

A Custom-Fit, Future-Perfect Investment

Now JAM Automation can cut individual parts much faster and more accurate than ever before on their new STAHLWERK VECTOR 1000M Machining Center from KNUTH.



JAM Automation has been producing custom automation solutions for the industry since 2001. They are headquartered in Radevormwald, Germany, serving a mostly local customer base. “Being close to our customers is very important to us,” said Burkhard Hörenbaum, Manager of Operations. “This is not only important for close coordination during the development phase, but also later to guarantee fast service.”

Specialists for custom solutions

The local region has a large demand for custom solutions for the automotive industry, but also for the production of plumbing and electric parts. "Our major focus in any of these industries is our ability to offer a solution for the task at hand," said Burkhard, who has an engineering degree. From their extensive portfolio of test tracks, camera systems, conveyors and cleat belts, XYZ servo axis systems, storage tracks, bunkers, and chain conveyors, JAM selects the required machine components and adapts them to fit the customer's production process.



In 2014, the company moved to a new, larger facility, so they could better serve the increasing demand. The new facility can easily be expanded as future needs arise. On average, the company's 25 employees develop and produce about ten machines and systems per year. These come in various sizes and may include robots for loading, unloading and/or assembly work, plus rotary indexing tables and test systems. "Our customers use our machines for a wide variety of applications, e.g., to caulk bolts to aluminum plates, to produce tubes for concealed cistern boxes, or for tactile or optical measuring and sorting of the manufactured parts," said Hörenbaum. In most cases, we deliver stand-alone solutions. But for Thyssen Krupp, JAM worked with several other providers to assemble a complete automation line.

VECTOR 1000M Machining Center

- Compact All-In-One Machining Center
- Rapid feed on X/Y with 36,000 mm/min
- Spindle speed 10,000 rpm
- X-axis travel 1,000 mm



Siemens 828D Shopmill user interface ensures easy operation



The tool changer upgrade and an optimized through-spindle coolant flow are very popular



First-hand automated solutions

The smart way to increase production

Construction, production and pre-acceptance are all handled at JAM's headquarters. The excitement begins, when JAM sets up their machines at the customer's site. "Often, the custom requirements are so individual that the machine cannot be adjusted and fine-tuned until it has been erected on site," said Hörenbaum. This is another reason, why closeness to the customer is so important. Since almost every machine is unique, JAM mostly produces customized single parts. The company already uses KNUTH machine tools for its milling operations. JAM initially bought a used VBZ 760 with TNC 407 Heidenhain control that was built in 1999, and in 2012 they added a new manually operated VHF1. When new capacities were needed in 2017, JAM evaluated several other modern milling machines. "We run a one-shift operation. But our goal was to get a new machine that could be left running at shift's end to cut single parts or part series," explained Hörenbaum. To make sure the machine could independently cut as many parts as possible, the table had to be at least 1,100 mm long and feature multiple clamping units plus a 30-station tool changer. In addition, JAM required tool gauging features, a speed of 10,000 rpm, and through-spindle cooling with a pressure of 30 bar.

Hörenbaum requested several quotes and looked at some interesting machines at various exhibitions. At the EMO 2017 trade show, he also visited the STAHLWERK Premium Line booth, which is a brand of KNUTH Machine Tools. KNUTH Sales Manager, Patrick Jöhnk, told about their previous exchange of information and said, "I was glad that I could demonstrate the Vector 1000 M to Mr. Hörenbaum directly at our booth." This first impression was reinforced, when Hörenbaum and the operator of their present CNC milling machine visited the KNUTH facilities in Wasbek, Germany. "We were really happy that our favorite control, the Siemens 828D with ShopMill, came with the Vector standard package," said Hörenbaum. "That tipped the scales for us."

Student in charge of machine operation

Siemens 828D control is standard



Custom-fit machining of single parts for the future total concept

Since April 2018, the Vector 1000 M is in operation at the facilities in Radevormwald. Its operator is a student. "In view of the tight labor market, we initially looked internally to find a suitable employee to operate the new machine. For Damiano Di Paolo, who had just completed his training as milling technician at our facilities, this was a great opportunity, and for us it was a great investment in the future," explained Hörenbaum. "Thanks to the good training, the student was able to operate the milling machine already very well." The KNUTH Applications Engineer had provided two days of intensive training under real operating conditions. During the daytime shift, Di Paolo works under the supervision and with the support of an experienced milling operator, Jürgen Bonrath. In the future, JAM wants to carry out all previously outsourced milling work in-house and mitigate any production downtimes due to vacation by using the second milling machine. "The after-hours manufacturing without operator intervention also reduces our cycle times," said Hörenbaum.

A common solution from JAM and KNUTH

An expansion has already been planned. "We want to connect a CAD Reader, so we can input and cut contours directly at the PC," said Hörenbaum. In addition, KNUTH and JAM Automation are considering another collaboration.

Their common goal: Both companies are focusing their projects on their core competencies, thus integrating their know-how and developing solid and effective solutions for their customers. "Many machines from the KNUTH or STAHLWERK portfolio could be loaded and unloaded via robotics," explained Patrick Jöhnk, when asked about their common idea. A design solution for this palleting function will be shown at JAM's in-house exhibit in September using the KNUTH Roturn lathe as an example.

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