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# P50-3



Image for illustration purposes only.

## Output Ratings

| Voltage, Frequency | Prime              | Standby            |
|--------------------|--------------------|--------------------|
| 400V, 50 Hz        | 45.0 kVA / 36.0 kW | 50.0 kVA / 40.0 kW |
| 480V, 60 Hz        | 50.0 kVA / 40.0 kW | 56.3 kVA / 45.0 kW |

Ratings at 0.8 power factor.

Please refer to the output ratings technical data section for specific generator set outputs per voltage.

## Prime Rating

These ratings are applicable for supplying continuous electrical power (at variable 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.

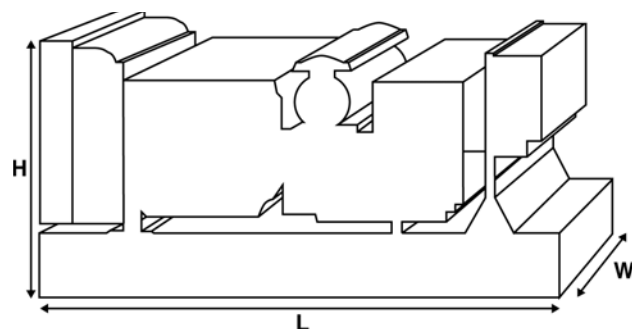
## Standby Rating

These ratings are applicable for supplying continuous electrical power (at variable load) in the event of a utility power failure. No overload is permitted on these ratings. The alternator on this model is peak continuous rated (as defined in ISO 8528-3).

## 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.



## Ratings and Performance Data

|                                                   |                             |            |
|---------------------------------------------------|-----------------------------|------------|
| Engine Make & Model:                              | Perkins® 1103A-33TG1        |            |
| Alternator manufactured for FG Wilson by:         | Marelli                     |            |
| Alternator Model:                                 | MJB 200 SB4                 |            |
| Control Panel:                                    | DCP-10                      |            |
| Base Frame:                                       | Heavy Duty Fabricated Steel |            |
| Circuit Breaker Type:                             | 3 Pole MCB / 3 Pole MCCB    |            |
| Frequency:                                        | 50 Hz                       | 60 Hz      |
| Engine Speed: RPM                                 | 1500                        | 1800       |
| Fuel Tank Capacity:<br>litres (US gal)            | 145 (38.3)                  |            |
| Fuel Consumption: l/hr (US gal/hr)<br>(100% Load) | - Prime                     | 10.5 (2.8) |
|                                                   | - Standby                   | 11.7 (3.1) |
|                                                   |                             | 11.9 (3.1) |
|                                                   |                             | 13.4 (3.5) |

## Available Options

FG Wilson offer a range of optional features to tailor our generator sets to meet your power needs. Options 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)

## Dimensions and Weights

| Length (L)<br>mm (in) | Width (W)<br>mm (in) | Height (H)<br>mm (in) | Dry<br>kg (lb) | Wet<br>kg (lb) |
|-----------------------|----------------------|-----------------------|----------------|----------------|
| 1680 (66.1)           | 760 (29.9)           | 1336 (52.6)           | 797 (1757)     | 810 (1786)     |

Dry = With Lube Oil

Wet = With Lube Oil and Coolant

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

| Engine Technical Data             |       |                         |
|-----------------------------------|-------|-------------------------|
| No. of Cylinders / Alignment:     |       | 3 / In Line             |
| Cycle:                            |       | 4 Stroke                |
| Bore / Stroke: mm (in)            |       | 105.0 (4.1)/127.0 (5.0) |
| Induction:                        |       | Turbocharged            |
| Cooling Method:                   |       | Water                   |
| Governing Type:                   |       | Mechanical              |
| Governing Class:                  |       | ISO 8528 G2             |
| Compression Ratio:                |       | 17.25:1                 |
| Displacement: l (cu. in)          |       | 3.3 (201.4)             |
| Moment of Inertia: kg m² (lb/in²) |       | 1.14 (3896)             |
| Engine Electrical System:         |       |                         |
| - Voltage / Ground                |       | 12/Negative             |
| - Battery Charger Amps            |       | 65                      |
| Weight: kg (lb)                   | - Dry | 420 (926)               |
|                                   | - Wet | 438 (966)               |

| Performance                 | 50 Hz          | 60 Hz          |
|-----------------------------|----------------|----------------|
| Engine Speed: rpm           | 1500           | 1800           |
| Gross Engine Power: kW (hp) |                |                |
| - Prime                     | 42.2 (57.0)    | 50.5 (68.0)    |
| - Standby                   | 46.5 (62.0)    | 55.6 (75.0)    |
| BMEP: kPa (psi)             |                |                |
| - Prime                     | 1023.0 (148.4) | 1020.0 (148.0) |
| - Standby                   | 1127.0 (163.5) | 1124.0 (163.0) |

