

Ultra-precise solid carbide micro tools for demanding applications and materials

Micro tools for the machining of titanium, stainless steel, graphite and special materials

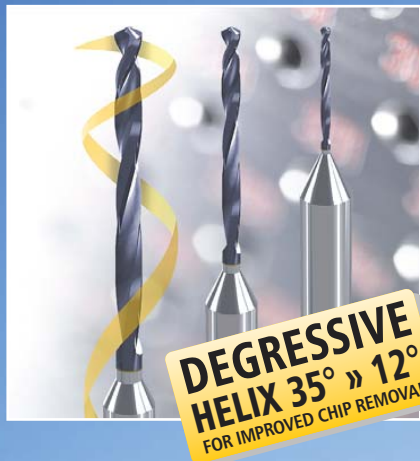


Solid carbide tools from ZECHA are used in applications requiring maximum productivity. Our highly specialised production plants and our experience, spanning more than 40 years, enable us to produce highly precise micro tools which enjoy an

excellent reputation amongst companies throughout the world. Our strengths lie in the production of solid carbide tools displaying high levels of accuracy in terms of diameter, concentricity and radius. We achieve a concentricity tolerance of maximum $3\mu\text{m}$ or better,

both for single parts and volume production runs. This brochure gives you an overview of our latest and highly successful tools, which can be employed whenever difficult working conditions and demanding materials call for a perfect tool.

WINNER



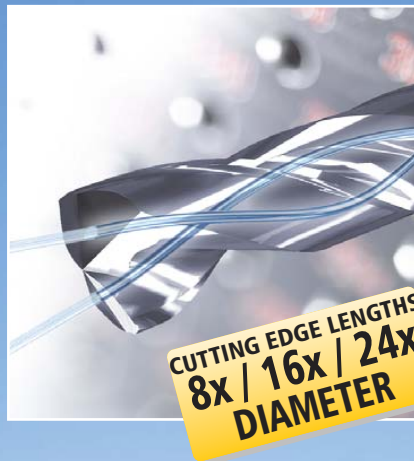
The all-rounder for difficult-to-machine materials and deep holes

The WINNER is characterized by a degressive "QuickChip" flute geometry, which allows for efficient removal of chips even in deep holes and can be used at higher feed rates. The aggressive entry angle on the cutting edge (35°) produces small chips, which are quickly removed through the rapidly expanding flute profile as it reaches 12° at the exit. Polished cutting edges and special point tapering enable a clean surface finish with reduced axial load. The WINNER delivers outstanding results where chip removal is a priority.

TECHNICAL DATA & FEATURES:

- ☑ Diameter range: 0.50 - 6.00 mm
- ☑ Cutting edge lengths: 8xD / 12xD
- ☑ Helix angle: $35^\circ \gg 12^\circ$ degressive
- ☑ Point thinning: self-centering
- ☑ Coating: TiAlN

IC DRILL



High-precision drill with internal coolant supply for diameters of 0.75 mm or more

The new ZECHA micro drills with internal coolant supply deliver a dramatic reduction in machining time especially for deep holes in high-strength and tough materials. Even at the smallest diameter of $\varnothing 0.75$ mm with a cutting edge length of up to 24xD, the impressive tools ensure holes of the highest precision and maximum service life. The turbo chamber in the shaft and large holes has delivered a manifold increase in service life in comparison with conventional drilling systems. The excellent surface quality means that reaming can often be dispensed with.

TECHNICAL DATA & FEATURES:

- ☑ Diameter range: 0.75 - 4.00 mm
- ☑ Cutting edge lengths: 8xD, 16xD, 24xD
- ☑ Coating: TiAlN
- ☑ Suitable pilot drills for spot drilling and centring available from stock

GRAPHITE



Diamond coated tools for process-capable milling of graphite electrodes

For the HSC machining of graphite electrodes, ZECHA has developed end mills with minimum tolerances in concentricity, form and diameter. A genuine diamond coating with a hardness of 10.000 HV and a special geometry configured for graphite machining ensure maximum operating times and process-capable milling within $10\mu\text{m}$. High feed rates and large chip spaces allow short process times with excellent surface quality in serial production. These end mills are available in an ultra-precision high-end version and a favourably priced quality line.

TECHNICAL DATA & FEATURES:

- ☑ Diameter range: 0.10 - 8.00 mm
- ☑ Suitable for large-scale production
- ☑ Process-capable milling within $10\mu\text{m}$
- ☑ Concentricity tol.: max. $3\mu\text{m}$
- ☑ Excellent surface quality

MEDICAL



Ultra-precise solid carbide tools for surgery, orthopaedics and dental technology

ZECHA has developed a range of ultra-precise and reliable solid carbide tools for the processing of titanium, stainless steel and special materials in medical technology. All tools are marked with their own identity number to ensure identification and reproducibility. This enables us to meet high quality requirements and strict stipulations.

OUR RANGE OF GOODS INCLUDES:

- ☑ Stepdrill for chamfered holes in surgical needles made of stainless steel
- ☑ Coated twist drills with inner coolant supply for challenging conditions
- ☑ Impact tool for forming hexagon sockets in implants
- ☑ Conical inner thread milling cutter for the milling of threads in titanium and stainless steel
- ☑ Whirl-Thread-Cutter for the milling of threads in tooth implants
- ☑ End mill dia. 0.4mm for the milling of TORX shapes in titanium and stainless steel screws

DENTAL



Thread whirlers for dental implants made of titanium: Burr-free, maximum tool time

ZECHA has developed a new thread whirler design that eliminates all the problems of previous designs and sets new standards in precision, durability and process times. The thread is moulded in just one roughing and finishing operation in a reliable process. An expanded geometric molding of the thread whirler section generates an absolutely burr-free thread. With a multiple tool time that exceeds our established thread whirlers, they are optimised for large production runs

TECHNICAL DATA & FEATURES:

- ☑ Sizes: M0.8 - M10.0
- ☑ Multiple tool time
- ☑ Burr-free threads
- ☑ Short process times
- ☑ Excellent surface quality

TORX



High-end milling tools for TORX® screws made of titanium and stainless steel

ZECHA is presenting a new high-performance range of micro-tools intended for the milling of TORX contours in titanium and stainless steel screws for medical technology. Thanks to maximum geometric and concentric precision, these tools are ideal for process-safe milling in large-scale volume production. The tools' polished cutting edges with minimal protective chamfers combined with an innovative TiAlN thin layer result in surfaces free of burrs and impressive service lives. The concentricity tolerance of max. 3 µm or better also permits rough working and finishing of the TORX contour.

TECHNICAL DATA & FEATURES:

- ☑ Range of diameters: 0.20 - 0.80 mm
- ☑ Cutting edges: 1, 2 or 3
- ☑ Coating: TiAlN
- ☑ Suitable for roughing and finishing operations in large scale production



Since we document all operating processes in great detail, every tool can be clearly identified by the ID number on its shank end and can be precisely reproduced years later. 100% final inspection using modern measuring instruments ensures the high quality and uniformity of our products. We would be pleased to support you in optimizing your production processes.

Please contact us!

**ZECHA Hartmetall-
Werkzeugfabrikation GmbH**

Benzstr. 2 · D-75203 Königsbach-Stein
Tel. +49 (0) 72 32 / 30 22-0
Fax +49 (0) 72 32 / 30 22-25
info@zecha.de · www.zecha.de

