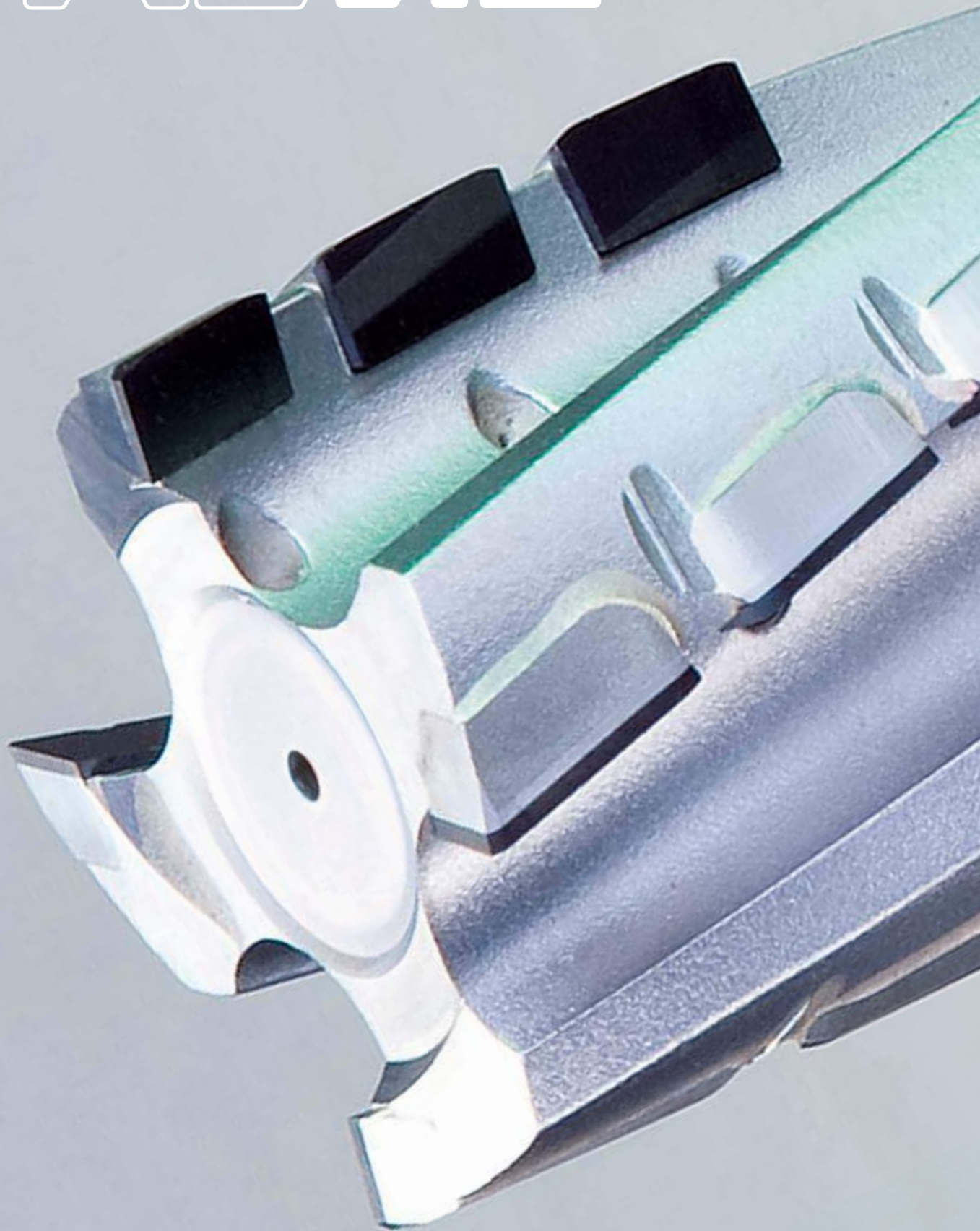




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02//03





IN THIS BROCHURE

COMPANY

PRECISION & INNOVATION 06

QUALITY & TECHNOLOGY 08

PRECISION MANUFACTURING 10

SERVICE 12

PRODUCTS

SOLID CARBIDE TOOLS 16

PCD TOOLS 18

PCD MONOBLOC 20

DRILLING / COUNTER-
BORING COMBINATION 24

INTERCHANGEABLE
PLATE TOOLS 26

HSC-FLEX CUTTER 28

CONTACT 30

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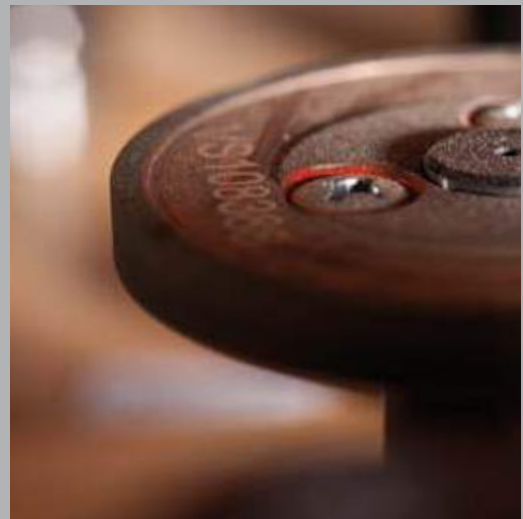
EXACT. CUSTOM-MADE.

PRÄZISIONS

FAST. FLEXIBLE.

WERKZEUGE

FAIR. TRANSPARENT.



- A // A modern five-axis grinding machine with workpiece loader
B // Herr Hummel, selecting the appropriate grinding disc stack
C // Modeling a PCD-tipped ball milling cutter



PRECISION & INNOVATION



Markus Müller, CEO at ALMÜ

ALMÜ Precision Tools is a mid-size company specialized in developing, manufacturing, and distributing precision tools and other special tools for the machining industry.

Our focus is not on catalogue tools, but on tailor-made special solutions that take into account our customers' ideas also as far as quality, prices, and service are concerned. For more than thirty years, ALMÜ has produced tools for the automotive industry and its suppliers – near the Swabian Alb in southwestern Germany. Companies from the mechanical engineering industry are among our customers, as well as lots from the aviation and airspace industry.

With almost forty employees, our company not only uses the most modern production technologies, but also makes sure to offer rapid, precise, and flexible services.

