

F32 AM1A

31,5 kW (1500 g/1')

1/ GENERAL

1500 rpm

Engine model	F32AM1A	
Basic engine type	F5CE0405A*B001 - 504351914	
Number cylinders	4	
Firing order (N° 1 nearest to fan)	1-3-4-2	
Cylinder arrangement	in line	
Valves per cylinder	2	
Cycle	diesel 4 stroke	
Injection system	direct	
Induction System	Natural Aspirated	
Bore	mm	99
Stroke	mm	104
Total displacement	lit	3,2
Mean piston speed	m/s	5,2
Compression ratio	17:1	
Flywheel rotation	anti clockwise viewed on flywheel	
Housing flywheel	SAE 3	
Flywheel	11"1/2	
Moment of inertia		
without flywheel	kam ²	0,28
flywheel only	kam ²	0,79
BMEP gross		
Prime Power	bar/kPa	7,25
Stand-by Power	bar/kPa	7,8
Dry weight (including cooling package)	kg	360
Energy to coolant	kcal/kWh	1034
Energy to radiation	kcal/kWh	196
Dimensions L x W x H	mm	1122 x 578 x 841

2/ PERFORMANCES

1500 rpm

Continuous Power	(gross)	kWm	23,2
Prime Power	(gross)	kWm	29
Stand-By Power	(gross)	kWm	32
Fan consumption		kWm	0,5
Continuous Power	(net)	kWm	22,7
Prime Power	(net)	kWm	28,5
Stand-By Power	(net)	kWm	31,5
Performance condition			
temperature	°C		≤ 40
altitude a.s.l	m		≤ 1000
Derating			
temperature > T 40°C	%/5°C		3
altitude >1000 <3000 m	%/500m		4
altitude >3000 m	%/500m		6

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3/ COOLING SYSTEM

1500 rpm

Type		liquid	
Recommended coolant		water - paraflu 50%	
Coolant capacity			
engine only	liter	4,27	
radiator and hoses	liter	15	
Coolant pump flow	l/min	95	
Pressure cap setting	kPa (bar)	100 (1,0)	
Shutdown switch setting	°C	103	
Maximum additional restriction	Pa	-	
Air To Boil	Prime Power	°C	58
Fan			
diameter	mm	450	
number of blades		10	
drive ratio		1,3 : 1	
speed	rpm	1950	
air flow	m ³ /s	1,4	
power consumption	kWm	0,5	

4/ LUBRICATION SYSTEM

1500 rpm

Oil sump capacity		
max	liter	8,5
min	liter	6,5
Oil system capacity including filter	liter	10,5
Oil pressure at rated speed	kPa	300
Oil temperature		
normal	°C	101
max	°C	115
Engine angularity		
longitudinal	degrees	45°
transverse	degrees	45°
Servicing interval	hours	600
Oil specification		ACEA E3/E5
Oil consumption	%fuel	< 0,1

5/ INTAKE SYSTEM

1500 rpm

Air consumption at 100 % of load	m ³ /h (Ka/h)	112 (144)
Air intake restriction, clean filter	kPa (mbar)	2 (20)
Air intake restriction, dirty filter	kPa (mbar)	5 (50)
Air filter type		dry

6/ EXHAUST SYSTEM

1500 rpm

Gas flow at stand-by Power	kg/h	152
Max temperature at PRP (25°C)	°C	400
Max allowable back pressure	kPa (mbar)	5 (50)
Energy to exhaust	kcal/kWh	446

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7/ FUEL SYSTEM

1500 rpm

Fuel consumption at

Stand-By	gr/kWh (l/h) [kg/h]	246,5 (9,6) [7,9]
Full load	gr/kWh (l/h) [kg/h]	235 (8,3) [6,8]
80%	gr/kWh (l/h) [kg/h]	227 (6,5) [5,3]
50%	gr/kWh (l/h) [kg/h]	240 (4,3) [3,5]
Fuel specifications		EN 590
Feed pump max suction head	m	---
Injection pump	type STANADYNE	DB4427-XXXX

8/ ELECTRIC SYSTEM

1500 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	1x	100
discharge current	Amp	650
(EN 50342)		
Stop solenoid energized to run	Amp	0
Alternator		
voltage	V	14
charge	Amp	95

9/ COLD STARTING

1500 rpm

Without air preheating	°C	-10
With air preheating	°C	-25

10/ EMISSION GASEOUS AND PARTICLES

1500 rpm

No _x	Oxides of nitrogen	gr/kWh	7,05
HC	Hydrocarbons	gr/kWh	0,3
No _x +HC		gr/kWh	-
CO	Carbon monoxide	gr/kWh	2,96
PT	Particles	gr/kWh	0,254