

# OLYMPIAN™

## GEP50SP5

*Diesel Generator Set  
Exclusively from your Caterpillar® dealer*



| Output Ratings       |          |          |
|----------------------|----------|----------|
| Generating Set Model | Prime*   | Standby* |
| 220-240V, 50 Hz      | 45.0 kVA | 50.0 kVA |
|                      | 45.0 kW  | 50.0 kW  |
| 240V, 60 Hz          | 50.0 kVA | 55.0 kVA |
|                      | 50.0 kW  | 55.0 kW  |

\* Refer to ratings definitions on page 4.  
Ratings at 1.0 power factor.

| Technical Data                               |                             |            |
|--|-----------------------------|------------|
| Engine Make & Model:                         | Perkins 1103A-33TG2         |            |
| Alternator Model:                            | LL2014J                     |            |
| Base Frame Type:                             | Heavy Duty Fabricated Steel |            |
| Circuit Breaker Type:                        | 3 Pole MCB                  |            |
| Frequency:                                   | 50 Hz                       | 60 Hz      |
| Engine Speed: RPM                            | 1500                        | 1800       |
| Fuel Tank Capacity: litres (US gal)          | 175 (46.2)                  |            |
| Fuel Consumption, Prime: l/hr (US gal/hr)    | 13.8 (3.6)                  | 15.8 (4.2) |
| Fuel Consumption, Standby : l/hr (US gal/hr) | 15.6 (4.1)                  | 17.7 (4.7) |

# Engine Technical Data

| Physical Data   |                         |
|---|-------------------------|
| Manufacturer:   | Perkins                 |
| Model:  | 1103A-33TG2             |
| No. of Cylinders/Alignment:                                 | 3 / In Line             |
| Cycle:  | 4 Stroke                |
| 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)             |
| Bore/Stroke: mm (in)  | 105.0 (4.1)/127.0 (5.0) |
| Moment of Inertia: kg m <sup>2</sup> (lb. in <sup>2</sup> ) | 1.14 (3896)             |
| Engine Electrical System:                                   |                         |
| -Voltage/Ground:  | 12/Negative             |
| -Battery Charger Amps:                                      | 65                      |
| Weight: kg (lb) - Dry:                                      | 420 (926)               |
| - Wet:  | 438 (966)               |

| Air System                                 | 50 Hz               | 60 Hz        |
|--|---------------------|--------------|
| Air Filter Type:                           | Replaceable Element |              |
| Combustion Air Flow:                       |                     |              |
| m <sup>3</sup> /min (cfm)                  | -Standby: 3.9 (138) | 4.8 (170)    |
|  | -Prime: 3.8 (134)   | 4.7 (166)    |
| Max. Combustion Air Intake                 |                     |              |
| Restriction: kPa (in H <sub>2</sub> O)     | 8.0 (32.1)          | 8.0 (32.1)   |
| Radiator Cooling Air Flow:                 |                     |              |
| m <sup>3</sup> /min (cfm)                  | 110.4 (3899)        | 145.8 (5149) |
| External Restriction to                    |                     |              |
| Cooling Air Flow: Pa (in H <sub>2</sub> O) | 120 (0.5)           | 120 (0.5)    |

| 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)  |             |             |
| -Standby:  | 38.6 (2195) | 42.8 (2434) |
| -Prime:  | 35.0 (1990) | 40.7 (2315) |
| Heat Radiation to Room: kW (Btu/min)   |             |             |
| -Standby:  | 20.6 (1172) | 22.9 (1302) |
| -Prime:  | 17.8 (1012) | 21.1 (1200) |
| Radiator Fan Load: kW (hp)   | 1.0 (1.3)   | 1.7 (2.3)   |
| Cooling system designed to operate in ambient conditions up to 50°C (122°F). Contact your local Olympian 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:                      | AP1 CG4 15W-40     |
| Cooling Method:                | Water              |

| Performance                 | 50 Hz          | 60 Hz          |
|-----------------------------|----------------|----------------|
| Engine Speed: RPM           | 1500           | 1800           |
| Gross Engine Power: kW (hp) |                |                |
| -Standby:                   | 60.5 (81.0)    | 69.6 (93.0)    |
| -Prime:                     | 55.0 (74.0)    | 63.3 (85.0)    |
| BMEP: kPa (psi)             |                |                |
| -Standby:                   | 1467.0 (212.8) | 1407.0 (204.0) |
| -Prime:                     | 1333.0 (193.4) | 1279.0 (185.5) |
| Regenerative Power: kW      | 7.0            | 9.0            |

