N45 TM3

118 kW (1500 rpm) - 122 kW (1800 rpm)

1/ GENERAL		1500 g/1'	1800 g/1'
Engine model		N45 TM3	
Basic engine		F4GE0485A*B - 5801668715	
Number cylinders		4	
Firing order (N°1 nearest to fan)		1-3-4-2	
Cylinder arrangement		in linea	
Valves per cylinder		2	
Type		diesel 4 tempi	
Injection system		diretta	
Induction System		Turbo aftercooler aria/aria	
Bore	mm	104	
Stroke	mm	132	
Total displacement	lit	4,5	
Mean piston speed	m/s	6,6	7.9
Compression ratio		17,5 : 1	
Flywheel rotation		antiorario	
Housing flywheel		SAE 3	
Flywheel		11"1/2	
Moment of inertia			
without flywheel	kgm^2	0,14	
flywheel only	kgm^2	0,71	
BMEP			
Prime Power	bar/kPa	19,3 / 1937	16.9 / 1689
Stand-by Power	bar/kPa	21,3 / 2130	18.5 /1852
Dry weight (including cooling package)	kg	~500	
Energy to coolant	kcal/kWh	334	410
Energy to charge cooler	kcal/kWh	118	135
Energy to radiation	kcal/kWh	215	215
Dimensions L x W x H	mm	1367 X 753 X 1086	

2/ PERFORMANCES			1500 g/1'	1800 g/1'
Continuous Power	(gross)	kWm	87,5	91*
Prime Power	(gross)	kWm	109	114*
Stand-By Power	(gross)	kWm	120	125*
Fan consumption		kWm	2	3
Continuous Power	(net)	kWm	85,5	89*
Prime Power	(net)	kWm	107	111*
Stand-By Power	(net)	kWm	118	122*
Performance conditions				
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%	
Load Acceptance (ISO 8528-5)** %(G2)			50%	55%

*maximum allowed power on the switchable version
** impact load test performed with specific alternator according to FPT testing rules

3/ COOLING SYSTEM		1500 g/1'	1800 g/1'
Type		liquido	
Recommanded coolant		acqua + 50 % paraflu 11	
Coolant capacity			
motor only	litri	8,5	
radiator and hose	litri	10	
Coolant pump flow	l/min	103,3	123.9
Pression cap setting	kPa (bar)	70 (0,7)	
Shutdown switch setting	°C	103	
Maximal additional restriction	Pa	147	
Air To Boil Prime Power	°C	50	50
Fan			
diameter	mm	500	
number of blades		10	
drive ratio		1,41 : 1	
speed	giri/1'	2115,0	2358,0
air flow	m^3/s	2,2	2.6
power consumption	kWm	1,8	2.8

4/ LUBRICATION SYSTEM		1500 g/1'	1800 g/1'
Oil sump capacity			
max	liter	8,5	
min	liter	5,5	
Oil system capacity including filters	liter	12,8	
Oil pressure at PRP	kPa	300-500	
Oil temperature			
normal	°C	---	
max	°C	120	
Engine angularity			
longitudinal	degrees	25°	
trasverse	degrees	25°	
Servicing intervall	hours	800	
Oil specification		ACEA E3 / E5	
Oil consumption	%fuel	< 0,1	

5/ INTAKE SYSTEM		1500 g/1'	1800 g/1'
Air consumption at 100% of load	m^3/h (kg/h)	427 (512,5)	507 (609,3)
Air intake restriction clean filter	kPa (mbar)	2 (20)	
Air intake restriction dirty filter	kPa (mbar)	5 (50)	
Air filter type		secco	

6/ EXHAUST SYTEM		1500 g/1'	1800 g/1'
Gas flow at stand by power	kg/h	538	650
Max temperature at PRP (25°C)	°C	540	582
Max allowable back pressure	kPa (mbar)	5 (50)	
Energy to exhaust	kcal/kWh	590	785,3

7/ FUEL SYSTEM		**1500 g/1'**	**1800 g/1'**
Fuel consumption at			
Stand-By	gr/kWh (l/h) [kg/h]	212(30,4) [25,4]	217 (32,4) (27,1)
full load PRP	gr/kWh (l/h) [kg/h]	211 (27,6) [23]	216 (29,3)(24,5)
80%	gr/kWh (l/h) [kg/h]	206 (21,6) [18]	220 (23,9) (20,0)
50%	gr/kWh (l/h) [kg/h]	220 (14,4) [12]	226 (15,3) (12,8)
Fuel specifications		EN 590	
Fuel pump max suction head	m	---	
Injection pump	type STANADYNE	DB4429	
Fuel density	kg/l	0,835	

8/ ELECTRIC SYSTEM		**1500 g/1'**	**1800 g/1'**
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		
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)			
Stop solenoid energized to run			
Alternator			
voltage	V	14	
charge	Amp	90	

9/ COLD STARTING		**1500 g/1'**	**1800 g/1'**
Without air preheating	°C	-10	
With air preheating	°C	-25	

10/ EMISSION GASEOUS AND PARTICLES			**1500 g/1'**	**1800 g/1'**
No_x	Oxides of nitrogen	gr/kWh	-	-
HC	Hydrocarbons	gr/kWh	-	-
No_x+HC		gr/kWh	-	-
CO	Carbon monoxide	gr/kWh	-	-
PT	Particles	gr/kWh	-	-