



GROUND POWER UNITS

HIGH QUALITY AIRPORT TECHNOLOGIES

GPU 28,5Vdc

Power	23 kVA
Voltage	28,5Vdc
Power Factor	1
Frequency	400Hz
Output 28,5Vdc	N°1
Current	800A

ENGINES

FPT (IVECO)

Stage 0	20F/23TNE @2000rpm
Stage III	18F/23TNE@1800rpm
Stage V	20F/23TEV@2000rpm

CUMMINS

Stage III A	20C/23TE @2000rpm
Stage V	20C/23TEV@2000rpm

DEUTZ

Stage 0	18D/23TNE@1800rpm
Stage V/4F	20D/23TEV @2000rpm

KOHLER

Stage V	18KO/23TEV
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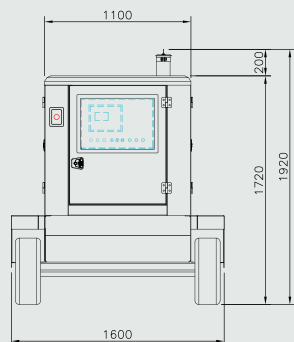
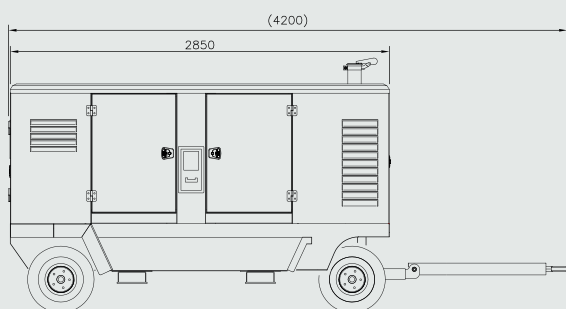
HIGH
TECHNOLOGY



CERTIFIED
QUALITY



USER FRIENDLY
CONTROLS



Dimensions are shown in mm



Pictures may not show
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Bertoli provides robust, easy to use and maintain **400Hz diesel ground power units from 60 to 180kVA**. All models feature a user-friendly electronic device for the GPU management through which operators are able to control engine dynamics (low/rated speed, etc.) and energize the desired output(s).

Sound-and weatherproof canopies and trailers are designed and manufactured in-house.

Special care is devoted to quality of materials and processing. Product look sober and are an optimal matching of essentiality and maximum functionality, conceived to facilitate end users in operating the machine and get the best out of their technical mechanical potential.

GROUND POWER UNITS

Via Tomasicchio, 3 • 43013 Langhirano PR
+39 0521 861386 • info@bertolisrl.it



ENGINE

FPT (IVECO)	NEF45 - Stage 0 NEF45 - Stage IIIA
Deutz	BF4M stage 0 TCD3.6 (Stage V)
Cummins	QSB 4.5 stage IIIA
Type	4 stroke, 4 cylinder, turbo with intercooler
Fuel	Diesel
Speed	2000 or 1846 rpm - electronic governor
Cooling	Water cooling with radiator and blower fan
Starting	Electric starting 24Vdc Batteries 2x12Vdc - 100Ah
Sensors	Oil pressure, Water temperature, fuel level, alternator battery charger

DC OUTPUT

N° of outputs	1
Voltage	28,5 Vdc
Power output	800A continuous 1200A 90 sec 2000A max 5 sec
Cables	2x120(mm ²), tinned, extra flexible, length 7 meters maximum 2x150(mm ²), tinned, extra flexible, length from 7 to 10 meters
Plug	3 poles, standard rubber type

CONFIGURATION

Chassis	Structural steel base equipped with vibration dampers, lifting facilities fitted..
Trailer	Strong frame in welded steel sections; two axle trailer with steerable front wheels 180°, fix drawbar Parking brake automatically operated when the draw bar is in vertical position Cable storage compartment on both sides of GPU with easy access and appropriate size to cable length
Canopy	Weatherproof Anticorrosive treatment RAL 1004 (other colour on request) Large doors for inspection and maintenance Yellow flashing light on top Size signallers. Adjustable service light Control panel lighting Interior lighting for maintenance Sound level 75 dB(A) @ 7m Fire extinguisher
Fuel tank	Built in the base frame with cap, for 8 hours autonomy
Exhaust silencer	Industrial type

Max dimensions (mm): L2850 x W1700 x H1720

Max weight (kg): 2200 approx

Please contact our technical dept. after the order for definitive dimensions and weight.

