

Extends toolholder program for micromachining

For the medical technology, optics, micro-mold making and watch and jewelry industries to achieve accuracy in the sub-micron range, toolholders must have extreme balancing grades. What was previously only possible with great effort now comes as standard due to SCHUNK, the competence leader for clamping technology and gripping systems: the TRIBOS-Mini and TRIBOS-RM polygonal toolholder series with HSK-E 25, HSK-E 32 and HSK-F 32 interfaces are available from a clamping diameter of 0.5 mm and optionally also ultra fine-balanced with a balancing grade of G 0.3 at 60,000 rpm. With them, it is possible to achieve even the most demanding specifications in terms of dimensional accuracy and surface finish. Compared with conventionally balanced toolholders for micromachining, the tool service life is also extended. In view of the often high costs of the cutting edge, the excellent balancing quality of

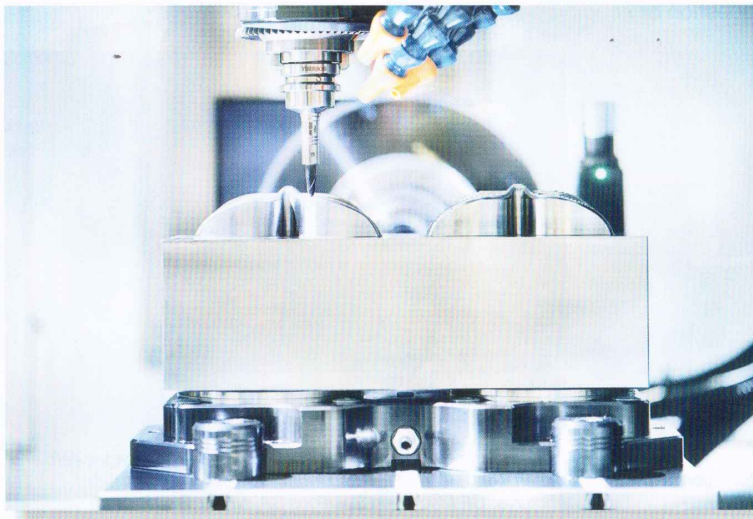
the SCHUNK TRIBOS mounting pays off very quickly.

More standard interfaces and quicker special solutions

Due to high demand, SCHUNK has expanded the TRIBOS range in such a way that many of the previous special solutions will now be included in the standard assortment, meaning they will be available quicker and at a lower price. TRIBOS-Mini is now standardized with $\varnothing$ 1 mm, 1.5 mm, 2 mm, 3 mm, 4 mm, 6 mm, and 1/8 inch. TRIBOS-RM with $\varnothing$ 3 mm, 4 mm, 6 mm, 8 mm, 10 mm, 12 mm and 1/8 inch. Both mountings are available with the HSK-A 25, -A 32, -A 40, -E 20, -E 25, -E 32, -E 40, HSK-F 32 and BT 30 and SK 30 interfaces. But that's not all; to offer interfaces and diameter variants that go beyond the standard program, SCHUNK has extended its capacities so that special solutions such as SCHUNK CAPTO C4, SK 11.5,

ISO 10, ISO 25, and many more besides can be implemented in a short amount of time.

The TRIBOS polygonal clamping technology developed and patented by SCHUNK has been the benchmark in micromachining for many years. Its high absolute accuracy and dynamics, its excellent rigidity and its damping values ensure optimum surface finishes and long tool life. With a run-out and repeat accuracy of < 0.003 mm at an unclamped length of $2.5 \times D$ and a balancing grade of G 2.5 at 25,000 rpm, even the standard toolholders meet the toughest requirements. They are suitable for all tool shanks in h6 quality, and have been tested at up to 205,000 rpm depending on the type. Since the toolholders have no movable parts, they are not mechanically sensitive, and therefore ensure almost completely maintenance- and wear-free clamping. Even after several thousand clamping procedures there are no signs of material fatigue. In addition, tool changes with TRIBOS are completed in just a few seconds while ensuring process stability due to a hydraulic clamping device.



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The TRIBOS-Mini and TRIBOS-RM precision toolholders with HSK-E 25, HSK-E 32 and HSK-F 32 interfaces are also available with ultra-precision balancing, with a balancing grade of G 0.3 at 60,000 rpm (Picture: Schunk GmbH & Co. KG, Lauffen/Neckar)