



# 400 Series

## 404D-22G

### Diesel Engine - ElectropaK

20.3 kWm @ 1500 rev/min  
 23.9 kWm @1800 rev/min  
 33.4 kWm @ 3000 rev/min



The 400 Series engine family continues to set new standards in the compact engine market. Developed alongside customers to fulfill their needs in the Genset, Compressor, Agricultural and general Industrial markets.

These new ElectropaKs provide compact power, from a robust family of 3 and 4 cylinder diesel engines designed to provide economic and durable operation at Prime and Standby duties, hitting the key power nodes required by the power generation industry.

#### Powered by your needs

- The 404D-22G ElectropaK is a powerful but quiet 2.2 litre naturally aspirated 4-cylinder compact package

#### Compact, Clean, Efficient Power

- Design features on the 400D range of ElectropaKs ensures clean rapid starting in all conditions whilst delivering impressive performance with low operating costs in a small, efficient package size

#### Lower Operating Costs

- The compact package Size makes Installation and transportation easier and more cost effective
- Operating and maintenance costs are reduced through excellent fuel and oil economy
- Service intervals are set at 500 hours as standard and Perkins provides comprehensive warranty cover for two years, with three years on major engine components. A low usage warranty package is also available

#### Long-term Power Solution

- The 400D range of ElectropaKs has been designed to fully comply with stringent EU and EPA emissions regulations, providing an emissions compliant power solution for the future

#### World-class Product Support

- At Perkins we are constantly researching, developing and investing in our products and services. Total worldwide support is provided through a network of distributors and service outlets, providing access to over 50,000 parts and exchange units 24 hours a day, 365 days a year. This support is enhanced by TIPSS (The Integrated Parts and Service System). TIPSS enables customers to electronically specify and order parts as well as service 400 Series engines with online guides and service tools

#### Emissions statement

- Certified against the requirements of EU2007 (EU 97/68/EC Stage II) and EPA Interim Tier 4 (EPA 40 CFR Part 1039 Interim Tier 4) legislation for non-road mobile machinery, powered by constant speed engines

| Engine Speed | Type of Operation | Typical Generator Output (Net) |      | Engine Power |      |      |      |
|--------------|-------------------|--------------------------------|------|--------------|------|------|------|
|              |                   |                                |      | Gross        |      | Net  |      |
|              |                   | kVA                            | kWe  | kWm          | bhp  | kWm  | bhp  |
| 1500         | Prime Power       | 20.0                           | 16.0 | 18.7         | 25.1 | 18.4 | 24.6 |
|              | Standby Power     | 22.1                           | 17.7 | 20.6         | 27.6 | 20.3 | 27.2 |
| 1800         | Prime Power       | 24.0                           | 19.2 | 22.0         | 29.5 | 21.6 | 29.0 |
|              | Standby Power     | 26.6                           | 21.3 | 24.3         | 32.6 | 23.9 | 32.1 |
| 3000         | Prime Power       | 33.6                           | 26.9 | 31.2         | 41.8 | 30.2 | 40.8 |
|              | Standby Power     | 37.2                           | 29.7 | 34.4         | 46.1 | 33.4 | 44.8 |

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 typical alternator efficiencies and a power factor (cos θ) of 0.8.

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

Rating Definitions

Prime Power: Power available at variable load in lieu of a main power network. Overload of 10% is permitted for 1 hour in every 12 hours operation.

Standby (maximum): Power available at variable load in the event of a main power network failure. No overload is permitted.

Photographs are for illustrative purposes only and may not reflect final specification.

All information in this document is substantially correct at time of printing and may be altered subsequently

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# 400 Series

## 404D-22G

### Standard ElectropaK Specification

#### Air Inlet

- Mounted air filter

#### Fuel System

- Mechanically governed cassette type fuel injection pump
- Split element fuel filter

#### Lubrication System

- Wet steel sump with filler and dipstick
- Spin-on full-flow lub oil filter

#### Cooling System

- Thermostatically-controlled system with belt driven coolant pump and pusher fan
- Mounted radiator, piping and guards

#### Electrical Equipment

- 12 volt starter motor and 12 volt 65 amp alternator with DC output
- Oil pressure and coolant temperature switches
- 12 volt shut off solenoid energised to run
- Glow plug cold start aid and heater/starter switch

#### Flywheel and Housing

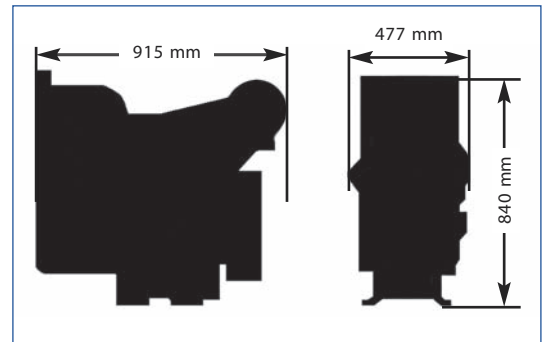
- 1500/1800 rev/min
- High inertia flywheel to SAE J620 Size 7½ Heavy
- Flywheel housing SAE 4 Long
- 3000 rev/min
- High inertia flywheel to SAE J620 Size 7½ Light
- Flywheel housing SAE 4 Short

#### Mountings

- Front and rear engine mounting bracket

#### Optional Equipment

- Workshop manual
- Parts book



| Engine Speed       | Fuel Consumption |      |              |      |
|--------------------|------------------|------|--------------|------|
|                    | 1800 rev/min     |      | 1500 rev/min |      |
|                    | g/kWh            | l/hr | g/kWh        | l/hr |
| Standby            | 235              | 4.7  | 244          | 4.1  |
| Prime power        | 233              | 4.3  | 237          | 3.7  |
| 75% of prime power | 240              | 3.3  | 238          | 2.7  |
| 50% of prime power | 262              | 2.4  | 258          | 2.0  |

#### General Data

|                                   |                                   |
|-----------------------------------|-----------------------------------|
| Number of cylinders               | 4                                 |
| Cylinder arrangement              | Vertical in-line                  |
| Cycle                             | 4 stroke                          |
| Aspiration                        | Naturally aspirated               |
| Combustion system                 | Indirect injection                |
| Compression ratio                 | 23.3:1                            |
| Bore and Stroke                   | 84 x 100 mm                       |
| Displacement                      | 2.216 litres                      |
| Direction of rotation             | Anti-clockwise viewed on flywheel |
| Cooling system                    | Water cooled                      |
| Total coolant capacity            | 7.0 litres                        |
| Total Lubrication system capacity | 10.6 litres                       |
| Length                            | 915 mm                            |
| Width                             | 477 mm                            |
| Height                            | 840 mm                            |
| Total weight (dry)                | 242 kg                            |

Final weight and dimensions will depend on completed specification.

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