

For Immediate Release

Contact: Mrs. Christy Lincoln

United Grinding

937/847-1253

Robin Bergstrom

859/689-9551

Studer S41 CNC Universal Cylindrical Grinder: Revolutionizing the Grinding Industry

MIAMISBURG, OH — United Grinding Technologies (UGT) announces the new Studer S41 CNC universal cylindrical grinder, featuring outstanding technology and cost-effectiveness. The machine grinds with superior precision and at extreme metal removal rates. In addition, the longitudinal and cross slide, as well as the swivel axis for the wheelhead, feature electric direct drives, which move to the working position swiftly and precisely.

Higher precision, better surface quality, higher metal removal rates – these are the demands of today’s market. In addressing these requirements, Studer has again raised the bar with its new S41 CNC universal cylindrical grinder. The developers based the new grinder on a predecessor machine proven worldwide over many years, while adding a number of outstanding design features. It offers a broader range of applications with production options that are highly attractive from any perspective. By saving on auxiliary times, the S41 considerably shortens the cycle times of the grinding process.

Extremely rigid machine bed and maintenance-free guide system

The Granitan® S103 machine bed provides a very solid, rigid and thermally stable machine ideal for absorbing the high forces that occur during grinding with high metal removal rates.

Its remarkable thermal behavior allows the machine to operate with consistently high precision even with changing ambient temperatures. Its high rigidity and excellent damping provide the basic prerequisites for outstanding surface quality of ground parts and long grinding wheel lifetimes.

The new StuderGuide® guideway system ensures high precision of the longitudinal and cross slides when both stationary and during movement. The StuderGuide® system uses the advantages of

United Grinding Technologies Inc.
Headquarters / Billing
Cylindrical & Profile Divisions
510 Earl Boulevard
Miamisburg, OH 45342

Phone: 937.859.1975
Service & Parts: 937.847.1234
Fax: 937.859.1115

www.grinding.com
ugt@grinding.com

Tool Division
5160 Lad Land Drive Service & Parts:
Fredericksburg, VA 22407

Phone: 540.898.3700
540.898.3700 x1
Fax: 540.891.9475
tool@grinding.com

www.grinding.com



hydrostatic and hydrodynamic guide systems and avoids the slip-stick effect or floating of the slide. Also contributing to the machine's high precision is the fact that the solid gray cast iron longitudinal and cross slides rest completely on the guideways over the entire travel. With this maintenance-free guide system, Studer guarantees a straightness of $< 0.0001''$ over a measured length of 37.4''.

Electric direct drives increase speed and precision

The longitudinal slide (Z-axis) has a ground work table which carries the workhead and tailstock as well as additional accessories and devices. Longitudinal and cross slides are moved by linear direct drives and, with up to 66 ft per minute, achieve *four times higher* travel speeds and axis system resolutions of ten nanometers. This enables high-precision and highly efficient grinding, as well as making a huge contribution to reducing auxiliary times.

The swivel movement of the turret wheelhead (B-axis) is also powered by a direct drive. It swivels the turret wheelhead around *three times faster* and positions the new grinding wheels in a much shorter time with a positioning resolution of 0.00005 deg. The positioning is therefore *twice as precise* as with the predecessor machine. The elimination of the Hirth gear, which fixed the wheelhead in position on the predecessor machine, also contributes to faster positioning.

Machine variants expand market potential for users

The S41 also has a number of advantageous characteristics which enable the user to cover an extended workpiece range, and thus a broader market range. This includes greater heights of centers and distances between centers, allowing workpieces with weights of up to 551 lb. to be machined.

Up to four external grinding wheels or three internal grinding spindles enable over 30 grinding head combinations. The grinding wheels are now driven by motor spindles rather than belt drives; the machine can be equipped with motor spindles for high speed grinding (HSG); internal grinding spindles with speeds from 6000 to 120,000 rpm can be used; and automatic balancing systems and frequency converters for each external grinding spindle allow grinding processes to be matched to the respective conditions of use. Wheelhead variants are also available with a vertical spindle for grinding keyways or with a traverse grinding axis for traverse grinding of internal tapers.

Simple operation and integration into complete manufacturing processes

Fatigue-free working and straightforward machine operation are important components for consistently high quality. For this reason, optimized ergonomics were one of the developers' priorities. For instance,

hoses and cables have largely disappeared from the work area of the machine. Grinding wheel change is performed with a single Allen wrench, and a special small crane is integrated into the machine, so that heavier grinding wheels do not have to be lifted manually.

The Fanuc 31i-A machine control with integrated PC operates with the StuderGRIND software specially developed for the grinding processes, and the StuderWIN operator interface. A 15" touch screen and ergonomically arranged controls are available and an additional manual control unit facilitates setup of the grinding processes. A free-standing operating panel with adjustable height is also available.

UGT and Studer recognize that the efficient grinding of workpieces requires process-optimized solutions. For this reason, the S41 includes an integrated quality control system based on continuous measurement, re-measurement, recording and correction. In addition, grinding of workpieces with modular peripheral equipment such as loading/unloading systems can be seamlessly integrated into the complete production process. The automation systems of the peripheral equipment communicate with the S41 by means of standard interfaces, so that even complex handling tasks can be carried out.

Unparalleled Support

UGT's universal, external and internal grinders are supported by an expert team of grinding specialists and technicians drawing on more than 10,000 machine installations and a worldwide support and service network.

United Grinding Technologies, Inc, the North American arm of the Körber-Schleifring Group and supplier of such venerable nameplates as Blohm, EWAG, Jung, Mägerle, Mikrosa, Schaudt, Studer, and Walter is a global leader in grinding technology and has built a reputation for industry-leading innovation and unparalleled service and support.

End

For more information, contact United Grinding Technologies, Inc., 510 Earl Blvd, Miamisburg, OH 45342. Tel: 937/847-1253. Fax: 937/859-1115. www.grinding.com.



((Image 1 / Overall view of the S41))

The S41 CNC universal cylindrical grinding machine grinds with maximum precision, with high metal removal rates and short cycle times.



((Image 2 / View of the machine bed))

The solid, more thermally stable and rigid machine bed made of Granitan® S103 mineral casting forms a stable basis for absorbing the high forces that occur during grinding with high metal removal rates.



((Image 3 / View of the turret wheelhead))

Driven by a direct drive, the *B*-axis of the S41 swivels the turret wheelhead around three times faster, and enables a positioning resolution of 0.00005 deg.