N45 SM3

81 kW (1500 rpm) - 97 kW (1800 rpm)

1/ GENERAL		1500 rpm	1800 rpm
Engine model		N45 SM3	
Basic engine		F4GE0455A*B - 5801734702	
Number cylinders		4	
Firing order (N°1 nearest to fan)		1-3-4-2	
Cylinder arrangement		in line	
Valves per cylinder		2	
Type		diesel 4 stroke	
Injection system		direct	
Induction System		Turbocharged	
Bore	mm	104	
Stroke	mm	132	
Total displacement	liter	4,5	
Mean piston speed	m/s	6,6	info not yet available
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	
BMEP			
Prime Power	bar/kPa	13,26 / 1326	info not yet available
Stand-by Power	bar/kPa	14,57 / 1457	info not yet available
Dry weight (including cooling package)	kg	~450	
Energy to coolant	kcal/kWh	412	info not yet available
Energy to radiation	kcal/kWh	335	info not yet available
Dimensions L x W x H	mm	1259 x 657 x 1016	

2/ PERFORMANCES			1500 rpm	1800 rpm
Continuous Power	(gross)	kWm	59,7	info not yet available
Prime Power	(gross)	kWm	74,6	info not yet available
Stand-By Power	(gross)	kWm	82,0	info not yet available
Fan consumption		kWm	1,3	info not yet available
Continuous Power	(net)	kWm	58,4	info not yet available
Prime Power	(net)	kWm	73,3	88 (preliminary)
Stand-By Power	(net)	kWm	81	97 (preliminary)
Performance conditions				
temperature		°C	≤ 40	
altitude a.s.l		m	≤ 1000	
Derating				
temperature > T 40°C		%/5°C	3%	
altitude >1000 <3000 m		%/500m	0,03	
altitude > 3000 m		%/500m	6%	

FPT POWERTRAIN TECHNOLOGIES

N45 SM3

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3/ COOLING SYSTEM		1500 rpm	1800 rpm
Type		liquid	
Recommanded coolant		water + 50%paraflu 11	
Coolant capacity			
motor only	liter	8,5	
radiator and hose	liter	10	
Coolant pump flow	l/min	103,3	info not yet available
Pression cap setting	kPa (bar)	70 (0,7)	
Shutdown switch setting	°C	103	
Maximal additional restriction	Pa	147	
Air To Boil Prime Power	°C	49	info not yet available
Fan			
diameter	mm	500	
number of blades		8	
drive ratio		1,41 : 1	
speed	rpm	2115,0	info not yet available
air flow	m^3/s	2,2	info not yet available
power consumption	kWm	1,3	info not yet available

4/ LUBRICATION SYSTEM		1500 rpm	1800 rpm
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 rpm	1800 rpm
Air consumption at 100% of load	m^3/h (Kg/h)	273 (327)	info not yet available
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		1500 rpm	1800 rpm
Gas flow at stand by power	kg/h	345	info not yet available
Max temperature at PRP (25°C)	°C	516	info not yet available
Max allowable back pressure	kPa (mbar)	5 (50)	
Energy to exhaust	kcal/kWh	543	info not yet available

FPT POWERTRAIN TECHNOLOGIES

N45 SM3

81 kW (1500 rpm) - 97 kW (1800 rpm)

7/ FUEL SYSTEM		1500 rpm	1800 rpm
Fuel consumption at			
Stand-By	gr/kWh (l/h) [kg/h]	215,8 (21,2) [17,7]	info not yet available
full load PRP	gr/kWh (l/h) [kg/h]	216,7 (19,4) [16,17]	info not yet available
80%	gr/kWh (l/h) [kg/h]	215,4 (15,4) [12,86]	info not yet available
50%	gr/kWh (l/h) [kg/h]	214,4 (9,6) [8]	info not yet available
Fuel specifications		EN 590	
Fuel pump max suction head	m	---	
Injection pump	type STANADYNE	DB4429	

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(+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	1 x 100	
discharge current	Amp	650	
(EN 50342)			
Stop solenoid energized to run			
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	-	-
HC	Hydrocarbons	gr/kWh	-	-
No_x+HC		gr/kWh	-	-
CO	Carbon monoxide	gr/kWh	-	-
PT	Particles	gr/kWh	-	-

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