QUALITY & TECHNOLOGY

For our customers from the grinding industry, machining processes have become increasingly complex in the serial production business. Each and every ALMÜ precision tool combines a high degree of technological and economic know-how.

Our customers can be sure: they always receive custom-made tool solutions, always state of the art, and always of the highest ALMÜ quality. We have been certified by

ISO 9001:2008: each step of our production is being meticulously documented thanks to predefined test processes – from purchasing material to the final product.

Thus, we can guarantee impeccable and technologically perfect products.

ALMÜ has decades of experience in the special tools sector, and you can profit from its vast experience when it comes to very special drilling jobs.





B

- A // Gauging an interchangeable plate tool (ALMÜ Flex tool system) on a Walter Helicheck
- B // Sturdy wooden cases ensure safe transportation
- C // Assembly and calibration of a tool under the microscope
- D // All ALMÜ tools are being dynamically balanced according to the customer's requirements

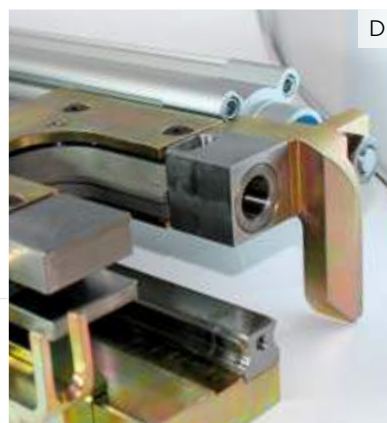


C

08 // 09



D



- A // Cutting the threads of an aluminum base
- B // Loading the robot of a CNC lathe with a cut-off
- C // Measuring a precision component for a tool changer
- D // An assembly group of a tool changer ready to be assembled



PRECISION MANUFACTURING

Men and machine – each factor adds its utmost to the result. Our success is a result of this strategy in the market, and our customers honor the results.

