

Kinetics

Auxiliary Power Units and Life Support Systems



Elbit Systems™

Kinetics

Auxiliary Power Units (APU)

Powering the Modern Fighting Vehicle

Kinetics offers a comprehensive array of Auxiliary Power Units (APUs) specifically designed for heavy-duty military applications. Field-proven worldwide, these units offer significant operational benefits to modern fighting forces, even in extreme and harsh environmental conditions.

Key Benefits

- Silent mode operation - reduces noise and thermal signatures
- Less wear and tear of the vehicle's main engine - Longer maintenance intervals and less fuel consumption



Key Features

- Stand-alone or co-generation modes
- Qualified for military applications per military standards
- Options for internal or external installation
- Options for independent operation or integration with the vehicle's fuel and control systems
- Built-in test and event logs for maintenance and serviceability
- Optional – dry sump solution for extreme slope requirements
- System auto protection - over/under voltage/current, temp., pressure.

General Specifications

Nominal Output / Voltage	2.5 - 17kW / 28V DC
Electric Generator	Permanent magnet, brushless
Diesel Engine	2 - 4 cylinders / 4 stroke
Engine/Generator	Liquid cooling
Nominal Current	70 - 600 Amps.
Fuel Type	Diesel (F54), JP8, F34, F63
Operating Ambient Temp.	-46°C to +55°C
Operating Altitude	3,000m
Communications Protocol	CAN bus/ RS232/Ethernet



All-in-One Unique Design

Comprehensive APU, HVAC & NBC/CBRN Protection

Kinetics All-in-One solution is a unique combination of an APU with Heating, Ventilation and Air Conditioning (HVAC) & chemical/biological/radiological and nuclear (NBC/CBRN) protection capabilities. It can be operated independently and/or simultaneously while the main engine is running. In silent mode, the APU provides power to the onboard electronic equipment, as well as to the HVAC and NBC/CBRN protection system, to allow for full performance of all onboard functions.

Key Benefits

- Cost - Effective
- Reduced Size & Weight
- High Energy
- Cooling Efficiency



Life Support Systems (LSS)

Improving Crew Safety and Performance

The Kinetics Life Support System (LSS) is an integrated, comprehensive and fully-customizable solution providing a broad range of LSS to armored fighting vehicles, including chemical, biological, radiological and nuclear (NBC/CBRN) protection; Heating, Ventilation and Air Conditioning (HVAC); as well as cooling for electronic equipment. Each sub-system can be manufactured as an independent unit or can be integrated into the overall LSS solution. The LSS also has the option of being powered by the platform engine or self-propelled when connected to an alternative power source.

Kinetics NBC/CBRN Protection System provides comprehensive NBC protection to Armored Fighting Vehicles (AFVs) as well as cabin ventilation during peacetime operation. The system offers three protection modes: Over pressure protection where the cabin is pressurized with filtered air; individual protection where filtered (and optionally conditioned) air is provided to each of the crewmen's facemasks/overalls; and hybrid protection which combines cabin overpressure and individual protection.

Key Features

- Individual / cabin cooling
- Electronic equipment cooling
- Compressor-engine driven/electrical/hydraulic
- Condenser-micro-extruded all-aluminum tube, radiator mounted or standalone
- Multiple evaporators
- Fuel heater for rapid heating and/or starting mode
- NBC unit design complies with customer's filter definition
- Optional – bypass valve/peacetime filter/NBC detection
- Cabin overpressure system and indication
- Qualified per military standards
- CAN bus communications protocol
- Event logs for maintenance and serviceability



General Specifications

Cooling Capacity	6 - 20 kW
Electrical Output	28V DC
Recycled Air Flow	700 - 2000 CFM
Filtered Fresh Air Flow	Up to 100-150 CFM (NBC/FA mode)
Refrigerant Type	R - 134a
Fresh Air Filtration	IPS (cyclone) + NBC / Peacetime filter
NBC Filtration	Any type required by customer
Operating Temp.	-46°C to + 55°C

Elbit Systems - Kinetics

Elbit Systems - Kinetics offers a comprehensive range of Auxiliary Power Units (APU), air-conditioning and chemical/biological/radiological and nuclear (NBC/CBRN) life support systems (LSS) for new and modernized tracked and wheeled military vehicles. Elbit Systems' high quality standards and dedicated customer service are evident from the design stage throughout production and after-sale logistics support. The company's APUs and LSS have been adapted by renowned global OEMs as standard equipment on a wide range of military platforms operating in the most demanding battlefield conditions. These tailor-made and off-the-shelf solutions are fully proven and in use by the Israel Defense Forces and other military organizations around the world.



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Experience
Makes the
Difference



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