

N45 TE2F

100 kW (1500 rpm) - 125 (1800rpm)

Engine N45 TE2F

1/ GENERAL			1500 rpm	1800 rpm
Engine model			N45 TE2F	
Basic engine			5802025390XY	
Engine Type			F4HE0485B*J/F4HE0485E*J	
Number cylinders			4	
Firing order (N° 1 nearest to fan)			1-3-4-2	
Cylinder arrangement			in line	
Valves per cylinder			4	
Cycle			diesel 4 stroke	
Injection system			direct common rail	
Electronic engine control unit			BOSCH EDC7 UC31	
Induction System			Turbocharged aftercooled air/air	
Bore	mm		104	
Stroke	mm		132	
Total displacement	liter		4,5	
Mean piston speed	m/s		6,6	7,9
Compression ratio			17,5 : 1	
Flywheel rotation			anti clockwise viewed on flywheel	
Housing flywheel			SAE 3	
Flywheel			11"1/2	
Moment of inertia				
	without flywheel	kgm ²	0,14	
	flywheel only	kgm ²	0,71	
Degree of irregularity at PRP			0,067	0,044
BMEP gross				
	Prime Power	bar/kpa	16,2 /1620	16,8 /1690
	Stand By Power	bar/kpa	17,8/1770	18,5/1850
Dry weight (including cooling package)	kg		~ 500	
Energy to coolant	kcal/kWh		341	333
Energy to charge cooler	kcal/kWh		115	120
Energy to radiation	kcal/kWh		175	172
Dimensions L x W x H	mm		1367 X 753 X 1086	

2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	73	91
Prime Power	(gross)	kWm	91	114
Stand-By Power	(gross)	kWm	100	125
Fan consumption		kWm	1,6	2,8
Continuous Power	(net)	kWm	71,4	88,2
Prime Power	(net)	kWm	89,4	111,2
Stand by Power	(net)	kWm	98,4	122,2
Performance condition				
	temperature	°C	≤ 40	
	altitude a.s.l	m	≤ 1000	
Derating				
	temperature > T 40°C	%/5°C	2%	
	altitude >1000 <3000 m	%/500m	3%	
	altitude >3000 m	%/500m	6%	

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3/ COOLING PACKAGE

1500 rpm 1800 rpm

		1500 rpm	1800 rpm
Type		liquid	
Recommended coolant		see FPT specific document	
Coolant capacity			
engine only	liter	8,5	
radiator and hoses	liter	10	
Coolant pump flow	l/min	103,3	123,9
Engine cooling outlet (max power)	°C	90	
Engine cooling inlet (max power)	°C	85	
Thermostat: start to open	°C	80	
Thermostat: fully open	°C	96	
Pressure cap setting	kpa (bar)	75 (0,75)	
Shutdown switch setting	°C	103	
Maximum additional restriction	Pa	150	
Air To Boil	Prime Power	°C	60
Fan			
diamètre	mm	500	500
number of blades		10	10
drive ratio		1,41 : 1	1,41 : 1
speed	rpm	2115	2538
air flow	m ³ /s	1,6	2
power consumption	kWm	1,6	2,8

4/ LUBRICATION SYSTEM

1500 rpm 1800 rpm

Oil sump capacity			
max	liter	8,5	
min	liter	5,5	
Oil system capacity including filter	liter	12,8	
Oil pressure at rated speed	kPa	300-500	
Oil temperature			
normal	°C	---	
max	°C	120	
Engine angularity			
longitudinale	degrees	25°	
transverse	degrees	25°	
Servicing intervall	hours	600	
Oil specification		see FPT specific document	
Oil consumption	%fuel	< 0,1	

5/ INTAKE SYSTEM

1500 rpm 1800 rpm

Air consumption at 100% of load	m ³ /h (kg/h)	528	603
Air intake restriction, clean filter	kPa (mbar)	2 (20)	2 (20)
Air intake restriction dirty filter	kPa (mbar)	4,5 (45)	4,5 (45)
Air filter type		dry	dry

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6/EXHAUST SYSTEM			1500 rpm	1800 rpm
Gas flow at stand by Power	kg/h		548	628
Max temperature at PRP (25°C)	°C		460	462
Max allowable back pressure	kPa (mbar)		18 (180)	
Energy to exhaust	kcal/kWh		608	662

7/ FUEL SYSTEM			1500 rpm	1800 rpm
Fuel consumption at				
Stand-By	gr/kWh [kg/h] (l/h)		208,5 [20,9] (24,7)	213 [27] (31,8)
Full load	gr/kWh [kg/h]		210,7 [19,2] (22,6)	213 [24] (28,2)
80%	gr/kWh [kg/h]		215,4 [15,7] (18,5)	216 [21,2] (24,9)
50%	gr/kWh [kg/h]		225,4 [11,3] (13,4)	241 [14,5] (17,1)
Fuel specifications see FPT specific document				
Feed pump max suction head	m		---	

8/ ELECTRIC SYSTEM			1500 rpm	1800 rpm
Voltage (negative to ground)	V		12	
Starter motor				
make			Bosch	
Power	kW		3	
pull current	Amp		60	
hold current	Amp		12	
break away current	Amp		1580	
cranking current	Amp		0	
Number of teeth on starter motor			10	
Number of teeth on flywheel			125	
Starting batteries				
recommended capacity	Ah	1x	100	
discharge current	Amp		650	
(EN 50342)				
Alternator				
voltage	V		14	
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 _x	Oxides of nitrogen	gr/kWh	3,61	3,45
HC	Hydrocarbons	gr/kWh	0,17	0,2
No _x +HC		gr/kWh	3,78	3,65
CO	Carbon monoxide	gr/kWh	0,89	0,89
PT	Particles	gr/kWh	0,165	0,148