Specifications ref.: IATA AHM N0s: 904, 905, 910, 913, 915, 972;
SAE ARP 5015; ISO 6858:2017; ISO 461-1 and ISO461-2

ALTERNATOR

Power	23 kVA
Cos phi	1
Authorized overload	110% of rated load for 1 hour in a 6 hours period 200% of rated load for 10sec
Type	brushless
Mechanical protection	IP 23
Insulation	Class H
Voltage regulation	Electronic
Engine coupling	Single bearing

CONTROL PANEL

Fitting	On the rear side
Protection	IP 54
Electronic device	Programmable electronic device with backlight digital display. All measures are shown by scrolling pages through built-in buttons. Any alarm latched is displayed with description text.
Measure	Engine: oil pressure, water temperature, water level, fuel level, speed, battery voltage, hour counter, alternator battery charger. 28Vdc output: voltage, current
Protections: alarms control and automatic shutdown	Pre-configured and editable (through built-in buttons or software) thresholds, each one with its activation delay time: Engine: low oil pressure, high water temperature, low fuel level, overspeed, underspeed, alternator battery charger failure. 28Vdc output: over/under voltage, overcurrent
User switches/ buttons	Power supply ON-OFF. Power output activation/ deactivation (for each output line) Flashing light ON/OFF Potentiometer

WINTER KIT (ON REQUEST)

Fuel tank	Fuel tank preheating with internal coil for engine water circulator, supplied by 230V, 50Hz external power supply (during storage inside hangars)
Engine	Engine water preheating, supplied by 230V, 50Hz external power supply (during storage inside hangars) Engine air preheating, powered at 24V (during storage inside hangars)
Battery heaters	Battery heater, supplied by 230V, 50Hz external power supply (during storage inside hangars)

TECHNICAL DOCUMENTS

Engine	Operation and maintenance technical manual
Alternator	Operation and maintenance technical manual
Control panel	Wiring diagram Printed label fixed on rear side (under the control panel) for a quick start & use of GPU
GPU	Operation and maintenance manual



GROUND POWER UNITS

HIGH QUALITY AIRPORT TECHNOLOGIES

GPU 60 kVA • 400Hz

Power	60 kVA
Voltage	115/200Vac
Voltage regulation	± 1 %
Power Factor	0,8
Frequency	400Hz
Output 115/200Vac 400Hz	N°1
Output 28,5Vdc	Optional

ENGINES

FPT (IVECO)

Stage 0	20F/60TNE@2000 rpm
Stage III	18F/60TE @1846 rpm
Stage V	20F/60TEV@2000 rpm

CUMMINS

Stage III	20C/60TE @2000 rpm
Stage V	20C/60TEV @2000 rpm

DEUTZ

Stage 0	20D/60TNE @ 2000 rpm
Stage V	20D/60TEV @2000 rpm



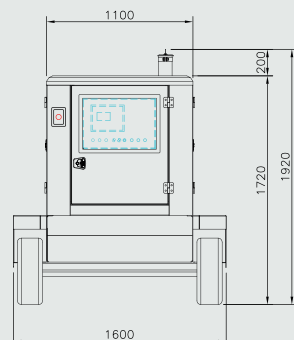
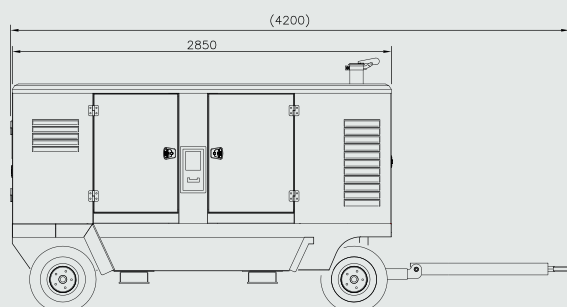
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ENGINE

FPT (IVECO)	NEF45 - Stage 0 NEF45 - Stage III F34TEV - Stage V
Cummins	QSB 4.5 - Stage III F3.8 - Stage V
Deutz	BF4M - stage 0 TCD2.9 - Stage V
Type	4 stroke, 4 cylinder, turbo with intercooler
Fuel	Diesel
Speed	2000 or 1846 rpm - electronic governor
Cooling	Water cooling with radiator and blower fan
Starting	Electric starting 24Vdc Batteries 2x12Vdc - 100Ah
Sensors	Oil pressure, Water temperature, fuel level, alternator battery charger

AC OUTPUT

N° of outputs	1 (60kVA)
Connection	3 phase 4 wire
Voltage	115/200Vac
Frequency	400 Hz
Cables	4x1x50(mm ²)+4x1, twisted, tinned, extra flexible, length 10 meters
Plug	6 poles, standard rubber type

DC OUTPUT (ON REQUEST)

N° of outputs	1
Components	Power transformer + rectification circuit "Line drop compensation" electronic device
Voltage	28,5 Vdc
Power output	800A continuous -1200A 90 sec -2400A max 15 sec
Cables	2x120(mm ²), tinned, extra flexible, length 10 meters
Plug	3 poles, standard rubber type

