



Diesel Generating Sets

60
Hz

Model: **KYP18**

INDUSTRIAL RANGE

Powered by Perkins



STAMFORD

power generation



Generating Rates

| POWER RATING | | STANDBY | PRIME |
|-----------------------|---------|---------------------------------|-------|
| POWER | KVA | 20 | 18 |
| | KW | 16 | 14 |
| Rated Speed | R.P.M | 1800 | |
| Standard Voltage | V | 480 | |
| Available Voltages | V | 480/277-440/254-220/127-208/120 | |
| Rated at power factor | Cos Phi | 0.8 | |

Ambient conditions of reference: 1000 mbar, 25°C, 30% relative humidity. Power according to ISO 3046 normative.

P.R.P. Prime Power - ISO 8528 : prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during a 24

Standby Power (ISO 3046 Fuel Stop power): power available for use at variable loads for limited annual time (500h), within the following limits of maximum operating time: 100% load 25h per year – 90% load 200h per year. No overload available. Applicable i



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Engine Specifications 1800 r.p.m.

| ENGINE | | STANDBY | PRIME |
|----------------------------|--------|-------------------------------------|-------|
| Rated Output | kW | 16 | 14 |
| Manufacturer | | Perkins | |
| Model | | 403A-15G2 | |
| No. of Cylinders and Build | | 4 Cycle; In-line; 3 Cylinder Diesel | |
| Aspiration and Cooling | | Natural Aspiration | |
| Bore/Stroke | mm | 84X90 | |
| Compress the ratio | | 22.5:1 | |
| Cooling system | | Water-cooled | |
| Engine Speed/Frequency | rpm/Hz | 1800/60HZ | |
| Coolant Capacity | L | 6 | |
| Starting System | | Electric 12 volt DC | |
| Displacement | L | 1.496 | |
| Lubricant system Capacity | L | 6 | |
| Battery Volatge / Capacity | | 12VDC | |
| Governing Type | Type | Mechanical | |
| Air Filter | Type | Dry | |

ENGINE--Industrial 4 stroke cooled diesel engine complete with air,fuel and oil filters,electric starting and charging equipment,engine protection against low water level.

COOLING--Radiator and colling fan complete with protection guards,designed to cool engine at specified output in air temperatures upto 45 °C ,radiators suitable for higher temperatures are available.Low water level protection fitted as standard.

ELECTRICAL SYSTEM--12V upto.Axial type starter motor,battery charging alternator,high capacity lead acid battery,and battery tray mounted on the generator base frame,and heavy duty interconnecting cable with terminations.

EXHAUST SYSTEM--Heavy duty industrial exhaust silencer with flexible piping.

400 Series 403A-15G2 ElectropaK

15 kWm @ 1500 rpm
18 kWm @ 1800 rpm

The Perkins® 400 Series engine family continues to set new standards in the compact engine market. Developed alongside customers to fulfill their needs in the generator set, 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 403A-15G2 ElectropaK is a powerful but quiet 1.5 litre naturally aspirated 3-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

- Approved for operation on biodiesel* concentrations of up to 20%
- Oil and filter changes are 500 hours, dependent on load factor
- Engine durability and reliability, the warranty offering and ease of installation combine to drive down the cost of ownership

Product support

- With highly trained Perkins distributors in thousands of communities in over 180 countries, you are never far away from expert product knowledge, genuine parts and a range of advanced diagnostic technology for keeping your engine in peak condition

Warranties and Service Contracts

We provide one-year warranties for constant speed engines and two-year warranties for variable speed models, as standard. These are supported by multilevel Extended Service Contracts that can be bought additionally

Discover more

www.perkins.com
www.tier4air.com
www.perkins.com/esc

www.perkins.com/distributor

To find your local distributor

| Engine speed | Type of Operation | Typical Generator Output (Net) | | Engine Power | | | | Low Idle |
|--------------|-------------------|--------------------------------|-----|--------------|----|-----|----|----------|
| | | | | Gross | | Net | | |
| | | kVA | kWe | kWm | hp | kWm | hp | |
| 1500 | Prime power | 15 | 12 | 14 | 18 | 13 | 18 | n/a |
| | Standby power | 17 | 13 | 15 | 20 | 15 | 20 | n/a |
| 1800 | Prime power | 18 | 14 | 16 | 22 | 16 | 21 | n/a |
| | Standby power | 20 | 16 | 18 | 24 | 18 | 24 | n/a |

*Subject to conformance with ASTM D6751 and EN14214.

