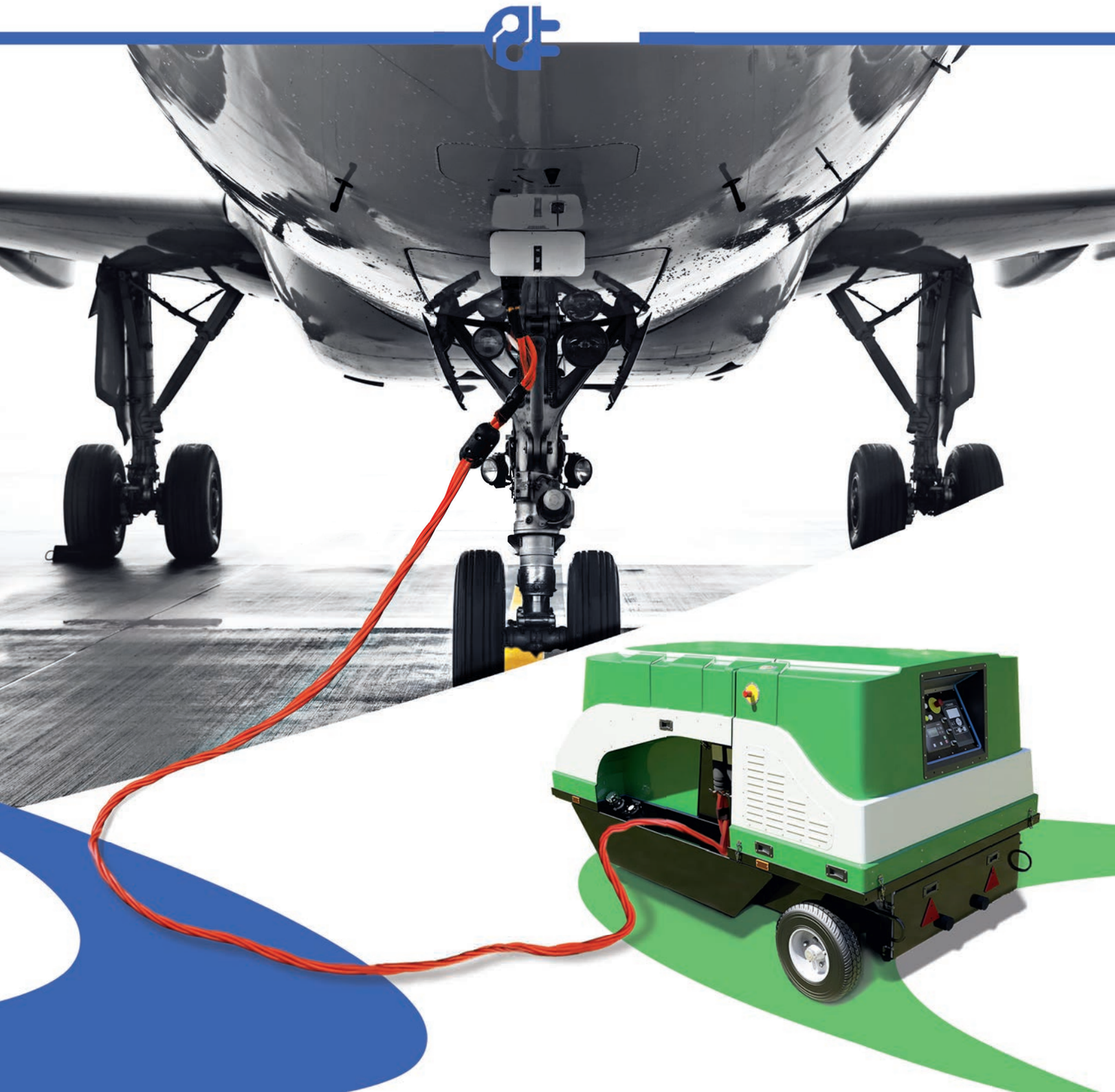
ElectroAir
QUALITY AND INNOVATION

GROUND POWER

ONE-STOP SOLUTION

You are well connected!



Recognized in the top 10 companies by Estonian government

Product innovation of the year GO GLOBAL AWARDS 2022

ELECTROAIR

We are a **specialized manufacturer of ground power units** for aviation.

We carry out all phases of the production process from planning and design through to execution.

We offer a **complete one-stop solution** that includes stand-alone, mobile, hybrid, battery powered, diesel-engine driven, and under-ramp GPUs (frequency converters, rectifiers and combined units) as well as PIT systems, cable extenders, control and testing equipment, charger-dischargers and load banks.

Our customers are airports, ground handlers, airlines and maintenance and repair organizations that care about quality, the environment and operational efficiency.

> “A satisfied client is our motto”
>
> Aleksei Snitsarenko, CEO

And many more...

“The usage of green solutions by ElectroAir has reduced CO2 emissions in the atmosphere by up to 200 000 tons in 2022

500+ CLIENTS in 100+ COUNTRIES

- **We know what we are doing.** As a company specialized in the design, development and manufacturing of ground power units, we have an in-depth knowledge of this field.
- We have the capacity to **cover all your needs** in a one-stop solution and the flexibility to offer you **a truly personal approach**. Our employees are responsible people who are there for you.
- **We care for nature and the Planet.** We continuously develop and innovate to ensure you are provided with quality **equipment you can trust**.
- **We keep developing.** For the future, by partnering up with us, you can be sure that your needs are covered with **state-of-the-art technology and industry know-how**.

FREQUENCY CONVERTERS

EAC SERIES

The frequency converters of our EAC series are developed for the ground servicing of all aircraft types with a frequency from 400 Hz up to 1000 kVA.

EAC series converters assist with the fast, reliable and safe launch of aircraft engines. They provide an uninterrupted power supply when the aircraft is on the ground, reducing the amount of exhaust fumes and noise level within the airport area. They are fully compliant with the required parameters and can be used as solid-state, mobile towable or under-ramp with cable coil. A new lightweight compact design of the unit is now available.

