



HELIX



Helix Operations provide a complete capability for vertical access and rescue in mountain, maritime and urban environments.

We are based in the mountains of North Wales and have a heritage of over 40 years supplying tactical climbing solutions to end users. Over that time, we have worked with and become a main supplier of tactical climbing equipment to the UK MOD and have provided equipment and systems to many other nations.

The capability offered by our close relationship with DMM has been extended by partnering with manufacturers such as CTOMS, Henriksen, HQH, Protection, Rock Exotica, Highnovate and Cadex Defence to offer complete solutions for working at height in a tactical environment.

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Company Number: 10316654  
DUNS: 221986629





To be the leading worldwide provider of comprehensive vertical access, rescue and mobility capabilities to the tactical operator in the mountain, urban and maritime environments.

To support vertical access operations for the tactical operator with a range of services including:

- Advice
- Equipment
- Training
- Servicing



# Key Brands

**REBS®**

REBS supply many critical components of any maritime or urban access system. Rapid Entry Boarding Systems - the best maritime boarding equipment that also works well for urban operations. They supply the best grapnel launchers and the lightest carbon ladder systems on the market.



**HQH SYSTEM**

Robust carbon ladder systems - these are the go to ladders if TLC is in short supply. The FIX-LITE being the new ladder of choice for dismantled troops in urban environments with the ATV carbon bridge ladder demonstrating how tough carbon can be.



The best motorised ascenders on the market with a real-life combination of versatility, ruggedness and battery life that is hard to beat.

**CTOMS™**

CTOMS was founded on the concept of evolving tactical medicine and expanded to encompass aspects of remote and improvised rescue. A key part of this evolution was the development of the TRACE™ system as micro rope system with a comprehensive capability that includes access, egress, hauling and high-lining. CTOMS are our longest standing partner and Helix are one of the very few authorised providers of training for the TRACE™ system.

**LIBERVIT**

LIBERVIT are an French company with over 25 years in design and manufacture of hydraulic tools and manual equipment for the industry, the special forces and the rescuers.



The DMM International group specialise in the manufacture of equipment and systems for operating safely at height. They have proudly manufactured all their hardware in the United Kingdom since 1981 and over that time they have established a reputation for innovation and quality.

**PROTECTION**

As part of the same group of companies Helix Operations rely heavily on DMM to design, prototype and manufacture much of the core product in our range.



An impressive micro rope system that is very intuitive to use, fast to deploy and incredibly robust. The system that came top in a recent egress system tender and impressed with its ability to meet the criteria of EN341 with a 160kg load.

Innovative rescue equipment designed and made in their factory in the USA. The range includes products that complement the DMM range of hardware - the Aztec pulley system, the Omni pulleys and the Arizona Vortex are all unique products that we are proud to offer.



Forward thinking equipment and systems designed by former operators to address gaps in current vertical assault capability. The QRAB is a class leading descender for medium diameter ropes that allows fast disengagement whilst the RAFA portable anchor gives security where normal anchors are not viable.



Precision engineering from the USA that specialises in high end rifle systems, but also produce the best small ledge hooks on the market.

**Marlow**

Designed and manufactured in the United Kingdom with a reputation for outstanding quality and a long history of providing specialist rope solutions to military and rescue units. Marlow Ropes have a proven record as a key manufacturer of quality ropes for access, rescue and specialist products for use in helicopter operations.



# Manufacturing and Development

Helix Operations has the privilege of representing some of the best tactical access companies in the world, but we grew from a manufacturing background and so product development and manufacture are still an essential and fundamental part of our business.

We have invested heavily in the factory and now have a comprehensive manufacturing facility in North Wales with the ability to:

- Design, prototype, test and create tooling for safety critical metal and textile products.
- Forge, heat-treat and CNC both aluminium and steel product.
- Sew, laser cut and bond safety critical textile products.

All of which are run within a robust quality control system that allows complete traceability for every product.

