



Avalanche release system

LACROIX Industrie



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LACROIX'S AVALANCHE RELEASE SYSTEM

Lacroix's Avalancher system allows you to secure your ski area **without compromising the safety of your workers, in all weather conditions** even without visibility.



It consists of a **pneumatic system** for launching a **tubular projectile containing a liquid explosive**.

The explosive is detonated when the projectile impacts the snow surface through the action of a percussion fuze system.



2

SNOW ARROW (Tubular projectile)

For maximum efficiency, it is designed to detonate **above the snow mantle**.

Loaded with 2.2 kg of a binary explosive, the two non-explosive components are mixed at the firing site to become an explosive, **therefore protecting the population and the workers during storage and handling.**

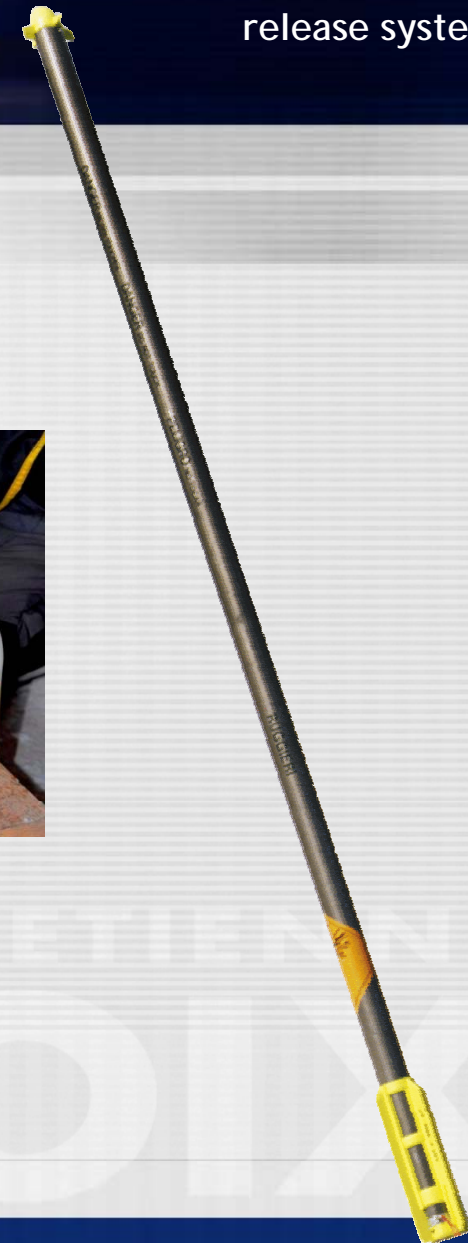
In case of a misfire, the explosive becomes **totally inert within 48 hour**.

Length: 1.80 m

Diam: 40 mm.

Total weight : 3,2 kg

TNT equivalent of mixed explosive : 1.25



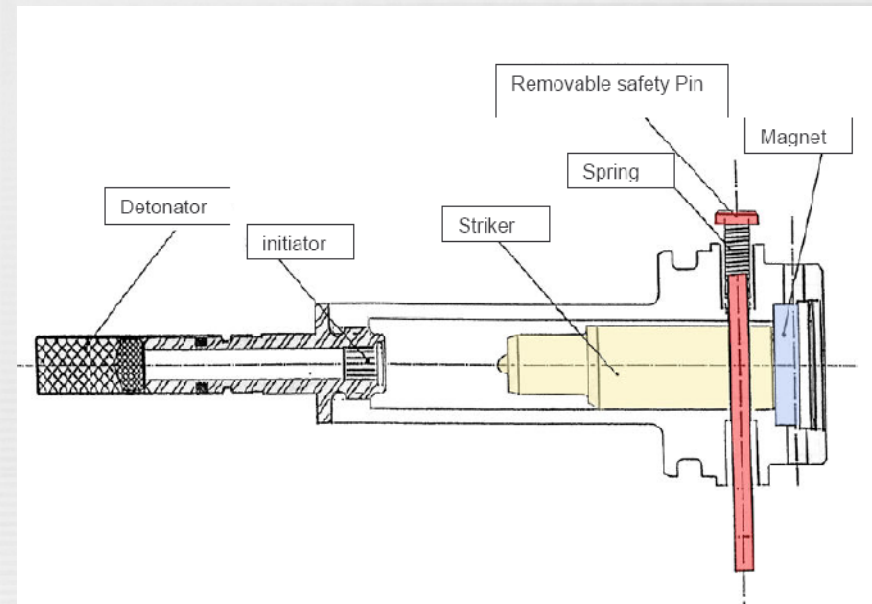
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SNOW ARROW (Tubular projectile)

