

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
- ➔ 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 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.

KV700C2

Engine type	TWD1643GE
Alternator type	LSA 49.1 S4
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	700
Max power ESP (kWe)	560
Max power PRP (kVA)	650
Max power PRP (kWe)	520
Intensity (A)	1010
Standard Control Panel	DEC4000
Optional control panel	KERYS

DIMENSIONS AND NOISE LEVELS

DIMENSIONS COMPACT VERSION

Length (mm)	3470
Width (mm)	1630
Height (mm)	2080
Dry weight (kg)	3890
Tank capacity (L)	610

DIMENSIONS SOUNDPROOFED VERSION

Canopy	M230
Length (mm).	5031
Width (mm).	1690
Height (mm).	2662
Dry weight (kg).	5410
Tank capacity (L).	610
Acoustic pressure level @1m in dB(A) ()	85 (0.7)
Sound power level guaranteed (Lwa)	105

GENERAL CHARACTERISTICS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	560	700	509	636	974
400/230	560	700	509	636	1010
380/220	553	691	503	628	1050
240 TRI	558	697	507	634	1677
230 TRI	535	669	487	608	1679
220 TRI	511	639	465	581	1677

KV700C2

ENGINE SPECIFICATIONS

GENERAL ENGINE DATAS

Engine model	VOLVO TWD1643GE , 4-temps, Turbo , Air/Water DC 6 X
Cylinder arrangement	L
Displacement (C.I.)	16.12
Bore (mm) x Stroke (mm)	144 x 165
Compression ratio	16.5
Speed (RPM)	1500
Pistons speed (m/s)	8.25
Maximum stand-by power at rated RPM (kW)	613
Frequency regulation (%)	+/- 0.5%
BMEP (bar)	27.44
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	95
Max water temperature (°C)	103
Outlet water temperature (°C)	93
Fan power (kW)	17
Fan air flow w/o restriction (m ³ /s)	10
Available restriction on air flow (mm EC)	30
Type of coolant	Glycol-Ethylene
Thermostat (°C)	86-96

EMISSIONS

Emission PM (g/kW.h)	0.08
Emission CO (g/kW.h)	0.69
Emission HCNOx (g/kWh)	N/A
Emission HC (g/kW.h)	0.08

EXHAUST

Exhaust gas temperature (°C)	450
Exhaust gas flow (L/s)	1693
Max. exhaust back pressure (mm EC)	1000

FUEL

Consumption @ 110% load (L/h)	142.6
Consumption @ 100% load (L/h)	128
Consumption @ 75% load (L/h)	94.5
Consumption @ 50% load (L/h)	63
Maximum fuel pump flow (L/h)	190

OIL

Oil capacity (L)	48
Min. oil pressure (bar)	0.7
Max. oil pressure (bar)	6.5
Oil consumption 100% load (L/h)	0.1
Carter oil capacity (L)	42

HEAT BALANCE

Heat rejection to exhaust (kW)	463
Radiated heat to ambient (kW)	20
Heat rejection to coolant (kW)	218

AIR INTAKE

Max. intake restriction (mm EC)	150
Intake air flow (L/s)	727

GENERAL DATAS

Alternator brand	LEROY SOMER
Alternator type	LSA 49.1 S4
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	R450
Harmonic factor, no load TGH/THC (%)	<4
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)	660
Standby Rating 27°C (kVA)	725
Efficiencies 4/4 load (%)	93.9
Air flow (m3/s)	1.2
Short circuit ratio (Kcc)	0.38
Direct axis synchro reactance unsaturated (Xd) (%)	343
Quadra axis synchro reactance unsaturated (Xq) (%)	205
Open circuit time constant (T"do) (ms)	1958
Direct axis transient reactance saturated (X"d) (%)	17.5
Short circuit transient time constant (T"d) (ms)	100
Direct axis subtransient reactance saturated (X""d) (%)	14
Subtransient time constant (T""d) (ms)	10
Quadra axis subtransient reactance saturated (X""q) (%)	16.3
Zero sequence reactance unsaturated (Xo) (%)	0.9
Negative sequence reactance saturated (X2) (%)	15.2
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.9
Full load excitation current (ic) (A)	3.6
Full load excitation voltage (uc) (V)	43
Recovery time (Delta U = 20% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	1578
Transient dip (4/4 load) - PF : 0,8 AR (%)	13.3
No load losses (W)	8110
Heat rejection (W)	33710

CONTAINMENT

Canopy	M230 DW
Length (mm).	5083
Width (mm).	1690
Height (mm).	2922
Dry weight (kg).	6140
Tank capacity (L).	1950
Acoustic pressure level @1m in dB(A) ()	85 (0.7)
Sound power level guaranteed (Lwa)	105

DIMENSIONS AND NOISE LEVELS

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.