We are part of a group that is the sole manufacturer of climbing hardware in the UK with a worldwide reputation for manufacturing premium quality product.

We work closely with end users to design product that enables operators to work with speed, ease, and safety when accessing objectives across a wide range of environments. This often involves forces and environmental factors in excess of those required for civilian certification and we can help customers test equipment and systems to help ensure that operational risk is minimised.



The Ghost carabiner was designed to create a quieter carabiner for covert situations - the Ghost uses a complex hot forged skeleton with an over-molded TPU outer layer. This creates a carabiner with a significantly reduced noise signature.

# Harness Manufacturing

The HCMH II has been designed and is manufactured from start to finish in North Wales at the DMM factory in Llanberis. Once we had the design brief on how to improve the first generation model we realised that traditional tactical harness manufacturing processes would not give us the features we wanted.

Research led us to choose a totally new production process combining variable width, structural webbing with a laser cut, anatomically shaped bonded pad. This gave us very low-profile pads, but with material carefully positioned both to allow ease of movement when active, yet providing support when hanging.

The buckles are a new design from DMM using a marine grade stainless steel with an offset slot to eliminate accidental opening. They are coated in an electrophoretic black polymer to give a secure system that is fast to use and can't be affected by corrosion of debris.

All the bar tacks were developed from scratch to give maximum strength to the webbing infrastructure, and this has resulted in a harness that passed testing at 150kg rather than the standard 100kg.

Productisation of this harness has involved considerable investment in new machinery, but the end result is a class leading tactical harness system that has few, if any, competitors.











# Mountain Operations

Helix Operations offer operators increased vertical access, mobility and assault capability in the mountains.

We provide systems and training to allow dismounted troops to operate effectively and with increased capability on high or steep ground in the mountain environment.

We provide solutions that enable enhanced movement, infiltration, intelligence gathering, load movement and force protection in highly complex terrain that is otherwise inaccessible. This capability increases the ability to control the dominant ground.

We have worked with units operating in the full range of conditions from hot, arid landscapes to the high alpine mountains.

The systems we provide allow units to move over mountain terrain, climb rock, ascend, rappel, navigate, haul supplies and cross ravines or fast flowing water. All with kit that will integrate with operational equipment whilst minimising the weight burden and pack size that needs to be carried.

This ability to deliver a cutting-edge capability derives from a heritage of almost 40 years manufacturing climbing equipment in the mountains of Snowdonia together with close ties to mountain rescue teams, mountain professionals and specialist mountain troops.



# DMM Mountain Rack- Dragon Cams

The DMM Dragon Cams in Matt Grey are the ideal cam device for protecting technical terrain; high grip head units, extendable slings minimising the need for quickdraws, double axles for increased range and placement options plus they use proven 13.75 degree cam angle that optimises holding power with range.

The Dragon's striking TripleGrip cam lobes feature an increased contact area with a raw aluminium finish and additional bite points. These features work together to increase friction between the cam lobe and the rock it's placed in. This increased holding power reduces walking, particularly in slick or soft rock types and marginal placements.

Single stem, dual axle design gives Dragon cams 360° flexibility and a substantial expansion range, increasing performance in sub-optimal placements and helping you get the right piece first time. The Dragon cams hot-forged thumb press gives stable handling and reduces fumbling from gloved hands and pumped fingers. It allows the Dragon to have an extendable black 8mm dyneema sling with no strength penalty, reducing the number of quickdraws needed to extend placements and minimising rack weight.



DMM Dragon cams in Matt Grey come in 10 sizes covering a range from 14mm to 195mm.



# DMM Mountain Rack- Belay Equipment

Helix Operations offer several types of rope controller that are optimised for specific tasks - The DMM Pivot is our favourite belay device for mountain use because it is very versatile and works well with multiple rope systems.

