40 MM ANTITANK GRENADES AND EXPLOSIVE BOMBS LAUNCHER TYPE RPG - 7 S WITH OPTICAL SIGHT- PGO7V



1) DESTINATION:

The antitank grenades and explosive bombs launcher, 40 mm caliber, is a means of fire of infantry subunits and land force.

The launcher is designed for destroying the tanks, truckborne cannons, any type of car and other armored mean of fire of the enemy. Besides, the launcher can be used also for destroying the living force and the fire means of enemy, existing in wooden and earth buildings, of light type or brick buildings.

2) MAIN TECHNICAL DATA:

➤ Caliber	40 mm
> maximum range with hollow round	500 m
> maximum range with: explosive bomb Ø 40 mm	.1.000 m
explosive bomb ∅ 60 mm	.1.500 m
> weight of the launcher: without sight mechanism	
equipped with PGO7V sight mechanism	6,5 kgs
≽ rate of fire4÷6 rou	ands/min
➤ length of the launcher	908 mm
> dangerous area, behind the launcher70	° x 30 m

3) **DELIVERY:**

40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for middle and capital repairs can be delivered on customer's order.

5 pieces of 40 mm launchers with individual kit are packed in wooden case:

- gross weight......100 kgs
- net weight......60 kgs









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40 MM ANTITANK GRENADES AND EXPLOSIVE BOMBS LAUNCHER TYPE RPG - 7 S WITH OPTICAL SIGHT- IOAG-7S



1) DESTINATION:

The antitank grenades and explosive bombs launcher, 40 mm caliber, is a means of fire of infantry subunits and land force.

The launcher is designed for destroying the tanks, truckborne cannons, any type of car and other armored mean of fire of the enemy. Besides, the launcher can be used also for destroying the living force and the fire means of enemy, existing in wooden and earth buildings, of light type or brick buildings.

2) MAIN TECHNICAL DATA:

➤ maximum range with hollow round
> maximum range with: explosive bomb \angle 40 mm1.000 m
explosive bomb ∅ 60 mm1.500 m
➤ weight of the launcher: without sight mechanism
equipped with IOAG7S sight mechanism6,5 kgs
- magnificationx 2,7
- field of view13°
- range of elevation0°-36°
➤ maximum pressuremax 1080 Kgf/cm²
➤ rate of fire
▶ length of the launcher
➤ dangerous area, behind the launcher70° x 30 m

3) DELIVERY:

40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for middle and capital repairs can be delivered on customer's order.

5 pieces of 40 mm launchers with individual kit are packed in wooden case:

- gross weight......100 kgs
- net weight......60 kgs









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119 Zizinului str. Code: 500407 BRAŞOV - ROMÂNIA

40 MM ANTITANK GRENADES AND EXPLOSIVE BOMBS LAUNCHER TYPE **RPG-7S WITH "PICATINNY" RAIL**



1) SPECIFICATIONS:

The Picatinny adaptor type allowds fixing the new generations of opto-electronic sights, by keeping the requirements of NATO standard -MIL 1913

2) DESTINATION:

The antitank grenades and explosive bombs launcher, 40 mm

The launcher is designed for destroying the tanks, truck-borne cannons, any type of car and other armored mean of fire of the enemy. Besides, the launcher can be used also for destroying the living force and the fire means of enemy, existing in wooden and earth buildings, of light type or

3) MAIN TECHNICAL DATA:

► Caliber	40 mm
> maximum range with hollow round	500 m
> maximum range with: explosive bomb Ø 40 mm	.000 m
explosive bomb Ø 60 mm 1	.500 m
➤ weight of the launcher: without sight mechanism	6 kg
equipped with picatinny rail	5,5 kgs
➤ rate of fire	ds/min
► length of the launcher9	08 mm
➤ dangerous area, behind the launcher70°	x 30 m
4) DELIVERY.	

40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for middle and capital repairs can be delivered on customer's order.

5 pieces of 40 mm launchers with individual kit are packed in wooden case:

- dimensions of case	1240x640x440 mm
- gross weight	100 kgs
- net weight	60 kgs











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119 Zizinului str. Code: 500407 **BRAŞOV - ROMÂNIA**

40 MM ANTITANK GRENADES AND EXPLOSIVE BOMBS LAUNCHER TYPE RPG - 7 S WITH "PICATINNY" RAIL, OPTICAL SIGHT TAS11 AND **MAGNIFIER LINX 8 x 30**



1) **SPECIFICATIONS**:

The Picatinny adaptor type permit of fixing the new generations of opto-electronic sights, by keeping the requirements of NATO standard – MIL 1913

2) DESTINATION:

The antitank grenades and explosive bombs launcher, 40 mm caliber, is a means of fire of infantry subunits and landing force.

