

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.
- Radiator for core T° of 48/50°C max with mechanical fan.
- Skid and vibration isolators.
- Dry type air filter.
- Main line circuit breaker.
- Microprocessor controller.
- Industrial 9 dB(A) reduction exhaust silencer (loose)
- 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.

KV440C2

Engine type	TAD1344GE
Alternator type	LSA 47.2 VS3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	440
Max power ESP (kWe)	352
Max power PRP (kVA)	400
Max power PRP (kWe)	320
Intensity (A)	635
Standard Control Panel	DEC4000
Optional control panel	KERYS

DIMENSIONS AND NOISE LEVELS

DIMENSIONS COMPACT VERSION

Length (in)	124
Width (in)	53
Height (in)	71
Dry weight (lbs)	6856
Tank capacity (gal)	124

DIMENSIONS SOUNDPROOFED VERSION

Canopy	M228
Length (in).	176
Width (in).	56
Height (in).	96
Dry weight (lbs).	8995
Tank capacity (gal).	124
Acoustic pressure level @1m in dB(A) (associated uncertainty)	78 (0.7)
Sound power level guaranteed (Lwa) in dB(A)	98

POWERS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	352	440	320	400	612
400/230	352	440	320	400	635
380/220	348	435	316	395	661
240 TRI	352	440	320	400	1059
230 TRI	352	440	320	400	1105
220 TRI	352	440	320	400	1155
200/115	352	440	320	400	1270

KV440C2

ENGINE SPECIFICATIONS

GENERAL ENGINE DATAS

Engine model	VOLVO TAD1344GE , 4-temps, Turbo , Air/Water DC 6 X
Cylinder arrangement	L
Displacement (C.I.)	779.72
Bore (in) x Stroke (in)	5.16 x 6.22
Compression ratio	18.1
Speed (RPM)	1500
Pistons speed (ft/s)	25.92
Maximum stand-by power at rated RPM (BHP)	534.85
Frequency regulation (%)	N/A
BMEP (psi)	330.55
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (gal)	11.62
Max water temperature (°F)	224.6
Outlet water temperature (°F)	N/A
Fan power (kW)	10
Fan air flow w/o restriction (cfm)	N/A
Available restriction on air flow (in. WG)	N/A
Type of coolant	Glycol-Ethylene
Thermostat (°C)	82-92

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)	869
Exhaust gas flow (cfm)	2383.74
Max. exhaust back pressure (in WG)	39.37

FUEL

Consumption @ 110% load (gal/hr)	24.17
Consumption @ 100% load (gal/hr)	21.96
Consumption @ 75% load (gal/hr)	16.72
Consumption @ 50% load (gal/hr)	11.31
Maximum fuel pump flow (gal/hr)	31.7

OIL

Oil capacity (gal)	9.51
Min. oil pressure (psi)	N/A
Max. oil pressure (psi)	N/A
Oil consumption 100% load (gal/hr)	0.01
Carter oil capacity (gal)	7.93

HEAT BALANCE

Heat rejection to exhaust (Btu/mn)	15140.63
Radiated heat to ambient (Btu/mn)	853.79
Heat rejection to coolant (kW)	155

AIR INTAKE

Max. intake restriction (in. WG)	20.08
Intake air flow (cfm)	989.52

GENERAL DATAS

Alternator brand	LEROY SOMER
Alternator type	LSA 47.2 VS3
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 à 1000
Overspeed (rpm)	2250
Number of pole	4
Excitation system	SHUNT
Insulation class / T° class, continuous 40°C	H / H / 125°K
Regulation	N/A
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)	500 ms

OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	400
Standby Rating 27°C (kVA)	440
Efficiencies 4/4 load (%)	93.1
Air flow (cfm)	1906.99
Short circuit ratio (Kcc)	0.29
Direct axis synchro reactance unsaturated (Xd) (%)	393
Quadra axis synchro reactance unsaturated (Xq) (%)	235
Open circuit time constant (T'do) (ms)	1771
Direct axis transient reactance saturated (X'd) (%)	22.1
Short circuit transient time constant (T'd) (ms)	100
Direct axis subtransient reactance saturated (X''d) (%)	15.5
Subtransient time constant (T''d) (ms)	10
Quadra axis subtransient reactance saturated (X''q) (%)	20.9
Zero sequence reactance unsaturated (Xo) (%)	0.8
Negative sequence reactance saturated (X2) (%)	18.2
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.9
Full load excitation current (ic) (A)	3.9
Full load excitation voltage (uc) (V)	39
Recovery time (Delta U = 20% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	729
Transient dip (4/4 load) - PF : 0,8 AR (%)	17.6
No load losses (W)	5150
Heat rejection (W)	23340

CONTAINMENT

Canopy	M228 DW
Length (in).	178
Width (in).	56
Height (in).	106
Dry weight (lbs).	10450
Tank capacity (gal).	361
Acoustic pressure level @1m in dB(A) (associated uncertainty)	78 (0.7)
Sound power level guaranteed (Lwa) in dB(A)	98

DIMENSIONS AND NOISE LEVELS

DEC4000, ergonomic and user-friendly

KERYS, coupling and adaptability



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

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.