

C10 TE1F

290 kW (1500 rpm)

Engine C10 TE1F

1/ GENERAL

1500 rpm

Engine model		C10 TE1F
Basic engine type		F3AE9685D*E004 - 5801572981
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	125
Stroke	mm	140
Total displacement	lit	10
Mean piston speed	m/s	7
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	0,78
flywheel only	kgm ²	1,44
Degree of irregularity at PRP		0,041
BMEP gross		
Prime Power	bar/kPa	21,3 / 2128
Stand-by Power	bar/kPa	23,3 / 2330
Dry weight (including cooling package)	kg	~ 1110
Energy to coolant	kcal/kWh	240
Energy to charge cooler	kcal/kWh	166
Energy to radiation	kcal/kWh	75
Dimensions L x W x H	mm	2195 x 1055 x 1480

2/ PERFORMANCES

1500 rpm

Continuous Power	(gross)	kWm	218
Prime Power	(gross)	kWm	273
Stand-By Power	(gross)	kWm	300
Fan consumption		kWm	10
Continuous Power	(net)	kWm	208
Prime Power	(net)	kWm	263
Stand-By Power	(net)	kWm	290
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%

3/ COOLING SYSTEM

1500 rpm

Type		liquid
Recommended coolant		water + 50 % paraflu 11
Coolant capacity		
engine only	liter	15
radiator and hoses	liter	48
Coolant pump flow	l/min	300
Thermostat: start to open	°C	70 (0,7)
Thermostat: fully open	°C	-
Engine coolant outlet max temp.	°C	-
Engine coolant inlet temp.	°C	83
Pressure cap setting	kPa (bar)	95
Shutdown switch setting	°C	103
Maximum additional restriction	Pa	196
Air To Boil	Prime Power	°C
		53
Fan		
diameter	mm	700
number of blades		8
drive ratio		1,25 : 1
speed	rpm	1875
air flow	m ³ /s	6,5
power consumption	kWm	10

4/ LUBRICATION SYSTEM

1500 rpm

Oil sump capacity		
max	liter	24
min	liter	17
Oil system capacity including filter	liter	30
Oil pressure at rated speed	kPa	300-500
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

Air consumption at 100 % of load	m ³ /h (Kg/h)	1090 (1280)
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

Gas flow at stand-by Power	kg/h	1343
Max temperature at PRP (25°C)	°C	520
Max allowable back pressure	kPa (mbar)	5 (50)
Energy to exhaust	kcal/kWh	615

7/ FUEL SYSTEM

1500 rpm

Fuel consumption at		
Stand-By	gr/kWh (l/h) [kg/h]	209,6 (74,8) [62,9]
Full load	gr/kWh (l/h) [kg/h]	197,8 (64,3) [54]
80%	gr/kWh (l/h) [kg/h]	209,5 (52,4) [44]
50%	gr/kWh (l/h) [kg/h]	198,5 (32,1) [27]
Fuel specifications		EN 590
Feed pump max suction head	m	-

8/ ELECTRIC SYSTEM

1500 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	
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

Without air preheating	°C	-10
With air preheating	°C	-25

10/ EMISSION GASEOUS AND PARTICLES

1500 rpm

No _x	Oxides of nitrogen	gr/kWh	3,72
HC	Hydrocarbons	gr/kWh	0,17
No _x +HC		gr/kWh	3,89
CO	Carbon monoxide	gr/kWh	1,43
PT	Particles	gr/kWh	0,104