

# OLYMPIAN™



## GEP80SP4

***Diesel Generator Set  
Exclusively from your Cat dealer***

EU Stage II Emissions Compliant

### Output Ratings

| Generating Set Model | Prime*              | Standby*            |
|----------------------|---------------------|---------------------|
| 220-240V, 50 Hz      | 72.0 kVA<br>72.0 kW | 80.0 kVA<br>80.0 kW |
| 240/120V, 60 Hz      | 82.0 kVA<br>82.0 kW | 90.0 kVA<br>90.0 kW |

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

### Technical Data

|  |                      |            |
|--|----------------------|------------|
| Engine Make & Model:                         | Perkins 1104C-44TAG2 |            |
| Alternator Model:                            | LL3014F              |            |
| Base Frame Type:                             | Fbc2 - (08Hr)        |            |
| Circuit Breaker Type:                        | 3 Pole MCCB          |            |
| Frequency:                                   | 50 Hz                | 60 Hz      |
| Engine Speed: RPM                            | 1500                 | 1800       |
| Fuel Tank Capacity: litres (US gal)          | 250 (66.0)           |            |
| Fuel Consumption, Prime: l/hr (US gal/hr)    | 21.0 (5.5)           | 25.7 (6.8) |
| Fuel Consumption, Standby : l/hr (US gal/hr) | 23.5 (6.2)           | 28.4 (7.5) |

# Engine Technical Data

| Physical Data   |                                       |
|---|---------------------------------------|
| Manufacturer:   | Perkins                               |
| Model:  | 1104C-44TAG2                          |
| No. of Cylinders/Alignment:                                 | 4 / In Line                           |
| Cycle:  | 4 Stroke                              |
| 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)                           |
| 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> ) | 1.51 (5160)                           |
| Engine Electrical System:                                   |                                       |
| -Voltage/Ground:  | 12/Negative                           |
| -Battery Charger Amps:                                      | 65                                    |
| Weight: kg (lb) - Dry:                                      | 500 (1102)                            |
| - Wet:  | 520 (1146)                            |

| Air System                                 | 50 Hz               | 60 Hz        |
|--|---------------------|--------------|
| Air Filter Type:                           | Replaceable Element |              |
| Combustion Air Flow:                       |                     |              |
| m <sup>3</sup> /min (cfm)                  | -Standby: 6.3 (221) | 7.8 (275)    |
|  | -Prime: 6.0 (212)   | 7.8 (274)    |
| 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)                  | 187.8 (6632)        | 244.2 (8624) |
| External Restriction to                    |                     |              |
| Cooling Air Flow: Pa (in H <sub>2</sub> O) | 125 (0.5)           | 125 (0.5)    |

| Cooling System   | 50 Hz               | 60 Hz       |
|--|---------------------|-------------|
| Cooling System Capacity:   |                     |             |
| l (US gal)   | 17.5 (4.6)          | 17.5 (4.6)  |
| Water Pump Type:   | Centrifugal         |             |
| Heat Rejected to Water & Lube Oil: kW (Btu/min)  |                     |             |
| -Standby:  | 50.7 (2883)         | 64.0 (3640) |
| -Prime:  | 46.1 (2622)         | 57.7 (3281) |
| Heat Radiation to Room:  |                     |             |
| kW (Btu/min)   | -Standby: 7.5 (427) | 9.4 (535)   |
|  | -Prime: 6.8 (387)   | 8.5 (483)   |
| Radiator Fan Load: kW (hp)   | 2.8 (3.8)           | 4.8 (6.4)   |
| 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): | 8.0 (2.1)          |
| Oil Pan l (US gal):            | 7.0 (1.8)          |
| Oil Type:                      | API CC/SE          |
| Cooling Method:                | Water              |

