The new S31 – The versatile machine for large tasks

The new S31 performs complex and varied grinding tasks precisely and reliably. It can be used to produce small to medium-sized workpieces with a distance between centers of 400, 650, 1000 and 1600 mm and a center height of 175 mm in individual, small batch and high volume production. With a high-resolution B-axis of 0.00005° the swiveling wheelhead enables efficient external, internal and surface grinding in a single clamping.

The foundation of the universal cylindrical grinding machine is the machine bed made from solid Granitan® S103. This provides high dimensional stability thanks to its favorable thermal behavior, while the mineral casting largely equalizes short-term variations in temperature. STUDER has redesigned the machine base geometry and added an innovative base temperature control. This ensures quick and stable production. The fixing of the dressing device on the double T-slot of the longitudinal slide drastically reduces the complexity of setup and changeover. A further highlight: The S31 features StuderGuide® guideways with their damping component in the direction of movement.

Very wide range of wheelhead variants

The S31 is based on the STUDER T-slide concept. It now has an extended X-axis stroke of 370 mm. This enables a large number of wheelhead variants, which can be precisely tailored to the customer's requirements. Customers can choose between the turret wheelhead with continuously variable B-axis or B-axis with 1° Hirth coupling. The turret wheelhead can be equipped with several grinding wheels. Thanks to the software for grinding wheel alignment, STUDER Quick-Set, changeover times are reduced by up to 90 percent. The new S31 enables grinding of different diameters and cones with just one grinding wheel and without time-consuming intermediate dressing. This is made possible by the direct drive on the B-axis with a positioning scatter of <1“.

Impressive software

Over a hundred years of grinding experience are invested in StuderWIN, which enables reliable programming and efficient operation. StuderTechnology also automatically calculates the optimal grinding parameters in a matter of seconds, based on just a little information. This means good quality and a stable process at the first attempt. The optional integrated modules such as StuderForm, StuderThread or StuderContourBasic, extend the functionality of the machine.

The S31 is equipped with a Fanuc 0i-TF and is optionally available with the Fanuc 31i-B for High Speed Machining (HSM). The PCU manual control unit enables setup of the machine close to the grinding process. Non-productive times can be reduced to a minimum with the electronic contact detection function. In addition, the standardized loader interface enables automation of the S31 .

Fritz Studer AG • 3602 Thun • Switzerland
Tel. +41 33 439 11 11 • Fax +41 33 439 11 12 • info@studer.com • www.studer.com
Managing Director: Jens Bleher (Chairman) • Sandro Bottazzo • Daniel Huber • Stephan Stoll
Head Office: Thunstrasse 15 • 3612 Steffisburg • Switzerland • UID/VAT no. (CH): CHE-101.956.261 VAT
Bank CHF: Credit Suisse (Switzerland) AG • 8070 Zurich • Switzerland • BIC (SWIFT): CRESCHZZ80A • IBAN: CH20 0483 5237 4784 6100 0
Bank EUR: Deutsche Bank AG • 20457 Hamburg • Germany • BIC (SWIFT): DEUTDEHHXXX • IBAN: DE37 2007 0000 0747 5635 00

Advantages at a glance

- Distances between centers 400, 650, 1000, 1600 mm
- Height of centers 175 mm
- Maximum workpiece weight 150 kg
- StuderGuide® in longitudinal and cross slides
- Thermal stability thanks to innovative base temperature control (dbc 650 to 1600)
- Double T-slot for dressing systems
- Numerous grinding head variants
- Direct drive on B-axis with high-resolution direct measuring system
- Constant cutting speed as standard
- StuderWIN software with StuderTechnology
- Reduced setup and resetting times with STUDER Quick-Set
- Can be flexibly extended with integrated software modules
- Available with Fanuc 31i-B for HSM applications
- Automatable

The new STUDER S31. Here with distance between centers 1000 mm.

Press contact at Fritz Studer AG:
Mischa Keller
+41 33 439 15 90
mischa.keller@studer.com