

MK35-E

RHEINMETALL

ELECTRICALLY POWERED 35 MM x 228 AUTOMATIC CANNON MK35-E

TAKING RESPONSIBILITY IN A CHANGING WORLD

RHEINMETALL



The MK35-E is an electrically powered automatic cannon. Due to the electric drive, the weapon's reliable function is completely independent of the gas pressure.

The MK35-E can be used universally as a cross-sectional weapon. Thanks to its compact design, the weapon is suitable for use in modern remotely controlled weapon stations or manned systems and can be used under all climatic conditions.

Up to a range of 3,000 meters, the MK35-E delivers maximum combat effectiveness. The highest degree of firing power is achieved due to the dual feed possibility firing 35 mm APFSDS-T and KETF ammunition.

The MK35-E uses NATO-qualified AHEAD technology and the APFSDS-T ammunition type, which is optimised for engaging modern infantry fighting vehicles with modern stand-off and high-hardness armour types. The MK35-E is capable of engaging a wide range of combat threats, including infantry fighting vehicles, fortified anti-tank positions, helicopters and dismounted troops.

The easy handling, high level reliability in action, long combat range and high degree of accuracy rate of fire of 200 rounds per minute, qualify the MK35-E for use in modern infantry fighting vehicles.

MAIN FEATURES

- Simple handling
- Reliability in use
- Electrically powered weapon
  - Function independent of gas pressure
  - Low maintenance costs
  - CAN bus interface
  - 24 V electrical system
- High accuracy
- Low recoil forces
- Double belt feeder for two types of ammunition
- Ejection to the front
- ITAR free
- Functional safety (IEC 61508)
- Long service life of gun and barrel universal use
- Fires all standard 35 mm x 228 ammunition
- Autofretted and chrome-plated barrel
- Capability of shooting soft and hard cases
- Designed according STANAG 4110 & STANAG 4516

TECHNICAL DATA	
Calibre	35 mm x 228
Cadence	Single fire
	Adjustable continuous fire up to 200 shots/min
Length	approx. 4,260 mm (incl. ABM)
Width	approx. 480 mm
Height	approx. 480 mm
Environmental conditions	–46 °C to +63 °C



APFSDS-T 35 MM x 228 AMMUNITION/PMD343

Armour piercing fin stabilised discarding sabot with tracer

- This new generation of armour piercing sub-calibre ammunition is designed to defeat a wide range of infantry fighting vehicles.
- The cobalt free tungsten penetrator is optimised to perforate both RHA and modern high hardness spaced targets at all impact angles and on extended ranges.
- The new design contains an aluminum sabot with an injection moulded driving band which ensures good and reliable sabot separation and low dispersion over the complete operational distance.
- The APFSDS-T is fired at full spin resulting in a sabot separation directly after muzzle exit.
- The APFSDS-T is fully compatible with Rheinmetall's 35 mm ABM programming unit.
- The APFSDS-T design applies the newest ECL technology to the propellant to ensure high performance and maximum safety – also at extreme temperatures.

MAIN FEATURES	
Performance	Effective against both RHA and modern high hardness spaced targets
Operational distance	more than 2,000 m
Firing mode	Single shot and automatic mode
Environment	Cobalt free tungsten alloy penetrator
Transport/Storage	UN Classification 1.2C

TECHNICAL DATA	
Total length of round	387 mm
Mass of round	approx. 1,485 g
Mass of projectile	297 g
Propellant	ECL type
Muzzle velocity	1,400 m/s
Cartridge case	Steel
Temperature range (functional)	–46°C to +63°C
Dispersion	≤0.5 mil



ABM/KETF 35 MM x 228 AMMUNITION/PMD330

Air burst munition/kinetic energy time fuze

- KETF ammunition is designed to defeat a wide range of targets by the release of the subprojectiles just ahead of the target.
- KETF ammunition, based on the NATO qualified AHEAD technology, contains an electronic timer module which is programmed inductively at the muzzle with compensation for variations in projectile velocity to ensure precise downrange payload release.
- The payload consists of 407 cylindrical tungsten alloy subprojectiles, each weighing 1.24 g, which are released by a small ejection charge (‹1 g) just ahead of the target.
- The individual subprojectiles are spin stabilised and form a lethal cone of "fragments", which significantly increases hit probability, especially at extended ranges.
- KETF ammunition based on the Ahead technology is the ideal solution for modern vehicle armament, as well as for terrestrial air defence, and naval applications.

