

Data/Product Sheets



Signal & Screening

Wescom Defence is the market leader in design, development, qualification and manufacture of mission critical high reliability signal & Screening and illumination equipment for defence customers.

Training & Simulation

Wescom Defence has been at the heart of providing realistic training for both defence and law enforcement agencies around the world.

Man Portable Obstacle Breaching

Conventional minefields, booby traps, unexploded ordnance and man-made obstacles, such as triple barbed wires and concertina coil are meant to stall military operations and bog down combatants in enemy killing fields. This can have a devastating cost - momentum and surprise once lost in military operations are difficult to achieve again.

Security & Civil Defence

Wescom Defence leverages its extensive expertise in pyro-technology to manufacture products for peace enforcement and internal security for both civil defence and military operations.

Wescom Defence

Wescom Defence is a trusted global producer of pyrotechnics to the defence industry. Headquartered in the UK, our unrivalled reputation for technical innovation, expertise and reliability has been cemented by more than 100 years' experience and is built on strong customer foundations. Whether you are a long-standing or new client, our aim is to develop a long-term relationship and provide you with an unmatched, bespoke service.

What we create

We design, manufacture and supply high-quality Class 1.1-1.4 energetic material and pyrotechnics at our facilities in UK, Germany and Spain that have a combined area of 293,000m². For more than 100 years we have provided the expertise, reliability and collaboration that our customers know and trust and we will continue in our pursuit of excellence.

In 2021, we acquired PW Defence to expand our defence product portfolio and international sales network and benefit from new manufacturing and testing facilities. Our range now boasts more than 500 products and we manufacture more than 3 million pyrotechnic products a year. We are a trusted supplier to UK MoD, German BMVg, our NATO allies and friendly nations worldwide.

Why choose us

Unrivalled service

Our reputation is built on long-standing collaborations with our customers. You are at the core of everything we do and we aim to build a relationship that lasts by delivering a product and service tailored to your individual requirements.

Unmatched expertise

Our leading chemists, designers, energetic material scientists and industrial engineers work to create an extensive range of technologically advanced pyrotechnic payloads. Quality, performance, safety and reliability are paramount.

Security of supply

Providing assurance and a rapid response to your needs.

What we do

Our expertise covers four key areas:

Signal and screening

Our products enable effective and reliable battlefield communication for the location and extraction of combat forces in challenging operating environments, including vehicle defensive aids.

Training and simulation

We maximise combat force readiness and effectiveness by creating immersive sensory training in a safe, realistic battlefield training simulated environment.

Man-portable obstacle breaching

We clear the way ahead, facilitating effective, portable pathway clearance solutions for expeditionary forces and special operations.

Security and civil defence

We provide crowd control and anti-terrorism product and services.



Wescom Defence is the market leader in design, development, qualification and manufacture of mission critical high reliability Signal & Screening and Illumination Equipment for defence customers.

We leverage our extensive in house technical capability and use of automated production techniques to deliver exceptional performance and quality whilst ensuring cost effectiveness.

BATTLEFIELD ILLUMINATION

Multiple Effect Rocket System (MERS) Illumination Rocket, 300m

Multiple Effect Rocket System (MERS) Illumination Rocket, 600m

Multiple Effect Rocket System (MERS) Illumination Rocket, 1000m

Multiple Effect Rocket System (MERS) Infrared Illum Rocket, 300m

Multiple Effect Rocket System (MERS) Infrared Illum Rocket, 600m

Multiple Effect Rocket System (MERS) Infrared Illum Rocket, 1000m

TACTICAL SCREENING

Grenade Hand Smoke Screening

Grenade Hand Bursting Screening

Grenade Hand Bursting Screening RP

Grenade Hand Compact Screening Smoke

66mm Vehicle Launched Grenade Screening

Vehicle Launched Grenade Screening RP

76mm Vehicle Launched Grenade RP

76mm Vehicle Launched Grenade Multi-Spectral

76mm Vehicle Launched Grenade Multi-Spectral

Remotely Piloted Vehicle Target Smoke Generator

PERIMETER & BORDER PROTECTION

Trip Flare DM 26

Alarm Flare DM 57 /DM 67

Ground Flare - Indicating Yellow

Tripflare Kit

SEARCH & RESCUE

Day & Night Signal

Linethrower 250

White Handflare

Red Handflare

Red Parachute Signal Rocket

Smoke Signal Orange

Signal Distress Day & Night

Miniflare No1 Mk 3

Marine Sound Signal

Diver Recall Signal

TACTICAL SIGNALLING & MARKING

19mm Signal Cartridge Single Star - Red, Green, White

26.5mm Signal Cartridge, Single Star
- Red, White, Green, Yellow, Flash Bang

26.5mm Signal Cartridge Single Star Red, Green, Yellow, White

38mm Signal Cartridge, Single Star Red, Green, White, Yellow

38mm Signal Cartridge, 2-Star Red, Green, White, Yellow

Parachute Signal Cartridge, Yellow

Parachute Signal Cartridge, Green

Parachute Signal Cartridge, Red

Salute Cartridge

Standard Military Rocket Para Illumination

Smoke Tracer, Orange

Green Parachute Signal Rocket

Yellow Parachute Signal Rocket

Rocket Hand Fired Cluster, Red / White / Green

38mm Parachute Illumination Rocket

Smoke Grenade, Coloured, 30 sec

Smoke Grenade, Coloured, 60 sec

Smoke Grenade, Coloured, 90 sec

Hand Grenade, Coloured Smoke

Series Signal Smoke Parachutist

26.5mm Signal Cartridges

38mm Coloured Smoke Cartridges

40mm Coloured Smoke Cartridges

40mm Cartridge Buoyant Smoke Orange

Rocket Hand-fired Parachute Illuminating

Rocket Hand-fired Parachute Red

Rocket Hand-fired Parachute Green

Rocket Hand-fired Parachute Radaflare

Coloured Smoke Grenade No.83

Coloured Smoke Grenade No.83 - 60 seconds

Coloured Smoke Grenade No.83 - 90 seconds

Grenade Hand Compact Signal Smoke - 30 seconds

Grenade Hand Compact Signal Smoke - 45 seconds

Grenade Hand Compact Signal Smoke 60 Seconds

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Multiple Effect Rocket System (MERS) Illumination Rocket, 300m



Smokeless burning of the rocket propellant results in minimal signature at initiation combined with no visible signature throughout flight providing concealment from detection of launch.

APPLICATION

- Illumination of the fore field
- Illumination during search and rescue operations
- Signalling purpose

Flight tube design and induced tail spin provide high level of accuracy. The store architecture requires no stored energy in the initiator. Twist initiation provides for both left & right hand operation.

OPERATION

MERS incorporates a 3 stage safety system comprising of:

1. Turn twist initiator clockwise from Safe Position "S" into Armed-Position "A". This action unlocks the twist initiator allowing it to be pulled in axial direction.
2. Pull twist initiator from Armed-Position into Firing-Position "F". This action unlocks the twist initiator allowing it to be rotated clockwise or counter-clockwise.
3. Twist initiator clockwise or counter clockwise to fire the rocket.

Provided the twist initiator has not been rotated, MERS can be returned to the safe condition.

SPECIFICATIONS

Length	260mm
Diameter	51mm
Weight	Approx. 520g
Recoil	<500 N
Flare Altitude at Firing Angle 45°	200m
Range	300m
Burning Time	30 Sec
Light Intensity	≥ 200,000 cd
Wavelength	589±3 nm

SHIPPING INFORMATION

Part Code	9166000
UN Number	0254
Proper Shipping Name	Ammunition, Illuminating
Quantity per Box	10
Box Type	Steel
Hazard Class	1.3G
NEQ	1.35kg
Gross Weight	8.5kg
Volume	0.012m ³

Multiple Effect Rocket System (MERS) Illumination Rocket, 600m



Smokeless burning of the rocket propellant results in minimal signature at initiation combined with no visible signature throughout flight providing concealment from detection of launch.

APPLICATION

- Illumination of the fore field
- Illumination during search and rescue operations
- Signalling purpose

Flight tube design and induced tail spin provide high level of accuracy. The store architecture requires no stored energy in the initiator. Twist initiation provides for both left & right hand operation.

OPERATION

MERS incorporates a 3 stage safety system comprising of:

1. Turn twist initiator clockwise from Safe Position "S" into Armed-Position "A". This action unlocks the twist initiator allowing it to be pulled in axial direction.
2. Pull twist initiator from Armed-Position into Firing-Position "F". This action unlocks the twist initiator allowing it to be rotated clockwise or counter-clockwise.
3. Twist initiator clockwise or counter clockwise to fire the rocket.

Provided the twist initiator has not been rotated, MERS can be returned to the safe condition.

SPECIFICATIONS

Length	260mm
Diameter	51mm
Weight	Approx. 530g
Recoil	<500 N
Flare Altitude at Firing Angle 45°	200m
Range	600m
Burning Time	30 Sec
Light Intensity	≥ 200,000 cd
Wavelength	589±3 nm

SHIPPING INFORMATION

Part Code	9166200
UN Number	0254
Proper Shipping Name	Ammunition, Illuminating
Quantity per Box	10
Box Type	Steel
Hazard Class	1.3G
NEQ	1.5kg
Gross Weight	8.6kg
Volume	0.012m ³

Multiple Effect Rocket System (MERS) Illumination Rocket, 1000m



Smokeless burning of the rocket propellant results in minimal signature at initiation combined with no visible signature throughout flight providing concealment from detection of launch.

APPLICATION

- Illumination of the fore field
- Illumination during search and rescue operations
- Signalling purpose

Flight tube design and induced tail spin provide high level of accuracy. The store architecture requires no stored energy in the initiator. Twist initiation provides for both left & right hand operation.

OPERATION

MERS incorporates a 3 stage safety system comprising of:

1. Turn twist initiator clockwise from Safe Position "S" into Armed-Position "A". This action unlocks the twist initiator allowing it to be pulled in axial direction.
2. Pull twist initiator from Armed-Position into Firing-Position "F". This action unlocks the twist initiator allowing it to be rotated clockwise or counter-clockwise.
3. Twist initiator clockwise or counter clockwise to fire the rocket.

Provided the twist initiator has not been rotated, MERS can be returned to the safe condition.

SPECIFICATIONS

Length	322mm
Diameter	51mm
Weight	Approx. 620g
Recoil	<1000 N
Flare Altitude at Firing Angle 45°	200m
Range	1000m
Burning Time	30 Sec
Light Intensity	≥ 200.000 cd
Wavelength	589±3 nm

SHIPPING INFORMATION

Part Code	9166400
UN Number	0254
Proper Shipping Name	Ammunition, Illuminating
Quantity per Box	10
Box Type	Steel
Hazard Class	1.3G
NEQ	2.3kg
Gross Weight	10.2kg
Volume	0.014m ³

Multiple Effect Rocket System (MERS) Infrared Illumination Rocket, 300m



Smokeless burning of the rocket propellant results in minimal signature at initiation combined with no visible signature throughout flight providing concealment from detection of launch.

APPLICATION

Providing enhancement of infrared image intensifiers such as night vision goggles during combat or surveillance situations in darkness.

Flight tube design and induced tail spin provide high level of accuracy. The store architecture requires no stored energy in the initiator. Twist. Initiation provides for both left & right hand operation.

OPERATION

MERS incorporates a 3 stage safety system comprising of:

1. Turn twist initiator clockwise from Safe Position "S" into Armed-Position "A". This action unlocks the twist initiator allowing it to be pulled in axial direction.
2. Pull twist initiator from Armed-Position into Firing-Position "F". This action unlocks the twist initiator allowing it to be rotated clockwise or counter-clockwise.
3. Twist initiator clockwise or counter clockwise to fire the rocket.

Provided the twist initiator has not been rotated, MERS can be returned to the safe condition.

SPECIFICATIONS

Length	260mm
Diameter	51mm
Weight	Approx 620g.
Recoil	< 500 N
Flare Altitude at Firing Angle 45°	200m
Range	300m
Burning Time	30 Sec
Radiant Intensity	50 Wsr-1
Frequency Range	0.7µm to 1.0µm
Light intensity	≥ 200.000 cd

SHIPPING INFORMATION

Part Code	9186000
UN Number	0254
Proper Shipping Name	Ammunition, Illuminating
Quantity per Box	10
Box Type	Steel
Hazard Class	1.3G
NEQ	1.5kg
Gross Weight	8.7kg
Volume	0.012m ³

Multiple Effect Rocket System (MERS) Infrared Illumination Rocket, 600m



Smokeless burning of the rocket propellant results in minimal signature at initiation combined with no visible signature throughout flight providing concealment from detection of launch.

APPLICATION

Providing enhancement of infrared image intensifiers such as night vision goggles during combat or surveillance situations in darkness.

Flight tube design and induced tail spin provide high level of accuracy. The store architecture requires no stored energy in the initiator. Twist. Initiation provides for both left & right hand operation.

OPERATION

MERS incorporates a 3 stage safety system comprising of:

1. Turn twist initiator clockwise from Safe Position "S" into Armed-Position "A". This action unlocks the twist initiator allowing it to be pulled in axial direction.
2. Pull twist initiator from Armed-Position into Firing-Position "F". This action unlocks the twist initiator allowing it to be rotated clockwise or counter-clockwise.
3. Twist initiator clockwise or counter clockwise to fire the rocket.

Provided the twist initiator has not been rotated, MERS can be returned to the safe condition.

SPECIFICATIONS

Length	260mm
Diameter	51mm
Weight	Approx. 530g
Recoil	<500 N
Flare Altitude at Firing Angle 45°	200m
Range	600m
Burning Time	30 sec.
Light Intensity	≥ 200,000 cd
Wavelength	589±3 nm

SHIPPING INFORMATION

Part Code	9166200
UN Number	0254
Proper Shipping Name	Ammunition, illuminating
Quantity per Box	10
Box Type	Steel
Hazard Class	1.3G
NEQ	1.5kg
Gross Weight	8.6kg
Volume	0.012m ³

Multiple Effect Rocket System (MERS) Infrared Illumination Rocket, 1000m



Smokeless burning of the rocket propellant results in minimal signature at initiation combined with no visible signature throughout flight providing concealment from detection of launch.

APPLICATION

Providing enhancement of infrared image intensifiers such as night vision goggles during combat or surveillance situations in darkness.

Flight tube design and induced tail spin provide high level of accuracy. The store architecture requires no stored energy in the initiator. Twist. Initiation provides for both left & right hand operation.

OPERATION

MERS incorporates a 3 stage safety system comprising of:

1. Turn twist initiator clockwise from Safe Position "S" into Armed-Position "A". This action unlocks the twist initiator allowing it to be pulled in axial direction.
2. Pull twist initiator from Armed-Position into Firing-Position "F". This action unlocks the twist initiator allowing it to be rotated clockwise or counter-clockwise.
3. Twist initiator clockwise or counter clockwise to fire the rocket.

Provided the twist initiator has not been rotated, MERS can be returned to the safe condition.

SPECIFICATIONS

Length	322mm
Diameter	51mm
Weight	Approx. 635g
Recoil	<1000 N
Flare Altitude at Firing Angle 45°	200m
Range	1000m
Burning Time	30 Sec
Radiant Intensity	50 Wsr-1
Frequency Range	0.7µm to 1.0µm
Light Intensity	≥ 200 cd

SHIPPING INFORMATION

Part Code	9186400
UN Number	0254
Proper Shipping Name	Ammunition, Illuminating
10	44
Box Type	Steel
Hazard Class	1.3G
NEQ	2.45kg
Gross Weight	210.35kg
Volume	0.014m ³

Grenade Hand Smoke Screening



The Low Toxicity Grenade Hand Smoke Screening has been specially developed to satisfy the growing need for a screening and training smoke which can be used without posing a health hazard to personnel or creating environmental problems.

APPLICATION

For use in various military training or operational exercises such as: rapid concealment of troops, reduce accuracy of enemy fire, removal of target opportunities and cover for the redeployment of friendly forces.

Designed to withstand world-wide environmental conditions, they are robust, waterproof and extremely reliable. By employing vivid colours and dense smoke emission for a minimum of 30 seconds, this grenade series provides the optimum signalling performance required by operational troops.

SPECIFICATIONS

Burn Time	30 seconds minimum
Time to Effective Smoke	Less than 5 seconds
Height (incl Striker Mechanism)	135mm
Height (Grenade Body)	108mm
Diameter	63mm
Gross weight	0.339kg
NEQ	0.208kg

SHIPPING INFORMATION

Part Code	N150
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	48
Box Type	Plywood B1
Hazard Class	1.4G
NEQ	9.98kg
Gross Weight	22kg
Volume	0.048m ³

Grenade Hand Bursting Screening



The N321 Grenade Hand Bursting Screening is a low toxicity screening grenade for military training exercises and operational use.

APPLICATION

For use in various military training or operational exercises such as: rapid concealment of troops, reduce accuracy of enemy fire, removal of target opportunities, and cover for the redeployment of friendly forces.

The dense white smoke cloud produced conceals movement of personnel and vehicles for nominally 30 seconds.

SPECIFICATIONS

Delay time	1.5 seconds nominal
Overall Smoke Duration	30 seconds nominal
Height (inc. Striker Mechanism)	179mm nominal
Diameter	67mm nominal
Gross Weight	0.540kg
NEM	0.256kg

SHIPPING INFORMATION

Part Code	N321
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	32
Box Type	Plywood
Hazard Class	1.4G
NEQ	8.19kg
Gross Weight	22.30kg
Volume	0.043m ³

Grenade Hand Bursting Screening RP



The N322 Grenade Hand Bursting Screening Red Phosphorous (RP) is a low toxicity screening grenade for military training exercises and operational use.

