

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 (lbft ²)	1,05(24,8)
flywheel only	Kgm ² (lbft 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%parafllu 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