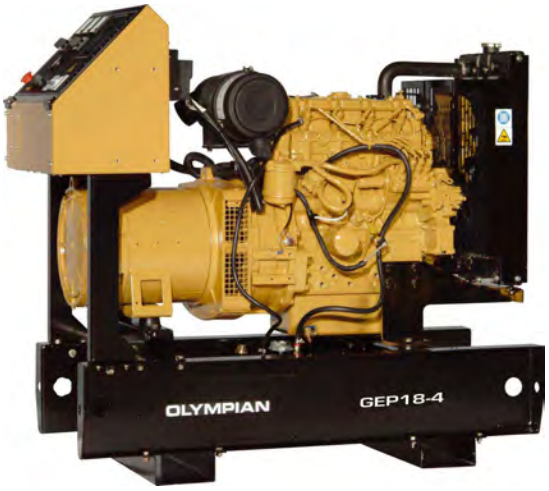
OLYMPIAN™



GEP18-4

Diesel Generator Set
Exclusively from your Caterpillar® dealer

Output Ratings

Generating Set Model	Prime*	Standby*
380-415V,50Hz	16.5 kVA 13.2 kW	18.0 kVA 14.4 kW
220/127V, 60 Hz	19.4 kVA 15.5 kW	21.3 kVA 17.0 kW

* Refer to ratings definitions on page 4.
Ratings at 0.8 power factor.

Technical Data

Engine Make & Model:	Perkins 404D-22G1	
Alternator Model:	LL1014L	
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)	45 (11.9)	
Fuel Consumption, Prime: l/hr (US gal/hr)	4.4 (1.2)	5.2 (1.4)
Fuel Consumption, Standby : l/hr (US gal/hr)	4.8 (1.3)	5.7 (1.5)

Engine Techncial Data

Physical Data

Manufacturer:	Perkins
Model:	404D-22G1
No. of Cylinders/Alignment:	4 / In Line
Cycle:	4 Stroke
Induction:	Naturally Aspirated
Cooling Method:	Water
Governing Type:	Mechanical
Governing Class:	ISO 8528 G2
Compression Ratio:	23.3:1
Displacement: l (cu.in)	2.2 (135.2)
Bore/Stroke: mm (in)	84.0 (3.3)/100.0 (3.9)
Moment of Inertia: kg m² (lb. in²)	2.72 (9308)
Engine Electrical System:	
-Voltage/Ground:	12/Negative
-Battery Charger Amps:	65
Weight: kg (lb) **- Dry:**	242 (534)
- Wet:	251 (554)

Air System

	50 Hz	60 Hz
Air Filter Type:	Replaceable Element	
Combustion Air Flow:		
m³/min (cfm) **-Standby:**	1.5 (51)	1.7 (61)
-Prime:	1.5 (51)	1.7 (61)
Max. Combustion Air Intake		
Restriction: kPa (in H_2O)	3.0 (12.0)	3.0 (12.0)
Radiator Cooling Air Flow:		
m³/min (cfm)	33.0 (1165)	41.4 (1462)
External Restriction to		
Cooling Air Flow: Pa (in H_2O)	125 (0.5)	125 (0.5)

Cooling System

	50 Hz	60 Hz
Cooling System Capacity:		
l (US gal)	6.5 (1.7)	6.5 (1.7)
Water Pump Type:	Centrifugal	
Heat Rejected to Water &		
Lube Oil: kW (Btu/min)		
-Standby:	15.2 (864)	17.2 (978)
-Prime:	13.7 (779)	15.5 (881)
Heat Radiation to Room:		
kW (Btu/min) **-Standby:**	3.1 (176)	3.2 (182)
-Prime:	2.5 (142)	2.7 (154)
Radiator Fan Load: kW (hp)	0.2 (0.3)	0.4 (0.5)

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):	10.6 (2.8)
Oil Pan l (US gal):	8.9 (2.4)
Oil Type:	AP1CH4 15W-40
Cooling Method:	N/A