APPLICATION

For use in various military training or operational exercises such as: rapid concealment of troops, reduce accuracy of enemy fire, removal of target opportunities and cover for the redeployment of friendly forces.

The dense white smoke cloud produced conceals movement of personnel and vehicles for nominally 30 seconds.

SPECIFICATIONS

Delay time	1.5 seconds nominal
Overall Smoke Duration	30 seconds nominal
Height (inc. Striker Mechanism)	179mm nominal
Diameter	67mm nominal
Gross Weight	0.605kg
NEM	0.320kg)

SHIPPING INFORMATION

Part Code	N322
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	32
Box Type	Plywood
Hazard Class	1.4G
NEQ	10.21kg
Gross Weight	24.40kg
Volume	0.043m ³

Grenade Hand Compact Screening Smoke



The N451/A Grenade Hand Compact Screening Smoke is a high performance smoke grenade that deploys a thick low toxicity visual smoke screen in a matter of seconds.

APPLICATION

For use in various military training or operational exercises such as: rapid concealment of troops, reduce accuracy of enemy fire, removal of target opportunities and cover for the redeployment of friendly forces.

The composition is a widely accepted low toxicity formulation which produces a dense white smoke to give maximum obscuration which lasts a nominal 45 seconds.

SPECIFICATIONS

Burn Time	Nominal 45 seconds
Time to Effective Screen	5 seconds max
Height (inc. Striker Mechanism)	128mm
Height (Grenade Body)	98.5mm
Diameter	55mm or 58mm including striker
Gross Weight	0.291kg
NEQ	0.175kg

SHIPPING INFORMATION

Part Code	N451/A
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	60
Box Type	Plywood B2
Hazard Class	1.4G
NEQ	10.50kg
Gross Weight	24.0kg
Volume	0.043m ³

Smoke Grenade, Screening, 30 sec, low toxic



The smoke grenade consists of a cylindrical body filled with a smoke composition which is ignited by the next generation of a fly-off lever igniter.

APPLICATION

The Screening Smoke Grenade is designed to produce a dense curtain of smoke to mask the removal or deployment of personnel in tactical and training situations.

The grenade can be used in various military and law enforcement operational and training scenarios such as:

- Interruption of line-of-sight in visible spectrum
- Reducing the accuracy of enemy fire
- Situations where temporary invisibility can substantially increase the survivability of individuals or groups of soldiers

Its outstanding design fulfils STANAG 4497 (Hand-Emplaced Munitions) which means no stored energy in the ignition chain. In the unlikely case the grenade was armed but not used, it can easily be disarmed again.

Upon ignition the smoke grenade will produce a dense coloured smoke over the specified period.

SPECIFICATIONS

Length	131mm
Diameter	55mm
Weight	Approx. 246g
Smoke Burning Time	Nominal 30 sec (other smoke durations on request)
Delay Time	2,5 ±1 sec
Colours	White to greyish
Operational Temperature	-33 to +71 °C
Net Explosive Mass	Approx.130 gram

SHIPPING INFORMATION

Part Code	9199000
UN Number	0054
Proper Shipping Name	Signals, smoke
Quantity per Box	20
Box Type	Steel
Hazard Class	1.4G
NEQ	2.6kg
Gross Weight	8.1kg
Volume	0.012m ³

66mm Vehicle Launched Grenade Screening



The 66mm Vehicle Launched Grenade Screening when used in salvos from suitably placed Armoured Fighting vehicles (AFV) grenade launchers produces a rapid optimum smoke cloud with no 'window hole' effect.

APPLICATION

Creation of a thick white smoke cloud to conceal movement of vehicles and troops, defensive and offensive smoke strategy, and camouflage, concealment and deception.

The smoke cloud conceals movement of friendly positions and manoeuvres thus reducing the enemy's ability to deliver a specified attack profile. The smoke screen is achieved with an air bursting rubber body containing white smoke canisters. The scattered canisters create a smoke screen for AFV protection. The smoke characteristics are, low toxicity smoke with a burn time of 30 seconds minimum. The V101/V102 grenade is mission selectable for the roles of smoke camouflage, concealment or deception of AFV's on the battlefield.

SPECIFICATIONS

Deployment Range	V101: 20-40 metres V102: 55-90 metres
Screen Rise Time	15 seconds maximum
Burn Time	30 seconds minimum
Height	185mm
Diameter	66mm
Gross Weight	V101: 0.545kg V102: 0.550kg

SHIPPING INFORMATION

Part Code	V101/V102
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	32
Box Type	Plywood
Hazard Class	1.4G
NEQ	V101: 8.29kg V102: 8.45kg
Gross Weight	23.0kg
Volume	0.043m ³

66mm Vehicle Launched Grenade Screening RP



The 66mm Vehicle Launched Grenade Screening Red Phosphorus when used in salvos from suitably placed Armoured Fighting vehicles (AFV) grenade launchers produces a rapid optimum smoke cloud with no 'window hole' effect.

APPLICATION

Creation of a thick smoke cloud to conceal movement of vehicles and troops, defensive and offensive smoke strategy, and camouflage, concealment and deception.

The smoke cloud conceals movement of friendly positions and manoeuvres thus reducing the enemy's ability to deliver a specified attack profile. The smoke screen is achieved with an air bursting rubber body containing red phosphorous. The scattered payload creates an instantaneous maximum possible screen for AFV protection. The smoke characteristics are a burn time of 30 seconds minimum. The V108 grenade is mission selectable for the roles of smoke camouflage, concealment or deception of AFV's on the battlefield.

SPECIFICATIONS

Deployment Range	20-40 metres
Screen Rise Time	5 seconds nominal
Burn Time	60 seconds nominal
Height	185mm
Diameter	66mm
Gross Weight	0.59kg
NEQ	0.369kg

SHIPPING INFORMATION

Part Code	V108
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	32
Box Type	Plywood
Hazard Class	1.4G
NEQ	11.81kg
Gross Weight	25.50kg
Volume	0.043m ³

76mm Vehicle Launched Grenade RP



The 76mm Vehicle Launched Grenade Red Phosphorus when used in salvos from suitably placed Armoured Fighting vehicles (AFV) grenade launchers produces a rapid optimum visual and IR smoke cloud with no 'window hole' effect.

APPLICATION

Creation of a thick smoke cloud to conceal movement of vehicles and troops, defensive and offensive smoke strategy, and camouflage, concealment and deception.

The smoke cloud conceals movement of friendly positions and manoeuvres thus reducing the enemy's ability to deliver a specified attack profile. The smoke screen is achieved by two ground burning canisters containing red phosphorous. The payloads create an instantaneous maximum possible screen for AFV protection. The smoke characteristics are a burn time of 30 seconds nominal with a 12 sec IR screen in the 8-14 micron band. The V731 grenade is mission selectable for the roles of smoke camouflage, concealment or deception of AFV's on the battlefield.

SPECIFICATIONS

Deployment Range	50-90 metres
Screen Rise Time	8 seconds nominal
Burn Time	30 seconds nominal
Height	210mm
Diameter	76mm
NEM	0.746kg
Fire/No Fire Current	0.55A/0.3A
Gross Weight	1.1 kg

SHIPPING INFORMATION

Part Code	V731
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	12
Box Type	Plywood
Hazard Class	1.4G
NEQ	8.95kg
Gross Weight	18.60kg
Volume	0.048m ³

76mm Vehicle Launched Grenade Multi-Spectral



The V741 Vehicle Launched Grenade Multi-Spectral when used in salvos from suitably placed Armoured Fighting Vehicles (AFV) grenade launchers produces a rapid optimum smoke cloud with no 'window hole' effect.

APPLICATION

Upon firing the 3 payloads are ejected up to 45 metres where the airburst element will create an instantaneous visual and IR screen. The ground burn element will land and provide a dense visual and IR screen for more than 30 seconds.

The smoke cloud conceals friendly forces and manoeuvres thus reducing the enemy's ability to deliver a specified attack profile. The screen is achieved using a combination of air bursting and ground bursting red phosphorus munitions to give a maximum possible screen in size and duration for AFV protection. The V741 Vehicle Launched Grenade is mission selectable for the roles of smoke camouflage, concealment or deception of AFV's on the battlefield.

SPECIFICATIONS

Height	280.5mm
Diameter	76mm
Delay Time - Airtime	2.0 seconds nominal
Burn Time	60 seconds nominal
Time to First Smoke	Less than 3.5 seconds
IR Band	8-14micron
Deployment Height at 45°	15m nominal
Ground Range	25-45m
Number of Sub-Munitions	3
Fire/No fire Current	2.4A/1.2
IR Screen Time	20 seconds nominal
Gross Weight	1.8kg
NEM	1.3kg

SHIPPING INFORMATION

Part Code	V741
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	12
Box Type	Plywood
Hazard Class	1.4G
NEQ	15.60kg
Gross Weight	34.0kg
Volume	0.043m ³

76mm Vehicle Launched Grenade Multi-Spectral



The V745 Vehicle Launched Grenade Multi-Spectral when used in salvos from suitably placed Armoured Fighting Vehicle (AFV) grenade launchers produces a rapid optimum smoke cloud with no 'window hole' effect.

APPLICATION

Ground burn element for effective duration of screen, air bursting element for instant screen, infra Red and Visual Screen.

The smoke cloud conceals friendly forces and manoeuvres thus reducing the enemy's ability to deliver a specified attack profile. The screen is achieved using a combination of air bursting and ground burning red phosphorus munitions to give a maximum possible screen in size and duration for AFV protection. The V745 Vehicle Launched Grenade is mission selectable for the roles of smoke camouflage, concealment or deception of AFV's on the battlefield.

SPECIFICATIONS

Height	204mm
Diameter	76mm
Delay Time - Air Burst	2.0 seconds nominal
Burn Time	30 seconds nominal
Time to First Smoke	Less than 3.5 seconds
IR Band	8-14 micron
Deployment Height at 45°	<15m
Ground Range	30-65m
Number of Sub-Munitions	2
Fire/No Fire Current	2.4A / 1.2
IR Screen Time	15 seconds nominal

SHIPPING INFORMATION

Part Code	V745
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	18
Box Type	Plywood B2
Hazard Class	1.4G
NEQ	13.32kg
Gross Weight	30.50kg
Volume	0.043m ³

Remotely Piloted Vehicle (RPV) Target Smoke Generator



The Target Smoke Generator has been developed to provide visual enhancement for RPV's for simulation/training purposes.

The generator is ignited by the 'pilot' sending a firing signal from the control box, after which a large volume of vivid coloured smoke for 40 seconds minimum is emitted through an opening in the base of the canister. This enables the RPV to be located at a range of 6-10 kilometers in fair weather.

APPLICATION

Visual enhancement of aerial target.

SPECIFICATIONS*

Delay	8 seconds nominal
Burn time	40 seconds minimum
Height	99.0mm
Diameter	58.0mm
Gross Weight	0.222kg
NEQ	0.176kg

SHIPPING INFORMATION

UN Number	0432
Proper Shipping Name	Articles, Pyrotechnic
Code	Orange B701 Green B703 Black B709
Quantity per Box	50
Box Type	Triwall
Hazard Class	1.4S
NEQ	8.80kg
Gross Weight	14.50kg
Volume	0.041m ³

Trip Flare DM 26



The Trip Flare is a hand-deployable, non-lethal device. When wire-triggered, it produces a bright white light of at least 30 sec. duration.

APPLICATION

Effective perimeter protection and defence in open fields is accomplished besides electronic surveillance systems by means of pyrotechnic flares which alert and direct security forces in the direction of intruders.

It disorients the trespasser for several seconds and illuminates an area of 25m around the ignition point. An infrared variant enhances the night vision capability of the security forces.

SPECIFICATIONS

Total Length	200mm (Inc. ignitor)
Length	110mm (Flare body only)
Diameter	60mm
Weight	Approx. 592g
Burning Time	>30 sec.
Candle Power	>150.000 cd
Net Explosive Mass	Approx. 365g

SHIPPING INFORMATION

Part Code	9230000
UN Number	0092
Proper Shipping Name	Flares, Surface
Quantity per Box	46
Box Type	Fibreboard
Hazard Class	1.3G
NEQ	17.1kg
Gross Weight	47kg
Volume	0.064m ³

Alarm Flare DM 57 / DM 67



The Alarm Flare is a hand-deployable, non-lethal device. When wire-triggered, it produces a loud short bang in 15m height and bright white light of at least 15 sec. duration.

APPLICATION

Effective perimeter protection and defence in open fields is accomplished besides electronic surveillance systems by means of pyrotechnic flares which alert and direct security forces in the direction of intruders.

It disorients the trespasser for several seconds and illuminates an area of 25m around the ignition point. An infrared variant enhances the night vision capability of the security forces.

SPECIFICATIONS

Total Length	115mm
Length	70mm (Flare Body only)
Diameter	60mm
Wire Diameter	0.6mm
Weight	50g
Total Weight	210g (in fibreboard box)
Burning Time	>15 sec.
Candle Power	>10,000 cd
Net Explosive Mass	Approx. 16g
Sound Pressure	Min. 165 dB (Measured at 3m distance)
Height of Flash Bang Effect	Min. 10 meter

SHIPPING INFORMATION

Part Code	9230400
UN Number	0254
Proper Shipping Name	Ammunition, Illuminating
Quantity per Box	30
Box Type	Fibreboard
Hazard Class	1.3G
NEQ	0.48kg
Gross Weight	8.7kg
Volume	0.01m ³

Ground Flare Indicating Yellow



The Ground Flare, Indicating Yellow consists of a plastic tube filled with a high performance flare composition.

APPLICATION

Marking of landing zones and wind direction indicator for Helicopters as well as emergency landing path for fixed wing aircraft.

At the lower end of the flare tube is a pedestal, consisting of 3 spikes, enabling the flare tube to be either place into or onto the ground – longitudinal respectively perpendicular direction of spikes. Due to the flexible positioning of the 3 spikes a stable placement in uneven terrain is possible.

SPECIFICATIONS

Total Length	440mm (spikes in transport position)
Spike Length	100mm
Diameter	28.7mm
Weight	Approx. 280g
Delay Time	3. sec. nominal
Burning Time	100 sec.
Candle Power	75,000 cd
Net Explosive Mass	Approx. 220g

SHIPPING INFORMATION

Part Code	9230800
UN Number	0092
Proper Shipping Name	Flares, Surface
Quantity per Box	50
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	11kg
Gross Weight	24kg
Volume	0.03m ³

Tripflare Kit



The double action Tripflare is activated by either pulling or cutting the trip wire, illuminating the infiltrators with a 45,000 candela flare for 40 seconds minimum

APPLICATION

The Tripflare is designed primarily for use by combat troops in forward areas to: illuminate infiltrating enemy forces, protection of camps, bridges, frontiers and depot stores, illuminate prohibited areas and ambush positions, and provide Front Edge of Battle Areas (FEBA) security.

The Tripflare Kit is an essential element in night perimeter security.

SPECIFICATIONS

Flare Burn Time	40 seconds minimum
Light Intensity	45,000 Nominal
Overall Weight	0.375kg
Overall Weight with Pickets	1.262kg
NEQ	0.087kg

SHIPPING INFORMATION

Part Code	A541
UN Number	0092
Proper Shipping Name	Flares, Surface
Quantity per Box	14
Box Type	Plywood
Hazard Class	1.3G
NEQ	1.22kg
Gross Weight	21.50kg
Volume	0.043m ³

Day & Night Signal



The compact, handheld Comet Day & Night Signal consists of a red flare at one end and an orange smoke at the other.

APPLICATION

This handheld signal has been designed for personal distress signalling and is ideal for divers, windsurfers, dinghy sailors and small boats operating inshore as well as outdoor pursuits such as mountaineering, and was originally designed for naval divers and helicopter/aircrew.

- Incorporates a red flare 15,000 candela at one end, for use at night and day, and a dense orange smoke at the other for daytime use
- Both ends can be fired independently and can be doused in water after firing, allowing the unused end to be stowed until required

Housed in a rugged, corrosion-resistant case and protected by end caps with 'O' ring seals.

SPECIFICATIONS

Length	190mm (7.48 in)
Diameter	30mm (1.18 in)
Burning Time	Smoke 18 seconds, Flare 20 seconds
Light Intensity	15,000 candela
Colour of Smoke	Orange
Colour of Flare	Red
Weight	187g (6.603oz)
NEC	51.49g (1.8 oz)
Ignition	Pull-wire

SHIPPING INFORMATION

Part Code	9131500
UN Number	0191
Proper Shipping Name	Signal Devices, Hand
Other Information	Cargo Aircraft Only
Quantity per Box	100
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	5.14kg
Gross Weight	19.3kg

Linethrower 250



APPLICATION

The Comet Linethrower 250 is designed for ease of operation in the most extreme weather conditions. It can be used in all situations where a line is required to be passed accurately and quickly, these include:-

- All line-throwing operations at sea between vessels, ship-to-shore, shore-to-ship and shore based rescue services.
- Rescue of swimmers in distress.
- Line carrying across obstacles and rough terrain.

PRODUCT LIFE

- Body and line kit: 9 years
- Rocket 3 years
- Spare rockets are available to replace consumed or time expired rockets.

PACKING & TRANSPORT INFORMATION

Body and Line, less rocket in packing case,

L 37 cm (14.57 in) x W 27 cm (10.63 in) x H 27 cm (10.63 in)

- Gross weight 4.2 kg (9.26 lb.)
- Net weight 3.6 kg (7.94 lb.)
- Other Information: Non-hazardous
- 20 Spare Rockets in metal tin in a fibreboard box, L 37 cm (14.57 in) x W 27 cm (10.63 in) x H 27 cm (10.63 in)
- Other Information: Cargo Aircraft Only

Projects a line to a nominal range of 250m in calm conditions.

