

ROMARM CATALOGUE

SUMMARY

ARMORED VEHICLES

ROMARM | Armored Vehicles on tracks



TR-85-M1

Main Battle Tank



Technical Specification

Combat weight:	50 t
Crew:	4 persons
Weapon system main gun type:	rifled bore
Weapon system main gun calibre:	100 mm
Weapon system main gun rate of fire:	4 - 7 rounds/min
Weapon system coaxial machine gun:	7.62 mm
Weapon system anti-aircraft machine gun:	12.7 mm
Engine:	Diesel, 8 cylinders, 4 stroke cycle, turbocharged
Engine power:	860 HP
Transmission:	hydro-mechanical
Power to Weight Ratio:	17.2 HP/t
Average ground pressure:	1 daN/cm ²
Maximum speed:	60 km/h
Forward slope:	32°
Range:	400 km
Ammunition on Board:	41 rounds - 100 mm; 500 rounds - 7.62 mm; 750 rounds - 12.7 mm
Aiming system:	gun/turret electric drive in two planes, with integrated laser finder and computer control
Maximum thickness of armor:	TURRET 320+20 mm with auxiliary armour CHASSIS 200 mm stratified
Measuring distance:	200 - 5000 m. Stroke distance with APFSD round - 4000 m
Foreign sub-assemblies:	Turret bearing, generator, thermal imaging sight, fire suppression system, commander's sight, stabilization system, radio



DMT-85-M1

Mine Dredger



Technical Specification

Total weight:	43 t
Engine:	Diesel, 8 cylinders, 860 CP
Travel speed:	62 km/h
Dredging depth:	300 mm
Dredging speed:	7 - 12 km/h
Width of the dredged portion:	3900 mm
Longitudinal gradient:	32°
Cross slope:	17°
Non-hazardous bend radius:	65 m
The width of the antitank crossed ditch:	2.8 m
Max. load of the crane:	6.5 t
Weapon Systems:	Fire remote control platform, equipped with thermal chamber
Equipment:	• machine gun cal. 7.62mm or 12.7 mm (EAST) • machine gun cal. 7.62 mm or 12.7 mm (NATO) • device for the first cocking with electric control • installation for launching smoke shells

ARMORED VEHICLES

ROMARM | Armored Vehicles on wheels



SAUR 2

8x8 Armored Personnel Carrier



Technical Specification

Type:	8x8, wheeled amphibious vehicle	Main dimensions - length:	7960 mm
Hull:	Armored, sealed	Main dimensions - width:	3040 mm
Protection:	LEVEL 2 by STANAG 4569	Main dimensions - height:	2340 mm without turret
Crew access:	Power operated ramp with emergency access door on the rear side of the vehicle	Ground clearance:	Min. 420 mm
Speed:	on road 100 km/h on water 10 km/h	G.V.W.:	16000 kg
Gradient:	30°	Power to weight ratio:	Min. 20.3 hp/t
Side slope:	20°	Armament:	Turret RCWS-RO 12.7 or 7.62 mm
Range on the road:	Min. 600 km	Crew protection systems:	filtering installation, automatically fire extinguishing installation, fresh air intake system

RN 94

6x6 Armored Personnel Carrier



Technical Specification			
Type:	6×6, wheeled amphibious vehicle	Main dimensions - length	6785 mm
Hull:	Armored, sealed	Main dimensions - width	2850 mm
Crew:	10, including driver, commander and gunner	Main dimensions - height	2340 mm without turret
Speed:	on road 100 km/h on water 10 km/h	Ground clearance	450 mm
Gradient:	Max. 32°	Wheel base	3400 mm
Side slope:	Max. 20°	Wheel track	2460 mm
Range on the road:	Min. 700 km	Armament	Turret RCWS-RO 12.7 or 7.62 mm
		G.V.W.	12800 kg



AM 7.0 M

4x4 Armored Anti-Riot Vehicle



Technical Specification			
Type:	4x4, Armored Anti-riot vehicle	Main dimensions length	6620 mm
Protection:	Level 2 with in STANAG 4569, including windows and windshield	Main dimensions width	2510 mm
Crew:	14, including driver	Main dimensions height	3210 mm
Crew access:	2 sideways front doors for driver and commander 2 sideways middle doors for crew members 1 rear door for crew members 2 access hatches on ceiling	Filtering installation	
Speed:	on road 100 km / h	Fire extinguishing installation for tyre	Available
Gradient:	Max. 20°	Dye cleaning installation for windshields	Available
Side slope:	Max. 20°	Self protection installation with tear gas	Available
Range on the road:	Min. 600 km	Independent air heater	Available
TV and video system:	Available	Communication system	Available

AM 7.0 M

4x4 Armored Anti-Riot Vehicle



DRONES

ROMARM | Drones



THE CARFIL-PERISCOPE AVIATION ASSOCIATION

A strategic partnership for drone innovation



CUDA PERISCOPE / C5ISR UAS



Small, Light weight, Packable Configuration	
Type:	MAN PORTABLE MULTI-ROTOR ISR
Compact and Agile Design:	Engineered for versatility and maneuverability, this small UAV is ideal for confined or complex terrains, allowing for close-in reconnaissance, perimeter surveillance, and rapid deployment in austere environments.
ISR+ Capability:	Designed to carry ISR payloads and an additional payload up to 1.5 kg. Ideal for offensive cyber or lethality missions
Benefits:	• Embedded three-axis 4K camera: Can transmit 1080P real-time imagery to the ground system. • Autonomous and Precision Navigation: Advanced navigation systems, including GPS and GNSS, combined with object avoidance technology, allow for autonomous operation, high-precision waypoint navigation, and hands-off mission control, enhancing mission effectiveness. • Real-Time Intelligence and Enhanced Situational Awareness: Equipped with advanced sensors and communication systems, this UAV provides real-time intelligence, surveillance, and reconnaissance (ISR) data, enabling operators to make rapid, informed decisions in dynamic mission environments.

CUDA

PERISCOPE / C5ISR UAS



Technical Specification	
Model:	CUDA
Primary User:	C5ISR
Aircraft Type:	Small Man-Portable Quad Rotor VTOL
Dimensions:	18"Lx21 "Wx8"H
Maximum Takeoff Weight (MTOW):	3.5 Kg (including battery)
Payload Capacity:	1.5 Kg
Payload Configuration:	Front mounted ISR payload
Power Source:	Lith. Ion
Flight Endurance:	26 minutes
Coms Link:	FR or LTE
Navigation:	GNSS/Inertial
Coms Range:	15 km (Ground to Air)
Flight Modes:	Autonomous or Manual
Cruise Speed:	40 mph (17.88 m/s)
Max Altitude:	<1000 ft (305 m)
Optimal Operating Altitude:	<1000 ft (305 m)
Environmental Rating:	IP54
Maximum Wind Speeds:	25 mph
Temperature Range:	-10°C ± 40°C



STINGRAY

PERISCOPE / C5ISR UAS



Real Data, Real Time

Type:	RAPID DEPLOYMENT MULTI-ROTOR ISR
Mission-Critical Information:	Provides essential data for informed decision-making.
Ultimate C4ISR sUAS:	Designed for high-endurance and long-range missions.
Extended Endurance:	Aero models offer extended operational durations for continuous and discreet data collection.
Secure Data Collection:	Ensures secure and reliable information gathering in challenging environments.
Benefits:	• Persistent Vigilance: Capable of maintaining surveillance over long distances and in adverse conditions. • Actionable Intelligence: Delivers real-time, mission-critical data for decisive operational decisions.

STINGRAY

PERISCOPE / C5ISR UAS



Technical Specification

Model:	STINGRAY
Primary User:	C5ISR
Aircraft Type:	Quad Rotor VTOL
Dimensions:	63"Lx63 "Wx17"H
Maximum Takeoff Weight (MTOW):	21 lbs (9.52 KG)
Payload Capacity:	20 lbs (9.07 KG)
Payload Configuration:	Front mounted ISR payload
Power Source:	Lith. Ion
Flight Endurance:	25 minutes with 20 lbs/ 60 minutes with 5 lbs
Coms Link:	2xRF, GPS, LTE, SAT
Navigation:	ARK GPS(Multi-band GNSS receiver, L1/L2 bands, Multi-band RTK
Coms Range:	50 km (Ground to Air),200 KM (Air to Air)
Flight Modes:	Autonomous or Manual
Cruise Speed:	40 mph (17.88 m/s)
Max Altitude:	15000 ft (4570 m) ASL
Optimal Operating Altitude:	<1000 ft (305 m)
Environmental Rating:	IP67
Maximum Wind Speeds:	45 mph (39 kts)
Temperature Range:	F: -30°C- 120°/C: -34.44° - 48.88°



KRAKEN PERISCOPE / C5ISR UAS



Secure Data Collection and Extended Durations	
Type:	FIXED WING VTOL LONG RANGE ISR
Proven Navigation Resiliency:	Proven operational experience under jamming and spoofing environments.
Reliable Communications:	Operates under severe signal disruptions in a combat environment.
Advanced Communications:	Dual communication channels, integrated advanced Mission Computer (MC) for autonomous flight and soft, precise landing.
Mission Flexibility:	Up to 3.5 kg of payload weight with dual and triple sensor capability (EO/IR, SIGINT, COMINT, Mapping).
Benefits:	• Maritime Operations: Takeoffs and landings in confined areas and strong winds. • Improved Operations: Ease of assembly for rapid deployment with a small crew. • Robust and reliable

KRAKEN

PERISCOPE / C5ISR UAS



Technical Specification

Model:	KRAKEN
Primary User:	C5ISR
Aircraft Type:	VTOL Fixed Wing
Dimensions:	Wingspan: 158.26" x L: 74.8 "/ Aircraft H: 25.5"
Maximum Takeoff Weight (MTOW):	39.6 lbs (18 kg)
Payload Capacity:	3.3 lbs (1.5 kg)
Payload Configuration:	Dual Sensor EO, IR with optical zoom 360°/ High - Res day mapping / thermal mapping payload
Power Source:	Lith. Ion or Hydrogen Fuel Cell
Flight Endurance:	2.5 hours(battery) / 6h (fuel cell)
Coms Link:	Digital COFDM / Frequency Hopping / GDT compatible with Spectre
Navigation:	ARK GPS (Multi-band GNSS receiver, L1/L2 bands, Multi-band RTK)
Coms Range:	50 km (Ground to Air),200 KM (Air to Air)
Flight Modes:	Autonomous or Manual
Cruise Speed:	65 mph
Max Altitude:	16000ft (4876 m)ASL
Optimal Operating Altitude:	3280 ft (1000 m) AGL
Environmental Rating:	IP67
Maximum Wind Speeds:	15 mph (During Take -Off & Landing)
Temperature Range:	F: -30°C- 120°/C: -34.44° - 48.88°



SIRIN PERISCOPE / DELIVERY UAS



Heavy Payload Delivery in Rugged Environments	
Type:	MEDIUM RANGE, HEAVY LIFT, DELIVERY VTOL
Rugged Durability for Mission Success:	Engineered to withstand harsh conditions, from extreme temperatures to rough landings, this UAV offers consistent performance in even the most demanding environments, enhancing mission success.
Payload Agnostic:	Universal payload rack and interchangeable nose panel for mounting sensors, cargo pods, etc.
Benefits:	- Autonomous Flight and Precision Navigation: Equipped with advanced navigation and autonomous systems, this UAV can execute precise flight paths and waypoints, ensuring accurate and reliable delivery to designated drop zones, even in complex terrains. - Efficient and Flexible Deployment: With vertical takeoff and landing (VTOL) capability and a modular design, this UAV can be deployed quickly from small bases or forward operating locations, supporting a wide range of mission requirements.

SIRIN

PERISCOPE / DELIVERY UAS

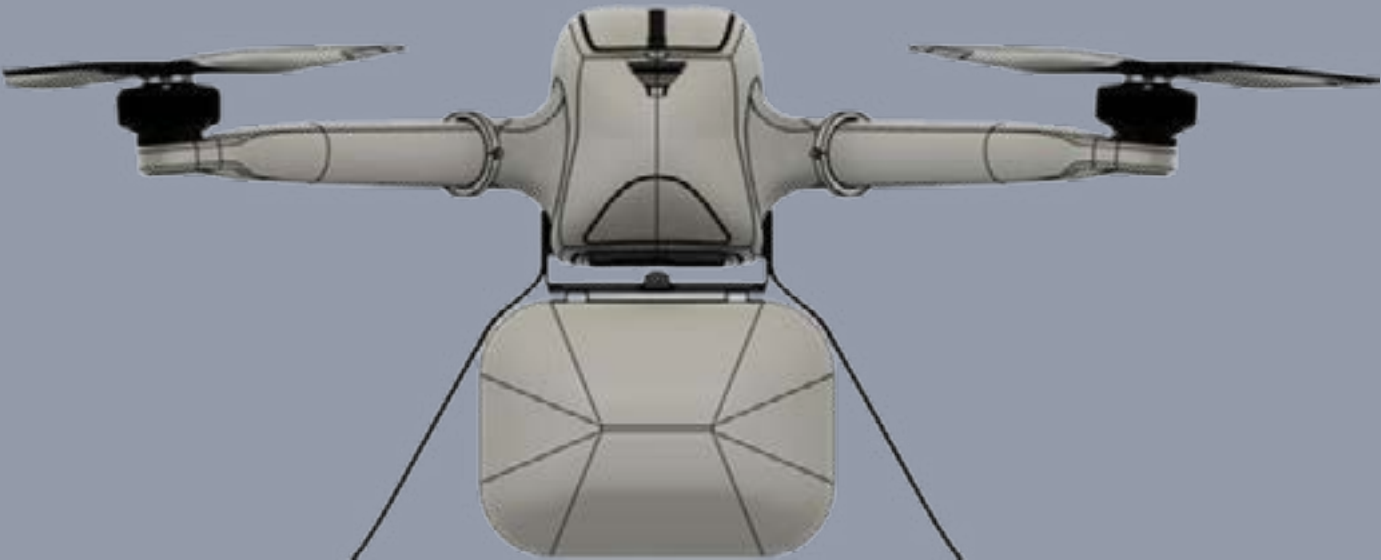


Technical Specification	
Model:	SIRIN
Primary User:	Delivery
Aircraft Type:	Quad Rotor VTOL
Dimensions:	Wingspan: 32"L x 38"W 16" H
Maximum Takeoff Weight (MTOW):	25 kg
Payload Capacity:	14.5 kg
Payload Configuration:	Multi Payload Configuration. Front mounted ISR & Centermount Payload Bay
Power Source:	Lithium Polymer
Flight Endurance:	36 minutes
Coms Link:	RF/GPS/LTE
Navigation:	ARK GPS (Multi-band GNSS receiver, L1/L2 bands, Multi-band RTK)
Coms Range:	25 km (Ground to Air)
Flight Modes:	Autonomous or Manual
Cruise Speed:	35mph (15 m/s)
Max Altitude:	1000 ft (305 m)
Optimal Operating Altitude:	<1000 ft (305 m)
Environmental Rating:	IP54
Maximum Wind Speeds:	35 mph
Temperature Range:	F: -10°C ± 40°C



PHOENIX

PERISCOPE / DELIVERY UAS



Heavy Payload Delivery in Rugged Environments	
Type:	MEDIUM RANGE, HEAVY LIFT, DELIVERY VTOL
Reliable Supply Delivery in Challenging Environments:	This UAV is designed to transport essential supplies to remote or hazardous locations, ensuring troops receive critical resources like ammunition, medical supplies, and food when and where they need them most.
High Payload Capacity for Tactical Operations:	Built to handle substantial payloads, this UAV efficiently delivers equipment, reducing the need for ground transport in conflict zones and minimizing logistical risks in hostile environments.
Benefits:	- Efficient and Flexible Deployment: With vertical takeoff and landing (VTOL) capability and a modular design, this UAV can be deployed quickly from small bases or forward operating locations, supporting a wide range of mission requirements. - Secure Data Collection: Ensures secure and reliable information gathering in challenging environments.

PHOENIX

PERISCOPE / DELIVERY UAS



Technical Specification	
Model:	PHOENIX
Primary User:	Delivery
Aircraft Type:	Quad Rotor VTOL
Dimensions:	108"L x 108"Wx24" H
Maximum Takeoff Weight (MTOW):	345 lbs(136 kg)
Payload Capacity:	~135 lbs (61.2 kg) (no camera)
Payload Configuration:	Multi Payload Configuration. Front mounted ISR & Centermount Payload Bay
Power Source:	Lithium Ion
Flight Endurance:	23 minutes with 135 lbs / 60 minutes with 25 lbs
Coms Link:	2xRF, GPS, LTE, SAT
Navigation:	ARK GPS(Multi-band GNSS receiver, L1/L2 bands, Multi-band RTK
Coms Range:	50 km (Ground to Air), 200 km (Air to Air)
Flight Modes:	Autonomous
Cruise Speed:	35 mph (15 m/s)
Max Altitude:	10000 ft (3048 m) ASL
Optimal Operating Altitude:	<1000 ft (305 m)
Environmental Rating:	IP67
Maximum Wind Speeds:	25 mph (~11 m/s)
Temperature Range:	F: -30° -120° / C:-34.44° - 48.88°



SPECTRE

PERISCOPE / LOITERING MUNITIONS

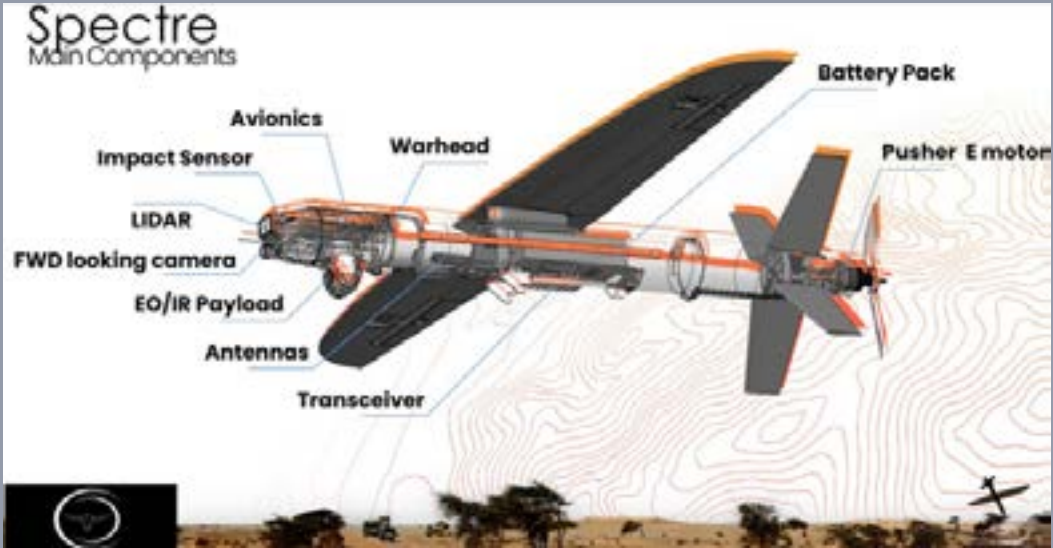


Advanced Tactical Attack Drone	
Type:	FIXED WING VTOL LONG RANGE ISR
Robust Build:	Designed to withstand harsh environments with IP67 rating.
Long-Range C5ISR Camera:	Ensures comprehensive situational awareness.
Remote Communication:	Seamless connectivity for operational flexibility.
Semi-Autonomous Flight:	Thrives in GPS-denied areas with precise navigation.
EO/IR Sensors:	Day and night mission capability for enhanced surveillance.
Versatile Payload:	Lifts integrated C5ISR, Laser Designation, and Comm Hub systems.
Laser-Guided Targeting:	Precision strikes with pinpoint accuracy.