Creative and motivated employees (most of them trained for long within our company), plus a high degree of automation – this is how you could describe our success story: producing high-precision tools most effectively.

Our experienced experts produce it all “made in Germany”, true to the latest detail, and sure to realize what really matters. The result: precision in perfection.

For our customers, we are therefore first and foremost the competent and reliable experts when it comes to offer great services.



- A // Initial visual control of a PCD tool taken from the workpiece loader, by one of our experienced colleagues
- BC // Resharpener is always done on the same machines we use for producing new tools
- D // Along with solid carbide tools, we also reprocess and resharpen PCD tools

SERVICE

For us, perfect service is an essential part of our business. For we all know: only when our tools work according to our customers' intention, we have done a good job.

Along with the development, production, and distribution of the tools, we offer a wide variety of additional services.

We have created a tool planning service: to ensure good service life for the tools, to optimize tool changing processes, and last, but not least, to harmonize our tools with the machines of the respective customers. That includes creating tool plans, defining machining strategies, determining machining parameters, tool design, calculating service life, and much more.

Our impressive on-site service includes that we even send out one of our professionals who will supervise the running-in of the new tools.

That makes it possible to further optimize newly developed tools without delay, and guarantees full functionality.

ALMÜ tools come in sturdy wooden transport boxes, also very convenient for sending them back to our resharpening service. All in all: it is good to know that ALMÜ offers such comprehensive services.





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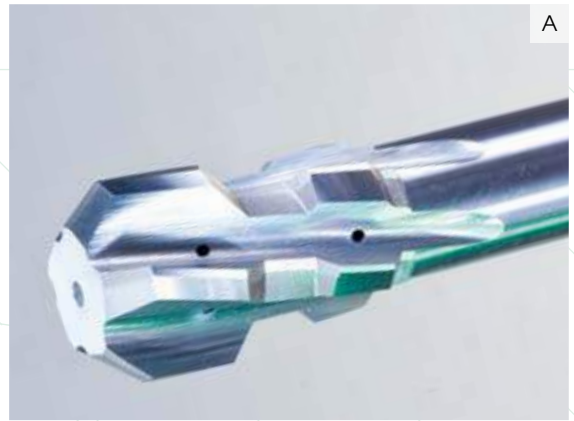
SOLID CARBIDE TOOLS