The DMM Pivot is a versatile belay device, that can be used to belay in either guide mode or from the waist. Suitable for ropes from 7.3mm to 11mm but optimised for 8mm to 10.5mm ropes. The device takes its name from the pivoting guide mode connection point which when loaded, minimises the leverage to release it again.

Hot forging and machining let us put metal precisely where it's needed to create a guide plate that weighs just 72g. These manufacturing techniques also allow internal design that gives confidence inspiring performance across a wide range of ropes.



The pivoting shackle moves the point of leverage when initiating lowering of your second. This vastly reduces the force needed to initiate and control lowering of one or two seconds, making guide mode more user friendly.

This device increases rope control when belaying, lowering a partner and abseiling. It is a fundamental part of a climbers rack.

The Belay Master is one of our favourite belay carabiners because of the extra layer of safety it provides - Closing the clip on the Belay Master 2 ensures the carabiner is safe for use. It can only be closed when the gate is screwed shut.

When closed, the clip keeps the carabiner in its strongest orientation, prevents devices and knots from moving onto the spine, eliminates possible cross loading due to rotation. This feature makes the Belay Master the perfect belay carabiner for those new to belaying.

Belay carabiners give smooth and confident belaying with tube and assisted breaking belay devices. They have full section top bars for consistent rope control and reduced rope wear. Their shape resists flipping into sub-optimal orientations when belaying, acting to ensure the carabiner loads along its strongest axis.