The projectile consists of 3 parts : the tube, the nose and the fin assembly including the fuzing system and thrust disc.

The thrust disc serves to transfer pressure from the propellant gas and ensures sealing of launch tube.

It also serves to ensure that movement of the striker safety pin **only takes place once the projectile exited the launch tube to a sufficient distance.**



A permanent magnet retains the striker in its rest position during projectile flight. On impact with the snow surface the striker is projected forward to the percussion cap, which initiates the detonator to fire the explosive charge

3

AVALANCHER (Launch system)

The Avalancher is a pneumatic launcher. It allows the initiation of avalanches **in different corridors from a central point.**

For added safety, the avalauncher is fired remotely from a hard wired electronic box. The range is pressure dependant and can be easily determined from the supplied chart.

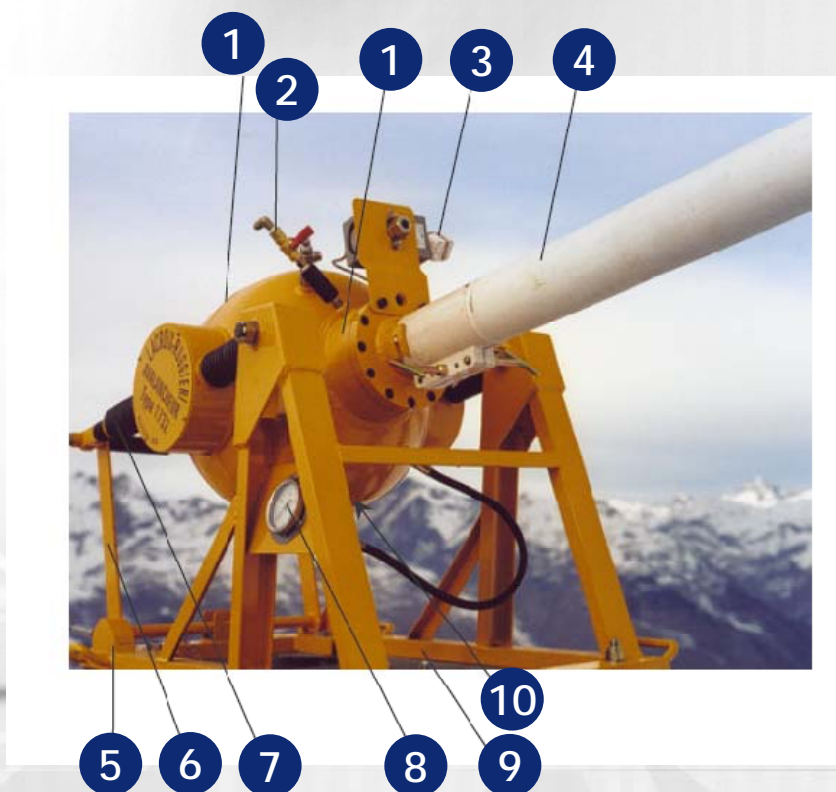
Weight : 160 Kg
Dimensions without tube : 100x80x70 cm
Dimensions chassis : 95X57 cm in U of 60 mm
Tube lenght : 6m
Tube calibre : 83 mm
Firing pressure : 5-30 bars
Firing elevation : 45°
Loading elevation : 10°
Propellant gas : nitrogen (cylinder of 50l at 200 bars)
Firing chamber volumer : 45l