| Fuel System                        |            |                            |            |           |
|------------------------------------|------------|----------------------------|------------|-----------|
| Fuel Filter Type:                  |            | Replaceable Element        |            |           |
| Recommended Fuel:                  |            | Class A2 Diesel or BSEN590 |            |           |
| Fuel Consumption: l/hr (US gal/hr) |            |                            |            |           |
|                                    | 110%       | 100%                       | 75%        | 50%       |
| Prime                              | Load       | Load                       | Load       | Load      |
| 50 Hz                              | 11.7 (3.1) | 10.5 (2.8)                 | 7.8 (2.1)  | 5.6 (1.5) |
| 60 Hz                              | 13.4 (3.5) | 11.9 (3.1)                 | 9.1 (2.4)  | 6.7 (1.8) |
|                                    |            |                            |            |           |
|                                    |            | 100%                       | 75%        | 50%       |
| Standby                            |            | Load                       | Load       | Load      |
| 50 Hz                              |            | 11.7 (3.1)                 | 8.7 (2.3)  | 6.0 (1.6) |
| 60 Hz                              |            | 13.4 (3.5)                 | 10.1 (2.7) | 7.2 (1.9) |

(Based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2)

| Air Systems                                                       | 50 Hz      | 60 Hz      |
|-------------------------------------------------------------------|------------|------------|
| Air Filter Type: Replaceable Element                              |            |            |
| Combustion Air Flow: m³/min (cfm)                                 |            |            |
| - Prime                                                           | 2.9 (102)  | 3.7 (131)  |
| - Standby                                                         | 3.1 (109)  | 3.9 (138)  |
| Max. Combustion Air Intake Restriction: kPa (in H <sub>2</sub> O) | 8.0 (32.1) | 8.0 (32.1) |

| Cooling System                                                    | 50 Hz       | 60 Hz        |
|-------------------------------------------------------------------|-------------|--------------|
| Cooling System Capacity: l (US gal)                               |             |              |
|                                                                   | 10.2 (2.7)  | 10.2 (2.7)   |
| Water Pump Type: Centrifugal                                      |             |              |
| Heat Rejected to Water & Lube Oil:                                |             |              |
| kW (Btu/min)                                                      | - Prime     | 26.1 (1484)  |
|                                                                   | - Standby   | 30.0 (1706)  |
|                                                                   |             | 34.0 (1934)  |
| Heat Radiation to Room: Heat radiated from engine and alternator  |             |              |
| kW (Btu/min)                                                      | - Prime     | 11.5 (654)   |
|                                                                   | - Standby   | 13.4 (762)   |
|                                                                   |             | 15.3 (870)   |
| Radiator Fan Load: kW (hp)                                        | 0.5 (0.7)   | 0.9 (1.2)    |
| Radiator Cooling Airflow: m³/min (cfm)                            | 86.4 (3051) | 105.6 (3729) |
| External Restriction to Cooling Airflow: Pa (in H <sub>2</sub> O) | 120 (0.5)   | 120 (0.5)    |

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)      |           |
|                                     | 8.3 (2.2) |
| Oil Pan: l (US gal)                 |           |
|                                     | 7.8 (2.1) |
| Oil Type: API CG4 / CH4 15W-40      |           |
| Oil Cooling Method: Water           |           |

| Exhaust System                               | 50 Hz      | 60 Hz      |
|----------------------------------------------|------------|------------|
| Maximum Allowable Back Pressure: kPa (in Hg) |            |            |
|                                              | 10.0 (3.0) | 15.0 (4.4) |
| Exhaust Gas Flow: m³/min (cfm)               |            |            |
| - Prime                                      | 7.0 (247)  | 8.8 (311)  |
| - Standby                                    | 7.7 (272)  | 9.5 (335)  |
| Exhaust Gas Temperature: °C (°F)             |            |            |
| - Prime                                      | 492 (918)  | 510 (950)  |
| - Standby                                    | 537 (999)  | 551 (1024) |

| Alternator Physical Data       |             |
|--------------------------------|-------------|
| Manufactured for FG Wilson by: | Marelli     |
| Model:                         | MJB 200 SB4 |
| No. of Bearings:               | 1           |
| Insulation Class:              | H           |
| Winding Pitch Code:            | 2/3 - M0    |
| Wires:                         | 12          |
| Ingress Protection Rating:     | IP23        |
| Excitation System:             | SHUNT       |
| AVR Model:                     | Mark V      |