PRÄZISIONS

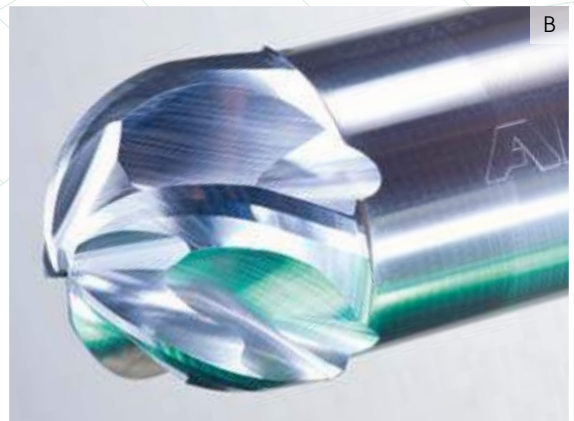
PCD TOOLS

WERKZEUGE

PCD MONOBLOC

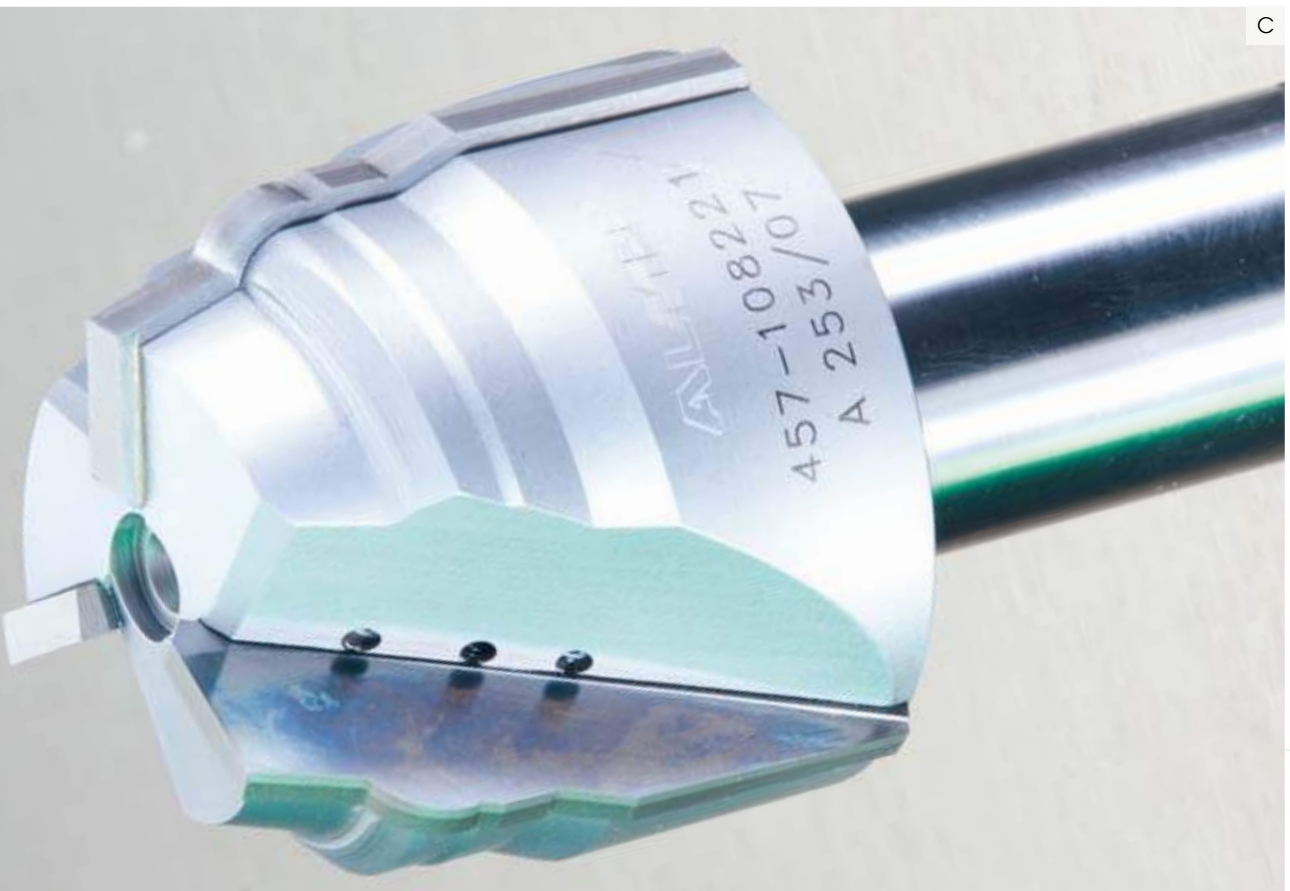


A



B

- A // Spiral-grooved circularmilling tool, solid-carbide version
- B // Ball cutter for machining camshaft bearing channels
- C // Counterboring tool equipped with solid carbide



C



16 // 17

SOLID CARBIDE TOOLS

Modern solid carbide tools' specifications in serial production are manifold. Processing cast and aluminum components presents lots of technological possibilities.

To be able to offer tools made exactly for the individual manufacturing process, you not only need technological competence, but also great creativity. That often ends up in creating entirely

new tool shapes, which excel in productivity and cost-effectiveness.

ALMÜ's solid carbide tools stand out due to polished chipping spaces, individual cutter designs, precisely polished sections, and many other details. All that ensures that your finished workpieces will have exactly the surfaces you want them to. Our extended services also

provides you with exact data for the chipping parameters – of course, customized for the respective CNC machining center.

On request, we provide you with the milling data, the machining strategy, and the programming data in ISO code.

Our resharpener service uses the original production program to ensure the highest profile accuracy.