CONFIGURATION

Chassis	Structural steel base equipped with vibration dampers, lifting facilities fitted.
Trailer	Strong frame in welded steel sections; two axle trailer with steerable front wheels, fix drawbar. Parking brake automatically operated when the draw bar is in vertical position. Cable storage compartment on both sides of GPU with easy access and appropriate size to cable length
Canopy	Weatherproof. Anticorrosive treatment. YELLOW RAL 1004 (other colour on request) Large doors for inspection and maintenance Yellow flashing light on top Size signallers. Adjustable service light. Control panel lighting. Interior lighting for maintenance. Sound level 75 dB(A) @ 7m. Fire extinguisher
Fuel tank	Built in the base frame, about 180 litres capacity with cap
Exhaust silencer	Industrial type

Max dimensions (mm): L2800 x W1700 x H1700.

Max weight (kg): 2200 approx.

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Specifications ref.: IATA AHM N0s: 904, 905, 910, 913, 915, 972;
SAE ARP 5015; ISO 6858:2017; ISO 461-1 and ISO461-2

ALTERNATOR

Power	60 kVA
Cos phi	0,8
Authorized overload	110% of rated load for 1 hour in a 6 hours period 300% of rated load for 20sec
Type	24 poles, single bearing, brushless, self-excited
Mechanical protection	IP 23
Insulation	Class H
Compliance with	Standard BS 2G 219 – EN2292 ISO 6858 MIL-STD-704F
Voltage regulation	Electronic: $\pm 1\%$ (With any power factor and speed variations between -5% and +30%)
Waveform distortion (THD)	1,4% at full load
Engine coupling	Direct

CONTROL PANEL

Fitting	On the rear side
Protection	IP 54
Electronic device	Programmable electronic device with backlight digital display. All measures are shown by scrolling pages through built-in buttons. Any alarm latched is displayed with description text.
Measure	Engine: oil pressure, water temperature, fuel level, speed, battery voltage, hour counter, alternator battery charger. 400Hz output: voltage, frequency, current, power kVA-kVAR-kW, Cosphi (measures phase to phase AND phase to neutral). 28Vdc output: voltage, current
Protections: alarms control and automatic shutdown	Pre-configured and editable (through built-in buttons or software) thresholds, each one with its activation delay time: Engine: low oil pressure, high water temperature, low fuel level, overspeed, underspeed, alternator battery charger failure. 400Hz output: over/under voltage, over/under frequency, overload, short circuit, phase sequence 28Vdc output: over/under voltage, overcurrent (maximum power) with switch
User switches/buttons	Power supply ON-OFF. START / STOP buttons Min/Max engine speed. Power output activation/deactivation (for each output line) Power output activation forced (permanent output activation, also without feedback from aircraft - plug pins E-F). Alarm acknowledge and reset. Flashing light ON/OFF

WINTER KIT (ON REQUEST)

Engine	Engine water preheating, supplied by 230V, 50Hz external power supply (during storage inside hangars) Engine air preheating, powered at 24V (during storage inside hangars), Fuel filter heater
Battery heaters	Battery heater, supplied by 230V, 50Hz external power supply (during storage inside hangars)

TECHNICAL DOCUMENTS

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Alternator	Operation and maintenance technical manual
Control panel	Wiring diagram Printed label fixed on rear side (under the control panel) for a quick start & use of GPU
GPU	Operation and maintenance manual



GROUND POWER UNITS

HIGH QUALITY AIRPORT TECHNOLOGIES

GPU 90 kVA · 400Hz

Power	90 kVA
Voltage	115/200Vac
Voltage regulation	± 1 %
Power Factor	0,8
Frequency	400Hz
Output 115/200Vac 400Hz	N°1
Output 28,5Vdc	Optional

ENGINES

FPT (IVECO)

Stage 0	20F/90TNE@2000 rpm	18F/90TNE @1846 rpm
Stage III	18F/90TE @1846 rpm	
Stage V	20F/90TEV@2000 rpm	18F/90TEV @1846 rpm

CUMMINS

Stage III	20C/90TE @2000 rpm	18C/90TE @1846 rpm
Stage V	20C/90TEV @2000 rpm	18C/90TE V@1846 rpm

DEUTZ

Stage 0	20D/90TNE @ 2000 rpm	18D/90TNE @ 1846 rpm
Stage V	20D/90TEV @2000 rpm	18D/90TE V@1846 rpm



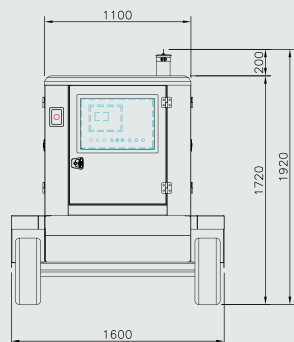
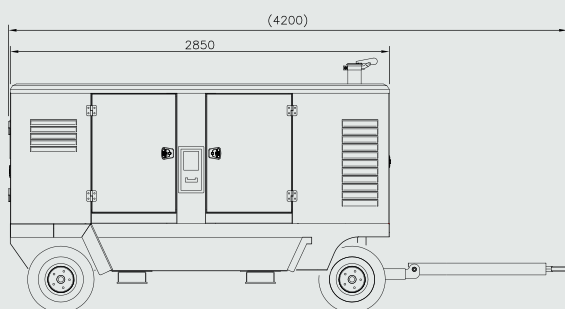
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ENGINE

