

Anyone can be a grinding expert with StuderTechnology

Swiss cylindrical grinding specialist STUDER called on grinding experts to compete against the StuderTechnology computer. Seventy specialists took up the challenge. Each had the same grinding task: Six criteria had to be fulfilled for an optimum grinding result. The result? Only eleven percent of the experts achieved optimum values at the first attempt. The StuderTechnology software achieved 100 percent and thus sets new standards in cylindrical grinding.

Several hundred parameters of a grinding machine determine the machining process for cylindrical grinding. A complex process, which is the preserve of absolute specialists. Or maybe not? The StuderTechnology computer breaks with this opinion, and also breaks records when it comes to grinding. Explained in simple terms, the software automatically determines all necessary data for cylindrical grinding. With just a few inputs the program calculates the production goal and grinds perfectly and with maximum feed at first attempt. "For 13 years I knew that as a turner I would never be able to grind, the process was too demanding. I was proved wrong. Thanks to StuderTechnology we can now grind complex parts. And bear in mind that we had no employees who could grind. It was a bold decision to invest in the STUDER S33 machine with StuderTechnology, but it was the best decision we have ever made", Michael Jauer, CEO of Drehtech AG in Herzogenbuchsee (CH) is still passionate today.

107 years of knowhow

StuderTechnology helps to radically facilitate the operation of cylindrical grinding machines. Component quality, unit costs, machining time, energy efficiency, in short: all key production factors benefit enormously. What makes this software so unique? Its history! It incorporates 107 years of grinding experience. It combines formulas from grinding technology, empirical data and many years of expertise. The program contains data from countless grinding tests, in which the best machining strategy has been determined for a wide variety of components. StuderTechnology takes recourse to these values depending on the specific application and precisely applies them. Imagine a modern camera: You can select automatic programs for different lighting and shooting situations on the dial. These result in optimum images in every situation. And of course you can also choose your own settings. StuderTechnology works in a similar way.

Up to 50 percent shorter machining time

With StuderTechnology you no longer have to be a grinding expert. It is incredibly easy to operate. "In principle, as a production specialist I need to know which parameters are decisive. The tolerances are crucial, on the one hand, and the surfaces on the other. I provide the grinding wheel specifications, the workpiece material and hardness, and decide whether the focus should be on rapid feed or a good surface. On the basis of these values the software suggests the cutting sequence and cutting values. In the past I have always directly adopted the recommendations made by StuderTechnology. This has always worked, from the very first workpiece, without any rejects", explains Marcel Wagner, Production Manager at Drehtech AG.

The individual times can be drastically reduced. The grinding times alone are generally reduced by 25-50%. But set-up, programming and documentation times are also reduced by using the software. The operator no longer has to laboriously try to find the optimum value. The optimization time is eliminated in most cases. If you use the software consistently, the costs per part are considerably reduced. Or in other words - the production volume can be practically doubled with one and the same machine. As a welcome side effect the energy consumption is also positively influenced, which is why StuderTechnology has been awarded the "Bluecompetence" label.

Excellent solution

StuderTechnology has impressed experts since its launch. This innovation won the Prodex Award in 2012 and the INTEC Award in 2013. "The software is exceptionally quick and supports the process so effectively that at best I only need to individually fine tune the grinding parameters suggested by the program", explains Stefan Köhler, Master Craftsman and Grinding Division Manager at Pabst Komponentenfertigung GmbH. And what are the disadvantages of this unique STUDER solution? "Grinders are cautious souls and take a careful approach to machining. StuderTechnology goes all out", explains Daniel Zürcher, Customer Center Training Manager at Fritz Studer AG. "So to completely rely on the software takes some willpower, but it pays off every time", he knows from his own experience.

Function in detail

A workpiece drawing or work instruction is always provided as the starting point. This shows the dimensional, form, position and surface tolerances. The user is repeatedly faced with the question of how he must set the machine, in order to fulfill the requirements. To be as quick as possible? Or as precise as possible? He must also include material and hardness, as well as abrasive and cooling lubricant, in his decision. From these variables he derives his setting values, which are shaped by personal experience, and thus his production goal.

StuderTechnology suggests such production goals. The "Normal grinding" production goal stands for applications in the tolerance range ~ H5/h5 and surface quality ~ Ra0.3. The production goal for increased removal capacity can be used for pregrinding operations in particular. The program provides two further production goals for higher precision or higher surface quality.

You can rarely achieve the optimum grinding result without support. A great advantage of StuderTechnology is that it takes account of the machine characteristics and the configuration of the grinding cycles. Grinding wheels and dressing tools can be used for much longer, as abrasive is not removed unnecessarily, which in turn results in less wear.

Conclusion: STUDER – "The Art of Grinding."

Grinding is an exacting science. StuderTechnology provides companies with a tool which anyone can use for grinding. It also offers experts targeted support. Thanks to the new teach-in function, operators can save their own programs.

The workpiece boasts better roundness and surface roughness. Good quality and a quick, stable process are achieved at first attempt, independently of the operator. Through the reduction of error costs, shorter grinding times, lower tool costs and the elimination of complicated calculations, productivity can often be increased by 50 percent. "The STUDER specialists told us that StuderTechnology would be of enormous support to us in setting up and programming the machine. We were skeptical, as promises are easy to make. But everything that STUDER promised us was true. Perhaps even more so, which was really impressive", acknowledges Marcel Wagner.

STUDER Contact

Mischa Keller

mischa.keller@studer.com

+41 33 439 1590