N45 TM2X

95 kW (1800 rpm)

1/ GENERAL		1800 rpm
Engine model		N45 TM2X
Basic engine		F4GE9485A*J600 - 504227861XY
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 aftercooled air/air
Bore	mm(in)	104(4,1)
Stroke	mm(in)	132(5,2)
Total displacement	lit(in^3)	4,5(275)
Mean piston speed	m/s(ft/s)	7,9(25,9)
Compression ratio		17,5 : 1
Flywheel rotation		anti clockwise viewed on flywheel
Housing flywheel		SAE 3
Flywheel		11"1/2
Moment of inertie		
without flywheel	$Kgm^2(lbft^2)$	0,19(4,49)
flywheel only	$Kgm^2(lbft^2)$	0,71(16,8)
BMEP		
Prime Power	bar(psi)	13,4(194,4)
Stand-by Power	bar(psi)	14,7(213,2)
Dry weight (including cooling package)	kg(lb)	500(1102)
Energy to coolant	kcal/kWh	432
Energy to charge cooler	kcal/kWh	157
Energy to radiation	kcal/kWh	96
Dimensions L x W x H	mm(in)	1367 x 753 x 1085(53,8x29,6x42,7)

2/ PERFORMANCES			1800 rpm
Continuous Power	(gross)	kWm(hp)	71,3(95,6)
Prime Power	(gross)	kWm(hp)	89(119,3)
Stand-By Power	(gross)	kWm(hp)	98(131,4)
Fan consumption		kWm(hp)	2,7(3,6)
Continuous Power	(net)	kWm(hp)	69,3(92,9)
Prime Power	(net)	kWm(hp)	86,7(116,3)
Stand-By Power	(net)	kWm(hp)	95,3(127,8)
Performance conditions			
temperature		°C(°F)	≤ 40(104)
altitude s.l.m		m(ft)	≤ 1000(3281)
Derating			
temperature > T 40°C		%/5°C	3
altitude >1000 <3000 m		%/500m	3
altitude >3000 m		%/500m	6

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3/ COOLING PACKAGE

			1800 rpm
Type			liquid
Recommanded coolant			water + 50%paraflu 11
Coolant capacity			
	motor only	liter(US gal)	8,5(1,9)
	radiator and hose	liter(US gal)	10(2,64)
Coolant pump flow		l/min(US gal/min)	123,91(32,73)
Pression cap setting		kPa (bar)	75 (0,75)
Shutdown switch setting		°C(°F)	103(217,4)
maximal additional restriction		Pa(psi)	147(0,02)
Air To Boil	Prime Power	°C(°F)	55(131)
Fan			
	diameter	mm(in)	500(19,7)
	number of pale		10
	drive ratio		1,4 : 1
	speed	rpm	2538
	air flow	m^3/s	3
	power consumption	kWm(hp)	2,7(0,94)

4/ LUBRICATION SYSTEM

		1800 rpm
Oil sump capacity		
max	liter(US gal)	8,5(1,9)
min	liter(US gal)	5,5(1,45)
Oil system capacity including filters	liter(US gal)	12,8(3,4)
Oil pressure at rated speed	kPa(psi)	300-500(43,5-72,6)
Oil temperature		
normal	°C(°F)	---
max	°C(°F)	120(248)
Engine angularity		
longitudinal	degrees	25°
trasverse	degrees	25°
Servicing intervall	hours	600
Oil specification		ACEA E3 /E5
Oil consumption	%fuel	< 0,1

5/ INTAKE SYSTEM

		1800 rpm
Air consumption at 100% of load	m^3/h (Kg/h)	520 (624)
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

		1800 rpm
Gas flow at stand by power	kg/h	645
Max temperature at PRP (25°C)	°C	475
Max allowable back pressure	kPa (mbar)	5 (50)
Energy to exhaust	kcal/kWh	713

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7/ FUEL SYSTEM

		1800 rpm
Fuel consumption at		
Stand-By	gr/kWh (l/h) [kg/h]	221,8 (25,9) [21,7]
full load	gr/kWh (l/h) [kg/h]	232,6 (24,6) [20,7]
80%	gr/kWh (l/h) [kg/h]	232,4 (20) [16,8]
50%	gr/kWh (l/h) [kg/h]	230,6 (13,3) [11,1]
Fuel specifications		EN 590
Fuel pump max suction head	m	-
Injection pump	type STANADYNE	DB4429-XXXX

8/ ELECTRIC SYSTEM

			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	Amp	1580
	cranking current	Amp	0
Number of teeth on Starter motor			10
Number of teeth on flywheel			125
Starting batteries			
	recommended capacity	Ah 1x	100
	discharge current (EN 50342)	Amp	650
Stop solenoide energized to run		Amp	0
Alternator			
	voltage	V	14
	charge	Amp	90

9/ COLD STARTING

		1800 rpm
Without air preheating	°C(°F)	-10(14)
With air preheating	°C(°F)	-25(-13)

10/ EMISSION GASEOUS AND PARTICLES

			1800 rpm
No_x	Oxides of nitrogen	gr/kWh	-
HC	Hydrocarbons	gr/kWh	-
NMHC + NO_x		gr/kWh	3,8
CO	Carbon monoxide	gr/kWh	0,9
PT	Particulate	gr/kWh	0,16

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