FPT (IVECO)	N45SM - Stage 0 N45TE - Stage III F36ETV - Stage V
Cummins	QSB 4.5 - Stage III F3.8 - Stage V
Deutz	BF4M Stage 0 TCD3.6 - Stage V
Type	4 stroke, 4 cylinder, turbo with intercooler
Fuel	Diesel
Speed	2000 or 1846 rpm - electronic governor
Cooling	Water cooling with radiator and blower fan
Starting	Electric starting 24Vdc Batteries 2x12Vdc - 100Ah
Sensors	Oil pressure, Water temperature, fuel level, alternator battery charger

AC OUTPUT

N° of outputs	1 (90kVA)
Connection	3 phase 4 wire
Voltage	115/200Vac
Frequency	400 Hz
Cables	4x1x50(mm ²)+4x1, twisted, tinned, extra flexible, length 10 meters
Plug	6 poles, standard rubber type

DC OUTPUT (ON REQUEST)

N° of outputs	1
Components	Power transformer + rectification circuit "Line drop compensation" electronic device
Voltage	28,5 Vdc
Power output	800A continuous -1200A 90 sec -2400A max 15 sec
Cables	2x120(mm ²), tinned, extra flexible, length 10 meters
Plug	3 poles, standard rubber type

CONFIGURATION

Chassis	Structural steel base equipped with vibration dampers, lifting facilities fitted.
Trailer	Strong frame in welded steel sections; two axle trailer with steerable front wheels, fix drawbar. Parking brake automatically operated when the draw bar is in vertical position. Cable storage compartment on both sides of GPU with easy access and appropriate size to cable length.
Canopy	Weatherproof. Anticorrosive treatment. YELLOW RAL 1004 (other colour on request) Large doors for inspection and maintenance Yellow flashing light on top Size signallers. Adjustable service light. Control panel lighting. Interior lighting for maintenance. Sound level 75 dB(A) @ 7m. Fire extinguisher
Fuel tank	Built in the base frame, about 180 litres capacity with cap
Exhaust silencer	Industrial type

Max dimensions (mm): L3000 x W1700 x H1800

Max weight (kg): 2200 approx.

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Specifications ref.: IATA AHM N0s: 904, 905, 910, 913, 915, 972;
SAE ARP 5015; ISO 6858:2017; ISO 461-1 and ISO461-2

ALTERNATOR

Power	90 kVA
Cos phi	0,8
Authorized overload	110% of rated load for 1 hour in a 6 hours period 300% of rated load for 20sec
Type	24 or 26 poles, single bearing, brushless, self-excited
Mechanical protection	IP 23
Insulation	Class H
Compliance with	Standard BS 2G 219 – EN2292 ISO 6858 MIL-STD-704F
Voltage regulation	Electronic: $\pm 1\%$ (With any power factor and speed variations between -5% and +30%)
Waveform distortion (THD)	1,4% at full load
Engine coupling	Direct

CONTROL PANEL

Fitting	On the rear side
Protection	IP 54
Electronic device	Programmable electronic device with backlight digital display. All measures are shown by scrolling pages through built-in buttons. Any alarm latched is displayed with description text.
Measure	Engine: oil pressure, water temperature, fuel level, speed, battery voltage, hour counter, alternator battery charger. 400Hz output: voltage, frequency, current, power kVA-kVAR-kW, Cosphi (measures phase to phase AND phase to neutral). 28Vdc output: voltage, current
Protections: alarms control and automatic shutdown	Pre-configured and editable (through built-in buttons or software) thresholds, each one with its activation delay time: Engine: low oil pressure, high water temperature, low fuel level, overspeed, underspeed, alternator battery charger failure. 400Hz output: over/under voltage, over/under frequency, overload, short circuit, phase sequence 28Vdc output: over/under voltage, overcurrent (maximum power) with switch
User switches/buttons	Power supply ON-OFF. START / STOP buttons Min/Max engine speed. Power output activation/deactivation (for each output line) Power output activation forced (permanent output activation, also without feedback from aircraft - plug pins E-F). Alarm acknowledge and reset. Flashing light ON/OFF

WINTER KIT (ON REQUEST)

Engine	Engine water preheating, supplied by 230V, 50Hz external power supply (during storage inside hangars) Engine air preheating, powered at 24V (during storage inside hangars), Fuel filter heater
Battery heaters	Battery heater, supplied by 230V, 50Hz external power supply (during storage inside hangars)

