

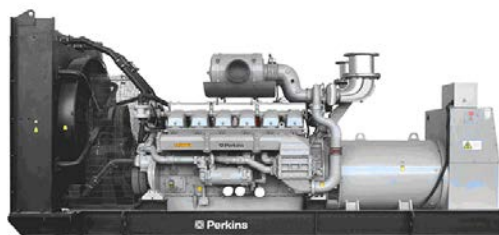
## DATA SHEET

DIESEL GENERATOR 240KW

MODEL#FDK-P240/H1

50HZ/1500RPM

PERKINS MODEL: 1606A-E93TAG4



### General Features:

- ◆ All qualified generator sets are subjected to a comprehensive performance test which includes 50% load, 70% load, 100% load, 110% load and to check, verify that all control systems, alarm and shut-down protection.
- ◆ Equipped with battery charger and 24V high performance maintenance-free lead-acid starting batteries and connecting cables.
- ◆ Stainless galvanized zinc plates with strong corrosion-proof.
- ◆ Vibration isolators between the engine/alternator and base frame.
- ◆ Equipped with industrial silencer and flexible exhaust hose.
- ◆ Designed to comply with ISO8528/GB2820.
- ◆ Powered by Perkins engine and coupled with Stamford alternator.
- ◆ Water jacket preheater, oil heater and double air cleaner, etc. are available.

### FDK Diesel Generator Set Data

Genset Model	FDK-P240/H1
Prime Power	220KW/275KVA
Standby Power	240KW/300KVA
Output Frequency / Rated speed	50Hz/1500rpm
Rated Voltage	230V/400V

Engine Make	Perkins UK
Engine Model	1606A-E93TAG4
Alternator model	Stamford HCI444D
Control System	DSE7320
Phase	Three

(1) **Prime power:** The rating is available for an unlimited of annual operating hours in variable load applications, in accordance with ISO8528-1.A 10% overload is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1.

(2) **Standby power:** The rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.

(3) **Rated voltage:** available with customer requirement.

### Engine Specifications (DETAILED in APPENDIX)

Engine Model	1606A-E93TAG4
Engine Manufacturer	Perkins UK
Cylinder quantity	6
Cylinder Arrangement	In-line
Cycle	4
Aspiration	Turbo charged

Bore x Stroke (mm x mm)	117x146
Displacement	9.3L
Compression Ratio	17.2:1
Prime power / Speed (KW/RPM)	239kw/1500
Standby power/ Speed (KW/RPM)	261kw/1500
Governor type	N.A.



ISO9001:2008

FDK reserves the right to change the specifications and designs without notice.

Piston Speed	N.A.
ElectropaK net engine power	N.A.
Total Lubrication System Capacity (L)	36
Total Coolant Capacity (L)	N.A.

Fuel Consumption at 100% load (L/HOUR)	N.A.
Starter motor	N.A.
Alternator	N.A.
Minimum cranking speed.	N.A.

## Alternator Specifications

Alternator model	HCI444D
Alternator manufacturer	STAMFORD
Exciter type	Single bearing, Brushless, Self-excited
Rated output prime power	300KVA
Rated speed	1500 rpm
Rated frequency	50Hz

Number of phase	3
Rated voltage	400V (Available with custom requirements)
Power factor	0.8
Voltage regulation NL-FL	±1%
Insulation grade	H
Protection grade	IP23

## Alternator option: Leroy Somer, MECC, Marathon, Engga, Faraday

## Control System DSE7320 (DETAILED in INSTRUCTION)

DSE7320 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, breaker control and automatically start the engine when the mains are abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

### FEATURES

- ♦ Microprocessor control, with high stability and credibility.
- ♦ Monitoring and measuring operational parameters of the mains supply and genset.
- ♦ Indicating operation status, fault conditions, all parameters and alarms.
- ♦ Multiple protections; multiple parameters display, like pressure, temp. etc.
- ♦ Manual, automatic and remote work mode selectable.
- ♦ Real time clock for time and date display, overall runtime display, 250 log entries.
- ♦ Overall power output display.
- ♦ Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- ♦ Communication with PC via RS485 OR RS232 interface, using MODBUS protocol.

## Soundproof Enclosure Specification

FDK silent generator is designed by professional acoustic engineers based on years of experience. Now we can make the noise of the generator less than 80-85dB(A) at 1m, or 70-75dB(A) at 7m, 60-65dB(A) at 15m.

