



Genset

Model	JHP5-400GF
Voltage	230/400V
Frequency&Speed	50HZ;1500RPM
Prime Power	400kW/500kVA
Standby Power	440kW/550kVA

Basic technical data

Number of cylinders	6
Cylinder arrangement	Vertical, In-line
Cycle	4 stroke
Induction system	turbocharged, air to air charge cooling
Combustion system	direct injection
Compression ratio	16:1
Bore	137 mm
Stroke	171 mm
Cubic capacity	15 litres
Direction of rotation	anti-clockwise viewed on flywheel
Firing order (cylinder 1 furthest from flywheel)	1, 5, 3, 6, 2, 4

Total weight of ElectropaK

-dry (engine only)	1633 kg
-wet	1714 kg

Overall dimensions

-height	1718 mm
-length	2657 mm
-width	1120 mm

Moments of inertia (mk²)

Engine	
-1500 rev/min	2-3291 kgm ²
-1800 rev/min	2-3291 kgm ²
Flywheel	
-1500 rev/min	1-96355 kgm ²
-1800 rev/min	1-96355 kgm ²

Performance

Note: All data based on operation to ISO 3046/1, BS5514 and DIN 6271 standard reference conditions.

➤ **Engine: Perkins 2506C-E15TAG2**

➤ **Alternator: Stamford/Leroy Somer**
/Hengsheng

➤ **Controller: DeepSea/SmartGen**
/DEIF/ComAp

Cyclic irregularity

Engine / Flywheel maximum:	
-1500 rev/min	1:44
-1800 rev/min	1:60

Ratings

Steady state stability at constant speed	± 0.25 %
Electrical ratings are based on average alternator efficiency and are for guidance only (0.8 power factor being used)	

Operating point

Engine speed	1500 & 1800 rev/min
Cooling water maximum exit temperature	< 107 °C

Fuel data

To conform to	BS2869 class A2 or BS EN590
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Test conditions

-air temperature	25 °C
-barometric pressure	100 kPa
-relative humidity	30%
-air inlet restriction at maximum power (nominal)	2,5 kPa
-exhaust back pressure at maximum power (nominal)	6,0 kPa
-maximum fuel temperature (inlet pump)	40 °C

Note: 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. For test conditions relevant to data on load acceptance, refer to the bottom of page 14.

Sound level

Estimated sound pressure level at 1 metre:	
-1500 rev/min	103,1 dB(A)
-1800 rev/min	105,2 dB(A)

2506C-E15TAG2

Designation	Units	Type of operation and application			
		Prime	Standby	Prime	Standby
		50 Hz @ 1500 rev/min		60 Hz @ 1800 rev/min	
Gross engine power	kW/b	451	495	458	514
Fan power	kW/m	8,8		15,5	
Restriction losses	kW/m	7,8	8,4	8,0	8,8
ElectropaK nett engine power	kW/m	435	478	435	490
Gross brake mean effective pressure	kPa	2405	2640	2036	2284
Combustion air flow	m ³ /min	35,8	36,6	34,3	38,0
Exhaust gas temperature (max)	°C	N/A	550	N/A	550
Exhaust gas flow	m ³ /min	94	98	96	105,3
Boost pressure ratio	-	3,40	3,60	3,00	3,25
Overall thermal efficiency (nett)	%	39,7	39,6	44,0	43,4
Friction and pumping power losses	kW/m	49		51	
Mean piston speed	m/s	8		10	
Engine coolant flow	l/sec	6,1		7,2	
Cooling fan air flow (zero duct allowance)	m ³ /min	722		866	
Typical Gen Set electrical output (0.8 pf)	kVe	400	440	400	450
	kVA	500	550	500	563
Assumed alternator efficiency	%	92		92	

Cooling system

Recommended coolant:

50% inhibited ethylene glycol or 50% inhibited propylene glycol and 50% clean fresh water. Where there is no likelihood of ambient temperatures below 10 °C, clean 'soft' water may be used, treated with 1% by volume of Perkins inhibitor in the cooling system. The inhibitor is available from all Perkins Distributors.

Total system coolant capacity 58,0 litres

Maximum pressure:

-in crankcase water jacket 276 kPa

Maximum top tank temperature 107 °C

Maximum static pressure on pump 170 kPa

Maximum permissible restriction:

-to coolant pump flow 30 kPa

Temperature rise across engine with inhibited coolant:

-standby power @ 1500 and 1800 rev/min 10 °C

-prime power @ 1500 and 1800 rev/min 9 °C

Thermostat operation range 88 to 98 °C

Radiator

-face area 1.238 m²

-weight (dry) 132 kg

-rows and materials 2 rows, Aluminium

-matrix density and material 12 fins per inch, Aluminium

-width of matrix 1048 mm

-height of matrix 1100 mm

-pressure cap setting (minimum) 69 kPa

Charge cooler with integral radiator

-face area 1.006 m²

-number of rows and material 1 row, Aluminium

-matrix density and material 12,5 fins per inch, Aluminium

-width of matrix 915 mm

-height of matrix 1100 mm

Coolant pump

Speed:

-1500 rev/min 1622 rev/min

-1800 rev/min 1946 rev/min

Method of drive gear

Fan

-diameter 927 mm

-drive ratio 0.92:1

-number of blades 9

-material B3WG6 or PA6GF30 Nylon 6 glass filled 30%

-type ACS 367500

- ✧ 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 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.

Cooling clearance

Ambient cooling clearance (standby power) based on air temperature at fan of 6 °C above the ambient

2506C-E15TAG1 maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow			
Duct allowance with inhibited coolant at 50 °C			
Description	rev/min	Units	Standby
Duct allowance	1500	kPa	0-125
	1800	kPa	0-125
Minimum airflow	1500	m ³ /min	660
	1800	m ³ /min	822
Duct allowance with 50% glycol at 43 °C			
Duct allowance	1500	kPa	0-200
	1800	kPa	0-200
Minimum airflow	1500	m ³ /min	576
	1800	m ³ /min	792

2506C-E15TAG2 maximum additional restriction (duct allowance) to cooling airflow and resultant minimum airflow			
Duct allowance with inhibited coolant at 50 °C			
Description	rev/min	Units	Standby
Duct allowance	1500	kPa	0-125
	1800	kPa	0-125
Minimum airflow	1500	m ³ /min	660
	1800	m ³ /min	822
Duct allowance with 50% glycol at 43 °C			
Duct allowance	1500	kPa	0-200
	1800	kPa	0-200
Minimum airflow	1500	m ³ /min	576
	1800	m ³ /min	822

Electrical system

Type	12V negative earth
Alternator	
-type	22SI
-voltage	24 volts
-output	70 amps
Starter	
-type	42MT
-motor voltage	24 volts
-motor power	7,5 kW
Number of teeth	
-on the flywheel	113
-on starter pinion	11
Minimum cranking speed	100 rev/min
Pull-in current of starter motor solenoid	
@ -25 °C max ⁽¹⁾	57 amps
Hold-in current of starter motor solenoid	
@ -25 °C max ⁽¹⁾	16 amps

1. All leads to rated at 10 amps minimum

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

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:3700*1200*2000mm
Weight:3400kg

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



Dimension:4700*2100*2400mm
Weight:6300kg
Fuel Tank Capacity:1000L

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