

# 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
- 12 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.

## KD275

Engine type	6081HF001
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	DEC1000
Optional control panel	DEC4000

## DIMENSIONS AND NOISE LEVELS

### DIMENSIONS COMPACT VERSION

Length (mm)	2900
Width (mm)	1300
Height (mm)	1697
Dry weight (kg)	2170
Tank capacity (L)	390

### DIMENSIONS SOUNDPROOFED VERSION

Canopy	M227
Length (mm).	4004
Width (mm).	1380
Height (mm).	2145
Dry weight (kg).	3150
Tank capacity (L).	390
Acoustic pressure level @1m in dB(A) ( )	75 (1)
Sound power level guaranteed (Lwa)	95

## 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
220/127	212	265	193	241	695
200/115	220	275	200	250	794

## KD275

### ENGINE SPECIFICATIONS

#### GENERAL ENGINE DATAS

Engine model	JOHN DEERE 6081HF001 , 4- temps, Turbo , Air/Air DC 6 X
Cylinder arrangement	L
Displacement (C.I.)	8.18
Bore (mm) x Stroke (mm)	116 x 129
Compression ratio	15.7
Speed (RPM)	1500
Pistons speed (m/s)	6.45
Maximum stand-by power at rated RPM (kW)	268
Frequency regulation (%)	+/- 2.5%
BMEP (bar)	22.59
Governor type	Mechanical

#### COOLING SYSTEM

Radiator & Engine capacity (L)	40
Max water temperature (°C)	105
Outlet water temperature (°C)	93
Fan power (kW)	5.4
Fan air flow w/o restriction (m3/s)	5.5
Available restriction on air flow (mm EC)	20
Type of coolant	Glycol-Ethylene
Thermostat (°C)	82-94

#### EMISSIONS

Emission PM (mg/Nm3)	60
Emission CO (mg/Nm3)	300
Emission HCNOx (g/kWh)	N/A
Emission HC (mg/Nm3)	59

#### EXHAUST

Exhaust gas temperature (°C)	640
Exhaust gas flow (L/s)	740
Max. exhaust back pressure (mm EC)	750

#### FUEL

Consumption @ 110% load (L/h)	68
Consumption @ 100% load (L/h)	56.9
Consumption @ 75% load (L/h)	42.6
Consumption @ 50% load (L/h)	29.4
Maximum fuel pump flow (L/h)	203

#### OIL

Oil capacity (L)	32
Min. oil pressure (bar)	2.1
Max. oil pressure (bar)	2.75
Oil consumption 100% load (L/h)	0.08
Carter oil capacity (L)	31

#### HEAT BALANCE

Heat rejection to exhaust (kW)	213
Radiated heat to ambient (kW)	34
Heat rejection to coolant (kW)	103+55

#### AIR INTAKE

Max. intake restriction (mm EC)	625
Intake air flow (L/s)	303

#### GENERAL DATAS

Alternator brand	LERROY 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% transient) (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 transient reactance saturated (X"d) (%)	15.5
Short circuit transient time constant (T"d) (ms)	100
Direct axis subtransient reactance saturated (X""d) (%)	9.3
Subtransient time constant (T""d) (ms)	10
Quadra axis subtransient 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% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	462
Transient dip (4/4 load) - PF : 0,8 AR (%)	15.9
No load losses (W)	3690
Heat rejection (W)	16400

#### CONTAINMENT

Canopy	M227 DW
Length (mm).	4056
Width (mm).	1380
Height (mm).	2340
Dry weight (kg).	3627
Tank capacity (L).	950
Acoustic pressure level @1m in dB(A) ( )	75 (1)
Sound power level guaranteed (Lwa)	95

#### DIMENSIONS AND NOISE LEVELS

##### CONTAINMENT 48H

Canopy	M227 DW48
Length (mm).	4056
Width (mm).	1380
Height (mm).	2618
Dry weight (kg).	4200
Tank capacity (L).	2130
Acoustic pressure level @1m in dB(A) ( )	75 (1)
Sound power level guaranteed (Lwa)	95

DEC1000, comprehensive and simple



### DEC1000

Specifications : Frequency meter, Ammeter, Voltmeter

Alarms and faults : Oil pressure, water temperature, Overcrank, Overspeed (>60 kVA), Min/max alternator, Low fuel level, Emergency stop

Engine parameters : Hours counter, Engine speed, Battery voltage, Fuel level, Air preheating

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