The launcher is designed for destroying the tanks, truck-borne cannons, any type of car and other armored mean of fire of the enemy. Besides, the launcher can be used also for destroying the living force and the fire means

3) MAIN TECHNICAL DATA:

> Caliber	40 mm
> maximum range with hollow round	500 m
➤ maximum range with: explosive bomb Ø 40 mm	1.000 m
explosive bomb Ø 60 mm	1.500 m
> weight of the launcher: without sight mechanism	6 kg
equipped with picatinny adaptor, optical sight TAS 11 and	
spyglass LINX 8 x 30	6,8 kgs
➤ rate of fire4÷6 r	ounds/min
► length of the launcher	908 mm
➤ dangerous area, behind the launcher	70° x 30 m
4) DELIVERY:	

40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for middle and capital repairs can be delivered on customer's order.

5 pieces of 40 mm launchers with individual kit are packed in wooden case:

dimensions of case	1240x640x440 mm
gross weight	100 kgs
- net weight	60 kgs











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119 Zizinului str. Code: 500407 **BRAŞOV - ROMÂNIA**

40 MM ANTITANK GRENADES AND EXPLOSIVE BOMBS LAUNCHER TYPE RPG - 7 DS WITH OPTICAL SIGHT- PGO-7V



119 Zizinului str. Code: 500407

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1) DESTINATION:

The antitank grenades and explosive bombs launcher, 40 mm caliber, is a means of fire landing force and submachine gunners squads in special missions.

The launcher is designed for destroying the tanks, truckborne cannons, any type of car and other armored mean of fire of the enemy. For destroying the living force and the fire means of enemy, existing in wooden and earth buildings, of light type or brick buildings.

2) MAIN TECHNICAL DATA:

▶ Caliber	40 mm
> maximum range with hollow round	500 m
> maximum range with: explosive bomb Ø 40 mm	1.000 m
explosive bomb Ø 60 mm	1.500 m
> weight of the launcher: without sight mechanism	6,5 kgs
equipped with PGO7V sight mechanism	7,1 kgs
≽ rate of fire4÷6	rounds/min
➤ length of the launcher: for firing	908 mm
for transportation	610 mm
dangerous area, behind the launcher	.70° x 30 m

3) DELIVERY:

40 mm grenade launcher, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case. Kits for middle and capital repairs can be delivered on customer's order.

5 pieces of 40 mm launchers with individual kit are packed in wooden case:

- dimensions of case	1240x640x440 mm
- gross weight	about 100 kgs
- net weight	about 60 kgs









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40 MM PREFRAGMENTED BODY HIGH EXPLOSIVE STEEL BOMB ROUND FOR RPG-7 PORTABLE LAUNCHER

WITH IMPACT SQ FUZE



TECHNICAL CHARACTERISTICS

 Warhead caliber: 40 mm Weight: ≈1,725 kg • Fuze: impact SQ fuze Maximum medium pressure: ≤ 900 kgf/cm² Maximum range: ≈ 1000 m -40° C÷ +60° C • Temperature range: Precision: – A p^r/X: ≤1/50 $-A_pd/X$: ≤1/200

PACKING

 Wooden case containing 12 rounds fully equipped.

Full case weight: 34 kgs
 Case overall dimensions: 705×490×275









119 Zizinului str. Code: 500407 Phone: +40 (0) 268 331347 BRAŞOV - ROMÂNIA +40 (0) 268 330264

60 MM PREFRAGMENTED BODY HIGH EXPLOSIVE STEEL BOMB ROUND FOR THE RPG-7 PORTABLE LAUNCHER WITH IMPACT SQ FUZE



TECHNICAL CHARACTERISTICS

· Warhead caliber: 60 mm Weight: ≈ 2,300 kgs • Fuze: impact SQ fuze Maximum medium pressure: \leq 900 kgf/cm² ≈1500 m Maximum range: Temperature range: -40°C÷ +60°C Precision: – A^{pr}/X: ≤1/40 $-Ap^{d}X$: ≤1/280

PACKING

 Wooden case containing 12 rounds fully equipped.

Full case weight: 40 kgs
Case overall dimensions: 895×490×280 mm









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Phone: +40 (0) 268 331347 +40 (0) 268 330264 Fax: +40 (0) 268 330527

40 mm HE and THERMOBARIC ROUND with IMPACT SQ FUZE FOR RPG - 7 - NEW



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. Ammunition is particularly effective in confined spaces, such as tunnels, buildings and different types of fortifications.

TECHNICAL CHARACTERISTICS

Warhead Caliber: 40 mm
 Weight: ≈1,725 kg
 Fuze: impact SQ fuze
 Maximum medium pressure: ≤ 900 kgf/cm²
 Maximum range: ≈ 1000 m
 Temperature range: -40° C÷ +60° C

Precision: $-A_p^r/X$: $\leq 1/50$ $\leq 1/200$

PACKING

 Wooden case containing 12 rounds fully equipped.

 $-A_p^d/X$:

Full case weight: 34 kgs
Case overall dimensions: 705×490×275









119 Zizinului str. Code: 500407 Phone: +40 (0) 268 331347 BRAŞOV - ROMÂNIA +40 (0) 268 330264

70mm HE and THERMOBARIC ROUND with IMPACT SQ FUZE FOR RPG – 7 - NEW



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. Ammunition is particularly effective in confined spaces, such as tunnels, buildings and different types of fortifications.

