



Input

- State of the art semiconductor technology (IGBT) Rectifier
- Power Factor Correction (PF= 1)
- 95% efficiency
- 4 Quadrant Operation (better response of the system and safer operation for NBPT)
- Low input harmonics (<1.5% THDi), to comply with the strictest regulations @ any load.

Norms and Standards

- Aviation**
- ISO 6858 - Aircraft ground support electric supplies
 - SAE ARP 5015 - Ground equipment 400 Hz ground power performance requirement
- Military**
- MIL-STD-704 - Aircraft electric power characteristics
- EMC**
- EN6100-6-4 - Electromagnetic compatibility Generic emission standard
 - EN6100-6-2 - Generic immunity standard
- Safety**
- IEC 60529 Degrees of protection provided by enclosures (IP Code)
 - IEC 62477-1 - Safety requirements for power electronic converter systems and equipment

- Environmental**
- Dry heat test (steady state) IEC 60068-2-2:2007 subclause 5.3
 - Damp heat test IEC 60068-2-78:2012 subclause 6
 - Vibration test IEC 60068-2-6:2007 subclause 6
 - Salt mist test IEC 60068-2-52:1996 subclause 6
 - Dust and sand test Test Lc1 of IEC 60068-2-68

Efficiency

- Up to 94% - 30KVA to 90kVA @ load PF = 0.8 to 1.0
- 90% - < 30kVA @ load PF = 0.8 to 1.0
- Green Standby Function - losses: 20 W
- No load losses: <1.5 kW

Output

- Voltage compensation (Load Dependent or via Remote Feedback - Real PLUG & PLAY. Connect GPU to aircraft and voltage compensation is done automatically, no user adjustment required or additional accessories)
- 4 Quadrant Operation (better response of the system and safer operation for NBPT)
- Vector control Inverter for better response and higher efficiency.

Technology (GPU)

- Enclosure Protection class up to IP55
- No break power transfer compatibility (NBPT)
- Over/Under voltage at output
- Overload capability designed for:
 - Power stage 150% - Continuous
 - Magnetics 120% - Continuous
- Regulator Overload protections set at:
 - 120% for 600 seconds
 - 150% for 60 seconds
 - 200% for 2 seconds
- Variable fan speed for internal temperature control
- Over temperature protection
- Short circuit proof by electric current limiting and shutdown
- 90% switch interlock

Technology (DC)

- Over/under voltage at input
 - Under voltage <20V (4 sec)
 - Over voltage >34V (4 sec)
 - Short Circuit <5V (4 sec)
- Overload capability designed for:
 - Power stage 150% - Continuous
 - Magnetics 120% - Continuous
- Overload protections set at:
 - 125% for 600 seconds
 - 150% for 60 seconds
 - 400% for 5 seconds
- Over temperature protection

Specifications

FlyTek GPU COMBI 45 & 90 KVA SOLID STATE 400HZ GROUND POWER UNIT

GPU

Input

- 3 Phase, 4w, 460V/480V | $\pm 10\%^*$
- 50/60Hz | $\pm 10\%$
- Input current harmonics | $<2\%$ @ Full Load

400Hz Output

- 3 phase 200V AC -400Hz | $\pm 1\%^*$
- Overall Efficiency | 90% - 95%
- Max. Crest Factor | 1.4:4

Rectifier

- 4 Quadrant Operation
- AC Voltage Range | $-25\% + 10\%$
- Efficiency | 95%-97%
- Input Frequency Deviation | 10%
- Overload Capacity | 120% Continuous
- Inrush Current | None
- Overall current limit | 150%

INVERTER

- Static Regulation 0-100% load | $\pm 1\%$
- Dynamic regulation 100% | $-25\% + 10\%$
- Total Harmonic distortion | 95%-97%
- Electronic Limit Overload | 10%
- Overload Capacity (IGBTs) | 120% Continuous
- Frequent stability | None
- Load power factor | 150%
- Efficiency | 150%
- Short circuit proof by electric current limiting and shutdown