SPECTRE

PERISCOPE / LOITERING MUNITION



Technical Specification	
Model:	SPECTRE (Loitering Munition)
Primary User:	Loitering Munition
Aircraft Type:	Fixed Wing Rsil Launched with a pusher motor
Dimensions:	Wingspan: 78.7"/ 39.3"L
Maximum Takeoff Weight (MTOW):	22 lbs (10 kg)
Payload Capacity:	5.5 lbs (2.5 kg) Warhead
Payload Configuration:	Forward facing cam, 3-axis gimbal, warhead
Power Source:	Lithium Ion
Flight Endurance:	1.5 h
Coms Link:	L-Band, SDR MIMO, AES256 Encryption /GDT compatible with Wander B
Navigation:	Multi Constellation GNSS Receiver, Anti-spoofing algorithm, Video Track Nav and Attack (No GPS needed)
Coms Range:	50 km (Ground to Air), 200 km (Air to Air)
Flight Modes:	Autonomous until Missinon Operator Takes over for attack
Cruise Speed:	56 mph (+0 km/h, 48.5 knots)/ Max Attack Speed in drive: 155 mph(250 km/h, 135 knots)
Max Altitude:	15000 ft (4572 m) ASL
Optimal Operating Altitude:	5000 ft (305m)
Environmental Rating:	IP67
Maximum Wind Speeds:	31 mph (27 kts)
Temperature Range:	F: -30° -120° / C:-34.44° - 48.88°



SMALL ARMS & AMMUNITION

ROMARM | Small arms and ammunition



CALIBER 5.45 mm

5.45 mm ROMARM Ammunition and arms



Caliber 5.45 mm

Caliber	Material			Length		Weight			Muzzle velocity V_{25} (m/s)	Maximum gas pressure (kgf/cm ²)
	Bullet core	Bullet jacket	Cartridge case	Total (mm)	Bulet (mm)	Total (g)	Bullet (g)	Cartridge case (g)		
5.45x39mm Ball	Steel	Bimetal	Brass	56.0	23.4	11,8	4	6.5	810	3200
5.45x39 Blank	-	-	Steel	46.3	-	7.25	-	6	-	-
5.45x39mm FMJ	Lead	Bimetal	Steel	56.9	24.95	11.3	4	5.65	830	3100

5.45 mm ROMARM ASSAULT RIFLE

Cartridge	5.45x39 mm	Muzzle velocity	880 m/s
Operation	gas, selective fire (optional, 3-rds burst facility)	Rate of fire	cyclic, 600 rounds/min
Locking	rotating bolt	Rifling	4 grooves rh, 1 turn in 195 mm
Feed	detachable box magazine	Weapon Length	fixed butt - 940 mm; lateral folding butt 940/735
Magazine capacity	30 rounds	Barrel Length	415 mm
Sight	mechanical fore pillar rear, U notch calibrated from 100÷1000 m	Line of sight	380 mm
Weight without magazine	3.30 kg	Weight of empty magazine	0.32 kg



5.45 mm ROMARM SUBMACHINE GUN

Cartridge	5.45x39 mm	Muzzle velocity	790 m/s
Operation	gas, automatic	Rate of fire cyclic	600 rounds/min
Locking	rotating bolt	Rifling	4 grooves rh, 1 turn in 195 mm
Feed	detachable box magazine	Weapon Length	805/605 mm
Magazine capacity	30 rounds	Barrel Length	305 mm
Sight	mechanical fore pillar rear, U notch calibrated from 100÷1000 m	Weight of empty magazine	0.32 kg
Line of sight	260 mm	Weight without magazine	3.10 kg



5.45mm ROMARM LIGHT MACHINE GUN

Cartridge	5.45x39 mm	Muzzle velocity	30 rounds
Operation	gas, automatic	Rate of fire	cyclic, 600 rounds/min
Locking	rotating bolt	Weapon Length	1080 mm
Feed	detachable box magazine	Barrel Length	590 mm
Magazine capacity	30 rounds	Line of sight	560 mm
Sight	mechanical fore pillar rear, U notch calibrated from 100÷1000 m	Rifling	4 grooves rh, 1 turn in 195 mm
Muzzle velocity	910 m/s	Weight without magazine	5.20 kg
		Weight of empty magazine	0.32 kg



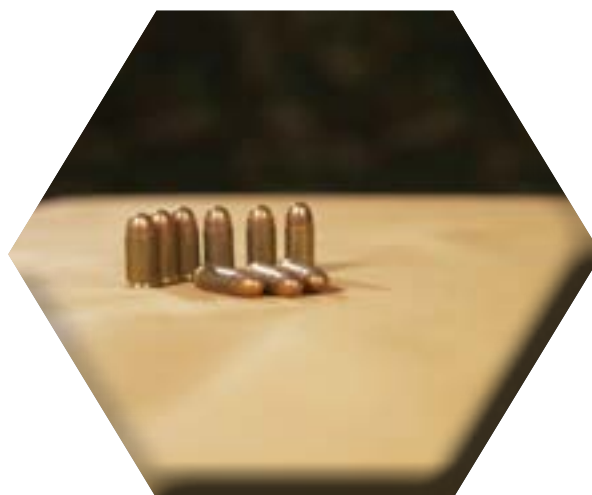
CALIBER 5.56 mm & 7.65 mm

ROMARM Ammunition



Caliber 5.56 mm

Caliber	Material			Length		Weight			Muzzle velocity V_{24} (m/s)	Maximum gas pressure (kgf/cm ²)
	Bullet core	Bullet jacket	Cartridge case	Total (mm)	Bulet (mm)	Total (g)	Bullet (g)	Cartridge case (g)		
5.56 x 45 mm (SS 109)	Steel	Bimetal	Brass	57.4	23.1	12.5	4	6.7	914	3875

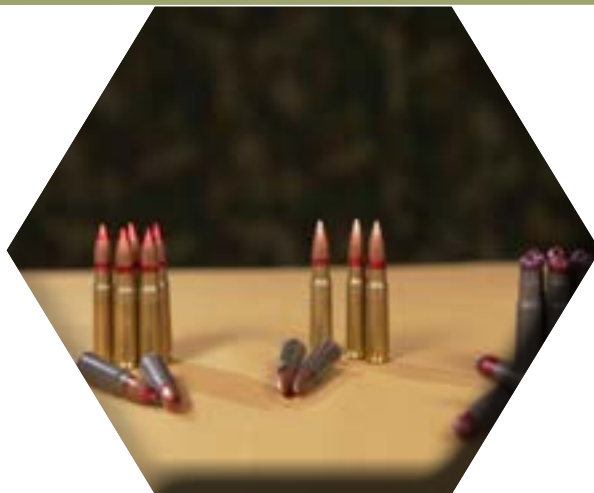


Caliber 7.65 mm

Caliber	Material			Length		Weight			Muzzle velocity V_{16} (m/s)	Maximum gas pressure (kgf/cm ²)
	Bullet core	Bullet jacket	Cartridge case	Total (mm)	Bulet (mm)	Total (g)	Bullet (g)	Cartridge case (g)		
7.65x17mm	Lead	Tombak	Brass	25	12	7.9	4.8	2,6	$V_{12.5}=305$	1350

CALIBER 7.62 mm

7.62 mm ROMARM Ammunition and arms



Caliber 7.62 mm

Caliber	Material			Length		Weight			Muzzle velocity V_{24} (m/s)	Maximum gas pressure (kgf/cm ²)
	Bullet core	Bullet jacket	Cartridge case	Total (mm)	Bullet (mm)	Total (g)	Bullet (g)	Cartridge case (g)		
7.62x51	Lead	Bimetal	Brass	71.1	28.95	25.46	9.65	11.65	838	3875
7.62x39 Ball	Steel	Bimetal	Steel/Brass	56	26.8	16.8 / 17.5	8.05	6.8 / 7.5	710	2800
7.62x39 Tracer	-	Bimetal	Steel	56	28	16.5	7.7	6.8	710	2800
7.62x39 Blank	-	-	Steel	49.4	-	8.8	-	7.3	-	-
7.62x39 FMJ*	Lead	Bimetal	Steel	56	23.9	16.8	8.05	6.8	710	2800

* Cartridges 7.62x39 mm FMJ are only for the civil market (hunting cartridges).

7.62 mm ROMARM ASSAULT RIFLE

Cartridge	7.62x39 mm	Muzzle velocity	715 m/s
Operation	gas, selective fire	Rate of fire	cyclic, 600 rounds/min
Locking	rotating bolt	Rifling	4 grooves rh, 1 turn in 240 mm
Feed	detachable box magazine	Weapon Length	870 mm
Magazine capacity	30 rounds	Barrel Length	415 mm
Sight	mechanical fore pillar rear, U notch calibrated from 100÷1000 m	Sight radius	384 mm
Weight without magazine	3.30 kg	Weight of empty magazine	0.35 kg



7.62 mm ROMARM ASSAULT RIFLE - FOLDING BUTT

Cartridge	7.62x39 mm	Muzzle velocity	680 m/s
Operation	gas, automatic	Rate of fire	cyclic, 600 rounds/min
Locking	rotating bolt	Rifling	4 grooves rh, 1 turn in 240 mm
Feed	detachable box magazine	Weapon Length	805 / 605 mm
Magazine capacity	30 rounds	Sight radius	260 mm
Sight	mechanical fore pillar rear, U notch calibrated from 100÷500 m	Weight without magazine	3.10 kg
		Weight of empty magazine	0.35 kg



7.62 mm ROMARM LIGHT MACHINE GUN

Cartridge	7.62x39 mm	Muzzle velocity	730 rounds
Operation	gas, automatic	Rate of fire	cyclic, 600 rounds/min
Locking	rotating bolt	Rifling	4 grooves rh, 1 turn in 240 mm
Feed	detachable box magazine	Weapon Length	1035 mm
Magazine capacity	30 rounds, optional drum magazine 75 rounds	Barrel Length	590 mm
Sight	mechanical fore pillar rear, U notch calibrated from 100÷1000 m	Sight radius	560 mm
Weight without magazine	4.68 kg	Weight of empty magazine	0.32 kg



CALIBER 7.62 mm

7.62 mm ROMARM Ammunition and arms

Caliber 7.62 mm

Caliber	Material			Length		Weight			Muzzle velocity V ₂₅ (m/s)	Maximum gas pressure (kgf/cm ²)
	Bullet core	Bullet jacket	Cartridge case	Total (mm)	Bulet (mm)	Total (g)	Bullet (g)	Cartridge case (g)		
7.62x54R Ball	Steel	Bimetal	Steel/Bimetal	76.91	32.3	23.2	9.75	8.65	820	2900
7.62x54R Tracer		Bimetal	Steel	76.91	35.4	23.1	9.65	8.65	790	2900
7.62x54R Blank	Steel	-	Steel/Bimetal	53.72	-	10.8	-	8.65	-	-
7.62x54R FMJ*	Lead	Bimetal	Steel	76.91	28.4	23.2	9.75	8.65	820	2900
7.92x57 FMJ*	Lead	Bimetal	Steel	77	28.95	24	11	9.7	750	3200

*Cartridges 7.62x54R mm and 7.62x57 mm FMJ are only for the civil market (hunting cartridges).



7.62 mm ROMARM SNIPER RIFLE

Cartridge	7.62x54R mm	Muzzle velocity	830 m/s
Operation	gas, semiautomatic	Rifling	4 grooves rh, 1 turn in 320 mm
Locking	rotating bolt	Weapon Length	1150 mm
Feed	detachable box magazine	Barrel Length	620 mm
Magazine capacity	10 rounds	Line of sight	590 mm
Sight	- mechanical fore pillar rear, U Notch calibrated from 100÷1200 m - optical 4x6° telescope, calibrated from 100÷1300 m	Weight without magazine	4.06 kg
Weight of empty magazine			0.21 kg



7.62 mm ROMARM HEAVY MACHINE GUN

Cartridge	7.62x54R mm	Muzzle velocity	825 m/s
Operation	gas, automatic	Sight radius	660 mm
Locking	rotating bolt	Barrel Length	- without suppressor 605 mm - with suppressor 658 mm
Feed	belt, 200 rounds	Weapon Length shoulder closed	1196 mm
Rate of fire	cyclic, 600-650 rds/min	Weapon weight with bipod	7.50 kg
Sight	mechanical fore pillar rear; rear, U notch calibrated from 100÷1500 m	Barrel weight	2.40 kg
Rifling	4 grooves rh, 1 turn in 240 mm		



7.62 mm ROMARM COMMANDO MACHINE GUN

Cartridge	7.62x54R mm	Muzzle velocity	800 rounds
Operation	gas, automatic	Barrel	4 grooves rh, 1 turn in 240 mm
Locking	rotating bolt	Weapon Length	1100 / 810 mm
Feed	belt, 100 rounds	Barrel Length	510 mm
Sight	mechanical fore, pillar; rear, U notch	Line of sight	570 mm
Sight	mechanical fore pillar rear, U notch	Weapon weight	8.25 kg



CALIBER 9 mm

9 mm ROMARM Ammunition and arms



Caliber 9 mm

Caliber	Material			Length		Weight			Muzzle velocity V_{16} (m/s)	Maximum gas pressure (kgf/cm ²)
	Bullet core	Bullet jacket	Cartridge case	Total (mm)	Bulet (mm)	Total (g)	Bullet (g)	Cartridge case (g)		
9x18mm Makarov	Lead or Steel	Bimetal	Brass	24.95	12.3	10.65/10.2	6.45/6.0	3.85	$V_{12.5}$ 350	1800
9X19mm Parabellum	Lead	Bimetal	Brass	29.6	15,2	12.6/12.0	8/7.45	4.2	370/385	2345
9X19mm Blank	-	-	Brass	28	-	5	-	4.4	-	-
9X19mm Subsonic	Lead	Bimetal	Brass	29.6	16	12.5	8	4.2	305	min. 1800
9X19mm Luger	Lead	Bimetal	Brass	29.6	15.65	12.2	7.45	4.2	380	2345
9X19mm Frangible	Composite	-	Brass	29.3	17.4	9	4.2	4.2	430	2345



9 mm ROMARM PISTOL

Caliber	9 × 19 mm Parabellum
Operation system	short recoil operation
Trigger system	double/single action
Magazine capacity	15 rounds
Frame	steel
Grip	polymer
Length between sights	152 mm
Overall length	206.5 mm
Height	139 mm
Width	36 mm
Barrel length	112 mm
Barrel rifling	6 grooves
Weight without magazine	900 g
Weight of empty magazine	90 g
Effective range	50 m
Maximum range	1500 m
Standard set	PISTOL cal. 9 × 19 mm with magazine



CALIBER 9 mm

9 mm ROMARM Ammunition and arms



9 mm BERETTA PX4 STORM (under license)

The PX4 Storm is a semiauto pistol, developed to meet the very demanding requirements. Beretta Px4 Storm is a recoil-operated pistol with a geometrically closed rotary barrel.

Caliber	9 × 19 mm	9 x 21 mm IMI	.40S&W	.45ACP
Overall length	192 mm	192 mm	192 mm	195 mm
Barrel length	102 mm	102 mm	102 mm	105 mm
Magazine capacity	17	15	14	10
Overall height	140 mm	140 mm	140 mm	140 mm
Overall width	36 mm	36 mm	36 mm	36 mm
Width grip	30 mm	30 mm	30 mm	30 mm
Twisting procentage	250 mm	250 mm	400 mm	406 mm
Sight radius	146 mm	146 mm	146 mm	149 mm
Rifling	Right hand, 6 slots			
Weight unloaded	785 g	7850 g	810 g	800 g
Action	single / double	single / double	single / double	single / double
Safety	Automatic safety with pull pin, de-cocking handle / ambidextrous manual safety on mobile handle			
Firing pin	Exposed			

CALIBER 12.7 mm

12.7 mm ROMARM Ammunition and arms

Caliber 12.7 x 99 mm

Type	Use	Bullet weight (g)	Accuracy at 300m (cm)	Specific info	Muzzle velocity at 24m (m/s)
Ball case made of brass Ball case made of steel	For use in all 12.7x99mm machine guns, such as: .50 Z03 M.G., .50 Browning M2, Browning M85, etc.	42 45	- $R_{50} \leq 19$	Bullet jacket made of gilding metal (CuZn10). Bullet core made of mild steel Bullet jacket made of brass plated steel Core made of mild steel	$V=886 \pm 9$
Armor Piercing (AP)		45	$R_{50} \leq 19$	Armor piercing capacity through 20mm thick armor at 100 m: 90%	$V=886 \pm 9$
Tracer Incendiary (IT)		42	$R_{50} \leq 19$	Tracer capacity at 1500 m: 80% Incendiary capacity of gasoline behind 15 mm thick armor at 70 m: 80%	$V=886 \pm 9$
Tracer (T)		42	$R_{50} \leq 19$	Tracer capacity at 1500 m: 80%	$V=886 \pm 9$
Armor Piercing Incendiary (API)		45	$R_{50} \leq 19$	Armor piercing capacity through 20 mm thick armor at 100 m: 90% Incendiary capacity of gasoline behind 15 mm thick armor at 70 m: 80%	$V=886 \pm 9$
Armor Piercing Incendiary Tracer (APIT)		42	$R_{50} \leq 19$	Armor piercing capacity through 20 mm thick armor at 100 m: 90% Incendiary capacity of gasoline behind 15 mm thick armor at 70 m: 80%. Tracer capacity at 1500 m: 80%	$V=886 \pm 9$
High pressure cartridge with stell case	For use in proof testing caliber.50 weapons, during manufacture, test and repair	45	-	Bullet jacket made of brass (CuZn10) plated steel. Core made of mild steel.	-

12.7 x 99 mm ROMARM MACHINE GUN

Cartridge:	12.7 x 99 mm
Operation:	gas operated
Feed:	belt, "KRAB" type; 5 times reused
Firing mode:	single shot, automatic fire
Sights:	rear: folding leaf; front: front sight
Mean expected barrel life	7000 rds
Effective range:	1800 m
Maximum range:	6700 m
Weapon length:	1630 mm
Barrel length:	1003 mm
Rate of fire:	520-600 rds/min
Weight of weapon:	32.5 kg



CALIBER 12.7 mm

12.7 mm ROMARM Ammunition and arms



Caliber 12.7 x 108 mm

Type	Use	Bullet weight (g)	Rim diameter (mm)	Round length (mm)	Muzzle velocity at 25m (m/s)
Cartridge with B106 Ball Bullet	For use in all 12,7x108 mm machine guns, such as: DShKM, NSV, KORD, IAKB	48	13.9	147	$V_{25}=810-825$
Armor Piercing (AP)		48	13.9	147	$V_{25}=810-825$
Armor Piercing Tracer (APT)		44	13.9	147	$V_{25}=810-825$
Tracer (T)		44	13.9	147	$V_{25}=810-825$
Armor Piercing Incendiary (API)		48	13.9	147	$V_{25}=810-825$
Armor Piercing Incendiary Tracer (APIT)		44	13,9	147	$V_{25}=810-825$
Blank	Designed to be fired from the DShKM-type machine gun, with recoil hardener system and a special feeding device	-	14.05	110	-

12.7 x 108 mm ROMARM MACHINE GUN

Cartridge	12.7 × 108 mm
Operation	gas operated
Feed	belt
Firing mode	automatic fire
Sights	rear: folding leaf; front: front sight
Effective range	2000 m
Maximum range	7000 m
Weapon length	1590 mm
Barrel length	1065 mm
Rate of fire	520 to 600 rds/min
Weight of weapon	33 kg
Mean expected barrel life	7000 rds
Weight of tripod	60 kg

PACKING

Machine gun, Tripod and Accessories	
Wooden Box	1650 × 560 × 430 mm
Net/Gross Weight	130 / 168 kg
Pallet for 6 products	
Dimensions	1650 × 1120 × 1410 mm
Net/Gross Weight	780 / 1038 kg



CALIBER 14.5 mm

14.5 mm ROMARM Ammunition and arms



Caliber 14.5 mm

Type	Use	Bullet weight (g)	Rim diameter (mm)	Round length (mm)	Muzzle velocity at 25m (m/s)
BALL	For use in all 14.5x114 mm machine guns, such as: KPV, KPVT, ZU2 and MR4	64	16.55	156	$V_{25}=980\text{m/s} \div 995\text{m/s}$
ARMOUR PIERCING (AP)		64	16.55	156	$V_{25}=980\text{m/s} \div 995\text{m/s}$
ARMOUR PIERCING TRACER (APT)		59	16.55	156	$V_{25}=995\text{m/s} \div 1015\text{m/s}$
TRACER (T)		59	16.55	156	$V_{25}=995\text{m/s} \div 1015\text{m/s}$
ARMOUR PIERCING INCENDIARY (API)		64	16.55	156	$V_{25}=980\text{m/s} \div 995\text{m/s}$
ARMOUR PIERCING INCENDIARY TRACER (APIT)		59	16.63	156	$V_{25}=995\text{m/s} \div 1015\text{m/s}$
BLANK CARTRIDGE	Perparing for training	-	16.63	118	-

14.5 x 114 mm ROMARM MACHINE GUN

Effective range	3000 m	Medium velocity at 25 m	995 m/s
Maximum range	8000 m	Weight of weapon	50.2 kg
Armour piercing capacity	20 mm armor plate at 20 obliquity at 300 m	PACKING	
Sights	mechanical	Wooden box dimensions	1860 x 750 x 670 mm
Cartridge	14.5 x 114 mm	Net/Gross weight	210/240 kg
Operation	short recoil operation	Firing mode	automatic fire
Feed system	belt feed (right, left)	Belt capacity	10 rounds
Barrel length	1342 mm	Weapon length	1980 mm
		Rate of fire	450÷600 rds/min



The **14.5 mm Machine Gun** is a powerful automatic weapon both mobile and stationary, fitted to the armoured vehicles. It comes on MULTIFUNCTION and UNIVERSAL MOUNTS or Anti-Aircraft twin-barreled gun and quadruple gun. It is designed for combat against the light armored targets, enemy's weapon systems or troops.

It fires all types of cartridges: API, APIT, BALL, AP, T, APT, HC-API.