SPECIFICATIONS

Length	33 cm (13.0")
Height	31.3 cm (12.3")
Diameter	20.5 cm (8.1")
Weight	4.4 kg (9.7 lb.)
Rocket Weight Max:	472g (1 lb.)
Explosive Content Max	118g (4.16 oz.)
Line breaking strain	>2 kn

SHIPPING INFORMATION

Part Code	9160400 Complete unit 9160500 Body and line 9162700 Rocket
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	1000
Box Type	Wooden
Hazard Class	1.4G
NEQ	2.36kg
Gross Weight	12.70kg
Volume	0m ³

STORAGE

This compact appliance is ideally stored in a water-resistant locker at ambient temperature allowing easy access in an emergency. The set of 4 appliances normally carried onboard can be dispersed in strategic positions throughout the vessel

White Handflare



The White Handflare is for use as a collision warning signal or for illumination of small areas. Designed to withstand exceptional environmental exposure and to perform reliably even after immersion in water.

Featuring a unique telescopic handle with improved grip, making it very compact for stowage. Easily extended for safe handling and operation by pull wire ignitor. Produces hot white flame for 60 seconds at 2,500 candela.

APPLICATION

For use by day or night as a short-range collision warning signal, to pinpoint position and to illuminate small areas at night. These may be carried on the ship's bridge and are recommended for yachts making night passages. Four white handflares are included in our RORC kits. Also available is the similar red handflare (Art No. 9162800), which is used to signal distress.

SPECIFICATIONS

Length	175mm (6.9 in)
Length with handle pulled out	280mm (11 in)
Diameter	28mm (1.1 in)
Weight Max	170g (6.003 oz)
Light intensity	2,500 cd.
Burning time	60 seconds
Colour of light	White
Ignition	Pull-wire

SHIPPING INFORMATION

Part Code	9162500
UN Number	0191
Proper Shipping Name	Signal Devices, Hand
Quantity per Box	100
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	6.3kg
Gross Weight	18.20kg
Volume	m ³

APPROVALS

Conforms to: SOLAS 74 as amended, IMO resolution MSC. 81(70) Part 1, (MED) 96/98/EC, BGV 426.004, BAM - P1-0594, 0589-P1-0617, USCG and other major maritime authorities worldwide.

Red Handflare



The Handflare MK8 conforms to SOLAS 74 as amended. Designed to withstand exceptional environmental exposure and to perform reliably even after immersion in water.

Featuring a telescopic handle with improved grip, making it very compact for stowage. Easily extended for safe handling and operation by pull wire ignitor. Produces hot red flame for 60 seconds at 15000 candela.

APPLICATION

For use day or night the Comet Red Handflare is a short-range distress signal used to pinpoint position. May be carried on ships bridge and six are required to be fitted in ships lifeboats and liferafts. The handflare is suitable for use on other commercial and recreational boats.

Also available is the Comet White Collision Warn-off Handflare which is for use day or night when a collision danger exists or for the illumination of small areas outside. (Art No. 9162500).

SPECIFICATIONS

Length	175mm (6.9 in)
Length with handle pulled out	280mm (11 in)
Diameter	28mm (1.1 in)
Weight Max	176g (6.2 oz)
Light intensity	15,000 cd.
Burning time	60 seconds
Colour of light	Red
Ignition	Pull-wire

SHIPPING INFORMATION

Part Code	9162800
UN Number	0191
Proper Shipping Name	Signal Devices, Hand
Quantity per Box	100
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	6.3kg
Gross Weight	18.20kg
Volume	m ³

APPROVALS

Conforms to: SOLAS 74 as amended, IMO resolution MSC. 81(70) Part 1, (MED) 96/98/EC, BGV 426.004, BAM - P1-0594, 0589-P1-0617, USCG and other major maritime authorities worldwide.

Red Parachute Signal Rocket



The Comet Red Parachute Signal Rocket conforms to SOLAS 74 as amended.

APPLICATION

A day or night long-range distress signal. 12 may be carried on ships bridge and there is a requirement for 4 in ships lifeboats and liferafts. Also suitable for use in other commercial and recreational boats.

Designed to withstand exceptional environmental exposure and to perform reliably even after immersion in water, the pull wire ignitor and improved grip provides easy handling. Ejecting a red flare suspended on a parachute at 300m (1000ft), burning for 40 seconds at 30,000 candela.

SPECIFICATIONS

Length	287mm (11.3 in)
Diameter at Handle	38mm (1.5 in)
Diameter	32mm (1.25 in)
Weight Max.	245g (8.23 oz)
Light Intensity	30.000 candela
Burning Time	40 sec.
Colour of Light	Red
Ignition	Pull-wire ignitor
Altitude	300m (985 ft)

SHIPPING INFORMATION

Part Code	9163200
UN Number	0505
Proper Shipping Name	Signals, Distress, Ship
Quantity per Box	56
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	5.152kg
Gross Weight	16.3kg
Volume	0.048m ³

Smoke Signal Orange



The Smoke Signal Orange is a compact, daylight distress signal designed to be easy and safe to handle.

It provides effective position marking during rescue operations and can be used to indicate wind direction, producing dense orange smoke for a minimum of 3 minutes.

APPLICATION

- Day and night signal attached to 4kg lifebuoy and used in an emergency to mark the position of man overboard.
- Provides 15 minutes of dense orange smoke.
- Far exceeds SOLAS requirements of 2 hours at 2 candela for light output and duration.
- Safe to use on petrol or oil covered water.
- Lithium batteries sealed for life - no annual replacement.
- Screw fit, inversion switched, LED light units.
- Automatic or manual deployment.
- Universal stainless steel mounting bracket. Usually mounted on a ships bridge wing
- Approved mounting height: 56m - but manufacturer tested to survive 100m drop into water. (SOLAS only requires 30m).
- Ideal for use on ships or rigs with high freeboard.

SPECIFICATIONS

Height	114 mm (4.5 in)
Diameter	382 mm (3.2 in)
Gross Weight	Max. 370g (13.05 oz)
NEC Max.	239g (8.43 oz)
Burning Time	3 minutes minimum
Colour of Smoke	Orange
Ignition	Percussion ignitor with 2 seconds safety delay

SHIPPING INFORMATION

Part Code	9192000
UN Number	0507
Proper Shipping Name	Signals, Smoke
Quantity per Box	24
Box Type	Fibreboard
Hazard Class	1.4S
NEQ	5.736kg
Gross Weight	9.40kg
Volume	-m ³

STORAGE

This compact unit is ideally stored in a water-resistant locker at ambient temperature allowing easy access in an emergency or in the robust, specially designed polybottle.

APPROVALS

Conforms to SOLAS 74 as amended, Res. MSC 81 (70).
 Approvals: CE 0589, BAM-P1-0191, 0589-P1-0324, BGV MED 423.008, USCG 160.122./21/0, 160.022/21/0, and other major maritime authorities worldwide.

Signal Distress Day & Night



The Signal Distress Day & Night is designed as a compact personal distress signal for naval divers and aircrew.

APPLICATION

Distress signalling for day and night use when compact and easy to use signal is required.

It should be carried in any situation where a robust and waterproof personal distress signal may be required. The Signal Distress Day & Night is particularly suitable as a signal for divers who may accidentally surface away from their support craft. Waterproof down to 30 metres, it has a corrosion resistant case with 'O' ring sealing.

This dual-purpose signal consists of an orange smoke signal at one end for use by day and a red flare at the other end for use at night. Protected by interchangeable end caps, the signal has tactile ribs at the flare end to aid identification by night. The smoke and flare are operated independently and use of one does not affect the functioning of the other at a later time. The signal is visible from at least 5km by day and 8km by night in good conditions.

SPECIFICATIONS

Flare Burn Time	17-25 seconds minimum
Light Intensity	10,000 candela average
Smoke Burn Time	15-25 seconds minimum
Overall Weight	0.235kg
NEQ	0.090kg

SHIPPING INFORMATION

Part Code	A354
UN Number	0191
Proper Shipping Name	Signal Devices, Hand
Quantity per Box	120
Box Type	Plywood
Hazard Class	1.4G
NEQ	10.80kg
Gross Weight	34.00kg
Volume	0.048m ³

Miniflare No1 Mk 3



The Miniflare signal kit provides an individual with a means of signalling.

APPLICATION

The Miniflare provides high intensity localised signalling for all applications including: pinpoint location, aircraft warn-off signals, and personal survival.

Being compact, the kit can be carried unobtrusively in operational clothing or in aircraft survival packs.

SPECIFICATIONS

Deployment Height (Vertical)	75m minimum
Burn Time	4 seconds minimum Above 50MT
Overall Weight	230g nominal 184g nominal (Without Penjector)
NEQ	0.035kg per kit nominal
Dimensions	159mm x 60mm x 21mm

SHIPPING INFORMATION

Part Code	White:	H121
	Red:	H122
	Green:	H123
	Mix (4R, 2W, 2G):	H125
	Mix (3R, 2W, 3G):	H126
	Mix (4R, 4G):	H127
UN Number	0312	
Proper Shipping Name	Cartridges, Signal	
Also available with yellow fabric wrap: H132		
Quantity per Box	30	
Box Type	M2A1	
Hazard Class	1.4G	
NEQ	1.07kg	
Gross Weight	10.70kg	
Volume	0.009m ³	

Marine Sound Signal



The D296 Marine Sound Signal is a hydrostatically operated, explosive device for improving communications from surface to submarine in difficult conditions.

APPLICATION

The D296 Marine Sound Signal produces an audible underwater signal at up to 1800 metres in still water.

It can be deployed from ships or helicopters from heights of up to 150 metres above sea-level at indicated wind speeds up to 130 knots.

The device explodes under hydrostatic pressure emitting a distinct signal clearly discernible by a submarine at depth. Operation is simple and several safety features are incorporated which reduce danger to personnel and craft. The signal is of robust, metal construction.

SPECIFICATIONS

Diameter	67mm
Length	152mm
Explosive Charge	32g composition A5
Initiation	Detonator
Power Source	Alkaline Battery

SHIPPING INFORMATION

Part Code	D296
UN Number	0375
Proper Shipping Name	Sounding Devices, Explosive
Quantity per Box	10
Box Type	Metal
Hazard Class	1.2D
NEQ	0.32kg
Gross Weight	17.5kg
Volume	0.033m ³

Diver Recall Signal



The S294 Diver Recall Signal produces an audible underwater signal with a range of up to 200m in still water.

APPLICATION

The device is a plastic cylindrical assembly containing a hydrostatically operated firing mechanism which will function at a water depth of 7m and initiate a pyrotechnic composition. The firing mechanism is locked in the safe position by a screwed cap located on the end of the signal.

It has no radio hazard risk as it is not electrically initiated. The S294 Diver Recall Signal is designed as an emergency signal to divers to either surface or return to the support vessel.

SPECIFICATIONS

Diameter	42mm
Length	240mm
Weight	0.475kg
NEQ	0.006kg

SHIPPING INFORMATION

Part Code	S294
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	9
Box Type	Metal (M2A1)
Hazard Class	1.4G
NEQ	0.054kg
Gross Weight	7.5kg
Volume	0.009m ³

19mm Signal Cartridge Single Star - Red, Green, White



The 19mm Signal Cartridge is fired from the HK EFL 19 Flare Launcher and provides short range signalling and illumination.

APPLICATION

Communications between combat forces and battlefield reconnaissance at night are essential elements in operations. The 19mm Signal Cartridges offer an independent means for this purpose and is also used as personnel distress signal.

For special fore field illumination missions, the single star is also available with near infrared light.

CHARACTERISTICS

- Red:** Emergency signal, tangible mark at the top = full edge
Green: General signal e.g. position cleared, tangible mark at the top, = edge with 4 grooves
White: Short illumination of fore field, tangible mark at the top = edge with 3 grooves

SPECIFICATIONS

Calibre	19mm
Length	37mm
Weight	17g
Flare Burning Time	6 + / - 1 sec.
Altitude (Firing Angle 90°)	60 to 30m
NEQ each Cartridge	8.6g
Light Intensity Peak for Colours	Red: > 10,000 cd Green: > 3,000 cd White: > 10,000 cd

SHIPPING INFORMATION

Part Code	Red	9176300
	Green	9176600
	White	9176500
UN Number	0054	
Proper Shipping Name	Cartridges, Signal	
Quantity per Box	1000	
Box Type	Fibreboard	
Hazard Class	1.3G	
NEQ	68.1kg	
Gross Weight	30kg	
Volume	0.067m ³	

26.5mm Signal Cartridge, Single Star Red, White, Green, Yellow, Flash Bang



The 26.5mm Signal Cartridges offer a self-sufficient means for signalling and illumination purpose.

APPLICATION

Communications between combat forces and battlefield reconnaissance at night are essential elements in operations. The 26.5mm Signal Cartridge is used for short range signalling and for illumination purpose.

CHARACTERISTICS

Red: Red cap and full edging, signal for emergency

White: White cap and half edging, signal and short illumination of fore field.

Green: Green cap and no edging, signal

Yellow: Yellow cap and half edging, signal and short illumination of fore field.

Brown: Brown cap and no edging, firing of an acoustical and optical signal (flash bang).

SPECIFICATIONS

Calibre	26.5mm
Length	82mm
Weight	50g (Red & Green), 58g (White & Yellow), 60g (Flash Bang)
Cartridge Case	Aluminium
Flare Burning Time	~ 8 sec. (No. 9122000 - 9122300)
Altitude (Firing Angle 90°)	≥ 100 (firing angle 90°)
Light Intensity Peak for Colours	Red: > 30,000 cd White:> 40,000 cd Green:> 10,000 cd Yellow:> 4000 cd
	Flash Bang: Bright flash and a bang of 170 dB (measured at 3m distance and 1m above ground)

SHIPPING INFORMATION

Part Code	Red: 9122000 White: 9122100 Green: 9122200 Yellow: 9122300 Flash Bang: 9122500
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	44
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	6.86kg
Gross Weight	23.10kg
Volume	0.054m ³

26.5mm Signal Cartridge

Single Star Red, Green, Yellow, White



The 26.5 mm Signal Cartridges offer a self-sufficient means for signalling and illumination purpose.

APPLICATION

Communication between combat forces and battlefield reconnaissance at night are essential elements in operations. The 26.5mm Signal Cartridge is used for short range signalling and for illumination purpose.

CHARACTERISTICS

Red: Red body and full edging, signal for emergency

Green: Green body and no edging - used as signal

Yellow: Yellow body and half edging - used as signal and short illumination of fore field

White: White body and half edging used as signal and short illumination of fore field

SPECIFICATIONS

Calibre	26.5mm
Length	82mm
Weight	37.5g (Red) 38.5g (Green & Yellow) 49g (White)
Cartridge Case	Plastic
Flare Burning Time	~ 8 sec.
Altitude (Firing Angle 90°)	100 ± 20m (firing angle 90°)
NEQ each Cartridge	15g (Red), 18g (Green), 18g (Yellow) 26g (White)
Light Intensity Peak for Colours	Red: > 30,000 cd Green: > 10,000 cd Yellow: > 40,000 cd White: > 40,000 cd

SHIPPING INFORMATION

Part Code	Red: 9182000 Green: 9182200 Yellow: 9182300 White: 9182100
UN Number	00312
Proper Shipping Name	Cartridges, signal
Quantity per Box	250
Box Type	Plywood
Hazard Class	1.4G
NEQ	3.75kg Red 4.5kg Green 4.5kg Yellow 6.6kg White
Gross Weight	10.3kg Red 10.6kg Green 10.6kg Yellow 13.2kg White
Volume	0.027m ³

38mm Signal Cartridge, Single Star Red, Green, White, Yellow



The 38mm Signal Cartridge is generally fired from a 1.5 inch Very pistol and provides short range signalling and illumination both in white and infra-red light.

Available for long distance visibility more than 3.2km. (2 miles) during the day, and more than 6.5km. (4 miles) at night with clear vision.

APPLICATION

Communication between combat forces and battlefield reconnaissance at night are essential elements in operations. The 38mm Signal cartridges offer an independent means for this purpose and is also used as distress signal (colour red).

CHARACTERISTICS

- Red:** Emergency signal, tangible mark at top of cartridge = Cross +
- Green:** General signal for communication purpose, tangible mark at top of cartridge = Triangle Δ
- White:** General signal for communication purpose, tangible mark at the top of cartridge = Dot -
- Yellow:** General signal for communication purpose, tangible mark at the top of cartridge = Dot •

SPECIFICATIONS

Calibre	38mm (1.5 inch)
Length	70mm
Weight	125g
Cartridge Case	Aluminium
Flare Burning Time	7 \pm 1.5 sec.
Altitude (Firing Angle 90°)	90 \pm 25m
NEQ each Cartridge	41,5g (Red), 49,5g (Green), 49,5g (White) 45,5g (Yellow)
Light Intensity Peak for Colours	Red: > 40,000 cd Green: > 30,000 cd White: > 70,000 cd Yellow: > 100,000 cd

SHIPPING INFORMATION

Part Code	Red: 9180600 Green: 9180500 White: 9180700 Yellow: 9180800
UN Number	0054
Proper Shipping Name	Cartridges, signal
Quantity per Box	300
Box Type	wooden box
Hazard Class	1.3G
NEM	12.5kg Red 14.9kg Green 14.9kg White 13.7kg Yellow
Gross Weight	60kg
Volume	0.168m ³

38mm Signal Cartridge, 2-Star Red, Green, White, Yellow



The 38mm Signal Cartridge is generally fired from a 1.5 inch Very pistol and provides short range signalling and illumination both in white and infra-red light.

