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Engine ref.	KDW1003
Kohler Alternator description	E1C13S C/4
Performance class	G1

GENERAL CHARACTERISTICS

Frequency (Hz)	50 Hz
Voltage (V)	230 single phase

DESCRIPTIVE

PROJECTOR

Number of projectors	4
Projector model	Metal Halide
Total power (We)	4000
Luminosity (lumens)	340000

FULL VERSION DIMENSION

Length (mm)	3127
Width (mm)	1492
Height (mm)	2270
Dry weight (kg)	1095,00
Tank capacity (L)	110,00
Autonomy @ 75% of load (h)	
Autonomy @ 50% of load (h)	

POWER DEFINITION

PRP : Prime Power is available for an unlimited number of annual operating hours in variable load applications, in accordance with ISO 8528-1. ESP : The standby power rating is applicable for supplying emergency power in variable load applications in accordance with ISO 8528-1. Overload is not allowed.

TERMS OF USE

According to the standard, the nominal power assigned by the genset is given for 25°C Air Intlet Temperature, of a barometric pressure of 100 kPA (100 m A.S.L), and 30 % relative humidity. For particular conditions in your installation, refer to the derating table.

ASSOCIATED UNCERTAINTY

For the generating sets used indoor, where the acoustic pressure levels depends on the installation conditions, it is not possible to specify the ambient noise level in the exploitation and maintenance instructions . You will also find in our exploitation and maintenance instructions a warning concerning the air noise dangers and the need to implement appropriated preventive measures.

SOUND LEVELS

Acoustic pressure level @1m in dB(A) 50Hz (75% PRP) (Associated uncertainty)	71
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP) (Associated uncertainty)	61

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATAS

Engine brand	KOHLER KDI
Engine ref.	KDW1003
Air inlet system	Atmo
Cylinder configuration	L
Number of cylinders	3
Displacement (l)	1,03
Charge Air coolant	
Bore (mm) x Stroke (mm)	75,00 x 77,6
Compression ratio	22,8 : 1
Speed 50Hz (RPM)	1500
Pistons speed (m/s)	3,88
Maximum stand-by power at rated RPM (kW)	8,5
Frequency regulation, steady state (%)	+/- 2.5%
BMEP @ PRP (bar)	6,0
Governor type	Mechanical

COOLING SYSTEM

Radiator & Engine capacity (l)	4,50
Fan power 50Hz (kW)	0,25
Fan air flow w/o restriction (m3/s)	0,85
Available restriction on air flow (mm H2O)	
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM 50Hz (g/kW.h)	
Emission CO 50Hz (g/kW.h)	
Emission THC+NOx (g/kWh)	0,000
Emission HC 50Hz (g/kW.h)	

EXHAUST

Exhaust gas temperature @ ESP (°C)	440
Exhaust gas flow @ ESP (l/s)	30,7
Max. exhaust back pressure (mm H2O)	750

FUEL

Fuel consumption @ ESP Max Power (l/h)	2,7
Fuel consumption @ PRP Max Power (l/h)	2,5
Fuel consumption @ 75% of PRP Power (l/h)	1,9
Fuel consumption @ 50% of PRP Power (l/h)	1,3
Maximum fuel pump flow (l/h)	50,0

OIL

Oil system capacity including filters (l)	2,40
Min. oil pressure (bar)	1,4
Max. oil pressure (bar)	7,0
Oil consumption 100% ESP 50Hz (l/h)	0,040
Oil sump capacity (l)	2,30

HEAT BALANCE

Heat rejection to exhaust (kW)	9
Radiated heat to ambiant (kW)	1,0
Heat rejection to coolant HT (kW)	9

AIR INTAKE

Max. intake restriction (mm H2O)	200
Combustion air flow (l/s)	12,80

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ALTERNATOR CHARACTERISTICS

Kohler Alternator description	E1C13S C/4
Number of Phase	Single phase
Power factor (Cos Phi)	1,0
Altitude (m)	0 à 1000
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 300% of rated current for 10 s	No
Insulation class	H
T° class (H/125K), continuous 40°C	H / 125°K
T° class (H/163K), standby 27°C	H / 163°K
AVR Regulation	No
Total Harmonic Distortion in no-load DHT (%)	5
Total Harmonic Distortion, on linear load DHT (%)	5.5
Wave form : NEMA=TIF	
Wave form : CEI=FHT	
Number of bearing	Single Bearing
Coupling	Direct
Voltage regulation at established rating (+/- %)	
Recovery time (Delta U = 20% transcient) (ms)	
Indication of protection	IP 21
Technology	Brushless

Continuous Nominal Rating 40°C (kVA)	8,0
Standby Rating 27°C (kVA)	
Efficiencies 100% of load (%)	79,0
Air flow (m3/s)	
Short circuit ratio (Kcc)	
Direct axis synchro reactance unsaturated (Xd) (%)	
Quadra axis synchro reactance unsaturated (Xq) (%)	
Open circuit time constant (T'do) (ms)	
Direct axis transcient reactance saturated (X'd) (%)	
Short circuit transcient time constant (T'd) (ms)	
Direct axis subtranscient reactance saturated (X"d) (%)	
Subtranscient time constant (T"d) (ms)	
Quadra axis subtranscient reactance saturated (X"q) (%)	
Subtranscient time constant (T"q) (ms)	
Zero sequence reactance unsaturated (Xo) (%)	
Negative sequence reactance saturated (X2) (%)	
Armature time constant (Ta) (ms)	
No load excitation current (io) (A)	
Full load excitation current (ic) (A)	
Full load excitation voltage (uc) (V)	
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	
Transcient dip (4/4 load) - PF : 0,8 AR (%)	
No load losses (W)	
Heat rejected to ambient air (kW)	
Unbalanced load acceptance ratio (%)	

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CONTROL PANEL