

Solid-carbide premium tools and customised special tools

Medical Engineering – Machining medical components made from titanium, chromium cobalt and Inox can be highly challenging for implant manufacturers and cutting tools alike. The high elasticity and low thermal conductivity of titanium and stainless steel, for example, cause strain-hardening and edge-chipping on the tool. This is why the development of cutting edge geometries requires a sharp awareness of these factors and the ability to identify the right combination of coatings and surface and edge preparation. The Inovatools Inomed catalogue range offers a wide selection of special tool concepts for medical engineering.

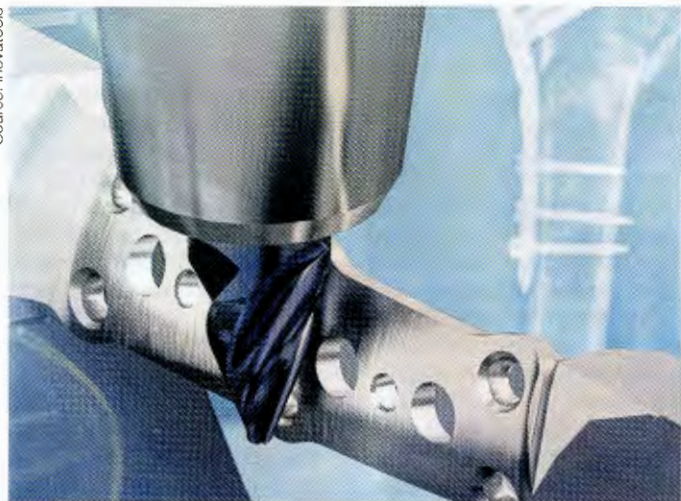
Solid-carbide drills are high-precision, high-performance and cost-effective tools for drilling titanium and other non-corrosive and hard-to-machine materials. In addition to solid-carbide mills, drills, engraving and deburring tools, Inovatools also offers a broad spectrum of special tools. Nilüfer Cebic, Head of Product Management and Marketing at Inovatools, states: “One service we offer here is the grinding of hardened blanks provided by the customer to meet very specific requirements.”

One example of the performance of Inovatools tools is provided by the machining of titanium bone plates. Due to

the difficult-to-access geometries of these implants, machining tools are often very narrow and usually designed with a long reach. To avoid vibrations caused by long projection lengths and ensure cost-effective production, the helix angle and cutter pitch must be perfectly matched.

In addition to a range of high-performance tools used to manufacture bone plates such as solid-carbide Inox high-performance mills, mini-mills, reamers and high-performance drills, the Inovatools Curvemax also guarantees short production times as this new curve segment mill features special geometries to permit larger path distances and line jumps during pre-finishing and finishing. Although the working radius is larger than that of a traditional full-radius mill, the tool still has the same diameter. This leads to a significant reduction in process times. Thanks to the bigger engagement width, the cutting edge does not suffer from wear at any point. Combined with the smooth, high-performance coating, Varocon, this helps to increase the tool's service life. The larger and flatter overlap reduces roughness and ensures surface finishes that are even better than those created by traditional full-radius mills.

inovatools.eu



Curvemax curve segment mills can machine a titanium bone plate up to 85 % faster than conventional ball-shaped mills, Inovatools claims.