



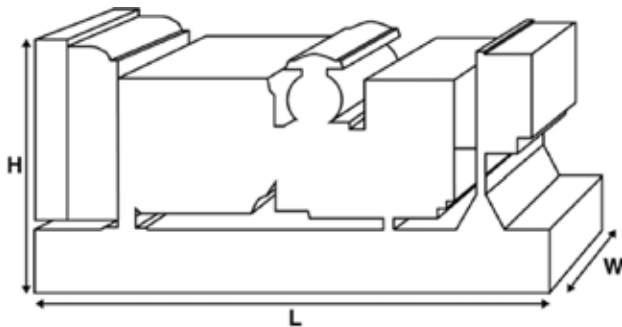
# P110-3 - Data Centre Continuous

## Output Ratings

| Voltage, Frequency | DCC |     | Overload |
|--------------------|-----|-----|----------|
| 400/230 V, 50 Hz   | kVA | 100 | 110      |
|                    | kW  | 80  | 88       |
|                    | kVA |     |          |
|                    | kW  |     |          |



Ratings at 0.8 power factor.  
Please refer to the output ratings technical data section for specific generator set outputs per voltage.



## Dimensions and Weights

|              |    |             |
|--------------|----|-------------|
| Length       | mm | 1980 (78)   |
| Width        | mm | 890 (35)    |
| Height       | mm | 1374 (54.1) |
| Weight (Dry) | kg | 1011 (2229) |
| Weight (Wet) | kg | 1028 (2266) |

Ratings in accordance with ISO 8528, ISO 3046, IEC 60034, BS5000 and NEMA MG-1.22.  
Generator set pictured may include optional accessories.

## Data Centre Continuous (DCC) Rating

These ratings are applicable for supplying continuous electrical power (with no restrictions on average variable load factor up to 100% constant load) in lieu of commercially purchased power. There is no limitation to the annual hours of operation and this model can supply 10% overload power for 1 hour in 12 hours. The DCC rating is also consistent with DCP rating defined in ISO8528-1 (2018)

## Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) Air Inlet Temp, 100m (328 ft) A.S.L. 30% relative humidity.  
Fuel consumption data at full load with diesel fuel with specific gravity of 0.85 and conforming to BS2869: 1998, Class A2.

FG Wilson offer a range of optional features to allow you to tailor our generator sets to meet your power needs.  
Options available include:

- Upgrade to CE Certification
- A wide range of Sound Attenuated Enclosures
- A variety of generator set control and synchronising panels
- Additional alarms and shutdowns
- A selection of exhaust silencer noise levels

For further information on all of the standard and optional features accompanying this product please contact your local Dealer or visit:

[www.fgwilson.com](http://www.fgwilson.com)

# P110-3 - DCC



## Ratings and Performance Data

|                           |                    |                             |  |
|---------------------------|--------------------|-----------------------------|--|
| Engine Make               |                    | Perkins                     |  |
| Engine Model:             |                    | 1104C-44TAG2                |  |
| Alternator Make           |                    | FG Wilson                   |  |
| Alternator Model:         |                    | FGL30040                    |  |
| Control Panel:            |                    | FG100                       |  |
| Base Frame:               |                    | Heavy Duty Fabricated Steel |  |
| Circuit Breaker Type:     |                    | 3 Pole MCCB                 |  |
| Frequency:                |                    | 50 HZ                       |  |
| Engine Speed: RPM         | rpm                | 1500                        |  |
| Fuel Tank Capacity:       | litres (US gal)    | 218 (57.59)                 |  |
| Fuel Consumption DCC      | litres (US gal)/hr | 21.7 (5.7)                  |  |
| Fuel Consumption overload | litres (US gal)/hr | 23.9 (6.3)                  |  |

## Engine Technical Data

|                      |                                         |                                       |
|----------------------|-----------------------------------------|---------------------------------------|
| No. of Cylinders     |                                         | 4                                     |
| Alignment            |                                         | IN LINE                               |
| Cycle                |                                         | 4 STROKE                              |
| Bore                 | mm (in)                                 | 105 (4.1)                             |
| Stroke               | mm (in)                                 | 127 (5)                               |
| Induction            |                                         | TURBOCHARGED AIR TO AIR CHARGE COOLED |
| Cooling Method       |                                         | WATER                                 |
| Governing Type       |                                         | ELECTRONIC                            |
| Governing Class      |                                         | ISO 8528 G2                           |
| Compression Ratio    |                                         | 18.3:1                                |
| Displacement         | L (cu. in)                              | 4.4 (268.5)                           |
| Moment of Inertia:   | kg m <sup>2</sup> (lb/in <sup>2</sup> ) | 1.51 (5160)                           |
| Voltage              |                                         | 12                                    |
| Ground               |                                         | Negative                              |
| Battery Charger Amps |                                         | 65                                    |
| Engine Weight Dry    | kg (lb)                                 | 401 (884)                             |
| Engine Weight Wet    | kg (lb)                                 | 414 (912)                             |