CALIBER 20 mm

20 mm ROMARM Projectiles



20x102 mm FAP Projectile

The total length of the round	max.168,2 mm
Weight of the complete round	approx. 260 ±2 g
FAP Projectile weight	102 ±3 g
Penetrator weight	60 g
Penetrator material	tungsten alloy
Diameter of the projectile	max. 19.96 mm;
Diameter of the projectile ring	21.03-0.10 mm;
Powder	spherical
Muzzle velocity of the projectile	1050 ±20 m/s
The mean pressure, max	≤ 4 550 kgp/cm ²
Range of the temperatures of use	- 54 ⁰ ÷ +71 ⁰ C
Optimum range (the distance of straight fire)	3 000 m
Packing	metal boxes

20x102 mm HEI Projectile

The total length of the round	168.02 mm.
Weight of the complete round	approx. 258 g
HEI Projectile weight	101.4±3 g;
Diameter of the projectile	19.96 mm;
Diameter of the ring	21.03-0.10 mm
Powder	spherical
Muzzle velocity of the projectile	1030 ±15 m/s
The maximum pressure	4 254.57 kg/cm ²
Range of the temperatures of use	- 30 ⁰ ÷ +51 ⁰ C
Optimum range (the distance of straight fire)	3 000 m
Packing	metal boxes



20x102 mm TP-T Projectile

The total length of the round	max. 168.02 mm
Weight of the complete round	approx. 254 g
TP-T Projectile weight	95 ±3 g
Diameter of the projectile	max. 19.96 mm
Powder	spherical
Muzzle velocity of the projectile	1030 ±15 m/s
The maximum pressure	4254 kgp/cm ²
Range of the temperatures of use	- 54 ⁰ ÷ +60 ⁰ C
Optimum range (the distance of straight fire)	3 000 m
Tracer performance	min. 1.9 sec
Packing	metal boxes

CALIBER 23 mm

23 mm ROMARM Ammunition and arms



Caliber 23 mm

Gun type:		Aircraft Gun GSh-23 and GSh-23L		
Type of projectile	Measuring Unit	EXPLOSIVE INCENDIARY OFZ HE-I	ARMOUR PIERCING INCENDIARY BZA AP-I	TRACER FOR TRAINING TP-T
Muzzle velocity	m/s	720	720	720
Average maximum pressure	kgf/ cm ²	3000	3000	3000
Total length		200.53	200.66	200.53
Cartridge case	mm	115	115	115
Projectile		102.5	98.5	105.8
Total weight				
Cartridge case with propelling charge	kg	0.329	0.331	0.329
Projectile (without fuze)		0.155	0.157	0.155
		0.174	0.174	0.174
Fuze type	-	B-23	-	DUMMY
Blasting charge	-	AIX-2	DU-5	-
Propelling charge	-	4/7Tgr	4/7Tgr	4/7Tgr
Tracer burning time	s	-	-	Min. 4

ROMARM AIR TO AIR CANNON

Caliber	23 mm	Barrel inner diameter	
Rate of fire (normal conditions)	3000+3400 rds/min	On gaps	23.7+0.1 mm
Muzzle velocity	715 ±15 m/s	On full	23+0.1 mm
Mass - cal. 23 x 115mm Cannon	49.2 kg	Triggering	electric
Mass - cal. 23 x 115 mm Cannon with localizers	50 kg	Cocking	manual pyro-cartridge
Length cal. 23 x 115mm Cannon	1387 mm	Guaranteed number of rounds to be fire (with the use of the pertaining set of spare parts)	minimum 4000 rounds/ min (to this number there are allowed max. 200 pyrotechnic cockings from which 80 without ammunition)
Length cal. 23 x 115 mm Cannon with localizers	1537 mm	Packing	1 wooden box with 1 piece
Breadth	165 mm	Wooden box dimensions (Lxhx)	1673 x 345 x 319 mm
Height	168 mm	Net/Gross weight:	58.5 / 81.5 kg
- barrel length	1000 mm	- threads pitch	575 mm
- number of threads	10	- threads breadth	4.8 mm

The two-barrel cal. 23 x 115 mm air to air cannon is designed to be mounted on an aircraft fighter. It is intended for air defense and against ground targets.



CALIBER 25 mm

25 mm ROMARM Ammunition

APFSDS-T 25 x 137 mm

Armour Piercing Fin Stabilised Discarding Sabot with Tracer	
Total length round	223 mm
Mass of round	437 g
Mass of projectile	130 g
Propellant	NC single base
Muzzle velocity	1445 m/s
Cartridge case	Steel
Temperature range (functional)	-30°C to +50°C
Time of flight	1000 m - 0.75 s
Time of flight	2000 m - 1.57 s
MAIN FEATURES	
Performance	Short time of flight. Defeats armour at low impact angles at extended ranges.
Firing mode	Single shot and automatic mode
Safety	Intensive munition (no HE)
Environment	No toxic elements (no DU)
Transport/Storage	UN Classification 1.4C
Gun/System	Incl. KBA, M242, M811
Packing	sealed metal boxes.

FAPDS-T 25 x 137 mm

Frangible Armour-Piercing Discarding Sabot Shell with Tracer	
Total length round	223 mm
Mass of round	440 g
Mass of projectile	150 g
Propellant	NC single base
Muzzle velocity	1310 m/s
Cartridge case	Steel
Temperature range (functional)	-30°C to +50°C
Time of flight	1000 m - 0.82 s
Time of flight	2000 m - 1.78 s
Tracer distance	< 2500 m
MAIN FEATURES	
Performance	Excellent against soft and semiarmored targets
Firing mode	Single shot and automatic mode
Safety	No ricochet, no duds (no HE)
Environment	No pyrochemical substances
Transport/Storage	UN Classification analogous TP-T
Packing	sealed metal boxes.



TPDS-T 25 x 137 mm

Target Practice Discarding Sabot Shell with Tracer		MAIN FEATURES	
Total length round	223 mm	Safety	Intensive munition (no HE)
Mass of round	425 g	Performance	Warshot trajectory match to tactical range
Mass of projectile	121 g	Firing mode	Single shot and automatic mode
Muzzle velocity	1445 m/s	Environment	No toxic elements
Cartridge case	Steel	Transport/Storage	UN Classification 1.4C
Temperature range (functional)	-30°C to +50°C	Gun/System	Incl. KBA, M242, GAU12, M811
Time of flight	1000 m - 0.82 s	Packing	Sealed metal boxes
Time of flight	2000 m - 2.03 s	Tracer time	1.8 s

CALIBER 30 mm

ROMARM Ammunition



Caliber 30 x 165 mm

Gun type	Unit	NAVAL GUN NN-30 AND AK-230			NAVAL GUN AK-306 AND AK-630					TOWED GUN AA 2X30 Md. 80	
Type of projectile		OF-83 (HE)	F-83 (HE)	BR-83 (T)	OF-84 (HE-I)	OR-84 (HE-T)	TP	TP - T	Multiefect (API-T)	OR-83R (HE-T)	BZR-83R (API-T)
Maximum range	m	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Muzzle velocity	m/s	1050	1050	1050	890	890	890	890	890	1050	1050
Average max pressure	kgf/cm ²	3100	3100	3100	3200	3200	3200	3200	3200	3100	3100
Total length Cartridge case Projectile	mm	304 210 129	304 210 131	305 210 120	292 165 127	292 165 127	292 165 127	292 165 127	292 165 127	305 210 135	305 210 135
Total weight Cartridge case with propelling charge Projectile	kg	1.061 0.705 0.356	1.066 0.706 0.360	1.061 0.704 0.357	0.837 0.447 0.390	0.833 0.446 0.387	0.837 0.447 0.390	0.833 0.446 0.387	0.837 0.447 0.390	1.076 0.716 0.360	1.076 0.716 0.360
Fuze type	-	MG-30	MD-30	-	FC-30	FC-30	DUMMY	DUMMY		MG-30	-
Blasting charge	-	A-IX-2	A-IX-2	-	A-IX-2	A-IX-2	-	-	Piercing core and balls	A-IX-2	DU-5
Tracer burning time	s							min. 4			
Propelling charge	-	6/7 BPgr	6/7 BPgr	6/7 BPgr	6/7 FL-M	6/7 FL-M	6/7 FL-M	6/7 FL-M	6/7 FL-M	6/7 BPgr	6/7 BPgr
Self-destruction time	s	12-17	12-18	-	11+19	11+19	-	-		12-17	-
Tracer burning time	s	-	-	min. 8	-	min. 10	-	min. 10		min. 9	min. 4



CALIBER 30 mm

ROMARM Ammunition



30 mm artillery ammunition for 2A 42 cannon fitted BMP-2

Gun type	Unit	2A 42, 2A 72, 2A 38, 2A 38M, M86 and M89 CANNON fitted BMP-2			
Type of projectile		HIGH EXPLOSIVE INCENDIARY (HE-I)	ARMOUR PIERCING TRACER (AP-T)	TRAINING HE-I (TP)	TRAINING AP-T (TP - T)
Muzzle velocity	m/s	960 ± 10	970 ± 10	960 ± 10	970 ± 10
Average maximum pressure	kgf/cm ²	3600	3600	3600	3600
Total length Cartridge case Projectile	mm	291 164 127	291 164 127	291 164 127	291 164 127
Total weight Projectile	kg	0.842 0.390	0.853 0.400	0.842 0.900	0.853 0.400
Fuze type	-	A - 670 M	-	DUMMY	-
Blasting charge	-	A-IX-2	-	-	-
Tracer burning time	s	-	MIN. 3.5		
Propelling charge	-	6/7 P5 BPF I	6/7 P5 BPF I	6/7 P5 BPF I	6/7 P5 BPF I
Power of piercing	mm	-	18 at 1000 m, 60°	-	-

Caliber 30 x 173 mm

Type	Target practice tracer (TP-P)	High explosive incendiary HEI	High explosive incendiary tracer HEI-T
MAIN CHARACTERISTICS			
Round total weight	835 g	835 g	835 g
Projectile weight	362 g	378 g	379 g
Muzzle velocity	1100 m/s	1100 m/s	1100 m/s
Range	3000 m	3000 m	3000 m
Trace burn time	3 s		3 s



CALIBER 35 mm
ROMARM Ammunition



Caliber 35 mm

MAIN CHARACTERISTICS		
	HEI High explosive incendiary	TP-T Target practice with tracer
Round total weight	1572 g	1572 g
Projectile weight	550 g	550 g
Muzzle velocity	1174 m/s	1174 m/s



CALIBER 7.62 mm

ROMARM RIFLES



7.62 mm / 5.45mm SEMI-AUTOMATIC RIFLE

Cartridge	7.62 x 39 mm / 5.45x39 mm	Sight	mechanical: fore, pillar; rear, U-notch, rail for mounting optical sighting devices
Variants	- DS - box magazine with cartridges on two rows; - SS - box magazine with cartridges on a row	Weapon length	870 mm
Operation	gas, semiautomatic	Sight radius	384 mm
Locking	rotating bold	Barrel length	415 mm
Feed	detachable box magazine	Weight of empty magazine	0.350 Kg
Magazine capacity	- optional: 5 or 10 rounds box magazine 7.62 mm DB model is available with AK 30-rds box magazine	Weight without magazine	3.300 Kg

7.62 mm SEMI-AUTOMATIC PISTOL

Cartridge	7.62 x 39 mm	Models	S / X-S / XX-S
Operation	gas, semiautomatic	Weapon length	520 mm / 415 mm / 370 mm
Locking	rotating bold	Barrel length	295 mm / 194 mm / 150 mm
Feed	detachable box magazine	Sight radius	260 mm / 160 mm / 255 mm
Magazine capacity	30-rounds magazine; optional: 5 or 10 rounds, box magazine	Weight without magazine	3.100 Kg / 2.300 Kg / 2.150 Kg
Sight	mechanical; fore, pillar; rear, U-notch	Weight of empty magazine	0.350 Kg



CALIBER 7.62 mm ROMARM RIFLES



7.62 mm SEMI-AUTOMATIC SNIPER RIFLE

Cartridge	7.62x54R mm	Weapon length	1150 mm
Operation	gas, semiautomatic	Barrel length	620 mm
Locking	rotating bolt	Line of sight	590 mm
Feed	detachable box magazine	Weight without magazine	4.100 Kg
Magazine capacity	10 rds.	Weight of empty magazine	0.210 Kg
Sight	mechanical: fore, pillar; rear, U-notch. optional: 4x6° telescope	Weight of telescope	0.600 Kg



7.62 mm PUMP ACTION RIFLE

Cartridge	7.62 x 39 mm	Rail for mounting optical sighting devices	
Operation	hand operated	Weapon length	910 mm
Locking	rotating bold	Barrel length	415 mm
Feed	detachable box magazine	Sight radius	425 mm
Magazine capacity	optional: 5 or 10 rounds box magazine	Weight without magazine	3.300 Kg
Sight	mechanical; fore, pillar; rear, U-notch	Weight of empty magazine	0.200 Kg



7.62 mm SEMI-AUTOMATIC RIFLE

Cartridge	7.62 x 39 mm	Rail for mounting optical sighting devices	
Operation	gas, semiautomatic	Weapon length	870 mm
Locking	rotating bold	Barrel length	415 mm
Feed	detachable box magazine with cartridges on a row	Sight radius	260 mm
Magazine capacity	10 rounds box magazine	Weight without magazine	3.300 Kg
Sight	mechanical; fore, pillar; rear, U-notch	Weight of empty magazine	0.200 Kg



7.62 mm SEMI-AUTOMATIC RIFLE FOLDING BUTT

Cartridge	7.62 x 39 mm
Operation	gas, semiautomatic
Locking	rotating bold
Feed	detachable box magazine
Magazine capacity	optional: 5 or 10 rounds box magazine
Sight	mechanical; fore, pillar; rear, U-notch



Grenades for under-barrel launchers

ROMARM GRENADES



40 x 46 mm HE GRENADE

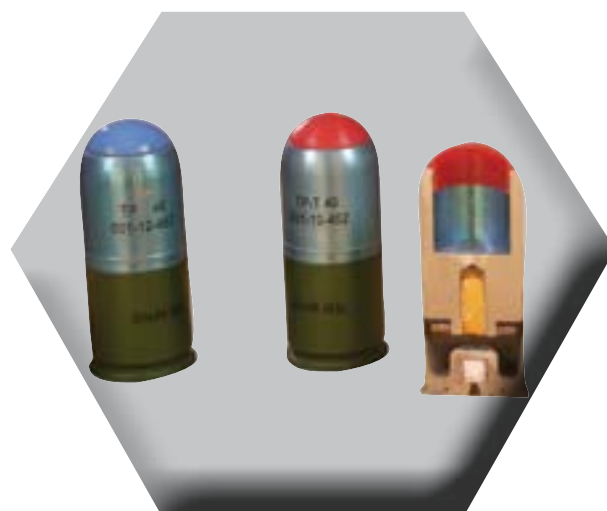
Type	HE
Lenght	94.5 mm
Weight	235 ± 10 g
Filler and weight	Comp. B, 21 g
Fuze	AR 706
Maximum range	400 m
Number of balls	144 pcs
Number of splinters having mass over 0,2 gram	min. 200 pcs
Muzzle velocity	80 ± 2 m/s
Temperature range for firing	-50 °C to +50 °C
Temperature range for storage	-50 °C to +50 °C
Shelf live	10 years
Packing	Metal box, T46 - 72 pcs or wooden box - 72 pcs
IMDG code	1.1F
U.N. Number	0321

* Launcher use: M203, M79, L123A2 UGL UK, GLG40, MZP-1, HK79, HK79A1, GL/40/90

40 x 46 mm TP-T GRENADE

Type	TP-T
Lenght	101,5 mm
Weight	230 ± 10 g
Maximum range	400 m
Muzzle velocity	80 ± 2 m/s
Time burning tracer	min. 15 s
Temperature range for firing	-50 °C to +50 °C
Temperature range for storage	-50 °C to +50 °C
Packing	Metal box, T46 - 72 pcs or wooden box - 72 pcs
IMDG code	1.2C
U.N. Number	0328

* Launcher use: M203, M79, L123A2 UGL UK, GLG40, MZP-1, HK79, HK79A1, GL/40/90



40 mm round for grenade launcher attached to submachine gun (AG - 40)

Type of projectile	High explosive (HE-AP)
Total length	108 mm
Grenades	81 mm
Total weight	0.275 Kg
Grenades	0.200 Kg
Maximum range	400 m
Muzzle velocity	80 m/s
Grenade body	STEEL
Splinters spreadind radius	5 m
Selfdestruction time	13 ÷ 18 sec

Grenades for under-barrel launchers

ROMARM GRENADES

40 x 47 mm EXPLOSIVE GRENADE

Type	Explosive
Operational abbreviation	GETZ 40 mm
Length	105 mm
Cartridge length	47 mm
Total weight	260 ± 10 g
Weight of explosive grenade	200 ± 10 g
Mass of propelling charge	0.6 g
Mass of explosive charge	35 g
Fuze	PD SD-40-1TH
Average speed	77 ± 2 m/s
Operating temperature	-40 °C to +52 °C
Storage temperature	-40 °C to +52 °C
Method of initiation	Percussion
Ballistic data	Lethal effects on living within a radius of 5m
Hazard class and compatibility group	1.1F

For Romanian grenade launcher caliber 40 mm model 1977 adapted to submachine gun caliber 7,62 mm model 1963.



40 x 47 mm INERT GRENADE

Type	Target practice tracer
Operational abbreviation	GITZ 40 mm
Length	105 mm
Cartridge length	47 mm
Total weight	260 ± 10 g
Weight of inert grenade	200 ± 10 g
Mass of propelling charge	0,5 g
Operating temperature	-40 °C to +52 °C
Storage temperature	-40 °C to +52 °C
Method of initiation	Percussion
Ballistic data	Lethal effects on living only at their impact with the grenade
Hazard class and compatibility groupe	1.2 C



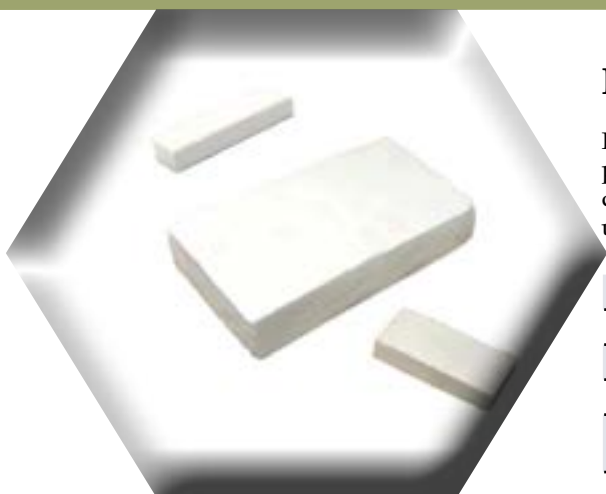
Smoke grenade for visible & infrared masking

Caliber	76 mm	Extension distance of the smoke curtain	15 ÷ 40 m
Maximum length	170 mm	Time for fumigation	Min. 60 s
Total weight	~1.2 kg	Smoke duration	≥20s (IR) / ≥30s(VIS)
The mass of the fumigant load	~ 800 g multispectral fumigation composition RP/IR	Size of screen	for one grenade - Width ≥ 12m; Height ≥ 6 m / salvo of eight grenades: Width 60 ÷ 70m; Height ≥ 6 ÷ 10m
Launcher	WEGMANN 76 mm or TOHAN launcher SGL-1TH	Wave band covered	- VIS 0.4 ÷ 0.7 μm - IR 0.7 ÷ 14 μm
The initiation mod	Electric	Recoil force	< 10,5 kN
Packing	18 grenades are paked in a wooden box: 670 x 370 x 290mm	Operating current	2.4 A
Hazard class and compatibility group	1.4 G	The threshold for non-initiation	1.2 A
Key feature	non carcinogenic and low toxic; use for combat and training	Electrical circuit resistance	0.3 ÷ 2.5 Ω



Powders & Explosives

ROMARM POWDERS AND EXPLOSIVES



Plastic Explosive HITEX-M

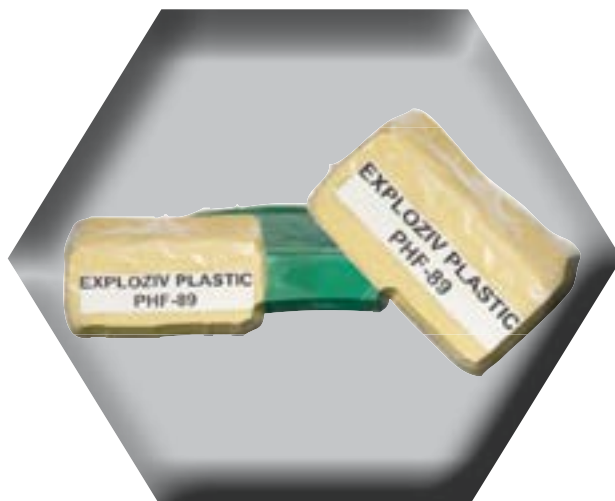
HITEX-M is an explosive composition based on RDX, with inert plastic binder, designed for producing the explosive charges for demolition or for processing or for nonconventional technologies using explosives. The product is marked with marker p-MNT.

Shape	Parallelepiped block
Malleability	Plasticized body, easy malleable;
Weight of block	1000±5g (500g)
Dimension of block	~ 182x61x59 mm;
Content	85-90%RDX, 10-15% inert plastic binder, 0,5-0,6% marking agent
Operating and storage temp.	-20° to +50°C;
Detonating velocity	min. 7000 m/sec;
Hess shattering	min. 20 mm;
Volume of excavation Trauz	~ min. 330 cm ³ ;
Explosive heat	1100-1500 kcal/kg;
Specific volume	900-950l/kg;
Chemical stability at vacuum	≤1cm ³ /g;
Temperature sensitivity	Self-ignition >200°C;
Impact sensitivity KAST (5kg)	H50>0,25 m;
Initiating capacity	Electrical caps, non electrical caps, pyrotechnical caps, detonator cord
Shelf live	5 years
Risk class:	1.1D
Transport number:	0457
Packing:	Each block of 1kg is packed into transparent plastic bag, vacuumed, and into labeled cardboard box. Every identified wooden box contains 20 cardboard boxes (20kg).

