

# 2300 Series

## 2306A-E14TAG1

### Diesel Engine – Electropak

304 kWm at 1500 rpm  
329 kWm at 1800 rpm

#### Economic Power

- Mechanically operated unit fuel injectors with advanced electronic control, combined with carefully matched turbocharging, give excellent fuel atomisation which leads to exceptional low fuel consumption.

#### Reliable Power

- Developed and tested using the latest engineering techniques and finite element analysis for high reliability.
- Low oil usage and low wear rates.
- High compression ratio ensures clean rapid starting in all conditions.
- Support comes from a worldwide network of 4,000 distributors and dealers.

#### Compact, Clean and Efficient Power

- Exceptional power to weight ratio and compact size gives optimum power density for ease of installation and more cost effective transportation.
- Designed to provide excellent service access for ease of maintenance.



The Perkins 2300 Series is a family of well-proven 6 cylinder in-line diesel engines. It is designed to address today's uncompromising demands within the power generation industry with particular focus on the standby market sector. Developed from a proven heavy-duty industrial base, the engine offers superior performance and reliability.

The 2306A-E14TAG1 is a turbocharged and air-to-air charge-cooled 6-cylinder diesel engine. It gives economic and durable operation for standby duty, low gaseous emissions, and high levels of performance and reliability.

This engine does not comply with harmonized international regulated emissions limits.

| Engine Speed<br>(rev/min) | Type of Operation | Typical Generator Output (Net) |     | Engine Power |     |     |     |
|---------------------------|-------------------|--------------------------------|-----|--------------|-----|-----|-----|
|                           |                   | kVA                            | kWe | Gross        |     | Net |     |
|                           |                   |                                |     | kWm          | bhp | kWm | bhp |
| 1500                      | Baseload Power    | 250                            | 200 | 226          | 304 | 217 | 292 |
|                           | Prime Power       | 300                            | 240 | 270          | 362 | 261 | 350 |
|                           | Standby Power     | 350                            | 280 | 313          | 420 | 304 | 408 |
| 1800                      | Baseload Power    | 281                            | 225 | 262          | 351 | 245 | 329 |
|                           | Prime Power       | 344                            | 275 | 316          | 424 | 299 | 401 |
|                           | Standby Power     | 379                            | 303 | 346          | 464 | 329 | 441 |

The above ratings represent the engine performance capabilities to conditions specified in ISO 8528/1, ISO 3046/1:1986, BS 5514/1. Derating may be required for conditions outside these; consult Perkins Engines Company Limited.

Generator powers are typical and are based on an average alternator efficiency and a power factor (cos.  $\theta$ ) of 0.8.

Fuel specification: BS 2869: Part 2 1998 Class A2 or ASTM D975 D2.

Lubricating oil: 15W40 to API CG4.

#### Rating Definitions

**Baseload Power:** Power available for continuous full load operation. Overload of 10% permitted for 1 hour in every 12 hours operation

**Prime Power:** Power available at variable load with a load factor not exceeding 80% of the prime power rating. Overload of 10% is permitted for 1 hour in every 12 hours operation

**Standby Power:** Power available in the event of a main power network failure up to a maximum of 500 hours per year of which up to 300 hours may be run continuously. Load factor may be up to 100% of standby power. No overload is permitted.

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### Standard ElectropaK Specification

#### Air inlet

- Mounted air filter

#### Fuel system

- Mechanically actuated electronically controlled unit fuel injectors with full authority electronic control
- Governing to ISO 8528-5 class G3 with isochronous capability
- Replaceable 'ecoplus' fuel filter elements with primary filter/water separator
- Fuel Cooler

#### Lubrication system

- Wet sump with filler and dipstick
- Full-flow replaceable 'ecoplus' filter
- Oil cooler integral with filter header

#### Cooling system

- Gear-driven circulating pump
- Mounted belt-driven pusher fan
- Radiator supplied loose incorporating air-to-air charge cooler
- System designed for ambients up to 50°C

#### Electrical equipment

- 24 volt starter motor and 24 volt 70 amp alternator with DC output
- ECM mounted on engine with wiring looms and sensors
- 3 level engine protection system

#### Flywheel and housing

- High inertia flywheel to SAE J620 Size 14
- SAE ½ flywheel housing

#### Mountings

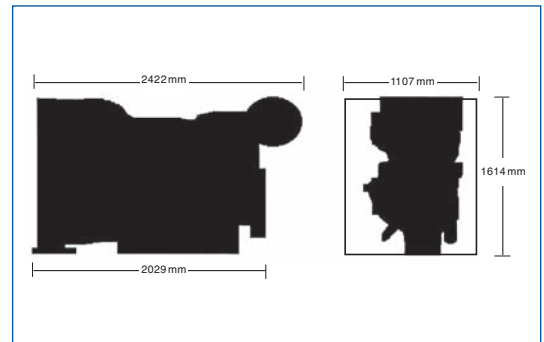
- Front engine mounting bracket

#### Literature

- User's Handbook and Parts Manual

### Optional Equipment

- 110 volt/240 volt immersion heater
- Additional speed sensor
- Temperature and pressure sensors for gauges
- Electric hours counter
- Air filter rain hood
- Twin starters/facility for second starter
- Tool kit
- Additional manuals



| Engine Speed       | Fuel Consumption |      |              |      |
|--------------------|------------------|------|--------------|------|
|                    | 1500 rev/min     |      | 1800 rev/min |      |
|                    | g/kWh            | l/hr | g/kWh        | l/hr |
| Standby            | 191              | 69   | 218          | 83   |
| Prime power        | 194              | 61   | 221          | 77   |
| Baseload power     | 195              | 49   | 224          | 64   |
| 75% of prime power | 199              | 45   | 226          | 59   |
| 50% of prime power | 213              | 32   | 237          | 41   |

### General Data

|                                   |   |
|-----------------------------------|---|
| Number of cylinders               | 6   |
| Cylinder arrangement              | Vertical in-line                                  |
| Cycle                             | 4 stroke  |
| Induction system                  | Turbocharged and air-to-air charge cooled         |
| Combustion system                 | Direct injection                                  |
| Cooling system                    | Water-cooled                                      |
| Bore and stroke                   | 137 x 165 mm                                      |
| Displacement                      | 14.6 litres                                       |
| Compression ratio                 | 15.9:1  |
| Direction of rotation             | Anti-clockwise, viewed on flywheel                |
| Total lubrication system capacity | 68 litres   |
| Total coolant capacity            | 47 litres   |
| Total dry weight                  | 1690 kg   |
| Dimensions                        | Length 2422 mm<br>Width 1107 mm<br>Height 1614 mm |

Final weight and dimensions will depend on completed specification



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