



PILLER

Power Systems



MILITARY & DEFENCE
Mission critical power solutions



Nothing protects quite like Piller

piller.com

Military & Defence



Piller headquarters, Osterode, Germany.

The success of any military mission relies upon outstanding preparation and the use of the best resources available.

About Piller

Founded in Hamburg, Germany over 100 years ago by Anton Piller, the company has a long history in the manufacturing of high quality electrical machines and power quality equipment. Today, Piller is a world leader and innovator in a number of power protection technologies, specialising in UPS systems for 'mission critical' applications and Frequency Converters for Aircraft Ground Power amongst other uses. Piller UPS systems are found in applications where continuous high quality power is paramount such as airports, data centres, financial institutions, broadcasting, telecommunication networks, healthcare facilities and continuous process production sites.

Piller Frequency Converters and related products are in widespread use across both military and civil applications providing 400Hz ground power systems to airbases, ship-to-shore supplies in ports and onboard power systems for both submarine and surface vessels.

In 2016 Piller Power Systems Inc., the US subsidiary of Piller Group GmbH, acquired the business and assets of Active Power Inc., a US kinetic energy storage specialist.

Mission-critical power solutions

Nowadays the safe, secure and successful operation of military bases, camps, airports, ports and other strategic infrastructure around the world relies on the continuous availability of quality power. Whether it is 400Hz or 28VDC power for aircraft, shore-to-ship power supplies,

air-defence systems, command and control communications, or for airbase runway lighting, control towers, maintenance hangars and navigation aids continuous quality power maintains operational superiority.

It may only be a matter of seconds between power going down and standby generators kicking in, but that short delay could have catastrophic consequences to ground installations that contribute to safeguarding air space as well as

protecting the armed forces and civil population. As one of the worlds leading UPS and frequency converter suppliers, Piller understands the need to maintain power at all times, especially when utility outages or other crisis threaten critical infrastructure or military and civil installations.

Piller is located in Osterode, near Hanover in Germany with regional offices in Asia, Europe and the Americas and is a division of the UK based engineering and industrial group, Langley Holdings PLC.



Proven technology

Rotary and Static (Solid State) Frequency Converters

In the field of 400Hz frequency converters, Piller's ground power equipment such as APOJET AJS, APOJET AJR and APOJET AJT can be found in operation at major airports and military airbases throughout the world, as well as onboard surface vessels and submarines. Piller provides tailor-made solutions for each application and through continuous research and development a high level of flexibility is guaranteed in meeting clients' requirements. All Piller ground power equipment is designed and built to the highest standards of quality and reliability.



Piller equipment at AWACS bases worldwide.



Piller Frequency Converters supply the A400M.

Frequency Converters Features and Benefits:

- Compact low noise construction
- Low output distortion factor
- Load dependent, phase-to-phase automatic compensation of voltage drop due to long cables using I-Boost®
- Short circuit and overload protection
- Event recorder with memory for up to 1200 events
- Input output data showing currents, voltages and loads
- Ground power equipment standard with E&F, 42V safety relay
- EMI/RFI filtering standard on all units
- Low mains current distortion (< 5%)
- Constant output voltage for linear and non-linear loads
- Interface for remote control and centralised monitoring option

Rotary UPS Systems

Piller's rotary UPS solutions are built around the renowned UNIBLOCK™ system, delivering secured power from 150kVA to 50MVA in both independent and diesel-coupled configurations. The latest evolution, the UNIBLOCK™ UBT+, offers up to 97% efficiency and highest reliability with state-of-the-art technology, unique design and versatile options, making it ideal for new and existing installations. While the UBT+ diesel-coupled configuration produces the most efficient and reliable power supply possible to secure entire airbases, operational headquarters as well as strategic loads.

Rotary UPS Features and Benefits:

- Single machines up to 2700kW
- Long and short term bridging applications
- Reliable supply of all load types
- Wide leading and lagging load power factor without de-rating
- Medium and low voltage options
- Battery or kinetic energy store versions
- Total design flexibility
- Containerised solutions



Piller rotary frequency converter for military maintenance hangars.

Power solutions



90 kVA Mobile Solid State 400 Hz GPU.



1380 kW Battery charger for submarines.



120 kVA UPS for naval applications.

Piller provides its customers with a complete line of rotary and static (solid state) frequency converters and UPS systems as well as distribution panels and accessory equipment such as customised interconnections with specific loads.