### FEATURES

- ♦ Multi-way air intake and exhaust guarantee the power performance of the generator.
- ♦ Large-scale impedance combined type silencer effectively reduce noise of the generator.
- ♦ Internal high performance rubber damper and flexible materials reduce vibration.
- ♦ Base mounted fuel tank supports the generator running for 8 hours.



ISO9001:2008

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## Optional

Generator set	Alternator	Low environment Temp	ATS
<input type="checkbox"/> Open generator set <input type="checkbox"/> Silent generator set <input type="checkbox"/> Trailer generator set <input type="checkbox"/> ABB MCCB circuit breaker	<input type="checkbox"/> Stamford <input type="checkbox"/> Marathon <input type="checkbox"/> Mecc Alte <input type="checkbox"/> Leroy Somer <input type="checkbox"/> Farady <input type="checkbox"/> Engga	<input type="checkbox"/> Water heater <input type="checkbox"/> Oil heater <input type="checkbox"/> Battery heater	<input type="checkbox"/> CHINT <input type="checkbox"/> SCHNEIDER <input type="checkbox"/> ABB
Fuel system	Control system	Voltage	Synchronized system
<input type="checkbox"/> 12hrs base tank <input type="checkbox"/> 24hrs base tank <input type="checkbox"/> Dual wall base fuel tank <input type="checkbox"/> Outside fuel tank	<input type="checkbox"/> AMF function <input type="checkbox"/> ATS control cabinet <input type="checkbox"/> DSE7320 <input type="checkbox"/> DSE7510 <input type="checkbox"/> GU620A	<input type="checkbox"/> 415/240V <input type="checkbox"/> 400/230V <input type="checkbox"/> 380/220V <input type="checkbox"/> 220/127V <input type="checkbox"/> 200/115V	<input type="checkbox"/> CHINT Cabinet <input type="checkbox"/> SCHNEIDER Cabinet <input type="checkbox"/> DSE8610 Module <input type="checkbox"/> COMAQ Module <input type="checkbox"/> DEIF Module

## Dimension & Weight

### Open

Overall Size: LxWxH (mm)	3500x1500x2400
Weight (kg)	2200

### Soundproof Version

Overall Size: LxWxH (mm)	4500x2600x3500
Weight (kg)	4000

## Sales Promises

- ◆ FDK provides a full line of brand new and high quality products. Each and every unit is strictly factory tested before shipment.
- ◆ Quality warranty is according to our standard conditions: 12 months from BL date or 1000 running hours, whichever comes first.
- ◆ Service and parts are available from FDK or distributors in your location.
- ◆ FDK guarantee use **BRAND NEW & GENUINE MACHINE.**



# 1600 Series 1606A-E93TAG4 Diesel Engine – Electropak

275 kVA Prime Power / 300 kVA Standby Power

Building upon Perkins proven reputation within the power generation industry, the 1600 Series range of Electropak engines now fit even closer to our customers needs.

The 1606A engine is a full authority electronic, 6 cylinder engine. It is economical and quiet and provides the close speed control and reliable, high performance that are demanded by our customers for their power generation business.

Focusing on our common platform theme, changes to engine envelope dimensions and connection points have been kept to a minimum, meaning that there is an easy changeover from 1300 Series to 1600 Series.

## Dependable power

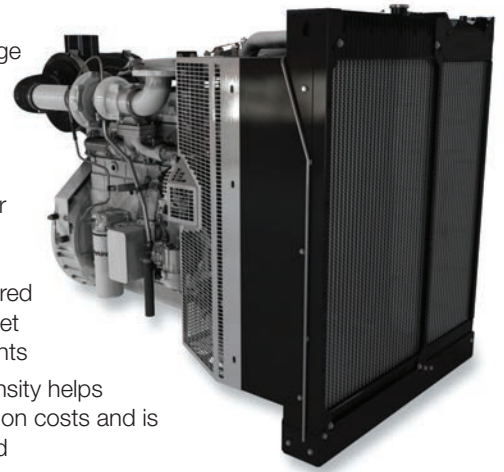
- The Perkins 1606A-E93TAG4 delivers up to 300 kVA standby at 50Hz and 344 kVA at 60Hz, providing greater productivity through an improved power to weight ratio  
This world-class power density has been achieved in a 9.3 litre turbocharged engine with a hydraulic actuated unit injector fuel system; making this engine robust for all markets because of its ability to cope with the variation of fuel quality around the world
- The 1606A has been designed to run in the harshest conditions; from the lowest to highest ambient temperatures: -40°C to 55°C

