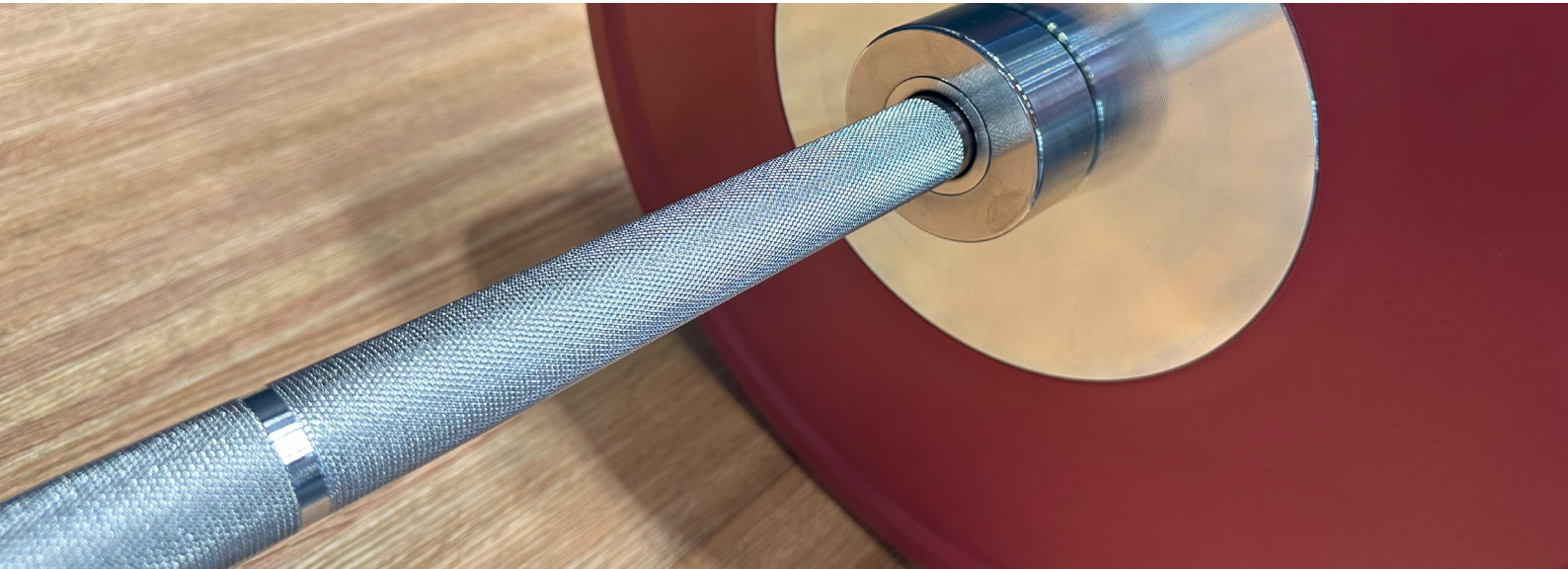




PRESS RELEASE



COMPLETE MACHINING AND PRECISION DOWN TO THE LAST MICRON, EVEN WITH EXTREME MATERIALS

Hommel+Keller sets standards in the machining of barbell bars

A barbell is not just a barbell. Hommel+Keller Präzisionswerkzeuge GmbH, based in Aldingen, proves exactly that. The company is a specialist in the development of tools for knurling, diamond burnishing, and marking. Through targeted engineering and high-performance tool solutions, Hommel+Keller has significantly optimized barbell production worldwide — making it more efficient, more precise, and delivering top-level quality.

If a barbell slips from an athlete's hands at a crucial moment, the risk of injury is high. Especially at peak performance levels, a secure grip can make the difference between success, safety, and injury. The foundation for this lies in the manufacturing process: only when grip, handling, and tactile feel are perfectly harmonized can the athlete perform at their full potential.

As a global leader in knurling technology, Hommel+Keller is a trusted expert in the field. The company not only supplies standard solutions, but also develops customized tool concepts that provide athletes around the world with enhanced safety and performance.