| Performance                 | 50 Hz          | 60 Hz          |
|-----------------------------|----------------|----------------|
| Engine Speed: RPM           | 1500           | 1800           |
| Gross Engine Power: kW (hp) |                |                |
| -Standby:                   | 103.0 (138.0)  | 117.5 (158.0)  |
| -Prime:                     | 93.6 (126.0)   | 106.8 (143.0)  |
| BMEP: kPa (psi)             |                |                |
| -Standby:                   | 1873.0 (271.7) | 1781.0 (258.3) |
| -Prime:                     | 1702.0 (246.9) | 1619.0 (234.8) |
| Regenerative Power: kW      | 8.2            | 13.8           |

| 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   | 23.5 (6.2)          | 21.0 (5.5) | 15.8 (4.2) | 11.0 (2.9) |
| 60 Hz   | 28.4 (7.5)          | 25.7 (6.8) | 19.2 (5.1) | 13.7 (3.6) |
| Standby   |                     |            |            |            |
| 50 Hz   | 23.5 (6.2)          | 17.4 (4.6) | 12.0 (3.2) |            |
| 60 Hz   | 28.4 (7.5)          | 21.0 (5.5) | 14.7 (3.9) |            |
| (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:                   | Industrial           |              |
| Silencer Noise Reduction         | SD50 (1)             |              |
| Pressure Drop Across             |                      |              |
| Silencer System: kPa (in Hg)     | 2.10 (0.620)         | 3.21 (0.948) |
| Silencer Noise Reduction         |                      |              |
| Level: dB                        | 22                   | 17           |
| Max. Allowable Back              |                      |              |
| Pressure: kPa (in. Hg)           | 18.0 (5.3)           | 15.0 (4.4)   |
| Exhaust Gas Flow:                |                      |              |
| m <sup>3</sup> /min (cfm)        | -Standby: 15.0 (530) | 18.0 (636)   |
|                                  | -Prime: 14.0 (494)   | 17.0 (600)   |
| Exhaust Gas Temperature: °C (°F) |                      |              |
| m <sup>3</sup> /min (cfm)        | -Standby: 494 (921)  | 517 (963)    |
|                                  | -Prime: 463 (865)    | 469 (876)    |

## Alternator Performance Data

| Data Item                      | 50 Hz |       |       |   | 60 Hz |           |           |   |   |
|--------------------------------|-------|-------|-------|---|-------|-----------|-----------|---|---|
|                                | 240V  | 230V  | 220V  |   |       | 220V/110V | 240V/120V |   |   |
| Motor Starting Capability* kVA | 285   | 269   | 254   | - | -     | 223       | 252       | - | - |
| Short Circuit Capacity** %     | -     | -     | -     | - | -     | -         | -         | - | - |
| Reactances:<br>Per Unit        |       |       |       |   |       |           |           |   |   |
| Xd                             | 1.625 | 1.769 | 1.934 | - | -     | 2.640     | 2.220     | - | - |
| X'd                            | 0.098 | 0.106 | 0.116 | - | -     | 0.160     | 0.130     | - | - |
| X''d                           | 0.058 | 0.063 | 0.068 | - | -     | 0.090     | 0.080     | - | - |

Reactances shown are applicable to standby ratings.

\* Based on 30% voltage dip.

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

## Alternator Technical Data

| Physical Data              |          |
|----------------------------|----------|
| Manufacturer:              | OLYMPIAN |
| Model:                     | LL3014F  |
| No. of Bearings:           | 1        |
| Insulation Class:          | H        |
| Winding Pitch - Code:      | 2/3 - 6  |
| Wires:                     | 12       |
| Ingress Protection Rating: | IP23     |
| Excitation System:         | SHUNT    |
| AVR Model:                 | R250     |

| Operating Data                         |   |
|--|---|
| Overspeed: RPM                         | 2250  |
| Voltage Regulation (steady state) (%): | +/- 0.5   |
| Wave Form NEMA = TIF:                  | 50  |
| Wave Form IEC = THF:                   | 2.0%  |
| Total Harmonic Content LL/LN:          | 4.0%  |
| Radio Interference:                    | Suppression is in line with European Standard EN61000-6 |
| Radiant Heat: kW (Btu/min)             |   |
| -50 Hz:                                | 12.6 (717)  |
| -60 Hz:                                | 16.8 (955)  |

Consult your Olympian representative for more information

