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OmniSuit Multitask Exoskeleton

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OmniSuit

A fully integrated exoskeleton that intuitively adapts to the individual needs of its users, providing unparalleled versatility for multitasking activities.

Designed to deliver a unique level of versatility, the OmniSuit provides a combined shoulder and back support solution for dynamic work activities, including overhead and lifting tasks.

Focused on ergonomics and human-centered engineering, the OmniSuit seamlessly covers the entire vertical range of motion without compromising performance.

Versatile, lightweight, and high-performance, the OmniSuit defines a new dimension of multitask exoskeletons, offering individualized solutions tailored to a wide range of work environments.





Design

The emphasis on simplicity, ergonomics, and usability ensures support without limitations, even during the most demanding and complex work.

With its hybrid exoskeleton frame, the OmniSuit combines rigid and soft components seamlessly to create a highly ergonomic and versatile support system.

The proven split vest allows for unconstrained spine movements while maximizing breathability, and dynamic misalignment compensation for a maximized freedom of movement experience. The meticulously crafted mechanical components seamlessly integrate into the hybrid frame, aligning with the natural contours of the human body.

Balanced and streamlined to the essentials, the OmniSuit design incorporates a wide range of Auxivo signature features including user-centric ergonomics and usability.



The ergonomic design naturally aligns with the human body, allowing unrestrained movement over a large vertical range of motion.

Advanced integration of mechanical and textile components ensure the optimal support of upper and lower extremities.



Engineering

Robust support and high energy efficiency through cutting-edge technology and materials, all within a compact, lightweight exoskeleton with multitask capabilities.

As a fully integrated multitask exoskeleton, the OmniSuit is engineered to maximize anatomical compatibility and energy efficiency while minimizing weight and size.

Advanced materials such as aero-space-grade aluminum, polymers, and technical textiles contribute to a lightweight and low-profile exoskeleton. At 2.7 kg (size S-M), the OmniSuit achieves a new level of agility, ensuring effortless everyday use.

The support system consists of two Elastic Energy Storage (EES) units that utilize gravity compensation and energy recuperation to support the back and shoulders.

Responsive at all times and always ready to use, the fully integrated construction provides a lightweight and highly energy-efficient exoskeleton.



The telescopic mechanism in the arm ensures a seamless fit between exoskeleton and user, optimizing ergonomics and usability.

The back support can be gradually tuned to a variety of tasks, while the need for shoulder support is covered through two support levels.





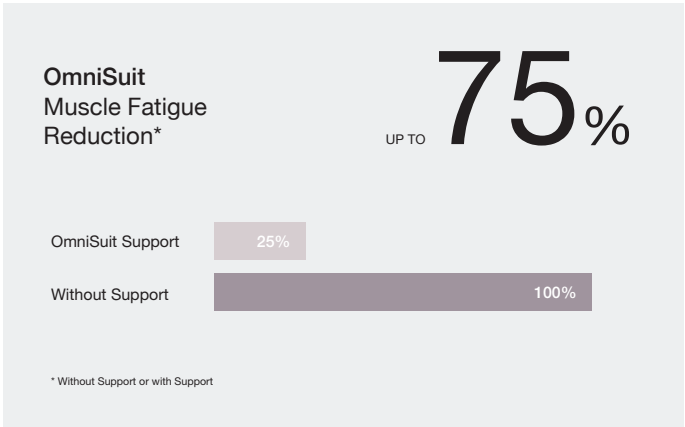
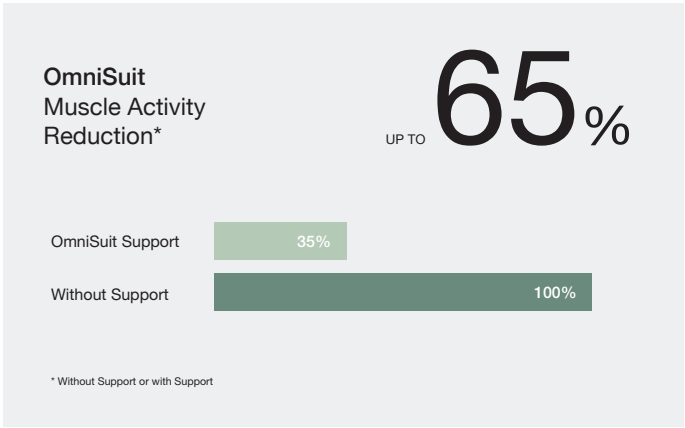
Performance

Experience a new level of versatile performance that seamlessly adapts to your dynamic work activities without compromise.

The OmniSuit offers multitask support for overhead and lifting work. It can support both activities seamlessly without compromising on performance.

As a combined back and shoulder exoskeleton, no one needs to choose between lifting and overhead support anymore when the work requires both. With its highly integrated design, the OmniSuit assists users in handling loads all the way from floor level to the highest shelf.

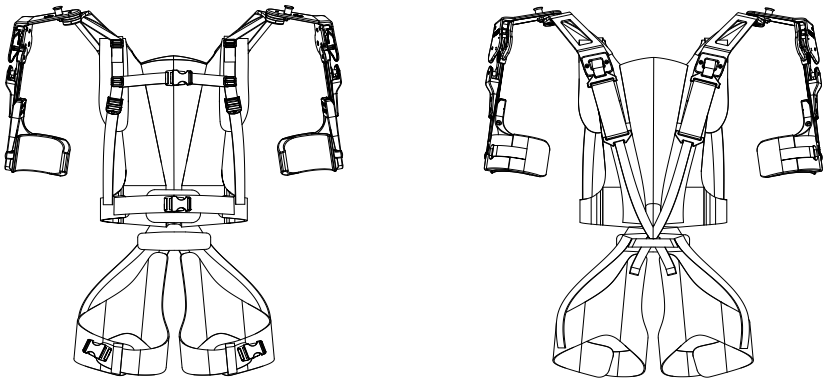
The OmniSuit is a trusted everyday companion for active workers during demanding tasks. It's lightweight, compact, easy to use and always ready to go. You will hardly notice it until its dynamic support system kicks in.



Versatility of the OmniSuit in different fields and tasks.

Scientific evaluations, show that the OmniSuit significantly reduced muscle load and fatigue in the shoulder, neck, arms, back, and hip.

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)	1000 mm x 550 mm x 250 mm (Size S-M) 1100 mm x 600 mm x 250 mm (Size L-XL)
Weight	2.7 kg (Size S-M) 3.0 kg (Size L-XL)

Scientific measurements

Shoulder muscle support with power tools	33%
Neck muscle support	22%
Back muscle support when leaning forward	33%
Shoulder muscle fatigue reduction	45%
Neck muscle fatigue reduction	75%
Back muscle fatigue reduction	14%
Cardiac cost reduction	15%

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

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