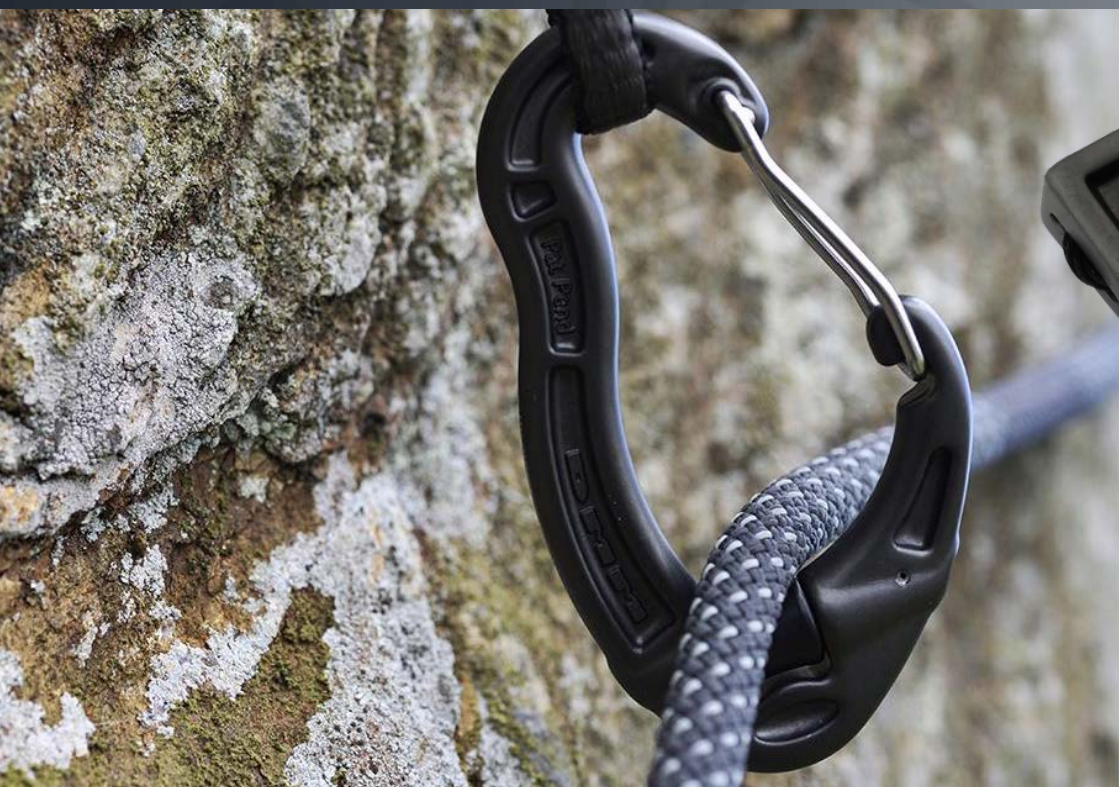


# DMM Mountain Rack

The DMM Revolver is a carabiner with an integrated pulley to help minimise friction. The Revolver's pulley wheel reduces friction on ropes moving through the carabiner. Placed where the pitch changes direction, it reduces rope drag and makes upward movement easier.

The Revolver can be used in an improvised hauling system to help your second over a crux, haul kit bags, or rescue your partner from a crevasse. Where normal carabiners in these systems cause energy to be lost as friction, the Revolver's pulley wheel makes hauling easier by converting more of your energy into movement.

A Revolver on your rack lets you reduce rope drag and make efficient mechanical advantage systems without the need for additional devices.



DMM manufactures the best and most comprehensive range of trad climbing protection which includes Wallnuts, Torque Nuts and Alloy Offsets. The Alloy Offsets are a favourites as they fit where a lot of other nuts won't. Alloy Offsets protect irregular and flared cracks that regular nuts cannot.

Every size of Alloy Offset has a robust 12kN strength rating. The wires they are mounted on are set into a recess to reduce wear, while larger sizes have holes that reduce weight. Use in conjunction with Wallnuts for comprehensive all season crack protection.



# DMM Mountain Rack

The ProPad+ is a heavy duty rope protector that is suited to the demands of the outdoor activity industry. Thick natural fibre matting protects ropes against sharp edges typically found at the top of crags, railway bridges, and other sites suitable for abseiling and top-roping. A replaceable wear pad increases the ProPad+'s longevity, and helps it withstand the heavy use of large group sessions.

The ProPad+ can be installed on-rope, or attached to the edge itself for increased predictability and protection.



The Alpha Trad Carabiner gives positive handling and easy clipping, with grooves on the spine to provide extra grip. Deep rope baskets help seat gear and ropes, and encourage loading along the Alpha's strongest axis.

A clean nose helps prevent snagging and accidental gate opening. Superb ergonomics and safe design mean the Alpha excels in any climbing environment.

Wire gate for maximum weight saving and minimising gate flutter.

Clean nose for snag-free clipping.



All-round carabiner for versatility.

The Alpha's shape fits naturally in the hand, and combines with its large gate opening to make the carabiner very easy to clip. Grooves on the back bar increase grip for confident handling.

I-Beam construction techniques allow carabiners to be lighter without compromising strength. This is achieved through hot forging, a process which allows metal to be made into complex shapes that improve functionality.





