

C13 TE2A

330 kW (1500 rpm) - 360 kW (1800 rpm)

Engine C13 TE2A

1/ GENERAL			1500 rpm	1800 rpm
Engine model			C13 TE2A	
Basic engine type			F3BE0685A*B101 - 8050770 XZ	
Number of cylinders			6	
Firing order (N° 1 nearest to fan)			1-4-2-6-3-5	
Cylinder arrangement			in line	
Valves per cylinder			4	
Cycle			diesel 4 stroke	
Injection system			direct E.U.I	
Electronic engine control unit			BOSCH EDC7 UC31	
Induction System			turbo aftercooler air/air	
Bore	mm		135	
Stroke	mm		150	
Total displacement	lit		12,88	
Mean piston speed	m/s		7,5	9
Compression ratio			16,5 : 1	
Flywheel rotation			anti clockwise viewed on flywheel	
Housing flywheel			SAE 1	
Flywheel			14"	
Moment of inertia				
	without flywheel	kgm ²	1,05	
	flywheel only	kgm ²	1,44	
BMEP gross				
	Prime Power	bar/kPa	19,5 / 1948,1	18,1 / 1811,6
	Stand-by Power	bar/kPa	21,4 / 2142,9	19,9 / 1992,8
Dry weight (including cooling package)			~ 1180	
Energy to coolant			216	293
Energy to charge cooler			179	199
Energy to radiation			30	25
Dimensions L x W x H			2272 x 1055 x 1468	

2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	254,8	286,7
Prime Power	(gross)	kWm	314,9	352,2
Stand-By Power	(gross)	kWm	345	385
Fan consumption			15	25
Continuous Power	(net)	kWm	240	262
Prime Power	(net)	kWm	300	327
Stand-By Power	(net)	kWm	330	360
Performance condition				
	temperature	°C	≤ 40	
	altitude a.s.l	m	≤ 1000	
Derating				
	temperature > T 40°C	%/5°C	4%	
	altitude >1000 <3000 m	%/500m	3%	
	altitude >3000 m	%/500m	6%	

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3/ COOLING SYSTEM			1500 rpm	1800 rpm
Type			liquid	
Recommended coolant			water + 50 % paraflu 11	
Coolant capacity				
engine only	liter		19,5	
radiator and hoses	liter		47,5	
Coolant pump flow	l/min		461	552,63
Pressure cap setting	kPa (bar)		70 (0,7)	
Shutdown switch setting	°C		103	
Maximum additional restriction	Pa		196	
Air To Boil	Prime Power	°C	61,5	62,4
Fan				
diameter	mm		700	
number of blades			8	
drive ratio			1,37 : 1	
speed	rpm		2055	2466
air flow	m ³ /s		6,8	8,5
power consumption	kWm		15	25

4/ LUBRICATION SYSTEM			1500 rpm	1800 rpm
Oil sump capacity				
max	liter		27	
min	liter		14	
Oil system capacity including filter	liter		35	
Oil pressure at rated speed	kPa		250-500	
Oil temperature				
normal	°C		---	
max	°C		120	
Engine Angularity				
longitudinal	degrees		30°	
transverse	degrees		30°	
Servicing interval	hours		600	
Oil specification			ACEA E3/E5	
Oil consumption	%fuel		< 0,2	

5/ INTAKE SYSTEM			1500 rpm	1800 rpm
Air consumption at 100 % of load	m ³ /h (Kg/h)		1495 (1800)	1777 (2140)
Air intake restriction, clean filter	kPa (mbar)		2 (20)	
Air intake restriction, dirty filter	kPa (mbar)		5 (50)	
Air filter type			dry	

6/ EXHAUST SYSTEM			1500 rpm	1800 rpm
Gas flow at stand-by Power	kg/h		1865	2216
Max temperature at PRP (25°C)	°C		479	451
Max allowable back pressure	kPa (mbar)		5 (50)	
Energy to exhaust	kcal/kWh		648	647



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7/ FUEL SYSTEM			1500 rpm	1800 rpm
Fuel consumption at				
Stand-By	gr/kWh (l/h) [kg/h]		189,6 (77,9) [65,4]	198,4 (91,0) [76,4]
Full load	gr/kWh (l/h) [kg/h]		187,5 (70,0) [58,8]	182,6 (76,1) [63,9]
80%	gr/kWh (l/h) [kg/h]		191,8 (57,3) [48,1]	202,2 (67,4) [56,6]
50%	gr/kWh (l/h) [kg/h]		207,8 (38,8) [32,6]	210,2 (43,8) [36,8]
Fuel specifications			EN 590	
Feed pump max suction head		m	---	

8/ ELECTRIC SYSTEM			1500 rpm	1800 rpm
Voltage (negative to ground)		V	24	
Starter motor				
make			DENSO	
power		kW	5,5	
pull current		Amp	12	
hold current		Amp	12	
break away current ^{+20°C}		Amp	1250	
cranking current ^{+20°C}		Amp	0	
Number of teeth on starter motor			10	
Number of teeth on flywheel			155	
Starting batteries				
recommended capacity		Ah	2x	185
discharge current		Amp	1200	
(EN 50342)				
Alternator				
voltage		V	28	
charge		Amp	90	

9/ COLD STARTING			1500 rpm	1800 rpm
Without air preheating		°C	-10	
With air preheating		°C	-25	

10/ EMISSION GASEOUS AND PARTICLES			1500 rpm	1800 rpm
No _x	Oxides of nitrogen	gr/kWh	5,2	-
HC	Hydrocarbons	gr/kWh	0,13	-
No _x +HC		gr/kWh	5,33	-
CO	Carbon monoxide	gr/kWh	0,35	-
PT	Particles	gr/kWh	0,061	-