

# 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 UNCERTAINTLY

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.

## KD165

Engine type	6068HF120-153
Alternator type	LSA 44.2 M95
Performance class	G3

## GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	165
Max power ESP (kWe)	132
Max power PRP (kVA)	150
Max power PRP (kWe)	120
Intensity (A)	238
Standard Control Panel	DEC1000
Optional control panel	DEC4000

## DIMENSIONS AND NOISE LEVELS

### DIMENSIONS COMPACT VERSION

Length (mm)	2370
Width (mm)	1114
Height (mm)	1480
Dry weight (kg)	1640
Tank capacity (L)	340

### DIMENSIONS SOUNDPROOFED VERSION

Canopy	M226
Length (mm).	3508
Width (mm).	1200
Height (mm).	1830
Dry weight (kg).	2230
Tank capacity (L).	340
Acoustic pressure level @1m in dB(A) ( )	75 (0.53)
Sound power level guaranteed (Lwa)	94

## GENERAL CHARACTERISTICS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	128	160	116	145	223
400/230	132	165	120	150	238
380/220	132	165	120	150	251
240 TRI	132	165	120	150	397
230 TRI	132	165	120	150	414
220 TRI	132	165	120	150	433
220/127	128	160	116	145	420
200/115	132	165	120	150	476

#### GENERAL ENGINE DATAS

Engine model	JOHN DEERE 6068HF120-153 , 4-temps, Turbo , Air/Air DC 6 X
Cylinder arrangement	L
Displacement (C.I.)	6.72
Bore (mm) x Stroke (mm)	106 x 127
Compression ratio	17 : 1
Speed (RPM)	1500
Pistons speed (m/s)	6.35
Maximum stand-by power at rated RPM (kW)	153
Frequency regulation (%)	+/- 2.5%
BMEP (bar)	16.54
Governor type	Mechanical

#### COOLING SYSTEM

Radiator & Engine capacity (L)	25.8
Max water temperature (°C)	105
Outlet water temperature (°C)	93
Fan power (kW)	3
Fan air flow w/o restriction (m3/s)	4.44
Available restriction on air flow (mm EC)	20
Type of coolant	Glycol-Ethylene
Thermostat (°C)	82-94

#### EMISSIONS

Emission PM (mg/Nm3)	80
Emission CO (mg/Nm3)	150
Emission HCNOx (g/kWh)	N/A
Emission HC (mg/Nm3)	35

#### EXHAUST

Exhaust gas temperature (°C)	555
Exhaust gas flow (L/s)	385
Max. exhaust back pressure (mm EC)	750

#### FUEL

Consumption @ 110% load (L/h)	36.5
Consumption @ 100% load (L/h)	33.5
Consumption @ 75% load (L/h)	25
Consumption @ 50% load (L/h)	17
Maximum fuel pump flow (L/h)	108

#### OIL

Oil capacity (L)	21.5
Min. oil pressure (bar)	1
Max. oil pressure (bar)	5
Oil consumption 100% load (L/h)	0.04
Carter oil capacity (L)	20.6

#### HEAT BALANCE

Heat rejection to exhaust (kW)	99
Radiated heat to ambient (kW)	16
Heat rejection to coolant (kW)	55

#### AIR INTAKE

Max. intake restriction (mm EC)	625
Intake air flow (L/s)	170

#### GENERAL DATAS

Alternator brand	LEROY SOMER
Alternator type	LSA 44.2 M95
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
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)	150
Standby Rating 27°C (kVA)	165
Efficiencies 4/4 load (%)	92.2
Air flow (m3/s)	0.37
Short circuit ratio (Kcc)	0.42
Direct axis synchro reactance unsaturated (Xd) (%)	317
Quadra axis synchro reactance unsaturated (Xq) (%)	190
Open circuit time constant (T"do) (ms)	2865
Direct axis transient reactance saturated (X"d) (%)	11
Short circuit transient time constant (T"d) (ms)	100
Direct axis subtransient reactance saturated (X""d) (%)	6.6
Subtransient time constant (T""d) (ms)	10
Quadra axis subtransient reactance saturated (X""q) (%)	7.8
Zero sequence reactance unsaturated (Xo) (%)	0.1
Negative sequence reactance saturated (X2) (%)	7.3
Armature time constant (Ta) (ms)	15
No load excitation current (io) (A)	0.6
Full load excitation current (ic) (A)	2
Full load excitation voltage (uc) (V)	36
Recovery time (Delta U = 20% transient) (ms)	500 ms
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	284.2
Transient dip (4/4 load) - PF : 0,8 AR (%)	14.7
No load losses (W)	2620
Heat rejection (W)	10150

#### CONTAINMENT

Canopy	M226 DW
Length (mm).	3560
Width (mm).	1200
Height (mm).	2182
Dry weight (kg).	2623
Tank capacity (L).	868
Acoustic pressure level @1m in dB(A) ( )	74 (0.53)
Sound power level guaranteed (Lwa)	94

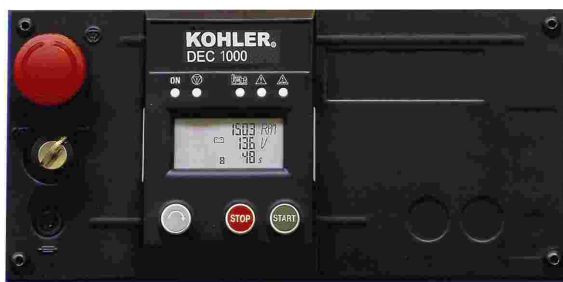
#### DIMENSIONS AND NOISE LEVELS

##### CONTAINMENT 48H

Canopy	M226 DW48
Length (mm).	3560
Width (mm).	1200
Height (mm).	2358
Dry weight (kg).	2878
Tank capacity (L).	1630
Acoustic pressure level @1m in dB(A) ( )	74 (0.53)
Sound power level guaranteed (Lwa)	94

DEC1000, comprehensive and simple

DEC4000, ergonomic and user-friendly



#### 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

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