TECHNICAL CHARACTERISTICS

Warhead caliber: 70mm
 Length: 895 mm
 Weight: ≈ 3,600 kg
 Fuze: Impact SQ
 Maximum medium pressure: ≤ 900 kgf/cm²
 Maximum range: ≈ 2500 m
 Temperature range: -40°C to +60°C

• Precision: $-A_p^r/X$: $\leq 1/40$ $-A_p^d/X$: $\leq 1/280$

PACKING

• Wooden case containing 10 rounds fully equipped in cardboard cases.

Full case weight: 50 kgs
 Case overall dimensions: 1000×500×300 mm

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70 mm HE and THERMOBARIC ROUND WITH ELECTRONIC DELAY FUZE FOR PRG-7 - NEW



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. Ammunition 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.

TECHNICAL CHARACTERISTICS

Warhead caliber: 70mm
Length: 940 mm
Weight: ~ 4 kgs

Weight: ≈ 4 kgs
 Fuze: electronic delay fuze with chemical battery

• Delay function: 10÷50 ms

Maximum medium pressure: ≤ 900 kgf/cm²
 Maximum range: ≈ 2500 m

• Maximum accuracy: ≈ 1000 m

• Temperature range: -40°C to +60°C

• Precision: $-A_p^r/X$: $\leq 1/40$ $-A_p^d/X$: $\leq 1/280$

PACKING

• Wooden case containing 3 rounds fully equipped in cardboard cases.

• Full case weight: 20 kgs

• Case overall dimensions: 1200×400×300 mm









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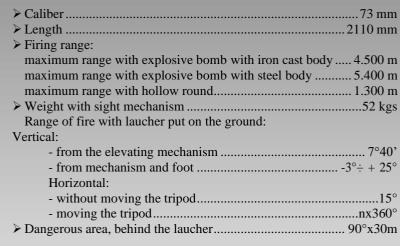
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73 MM LAUCHER SPG 9M

1) **DESTINATION:**

Antitank grenades and explosive bombs launcher, 73 mm caliber, is a strong means of fire of infantry troops and land force. It is designed for destroying tanks, truck-borne cannons, any type of car and other armoured mean of fire of enemy. Besides, the launcher can be used also for destroying the living force and the fire means of enemy, existing in wooden and earth buildings, of light type or brick buildings.

2) MAIN TECHNICAL DATA:



3) **DELIVERY**:

73 mm grenades and explosive bombs laucher, together with the individual kit of spare parts, tools and accessorises is delivered in its wooden packing case. Kits for middle and capital repairs can be delivered on customer's request. 1x73 mm grenades and explosive bombs laucher + 1 individual kit are packed in wooden case:

dimension of case	2167x445x450 mm
gross weight	115 kgs
net weight	68 kgs









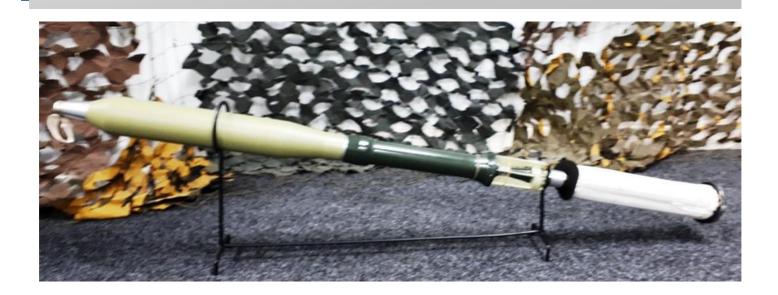


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TBG-9 CRF THERMOBARIC ACTIVE-REACTIVE ROUND FOR GRENADE LAUNCHER SPG - 9 - NEW



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

ROUND CHARACTERISTICS

Warhead caliber:	73 mm.
Weight:	≈ 4.5 Kgs.
Length:	
Fuze:	impact SQ fuze
Pressure:	≤ 600 Kg.f/cm ² .
Max. range:	≃ 1500 m
Temperature range:	40° C÷ +60° C

Precision: $Ap^{r}_{p} = \pm 0.2 \text{ m}$

 $Ap^{d} r = \pm 0.3 m$

Firing rate:...... 3 shots/min.

PACKING

Wooden case containing 3 rounds fully equipped and 3 propelling charges









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73 MM HIGH EXPLOSIVE STEEL BOMB



TECHNICAL CHARACTERISTICS

• Warhead caliber: 73 mm • Length 806,37 mm • Weight: \approx 4,630 kgs • Fuze: impact SQ fuze • Maximum medium pressure: \leq 600 kgf/cm² • Maximum range: at 25 ° \approx 4500 m • Temperature range: $-40^{\circ}\text{C} \div +60^{\circ}\text{C}$ • Precision: $-A_p^f/X$: \leq 1/140 $-A_p^d/X$: \leq 1/500

PACKING

• Wooden case containing 6 rounds with fuze on and 6 propelling charges fully equipped.

