Workpiece clamping technology powers productivity increase

ASP Automation GmbH uses flexible Gressel workpiece clamping technology to ensure maximised machine utilisation and thus increases production productivity

The word "flexibility" runs like a thread through all areas of ASP Automation GmbH. ASP's own products, the ASP aluminum profile modular system and Vario buffer conveyor belts, are characterised by maximum flexibility in application and use. In addition, the production of parts on customer order as well as for ASP's own products is organised in a highly flexible manner, which of course also includes the efficient multi-machine operation by highly qualified personnel.

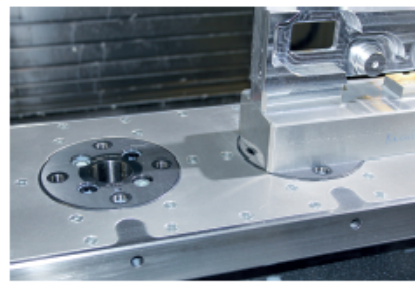
Founded in 2000 by the current owner and managing director Werner Schramm, this strictly technology-driven company has developed from small beginnings. The company deals with the development and construction of automation solutions as well as special machines on customer order on the one hand and with the development, construction, and sale of its own products on the other hand. ASP currently has 18 employees, 10 of whom are in the area of mechanical manufacturing alone.

Contrary to the frequently observed trend towards a pure system integrator that primarily relies on components available on the market, Werner Schramm relies on a high degree of in-house production, which is currently around 90 percent.

"As a special machine manufacturer and manufacturer of our own products, we have to react very flexibly to customer wishes and are dependent on both the best quality and a high degree of schedule reliability for problem-free assembly of modules and equipment," explains Werner Schramm. "In order to guarantee this and to be able to act flexibly and quickly, we decided at an early stage to manufacture construction parts ourselves whenever possible and reasonable and to commission efficient partners to supply standardised our standard components."

New CNC machining centre versus existing workpiece clamping technology

With increasing business volumes as well as the growing order volume, especially for its own product Vario buffer conveyor belts, ASP soon encountered capacity problems with the intensive evaluation and subsequent procurement of another new 3-axis CNC machining Standcentre. The planned solution of equipping a 3-axis CNC machining centre with a large working range (X-axis travel = 1,000 mm) with a CNC rotary table and rotoFIX clamping yoke as the 4th axis instead of procuring an expensive 4- or 5-axis machining centre turned out to be absolutely right, based on the range of parts to be machined.



When the CNC was purchased, Werner Schramm already predicted that the performance capability of the CNC machining centre would reach its limits with conventional workpiece clamping devices and therefore contacted Gressel. After a visit by a Gressel sales engineer, a solution was proposed that was convincing in every respect and an order was placed for the supply of various components from the Gressel clamping technology modular system. Specifically, these are several gredoc mechanical zero-point clamping systems in square and round versions, several C2 125 centric clamping systems and several gripos single clamping systems.

With these clamping technology components, Werner Schramm and his colleagues realised a highly flexible universal clamping system. Depending on the design, configuration and equipment, this allows both rational 3-axis machining on a machine table equipped with an adapter plate as well as 4-axis complete machining after the assembly of a CNC rotary or tilting table. However, Werner Schramm and the machine operators came up with even more ideas to minimise the setup/conversion and assembly effort as well as the non-productive idle times caused by machine downtimes. By creating the machine table adapter plate and placing five gredoc mechanical zero-point clamping systems angularly on it, these five zero-point clamping systems accommodate either the CNC rotary/tilting table mounted on a base plate or, if required, one to five gripos single clamps or up to five C2 125 centric clamps. It is also possible to equip large workpieces with gredoc bolts and clamp them directly onto the adapter plate. However, the use and application are even more flexible, because four gredoc mechanical zero-point clamping systems are angularly embedded in the tilting axis base plate of the CNC rotary/tilting table and, depending on the requirements or machining operations, these also accommodate one or up to four C2 125 centric clamps as well as blank blocks provided with gredoc bolts, so that they can then be machined in 4-axis complete mode.

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