**HEIDENHAIN at GrindTec 2020: the new TS 750 touch probe and new grinding functions for the TNC 640**

*Grinding provides a path to perfect finishes. But this requires secure mastery of grinding processes and in-process monitoring of machining progress. This year, HEIDENHAIN will be a first-time exhibitor at GrindTec, presenting high-accuracy, robust solutions for machine manufacturers and operator-friendly grinding functions for the user on the TNC 640 control.*

**TS 750 touch probe: in-process quality inspection**

The new TS 750 is a high-accuracy workpiece touch probe for grinding machines. Featuring a diameter of only 25 mm and a probing repeatability of 2σ ≤ 0.25 µm, this touch probe is both compact and highly accurate. Its radial probing force is just 0.2 N, and its long-life pressure sensor is designed to withstand several million probing operations. The touch probe’s sensors and electronics are protected by two overlying bellows that effectively keep out swarf and lubricating coolant. The outer bellows can even be replaced.

Extensive mounting options from various bases, adapters, and extensions for the M16 fastening thread, combined with a standard M3 thread for numerous stylusi, allow the HEIDENHAIN TS 750 touch probe to be adapted to a variety of measuring tasks. The TS 750 is therefore ideal for in-process part inspection inside a grinding machine. In terms of mounting, it is also interchangeable with the TS 150 optical touch probe featuring a similarly wear-free sensor.

**Grinding with the TNC 640: to a perfect finish in a single setup**

As a third machining operation beyond milling and turning, the TNC 640 now lets you jig grind any contour. Complete part machining via milling, turning, and grinding offers many benefits, especially for quality-intensive industries such as moldmaking and medical technology. Parts can be machined to the highest level of surface quality in a single setup, and easy-to-use standard cycles on the TNC 640 can dress grinding tools inside the machine tool. The standardized operating approach for milling, turning, and grinding makes operation particularly easy, and optimized tool management for every process supports the user during and grinding and dressing.

**MRP 8000 angle encoder module: unfazed by off-axis tilting loads**

The MRP 8000 angle encoder module combines high-resolution measuring technology with a rigid bearing that isn’t fazed by off-axis tiling loads. These qualities make it ideal for grinding machines. The machine manufacturer benefits from a self-contained assembly with pre-specified characteristics. Development and design costs for a bearing are eliminated, and high-accuracy rotary axes become much easier to design. HEIDENHAIN has already taken care of the assembly and adjustment work for the individual components. And thanks to the system’s simple mechanical interfaces, critical mounting processes are also eliminated. Testing work and the complex task of matching components to each other and the machine environment are no longer needed.

The MRP angle encoder modules feature a high level of measuring and bearing accuracy, very high resolution, and extremely high repeatability. Also noteworthy is their low starting torque, enabling smooth motion. Because HEIDENHAIN manufactures both the bearing and the encoder, these two functional assemblies are harmoniously integrated. Compared with a conventional solution, fewer components are necessary, and there are fewer joints. This permits an extremely rigid and compact design with a notably low height profile. The integral rolling bearings have been specially adapted to the requirements of high-precision rotary axes. Key benefits include the system’s very high guideway accuracies, high rigidity, low starting torques, and smooth continuous torque.

**StateMonitor: your machines at your fingertips**

The StateMonitor software brings greater transparency to operational processes, optimizes production workflows, and provides a real-time view of the production status of machines on the shop floor. At GrindTec, HEIDENHAIN will be showing just how intelligibly information is displayed to the user and how easy it is to evaluate. The user can create machine groups at will, such as for milling and turning, and assign jobs to them. StateMonitor then provides a quick-glance overview of these production areas. The software also allows the user to set time filters, making it easy to pull up recurring parameter evaluations. The evaluation of machine messages by means of a Pareto analysis, or the 80/20 rule, directly shows the user which machine messages really do cost time and money.

**ETEL motor technology: high continuous speeds for high-throughput grinding machines**

In combination with HEIDENHAIN angle encoders and the HEIDENHAIN EIB 5211 sensor box, torque motors from ETEL are optimally suited for high-throughput grinding machines. An ideal package might consist of ETEL torque motors combined with the new RCN angle encoders, which are designed for high continuous shaft speeds.

**Visit HEIDENHAIN and ETEL at GrindTec 2020: Hall 3, Booth 3062**

***For more information, visit:***

[www.heidenhain.de](http://www.heidenhain.de)

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|  | *The new TS 750 workpiece touch probe from HEIDENHAIN for grinding machines: compact, highly accurate, durable, and robust for in-process quality inspections in grinding machines.* |
|  | *Rounding off the TNC 640’s milling and turning capabilities: the HEIDENHAIN control will enable mastery of grinding operations for exceptional surface quality in a single setup.* |
|  | *Highly integrated system: the MRP 8000 angle encoder module from HEIDENHAIN combines* *high-resolution measuring technology with a rigid bearing. Tested and pre-specified characteristics spare machine manufacturers the need to develop their own bearing.* |
|  | *Shopfloor machines in view: the StateMonitor monitoring software from HEIDENHAIN lends greater transparency to operational processes, optimizes production workflows, and enables a real-time view of the shopfloor machines’ production statuses.* |