Full case weight: 40 kgs
 Case overall dimensions: 800×420×425 mm









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73 MM HIGH EXPLOSIVE STEEL BOMB WITH ENHANCED RANGE



TECHNICAL CHARACTERISTICS

PACKING

 Wooden case containing 12 rounds fully equipped.

Full case weight: 45 kgs
 Case overall dimensions: 1105x450x305 mm









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60 MM MORTAR, STANDARD TYPE 1988 MODEL



1) DESTINATION:

- it is a material with smooth barrel, for firing with curved trajectory;
- it is designed for fire support of infantry subunits, parachute landing force and other subunits;
- it has the following main missions: to destroy the personnel and the sheltered or unsheltered means of fire, the commandoobservation posts, to set on fire the warehouse, to make passages through the mine fields, to destroy the defense works of company.

2) MAIN TECHNICAL DATA:

▶Caliber60 mm
► Length of barrel1080 mm
Firing range: maximum3000 m
minimum100 m
► Vertical firing field
► Horizontal firing field: without moving the bipod±3°
moving the bipod $\pm 360^{\circ}$
➤ Rate of fire in the first minute
- without remake the aiming20 rounds/min
➤ Weight of mortar ready for battle max. 20 kgs
of which: - barrel with breechblockabout 7,5 kgs
- base plate about 4,7 kgs
- optical sight

3) **DELIVERY:**

60 mm mortar, standard type 1988 model, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case.

Kits for middle and capital repairs can be delivered on customer's order.

1 mortar + 1 individual kit is packed in wooden case:



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60 MM LONG RANGE MORTAR 2001 MODEL



1) **DESTINATION:**

- it is a mortar with smooth barrel, for firing with curved trajectory.
- it is designed for fire support of infantry subunits, parachute landing force or other subunits.
- It has the following main missions: to destroy the personnel and the sheltered or unsheltered means of fire, the commandobservation posts, to set on fire the ware house, to make passages through the mine fields, to destroy the defense works of company.

2) MAIN TECHNICAL DATA:

Caliber	60 mm
➤ Length of barrel	1300 mm
➤ Firing range: maximum	
minimum range	100 m
➤ Vertical firing field	45°÷85°
➤ Horizontal firing field:	
- without moving the bipod	±3°
- moving the bipod	±360°
➤ Rate of fire in the first minute	
- without remake the aiming)	20 rounds/min
➤ Weight of mortar ready for battle	30 kgs
of witch: barrel with breechblock	11 kgs
bipod	10 kgs
base plate	9 kgs
optical sight	0,8 kgs

3) **DELIVERY**:

60 mm mortar standard type 2001 model, with the individual kit of spare parts, tools and accessorises is delivered in its wooden packing case.

Kits for middle and capital repairs can be delivered on customer's request.

1 mortar + 1 individual kit are packed in wooden case:



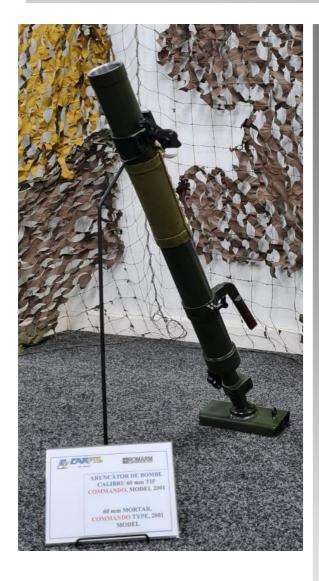






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60 MM MORTAR, COMMANDO TYPE 2001 MODEL



1) DESTINATION:

- it is an individual means of fire;
- it is a mortar with smooth barrel, for firing with curved trajectory;
- it is designed for subunits of navy, air force, as well as for intervention units;
- it has the following 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 and radio electronic means of enemy, local fights.

2) MAIN TECHNICAL DATA:

≻Caliber	60 mm
➤ Length of barrel	735 mm
Firing range: with explosive bomb	1900 m
➤ Vertical firing field	45°÷85°
> Rate of fire:	12 rounds/min
➤ Weight	max. 8 kgs

3) DELIVERY:

60 mm mortar, commando type 2001 model, together with the individual kit of spare parts, tools, and accessories is delivered in its wooden packing case.

Kits for middle and capital repairs can be delivered on customer's

1 mortar + 1 individual kit is packed in wooden case:

_	dimensions of case	1010x280x280 mm
_	gross weight	30 kgs
_	net weight	about 22 kgs









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60 MM HIGH EXPLOSIVE STEEL BOMB ROUND



TECHNICAL CHARACTERISTICS

 $-Ap^{d}X$:

• Caliber: 60 mm • Length \approx 298 mm • Weight: \approx 1,500 kgs • Fuze: impact SQ fuze • Maximum medium pressure: \leq 360 kgf/cm² • Maximum range: \approx 3000 m • Temperature range: $-40^{\circ}\text{C} \div +60^{\circ}\text{C}$ • Precision: $-\text{Ap}^{\text{f}}/\text{X}$: \leq 1/90

PACKING

 Wooden case containing 12 cardboard cases, each casecontaining one round fully equipped.

