







152 MM Short Barrel Howitzer

| Weight | 5,700 kg (12,566 lbs.) |
|---------------|------------------------|
| Length | 8.69 m (28 ft. 6 in) |
| Barrel length | 5.195 m (20 ft.) |







| 2.35 m (7 ft. 9 in) |
|--|
| 1.93 m (6 ft. 4 in) |
| 8 |
| |
| 152.4 mm (6 in) |
| Vertical semi- automatic sliding wedge |
| Hydraulic buffer and hydropneumatic recuperator |
| Split trail |
| -5° to 63° |
| 58 ° |
| Burst: 5-6 rpm Sustained: 1 rpm |
| 650 m/s (2,132 ft./s) (typical) |
| 17.4 km (11 mi) |
| 24 km (15 mi) (Rocket assisted projectile) |
| PG1M indirect sight and OP4M direct fire sight |
| |







PROTECT-TECH SRL ROMANIA



Bucharest, Romania Sector 4 Constantin Brincovanu Boulevard, No. 12 Block B4, Scale 1, Ap.31 www.protect.tech.gulf.com



Specifications for Leupold Mark 4 8.5-25x50 ER/T M-5 Front Focal Rifle Scope:

Magnification: 8.5x to 25x

Objective Lens: 50mm

Finish: Matte Black

Field of View (at 100

yards): 25x - 4.4'; 8.5x - 11.2'

Eye Relief: 25x - 94mm; 8.5x -

134mm

Length: 14.5"

PROTECT-TECH SRL ROMANIA



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Weight: 22.5oz

When the situation calls for long range tactical shooting, the **Leupold Mark 4 8.5-25x50 ER/T M5 Front Focal Riflescope** is always right on the money. This Leupold riflescope is designed to let you take advantage of the reach and power of today's high-power hunting and extreme long-range target rifles. Each Mark 4 ER/T Rifle-Scope by Leupold features the exclusive Leupold Index Matched Lens System, which enables unparalleled brightness, optimal contrast, and extremely sharp resolution. The Index Matched Lens System by Leupold uses different coating materials on each lens surface to eliminate reflections and maximize light transmission, truly innovative. Leupold Mark 4 8.5-25x Extended Range Rifle Scope is not only excellent for shooting, but hunting as well. This remarkable riflescope magnifies the reticle when zooming-in so your cross-hair zooms proportionally to your target which enables you hit up to 2,000 meters away with pinpoint accuracy. Not only does the **Leupold Mark 4 M5 ER/T Scope** have a truly unmatchable optics system, but also the Mark 4 riflescope is rugged and absolutely waterproof. The Leupold Mark 4 scope is built to Leupold Mark 4 standards and can withstand incredible abuse. For optimal performance with ultra precision Leupold Mark 4 8.5-25x50 Waterproof Front Focal Rifle Scope is your best choice.









23mm Anti Aircraft Cannon

Weight 0.95 tonnes (2,094 lbs)

Length 4.57 m (10 ft)

Barrel length 2.008 m (79.1 in) (87.3

calibers)

Width 2.88 m (9 ft 5 in)

Height 1.22 m (4 ft)

Crew 6

Shell 23x152B

Caliber 23 mm







Barrels 2

Traverse 360°

Rate of fire 2000 rpm cyclic, 400 rpm

practical

Effective firing 2.5 km (2 mi)



ADVANCED ARMOUR EOD BOMB SUITS and equipment

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Adjustable trousers with

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Jacket with integral collar, hand mitts and quick release system



Quick release system allows rapid jacket removal

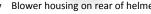


Helmet with comms, visor, light & demister











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The AA EOD Bomb Suit three part (neck, chest and groin) blast plates; hand mitts; over boots; helmet with visor, comfort liner, search light, ventilation/demister and integral communications; air blower, cooling suit, hardwire or wireless communication system, back protector and carry bags.