115/200V Voltage

- Absolute voltage quality — ISO 6858
- Max. phase unbalance is less than 2 V
- Automatic voltage drop compensation
- on the cable (up to 200 m)
- Phase angle 120° ± 2.5 %

Protocol

- SCADA
- MODBUS
- TCP / IP
- RS485
- Others

Temperature and humidity

- Standard (-20°C to +40°C)
- Tropical (-10°C to +75°C)
- Nordic (-50°C to +40°C)
- Alpine (up to 5000 m)
- Relative humidity up to 100 %

Adjustment

- Any power rate according to client needs
- Up to 4 output channels
- Simultaneous work of output channels

400Hz Frequency

- Very stable frequency 400 Hz ± 0.01
- Possibility to regulate from 360 Hz to 420 Hz

15 min Modularity

- Modular system — easy to replace
- Estimated time to repair is less than 15 min

General

- Humidity: 10 – 100 %
- Noise level: < 65 dB(A)@ 1 m
- Warranty: 24 months
- Execution: solid state, mobile
- Protection class: IP 55
- Dimensions: depends on execution
- Country of origin: Estonia

Input parameters

- Input voltage, V: 3x400 ± 10% , N, PE
- Input frequency, Hz: 50/60
- Inrush current: soft start

Control panel (customizable)

- Voltage, current, frequency, errors and fault messages, regulation buttons, power indicator, emergency stop

Protection (as per ISO 6858 and MIL-STD-704F)

- Over / under voltage at input/output
- Overload
- Over / under frequency
- Overheating
- Short circuit at input/output
- Control voltage error
- Leakage current supervision
- No break power transfer

Optional

- Anti-condensation heating: with thermostat
- Remote control: control panel, regulation buttons, power lamp, emergency stop
- Additional outputs: 1-phase, 3-phase
- Input voltage, V: 3 x 220 / 3 x 440 / 3 x 460 / 3 x 480 / other
- User interfaces: RS485 TCP/IP; Modbus; Others
- Measuring devices type: analog or digital
- Monitoring of energy consumption
- Beacon light
- Audio signalization
- Control panel lighting
- EUR1 Certificate
- RFID access system
- Climatic execution
- Remote control from any place
- Power consumption record and monitoring
- Issue energy bills
- Access group and level management

Output parameters

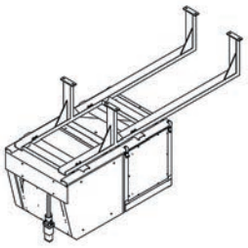
- Number of outputs: up to 4
- Rated output power, kVA: 1–1000
- Rated output voltage, VAC: as per client requirements
- Range of load changes, %: 0–100
- Total harmonic distortion, not worse, %: 2
- Output frequency, Hz: 400 ± 0.01
- Coefficient of efficiency, %: 97
- Coefficient of amplitude modulation of the output voltage, %, not more: 1,5
- Line drop compensation: automatic
- Interlock: ON/OFF switch, civil/military switch
- Output cable length: up to 200 m
- Overload: 600 sec — 125 %; 60 sec — 150 %; 30 sec — 200 %; 10 sec — 300 %; 1 sec — 400 %
- Error log storage: up to 500 events
- Range of voltage regulation, V: ± 10 %
- Range of frequency regulation, Hz: 360–420

Documentation

- User + Service Manual
- Spare Parts Catalogue
- Passport
- Warranty Certificate

UNDER BRIDGE UNIT SET

EAC-PBB SERIES



The EAC-PBB series units are meant to be installed under the passenger boarding bridge. The unit is neatly fitted under the bridge and the remote-control panel is installed in a location convenient for the operator. The under-bridge unit is usually supported with the power cable coil which is fully automated. The coil block is detachable, which makes it possible to customize the unit set location and arrangement. Moreover, the fully autonomous power cable coil is an aesthetic solution for any other installation, where neat cable management is required for implementation.

Capacity

- Up to 30 m cable length

400 Hz Frequency

- Very stable frequency 400 Hz ± 0.01
- Possibility to regulate from 360 Hz to 420 Hz

Protocol

- SCADA
- MODBUS
- TCP / IP
- RS485 / 232
- Others

115/200 V Voltage

- Absolute voltage quality — ISO 6858
- Max. phase unbalance is less than 2 V
- Automatic voltage drop compensation on the cable
- Phase angle 120° ± 2.5 %

Temperature and humidity

- Standard (-20°C to +40°C)
- Tropical (-10°C to +75°C)
- Nordic (-50°C to +40°C)
- Alpine (up to 5000 m)
- Relative humidity up to 100 %

GPU control panel

- Emergency STOP
- Input power indicator
- IN/OUT for cable coiling controls
- Error indication and RESET
- Control from aircraft connector

General

- Humidity: 10–100 %
- Noise level: < 65 dB(A)@ 1 m
- Warranty: 24 months
- Execution: under PBB, wall mounted
- Protection class: IP 55
- Dimensions without frame, mm: 1610 x 1050 x 880
- Country of origin: Estonia

Input parameters

- Input voltage, V: 3 x 400 ± 10 %, N, PE/ 480
- Input frequency, Hz: 50/60 ± 5 %
- Inrush current: soft start

Remote control panel (customizable)

- Control buttons and indicators on aircraft connector (voltage, current, frequency, errors and fault messages), regulation buttons, lower case indicator, emergency stop

Protection (as per MIL-STD-704F and ISO 6858)

- Over/under voltage at input/output
- Overload
- Over/under frequency
- Overheating
- Short circuit at input/output
- Control voltage error
- Leakage current supervision
- No break power transfer

Optional

- Anti-condensation heating: with thermostat
- On-ground installation
- Input voltage V: 3 x 220 / 3 x 440 / 3 x 460 / 3 x 480 /other
- User interfaces: RS 485 / 232; TCP/IP; Modbus; Others
- Measuring devices type: analog or digital
- Monitoring of energy consumption
- Beacon light
- Audio signalization
- Control panel lighting
- EUR1 Certificate
- RFID access system
- Climatic execution

Documentation

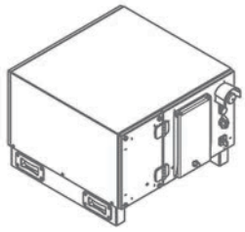
- User + Service Manual
- Spare Parts Catalogue
- Passport
- Warranty Certificate

Output parameters

- Number of outputs: 1
- Rated output power, kVA: up to 90
- Rated output voltage, VAC: 3 x 115/200
- Range of load changes, %: 0–100
- Total harmonic distortion, not worse, %: 2
- Output frequency, Hz: 400 ± 0.001
- Power factor: 0,7 lagging to 0,95 leading
- Coefficient of efficiency, %: 97
- Coefficient of amplitude modulation of the output voltage, %, not more: 1.5
- Line drop compensation: automatic
- Interlock: ON/OFF switch
- Overload: 600 sec — 125 %; 60 sec — 150 %; 30 sec — 200 %; 10 sec — 300 %; 1 sec — 400 %
- Range of voltage regulation, V: ± 10 %
- Range of frequency regulation, Hz: 360–440
- Error log storage: up to 500 events

RECTIFIERS

EAR SERIES



The new Generation EAR series rectifiers are designed to power on-board electrical equipment and launch aircraft and helicopters with a voltage of 28.5 VDC and a rated current of up to 1500 A continuously upon request they can be manufactured with great source output parameters), with an overload of up to 2500 A.

The new Generation rectifiers are equipped with a MPCU microprocessor control plate intended for control functions, protection, and diagnosis. Rectifiers can also be equipped with an access system and energy consumption monitoring system.

