

Engine Datasheet BF6M1013EC/FC 1500 min⁻¹

Engine				
Type		BF6M1013EC	BF6M1013FC	BF6M1013FC
Speed	[min ⁻¹]	1500	1500	1500
Net frequency	[Hz]	50	50	50
Power standard		LTP	LTP	LTP
Power level				
Exhaust emission standard		Stage 2	Stage 2	Stage 2
General				
Aspiration		turbo, CAC	turbo, CAC	turbo, CAC
No of cylinders		6	6	6
Configuration		in-line	in-line	in-line
Injection system		single injection pumps		
Displacement	[l]	7,15	7,15	7,15
Bore	[mm]	108	108	108
Stroke	[mm]	130	130	130
Compression ratio		19	18,1	18,1
Mean effective pressure	[bar]	17,1	19,0	22,5
Piston speed	[m/s]	6.5	6.5	6.5
Rotation (looking at flywheel)		CCW	CCW	CCW
No of teeth on flywheel ring gear		129	129	129
Governor performance				
Speed droop (static) mech. gov.	[%]	4 - 5	4 - 5	4 - 5
Speed droop (static) electr. gov. (EMR/GAC)	[%]	0 - 3	0 - 3	0 - 3
Governing standards				
to ISO 8528 Parts 1 and 5				
Moment of inertia				
Engine without flywheel	[kg m ²]	0.47	0.47	0.47
Flywheel (standard genset spec.)	[kg m ²]	2.6	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	108,8
Sound press. (1m average, full load), incl. cool. syst.	[dB(A)]	94,8	94,8	94,8
Weight				
Engine dry, w/o cooling system	[kg]	708	708	708
Engine with cooling system	[kg]	770	770	770
Lubrication system				
Oil specification		TR0199-99-1217		
Oil consumption (as % of fuel consumption)		0.3	0.3	0.3
Oil capacity (sump)	[l]	20	20	20
Min. oil pressure (warning)	[bar]	2.7	2.7	2.7
Min. oil pressure (shut down)	[bar]	2	2	2
Max. permissible oil temperature (oil pan)	[°C]	130	130	130
Output				
Gross output(LTP or StandBy Power) ¹	[kW]	153,0	170,0	201,0
Fan reduction	[kW]	7,2	7,2	7,2
Net flywheel	[kW]	145,8	162,8	193,8
Electrical output ²	[kVA]/[kWe]	164	187	223
Alternator efficiency	[%]	90	92	92
Gross output(PRP or Prime Power) ^{1a}	[kW]	146,0	162,0	183,0
Gross output(Continous Power) ^{1b}	[kW]	139,0	154,0	166,0
Fuel System				
Fuel consumption				
25% load ³	[l/h]	10,9	12,5	13,1
50% load ³	[l/h]	19,6	23,1	25,3
75% load ³	[l/h]	28,9	34,2	37,7
100% load ³	[l/h]	38,5	45,9	50,8
25% load	[g/kWh]	234	227	222
50% load	[g/kWh]	213	208	210
75% load	[g/kWh]	209	206	208
100% load	[g/kWh]	209	208	212
Max. suction head of fuel feed pump	[m]	-	-	-
Cooling System				

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General engine cooling data				
Max. perm. coolant outlet temperature	[°C]	105	105	105
Max. perm. flow resistance (cool. syst. and piping)	[bar]	0,25	0,25	0,25
Max. temperature of coolant (warning)	[°C]	108	108	108
Max. temperature of coolant (shutdown)	[°C]	110	110	110
Temperature at which thermostat starts to open	[°C]	83	83	83
Temperature at which thermostat is fully open	[°C]	98	98	98
Delivery of coolant pump	[m ³ /h]	12,2	12,2	10,9
Min. pressure before coolant pump	[bar]	0,3	0,3	0,3
Temperature at CAC outlet at standard conditions	[°C]	40	40	40
DEUTZ cooling system				
Coolant capacity (engine)	[l]	9,8	9,8	9,8
Coolant capacity (incl. cooling unit)	[l]	23,1	23,1	27,3
Air to boil (max. permissible cool. air temp. at fan)	[°C]	57	55	50
Fan power consumption ⁴	[kW]	7,2	7,2	7,2
Cooling air flow	[m ³ /h]	10800	11520	11520
Air pressure loss, external	[mbar]	1,5	1,5	1,5
Heat Balance				
Heat dissipation (engine radiator) ⁶	[kW]	68,4	85,1	96,1
Heat dissipation (CAC) ⁶	[kW]	24,0	35,9	42,0
Heat dissipation (convection)	[kW]	15,5	18,0	20,0
Inlet / Exhaust Data				
Max. intake depression (Switch setting)	[mbar]	25	25	25
Combustion air volume	[m ³ /h]	639,3	743,9	745,6
Max. exhaust back pressure	[mbar]	30	30	30
Max. exhaust gas temperature	[°C]	535	540	530
Exhaust gas flow (at above temp)	[m ³ /h]	1799	2108	2112
Exhaust flange / pipe diameter	[mm]	-	-	-
Electrical System				
Voltage	[V]	12	12	12
Starter	[kW]	3	3	3
Alternator output	[A]	55	55	55
Batteries (minimum capacity, cold start limit -5°C)	[Ah]	143	143	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.

For further information see ELTAB / Pocket book.

For further application guidance see DEUTZ Installation Manual.

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