The suit is constructed from Nomex® Delta T, ripstop, certified flame retardant material which is available in a selection of colours. Other materials are available on request.

The zonal armour system provides optimum protection with maximum flexibility and comfort. The highest protection level is afforded to life critical areas of the body with V50 ranging up to 2,000 m/sec. These levels of protection can be adjusted to suit individual client needs.

Key features of the Bomb Suit are:

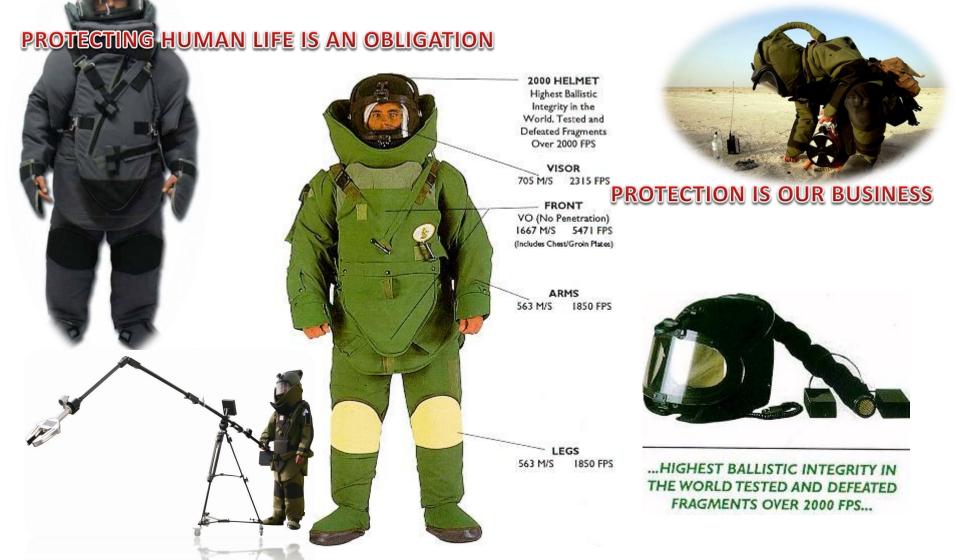
- Zoned armour system.

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- Integral groin/lower abdomen protector provides enhanced protection.
- Three part blast plates for increased protection to neck, chest & groin.
- High performance helmet with visor, integral ventilation and communications.
- Two part knee joints for maximum flexibility and manoeuvrability



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Description V50 (STANAG 2920 17gr FSP)

Chest Blast Plate 2,000 m/sec
Jacket Front 600 m/sec

Jacket Rear 450 m/s

Collar 450 m/sec

Sleeves 450 m/sec

Hand Mitts 450 m/sec

Neck/Collar Blast Plate 2,000 m/sec

Groin Blast Plate 2,000 m/sec

Trousers with thigh inserts 680 m/sec

Trousers with shin inserts 650 m/sec

Integrated groin protector 600 m/sec

Rear of Trousers 450 m/sec

Overboots 450 m/sec

Helmet 700 m/sec

Visor 800 m/sec



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The AA EOD Bomb Suit protection levels have been tested in accordance with STANAG 2920 (17gr FSP) protocols. All testing has been carried out by independently authorised and accredited test centres





ADVANCED ARMOUR EOD BOMB SUITS and equipment





...HIGHEST BALLISTIC INTEGRITY IN THE WORLD TESTED AND DEFEATED FRAGMENTS OVER 2000 FPS...



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HELMET

The bomb suit helmet has undergone a rigorous design and development program and incorporates all of FDIG's experience and expertise as one of the leading manufacturers in the world of ballistic helmets. It has a streamlined profile resulting in reduced radial and linear head acceleration in a blast situation.

The liner provides accurate sizing and fit for users, while ensuring maximum comfort. The helmet uses a closed face visor which provides an excellent field of vision with minimal distortion.

