KOHLER POWER SYSTEMS

# KV275C2



| | |
|---|---|
| Engine type | TAD734GE |
| Alternator type | LSA 46.2 L6 |
| Performance class | G3 |

## GENERAL CHARACTERISTICS

| | |
|---|---|
| Frequency (Hz) | 50 |
| Reference voltage (V) | 400/230 |
| Max power ESP (kVA) | 275 |
| Max power ESP (kWe) | 220 |
| Max power PRP (kVA) | 250 |
| Max power PRP (kWe) | 200 |
| Intensity (A) | 397 |
| Standard Control Panel | DEC4000 |
| Optional control panel | KERYS |

## DIMENSIONS AND NOISE LEVELS

## DIMENSIONS COMPACT VERSION

| | |
|---|---|
| Length (mm) | 2900 |
| Width (mm) | 1300 |
| Height (mm) | 1590 |
| Dry weight (kg) | 2200 |
| Tank capacity (L) | 390 |

## DIMENSIONS SOUNDPROOFED VERSION

| | |
|---|---|
| Canopy | M227 |
| Length (mm). | 4004 |
| Width (mm). | 1380 |
| Height (mm). | 2145 |
| Dry weight (kg). | 3130 |
| Tank capacity (L). | 390 |
| Acoustic pressure level @1m in dB(A) () | 77 (0.7) |
| Sound power level guaranteed (Lwa) | 96 |

## GENERAL CHARACTERISTICS

| Voltage | ESP | | PRP | | Standby Amps |
|---|---|---|---|---|---|
| | kWe | kVA | kWe | kVA | |
| 415/240 | 211 | 264 | 192 | 240 | 367 |
| 400/230 | 220 | 275 | 200 | 250 | 397 |
| 380/220 | 220 | 275 | 200 | 250 | 418 |
| 240 TRI | 211 | 264 | 192 | 240 | 635 |
| 230 TRI | 220 | 275 | 200 | 250 | 690 |
| 220 TRI | 220 | 275 | 200 | 250 | 722 |
| 200/115 | 220 | 275 | 200 | 250 | 794 |

**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 UNCERTAINLY

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.

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## ENGINE SPECIFICATIONS

### GENERAL ENGINE DATAS

| | |
|---|---|
| Engine model | VOLVO TAD734GE , 4-temps, Turbo , Air/Air DC 6 X |
| Cylinder arrangement | L |
| Displacement (C.I.) | 7.15 |
| Bore (mm) x Stroke (mm) | 108 x 130 |
| Compression ratio | 17.1 |
| Speed (RPM) | 1500 |
| Pistons speed (m/s) | 6.5 |
| Maximum stand-by power at rated RPM (kW) | 250 |
| Frequency regulation (%) | +/- 0.5% |
| BMEP (bar) | 25.19 |
| Governor type | Electronic |

### COOLING SYSTEM

| | |
|---|---|
| Radiator & Engine capacity (L) | N/A |
| Max water temperature (°C) | 103 |
| Outlet water temperature (°C) | 93 |
| Fan power (kW) | 3.8 |
| Fan air flow w/o restriction (m3/s) | 4.8 |
| Available restriction on air flow (mm EC) | 20 |
| Type of coolant | Glycol-Ethylene |
| Thermostat (°C) | 83-95 |

### EMISSIONS

| | |
|---|---|
| Emission PM (g/kW.h) | 0.05 |
| Emission CO (g/kW.h) | 0.35 |
| Emission HCNOx (g/kWh) | N/A |
| Emission HC (g/kW.h) | 0.08 |

### EXHAUST

| | |
|---|---|
| Exhaust gas temperature (°C) | 550 |
| Exhaust gas flow (L/s) | 557 |
| Max. exhaust back pressure (mm EC) | 750 |

### FUEL

| | |
|---|---|
| Consumption @ 110% load (L/h) | 59.6 |
| Consumption @ 100% load (L/h) | 53.4 |
| Consumption @ 75% load (L/h) | 42.6 |
| Consumption @ 50% load (L/h) | 30.5 |
| Maximum fuel pump flow (L/h) | 300 |

### OIL

| | |
|---|---|
| Oil capacity (L) | 29 |
| Min. oil pressure (bar) | 1 |
| Max. oil pressure (bar) | 4.5 |
| Oil consumption 100% load (L/h) | 0.01 |
| Carter oil capacity (L) | 24 |

### HEAT BALANCE

| | |
|---|---|
| Heat rejection to exhaust (kW) | 177 |
| Radiated heat to ambiant (kW) | 26 |
| Haet rejection to coolant (kW) | 129 |

### AIR INTAKE

| | |
|---|---|
| Max. intake restriction (mm EC) | 300 |
| Intake air flow (L/s) | 272 |

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## ALTERNATOR SPECIFICATIONS

### GENERAL DATAS

| | |
|---|---|
| Alternator brand | LEROY SOMER |
| Alternator type | LSA 46.2 L6 |
| 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 (%) | <2.5 |
| 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% transcient) (ms) | 500 ms |

### OTHER DATAS

| | |
|---|---|
| Continuous Nominal Rating 40°C (kVA) | 250 |
| Standby Rating 27°C (kVA) | 275 |
| Efficiencies 4/4 load (%) | 92.4 |
| Air flow (m3/s) | 0.43 |
| Short circuit ratio (Kcc) | 0.41 |
| Direct axis synchro reactance unsaturated (Xd) (%) | 327 |
| Quadra axis synchro reactance unsaturated (Xq) (%) | 196 |
| Open circuit time constant (T''do) (ms) | 2105 |
| Direct axis transcient reactance saturated (X''d) (%) | 15.5 |
| Short circuit transcient time constant (T''d) (ms) | 100 |
| Direct axis subtranscient reactance saturated (X''''d) (%) | 9.3 |
| Subtranscient time constant (T''''d) (ms) | 10 |
| Quadra axis subtranscient reactance saturated (X''''q) (%) | 11.5 |
| Zero sequence reactance unsaturated (Xo) (%) | 0.7 |
| Negative sequence reactance saturated (X2) (%) | 10.4 |
| Armature time constant (Ta) (ms) | 15 |
| No load excitation current (io) (A) | 1 |
| Full load excitation current (ic) (A) | 4 |
| Full load excitation voltage (uc) (V) | 34 |
| Recovery time (Delta U = 20% transcient) (ms) | 500 ms |
| Engine start (Delta U = 20% perm. or 50% trans.) (kVA) | 462 |
| Transcient dip (4/4 load) - PF : 0,8 AR (%) | 15.9 |
| No load losses (W) | 3690 |
| Heat rejection (W) | 16400 |

## DIMENSIONS AND NOISE LEVELS

### CONTAINMENT

| | |
|---|---|
| Canopy | M227 DW |
| Length (mm). | 4056 |
| Width (mm). | 1380 |
| Height (mm). | 2340 |
| Dry weight (kg). | 3850 |
| Tank capacity (L). | 950 |
| Acoustic pressure level @1m in dB(A) () | 77 (0.7) |
| Sound power level guaranteed (Lwa) | 96 |

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## CONTROL PANEL

### 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.