TECHNICAL DOCUMENTS

Engine	Operation and maintenance technical manual
Alternator	Operation and maintenance technical manual
Control panel	Wiring diagram Printed label fixed on rear side (under the control panel) for a quick start & use of GPU
GPU	Operation and maintenance manual



GROUND POWER UNITS

HIGH QUALITY AIRPORT TECHNOLOGIES

GPU 120 kVA · 400Hz

Power	120 kVA
Voltage	115/200Vac
Voltage regulation	± 1 %
Power Factor	0,8
Frequency	400Hz
Output 115/200Vac 400Hz	N°1
Output 28,5Vdc	Optional

ENGINES

FPT (IVECO)

Stage 0 20F/120TNE@2000 rpm 18F/120TNE @1846 rpm
 Stage III 18F/120TE @1846 rpm
 Stage V 20F/120TEV@2000 rpm 18F/120TEV @1846 rpm

CUMMINS

Stage III 20C/120TE @2000 rpm 18C/120TE @1846 rpm
 Stage V 20C/120TEV @2000 rpm 18C/120TE V@1846 rpm

DEUTZ

Stage 0 20D/120TNE @ 2000 rpm 18D/120TNE @ 1846 rpm
 Stage V 20D/120TEV @2000 rpm 18D/120TE V@1846 rpm



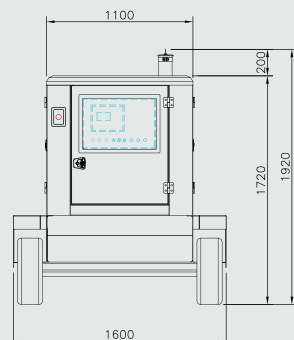
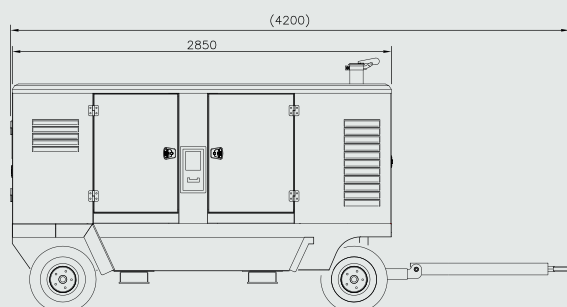
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ENGINE

FPT (IVECO)	N45TM - Stage 0 N45TE - Stage III F36ETV - Stage V
Cummins	QSB 6.7 - Stage III B4.5 - Stage V
Deutz	BF4M - Stage 0 TCD6.1- Stage V
Type	4 stroke, 4 cylinder, turbo with intercooler
Fuel	Diesel
Speed	2000 or 1846 rpm - electronic governor
Cooling	Water cooling with radiator and blower fan
Starting	Electric starting 24Vdc Batteries 2x12Vdc - 100Ah
Sensors	Oil pressure, Water temperature, fuel level, alternator battery charger

AC OUTPUT

N° of outputs	1 (90kVA / 120kVA)
Connection	3 phase 4 wire
Voltage	115/200Vac
Frequency	400 Hz
Cables	4x1x50(mm ²)+4x1, twisted, tinned, extra flexible, length 10 meters
Plug	6 poles, standard rubber type

DC OUTPUT (ON REQUEST)

N° of outputs	1
Components	Power transformer + rectification circuit "Line drop compensation" electronic device
Voltage	28,5 Vdc
Power output	800A continuous -1200A 90 sec -2400A max 15 sec
Cables	2x120(mm ²), tinned, extra flexible, length 10 meters
Plug	3 poles, standard rubber type

CONFIGURATION

Chassis	Structural steel base equipped with vibration dampers, lifting facilities fitted.
Trailer	Strong frame in welded steel sections; two axle trailer with steerable front wheels, fix drawbar. Parking brake automatically operated when the draw bar is in vertical position. Cable storage compartment on both sides of GPU with easy access and appropriate size to cable length.
Canopy	Weatherproof. Anticorrosive treatment. RAL 9010 (other colour on request) Large doors for inspection and maintenance Yellow flashing light on top Size signallers. Adjustable service light. Control panel lighting. Interior lighting for maintenance. Sound level 75 dB(A) @ 7m. Fire extinguisher
Fuel tank	Built in the base frame, about 220 litres capacity with cap
Exhaust silencer	Industrial type

Max dimensions (mm): L3500 x W1800 x H1800.

Max weight (kg): 2500 approx.