Plastic Explosive PHF-89

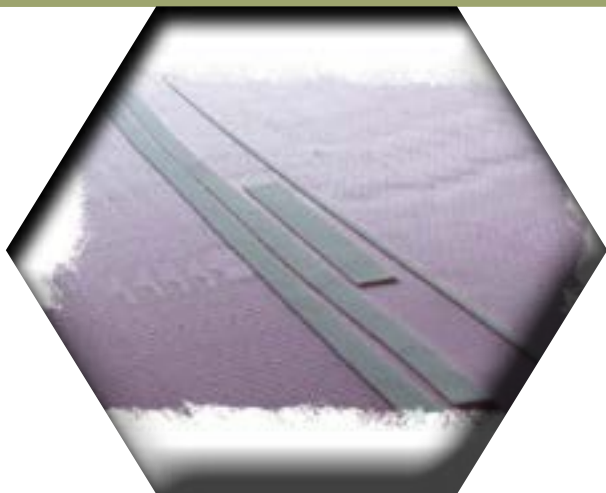
PHF-89 is a plastic explosive for producing the explosive charges for civil and military destination.

Appearance	homogenous plastic substance of white or yellowish color, slightly adherent
RDX content	89 ±1.5%
Moisture	max. 0.25%
Density	min. 1.5 g/cm ³
Insoluble particles on	0.425 mm sieve 0 / 0.25 mm sieve 5
Acidity (H ₂ SO ₄)	max. 0.05%
Detonation velocity	min. 7400 m/s
Packing	The blocks of 200 g, 250 g, 500 g, 1000 g, etc., are wrapped in polyethylene sheets and/or waxed paper sheets. The blocks are then packed in cardboard or wooden cases according to customer's request.
Guarantee	1 year from the date of manufacturing.



Powders & Explosives

ROMARM POWDERS AND EXPLOSIVES



Plastic Explosive BEP-88T

BEP-88T has a wide range of destination: explosives charge BEP - 88T, component anti-hail rocket, assuring destroy of her at the end of flight, after the activation of the delay included in self destroy mechanism.

Chemical compositions of product	Hexogen: 88 ± 1.5 % / Polyisobutylene rubber: 12 ± 1.5 %
Density	≥ 1.4 g/cm ³
Velocity of detonation	≥ 6000 m/s
High explosives (Hess method)	≥ 19
Sensitiveness to friction	≥ 80 N
Sensitiveness to impact	> 2 J
Thermal stability	stable 48 h at 75°C ± 2°C
Packing	Explosives charge BEP - 88 T is covered by a layer of hermetized rubber and then packed in wooden cases according to customer's request
Size	dimensions ranging from 4 to 22 mm, lengths up to 1300 mm and thickness over 2.4 mm
Guarantee	3 years from the date of manufacturing

RDX

Hexogen is used to fill the fuse caps and for the manufacturing of detonating cords, detonators and mines. Civil and military destination.

Appearance	fine white crystals
Melting point	min. 200° C
Ash	max. 0.05%
Acidity (as HNO₃)	max. 0.05%

Granulation Thru US STD Sieve, %	Class 1		Class 3		Class 4		Class 5	
	min.	max.	min.	max.	min.	max.	min.	max.
8								
12								
20	96	100						
35					0	40		
50	80	100	30	50				
100	30	90	10	30				
200	5	45	0	20				
325							97	-



Desensitized RDX

Desensitized RDX is used for various types of ammunition with military destination.

Appearance	orange grains or crystals	Granulation	
Desensitizer	5 ÷ 6.5%	over 1,0 mm	max. 1.0%
Humidity and volatile substances	max. 0.1%	0,75 ÷ 1,0 mm	max. 5.0%
Acetone insoluble substances	max. 0.25%	0,50 ÷ 0,75 mm	10 ÷ 35%
Ash	max. 0.15%	0,30 ÷ 0,50 mm	40 ÷ 60%
Silicone dioxide	max. 0.04%	0,10 ÷ 0,30 mm	15 ÷ 30%
Acidity (as H₂SO₄)	max. 0.05%	less than 0,10 mm	max. 2.0%
Melting point	min. 201.5° C	Packing	polyethylene bags containing 20 kg of 100% product stabilized with 15% water and overpacked in cardboard boxes of 450x310x290 mm. Gross weight of packed product is about 25 kg.



INFANTRY ARMS AND AMMUNITION

ROMARM | Infantry arms and ammunition



40 mm Weapon & Ammunition systems

ROMARM AG 7



ROMARM AG 7 DS

The 40 mm antitank grenades and explosive bombs launcher is a means of fire landing force and submachine gunners squads in special missions. The launcher is designed for destroying the tanks, truck-borne cannons, any type of car and other armored mean of fire of the enemy, for neutralizing the living force and the fire means of enemy, existing in wooden and earth buildings, of light type or brick buildings.

Maximum range	with hollow round - 500 m with 40 mm explosive bomb - 1000 m with 60mm explosive bomb - 1500 m
Weight	without sight mechanism 6.5 kg with PGO7V sight mechanism 7.1 kg
Rate of fire	4÷6 rounds / min
Length	for firing 908 mm for transportation 610 mm
Dangerous area behind the launcher	70° x 30 m
Packing	40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for medium and capital repairs can be delivered on customer's order. 5 pieces of 40 mm launchers with individual kits are packed in wooden case
Dimensions of case	1240 x 640 x 440 mm
Gross weight	~ 100 kg
Net weight	~ 60 kg

ROMARM AG 7 S

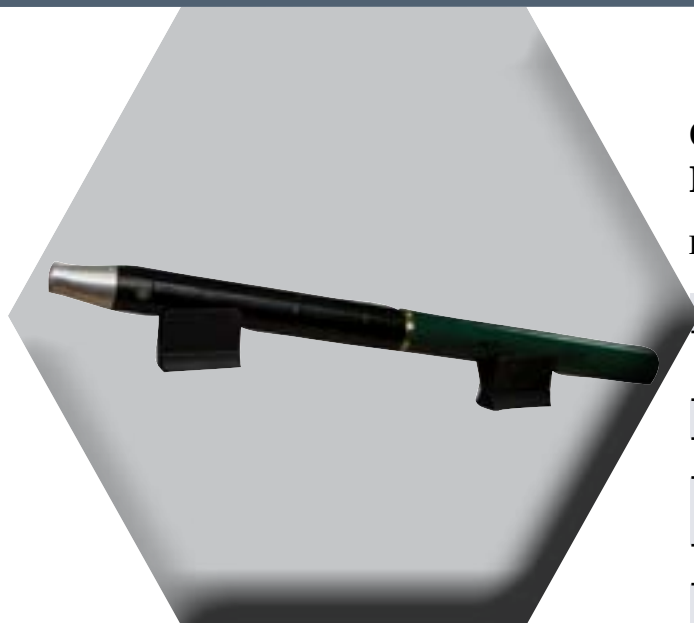
The 40mm antitank grenades and explosive bombs launcher is a means of fire of infantry subunits and landing force. The launcher is designed for destroying tanks, truck-borne cannons, any type of car and other armored mean of fire. The launcher can also be used for neutralizing the personnel and the firing means of the enemy.

Maximum range	with hollow round - 500 m with explosive bomb 40 mm - 1000 m with explosive bomb 60 mm - 1500 m
Weight	without sight mechanism 6 kg with IOAG7S sight mechanism 7.1 kg - magnification x2.7 - field of view 13° - range of elevation 0° ÷ 36°
Rate of fire	4÷6 rounds/min
Length of the launcher	908 mm
Dangerous area	70° x 30 m
Packing	40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for medium and capital repairs can be delivered upon customer's order. 5 pieces of 40 mm launchers with individual kits are packed in wooden case
Dimensions of case	1240 x 640 x 440 mm
Gross weight	~100 kg
Net weight	~ 60 kg



40 mm and 60 mm Weapon & Ammunition systems

ROMARM OG 7



OG - 7 - 40 mm

High explosive steel round with M6-R fuze

It's used with the AG 7 Portable Antitank Grenade Launcher.

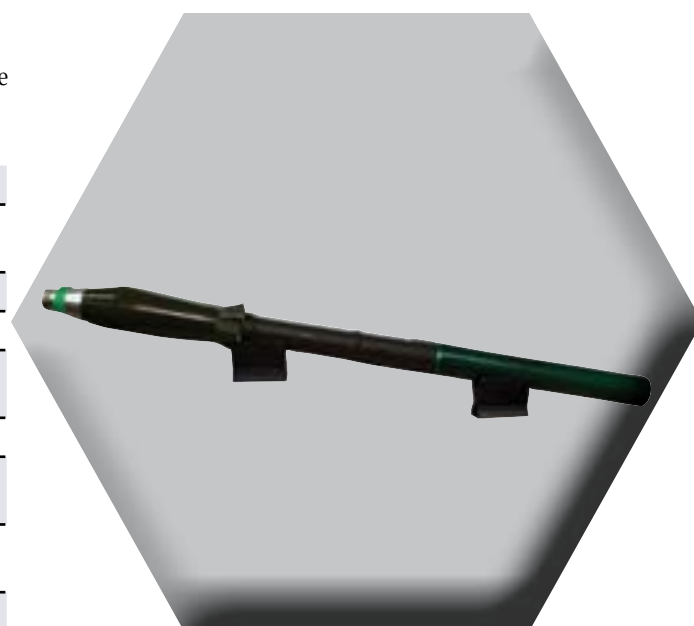
Caliber	40 mm
Net weight (round fully equipped)	1.725 kg
Fuze	M6-R
Propelling charge	PG-7PM
Maximum medium pressure	900 kgf/cm ²
Maximum range	1000 m
Precision	A pr/X: ≤1/50 / A pd/X: ≤1/200 PACKING
Packing	Wooden case containing 12 fully equipped rounds
Full case weight	34 kg
Case overall dimensions	705×490×275 mm

OG - 7 - with 60 mm

High explosive steel bomb

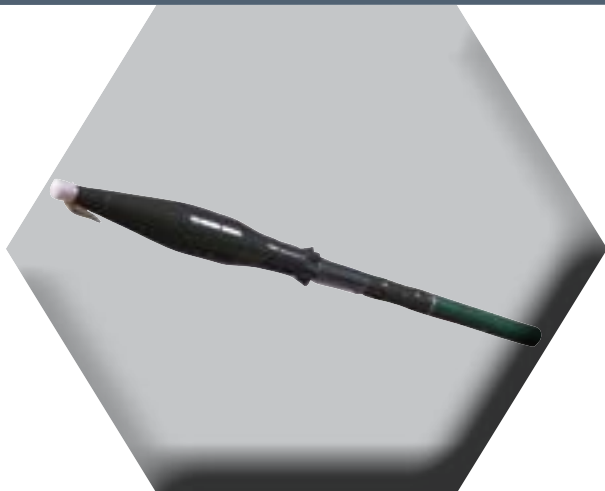
This active-reactive round is used with the AG7 Portable Antitank Grenade Launcher.

Caliber	60 mm
Net weight (round fully equipped)	2.300 kg
Fuze	V5K-MD
Propelling charge	PG-7PM
Maximum medium pressure	≤ 900 kgf/cm ²
Maximum range	1500 m
Precision	Apr/X: ≤1/40 ApdX: ≤1/280
Packing	Wooden case 12 fully equipped rounds
Full case weight	40 kg
Case dimensions	895 × 490 × 280 mm



Ammunition systems

ROMARM ROUNDS



PG-7VM 70 mm
Cumulative Antitank Grenade

The round is designed to be used with the 40 mm Portable Antitank Grenade Launcher. Also, it is used against all the modern types of the enemy's armored means.

Caliber of grenade	on the guiding part in launcher - 40 mm on the grenade body - 70,5 mm
Length	grenade 669 - 680 mm round 941 - 951 mm
Speed of grenade	initial 140 ± 3 m/s maximum 350 m/s
Shooting distance	330 m for direct round when the height of the objective is 2 m 500 m maximum from support
Shooting rate	4-6 rounds/min
Penetratio capacity	300 mm armoured plate
Precision at 300 m	- in height < 0.5 m - in direction < 0.6 m
Exploitation temperature	-40°C to +50°C



TBG - 7CRF3 HE
and Thermobaric round

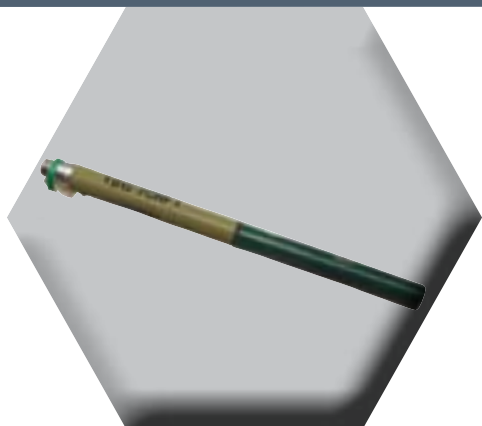
Ammunition with explosive and thermobaric effect responds is particularly effective in confined spaces, such as tunnels, buildings and different types of fortifications. The delayed electronic fuze ensures the penetration of the walls of different thickness producing the effects behind it.

Warhead Caliber	70 mm
Total length	940 mm
Net weight (round fully equipped)	≈4 kg
Fuze	electronic time with delay fuze (fuze for RPG-7)
Maximum medium pressure	≤ 900 kgf/cm ²
Maximum range	≈ 1200 m
Temperature range	-40° C ÷ +60° C
Precision	$A_{p/X}^r \leq 1/40$ $A_{p/X}^d \leq 1/280$



Ammunition systems

ROMARM ROUNDS



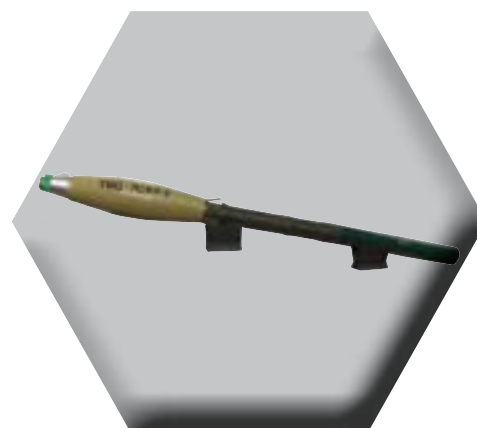
TBG - 7CRF1 Thermobaric round

Ammunition with explosive and thermobaric effect responds to the demands of modern asymmetric warfare. The explosive and thermobaric ammunition combines the explosive effect with the dispersion of metallic particles, with a strong exothermic reaction and large overpressure and decompression.

Warhead Caliber	40 mm
Net weight (round fully equipped)	≈1.725 kg
Fuze	impact SQ fuze for RPG-7
Maximum medium pressure	≤ 900 kgf/cm ²
Maximum range	≈ 1000 m
Temperature range	-40° C÷ +60° C
Precision	$A_{p\tau}/X: \leq 1/50$ $A_{pd}/X: \leq 1/200$

TBG - 7CRF2 HE & Thermobaric round

Warhead Caliber	70 mm
Total length	895 mm
Net weight (round fully equipped)	≈3.600 kg
Fuze	impact SQ fuze for RPG-7
Maximum medium pressure	≤ 900 kgf/cm ²
Maximum range	≈ 1200 m
Temperature range	-40° C÷ +60° C
Precision	$A_{p\tau}/X: \leq 1/40$ $A_{pd}/X: \leq 1/280$



Thermobaric perforating round for AG-9 Grenade Launcher (PGTB-9)

Destroying or damaging armored vehicles, concrete, or brick buildings. The munition has a combined shrapnel and thermobaric effect and is lethal both indoors and against unoccupied personnel. Unlike the AG-9 anti-tank round for the AG-9 launcher, this ammunition operates after penetrating the obstacle or armor, the blast-thermobaric effect being manifested internally, destroying the building or combat vehicle hit.

Caliber Round	73 mm
Development stage	Industrial prototype
Maximum range	1200 m
Drilling capacity	30 mm homogeneous armor 400 mm double reinforced concrete
Destruction capability	Destruction of armored assets. Destruction of masonry buildings.
Effective hit	800 m with ±1m accuracy in height and direction

Ammunition systems

ROMARM ROUNDS

PG-9V 73 mm Hollow-charge round

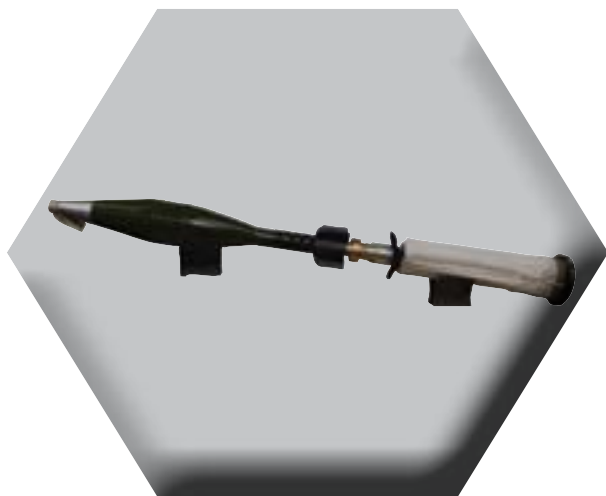
PG-9 hollow-charge round with the PG-9V antitank round rocket projectile is designed for destroying tanks, self-propelled guns and other armored vehicles. Additionally, the round is used for neutralising and destroying the living forces of the enemy in field shelters and/or brick-wall fortifications.

Calibre of the rocket projectile	73 mm
Firing range	800 m
For direct round when the height of the target is of 2 m maximum according to the sight	
Weight	- Rocket projectile 2.6 kg - Round 4.4 kg - Muzzle velocity 435 m/s
Precision for 800 m distance	- on height < 0.5 m - on direction < 0.5 m
Piercing capacity	armoured plate of 300 mm thickness



OG-9 73 mm High explosive steel bomb - 2 types

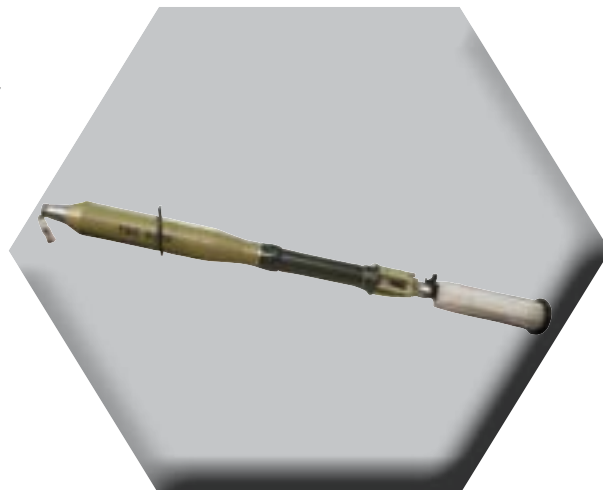
Caliber:	73 mm	73 mm
Total lenght	930.3 mm	806.37 mm
Net weight (round fully equipped)	5.300 kg	4,950 kg
Fuze:	UB-2M	UB-2M
Propelling charge:	PG-9P	PG-9P
Maximum medium pressure	$\leq 660 \text{ kgf/cm}^2$	$\leq 600 \text{ kgf/cm}^2$
Maximum range:	5400 m	4500 m
Precision:	$A_{p^d}/X: \leq 1/140$ $A_p/X: \leq 1/500$	$A_{p^d}/X: \leq 1/140$ $A_p/X: \leq 1/500$
Packing	Wooden case containing 12 fully equipped rounds	Wooden case containing 6 fully equipped rounds with fuze on 6 propelling charges fully equipped
Full case weight	78 kg	55 kg
Case overall dimensions	1105×450×305 mm	800×420×302 mm



TBG9 - CRF Thermobaric active-reactive round

Intended for destroying the unarmed personnel and uncovered armored technique, light shelters and/or burning of fuel and ammunition deposits.

Warhead caliber	73 mm.
Weight	≈ 4.5 Kg
Length	1200 mm
Fuze	impact SQ fuze
Pressure	$\leq 600 \text{ Kg.f/cm}^2$
Max. range	≈ 1500 m
Temperature range	-40° C ÷ +60° C
Precision	$A_{pr} = \pm 0.2 \text{ m} / A_{pd} = \pm 0.3 \text{ m}$
Firing rate	3 shots/min.



60 mm Mortars & mortar bombs

ROMARM MORTARS



ROMARM standard mortar launcher



ROMARM long range mortar launcher

It has a smooth barrel and it is designed for firing with curved trajectory. It is also designed for fire support of infantry subunits, parachute landing forces and other subunits. Main missions: to destroy the personnel and the sheltered or unsheltered means of fire, the commando observation posts, to set on fire the warehouses, to make passages through the mine fields, to destroy the defense works of enemies.

Caliber	60 mm	60 mm
Length of barrel	1080 mm	1300 mm
Firing range	- maximum 3000 m - minimum 100 m	- maximum 4500 m - minimum 100 m
Vertical firing field	45°÷85°	45°÷85°
Horizontal firing field	- without moving the bipod ±3° - moving the bipod ±360°	- without moving the bipod ±3° - moving the bipod ±360°
Rate of fire in the first minute without reaiming	20 rounds/min	20 rounds/min
Weight of mortar ready for battle	max. 20 kg	max. 30 kg
Weight of component parts	- barrel with breechblock ~7.5 kg - base plate ~4.7 kg - optical sight 0.8 kg	- barrel with breechblock ~11 kg - bipod ~10 kg - base plate ~9 kg - optical sight 0.8 kg



ROMARM commando mortar launcher

Best product assets: it is an individual means of fire, with smooth barrel, for firing with curved trajectory.

Purpose of use: subunits of navy, air force, as well as for intervention units.

Main missions: to destroy the personnel and the sheltered or unsheltered means of fire, the command observation posts, warehouses of weapon and ammunition, fuel and lubricants.

