



DESCRIPTIVE

- Stage V engine
- Four-pole circuit breaker
- Connection terminal box rental type
- Containment fuel tank and large autonomy
- Forks and frame protection pads
- I orks and frame prote
- Inlet air preheating
- Battery isolating switch
- Oil drainage pump
- Heavy duty air filter with interchangeable cartridge
- Primary fuel filter
- Heat hand protections (EC standards)
- Electronical governor
- Access door to the radiator

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 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.

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Engine ref. 6068CP550
Kohler Alternator ref. KH01220T
Canopy M3226
Performance class G3

GENERAL CHARACTERISTICS

 Frequency (Hz)
 50 Hz

 Voltage (V)
 400/230

 Standard Control Panel
 APM403

Voltage	ES	ESP PRP		Standby Amps	
	kWe	kVA	kWe	kVA	Otdiraby 7 impo
400/230	176	220	160	200	318

DIMENSIONS	
Length (mm)	3884
Width (mm)	1191
Height (mm)	2368
Dry weight (kg)	3640
Tank capacity (L)	735

SOUND LEVELS

SOUND LEVELS	
Acoustic pressure level @1m in dB(A) 50Hz (75% PRP)	78
Acoustic pressure level @7m in dB(A) 50Hz (75% PRP)	68
Sound power level guaranteed (Lwa) 50Hz (75% PRP)(Associated uncertainty)	97 (0.7)



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ENGINE CHARACTERISTICS

GENERAL ENGINE DATAS	
Engine brand	JOHN DEERE
Engine ref.	6068CP550
Air inlet system	Turbo
Cylinders configuration	L
Number of cylinders	6
Displacement (I)	6.72
Charge Air coolant	Air/Air
Bore (mm) x Stroke (mm)	106 x 127
Compression ratio	16.7 : 1
Speed (RPM)	1500
Pistons speed (m/s)	6.35
Maximum stand-by power at rated	202
RPM (kW)	202
BMEP @ PRP 50 Hz (bar)	21.90
Governor type	Electronic

Exhaust gas temperature @ ESP 50Hz (°C)	464
Exhaust gas flow @ ESP 50Hz (l/s)	416.70
Max. exhaust back pressure (mm H2O)	
FUEL	
Fuel consumption @ ESP Max Power (I/h)	48.20
Fuel consumption @ PRP Max Power (I/h)	43.40
Fuel consumption @ 75% of PRP Power (I/h)	32.20
Fuel consumption @ 50% of PRP Power (I/h)	22.20
Maximum fuel pump flow (I/h)	145.90
OIL	
Oil system capacity including filters (I)	32
Max. oil pressure (bar)	2

COOLING SYSTEM	
Radiator & Engine capacity (I)	34.20
Fan power 50Hz (kW)	12.10
Type of coolant	Glycol-Ethylene

Heat rejection to exhaust (kW)	112
AIR INTAKE	
Max. intake restriction (mm H2O) Intake air flow (I/s)	625 183.30

EMISSIONS		
Emissions PM (g/kW.h)	0.00344	
Emissions CO (g/kW.h)	0.001	
Emissions NOx (g/kW.h)	0.034	
Emissions HC (g/kW.h)	0.001	

DIESEL EXHAUST FLUID	
DEF Tank Capacity (L) Fuel	113
Cons. @ ESP Max Power (I/h)	1.9
Cons. @ PRP Max Power (I/h)	1.8
Cons. @ 75% of PRP Power (I/h)	1.2
Cons. @ 50% of PRP Power (I/h)	0.8