Available for long distance visibility more than 3.2km. (2 miles) during the day, and more than 6.5km. (4 miles) at night with clear vision.

APPLICATION

Communication between combat forces and battlefield reconnaissance at night are essential elements in operations. The 38mm Signal cartridges offer an independent means for this purpose and is also used as distress signal (colour red).

CHARACTERISTICS

- Red:** Emergency signal, tangible mark at top of cartridge = Cross +
- Green:** General signal for communication purpose, tangible mark at top of cartridge = Triangle Δ
- White:** General signal for communication purpose, tangible mark at the of cartridge = Dot -
- Yellow:** General signal for communication purpose, tangible mark at the of cartridge = Dot •

SPECIFICATIONS

Calibre	38mm (1.5 inch)
Length	97mm
Weight	125g
Cartridge Case	Aluminium
Flare Burning Time	7 ±1.5 sec.
Altitude (Firing Angle 90°)	90 ± 25m
NEQ each Cartridge	483.0g (Red), 99.0g (Green), 91.0g (Yellow), 99.0g (White)
Light Intensity Peak for Colours	Red: > 40,000 cd Green: > 30,000 cd White: > 70,000 cd Yellow: > 100,000 cd

SHIPPING INFORMATION

Part Code	Red: 9180600 Green: 9180500 White: 9180700 Yellow: 9180800
UN Number	0312
Proper Shipping Name	Cartridges, signal
Quantity per Box	300
Box Type	Wooden
Hazard Class	1.4G
NEQ	24.9kg Red 29.7kg Green 29.7kg White 27.3kg Yellow
Gross Weight	73kg
Volume	0.168m ³

Parachute Signal Cartridge, Yellow



The 26.5mm Parachute Signal Cartridge is used for medium range signalling.

APPLICATION

Efficient reconnaissance is essential during night operations of ground forces. The Parachute Signal Cartridge, green provides visibility during night missions.

SPECIFICATIONS

Length	150mm
Diameter	26.5mm
Overall Weight	ca. 107g
Cartridge Case	Aluminium
Burn Time	> 12 sec.
Altitude (Firing Angle 90°)	70m +/-15m
Light Intensity Peak: Yellowy White	> 25.000 cd
Operational Temperature	-33°C to +44°C

SHIPPING INFORMATION

Part Code	9155300
UN Number	0054
Proper Shipping Name	Cartridges, signal
Quantity per Box	500
Box Type	Wooden
Hazard Class	1.3G
NEQ	17.6kg
Gross Weight	69.0kg
Volume	0.105m ³

Parachute Signal Cartridge, Green



The 26.5mm Parachute Signal Cartridge is used for medium range signalling.

APPLICATION

Efficient reconnaissance is essential during night operations of ground forces. The Parachute Signal Cartridge, green provides visibility during night missions.

CHARACTERISTICS

Green cap and half edging

SPECIFICATIONS

Length	150mm
Diameter	26.5mm
Overall Weight	ca. 107g
Cartridge Case	Aluminium
Burn Time	> 12 sec
Altitude (Firing Angle 90°)	70m +/-15m
Light Intensity Peak	Green > 5.000 cd
Operational Temperature	-33°C to +44°C

SHIPPING INFORMATION

Part Code	9155300
UN Number	0054
Proper Shipping Name	Cartridges, signal
Quantity per Box	500
Box Type	Wooden
Hazard Class	1.3G
NEQ	17.6kg
Gross Weight	69.0kg
Volume	0.105m ³

Parachute Signal Cartridge, Red



The 26.5mm Parachute Signal Cartridge is used for medium range signaling.

APPLICATION

Efficient reconnaissance is essential during night operations of ground forces. The Parachute Signal Cartridge, red provides visibility during night missions.

CHARACTERISTICS

Red cap and half edging.

SPECIFICATIONS

Length	150mm
Diameter	26.5mm
Overall Weight	ca. 107g
Cartridge Case	Aluminium
Burn Time	> 12 secg
Altitude (Firing Angle 90°)	70m +/-15m
Light Intensity Peak	Red > 15.000 cd
Operational Temperature	-33°C to +44°C

SHIPPING INFORMATION

Part Code	9155200
UN Number	0054
Proper Shipping Name	Cartridges, signal
Quantity per Box	500
Box Type	Wooden
Hazard Class	1.3G
NEQ	6.86kg
Gross Weight	69.0kg
Volume	0.105m ³

Salute Cartridge



The Salute Cartridge consists of an outer casing either from aluminium and is loaded with a flash/sound composition and hermetically sealed at the top of the cartridge case.

APPLICATION

Announcement of sunrise and sunset during the Ramadan in Islamic countries.

Also used for international morning/evening colours and welcoming ceremonies.

Upon ignition the composition will combust with a loud noise 169 dB (A).

SPECIFICATIONS

Length	180mm
Diameter	75mm
Weight	650g
Material	Aluminium
Sound Level	169 dB (A)

SHIPPING INFORMATION

Part Code	9240100
UN Number	0327
Proper Shipping Name	Cartridges for weapons, blank
Quantity per Box	12
Box Type	Wooden
Hazard Class	1.3C
NEQ	1.3kg
Gross Weight	19.5kg
Volume	0.05m ³

Standard Military Rocket Para Illumination



This Compact Illumination Rocket is reduced in weight and size and is a light source which produces sufficient light to illuminate areas of terrain.

APPLICATION

For use in any situation where illumination is required. The rocket is fired at an elevation of 90°.

This enables random surveillance to reveal enemy movement in the open, ambush situations to reveal targets or as target illuminators for weapon systems. The Rocket ejects a white flare at 300m (1000 ft), which burns for 30 seconds at 90,000 candela.

SPECIFICATIONS

Length	295mm
Diameter at Handle	38mm
Diameter	32mm
Weight	270g
Net Explosive Content	94g
Light Intensity	90,000cd
Burn Time	30 sec.
Colour of Light	White
Ignition	pull-wire
Altitude	300m

SHIPPING INFORMATION

Part Code	9123600
UN Number	0505
Proper Shipping Name	Signals, Distress, Ship
Quantity per Box	56
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	5.15kg
Gross Weight	17.2kg
Volume	0.048m ³

Smoke Tracer, Orange



The 26.5mm Parachute Signal Cartridge is used for medium range signalling.

APPLICATION

Efficient signalling during day-time operations for ground forces. The Signal Cartridge provides a visible orange smoke trail.

CHARACTERISTICS

Orange cap and round edging.

SPECIFICATIONS

Length	150mm
Diameter	26.5mm
Overall Weight	ca. 80 g
Cartridge Case	Aluminium
Burn Time	> 5 sec
Altitude (Firing Angle 90°)	130m +/- 15m
Light Intensity Peak	Yellowish White > 25.000 cd
Operational Temperature	-33°C to +44°C

SHIPPING INFORMATION

Part Code	9125100
UN Number	0054
Proper Shipping Name	Cartridges, signal
Quantity per Box	500
Box Type	Wooden
Hazard Class	1.3G
NEQ	10.6kg
Gross Weight	tba
Volume	0.105m ³

Green Parachute Signal Rocket




This Compact Rocket is reduced in weight and size is used for medium range signalling.

APPLICATION

Efficient reconnaissance is essential during night operations of ground forces. The Parachute Signal Cartridge, green provides visibility during night missions.

The Rocket ejects a green flare at 300m (1000 ft), which burns for 30 seconds at 10,000 candela.

SPECIFICATIONS

Length	287mm
Diameter at Handle	38mm
Diameter	32mm
Weight	260g
Net explosive content	92g
Light Intensity	10,000cd
Burn Time	30 sec.
Colour of Light	Green
Ignition	Pull-wire
Altitude	300m

SHIPPING INFORMATION

Part Code	9153300
UN Number	0505
Proper Shipping Name	Signals, Distress, Ship
Quantity per Box	56
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	5.15kg
Gross Weight	17.2kg
Volume	0.048m ³

Yellow Parachute Signal Rocket



This Compact Rocket is reduced in weight and size and is a light source which produces sufficient light to illuminate areas of terrain.

APPLICATION

For use in any situation where illumination is required.

The rocket is fired at an elevation of 90°.

- Identification and engagement
- Internal security and counter insurgency operations

This enables random surveillance to reveal enemy movement in the open, ambush situations to reveal targets or as target illuminators for weapon systems. The Rocket ejects a white flare at 300m (1000 ft), which burns for 30 seconds at 80,000 candela.

SPECIFICATIONS

Length	287mm
Diameter at Handle	38mm
Diameter	32mm
Weight	260g
Net Explosive Content	92g
Light Intensity	80,000cd
Burn Time	30 sec.
Colour of Light	Yellow
Ignition	Pull-wire
Altitude	300m

SHIPPING INFORMATION

Part Code	9153700
UN Number	0505
Proper Shipping Name	Signals, Distress, Ship
Quantity per Box	56
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	5.15kg
Gross Weight	217.2kg
Volume	0.048m ³

Rocket Hand Fired Cluster, - Red / White / Green



The Rocket Hand Fired Cluster is equipped with a standard rocket propellant which reliably carries the payload in the fired direction.

APPLICATION

Efficient reconnaissance is essential during night operations of ground forces. The Rocket Hand Fired Single Star Yellow, provides visibility during night missions and the Single Star Red offers signalling during said operations.

At the apex of the flightpath, a cluster of four either white (illumination) or red (signalling) will be expelled from the rocket.

SPECIFICATIONS

Length	287mm
Diameter	32mm
Diameter at Handle	38mm
Weight	260g nominal
Burning Time	5 sec. nominal
Light Colour	Red, White, Green
Ignition Method	Pull-wire

SHIPPING INFORMATION

Part Code	9163300 Red 9163400 White 9163500 Green
UN Number	0505
Proper Shipping Name	Signals, Distress, Ship
Quantity per Box	28
Box Type	4G
Hazard Class	1.4S
NEQ	92kg
Gross Weight	17.0kg
Volume	0.022m ³

Rocket Hand Fired Single Star

- Red / Green / Yellow



The Rocket Hand Fired Single Star is equipped with a standard rocket propellant which reliably carries the payload in the fired direction.

APPLICATION

Efficient reconnaissance is essential during night operations of ground forces. The Rocket Hand Fired Single Star Yellow, provides visibility during night missions and the Single Star Red offers signalling during said operations.

At the apex of the flightpath, either a yellow star (illumination) or red (signalling) will be expelled from the rocket.

SPECIFICATIONS

Length	287mm
Diameter	32mm
Diameter at Handle	38mm
Weight	Approx. 245g
Burning Time	> 10 sec.
Light Colour	Red, Green, Yellow
Ignition Method	Pull-wire
Flare Altitude at 90°	300m
Light Intensity	Red > 30,000 cd Green > 10,000 cd Yellow > 40,000 cd

SHIPPING INFORMATION

Part Code	9163600 Red 9163800 Green 9163700 Yellow
UN Number	0297
Proper Shipping Name	Ammunition, Illuminating
Quantity per Box	24
Box Type	4A
Hazard Class	1.4G
NEQ	2.20kg
Gross Weight	19.0kg
Volume	0.012m ³

38mm Parachute Illumination Rocket



The construction of the parachute illumination rocket fully complies with the particular requirements especially for military engagements.

APPLICATION

- Illumination of the fore field.
- Illumination during search and rescue operations.
- Signalling purpose.

Smokeless burning of the rocket propellant.

The firing mechanism (rotating cap ignition) guarantees:

- Simple and safe operation
- Quick readiness; removal of safety pin, firing is effected by turning of the rotating cap
- Aimed firing towards objects to be illuminated

SPECIFICATIONS

Length	300mm
Diameter	44mm
Diameter at Rotating Cap	52mm
Weight	Approx. 550g
Material	Launching tube: high impact polystyrene
Recoil	<500 N
Altitude at Firing Angle 90°	400m
Altitude at Firing Angle 40°	200m
Range	400m
Burning Time	Up to 30 sec.
Light Intensity	Up to 200,000 cd
Illumination	3,75 lux in the illuminated area

SHIPPING INFORMATION

Part Code	9126200
UN Number	0257
Proper Shipping Name	Cartridges, Signal
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	0.144kg
Gross Weight	24.7kg

Smoke Grenade, Coloured, 30 sec



The smoke grenade consists of a cylindrical body filled with a smoke composition which is ignited by the next generation of a fly-off lever igniter.

APPLICATION

Smoke Grenades provide combat forces with a means of communication / signalling during daylight. Besides individual signalling codes, smoke grenades are used, for example, as indicator for wind direction on helicopter landing zones or marking of drop zones.

Its outstanding design fulfils STANAG 4497 (Hand-Emplaced Munitions) which means no stored energy in the ignition chain. In the unlikely case the grenade was armed but not used, it can be disarmed again easily.

Upon ignition the smoke grenade will produce a dense coloured smoke over the specified period.

SPECIFICATIONS

Length	131mm
Diameter	55mm
Weight	Approx. 246g
Smoke Burning Time	Nominal 30 sec
Delay Time	2,5 ±1 sec
Colours	Orange, Green, Violet, Red, Yellow, White, Blue
Operational Temperature	-33°C to +71°C
Net Explosive Mass	Approx. 130g

SHIPPING INFORMATION

Part Code	9197600 (Orange) 9197700 (Green) 9197800 (Violet) 9197900 (Red) 9198000 (Yellow) 9198100 (White) 9198200 (Blue)
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	20
Box Type	Steel
Hazard Class	1.4G
NEQ	2.6kg
Gross Weight	8.1kg
Volume	0.012m ³

Smoke Grenade, Coloured, 60 sec



The smoke grenade consists of a cylindrical body filled with a smoke composition which is ignited by the next generation of a fly-off lever igniter.

APPLICATION

Smoke Grenades provide combat forces with a means of communication / signalling during daylight. Besides individual signalling codes, smoke grenades are used, for example, as indicator for wind direction on helicopter landing zones or marking of drop zones.

Its outstanding design fulfils STANAG 4497 (Hand-Emplaced Munitions) which means no stored energy in the ignition chain. In the unlikely case the grenade was armed but not used, it can be disarmed again easily.

Upon ignition the smoke grenade will produce a dense coloured smoke over the specified period.

SPECIFICATIONS

Length	131mm
Diameter	55mm
Weight	Approx. 246g
Smoke Burning Time	Nominal 60 sec
Delay Time	2,5 ±1 sec
Colours	Orange, Green, Violet, Red, Yellow, White, Blue
Operational Temperature	-33°C to +71°C
Net Explosive Mass	Approx. 130g

SHIPPING INFORMATION

Part Code	9194800 (Orange) 9194900 (Green) 9195000 (Violet) 9195400 (Red) 9195100 (Yellow) 9195200 (White) 9195300 (Blue)
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	20
Box Type	Steel
Hazard Class	1.4G
NEQ	2.6kg
Gross Weight	8.1kg
Volume	0.012m ³

Smoke Grenade, Coloured, 90 sec



The smoke grenade consists of a cylindrical body filled with a smoke composition which is ignited by the next generation of a fly-off lever igniter.

APPLICATION

Smoke Grenades provide combat forces with a means of communication / signalling during daylight. Besides individual signalling codes, smoke grenades are used, for example, as indicator for wind direction on helicopter landing zones or marking of drop zones.

Its outstanding design fulfils STANAG 4497 (Hand-Emplaced Munitions) which means no stored energy in the ignition chain. In the unlikely case the grenade was armed but not used, it can be disarmed again easily.

Upon ignition the smoke grenade will produce a dense coloured smoke over the specified period.

SPECIFICATIONS

Length	131mm
Diameter	55mm
Weight	Approx. 246g
Smoke Burning Time	Nominal 30 sec
Delay Time	2,5 ±1 sec
Colours	Orange, Green, Violet, Red, Yellow, White, Blue
Operational Temperature	-33°C to +71°C
Net Explosive Mass	Approx. 130g

SHIPPING INFORMATION

Part Code	9195500 (Orange) 9195600 (Green) 9195700 (Violet) 9196100 (Red) 9195800 (Yellow) 9195900 (White) 9196000 (Blue)
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	20
Box Type	Steel
Hazard Class	1.4G
NEQ	2.6kg
Gross Weight	8.1kg
Volume	0.012m ³

Hand Grenade, Coloured Smoke



The smoke grenade consists of a cylindrical body filled with a smoke composition which is ignited by a fly-off-igniter, which is integrated into the closure lid of the grenade.

APPLICATION

Smoke grenades provide to combat forces a means of communication and signalling during daylight. Besides individual signalling codes smoke grenades are used to mark e.g. landing zones with the indication of wind for helicopter pilots.

Upon ignition the smoke grenade will produce a dense coloured smoke over the specified period.

SPECIFICATIONS

Length	135mm
Diameter	60mm
Weight	600g
Burning Time	60 sec.
Net Explosive Mass	Approx. 150 gram
Colours	Blue, Yellow, Green, Red, Violet, White, Orange

SHIPPING INFORMATION

Part Code	tbd.
UN Number	tbd.
Proper Shipping Name	Signals, Smoke
Quantity per Box	14
Hazard Class	1.4G
NEQ	2.1kg
Gross Weight	4.2kg
Volume	0.012m ³

Series Signal Smoke Parachutist



The Parasmoke is specifically designed for use by parachutists to mark their descent course during training and exhibition displays.