Caliber	60 mm
Length of barrel	735 mm
Firing range: with explosive bomb	1900 m
Vertical firing field	45°÷85°
Rate of fire in the first minute without re-aiming	12 rds/min
Weight of mortar ready for battle	max. 8 kg



60 mm Mortars & mortar bombs

ROMARM illuminating mortar bombs



Illuminating mortar bomb with fuze T-1

The 60 mm illuminating bomb is intended for artificial illumination of the target area for the purposes of reconnaissance.

Caliber	60 mm	PYROTECHNIC TIME FUZE T-1	
Length with fuze T-1 (without cuff protection)	359.66 - 365.2 mm	Fuze length with cuff protection	77.43÷81.25 mm
Length without fuze	293.76 - 298 mm	Length of part mounted in ogive	11.57÷12.6 mm
Weight (with fuze, w/out increments)	1.83 kg	Thread that is screwed into ogive	Sp 36,14x10 turns/inch
Propulsion system	1 prime charge + 3 increments	Weight (without cuff protection)	0.160 kg
Muzzle velocity	220 ± 3 m/s (max.)	Operating mode and time adjusting	10÷125 divisions =time 3.5÷46.45 s UD - at impact
Fuze	time fuze T-1	Packing	Metal box sealed, containg 32 pieces and 4 boxes in a wooden case
Maximum range	2800 m	Case dimension	520 x 490 x 257 mm
Illum, intensity	min. 200 000 cd.		
Illum, burn time	min 25 s		
Stabilized descent speed	max. 4.5 m/s		

60 mm Mortars & mortar bombs

ROMARM MORTARS



Smoke mortar steel bomb



High explosive mortar steel bomb

Type	Smoke	High explosive
Caliber	60 mm	60 mm
Total length	340 mm	~298 mm
Net weight (round fully equipped)	1.9 kg	1.5 kg
Fuze	M6-R	M6R-M
Propelling charge	1 cartridge + 3 extra charges	"Standard" mortar - 1 cartridge and + 3 extra charges "Commando" mortar - 1 cartridge and + 2 extra charges
Maximum medium pressure	≤ 360 kgf/cm2	≤ 360 kgf/cm2
Maximum range	≈ 2200 m* (*Standard type launcher)	3000 m
Precision	$A_p^r/X: \leq 1/80$ $A_p^d/X: \leq 1/175$	$A_p^r/X: \leq 1/90$ $A_p^d/X: \leq 1/190$
Packing	Wooden case containing 12 cardboard cases, each case containing one round fully equipped. Full case weight: 40 kg. Case overall dimensions: 475×330×300 mm	



60 mm Mortars & mortar bombs

ROMARM high explosive and smoke steel bombs



HE steel bomb round with Junghans fuze



HE steel bomb round with enhanced range and electronic impact SQ fuze

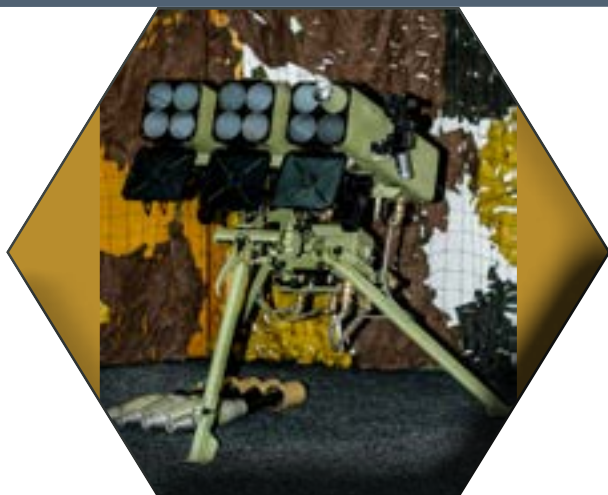
Type	High explosive steel bomb round with Junghans fuze	High explosive steel bomb round with enhanced range and electronic impact SQ fuze
Caliber	60 mm	60 mm
Length	~298 mm	~355 mm
Weight	~1.50 kg	~2.20 kg
Fuze	M6R-M or other impact fuze	electronic impact SQ fuze
Propelling charge	-	1 cartridge +3 extra charges
Maximum medium pressure	$\leq 360 \text{ kgf/cm}^2$	$\leq 500 \text{ kgf/cm}^2$
Maximum range	~3000 m	~4500 m
Temperature range	$-40^\circ \text{ C} \div +60^\circ \text{ C}$	$-40^\circ \text{ C} \div +60^\circ \text{ C}$
Precision A_p^r/X Precision A_p^d/X	$\leq 1/90$ $\leq 1/190$	$\leq 1/80$ $\leq 1/180$

Smoke steel bomb with electronic SQ impact fuze

Caliber	60 mm
Length	370 mm
Weight	~2.05 kg
Fuze	electronic SQ impact fuze
Propelling charge	1 cartridge +3 extra charges
Maximum medium pressure	$\leq 360 \text{ kgf/cm}^2$
Maximum range	~2200 m
Temperature range	$-40^\circ \text{ C} \div +60^\circ \text{ C}$
Precision A_p^r/X Precision A_p^d/X	$\leq 1/80$ $\leq 1/175$



70 mm HYDRA system & Thermobaric round ROMARM launchers and thermobaric rounds



MLRS - FCS System - 70 mm - HYDRA
Multiple launchers round system
with fire control system

The characteristics of the new types of conflicts require the development of flexible weapons systems, which can be installed on different types of platforms.

The systems must be able to offer troops the opportunity to act against targets in the urban environment, sheltered or not sheltered targets, shelters or lightly armored carrier or vehicles.

The range and accuracy must correspond to these new types of conflicts.

Caliber	70 mm
Type	70 mm MLRS - RCS platform - HYDRA is flexible system
Advantages	
Launching various ammunition: HE, EFP / THB, THB, SMOKE	
The system is offered in various configurations: - remote controlled platform with FCS, who can be placed on various types of platforms: armored carrier: 4x4; 6x6; 8x8, lightly armored vehicles, etc. ; - launcher assembly fixed to the tripod.	
It is designed so that it can be upgraded according to the requirements of the beneficiary	
The technical characteristics differ depending on the type of system requested by the beneficiary	

Caliber	70 mm
Length	~940 mm
Weight	~4.00 kg
Fuze	electronic PDSQ with chemical battery
Maximum medium pressure	$\leq 900 \text{ kgf/cm}^2$
Maximum accuracy range	~1000 m
Maximum fire range	~2500 m
Temperature range	$-40^\circ \text{C} \div +60^\circ \text{C}$
Maximum moment of explosive expansion	0.15 s
The final moment of the explosive expansion	0.10 s
Total time duration	0.11 s
Maximum pressure at 1 m	~4 bar
Overpressure ratio at 2 m	0.95
Overpressure ratio at 3 m	1.94
The surface area action	~4 times larger than HE grenade



High explosive formed penetrator (EFP)
Thermobaric Round

EFP / THB ammunition, which perfectly meets the requirements of asymmetric warfare, is used to penetrate armor, concrete or brick walls and produce a thermobaric explosion behind them.

EFP / THB round are fired from a considerable distance from the target, being aerodynamically stabilized by hitting the target at a small angle.

The own characteristic of the EFP / THB ammunition produced by us is the optimization of the warhead component and the initiation process ensured by a PSDQ electronic fuze with thermochemical battery energy source.

Another particularity of this ammunition is the combination between the penetrating effect and the insensitive thermobaric composition that explodes after the armor / wall is penetrated.



81 / 82 mm Mortars & mortar bombs

ROMARM mortars



81 mm / 82 mm ROMARM mortar launcher

ROMARM mortar launcher has a smooth barrel, for firing with curved trajectory. It is designed for fire support of infantry units and/or other subunits. Recommended for the following missions: to destroy the sheltered or unsheltered means of fire, the command-observation posts, to make passages through the mine fields and barbed-wire net, to separate infantry from tanks, to destroy the defense works, to destroy or damage the communication ways, for illuminating and to camouflage by smoke-screen the objectives (ground).

Caliber	81 mm 82 mm
Length of barrel	1220 mm
Firing range	- maximum range with explosive bomb ~4460 m - minimum range 100 m
Vertical firing field	45°÷85°
Horizontal firing field	- without moving the bipod, with barrel at 45°: ±3° - moving the bipod, without moving the base plate: ±360°
Rate of fire in the first minute	without re-aiming 20 rds/min
Weight of mortar ready for battle of witch	43.5 kg;
Barrel with breechblock	16.5 kg
- Bipod	11 kg
- Base plate	15 kg
- Optical sight	0.8 kg

HE mortar steel bomb



	High Explosive Mortar Steel Bomb	High Explosive Steel Bomb with electronic fuze
Caliber	81 mm	81 / 82 mm
Total length	361 mm	361 mm
Net weight (round fully equipped)	3.10 kg	3.10 kg
Fuze	M6R	MEF-1
Propelling charge	1 cartridge / + 5 extra charges	1 cartridge / + 5 extra charges
Maximum medium pressure	≤ 650 kgf/cm ²	≤ 650 kgf/cm ²
Maximum range	~4500 m	~4500 m
Precision	$A_p \cdot \sqrt{X} \leq 1/100$ / $A_p \cdot \sqrt{X} \leq 1/200$	$A_p \cdot \sqrt{X} \leq 1/100$ / $A_p \cdot \sqrt{X} \leq 1/200$
Packing	Wooden case containing 10 cardboard cases, each case containing one fully equipped round.	
Full case weight	50 kg	
Case overall dimensions	550×450×285 mm	

81 / 82 mm Mortar bombs

ROMARM illuminating, HE and smoke mortar bombs



Illuminating mortar bomb with fuze ETF-1MT

Caliber	81 / 82 mm	Electronic time fuze ETF-1MT	
Length with fuze ETF-1MT	377.8 - 382.4 mm	Fuze length	98 - 100 mm
Length without fuze	291.8 - 295 mm	Length of part mounted in ogive	11.57±12.6 mm
Weight (with fuze, w/out increments)	3.61 kg	Thread of part buried in ogive	Sp 36,14x10 turns/inch
Propulsion system	1 prime charge + 3 increments	Weight	0.280 kg
Muzzle velocity	199 m/s (max.)	Power supply	Air driven turbine
Fuze	electronic time fuze ETF-1MT	Adjustable setting time	3.1 s ÷ 99.9 s, with thread 0.1 s, precision 0.05 s
Maximum range / Minimum range	2670 m / 220 m	Operation mode	time or impact
Illum, intensity	min. 500 000 cd.	Time setting	electronic wire programmer that ensure setting, resetting and set time confirmation
Illum, burn time	min 30 s	Operating temperature	-32° C to 49° C
Stabilized descent speed	max. 4.5 m/s	Packing	24 pieces / metal box sealed; 4 boxes in a wooden case
Temp. limits, firing & storage	~32 / +49° C	Case dimension	520 x 490 x 257 mm

Caliber	81 / 82 mm	PYROTECHNIC TIME FUZE T-1	
Length with fuze T-1 (with cuff protection)	357.7 - 363.6 mm	Fuze length with cuff protection	77.43 ÷ 81.25 mm
Length without fuze	291.8 - 295 mm	Length of part mounted in ogive	11.57 ÷ 12.6 mm
Weight (with fuze, w/out increments)	3.49 kg	Thread that is screwed into ogive	Sp 36.14x10 turns/inch
Propulsion system	1 prime charge + 3 increments	Weight (without cuff protection)	0.160 kg
Muzzle velocity	199 m/s (max.)	Operating mode and time adjusting	10÷125 divisions - time 3.5 ÷ 46.45 s UD - at impact
Fuze	time fuze T-1	Packing	Metal box sealed, containg 32 pieces and 4 boxes in a wooden case
Maximum range	2670 m	Case dimension	520 x 490 x 257 mm
Minimum range	220 m		
Weight (w/out cuff protection)	0.160 kg		
Illum. intensity	min. 500 000 cd		
Illum. burn time	min. 30 sec.		
Stabilized descent speed	max.4.5 m/sec.		
Temp. limits, firing & storage	- 40°C to + 50° C		

Illuminating mortar bomb with fuze T-1



	High explosive mortar steel bomb	Smoke mortar steel bomb
Caliber:	82 mm	82 mm
Total length	≈ 361 mm	≈ 360 mm
Net weight (round fully equipped)	~3,1 kg	~3,3 kg
Fuze	M6R	M6R
Propelling charge	1 cartridge + 5 extra charges	1 cartridge + 5 extra charges
Maximum medium pressure	≤ 650 kgf/cm²	≤ 650 kgf/cm²
Maximum range	~4500 m	~4300 m
Precision	A _p ^r /X: ≤ 1/100 A _p ^d /X: ≤ 1/200	A _p ^r /X: ≤ 1/100 A _p ^d /X: ≤ 1/200



81/82 mm Mortars & mortar bombs

ROMARM high explosive and smoke steel bombs



High explosive steel bomb
with enhanced range and effect



Smoke steel bomb round
with enhanced range and electronic SQ impact fuze

Type	High explosive steel bomb with enhanced range and effect	Smoke steel bomb round with enhanced range and electronic SQ impact fuze
Caliber	81 mm	81 mm
Length	~517 mm	~490 mm
Weight	~4.50 kg	~4.50 kg
Payload		774 g
Fuze	electronic SQ impact fuze	electronic SQ impact fuze
Propelling charge	1 cartridge +6 extra charges	1 cartridge +6 extra charges
Maximum medium pressure	≤880 kgf/cm ²	≤880 kgf/cm ²
Maximum range	~6500 m	~6500 m
Temperature range	-40° C ÷ +60° C	-40° C ÷ +60° C
Precision A_p^r/X Precision A_p^d/X	≤1/100 ≤1/200	≤1/100 ≤1/200

High explosive steel bomb round with electronic fuze

Caliber	82 mm
Length	~361 mm
Weight	~3.10 kg
Fuze	electronic impact SQ with turbogenerator
Propelling charge	1 cartridge +5 extra charges
Maximum medium pressure	≤650 kgf/cm ²
Maximum range	~4500 m
Temperature range	-40° C ÷ +60° C
Precision A_p^r/X Precision A_p^d/X	≤1/100 ≤1/200



120 mm High explosive rocket - assisted bomb CRF-5 (HERA-C5) ROMARM rockets



High explosive rocket - assisted bomb CRF-5 (HERA-C5)

120 mm High Explosive Rocket Assisted - Carfil (HERA-C) mortar bomb provide increased range and lethality. HERA-C mortar bomb loaded with TNT or B composition, consist of loaded high fragmentation steel warhead, rocket motor, hight powerfull propellant charges and PDSQ fuze. The 120 mm HERA-C mortar bomb is one of the most up-to-date high explosive bombs of 120 mm caliber. Its performance—especially range, and effect—is the best possible for any tactical purpose.

This mortar bomb is destined for fighting uncovered living targets, as well as unarmored means of transportation and lightly armoured military vehicles. The highly explosive force, together with the best possible splinter formation, makes it a bomb of utmost efficiency. The 120 mm HERA-C was especially developed for long range mortars and offers a distinctly enhanced fragmentation effect; the excellent flight stability results in an improvement of range and dispersion. HERA-C was specially designed, both as a new bomb and for upgrading ammunition from stocks. HERA-C has the largest range with long range mortars, but can be used, also, with different 120 mm mortars.

Caliber	120 mm
Total weight	~ 19 kg
Total length	970 mm
Type of fuze	electronic PDSQ
Rocket motor	
Propellant	double base
Length	285 mm
Weight	18 kg
Propellant weight	1 kg
Avarage force	144 dan
Specific impulse	188 s
Burning time	1.34 s
Propelling charge	1 cartridge + 6 supplementary charges
Type	EI (Nitrochemie- Rheinmetall)
Maximum range	~ 14 000 m



120 mm Mortar bombs

ROMARM illuminating mortar bombs



Illuminating mortar bomb with fuze ETF-1MT

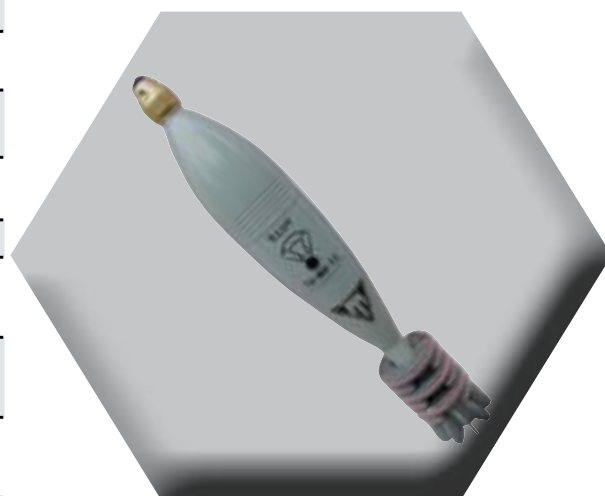
The TH-MB-13 illuminating mortar bomb is designed to illuminate the target at night or under low visibility conditions.

Caliber	120 mm	Electronic time fuze ETF-1MT	
Length with fuze ETF-1MT	673.3...755 mm	Fuze length	98...100 mm
Length without fuze	661.6...667 mm	Length of part mounted in ogive	11.57±12.6 mm
Weight (with fuze, with charge)	16.7...17.62 kg	Thread of part buried in ogive	Sp 36.14x10 turns/inch
Propulsion system	1 prime charge + 6 increments	Weight	0.285 kg
Muzzle velocity	275 m/s ±3	Power supply	air driven turbine
Fuze	ETF-1MT electronic time fuze	Adjustable setting time	3.1 s ÷ 99.9 s, with thread 0.1 s, precision 0.05 s
Maximum range Minimum range	5500 m at impact 1060 m	Operation mode	time or impact
Stabilized descent speed	max. 8 m/s	Time setting	electronic wire programmer that ensure setting, resetting and set time confirmation
Temp. limits, firing & storage	-32° / +49°C	Operating temperature	-32° to +49°
Illum, intensity	min. 1 000 000 cd.	Packing	24 pieces / metal box sealed; 4 boxes in a wooden case
Illum, burn time	min 60 s	Case dimension	520 x 490 x 257 mm

Illuminating mortar bomb with fuze T-1

The TH-MB-12 illuminating bomb is intend for artificial illumination of the target area for the purposes of reconnaissance and for the performance of other tactical actions on the battlefield.

Caliber	120 mm	Pyrotechnic time fuze T-1	
Length without fuze	661.6...667 mm	Fuze length with protection case	77.43...81.25 mm
Weight (with fuze, w/out increments)	16.66 kg	Length of part mounted in ogive	11.57±12.6 mm
Propulsion system	1 prime charge + 6 increments	Thread that is screwed into ogive	Sp 36.14x10 turns/inch
Muzzle velocity	275 m/s ±3	Weight (w/out cutt protection)	0.160 kg
Fuze	time fuze T-1	Way of performance for adjustment	10...125 divisions - time 3,5...46.45 s UD - at impact
Maximum range Minimum range	5500 m at impact 1060 m	2 evacuation charges and variable propellant charges formed by 2 prime charges and 12 propellant charges introduced in the same wooden case.	
Illum, intensity	min. 1 000 000 cd.	The evacuation charges and variable propellant charges are introduced in cardboard boxes and then sealed in polyethylene foil.	
Illum, burn time	min 60 s	Packing	Metal box sealed, containg 32 pieces and 4 boxes in a wooden case
Stabilized descent speed	max. 8 m/s	Case dimension	520 x 490 x 257 mm
Temp. limits, firing and storage	-40 / +50°C		



120 mm Mortar bombs

ROMARM high explosive mortar bombs

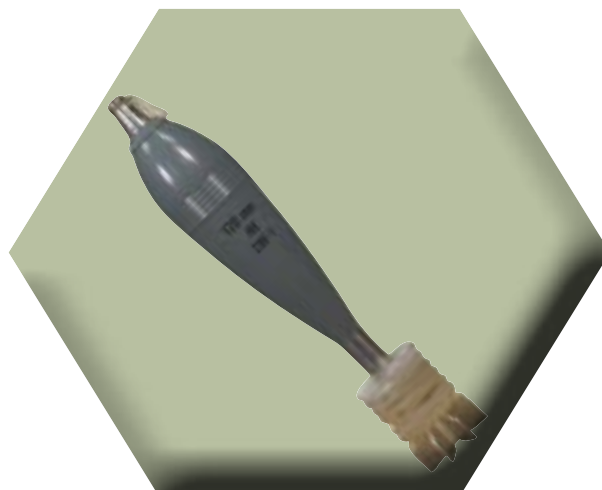


High explosive long range bomb with proximity fuze

Caliber	120 mm
Total length	~ 725 mm
Net weight (round fully equipped)	~ 16 kg
Fuze	Proximity
Propelling charge	1 cartridge / + 8 extra charges
Maximum medium pressure	$\leq 1200 \text{ kgf/cm}^2$
Maximum range	~ 7000 m
Height of bursting	1 ÷ 5 m
Action	Works over any type of terrain: dry or wet soil, sand, snow, swamp, water surface, mountain rock
Packing	Wooden case containing 2 rounds fully equipped in cardboard cases.
Full case weight	50 kg
Case overall dimensions	950×360×240 mm

High explosive mortar steel bomb

Caliber	120 mm
Total length	~ 680 mm
Net weight (round fully equipped)	16 kg
Fuze	M6R
Propelling charge	1 cartridge + 6 extra charges
Maximum medium pressure	$\leq 1030 \text{ kgf/cm}^2$
Maximum range	~ 6500 m
Precision	$A_{p/X}: \leq 1/125$ $A_{d/X}: \leq 1/250$
Packin	Wooden case containing 2 rounds fully equipped.in cardboard cases
Full case weight	50 kg
Case overall dimensions	950×360×240 mm



120 mm Mortar bombs

ROMARM high explosive mortar bombs



High explosive steel mortar bomb round with proximity fuze



High explosive steel mortar bomb round with electronic impact fuze

Type	High explosive steel mortar bomb round with proximity fuze	High explosive steel mortar bomb round with electronic impact fuze
Caliber	120 mm	120 mm
Length	~725 mm	~725 mm
Weight	~15 kg	~15 kg
Fuze	- proximity and electronic fuze with chemical battery - arming distance - electronic jamming protection: cancellation operation of proximity and activation impact - height of bursting: 1 ÷ 5m - works over any type of terrain: dry or wet soil, sand, snow, swamp, water surface, mountain rock	- electronic impact fuze with chemical battery - arming distance: min 40 m
Propelling charge	1 cartridge + 7 extra charges	1 cartridge + 6 extra charges
Maximum medium pressure	≤1200 kgf/cm ²	≤1200 kgf/cm ²
Maximum range	~7000 m	~7000 m
Temperature range	-40° C ÷ +60° C	-40° C ÷ +60° C
Precision A _p ^r /X	≤1/125	≤1/125
Precision A _p ^d /X	≤1/250	≤1/250

High explosive steel bomb round with enhanced range and sealing ring with SQ electronic impact fuze

Caliber	120 mm
Length	~730 mm
Weight	~15 kg
Fuze	- electronic impact SQ fuze with chemical battery - safety distance: min 40m
Propelling charge	1 cartridge + 6 extra charges
Maximum medium pressure	≤1200 kgf/cm ²
Maximum range	~7000 m
Temperature range	-40° C ÷ +60° C
Precision A _p ^r /X	≤1/125
Precision A _p ^d /X	≤1/250



120 mm Mortar bombs

ROMARM mortar bombs



Explosive mortar steel mortar bomb round with DM 111A5 JUNGHANS fuze

Type	Explosive mortar steel bomb round with DM 111A5 JUNGHANS fuze
Caliber	120 mm
Length	680 mm
Weight	~15 kg
Fuze	DM 111A5
Propelling charge	1 cartridge + 6 extra charges
Maximum medium pressure	$\leq 1030 \text{ kgf/cm}^2$
Maximum range	~6500 m
Precision A_p^r/X Precision A_p^d/X	$\leq 1/125$ $\leq 1/250$

Smoke steel mortar bomb round

Type	High explosive steel mortar bomb round with electronic impact fuze
Caliber	120 mm
Length	~700 mm
Weight	~15 kgs
Fuze	M6R or other impact fuze
Propelling charge	1 cartridge + 6 extra charges
Maximum medium pressure	$\leq 1030 \text{ kgf/cm}^2$
Maximum range	~6400 m
Precision A_p^r/X Precision A_p^d/X	$\leq 1/100$ $\leq 1/260$



Hand grenades with various effects

ROMARM hand grenades



F-1 Defensive hand grenade

The defensive hand grenade is designed to destroy the enemy in uncovered areas and light camp works. The grenade is an explosive type design, and the effect is due to the breakage of the cast iron body as a result of the explosive charge.