## Engine Performance Data

### 50 Hz

|                             |           |              |  |
|-----------------------------|-----------|--------------|--|
| Engine Speed                | rpm       | 1500         |  |
| Gross Engine Power DCC      | kW (hp)   | 93.6 (126)   |  |
| Gross Engine Power overload | kW (hp)   | 103 (138)    |  |
| BMEP DCC                    | kPa (psi) | 1702 (246.9) |  |
| BMEP overload               | kPa (psi) | 1873 (271.7) |  |

# P110-3 - DCC



## Fuel System

|                     |                  |                     |            |            |            |
|---------------------|------------------|---------------------|------------|------------|------------|
| Fuel Filter Type:   |                  | Replaceable Element |            |            |            |
| Recommended Fuel:   |                  | Class A2 Diesel     |            |            |            |
| Fuel Consumption at |                  | 110 % Load          | 100 % Load | 75 % Load  | 50 % Load  |
| 50 Hz DCC:          | l/hr (US gal/hr) | 23.9 (6.3)          | 21.7 (5.7) | 16.5 (4.4) | 11.6 (3.1) |
| 50 Hz overload      | l/hr (US gal/hr) | -                   |            |            |            |
| 60 Hz DCC           | l/hr (US gal/hr) |                     |            |            |            |
| 60 Hz overload      | l/hr (US gal/hr) | -                   |            |            |            |

(Based on diesel fuel with a specific gravity of 0.84 and conforming to BS2869 classA2,EN590)

## Air System

### 50 Hz

|                                        |                           |                     |  |
|----------------------------------------|---------------------------|---------------------|--|
| Air Filter Type:                       |                           | Replaceable Element |  |
| Combustion Air Flow DCC                | m <sup>3</sup> /min (cfm) | 6 (212)             |  |
| Combustion Air Flow overload           | m <sup>3</sup> /min (cfm) | 6.3 (221)           |  |
| Max. Combustion Air Intake Restriction | kPa                       | 8 (32.1)            |  |

## Cooling System

### 50 Hz

|                                             |                           |              |  |
|---------------------------------------------|---------------------------|--------------|--|
| Cooling System Capacity                     | l (US gal)                | 17.5 (4.6)   |  |
| Water Pump Type:                            |                           | Centrifugal  |  |
| Heat Rejected to Water & Lube Oil: DCC      | kW (Btu/min)              | 46.1 (2622)  |  |
| Heat Rejected to Water & Lube Oil: overload | kW (Btu/min)              | 50.7 (2883)  |  |
| Heat Radiation to Room*: DCC                | kW (Btu/min)              | 14.7 (836)   |  |
| Heat Radiation to Room*: overload           | kW (Btu/min)              | 16.2 (921)   |  |
| Radiator Fan Load:                          | kW (hp)                   | 2.8 (3.8)    |  |
| Radiator Cooling Airflow:                   | m <sup>3</sup> /min (cfm) | 187.8 (6632) |  |
| External Restriction to Cooling Airflow:    | Pa (in H <sub>2</sub> O)  | 125 (0.5)    |  |

\*: Heat radiated from engine and alternator  
Designed to operate in ambient conditions up to 50°C (122°F).  
Contact your local FG Wilson Dealer for power ratings at specific site conditions.

## Lubrication System

|                     |            |                    |  |
|---------------------|------------|--------------------|--|
| Oil Filter Type:    |            | Spin-On, Full Flow |  |
| Total Oil Capacity: | l (US gal) | 8 (2.1)            |  |
| Oil Pan Capacity:   | l (US gal) | 7 (1.8)            |  |
| Oil Type:           |            | API CC/SE          |  |
| Oil Cooling Method: |            | WATER              |  |

## Exhaust System

### 50 Hz

|                                   |                           |            |  |
|-----------------------------------|---------------------------|------------|--|
| Maximum Allowable Back Pressure:  | kPa (in Hg)               | 18 (5.3)   |  |
| Exhaust Gas Flow: DCC             | m <sup>3</sup> /min (cfm) | 15.2 (537) |  |
| Exhaust Gas Flow: overload        | m <sup>3</sup> /min (cfm) | 16.3 (576) |  |
| Exhaust Gas Temperature: DCC      | °C (°F)                   | 514 (957)  |  |
| Exhaust Gas Temperature: overload | °C (°F)                   | 543 (1009) |  |

