

N45 TM3

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

Motore N45 TM3

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	1,8	2,8
Continuous Power	(net)	kWm	85,7	88,8*
Prime Power	(net)	kWm	107,2	111*
Stand-By Power	(net)	kWm	118,2	122.2*
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



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3/ COOLING SYSTEM			1500 g/1'	1800 g/1'
Type			liquido	
Recommended 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

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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	-	-