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 ϕ) 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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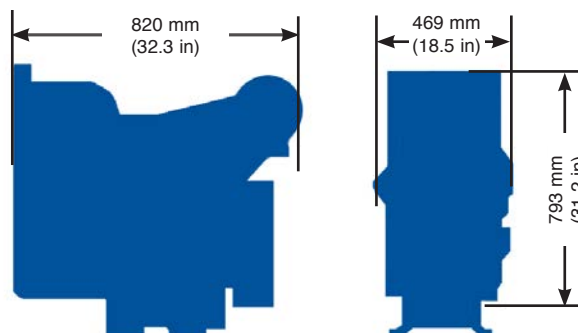
 **Perkins®**

THE HEART OF EVERY GREAT MACHINE

400 Series 403A-15G2 Electropak

15 kWm @ 1500 rpm

18 kWm @ 1800 rpm



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 15 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 rev/min
- High inertia flywheel to SAE J620 Size 190.5 mm (7½ in) Heavy
- Flywheel housing SAE 4 Long

Mountings

- Front and rear engine mounting bracket

| Fuel Consumption | | |
|------------------|----------|------|
| Engine Speed | 1500 rpm | |
| | g/kWh | l/hr |
| Standby | 270 | 6 |
| Prime power | 250 | 5 |

General Data

| | |
|---|-----------------------------------|
| Number of cylinders | 3 |
| Cylinder arrangement | Vertical in-line |
| Cycle | 4 stroke |
| Aspiration | Naturally aspirated |
| Combustion system | Indirect injection |
| Compression ratio | 22.5:1 |
| Bore and Stroke | 84 x 90 mm (3.3 x 3.5 in) |
| Displacement | 1.496 litres (91.3 cubic in) |
| Direction of rotation | Anti-clockwise viewed on flywheel |
| Cooling system | Water cooled |
| Total coolant capacity | 6.0 litres (1.58 US gals) |
| Total lubrication system capacity | 6.0 litres (1.58 US gals) |
| Dimensions | |
| Length | 820 mm (32.3 in) |
| Width | 469 mm (18.5 in) |
| Height | 793 mm (31.2 in) |
| Total weight (dry) | 197 kg (434 lb) |

Final weight and dimensions will depend on completed specification.

Optional equipment

- Parts book

Option groups

A selection of optional items is available to enable you to prepare a specification precisely matched to your needs.

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Alternator Technical Specifications

| ALTERNATOR BRAND | | MECC ALTE | STAMFORD | LEROY SOMER |
|---------------------------|-------|-------------------------|----------|-------------|
| Model | | | | TAL040F |
| Exciter System | | Self-excited, brushless | | |
| Poles | Num | 4 | | |
| Cooling Fan | | Cast alloy aluminum | | |
| Bearing | | Single, double shielded | | |
| Windings | | 100% copper | | |
| Connection Type | | Reconnectable | | |
| Insulation Type | Class | Class H | | |
| Pitch | | 2/3 | | |
| Amortisseur Winding | | Full | | |
| Voltage Regulator | | A.V.R. (Electronic) | | |
| Steady Voltage Precision | | ± 1% | | |
| Underspeed Protection | | Standard | | |
| Overexcitation Protection | | IP23 | | |
| TIF (1960 Weightings) | | <50 | | |

ALTERNATOR--Brushless, self exciting, self regulation, screen protected, drip proof rated in accordance with IEC60034. Voltage regulation maintained within ±0.5% from no load to full load. between 0.8 lagging and unity. All standard voltages available



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Control Panel Technical Specifications



DSE Genset



DSE6110

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

FEATURES

DSE6110



KEY FEATURES

- Back-lit text LCD display
- Front panel editing
- LED and LCD alarm indication
- Power Save mode
- CAN and Magnetic Pick-up/Alt. versions available (specify on ordering)
- PC and front panel configuration
- 6 Digital inputs
- 3 Analogue inputs
- 6 Outputs (4 configurable on Magnetic Pick-up/Alt., 6 configurable on CAN version)
- Configurable timers and alarms
- Alternative configuration
- Event Log(10)
- Remote Start input
- 3 Phase generator monitoring