| Alternator Operating Data     |                                                       |           |
|-------------------------------|-------------------------------------------------------|-----------|
| Overspeed:                    | rpm                                                   | 2250      |
| Voltage Regulation:           | (Steady state)                                        | +/- 1.0%  |
| Wave Form NEMA = TIF:         |                                                       | 50        |
| Wave Form IEC = THF:          |                                                       | 2.0%      |
| Total Harmonic content LL/LN: |                                                       | 2.0%      |
| Radio Interference:           | Suppression is in line with European Standard EN55011 |           |
| Radiant Heat:                 | kW (Btu/min)                                          |           |
|                               | - 50 Hz                                               | 5.4 (307) |
|                               | - 60 Hz                                               | 6.3 (358) |

| Alternator Performance Data: |      | 50 Hz    |          |          |          | 60 Hz    |          |          |          |
|------------------------------|------|----------|----------|----------|----------|----------|----------|----------|----------|
| Data Item                    |      | 415/240V | 400/230V | 380/220V | 220/127V | 480/277V | 380/220V | 240/120V | 440/254V |
|                              |      |          | 230/115V | 220/110V |          | 240/139V | 220/110V | 208/120V | 220/127V |
|                              |      |          | 200/115V |          |          |          |          |          |          |
|                              |      | 50       | 50       | 50       | 60       | 50       | 40       | 40       | 40       |
| Short Circuit Capacity %     |      | -        | -        | -        | -        | -        | -        | -        | -        |
| Reactances: Per Unit         |      |          |          |          |          |          |          |          |          |
|                              | Xd   | 3.170    | 3.410    | 3.780    | 2.820    | 3.160    | 3.790    | 4.200    | 3.750    |
|                              | X'd  | 0.290    | 0.310    | 0.340    | 0.250    | 0.290    | 0.430    | 0.380    | 0.340    |
|                              | X''d | 0.122    | 0.131    | 0.145    | 0.108    | 0.121    | 0.183    | 0.161    | 0.144    |

Reactances shown are applicable to prime ratings.  
 \*Based on 30% voltage dip at 0 power factor.

| Output Ratings Technical Data 50 Hz |        |      |          |      |
|-------------------------------------|--------|------|----------|------|
| Voltage                             | Prime: |      | Standby: |      |
|                                     | kVA    | kW   | kVA      | kW   |
| 415/240V                            | 45.0   | 36.0 | 50.0     | 40.0 |
| 400/230V                            | 45.0   | 36.0 | 50.0     | 40.0 |
| 380/220V                            | 45.0   | 36.0 | 50.0     | 40.0 |
| 230/115V                            | 45.0   | 36.0 | 50.0     | 40.0 |
| 220/127V                            | 45.0   | 36.0 | 50.0     | 40.0 |
| 220/110V                            | 45.0   | 36.0 | 50.0     | 40.0 |
| 200/115V                            | 45.0   | 36.0 | 50.0     | 40.0 |
|                                     |        |      |          |      |
|                                     |        |      |          |      |
|                                     |        |      |          |      |
|                                     |        |      |          |      |

| Output Ratings Technical Data 60 Hz |        |      |          |      |
|-------------------------------------|--------|------|----------|------|
| Voltage                             | Prime: |      | Standby: |      |
|                                     | kVA    | kW   | kVA      | kW   |
| 480/277V                            | 50.0   | 40.0 | 56.3     | 45.0 |
| 220/127V                            | 50.0   | 40.0 | 56.3     | 45.0 |
| 380/220V                            | 47.5   | 38.0 | 52.3     | 41.8 |
| 240/120V                            | 50.0   | 40.0 | 56.3     | 45.0 |
|                                     |        |      |          |      |
| 440/254V                            | 50.0   | 40.0 | 56.3     | 45.0 |
| 220/110V                            | 47.5   | 38.0 | 52.3     | 41.8 |
| 208/120V                            | 50.0   | 40.0 | 56.3     | 45.0 |
| 240/139V                            | 50.0   | 40.0 | 56.3     | 45.0 |
|                                     |        |      |          |      |
|                                     |        |      |          |      |
|                                     |        |      |          |      |

### Documentation

A full set of operation and maintenance manuals and circuit wiring diagrams.

### Generator Set Standards

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

FG Wilson is a fully accredited ISO 9001 company.

### Warranty

All prime equipment carries a one year manufacturer's warranty. Standby equipment, limited to 500 running hours per year, has a two year manufacturer's warranty. For details on warranty cover please contact your local Dealer, or visit our website: [FGWilson.com](http://FGWilson.com).

### Dealer contact details:



### FG Wilson manufactures product in the following locations:

Northern Ireland • Brazil • China • India • USA

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).

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