Performance

	50 Hz	60 Hz
Engine Speed: RPM	1500	1800
Gross Engine Power: kW (hp)		
-Standby:	18.0 (24.0)	21.5 (29.0)
-Prime:	16.2 (22.0)	19.4 (26.0)
BMEP: kPa (psi)		
-Standby:	649.0 (94.2)	647.0 (93.8)
-Prime:	585.0 (84.8)	583.0 (84.6)
Regenerative Power: kW	5.6	7.2

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	4.8 (1.3)	4.4 (1.2)	3.4 (0.9)	2.6 (0.7)
60 Hz	5.7 (1.5)	5.2 (1.4)	4.1 (1.1)	3.1 (0.8)
Standby				
50 Hz		4.8 (1.3)	3.7 (1.0)	2.7 (0.7)
60 Hz		5.7 (1.5)	4.4 (1.2)	3.3 (0.9)

(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:	Level 1	
Silencer Noise Reduction	263-0765 (1)	
Pressure Drop Across		
Silencer System: kPa (in Hg)	0.70 (0.207)	1.40 (0.413)
Silencer Noise Reduction		
Level: dB	27	20
Max. Allowable Back		
Pressure: kPa (in. Hg)	10.0 (3.0)	10.0 (3.0)
Exhaust Gas Flow:		
m³/min (cfm) **-Standby:**	3.7 (131)	4.0 (141)
-Prime:	3.4 (120)	3.7 (131)
Exhaust Gas Temperature: °C (°F)		
m³/min (cfm) **-Standby:**	394 (740)	434 (812)
-Prime:	361 (681)	379 (714)

Consult your Olympian representative for more information

Alternator Performance Data

Data Item	50 Hz				60 Hz				
	415/240V	400/230V	380/220V						220/127V
Motor Starting Capability* kVA	30	29	26	-	-	-	-	-	29
Short Circuit Capacity % **	-	-	-	-	-	-	-	-	-
Reactances: Per Unit									
Xd	2.070	2.230	2.470	-	-	-	-	-	2.600
X'd	0.140	0.150	0.170	-	-	-	-	-	0.180
X''d	0.070	0.075	0.083	-	-	-	-	-	0.088

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:	LL1014L
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:	Supression is in line with European Standard EN61000-6
Radiant Heat: kW (Btu/min)	
-50 Hz:	2.8 (159)
-60 Hz:	3.3 (188)

Consult your Olympian representative for more information

Technical Data

3 **Phase Ratings and Performance at 50 Hz, 1500 RPM**

Voltage	Prime		Standby	
	kVA	kW	kVA	kW
415/240V	16.5	13.2	18.0	14.4
400/230V	16.5	13.2	18.0	14.4
380/220V	16.5	13.2	18.0	14.4

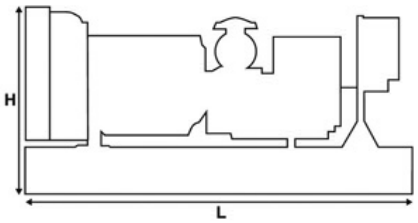
3 **Phase Ratings and Performance at 60 Hz, 1800 RPM**

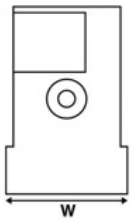
Voltage	Prime		Standby	
	kVA	kW	kVA	kW
220/127V	19.4	15.5	21.3	17.0

Weights & Dimensions

Weights: kg (lb)	
Net (+ lube oil)	447 (985)
Wet (+ lube oil & coolant)	454 (1001)
Fuel, lube oil & coolant	492 (1085)

Dimensions: mm (in)	
Length	1320 (52.0)
Width	552 (21.7)
Height	1179 (46.4)





Note: General configuration not to be used for installation. See general dimension drawings for detail.

Definitions

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).

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.

Standard Reference Conditions

Note: Standard reference conditions 25°C (77°F) air inlet temp, 100m (328ft) 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.

General Data

Documents

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

Quality Standards

BS4999, BS5000, BSEN60034, BSEN61000, IEC60034.

Warranty

All equipment carries full manufacturer's warranty.

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