

FIRE SUPPRESSION SYSTEMS

NERO INDUSTRY DEFENCE COMPANY

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VIP personnel are especially targeted during the operations, it enables making necessary preparations for taking urgent protective precautions or activation of protection systems. The most dangerous threats during operations are remote attacks. The weapons that is used for remote attacks could even destroy a heavy armed vehicle within seconds. These product group developed by AFSS; could suppress the explosion caused by unguided attacks, mine explosions, inflammable and explosive hazardous materials, liquid fuel fires, weapons that is used fo remote attacks.

AFSS manufacture fire suppression systems for commercial use. AFSS is aiming to ensure the safety of people who is traveling by bus, working in agricultural area, construction area etc.

Fire suppression systems are mounting vehicles as shown below;



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Fire Suppression Systems was integrated into the systems, %95 decreasing blast problem is observed and integrated into the vehicles it is aimed to prevent vehicle losses and the human life is the vital thing to produce these systems.

Fire suppression system's UV-IR optical sensors have the capability of detection in less than 3 milliseconds, control units have the feature of activation within 6 milliseconds after detection and extinguishing cylinders have the feature of becoming active in less than 7 milliseconds and fire is suppressed in less than 250 milliseconds. This system comprises all the conditions described in NATO's Stanag 4317 standard and all qualification tests is made at NATO Level 4 standard together with the customer.

The fire hazard rating specified in NATO's Stanag 4317 for armored ground vehichles;

Level of Threat	Protection	Application Vehicles
Level 0	No protection required	Automative
Level 1	Fairly slow Fire	Bank Transit Vehicle
Level 2	Slow Growing Fire	Armored SUV
Level 3	Fast Growing Fire	Armored Logistic Vehicle
		Armored Personnel Carriers Vehicles,
Level 4	Explosion	Radar Systems sophisticated weapon
		sytems

Fire suppression and extinguishing systems in armored ground vehichles systems are integrated into 5 different zones. These zones are; personnel compartment, engine compartment, auxillary power unit compartment, vehicle body and tires. The levels according to compartments determined and recommended by AFSS; level 4 for the personnel compartment and auxillary power unit compartment, level 3 for engine compartment and level 2 for vehicle body and tires.

In level 4 fires, sysyem must detect in 3 miliseconds and extinguish a fire or explosion in 250 miliseconds.250 milisecond is the human skin can withstand explosion burning. When this time exceed, human skin damaged at the 3rd degree burn level.

FIRE SUPPRESION SYSTEM	NAME OF THE UNITS	DESCRIPTION
UNITS		
MERCHANISTO CONTROL OF THE PARTY OF THE PART	AUXILIARY POWER UNIT	The auxiliary power unit supplies the automatic fire suppression and extinguishing system in a controlled manner from the battery or the auxiliary power supply. Weight:2700 ± 20 g Width X Height X Depth:179 x 167 x 82
	ARES III CONTROL UNIT	It is automatic fire suppression and extinguishing system control unit that supports 4 zones. UV-IR optical detector, pyrotechnic tube and solenoid valve tube can be controlled. Beside these, sensors such as 3IR optical detector, linear heat detector, thermocouple and NTC can also be used with ARES III control unit. Weight:1860 ± 100 gr Width X Height X Depth:180 x 155 x 67 mm³
	ARES III+ CONTROL UNIT	It is automatic fire suppression and extinguishing system control unit that supports 4 zones. UV-IR optical detector, pyrotechnic tube and solenoid valve tube can be controlled. Beside these, sensors such as 3IR optical detector, linear heat detector, thermocouple and NTC can also be used with ARES III+ control unit. Weight:2080 ± 100 gr Width X Height X Depth :180 x 150 x 70 mm ³
	UV-IR OPTICAL DETECTOR	It performs simultaneous radiation detection in the UV/IR ranges of the electromagnetic spectrum and produces an alarm output signal. It distinguishes signals from all other sources of radiation that are not identified as fires and does not treat them as alarms. These radiation sources and detector immune distances are described in detail in the technical specifications section. Weight:480 ± 20 gr Width X Height X Depth:87 x 86 x 50 mm³

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The Aerosol Fire Extinguisher family is designed to extinguish and neutralize type A (solid fuel), B (liquid fuel), C (gas fuel) fires and type E (electric) fires in enclosed spaces. After calculating the required extinguishing agent concentration for each type of fire and the volume be protected, and to **AEROSOL FIRE EXTINGUISHER AFSS** determining appropriate the extinguisher for the volume, the solid NRECM agent in the cylinder and the total number of cylinders in the area to be protected are determined. Aerosol Extinguishers offer solutions for every need with electrical, mechanical and both electrical and mechanical activation options. Weight:1.8kg Height:132mm Diameter:89mm AFSS, provides All-In-One independent system solution in which fire detection and extinguishing are united. Besides it can be controlled by Control Unit, it can also be activated mechanically, not being connected to any electrical power supply. Thanks to the thermal sensor/activator on it, it can detect fire and get activated automatically, at **AEROSOL FIRE EXTINGUISHER WITH** various temperatures (e.g. 57°, 68°,79°, MECHANICAL ACTIVICATION 93°C, 141°C, 180°C) according to different requirements.After the fire is detected by thermal sensor/activator, the fire is suppressed effectively by the aerosol extinguisher. It provides high flexibility and integrability for active fire protection at different applications with its easy installation and rapid change feature as well as its little weight and dimensions. Diameter:89mm Height:172mm Weight:1.8kg

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HORIZONTAL AFFF LIQUID FIRE EXTINGUISHER	It is specifically designed for fire suppression systems in armored vehicles. It is used to extinguish fire on and vehicle tyres. The extinguishing agent contains AFFF, an environmentally friendly fire extinguishing agent. The special design of the tube valve allows the valve to open quickly. The active substance is spread by pipes and nozzles. Weight:24-30kg Height:132mm
PYROTECHNIC EXTINGUISHER TUBE	Pyrotechnic tubes are used as extinguishers in both personnel and engine compartments. The fire extinguisher tube containing the environmentally friendly HFC227ea is used to perform fire suppression in less than 250 milliseconds. Thanks to the special design found in the valves of the pyrotechnic tubes produced by Nero, quick valve opening is provided. The extinguisher is spread in the engine compartments by means of pipes/hoses and nozzles.

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