20 A to 2000 A

- Rated current up to 2000 A with overloads up to 5000 A

28 V

- Very stable voltage
- Automatic voltage drop compensation on the cable (up to 50 m)

Eco Friendly

- No CO_2 emissions
- Maximum usage of recycle materials
- Extraordinary personnel safety features
- Easy to operate
- Noise level <65 dB(A) @1 m

15 min Modularity

- Modular system — easy to replace
- Estimated time to repair less than 15 min

Monitoring System

- Energy consumption monitoring system
- Power log and "black box" mode

2 DC ++

- Dual independent output channel option
- Ability to work on a "28 V/56 V" mode

General

- Climatic execution: –40°C to +55°C
- Humidity: 10–100 %
- Noise level: <65 dB(A)@lm
- Warranty: 24 months
- Protection class: IP 55
- Weight, kg (solid state): 60
- Dimensions, LxWxH, mm (solid state): 620 x 550 x 390
- Weight, kg (mobile): 130
- Dimensions, LxWxH, mm (mobile): 1261 x 870 x 1215
- Country of origin: Estonia

Input parameters

- Input voltage, V: 3 x 400, N, PE
- Input frequency, Hz: 50/60
- Inrush current: soft start

Control panel (customizable)

- Voltage,current,errors and faults, regulation buttons, lower case indicator, emergency stop buttons

Protection (as per MIL-STD-704F and ISO 6858)

- Overheating
- Over/Under voltage
- Overload
- Short circuit

Output parameters

- Number of outputs: 1–4
- Current (continuous), A: 20–1500
- Rated output voltage, V: 28,5
- Range of voltage regulation, V: 19–33
- Line drop compensation: automatic
- Interlock: ON/OFF function
- Error log storage: up to 500 events
- Peak current, A: up to 2500 A

Documentation

- User + Service Manual
- Spare Parts Catalogue
- Passport
- Warranty Certificate

Optional

- Anti-condensation heater with thermostat
- Range of input voltages: 3 x 220/3 x 440/3 x 460 3 x 480/other
- 28/56 V output with commutation
- Custom input and output cable length
- Custom input and output plugs
- User interfaces
- Climatic execution
- EUR1 Certificate
- RFID access system
- Remote control
- Power consumption record and monitoring

COMBINED UNITS

EACR SERIES

Combined power supply units EACR series are intended to supply power to the on-board electrical equipment of aircrafts and helicopters during pre-flight preparation at airports, shop floors of aircraft industry enterprises and complex training simulators in aviation study-training centers.

These power supply units have two types of independent outputs: one with direct current of 28.5 V, and a second one with alternating current of 400 Hz. All channels can be independently regulated and used simultaneously. The voltage drop compensation system is made separately for each output. DC outputs can be operated both as two—channel with 28/56 VDC function and single—channel with 28.5 VDC.

CUSTOMIZABLE ACCORDING TO YOUR NEEDS:

- Trolley
- Cable length
- Colour
- Technical parameters

AC+DC

- Independent AC and DC outputs
- Possibility of simultaneous work of all channels

Ventilation cooling system

- Located on top
- Low noise fans
- Less time for maintenance

Special outputs

- Special 400 Hz 36 V output
- Ability to work on a 28 V/56 V mode
- 50/60 Hz sockets

General

- Climatic execution: –40°C to +55°C
- Humidity: 10–100 %
- Noise level: < 65 dB(A)@ 1m
- Warranty: 24 months
- Execution: solid state/mobile
- Protection class: IP 55
- Country of origin: Estonia

Input parameters

- Input voltages, V: 3x400 ± 10 % N, PE
- Input frequency, Hz: 50/60 ± 5 %
- Inrush current: soft start
- Input plug, A: up to 400

Control panel (customizable)

- Luminescent display (channel voltage, current, frequency, errors and fault messages), regulation buttons, lower case indicator, emergency stop

Protection (as per MIL-STD-704F and ISO 6858)

- Over/under voltage at output
- Overload
- Over/under frequency
- Over temperature
- Short circuit at input/output
- Control voltage error
- Leakage current supervision
- No break power transfer

Optional

- Anti-condensation heating
- 28/56V output mode
- Range of input voltages: 3 x 220 / 3 x 440 / 3 x 460 3 x 480 / other
- Remote control: dublicates the main control panel
- Additional output: 220 V, 16 A (1Ph + N + PE) + 400 V 3 ph up to 125 A (3 Ph + N + PE)
- User interfaces: RS 485; TCP/IP; Modbus; Others
- Measuring devices type: analog or digital
- Monitoring of energy consumption
- Beacon light
- Voice signalization
- Control panel backlight
- Climatic execution

Output parameters

- Number of outputs: up to 5
- Power factor: > 0.8 at 100 % load
- Coefficient of efficiency, %: 97
- Line drop compensation: automatic
- Logging faults: up to 500 events
- Interlock: ON/OFF switch, military/civil switch

AC Output parameters

- Total output power, kVA: Up to 180
- Rated output voltage, VAC: 115/200 ± 2
- Range of load changes, %: 0–100
- Range of voltage regulation, V: 104–120
- Range of frequency regulation, Hz: 360–420
- Total harmonic distortion, not worse, %: 2
- Output frequency, Hz: 400 ± 0.01
- Coefficient of amplitude modulation of the output voltage, %, not more: 1.5
- Overload rating: 600 sec — 125 %; 60 sec — 150 %; 30 sec — 200 %; 10 sec — 300 %; 1 sec — 400 %

DC Output parameters

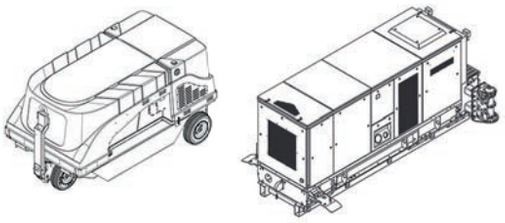
- Current (continuous) of each output, A Rated: 100, 400, 600, 800, 1200, 1500
- Rated output voltage, VDC: 28,5
- Output voltage stabilization accuracy, VDC: 0,5
- Range of voltage regulation, V: 19–33
- Output voltage ripple factor, %: maximum 2
- Overload rating: up to 2500 A

Documentation

- User + Service Manual
- Spare Parts Catalogue
- Passport and Warranty Certificate

HYBRID-DIESEL GPU

APA SERIES



The APA series Hybrid-Diesel engine driven GPU is designed to reduce CO_2 emissions with its unique technical characteristics. The unit also provides an additional standard voltage output at 50/60 Hz. The APA is capable of operating from a 50 Hz, 400V, 3 phase main power supply grid like any electrical GPU without the fuel consumption. These features allow it to perform the complete serving of aircrafts at remote parking places and operating bases, as well as the use of APA series GPUs inside aircraft hangars without emissions. The wide range of different APA configurations allows the customer to find the most suitable one for their needs.