DC

Output

- Output 28.5VDC
- Continuous current capability (@28.5VDC) | 300A / 600A / 800A
- Maximum Current Limit (28VDC) | 1200/2000A for up to 5sec
- Current Limit adjusting steps (from 800A) | 300A
- Voltage regulation up to 600A | $\pm 0.5\%$
- Efficiency | (@600A/800A)
- Ripple | $<0.5\%$
- Dynamic Recovery to 90% VDC | $<40\text{ms}$
- Voltage Compensation | 0-4V up to 600A (remote feedback)
- Galvanic Isolation | 800Hz Transformer
- IGBT + DIODE Rectifier | $<0.5\%$

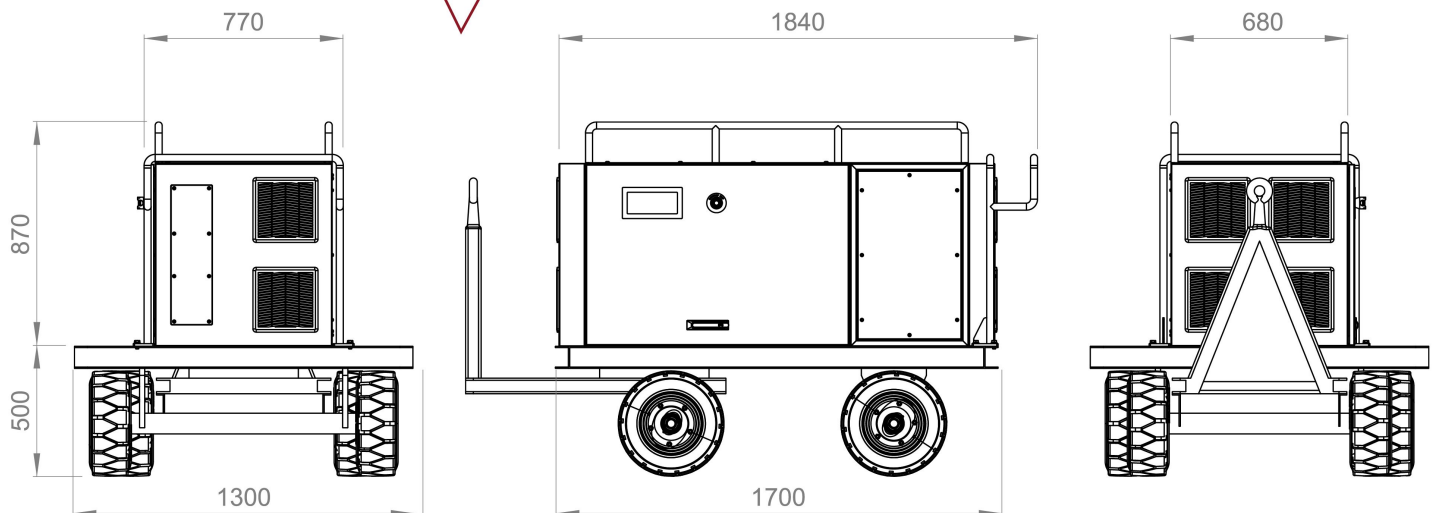
ENVIRONMENTAL CONDITIONS

- Coolent tempeature (max) | Forced air up to 40
- Ambient tempeature (min/max) | $-40\text{oC} + 40\text{oC}$
- Relative humidity (min/max) | 0%-90% without condensation
- Polution degree | 2
- OVC (Overvoltage Category) | 3
- Altitude | Up to 2000m

* Other voltages and frequencies available on request

* Other Electronic Overload limits available on request

Technical Drawing



Trolley Specifications

- Max. load | 2500Kg
- Useful length | 1700mm
- Platform height | 500mm
- Platform | Non sliding steel plate
- Max. speed | 6Km/h
- Useful width | 1300mm
- Wheels | 4.00x8 super elastic