

LIBRA

HARNESSES



TECHNICAL DATASHEET



In a complex global context, mission success increasingly depends on the ability to adapt to rapidly evolving scenarios. To address this need, the LIBRA Harness has been developed: an ecosystem made up of distinct elements that can work both independently and in sync. This results in the ability to meet various operational needs in a simple, fast, and secure manner.

The kit includes:

- 1 x Inner belt (including 2 x removable padding)
- 1 x Outer belt
- 1 x Leg Loops
- 1 x Leg Loops pouch
- 2 x Velcro strips (for securing the Leg Loops pouch to your gear)
- 1 x User Manual



PROBLEM: In operational contexts where the use of a fall protection system is required, the only available solution on the market was to layer a climbing harness over the operator's MOLLE belt. This practice required interrupting ongoing operations to allow the harness to be put on, resulting in delays to the mission. Moreover, it posed a serious safety risk to the operator: the two systems could interfere with each other, colliding and creating potential hazards to the operator's safety. A typical example is the possibility that the straps of the harness could become entangled with the pouches and holsters on the duty belt, causing the harness to function improperly in the event of an accidental fall.

SOLUTION: A next-generation tactical belt has been developed that, when necessary, can be transformed into a fall protection harness by adding only the leg loops, without altering the original layout or causing any interference. The kit is designed to be modular, with distinct components that can work both individually and in sync. This approach allows the operator to choose the most suitable configuration for the current needs, optimizing operations without compromising safety.

MUSCLE MEMORY: The modular approach also aims to preserve the operator's muscle memory, avoiding discrepancies with established procedures and training. In both cases, whether the product is used as a belt or as a full harness, the position of the pouches and accessories remains unchanged, ensuring muscle memory is maintained in all situations.



Config. : Belt only



Config. : Harness

TIMING: Wearing a traditional harness over the operational belt takes about 2.5 minutes, as it is necessary to properly adjust and tighten the straps. This procedure becomes even more complex in high-stress situations or low visibility. With the LIBRA Harness system, the thigh strap can be worn, even with eyes closed, in just 18 seconds.



1: Retrieve the Leg Loops from your gear (in the photo, the leg loops is stored in the provided pouch).



2: Insert your legs into the thigh strap rings and secure it to the belt using a carabiner.

WEIGHT AND VOLUME: The redundancy caused by wearing a traditional harness over the operational belt results in an increase in both the weight and bulk of the equipment the operator is required to carry. Thanks to the solutions provided, we have managed to reduce both the weight and the volume while maintaining the same level of protection for the operator.



ERGONOMICS: The design of the LIBRA Harness goes beyond simply pairing a Leg Loops with a belt. Thanks to advanced 3D design techniques, the geometries have been optimized to fit anatomical shapes, evenly distributing the load across larger surfaces and reducing pressure points. At the back, the belt extends up to 60 mm to better support larger and heavier pouches and accessories typically installed on the rear.



COMFORT: To ensure good comfort during extended use, the inner belt is equipped with two padding pieces at the iliac crests. At the back, a plastic insert prevents the belt from folding over itself at the rear belt loop of the pants. Both the padding and the plastic insert can be removed or replaced, allowing for precise customization of the product based on individual preferences.



NUMBERS: A product, to be considered valid, must be able to demonstrate its advantages through numbers. In the table below, a direct comparison has been made between the traditional solution (operational belt + traditional harness) and the LIBRA Harness, highlighting the key differences in terms of performance, weight, and usage time.

	MOLLE Belt + Standard Climbing Harness	LIBRA Harness - KIT
Weight (Size M)	450 gr + 400 gr = around 850 gr	435 gr
Volume (Size M)	Around 2,8 lt	0,8 lt
Time to wear	Around 2,5 min	18 sec
Wearing process	Medium/Complex	Simply and Intuitive
Safety	Potential interference between the systems	No Interference
Muscle Memory	Potential Interference	Unchanged in all configurations
Storage and Transport	The climbing harness must be carried in a backpack or in a large pouch.	Backpack not required: The Leg Loops can be carried and secured to your gear using the provided pouch.

MATERIE PRIME:

Component	Raw Material	Origin
Laser Cutted Fabrics	Mil-Spec Cordura® 500/500D DWR/nIR Laminate	U.S.A
Standard Fabrics	Mil-Spec Cordura® 500D DWR/nIR	U.S.A
Tubular Webbing	Mil-Spec 1" PA Nylon 6.6 Tubular	Germany
Gros-Grain Tape	Mil-Spec PA Nylon 6.6	U.S.A
Stiffner	TEGRIS® Thermoplastic	U.S.A
Metal Buckle	AustriAlpin® COBRA	Austria
Plastic Buckle	ITW Nexus®	U.S.A
Hook & Loop	VELRICO®	U.S.A / Europe
Elastic Cord	Mil-Spec Polyester 1/8"	Europe
Sewing Thread	Bonded #69 Mil-Spec PA Nylon 6.6	U.S.A

SIZES: For the correct size determination, please follow these steps: 1 - Wear the pants at the correct height. 2 - Insert a tape measure through the belt loops of the pants. 3 - Check the measurement and compare it with the table below.

Size	Circumference	MOLLE
Small	79 - 90 cm 31 - 35 inches	21
Medium	86 - 98 cm 34 - 39 inches	23
Large	94 - 106 cm 37 - 42 inches	25
X-Large	102 - 114 cm 40 - 45 inches	27
XX-Large	110 - 122 cm 43 - 48 inches	29

The LIBRA harness is designed in five sizes for an optimal fit. Therefore, the waist circumference determines both the size of the thigh straps and the belt.

MADE IN ITALY: All BLACKFOLIUM products are designed, developed, and manufactured in-house at our headquarters located in the province of Teramo (Italy). We firmly believe in the excellence and technical capabilities offered by our country, which is why we have chosen not to outsource production. Every phase of the manufacturing process is carefully carried out and monitored to ensure the highest possible quality for the professionals who place their trust in their equipment.

CERTIFICATIONS: The operator's safety is of paramount importance: we collaborate with the best testing and certification laboratories to ensure that the LIBRA Harness complies with European and international safety standards. The product is certified EN 12277 Type C and UIAA 105, and bears the CE mark. The LIBRA Harness is a certified Personal Protective Equipment (PPE) of Category 3. Improper use by untrained personnel can result in serious injury or death.



EN 12277 TYPE C



The certificate of conformity and information regarding the correct use of the product can be downloaded from the Download section of our website (www.blackfolium.com/download).

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