Photo: Canva

CHALLENGE ACCEPTED – AND MASTERED

For a leading barbell manufacturer, a tangential tool holder of the QUICK brand was developed in combination with special knurling wheels. In addition, the customer requested text markings and visual enhancement through diamond burnishing.

The challenges:

Materials with tensile strengths between 1,400 and 1,600 N/mm², no pre-turned raw material, the avoidance of radial pressure, and the highest demands for stability and easy adjustment. In close collaboration with the customer, a tailor-made tool package was developed.

Sigmund Grimm, CEO:
"The result is an extremely robust special holder from our QUICK F761 series, combined with optimized knurling wheels. This leads to a significant increase in tool life while delivering a perfect knurl pattern."

The development results in longer tool life and an absolutely precise knurl pattern. Especially when it comes to profile types, Hommel+Keller ensures maximum flexibility and top quality. For barbell production, the RGE30° profile is used, which produces a very clean knurl pattern. The profile depth can be individually adjusted – from commercial fitness equipment to professional sports applications.

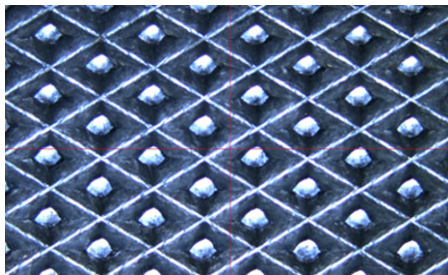


Image: Volcano-Profile

For particularly high-grip applications, sharp pyramid profiles are used, while the volcano profile ensures ergonomic handling. These profile types are complemented by precise operating parameters: workpiece diameters of 25, 28, 28.5, and 32 millimeters, cutting speeds between 180 and 200 rpm, and feed rates of 0.2 to 0.3 mm in the X-direction and 0.3 to 0.4 mm in the Z-direction.

KNURLING, BURNISHING, MARKING – ALL ON ONE MACHINE

A core principle at Hommel+Keller is: "Always everything on one lathe." Instead of using multiple machines, Hommel+Keller provides complete machining solutions. For finishing the non-knurled areas, the zeus diamond burnishing tool GW 520 is applied directly during the turning process – resulting in a flawless surface in just one setup.

In addition, barbells can be customized with logos or inscriptions. The marking is carried out using the zeus precision marking tool MW 432.

This concept gave rise to the Signature Series, where functionality and branding go hand in hand.

FROM THE GYM TO THE OLYMPIC STAGE

Hommel+Keller supplies barbell manufacturers around the world – from high-volume producers to specialized suppliers for elite sports. Whether it's mass-produced equipment or world-class Olympic barbells, success ultimately comes down to the finishing touch: the precision of the knurling, the quality of the surface, and the perfection of the grip.

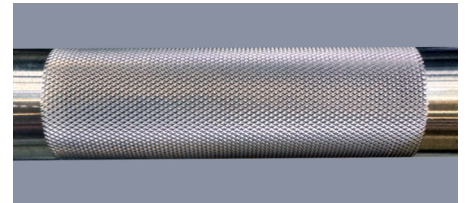
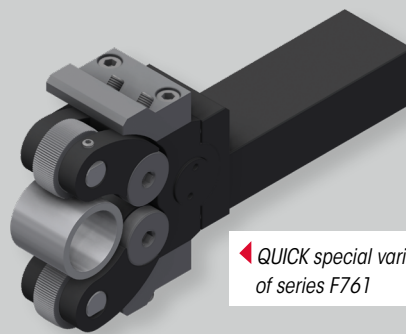


Image: Knurled profile on the barbell

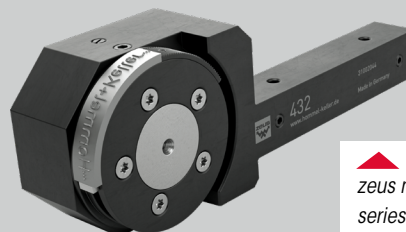
THE CORE PRINCIPLE „Everything on a single lathe“



◀ QUICK special variant of series F761



◀ zeus burnishing tool series 520



▶ zeus marking tool series 432

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