Prime power

- Possibility to work with 50/60 Hz 3ph 400 V mains power

Monitoring system

- Remote controls and monitoring of parame-ters of GPU
- GPS positioning

Eco Friendly

- Low CO_2 emissions
- Low noise
- Tier 3, 4, 5

Special outputs

- Optional 50/60 Hz output up to 125 A

Execution

- Solid state
- Mobile
- On truck

Overload and continuous work

- Up to 12 hours of continuous work with rated power

Functions

- Turntable / 5-th wheel
- Brakes at towbar upright position
- Anti-tow feature

Fuel

- Diesel
- Jet fuel

General

- Climatic execution: –40°C to +55°C
- Humidity: 10–100%
- Casing material: composite material, galvanized steel
- Forklift pockets: yes
- Lighting: during operation
- Warranty: 24 months
- Parking brakes: with towbar upright position
- Protection class: IP 55
- Interlock: ON/OFF switch, military/civil switch
- Overloads depend on the configuration

Engine parameters

- Engine: Perkins/Deutz/Cummins
- Engine starter: electric
- Engine speed, rpm: 1500–2400
- Fuel tank capacity: up to 12 h of operation
- Engine electric circuit: 12/24 V
- Compatible fuel type: Diesel
- Optional fuel types: kerosene based jet fuels (JP-5, JP-8, Jet A-1, NATO F-34, HVO, etc.)

Protection

- Overheat
- Over/Under voltage
- Overload
- Over/Under frequency
- Short circuit
- Engine overheat
- Engine over speed
- Emergency stop
- Low oil pressure
- Low fuel

Optional

- 28/56 V output mode with commutation
- 36 VAC 400 Hz output
- 270 VDC 72 kW output
- Basic OVM tool kit
- Additional output: 50/60 Hz up to 125 A
- Monitoring of energy consumption
- Beacon light
- Audio signalization
- Prime Power from external source: 3 x 400 V, 50/60 Hz
- Set of spare parts
- GPS positioning
- Climatic execution

AC Output parameters

- Total output power, kVA: 45, 60, 90, 120, 140, 180
- Rated output voltage, VAC: 115/200 ± 2
- Range of load changes, %: 0–100
- Range of voltage regulation, V: 104–120
- Range of frequency regulation, Hz: 360–420
- Total harmonic distortion, not worse, %: 2
- Output frequency, Hz: 400 ± 0,001
- Coefficient of amplitude modulation of the output voltage, %, not more: 1,5
- Error log storage: up to 500 events

DC Output parameters (optional)

- Current (continuous) of each output, A Rated: 100, 400, 600, 800.
- Rated output voltage, VDC: 28.5
- Range of voltage regulation, V: 19–33
- Output voltage ripple factor, %: max 2
- Peak current, A: up to 2500 A

Documentation

- User + Service Manual
- Engine Spare Parts Catalogue
- Passport
- Warranty Certificate

Control panel

- Output voltage, current, frequency, operational parameters and status, error indicator, start/stop
- Emergency stop buttons
- Low fuel indicator, engine parameters

AERODROME MOBILE ELECTRICAL UNITS

APA-ESERIES

HYBRID RECTIFIER UNIT

APA-10 SERIES

This is an exceptionally small Hybrid Diesel 28 VDC GPU APA-10 for business jets and helicopters. APA-10 is especially designed to operate on diesel and Jet fuel. It is an excellent solution for providing 28,5 V for helicopter facilities, business jets, and aviation training centers. The APA-10 is a hybrid GPU equipped with diesel engine for continuous power and batteries for engine starting mode. Lightweight and maneuverable, the unit is perfect for indoor and outdoor use. Its relatively small size and extreme agility allow bringing the rectifier to any desired position. The elegant casing is made out of composite material, providing it long life and comfort to the user. The intuitive interface is user-friendly, making the GPU easy to control. Equipped with a highly durable chassis and mechanical braking system, this GPU is well prepared for heavy-duty and harsh conditions.

The Ultra Green Power Solution Battery and Diesel engine driven GPU series APA is designed to reduce CO_2 emissions with its unique technical characteristics.

Hybrid

- Diesel and battery

Eco Friendly

- Low CO_2 emissions
- Low noise

Economic

- Very economic fuel consumption: 3 liters per 1 hour

General

- Climatic execution: –40 °C to +55°C
- Humidity: 10–100%
- Casing color: white
- Noise level: according to international standards
- Casing material: composite material
- Forklift pockets: yes
- Lighting: during operation
- Warranty: 24 months
- Parking brakes: with towbar upright position
- Protection class: IP 55
- Weight, kg: <600
- Dimensions, LxWxH, mm: 1600 x 1000 x 1200

Engine parameters

- Power, kW: 13
- Engine: Kubota, 2 stroke, electrical starter
- Engine speed, rpm: 3000
- Fuel consumption, l/h: 3
- Fuel tank capacity, l: 35
- Engine electric circuit: 12 V
- Speed governor: mechanical
- Compatible fuel types: Diesel
- Optional: kerosene based jet fuels
  (JP-5, JP-8 Jet A-1, Jet A ASTM D1655, NATO F-34, etc.)

Protection

- Overheat
- Over/Under voltage
- Overload
- Short circuit
- Engine overheat
- Engine over speed
- Emergency stop

Output parameters

- DC outputs: 1
- Rated output voltage, V: 28,5
- Rated output current, A: 300
- Peak current, A: 2000
- Line drop compensation
- 220 V 50/60 Hz 16 A output socket
- Error log storage: up to 100 events

Control panel

- Output voltage, current, error indicator, start/stop, engine parameters, low fuel, emergency stop buttons

Documentation

- User + Service Manual
- Engine Spare Parts Catalogue
- Passport and Warranty Certificate

Integrated batteries for hybrid mode

- Nominal capacity, Ah: 230
- Cable and plug for battery charging
- External power sourcing: 220 V, 50/60 Hz

Optional

- Set of spare parts
- Basic OVM tool kit

For helicopters and business jets

Solutions today take care of the future

BATTERY DRIVEN GPU

APA-ECO SERIES

The Battery driven green GPU APA-ECO series is designed to eliminate CO_2 emissions with its unique technical characteristics. It can perform the complete service of aircraft at remote parking places with battery power, as well as the use of it indoors with zero emissions.

This unit is also capable to operate from the 50/60 Hz, 400 V, 3 phase main power supply grid as any electrical GPU, without fuel consumption and with zero operating emissions.

The range of different APA configurations with no emissions allow safer, cleaner and more practical operational conditions for operators and personnel on — site.

Battery

- Up to 320 kW/h
- Recharge from any socket
- Ultra fast charging

Eco Friendly

- No CO_2 emission
- No noise
- Intuitive display

Frequency

- Very stable frequency 400 Hz +/- 0,001
- As per ISO 6858

28 V

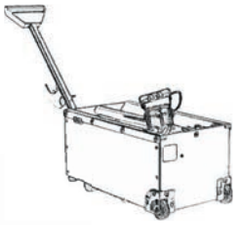
- Very stable voltage
- Peak current up to 2500 A

Simultaneous process

- Can provide power and recharge simultaneously

PORTABLE QUICK STARTER

EAQS SERIES



The portable quick starter EAQS series is designed to deliver high amperage for starting pistons and turbine engines. It is capable of producing an output either 2100 A or 2x2100 A in portable and lightweight package, that stays maintenance free throughout its lifespan.

