JIANGHAO GENERATOR

- ➢Engine: Perkins 404D-22G
- ➢Alternator:Stamford/Leroy Somer /Hengsheng
- ➢Controller:DeepSea/SmartGen /DEIF/ComAp

Genset

Model	JHP-20GF
Voltage	277/480V
Frequency&Speed	60HZ;1800RPM
Prime Power	19kW/24kVA
Standby Power	21kW/26kVA

Basic technical data

Number of cylinders 4
Cylinder arrangement ..... Vertical inline
Cycle ..... 4 stroke
Induction system ..... Naturally aspirated
Compression ratio 23.3:1
Bore ..... 84 mm
Stroke ..... 100 mm
Cubic capacity ..... 2.216 litres
Direction of rotation when viewed from flywheel ..... Anticlockwise
Firing order 1, 3, 4, 2

Weight of ElectropaK

Dry ..... 242 kg

Overall dimensions of ElectropaK

Height ..... 841 mm
Length (from rear of air cleaner to front face of radiator) ..... 948 mm
Width (including mounting brackets) ..... 498 mm

Moments of inertia (mk²)

Engine rotational component ..... TBA kgm²
Flywheel ..... 2.55 kgm²

Centre of gravity (engine only)

Forward from rear of block ..... 147 mm
Above centre line of block ..... 79 mm
Offset to RHS of centre line ..... 3 mm

Performance

Note: All data based on operation to ISO 3046-1:2002 standard reference conditions.

Speed variation at constant load ..... ± 0.5%

Cyclic irregularity

At 110% standby power ..... TBA

Test conditions

Air temperature ..... 25°C
Barometric pressure ..... 100 kPa
Relative humidity 31.5%
Air inlet restriction at maximum power (nominal) ..... 3.0 kPa
Exhaust back pressure at maximum power (nominal) ..... 10.2 kPa
Fuel temperature (inlet pump) ..... 40°C
All ratings certified to within ..... ± 5% CRH

Sound level

Average sound pressure level for bare engine (without inlet and exhaust) at 1 metre ..... 79.0 dB(A)

Notes:

- if the engine is to operate in ambient conditions other than those of the test conditions, suitable adjustments must be made for these changes. For full details, contact Perkins Technical Service Department.
- Emissions Statement: Certified against the requirements of EU2007 (EU97/68/EC Stage II) and EPA Interim Tier 4 (EPA 40 CFR Part 1039 Interim Tier 4) legislation for nonroad mobile machinery, powered by constant speed engines.

General installation, 404D-22G ElectropaK @ 1800 rpm

Designation	Units	Type of operation and application	
		60 Hz	
		Prime	Standby
Gross engine power	kWb	22.0	24.3
ElectropaK nett engine power	kWm	21.6	23.9
Brake mean effective pressure	kPa	657.9	731.0
Engine coolant flow (coolant pump ratio 1.33:1)	l/min	58.7	
Combustion air flow	m³/min	1.74	
Exhaust gas flow (maximum)	m³/min	4.34	4.76
Exhaust gas temperature outlet (maximum)	°C	440	510
Overall thermal efficiency (nett)	%	35	
Typical genset electrical output (0.8 pf 25°C)	kWe	19.2	21.3
	kVA	24.0	26.6
Assumed alternator efficiency	%	89	

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Cooling system

Radiator

Radiator face area ..... 0.167 m²
Number of rows and materials ..... 2 rows, Aluminium,
Matrix density and material ..... 14.5 fins/inch, Aluminium
Width of matrix ..... 334.2 mm
Height of matrix ..... 500.0 mm
Pressure cap setting ..... 90 kPa
Estimated cooling air flow reserve ..... 0.125 kPa

Fan

Diameter ..... 320 mm
Drive ratio 1.33:1
Number of blades 6
Material ..... Plastic
Type ..... Puller

Coolant (total system capacity)

With radiator ..... 7.0 litres
Without radiator ..... 3.6 litres
Maximum top tank temperature ..... 112°C
Temperature rise across engine ..... 7.5°C
Maximum permissible external system resistance ..... 15 kPa
Thermostat operation range ..... 82 - 95°C

Note: Recommended coolant: 50% anti freeze/50% water. For complete details of recommended coolant specifications, refer to the Operation and Maintenance Manual for this engine model.

