



DESCRIPTIVE

- Generating set running on natural gas or LPG (natural gas supplied configuration)
- Mechanically welded chassis with antivibration suspension
- Main line circuit breaker
- Radiator for core temperature of 48/50°C max with mechanical fan
- Protective grille for fan and rotating parts (CE option)
- 40 dB(A) silencer supplied separately
- Charger DC starting battery with electrolyte
- 12 V charge alternator and starter
- Delivered with oil and coolant -30°C
- Manual for use and installation

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

GZ25

Engine ref.	GMC430-27
Alternator ref.	KH00400T

GENERAL CHARACTERISTICS

Frequency (Hz)	50 Hz
Voltage (V)	400/230
Standard Control Panel	DEC 3000

POWER

Voltage	ESP		PRP		Standby Amps
	kWe	kVA	kWe	kVA	
400/230	20	25	18,2	22,7	36

DIMENSIONS COMPACT VERSION

Length (mm)	2200
Width (mm)	1040
Height (mm)	1200

DIMENSIONS SOUNDPROOFED VERSION

Type soundproofing	SSE25-60
Length (mm)	2585
Width (mm)	1078
Height (mm)	1513
Dry weight (kg)	841
Acoustic pressure level @1m in dB(A)	76
Sound power level guaranteed (Lwa)	96

Fuel System 50 Hz:

Natural gas fuel supply pressure, kPa (in. H2O) :
Nat. Gas : 1.74--2.74 (7-11)

Fuel Composition Limits * (Nat.Gaz):

Methane, % by volume	90 min.
Ethane, % by volume	4.0 max.
Propane, % by volume	1.0 max.
Propene, % by volume	0.1 max.
C4 and higher, % by volume	0.3 max
Sulfur, ppm mass	25 max.
Lower heating value, MJ/m3 (Btu/ft3), min :	33.2 (890)

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications

Online carburation entry : 1 (<=GZ100) / 1.5 (<=GZ150) / 2 (<=GZ250) / 3 (>=GZ300) NPTF

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.

GENERAL ENGINE DATA

Engine brand	PSI BASE GENERAL MOTORS
Engine ref.	GMC430-27
Air inlet system	Athmo
Cylinders configuration	L
Number of cylinders	4
Displacement (L)	2,97
Charge Air coolant	Air/Air DC
Bore (mm) x Stroke (mm)	101,6 x 91,4
Compression ratio	8.2 : 1
Speed (RPM)	1500
Pistons speed (m/s)	4,57
Maximum stand-by power at rated RPM (kW)	27,5
Frequency regulation, steady state (%) +/- 0.5%	
BMEP (bar)	6,7
Governor type	Electronic

COOLING SYSTEM

Radiator & Engine capacity (L)	14,9
Fan power (kW)	1
Fan air flow w/o restriction (m3/s)	2,78
Available restriction on air flow (mm H2O)	12,5
Type of coolant	Glycol-Ethylene

EMISSIONS

Emission PM (g/kW.h)	
Emission CO (g/kW.h)	
Emission HC+NOx (g/kWh)	0
Emission HC (g/kW.h)	

EXHAUST

Exhaust gas temperature @ ESP 50Hz (°C)	688
Exhaust gas flow @ ESP 50 Hz (L/s)	98
Max. exhaust back pressure (mm H2O)	1000

FUEL

Gaznat Consumption @ 110% load (m3/h)	8,8
Gaznat Consumption @ 100% load (m3/h)	8,2
Gaznat Consumption @ 75% load (m3/h)	6
Gaznat Consumption @ 50% load (m3/h)	4,3

OIL

Oil capacity (L)	4,3
Min. oil pressure (bar)	2,8
Max. oil pressure (bar)	5,5
Oil consumption 100% ESP (L/h)	0
Oil sump capacity (L)	3,8

HEAT BALANCE

Heat rejection to exhaust (kW)	
Radiated heat to ambient (kW)	9
Haet rejection to coolant HT (kW)	28,4

AIR INTAKE

Max. intake restriction (mm H2O)	
Intake air flow (L/s)	29,2

GENERAL DATA

Alternator commercial brand	KOHLER
Alternator ref.	KH00400T
Number of Phase	Three phase
Power factor (Cos Phi)	0,8
Altitude (m)	0 à 2500
Overspeed (rpm)	2250
Number of pole	4
Capacity for maintaining short circuit at 3 In for 10 s	No
Insulation class	H
T° class (H/125°), continuous 40°C	H / 125°K
T° class (H/163°C), standby 27°C	H / 163°K
AVR Regulation	
Total Harmonic Distortion in no-load DHT (%)	2,62
Total Harmonic Distortion, on linear load DHT (%)	3,57
Wave form : NEMA=TIF	84,6
Wave form : CEI=FHT	1,89
Number of bearing	1
Coupling	Direct
Voltage regulation at established rating (+/- %)	1
Recovery time (Delta U = 20% transient) (ms)	500
Indication of protection	IP 23
Technology	Without collar or brush

OTHER DATA

Continuous Nominal Rating 40°C (kVA)	33
Standby Rating 27°C (kVA)	36,9
Efficiencies 100% of load (%)	80,7
Air flow (m3/s)	0,212
Short circuit ratio (Kcc)	0,364
Direct axis synchro reactance unsaturated (Xd) (%)	274
Quadra axis synchro reactance unsaturated (Xq) (%)	134
Open circuit time constant (T'do) (ms)	505
Direct axis transient reactance saturated (X'd) (%)	29,5
Short circuit transient time constant (T'd) (ms)	54
Direct axis subtransient reactance saturated (X''d) (%)	15,9
Subtransient time constant (T''d) (ms)	
Quadra axis subtransient reactance saturated (X''q) (%)	13,75
Subtransient time constant (T''q) (ms)	
Zero sequence reactance unsaturated (Xo) (%)	1,2
Negative sequence reactance saturated (X2) (%)	14,8
Armature time constant (Ta) (ms)	10
No load excitation current (io) (A)	
Full load excitation current (ic) (A)	
Full load excitation voltage (uc) (V)	
Engine start (Delta U = 20% perm. or 30% trans.) (kVA)	65
Transient dip (4/4 load) - PF : 0,8 AR (%)	9,6
No load losses (W)	1470
Heat rejection (W)	6470
Unbalanced load acceptance ratio (%)	

DIMENSIONS

Dimensions soundproofed version

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DEC3000, comprehensive and simple



Generator Controls / Decision-Maker® 3000

The Decision-Maker® 3000 generator set controller provides advanced control, system monitoring, and system diagnostics for optimum performance. The Decision-Maker® 3000 controller meets NFPA 110, Level 1 when equipped with the necessary accessories and installed per NFPA standards. The Decision-Maker® 3000 controller uses patented software logic to manage sophisticated functions, such as voltage regulation and alternator thermal overload protection, normally requiring additional hardware. Additional features include:

- A digital display and pushbutton/rotary selector al provide easy local access to data.
- Measurements selectable in metric or English units.
- Scrolling display shows critical data at a glance.
- Digital display of power metering (Kw and Kva).
- Integrated hybrid voltage regulator providing $\pm 0.5\%$ regulation.
- Built-in alternator thermal overload protection.