## Low operating costs

- Service intervals are set at 500 hours as standard
- We use the appropriate technology when and where needed which ensures low cost of ownership, simple maintenance and reduced downtime
- The 1600 Series engine design offers common components to reduce parts inventory. eg, filters, cylinder heads, blocks and pistons
- Perkins provides comprehensive warranty cover for two years (up to 3,000 hours), with three years on major engine components

## Flexibility

- The 1606A range has been designed to hit all the main power nodes
- Tropical radiator is offered as standard, but could offer tailored solutions to meet your requirements
- High power density helps reduce installation costs and is easily packaged



## World class product support

- Our experienced global network of distributors and dealers, fully trained engine experts deliver total service support around the clock, 365 days a year. They have a comprehensive suite of web based tools at their finger tips, covering technical information, parts identification and ordering systems, all dedicated to maximising the productivity of your engine
- Perkins actively pursues product support excellence by insisting our distribution network invest in their territory to provide you with a consistent quality of support across the globe
- Throughout the entire life of a Perkins engine, we provide access to genuine OE specification parts giving 100% reassurance that you receive the very best in terms of quality for lowest possible cost... wherever your Perkins powered machine is operating in the world

Engine Speed (rev/min)	Type of Operation	Typical Generator Output (Net)		Engine Power	
		kVA	kWe	Net	
				kWm	bhp
1500	Prime Power	275	220	239	320
	Standby (maximum)	300	240	261	350
1800	Prime Power	313	250	272	365
	Standby (maximum)	344	275	299	401

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 **Perkins**<sup>®</sup>

THE HEART OF EVERY GREAT MACHINE

# 1600 Series 1606A-E93TAG4 Diesel Engine – Electropak

275 kVA Prime Power / 300 kVA Standby Power

## Standard Electropak specification

### Air inlet

- Mounted air filter and turbocharger

### Fuel system

- High pressure G2 fuel system with full authority electronic control
- Electronic governing to ISO 3046-4 with stand-alone isochronous and load-sharing capabilities
- Replaceable element fuel filter with pre-filter and hand primer pump

### Lubrication system

- Wet front well steel sump with filler and dipstick
- Full flow spin-on filters
- Stacked plate-type oil cooler thermostatically controlled

### Cooling system

- Thermostatically controlled with belt driven circulating pump and 36 inch belt-drive fan
- Radiator supplied loose with all guards and pipes
- Air-to-air charge cooler incorporated in radiator

### Electrical equipment

- 24V starter motor and 24V 45 amp alternator with DC output
- Electronic Control Module (ECM) mounted on engine with wiring looms and sensors
- 3 level engine protection system

### Flywheel and housing

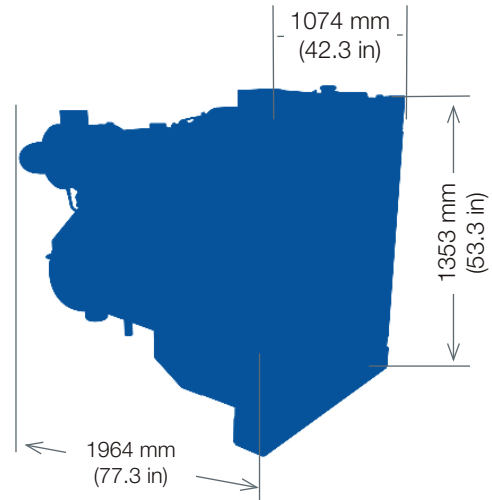
- High inertia flywheel to SAE 1 J620 Size 355.6 mm (14 in)
- Cast iron SAE 1 flywheel housing

### Mountings

- Front engine mounting bracket

### Optional equipment

- Sensor positions for:
  - oil pressure
  - oil temperature
  - coolant temperature
- Turbocharger exhaust outlet
- Parts Book
- Service Manual



### Engine data

Number of cylinders .....	Vertical in-line 6 cylinder
Bore and stroke.....	117 x 146 mm (4.6 x 5.7 in)
Displacement .....	9.3 litres (567 cubic in)
Aspiration .....	Turbocharged aftercooled
Cycle.....	4 stroke
Combustion system.....	Direct injection
Compression ration .....	17.2:1
Engine rotation .....	Anti-clockwise viewed on flywheel
Cooling system.....	Liquid
Total lubrication capacity.....	36 litres (9.5 US gal)
Dimensions – Length – including air cleaner ...	1964 mm (77.3 in)
Width .....	1074 mm (42.3 in)
Height .....	1353 mm (53.3 in)
Dry weight .....	963 kg (2123 lbs)

Final weight and dimensions will depend on completed specification

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