

# KOHLER<sup>®</sup> 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
- 24 V charge alternator and starter
- 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.

## KV410C2

Engine type	TAD1343GE
Alternator type	LSA 47.2 VS3
Performance class	G3

## GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	413
Max power ESP (kWe)	330.4
Max power PRP (kVA)	375.5
Max power PRP (kWe)	300.4
Intensity (A)	596
Standard Control Panel	DEC4000
Optional control panel	KERYS

## DIMENSIONS AND NOISE LEVELS

### DIMENSIONS COMPACT VERSION

Length (mm)	3160
Width (mm)	1340
Height (mm)	1805
Dry weight (kg)	3100
Tank capacity (L)	470

### DIMENSIONS AND NOISE LEVELS In compliance with 2000/14/CE standard

Canopy	M228
Length (mm).	4475
Width (mm).	1410
Height (mm).	2430
Dry weight (kg).	4070
Tank capacity (L).	470
Acoustic pressure level @1m in dB(A) ( )	78 (0.7)
Sound power level guaranteed (Lwa)	98

## GENERAL CHARACTERISTICS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	330	413	300	375	575
400/230	330	413	300	375	596
380/220	330	413	300	375	628
240 TRI	330	413	300	375	994
230 TRI	330	413	300	375	1037
220 TRI	330	413	300	375	1084
200/115	330	413	300	375	1192

## KV410C2

### ENGINE SPECIFICATIONS

#### GENERAL ENGINE DATAS

Engine model	VOLVO TAD1343GE , 4-temps, Turbo , Air/Water DC 6 X
Cylinder arrangement	L
Displacement (C.I.)	12.78
Bore (mm) x Stroke (mm)	131 x 158
Compression ratio	18.1
Speed (RPM)	1500
Pistons speed (m/s)	7.9
Maximum stand-by power at rated RPM (kW)	366
Frequency regulation (%)	+/- 0.5%
BMEP (bar)	20.97
Governor type	Electronic

#### COOLING SYSTEM

Radiator & Engine capacity (L)	44
Max water temperature (°C)	107
Outlet water temperature (°C)	N/A
Fan power (kW)	10
Fan air flow w/o restriction (m3/s)	6.8
Available restriction on air flow (mm EC)	20
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 (°C)	420
Exhaust gas flow (L/s)	1000
Max. exhaust back pressure (mm EC)	1000

#### FUEL

Consumption @ 110% load (L/h)	83.5
Consumption @ 100% load (L/h)	75.7
Consumption @ 75% load (L/h)	57
Consumption @ 50% load (L/h)	39.4
Maximum fuel pump flow (L/h)	120

#### OIL

Oil capacity (L)	36
Min. oil pressure (bar)	N/A
Max. oil pressure (bar)	N/A
Oil consumption 100% load (L/h)	0.04
Carter oil capacity (L)	30

#### HEAT BALANCE

Heat rejection to exhaust (kW)	299
Radiated heat to ambient (kW)	13
Heat rejection to coolant (kW)	152

#### AIR INTAKE

Max. intake restriction (mm EC)	510
Intake air flow (L/s)	450

#### 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 (%)	<1.5
Wave form : NEMA=TIF-(TGH/THC)	<50
Wave form : CEI=FHT-(TGH/THC)	<2
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 (m3/s)	0.9
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

#### DIMENSIONS SOUNDPROOFED VERSION

Canopy	M228
Length (mm).	4475
Width (mm).	1410
Height (mm).	2430
Dry weight (kg).	4070
Tank capacity (L).	470
Acoustic pressure level @1m in dB(A) ( )	81 (0.7)
Sound power level guaranteed (Lwa)	101

#### CONTAINMENT in compliance with 2000/14/CE standard

Canopy	M228 DW
Length (mm).	4527
Width (mm).	1410
Height (mm).	2700
Dry weight (kg).	4730
Tank capacity (L).	1368
Acoustic pressure level @1m in dB(A) ( )	78 (0.7)
Sound power level guaranteed (Lwa)	98

#### DIMENSIONS AND NOISE LEVELS

##### CONTAINMENT

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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.

