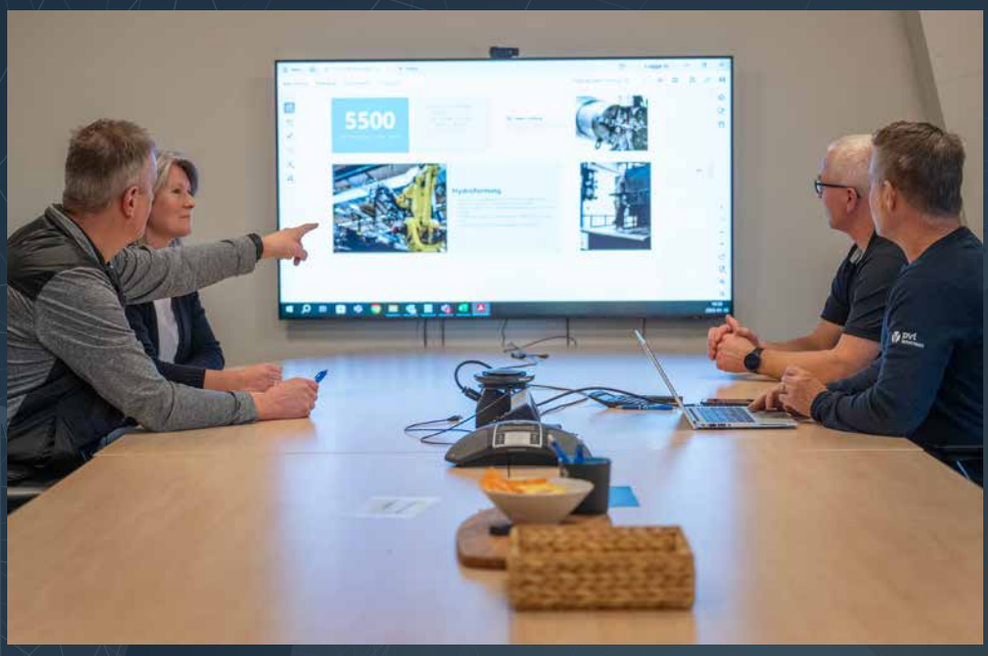
Driven by entrepreneurs

pvi HYDROFORMING



Leading Specialists in Hydroforming and Technology

PVI Hydroforming AB, located in Vansbro, Sweden, serves as a leader in precision engineering, with a legacy rooted in the tradition of technical steel manufacturing dating back to 1899. As a vital part of PVI Industries AB, our mission is to offer customers across Europe and North America high-performance forming solutions for sheet and tube materials. We proudly offer a robust expertise in hydroforming, complemented by deep drawing, pressing, punching, 3D laser cutting, and laser welding. This spectrum of capabilities enables us to tailor the most optimal production solutions for complex components. Our business model thrives on innovation, as we work in tandem with universities and international companies to push the boundary of what technology can achieve. Our in-house tooling design and manufacturing provide us with agility, leading to exceptional quality and reduced lead times. Our vast experience within the automotive and aerospace industries underscores our expertise in material processes. By maintaining all our operations in-house, we ensure the utmost confidentiality for our clients, alongside unmatched craftsmanship delivered by our skilled toolmakers. PVI Hydroforming stands committed to delivering the highest quality products through efficient, sustainable processes.

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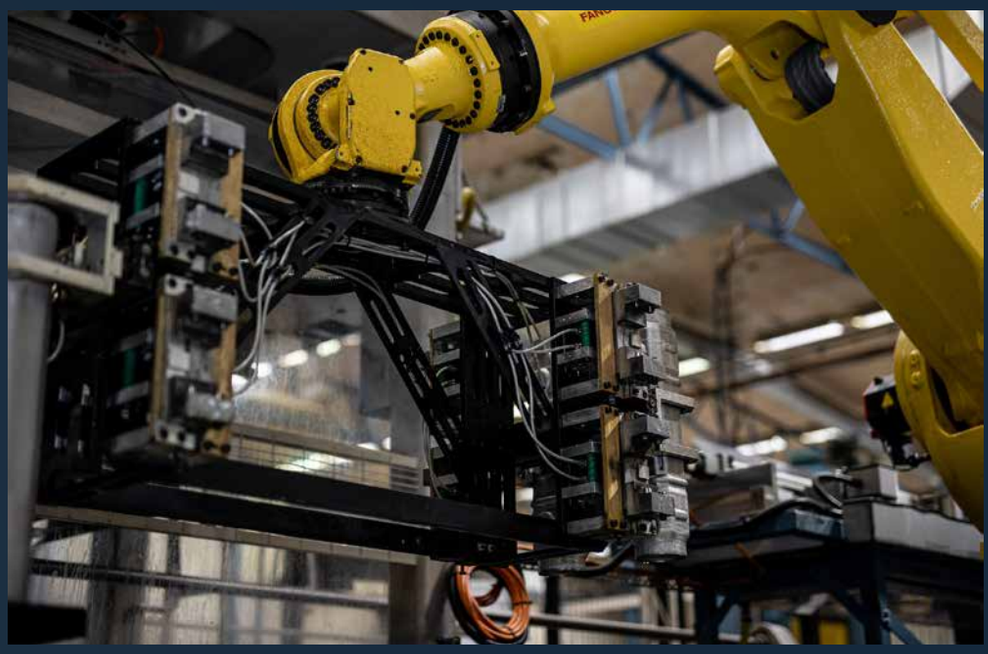

A word from our CEO

Hydroforming is a unique alternative to traditional stamping, increasing efficiency and reducing production time. Known as “one-piece production”, the process minimises the number of parts requiring welding, simplifying designs. Using high water pressure, hydroforming creates advanced geometries, strengthens material properties, achieves tight tolerances with high repeatability, and avoids surface scratches. This makes it ideal for producing durable, high-quality components. While hydroforming is not a standalone process, combining it with laser cutting and welding provides an optimal solution for creating complex, high-demand products.