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Specifications ref.: IATA AHM N0s: 904, 905, 910, 913, 915, 972;
SAE ARP 5015; ISO 6858:2017; ISO 461-1 and ISO461-2

ALTERNATOR

Power	125 kVA
Cos phi	0,8
Authorized overload	110% of rated load for 1 hour in a 6 hours period 300% of rated load for 20sec
Type	24 or 26 poles, single bearing, brushless, self-excited
Mechanical protection	IP 23
Insulation	Class H
Compliance with	Standard BS 2G 219 – EN2292 ISO 6858 MIL-STD-704F
Voltage regulation	Electronic: $\pm 1\%$ (With any power factor and speed variations between -5% and +30%)
Waveform distortion (THD)	1,4% at full load
Engine coupling	Direct

CONTROL PANEL

Fitting	On the rear side
Protection	IP 54
Electronic device	Programmable electronic device with backlight digital display. All measures are shown by scrolling pages through built-in buttons. Any alarm latched is displayed with description text.
Measure	Engine: oil pressure, water temperature, fuel level, speed, battery voltage, hour counter, alternator battery charger. 400Hz output: voltage, frequency, current, power kVA-kVAR-kW, Cosphi (measures phase to phase AND phase to neutral). 28Vdc output: voltage, current
Protections: alarms control and automatic shutdown	Pre-configured and editable (through built-in buttons or software) thresholds, each one with its activation delay time: Engine: low oil pressure, high water temperature, low fuel level, overspeed, underspeed, alternator battery charger failure. 400Hz output: over/under voltage, over/under frequency, overload, short circuit, phase sequence 28Vdc output: over/under voltage, overcurrent (maximum power) with switch
User switches/buttons	Power supply ON-OFF. START/STOP buttons Min/Max engine speed. Power output activation/deactivation (for each output line) Power output activation forced (permanent output activation, also without feedback from aircraft - plug pins E-F). Alarm acknowledge and reset. Flashing light ON/OFF

WINTER KIT (ON REQUEST)

Engine	Engine water preheating, supplied by 230V, 50Hz external power supply (during storage inside hangars) Engine air preheating, powered at 24V (during storage inside hangars)
Battery heaters	Battery heater, supplied by 230V, 50Hz external power supply (during storage inside hangars)

TECHNICAL DOCUMENTS

Engine	Operation and maintenance technical manual
Alternator	Operation and maintenance technical manual
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GPU	Operation and maintenance manual



GROUND POWER UNITS

HIGH QUALITY AIRPORT TECHNOLOGIES

GPU 140 kVA · 400Hz

Power	140 kVA
Voltage	115/200Vac
Voltage regulation	± 1%
Power Factor	0,8
Frequency	400Hz
Output 115/200Vac 400Hz	N°2 (70kVA)
Output 28,5Vdc	Optional

ENGINES

FPT (IVECO)

Stage 0	18F/140TNE @1846 rpm
Stage III	18F/140TE @1846 rpm
Stage V	18F/140TEV @1846 rpm

CUMMINS

Stage III	18C/140TE @1846 rpm
Stage V	18C/140TE V@1846 rpm

DEUTZ

Stage 0	18D/140TNE @1846 rpm
Stage V	18D/140TE V@1846 rpm



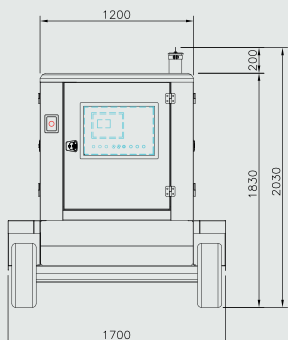
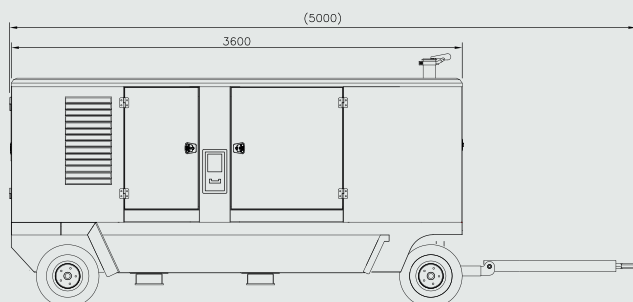
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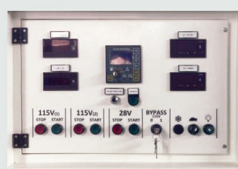
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ENGINE

FPT (IVECO)	N67SM - Stage 0 N67TE - Stage III N67TEV - Stage V
Cummins	QSB 6.7 - Stage III B6.7 - Stage V
Deutz	BF6M - Stage 0 TCD6.1 - Stage V
Type	4 stroke, 6 cylinder, turbo with intercooler
Fuel	Diesel
Speed	1846 rpm - electronic governor
Cooling	Water cooling with radiator and blower fan
Starting	Electric starting 24Vdc Batteries 2x12Vdc - 100Ah
Sensors	Oil pressure, Water temperature, fuel level, alternator battery charger