Ventilation for the helmet is provided by an assisted air purification system. It consists of a waist mounted battery powered air blower with two high efficiency particulate (HE) filters.

The blower assembly is powered by 1 Ni-MH 4.8 volt rechargeable pack.

The assisted air purification system provides a minimum of 145 litres per minute constant airflow through the helmet and over the visor, this prevents misting up and provides cooling.



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The FDIG helmet has a built in speaker and microphone which are connected to a controller mounted on the lower RH front of the smock. External sockets are provided on the controller for connection to a wireless or hardwire system. The hardwire communications system is designed specifically for EOD teams using EOD bomb disposal suits. The system provides communication between the bomb disposal operator and his back up at the base station. This is via 100m of cable mounted on a reel. The optional Hardwire duplex communications is supplied with the base station, headset, and 100m wire on a reel. The wire plugs into the side of the controller on the front of the smock. If two way radios are to be used the same socket is used. However the type and make of the radio must be specified so the correct interface can be assured. There is a switch on the side of the controller to change between hardwire or wireless.

The controller on the FDIG EOD suit has three controls, one for volume control of communications between the EOD technician and the base station. The second controls the ambient sound* volume and the third, which is on the top of the controller, the fan speed in the helmet. The controller is supplied as part of the EOD suit therefore all systems come with an ambient sound facility.

The base station for the Duplex Hardwire system contains a battery which will power the communications in the EOD suit in event of a failure of the battery in the EOD suit.

*Ambient Sound Feature:

An external microphone is mounted on the outside of the helmet and a speaker in the helmet on the LH side enabling the operator to hear noises in his environment. This has an automatic high decibel

cut out. This facility is controlled with an ON/OFF switch and volume control accessible to the operator in a pocket provided on the suit.

*Flashlight: A bracket and small flashlight is provided on the front of the helmet which is self powered.



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COOLING SUIT

The Cooling Suit is designed to offer a safe and cool environment for people who must maintain a high level of efficiency and concentration under extreme heat. The system is ideally suited for personnel involved in EOD/IEDD operations.

The Cooling Suit uses ice cold water to remove body heat produced during strenuous work, especially in hot environments. It requires no hazardous pressurised canister or toxic cooling agents, the Cooling Suit also offers protection against heat and flash fire. Testing of the Cooling Suit on the effects of over pressure, fragmentation, ballistic, body impact and heat have shown it to be suitable for wearing under bomb suits, chemical suits and many other applications where body heat removal is desirable.

Construction

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It is a one piece fire resistant garment with cooling tubes and external connectors, and is worn as close to the body as possible to obtain the maximum benefit. It has a head hood with connectors, which connect to corresponding connectors on the neck of the garment. There is an external pump and ice/water bottle container which is housed in a self contained carry bag attached to the left hand side of the suit. The cooling suit is made from machine washable fire retardant Nomex.





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Heat removal Rate: 270 watts (full suit). Endurance min.: 45 minutes at 35°C (95°F).

Weight

Weight of Cooling Suit: 1.3Kg.

Weight of Battery: 0.9Kg.

Weight of Pump, Control Unit & Bottle: 1.5Kg

Suit, battery, pump, control unit, 2 bottles & storage bag: 4.6Kg.

Cooling Suit Pump

Flow rate: Fully adjustable up to a maximum of 500 ml/min.

Self contained NiCad rechargeable battery power supply.

Running time at normal flow rate: 3 hours and 40 minutes.

The cooling pump is powered by 12 volt 2.2 Amph rechargeable batteries







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COMMUNICATION SYSTEM

Hardwire Communication System

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The bomb suit communications system provides full duplex communications between EOD Commander and EOD Operator over 100m of field cable, and is designed for simplicity in use and ease of deployment.

