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DeltaSuit Overhead Exoskeleton

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DeltaSuit

A unique symbiosis of innovative design and human-centered engineering sets a new benchmark in ergonomics and dynamic performance, positioning the DeltaSuit as a new icon of overhead exoskeletons.

Designed to adapt to its wearer's unique movements and support requirements, the DeltaSuit represents the forefront of innovation in this field.

Developed around the needs of the most demanding active workers, the DeltaSuit is the result of scientific research, the use of innovative materials, Swiss engineering and an incessant passion for building a unique overhead exoskeleton that provides workers with at or above-shoulder support while allowing unrestricted movement.

With its avant-garde integrated hybrid design and anthropomorphic approach, the DeltaSuit offers an unparalleled comfort and performance experience, setting new standards in the occupational exoskeleton field.





Design

Elegant, understated, functional and highly ergonomic, the design of the DeltaSuit sets a new milestone in the field of industrial exoskeleton design.

Reduced to maximise, the DeltaSuit design represents one of the industry's most innovative expressions of passive exoskeleton design.

Designed to achieve the perfect balance between movement flexibility, dynamic support and usability, the DeltaSuit introduces a groundbreaking design approach by converging various mechanical and textile engineering solutions into a unique, integrated hybrid exoskeleton packed into an easy-to-use and fully adjustable design.

Meticulously crafted, the design shapes intuitively follow the natural alignments of the human body, creating a sleek and compact design with an unparalleled ergonomic experience. This ensures accessibility and usability even in the tightest and most challenging working environments.



The split-vest design ensures flexible movement and acts as an interface for the mechanical structure, and through the vest, the DeltaSuit is attached to the thorax instead of the hip for unconstrained upper-body movement.



Engineering

The DeltaSuit embodies a multidisciplinary synthesis of biomechanics, ergonomics and engineering based on years of research and development.

The foundation of the DeltaSuit is based on extensive research in biomechanics, ergonomics and engineering, integrating sophisticated and lightweight materials. All this know-how comes together in a meticulously designed, compact wearable exoskeleton that goes beyond conventional solutions.

Featuring a unique hybrid exoskeleton design, the DeltaSuit combines rigid and soft components seamlessly to create a system that offers high support while ensuring maximal freedom of movement and usability.

The DeltaSuit is made from advanced materials, including lightweight aerospace-grade aluminium alloy, technical polymers and a mix of Cordura® and 3D-mesh structure textiles. This makes it one of the lightest overhead exoskeletons on the market and provides dynamic reinforcement to its structure, resulting in a high level of support and unconstrained movements.

The heart of the support system is the proven EES (Elastic Energy Storages) highly integrated into the compact shoulder structure, which can be adjusted in two levels of support, enabling a new level of user performance customization.



The telescopic mechanism in the arm and elasticity in the split vest ensure maximal anatomical compatibility with the user and a high usability.

The user can choose from two levels of support: level 1 provides 5.2 Nm of support, while level 2 provides 6.6 Nm.



Performance

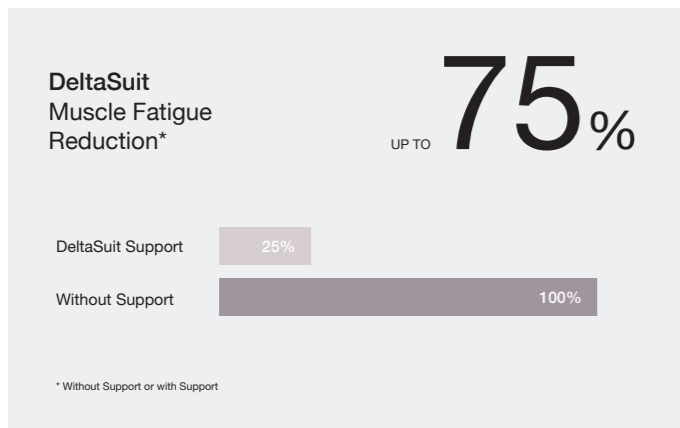
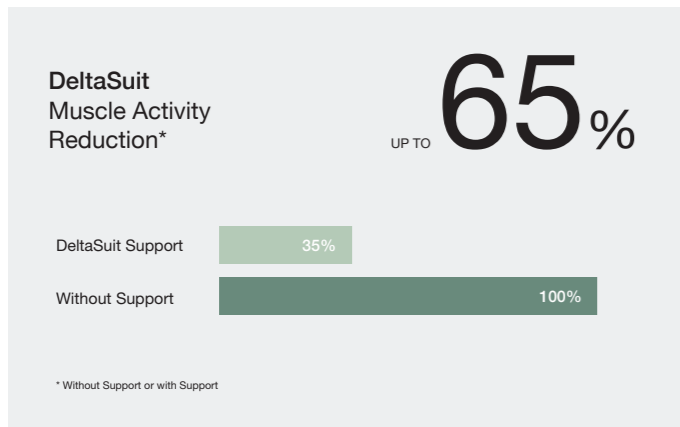
Adaptive, dynamic, and always available, the DeltaSuit is the answer for all those workers who seek performance without compromise.

