

R2500C

Engine ref.	16V4000G63E
Kohler Alternator description	KH05793T
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50 Hz
Voltage (V)	400/230

Super Silent version

DESCRIPTIVE

- Connection terminal box rental type
- Retention bund
- Primary fuel filter
- Voltage adjustment
- Oil drainage pump
- Forks lift pocket
- Battery isolating switch
- 3 tracks valve
- Security lighting/Shut-off valve
- Special rental soundproofed container

Standard Control Panel	KERYS

DIMENSION/ SILENT SOUND LEVEL

Type soundproofing	CPU40 Si
Length (mm)	12192
Width (mm)	2438
Height (mm)	4967
Dry weight (kg)	26950,00
Tank capacity (L)	500,00
Autonomy @ 75% of load (h)	
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP) (Associated uncertainty)	86 (0,70)
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP) (Associated uncertainty)	78 (0,70)

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.

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ENGINE CHARACTERISTICS

GENERAL ENGINE DATAS

Engine brand	MTU
Engine ref.	16V4000G63E
Air inlet system	Turbo
Cylinder configuration	V
Number of cylinders	16
Displacement (l)	76,27
Charge Air coolant	Water/Air
Bore (mm) x Stroke (mm)	170,00 x 210,0
Compression ratio	16.5
Speed 50Hz (RPM)	1500
Pistons speed (m/s)	10,50
Maximum stand-by power at rated RPM (kW)	2162,0
Frequency regulation, steady state (%)	+/- 0.25%
BMEP @ PRP (bar)	20,6
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (l)	733,00
Fan power 50Hz (kW)	
Fan air flow w/o restriction (m3/s)	
Available restriction on air flow (mm H2O)	
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (mg/Nm3) 5% O2	<50
Emission CO (mg/Nm3) 5% O2	<300
Emission THC+NOx (g/kWh)	10,580
Emission HC (mg/Nm3) 5% O2	<150

EXHAUST

Exhaust gas temperature @ ESP (°C)	510
Exhaust gas flow @ ESP (l/s)	8200,0
Max. exhaust back pressure (mm H2O)	500

FUEL

Fuel consumption @ ESP Max Power (l/h)	538,0
Fuel consumption @ PRP Max Power (l/h)	503,0
Fuel consumption @ 75% of PRP Power (l/h)	369,0
Fuel consumption @ 50% of PRP Power (l/h)	247,0
Maximum fuel pump flow (l/h)	1500,0

OIL

Oil system capacity including filters (l)	300,00
Min. oil pressure (bar)	3,5
Max. oil pressure (bar)	7,0
Oil consumption 100% ESP 50Hz (l/h)	
Oil sump capacity (l)	240,00

HEAT BALANCE

Heat rejection to exhaust (kW)	1780
Radiated heat to ambiant (kW)	90,0
Heat rejection to coolant HT (kW)	

AIR INTAKE

Max. intake restriction (mm H2O)	150
Combustion air flow (l/s)	3300,00

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ALTERNATOR CHARACTERISTICS

Kohler Alternator description	KH05793T
Number of Phase	Three phase
Power factor (Cos Phi)	0,8
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	Yes
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	Yes
Total Harmonic Distortion in no-load DHT (%)	<3.5
Total Harmonic Distortion, on linear load DHT (%)	<3.5
Wave form : NEMA=TIF	<50
Wave form : CEI=FHT	<2
Number of bearing	Single Bearing
Coupling	Direct
Voltage regulation at established rating (+/- %)	0,50
Recovery time (Delta U = 20% transcient) (ms)	500
Indication of protection	IP 23
Technology	Brushless

Continuous Nominal Rating 40°C (kVA)	2360,0
Standby Rating 27°C (kVA)	2596,0
Efficiencies 100% of load (%)	95,6
Air flow (m3/s)	2,500
Short circuit ratio (Kcc)	0,371
Direct axis synchro reactance unsaturated (Xd) (%)	350,0
Quadra axis synchro reactance unsaturated (Xq) (%)	189,9
Open circuit time constant (T'do) (ms)	2611,54
Direct axis transcient reactance saturated (X'd) (%)	26,9
Short circuit transcient time constant (T'd) (ms)	236,110
Direct axis subtranscient reactance saturated (X"d) (%)	13,5
Subtranscient time constant (T"d) (ms)	13,822
Quadra axis subtranscient reactance saturated (X"q) (%)	13,90
Subtranscient time constant (T"q) (ms)	18,6
Zero sequence reactance unsaturated (Xo) (%)	3,10
Negative sequence reactance saturated (X2) (%)	13,69
Armature time constant (Ta) (ms)	27,254
No load excitation current (io) (A)	1,26
Full load excitation current (ic) (A)	4,56
Full load excitation voltage (uc) (V)	43,9
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	2114,17
Transcient dip (4/4 load) - PF : 0,8 AR (%)	19,25
No load losses (W)	19510,82
Heat rejected to ambient air (kW)	87,91
Unbalanced load acceptance ratio (%)	8

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CONTROL PANEL

KERYS, synchronisation and adaptability



The KERYS Rental control unit has been designed to meet the specific requirements of professionals in terms of operating and monitoring mobile generating sets. It therefore offers a wide range of functions.This control unit is fitted as standard to all generating sets designed to be used for synchronisation and is offered as an option across the rest of our range. This ultra-comprehensive control unit enables highly precise management of the genset parameters. Its multifunction switch can be used to easily select the type of synchronisation adapted to the user's needs (solo, synchronisation between gensets and a single genset coupled to the grid).

The 3 coupling modes available are as follows:

Genset in SOLO use (A612)
Genset coupled in Power plant configuration (A632)
Genset coupled to the grid (1)

(1) In this position, it is possible to select the coupling mode on the screen:

Generating set with permanent grid coupling without normal/emergency switching - grid coupling + resale (A641)
Generating set with permanent grid coupling without normal/emergency switching + 0 Kw power step on grid (A642)
Generating set with temporary grid coupling and normal/emergency switching (A651)
Generating set with permanent grid coupling and normal/emergency switching (A661).

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