The Integrated Helmet Communications Headset consists of twin ultra low profile earpieces and a noise cancelling microphone, which connects to the common user unit via a rugged 80mm Press To Talk (PTT) unit with clothing clip. The helmet connector is a quick dis-connect Nexus plug and socket, whilst the 80mm PTT connection to the user unit is via military spec amphenol plug.

The EOD Commander's headset is a military style robust single sided headset with flexible boom microphone and a mesh head strap, an in-line PTT with clothing clip.

The user unit is common to both EOD Commander and EOD Operator, powered by standard AA batteries for maximum flexibility, the unit is turned ON whenever a headset or 80mm PTT unit is connected. Each unit has user volume control, LED power ON indication and mil spec amphenol socket for headgear connection. The easy connect line termination posts are suitable for screw-down connection of cable, or banana plug use.



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CE certified EN1621-2 Level 2 Thickness 18 mm

Breathable through Air Wave technology

Waterproof Non-toxic

Weight 505g

Weights: All Large size **Description Weight Kgs**

Trousers 7.7

Blast plates (Set incl. collar/neck, chest & groin with carrier) 6.0

Jacket with collar and hand mitts 10.5

Overboots 1.0

Back Protector 0.8

Helmet with visor, headset communications, search light and comfort liner 4.3

Air blower 1.0

EOD TOTAL WEIGHT 31.3



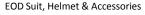


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| Size | Height | | Weigh t | |
|--------|--------|------|------------|-----|
| | CM | Feet | Kgs | Lbs |
| Small | 168 | 5'5" | 64 | 144 |
| Medium | 176 | 5'8" | 76 | 167 |
| Large | 186 | 6'1" | 92 | 202 |

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|---|-----|---|----|----|---|
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Protection

V50 as per STANAG 2920 with 17 grain fragment

Unit Weights EOD Suit

| 3 | | |
|---|---|---|
| | | |
| F | | |
| | | |
| 1 | 9 | 8 |

Duplex Communication System

Power supply. Rechargeable 4.5Ah 12v dc battery.

| Weight | Kgs | Lbs |
|--------------|------|------|
| Base Station | 5.2 | 11.5 |
| Reel | 14.3 | 31.5 |

| Cooling Su |
|------------|
|------------|

| | • | |
|--|-----|-----|
| | Kgs | Lbs |
| Small | 22 | 48 |
| Mediu m | 25 | 55 |
| Large | 28 | 62 |
| Pump Assemb ly with Ice Bottle | 4 | 8.9 |

Cooling Suit Pump

| Delivery | Liters per min | Gallons per min |
|-----------|----------------|-----------------|
| Flow Rate | 2.2 | 0.56 |

Power Supply

10 x1.2v C cell rechargeable NiCad batteries in series. 12v dc **Emergency Power Supply**

8x 'C' cell 1.5volt batteries in series, 12v dc

| Weight | Kgs | Lbs |
|---------------------------|------|------|
| Power Supply | 1.0 | 2.2 |
| Emergency Power Supply | 0.63 | 1.38 |

| Operating Time | Power Supply | Emergency Power Supply |
|----------------------|--------------|---------------------------|
| Helmet | 3.6 hrs | 2 hrs 45 min |
| Cooling Suit Pump | 3 hrs | 2 hrs 30 min |

| Item | V50 m/sv | V50 ft/Sec |
|-----------------|----------|------------|
| Helmet | 480 | 1574 |
| Helmet Front | 600 | 1868 |
| Visor | 800 | 2624 |
| Helmet Chin | 480 | 1574 |
| Collar Front | 610 | 1859 |
| Collar Center | 1000 | 3280 |
| Collar Rear | 480 | 1574 |
| Sleeves Front | 565 | 1853 |
| Sleeves Rear | 480 | 1574 |
| Cover Front | 610 | 2001 |
| Chest Plate V0 | 2000+ | 6105+ |
| Groin Plate V0 | 2000+ | 6105+ |
| Back Cover | 480 | 1574 |
| Groin Protector | 480 | 1463 |
| Trousers | 700 | 2296 |
| Hand Protectors | 450 | 1476 |



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Specifications, sizes & weights and for the complete equipment set



System

Advanced Armour EOD Suits and Helmet comprises of the following:

Helmet with integrated fan and communications.

