

Perkins/Caterpillar 50kW Diesel Generator Enclosed Genset



Engine

- ▶ Perkins diesel engine 4.5 L, 4 cylinder, 4 stroke
- ▶ Maintenance of engine, parts and associated generator components by Perkins national dealer network
- ▶ Preventative maintenance program available

Enclosure

- ▶ Sound attenuation 69 DBA 23' and as low as 67 DBA
- ▶ Max operating ambient temperature = 137° F
- ▶ New baffle design exceeds Perkins specifications and is approved for warranty continuation by Perkins / Caterpillar
- ▶ Patent Pending

Controller

- ▶ Utilizes Harsen® JNH GU620A

Fuel Tank

- ▶ UL certified (UL 142)
- ▶ 218 Gallon fuel tank
- ▶ 72 hour run time per tank (nominal load)

**Perkins
Diesel**

67 DBA

**72 hour
Fuel Tank**

1104D-44TG1

Basic technical data

Number of cylinders	4
Cylinder arrangement	in-line
Cycle	4 stroke
Induction system.....	turbocharged
Combustion system	direct injection diesel
Compression ratio	18,2:1
Bore	105 mm
Stroke	127 mm
Cubic capacity	4,4 litres
Direction of rotation.....	anticlockwise when viewed from flywheel
Firing order (number 1 cylinder furthest from flywheel)	1 3 4 2
Estimated total weight of Electropak (dry)	474 kg

Overall dimensions - Electropak

-height.....	967 mm
-length (air cleaner fitted).....	1238 mm
-width	637 mm

Moments of rotational inertia (mk²)

Engine rotational components	0.132 kgm ²
Flywheel	1.2 kgm ²

Centre of gravity (fan face to flywheel housing)

Forward of rear face of cylinder block.....	227,2 mm
Above crankshaft centre line	160,4 mm
Offset to RHS of crankshaft centre line	8,1 mm

Performance

Note: All data based on operation to ISO 3046-1:2002 standard reference conditions.

All ratings certified to within	+ 5%
Speed variation at constant load	+ 0,25%
Cyclic irregularity for 1,2kgm ² flywheel inertia @ 1800 rev/min	0,0118

Test conditions

-air temperature	25 °C
-barometric pressure.....	100 kPa
-relative humidity	31.5%
-air inlet restriction at maximum power (nominal)	5 kPa
-exhaust back pressure at maximum power (nominal)	15 kPa
-fuel temperature (inlet pump)	40 °C

Sound level

Sound power level (exhaust piped away, cooling pack and air cleaner fitted)

Note: Note: Sound power level calculated from the mean of 4 microphones sited, in front, right, left and above the engine (1m away)

If the engine is to operate in ambient conditions other than those of the test conditions, suitable adjustments must be made for these changes. For full details, contact Perkins Technical Service Department.

Emissions capability: Certified against the requirements of Tier 3 legislation for non-road mobile machinery, powered by constant



General installation

Designation	Units	Prime	Standby
Gross engine power	kWb	58,0	64,0
Electropak nett engine power	kWm	57,0	63,0
Brake mean effective pressure	kPa	879	971
Engine coolant flow (against 35 kPa restriction)	l/min	151	
Combustion air flow (at rated speed)	m ³ /min	5,2	5,3
Exhaust gas flow (Max.)	m ³ /min	12,8	13,7
Exhaust gas mass flow	kg/min	6,3	6,5
Exhaust gas temperature (turbocharger outlet)	°C	532	571
Boost pressure ratio		2,2	2,3
Overall thermal efficiency (nett)	%	35	33
Typical genset electrical output (0.8pf 25 °C)	kWe	51,3	56,7
	kVA	64,1	70,9
Assumed alternator efficiency	%	90	