Technical specification

- Battery type: Li — ion, Lead Acid, dry — cell
- Peak current: 2100 A or 2 x 2100 A
- Voltage: 24; 28,5 VDC
- Capacity: 32 Ah
- Charger: 50 Hz, 1 ph, 110 V/220 V (switchable)
- Temperature: –20°C to +50°C
- Material: Aluminum
- Country of origin: Estonia

Features

- High performance
- Cold start
- Light weight, easily carried onboard aircraft
- Stackable due to unique design
- In — built wheels
- Weather protected
- Non — hazardous, pure lead, dry cell technology
- No memory effects

Eco Friendly

- No CO_2 emission

Battery capacity

- Capacity up to 6 starts

PIT SYSTEMS

HATCH EAPIT

Underground hatch PIT systems are counterweight systems which are designed to provide service points next to aircraft and helicopters during pre-flight preparation at airports, shop floors of aircraft industry enterprises or hangars or apron such as power supply, PCA, water, and compressed air.

The EAPIT can be equipped with a remote control and manhole. There are distribution boxes of 400 Hz and 50/60 Hz in the underground concrete bunker. The EAPIT is preassembled to simplify its installation and connection as much as possible. There are plugs on the upper part of the hatch to supply the aircraft with a special current of either 400 Hz AC or 28.5 VDC.

It is strongly recommended to use ElectroAir GPUs with ElectroAir hatch PIT systems. By using them as a complete solution, it is possible to install GPUs far from the location of the PIT system. If needed, systems of compressed air and water (potable, blue, sewer) can also be built into the PIT system. In addition, ElectroAir provides PCA and PIT facility systems. The PCA PIT system is equipped with a PCA long — term hose.

Remote Control

- The hatch is equipped with remote control
- ON/OFF, regulations, emergency stop

Standards

- Certified to EN 124 F900 standard
- Certified to MH/T 6107-1024 F900

Multifunctional

- 400 Hz, 28.5 VDC, PCA, compressed air, water, fuel, sockets, tank ventilation

Counterweight system

- Opening: counterweight mechanical system

General

- Climatic execution: –40°C to +55°C
- Humidity: 10–100 %
- Hatch protection class: IP 55
- Electric boxes protection class: IP 67
- Warranty: 24 months
- Material of construction: steel S355
- Corrosion — resistant coating: hot galvanized
- Hatch gaps are sealed
- Anti-slip cover: aluminum plate
- Rising-up mechanism: counterweight
- Hatch lock: mechanical, fixating at the end positions
- Grounding: grounding bolts in accordance with EN 60445:2001
- Flashing light indicates the open position
- Distribution boxes: 50/60 Hz, 400 Hz, 28 VDC
- Load class: 90 t, in accordance with EN124 F900
- Country of origin: Estonia

Underground concrete bunker

- Top part load capacity: 90 t
- Reinforcement of top part should be welded to the frame of EAPIT
- Bunker ventilation: natural

Options

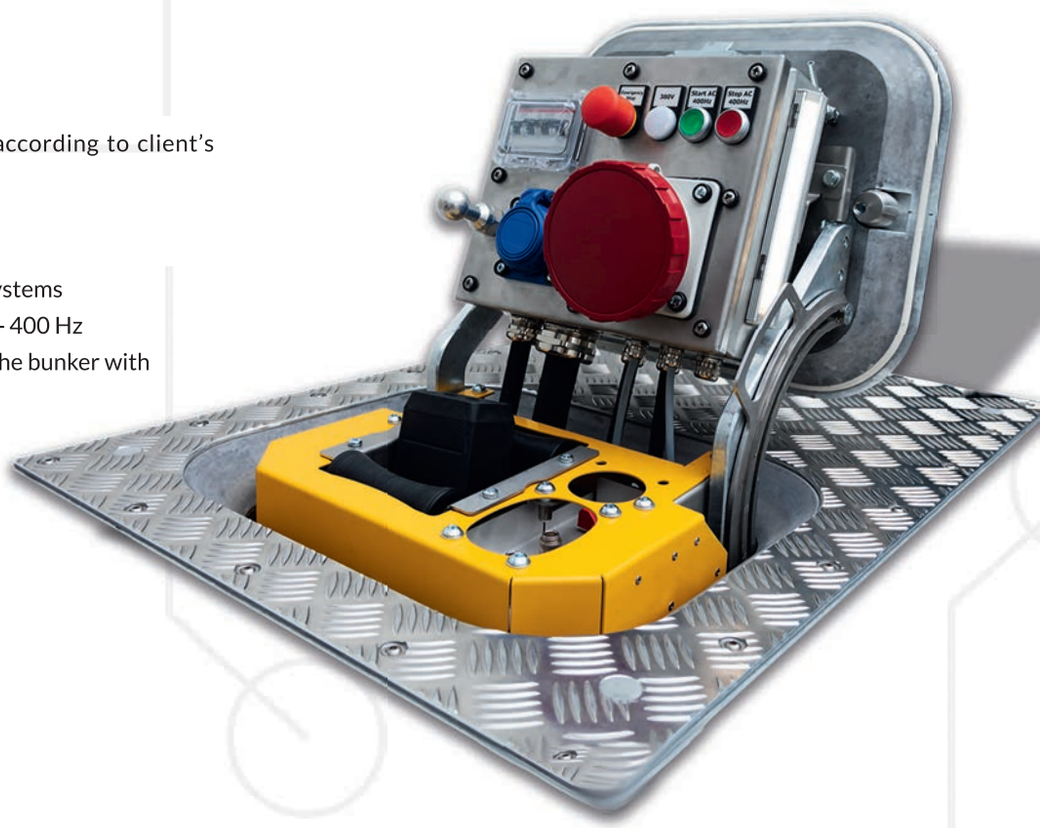
- Underground bunker heater
- Underground bunker light
- Hatch heater
- Explosion proof execution, ATEX
- Metal underground chamber
- Remote control option is possible according to client's request
- Possibility to place a GPU inside
- Grounding coiler
- Replacement of the old types of PIT systems
- Possibility to use in a closed position — 400 Hz
- Drain sump pump: installation inside the bunker with water level sensors
- Bottom grid for cables

Output parameters

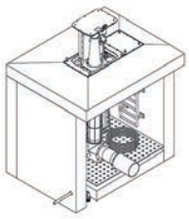
- Customized parameters accodrding to the project needs
- Sockets (up to): 2x3 ph 400 V 250 A; 2x3 ph 400 V 125 A; 2x3 ph 400 V 63 A; 2x3ph 400 V 32 A; 4x1 ph 230 V 16 A — customizable
- Output cables with aircraft plugs: up to 2 pcs, length–15 m, AC 400 Hz,90 kVA and/or DC 28,5 V
- Control panel: buttons START/STOP, Emergency stop, indicators: input power, faults
- Fuel tank ventilation
- PCA output with hose