Full case weight: 28 kgs
 Case overall dimensions: 415×335×300 mm









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60 MM SMOKE STEEL BOMB ROUND



TECHNICAL CHARACTERISTICS

• Caliber: 60 mm• Length 340 mm• Weight: $\approx 1,900 \text{ kgs}$ • Fuze: impact SQ fuze
• Propelling charge: 1 cartrige + 3 extra charges• Maximum medium pressure: $\leq 360 \text{ kgf/cm}^2$ • Maximum range: $\approx 2200 \text{ m}$ • Temperature range: $-40^{\circ}\text{C} \div +60^{\circ}\text{C}$ • Precision: $-A_p^f/X$: $\leq 1/80$

* STANDARD TYPE I AUNCHER

PACKING

• Wooden case containing 12 cardboard cases, each case containing one round fully equipped.

Full case weight: 40 kgs
Case overall dimensions: 475×330×300 mm









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60 MM SMOKE STEEL BOMB WITH ELECTRONIC SQ IMPACT FUZE



TECHNICAL CHARACTERISTICS

• Caliber: 60 mm • Length: 370 mm • Weight: $\approx 2,050$ kgs • Fuze: electronic SQ impact fuze • Propelling charge: 1 cartrige + 3 extra charges • Maximum medium pressure: ≤ 360 kgf/cm² • Maximum range: ≈ 2200 m • Temperature range: $-40^{\circ}\text{C}\div+60^{\circ}\text{C}$ • Precision: $-A_p^r/X$: $\leq 1/80$

* STANDARD TYPE LAUNCHER

PACKING

• Wooden case containing 12 cardboard cases, each case containing one round fully equipped.

Full case weight: 40 kgs
 Case overall dimensions: 475×330×300 mm









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60 MM HIGH EXPLOSIVE STEEL BOMB ROUND WITH ENHANCED RANGE AND M6-R FUZE



TECHNICAL CHARACTERISTICS

Caliber: 60 mm
 Length: ≈ 330 mm
 Weight: ≈ 1,500 kgs
 Fuze: M6-R fuze
 Maximum medium pressure: ≤ 360 kgf/cm²
 Maximum range: ≈ 3000 m
 Temperature range: -40°C÷ +60°C

 $-A^{pd}X: \leq 1/190$

PACKING

• Wooden case containing 12 cardboard cases, each case containing one round fully equipped.

Full case weight: 28 kgs
Case overall dimensions: 415×335×300 mm









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60MM HIGH EXPLOSIVE STEEL BOMB ROUND WITH ENHANCED RANGE AND ELECTRONIC IMPACT SQ FUZE



TECHNICAL CHARACTERISTICS

• Caliber: 60 mm • Length: 355 mm • Weight: ≈ 2,200 kgs • Fuze: electronic impact SQ fuze • Propelling charge: 1 cartrige + 3 extra charges • Maximum medium pressure: $\leq 500 \text{ kgf/cm}^2$ • Maximum range: $\leq 500 \text{ kgf/cm}^2$ • Maximum range: $\leq 4500 \text{ m}$ • Temperature range: $-40^{\circ}\text{C}\div+60^{\circ}\text{C}$ • Precision: $-A_p^f/X$: $\leq 1/80$

PACKING

• Wooden case containing 12 cardboard cases, each case containing one round fully equipped.

Full case weight: 40 kgs
 Case overall dimensions: 450×365×305 mm









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81 MM MORTAR WITH ENHANCED RANGE CRF-81LR MODEL WITH DEFLECTOR

DESCRIPTION

model CRF-81 LR, is a smoothbore barrel, muzzle- loading, high-angle-of-fire, mediumweight weapon, for firing with curved trajectory. It is designed for fire support of infantry or navy, mountain troops, parachute landing forces and other subunits. Designed and manufactured according to NATO standards, its main features are maximum range, optimum rate of fire and interoperability with all NATO smooth bore mortar ammunition, high accuracy, easy operation and maintenance.

The 81 mm bomb mortar with enhanced range,

PHYSICAL CHARACTERISTICS

Calibre	81mm
Barrel length	1440 mm
Weight of the mortar in firing	51 kg
position	
Weight of blast deflector	1.3kg

BALLISTIC DATA

Maximum rate of fire. 15rds/min Maximum range...... 7000 m

Elevation 800÷1511 mils (45°+85°)



WHY TO COOPERATE WITH US:

More than 97 years experiences in the ammunition development, production and complete services in this field. Long tradition in ammunition production processes with significant effects as the deep skilled personal, support industries, development fields, education etc. More information at www.carfil.ro.

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81 MM MORTAR WITH ENHANCED RANGE CRF-81LR MODEL

DESCRIPTION

The 81 mm bomb mortar with enhanced range, model CRF-81 LR, is a smoothbore barrel, muzzle-loading, high- angle-of-fire, medium-weight weapon, for firing with curved trajectory. It is designed for fire support of infantry or navy, mountain troops, parachute landing forces and other subunits. Designed and manufactured according to NATO standards, its main features are maximum range, optimum rate of fire and interoperability with all NATO smooth bore mortar ammunition, high accuracy, easy operation and maintenance.



