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DeltaSuit Overhead Exoskeleton

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DeltaSuit



DeltaSuit

An innovative design combined with human-centered engineering results in a shoulder exoskeleton offering high dynamic performance during overhead work.

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

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





Design

The highly ergonomic design of the DeltaSuit sets a new milestone for occupational exoskeletons.

Designed to achieve the perfect balance between freedom of movement, dynamic support, and usability, the DeltaSuit introduces a groundbreaking design approach by combining various mechanical and textile engineering solutions into a unique hybrid exoskeleton.

The DeltaSuit follows the natural lines 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.

Experience next-level usability with the DeltaSuit. It's simple to put on and requires minimal size adjustments. It's designed for intuitive and immediate use, and only minimal training is needed to harness its full potential.



The split-vest design ensures high freedom of movement and serves as an interface between the wearer and the mechanical structure. Choosing the thorax, rather than the hips, as the attachment point between the human user and the exoskeleton allows unconstrained spine movement.



Engineering

The DeltaSuit combines biomechanics, ergonomics, engineering, and years of research and development.

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

Featuring a unique hybrid exoskeleton frame, 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 alloys, technical polymers and a mix of Cordura® and 3D-mesh textiles. This combination of soft and rigid materials makes it one of the lightest overhead exoskeletons on the market. The selective reinforcement of its structure results 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. The support can be adjusted in two levels within seconds, enabling a new level of individual performance customization.



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

The users can choose between two levels of support to adjust it to their needs.

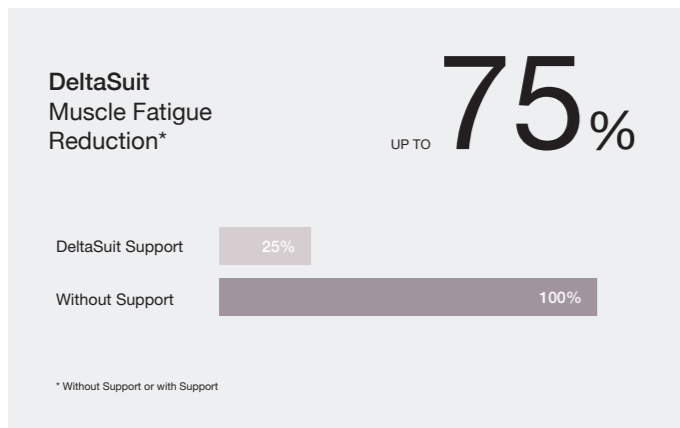
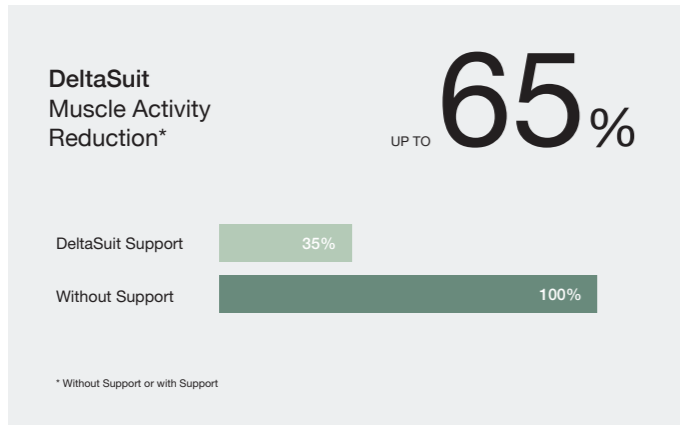


Performance

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

Say goodbye to the days when overhead activities caused strain on your neck and shoulders. Put on the DeltaSuit and confidently tackle any overhead task, knowing you have the right level of support any time and everywhere you go. It is lightweight, compact, easy to use, and always ready to go. You will hardly notice it until its dynamic support system kicks in.

Thanks to its hybrid design that spans the back, shoulders, and upper arms, the dynamic support reacts naturally to every movement, supporting it progressively as required with minimal constraints and limitations. This makes the DeltaSuit a trusted everyday companion for active workers during demanding tasks. Whether installing sealing panels, repairing a car, painting walls, or drilling hundreds of holes in a wall, the DeltaSuit can significantly support you and reduce the strain on your body.

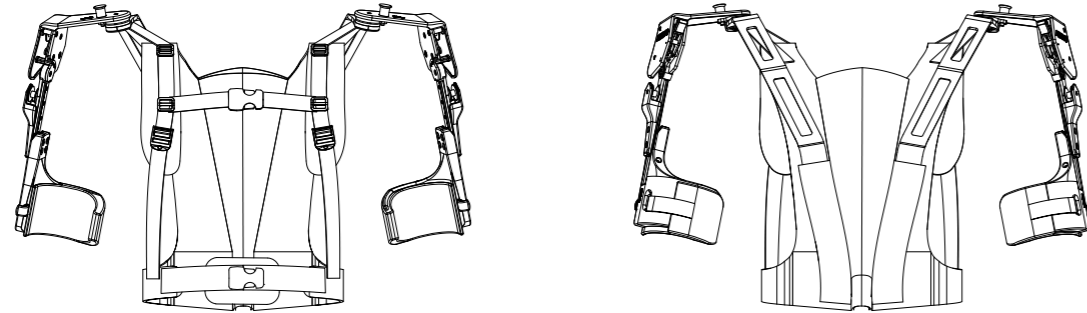


Versatility of the DeltaSuit in different fields and tasks.

Scientific evaluations show that the DeltaSuit significantly reduces 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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Contact

Headquarter

Auxivo AG
Sonnenbergstrasse 74
CH-8603 Schwerzenbach
Telephone +41 77 250 35 31
info@auxivo.com

Sales Area

Switzerland
T +41 782 040 905
sales.ach@auxivo.com

France
T +33 642 458 114
sales.afr@auxivo.com

Spain
T +33 642 458 114
sales.aes@auxivo.com

Germany
T +49 162 238 078 0
sales.ade@auxivo.com

Netherlands
T +32 483 581 451
sales.anl@auxivo.com

Belgium
T +32 483 581 451
sales.abe@auxivo.com

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