EUROMOLD 2013 – Blum-Novotest presents a universal radio probe for tool setting and monitoring in 3 axes

Blum-Novotest, the leading manufacturer of innovative and high-quality measuring and testing technology, presents the new 3D tool setting probe TC64-20 at the EUROMOLD in Frankfurt (Hall 8 Stand C20). The company is supplementing its tool setting probe series with a high-precision, wireless system which features BRC Radio Technology, for tool setting and tool breakage detection in three axes.

Winfried Weiland, Marketing Manager at Blum-Novotest, explains: “The TC64-20 is both a universal and cost-effective system for the automatic measurement and monitoring of tool length, tool radius and tool breakage in CNC machining centres. It is used on machines in mould and die production and medical technology, as well as in many other industrial areas. If several systems, for example a tool setting probe and a workpiece probe, are to be operated in a machine, this is possible thanks to the BRC Radio Technology integrated within the probe. The TC64-20 is also an excellent solution if wired devices cannot be attached, for example on machines with pallet changers."

The compact tool setting probe excels through extremely fast and robust data transmission. Instead of the channel hopping method or channel assignment usually found on the market, this probe transmits the collected data to the receiver using Blum's BRC technology. The advantage of this technology is based on each single bit of the radio signal running across the entire width of the frequency band, thus making transmission particularly resistant to interference. Then the data is transmitted to the radio receiver RC66 quickly and securely. Just one receiver can be used to control up to six measuring systems from the extensive Blum radio family. This includes all tool setting probes and workpiece touch probes, as well as the newly introduced DIGILOG measuring systems, the bore gauge BG60, the roughness gauge TC63-RG or the workpiece temperature measuring device TG81.

A further highlight of the TC64-20 is the integrated shark360 technology. The patented measuring mechanism offers a considerably higher measuring accuracy than comparable probes because of the modified face gear. During the measuring process the face gear causes a defined deflection direction at constant deflection forces. The torsion force which occurs in the measuring mechanism is absorbed by the gear and therefore has no effect on the measuring result. The switch point repeatability is a high-precision 0.4 µm 2σ.
Another advantage is the generation of the switch signal for determination of the axis positions. It is not generated by a mechanical contact, but opto-electronically by shading with a miniature light barrier inside the tool setting probe. As a result, it operates absolutely wear-free and guarantees maximum reliability over many years, even under the most adverse conditions. Further advantages of the TC64-20 are the high probing speed as well as the very low power consumption. Tools from a diameter of 1 mm (depending on tool geometry and material) can be measured.

The mechanically robust design of the compact tool setting probe is perfectly adjusted to the harsh environment of a machine tool as per device protection class IP68. The self-centring stylus allows a change to be made without re-aligning the probe using a dial gauge. In addition, an optional predetermined breaking point protects the probe system in the event of an operating error. “The TC64-20 is an interesting wireless 3D alternative to our already established and often copied linear-guided tool setting probes Z-Nano and Z-Pico. As with both these systems, we also offer a full range of accessories for the TC64-20, for example an integrated air nozzle for cleaning the tool and the measuring surface”, summarises Winfried Weiland.

Established in 1968 and based in Ravensburg, Blum-Novotest GmbH is one of the globally leading manufacturers of high-quality measuring and testing technology for the international machine tool, aerospace and car industry. Today the family-run company employs more than 380 staff at a total of six sites in Europe and in the USA, China, Japan, Taiwan, Singapore, Korea, India, Brazil, Thailand and Russia. Together with specially trained system integrators and regional sales offices, this sales and service network guarantees comprehensive support for Blum products in use throughout the world. www.blum-novotest.com

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Pictures

Fig. 1: Thanks to its patented shark360 measuring mechanism, the 3D tool setting probe TC64-20 from Blum enables a high-precision radius measurement to be taken in CNC machining centres. The measurement is taken when the tool rotates backwards.

Fig. 2: The universal tool setting probe can also be used for measuring the tool length and for tool breakage detection.

Fig. 3: Just one receiver RC66 can be used to control up to six measuring systems of the Blum radio series. This includes all tool setting probes and workpiece touch probes, as well as the newly introduced DIGILOG touch probes, the bore gauge BG60, the roughness gauge TC63-RG or the workpiece temperature measuring system TG81.