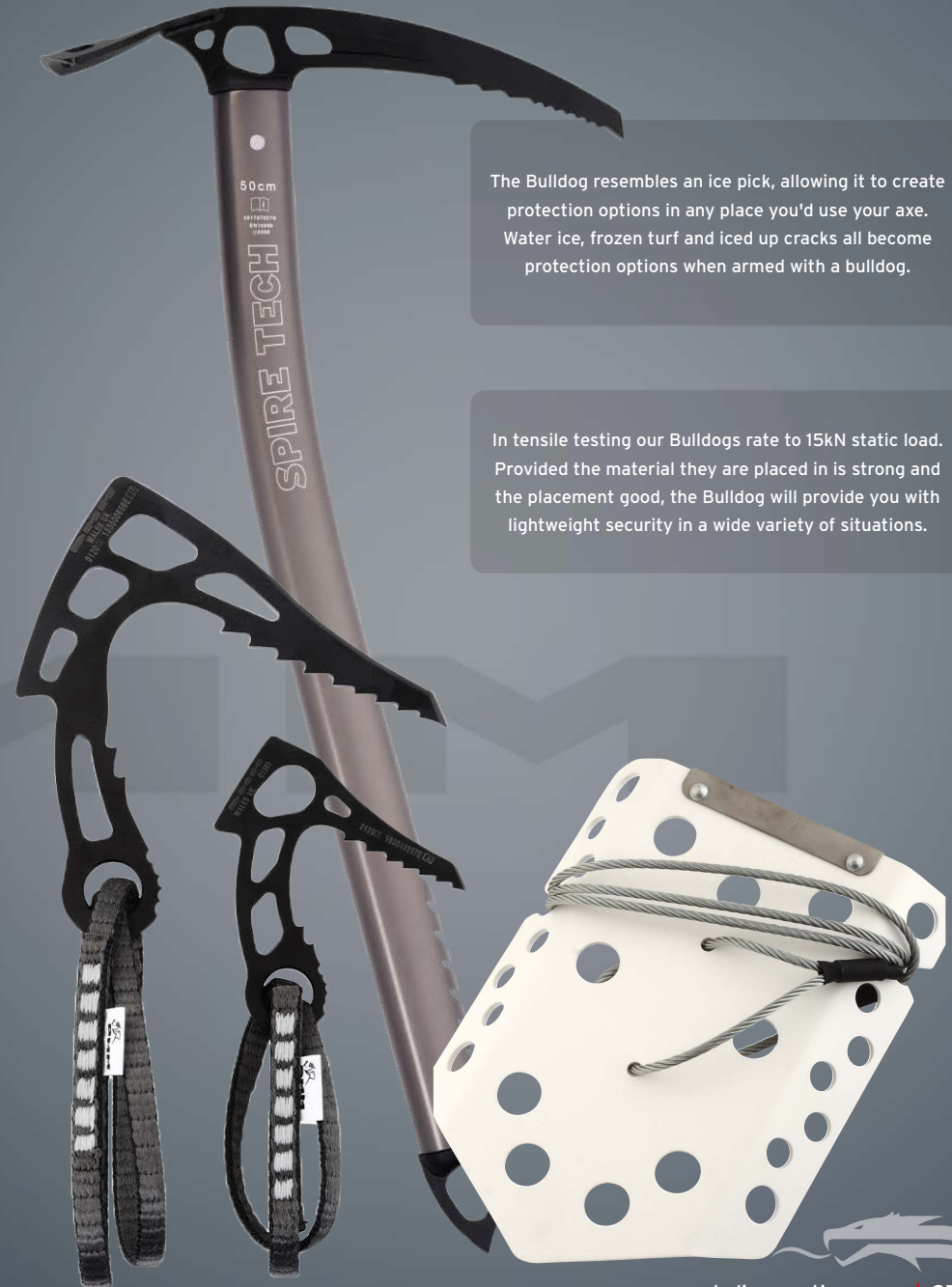
# DMM Winter Mountain

The DMM Spire Tech is a modern, versatile and lightweight winter tool. The bent shaft and machined grips make it suitable for technical or sustained terrain when walking, mountaineering or ski touring. The refined design and rivetted construction result in a robust axe that weighs in at only 323g.

In winter, there are times when the only thing to lodge an anchor in is the snow itself. The Deadman lets you make the most of this medium and improves on the classic ice axe belay by creating a larger surface area that increases resistance to the placement pulling through. Used in snow gullies and below cornice top outs, the Deadman creates protection out of nothing and provides security in the most insecure places.

The Bulldog and Terrier are anchors that can be used in many features thrown up in winter. Primarily a drive in anchor that finds strong placements in frozen turf and mud, it can also be placed into hooks in the ice created by your axe, and can even be hammered into cracks and seams like a peg.

A long flat plate on the back of the hooks creates a good area for hammering, making placements quick and easy. A long handle lets you create leverage to easily extract them from stubborn placements, and also houses an extendable sling that helps reduce rope drag on wandering winter pitches.