Input parameters

- Customized parameters accodrding to the project needs
- Input 50 Hz electrical line, V: 3L + N + PE, 3x 400 ± 10 %, 50 Hz ± 5 %
- Input 400 Hz electrical line, V: up to 2 lines — 3ph 115/200 VAC 90 kVA
- Input 28 VDC
- PCA, air, water



POP-UP EAPIT



The POP-UP EAPIT system consists of lifting mechanism with a counterweight opening system. Distribution boxes of 50/60 Hz and 400 Hz (if any) and sump pump are installed in an underground concrete bunker. The PIT cover is lifted above the surface and equipped with control box. The EAPIT POP-UP can be equipped with preconditioned air (1-2 output hoses), a set of 50/60 Hz sockets and/or 400 Hz power supply (1-4 outputs) for aircraft at apron or hangar parking places. It has a manhole for maintenance. The POP-UP EAPIT system can be completed with heating system and is designed in compliance with all environmental concerns. The applied force for opening/closing does not exceed 5 kg. We supply the POP-UP EAPIT preassembled to simplify installation and connection as much as possible.

Standards

- Certified to EN 124 F900 standard
- MH/T6107-1024 F900

Counterweight system

- Opening: counterweight mechanical system

Construction supervision

- Construction supervision during installation

Climatic execution

- Sump pump
- Anti-condensation heater
- Microclimate system option

General

- Climatic execution: –40°C to +55°C
- Humidity: 10–100 %
- Cover protection class: IP 55
- Electric boxes protection class: IP 67
- Warranty: 24 months
- Material of construction: steel S355
- Corrosion-resistant coating: hot galvanized
- Cover gaps are sealed
- Anti-slip cover: aluminum plate
- Rising-up mechanism: counterweight
- POP-UP lock: mechanical, fixating at the end positions
- Grounding: grounding bolts in accordance with EN 60445:2001
- Flashing light indicates the open position
- Distribution boxes: 50/60 Hz, 400 Hz, 28 VDC
- Load class: 90 t, in accordance with EN124 F900
- Country of origin: Estonia

Underground concrete bunker

- Top part load capacity: 90 t
- Reinforcement of top part should be welded to the frame of EAPIT
- Bunker ventilation: natural

Options

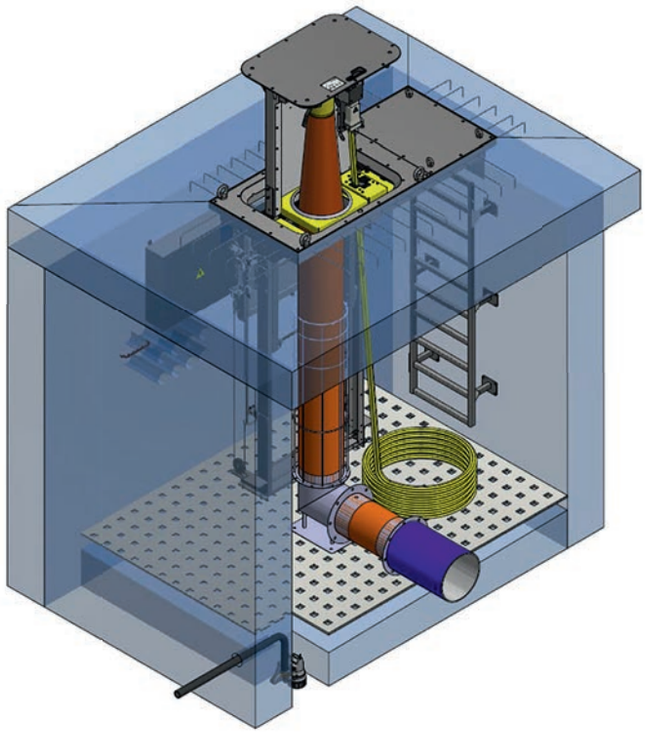
- Underground bunker heater
- Underground bunker light
- Cover heater
- Explosion proof execution, ATEX
- Remote control option is possible according to client's request
- Possibility to place a GPU inside
- Grounding coiler
- Replacement of the old types of PIT systems
- Drain sump pump: installation inside the bunker with water level sensors
- Bottom grid for cables

Output parameters

- Customized parameters accodrding to the project needs
- Sockets: 2 x 3 ph 400 V 250 A; 2 x 3 ph 400 V 125A 2 x 3 ph 400 V 63 A; 2 x 3 ph 400 V 32A; 4 x 1ph 230 V 16 A — customizable
- Output 400 Hz cables with aircraft plug: up to 4 pcs, length — 15 m or DC 28,5 V
- Control panel: buttons — START/STOP, Em.stop; indicators — input power, faults, PCA, compressed air, water
- PCA hose 14'', constriction to 8'' (guided by metal rods)
- Compressed air outlets 1/2''; 3/4''
- Water outlets 1/2'' ; 3/4''

Input parameters

- Customized parameters accodrding to the project needs
- Input 50/60 Hz electrical line, V: 3L+ N + PE, 3 x 400 ± 10 %, 50 Hz ± 5 % or other voltages
- Input 400 Hz electrical line, V: 3 ph 115/200 VAC, 90 kVA
- 28 VDC
- Compressed air
- Water
- PCA



Project planning support and ready-made solutions are available for designers!

DISTRIBUTION PILLAR

EAD SERIES

The distribution pillar EAD series provides power point connections of different voltages: AC 220, 400 V 50/60 Hz and special currents 115/200 V 400 Hz and/or 28 VDC. They are also used to provide electrical connection points to workshops and aviation hangars. Each channel can be equipped with a high-speed electric switch, with an indication of the voltage present and the status of the line. Pillars can be equipped with a built-in remote control and built-in certified counters, indicating electricity consumption via 50 Hz, 400 Hz and 28 VDC channels and an anti-condensation heating system. There is the possibility to integrate other additional equipment upon the customers' request.

General

- Climatic execution: up to client's needs
- Humidity: 10–100 %
- Cover protection class: IP 55
- Electric connection class of protection: IP 67
- Warranty: 24 months
- Country of origin: Estonia

Options:

- Power consumption monitoring system
- Remote monitoring
- Additional equipment integration
- Customizable outputs

50/60 Hz 3-phase Outputs

- 400 VAC 16 A
- 400 VAC 32 A
- 400 VAC 63 A
- Other voltages
- 400 VAC 125 A
- 400 VAC 160 A
- 400 VAC 200–250 A

50/60 Hz 1-phase Outputs

- 230 V 16 A
- 230 V 32 A

400 Hz 3-phase Outputs

- 115/200 V, up to 90 kVA
- 36 V, up to 10 kVA

28,5 VDC Output

- up to 1500 A continuous

Outputs

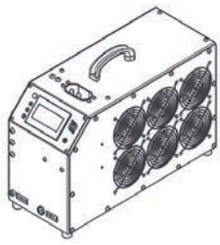
- Outputs quantity depends on customer demands
- Values may vary depending on pillar configuration

Protection

- IP 54/IP 67
- Door interlock

LOAD BANKS

EAL SERIES



Portable load banks EAL series are developed for temporary load supply during the maintenance, testing, and adjustment of GPUs. This will eliminate and minimize maintenance time and the adjustment of GPUs. In order to avoid problems with the aircrafts after repairing and maintenance of 400 Hz or 28.5 V GPU – our solution is to use ElectroAir control and testing EAL equipment. Using the latest technologies, our load banks are lightweight, compact, and fully independent units. Using ElectroAir load banks provides the possibility to perform engine start simulation as well as carry out regular GPU performance checks. ElectroAir produces 400 Hz AC load banks (up to 180 kVA), 50 Hz and DC load banks (up to 2500 A).

