

Rock Cracker **Technical Description**



**MATTSON
INTERTOOL GMBH**
BAHNHOFSTRASSE 11
3900 BRIG
SWITZERLAND

TELEPHONE
+41 (0)27 924 84 81

FAX
+41 (0)27 924 84 82

WWW.MATTSON.CH
info@mattson.ch

The Rock Cracker is a non-explosive rock-splitting tool which makes use of the technology of motive force. A device filled with a motive medium cartridge generates a pressure impulse in the device. The pressure impulse is transmitted by means of a path into an incompressible fluid column (water or gel) situated in a pre-drilled hole in the rock. The success of the system is due to the special technology of the motive force being used. The unique qualities of the motive force and the cartridge generate a rapidly advancing force wave. This impulse pressure starts the spread of the fracture surfaces in the direction of the stress concentrations and the next free surface. The static pressure developed by the motive medium generates a further mechanical pressure in the rock whereby the rock bursts. The direction of the break can be controlled by the arrangement of the drilling or the indentation of the hole.

The Rock Cracker is a compact, economical and transportable piece of equipment which can be used for splitting and breaking stones and blocks of rock when reducing rocks as well as for splitting reinforced concrete. The absolutely comfortable handling as well as low operating costs results in the Rock Cracker being preferred equipment when rock is being broken.



**MATTSON
INTERTOOL GMBH**
BAHNHOFSTRASSE 11
3900 BRIG
SWITZERLAND

TELEPHONE
+41 (0)27 924 84 81

FAX
+41 (0)27 924 84 82

WWW.MATTSON.CH
info@mattson.ch

Advantages

- Safe and easy to use
- Saves energy
- No damage to structures and equipment
- Very little shattering
- Insignificant amounts of waste gas
- Low stone flight velocity and very little spraying
- No blasting licence required
- Lightweight and compact
- Low cost

Applications

- Additional breaking in mines and quarries
- Building construction
- Demolition (rock breaking in buildings)
- Site clearing
- Swimming pool excavation
- Ditch cutting
- Agricultural activities
- Dimensional finishing and sorting of rock
- Jacking advance

**MATTSON
INTERTOOL GMBH**
BAHNHOFSTRASSE 11
3900 BRIG
SWITZERLAND

TELEPHONE
+41 (0)27 924 84 81

FAX
+41 (0)27 924 84 82

WWW.MATTSON.CH
info@mattson.ch

Why use Rock Cracker?

- No blasting licence required
- Safe and simple operation
- No restrictions as regards storage (explosives magazine)
- No transport restrictions for vehicle or driver
(Transport permission, vehicle equipment or special third party insurance)
- Very little shock/vibration
- No crack protocols (Authorities, owner or contractor)
- No seismographic instruments in use
- No creeping current risk in the vicinity of trains or high voltage lines
- Can be used safely in poor weather
- Alternative for conventional blasting
(Stemming hose firing, Nonel, Aetonoex –shot detonating cord)
- Little noise
(Can be used without problems for hospitals, homes, clinics and housing estates)
- Little waste gas
(No poison gases; can also be used in enclosed spaces as well as in caverns, shafts, ditches, trenches, etc.)
- Low flight velocity and therefore no pressure wave
- Almost no interruption of work
- No laborious cover of the blasting area and protection of the surroundings
- No warning and control of the surrounding buildings necessary
- No laborious closing off of streets and paths

Rock Cracker Demonstration

**MATTSON
INTERTOOL GMBH**
BAHNHOFSTRASSE 11
3900 BRIG
SWITZERLAND

TELEPHONE
+41 (0)27 924 84 81

FAX
+41 (0)27 924 84 82

WWW.MATTSON.CH
info@mattson.ch



1 This block is to be split and reduced with the Rock Cracker. Size approximately 3 m³.



2 The hole is drilled with a diameter of 32 mm (2/3 of the block size). With the Rock Cracker we have the possibility of working with boreholes from 28 mm to 45 mm.



3 The hole is filled with water. If the rock is porous, gel is used for sealing.



4 Safety: The Crackers are inserted into the hole with the aid of the cartridge holder. In this way they can easily be removed again at the end and the chances of cartridges remaining behind can be prevented.



5 The tee-piece is inserted into the hole. The white point on top shows the direction of the pull.



6 The safety mat is placed in the correct position and the starter is inserted into the tee-piece.



7 The firing mechanism is screwed tightly into the tee-piece.



8 The loop of the starter line is fastened over the firing mechanism.

Rock Cracker Demonstration



9 A loading plate is screwed on to the firing mechanism.



10 The Rock Cracker is loaded with sandbags to provide weight.



11 The pull rope is inserted onto the Rock Cracker.



12 The cracking is triggered from a safe distance by means of the pull rope: wearing of hard hat, ear plugs, protective glasses and safety shoes is obligatory.



13 The result: The block was split successfully into several pieces with the Rock Cracker.



14 The starter is removed again with the aid of a cartridge ejector.

Further Applications



The Rock Cracker is also suitable for splitting reinforced concrete foundations, even inside buildings.



Heavily reinforced concrete can easily be split with the Rock Cracker.

**MATTSON
INTERTOOL GMBH**
BAHNHOFSTRASSE 11
3900 BRIG
SWITZERLAND

TELEPHONE
+41 (0)27 924 84 81

FAX
+41 (0)27 924 84 82

WWW.MATTSON.CH
info@mattson.ch