



GROUND POWER UNIT

lowest TCO on the market

GA100 to GA180 Model

Guinault has been manufacturing Ground Power Units for Aviation Industry for 60 years (1949). Guinault claims the LOWEST TCO GPU (Total Cost of Ownership) available on the market using :

- the lowest engine rpm for 400Hz available in the world : 1714rpm !
- the high efficiency Guinault Alternator made in FRANCE (optimized for low load operation representing 70% of the operation time of GPU)
- the in-house designed and built Electronic Control System to withstand extreme conditions : sandy/dusty wind, humid and corrosive atmosphere

- galvanized chassis, double wall plastic fuel tank, polyester canopy ensure the **highest protection against corrosion**

- **great maintenance accessibility and reduced noise level though monoblock mounts flapping polyester canopy**

Guinault uses its expertise in electronic and engine control to give a significant product advantage and to design highly reliable solutions for extreme operational conditions. Guinault also limits the obsolescence risk as we also manufacture our own electrical/electronics components.

Key Words : Total Cost of Ownership, High efficiency Alternator, Facilitated Maintenance

Purpose : From Business Jet to wide body aircraft (A380 ready)



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| | GA100 | GA120 | GA150 | GA180 |
|--|--|-----------------------------------|-----------------------------------|-----------------------------------|
| ENGINE BRAND AVAILABILITY | | | | |
| <input type="checkbox"/> DEUTZ (Germany) | ■ | ■ | ■ | ■ |
| <input type="checkbox"/> CUMMINS (USA) | ■ | ■ | ■ | ■ |
| <input type="checkbox"/> PERKINS (UK) | ■ | ■ | ■ | ■ |
| <input type="checkbox"/> IVECO (Italy) | ■ | ■ | ■ | ■ |
| Pollution Standard | GUINAULT GPU are available up to STAGE II/IIIA/IIIB (EPA 2, 3, 4i) | | | |
| AC OUTPUT 115/200V - 400Hz | | | | |
| <input type="checkbox"/> Rated Power(power factor 0,8) | 100 KVA | 120 KVA | 150KVA | 180KVA |
| <input type="checkbox"/> Authorized Overload* | 110 KVA – 10min 125 KVA – 5min | 132 KVA – 10min 150 KVA – 5min | 165 KVA – 10min 180 KVA – 5min | 200 KVA – 10min 225 KVA – 5min |
| <input type="checkbox"/> Number of Output | 1 (option for 2) | 2 | 2 | 2 |
| DC OUTPUT 28,5VDC (option) | | | | |
| <input type="checkbox"/> Permanent current / Peak | 800Amp continuously, 2500Amp in peak (including ATR limitation at 1275amp) | | | |
| <input type="checkbox"/> Number of Output | 1 - possibility to use simultaneous DC and AC outputs | | | |
| DIMENSIONS | | | | |
| <input type="checkbox"/> Weight* | 2.200 Kg | 2.400 Kg | 2.500 Kg | 2.700 Kg |
| <input type="checkbox"/> Size | L 3300 X W 1880 X H 1765 mm | | | |

characteristics for GA100/GA120GA150/GA180

| | | | |
|---|--|--|--|
| ENGINE | | | |
| <input type="checkbox"/> type | Turbo Diesel - Water cooled | | |
| <input type="checkbox"/> Usable Fuel | Diesel | | |
| ALTERNATOR | | | |
| <input type="checkbox"/> Brand | GUINAULT (France) | | |
| <input type="checkbox"/> Poles number | 22 poles, brushless (28 poles when running at 1714rpm) | | |
| <input type="checkbox"/> Type | Brushless – single bearing – self excited – with built-in fan | | |
| <input type="checkbox"/> Rated Voltage: | 115/200 V +/- 1% | | |
| <input type="checkbox"/> Frequency: | 400 Hz +/- 0.5% | | |
| <input type="checkbox"/> Voltage regulation: | Electronic regulator GUINAULT type RS525 | | |
| <input type="checkbox"/> Harmonic content : | < 3% | | |
| <input type="checkbox"/> Transient performances: | according to MIL STD 704E / EN2282 / ISO 6858 | | |
| SAFETIES | | | |
| Engine Safeties | 115V/400Hz Safeties | 28Vdc Safeties | |
| <input type="checkbox"/> Low oil pressure | <input type="checkbox"/> Over voltage | <input type="checkbox"/> Over voltage | |
| <input type="checkbox"/> High coolant temperature | <input type="checkbox"/> Under voltage | <input type="checkbox"/> Under voltage | |
| <input type="checkbox"/> Clogged Air filter | <input type="checkbox"/> Over frequency | <input type="checkbox"/> Overload | |
| <input type="checkbox"/> Battery charging fault | <input type="checkbox"/> Under frequency | | |
| <input type="checkbox"/> Over speed | <input type="checkbox"/> Overload | | |
| MAIN ASSEMBLY | | | |
| <input type="checkbox"/> Swinging polyester canopy with large access doors for maintenance | <input type="checkbox"/> Leading front axle with ball bearing | | |
| <input type="checkbox"/> Galvanized chassis for full anti-corrosion protection | <input type="checkbox"/> Batteries: 2 x 12V-125Ah (24VDC System) | | |
| <input type="checkbox"/> 280Liters Fuel Tank (8 to 20 hours duration) | <input type="checkbox"/> Braking when tow-bar is raised or lowered | | |
| <input type="checkbox"/> Cable storage compartment on each side of GPU | <input type="checkbox"/> Pneumatic tyres 600x9 | | |
| AVAILABLE OPTIONS | | | |
| <input type="checkbox"/> 28VDC Output : 800Amp continuously, 2500Amp in peak (including ATR limitation at 1275amp) | | | |
| <input type="checkbox"/> Truck Mounted/ Push back Mounted GPU | | | |
| <input type="checkbox"/> Winter kit including engine pre-heating supplied by 50/60Hz mains for Extreme Low Temperature (<-25°C) | | | |
| <input type="checkbox"/> Sound Insulation : <69dB at 7m & <80dB at 1m (standard 2003/10/CE – 89/391/CE) | | | |
| <input type="checkbox"/> Automatic Engine oil refilling system 12,5L | | | |
| <input type="checkbox"/> Double Electrical Insulation | | | |
| <input type="checkbox"/> Sand Protection | | | |
| <input type="checkbox"/> GPU anti-towing Safety : when cables are connected to the Aircraft, a specific sensor detects movements of the GPU. If the cable plugs are not located on the plug receiver fixed on the GPU, visual and noise alarms indicate the risk that the plugs are still connected to the aircraft (risk of damage to the aircraft) | | | |
| <input type="checkbox"/> low engine speed, 1714rpm using Guinault 28 poles alternator (instead of 22 poles for 2182rpm). Average fuel consumption saving > 8% - up to 20% --> GUINAULT low-rpm units (1714 rpm) ensure a fuel saving of about 40000€ within 10 operating years (based on 1L=1€ - 2000 hours/year) | | | |