Grenade type	defensive
Function	fragmentation
Number of fragments	no less than 800 pcs
Diameter of the grenade	max. 56 mm
Weight of the grenade with fuse	max. 0.566 kg
Weight of the fuse	max. 0.055 kg
Weight of explosive charge	max. 0.060 Kg TNT
Length of the grenade with fuse	max. 100 mm
Delay time of the fuse with FGM-1 fuse	3 - 4.5 s
Delay time of the fuse with FGM fuse	4 - 4.5 s
Throwing distance	35 - 45 m



M 529 Offensive hand grenade

The offensive hand grenade is designed to confuse the unsheltered living force of the enemy by noise, blast and light chips. The grenade is of explosive type and the effect is due to the body break and the breaking up of a steel sheet spiral cover as a result of charge explosion.

Diameter of the grenade	max. 61 mm
Weight of the grenade with fuse	max. 0.255 kg
Weight of the fuse	max. 0.055 kg
Length of the grenade	max. 86 mm
Length of the grenade with fuse	max. 122 mm
Delay time of the fuse with FGM-1 fuse	3 - 4.5 s
Delay time of the fuse with FGM fuse	4 - 5.5 s
Hand-launching distance	35 - 45 m



GMM Multifunctional hand grenade

The multifunctional hand-grenade is designed to eliminate the personnel from the fight, to punch the light armours and to destroy the light constructions.

The action of the grenade is produced by blast, splinters and destroying of light constructions and armours.

Type	Defensive hand-grenade	Offensive hand-grenade	Cumulative explosive grenade
Number of splinters	1500 pieces	200 pieces	
Operation radius of the splinters	max. 30 m	5 m	Cumulative effect - it punches steel-armours with a tickness of 40 mm
Weight with fuse	515 ± 40 g	150 g	
Fuse type	FGM-1	FMG-1	FGP-1
Delay-time	3 - 4.5 sec.	3 - 4.5 sec	9.5 - 12.5 sec
Explosive effect			distroing light metallic profile constructions and splinters



Hand grenades with various effects

ROMARM hand grenades



Multiple consternation grenade



Consternation grenade M15

The multiple consternation grenade allows surprising the opposition by creating multiple effects of consternation in the tactical field . It can be used in urban areas.

Total weight of the grenade (with fuse)	0.300 ± 0.010 kg
Weight of a load of consternation	0.0015 kg
Diameter of grenade	40 mm
Height of grenade (without fuse)	122 ± 2 mm
Delay time of the fuse	1±0,2 . sec.
Number of loads of consternation	9
Delay time until the first load of consternation	2 sec.
Delay time between the other 8 loads of consternation	1.5÷2 sec.
Effect	consternation (sound and light flash)
Minimum throw distance (recommended)	3 m
Exploitation temperature	-25°C ÷ +50°C
Delay time	between the last effect of the initial consternation grenade up to the first effect of consternation for next grenade must be 3 seconds.

The consternation grenades are used to disturb, confuse or distract from a potential threat. A consternation grenade can seriously degrade the enemy's fighting effectiveness by affecting (stunning) the personnel for up to a minute, due to a blinding flash (about 6 million cd) and a deafening explosion (140 dB). This grenade can be used to daze and disorient those who disturb the public silence, without causing them serious bodily injury.

Total weight of the grenade (with fuse)	0.405 kg
Diameter of grenade	44 mm (hexagon 46)
Height of grenade (without fuse)	127 ± 2 mm
Shape	cylindrical with hexagonal heads
Effect	a blinding flash and a deafening noise level
Noise level at 5 m	140 dB
Delay time of the fuse	1±2.3 sec.
Recommended throwing distance	5 - 9 m
Percussion ignition cap	E96
Pyrotechnic mixture	4.5 g
Operational temperature range	- 32°C ÷ +49°C
Storage temperature range	- 32°C ÷ +49°C

Hand grenades with various effects

ROMARM hand grenades



GMAC - Hand grenade with acoustic effect

Hand grenades with acoustic effect are used by officers against groups of people causing public disorder which may lead to uncertainty and a state of public fear. When using it does not cause body lesions.

Total weight of grenade	0.232 kg
Weight of detachable fuse	0.057 kg
Weight of grenade with FD 2 fuse	0.214 kg $\pm$ 0.007 Kg
Weight of grenade with FD fuse	0.21 kg $\pm$ 0.007 Kg
Weight of charge	0.09 Kg 105 ± 0.001 Kg
Grenade diameter	72 mm $\pm$ 0,2 mm
Shape	Spherical
Grenade material	Rubber
Total delay time	3 $\div$ 4 sec
Time after which the fuse is detached	0.7 $\div$ 1.1 sec
Sound level	120 $\div$ 140 dB
Hand-launching distance	25 $\div$ 30 m



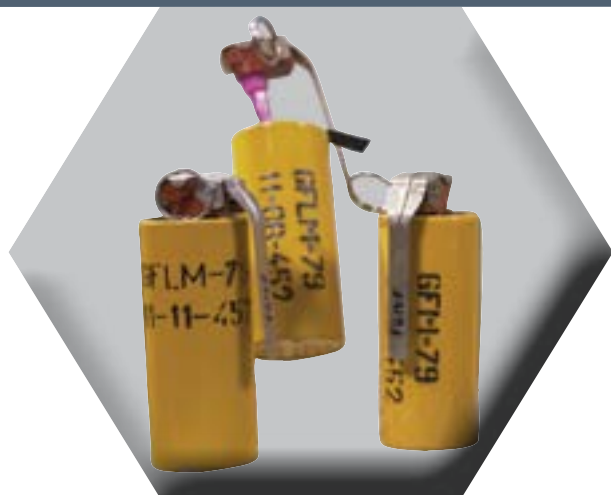
GAL Explosive grenade with light-acoustic effect

Explosive grenades with light-acoustic effect are used by training and re-establishing public order.

Total weight of grenade	0.200 kg
Weight of detachable fuse	0.063 kg
Weight of pyrotechnic load	0.09 kg
Grenade diameter	45 mm
Shape	cylindrical
Total delay time	0.9 - 1.6 sec
Time after which the fuse is detached	0.7 - 1.1 sec
Acoustic pressure at 1m distance	$\sim$ 0.34 bar
Sound level at 1m distance	130 dB
Light effect at 1m distance	2.000.000 cd
Operation temperature	-25°C .. + 50°C
Optional temperature range	-40°C $\div$ +50°C

Hand grenades with various effects

ROMARM hand grenades



GFLM-79 Smoke tear hand grenade

Smoke hand grenades are used for hiding of elements placed on the action field or for signalling, and the smoke – tear effect is used by the authorities to stop aggressive actions of the persons or groups, according to the law.

Total weight of grenade	0.42 ± 0.01 kg
Weight of fuse FGM-F	0.055 ± 0.005 kg
Grenade diameter	55 ± 1mm
Height of grenade (without fuse)	127 ± 1mm
Total delay time of fuse	1.2 ÷ 2,2 sec.
Smoking time	min 30 sec.
Delay time	max 3 sec.
Effect	smoke / respective tear-smoke
Safety distance	min 10 m
Exploitation temperature	-20°C ÷ +50°C



GMIL Hand grenade with tear-irritant effect

Tear gas hand grenades are used by police officers against groups of people causing public disorder, which can lead to uncertainty and a state of fear among the population, causing suffocation and a tear gas effect. The use of the product does not cause bodily injuries and the effect wears off after 15-20 min.

Total weight of grenade	0.159 kg ± 0.007 kg
Weight of detachable fuse	0.057 kg
Weight of tear charge	0.03 ± 0.001 kg
Charged with (irritant gas)	CS ortho-chloro-benzal-malonitrile
Smoke version	white
Grenade diameter	72 mm
Shape	Spherical
Grenade material	Rubber
Total delay time	3 - 4 sec (or 2-3 sec)
Time after which the fuse is detached	0.7 - 1.1 sec
Hand-launching distance	25 - 30 m
Dissemination area	6 m ²



GFFC - Smoke grenades with colored smoke

Hand grenades with colored smoke are pyrotechnical objects designed for execution of the signalization markings in the tactical field or special effects in the festive demonstrations.

Form of grenade	cylinder
Diameter of grenade	55 mm
Length of grenade with protection lid	87 ± 5 mm
Weight of grenade	0.200 Kg
Effect	column of smoke
Emission of different colors	red, yellow, green, white, orange, blue
Emission time	min. 40 seconds where the smoke disperse and form a consistency curtain
Temperature	-32°C ÷ +49°C



Training hand grenades

ROMARM training grenades



KIT-K9

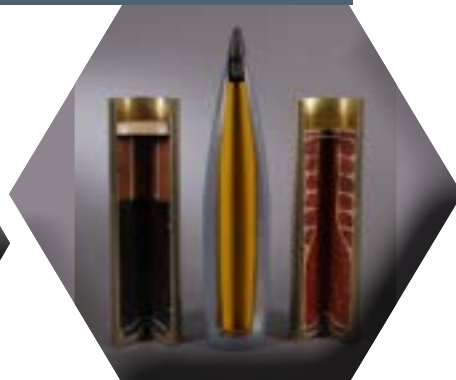
Explosive kit for dog training

The kit is intended for the training and certification of explosive detection dogs (EDD) or explosive detection canine teams (EDDT). The explosive kit (TRUSA-K9) is used to train dogs because it is a system of odor storage and delivery devices (DPLM) from real explosive materials.

Kit package	TRUSA-K9 - 10 types of explosive materials for military & civilian use
Code of explosive materials	TNT, RDX, PETN, C-4, SEMTEX, DINAMITE, AN, BP, SGP, DBP
Total kit mass	8300±50 g
Transport bag mass	2800±25 g
Total mass of explosives	2400 ± 10 g
Mass of DPLM V1 loaded	1050 ± 50 g
Mass of DPLM V2 loaded	405 ± 50 g
Mass of DPLM V3 loaded 1	250 ± 50 g
Mass of DPLM V3 loaded 2	225 ± 50 g
Mass of DPLM V4 loaded	200 ± 50 g
Outer length of the kit	413 mm
The outer width of the kit	327 mm
The outer height of the kit	171 mm

AMMUNITION

ROMARM artillery ammunition



	100 mm Artillery ammunition			130 mm Artillery ammunition		152 mm Artillery ammunition	
GUN TYPE	D-10 SERIES TANK GUNS; FIELD GUN BS-3 (MD 44, MD 53); AA KS-19; TOWED ANTI-TANK GUN M77; COAST GUN (YUGOSLAVIA); T59 (CHINA); SELFGUN			FIELD GUN M-46 ; TOWED GUN Md. 82		HOWITZER GUN Md. 37 AND HOWITZER Md. 81 These are NOT ENTIRELY MANUFACTURED in our factories. Our production lines only allow to fill the projectiles with powder.	
TYPE OF PROJECTILE	HIGH EXPLOSIVE OF-412 HE	100 mm APFSDS-T	ARMOUR PIERCING TRACER BR-412B AP-T	HIGH EXPLOSIVE HE (OF-482M)	HIGH EXPLOSIVE HE (OF-482M)	FULL-VARIABLE CHARGE	HIGH EXPLOSIVE (OF-540) HE
Propelling charge	Full	Specially		Full-variable	Reduced-variable	Full-variable charge	Reduced-variable charge
Maximum range	19800 m	5000 m	4000 m	26800	22000	17000	13000
Muzzle velocity	900 m/s	1400 m/s	887 m/s	930 / 810	705 / 525	655 / 462	425 / 282
Average maximum pressure	3000 kgf/cm ²	3700 kgf/cm ²	3000 kgf/cm ²	3150	2700 / 1100	2350 / 900	1800 / 750
Total length	1095 mm	1060 mm	992 mm	Non-coupled	Non-coupled	Non-coupled	NON-COUPLED
Cartridge case	695 mm	695 mm		846	846	547	547
Projectile	429 mm	584 mm		676	676	706	706
Total weight	30.32 kg	21.3 kg	30.6 kg	59	52	59.28	54.26
Cartridge case with propelling charge	14.72 kg	15.5 kg		25.6	18.6	15.72	10.70
Projectile	15.6 kg	5.8 kg		33.4	33.4	43.56	43.56
Fuze type	V-429	-		V-429	V-429	RGM-2	RGM-2
Blasting charge	TNT	-	A-IX-2	TNT	TNT	TNT	TNT
Propelling charge	NDT 3 18 / 1	M-30	NDT3 18/1	NDT 3 23 / 1	9 / 7 + 12 / 1 TR	NDT 3 16 / 1	4 / 1 V / A + 7 / 7
Power of piercing	-	425 mm at 1000 m 90 °					
Self-destruction time	-	-					
Self-destruction range	-	-					
Packing	Wooden case	Fiber container in wooden case					
No. of rounds per case	2 pcs	2 pcs					
Case dimensions	1200 x 445 x 265 mm	1200 x 405 x 215 mm					
Gross weight	85 kg	70 kg					



Artillery ammunition

ROMARM artillery ammunition

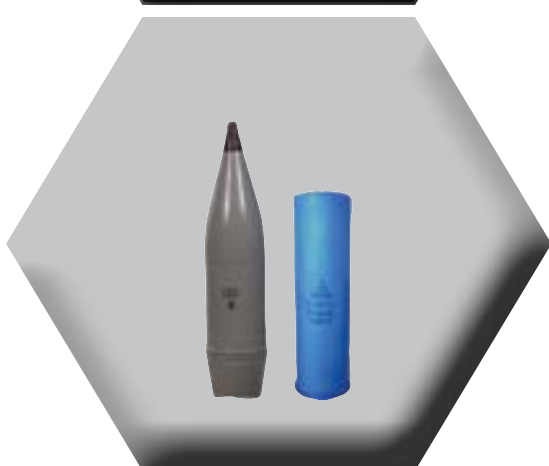
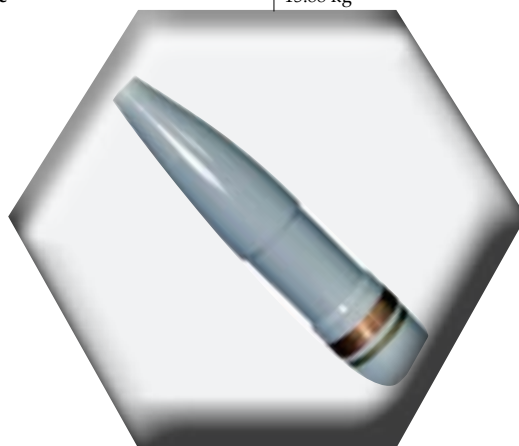


100 mm BR-412 (AP-T)

Type of projectile	Perforant trasor BR- 412B (AP-T)
Fuze type	MD - 8M1 or DBR-2
Muzzle velocity	887 m/s
Average maximum pressure	3000 kgf/cm ²
Propelling charge	NDT3 18/1
Blasting charge	A-IX-2
Power of piercing	150 mm at 1.000 m-90°
Maximum range	4 000 m
Total lenght	992mm
Cartridge case	695 mm
Projectile	360 mm
Total weight	30.60 kg
Cartridge case with propelling charge	14.72 kg
Projectile	15.88 kg

105 mm artillery ammunition

Gun type	ALL 105 mm; L7; Rh 105, M 68, GT 7
Type of projectile	High explosive
Muzzle velocity	Max. 683
Maximum range	11 000 m
Lenght of projectile	418 mm
Weight of projectile	14.3 kg
Blasting charge	TNT



122 mm Ammunition

122 mm Ammunition calibre with explosive projectile and complete charge with RGM-2 or V-429 fuze, and with explosive projectile and variable reduced charge.

Type	Complete charge	Variable reduced charge
Howitzer type	D-30	D-30
Calibre	122 mm	122 mm
Ammunition type	non - coupled	non - coupled
Maximum range	15 290 m	12 840 m
Type projectile	HE	HE
Weight of explosion charge (TNT)	3.5 kg	3.5 kg
Projectile weight with fuze	21.76 kg	21.76 kg
Projectile length, with fuze max.	564.6 mm	564.6 mm
Type propelling charge	complete	reduced
Propelling charge length	~3.8 kg	~2.43 kg
Muzzle velocity	690 m/s	565 m/s
Average maximum pressure	2500 Kgf/cm ²	1950 Kgf/cm ²
Cartridge tube height	447 mm	447 mm
Fuze type	RGM-2	
Operating mode fuze	point detonating	point detonating

Artillery ammunition

ROMARM artillery ammunition



155 mm artillery ammunition

Gun typ	All 39 cal. Barrel such as the FH 70, M 109, M 198, Howitzer
Type of projectile	High explosive M 107
Components made in plant	Reduced –Variable Charge
Muzzle velocity	Max. 830
Maximum range	24 000 m
Lenght of projectile	605 mm
Weight of projectile	43.88 kg
Blasting charge	TNT or Comp. B

These are NOT ENTIRELY MANUFACTURED in our factories. Our production lines only allow to fill the projectiles with powder.