The Bulldog resembles an ice pick, allowing it to create protection options in any place you'd use your axe. Water ice, frozen turf and iced up cracks all become protection options when armed with a bulldog.

In tensile testing our Bulldogs rate to 15kN static load. Provided the material they are placed in is strong and the placement good, the Bulldog will provide you with lightweight security in a wide variety of situations.

# CTOMS TRACE™ Systems Overview

The weight and bulk of a traditional rope system often determines whether it is carried on a mission or not. Basic equipment needed for egress and escape packages is often left behind because of the volume they take up in a pack - space which is often seen as taking valuable room for other mission critical components.

Micro rope systems remove most of the bulk and weight of traditional rope systems without compromising the capability requirements of the end user.

CTOMS TRACE™ micro rope system allows operators to descend, ascend, haul and lead climb. It is very compact and light, but more than that it is exceedingly versatile. It allows an operator to change a lower into a 3:1 haul then increase the mechanical advantage all the way up to 9:1 before changing the system back to a lower. This can be done whilst the system is fully loaded, with minimal equipment in minimal time. The same versatility allows hauls to be turned into lowers or a descent into an ascent. The system can be rigged for two person loads and is re-usable. This is achieved by using 4 core components that have been designed to work together and which are unique to the TRACE™ system. These core components are, Prodigy Pulleys, TRACE™ Rope and QD (Quickie Descender).



The CTOMS Quickie Descender can be used for descending, lowering and locking off.



The Prodigy swing cheek micro pulley has a prusik minding edge that allows various MA systems to be created.



A custom 6.5mm aramid/nylon rope forms the basis of the CTOMS system - the rope was the result of much development to find the balance of performance, cut resistance and durability with the QA and QD devices.



The QA can be used for rope ascension, haul and tension systems, self-belay, rope grabbing and force absorption.



# CTOMS TRACE™ Systems Components

The CTOMS TRACE™ system allows users to lead climb, abseil, and haul rescue loads on a 6mm rope that is fire resistant up to 500c and has superb cut and abrasion resistance. The rope is 6.5mm in diameter, with a Technora aramid sheath and a nylon core. The sheath has a black tracer running through one half, and a tan tracer through the other. This allows quicker identification of the mid-rope, a feature which is functional through night vision devices. The rope comes with high strength sewn terminations at each end to avoid the need to knot the rope.

The CTOMS Prodigy PMP (Prusik Minding Pulley) is one of those subtle and often overlooked diamonds in the rough. There is impressive strength and efficiency in this tiny package and it truly does live up to its name. The weight of the Prodigy Pulley is usually only found in bushings, however the Prodigy contains a bearing and comes with the efficiency to match. That means less work for the user, both with carrying it and hauling loads.

The DMM XS Bat Plate raises the bar in design, performance and strength, Precision machining and heat treatment makes it strong, light and incredibly versatile.

The Bat shape minimises height loss in complex rigging scenarios and generous radii allow direct attachment of textiles as well as connectors. The oversized central hole allows for effortless centralising of connections and gives a perfect technician clipping point.

The QD is an auto-locking rope controller that can be used for descending, lowering or locking off the TRACE™ 6.5mm aramid rope. The QD is also designed to be a force limiter and will slip under a dynamic load that exceeds 4kN. It is a core component in all TRACE™ systems and is used as part of the ascent, lower, haul and lead climbing capabilities that TRACE™ offers. It should be stressed that this was specifically designed for use with the TRACE™ Systems rope and can only be bought as part of a system.

The Phantom is our lightest locking carabiner at just 42 grams. Despite its minimal weight, we have ensured that it is still usable in all situations - with gloves, in the wet and the cold. It is also strong across every axis (24kN major axis and 9kN minor axis) and has a clean nose that prevents snagging. The locker to carry when every gram counts. Very light, very strong and very useable.

