

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	
Electronic Control Unit	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 ³)	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 ² (lbf ²)	1,05(24,8)
flywheel only	Kgm ² (lbf ²)	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 ³ /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 ³ /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 PARTICULATE

1800 rpm

No _x	Oxides of nitrogen	gr/kWh	-
HC	Hydrocarbons	gr/kWh	-
NMHC + NO _x		gr/kWh	3,8
CO	Carbon monoxide	gr/kWh	0,8
PT	Particulate	gr/kWh	0,18