- Current Monitoring and protection
- Battery voltage monitoring
- Engine pre-heat
- Hours counter
- Comprehensive shutdown or warning on fault condition

KEY BENEFITS

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout

- Multiple engine parameters are monitored simultaneously
- Module can be configured to suit individual applications
- Compatible with a wide range of CAN engines
- Tier 4 engine support
- Uses DSE Configuration Suite PC software for simplified configuration
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Licence-free PC software

SPECIFICATION

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous

CRANKING DROPOUTS

Able to survive 0 V for 50 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT

178 mA at 12 V, 95 mA at 24 V

MAXIMUM STANDBY CURRENT

88 mA at 12 V, 50 mA at 24 V

CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

MAINS (UTILITY) DSE6120 ONLY

VOLTAGE RANGE
15 V - 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

OUTPUTS

OUTPUT A (FUEL)
2 A DC at supply voltage

OUTPUT B (START)
2 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E & F
2 A DC at supply voltage

GENERATOR

VOLTAGE RANGE
15 V - 333 V AC (L-N)

FREQUENCY RANGE
3.5 Hz to 75 Hz

MAGNETIC PICK UP
VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE
10,000 Hz (max)

DIMENSIONS

OVERALL
215 mm x 158 mm x 42 mm
8.5" x 6.2" x 1.6"

PANEL CUT-OUT
182 mm x 137 mm
7.2" x 5.4"

MAXIMUM PANEL THICKNESS
8 mm
0.3"

STORAGE TEMPERATURE RANGE

-40 °C to +85 °C



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Generating Sets Standard Features

Three phase four wire, output voltage 480V/277V, 60HZ, between 0.8 lagging, protection capability according with the standard of NAME1 and IP23.

General Features:

- Composed of Perkins diesel engine and Stamford or Leroy Somer alternator
- Oil and fuel filter fitted, water separator
- Lube-oil drain valve fitted
- Electric Starter Charge motor 12
- V.D.C Water-cooled
- 8-hours operation base tank
- Auto start
- Optional soundproof and weatherproof canopy
- 3 pole MCCB Delixi breaker
- Operation & Maintenance manual
- Special Integrated Steel Base tank and sprayed overall in gloss enamel paint

Voltage Regulation:

- Voltage regulation maintained within $\pm 0.5\%$
- Between 0.8 and 1.0 lagging and unity
- From no load to full load
- At speed droop variation upto 4.5%

Frequency Adjustable Ratio:

Change load from 0-100%, within 1.0% (electric speed regulator), within 4.5% (mechanical speed regulator)

Frequency Undulation:

- load from 0-100%, frequency undulation within 0.25%
- No load wire volts max undulation ration\ within 1.8%
- Three Phrase balanced load in the order of 5%
- Effect factor of Telecom
- TIF better than 50
- THF to IEC60034 Part 40 better than 2%



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Soundproofed Version Features

Robust Corrosion Resistant Construction

- Black finish stainless steel lock and hinges
- Body made from steel components treated with polyester powder coating

Excellent Access for Maintenance

- Two large doors on each side
- Radiator fill access plate
- lube oil and cooling water drains pipes to exterior of the enclosure

Security and Safety

- Control panel viewing window in a lockable access door
- Emergency stop push button (red) mounted on enclosure interior
- Cooling fan and battery charging alternator fully guarded
- Exhaust silencing system totally enclosed for operator safety





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Generating Sets other Features

Generating Sets Optional Features

- Low fuel level alarm shutdown
- Automatic Fuel Filling System
- Engine oil feeding and drain pump
- Auto Transfer Switch(ATS)
- Parallel control panels
- Circuit Breaker MCCB & ACB
- Remote Control Panel
- weatherproof/soundproof
- Canopy Trailer type Gensets

Quality Standards

- ISO9001:2000,ISO14000,ISO3046
- ISO8528 BS4999
- BS5514,AS1359,ICE34
- CE Compliance

Gensets Dimensions & Weight

Silence type: LxWxH (mm) - Weight (kg)

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