3

AVALANCHER (Launch system)

Principal system elements :



- 1- Firing Chamber
- 2- Recharging valve
- 3- Firing Valve
- 4- Launch tube
- 5- Locking pin
- 6- Positioning arm
- 7- Shock Absorber
- 8- Manometer
- 9- Chassis
- 10- Purging valve



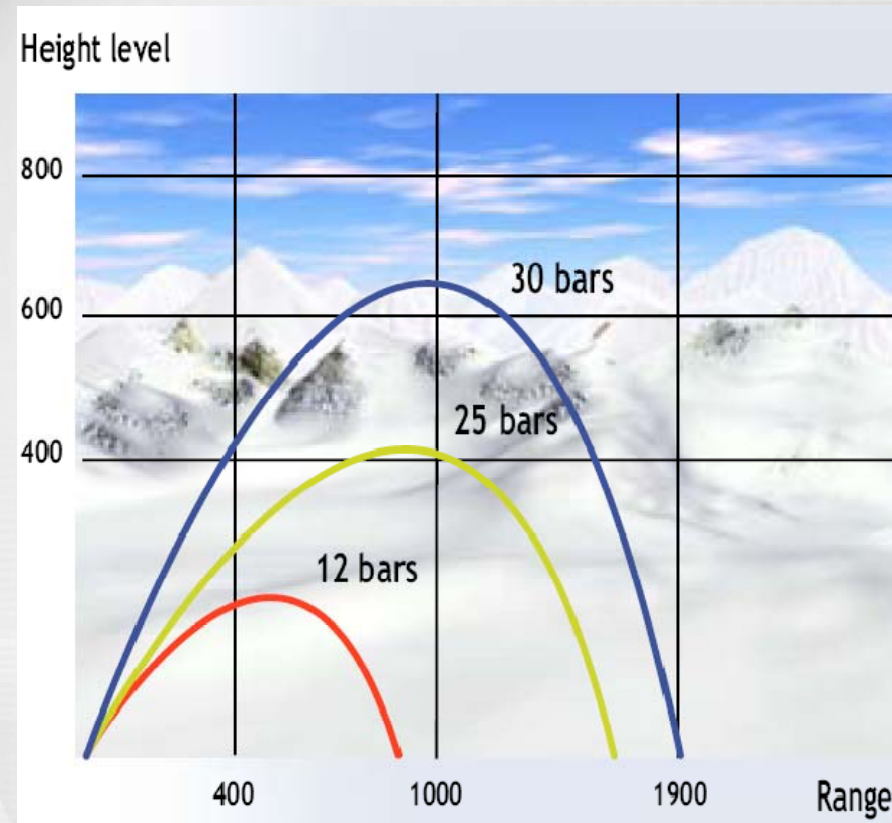
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AVALANCHER (Launch system)

Performances :

Range: 2000 m

Height level: 700 m



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REFERENCES



Currently, **110 avalanchers** are actively contributing to the safety of **more than 60 ski resorts** in France, Spain, Andorra, Switzerland, Austria and Argentina.



CIVIL SAFETY & PROTECTION

NATURAL HAZARDS PREVENTION

EXPLOSIVE ARROW

The **EXPLOSIVE ARROW** is the projectile launched by the Avalauncher to set off avalanches as a preventative measure.