APPLICATION

Used primarily for the enhancement of parachuting displays, but can be used as a smoke generator in any situation where a large volume of coloured smoke is required.

SPECIFICATIONS

Burn Time	Minimum of 40 seconds
Delay to Effective Smoke	2.7 - 4.5 seconds
Height	158mm
Diameter	85mm
Gross Weight	0.75kg
NEQ	0.37kg

SHIPPING INFORMATION

Part Code	Red:	B801
	Blue:	B802
	Green:	B803
	Yellow:	B804
	Orange:	B805
	White:	B806
UN Number	0432	
Proper Shipping Name	Articles, Pyrotechnic	
Quantity per Box	32	
Box Type	Plywood	
Hazard Class	1.4S	
NEQ	11.84kg	
Gross Weight	28.50kg	
Volume	0.052m ³	

26.5mm Signal Cartridges



The 26.5mm Signal Cartridge is used in the role of medium range signalling and illumination.

APPLICATION

The 26.5mm Signal Cartridge provides high intensity localised signalling for ground and sea operations. May be carried in aircraft for safety. They have been designed to withstand world-wide environmental conditions, they are robust, weatherproof and extremely reliable.

The Cartridge Signal 26.5mm comprises two main parts, the outer body and the flare assembly.

SPECIFICATIONS

Burn Time	6-9 seconds
Star Height	75 metres minimum
Height	68.0mm
Diameter	26.5mm
Gross Weight	0.047kg minimum
NEQ	0.022kg minimum

Weights may vary dependant on colour of star.

SHIPPING INFORMATION

Part Code	Illuminating: H201 Red: H202 Green: H203 Yellow: H204 White: H208
UN Number	0054
Proper Shipping Name	Cartridges, Signal
Quantity per Box	240
Box Type	Plywood
Hazard Class	1.3G
NEQ	H201: 6.02kg H202-H203: 5.52kg H204-H208: 5.04kg
Gross Weight	H201: 16.50kg H202: 16.50kg H203: 16.50kg H204: 15.50kg H208: 15.50kg
Volume	0.034m ³

38mm Coloured Smoke Cartridges



The 38mm Signal Cartridge is used in the role of long range signalling.

APPLICATION

The 38mm Signal Cartridges provide intense localised signalling for ground operations. They may safely be carried in aircraft if required. They have been designed to withstand world-wide environmental conditions, they are robust, weatherproof and extremely reliable.

The Cartridge Signal 38mm comprises two main parts, the outer body and the smoke assembly.

SPECIFICATIONS

Range	80-140m
Burn Time	30 seconds
Height	122mm
Diameter	38mm
Overall Weight	145g nominal
NEQ	50g nominal

SHIPPING INFORMATION

Part Code	Red:	H301
	White:	H302
	Green:	H303
	Blue:	H304
	Yellow:	H305
	Purple:	H306
	Orange:	H307
UN Number	0303	
Proper Shipping Name	Ammunition, Smoke	
Quantity per Box	130	
Box Type	Plywood	
Hazard Class	1.4G	
NEQ	6.37kg	
Gross Weight	18.85kg	
Volume	0.048m ³	

38mm Signal Cartridges



The 38mm Signal Cartridge is used in the role of medium range signalling and illumination.

APPLICATION

The 38mm Signal Cartridge provides high intensity localised signalling for ground and sea operations.

May be carried in aircraft for safety. They have been designed to withstand world-wide environmental conditions, they are robust, weatherproof and extremely reliable.

The Cartridge Signal 38mm comprises two main parts, the outer body and the flare assembly.

SPECIFICATIONS

Burn Time	6-9 seconds
Star Height	75 metres minimum
Height	70mm
Diameter	38mm
NEQ	30g minimum
Overall Weight	Between 80g and 100g depending on colour

SHIPPING INFORMATION

Code	Illuminating: H401 Red: H402 Green: H403 Yellow: H404 White: H408
UN Number	0054
Proper Shipping Name	Cartridges, Signal
Quantity per Box	180
Box Type	Plywood
Hazard Class	1.3G
NEQ	H401-H402: 6.84kg H403: 5.4kg H404-H408: 7.56kg
Gross Weight	24.28kg
Volume	0.048m ³

40mm Coloured Smoke Cartridges



The 40mm Signal Cartridge is used in the role of long range signalling.

APPLICATION

The 40mm Signal Cartridges provide intense localised signalling for ground operations. They may safely be carried in aircraft if required. They have been designed to withstand world-wide environmental conditions, they are robust, weatherproof and extremely reliable.

The Cartridge Signal 40mm comprises two main parts, the outer body and the flare assembly.

SPECIFICATIONS

Range	80-140m
Burn Time	30 seconds
Height	122mm
Diameter	40mm
Overall Weight	145g nominal
NEQ	50g nominal

SHIPPING INFORMATION

Part Code	Red:	H501
	White:	H502
	Green:	H503
	Blue:	H504
	Yellow:	H505
	Purple:	H506
	Orange:	H507
UN Number	0303	
Proper Shipping Name	Ammunition, Smoke	
Quantity per Box	24	
Box Type	Metal M2A1	
Hazard Class	1.4G	
NEQ	1.20kg	
Gross Weight	7.33kg	
Volume	0.009m ³	

40mm Cartridge Buoyant Smoke Orange



The Cartridge 40mm Buoyant Smoke Orange has been designed to for use by aircrew to assess wind speed and direction over water when carrying out activities such as shipboard landings, casualty evacuation, and Search & Rescue.

APPLICATION

For use in all situations where aircrews are required to assess the wind speed and direction over water (can also be fired onto soft terrain).

This includes: shipboard landings, casualty evacuation, Search and Rescue, and replenishment at sea.

SPECIFICATIONS

Projectile Distance	20 metres minimum when fired at 45°
Delay Time	7 seconds minimum
Burn Time	20 seconds minimum
Height	164.50mm
Diameter	38.50mm
Gross Weight	0.183kg
NEQ	0.065kg

SHIPPING INFORMATION

Part Code	H621
UN Number	0303
Proper Shipping Name	Ammunition, Smoke
Quantity per Box	72
Box Type	Plywood
Hazard Class	1.4G
NEQ	4.68kg
Gross Weight	21.30kg
Volume	0.043m ³

Rocket Hand-fired Parachute Illuminating



The J301 Rocket Hand-fired Parachute Illuminating is a light source which produces sufficient light to illuminate areas of terrain.

APPLICATION

For use in any situation where illumination is required. The rocket is fired at an elevation of between 45° and 90° dependant on wind speed and is suitable for identification and engagement and internal security and counter insurgency operations.

This enables random surveillance to reveal enemy movement in the open, ambush situations to reveal targets or as target illuminators for weapon systems.

SPECIFICATIONS

Deployment Height	200m nominal when fired at 45° 300m minimum when fired AT 90°
Ground range at 45°	300m nominal
Flare Burn Time	30 seconds nominal
Overall Weight	0.425kg nominal
NEM	0.130kg nominal
Light Intensity	100,000 candela nominal

SHIPPING INFORMATION

Part Code	J301
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	44
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	5.72kg
Gross Weight	23.10kg
Volume	0.054m ³

Rocket Hand-fired Parachute Red



The Rocket Hand Fired Parachute Red has been developed for use in any situation where signalling is required.

APPLICATION

All signalling applications where definition and performance of the payload are important will be enhanced by the extra height achieved using a hand-held rocket.

It may be fired at an elevation of between 45° and 90° and provides a suspended flare for general or distress signalling.

SPECIFICATIONS

Deployment Height @90°	300 metres minimum
Flare Burn Time	40 seconds minimum
Light Intensity	30,000 candela nominal
Overall Weight	0.425kg
NEM	0.156 kg
Parachute Descent Rate	< 5m/sec (at 25 km/hr wind speed or less)

SHIPPING INFORMATION

Part Code	J302/A
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	44
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	6.86kg
Gross Weight	23.10kg
Volume	0.054m ³

Rocket Hand-fired Parachute Green



The Rocket Hand Fired Parachute Green has been developed for use in any situation where signalling is required.

APPLICATION

All signalling applications where definition and performance of the payload are important will be enhanced by the extra height achieved using a hand-held rocket.

It may be fired at an elevation of between 45° and 90° and provides a suspended flare for general or distress signalling.

SPECIFICATIONS

Deployment Height @90°	300 metres minimum
Flare Burn Time	30 seconds minimum
Light Intensity	Greater than 20,000 candela
Overall Weight	0.425kg
NEM	0.156 kg
Parachute Descent Rate	< 5m/sec (at 25 km/hr wind speed or less)

SHIPPING INFORMATION

Part Code	J303
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	44
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	6.86kg
Gross Weight	23.10kg
Volume	0.054m ³

Rocket Hand-fired Parachute Radaflare



The Rocket Hand-fired Radaflare provides survivors in inflatable liferafts and other small craft with a means of signalling their position to searching ships and aircraft in adverse visibility conditions.

APPLICATION

Radaflare can be used in a variety of situations including: distress signalling, radar confusion, radar training and testing, terrain mapping, radar range calibration. The Radaflare red star gives a visual indication of the location of the chaff cloud.

Its dual purpose payload also allows its use in clear conditions.

SPECIFICATIONS

Deployment Height - Vertical	300 meters minimum
Flare burn time	9 seconds minimum
Light Intensity	30,000 candela nominal
Radar visibility ('I' band - 3cm/8-10Ghz)	Minimum of 802 @ 9.3G
NEQ	0.150kg
Overall weight	0.375kg

SHIPPING INFORMATION

Part Code	J401
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	44
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	6.60kg
Gross Weight	16.50kg
Volume	0.054m ³

Coloured Smoke Grenade No.83



The No. 83 coloured smoke grenades meets all hand thrown smoke signalling requirements.

APPLICATION

Ground to air and ground to ground signalling, marking of landing and dropping zones, wind speed and direction indicators, and Land Based Search and Rescue Markers.

Designed to withstand world-wide environmental conditions, they are robust, waterproof and extremely reliable. By employing vivid colours and dense smoke emission for a minimum of 30 seconds, this grenade series provides the optimum signalling performance required by operational troops.

DESCRIPTION

The No 83 coloured smoke grenades consists of an extruded aluminium casing surmounted by a standard flip-off lever ignition system. A single emission port is located centrally at the opposite end. To operate, the twist and pull pin is removed whilst the fly-off lever is held against the grenade body. The striker fires the percussion cap when the fly-off lever is released.

The lever can be fitted with an optional anti FOD (Foreign Object Damage) device to reduce hazard to aircraft.

A one second delay can be fitted on request.

SPECIFICATIONS

Burn Time	Minimum of 30 seconds
Time to First Smoke	Less than 5 seconds
Height (incl Striker Mechanism)	135mm
Height (Grenade Body)	108mm
Diameter	63mm
Gross Weight	0.300kg
NEQ	0.190kg

SHIPPING INFORMATION

Part Code	Red:	N101
	White:	N102
	Green:	N103
	Blue:	N104
	Yellow:	N105
	Purple:	N106
	Orange:	N107
UN Number	0197	
Proper Shipping Name	Signals, Smoke	
Quantity per Box	48	
Box Type	Plywood B1	
Hazard Class	1.4G	
NEQ	9.12kg	
Gross Weight	19.50kg	
Volume	0.048m ³	

Coloured Smoke Grenade No.83 – 60 seconds



The No. 83 coloured smoke grenades have been developed to meet all hand thrown smoke signalling requirements.

APPLICATION

Ground to air and ground to ground signalling, marking of landing and dropping zones, wind speed and direction indicators, and Land Based Search and Rescue Markers.

Designed to withstand world-wide environmental conditions, they are robust, waterproof and extremely reliable. By employing vivid colours and dense smoke emission for a minimum of 60 seconds, this grenade series provides the optimum signalling performance required by operational troops.

SPECIFICATIONS

Burn Time	60 seconds nominal
Length	135mm
Diameter	63mm
Gross Weight	325g nominal
NEM	205g nominal

SHIPPING INFORMATION

Part Code	Red:	N161
	White:	N162
	Green:	N163
	Blue:	N164
	Yellow:	N165
	Purple:	N166
	Orange:	N167
Black:	N169	
UN Number	0197	
Proper Shipping Name	Articles, Pyrotechnics, Signals, Smoke	
Quantity per Box	48	
Box Type	Plywood	
Hazard Class	1.4G	
NEQ	9.84kg	
Gross Weight	21.40kg	
Volume	0.048m ³	

Coloured Smoke Grenade No.83 – 90 seconds



The No. 83 coloured smoke grenades have been developed to meet all hand thrown smoke signalling requirements.

APPLICATION

Ground to air and ground to ground signalling, marking of landing and dropping zones, wind speed and direction indicators, and Land Based Search and Rescue Markers.

Designed to withstand world-wide environmental conditions, they are robust, waterproof and extremely reliable. By employing vivid colours and dense smoke emission for a minimum of 90 seconds, this grenade series provides the optimum signalling performance required by operational troops.

SPECIFICATIONS

Burn Time	Nominal 90 seconds
Time to First Smoke	Less than 5 seconds
Height (incl Striker Mechanism)	135mm
Height (Grenade Body)	108mm
Diameter	63mm
Gross Weight	0.300kg
NEM	0.190kg

SHIPPING INFORMATION

Part Code	Red:	N191
	White:	N192
	Green:	N193
	Blue:	N194
	Yellow:	N195
UN Number	0197	
Proper Shipping Name	Signals, Smoke	
Quantity per Box	48	
Box Type	Plywood	
Hazard Class	1.4G	
NEQ	9.12kg	
Gross Weight	19.20kg	
Volume	0.048m ³	

Grenade Hand Compact Signal Smoke – 30 seconds



The N430 series Grenade Hand Compact Signal Smoke has been designed to withstand world-wide environmental conditions, are robust, waterproof and extremely reliable.

APPLICATION

Ground to air and ground to ground signalling, marking of landing and dropping zones, wind speed and direction indicators.

Provides the optimum signalling performance required by operational troops. Employs a vivid colour and dense smoke emission for 30 seconds minimum.

SPECIFICATIONS

Burn Time	30 seconds minimum
Time to First Smoke	5 seconds max
Height (inc. Striker Mechanism)	128mm
Diameter	55mm or 58 mm including striker
Gross Weight	0.257kg
NEQ	0.109kg

SHIPPING INFORMATION

Part Code	Red:	N431
	White:	N432
	Green:	N433
	Blue:	N434
	Yellow:	N435
	Purple:	N436
	Orange:	N437
UN Number	0197	
Proper Shipping Name	Signals, Smoke	
Quantity per Box	60	
Box Type	Plywood B2	
Hazard Class	1.4G	
NEQ	6.54kg	
Gross Weight	19.22kg	
Volume	0.043m ³	

Grenade Hand Compact Signal Smoke – 45 seconds



The N440/A series Grenade Hand Compact Signal Smoke has been designed to withstand world-wide environmental conditions, are robust, waterproof and extremely reliable.

APPLICATION

Ground to air and ground to ground signalling, marking of landing and dropping zones, wind speed and direction indicators.

Provides the optimum signalling performance required by operational troops. Employs a vivid colour and dense smoke emission for a nominal of 45 seconds.

SPECIFICATIONS

Burn Time	Nominal 45 seconds
Time to First Smoke	5 seconds max
Height (inc. Striker)	128mm
Height (Grenade Body)	98.5mm
Diameter	55mm or 58mm including striker
Gross Weight	0.291kg
NEQ	0.175kg

SHIPPING INFORMATION

Part Code	Red: N441/A White: N442/A Green: N443/A Blue: N444/A Yellow: N445/A Purple: N446/A Orange: N447/A Turquoise: N448/A
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	60
Box Type	Plywood B2
Hazard Class	1.4G
NEQ	10.50kg
Gross Weight	23.86kg
Volume	0.043m ³

Grenade Hand Compact Signal Smoke 60 Seconds



The N460 Series Grenade Hand Compact Signal Smoke 60 Seconds has been designed to withstand world-wide environmental conditions, are robust, waterproof and extremely reliable.

APPLICATION

Ground to air and ground to ground signalling, marking of landing and dropping zones, wind speed and direction indicators.

Provides the optimum signalling performance required by operational troops. Employs a vivid colour and dense smoke emission for 60 seconds nominal.

SPECIFICATIONS

Burn Time	60 seconds nominal
Time to First Smoke	5 seconds max
Height (inc. Striker Mechanism)	128mm nominal
Diameter	55mm or 58 mm including striker
Gross Weight	0.291kg
NEQ	0.175kg

SHIPPING INFORMATION

Part Code	Red:	N461
	White:	N462
	Green:	N463
	Blue:	N464
	Yellow:	N465
	Purple:	N466
	Orange:	N467
	Turquoise:	N468
UN Number	0197	
Proper Shipping Name	Signals, Smoke	
Quantity per Box	60	
Box Type	Plywood B2	
Hazard Class	1.4G	
NEQ	10.50kg	
Gross Weight	23.86kg	
Volume	0.043m ³	

Wescom Defence has been at the heart of providing realistic training for both defence and law enforcement agencies around the world.

By bringing together the latest in pyro-technology and leveraging our expertise in mechanical engineering Wescom provides a combination of weapon effects and target hit simulators for realistic battlefield scenarios while maintaining safe conditions for the trainers, trainees and the environment.

Applying Pyro-Technology to modern Battlefield Training and Simulation provides hyper realistic military scenarios and effective stress inoculation to the participants. Tailored around our customers' requirements the range of type-qualified pyrotechnic products for Training and Simulation enhances realism during tactical training of land forces.

