



R1400

Engine ref.	S12R-PTA
Kohler Alternator description	KH03890T
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
- Four-pole circuit breaker
- Oil drainage pump
- Dusty atmosphere air filter
- Battery isolating switch
- 3 tracks valve
- Special rental soundproofed container

Standard Control Panel	KERYS
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DIMENSION/ SILENT SOUND LEVEL

Type soundproofing	ISO20 Si
Length (mm)	6058
Width (mm)	2438
Height (mm)	2896
Dry weight (kg)	15400,00
Tank capacity (L)	1500,00
Autonomy @ 75% of load (h)	
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP) (Associated uncertainty)	89 (0,70)
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP) (Associated uncertainty)	80 (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.



R1400

ENGINE CHARACTERISTICS

GENERAL ENGINE DATAS

Engine brand	MITSUBISHI
Engine ref.	S12R-PTA
Air inlet system	Turbo
Cylinder configuration	V
Number of cylinders	12
Displacement (l)	49,03
Charge Air coolant	Water/Air
Bore (mm) x Stroke (mm)	170,00 x 180,0
Compression ratio	14 : 1
Speed 50Hz (RPM)	1500
Pistons speed (m/s)	9,00
Maximum stand-by power at rated RPM (kW)	1220,0
Frequency regulation, steady state (%) +/-	0.25%
BMEP @ PRP (bar)	18,1
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (l)	300,00
Fan power 50Hz (kW)	30,00
Fan air flow w/o restriction (m3/s)	25,90
Available restriction on air flow (mm H2O)	20,00
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (mg/Nm3) 5% O2	120
Emission CO (mg/Nm3) 5% O2	590
Emission THC+NOx (g/kWh)	8,010
Emission HC (mg/Nm3) 5% O2	110

EXHAUST

Exhaust gas temperature @ ESP (°C)	492
Exhaust gas flow @ ESP (l/s)	4300,0
Max. exhaust back pressure (mm H2O)	600

FUEL

Fuel consumption @ ESP Max Power (l/h)	285,6
Fuel consumption @ PRP Max Power (l/h)	258,3
Fuel consumption @ 75% of PRP Power (l/h)	196,7
Fuel consumption @ 50% of PRP Power (l/h)	139,0
Maximum fuel pump flow (l/h)	588,0

OIL

Oil system capacity including filters (l)	180,00
Min. oil pressure (bar)	2,0
Max. oil pressure (bar)	6,4
Oil consumption 100% ESP 50Hz (l/h)	1,150
Oil sump capacity (l)	150,00

HEAT BALANCE

Heat rejection to exhaust (kW)	833
Radiated heat to ambient (kW)	86,0
Heat rejection to coolant HT (kW)	713

AIR INTAKE

Max. intake restriction (mm H2O)	400
Combustion air flow (l/s)	1633,00

Kohler Alternator description	KH03890T	Continuous Nominal Rating 40°C (kVA)	1350,0
Number of Phase	Three phase	Standby Rating 27°C (kVA)	1485,0
Power factor (Cos Phi)	0,8	Efficiencies 100% of load (%)	95,2
Altitude (m)	0 à 1000	Air flow (m3/s)	1,800
Overspeed (rpm)	2250	Short circuit ratio (Kcc)	0,344
Number of pole	4	Direct axis synchro reactance unsaturated (Xd) (%)	364,0
Capacity for maintaining short circuit at 300% of rated current for 10 s	Yes	Quadra axis synchro reactance unsaturated (Xq) (%)	185,0
Insulation class	H	Open circuit time constant (T'do) (ms)	3750,00
T° class (H/125K), continuous 40°C	H / 125°K	Direct axis transient reactance saturated (X'd) (%)	17,4
T° class (H/163K), standby 27°C	H / 163°K	Short circuit transient time constant (T'd) (ms)	180,000
AVR Regulation	Yes	Direct axis subtranscient reactance saturated (X''d) (%)	14,8
Total Harmonic Distortion in no-load DHT (%)	<3.5	Subtranscient time constant (T''d) (ms)	18,000
Total Harmonic Distortion, on linear load DHT (%)	<3.5	Quadra axis subtranscient reactance saturated (X''q) (%)	15,50
Wave form : NEMA=TIF	<50	Subtranscient time constant (T''q) (ms)	18,0
Wave form : CEI=FHT	<2	Zero sequence reactance unsaturated (Xo) (%)	0,70
Number of bearing	Single Bearing	Negative sequence reactance saturated (X2) (%)	15,21
Coupling	Direct	Armature time constant (Ta) (ms)	27,000
Voltage regulation at established rating (+/- %)	0,50	No load excitation current (io) (A)	0,85
Recovery time (Delta U = 20% transient) (ms)	500	Full load excitation current (ic) (A)	3,48
Indication of protection	IP 23	Full load excitation voltage (uc) (V)	43,7
Technology	Brushless	Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	2757,92
		Transient dip (4/4 load) - PF : 0,8 AR (%)	12,00
		No load losses (W)	15281,16
		Heat rejected to ambient air (kW)	53,53
		Unbalanced load acceptance ratio (%)	8

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).