Say goodbye to the days when overhead activities caused strain on your neck and shoulder and heavy support systems restricted your movement. Embrace a new level of ergonomic and dynamic performance that adapts to your needs.

The DeltaSuit is designed for dynamic use, requiring rapid adaptation without compromise. Thanks to its hybrid design that crosses the back, shoulders and arms, the dynamic support system assimilates naturally every movement, supporting it progressively and elastically, with minimal constraints and limitations.

The DeltaSuit is a trusted everyday companion for active workers during demanding tasks. It's lightweight, compact, easy to use and always ready to go. You will hardly notice it until its dynamic support system kicks in.

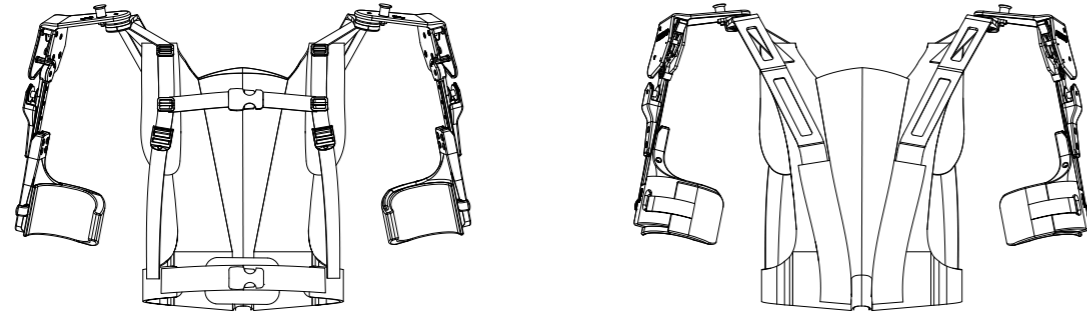
Put on the DeltaSuit and confidently tackle any overhead task, knowing you have the right level of support every time and everywhere you go.



Versatility of the DeltaSuit in different fields and tasks.

Scientific evaluation, show that the DeltaSuit significantly reduced muscle load and fatigue in the shoulder, neck and arms.

Technical Data



Hardware

Mechanical parts	Aerospace lightweight 7075 aluminium alloy Engineering-grade polymers Highly robust coated metal frame construction
Vest Interface	Split Design Vest with Frame-Inlay 3D-Mesh Structure Coated Cordura® 560 dtex
Dimensions (HxWxD)	580 mm x 550 mm x 190 mm (Size S-M) 650 mm x 550 mm x 190 mm (Size L-XL)
Weight	2.15 kg (Size S-M) 2.25 kg (Size L-XL)

Scientific measurements

Shoulder muscle support with power tools	33%
Shoulder muscle support by assembly tasks	36%
Shoulder muscle fatigue reduction	45%
Upper arm muscle fatigue reduction	60%
Neck muscle fatigue reduction	75%
Cardiac cost reduction	15%

More detailed scientific data can be found in the DeltaSuit Performance Sheet.
Available on our Website: www.auxivo.com

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