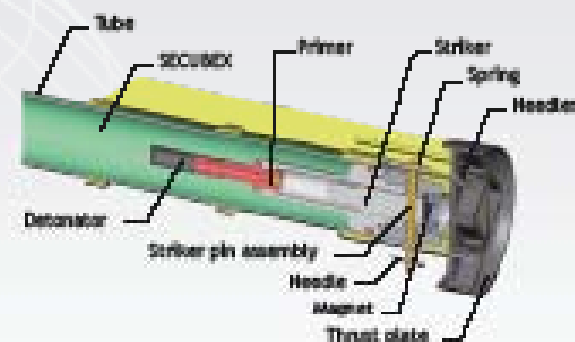
DESCRIPTION

The M92 arrow is comprised of three parts: a tube, a nose and a tail comprising a priming system and thrust plate. The tube, which is 40 mm in diameter, contains 2 liters of Secubex explosive compound. The thrust plate ensures propulsion and water tightness of the tube at firing. Two needles lock the striker's pin assembly, which they release once the arrow has travelled the required distance. The striker is secured in position by a magnet during flight. The striker is projected on the primer on impact in the snow. The detonator is initiated by the primer and then ignites the explosive. The blast occurs underneath the coat of snow.



Total length	180 cm
Caliber (=diameter of thrust plate)	83 mm
Diameter of interior of arrow	40 mm
Total weight w/o explosive	1 kg
Striker run	15 mm
Weight of the pyrotechnic chain	2 g
Weight of the SECUBEX explosive	2.2 kg

PYROTECHNIC CHAIN



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CIVIL SAFETY & PROTECTION

NATURAL HAZARDS PREVENTION

SECUBEX

SECUBEX is a binary explosive liquid that becomes non active within 48 hours.

DESCRIPTION

The two compositions which constitute SECUBEX - SECUBEX S1 (class 3) and SECUBEX S2 (class 8) - are non explosive chemical products that comply with the REACH regulations relevant to the protection of public health and environment. They are non hazardous when transported, stored or handled.

	Composition A	Composition B
Density	1.12	0.98
Vapour density	2.11	3.7
Freezing point	-35°C	-2.5°C

Once the compositions are combined they become a powerful explosive compound: the equivalent of 1.25 TNT. The compound is a less sensitive explosive than dynamite and requires a 2 gram detonator. The time limit for use is 4 hours. The compound becomes non active in 48 hours, after which an explosion can longer occur.



REFERENCES

SECUBEX is used in the Avalauncher projectiles and in the manual charges by over 60 ski resorts in France, Switzerland, Spain and Andorra.

In France, use of SECUBEX requires prior ministerial authorization for making the SECUBEX explosive and to be delivered by the commune concerned.

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LAW ENFORCEMENT

LAW ENFORCEMENT

NON LETHAL RIOT CONTROL AMMUNITIONS

ETIENNE
LACROIX



LAW ENFORCEMENT

ALSETEX is specialized in the design and manufacture of a wide range of riot control products. These materials are used in the Police, in the Gendarmerie and in foreign Police Forces (Europe, Africa and Middle East).

RIOT CONTROL

- Ballistic munitions
- Kinetic munitions
- Hand launched special effects grenades
- Thin jet tear canister ranging between 2 and 15 meters
- Production of CS powder for miscellaneous tear gas application

ALSETEX 40MM SYSTEM EFFECTS



ALSETEX 56MM NON-LETHAL SYSTEM EFFECTS

IGNITIATION



DELAY FUZE





LAW ENFORCEMENT

NON INFLAMMABLE PEPPER & TEAR GAS SPRAYS



PEPPER SPRAY
NON INFLAMMABLE



TEAR GAS SPRAY
NON INFLAMMABLE



2 LITERS
DISPERSOR
TEAR GAS



5 LITERS
DISPERSOR
TEAR GAS

HAND LAUNCHED SPECIAL EFFECTS GRENADES



046
STUN



241
FLASH



446
FLASH
& BANG



OF
BLAST



DBD*
KINETIC



CCC
COLOUR
SMOKE



FAR
SMOKE



OXF1
PRACTICE

*BREVET SAPL N°FR 9513590

LAUNCHERS



COUGAR VARIO
40/56 MM



CHOUKA
56 MM



COUGAR 12
56 MM



COUGAR
56 MM



CHOUKA SHOOT
56 MM



COUGAR 6
56 MM