At PVI Hydroforming, sustainability is central to our operations. Over the past year, we’ve made significant progress in reducing CO_2 emissions. A key example is our nitrogen generator, which allows us to produce all cutting and welding gases directly on-site, eliminating transport-related emissions. By carefully monitoring scrap rates and machine energy consumption, we continuously work to reduce waste and improve efficiency, contributing to a smaller environmental footprint.

Our vision is to remain at the forefront of technology, providing competitive and sustainable solutions to our customers. With our employees as the foundation of our success, we aim to consistently achieve high standards and exceed expectations. Entrepreneurship drives us forward, enabling fast decision-making, innovative approaches, and streamlined communication. These strengths ensure that we can adapt quickly to new challenges and continue delivering value to our customers.

Mikael Vuotari, CEO

Enhancing Efficiency and Quality Through Automation

At PVI Hydroforming, automated workflows are integral to our operational strategy. The automation of our production lines allows us to achieve cost-effective solutions without compromising quality. By integrating cutting-edge robotics, we enhance product consistency and precision, reducing errors and minimising scrap rates. This commitment to automation has enabled us to slash lead times significantly, ensuring prompt delivery of our high-standard components to clients. Our automation processes are also quality-enhancing, as they provide consistency across productions, guaranteeing that each component meets the rigorous standards expected by our customers. Additionally, our embrace of automation supports our environmental commitments, optimising resource usage and reducing energy consumption. As we continue to integrate advanced technologies into our processes, PVI Hydroforming remains at the forefront of efficiency and innovation within the manufacturing landscape.

The Advantages of Hydroforming

Hydroforming is a sophisticated manufacturing process employed at PVI Hydroforming for its versatility and efficiency. By applying high-pressure hydraulic fluid, this technique molds ductile metals into precise and complex shapes from sheet metal or tubular sections. Initially used in the early 1900s for innovative designs in industries like plumbing, hydroforming evolved in the 1990s within the automotive sector for manufacturing lightweight and robust vehicle components.

One primary benefit of hydroforming is producing one-piece products that reduce the need for multiple welding seams, increasing the strength and rigidity of the final component. This process ensures high surface quality by eliminating external or internal tooling that might affect the material's finish. Furthermore, hydroforming allows for excellent dimension control and consistency, with tolerances maintained within 0.05 mm.

3D Laser Cutting

3D laser cutting empowers the creation of intricate and precise shapes, allowing for the cutting of holes, beveled edges, and specialty ends on tubing. This method ensures parts meet exacting specifications with high repeatability, crucial for maintaining strength and aesthetic appeal in complex components.

Laser Welding

Laser welding provides a precise and efficient method of joining metal parts with a focused beam of laser light. This process is ideal for sectors where precision is paramount, such as automotive and aerospace, minimising cleanup and thermal distortion while ensuring high-quality material fusion.

Tool Manufacturing

PVI Hydroforming manages tool manufacturing in-house, granting optimal control and expertise over processes. This capability enables quick development and adaptation of tools, ensuring production meets specific requirements with the highest quality standards.

Advanced Simulation Tools

Utilising advanced simulation tools and CAD/CAM software, PVI Hydroforming optimises designs and processes for cost-effective solutions. These tools ensure fast and reliable hydroforming simulations, vital for adhering to strict industrial standards.

Precision Production

In every production phase, Coordinate Measuring Machines (CMM) and hydraulic pressing are utilised to ensure precision and quality, underscoring our commitment to excellence in manufacturing.

For industries with high demands, such as automotive and aerospace, hydroforming is a preferred choice as it enables complex geometries unachievable by traditional methods. By integrating hydroforming with 3D laser cutting and precision laser welding, PVI Hydroforming refines parts for applications where precision, quality, and performance are critical.

Sustainability and Environment

Sustainability is at the heart of PVI Hydroforming's operational philosophy. Our facility is designed to operate with zero CO_2 emissions, primarily utilizing renewable energy sources such as hydro, wind, and solar power. This commitment to clean energy is further enhanced by our in-house N2 generator, which significantly reduces our environmental impact by eliminating the need for external gas supplies. In fact, we have successfully cut down CO_2 emissions by 7.7 tons last year.

We emphasize the use of recycled materials and adhere to stringent emission standards for transport, ensuring our production processes are both clean and eco-friendly. Our dedication to reducing chemical usage and investing in green technologies demonstrates our long-term commitment to sustainable practices. Certified to ISO and IATF standards, we are continually seeking innovations that drive sustainability, efficiency, and environmental responsibility across all aspects of our operations.

We have successfully cut down CO_2 emissions by 7.7 ton during last year.

ISO 9001:2015

ISO 14001:2015

IATF 16949:2016

See our certificates here:

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