Caliber	81mm
Barrel length	1440 mm
Weight of the mortar in firing position	51 kg



Maximum rate of fire. 15rds/min Maximum range. 7000 m

Elevation 800÷1511 mils (45°÷85°)

WHY TO COOPERATE WITH US:

More than 97 years experiences in the ammunition development, production and complete services in this field. Long tradition in ammunition production processes with significant effects as the deep skilled personal, support industries, development fields, education etc.

More information at www.carfil.ro.









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81 MM MORTAR 1977 MODEL



1) **DESTINATION:**

Mortar with smooth barrel, for firing with curved trajectory is designed for fire support of infantry troops or other troops. It has the following missions: to destroy the personnel and 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).

2) MAIN TECHNICAL DATA:

➤ Caliber	81 mm
➤ Length of barrel	1220 mm
Firing range: maximum range with explosive bomb	~4.460 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 remake the aiming	. 20rounds/min
➤ Weight of mortar ready for battle	43,5 kgs
of witch: barrel with breechblock	16,5 kgs
bipod	11 kgs
base plate	15 kgs
optical sight	0,8 kgs

3) DELIVERY:

81 mm mortar, 1977 model, together with the kit of spare parts, tools and accessorises is delivered in its wooden packing case.

Kits for middle and capital repairs can be delivered on customer's request. 1 mortar + 1 individual kit are packed in wooden case:

dimension of case	1450x560x400 mm
gross weight	118 kgs
net weight	77 kgs









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119 Zizinului str. Code: 500407 BRAŞOV - ROMÂNIA

81 MM HIGH EXPLOSIVE STEEL BOMB ROUND



TECHNICAL CHARACTERISTICS

• Caliber: 81mm • Length ≈ 361 mm • Weight: ≈ 3,100 kgs • Fuze: impact SQ fuze • Propelling charge: 1 cartrige + 5 extra charges • Maximum medium pressure: \leq 650 kgf/cm² • Maximum range: \approx 4500 m • Temperature range: - 40°C÷+60°C • Precision: - A $_p$ ^r/X: \leq 1/100 - A $_n$ ^d/X: \leq 1/200

PACKING

- Wooden case containing 10 cardboard cases, each case containing one round fully equipped.
- Full case weight: 53 kgs
 Case overall dimensions: 605x425x285 mm









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81 MM HIGH EXPLOSIVE STEEL BOMB ROUND WITH ELECTRONIC SQ IMPACT FUZE



TECHNICAL CHARACTERISTICS

Caliber:	81 mm
• Length:	≈ 386 mm
•.Weight:	::≈ 3250 kg
• Fuze:el	lectronic SQ impact fuze
•. Propelling charge: 1 car	tridge + 5 extra charges
Maximum medium press	sure: ≤650 kgf/cm ²
Maximum range	≈ 4.500 m
• Precision: – Ap ^r /X:	≤1/100
$-Ap^{d}/X:$	≤1/200

PACKING

• Wooden case containing 10 cardboard cases, each case containing one round fully equipped.

Full case weight: 53 kgs
Case overall dimensions: 605×425×285 mm









119 Zizinului str. Code: 500407 Phone: +40 (0) 268 331347 BRAŞOV - ROMÂNIA +40 (0) 268 330264

81 MM (AND 82 MM) HIGH EXPLOSIVE STEEL BOMB WITH ENHANCED RANGE AND EFECT



119 Zizinului str. Code: 500407

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TECHNICAL CHARACTERISTICS

Caliber:	81mm
Weight:	4,500 kgs
Length:	517 mm
• Fuze:electronic S	Q impact fuze
• Propelling charge: 1 cartridge +	6 extra
charges	
• Maximum medium pressure:	≤880 kgf/cm ²
Maximum range	
Temperature range:	- 40°C÷+60°C
• Precision: – Ap ^r /X	≤1/100
− Ap ^d /X :	≤1/200

PACKING

- Wooden case containing 10 cases, each case containing one round fully equipped.
- Full case weight: ≈ 60 kgs
- Case overall dimensions: 745×622×260 mm









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81 SMOKE STEEL BOMB ROUND



119 Zizinului str. Code: 500407

ROUND CHARACTERISTICS

Caliber 81 mm. Weight \approx 4,1 Kgs. Length ≈ 360 mm. **Fuze** impact SQ fuze Propelling charge 1 cartridge+5 extra charges. \leq 650 Kg.f/cm². Pressure ≈ 4800 m. Max. range - 40°C÷+60°C Temperature range: Precision $A_p^r \le 1/100$. $A_p^d \le 1/200$.

PACKING

Wooden case containing 10 rounds completely equipped.

Weight of full case53 kgs.

Overall dimensions of case 605x425x285 mm.









