

# KOHLER® POWER SYSTEMS



## DESCRIPTIVE

- Kohler Co. Provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- A one-year limited warranty covers all systems and components
- (MTU/Mitsubishi/Volvo/John Deere) engine with 24-volt battery charging alternator.
- Leroy Somer single-bearing alternator with insulation class H.
- Air cooler for core temperature of 47/50°C with electric fan
- Skid and vibration isolators.
- Dry type air filter.
- Operation and installation literature.

## 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 Inlet 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.

## KX2200

Engine type	16V4000G23F
Alternator type	LSA 51.2M60

## GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	2200
Max power ESP (kWe)	1760
Max power PRP (kVA)	2000
Max power PRP (kWe)	1600
Intensity (A)	3176
Optional control panel	M80
Optional control panel	DEC4000
Optional control panel	KERYS

## DIMENSIONS AND NOISE LEVELS

### DIMENSIONS COMPACT VERSION

Length (in)	182
Width (in)	74
Height (in)	85
Dry weight (lbs)	29277

## POWERS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	1760	2200	1600	2000	3061
400/230	1760	2200	1600	2000	3176
380/220	1760	2200	1600	2000	3343

## KX2200

### ENGINE SPECIFICATIONS

#### GENERAL ENGINE DATAS

Engine model	MTU 16V4000G23F , 4-temps, Turbo , Air/Water DC 16 X
Cylinder arrangement	V
Displacement (C.I.)	4653.99
Bore (in) x Stroke (in)	6.69 x 8.27
Compression ratio	16.5
Speed (RPM)	1500
Pistons speed (ft/s)	34.45
Maximum stand-by power at rated RPM (BHP)	2634.05
Frequency regulation (%)	N/A
BMEP (psi)	273.55
Governor type	Electronic

#### COOLING SYSTEM

Radiator & Engine capacity (gal)	N/A
Max water temperature (°F)	219.2
Outlet water temperature (°F)	212
Fan power (kW)	N/A
Fan air flow w/o restriction (cfm)	N/A
Available restriction on air flow (in. WG)	N/A
Type of coolant	Coolelf mdx
Thermostat (°C)	79/92

#### EMISSIONS

Emission PM (g/kW.h)	N/A
Emission CO (g/kW.h)	N/A
Emission HCNOx (g/kWh)	N/A
Emission HC (g/kW.h)	N/A

#### EXHAUST

Exhaust gas temperature (°F)	896
Exhaust gas flow (cfm)	11441.95
Max. exhaust back pressure (in WG)	19.69

#### FUEL

Consumption @ 110% load (gal/hr)	N/A
Consumption @ 100% load (gal/hr)	105.94
Consumption @ 75% load (gal/hr)	80.85
Consumption @ 50% load (gal/hr)	56.54
Maximum fuel pump flow (gal/hr)	396.3

#### OIL

Oil capacity (gal)	79.26
Min. oil pressure (psi)	50.76
Max. oil pressure (psi)	101.53
Oil consumption 100% load (gal/hr)	0.32
Carter oil capacity (gal)	63.41

#### HEAT BALANCE

Heat rejection to exhaust (Btu/mn)	N/A
Radiated heat to ambient (Btu/mn)	5122.77
Haet rejection to coolant (kW)	710/260

#### AIR INTAKE

Max. intake restriction (in. WG)	5.91
Intake air flow (cfm)	4449.65

#### GENERAL DATAS

Alternator brand	LEROY SOMER
Alternator type	LSA 51.2M60
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 à 1000
Overspeed (rpm)	2250
Number of pole	4
Excitation system	AREP
Insulation class / T° class, continuous 40°C	H / H / 125°K
Regulation	R449
Harmonic factor, no load TGH/THC	N/A
Wave form : NEMA=TIF-(TGH/THC)	N/A
Wave form : CEI=FHT-(TGH/THC)	N/A
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	+/- 0.5%
Recovery time (Delta U = 20% transient) (ms)	N/A

#### OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	2050
Standby Rating 27°C (kVA)	2255
Efficiencies 4/4 load (%)	95.7
Air flow (cfm)	5297.2
Short circuit ratio (Kcc)	0.35
Direct axis synchro reactance unsaturated (Xd) (%)	357
Quadra axis synchro reactance unsaturated (Xq) (%)	214
Open circuit time constant (T'do) (ms)	2770
Direct axis transient reactance saturated (X'd) (%)	26.8
Short circuit transient time constant (T'd) (ms)	245
Direct axis subtransient reactance saturated (X''d) (%)	14
Subtransient time constant (T''d) (ms)	23
Quadra axis subtransient reactance saturated (X''q) (%)	17.5
Zero sequence reactance unsaturated (Xo) (%)	3.3
Negative sequence reactance saturated (X2) (%)	15.7
Armature time constant (Ta) (ms)	41
No load excitation current (io) (A)	1.4
Full load excitation current (ic) (A)	5.5
Full load excitation voltage (uc) (V)	63
Recovery time (Delta U = 20% transient) (ms)	N/A
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	4100
Transient dip (4/4 load) - PF : 0,8 AR (%)	11.8
No load losses (W)	16600
Heat rejection (W)	73000

#### ISO40 CONTAINER

Canopy	ISO40 Si
Length (in).	480
Width (in).	96
Height (in).	114
Dry weight (lbs).	53793
Tank capacity (gal).	132
Acoustic pressure level @1m in dB(A) (associated uncertainty)	92 (0.7)
Sound power level guaranteed (Lwa) in dB(A)	115

#### EUR40 SSI CONTAINER

Canopy	EUR40 SSi
Length (in).	480
Width (in).	96
Height (in).	114
Dry weight (lbs).	54895
Tank capacity (gal).	132
Acoustic pressure level @1m in dB(A)	79 (0.7)

#### DIMENSIONS AND NOISE LEVELS

##### EUR40 SI CONTAINER

Canopy	EUR40 Si
Length (in).	480
Width (in).	96
Height (in).	114
Dry weight (lbs).	53286
Tank capacity (gal).	132
Acoustic pressure level @1m in dB(A) (associated uncertainty)	85 (0.7)
Sound power level guaranteed (Lwa) in dB(A)	108

(associated uncertainty)  
Sound power level guaranteed (Lwa) in  
dB(A) 102

M80, transfer of information



The M80 is a dual-function control unit. It can be used as a basic terminal block for connecting a control box and as an instrument panel with a direct read facility, with displays giving a global view of your generating set's basic parameters.

Offers the following functions:

**Engine parameters:** tachometer, working hours counter, coolant temperature indicator, oil pressure indicator, emergency stop button, customer connection terminal block, CE

DEC4000, ergonomic and user-friendly



DEC4000

Specifications : Frequency meter, Ammeter, Voltmeter

Alarms and faults : Oil pressure, water temperature, No start-up, Overspeed, Min/max alternator, Min/max battery voltage, Low fuel level, Emergency stop

Engine parameters : Hours counter, Oil pressure, Water temperature, Engine speed, Battery voltage, Fuel level

## KERYS, coupling and adaptability



The KERYS control unit has been designed to fulfil the specific requirements of professionals in terms of operating and monitoring 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 coupling and is offered as an option across the rest of our range.

The KERYS can be built into the central console, fitted directly on the generating set, or in a separate cabinet, to fulfil all the requirements for low and high output power plants.

The KERYS offers the following functions:

**Electrical measurements:** voltmeter, frequency meter, ammeter.

**Engine parameters:** working hours counter, oil pressure, coolant temperature, fuel level, engine speed, battery voltage.

**Alarms and faults:** oil pressure, coolant temperature, failure to start, overspeed, alternator min./max., battery voltage min./max., emergency stop.

**Additional functions:** coupling, website, diagnostic aid, assistance and maintenance, graphs and archiving, load impact management, 8 available installation configurations, certification in line with international standards.

For more information, please refer to the sales documentation.