Air cooling system

- Air cooling system with low noise fans

Computer connection

- USB connection
- Reports
- Wi-Fi option

Digital meters

- Voltmeter, ammeter, frequency meter
- Touch screen

Load test

- Engine start simulation
- Continuous test

General

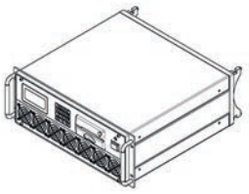
- Climatic execution: –40°C to +55°C
- Warranty: 24 months
- Protection class: IP 23
- Dimensions in case, LxWxH, mm: 680 x 330 x 740
- Voltage: 115/200 VAC, 28,5 VDC
- Frequency, Hz: 400, 50
- Load power: up to 144 kW (10 steps) for AC, up to 2500 A for DC
- Touchscreen display: load power, frequency (AC), voltage, current
- Interlock contact: includes slots for measuring instrument connection
- Phases control: includes slots for measuring instrument connection
- USB port for test reports
- Country of origin: Estonia

Protection

- Overheating
- Short circuit

CHARGER-DISCHARGER

EAR-CH SERIES



The Charger-discharger EAR-CH series serves to test, charge, discharge and commission all types of aircraft batteries (lead-acid, Ni-Cd, Li-ion, etc.). It stores the maintenance history of each battery during the whole charging-discharging cycle. Voltage and temperature measurements are performed on every element of the battery with special additional unit, which should be produced individually for each battery type. One unit provides service only for one battery. We can install more than 100 programs according to the clients' requests. The units are created for all current and prospective accumulator developments.

Printer

- Ability to print the results of charging-discharging

Computer

- Connection to computer
- Monitoring function

Programs

- More than 160 programs installed
- Ability to create your own program

DC power source

- Can be used as DC power supply

Memo function

- Memorizes last function
- Restore function

General

- Ambient operation temperature: –10°C to +45°C
- Warranty: 24 months
- Protection class: IP 23
- Weight, kg: 29
- Dimensions, LxWxH, mm: 485 x 515 x 185
- Input Voltage, V: 230±10 % (1-phase)
- Input Frequency, Hz: 47–63
- Input power, kVA: 2,8
- External grid protection, A: 20
- Charging current range, A: 0,1–50
- Charging voltage range, V: 0,1–50
- Discharging current range, A: 50–0,1
- Discharging voltage range, V: 50–0,1
- Current deviation, A: ± (2 % + 0,05)
- Voltage deviation, V: ± (0,1 % + 0,05)
- Insulation: VDE 0160, class 1
- Type of outer contacts: Kelvin
- Protocol print: term printer
- Country of origin: Estonia

Types of compatible batteries

- Air-tight PB battery
- Standard air-tight PB
- Standard enclosed PB
- Battery 12-SAM-28
- Enclosed air-tight NC
- Enclosed NiCd VARTA
- Enclosed NiCd SAFT
- Enclosed NiCd NKBN
- 20NKBN-25-U3
- Marathon
- 20KSX25-P-A-T0
- NiCD Saft
- All types of Li-ion battery — customization on customers' request

SPECIAL & LABORATORY EXECUTION FREQUENCY CONVERTERS

EALAB SERIES

ElectroAir EALAB series frequency converters and rectifiers have a set of products specially designed for laboratory use and operation. This special execution series includes a wide range of equipment that provides regulated range of frequencies and voltages, in both AC and DC.

General

- Ambient operation temperature: –40°C to +55°C
- Humidity: 10–100 %
- Noise level: <65 dB(A)@lm
- Warranty: 24 months
- Protection class: IP 55
- Country of origin: Estonia

Protection (as per MIL-STD-704F and ISO 6858)

- Overheating
- Over/low voltage
- Over/low frequency
- Overload
- Short circuit
- Emergency stop

Options:

- Range of input voltages: 3x220 /3x460 /other, 1 ph
- Custom input and output cable length
- Custom input and output plugs
- User interfaces

Documentation

- User + Service Manual and Spare Parts Catalogue
- Passport and Warranty Certificate

Output parameters

- Number of outputs: 1–3; customized
- Rated output voltage, V: 28,5 VDC; 115 VAC 1 ph; 120 VAC 1 ph; 36 VAC 3 ph; 270 VDC
- Range of voltage regulation, V: 40–165 VAC
- Output frequency, Hz: 400; 1000; 600–1200
- Range of frequency regulation, Hz: 15–1200
- Output power, kVA/kW: 0,1–15; customized
- Overloads: customized
- Output connection: adapter coupling; plug; terminal block

Input parameters

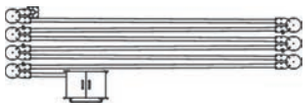
- Input voltage, V: 28,5 VDC; 120 VAC 1ph; 230 VAC 1ph; 400 VAC 3 ph; 12 VDC; 24 VDC
- Input frequency, Hz: 50/60
- Inrush current: soft start
- Input connection: adapter coupling, plug, terminal block

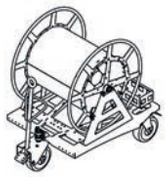
Control panel (customizable)

- Voltage, current, errors and faults, regulation buttons, Power indicator, emergency stop buttons

CABLE EXTENDERS

EABT SERIES





Parameters

- Climatic execution: –40°C to +60°C
- Cable length: up to 100 m
- Protection class: IP 54
- Execution: mobile
- Number of outputs: up to 2
- Cable type AC: 7 x 35 + 18 x 1; DC: 2 x 120 or any other
- Aircraft plug type: LPA or any other
- Material of extender and drum: galvanized steel
- Dimensions, LxWxH: 1536 x 1338 x 1595
- Weight: up to 370 kg
- Wheels diameter: 8"
- Full compatibility with GPU series EAC and EAR
- Country of origin: Estonia