Dyneema has a high strength-to-weight ratio and is abrasion resistant, making it an ideal material for creating lightweight slings, that can withstand repeated use. It also absorbs less water than nylon.



# CTOMS TRACE™ Systems Kits



## CTOMS Red

Special Operations Capable Kit- Provides skilled end users with a full vertical access, egress and rescue capability.



## CTOMS Grey

Emergency Egress Kit- Allows a hands free edge transition with 10:1 factor of safety with a 1 person load.



## CTOMS Grey Pro

Rope Assaulter Kit - Allows the user to rappel, lower, rope ascend and conduct a 3:1 haul.



## CTOMS Green

Assault Climbers Kit - Purpose built kit for military and tactical rock climbing operations. It contains a full mountain rack including Dragon Cams, Wallnuts, Offsets, 8mm Dyneema Slings and lightweight Quickdraws.



## CTOMS Grey K9

Canine Access Kit - Aids the movement of working dogs during tactical and military operations.



## CTOMS Purple - Starter TRACE Kit

The most cost effective way to get into tactical TRACE™ systems.



## CTOMS Black

Squad Self Rescue Kit - Provides the capability to conduct self-rescue such as evacuation from an elevated position.



## CTOMS Emerald

Parachute Tree Escape.



# Tactical Training

Helix Operations deliver training in all aspects of vertical movement across all types of terrain. We utilise a core team of instructors who are experienced in operating tactically in these environments, our consultants experience covers tactical employment. Rescue and mountaineering ensuring our training is both current and relevant to the end user.

All our courses are tailored and refined to ensure they are pertinent to the end user because we are aware that no two situations or requirements are the same. We ensure that core skills and techniques are covered on all courses to ensure interoperability between organisations.

Our consultants hold the relevant military or civilian qualifications, we can if requested provide training and accreditation to the UK National Governing body standards.

## Core skills:

- Vertical movement. The ability to move teams and individuals safely and efficiently through complex terrain.
- Micro rope systems. Micro rope systems in all environments; this provides a lightweight expeditionary capability for experienced users.
- Rope Rescue. We are accredited Rescue 3 provider able to provide internationally accredited Rope Rescue training that is appropriate to the tactical user.



**CTOMS™**







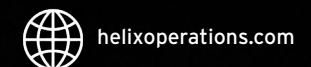
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Stay informed with key innovations across all product ranges in the tactical and rescue field as well as new courses.

Our website lists our entire range, including any certifications, technical specifications, and variations of products. You can also find information regarding courses and training, including our accreditation.



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Helix Operations evolved out of DMM International when it became apparent that there was a need for a specialist company to support the government, tactical, and rescue markets.

DMM International has a global reputation as a leading manufacturer of superior height safety equipment and has supplied the UK and overseas military and government institutions with equipment since 1985. Growing demand for a broad range of complete, specialist systems where all components are selected and proven to work together led to Helix being founded on this broad wealth of expertise and experience. With a remit to bring together a portfolio of the best equipment, the resulting partnerships with companies such as REBS, CTOMS, and Atlas amongst others have allowed us to offer a complete capability for vertical access and rescue across Urban, Mountain, and Maritime environments.

Helix's mission is to provide the tactical end user with the very best equipment and systems for vertical access, egress, and rescue scenarios.

We understand that first class equipment is only one part of the equation, and that without a trained operator or enabler it is unlikely to be utilised to its true capacity. That is why Helix also offers training packages alongside systems and kit. Training can be delivered through a range of options; from standard courses for the operator, maintainer, or supervisor, through to bespoke courses covering specific scenarios. These training courses are either accredited by Helix or through external validation depending on the end user requirement and course syllabus.





Woodlands House  
Parc Britannia  
Parc Menai  
Bangor  
Gwynedd  
LL57 4FA

[sales@helixoperations.com](mailto:sales@helixoperations.com)