



Genset

Model	JHP5-10GF
Voltage	230/400V
Frequency&Speed	50HZ;1500RPM
Prime Power	10kW/13kVA
Standby Power	12kW/15kVA

Basic technical data

Number of cylinders	3
Cylinder arrangement	Vertical in-line
Cycle	four stroke
Induction system	Naturally aspirated
Compression ratio	22,5:1
Bore	84 mm
Stroke	90 mm
Cubic capacity	1 496 litres
Direction of rotation	anti-clockwise when viewed from flywheel
Firing order	1, 2, 3
Estimated total weight (dry)	197 kg

Overall dimensions

-height	791 mm
-length	820 mm
-width	476 mm

Moments of inertia (mk²)

-engine rotational components	0,45 kg m ²
-flywheel	2,01 kg m ²

Centre of gravity

-forward from rear of block	154 mm
-above centre line of block	154 mm
-offset to RHS of centre line	154 mm

➤Engine: Perkins 403D-15G

➤Alternator:Stamford/Leroy Somer
/Hengsheng

➤Controller:DeepSea/SmartGen
/DEIF/ComAp

Performance

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

Steady state speed stability at constant load	
G2	± 0,75%
Cyclic irregularity	
-at 110% stand-by power	1ba

Test conditions

-air temperature	25 °C
-barometric pressure	100 kPa
-relative humidity	31.5%
-air inlet restriction at maximum power (nominal)	3 kPa
-exhaust back pressure at maximum power (nominal)	10,2 kPa
-fuel temperature (inlet pump)	40 °C

Sound level

Average sound pressure level for bare engine (without inlet and exhaust) at 1 metre ... 76,7 dB(A)
-all ratings certified to within ... ± 5%
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 (EU 97/68/EC Stage II) legislation for non-road mobile machinery, powered by constant speed engines.

General installation

Designation	Units	Type of operation and application	
		Prime	Stand-by
		50Hz	50Hz
Gross engine power	kWb	12,2	13,5
Brake mean effective pressure	kPa	650	722
Mean Piston speed	m/s	4,5	
Electropak net engine power	kW	12,0	13,3
Engine coolant flow (coolant pump ratio 1:15:1)	l/min	37,7	
Combustion air flow	m³/min	1,1	
Exhaust gas flow (max)	m³/min	2,7	2,9
Exhaust gas temperature (max)	°C	445	490
Overall thermal efficiency	%	33,0	33,0
Typical genset electrical output (0,8 pf 25°C)	kWe	10,4	11,6
	kVA	13,1	14,5
Assumed alternator efficiency	%	87	
Energy balance			
Energy in fuel (heat of combustion)	kW	36,3	40,2
Energy in power output (gross)	kW	12,2	13,5
Energy to cooling fan	kWt	0,2	
Energy in power output (nett)	kWm	12,0	13,3
Energy to coolant and lubricating oil	kW	11,6	12,9
Energy to exhaust	kW	9,3	10,3
Energy to radiation	kW	3,2	3,5

Cooling system

Radiator

-face area	0,167 m ²
-rows and materials	2 rows, Aluminium
-matrix density and material	4,5 fins per 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	1,15:1
-number of blades	7
-material	Plastic
-type	Pusher

Coolant

Total system capacity	
-with radiator	6,0 litres
-without radiator	2,6 litres
Maximum top tank temperature	112 °C
Max static pressure head on pump	30,4 kPa
Temperature rise across engine	5,1 °C
Max permissible external system resistance	0,8 kPa
Thermostat operation range	82 - 95 °C
Recommended coolant:	
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	

Duct allowance

Maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow		
Ambient clearance 50% Glycol	Duct allowance Pa	m ³ /sec
53°C	0	0,61
46°C	125	0,42

Electrical System

-alternator	65 amps, 12 V
-starter motor	Bosch 2 kW, 12 V

Cold start recommendations

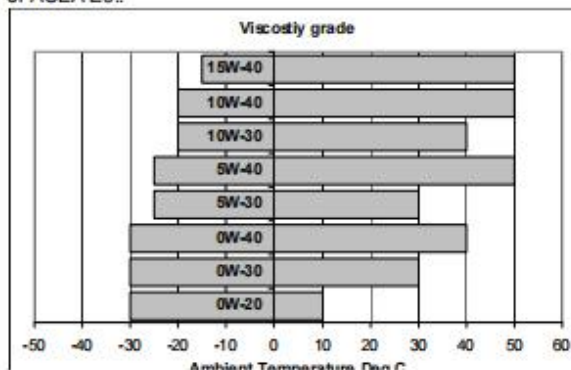
Minimum cranking speed 150 rev/min

Minimum starting temperature	Grade of engine lubricating oil	Battery specifications			
		BS3911 Cold start amps	SAEJ537 Cold cranking amps	Number of batteries needed	Commercial ref number
0	20W	420	590	1	072
-15	10W	420	590	1	072
-20	5W	540	740	1	647

Note: Additional information for battery and cable limits can be found in section 6 (Electrics) of 400D Engine Sales Manual.

Recommended SAE viscosity

A single or multigrade oil must be used which conforms API-CH-4 or ACEA E5.



Exhaust system

Maximum back pressure	10,2 kPa
Exhaust outlet size	42 mm

Fuel system

Type of injection	Indirect injection
Fuel injection pump	Cassette type
Fuel injector	Pintle nozzle
Nozzle opening pressure	14,7 MPa
Max particle size	25 microns

Fuel lift pump

-type	mechanical (camshaft driven)
-flow/hour	63 litres/hr
-pressure	10 kPa
Maximum suction head	0,8 m
Maximum static pressure head	3,0 m
Governor type	Mechanical

Fuel specification

USA Fed Off Highway - EPA2D 89.330-96

Europe Off Highway - CEC RF-06-99

Note: For further information on fuel specifications and restrictions, refer to the OMM Fuels section for this engine model.

Fuel consumption

Power rating %				
g/kWh (litres/hr)				
110	100	75	50	25
251 (4.08)	248 (3.67)	252 (2.79)	277 (2.04)	360 (1.32)

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 ANSI 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 drip-proof 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

Control Panel



The control module gives digital readouts of:

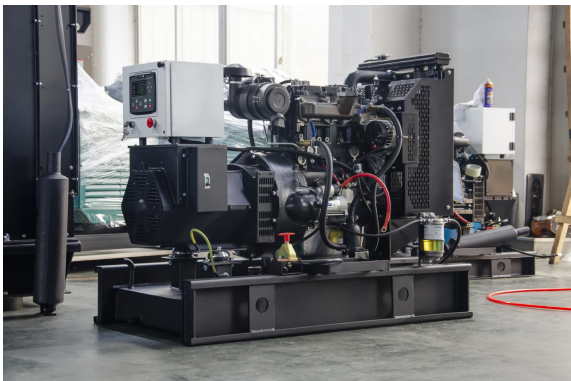
Generator voltage;
Output frequency;
Engine speed;
Battery voltage;
Engine hours run.

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



Dimension:1250*700*1100mm
Weight:350kg



Dimension:2200*1000*1550mm
Weight:900kg
Fuel Tank Capacity:180L

Automatic shutdown occurs under:

Low engine oil pressure;
High engine water temperature;
Over speed/Low speed;
Failure to start after three attempts.

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

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