Wescom Battlefield Smart Hub weapon effect launchers enable easy integration with laser or radio-frequency based training systems allowing for very sophisticated weapon training. Visible and audible effects on the training ground are achieved by applying pyrotechnic battle and weapon effect systems. This converts training environments into hyper realistic recreation of battlefield effects that normally a combatant would only face in battlefields.

BATTLEFIELD SMART HUB

Portable Control Unit-PCU

SMALL ARMS EFFECT

Lightweight Gun Signature Simulator - (LGSS)

Macro Pyro Card MaPC

Simulator for Artillery and Multi-effects (SAM)

Direct/Indirect Fire Cue Simulator APFSDS

Micro Pyro Card MiPC

TRAINING HAND GRENADES

Flash Bang Smoke Simulator Mini FBSS

PWD N589 Reusable Training Grenade

PWD N588 Training Grenade LE

SHOULDER FIRED WEAPONS

Mini Launch Unit MLU

MORTARS & ARTILLERY

Impact Simulator (Thunderflash) MECoSt

Thunderflash

Impact Simulator (Thunderflash)

Thunderflash

IEDS

Scalable Gun Signature Simulator - SGSS

Training Sound Units

TANKS

Main Gun Signature Simulators MGSS

Hit-Indicator Simulator DM29 / DM39

Tank Cannon Fire Simulator DM54 A1 / DM64

LOW TOXIC SCREENING SMOKE

Direct/Indirect Fire Cue Simulator Smokes

PWD B310-312 Smoke Generator – Electric

AIR DEFENCE - MANPADS

Direct/Indirect Fire Cue Simulator Air Burst

Surface-to-Air Missile Simulator ManPADS M 176

TITLE NEEDED

Smoke Generator

Respirator Test Kit

Grenade Hand Stun

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Portable Control Unit-PCU



The PCU can be set up to control up to 20 devices, such as the LGSS and the MLU. By mean of its user interface the controlled devices can be placed virtually on the PCU's screen and switching between devices can be done with a simple touch on the screen.

APPLICATION

To enhance tactical realism during training the possibility to simulate different weapon effects such as hostile and artillery fire, hits or booby traps, is needed. Through the PCU the instructor can provide realistic simulations of battlefield effects at all times by remotely controlling the launching devices. And when facing changing training situations, the software enables him to react quickly. Due to this capability the soldier is able to train efficiently under stress in force-on-force or force-on-target exercises.

Depending on the training, firing sequences and combinations can be chosen by the user to provide the most desirable effects to each situation.

This enables the instructors to react very quickly on changing training situations and to be ahead with realistic simulation of battlefield effects all the time.

CHARACTERISTICS

The effects characterising the use of the PCU are those of the simulators set in the devices controlled by the PCU. It includes flash-bang-smoke and coloured smokes from the MECS family cartridges and the pyro cards.

SPECIFICATIONS

Dimensions (Length/Width/Height)	217x95x45mm
Weight	0.9kg
Battery	NiMH Akku
Operating time	Up to 10h with battery
Display	1/4 VGA, TFT display with LED background and touchscreen, size 240x320 pixel
Processor	Intel PXA255 X-Scale, 400 MHz
Temperatures	Storage -40°C to +70°C Operation -30°C to +60°C
RF unit	UHF Narrow Band FM multi channel radio module
Frequency	433MHz/315MHz/458MHz
Wireless range	Up to 150m
Interoperability	LGSS MLU Other device possible

SHIPPING INFORMATION

Part Code	9219902
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Lightweight Gun Signature Simulator (LGSS) 16



LGSS 16 (operation mode)

The LGSS is a launcher available in 16 or 32 shots versions. It is using pyrotechnic cartridges from the MECS family (Multiple Effects Cartridge System) such as the MGSS, the FBSS, the airburst and the colour smokes simulators.

By means of these cartridges the launcher delivers single shots, bursts or salvo firings and therefore provides realistic combat situations.

It can be wirelessly initiated by an instructor as well as by hardwire when connected to a trigger, a trip wire or a motion sensor.

APPLICATION

To enhance realism during tactical training the possibility to simulate different weapon effects such as hostile and artillery fire, booby traps or a tank main gun, is needed.

The LGSS enables the soldier to train under stress in force-on-force or force-on-target exercises by simulating direct or indirect fire and hits. It is also deployable in urban operation training as a scalable means to simulate detonation from bombs or IED.

CHARACTERISTICS

The effects characteristics depend on the cartridges configuration chosen. The firing sequence can be programmed by the user to meet his requirements.

The effects available are those provided by the MECS cartridges (flash-bang-smoke and coloured smokes) which stay in the launcher until they are unloaded.

SPECIFICATIONS

Dimensions (Length/Width/Height)	335 x 302 x 285mm
Weight (Steel Frame + Battery)	10.2kg
Battery	Pb, 12V, 7200mAh
Operating Time	Up to 120h with battery
Power Supply	Ext 12 V – 32 V DC
Power Consumption	20 mA (Standby)
Peak Power	3A per round (max. 500 ms)
Safety Delay Time	30 seconds
Safety Warning Signal	Acoustical and optical
Temperatures	Storage -33°C to +71°C Operation -30°C to +49°C
Service Interface	Trigger input (5-32V DC); 20mA READY-TO-FIRE-OUT Radio (433MHz/315MHz/458MHz) 2 x RS 485 (daisy chain) Ethernet (prepared) CAN Bus (prepared)
Ammunition Type	MECS M30/M31

SHIPPING INFORMATION

Part Code	9219600
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Lightweight Gun Signature Simulator (LGSS) 32



LGSS 32 (operation mode)

The LGSS is a launcher available in 16 or 32 shots versions. It is using pyrotechnic cartridges from the MECS family (Multiple Effects Cartridge System) such as the MGSS, the FBSS, the airburst and the colour smokes simulators.

By means of these cartridges the launcher delivers single shots, bursts or salvo firings and therefore provides realistic combat situations.

It can be wirelessly initiated by an instructor as well as by hardwire when connected to a trigger, a trip wire or a motion sensor.

APPLICATION

To enhance realism during tactical training the possibility to simulate different weapon effects such as hostile and artillery fire, booby traps or a tank main gun, is needed.

The LGSS enables the soldier to train under stress in force-on-force or force-on-target exercises by simulating direct or indirect fire and hits. It is also deployable in urban operation training as a scalable means to simulate detonation from bombs or IED.

CHARACTERISTICS

The effects characteristics depend on the cartridges configuration chosen. The firing sequence can be programmed by the user to meet his requirements.

The effects available are those provided by the MECS cartridges (flash-bang-smoke and coloured smokes) which stay in the launcher until they are unloaded.

SPECIFICATIONS

Dimensions (Length/Width/Height)	485 x 302 x 285mm
Weight (steel frame + battery)	14.7kg
Battery	Pb, 12V, 7200mAh
Operating Time	Up to 120h with battery
Power Supply	Ext 12 V – 32 V DC
Power Consumption	20 mA (Standby)
Peak Power	3A per round (max. 500 ms)
Safety delay time	30 seconds
Safety Warning Signal	Acoustical and optical
Temperatures	Storage -33°C to +71°C Operation -30°C to +49°C
Service Interface	Trigger input (5-32V DC): 20mA READY-TO-FIRE-OUT Radio (433MHz/315MHz/458MHz) 2 x RS 485 (daisy chain) Ethernet (prepared) CAN Bus (prepared)
Ammunition Type	MECS M30/M31

SHIPPING INFORMATION

Part Code	9219700
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Simulator for Artillery and Multi-effects (SAM) 16



Portable Control Unit



SAM 16 (operation mode)

APPLICATION

The Simulator for Artillery and Multi-effects (SAM) is a launching device for Multiple Effect Cartridge System (MECS). It can be RF controlled via Portable Control Unit (PCU).

The SAM is available as a 16 (SAM 16) or 32 (SAM 32) shots device. The SAM is a device for Simulation of Hostile Fire like Artillery. Its application is for outdoor training as a stand-alone device with an integrated battery.

Initiation can be done via RF. It is possible to ignite up to six rounds simultaneously or as a burst.

SPECIFICATIONS

Dimensions (Depth/Width/Height)	267x298x283mm
Dimensions (Depth/Width/Height)	427x298x283mm
Weight	10.2kg
Rechargeable Battery	Bb, 12V, 7200mAh
Operating Time	Up to 72hrs. with battery
Power Supply	Power Supply
Safety Delay Time Initial	30 seconds
Safety Warning Signal	Upon completion of safety delay an acoustical and optical warning signal is given
Temperature	-18°C to +49°C (operating) -40°C to +70°C (storage)
Service Interface	RS 232, Charge
Operational Interfaces	1x RF-Module (433 MHz)

SHIPPING INFORMATION

Part Code	9219602
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Simulator for Artillery and Multi-effects (SAM) 32



Portable Control Unit



SAM 32 (operation mode)

APPLICATION

The Simulator for Artillery and Multi-effects (SAM) is a launching device for Multiple Effect Cartridge System (MECS). It can be RF controlled via Portable Control Unit (PCU).

The SAM is available as a 16 (SAM 16) or 32 (SAM 32) shots device. The SAM is a device for Simulation of Hostile Fire like Artillery. Its application is for outdoor training as a stand-alone device with an integrated battery.

Initiation can be done via RF. It is possible to ignite up to six rounds simultaneously or as a burst.

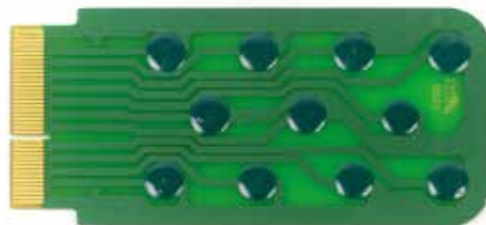
SPECIFICATIONS

Dimensions (Depth/Width/Height)	427x298x283mm
Weight	14.7kg
Rechargeable Battery	Bb, 12V, 7200mAh
Operating Time	Up to 72hrs. with battery
Power Supply	Power Supply
Safety Delay Time Initial	30 seconds
Safety Warning Signal	Upon completion of safety delay an acoustical and optical warning signal is given
Temperature	-18°C to +49°C (operating) -40°C to +70°C (storage)
Service Interface	RS 232, Charge
Operational Interfaces	1x RF-Module (433 MHz)

SHIPPING INFORMATION

Part Code	9219702
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Micro Pyro Card MiPC



The Micro Pyro Cards use circuit board technology for the transmission of electronic information to the operator and the ignition of the effect charges without using additional electric squibs.

APPLICATION

Military Operations on Urban Terrain (MOUT) required a paradigm change of operational and tactical doctrines. Accordingly, the training of soldiers in urban environments has to be adapted. The inclusion of combat effects (rifle fire, explosives, grenades and IEDs) during training demands realistic effects as well as the highest degree of safety. Micro Pyro Cards offer this realism whilst the trainee is still faced with demanding threat situations during the exercise.

11 pyrotechnic effects are applied to a credit-card-size board which is designed mainly for indoor usage.

CHARACTERISTICS

- Signature: Flash, bang and smoke
- Sound pressure: Approx. 140 dB at 1m
- Reaction time: 100ms
- Visibility: At least 500m
- Safety distance: 2.5m in firing direction, 1m sideways without protection. 1.5m safety area around (wearing safety goggles with side protection)

SPECIFICATIONS

Length	107mm
Width	50mm
Height	Max. 3mm
Gross Weight	Approx. 17 gram
Net Explosive Mass	Approx. 0.33 gram
Parachute Descent Rate	Less than 5m/sec (at 25 km/hr wind speed or less)

SHIPPING INFORMATION

Part Code	9209100
UN Number	0432
Proper Shipping Name	Articles, explosive, n.o.s.
Quantity per Box	168
Box Type	Fibreboard
Hazard Class	1.4S
NEQ	0.055kg
Gross Weight	7.3kg
Volume	0.024m ³

Macro Pyro Card MaPC



The Macro Pyro Cards use circuit board technology for the transmission of electronic information to the operator and the ignition of the effect charges without using additional electric squibs.

APPLICATION

Military Operations on Urban Terrain (MOUT) required a paradigm change of operational and tactical doctrines. Accordingly, the training of soldiers in urban environments has to be adapted. The inclusion of combat effects (rifle fire, explosives, grenades and IEDs) during training demands realistic effects as well as the highest degree of safety. Macro Pyro Cards offer this realism whilst the trainee is still faced with demanding threat situations during the exercise.

5 pyrotechnic effects are applied to a credit-card-size board which is designed mainly for outdoor usage.

CHARACTERISTICS

- Signature: Muzzle flash, loud report and white smoke
- Sound pressure: 145 dB at 1m
- Reaction time: 100ms
- Visibility: At least 1.000m
- Safety distance: 1m in firing direction and 1m sideways (ear protection)

SPECIFICATIONS

Length	96mm
Width	80mm
Height	40mm
Gross Weight	Approx. 50 gram/MaPC
Net Explosive Mass	Approx. 2 gram/effect

SHIPPING INFORMATION

Part Code	9209400
UN Number	0353
Proper Shipping Name	Articles, explosive, n.o.s.
Quantity per Box	45
Hazard Class	1.4G
NEQ	0.4kg
Gross Weight	7.5kg
Volume	0.025m ³

Direct/Indirect Fire Cue Simulator APFSDS



The APFSDS cartridge is fired from the Light Gunnery Signature Simulator attached to the tank and delivers a glaring flash in the centre followed by small flares streaming upwards.

It thus offers the gunner the visual effect of hitting a steel target with kinetic energy penetrator.

APPLICATION

Laser-based “firing” during force-on-force training demands a visual differentiation between “firing” and “hit”. Most of today’s laser based firing simulators allow the selection of ammunition to engage an opposing tank, e.g. HEAT, APFSDS munitions. It is, therefore, essential to provide an accurate effect of hits caused by APFSDS ammunition.

CHARACTERISTICS

- Signature: Centre-flash: 12 flares at 15m height
- Sound level: 135 dB at 2m distance
- Burning time: Nom 2 sec. (flares)
- Visibility: Approx. 3.000m
- Safety distance: 50m in firing direction and 1,0m to the sides (ear protection)

SPECIFICATIONS

Length	74mm
Diameter	28mm (Middle section) 32mm (Bottom)
Weight	Approx. 28g
Net Explosive Mass	Approx. 9g

SHIPPING INFORMATION

Part Code	9202000 (Yellow) 9204300 (Green) 9204400 (Red)
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	360
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	3.24kg
Gross Weight	20.0kg
Volume	0.050m ³

Flash Bang Smoke Simulator Mini FBSS



FBSS-Mini simulates the effects of a hand grenade being ignited. It produces a bright flash, an audible report and a cloud of white smoke.

APPLICATION

The usage of explosive hand grenades in tactical close combat operations requires constant exercise. Hand grenade simulators (e.g. SAAB Training Systems AB) will upon functioning enable the combatant to use his training equipment. The usage of Mini FBSS in these hand grenades provide a realistic effect of an exploding hand grenade and increase the level of stress inoculation of the trainee.

CHARACTERISTICS

- Signatures: Muzzle flash, smoke and report
- Sound level: 167 dB in 10cm
- Safety distance: 10cm in firing direction (ear and eye protection)

SPECIFICATIONS

Length	36mm
Diameter	28mm (middle section) 34mm (bottom)
Weight	Approx. 11 gram Pyrotechnic
Effect Charge	Approx. 0.8 g flash charge
Material	High Impact plastic
Sound Level	167 dB at 10 cm

SHIPPING INFORMATION

Part Code	J303
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	160
Box Type	30 items in cardboard box 12 cardboard boxes = 360 items in 1 wooden box
Hazard Class	1.4G
NEQ	0.29kg
Gross Weight	12.0kg
Volume	0.058m ³

Training Grenade LE



The N588 Training Grenade is used for a wide variety of training scenarios where a realistic loud report and bright flash are required.

APPLICATION

The Training Grenade is a realistic means in which to build user confidence prior to moving onto live grenades and in simulation environments for assaulting positions and operations in built up areas.

The N588 Training Grenade is designed as a safe simulation grenade. The payload is designed to leave the main body of the grenade prior to initiation, which gives this store a low frag risk.

SPECIFICATIONS

Delay to Report	2.0 seconds nominal
Sound Level	Nominal 160db @ 10m Nominal 168db @ 5m Nominal 170db @ 2m
Weight	160g
NEQ	15g

SHIPPING INFORMATION

Part Code	N588
UN Number	0452
Proper Shipping Name	Grenade Practice
Quantity per Box	32
Box Type	Plywood
Hazard Class	1.4G
NEQ	0.49kg
Gross Weight	9.00kg
Volume	0.036m ³

Reusable Training Grenade



The N589 Training grenade is used for a wide variety of training scenarios where a realistic loud report and bright flash are required.

APPLICATION

Realistic reusable training grenade.

OPERATION

Screw F.B.U. (FlashBang Unit) into reusable body.
Hold striker lever flush against side of grenade and remove safety pin.

- Throw grenade to required distance.
- After a delay of 3.5 seconds nominal, the grenade is initiated to give a bright flash and report.
- Retrieve spent grenade and remove F.B.U. Blue body is now reusable.

SPECIFICATIONS

Delay to Report	3.5 seconds nominal
Sound Level	Nominal 142db @ 5m
Weight	230g nominal
NEQ	1g nominal

SHIPPING INFORMATION

Part Code	N589
UN Number	0452
Proper Shipping Name	Grenade Practice
Quantity per Box	96
Box Type	Plywood B7
Hazard Class	1.4G
NEQ	0.096kg
Gross Weight	9.00kg
Volume	0.033m ³

- Alternative pack available including pre-assembled
- Inert blue body shipped in plywood boxes of 64

Mini Launch Unit MLU



The MLU is a launching device for the Macro Pyro Card (MAPC) and the Micro Pyro Card (MIPC).

