

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
- ➔ 12 V charge alternator and starter
- ➔ Mecc Alte 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.

KD22

Engine type	3029DF120
Alternator type	ECP 28 1L/4
Performance class	G3

GENERAL CHARACTERISTICS

Frequency (Hz)	50
Reference voltage (V)	400/230
Max power ESP (kVA)	22
Max power ESP (kWe)	17.6
Max power PRP (kVA)	20
Max power PRP (kWe)	16
Intensity (A)	32
Standard Control Panel	DEC1000
Optional control panel	DEC4000

DIMENSIONS AND NOISE LEVELS

DIMENSIONS COMPACT VERSION

Length (mm)	1700
Width (mm)	896
Height (mm)	1221
Dry weight (kg)	750
Tank capacity (L)	100

DIMENSIONS SOUNDPROOFED VERSION

Canopy	M127
Length (mm).	2080
Width (mm).	960
Height (mm).	1415
Dry weight (kg).	980
Tank capacity (L).	100
Acoustic pressure level @1m in dB(A) ()	75 (0.57)
Sound power level guaranteed (Lwa)	93

GENERAL CHARACTERISTICS

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
415/240	18	22	16	20	31
400/230	18	22	16	20	32
380/220	18	22	16	20	33
240 TRI	18	22	16	20	53
230 TRI	18	22	16	20	55
220 TRI	18	22	16	20	58
220/127	16	20	15	18	52
200/115	18	22	16	20	64

GENERAL ENGINE DATAS

Engine model	JOHN DEERE 3029DF120 , 4-temps, Athmo , N/A 3 X
Cylinder arrangement	L
Displacement (C.I.)	2.91
Bore (mm) x Stroke (mm)	106 x 110
Compression ratio	17.8
Speed (RPM)	1500
Pistons speed (m/s)	5.5
Maximum stand-by power at rated RPM (kW)	31
Frequency regulation (%)	+/- 2.5%
BMEP (bar)	7.42
Governor type	Mechanical

COOLING SYSTEM

Radiator & Engine capacity (L)	16.1
Max water temperature (°C)	105
Outlet water temperature (°C)	93
Fan power (kW)	0.7
Fan air flow w/o restriction (m3/s)	1.74
Available restriction on air flow (mm EC)	20
Type of coolant	Glycol-Ethylene
Thermostat (°C)	82-94

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)	555
Exhaust gas flow (L/s)	78
Max. exhaust back pressure (mm EC)	625

FUEL

Consumption @ 110% load (L/h)	8.5
Consumption @ 100% load (L/h)	7
Consumption @ 75% load (L/h)	5
Consumption @ 50% load (L/h)	3.6
Maximum fuel pump flow (L/h)	111

OIL

Oil capacity (L)	6
Min. oil pressure (bar)	1
Max. oil pressure (bar)	5
Oil consumption 100% load (L/h)	0.01
Carter oil capacity (L)	5.3

HEAT BALANCE

Heat rejection to exhaust (kW)	31
Radiated heat to ambient (kW)	6
Heat rejection to coolant (kW)	18

AIR INTAKE

Max. intake restriction (mm EC)	300
Intake air flow (L/s)	28

GENERAL DATAS

Alternator brand	MECC ALTE
Alternator type	ECP 28 1L/4
Number of phase	3
Power factor (Cos Phi)	0.8
Altitude (m)	0 à 1000
Overspeed (rpm)	N/A
Number of pole	4
Excitation system	AVR
Insulation class / T° class, continuous 40°C	H / N/A
Regulation	DSR
Harmonic factor, no load TGH/THC (%)	N/A
Wave form : NEMA=TIF-(TGH/THC)	N/A
Wave form : CEI=FHT-(TGH/THC)	N/A
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (%)	N/A
Recovery time (Delta U = 20% transient) (ms)	N/A

OTHER DATAS

Continuous Nominal Rating 40°C (kVA)	20
Standby Rating 27°C (kVA)	21.5
Efficiencies 4/4 load (%)	87.4
Air flow (m3/s)	0.09
Short circuit ratio (Kcc)	0.62
Direct axis synchro reactance unsaturated (Xd) (%)	180
Quadra axis synchro reactance unsaturated (Xq) (%)	78
Open circuit time constant (T"do) (ms)	850
Direct axis transient reactance saturated (X"d) (%)	16.8
Short circuit transient time constant (T"d) (ms)	44
Direct axis subtransient reactance saturated (X""d) (%)	9.6
Subtransient time constant (T""d) (ms)	14
Quadra axis subtransient reactance saturated (X""q) (%)	22
Zero sequence reactance unsaturated (Xo) (%)	3.3
Negative sequence reactance saturated (X2) (%)	14.4
Armature time constant (Ta) (ms)	12
No load excitation current (io) (A)	0.5
Full load excitation current (ic) (A)	1.5
Full load excitation voltage (uc) (V)	N/A
Recovery time (Delta U = 20% transient) (ms)	N/A
Engine start (Delta U = 20% perm. or 50% trans.) (kVA)	N/A
Transient dip (4/4 load) - PF : 0,8 AR (%)	N/A
No load losses (W)	N/A
Heat rejection (W)	2307

CONTAINMENT

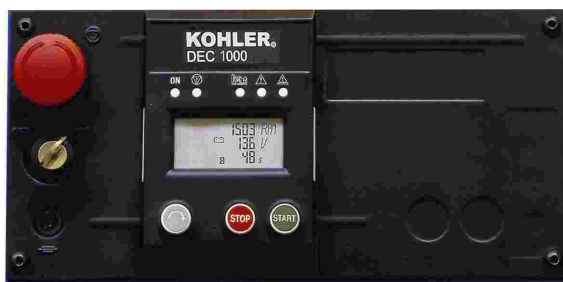
Canopy	M127 DW
Length (mm).	2160
Width (mm).	966
Height (mm).	1582
Dry weight (kg).	1160
Tank capacity (L).	230
Acoustic pressure level @1m in dB(A) ()	75 (0.57)
Sound power level guaranteed (Lwa)	93

DIMENSIONS AND NOISE LEVELS

CONTAINMENT 48H

Canopy	M127 DW48
Length (mm).	2160
Width (mm).	966
Height (mm).	1631
Dry weight (kg).	1124
Tank capacity (L).	420
Acoustic pressure level @1m in dB(A) ()	75 (0.57)
Sound power level guaranteed (Lwa)	93

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