# P110-3 - DCC



## Alternator Physical Data

|                            |       |
|----------------------------|-------|
| No. of Bearings:           | 1     |
| Insulation Class:          | H     |
| Winding Pitch:             | 2/3   |
| Winding Code               | 6P/6S |
| Wires:                     | 4     |
| Ingress Protection Rating: | IP23  |
| Excitation System:         | SHUNT |
| AVR Model:                 | R120  |

\* dependant on voltage code selected

## Alternator Operating Data

|                                      |           |
|--------------------------------------|-----------|
| Overspeed: rpm                       | 2250      |
| Voltage Regulation: (Steady state) % | +/- 0.5   |
| Wave Form NEMA = TIF:                | 50        |
| Wave Form IEC = THF: %               | 2         |
| Total Harmonic content LL/LN: %      | 2         |
| Radio Interference:                  | EN61000-6 |
| Radiant Heat: 50 Hz kW (Btu/min)     | 8.7 (495) |
| Radiant Heat: 60 Hz kW (Btu/min)     | 0 ()      |

## Alternator Performance Data 50 Hz:

|                            |      | 415/240 V | 400/230 V | 380/220 V | 220/127 V |
|----------------------------|------|-----------|-----------|-----------|-----------|
| Voltage Code               |      |           |           |           |           |
|                            |      |           | 200/115 V |           |           |
| Motor Starting Capability* | kVA  | 150       | 140       | 128       | 167       |
| Short Circuit Capacity**   | %    | 270       | 270       | 270       | 270       |
| Reactances                 | Xd   | 3.17      | 3.42      | 3.784     | 2.67      |
|                            | X'd  | 0.137     | 0.148     | 0.164     | 0.116     |
|                            | X''d | 0.089     | 0.089     | 0.098     | 0.069     |

Reactances shown are applicable to DCC ratings.

\*Based on 30% voltage dip at 0.6 power factor.

\*\* With optional independant excitation system (PMG / AUX winding)



# P110-3 - DCC

## Output Ratings 50 Hz

|              |     | DCC |     | overload |  |
|--------------|-----|-----|-----|----------|--|
| Voltage Code | kVA | kW  | kVA | kW       |  |
| 415/240V     | 100 | 80  | 110 | 88       |  |
| 400/230V     | 100 | 80  | 110 | 88       |  |
| 380/220V     | 100 | 80  | 110 | 88       |  |
| 230/115V     | 100 | 80  | 110 | 88       |  |
| 220/127V     | 100 | 80  | 110 | 88       |  |
| 220/110V     | 100 | 80  | 110 | 88       |  |
| 200/115V     | 100 | 80  | 110 | 88       |  |
| 240V         |     |     |     |          |  |
| 230V         |     |     |     |          |  |
| 220V         |     |     |     |          |  |



## P110-3 - DCC

### Dealer Contact Details



☎ 01953 454540

✉ [enquiries@stuartgroup.co.uk](mailto:enquiries@stuartgroup.co.uk)

🌐 [www.stuartgroup.co.uk](http://www.stuartgroup.co.uk)

Stuart House, Hargham Road, Shropham, Norfolk, NR17 1DT

### Documentation

Operation and maintenance manual including circuit wiring diagrams.

### Generator Set Standards

The equipment meets the following standards: BS5000, ISO 8528, ISO 3046, IEC 60034, NEMA MG-1.22.

### Warranty

6.8 – 750 kVA electric power generation products in DCC applications the warranty period is 12 months from date of start-up, unlimited hours (8760) or 24 months from date of start-up, limited to 500 hours per year.

730 – 2500 kVA electric power generation products in DCC applications the warranty period is 12 months from date of start-up, unlimited hours (8760 hours) or 24 months from date of start-up, limited to 6000 hours or 36 months from date of start-up, limited to 500 hours per year.

FG Wilson manufactures product in the following locations:

Northern Ireland • Brazil • China • India

With headquarters in Northern Ireland, FG Wilson operates through a Global Dealer Network.

To contact your local Sales Office please visit the FG Wilson website at [www.fgwilson.com](http://www.fgwilson.com).

FG Wilson is a trading name of Caterpillar (NI) Limited

In line with our policy of continuous product development, we reserve the right to change specification without notice

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