

C87 TE4

299 kW (1500 rpm) - 333 kW (1800 rpm)

Engine C87 TE4

1/ GENERAL			1500 rpm	1800 rpm
Engine model			C87 TE4	
Basic engine type			F2CE0685B*D001 - 5801764169	
Number 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 common rail	
Electronic engine control unit			BOSCH EDC7 UC31	
Induction System			turbo aftercooler air/air	
Bore	mm		117	
Stroke	mm		135	
Total displacement	lit		8,7	
Mean piston speed	m/s		6,75	8,10
Compression ratio			15.9: 1	
Flywheel rotation			anti clockwise viewed on flywheel	
Housing flywheel			SAE 1	
Flywheel			14"	
Moment of inertia				
	without flywheel	kgm ²	0,30	
	flywheel only	kgm ²	1,94	
BMEP gross				
	Prime Power	bar/kPa	20,4	19,1
	Stand-by Power	bar/kPa	27,76	25,97
Dry weight (including cooling package)	kg		~ 1050	
Energy to coolant	kcal/kWh		327	308
Energy to charge cooler	kcal/kWh		225	215
Energy to radiation	kcal/kWh		68	118
Dimensions L x W x H	mm		2100 x 1050 x 1385	
2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	220	246
Prime Power	(gross)	kWm	281	315
Stand-By Power	(gross)	kWm	305	342
Fan consumption		kWm	6,0	9,0
Continuous Power	(net)	kWm	214	237
Prime Power	(net)	kWm	275	306
Stand-By Power	(net)	kWm	299	333
Performance condition				
	temperature	°C	≤ 40	
	altitude a.s.l	m	≤ 1000	
Derating				
	temperature > T 40°C	%/5°C	3%	
	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			50% water + 50% glycol	
Coolant capacity				
engine only	liter		15	
radiator and hoses	liter		43	
Coolant pump flow	l/min		239,5	287,5
Pressure cap setting	kPa (bar)		100 (1.0)	
Shutdown switch setting	°C		103	
Maximum additional restriction	Pa		196	
Air To Boil	Prime Power	°C	58	54
Fan				
diameter	mm		750	
number of blades			8	
drive ratio			1.03: 1	
speed	rpm		1545	1854
air flow	m ³ /s		5,65	7,05
power consumption	kWm		6,0	9,0

4/ LUBRICATION SYSTEM			1500 rpm	1800 rpm
Oil sump capacity				
max	liter		23	
min	liter		12,5	
Oil system capacity including filter	liter		28	
Oil pressure at rated speed	kPa		300 - 500	
Oil temperature				
normal	°C		92	
max	°C		120	
Engine angularity				
longitudinal	degrees		30°	
transverse	degrees		30°	
Servicing interval	hours		250 - 400 - 500	
Oil specification			API CI4 - ACEA E4 - ACEA E5	
Oil consumption	%fuel		< 0.2	

5/ INTAKE SYSTEM			1500 rpm	1800 rpm
Air consumption at 100 % of load	m ³ /h (Kg/h)		1085 (1336)	1355(1640)
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		1395	1705
Max temperature at PRP (25°C)	°C		488	500
Max allowable back pressure	kPa (mbar)		10 (100)	
Energy to exhaust	kcal/kWh		650	668



7/ FUEL SYSTEM			1500 rpm	1800 rpm
Fuel consumption at				
Stand-By	gr/kWh (l/h) [kg/h]		198.0(72.4)[60.4]	206.1(84.0) [70.1]
Full load	gr/kWh (l/h) [kg/h]		197.6(72.9)[60.8]	212.5(86.1) [71.8]
80%	gr/kWh (l/h) [kg/h]		195.1(57.6)[48.1]	201.5(65.5) [54.7]
50%	gr/kWh (l/h) [kg/h]		204.5(37.6)[31.4]	210.9(42.7) [35.6]
Fuel specifications			EN 590	
Feed pump max suction head		m		

8/ ELECTRIC SYSTEM			1500 rpm	1800 rpm
Voltage (negative to ground)		V		
Starter motor				
make			BOSCH	
power	kW	4,5		
pull current	Amp	12		
hold current	Amp	12		
break away current +20°C	Amp	1020		
cranking current +20°C	Amp	0		
Number of teeth on starter motor			10	
Number of teeth on flywheel			149	
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		
HC	Hydrocarbons	gr/kWh		
No _x +HC		gr/kWh		
CO	Carbon monoxide	gr/kWh		
PT	Particles	gr/kWh		