Storing and moving

- Storing and moving cables from GPU to aircraft

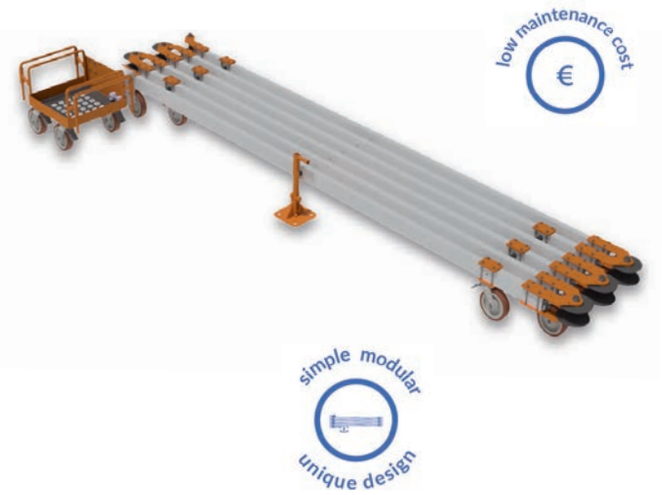
Advantages

- Two bearings drum rotation

Capacity

- Up to 100 m cable section 4x70 mm² or 7x35 mm2

EAZ SERIES



Parameters

- Relative humidity: up to 100 %
- Ambient temperature: –40 °C … +65 °C
- Dimension of square cross section of cable channel: 120x80 mm
- Length of the section: standard 3 m — up to 6 m
- Number of sections: up to 6 pcs.
- Pull apart direction: left/right
- Maximal angle of separation of two sections: 270°
- Capacity of storage basket: up to 10 m of cable
- Diameter of wheels: 300 mm
- Minimum bending radius of cable: 125 mm
- Number of cables: up to 4 pcs
- Drain openings
- Protective cover on open parts of cable
- Remote control possibility
- Country of origin: Estonia

Storing and moving

- Storing and moving cables from GPU to aircraft

Start/Stop

- The extender is equipped with remote control

Cables

- Consisted of up to 4 cables for AC 400 Hz or 28,5 V DC

ISO6858

ISO1540

BS 2G 219

MIL-STD-704F

EN 50091-1

EN 61000-6-4

EN 61000-6-2

EN 50082-2

EN 61558-2-6

EN 12312-20

EN 2282

EN 1915-1

SAEARP 50 15

IEC 60721

IEC 60529

DFS400

GOST 54073-2010

ISO 9001:2015

ISO 14001:2015

ISO 45001:2018

73/23 EEC

2004/108/EC

EN 124 F900

MH/T 6107-1024 F900

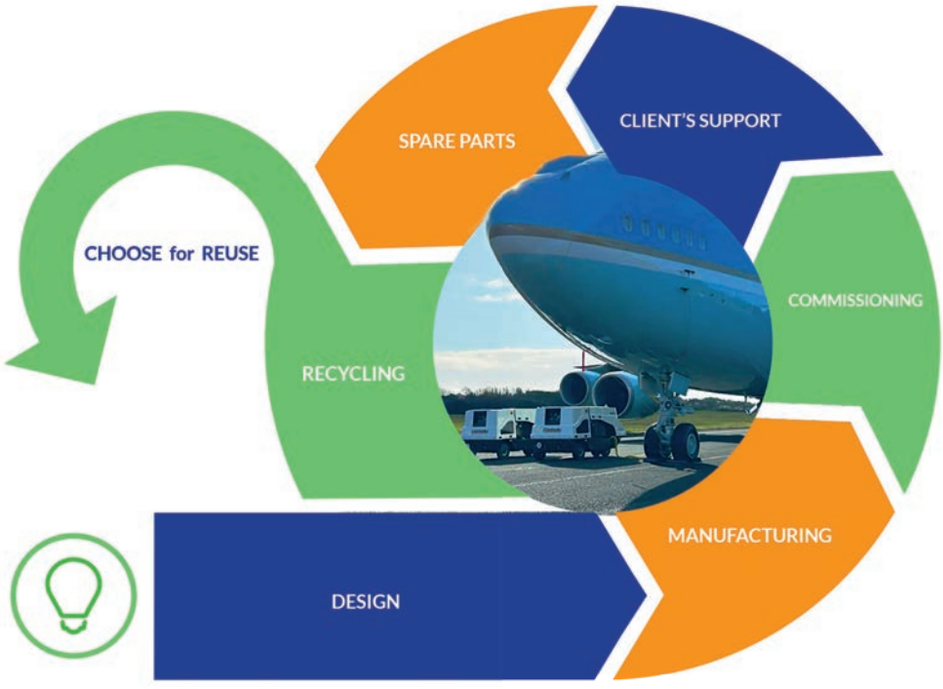
ONE-STOP SOLUTION

ElectroAir offers a comprehensive one-stop solution for **FACTORIES, HANGARS and APRONS** using auxiliary equipment.

Efficient and seamless operation of ground power equipment, including: **400 Hz; 50/60 Hz; PCA; Pressurized Air; different electrical outputs; tank ventilation**, as well as any other additional technical needs — is essential for the manufacturing, maintenance and servicing process. From production through to the delivery and integration of equipment, each step plays a critical role in ensuring operations are handled smoothly.

The concept of a one-stop solution process encompasses the entire service cycle: consultation, project engineering and design, manufacturing and customization, equipment installation, commissioning, maintenance, staff education, after-sales services and spare-parts. Our service is based on a wide range of production possibilities: from PIT systems, to different iterations of load banks and auxiliary equipment.

OUR WORKFLOW



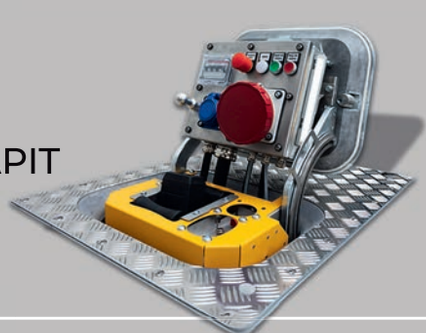
PRODUCT SUMMARY.
AVIATION.

APA SERIES

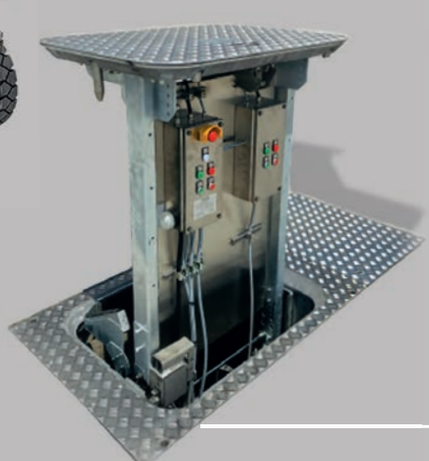
APA-10 SERIES

EACR SERIES

HATCH EAPIT



POP-UP EAPIT



EAR SERIES

EAC-PBB SERIES

APA-ECO SERIES

EAC SERIES

EAR-CH SERIES

EAD SERIES

EAL SERIES

EABT SERIES

EALAB SERIES

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A strong voice for the GSE community

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DESIGN APPLIER OF THE YEAR
ELECTROAIR OÜ

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