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FORUM

SCHNEIDWERKZEUG- UND SCHLEIFTECHNIK

E-PAPER LESEN

LASERBEARBEITUNG IN DER WERKZEUGTECHNIK

STARKE PARTNER SCHREIBEN ERFOLGSGESCHICHTE

COMPREHENSIVE AUTOMATION SOLUTIONS

Robotics from SCHNEEBERGER for the precision grinding technology.

Schneeberger Corvus NGB with external Robot Cell

The grinding machine manufacturer J. SCHNEEBERGER Maschinen AG develops and builds high-precision and high-performance 5-axis machines. A wide variety of cutting tools and precision components for turbine construction, manufacturers of e-mobility, planetary gearboxes, wind power and medical technology. Manufacturers from a wide range of industries rely on the reliability and productivity of Swiss grinding machines.

Automated 24/7 machine loading significantly increases productivity and reliability. In many applications, it is no longer conceivable to do without it, even for smaller quantities and longer run times, the trend is clear. Where the grinding process is pushed to the limit and is only limited by the physical boundary conditions, the use of the physical constraints, the focus is increasingly on the non-productive times. While the machine is grinding, the robot can perform useful work together with peripheral equipment. This minimizes the total cycle time and optimizes output and cost-effectiveness.

With uncompromising state-of-the-art technology, the Swiss company is at the cutting edge of customer-specific automation solutions. From the small Scara robot for shank tools and a changeover time of eight seconds to the heavy-duty robot with a payload of up to 35 kg and an impressive robot arena. SCHNEEBERGER offers a suitable solution for almost every application with its automation portfolio. The fine-tuning is done by the in-house engineering department. The robots are equipped with application-specific special grippers. Workpiece-specific pallets complete the automation concepts from SCHNEEBERGER.

The flexibility of the 6-axis jointed-arm robot from FANUC also sets hardly any limits in the area of side effects with added value. For example, by automatically reading a data matrix code on the tool blank, the appropriate grinding program can be determined and started in the in-house Qg1 CAD/CAM software. This optimizes non-productive time on the one hand and process reliability on the other

The integrable vision system detects the position and orientation of blanks, which is particularly useful in the production of inserts. For corresponding applications, the blanks can be fed in universal trays, eliminating the need for time-consuming, position-dependent palletizing.

A possible control measurement after grinding in the robot cell also contributes to process reliability. If the results are good, the tool or workpiece is returned to the pallet. If the part is out of tolerance, it can be discharged via a scrap compartment. The measured values are reported back to the grinding software, which then initiates corrective measures for the following tool.

In addition, further operations can be integrated after grinding. These include the rounding of the cutting edges by brushing or the automatic cleaning of the ground tools with compressed air or ultrasonic bath.

SCHNEEBERGER also leaves nothing to be desired in the area of high-quality laser marking. Whether part numbers, brand logos, Data Matrix, QR or bar codes, laser marking made easy and during production time.

Schneeberger Aries NGP

All automation components and thus the subsequent production processes are optimized at the manufacturing plant, if necessary also together with the customer's engineers. A fully automated machine from a single source, approved and accepted by the customer as a whole, is the most reliable solution.

From the blank to the finished tool, including laser marking, everything from a single source with the tool grinding machines and automation from SCHNEEBERGER.