Smock with remote controller and power supply and integrated wiring.

Hand protectors.

Spine protector.

Blast plates.

Groin protector.

Trousers.

Over shoes.

Carry bag back pack

Duplex Communication System

Cooling Suit



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Helmet – In Aluminium Case

Communication

 Helmet has in-built microphone and speakers.
 These are compatible with Mondial hardwire duplex system, or with two-way radios, when 'VOX' can be used.

Connector

 Helmet has a combined power and communication lead with a built in Emergency Amphenol quick disconnect plug which disconnects during Emergency Evacuation.

- · Integrated in helmet.
- Speed: variable.
- Output: 0 –170 litres/minute.
- · Boost: 210 litres/minute
- · Running time: 3 hours

Visor

 Hardened, scratch resistant acrylic with polycarbonate backing. Due to the efficiency of the helmet fan misting is rare, but a spray on appliqué is provided for extreme situations

Internal Liner

- Fire resistant outer cover.
- Inner comfort foam.
- Outer shock absorbent.
- · Sizing pads for medium and small provided.

Chinstrap

Two chinstraps of different lengths are supplied to ensure the most secure and comfortable fit.

Automatic high level noise cut-out

The ambient sound will be immediately mute if the ambient noise exceeds a preset level.

Ambient sound

• The internal speakers allow the operator to hear communications from the base station as well as ambient (environmental) sound. This is operator controlled by two easy to use volume controls on the remote controller.

Headlamp

- An adjustable headlamp is situated on the front of the helmet.
- This is powered by three AAA batteries. The headlamp is fitted with alkaline batteries and three rechargeable AAA NiCad batteries and a charger are also provided.

Low battery warning

 There is an audible low battery warning that will beep every 30 seconds when the battery drops to 11volts. This is when 25% of battery life remains or approximately 45minutes.

Emergency evacuation

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The helmet chinstrap has a quick release press stud [red tab] so the helmet may be discarded in an emergency.



24040 Camino Del Avion, Dana Point Ca 92629 www.firstdefense.com











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Smock

In heavy duty Cordura carry bag.

Smock

- Full all round protection to mid thigh.
- Multipack system for maximum flexibility.
- Arm protection is articulated.
- Separate hand protectors.

Blast plates

- Attached to the front of the smock with throat, chest and groin protection.
- Groin plate is articulated to allow ease of kneeling, bending etc.

Power supply

• Attached to right hand side of suit and position, adjustable to ensure optimum comfort to operator.

Remote controller

- Provides the operator with adjustment of the fan speed i.e. air flow in the helmet.
- Provides the operator control of the volume of the communications from the base station whether by hardwire duplex or twoway radio.
- Provides the operator control of the volume of the ambient (environmental) sound.
- Each control is positioned so the operator knows exactly which control he is touching.

Internal wiring

• The wiring from the power supply and from the remote controller to the helmet is integrated into the smock.

Emergency evacuation

• The suit is designed so that the operator can rapidly remove it within 20 seconds. The smock is equipped with two toggles on the right hand side which when pulled, allows the smock to fall away.









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EOD Suit, Helmet & Accessories - User Manual



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Spine Protector

In separate compartment of the smock carry bag.

Horizontally articulated and providing protection from violent de-acceleration on either side of the spine.

Multi-layer foam laminate construction with progressively increasing de-acceleration properties. Held in position with quick release elastic straps.







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Groin Protector

In trouser carry bag.

Lightweight separate protector for abdomen, groin and inner thighs.

Elasticated colour coded straps for ease of use.

Ergonomically designed for maximum comfort.

