

C13 TE3A

387 kW (1500 rpm) - 398 kW (1800 rpm)

Engine C13 TE3A

1/ GENERAL		1500 rpm	1800 rpm
Engine model		C13 TE3A	
Basic engine type		F3BE0685A*E101 - 8050770 XZ	
Number of cylinders		6	
Firing order (cylinder 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	22,6 / 2258,6 19,8 / 1976,3
	Stand-by Power	bar/kPa	24,8 / 2484,5 21,7 / 2173,9
Dry weight (including cooling package)		kg	~ 1228
Energy to coolant		kcal/kWh	370 380
Energy to charge cooler		kcal/kWh	197 236
Energy to radiation		kcal/kWh	32 39
Dimensions L x W x H		mm	2324 x 1270 x 1546,5

2/ PERFORMANCES		1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	295,8 307,6
Prime Power	(gross)	kWm	366,2 384,5
Stand-By Power	(gross)	kWm	401,0 423,0
Fan consumption		kWm	15 25
Continuous Power	(net)	kWm	281,6 282,6
Prime Power	(net)	kWm	352 360
Stand-By Power	(net)	kWm	387 398
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%



C13 TE3A

387 kW (1500 rpm) - 398 kW (1800 rpm)

Engine C13 TE3A

3/ COOLING SYSTEM			1500 rpm	1800 rpm
Type			liquid	
Recommended coolant			water + 50 % paraflu 11	
Coolant capacity				
engine only	liter		20	
radiator and hoses	liter		48	
Coolant pump flow	l/min		461	553
Pressure cap setting	kPa (bar)		70 (0,7)	
Shutdown switch setting	°C		103	
Maximum additional restriction	Pa		196	
Air To Boil	Prime Power	°C	50	49
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)		1770 (2131,5)	1974 (2376,6)
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		2210	2463
Max temperature at PRP (25°C)	°C		445	450
Max allowable back pressure	kPa (mbar)		5 (50)	
Energy to exhaust	kcal/kWh		703	734

C13 TE3A

387 kW (1500 rpm) - 398 kW (1800 rpm)

Engine C13 TE3A

7/ FUEL SYSTEM			1500 rpm	1800 rpm
Fuel consumption at				
Stand-By	gr/kWh (l/h) [kg/h]		211 (100,5) [84,4]	219 (108,7) [91,3]
Full load	gr/kWh (l/h) [kg/h]		197 (85,8) [72,1]	214,3 (98,1) [82,4]
80%	gr/kWh (l/h) [kg/h]		199,7 (70,4) [59,1]	222,1 (82,5) [69,3]
50%	gr/kWh (l/h) [kg/h]		196,7 (42,8) [36]	222,1 (55) [46,2]
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	6	
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	5,20	-
HC	Hydrocarbons	gr/kWh	0,13	-
No _x +HC		gr/kWh	5,33	5,15
CO	Carbon monoxide	gr/kWh	0,35	0,37
PT	Particles	gr/kWh	0,061	0,082

Date of update: May 2013
Specifications subject to change without notice
Illustrations may include optional equipment.