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81 MM (AND 82 MM) SMOKE STEEL BOMB ROUND WITH ENHANCED RANGE AND ELECTRONIC SQ IMPACT FUZE



119 Zizinului str. Code: 500407

BRAŞOV - ROMÂNIA

TECHNICAL CHARACTERISTICS

• Caliber: 81 mm	
• Weight:4,500 kgs	
• Length: 490 mm	
• Payload: 774 g	
Fuze:electronic SQ impact fuze	,
 Propelling charge: 1 cartridge + 6 extra charges 	
 Maximum medium pressure:≤880 kgf/cm² 	
• Maximum range ≈ 6.500 m	1
• Precision: – A ^{pr} /X:≤1/100	
$-Ap^{d}/X: \leq 1/200$	

PACKING

- Wooden case containing 10 cases, each case containing one round fully equipped.
- Full case weight: ~ 60 kgs
- Case overall dimensions: 745×622×260 mm









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82 MM MORTAR 1977 MODEL



1) **DESTINATION:**

Mortar with smooth barrel, for firing with curved trajectory is designed for fire support of infantry troops or other troops. It has the following missions: to destroy the personnel and 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).

2) MAIN TECHNICAL DATA:

> Caliber	82 mm
➤ Length of barrel	1220 mm
Firing range: maximum range with explosive bomb	~4.460 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 remake the aiming	. 20rounds/min
➤ Weight of mortar ready for battle	43,5 kgs
of witch: barrel with breechblock	16,5 kgs
bipod	11 kgs
base plate	15 kgs
optical sight	0,8 kgs

3) **DELIVERY**:

81 mm mortar, 1977 model, together with the kit of spare parts, tools and accessorises is delivered in its wooden packing case.

Kits for middle and capital repairs can be delivered on customer's request. 1 mortar + 1 individual kit are packed in wooden case:

dimension of case	1450x560x400 mm
gross weight	118 kgs
net weight	77 kgs









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82 MM HIGH EXPLOSIVE STEEL BOMB ROUND



TECHNICAL CHARACTERISTICS

• Caliber: 82mm • Length ≈ 361 mm • Weight: ≈ 3,100 kgs • Fuze: impact SQ fuze • Propelling charge: 1 cartrige + 5 extra charges • Maximum medium pressure: \leq 650 kgf/cm² • Maximum range: \approx 4500 m • Temperature range: - 40°C÷+60°C • Precision: - A $_p$ ^r/X: \leq 1/100 - A $_p$ ^d/X: \leq 1/200

PACKING

• Wooden case containing 10 cardboard cases, each case containing one round fully equipped.

Full case weight: 53 kgs
 Case overall dimensions: 605×425×285 mm









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82 MM HIGH EXPLOSIVE STEEL BOMB ROUND WITH ELECTRONIC FUZE



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TECHNICAL CHARACTERISTICS

• Caliber:

Length Weight:

electronic impact SQ with turbogenerator

Propelling charge: 1 cartrige + 5 extra charges
 Maximum medium pressure: ≤ 650 kgf/cm²

Maximum range:

- 40°C÷+60°C

Delay of self destruction for maximum range After 10 sec

PACKING

· Wooden case containing 10 cardboard cases, each case containing one round fully equipped.

Full case weight:

50 kgs

 Case overall dimensions: 550×450×285 mm









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82 MM SMOKE STEEL BOMB ROUND



119 Zizinului str. Code: 500407

ROUND CHARACTERISTICS

Caliber 82 mm. \approx 3,3 Kgs. Weight Length 360 mm. **Fuze** impact SQ fuze Propelling charge ... 1 cartridge+5 extra charges. Pressure≤ 650 Kg.f/cm². Max. range ≈ 4300 m. - 40°C÷+60°C Temperature range: $A_p^d \le 1/200$.

PACKING

Wooden case containing 10 rounds completely equipped.

Weight of full case53 kgs. Overall dimensions of case 605x425x285 mm.









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120 MM HIGH EXPLOSIVE MORTAR STEEL BOMB ROUND WITH M6-R FUZE



TECHNICAL CHARACTERISTICS

 Caliber: 120 mm • Length: 680 mm Weight: 15 kgs Fuze: M6R or other impact fuze Propelling charge: 1 cartrige + 6 extra charges Maximum medium pressure: \leq 1030 kgf/cm² Maximum range: ≈ 6500 m Precision: – A pr/X: ≤1/125

PACKING

Wooden case containing 2 rounds fully equipped.in cardboard cases

Full case weight: 45 kgs
 Case overall dimensions: 825×325×220 mm









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120MM HIGH EXPLOSIVE STEEL MORTAR BOMB ROUND WITH PROXIMITY FUZE



The 120 mm mortar bomb are equipped with a new generation of proximity fuze, specially designed for optimizing the effect at the target. The fuze have several independent safety systems, ensure a safety distance of at least 40 m and operate regardless of the type of impact area. The fuze uses a radar technology that in combination with the signal processor is able to measure very accurately the distance to up to 5 m above regardless of soil or water type. The electronic module, uses an innovative technology that allows the inhibition of the proximity function in the conditions of an enemy jamming, automatically switching to the operating mode at impact. The 120 mm mortar bomb ensure full compatibility with existing firing tables.