The groin protector is worn underneath the smock and therefore this area also has the protection provided by the smock which comes down to mid-thigh and the trousers which are in front of the groin protection. The combination provides extremely high protection.







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In separate Cordura carry bag.

All round protection with extra frontal integrated thigh and shin protectors.

Overlapping groin protection.

Fire retardant zips with a quick release function.

Adjustable shoe cover flaps.

Adjustable braces, both by length and position to provide maximum comfort for the wearer.

Quick release zips [Red] are used, plus tabs [Red] on the braces which enable the trousers to be quickly discarded in an emergency.

Overshoes

In trouser carry bag.

Fits over existing footwear, such as boots.

Integrates with the adjustable shoe cover provided on the trousers.

Quick release tabs [red] are incorporated to enable the overshoes to be removed in an emergency.









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Blast Plates

In trouser carry bag.

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The plates attach to the suit with buckles and accommodate the emergency release toggles so the smock and plates will come off as one unit The groin plate is articulated to allow comfortable movement and kneeling.





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Power Supply PROTECTION IS OUR BUSINESS

The power supply is provided in a pouch which is worn on the right hand side of the suit. The pouch is carried on a belt and can be positioned where the operator finds it to be most convenient.

The power supply is 12volt supplied by 10 x 1,2volt C cell rechargeable NiCad batteries.

The power supply will provide power to the helmet fan, communications for at least three hours at maximum fan speed

An audible battery low warning buzzer is incorporated, giving the operator ample time to change batteries if required.

A charger is provided for the power supply that can work from mains or 12vDC. Charging time 10 hours. The unit will not damage the batteries if left on for prolonged periods.

An emergency standard 8 x 1,5volt C cell battery holder and pack is supplied. This can be used with the Helmet or Cooling suit. Running time for the helmet is 3hrs 45 min at maximum fan speed. Running time for the cooling suit is 2hrs 30min at maximum pump flow rate.



Rechargeable NiCad battery pack

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Carry Bag / Back Pack

The two heavy duty nylon bags containing the smock, spine protector, trousers, overshoes, groin protector and blast plates are packed into a main transportation bag.

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This can be used as a carry bag

It can be used as a back pack.

Built in wheels

It can be used as a ground sheet when opened up fully to unpack the suit.







EOD suit carry bag



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Duplex Hardwire Communications

Base Station: in aluminium case.

12v DC 4.5Ah rechargeable battery.

Headset with speakers and microphone

External speaker with on-off switch.

Output for digital recorder.

Battery status indicator.

Built-in 220v AC. charger with connecting cord

Input for 12v DC charger.

Socket for connecting wire to reel.

Connecting wire to reel.

Reel with rewind guide.100m wire (with option for 125m) and connecting plug to fit into the remote controller on the EOD smock.

The reel comes standard with a Slip-ring function allowing operator to be in communication throughout deployment and retrieval.

Webbing guides are provided on the smock to lead the wire to the

remote controller.



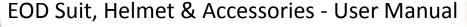


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Cooling Suit

One piece fire resistant garment with cooling tubes and external connectors. It is worn as close to the body as possible to obtain the PROTECTION IS OUR BUSINESS maximum benefit.

Head hood with connectors. These connect to corresponding connectors on the neck of the main garment.

External pump and ice bottle container in a self-contained carry bag which is attached to the left hand side of the smock with straps and Velcro provided.

Self contained NiCad battery power supply identical and interchangeable with the suit power supply.

Running time at maximum flow rate 2 hours 30 min

The emergency standard C cell battery pack can be used. Running time at maximum flow rate 1 hour 30 min.

Materials

Outer cover

AdvanceNomex IIIA with anti-staticKermel

Velcro and Webbing

Fire resistant

Ballistic materials

Aramid

Blast plates

Composite materials

External Zips

Brass/ Nomex

Visor

Hardened Acrylic/polycarbonate laminate

Cooling Suit

Fire resistant Kermel