Many varieties and configurations of special problem solving systems are also available to ensure clients get the best technical solution and equipment for that particular application. Piller is dedicated to client satisfaction by providing total support during the design stage, installation and especially after commissioning. Piller has a team of many trained technicians strategically located around the world to support its many products.

The images show typical applications using Piller equipment to protect critical loads and provide quality power on the ground to aircraft during maintenance and flight readiness or on the ocean for surface vessels or submarines.



Critical for tactical superiority



Piller Solutions:

- Piller Rotary Diesel UPS systems UNIBLOCK™ for operational headquarters, communication centres and air surveillance.
- Piller's central systems are installed at many maintenance hangars on airbases internationally, everywhere where reliability and redundancy are key issues.
- Piller's AJT (line voltage regulator) is the ideal solution to provide constant voltage without having to replace existing cables from the central power system for renovation projects.
- Piller's equipment is supporting assembly and test facilities for aircraft manufacturers around the world, both military and commercial.
- Piller builds generators, AC, DC and 400Hz frequency converters as well as many other vital components for use onboard or shore-side with naval vessels and submarines.



UNIBLOCK™ Diesel Rotary UPS System.



315 kVA 400 Hz Rotary Frequency Converter for AWACS Aircraft.



Central 400Hz Supply.



1500 kVA, 50 to 60 Hz MG-SET.

Piller products



315kVA MG-Set for 400Hz AWACS aircraft supply.



12-1500kVA 50/60Hz or 60/50Hz MG-Set.



150kVA Rotating Frequency Converter APOJET AJR.

| Model/Type | | kVA ratings |
|--|---------------------------------|------------------------------------|
| UPS Systems | | |
| UNIBLOCK™ | Rotary and Diesel UPS System | from 400kVA - 50MVA |
| ASM | Static UPS | 30, 60, 90, 120kVA |
| Solid State 400Hz Units | | |
| APOCONV AC (M) | Compact | 5, 10kVA |
| APOJET AJS | Compact | 40, 60, 90, 120, 150, 180, 200kVA |
| APOJET AJS Combi | Compact | 40 - 90kVA, 400Hz and 28VDC / 600A |
| Solid State 50 to 60Hz (60 to 50Hz) | | |
| APOCONV AC (M) | Compact | 5-120kVA |
| Rotary 400Hz Units | | |
| APOJET AJR | Compact (50Hz/400Hz) | 20, 40, 60, 90, 120, 150, 180kVA |
| | Compact (60Hz/400Hz) | 75, 90, 125, 150, 200kVA |
| | MG Sets for centralised systems | 250, 315, 380kVA |
| MG Sets 50 to 60Hz (or 60 to 50Hz) | | |
| MG-SET | Separate switchgear | 12-1500kVA |
| DC Supply/ Drives | | |
| 28VDC | Small Compact | 400 and 600A |
| NTB3 60.40-12 | Submarine Charging Generator | up to 1380kW, customised voltages |
| Auxillary Drives | Customised Versions | up to 90kW |
| Fans | Customised Versions | |

Other units and equipment available on request.



10kVA Solid State Frequency Converter APOCONV AC.



18kVA Solid State Frequency Converter APOCONV ACM, watercooled.



Auxillary Drives for pumps and compressors.

Unrivalled after sales service

Across the globe the Piller network is committed to delivering world-class service resources and Piller clients can always be confident that a highly qualified team of service and support technicians are there to uphold the very best standards of customer care.

Services range from installation and commissioning to predictive analysis, emergency calls, spare parts, planned maintenance and training. A direct link to Piller engineers and technicians through Piller's advanced digital control technology is available on every unit (rotary and static) offering 24/7 Remote Monitoring and Support with total diagnostics and 1,200 event memory.

- Maintenance
- Technical support
- Operator training
- 24 hour call-out
- Temporary UPS systems
- Comprehensive spares
- Remote monitoring
- Worldwide service organisation





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ROTARY UPS SYSTEMS

HYBRID ROTARY UPS SYSTEMS

DIESEL ROTARY UPS SYSTEMS

STATIC UPS SYSTEMS

STATIC TRANSFER SWITCHES

KINETIC ENERGY STORAGE

AIRCRAFT GROUND POWER SYSTEMS

FREQUENCY CONVERTERS

NAVAL POWER SUPPLIES

SYSTEM INTEGRATION



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