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ALTERNATOR CHARACTERISTICS

Aumber of Phase Three phase Standby Rating 27°C (kVA) 220 (war factor (Cos Phi) 0.80 Efficiencies 100% of load (%) 92.50 (war factor (Cos Phi) 0.80 Efficiencies 100% of load (%) 92.50 (war factor (Cos Phi) 0.80 Efficiencies 100% of load (%) 92.50 (war factor (Cos Phi) 0.80 Efficiencies 100% of load (%) 92.50 (war factor (Cos Phi) 0.80 Efficiencies 100% of load (%) 92.50 (war factor (Cos Phi) 0.80 Efficiencies 100% of load (%) 92.50 (war factor (Cos Phi) 0.48 (war factor (Cos Phi) 0.44 (war factor (Cos Phi) 0.49 (war factor (Cos				
Power factor (Cos Phi)	Alternator ref.	KH01220T	Continuous Nominal Rating 40°C (kVA)	200
Air flow (m3/s) Ouerspeed (rpm) 2250 Short circuit ratio (Kcc) Jumber of pole 4 Direct axis synchro reactance unsaturated (Xd) (%) 173 Jovenspeed (rpm) 2250 Short circuit ratio (Kcc) Oudra axis synchro reactance unsaturated (Xd) (%) 173 Open circuit time constant (T'do) (ms) Solver (alss (H/125°), continuous 40°C H / 125°K H / 163°K Colass (H/163°C), standby 27°C H / 163°K VAR Regulation Ves VAR Regulation Ves VAR Regulation Ves VAVE form: NEMA=TIF Vave form: NEMA=TIF Vave form: CEI=FHT Vave f	Number of Phase	Three phase	Standby Rating 27°C (kVA)	220
Advance (III) Direct axis synchro reactance unsaturated (Xd) (%) Appendix of pole A Direct axis synchro reactance unsaturated (Xd) (%) Appendix of pole A Direct axis synchro reactance unsaturated (Xd) (%) A Direct axis transcient reactance saturated (Xd) (%) A Direct axis transcient reactance saturated (Xd) (%) A Direct axis subtranscient reactance saturated (Xd) (%) A Direct axis subtranscient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (Xd) A Direct axis subtranscient reactance saturated (Xd) A Direct axis subtranscient reactance saturated (Xd) A Direct axis subtranscient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (Xd) A Direct axis subtranscient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (Xd) A Direct axis subtranscient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (X'd) A Direct axis subtranscient reactance saturated (X'd) A Direct axis subtranscient reactance saturated (X'd) A Direct axis subtranscient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (X'd) A Direct axis subtranscient reactance saturated (X'd) A Direct axis transcient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (X'd) A Direct axis transcient time constant (T'd) (ms) A Direct axis subtranscient reactance saturated (X'd) A Direct axis transcient time constant (T'd) (ms) A Direct axis transcient time constant (T'd) A Direct axis transcient time constant (T'd) A Direct axis transcient time constant (T'd) A Direct axis trans	Power factor (Cos Phi)	0.80	Efficiencies 100% of load (%)	92.50
Aumber of pole Capacity for maintaining short circuit at 1 in for 10 s Capacity for maintaining short circuit at 2 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 3 in for 10 s Capacity for maintaining short circuit at 4 in for 10 s Capacity for maintaining short circuit at 4 in for 10 s Capacity for maintaining short circuit at 4 in for 10 s Capacity for maintaining short circuit at 4 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit at 5 in for 10 s Capacity for maintaining short circuit franciant (T'd) (ms) Capacity for for in a capacity for for in a capacity fo	Altitude (m)	0 à 1000	Air flow (m3/s)	0.48
Appacity for maintaining short circuit at lin for 10 s li	Overspeed (rpm)	2250	Short circuit ratio (Kcc)	0.401
In for 10 s Insulation class Insulation	Number of pole	4	Direct axis synchro reactance unsaturated (Xd) (%)	339
Open circuit time constant (T'do) (ms) 2351 Direct axis transcient reactance saturated (X'd) (%) 14.40 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) 11.50 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X"d) (%) Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X"d) (%) Subtranscient time constant (T"d) (ms) 10.50 Subtranscient time constant (T"d) (ms) Quadra axis subtranscient reactance saturated (X"q) (%) Subtranscient time constant (T"d) (ms) Quadra axis subtranscient reactance saturated (X"q) (%) Subtranscient time constant (T"d) (ms) Quadra axis subtranscient reactance saturated (X"q) (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Total Harmonic Distortion, on linear load (%) Subtranscient time constant (T"d) (ms) Negative sequence reactance saturated (X"q) Negative sequence reactance saturated (X"q) Negative sequence reactance unsaturated (X"q) Negative sequence reactance unsaturated (X"q) Negative sequence reactance unsaturated (X"q) Subtranscient time constant (T"d) (ms) No load excitation current (io) (A) Total Harmonic Distortion (T"q) (ms)	Capacity for maintaining short circuit at	Yes	Quadra axis synchro reactance unsaturated (Xq) (%)	173
Direct axis transcient reactance saturated (X'd) (%) 14.40 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) 11.50 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) 11.50 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) 11.50 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) 11.50 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) 11.50 Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Direct axis subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Direct axis subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Direct axis subtranscient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X'd) (%) Direct axis subtranscient time constant (T'd) (ms)			Open circuit time constant (T'do) (ms)	2351
