

C13 TE7

459 kW (1500 rpm) - 474 kW (1800 rpm)

Engine C13 TE7

1/ GENERAL			1500 rpm	1800 rpm
Engine model			CR13TE7W	
Basic engine type			F3HFA615A*D001 - 5801906969	
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 - Electronic Common Rail	
Electronic engine control unit			BOSCH EDC17 CV41	
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	26,8 / 2682,7	23,8 / 2380,4
	Stand-by Power	bar/kPa	29,8 / 2980,7	26,4 / 2639,2
Dry weight (including cooling package)			~ 1360	
Energy to coolant			374	390
Energy to charge cooler			145	162
Energy to radiation			35	36
Dimensions L x W x H			2300 x 1105 x 1410	

2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	349	371
Prime Power	(gross)	kWm	436	464
Stand-By Power	(gross)	kWm	480	510
Fan consumption			21	36
Continuous Power	(net)	kWm	328	335
Prime Power	(net)	kWm	415	428
Stand-By Power	(net)	kWm	459	474
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%	



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		18,6	
Coolant pump flow	l/min		460,525	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	51	53
Fan				
diameter	mm		800	
number of blades			12	
drive ratio			1,37 : 1	
speed	rpm		2055	2466
air flow	m ³ /s		6,8	8,5
power consumption	kWm		21	36

4/ LUBRICATION SYSTEM			1500 rpm	1800 rpm
Oil sump capacity				
max	liter		28	
min	liter		20	
Oil system capacity including filter	liter		32	
Oil pressure at rated speed	kPa		250-500	
Oil temperature				
normal	°C		---	
max	°C		120	
Engine Angularity				
longitudinal	degrees		17°	
transverse	degrees		17°	
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)		1576 (1812)	1860 (2142)
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		2027	2359
Max temperature at PRP (25°C)	°C		520	510
Max allowable back pressure	kPa (mbar)		5 (50)	
Energy to exhaust	kcal/kWh		581	604

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7/ FUEL SYSTEM

			1500 rpm	1800 rpm
Fuel consumption at				
Stand-By	gr/kWh (l/h) [kg/h]		195,8 (112,6) [94]	202 (123,3) [103]
Full load	gr/kWh (l/h) [kg/h]		192,7 (100,6) [84]	199,6 (110,9) [92,6]
80%	gr/kWh (l/h) [kg/h]		191,7 (80,2) [67]	196,9 (87,7) [73,2]
50%	gr/kWh (l/h) [kg/h]		197,7 (51,5) [43]	204,3 (57) [47,6]
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	7,8	
pull current		Amp	12	
hold current		Amp	12	
break away current +20°C		Amp	1260	
cranking current +20°C		Amp		
Number of teeth on starter motor			10	
Number of teeth on flywheel			155	
Starting batteries				
recommended capacity		Ah	2x	180
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	-	-
HC	Hydrocarbons	gr/kWh	-	-
No _x +HC		gr/kWh	-	-
CO	Carbon monoxide	gr/kWh	-	-
PT	Particles	gr/kWh	-	-