

# N67 TE1F

150 kW (1500rpm) - 165 kW (1800rpm)

Engine N67 TE1F

1/ GENERAL			1500 rpm	1800 rpm
Engine model	NEF67 TE1F			
Basic engine	58001424211XY			
Engine Type	F4HE0685G*J/F4HE0685D*J			
Number cylinders	6			
Firing order (cylinder 1 nearest to fan)	1-5-3-6-2-4			
Cylinder arrangement	in line			
Valves per cylinder	2			
Cycle	diesel 4 stroke			
Injection system	direct			
Electronic engine control unit	BOSCH EDC7 UC31			
Induction System	Turbocharged aftercooled air/air			
Bore	mm	104		
Stroke	mm	132		
Total displacement	lit	6,7		
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 <sup>2</sup>	0,31	
	flywheel only	kgm <sup>2</sup>	0,71	
Degree of irregularity at PRP			0,044	0,029
BMEP gross				
	Prime Power	bar/kPa	16,29 / 1629	14,9/1490
	Stand-by Power	bar/kPa	17,9 / 1791	16,4/1640
Dry weight (including cooling package)	kg		~ 630	
Energy to coolant	kcal/kWh		350	340
Energy to charge cooler	kcal/kWh		125	146
Energy to radiation	kcal/kWh		160	163
Dimensions L x W x H	mm		1713 x 796 x 1230	

2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	110	120
Prime Power	(gross)	kWm	136,5	150
Stand-By Power	(gross)	kWm	150	165
Fan consumption		kWm	4,8	8,3
Continuous Power	(net)	kWm	105,2	111,7
Prime Power	(net)	kWm	131,7	141,7
Stand-By Power	(net)	kWm	145,2	156,7
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%	

<b>3/ COOLING SYSTEM</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Type			liquid	
Recommended coolant			see FPT specific document	
Coolant capacity				
engine only	liter		10,5	
radiator and hoses	liter		15	
Coolant pump flow	l/min		141	169
Engine cooling outlet (max power)	°C		85	
Engine cooling inlet (max power)	°C		80	
Thermostat: start to open	°C		80	
Thermostat: fully open	°C		96	
Pressure cap setting	kPa (bar)		100 (1,0)	
Shutdown switch setting	°C		103	
Maximum additional restriction	Pa		196	
Air To Boil	Prime Power	°C	58	58
Fan				
diameter	mm		685	685
number of blades			12	12
drive ratio			1,41 : 1	1,4:1
speed	rpm		2115	2538
air flow	m <sup>3</sup> /s		3,8	4,8
power consumption	kWm		4,8	8,3

<b>4/ LUBRICATION SYSTEM</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Oil sump capacity				
max	liter		12	
min	liter		8	
Oil system capacity including filter	liter		17,2	
Oil pressure at rated speed	kPa		300-500	
Oil temperature				
normal	°C		---	
max	°C		120	
Engine Angularity				
longitudinal	degrees		35°	
transverse	degrees		35°	
Servicing interval	hours		600	
Oil specification			see FPT specific document	
Oil consumption	%fuel		< 0,1	

<b>5/ INTAKE SYSTEM</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Air consumption at 100 % of load	(Kg/h)		823	956
Air intake restriction, clean filter	kPa (mbar)		2 (20)	
Air intake restriction, dirty filter	kPa (mbar)		4,5(45)	
Air filter type			dry	

<b>6/ EXHAUST SYSTEM</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Gas flow at stand-by Power	kg/h		860	991
Max temperature at PRP (25°C)	°C		600	450
Max allowable back pressure	kPa (mbar)		8 (80)	8 (80)
Energy to exhaust	kcal/kWh		614	634

<b>7/ FUEL SYSTEM</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Fuel consumption at				
Stand-By	gr/kWh [kg/h] (l/h)		205 [30,7] (36,4)	213 [35] (41,2)
Full load	gr/kWh [kg/h] (l/h)		210 [28,6] (33,5)	215 [32,3] (38,1)
80%	gr/kWh [kg/h] (l/h)		216 [23,7] (27,8)	222 [30] (35,3)
50%	gr/kWh [kg/h] (l/h)		235 [17] (20)	223 [21] (24,7)
Fuel specifications			see FPT specific document	
Feed pump max suction head	m		---	

<b>8/ ELECTRIC SYSTEM</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Voltage (negative to ground)	V		12	
Starter motor				
make			Bosch	
power	kW		3	
pull current	Amp		60	
hold current	Amp		12	
break away current +20°C	Amp		1580	
cranking current +20°C	Amp		0	
Number of teeth on starter motor			10	
Number of teeth on flywheel			125	
Starting batteries				
recommended capacity	Ah	1x	180	
discharge current	Amp		800	
(EN 50342)				
Alternator				
voltage	V		14	
charge	Amp		90	

<b>9/ COLD STARTING</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
Without air preheating	°C		-10	
With air preheating	°C		-25	

<b>10/ EMISSION GASEOUS AND PARTICLES</b>			<b>1500 rpm</b>	<b>1800 rpm</b>
No <sub>x</sub>	Oxides of nitrogen	gr/kWh	3,59	3,49
HC	Hydrocarbons	gr/kWh	0,15	0,22
No <sub>x</sub> +HC		gr/kWh	3,74	3,71
CO	Carbon monoxide	gr/kWh	0,94	0,82
PT	Particles	gr/kWh	0,12	0,15