APPLICATION

To enhance tactical realism during training the possibility to simulate different weapon effects such as hostile and counter fire, hits or booby traps, is needed. The MLU, which can be used for outside and inside trainings, as well as on vehicles, enables the soldier to train under stress in force-on-force exercises by providing direct fire and hit simulations. It is also deployable in military operations on urban terrain trainings as a scalable means to simulate detonation from grenades or IED.

Their various effects enable to replicate combat situations. By means of those cards, the launcher provides single shots, bursts or salvo firings.

The device can be operated with either an external power supply or with integrated battery.

It can be wirelessly initiated by an instructor as well as by hardwire when connected to a trigger, a trip wire or a motion sensor.

CHARACTERISTICS

The effects available are those provided by the Macro Pyro Card and the Micro Pyro Card (flash-bang-smoke) which stay in the launcher until they are unloaded. The firing sequence can be programmed by the user to meet his requirements.

SPECIFICATIONS

Dimensions (Length/Width/Height)	w. battery = 156x160x154mm w/o battery = 156x160x125mm
Weight	w. battery = 2.3kg w/o battery = 1.7kg
Battery	Pb, 12V, 7200mAh
Operating time	Up to 72h with battery
Power Supply	xt 12 V–32 V DC
Power Consumption	20 mA (Standby)
Peak Power	3,5 A per round (max. 500 ms)
Safety Delay Time	30 seconds
Safety Warning Signal	Acoustical and optical
Temperatures	Storage -30°C to +70°C Operation -20°C to +50°C
Service Interface	RS 232/charging
Operational Interface	Trigger input (5-32V DC): 20mA READY-TO-FIRE-OUT Radio (433MHz/315MHz/458MHz) 2 x RS 485 (daisy chain) Ethernet (prepared) CAN Bus (prepared)
Ammunition Type	Macro Pyro Card/Micro Pyro Card

SHIPPING INFORMATION

Part Code	9210400
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Impact Simulator MECoSt



The Impact Simulator MECoSt is based upon the proven quality of the MECS family and is the first impact simulator, which has no fragments or debris after the ignition.

APPLICATION

Simulation of grenade impacts during infantry training, both force on force and rifle fire training.

CHARACTERISTICS

The simulator is equipped with an uncocked striker mechanism. By removing the protection cap at the lower end of the simulator, the ignition strap will be exposed. When pulling the ignition strap, the ignition of the effect charge will occur after a delay of 5 seconds.

This mechanically ignited simulator provides upon ignition a glaring flash, a smoke cloud and a loud bang.

SPECIFICATIONS

Length	162mm
Diameter	34/28mm at the top
Weight	47g
Dimensions	490 x 400 x 210mm
Pyrotechnic Effect Charge	5g
Material	High Impact plastic / cardboard
Sound Level	up to 150 dB at 3 meter
Delay Time	5 ±1 seconds
Operation Temperature	-33°C and +63°C
Water Resistance	Submerge 1 meter deep under water for 1 hour

SHIPPING INFORMATION

Part Code	9205100
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	96
Box Type	6 items in 1 cardboard box 16 cardboard boxes = 96 items in 1 wooden box
Hazard Class	1.4G
NEQ	0.49kg
Gross Weight	11.3kg
Volume	0.036m ³

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The hand thrown Thunderflash S141 is for use as a training device to provide realistic simulation of battle noise from devices including artillery, bomb, missile, in-direct fire, air dropped weapons and hand thrown ordnance such as grenades.

APPLICATION

As a training aid where the simulation of a small explosive charge is required.

The igniter will cause the safety fuse to burn with an approximate 6 second delay. On completion of the delay, a pyrotechnic composition is ignited resulting in a bright flash and a loud report. It has no harmful fragmentation and can be used on water. The S141 has a striker attached and the minimum safety distance is 5 meters.

SPECIFICATIONS

Delay	5-9 seconds
Effect	One loud report and bright flash
Height	165mm nominal
Diameter	24mm nominal
Gross Weight	0.025kg
NEQ	0.001kg
Decibel Level	133±5 @ 10 metres

SHIPPING INFORMATION

Part Code	S141
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	200
Box Type	Plywood
Hazard Class	1.4G
NEQ	0.20kg
Gross Weight	9.0kg
Volume	0.034m ³



The hand thrown Thunderflash S161 is for use as a training device to provide realistic simulation of battle noise from devices including artillery, bomb, missile, in-direct fire, air dropped weapons and hand thrown ordnance such as grenades.

APPLICATION

As a training aid where the simulation of a small explosive charge is required.

The igniter will cause the safety fuse to burn with an approximate 6 second delay. On completion of the delay, a pyrotechnic composition is ignited resulting in a bright flash and a loud report. It has no harmful fragmentation and can be used on water. The S161 has a striker attached and the minimum safety distance is 10 meters.

SPECIFICATIONS

Delay	5 - 9 seconds
Effect	One loud report and bright flash
Height	165mm nominal
Diameter	24mm nominal
Gross Weight	0.031kg
NEQ	0.008kg
Decibel Level	150± 5 @ 10 metres

SHIPPING INFORMATION

Part Code	S161
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	200
Box Type	Plywood
Hazard Class	1.4G
NEQ	1.60kg
Gross Weight	10.50kg
Volume	0.034m ³

Scalable Gun Signature Simulator - SGSS



SGSS 8 (operation mode)

SGSS 16 (operation mode)

SGSS 32 (operation mode)

The SGSS is a launcher available in 32, 16 and 8 shots version. It is using pyrotechnic cartridges from the MECS family (Multiple Effects Cartridge System) such as the MGSS, the FBSS, the airburst and the colour smokes simulators.

By means of these cartridges the launcher delivers single shots, bursts or salvo firings and therefore provides realistic combat situations.

It can be wirelessly initiated by an instructor as well as by hardwire when connected to a trigger, a trip wire or a motion sensor.

APPLICATION

To enhance realism during tactical training the possibility to simulate different weapon effects such as hostile and artillery fire, booby traps or a tank main gun, is needed.

The SGSS enables the soldier to train under stress in force-on-force or force-on-target exercises by simulating direct or indirect fire and hits. It is also deployable in urban operation training as a scalable means to simulate detonation from bombs or IED.

CHARACTERISTICS

The effects characteristics depend on the cartridge configuration chosen. The firing sequence can be programmed by the user to meet the requirements.

The effects available are those provided by the MECS cartridges (flash-bang-smoke and coloured smokes) which stay in the launcher until they are unloaded.

SPECIFICATIONS

Dimensions (Length/Width/Height)	SGSS 32 = 405 x 225 x 135mm SGSS 16 = 285 x 225 x 135mm SGSS 8 = 155 x 130 x 135mm
Weight (Including Battery)	SGSS 32 = 11.3kg SGSS 16 = 8.5kg GSS 8 = 2.8kg
Battery	SGSS 32 = Pb, 12V, 7200mAh SGSS 16 = Pb, 12V, 7200mAh SGSS 8 = 2 pcs. Li-ion 9V-650mAh
Operating Time	Up to 120h with battery
Power Supply	Ext 12 V – 32 V DC
Power Consumption	20 mA (Standby)
Peak Power	3.5 A per round (max. 300 ms)
Safety Delay Time	30 seconds
Safety Warning Signal	Acoustical and optical
Temperatures	Storage -33°C to +71°C Operation -30°C to +49°C (ext. Power supply)
Service Interface	RS 232 / charging
Operational Interface	Trigger input (5-36V DC): 20mA READY-TO-FIRE-OUT Radio (433MHz/315MHz/458MHz) 2 x RS 485 (daisy chain) Ethernet (prepared) CAN Bus (prepared)
Ammunition Type	MECS M30/M31

SHIPPING INFORMATION

Part Code	SGSS 32: 9218400 SGSS 16: 9218300 SGSS 8: 9218500
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Training Sound Units



S401 (indoor) and S402 (outdoor) electrically initiated sound units have been designed for use in training personnel in the disarming and 'making safe' of Improvised Explosive Devices (IED).

APPLICATION

Realistic training of defusing bombs, explosive devices or other contrived IED's.

When fitted into a training IED they indicate errors in drills by producing a loud report and bright flash without producing any hazardous fragments.

SPECIFICATIONS

All Fire / No Fire	0.37A / 0.2
Length	51mm
Diameter	8.5mm
Gross Weight	0.005kg
NEM	S401: 0.0003 kg S402: 0.0006 kg

SHIPPING INFORMATION

Part Code	S401 S402
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	500
Box Type	Plywood
Hazard Class	1.4G
NEQ	S401: 0.15kg S402: 0.30kg
Gross Weight	S401: 6.50kg S402: 6.50kg
Volume	0.022m ³

Main Gun Signature Simulators MGSS



Main Gun Signature Simulators are used in:

- Lightweight Gunnery Signature Simulators on tanks
- Range Gunnery Signature Simulators on tank firing ranges
- Fire marker units to simulate IED simulation
- Fire Marker Units to simulate ground burst of artillery and mortar shells

The Main Gun Signature Simulator produces a bright flash, a well audible report and a clearly visible cloud of white smoke.

APPLICATION

Laser-based “firing” during force-on-force training demand a visual differentiation between “firing” and “hit”. The simulation of muzzle flashes of the main gun of main battle tanks provide clear information to all participants during combat training which tank is engaged in active combat. The same applies to Range Gunnery Signature Simulators (RGSS) providing hostile fire to tank crews engaging tank targets. The principle of improving the stress inoculation of tank crews adds an important element to the preparedness for combat.

CHARACTERISTICS

Signature:	Muzzle flash, loud report and white smoke
Sound pressure:	162 dB at 1m (MGSS M30)
Sound pressure:	150 dB at 1m (FBSS L1A1)
Visibility:	At least 3,000m
Safety distance:	5m in firing direction and 1,0m to both sides (ear protection)

SPECIFICATIONS

Length	60mm
Diameter	28mm (middle section) 34mm (bottom)
Weight	Approx. 26 gram
Net Explosive Mass	Approx. 6 gram (MGSS M30) Approx. 5 gram (FBSS L1A1)

SHIPPING INFORMATION

Part Code	JMGSS M30: 9201100 FBSS L1A1: 9201200
UN Number	Wooden box: 0431 Steel box: 0430
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	M30: 360 L1A1: 360
Box Type	M30: Wooden box L1A1: Steel box
Hazard Class	1.4G
NEQ	M30: 2.16kg L1A1: 1.80kg
Gross Weight	M30: 19.0kg L1A1: 18.6kg
Volume	0.058m ³

Tank Cannon Fire Simulator



Main Gun Signature Simulators are used in:

- Tank mounted launchers e.g. DARKAS.
- Range Gunnery Signature Simulators on firing.
- Fire Marker Units to simulate IED-Simulation.
- Ground burst simulation of artillery and mortar shells.

APPLICATION

Laser based “firing” during force-on-force training demands a visual differentiation between “firing” and “hit”. The simulation of muzzle flashes of the main gun on battle tanks provides clear information to all participants during combat training which tank is engaged in active combat. The same applies to Range Gunnery Signature Simulation (RGSS) indicating hostile fire to tank crew engaging tank target:

CHARACTERISTICS

The Main Gun Signature Simulator produces a bright flash, a very loud report (175 dB) and a clearly visible cloud of white smoke.

- Signature: Muzzle flash, loud report and white smoke
- Sound pressure: 170 dB at 3m (DM54)
140 dB at 3m (DM64)
- Visibility: At least 3.000m
- Safety Distance: 50m in firing direction
and 30m to each side.

SPECIFICATIONS

Length	143mm
Width	50mm
Weight	130g
Net Explosive Mass	42g (DM54) 25g (DM64)

SHIPPING INFORMATION

Part Code	9203000 (DM54) 9200400 (DM64)
UN Number	0430
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	44
Box Type	9 items in 1 cardboard 6 cardboard boxes = 54 items in 1 wooden box
Hazard Class	1.3G
NEQ	2.32kg (DM54) 1.35kg (DM64)
Gross Weight	2.32kg (DM54) 15.9kg (DM64)
Volume	0.07m ³

Hit-Indicator Simulator



Hit-Indicator Simulators are used in:

- Tank mounted launchers e.g. DARKAS. One Hit Simulator will be installed together with the Simulators Tank Cannon Firer.
- Range Gunnery Signature Simulators on firing.
- Fire Marker Units to simulate IED-Simulation.

APPLICATION

The Hit-Indicator Simulator serve the visible/ audible (DM29) or the visible (DM39) simulation of hits during e.g. tank training. The pyrotechnic effect of the hit simulation on a tank or target device is realised by a red flash followed by a red smoke and followed by a loud report of 165 dB (with report only DM39).

CHARACTERISTICS

- Flash: Colour red light intensity of 80.000 cd duration 1.5 sec. colour red duration 5 sec.
- Sound pressure: 165 dB at 3m (DM29)
no report (DM39)
- Visibility: At least 3.000m
- Safety Distance: 50m in firing direction and 30m to each side

SPECIFICATIONS

Length	143mm
Width	50mm
Weight	195g (DM29) 135g (DM39)
Net Explosive Mass	60g (DM29) 38g (DM39)

SHIPPING INFORMATION

Part Code	9200500 (DM29) 9200700 (DM39)
UN Number	0430
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	54 (DM29) 162 (DM39)
Box Type	9 items in 1 cardboard 6 cardboard boxes = 54 items in 1 wooden box
Hazard Class	1.3G
NEQ	3.13kg (DM29) 1.35kg (DM39)
Gross Weight	22kg (DM29) 15.9kg (DM39)
Volume	0.07m ³

Smoke Generators – Electric B310-312



The Smoke Generators Electric has been developed to meet the need for training purposes such as with Fire Brigades and Naval Damage Control Teams on land or sea.

APPLICATION

For use in all situations where a controlled amount of low toxic or coloured smoke is required. For example; fire simulation and evacuation training, fire fighters breathing apparatus training, thermal imaging testing and training, airflow visualisation tests, leak testing of compartments and enclosures, and wind tunnel testing.

It may also be used for testing drains, breathing apparatus and ventilation systems. The Smoke Generator produces a white, red or yellow smoke for a period of between 3-5 minutes.

SPECIFICATIONS

Burn Time	Between 3-5 minutes
Delay to First Smoke	Less than 5 seconds
Height	115mm
Diameter	65mm
Gross Weight	0.285kg nominal
NEM	0.200kg nominal

SHIPPING INFORMATION

Part Code	White: B310 Red: B311 Yellow: B312
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	48
Box Type	Plywood
Hazard Class	1.4G
NEQ	7.68kg nominal
Gross Weight	19.00kg nominal
Volume	0.048m ³

Direct/Indirect Fire Cue Simulator Smokes



Colour-Smoke-Cartridges are used to indicate and to differentiate effects from hits of direct and indirect fire. The cartridges are fired from **Light-weight Gunnery Signature Simulators (LGSS)** or from type classified launchers.

APPLICATION

Laser-based and/or radio transmitted “firing” of integrated weapons during force-on-force training either in close-quarter combat scenarios, or battlefield training demand a visual differentiation between “firing” and “hit”. Depending on the training doctrine of the users certain colours stipulate hits whilst “black smoke” indicates a “tank kill”.

Prolonged burning times and extended visibility provide clear information to all participants during combat training.

CHARACTERISTICS

- Signature: Smoke: yellow, red, blue, green, white, orange, violet and black
- Sound level: Approx. 125 dB at 1m
- Smoke duration: 8-15 sec.
- Visibility: Approx. 1.800m
- Safety distance: 1m in firing direction and 0,5m to the sides (ear protection)

SPECIFICATIONS

Length	74mm
Diameter	28mm (Middle section) 32mm (Bottom)
Weight	Approx. 30g
Net Explosive Mass	Approx. 10.5g

SHIPPING INFORMATION

Part Code	9203300 (Yellow) 9204100 (Red) 9203200 (Blue) 9204700 (Green) 9201800 (White) 9203400 (Orange) 9204200 (Violet) 9204600 (Black)
UN Number	0197
Proper Shipping Name	Signals, Smoke
Quantity per Box	360
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	3.78kg
Gross Weight	21.0kg
Volume	0.012m ³

Direct/Indirect Fire Cue Simulator Air Burst



The Air Burst Cartridges can be activated from the Lightweight Gunnery Signature Simulator (LGSS) in either a static (placed permanently on the training ground) or movable configuration (placed on a vehicle) to simulate the effect of artillery or mortar shells, detonating in the air.

APPLICATION

An "indirect firing" (simulation of artillery and or mortar fire) during force-on-force engagement training demands a visualisation of shells detonating either as ground or airbursts in the assumed combat zone.

Ground-bursts can be simulated by firing Main Gun Signature Simulators from LGSS/SGCC.

CHARACTERISTICS

- Signature: Launch blast, bright flash, white smoke cloud and loud report.
- Sound Level Launch: 135 dB at 2m distance
- Sound Level Airburst: 140 dB at 18m distance
- Altitude: 18 to 20m
- Visibility: Approx. 3,000m
- Safety distance: 50m in firing direction and 1,0m to the sides (ear protection)

SPECIFICATIONS

Length	74mm
Diameter	28mm (Middle section) 32mm (Bottom)
Weight	Approx. 26g
Net Explosive Mass	Approx. 4g

SHIPPING INFORMATION

Part Code	9202700
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	360
Box Type	Fibreboard
Hazard Class	1.4G
NEQ	1.44kg
Gross Weight	20.0kg
Volume	0.050m ³

Surface-to-Air Missile Simulator ManPADS



WESS Launcher



The ManPADS Simulator provides upon ignition a blast, a flare and a white smoke trail for about 10 seconds, thus simulating the launch and the flight path of a ground-to-air-missile.

