

N45 AM2

50 kW (1500 rpm)

Engine N45 AM2

1/ GENERAL

1500 g/1'

Engine model		NEF45 AM2
Basic engine		F4GE0405A*B601 - 5801668715
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		Natural
Bore	mm	104
Stroke	mm	132
Total displacement	liter	4,5
Mean piston speed	m/s	6,6
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	7,7 / 7700
Stand-by Power	bar/kPa	8,75 / 8750
Dry weight (including cooling package)	kg	~400
Energy to coolant	kcal/kWh	650
Energy to radiation	kcal/kWh	130
Dimensions L x W x H	mm	1035 x 640 x 965

2/ PERFORMANCES

1500 g/1'

Continuous Power	(gross)	kWm	37,2
Prime Power	(gross)	kWm	46,5
Stand-By Power	(gross)	kWm	51,0
Fan consumption		kWm	1,3
Continuous Power	(net)	kWm	36
Prime Power	(net)	kWm	45
Stand-By Power	(net)	kWm	49,7
Performance conditions			
temperature		°C	≤ 40
altitude a.s.l		m	≤ 1000
Derating			
temperature > T 40°C		%/5°C	3%
altitude >1000 m		%/500m	4%

3/ COOLING SYSTEM

1500 g/1'

Type			liquido
Recommended coolant			acqua - paraflu 50 %
Coolant capacity			
motor only	liter		8,5
radiator and hose	liter		10
Coolant pump flow	l/min		103,26
Pression cap setting	kPa (bar)		70 (0,7)
Shutdown switch setting	°C		103
Maximal additional restriction	Pa		46
Air To Boil	Prime Power	°C	57
Fan			
diameter	mm		450
number of blades			8
drive ratio			1,4 : 1
speed	rpm		
air flow	m ³ /s		
power consumption	kWm		

4/ LUBRICATION SYSTEM

1500 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'

Air consumption at 100% of load	m ³ /h (Kg/h)		170(200)
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'

Gas flow at stand by power	kg/h		211
Max temperature at PRP (25°C)	°C		504
Max allowable back pressure	kPa (mbar)		10 (100)
Energy to exhaust	kcal/kWh		658

7/ FUEL SYSTEM			1500 g/1'
Fuel consumption at			
Stand-By	gr/kWh (l/h) [kg/h]		239 (14,6) [12,2]
full load PRP	gr/kWh (l/h) [kg/h]		208,5 (11,6) [12,2]
80%	gr/kWh (l/h) [kg/h]		220,5 (9,8) [8,2]
50%	gr/kWh (l/h) [kg/h]		224 (6,2) [5,2]
Fuel specifications			EN 590
Fuel pump max suction head	m		---
Injection pump	type STANADYNE		DB 44

8/ ELECTRIC SYSTEM			1500 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	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'
Without air preheating	°C		-10
With air preheating	°C		-25

10/ EMISSION GASEOUS AND PARTICLES			1500 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	-