Short circuit transcient time constant (T'd) (ms) Direct axis subtranscient reactance saturated (X"d) (%) Outal Harmonic Distortion in no-load OHT (%) Otal Harmonic Distortion, on linear load OHT (%) Otal Harmonic Distortion, on linear load OHT (%) Otal Harmonic Distortion, on linear load OHT (%) Outal Harmonic Distortion in no-load Outal Harmonic			Direct axis transcient reactance saturated (X'd) (%)	14.40
Direct axis subtranscient reactance saturated (X"d) (%) 11.50 AVR Regulation Yes Otal Harmonic Distortion in no-load (%) Otal Harmonic Distortion, on linear load (PHT (%)) Otal Harmonic Distortion, on linear load (%) Otal Harmonic Distortion, on linear load (%) Otal Harmonic Distortion, on linear load (%) Vave form: NEMA=TIF Vave form: CEI=FHT Alumber of bearing Coupling	, , ,		Short circuit transcient time constant (T'd) (ms)	100
Subtranscient time constant (T"d) (ms) OHT (%) Otal Harmonic Distortion, on linear load OHT (%) Otal Harmonic Distortion, on linear load OHT (%) Ovave form: NEMA=TIF Vave form: CEI=FHT Olumber of bearing Coupling Coupli				11.50
OHT (%) Total Harmonic Distortion, on linear load OHT (%) Vave form : NEMA=TIF Vave form : CEI=FHT Sumber of bearing Coupling Voltage regulation at established rating H/- %) Recovery time (Delta U = 20% ranscient) (ms) Cechnology Technology Vave form : Peach of the protection Value form : NEMA=TIF Value form : CEI=FHT Value constant (Ta) (ms) No load excitation current (io) (A) Value form : CEI=FHT Value				
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Vave form: NEMA=TIF Vave form: CEI=FHT Vave form: CEI=FHT Valumber of bearing Coupling Armature time constant (Ta) (ms) No load excitation current (io) (A) Coupling Cou	Total Harmonic Distortion, on linear load	<2.5		15.10
Vave form : CEI=FHT Vave form : CEI=FHT Valumber of bearing Single Bearing Coupling Voltage regulation at established rating Voltage regulation at established rating Voltage regulation (Delta U = 20%) Recovery time (Delta U = 20%) Fanscient) (ms) Indication of protection Technology Zero sequence reactance unsaturated (Xo) (%) Negative sequence reactance saturated (X2) (%) Armature time constant (Ta) (ms) No load excitation current (io) (A) Full load excitation voltage (uc) (V) Engine start (Delta U = 20% perm. or 30% trans.) (kVA) Transcient dip (4/4 load) - PF : 0,8 AR (%) No load losses (W) Heat rejection (W) No load losses (W) Heat rejection (W)			Subtranscient time constant (T"q) (ms)	10
Negative sequence reactance saturated (X2) (%) Armature time constant (Ta) (ms) No load excitation current (io) (A) Paranscient) (ms) Indication of protection Technology Single Bearing Direct O.50 Full load excitation current (ic) (A) Full load excitation voltage (uc) (V) Engine start (Delta U = 20% perm. or 30% trans.) (kVA) Transcient dip (4/4 load) - PF : 0,8 AR (%) No load losses (W) Heat rejection (W) 13.35 Armature time constant (Ta) (ms) No load excitation current (io) (A) Full load excitation voltage (uc) (V) Engine start (Delta U = 20% perm. or 30% trans.) (kVA) Transcient dip (4/4 load) - PF : 0,8 AR (%) Heat rejection (W)			Zero sequence reactance unsaturated (Xo) (%)	0.60
Armature time constant (Ta) (ms) No load excitation current (io) (A) No load excitation current (io) (A) Full load excitation current (ic) (A) Full load excitation voltage (uc) (V)		_	Negative sequence reactance saturated (X2) (%)	13.35
No load excitation current (io) (A) 10.50 Recovery time (Delta U = 20% ranscient) (ms) Indication of protection Technology 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) Transcient dip (4/4 load) - PF : 0,8 AR (%) No load losses (W) Heat rejection (W) 1.79 Full load excitation current (io) (A) Full load excitation voltage (uc) (V) 41.30 Full load excitation voltage (uc) (V) 41.30 Full load excitation current (io) (A) Full load excitation current (ic) (A) Full	ŭ		Armature time constant (Ta) (ms)	15
Full load excitation current (ic) (A) Secovery time (Delta U = 20% 500 Full load excitation voltage (uc) (V) Full load excitation current (ic) (A) Full load excitation cur			No load excitation current (io) (A)	0.79
ranscient) (ms) Indication of protection IP 23 Engine start (Delta U = 20% perm. or 30% trans.) (kVA) Transcient dip (4/4 load) - PF : 0,8 AR (%) No load losses (W) Heat rejection (W) Transcient (W) 11 1289	+/- %)	0.50	Full load excitation current (ic) (A)	3.03
Engine start (Delta U = 20% perm. or 30% trans.) 595.4	Recovery time (Delta U = 20%	500	Full load excitation voltage (uc) (V)	41.30
Fechnology Brushless Transcient dip (4/4 load) - PF : 0,8 AR (%) 11 No load losses (W) 3402 Heat rejection (W) 1289 3 3	transcient) (ms) Indication of protection	IP 23		595.4
Heat rejection (W) 1289	Гесhnology	Brushless	,	11
Heat rejection (W)			No load losses (W)	3402
Unbalanced load acceptance ratio (%) 100			Heat rejection (W)	12899 3
			Unbalanced load acceptance ratio (%)	100

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CONTROL PANEL

APM403, basic generating set and power plant control



The APM403 is a versatile control unit which allows

operation in manual or automatic mode Measurements : voltage and current kW/kWh/kVA power meters

Standard specifications: Voltmeter, Frequency meter.

Optional: Battery ammeter. J1939 CAN ECU engine control

Alarms and faults: Oil pressure, Coolant temperature, Overspeed, Start-up failure, alternator min/max, Emergency stop button.

Engine parameters: Fuel level, hour counter, battery voltage.

Optional (standard at 24V): Oil pressure, water temperature. Event log/ Management of the last 300 genset events.

Mains and genset protection

Clock management

USB connections, USB Host and PC, Communications: RS485 INTERFACE

ModBUS protocol /SNMP

Optional: Ethernet, GPRS, remote control, 3G, 4G,

Websupervisor, SMS, E-mails