AC OUTPUT

N° of outputs	2 (90kVA each)
Connection	3 phase 4 wire
Voltage	115/200Vac
Frequency	400 Hz
Cables	4x1x50(mm ²)+4x1, twisted, tinned, extra flexible, length 10 meters
Plug	6 poles, standard rubber type

DC OUTPUT (ON REQUEST)

N° of outputs	1
Components	Power transformer + rectification circuit "Line drop compensation" electronic device
Voltage	28,5 Vdc
Power output	800A continuous -1200A 90 sec -2400A max 15 sec
Cables	2x120(mm ²), tinned, extra flexible, length 10 meters
Plug	3 poles, standard rubber type

CONFIGURATION

Chassis	Structural steel base equipped with vibration dampers, lifting facilities fitted.
Trailer	Strong frame in welded steel sections; two axle trailer with steerable front wheels, fix drawbar. Parking brake automatically operated when the draw bar is in vertical position. Cable storage compartment on both sides of GPU with easy access and appropriate size to cable length.
Canopy	Weatherproof. Anticorrosive treatment. RAL 9010 (other colour on request) Large doors for inspection and maintenance Yellow flashing light on top Size signallers. Adjustable service light. Control panel lighting. Interior lighting for maintenance. Sound level 75 dB(A) @ 7m. Fire extinguisher
Fuel tank	Built in the base frame, about 220 litres capacity with cap
Exhaust silencer	Industrial type

Max dimensions (mm): L3800 x W1900 x H1800.

Max weight (kg): 2800 approx.

Please contact our technical dept. after the order for definitive dimensions and weight

Specifications ref.: IATA AHM N0s: 904, 905, 910, 913, 915, 972;
SAE ARP 5015; ISO 6858:2017; ISO 461-1 and ISO461-2

ALTERNATOR

Power	150 kVA
Cos phi	0,8
Authorized overload	110% of rated load for 1 hour in a 6 hours period 300% of rated load for 20sec
Type	26 poles, single bearing, brushless, self-excited
Mechanical protection	IP 23
Insulation	Class H
Compliance with	Standard BS 2G 219 – EN2292 ISO 6858 MIL-STD-704F
Voltage regulation	Electronic: $\pm 1\%$ (With any power factor and speed variations between -5% and +30%)
Waveform distortion (THD)	1,4% at full load
Engine coupling	Direct

CONTROL PANEL

Fitting	On the rear side
Protection	IP 54
Electronic device	Programmable electronic device with backlight digital display. All measures are shown by scrolling pages through built-in buttons. Any alarm latched is displayed with description text.
Measure	Engine: oil pressure, water temperature, fuel level, speed, battery voltage, hour counter, alternator battery charger. 400Hz output: voltage, frequency, current, power kVA-kVAR-kW, Cosphi (measures phase to phase AND phase to neutral). 28Vdc output: voltage, current
Protections: alarms control and automatic shutdown	Pre-configured and editable (through built-in buttons or software) thresholds, each one with its activation delay time: Engine: low oil pressure, high water temperature, low fuel level, overspeed, underspeed, alternator battery charger failure. 400Hz output: over/under voltage, over/under frequency, overload, short circuit, phase sequence 28Vdc output: over/under voltage, overcurrent (maximum power) with switch
User switches/buttons	Power supply ON-OFF. START/STOP buttons Min/Max engine speed. Power output activation/deactivation (for each output line) Power output activation forced (permanent output activation, also without feedback from aircraft - plug pins E-F). Alarm acknowledge and reset. Flashing light ON/OFF

WINTER KIT (ON REQUEST)

Engine	Engine water preheating, supplied by 230V, 50Hz external power supply (during storage inside hangars) Engine air preheating, powered at 24V (during storage inside hangars)
Battery heaters	Battery heater, supplied by 230V, 50Hz external power supply (during storage inside hangars)

TECHNICAL DOCUMENTS

Engine	Operation and maintenance technical manual
Alternator	Operation and maintenance technical manual
Control panel	Wiring diagram Printed label fixed on rear side (under the control panel) for a quick start & use of GPU
GPU	Operation and maintenance manual



GROUND POWER UNITS

HIGH QUALITY AIRPORT TECHNOLOGIES

GPU 180 kVA · 400Hz

Power	180 kVA
Voltage	115/200Vac
Voltage regulation	± 1 %
Power Factor	0,8
Frequency	400Hz
Output 115/200Vac 400Hz	N°2 (90kVA)
Output 28,5Vdc	Optional

ENGINES

FPT (IVECO)

Stage 0	18F/180TNE@1846 rpm
Stage III	18F/180TE@1846 rpm
Stage V	18F/180TEV@1846 rpm

CUMMINS

Stage III	18C/180TE@1846 rpm
Stage V	18C/180TEV@1846 rpm

DEUTZ

Stage 0	18D/180T@1846 rpm
Stage III	18D/180TE@1846 rpm
Stage V	18D/180TEV@1846 rpm



