)[1]	[kW]	615
Fan reduction	[kW]	22
Net flywheel	[kW]	593
Electrical output[2]	[kVA]/[kWe]	688
Alternator efficiency	[%]	95
Gross output(PRP or Prime Power)[1a]	[kW]	565
Gross output(Continous Power)[1b]	[kW]	515
Fuel System		
Fuel consumption		
25% load[3]	[l/h]	31.4
50% load[3]	[l/h]	57.10
75% load[3]	[l/h]	85
100% load[3]	[l/h]	115.1
110% load[3]	[l/h]	131

25% load	[g/kWh]	210
50% load	[g/kWh]	192
75% load	[g/kWh]	187.5
100% load	[g/kWh]	193
110% load	[g/kWh]	193.8
Max. suction head of fuel feed pump	[m]	2
Cooling System		
General engine cooling data		
Max. perm. coolant outlet temperature	[°C]	98
Max. perm. flow resistance (cool. syst. and piping)	[bar]	1.09
Max. temperature of coolant (warning)	[°C]	103
Max. temperature of coolant (shutdown)	[°C]	100
Temperature at which thermostat starts to open	[°C]	83
Temperature at which thermostat is fully open	[°C]	95
Delivery of coolant pump	[m^3/h]	37.6
Min. pressure before coolant pump	[bar]	0.44
Temperature at CAC outlet at standard conditions	[°C]	50
DEUTZ cooling system		
Coolant capacity (engine)	[L]	27
Coolant capacity (incl. cooling unit)	[L]	
Air to boil (max. permissible cool. air temp. at fan)	[°C]	55
Fan power consumption[4]	[kW]	17
Cooling air flow	[m^3/h]	32400
Air pressure loss		1.64
Heat Balance		
Heat dissipation (engine radiator)[6]	[kW]	211.3
Heat dissipation (CAC)[6]	[kW]	93.6
Inlet / Exhaust Data		
Max. intake depression (Switch setting)	[mbar]	50
Combustion air volume	[m^3/h]	2015
Max. exhaust back pressure	[mbar]	50
Max. exhaust gas temperature	[°C]	560
Exhaust gas flow (at above temp)	[m^3/h]	6447.5
Exhaust flange / pipe diameter	[mm]	127
Electrical System		
Voltage	[V]	24
Starter	[kW]	10
Alternator output	[A]	100
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 = kWe

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.