| Fuel System   |                     |            |            |           |
|---|---------------------|------------|------------|-----------|
| Fuel Filter Type:   | Replaceable Element |            |            |           |
| Recommended Fuel:   | Class A2 Diesel     |            |            |           |
| Fuel Consumption: l/hr (US gal/hr)  |                     |            |            |           |
|   | 110% Load           | 100% Load  | 75% Load   | 50% Load  |
| Prime   |                     |            |            |           |
| 50 Hz   | 15.6 (4.1)          | 13.8 (3.6) | 10.2 (2.7) | 7.1 (1.9) |
| 60 Hz   | 17.7 (4.7)          | 15.8 (4.2) | 11.8 (3.1) | 8.6 (2.3) |
| Standby   |                     |            |            |           |
| 50 Hz   | 15.6 (4.1)          | 11.3 (3.0) | 7.8 (2.1)  |           |
| 60 Hz   | 17.7 (4.7)          | 12.1 (3.2) | 9.2 (2.4)  |           |
| (based on diesel fuel with a specific gravity of 0.85 and conforming to BS2869, Class A2) |                     |            |            |           |

| Exhaust System                   | 50 Hz                | 60 Hz        |
|----------------------------------|----------------------|--------------|
| Silencer Type:                   | Level 1              |              |
| Silencer Noise Reduction         | SD80 (1)             |              |
| Pressure Drop Across             |                      |              |
| Silencer System: kPa (in Hg)     | 0.98 (0.289)         | 1.22 (0.360) |
| Silencer Noise Reduction         |                      |              |
| Level: dB                        | 19                   | 18           |
| Max. Allowable Back              |                      |              |
| Pressure: kPa (in. Hg)           | 10.0 (3.0)           | 15.0 (4.4)   |
| Exhaust Gas Flow:                |                      |              |
| m <sup>3</sup> /min (cfm)        | -Standby: 9.8 (346)  | 11.1 (392)   |
|                                  | -Prime: 9.5 (335)    | 10.4 (367)   |
| Exhaust Gas Temperature: °C (°F) |                      |              |
| m <sup>3</sup> /min (cfm)        | -Standby: 571 (1060) | 564 (1047)   |
|                                  | -Prime: 557 (1035)   | 534 (993)    |

Consult your Olympian representative for more information

## Alternator Performance Data

| Data Item                             | 50 Hz             |                  |                   |   | 60 Hz |                   |                   |                   |   |
|---------------------------------------|-------------------|------------------|-------------------|---|-------|-------------------|-------------------|-------------------|---|
|                                       | 240V<br>240V/120V | 230V<br>230/115V | 220V<br>220V/110V |   |       | 220V<br>220V/110V | 240V<br>240V/120V | 230V<br>230V/115V |   |
| <b>Motor Starting Capability* kVA</b> | 162               | 153              | 144               | - | -     | 127               | 143               | 135               | - |
| <b>Short Circuit Capacity** %</b>     | -                 | -                | -                 | - | -     | -                 | -                 | -                 | - |
| <b>Reactances:<br/>Per Unit</b>       |                   |                  |                   |   |       |                   |                   |                   |   |
| <b>Xd</b>                             | 1.734             | 1.888            | 2.064             | - | -     | 2.697             | 2.313             | 2.518             | - |
| <b>X'd</b>                            | 0.105             | 0.114            | 0.125             | - | -     | 0.163             | 0.140             | 0.152             | - |
| <b>X''d</b>                           | 0.053             | 0.058            | 0.063             | - | -     | 0.083             | 0.071             | 0.077             | - |

Reactances shown are applicable to standby ratings.

\* Based on 30% voltage dip. Improved motor starting capability is available with optional Permanent Magnet generator or AREP excitation.

\*\* With optional Permanent Magnet generator or AREP excitation.

## Alternator Technical Data

| Physical Data                     |          |
|-----------------------------------|----------|
| <b>Manufacturer:</b>              | OLYMPIAN |
| <b>Model:</b>                     | LL2014J  |
| <b>No. of Bearings:</b>           | 1        |
| <b>Insulation Class:</b>          | H        |
| <b>Winding Pitch - Code:</b>      | 2/3 - 6  |
| <b>Wires:</b>                     | 12       |
| <b>Ingress Protection Rating:</b> | IP23     |
| <b>Excitation System:</b>         | SHUNT    |
| <b>AVR Model:</b>                 | R250     |

| Operating Data                                |   |
|---|---|
| <b>Overspeed: RPM</b>                         | 2250  |
| <b>Voltage Regulation (steady state) (%):</b> | +/- 1.0   |
| <b>Wave Form NEMA = TIF:</b>                  | 50  |
| <b>Wave Form IEC = THF:</b>                   | 2.0%  |
| <b>Total Harmonic Content LL/LN:</b>          | 4.0%  |
| <b>Radio Interference:</b>                    | Suppression is in line with European Standard EN61000-6 |
| <b>Radiant Heat: kW (Btu/min)</b>             |   |
| -50 Hz:                                       | 9.4 (535)   |
| -60 Hz:                                       | 11.9 (677)  |

Consult your Olympian representative for more information

