

THE ULTIMATE IN NON-DETONATING ROCK BREAKING CARTRIDGES



AUTOSTEM™ GEN III CATALOGUE - 2020

Includes all new products from the AutoStem™ reasearch and development team including:

The 9mm AutoStem Splitter™ Range

The 17mm AutoStem Fragmentor™ Range

The entire AutoStem™ Gen III range from 35mm - 87mm

Dual-Stemming™ / Safety Tab™ / AutoStem™ Sequential / Waterproof / Detonator/Electric Initiation

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AutoStem™ Gen III Splitter

- Dual stemming, electric initiation
- Highly delicate blasting work
- Max borehole size: 10mm



Product Code: 9mm x 3g
Performance: 0.1m³/cartridge
Cartridges per box: 150



Product Code: 9mm x 6g
Performance: 0.3m³/cartridge
Cartridges per box: 150



Product Code: 9mm x 9g
Performance: 0.5m³/cartridge
Cartridges per box: 100

AutoStem™ Gen III Fragmentor

- Dual stemming, electric initiation
- More significant blasting work
- Max borehole size: 20mm
- Safety Tab



Product Code: 17mm x 20g
Performance: 0.8m³/cartridge
Cartridges per box: 100



Product Code: 17mm x 30g
Performance: 2.0m³/cartridge
Cartridges per box: 100



Product Code: 17mm x 40g
Performance: 4.0m³/cartridge
Cartridges per box: 100

AutoStem™ Gen III 35mm

- Dual stemming
- Electric or Detonator Ready
- Safety Tab
- Waterproof
- Oversize, tunneling, trenching, demolition
- Max borehole size: 40mm



Product Code: 35mm x 100g
Performance: 5m³/cartridge
Cartridges per box: 70



Product Code: 35mm x 180g
Performance: 7m³/cartridge
Cartridges per box: 70



Product Code: 35mm x 300g
Performance: 10m³/cartridge
Cartridges per box: 50

AutoStem™ Gen III 43mm

- Dual stemming
- Electric or Detonator Ready
- Safety Tab
- Waterproof
- Oversize, tunneling, trenching, low level benching
- Max borehole size: 48mm



Product Code: 43mm x 350g
Performance: 15m³/cartridge
Cartridges per box: 36



Product Code: 43mm x 550g
Performance: 25m³/cartridge
Cartridges per box: 30

AutoStem™ Gen III 87mm

- Dual stemming
- Electric or Detonator Ready
- Safety Tab
- Waterproof
- Benching, tunneling, heavy duty blasting
- Max borehole size: 94mm



Product Code: 87mm x 1700g
Performance: >50m³/cartridge
Cartridges per box: 8



Dual-Stemming Technology

- Self-Stemming functions at each end of the cartridge upon initiation
- Ensures an effective gas seal over the length of the AutoStem Gen III cartridge
- Caters for poor ground conditions or boreholes drilled all the way through the rock
- Aircraft aluminium moulds enabling cartridge to balloon to borehole walls
- Alternating helical design improves coupling between cartridge & borehole

The world's only dual-stemming range of cartridges, we remain at the forefront of self stemming technology having introduced the world's first self-stem product in 2013.

AutoStem Safety Tab

- World's only "safety" tab on a rock breaking product
- Prevents any accidental initiation in transport, handling or storage
- Requires user to "push the safety tab in" prior to use

AutoStem Gen III is the world's only entirely safe rock breaking product. Without inserting the safety tab prior to use, initiation of the product cannot cause harm, ensuring maximum user safety at all times.



Above: Yellow Safety Tab

High Energy Rating

- Energy of 5,121j/g compared to 2,500 j/g in packaged explosives
- Energy delivery completely decoupled from VOD
- AutoStem VOD of only 340m/s, compared to explosive VOD in excess of 5,000 m/s
- The avoided shockwave enables users to stand clear at a reduced distance and leads to a significant reduction in "blast-induced" ground vibration

Gen III incorporates a proprietary nitrocellulose compound liberating energy without shock achieving uniformity in fragmentation without fines, dust or harmful gases.

Detonator Ready or Electric Initiation with Sequential Firing



- Interchangeable initiation method - electric or detonating
- Can be intergrated with any centralized blasting system from any supplier
- Universal detonator adapter meaning any detonator can be used with Gen III
- A cartridge will remain non-detonating, even if initiated by detonator

Gen III can accommodate any detonator from any supplier, or it can be initiated without explosive accessories simply using a factory-fitted fuse head. Energy requirement with fuse head initiation is 2.12A per cartridge and resistance of 0.56 ohm.

Waterproof

- All AutoStem Gen III Cartridges are waterproof to a depth of 30m
- Can be used in dry/wet boreholes without blowing out water from drilling

Gen III products can be used in almost any situation and offer an environmentally friendly alternative for harbour and port blasting.

DECOUPLING OF PERFORMANCE VARIABLES

The achievement of AutoStem technology is as a result of the effective decoupling of two performance variables, previously thought inextricably linked, combined with a highly efficient proprietary energy-delivery mechanism.

Conventional explosives are characterized by high velocity of detonation imparting shock into surrounding rock/concrete. The higher the VOD (in excess of 5,000 m/s), the greater the quantum of energy released in the form of a shockwave.

It has always been assumed that shock and energy were synonymous and increasing one necessarily meant ramping up the other.

Our research led to a decoupling of energy released and VOD, resulting in a technology which offers greater energy liberation than conventional packaged explosives, whilst avoiding the creation of a shockwave entirely by reacting at a low VOD.

By reducing VOD, compared to conventional explosives, PPV (vibration) is reduced significantly, without any loss or capability in energy delivery, fly-rock is reduced dramatically, harmful gases eliminated entirely and the consequence of shockwave avoided entirely.

Generation III offers 2.0x the energy available and delivered to rock than that of conventional products.



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