MAIN FEATURES	
Performance	Defeats a wide range of targets (lethal to less-than-lethal)
Firing mode	Single shot and automatic mode
Safety	Insensitive munition (‹1 g HE)
Environment	No toxic elements
Transport/Storage	UN Classification 1.2E

TECHNICAL DATA	
Total length of round	387 mm
Mass of round	approx. 1,770 g
Mass of projectile	750 g
Mass of payload	500 g (tungsten-alloy)
Propellant	NC type
Muzzle velocity	1,050 m/s
Cartridge case	Steel
Temperature range (functional)	–30°C to +50°C
Fuze programming at the muzzle	
Muzzle safety	›60 m
Time resolution	2 ms
Self destruct	8.2 s (approx. 5 km)
Dispersion	≤1.0 mil



HEI-T 35 MM x 228 AMMUNITION/PMD040

High explosive incendiary with tracer

- Designed to defeat both soft skinned and airborne targets.
- Devastating effects inside the target.
- Response delay of the nose fuze.
- Powerful blast effects due to the large quantity of high explosive contained in the shell body.
- Long endurance flame giving excellent incendiary effects.
- Optimised fragmentation of the shell body material.
- Excellent tracer signature for enhanced gunner observation.

MAIN FEATURES	
Performance	Effective against soft skinned ground and air targets
Firing mode	Single shot and automatic mode
Environment	No toxic elements
Transport/Storage	UN Classification 1.2 E

TECHNICAL DATA	
Total length of round	387 mm
Mass of round	approx. 1,565 g
Mass of projectile	535 g
Propellant	NC type
Muzzle velocity	1,175 m/s
Cartridge case	Steel
Temperature range (functional)	–30°C to +50°C
Dispersion	≤1.0 mil



TPFDS-T 35 MM x 228 AMMUNITION/PMD346

Target practice frangible discarding sabot with tracer

- Ammunition allows realistic troop training with improved range safety and minimum environmental impact.
- Ballistically matched with sub-calibre combat ammunition to tactical ranges.
- Reduced ricochet risk operation due to pre-fragmented core.
- Tracer for enhanced observation.
- Handling, loading and gun function as per combat ammunition ensures realistic training.
- Hazard class as per TP-T.
- Fully compatible with Rheinmetall's 35 mm ABM programming unit.

MAIN FEATURES	
Performance	Match to tactical ranges of combat trajectory
Firing mode	Single shot and automatic mode
Safety	Insensitive munition (no HE) Reduced ricochet risk
Environment	No toxic elements
Transport/Storage	UN Classification 1.2C

TECHNICAL DATA	
Total length of round	365 mm
Mass of round	approx. 1,450 g
Mass of projectile	376 g
Propellant	NC type
Muzzle velocity	1,400 m/s
Cartridge case	Steel
Temperature range (functional)	–30°C to +50°C
Dispersion	≤0.5 mil

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MK35-E in CV9035 of BAE Systems

Barrel technology
PUMA technology in calibre 35 mm. Autofretted barrel with chrome plating for lower life cycle costs.

Barrel guide
The integrated barrel guide reduces tube vibrations. This improves precision and the probability of hitting the target. No adjustments by the integrator are necessary.

Recoil forces
The patented recoil device reduces recoil forces by around 30%. This makes it possible to integrate it even into lighter vehicles.

Stepping gear
The optimised stepping gear has a longer service life, increasing reliability and reducing life cycle costs.



Air burst munition (ABM)
ABM functionality is available as standard.

IEC 61508
First Automatic Cannon developed according to IEC 61508.

Rate of fire
In a mixed firing rhythm, the detected rate of fire was 200 rpm in the firing burst.

ITAR-free
There are no restrictions or dependencies due to US export regulations. This means that there are no external political influences on the supply and availability of spare parts.

Automatic case extractor
Ensures trouble-free case extraction thanks to the optimised interaction between the breech and barrel assembly. This eliminates the need to grease the cartridge cases.

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