APPLICATION

Shoulder launched, man-portable surface to air missiles (ManPADS) are a serious threat to helicopters and other low flying aircrafts. With an identified incoming missile, pilots are required to carry out escape manoeuvres besides the usage of the on board decoy systems. To visualise the threat scenario is essential during training.

The ManPADS Simulator, which is self consuming and thus leaves no debris after launch, is fired from the original WESS launcher system and can be configured as:

- Single shot simulator
- Multiple-launch device
- Add-on to any LGSS system.

The ManPADS Simulator provides sufficient signature for the detection MLRS-Launches.

CHARACTERISTICS

- Signatures: Flash-bang upon ignition on ground
Flare and white smoke trail during flight
- Sound pressure: Approx. 140 dB at 20m
(launch noise)
- Flight time: Nom. 10 seconds
- Light intensity: ≤ 10.000 cd.
- Visibility: At least 3,000m
- Safety distance: 15m from point of firing with ear protection

SPECIFICATIONS

Length	100mm
Diameter	72mm 80mm (Bottom)
Weight	465g
Pyrotechnic Effect Charge	20g
Ejection Charge	40g
Cartridge Material	Plastic

SHIPPING INFORMATION

Part Code	9208000
UN Number	0431
Proper Shipping Name	Articles, Pyrotechnic
Quantity per Box	24
Box Type	12 items in Steel Box (4A) 2 Steel Boxes = 24 items in wire bound box (4D)
Hazard Class	1.4G
NEQ	8.6kg
Gross Weight	21.7kg
Volume	1.05m ³

Grenade Hand Stun



The Grenade Hand Stun N580 and Grenade Hand Stun Multi's N582, N591 and N592 are diversionary grenades, designed for crowd control or for use in confined spaces.

Noise and candela levels induce disorientation in any persons within the effective range. These grenades are designed to be hand thrown.

APPLICATION

Crowd control, various hijack situations and anti-terrorist operations.

SPECIFICATIONS

Delay to Report	1.5 seconds nominal		
Overall Height	120mm		
Diameter	50mm		
NEQ	N580: 0.014kg N582: 0.011kg N591: 0.008kg N592: 0.017kg		
Gross Weight	N580: 0.139kg N582: 0.12kg N591: 0.115kg N592: 0.145kg		
Recorded decibel level			
N580 Single Bang			
10m: 155.8db	5m: 161.9db	2m: 170.2db	
N591 2 Bang Stun			
N592 7 Bang Stun			
10m: 146.5db	5m: 151.9db	2m: 162.3db	
N582 Multi Stun			
10m: 142.7 db	5m: 149.0db	2m: 159.9db	

SHIPPING INFORMATION

Part Code	N580, N582, N591 & N592		
UN Number	0452		
Proper Shipping Name	Grenades, Practice		
Quantity per Box	50		
Box Type	Plywood		
Hazard Class	1.4G		
NEQ	N580: 0.70kg N582: 0.56kg N591: 0.42kg N592: 0.85kg		
Gross Weight	N580: 10.55kg N582: 9.25kg N591: 7.25kg N592: 10.50kg		
Volume	0.034m ³		

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Respirator Test Kit



The respirator test kit has been developed to provide a safe but realistic environment in which to undertake fitment trials on personal protective equipment (PPE) and practice/test elements of the chemical, biological, radiological & nuclear (CBRN) syllabus.

APPLICATION

The test kit can be used to assist in the fitting of respiratory protective equipment by providing the user with mild, non-persistent discomfort if the protective seal is compromised. Secondly, this store also be used to imitate a contaminated environment in which to carry out de-contamination, drinking & canister change drills.

SPECIFICATIONS

Burn Time	7 seconds nominal
Delay	10 seconds nominal
CS Composition	1.5g nominal
Height (Canister)	29 mm nominal
Diameter (Canister)	16.5 mm nominal
Gross Weight (Canister)	3.0g nominal

SHIPPING INFORMATION

Part Code	B220 Kit = one tin (40 canisters)
UN Number	2017
Proper Shipping Name	Ammunition, Tear Producing, Non-Explosive
Quantity per Box	50 kits (2,000 canisters)
Box Type	Steel B20
Hazard Class	6.1(8)
NEQ	N/A
Gross Weight	20.3 kg
Volume	0.041m ³

Man Portable Obstacle Breaching



Conventional minefields, booby traps, unexploded ordnance and man-made obstacles, such as triple barbed wires and concertina coil are meant to stall military operations and bog down combatants in enemy killing fields. This can have a devastating cost - momentum and surprise once lost in military operations are difficult to achieve again.

Every minute spent trying to clear and negotiate enemy obstacles and minefields will severely degrade chances of mission accomplishment exposing troops to hostile enemy fire. Creating safe lanes/corridors through minefields and obstacles quickly is absolutely essential to maintaining surprise and mission accomplishment besides minimizing casualties.

Traditional methods for clearing minified involve use of low tech equipment like grapnels to logistically cumbersome heavy minefield clearing equipment like Bangalore torpedoes etc. The use of heavier equipment requires involvement of combat engineers and adds immense logistical burden to operating forces.

To overcome the limitations of existing minefield breaching systems Wescom has developed a state of the art Portable Obstacle and Minefield Breaching System. Key design considerations for the system were:

- **Safety** – ensuring maximum neutralization of anti-personnel mine and expose any other ordnance. Additionally, the system needs to be safe to operate.
- **Lightweight** – the system needs to be light allowing combatants to carry the system with their standard combat load.
- **Operability** – the system was designed to ensure ease of use and remove dependence on combat engineers. Breaching enemy minefields and obstacles under enemy fire is one of the hardest things to do. A well trained infantry soldier is able to deploy the system under 1 minute.
- **Straight line** – one of the key requirements whilst creating safe lanes is to ensure these are linear. The system was designed to ensure it creates exceptionally straight safe lanes.

Wescom POMBS can also be used for humanitarian demining.

LIVE SYSTEMS

Thermite Torch

Thermite Hand Flare Percussion

TRAINING SYSTEMS

Heavy Portable Obstacle Minefield Breaching System H-POMBS

Light Portable Obstacle and Minefield Breaching System L-POMBS

Training Heavy Portable Obstacle and Minefield Breaching System
T-HPOMBS

Training Light Portable Obstacle and Minefield Breaching System
T-LPOMBS

Thermite Torch



The Thermite Torch is a lightweight high heat energy source that can be operated both electrically and non-electrically in order to destroy a specific target

APPLICATION

The Thermite Torch (EOD) is a lightweight incendiary device intended to facilitate the destruction by burning of explosives and propellant in unexploded ordnance and to initiate the burning of other less combustible materials.

Ignition is instantaneous and the composition burns at a minimum temperature of 1800°C and consumes the outer tube dropping molten thermite composition onto the target area.

SPECIFICATIONS

Burn Time	35 seconds minimum
Height	165mm nominal
Diameter	30mm
Gross Weight	185g nominal
NEM	155g

SHIPPING INFORMATION

Part Code	A205
UN Number	0092
Proper Shipping Name	Flares Surface
Quantity per Box	100
Box Type	Plywood
Hazard Class	1.3G
NEQ	15.5kg
Gross Weight	23.3kg
Volume	0.034m ³

Thermite Hand Flare Percussion



The Thermite Incendiary Grenade is a hand thrown source of high heat energy for use in a combat environment when there is a need to destroy equipment, conduct general destruction or sabotage operations.

APPLICATION

The Thermite Incendiary Grenade is used primarily to provide a source of intense heat to destroy equipment or for general destruction or sabotage. The flare burns from the base producing intensive heat sufficient to burn through 1.5 to 2mm steel plate.

It can be deployed quickly in order to achieve the specific purpose.

SPECIFICATIONS

Burn Time	40-70 Seconds
Length	152mm
Diameter	50mm
Delay	1-2 seconds
Net Weight	472g
NEM	400g

SHIPPING INFORMATION

Part Code	N508
UN Number	0010
Proper Shipping Name	Ammunition, Incendiary
Quantity per Box	18
Box Type	Plywood
Hazard Class	1.3G
NEQ	7.2kg
Gross Weight	13.5kg
Volume	0.035m ³

Heavy Portable Obstacle Minefield Breaching System H-POMBS



The H-POMBS is a detonating cord with package of explosives contained in two rucksacks which is deployed across the chosen area by mean of a rocket.

APPLICATION

Unconventionally deployed mines, booby traps, unexploded ordnance and man-made obstacles, such as triple barbed wire, are meant to stall military operations and represent a considerable danger in humanitarian missions. The H-POMBS is tailored around those threats and provides effective means to safely eliminate them by quickly creating access into such areas.

It enables to create safe passages through minefields or man-made obstacles. The two-men portability and its simple operation make the H-POMBS an appropriate tactical solution to major battlefield threats.

SPECIFICATIONS

Portable	By 2 soldiers (two backpacks)
Set Up Time	In ≤ 1 minute for trained soldiers
Weight	23 kg (each backpack)
Dimensions	490x400x210mm (each backpack)
Explosive Line Charge	248 blast grenades, each loaded with 100g of plastic explosive and mounted at a distance of 0.22m
Delay Time of Rocket Igniter	28 s (the line charge is rocket propelled)
Delay Time of Blast Igniter	6 s (initiated automatically during flight or as an option manually)
Length of Cleared Path	Up to 54m (continuous path)
Width of Cleared Path	Approx. 0.5m

The back packs are deliverable in various camouflage patterns.

SHIPPING INFORMATION

Part Code	9309000
UN Number	0464
Quantity per Box	1
Hazard Class	1.1E
NEQ	26.42kg
Gross Weight	63.0kg
Volume	0.149m ³

Training Heavy Portable Obstacle and Minefield Breaching System T-HPOMBS



APPLICATION

The optimal and skilled usage of the HPOMBS requires training of personnel using the systems in operational areas. By means of the associated training system, the T-HPOMBS, this training can take place in two stages. The first part of the training is an approach of the systems during the indoor formation by using the supplied T-HPOMBS which are inert and therefore safe to handle for instructions in classrooms. The second part of the training is the live-firing exercise which can be done up to 10 times by applying each time a new pyrotechnic kit to the inert T-HPOMBS. This drill enables the personnel to get used to the steps of the firing preparation and because the T-HPOMBS equipped with the pyrotechnic kit to not contain explosives, it offers to the user a safe means to train safely at reduced costs.

OPERATION

The T-HPOMBS is supplied fully inert and replicates in form and function, the operational minefield breaching system, the HPOMBS.

However, to enable repeated firings for live-firing exercises some of the components, such as the dummy charges and the line, are specific to the T-HPOMBS.

The pyrotechnic consumables consist of one kit including the live rocket which, for cost and safety reasons, is smaller than the one in the HPOMBS, the rocket igniter, the blast simulator of the detonator and the firing instructions.

The inert consumables consist of one kit of packaging inserts and the repack instructions.

TRAINING OPERATION

1. Use the T-HPOMBS supplied inert for classroom formation.
2. Remove the dummies parts: rocket, rocket igniter and detonator.
3. Apply a pyrotechnic kit.
4. Follow the firing instructions for live-firing exercise.
5. Repack the T-HPOMBS by applying two kits of inert consumables.

SPECIFICATIONS

Weight	44kg due to additional ballast - same weight as HPOMBS
Dimensions	90x400x210mm per backpack - same dimension as HPOMBS
Inert Explosive Line Charge	54m equipped with 108 dummy charges same length as HPOMBS. The T-HPOMBS is blue colour-coded for clear identification as training system. Other colours on request
Number of Training Firing	The live-firing with one system can be conduct 10 times
Blast Simulator	The blast simulator produces a bang of 130±10 dBC ^{peak} measured in a distance of 0.5m

SHIPPING INFORMATION

Part Code	9309100 (T-HPOMBS) 9308200 (Consumables Pyrotechnic) 9308300 (Consumables Inert)
UN Number	0186
Proper Shipping Name	Rocket Motors
Quantity per Box	1 T-HPOMBS 10 Kits of Cons-Pyro. 5 Kits of Cons-Inert
Hazard Class	1.4G (10 Kits of Cons-Pyro.)
NEQ	3.79kg (10 Kits of Cons-Pyro.)
Gross Weight	61.0 kg (1 T-HPOMBS) 25.0 kg (10 Kits of Cons-Pyro.) 4.0 kg (5 Kits of Cons-Inert)
Volume	0.149m ³ (1 T-HPOMBS) 0.058m ³ (10 Kits of Cons-Pyro.) 0.206m ³ (5 Kits of Cons-Inert)

Light Portable Obstacle and Minefield Breaching System L-POMBS



The L-POMBS is a detonating cord with package of explosives contained in one rucksack which is deployed across the chosen area by mean of a rocket.

APPLICATION

Unconventionally deployed mines, booby traps, unexploded ordnance and man-made obstacles, such as triple barbed wire, are meant to stall military operations and represent a considerable danger in humanitarian missions. The L-POMBS is tailored around those threats and provides effective means to safely eliminate them by quickly creating access into such areas.

It enables to create safe passages through minefields or manmade obstacles. The one-man portability and its simple operation make the L-POMBS an appropriate tactical solution to major battlefield threats.

SPECIFICATIONS

Portable	By 1 soldiers (one backpack)
Set Up Time	In ≤ 1 minute for trained soldiers
Weight	16.5kg
Dimensions	490 x 400 x 210mm
Explosive Line Charge	75 blast grenades, each loaded with 100g of plastic explosive and mounted at a distance of 1m.
Delay Time of Rocket Igniter	28 s (the line charge is rocket propelled)
Delay Time of Blast Igniter	6 s (initiated automatically during flight)

SHIPPING INFORMATION

Part Code	9308000
UN Number	0464
Quantity per Box	1
Hazard Class	1.1E
NEQ	16.83kg
Gross Weight	50.0kg
Volume	0.149m ³

Training Light Portable Obstacle and Minefield Breaching System T-LPOMBS



The T-LPOMBS is supplied fully inert and replicates in form and function, the operational minefield breaching system, the LPOMBS.

APPLICATION

The optimal and skilled usage of the LPOMBS requires training of personnel using the system in operational areas.

By means of the associated training system, the T-LPOMBS, personnel get used to the steps of the firing sequence.

This live-firing exercise can be done by applying each time new pyrotechnic and inert kits up to 10 times.

Because the T-LPOMBS is equipped with the pyrotechnic kit and not containing explosives, it offers the user a safe means to train safely at reduced costs.

The pyrotechnic consumables consist of one kit including the live rocket which, for cost and safety reasons, is smaller than the one in the LPOMBS, the rocket igniter, the simulator of the detonator and the firing instructions. The inert consumables consist of one kit of packaging inserts and the repack instructions.

SPECIFICATIONS

Weight	16.5kg due to additional ballast - same weight as LPOMBS
Dimension	490x400x210mm - same dimension as LPOMBS
Length of Dummy Line Charge	74m equipped with 75 dummy charges - same length as LPOMBS

As standard the T-LPOMBS is blue colour-coded for clear identification as training system.

The live-firing with one system can be conducted up to 10 times.

The blast simulator produces a bang of 130 ± 10 dBC^{peak} measured in a distance of 0.5m.

SHIPPING INFORMATION

Part Code	9308100 (T-LPOMBS) 9308200 (Consumables Pyrotechnic) 9308300 (Consumables Inert)
UN Number	0186
Quantity per Box	2 (T-LPOMBS) 10 Kits of Cons-Pyro. 5 Kits of Cons-Inert
Hazard Class	1.3G (10 Kits of Cons-Pyro.)
NEQ	1.79kg (10 Kits of Cons-Pyro.)
Gross Weight	44.0 kg 2 (T-LPOMBS) 25.0 kg 10 Kits of Cons-Pyro. 4.0 kg 5 Kits of Cons-Inert
Volume	0.149m ³ 2 (T-LPOMBS) 0.058m ³ 10 Kits of Cons-Pyro. 0.206m ³ 5 Kits of Cons-Inert

Wescom Defence leverages its extensive expertise in pyro-technology to manufacture products for peace enforcement and internal security for both civil defence and military operations.

These products are used mainly for warnings and crowd control, or to impede an adversary's activities without fatal injury.

Respirator Test Kit

Respirator Test Kit



The respirator test kit has been developed to provide a safe but realistic environment in which to undertake fitment trials on personal protective equipment (PPE) and practice/test elements of the chemical, biological, radiological & nuclear (CBRN) syllabus.

APPLICATION

The test kit can be used to assist in the fitting of respiratory protective equipment by providing the user with mild, non-persistent discomfort if the protective seal is compromised. Secondly, this store also be used to imitate a contaminated environment in which to carry out de-contamination, drinking & canister change drills.

SPECIFICATIONS

Burn Time	7 seconds nominal
Delay	10 seconds nominal
CS Composition	1.5g nominal
Height (Canister)	29 mm nominal
Diameter (Canister)	16.5 mm nominal
Gross Weight (Canister)	3.0g nominal

SHIPPING INFORMATION

Part Code	B220 Kit = one tin (40 canisters)
UN Number	2017
Proper Shipping Name	Ammunition, Tear Producing, Non-Explosive
Quantity per Box	50 kits (2,000 canisters)
Box Type	Steel B20
Hazard Class	6.1(8)
NEQ	N/A
Gross Weight	20.3 kg
Volume	0.041m ³

Designers and Manufacturers of Energetic Defence Products

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