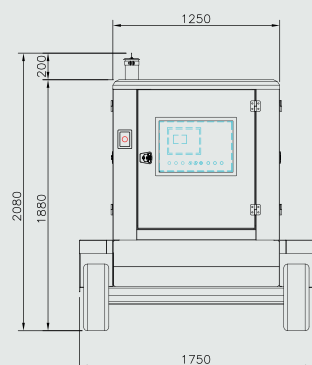
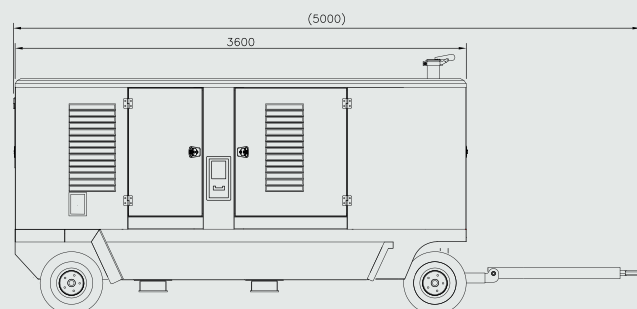
HIGH
TECHNOLOGY



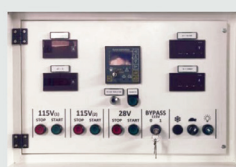
CERTIFIED
QUALITY



USER FRIENDLY
CONTROLS



Dimensions are shown in mm



Pictures may not show the actual product due to presence or absence of items



Bertoli provides robust, easy to use and maintain **400Hz diesel ground power units from 60 to 180kVA**. All models feature a user-friendly electronic device for the GPU management through which operators are able to control engine dynamics (low/rated speed, etc.) and energize the desired output(s).

Sound-and weatherproof canopies and trailers are designed and manufactured in-house.

Special care is devoted to quality of materials and processing. Product look sober and are an optimal matching of essentiality and maximum functionality, conceived to facilitate end users in operating the machine and get the best out of their technical mechanical potential.



ENGINE

FPT (IVECO)	N67TM - Stage 0 N67TE - Stage III N67TEV- Stage V
Cummins	QSB 6.7 - Stage III QSB6.7 – Stage V
Deutz	BF6M - Stage 0 TCD 2013 – Stage III TCD7.8 - Stage V
Type	4 stroke, 6 cylinder, turbo with intercooler
Fuel	Diesel
Speed	1846 rpm - electronic governor
Cooling	Water cooling with radiator and blower fan
Starting	Electric starting 24Vdc Batteries 2x12Vdc - 140Ah
Sensors	Oil pressure, Water temperature, fuel level, alternator battery charger

AC OUTPUT

N° of outputs	2 (90kVA each)
Connection	3 phase 4 wire
Voltage	115/200Vac
Frequency	400 Hz
Cables	4x1x70(mm ²)+4x1, twisted, tinned, extra flexible, length 12 meters
Plug	6 poles, standard rubber type

DC OUTPUT (ON REQUEST)

N° of outputs	1
Components	Power transformer + rectification circuit "Line drop compensation" electronic device
Voltage	28,5 Vdc
Power output	800A continuous -1200A 90 sec -2400A max 15 sec
Cables	2x120(mm ²), tinned, extra flexible, length 12 meters
Plug	3 poles, standard rubber type

CONFIGURATION

Chassis	Structural steel base equipped with vibration dampers, lifting facilities fitted.
Trailer	Strong frame in welded steel sections; two axle trailer with steerable front wheels, fix drawbar. Parking brake automatically operated when the draw bar is in vertical position. Cable storage compartment on both sides of GPU with easy access and appropriate size to cable length.
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Max weight (kg): 2800 approx.
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Specifications ref.: IATA AHM N0s: 904, 905, 910, 913, 915, 972;
 SAE ARP 5015; ISO 6858:2017; ISO 461-1 and ISO461-2

ALTERNATOR

Power	180 kVA
Cos phi	0,8
Authorized overload	110% of rated load for 1 hour in a 6 hours period 300% of rated load for 20sec
Type	26 poles, single bearing, brushless, self-excited
Mechanical protection	IP 23
Insulation	Class H
Compliance with	Standard BS 2G 219 – EN2292 ISO 6858 MIL-STD-704F
Voltage regulation	Electronic: ± 1% (With any power factor and speed variations between -5% and +30%)
Waveform distortion (THD)	1,4% at full load
Engine coupling	Direct

CONTROL PANEL

Fitting	On the rear side
Protection	IP 54
Electronic device	Programmable electronic device with backlight digital display. All measures are shown by scrolling pages through built-in buttons. Any alarm latched is displayed with description text.
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GPU	Operation and maintenance manual