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Auxivo Launches the DeltaSuit, an Innovative Exoskeleton for Enhanced Shoulder Support

The DeltaSuit is a game-changing product designed to support any worker who needs to work at or above shoulder level throughout the day. It provides a range of benefits, including reduced load on the shoulder and neck muscles and reduced fatigue.

The DeltaSuit features a patent-pending design that combines soft and rigid elements in a unique, hybrid exoskeleton. This novel approach provides enhanced dynamic support while offering maximum freedom of movement and usability, making it perfect for a wide range of industries, including manufacturing, construction, logistics, and agriculture.

The exoskeleton's sleek and ergonomic design is small, lightweight, and comfortable, making it easy to wear for extended periods. The exoskeleton's high usability ensures that workers can focus on their jobs and use the system intuitively with minimal training required. Its highly integrated support mechanism can reduce shoulder muscle load by up to 65% and muscle fatigue by up to 75%.

Innovations such as the new sizing system, a split vest upper-body interface, integrated elastic energy storage elements (EES), the use of high-tech textiles and aerospace-grade aluminium alloys, and dynamic misalignment compensation result in a state-of-the-art system that pushes the boundaries of what occupational exoskeletons can offer.

"We are thrilled to launch the DeltaSuit, our latest innovation in the exoskeleton market," said Volker Bartenbach, CEO of Auxivo AG. "The DeltaSuit will provide workers with the support they need to perform their jobs with less strain and fatigue. At Auxivo, we are committed to developing innovative solutions that enhance worker safety and well-being, and we take pride in adding the DeltaSuit to our portfolio and providing our customers with the best possible solutions."

Overall, DeltaSuit is a groundbreaking product set to transform the shoulder exoskeleton market. Its ergonomic design, high dynamic support, small size, light weight, high usability, and fair price of €2290 make it a must-have for any worker who needs to conduct overhead work throughout the day.

A Truly Innovative Design

DeltaSuit's novel hybrid design combines soft and rigid elements seamlessly to offer good support with maximum freedom of movement, making it perfect for a wide range of industries, including manufacturing, construction, logistics, and agriculture.

Its optimized upper body attachment allows for unconstrained and natural spine movement. The level of support can be adjusted without tools in seconds simply by turning a switch, allowing for easy customization according to the users' needs.

A sizing system featuring two sizes, S/M and L/XL, and requires minimal adjustments to achieve optimized fit and comfort. The innovative elastic split vests automatically adjust to the user's upper body. After tightening a few straps and closing a few buckles, the exoskeleton is ready to go, making using and donning the system as easy as a hiking backpack.

Its small and low-profile frame allows the users to move around even in the most challenging and narrow work environments.

All these design features cumulate in DeltaSuit's high usability. The exoskeleton can be quickly and easily adjusted to fit any worker, making it comfortable to wear for any extended period. Its lightweight and ergonomic design allows for a full range of motion, enabling workers to perform their tasks without limitations or discomfort. The exoskeleton's high usability means that workers can focus on their jobs without worrying about physical strain and fatigue, with minimal training required.

Cutting Edge Technology and Performance

DeltaSuit's hybrid frame utilizes technical textiles where possible to make it flexible, small, and lightweight and integrates reinforced elements made from high-performance polymers and aerospace-grade aluminium alloys to ensure it can provide a high level of support. At around 2kg, the DeltaSuit is a truly lightweight exoskeleton that does not impose an additional burden on the user with its mass.

The heart of the support system is the proven EES (Elastic Energy Storage), which is highly integrated into a compact shoulder structure. A newly developed mechanism allows the support to adjust dynamically. When the users' arms remain lowered, the DeltaSuit does not push them upwards. But once the arms begin to raise, the DeltaSuit supports them progressively. This way, the DeltaSuit works in natural harmony with every movement. With two support profiles offering 5.2 Nm and 6.6 Nm of peak torque, the DeltaSuit can be customized to different users and job requirements.

Backed by Intensive Research and Scientific Evidence

The Auxivo team conducted intense biomechanical evaluations and field testing of the DeltaSuit throughout the entire development process. These evaluations were performed in the company's own laboratory and in collaboration with leading industry and research partners.