76 mm artillery ammunition

GUN TYPE	MOUNTAIN GUN MD 48 B1 A5 AND MD.82			76 mm ALL GUNS	DIVISIONAL GUN Md.42 And selfgun Md.t 76	
TYPE OF PROJECTILE	EXPLOZIVE OF-350 (HE)	CUMULATIVE WITH MLRBK-354 M HOLLOW CHARGE HEAT-T	FUMIGEN D-350 SMOKE	FESTIVITY (without projectile) BLANK	EXPLOZIVE OF-350 (OF-350)	ARMOUR PIERCING TRACER BR-350B (AP-T)
FUZE TYPE	UP-3 or	RGM-2	GPV-2R	RGM-2	KTM-1-U	MD-8
MUZZLE VELOCITY	398 / 222 m/s	410 m/s	398 / 222 m/s	-	680 m/s	680 m/s
AVERAGE MAXIMUM PRESSURE	1950/490 Kgf/cm ²	1900 kgf/cm ²	1950/490 Kgf/cm ²	-	2380 kgf/cm ²	2380 kgf/cm ²
PROPELLING CHARGE	5/7	5/7	5/7	P -55	9/7	9/7
BLASTING CHARGE	TNT	A-IX-2	TNT	-	TNT	A-IX-2
POWER OF PIERCING	-	80 mm at 100 mm -60°	-	-	-	60 mm at 100 m--90°
MAXIMUM RANGE	8 600 m	1 000 m	8 600 m	-	13 300 m	4000 m
SMOKE PERSISTANCE	-	-	Min. 20 s	-	-	-
TOTAL LENGTH CARTRIDGE CASE PROJECTILE	Non coupled 386 mm 357 mm	725 mm 386 mm 495 mm	Non coupled 386 mm 357 mm	- 165 mm -	165 mm 386 mm 343 mm	642 mm 386 mm 309 mm
TOTAL WEIGHT CARTRIDGE case with propelling charge PROJECTILE	8.564 kg 2.294 kg 6.270 kg	8.175 kg 2.110 kg 6.065kg	8.564 kg 2.294 kg 6.270 kg	1.420 kg - -	9.000 kg 2.800 kg 6.200 kg	9.300 kg 2.800 kg 6.500 kg



Artillery ammunition

ROMARM artillery ammunition

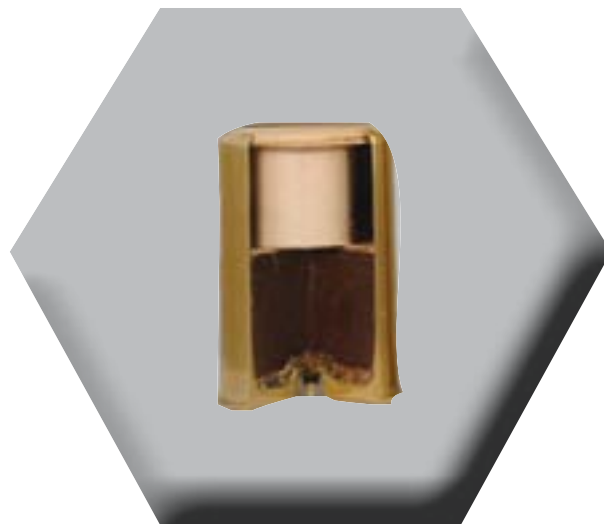


20 mm artillery ammunition components

Gun Type	M 621, M 61A, M39, M50, M61A1, M168, M197, MK22, US GAU-4, MK 29 GUNS	
Type of projectile	Training with tracer TP-T	Training without tracer TP
Components made in plant	Projectiles, tracer, cartridge cases	Projectiles, cartridge cases
Muzzle velocity	1030 m/s	1030 m/s
Tracer burning time	Min.2	-
Total length	168 mm	168 mm
Cartridge case	102 mm	102 mm
Projectile	86.8 mm	86.8 mm
Total weight	0.262 kg	0.260 kg
Cartridge case with propelling	0.103 kg	0.101 kg
Projectile	0.159 kg	0.159 kg

100 mm blank / festivity artillery ammunition

Type of projectile	Festivity (Blank)
Fuse type	-
Muzzle velocity	-
Average maximum pressure	-
Propelling charge	P 55
Blasting charge	-
Maximum range	-
Cartridge case	246 mm
Cartridge case with propelling charge	6 kg

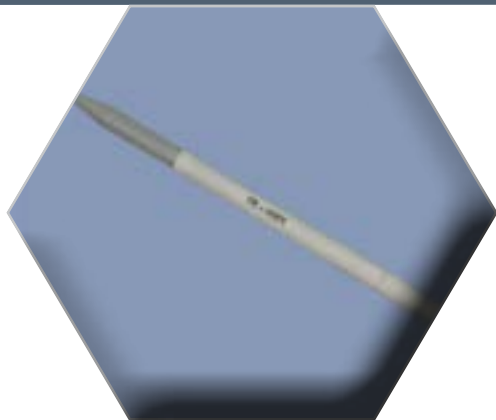


130 mm artillery ammunition

Type of projectile	Explosive with BB (HE)
Fuse type	ZETA
Muzzle velocity	930 / 810 m/s
Average maximum pressure	3150 kgf /cm ²
Propelling charge	NDT 3-23-1
Blasting charge	TNT
Maximum range	35 000 m
Total lenght	Noncoupled
Cartridge case	846 mm
Projectile	676 mm
Total weight	59 kg
Cartridge case with propelling charge	25.6 kg
Projectile	33.4 kg

Rockets and missiles

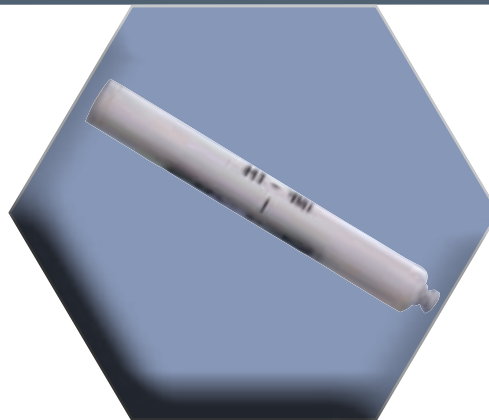
ROMARM rockets



PRN-80 Air-to-ground rocket

PRN-80 rocket is used on aircrafts and helicopters against ground targets: self-propelled artillery, infantry combat vehicles, armored personnel carriers, missile systems, radars, grounded aircrafts and helicopters, fuel warehouses, trains and personnel. The PRN-80 rocket is fully compatible with the aircrafts and helicopters using 20-tubes launchers.

Platform	MIG-29, MI-8/17, MI-28
Launching altitudes	300 - 1000 m
Optimal slant range	2000 m
Rocket weight	12 kg
Warhead weight	3.2 kg
Warhead type	Hollow charge - HE
Armour penetration	380 ÷ 400 mm RHA
Fragmentation	+500 pre-fragmented
Fuze type	impact
Caliber	80 mm
Length (before launch)	1566 mm
Fins span	374 m



Infrared flare IRF-TH

Infrared flares are designed to achieve a drawn bright emission in the near infrared spectrum (N.I.R).

Outer case	Steel
Max. gross weight	210 g
Mass composition	~ 119 g
Charged flare diameter	max. 25.4 mm
Flare length	max. 200.8 mm
Operational speed	Up to 400 Kts
Fuze head circuit resistance	1.25 ÷ 2.25 ohms
Circuit test current	max. 30 mA/10 sec
Min. firing current	1A/10 msec
Burning time	min. 60 sec
Output	min. 400W/sr in the 2.9 ÷ 5.5 microns bandwidth
Storage conditions	- stable temperature between -32° C ÷ +40° C / - relative humidity less than 70%



Smart tactical advanced rocket star-80L

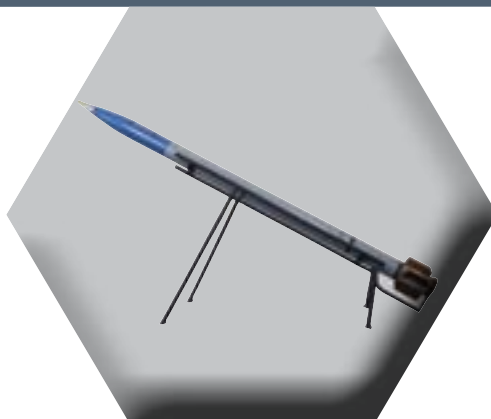
The weapon is designed to combat small fixed and mobile ground targets as APC's, tactical vehicles, command points, shelters, other unarmoured and armoured means, resistance points and river boats. The missile can be delivered by grounded or heliborne weapon systems and guided until the target from launching platform or from an advanced designation team. Accuracy and controlled blast effects allows this weapon to be widely used in urban warfare and especially in anti-terror operations.

Caliber	80 mm
Length	1800 mm
Weight	13.5 kg
Warhead weight	3 kg HEBF
Range	1000 ÷ 6000 m
Accuracy	1.5 m CEP
Period of maintaince in service	The launcher - 20 years / the missiles 10 years.
Primary platforms	- Attack and support helicopters / - Light APC's and unarmoured tactical vehicles / - Man-portable (detachable) firing post (optional)



Rockets and missiles

ROMARM rockets



122 mm Reactive ammunition

Ammunition	Long range 122 mm rocket with MRV-UBM fuze	Standard 122 mm rocket with MRV-U fuze	Standard 122 mm rocket with MRV-UMB fuze and preformed elements
- caliber	122 mm	122 mm	122 mm
- max. range	42 km	20.4 km	20.4 km
- length (incl. fuze)	2810 mm	2875 mm	2875 mm
- weight (incl. fuze)	65 kg	66 kg	66.5 kg
- max. velocity	1230 m/s	690 m/s	690 mm
- operating temperature	-40° C ÷ +50° C	-32° C ÷ +50° C	-40° C ÷ +50° C
Warhead			
- type	HE	HE	HE with performed elements
- weight	18.4 kg	18.4 kg	18.4 kg
- explosive charge weight	6.35 kg	6.35 kg	4.8 kg
Reactive motor			
- type	Composite powder	Double base	Double base
- weight	41.7 kg	47.1 kg	47.1 kg
- powder weight	24.8 kg	20.65 kg	20.65 kg
- burning time	3 sec. (at 20° C)	2.2 sec. (at 20° C)	2.2 sec. (at 20° C)
- initiation current	4 A	0.45 A	0.45 A
- stabilization	aerodynamic by rotation (4 folding wings)	aerodynamic by rotation (4 folding wings)	aerodynamic by rotation (4 folding wings)
Fuze			
- type	MRV-UBM	MRV-U	MRV-U
- weight	750 g	710 g	710 g
- lenght	191,42÷195,04 mm	-	-
- safety distance from the muzzle	150 ÷ 400 m	150 ÷ 400 m	150 ÷ 400 m



TPDM-01 Parachute target

The TPDM-01M parachute target has been conceived to simulate a real aerial target radiating in IR and reflecting waves like a fighter-bomber aircraft. It is used for training and practice firing with IR and radar guided missiles air to air as well as surface to air. It can be also used for training proposes by the surveillance radar operators.

External diameter	280 mm
Total weight	4 kg
Maximum dropping altitude	10.000 m
Torch burning time	- at ground level 3 min. - at 10.000 ÷ 8.000 m 5 min.
Torch light intensity at ground level min.	900.000 Cd
Descending speed with burning torch and deployed reflector	- at 10 000 ÷ 8 000 m 12 m/s - at H<4 000 m 4 m/s

Miscellaneous products

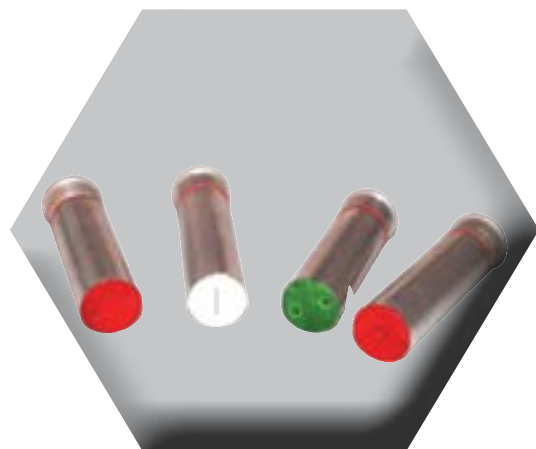
ROMARM dedicated products



**Electronic Countermeasure Munition
for MIG - 21 Lancer,
IAR - 99 SOIM, IAR - 330 H aircraft type**

	Munition with		
	Thermal decoy (IR)		Electromagnetic decoy (RL)
Type munition	1"x1"x8"	1"x2"x8"	1"x1"x8"
Dimensions	206.5 mm 24.4 mm 24.4 mm	206.5 mm 24.4 mm 52 mm	206.5 mm 24.4 mm 24.4 mm
Total weight	0.21 kg	0.45 kg	0.18 kg
Working temperature	-40 ÷ +60°C	-40 ÷ +60°C	-40 ÷ +60°C
Storage temperature	-40 ÷ +60°C	-40 ÷ +60°C	-40 ÷ +60°C
Number strokes on the dispersion device	30 pcs	15 pcs	30 pcs
Charge converging band IR or LR	3 ÷ 5 μm	3 ÷ 5 μm 8 ÷ 16 μm	
Priming Mode	Electric	Electric	Electric
Type of electric primer CAP	CE - 1	CE - 1	CE - 1
Charging voltage	27 ± 10% Vcc	27 ± 10% Vcc	27 ± 10% Vcc

Type	Tears gas shell CC38-FL (IRRITANT CS)
Shell diameter	38 ± 0,3 mm
Height of shell	138.5 ± 1 mm
Weight of shell	0.218 ± 0.007 kg
Weight of pyrotechnic charge	0.0026 kg
Weight of tear smoke charge	0.084 ± 0.003 kg
Irritant gas CS (ortho-chloro-benzal malonitril)	CIC ₆ H ₄ CH = C (CN) 2
Smoking time	min 20 sec
Delay time	4 sec
Range (short / long)	85 ± 140 m
Operational temperature range	-30°C ÷ +50°C



Tears gas shell CC38-FL (IRRITANT CS)

The tear gas shells 38 mm caliber is used by the police and is designed to prevent and neutralize the aggressive actions of groups who seriously disrupting public order according to the law.

Miscellaneous products

ROMARM dedicated products



Anti hail system

The anti-hailstone system is designed to fight against the hailstone falls. To ensure a fast and efficient intervention, the system is structured in several units of combating the hailstone falls, each unit covering an area of about 100,000 ha.

The structural elements of each unit are as follows:

- command posts for conducting the anti-hailstone operations
- launching posts for the anti-hailstone rockets, with launching installations and rockets storage
- meteorological radars for discovering the hailstone clouds
- rockets for spreading the cloud condensation agents and launching installation
- communications means

Through the actions conducted using the anti-hailstone equipment, it is ensured a protection level of at least 75%. The elements of the rocket structure are mainly biodegradable.

Caliber	82,5 mm	LARMA-1	Launcher
Length	1.4 m / 1.1 m	Weight	600 kg
Weight	8,8 kg / 6,6 kg	No of rails	8
Workload weight	0.66 kg	Op Mode	manual/remote
Number of active cores	3 x 1 0 ¹⁵	Ignition mode	electric 24Vcc
Maximum trajectory height	9300 m	Selfdistruct time	~ 45 sec
Maximum range	12000 m / 7000 m		

Remote control weapon station turret RCWS - RO

Caliber	7.62 x 51 / 54 mm 12.7 x 99 / 108 mm	Feature multifunctional display	
Weapon assembly, actuating sustem (WA + AS)		Provides stadia scale for estimated distance-to-target before firing	
Azimut range	nx360°	Display the elevation angle according to the aproximated stadia scale, made by Fire Control Systems	
Elevation range (Up)	+60° ± 2°	Provides brightness and contrast adjustments	
Elevation range (Down)	+20° ± 2°	Size	10.4"
Azimut speed - high Azimut speed - low	min 1 rad / s max 0.27 mrad / s	Input	VGA/PAL - composite video
Elevation speed - high Elevation speed - low	min 0.4 rad / s max 0.27 mrad / s	Supply voltage	22 - 30 Vcc
Weight without gun and ammunition	max 165 kg	Enviromental conditions according to military standards	
Overall dimensions - length Overall dimensions - width Overall dimensions - heigth	849 mm 602 mm 671 mm	Electrical power usage - Nominal usage	max 160 w
Protection (N.I.J. 0108.01)	Level 3	Electrical power usage - Peak demand < 1second	max 600 w



EXO₂

The new portable fire extinguishing system



EXO₂ - The new portable fire extinguishing system

The EXO₂ program was created in response to the needs of security forces, with the aim of resolving fire situations caused by acts of vandalism in crowd control and riot prevention operations. The system can react rapidly to such fires and is designed to be worn attached to the body, without affecting the mobility of those using it.

Portability - EXO₂ devices are very small and light in relation to their effectiveness, and handling is very simple.

Unpressurised - EXO₂ devices are not subject to pressure vessel regulations and are not subject to periodic inspections.

Safety - EXO₂ offers a longer throw distance than most extinguishers. Quick cartridge replacement allows multiple successive interventions.

Environmentally friendly - EXO₂ devices do not generate toxic gases or waste of any kind.



EXO₂ ACTIVATOR



EXO₂ COMPACT

Type	Fast and effective fire response
Intuitive activation:	The device is as easy to use as shooting a gun.
Safe:	No danger of explosion as the cartridges are not under pressure.
Light weight:	Each cartridge weighs less than 100 g, much less than a traditional fire extinguisher.
Safe distance:	Allows you to operate from a safe distance of 3 to 5 meters.
Quick Recharge:	Can be quickly recharged to deal with multiple fires in a short time.
Non-toxic:	Produces no substances harmful to health or the environment.

Type	A simpler design, made of aluminum, front-loading system with magnetic cartridge retention inside the extinguishing device and push-button activation.
Intuitive activation:	The device is easy to use, just press a button.
Safe:	There is no danger of explosion as the cartridges are not under pressure.
Compact and lightweight:	The compact model is lighter, weighing less than 100g.
Safe distance:	Allows you to operate from a safe distance of 3 to 5 meters.
Quick recharge:	Can be quickly recharged to deal with multiple fires in a short time.
Non-toxic:	Produces no substances harmful to health or the environment.

AM 500

Metal container



Metal container AM 500

The design and execution of this product started from the current specific needs of the Ministry of National Defence, which is intended for the transport of packaged goods in the power categories.

The Metal Container -AM 500 is a metal construction:

1. Armor sheet, which ensures Level 1 ballistic protection on the entire outer surface STANAG 4569.
2. Type ICC, according to ISO 668:2013 (E).
 - o Length 6058 (+ 0,- 6) mm.
 - o Width 2438 (+ 0,- 5) mm.
 - o Height 2591 (+ 0,- 5) mm.
 - Maximum total weight 24000 kg.
 - Maximum Curb Weight 6715 kg.
 - Usable table 16000 kg.
 - Comer pieces according to ISO 1161: 2016.

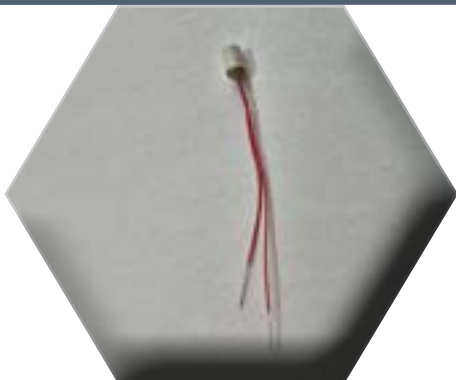


Metal container AM 500 - partitioning:

Storage room	ANTIEX electrical installation. Smoke sensors, pipes - Nozzles connected to the fire extinguishing system..
The technical room, composed of:	Fire extinguishing system. Filter-ventilation installation, Air Conditioning + Humidity Installation. Anti-burglary installation. Electrical installation -Control panel..
Interior insulation:	ISOFIRE WALL panels 60 mm thick..
Opening system:	Door closing mechanism (front, rear) for transport safety..
Coating:	Green matte paint V5101 (RAL 6007), ISO 12.944:2018

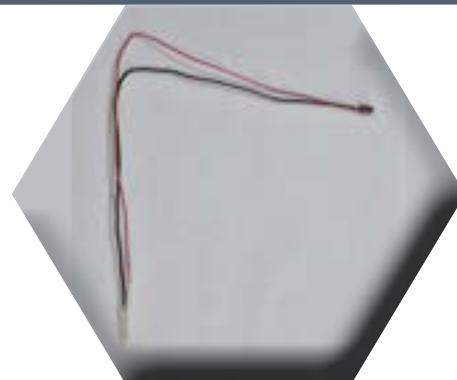
NH-PCI electric primer and MB-2N electrical igniter

Electric elements



NH-PCI electrical primer

TECHNICAL SPECIFICATION	
Design features	Materials: - conductor: copper - bushing: bakelite - filament: Cr-Ni resistive wire - ignition composition: pyrotechnic substances - net product weight: 0.2 g
Performance specifications	Ohmic resistance: $7 \pm 12 \Omega$ Safe failure: - condenser capacity $0.35 \mu\text{F}$ - voltage $20 \text{ V} \pm 0.2 \text{ V}$ - electrical resistance $7 \pm 12 \Omega$ - malfunction, voltage = $20 \text{ V} \pm 0.2 \text{ V}$ Safe operation: - condenser capacity $0.35 \mu\text{F}$ - voltage $60 \text{ V} \pm 1 \text{ V}$ - electrical resistance $7 \pm 12 \Omega$ - malfunction, voltage = $20 \text{ V} \pm 0.2 \text{ V}$ - operation, voltage $60 \text{ V} \pm 1 \text{ V}$ Safe operation at high temperatures: - temperature $+55^\circ\text{C}$ - maintenance time 2 hours - electrical resistance $7 \pm 12 \Omega$ - non-operation, voltage = $20 \text{ V} \pm 0.2 \text{ V}$ - operation, voltage $60 \text{ V} \pm 1 \text{ V}$
Technical data sheet	Safe operation at low temperatures: - temperature -65°C - maintenance time 2 hours - electrical resistance $7 \pm 12 \Omega$ - non-operation, voltage = $20 \text{ V} \pm 0.2 \text{ V}$ - operation, voltage $60 \text{ V} \pm 1 \text{ V}$ Safe operation after vibration: - does not malfunction after repeated drops at a rate of 60 blows/minute from a height of 150 mm for 2 hours; - electrical resistance $7 \pm 12 \Omega$ - non-operation, voltage = $20 \text{ V} \pm 0.2 \text{ V}$ - operation, voltage $60 \text{ V} \pm 1 \text{ V}$ Moisture resistance: - works after being kept for 72 hours in a fire extinguisher. Ammonium chloride solution dissolved in distilled water (100 g in 200 g); - electrical resistance $7 \pm 12 \Omega$ - non-operation, voltage = $20 \text{ V} \pm 0.2 \text{ V}$ - operation, voltage $60 \text{ V} \pm 1 \text{ V}$



MB - 2N electrical igniter

TECHNICAL SPECIFICATION	
Fields of application	The MB-2N electric igniter is used to ignite pyrotechnic blocks or pyrotechnic compositions in liquid-pressurized pyrotechnic cartridges (hermetic PVJ).
Design features	Materials: - socket: bakelite - fixing lacquer: electrically insulating lacquer. - conductors: PVC-insulated copper. - composition initiation mass: 0.015 g - net product mass.: 1.55 g
Performance specifications	Ohmic resistance: $3.6 \pm 4.4 \Omega$ Operating electric current: 0.5 A Non-operating electric current: 0.05 A / 5 minutes Vibration resistance: Does not function, subjected to repeated drops at a rate of 60 blows/minute from a height of 150 mm for 1 hour Temperature resistance: subjected to a thermal cycle of $+50^\circ\text{C}$ and -50°C for 2 hours, it operates at an electric current of 0.5 A and does not operate at an electric current of 0.05 A for 5 minutes.
Technical data sheet	Moisture resistance: it works after being kept for 72 hours in a desiccator with a supersaturated potassium sulfate solution at a temperature of $16 \pm 35^\circ\text{C}$ and humidity of $80 \pm 85\%$. Powder ignition capacity: ensure sufficient flame to ignite $1.5 \pm 2 \text{ g}$ of DRP 2 powder.

