Engine Datasheet BF6M1013FC 1500-min^{-1}

Engine			
Type		BF6M1013FC	BF6M1013FC
Speed	[min^{-1}]	1500	1500
Net frequency	[Hz]	50	50
Power standard		LTP	LTP
Power level		G2	G3
Exhaust emission standard		COM II	COM II
General			
Aspiration		Turbo, CAC	Turbo, CAC
No of cylinders		6	6
Configuration		in-line	in-line
Injection system		single injection pumps	
Displacement	[l]	7.15	7.15
Bore	[mm]	108	108
Stroke	[mm]	130	130
Compression ratio		19	19
Mean effective pressure	[bar]	20.5	22.5
Piston speed	[m/s]	6.5	6.5
Rotation (looking at flywheel)		ccw	ccw
No of teeth on flywheel ring gear		129	129
Governor performance			
Speed droop (static) mech. gov.	[%]	4 - 5	4 - 5
Speed droop (static) electr. gov.(EMR/DDE)	[%]	0 - 3	0 - 3
Governing standards			
to ISO 8528 Parts 1 and 5		G2	G2
Moment of inertia			
Engine without flywheel	[kg m²]	0.23	0.23
Flywheel (standard genset spec.)	[kg m²]	2.6	2.6
Max. step load acceptance, 1st step	[%]	–	–
Sound power at full load,incl. cooling system[5]	[dB(A)]	108.8	108.8
Sound press.(1m average,full load), incl.cool.syst.	[dB(A)]	94.8	94.8
Weight			
Engine dry, w/o cooling system	[kg]	708	708
Engine with cooling system	[kg]	785	785
Lubrication system			
Oil specification		TR0199-99-3002/6	
Oil consumption (as % of fuel consumption)		0.3	0.3
Oil capacity (sump)	[l]	31	31
Min. oil pressure (warning)	[bar]	2.7	2.7
Min. oil pressure (shut down)	[bar]	2	2
Max. permissible oil temperature(oil pan)	[°C]	130	130
Output			
Gross output(LTP or StandBy Power)[1]	[kW]	183	201
Fan reduction	[kW]	7.2	7.2
Net flywheel	[kW]	175.8	193.8
Electrical output[2]	[kVA]	210	220
Gross output(PRP or Prime Power)[1a]	[kW]	166	183
Gross output(Continous Power))[1b]	[kW]	151	166

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Engine			
Type		BF6M1013FC	BF6M1013FC
Fuel System			
Fuel consumption			
25% load[3]	[l/h]	11.1	11.9
50% load[3]	[l/h]	20.3	22.6
75% load[3]	[l/h]	30.2	33.6
100% load[3]	[l/h]	40.6	45.6
25% load	[g/kWh]	227	222
50% load	[g/kWh]	208	210
75% load	[g/kWh]	206	208
100% load	[g/kWh]	208	212
Max. suction head of fuel feed pump	[m]	–	–
Cooling System			
General engine cooling data			
Max.perm.coolant outlet temperature	[°C]	105	105
Max. perm. flow resistance (cool. syst. and piping)	[bar]	0.35	0.35
Max.temperature of coolant (warning)	[°C]	108	108
Max. temperature of coolant (shutdown)	[°C]	110	110
Temperature at which thermostat starts to open	[°C]	83	83
Temperature at which thermostat is fully open	[°C]	98	98
Delivery of coolant pump	[m^3/h]	10.9	10.9
Min. pressure before coolant pump	[bar]	0.3	0.3
Temperature at CAC outlet at standard conditions	[°C]	40	40
DEUTZ Cooling System			
Coolant capacity (engine)	[l]	9.8	9.8
Coolant capacity (incl. cooling unit)	[l]	27.3	27.3
Air to boil (max. permissible cool. air temp. at fan)	[°C]	55	50
Fan power consumption[4]	[kW]	7.2	7.2
Cooling air flow	[m^3/h]	11520	11520
Air pressure loss, external	[mbar]	1.5	1.5
Heat Balance			
Heat dissipation (engine radiator)[6]	[kW]	85.1	86.1
Heat dissipation (CAC)	[kW]	35.9	42.0
Heat dissipation (convection)	[kW]	18.0	20.0
Inlet / Exhaust Data			
Max. intake depression (Switch setting)	[mbar]	25	25
Combustion air volume	[m^3/h]	743.9	746
Max. exhaust back pressure	[mbar]	30	30
Max. exhaust gas temperature	[°C]	540	530
Exhaust gas flow (at above temp)	[m^3/h]	2108	2112
Exhaust flange / pipe diameter	[mm]	–	–

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Engine			
Type		BF6M1013FC	BF6M1013FC
Electrical System			
Voltage	[V]	24	24
Starter	[kW]	6	6
Alternator output	[A]	35	35
Batteries(minimum capacity, cold start limit -5°C)	[Ah]	2*100	2*100

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.

For further application guidance see DEUTZ Installation Manual.

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