The results are available to customers and summarized in a performance sheet, providing them with the assurance that the DeltaSuit has been thoroughly tested and evaluated to ensure its effectiveness. The measurements show a very good level of support with shoulder muscle load reduction of up to 65% and muscle fatigue reduction of up to 75%. The company, together with academic partners, plans to publish the results of the evaluations in a peer-reviewed scientific journal later this year, further validating the efficacy of the product.

"We believe that rigorous scientific and field evaluations are critical to the development of reliable and effective exoskeletons," said Dr. Rachel van Sluijs, Senior Scientists at Auxivo AG. "We are committed to providing our customers with products that have been thoroughly tested and evaluated to ensure their safety and performance. By publishing the methods and results in a peer-reviewed scientific journal, we further demonstrate the efficacy of our products and contribute to the broader exoskeleton community by supporting the establishment of standards."

A Truly Accessible Exoskeleton

The DeltaSuit exoskeleton is now being introduced to the public at the Hannover fair in Germany from April 17 to April 21, 2023, and at the Logimat fair in Stuttgart, Germany, from April 25 to April 27. These events, which are amongst the world's largest industrial and logistics trade shows, are the perfect venues to showcase DeltaSuit's innovative design. After the fairs, the DeltaSuit will be available for purchase in Europe through the Auxivo sales team, online shop, and authorized distributors. The DeltaSuit will be globally available soon through Auxivo AG's international network of authorized distribution partners, ensuring that customers worldwide will have access.

At a list price of €2290, the DeltaSuit transforms the exoskeleton market, offering top-quality technology at an affordable price point. The product's accessibility means that more workers can benefit from the support and protection that exoskeletons provide, ultimately leading to a safer and healthier workforce.

About Auxivo

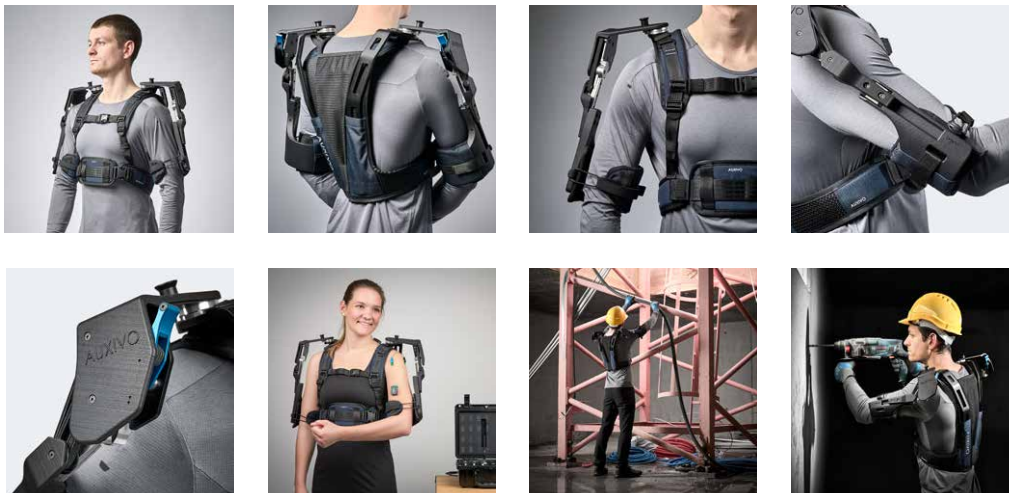
Auxivo AG is a leading developer and manufacturer of exoskeletons, founded in 2019 as an ETH Zurich spin-off. The company's mission is to enhance worker safety and well-being by providing innovative and accessible solutions that reduce physical workload and the risk of injury.

Auxivo AG's team of experts includes engineers, designers, and researchers with a wealth of experience in wearable exoskeleton development and biomechanics. By leveraging this expertise and strong partnerships, Auxivo AG is able to provide world-class products to its customers. By combining cutting-edge technology with a commitment to research and innovation, the company ensures that its products meet the highest standards, ultimately enhancing worker well-being.

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Related Images



Related Documents

DeltaSuit Brochure, PDF (.pdf) 3550 KB

DeltaSuit Performance Sheet, PDF (.pdf) 588 KB

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