

# C10 TE1D

286 kW (1500 rpm) - 311 kW (1800 rpm)

Engine C10 TE1D

1/ GENERAL			1500 rpm	1800 rpm
Engine model			C10 TE1D	
Basic engine type			F3AE9685A*E001 - 504165779	
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		10,3	
Mean piston speed	m/s		7	8,4
Compression ratio			16,5 : 1	
Flywheel rotation			anti clockwise viewed on flywheel	
Housing flywheel			SAE 1	
Flywheel			14"	
Moment of inertia				
	without flywheel	kgm <sup>2</sup>	0,78	
	flywheel only	kgm <sup>2</sup>	1,44	
BMEP gross				
	Prime Power	bar/kPa	21,3 / 2128	19,7 / 1974
	Stand-by Power	bar/kPa	23,3 / 2330	21,7 / 2168
Dry weight (including cooling package)			kg ~ 1110	
Energy to coolant			kcal/kWh 350	360
Energy to charge cooler			kcal/kWh 140	190
Energy to radiation			kcal/kWh 75	56
Dimensions L x W x H			mm 2195 x 1055 x 1480	
2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	218	244
Prime Power	(gross)	kWm	274	305
Stand-By Power	(gross)	kWm	300	335
Fan consumption			kWm 10	18
Continuous Power	(net)	kWm	208	226
Prime Power	(net)	kWm	264	287
Stand-By Power	(net)	kWm	290	317
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	1800 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	360
Pressure cap setting	kPa (bar)	70 (0,7)	
Shutdown switch setting	°C	103	
Maximum additional restriction	Pa	196	
Air To Boil	Prime Power	°C	
		58	55
Fan			
diameter	mm	700	
number of blades		8	
drive ratio		1,25 : 1	
speed	rpm	1875	2250
air flow	m <sup>3</sup> /s	6,5	7,7
power consumption	kWm	10	18

4/ LUBRICATION SYSTEM		1500 rpm	1800 rpm
Oil sump capacity			
max	liter	23,5	
min	liter	16,8	
Oil system capacity including filter	liter	30	
Oil pressure at rated speed	kPa	300-500	
Oil temperature			
normal	°C	0	
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 <sup>3</sup> /h (Kg/h)	1108 (1330)	1545 (1855)
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	1389	1925
Max temperature at PRP (25°C)	°C	571	497
Max allowable back pressure	kPa (mbar)	5 (50)	
Energy to exhaust	kcal/kWh	580	675

7/ FUEL SYSTEM			1500 rpm	1800 rpm
Fuel consumption at				
Stand-By	gr/kWh (l/h) [kg/h]		194,8 (70,2) [59]	209,7 (83,7) [70,3]
Full load	gr/kWh (l/h) [kg/h]		192 (62,8) [52,8]	210,5 (76,4) [64,2]
80%	gr/kWh (l/h) [kg/h]		198 (53,7) [45,1]	219,8 (63,8) [55,3]
50%	gr/kWh (l/h) [kg/h]		202,5 (36,4) [30,6]	218,6 (43,7) [36,7]
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 <sup>+20°C</sup>		Amp	1250	
cranking current <sup>+20°C</sup>		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 <sub>x</sub>	Oxides of nitrogen	gr/kWh	5,71	-
HC	Hydrocarbons	gr/kWh	0,13	-
No <sub>x</sub> +HC		gr/kWh	5,84	3,9
CO	Carbon monoxide	gr/kWh	1,27	1,1
PT	Particles	gr/kWh	0,13	0,19