**The TNC7 from HEIDENHAIN at EMO 2023: greater process reliability, less energy consumption and a smaller carbon footprint**

*The TNC7 from HEIDENHAIN is now available with the latest Version 18 software and new hardware designs. This innovative CNC control can help companies master the present-day challenges of saving energy, reducing carbon emissions, staying competitive and ensuring a reliable automated manufacturing process.*

After unveiling the TNC7 at EMO Milan, HEIDENHAIN is now showcasing the control’s latest enhancements in Hannover, Germany. For starters, the control’s hardware portfolio has been expanded. The original 24-inch version has been joined by a functionally identical 19-inch version, featuring a compact touchscreen, and by the new TNC7 basic with a 16-inch touchscreen for 3+2-axis machines. The TNC7 basic offers an extensive package of options with characteristic TNC7 features, including DCM collision monitoring, OCM trochoidal milling and MAS 6D graphically supported setup. Taking customer feedback into account, the control’s latest Version 18 software contains enhancements that optimize process reliability and user-friendliness.

**Intuitive like a smartphone**

Users can operate the touchscreen of the TNC7 much as they would a tablet or smartphone, harnessing all of its functions through tapping, swiping and zooming. Further usability comes from the control’s context sensitive menus and a cross-operating-system design, making it easy for users to open Windows applications on the control and to incorporate data from these applications into their part programs. With its intelligent user support, the TNC7 is highly accessible for novices and lateral entrants, helping them quickly reach the necessary level of confidence for competent machining.

**Multi-faceted hardware portfolio**

Not every user wants to use a touchscreen. In fact, experienced TNC experts are often accustomed to the HEIDENHAIN keyboard. Of course, the TNC7 is also available with an operating panel. Starting with EMO 2023, there are even three different models. A 16-inch and 19-inch variant are now joining the original 24-inch version. All models feature the same full-HD screen resolution. As an alternative to the large operating panel, customers who choose one of the more compact models can opt for a smaller panel containing the most essential TNC function keys. The 16-inch variant, named the TNC7 basic, rounds out the TNC7 portfolio at the lower end of the spectrum, both in terms of size and functionality. stepping up as the successor to the TNC 620 for 3+2-axis machines but with all of the characteristic benefits of the TNC7.

**Start machining sooner**

The quest for high first-part efficiency across all batch sizes and levels of automation requires looking beyond merely the machining phase. Machine setup, as well, needs to be fast and convenient. Faster setups cut down on non-productive time and reduce a company’s carbon footprint. With its graphically supported functions for 6D workholding and workpiece setup, the TNC7 offers two major time and energy savers. This virtual support enables fast, user-friendly and reliable position probing for both fixtures and blanks, regardless of the setup’s complexity. Even for clamping towers or multiple parts clamped in a row, the TNC7 provides interactive step-by-step support throughout the setup process for simple and complex parts alike. In the case of complex parts, setup with the 6D setup function can be up to five times faster than with conventional probing cycles. When applied to workholding, this 6D position probing feature is part of the enhanced dynamic collision monitoring (DCM v2) function. When applied to workpieces, the new Model Aided Setup (MAS) option comes into play.

**Mill with the optimal cutting data**

The package of options available for the TNC7 includes Optimized Contour Milling (OCM), which delivers next-generation trochoidal milling by automatically calculating the best trochoidal milling strategy at all times for pockets and islands of any shape. Users simply enter the contours and apply the optimal machining parameters from the built-in cutting data calculator. As a result, roughing and milling become highly productive and impose less wear on tools. OCM’s intelligent deburring function then implements perfect edges along the programmed contour. Optimized Contour Milling reduces energy consumption, raises process reliability and saves time throughout the production process, from programming to machining.

**Live demo: “Optimize process times with the TNC7”**

The HEIDENHAIN exhibit at EMO includes live demos of the entire machining process with the TNC7, covering turning, roughing, finishing and deburring. These product demos focus on the time savings achieved by various TNC7 functions when applied to tasks such as programming, simulation and finishing. Simultaneous turning cycles for the TNC7 enable the programming of FreeTurn tools. These cycles permit the simultaneous turning of highly complex contours in a single setup, taking interfering contours into account and leveraging tool benefits for High Dynamic Turning (HDT). Subsequent milling is programmed directly on the TNC7 with efficient OCM trochoidal milling cycles, providing yet another way to save time. Throughout the live machining demo, the TNC7’s integrated process monitoring features ensure a reliable process without additional sensors.

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|  | *Three screen sizes, two performance levels, and alternative keyboards: EMO 2023 marks the expansion of the TNC7 HMI portfolio from HEIDENHAIN.* |
|  | *The new graphical 6D workpiece setup function for the TNC7 helps the operator dial in workpieces, and perfectly complements the control’s graphical setup support for workholding.* |
|  | *OCM, the next generation of trochoidal milling from HEIDENHAIN, uses the full cutting edge of the milling tool for maximum removal rates during the machining of any islands and pockets. This significantly reduces the machining time and the amount of tool wear.* |
|  | The TNC7’s on-board process and component monitoring functions detect deviations from a reference machining run and ensure high process quality without requiring any additional sensors. |

**HEIDENHAIN at EMO, from September 18 to 23, 2023**

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| **Main booth: Hall 9, Booth E54** | **TNC Club: Hall 9, Booth F62** |
| **Training exhibition: Hall 8** | **HEIDENHAIN@DMG Mori: Hall 2, Booth A21** |
| **Also: Find the TNC7 at more than 20 OEMs spread over the entire trade show.** | |
| ***For more information, visit:***  live.[heidenhain](https://live.heidenhain.com/index.html).com  www.heidenhain.com/tnc7  [www.heidenhain.com](http://www.heidenhain.com) |  |
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