Maximum static bending moment

At rear face of bloc ..... 1400 Nm

Duct allowance

Maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow		
Ambient clearance 50% Glycol	Duct allowance Pa	m³/sec
53°C	0	0.78
46°C	80	0.73

Notes:

- thermal capability needs to be considered as a function of canopy design
- all data assumes 3°C air temperature rise over ambient into radiator

Electrical system

Alternator ..... 65 amps, 12 volts
Starter motor ..... 2 kW, 12 volts

Exhaust system

Maximum back pressure for total system ..... 10.2 kPa
Inside diameter of outlet flange ..... 42 mm

Induction system

Maximum air intake restriction

Clean filter ..... 3.0 kPa
Dirty filter ..... 6.4 kPa
Air filter type ..... Dry element type

Cold start recommendations

Minimum cranking speed ..... TBA rev/min

Minimum starting temperature	Grade of engine lubricating oil	Battery specifications			
		BS3911 Cold start amps	SAEJ537 Cold cranking amps	Number of batteries required	Commercial reference number
0°C	20 W	540	740	1	647
-15°C	10 W	540	740	1	647
-20°C	5 W	600	780	1	655

Alternator

Pole No.	4-Pole
Exciter Type	Single bearing, Brushless, Self-excited
Power factor	0.8
Voltage adjust range	≦5%
Insulation Grade	H
Protection Grade	IP23/22
Phase / wire	3 phase 4 wires

- ✧ NEMAMG1.JIANGHAO,and ANSl standards compliance for temperature rise and motor starting.
- ✧ Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- ✧ Sustained short-circuit current enabling down stream circuit breakers to trip without collapsing the generator field.
- ✧ Self-ventilated and dripproof construction.
- ✧ Superior voltage waveform from two-thirds pitch windings and skewed stator.
- ✧ Digital solid-state.volts-per-hertz voltage regulator with +1% no-load to full-load regulation.

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Control Panel




The control module gives digital readouts of:

Generator voltage;

Output frequency;

Engine speed;

Battery voltage;

Engine hours run.

The **control panel** is an Digital Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the module will display warnings, shutdown and engine status information on the back-lit LCD screen and illuminated LEDs.

The control module has indicators for failure information:

Over speed/Low speed,

Emergency stop

Low oil pressure;

High water temperature

Failure to start

Battery charger failure

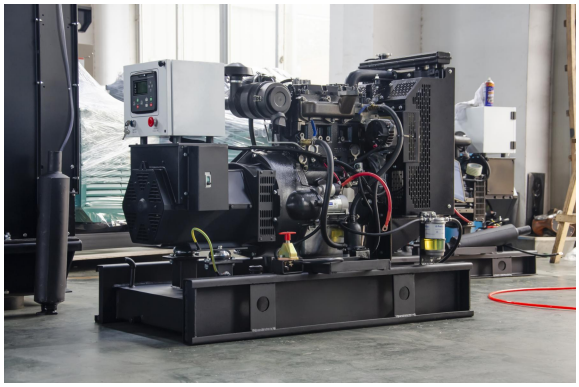
Automatic shutdown occurs under:

Low engine oil pressure;

High engine water temperature;

Over speed/Low speed;

Failure to start after three attempts.



Dimension:1350*710*1100mm

Weight:500kg

Dimension:2400*1000*1550mm

Weight:1100kg

Fuel Tank Capacity:240L

Electrical system

- Maintenance-free and anti-explosion battery
- Standard breaker
- ABB breaker (optional)
- ATS (optional)
- Battery charger (optional)
- GMS monitoring (optional)

Packing

- Wrapping film packaging
- Tray packaging
- plywood box packaging

Jiangsu Jianghao Generator Co.,Ltd

Address: No.1 Xixu Road, Medical High-tech Zone, Taizhou city, Jiangsu, China

Contact Person: Anthony Feng

Email: jhfsale@jhgenerator.com

WhatsAPP: +86 18652649673