TECHNICAL CHARACTERISTICS

Caliber: 120 mm

• Length: ≈ 725 mm

Weight: ≈ 15 kg

• Fuze: - proximity and electronic fuze with chemical battery

- arming distance: min. 40 m

- electronic jamming protection:cancellation

operation ofproximity and activation impact

- height of bursting 1÷5 m

- works over any type of terrain:dry or wet soil, sand, snow,swamp, water surface, mountain rock

Propelling charge:
 1 cartridge + 7 extra charges

• Maximum medium pressure: ≤ 1200 kgf/cm²

• Maximum range: ≈ 7000 m

• Waxiinuiii range. ~ 7000 iii

• Temperature range: - 40°C÷+60°C

• Precision: A_p^r / X : $\leq 1/125$ A_p^d / X : $\leq 1/250$

PACKING

• Wooden case containing 2 rounds fully equipped in cardboard cases.

Full case weight: 50 kgs
Case overall dimensions: 950×360×240









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120 MM SMOKE STEEL MORTAR BOMB ROUND WITH **ELECTRONIC FUZE**



TECHNICAL CHARACTERISTICS

• Caliber: 120 mm Total length ≈600 mm Total weight: ≈15 kgs • Fuze: electronic impact SQ fuze Propelling charge: 1 cartrige + 6 extra charges ≤ 1030 kgf/cm² ≈ 6400 m - 40°C÷+60°C Maximum medium pressure:Maximum range: Temperature range

PACKING

• Wooden case containing 2 rounds fully equipped.

 Full case weight: 45 kgs • Case overall dimensions: 825×325×220 mm



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120 MM SMOKE STEEL MORTAR BOMB ROUND



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TECHNICAL CHARACTERISTICS

• Caliber: 120 mm • Length: \approx 700 mm • Weight: \approx 15 kgs • Fuze: M6R or other impact fuze • Propelling charge: 1 cartrige + 6 extra charges • Maximum medium pressure: \leq 1030 kgf/cm² • Maximum range: \leq 6400 m • Precision: $-A_p^f/X$: \leq 1/100 $-A_p^d/X$: \leq 1/260

PACKING

• Wooden case containing 2 rounds fully equipped.

Full case weight: 45 kgs
Case overall dimensions: 825×325×220 mm









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120 MM HIGH EXPLOSIVE STEEL MORTAR BOMB ROUND WITH ENHANCED RANGE AND SEALING RING WITH SQ ELECTRONIC IMPACT FUZE



The 120 mm mortar bomb are equipped with a new generation of SQ electronic impact fuze.

The new type of fuze have several independent safety systems, ensure a safety distance of at least 40 m.

The 120 mm mortar bomb ensure full compatibility with existing mortars and AMS 120 mm self-propelled mortar.

The new fuze can be used on all caliber of high explosive mortar bombs.

TECHNICAL CHARACTERISTICS

Caliber: 120 mm ≈ 730 mm Length: Weight: ≈ 15 kgs Fuze: -electronic impact SQ fuze with chemical battery -safety distance min. 40 m 1 cartridge + 6 extra charges Propelling charge: Maximum medium pressure: \leq 1200 kgf/cm² Maximum range: ≈ 7000 m Temperature range: - 40°C÷+60°C Precision: A_p^r / X : ≤ 1/125 A_p^d / X : ≤ 1/250

PACKING

• Wooden case containing 2 rounds fully equipped in cardboard cases.

Full case weight: 50 kgs
 Case overall dimensions: 950×360×240 mm









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120 MM HIGH EXPLOSIVE STEEL MORTAR BOMB WITH ROCKET- ASSISTED MOTOR (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.

TECHNICAL CHARACTERISTICS

• Caliber: 120 mm
• Total Weight : ≈ 19 Kg
• Total length: 970 mm
• Type of Fuze: electronic PDSQ

Rocket motor:

 Propellant:
 Length:
 Weight:
 Propellant weight:
 Average force:
 Specific impulse:
 Burning time:

 double base
 3,400 Kg
 1,00 Kg
 144 dan
 188 s
 1,34 s

Propelling charge: 1 cartridge + 6 suplementary charges
 Type: El (Nitrochemie- Rheinmetall)
 Maximum range: ≈ 14000 m









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120 MM HIGH EXPLOSIVE STEEL MORTAR BOMB ROUND WITH **ELECTRONIC IMPACT FUZE**



The 120 mm mortar bomb are equipped with a new generation of SQ impact fuze

The new type of fuze have several independent safety systems, ensure a safety distance of at least 40 m.

The 120 mm mortar bomb ensure full compatibility with existing firing tables.

The new fuze can be used on all caliber of high explosive or smoke mortar bombs.

TECHNICAL CHARACTERISTICS

Caliber: ≈ 725 mm

Fuze:

- arming distance min 40 m

Propelling charge: 1 cartrige + 6 extra charges

Maximum medium pressure: ≤ 1200 kgf/cm²

Maximum range: ≈ 7000 m

Temperature range: - 40°C÷+60°C

• Wooden case containing 2 rounds round fully equipped in cardboard cases

 Full case weight: 50 kgs • Case overall dimensions: 950x360x240 mm









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