

# Beethoven Mk 7 Exploder



## Description

The Beethoven Mk 7 is a 100-shot capacitor discharge exploder, enclosed in a robust 'Noryl' moulded case. It is designed particularly to meet the requirements of blasting in gassy underground coal mines. The Mk 7 has an integral digital ohmmeter which can be used to measure the total circuit series resistance. The d.c voltage required to initiate the detonators is supplied by a hand operated generator which charges a capacitor.

## Safety Features

Firing can only be achieved by a two handed operation of depressing the firing button whilst turning the generator handle. The time duration of the output energy is limited to 5 milliseconds. When the firing button is released any residual charge left in the capacitor is discharged through a resistor. The exploder becomes automatically safe if the firing button is released at any time. The ohmmeter's circuitry is built to prevent current in excess of 1mA appearing across the terminals. The requirement of AS2187 (Part 2, 1993, Appendix) is that an ohmmeter will deliver less than 50mA when short-circuited. Sliding billet terminals are fitted to ease connection of cables to the exploder and also to help prevent the cables from shearing.

## Application

The Beethoven Mk 7 exploder is approved for use in gassy underground coal mines in Queensland only.

## Technical Properties

<b>Firing Capacity</b>	The Beethoven Mk 7 exploder will initiate 1 to 100 standard electrical detonators connected in series.
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## Specifications

Minimum fire voltage	950 V d.c
Minimum capacitance	9.5 $\mu$ F
Maximum charging time	3 Secs
Minimum fire charge	4.3 Joules
Maximum ohmmeter test current	1 mA
Ohmmeter resistance range	0 - 1999W

## Recommendations For Use

Connect the shotfiring cable leads to the exploder terminals. Screw the firing handle in clockwise. The ohmmeter is powered by the hand generator. Test the resistance of the firing circuit by turning the handle rapidly with the firing push-button released. Fire by pressing and holding the firing button, and turning the handle rapidly until the round explodes. The firing voltage is applied automatically. A neon indicator flashes to indicate that firing has taken place. Release the button. Remove handle and disconnect cable. To unscrew the handle, use a sharp initial anticlockwise turn.

## Packaging

The Beethoven Mk 7 is manufactured in a robust 'Noryl' moulded case. It is completely dust and waterproof. The maximum dimensions of the main exploder body are 275mm x 217mm x 94mm.

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