COMPONENTS AND PARTS

ROMARM | Components for ammunition



Components and parts

ROMARM fuze parts



V-429 Point detonating fuze

Outfitting of 76 mm, 85 mm, 100 mm, 122 mm, 130 mm and 152 mm HE round.

Fuze type	Nose fuze, with impact functioning.
Adapter thread	Sp 36.18x10/inch
Outer diameter	max. 40 mm
Total length	max. 105.7 mm
Length of screwed area into the projectile	45.2 ÷ 46.8 mm
Mass	0.43 kg
Safety distance from muzzle	min. 5 ÷ 7 m
The fuze operates at impact	- D -instantaneous - I - with delay (27÷56) ms



RGM-2 Point detonating fuze

Outfitting of 76 mm, 122 mm and 152 mm HE round.

Fuze type	Nose fuze, with impact functioning.
Adapter thread	Sp 36.18x 10/inch
Outer diameter	max. 40 mm
Total length	max. 105.7 mm
Length of screwed area into the projectile	45,2 ÷ 46,8 mm
Mass	0.43 kg
Safety distance from muzzle	min. 5 ÷ 7 m
The fuze operates at impact	D- instantaneous I - with delay (27÷56) ms



FGM-1, FGP-1, FG-MR Fuze for hand grenades

The FGM-1 fuze is intended for arming whole variety of hand grenades equipped with Rds 15.45x13zw/" socket, like GMM and RG-42, all of them equipped with Sp 15.45x13 zw/" socket.

Fuze type	FGM-1
Use for	arming whole variety of hand grenades equipped with Rds 15.45x13zw/" socket, like GMM and RG-42, all of them equipped with Sp 15.45x13 zw/" socket.
Weight of the fuze	max. 0.055 kg
Length of fuze	max. 100 mm
Delay time of the fuze	3.0 ÷ 4.5 s
Fuze type	FGP-1
Use for	arming the grenades equipped with Rds 15,45x13zw/" socket, like GMM, all of them equipped with Sp 15,45x13 zw/" socket.
Weight of the fuze	max. 0.055 kg
Length of fuze	max. 100 mm
Delay time of the fuze	9.5 ÷ 12.5 s
Fuze type	FG-MR
Use for	arming the grenades equipped with Rds 15,45x13zw/" socket, like GMM and F-1, all of them equipped with Sp 15,45x13 zw/" socket.
Weight of the fuze	max. 0.055 kg
Length of fuze	max. 79 mm
Delay time of the fuze	4,0 ÷ 5,5 s

Components and parts

ROMARM fuze parts



MRV-U Fuze

Outfitting of 122 mm HE Rocket Rounds, type M21 OF.

Fuze type	Nose fuze with impact functioning	Detonator	RDX-tipA IX-1
Adapter thread	Sp.44,96 x 2 turns/inch	Functioning temperature range	-40°C÷+50°C
Outer diameter	max.: Ø 64 mm	Safety distance from muzzle	50 ÷400 m
Length	191.42 ÷ 195.04 mm	Length of screwed area into the projectile	53.01 ÷ 54.39 mm
Mass	0.75 kg	The fuze operates at impact. Ways of functioning:	• "00"(0) instantaneous - adjustment performed by manufacturer • "+" with long delay - 0.007÷0.013 s • "0" with short delay - 0.001÷0.005 s
SHELF LIFE	Min. 15 years-if kept in original packing and observing the Storage Directions sent by manufacturer	Adjustments	for "+" or "0" functioning are to be performed prior to firing by rotating the adjusting device with a special key.

ETF-1MT Fuze

Destination	Equip illuminating mortal bombs caliber 60mm, 81mm, 82mm and 120 mm.
Fuze type	Head fuze, with time and impact operation.
Fuze weight	285 ± 5 g
Fuze lenght	98 +2 mm
Ogive buried part length	11.55 ...12.4 mm
Thread for ogive montage	Sp.M 36.14 x 10 turns/inch
Maximum diameter	47.3 mm
Power supply	Air driven turbine
Adjustable setting time	3.1 s - 99.9 s, with thread o.1 s, precision 0.05s
Safety distance to the manhole	Minimum 40 m
Operation mode	Time/ Impact (if time set higher than trajectory time).
Safe arming conditions	Mechanical arming / Electrical arming.
Time seting	It is possible through electronic wire programmer that ensures setting, resetting and set time confirmation.
Functional doubling	If the product does not operate at the set time, it operates at impact.
Operating temperature	-32° C÷ +49° C
Fuze safety	Safe on handling, store, transport, firing, and at external factors action like vibrations, electrostatic discharges, saline fog, extreme temperatures, thermal shock, water, dust.



Components and parts

ROMARM fuze parts



EIF-2 CRF Electronic impact fuze

Compatible	120 mm HE and SMOKE mortar bomb
Operation mode	quick
Temperature range	-32° C ÷ +49° C
Weight	570 gr
Lenght	152 mm
Arming distance	min. 40 m
Powered by	thermal battery
Thread size	M56 x 1.5
Intrusion size	64 mm
Life time	10 years



EIF-3 CRF Electronic impact fuze

Compatible	120 mm HE and SMOKE mortar bomb with enhanced range and sealing ring
Operation mode	quick
Temperature range	-32° C ÷ +49° C
Weight	500 gr
Lenght	152 mm
Arming distance	min. 40 m
Powered by	thermal battery
Thread size	M52 x 1.5
Intrusion size	64 mm
Life time	10 years



EIF-6 CRF Electronic time fuze

Compatible	120 mm Illuminating mortar bomb with enhanced range and sealing ring
Operation mode	time
Setting time	6 ÷ 60 sec in step of 0.1 sec
Temperature range	-32° C ÷ +49° C
Backup	point detonation
Weight	570 gr
Lenght	152 mm
Arming distance	min. 40 m
Powered by	thermal battery
Thread size	M56 x 1.5
Intrusion size	64 mm
Life time	10 years

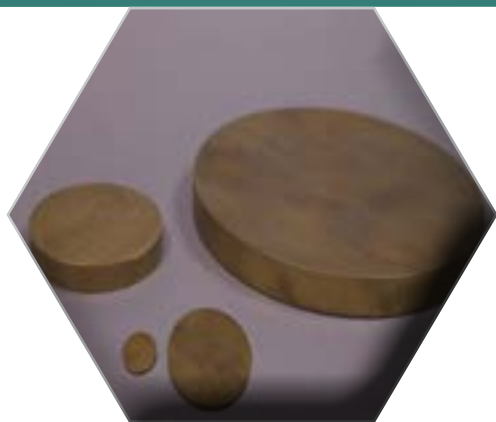


FPv-120 CRF Proximity and impact fuze

Compatible	120 mm HE mortar bomb
Height of bursting	1 to 5 m
Temperature range	-32° C ÷ +49° C
Weight	790 gr
Lenght	192 mm
Arming distance	min. 40 m
Usability	any type of terrain (dry or wet soil, sand, snow, swamp, water, mountain rock)
Powered by	thermal battery
Thread size	M52 x 1.5 or as requested
Intrusion size	90 mm
Life time	10 years

Components and parts

ROMARM parts for ammunition



Brass plates for artillery rounds

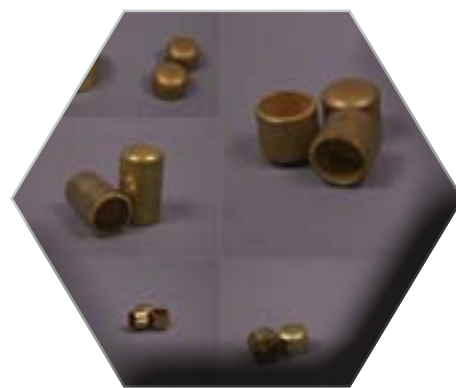
Product name	Caliber/ dimension (mm)	Weight/ pcs (kg)	Material
Brass plate	Ø 84.25 x 16.15 caliber 37 mm	0.5	OL
Brass plate	Ø 85 x 13 caliber 37 mm	0.63	Brass LK 75 GOST 16520
Brass plate	Ø 141 x 21.2 caliber 57 mm	2.9	Brass C26000 ASTM B19
Brass plate	Ø 141 x 24.7 caliber 57 mm	2.9	Brass C26000 ASTM B19
Brass plate	Ø 155 x 12.7 caliber 76 mm	1.98	Brass C26000 ASTM B19
Brass plate	Ø 204.22 x 19 caliber 85 mm	5.5	Brass C26000 ASTM B19
Brass plate	Ø 208 x 15 caliber 122 mm	4.74	Brass C26000 ASTM B19
Brass plate	Ø 212 x 15 caliber 85 mm	4.6	Brass C26000 ASTM B19
Brass plate	Ø 245 x 18.7 caliber 105 mm	7.5	Brass C26000 ASTM B19
Brass plate	Ø 261.32 x 21.6 caliber 100 mm	9.87	Brass C26000 ASTM B19
Brass plate	Ø 281.4 x 18.7 caliber 152 mm	9.92	Brass C26000 ASTM B19
Brass plate	Ø 296 x 23.5 caliber 130 mm	13.8	Brass C26000 ASTM B19
Brass plate	Ø 308 x 23.5 caliber 130 mm	14.9	Brass C26000 ASTM B19
Brass plate	Ø 31 x 6.5 mm	0.042	Brass C26000 ASTM B19



Case and components for 122 mm rockets

These parts are used as components for manufacture of 122mm rockets M-21 OF and M-21 OF S.

Steel Fragmente Casing	2.1 kg
Steel Fragmente Casing	2.2 kg
Steel Semi-Finished Carcas	1.7 kg / 205- 235 mm
Steel Projectile Body	7.7 kg
Steel Frn Case	9.35 kg / 980 mm



Brass case cups

Product name	Caliber/ dimension (mm)	Weight/ pcs (g)	Material
Cartridge case	5.56 x 45 mm	8	Brass C26000 ASTM B19
Bullet jacket	5.56 x 45 mm	6	Brass C26000 ASTM B36
Cartridge case	5.45 x 39 mm	8	Brass C26000 ASTM B19
Cartridge case	7.62 x 51 mm	13	Brass C26000 ASTM B19
Bullet jacket	7.62 x 51 mm	3,26	Brass C26000 ASTM B36
Cartridge case	7.62 x 39 mm	9,40	Brass C26000 ASTM B19
Cartridge case	7.65 mm	3,2	Brass C26000 ASTM B19
Bullet jacket	7.65 mm	1,18	Brass C26000 ASTM B36
Cartridge case	9 mm	4,8	Brass C26000 ASTM B19
Cartridge case	12.7 mm	66,5	Brass C26000 ASTM B19
Bullet jacket	12.7 mm	18	Brass C26000 ASTM B36
Cartridge case	23 mm	133	Brass C26000 ASTM B19
Cartridge case	20 mm	141	Brass C26000 ASTM B19



Components and parts

ROMARM parts for ammunition



20 - 40 mm Cartridge case for artillery ammunition

Caliber	20 mm	23 mm		25 mm		30 mm			37 mm		40 mm	
Material	Brass	Brass	Steel	Brass	Steel	Brass	Steel		Brass	Steel	Aluminium	Aluminium
Diameter	Ø 29.59	Ø 27	Ø 33.4	Ø 40	Ø 40	Ø 46	Ø 40	Ø 46	Ø 52	Ø 48.6	Ø 42	Ø 44
Lenght	102 mm	115 mm	151.5 mm	219 mm	219 mm	210 mm	165 mm	210 mm	252 mm	265 mm	74.5 mm	47 mm
Diameter	Ø 19.38	Ø 22.25	Ø 22.21	Ø 25.4	Ø 25.6	Ø 29.2	Ø 29.2		Ø 36	Ø 36.6	Ø 39.6	Ø 39.1
Weight	0.71 g	0.8 g	0.75 g	0.7 g	0.7 g	1.3 g	1.3 g		1 g	0.85 g	0.6 g	0.6 g

155 mm Artillery ammunition components

Gun type	All 39 cal. Barrel such as FH 70, M 109, M 198, Howitzer	
Type of projectile	Extended range cargo projectile M 396	High explosive M 107
Components made in plant	Projectile bodies bleeder adapters bleeder bases	Projectile bodies
Characteristics of designate shell		
Muzzle velocity	Max. 825 m/s	Max. 830 m/s
Maximum range	28700 m	24000 m
Weight of projectile	42.3 kg	43.88 kg
Length of projectile	802 mm	605 mm
Blasting charge	49 bomblets M 85	TNT or COMP. B

* NOTE: The projectiles can be fired as well from 45 mm and 52 mm caliber barrels with higher propelling charges, thus significantly increasing the effective firing range.



Components and parts

ROMARM accesories



Magazines

Type of Magazine		Loading capacity	Material	Weight (empty)	Magazine overall dimension (mm)		
		(no of rounds)	type	(g)	length	width	height
Cal. 5.45x39 mm for AK74		30	steel	310	210	74	30
		40	steel	350	260	74	30
Cal. 5.56 mm		5 rds. / 1 row	steel	155	90	74	30
		10 rds. / 1 row	steel	165	140	74	30
		5 rds. / 2 rows	steel	160	70	74	30
		10 rds. / 2 rows	steel	170	94	74	30
		30 rds. / 2 rows	steel	255	187	74	30
Cal. 7.62x39 mm	AKM47	30	steel	340	230	74	30
Cal. 7.62x39 mm	RPK	40	steel	380	280	74	30
Cal. 9 x19 mm for Pistols and Submachine guns	LP5.04	15	steel	93	130	43	26
Cal. 9 x19 mm for Pistols and Submachine guns	LP7.06	30	steel	217	232	37	26



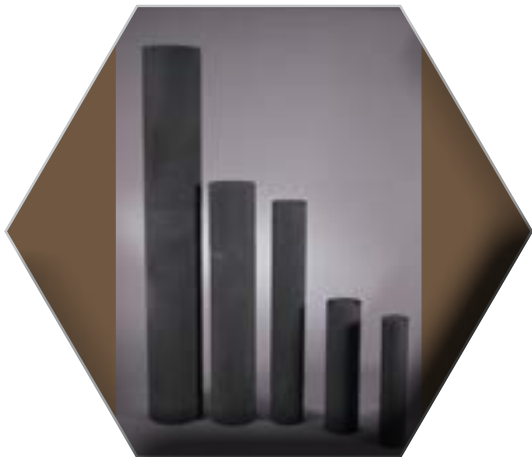
Components and parts

ROMARM accesories



Link belts

Type	Use
7.62 x 54 link belt for 100,200 and 250 rounds	7.62 x 54 mm cartridges in PKT and PKMS machine guns.Material: hardened steel.
Link belts for cartridges cal. 12.7 x 108 mm	12.7 x 108 mm cartridges in DShKM machine guns. Material: hardened steel.
Yakb desintegrating link belts for cartridges cal. 12.7 x 108 mm	12.7 X 108 mm cartridges in YAKB machine guns. Material: hardened steel.
Link belts for cartridges cal. 14.5 x 114 mm	14.5 x 114 mm cartridges in KPV and KPVT machine guns. Material: hardened steel.
GS 23 desintegrating link belts for cartridges cal. 14.5 x 114 mm	23 x 114 mm cartridges in GS23 and GS23L cannons. Material: hardened steel.



Cardboards packagings for mortar bombs

Dimension	Caliber 60 mm	Caliber 82 mm	Caliber 120 mm
Length	362 mm	380 mm	720 mm
Diameter	72 mm	100 mm	136 mm

Accessories for weapons

ROMARM accessories



Linking devices

Type	Use	Dimensions	Weight
Hand linking device for cal. 12.7x108 mm and for .50 ammunition	Loading and straightening the 12.7x108 mm cartridges in 12.7x108 mm link belts for DShKM, NSV and KORD machine guns	300x230x290 mm	3.5 kg
Hand linking device for cal. 14.5x114 mm	Loading and straightening the 14.5x114 mm cartridges in the 14.5x114 mm link belts for KPV and KPVТ Heavy machine guns	300x230x290 mm	3.5 kg
Hand linking device for GS23 and GS23L	Loading and straightening the 23 mm cartridges in the 23 mm link belts for GS23 and GS23L air to air cannons	472x41x232 mm	1.7 kg
Linking device for cal. 12.7x108 mm YAKB belt	Intended to manually link cartridges cal. 12.7x108 mm in the YAKB belt	300x220x395mm (handle in vertical position) 300x220x60mm (handle folded for transport)	4.7 kg



SERVICES

ROMARM | Services



Maintenance / Demilitarisation / Conversion Research & Development / Training & Consultancy

Having a long history in this field and employing specialists in every step of the defense equipment manufacturing process, we are able to offer our Customers the following services:

Maintenance

We provide maintenance, repair, overhaul for various types of products and systems:

- armored vehicles on wheels and tracks
- rockets
- artillery systems
- arms
- ammunition caliber 5,45 – 155 mm (replacing the charge, reloading, etc.

Demilitarisation

We are closely working with Governments and organizations throughout the world in all aspects of demilitarization, disarmament, security of weapons and ammunition. We have special facilities for the disposal of conventional M.o.D. ammunitions (excluding biological or nuclear), various types of weapons of all calibers, combat armored vehicles on wheels and on tracks, anti-tank mines, projectiles and rockets of any caliber.

We can also provide:

- waste incineration
- reverse engineering
- sorting and salvage
- disposal of ammunition, primarily propellant, primers and fuzes;
- open burning including cage burning
- open detonation of ammunition and explosives (used only in specific circumstances

Conversion

ROMARM can perform conversion of military grade infantry weapons for hunting, target practice or sport. We can use weapons from our own production or from other sources.

Research & Development

Trough ROMARM Research Centre new products are constantly being developed and homologated.

The innovations and know-how of the Romanian Defence Industry in general and ROMARM in particular can play a pivotal role in promoting and fulfilling the ambitions of our partners at a time when the current global context is marked by geopolitical uncertainty and financial constraints. A special attention is given to the requests/suggestions/proposal made by various customers about the presentation, technical and tactical characteristics of the products.

The research and development activity aims to ensure the compliance with the NATO military standards.

Training & Consultancy

We offer education, preparation and training for the specialists or technicians for the ammunition and weapons manufacturing lines and operating systems. Our specialists adapt training courses for all categories of staff or personnel. We complete and edit the user manuals for systems.



UAS & C-UAS COURSES

Partnership between S CARFIL SA Romania & DCI France

The Centre of Excellence for Drone Pilot Training

officially inaugurated in November 2024, represents a major milestone in the development of drone personnel training in Romania. As the first facility of its kind in the region, it is dedicated to providing advanced training for UAS and C-UAS operators and pilots, offering specialized programs tailored to the requirements of modern armed forces.

This initiative is the result of a strategic partnership between S. Carfil SA and the French company DCI, a globally recognized leader in military training for the French Army and its allied forces. The training programs adhere to NATO and EASA standards, integrating cutting-edge simulators, hands-on instruction, and guidance from experienced instructors with real-world combat expertise.



DCI instructors, with extensive combat experience - including service in Special Forces - bring firsthand knowledge of contemporary operational realities, drawing from frontline engagements in Ukraine and other conflict zones. Their close collaboration with the French Army enables them to continuously adapt training programs in real time, integrating the latest Tactics, Techniques, and Procedures (TTPs) and lessons learned from the field.

DCI operates a global network of training centers across Europe, North Africa, and the Middle East, leveraging continuous feedback to refine and tailor its programs to meet the specific operational needs of each beneficiary.

ADVANCED operational training

To obtain Combat Ready Status

The Centre of Excellence for Drone Pilot Training

The result of this partnership is the establishment of a Centre of Excellence for Drone Pilot Training, the first facility of its kind in the region. It offers advanced training programs for UAS and C-UAS operators and pilots. Using state-of-the-art simulators and instruction from French instructors with combat and Special Operations Forces experience, the training programs are specifically tailored to meet the evolving needs of modern armed forces.

DCI's training programs adhere to NATO and EASA standards, while also being customized to align with Romanian regulations in the field.



COUNTER UAS (C-UAS)

UAV Training adapted to Operational Units of the Ministry of defense.

UAV Training adapted to Military Academies and National Defense University

