

# C13 TE3X

371 kW (1800 rpm)

Engine C13 TE3X

1/ GENERAL			1800 rpm
Engine model			C13 TE3X
Basic engine			F3BE9685A*E001 - 504165856 XZ
Number cylinders			6
Firing order (N°1 nearest to fan)			1-4-2-6-3-5
Cylinder arrangement			in line
Valves per cylinder			4
Type			diesel 4 stroke
Injection system			direct E.U.I
Centralina elettronica			Bosch EDC7 UC31
Induction System			turbo aftercooler air/air
Bore	mm(in)		135(5,31)
Stroke	mm(in)		150(5,9)
Total displacement	lit(in <sup>3</sup> )		12,88(50,8)
Mean piston speed	m/s(ft/s)		9(29,5)
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> (lbft <sup>2</sup> )	1,05(24,8)
	flywheel only	Kgm <sup>2</sup> (lbft <sup>2</sup> )	1,44(34)
BMEP			
	Prime Power	bar(psi)	27,5(399)
	Stand-by Power	bar(psi)	30,3(439,5)
Dry weight (including cooling package)			kg(lb)
			~ 1228~ 2707
Energy to coolant			kcal/kWh
			418
Energy to charge cooler			kcal/kWh
			239
Energy to radiation			kcal/kWh
			70
Dimensions L x W x H			mm(in)
			2324 x 1270 x 1546(91,5 x 50 x 61)

2/ PERFORMANCES			1800 rpm
Continuous Power	(gross)	kWm(hp)	287(384,9)
Prime Power	(gross)	kWm(hp)	359(481,4)
Stand-By Power	(gross)	kWm(hp)	395(530)
Fan consumption			kWm(hp)
			24,5(33,5)
Continuous Power	(net)	kWm(hp)	270(362)
Prime Power	(net)	kWm(hp)	337(452)
Stand-By Power	(net)	kWm(hp)	371(497,5)
Performance conditions			
	temperature	°C(°F)	≤ 40(104)
	altitude s.l.m	m(ft)	≤ 1000(3281)
Derating			
	temperature > T 40°C	%/5°C	4%
	altitude >1000 <3000 m	%/500m	3%
	altitude >3000 m	%/500m	6%

3/ COOLING PACKAGE			1800 rpm
Type			liquid
Recommended coolant			water + 50%paraflu 11
Coolant capacity			
motor only	liter(US gal)		19,5(5,3)
radiator and hose	liter(US gal)		47,5(12,7)
Coolant pump flow	l/min(US gal/min)		552,63(146)
Pression cap setting	kPa (bar)		70 (0,7)
Shutdown switch setting	°C(°F)		103(217,4)
maximal additional restriction	Pa(psi)		196(0,03)
Air To Boil	Prime Power	°C(°F)	50(122)
Fan			
diameter	mm(in)		700(27,6)
number of pale			8
drive ratio			1,37 : 1
speed	rpm		2466
air flow	m <sup>3</sup> /s		9
power consumption	kWm/hp		24,5(33,5)

4/ LUBRICATION SYSTEM			1800 rpm
Oil sump capacity			
max	liter(US gal)		27(7,1)
min	liter(US gal)		14(3,7)
Oil system capacity including filters	liter(US gal)		35(9,2)
Oil pressure at rated speed	kPa(psi)		250-500(36,3-72,6)
Oil temperature			
normal	°C(°F)		---
max	°C(°F)		120(248)
Engine angularity			
longitudinal	degrees		30°
trasverse	degrees		30°
Servicing intervall	hours		600
Oil specification			ACEA E3/E5
Oil consumption	%fuel		< 0,2

5/ INTAKE SYSTEM			1800 rpm
Air consumption at 100% of load	m <sup>3</sup> /h (Kg/h)		2030 (2355)
Air intake restriction clean filter	kPa (mbar)		2 (20)
Air intake restriction dirty filter	kPa (mbar)		5 (50)
Air filter type			dry

6/ EXHAUST SYTEM			1800 rpm
Gas flow at stand by power	kg/h		2440
Max temperature at PRP (25°C)	°C		580
Max allowable back pressure	kPa (mbar)		5 (50)
Energy to exhaust	kcal/kWh		733

7/ FUEL SYSTEM			1800 rpm
Fuel consumption at			
Stand-By	gr/kWh (l/h) [kg/h]		210 (102,3) [89,5]
full load	gr/kWh (l/h) [kg/h]		210,5 (92,7) [77,9]
80%	gr/kWh (l/h) [kg/h]		223,6 (82,3) [69,1]
50%	gr/kWh (l/h) [kg/h]		220,7 (54,3) [45,6]
Fuel specifications			EN 590
Fuel pump max suction head		m	-

8/ ELECTRIC SYSTEM			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	Amp		1250
cranking current	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			1800 rpm
Without air preheating		°C (°F)	-10(14)
With air preheating		°C (°F)	-25(-13)

10/ EMISSION GASEOUS AND PARTICLES			1800 rpm
No <sub>x</sub>	Oxides of nitrogen	gr/kWh	-
HC	Hydrocarbons	gr/kWh	-
NMHC + NO <sub>x</sub>		gr/kWh	3,8
CO	Carbon monoxide	gr/kWh	0,8
PT	Particulate	gr/kWh	0,18