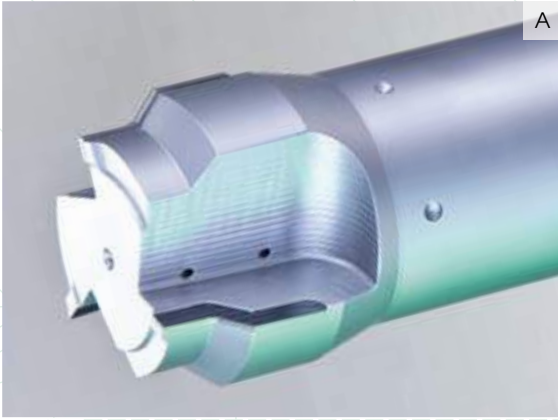
PCD TOOLS

Tools with polycrystalline diamonds as cutters have long become a success story in the metal industry, and nobody can live without them. After all, PCD tools offer an outstanding service life, and have thus become state of the art in cost-effective production processes of complex components. Our longstanding customers are well aware of our competence when it comes to handling PCD.

Our aim and our motivation is to merge several machining tasks into just one single tool. The result is obvious: just take a close look at the excellent results of our innovative work. We know a lot about what it means to reduce nonproductive time caused by frequent tool changes. This is exactly what we take into account – and therefore, ALMÜ has created tool concepts that are absolutely unique.

18 // 19





- A // A PCD circular milling tool for processing a retarder case
- B // A PCD combination tool for processing a car's steering tube
- C // A spiral-grooved PCD tool for universal use with high chipping volume





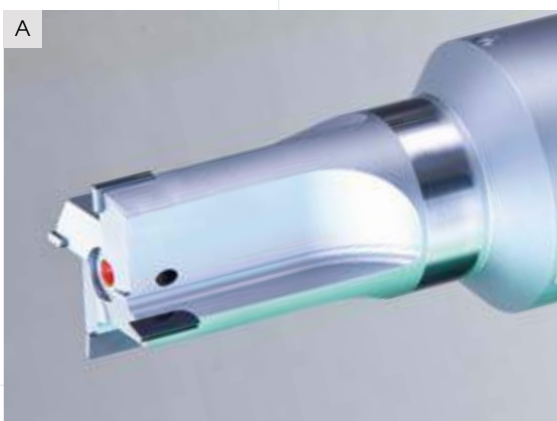
- A // A PCD counterboring tool for boring processes at hydraulic tappets
- B // A bell-shaped tool for outer circular plus counterboring machining of a component from the aviation industry

PCD MONOBLOC TOOLS

Monobloc-designed PCD tools are perfect thanks to their running smoothness and their exact rotation. These advantages are reached by the stiffness of the tool design.

ALMÜ's specially designed tools always fit like a tailor-made suit. Of course, our technological expertise and advice play an important role – from planning to production.

For our customers, handling monobloc tools is incredibly simple, as you don't have to adjust the cutters manually. The machining conditions such as spindle and tool tension always have to be taken into account. As we produce individual tools for your individual machining station, we can, of course, provide you with all the necessary cutting parameters. Thus, our customers always end up with perfect solutions.



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DRILLING / COUNTERBORING

PRÄZISIONS

WITH INTERCHANGEABLE PLATES

WERKZEUGE

HSC FLEX CUTTER



DRILLING/COUNTERBORING COMBINATION TOOLS

24 // 25

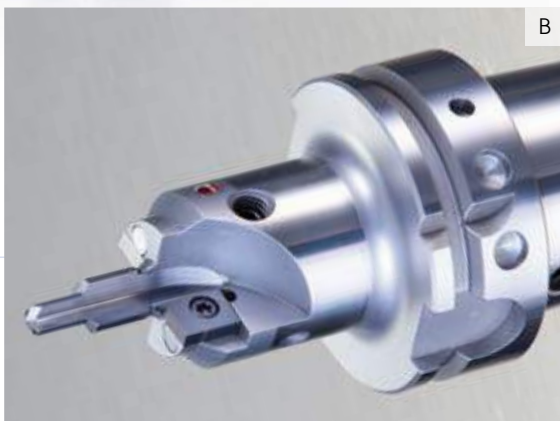


- A // Standard drilling/counterboring combination
- B // Axially adjustable countersink cutter with ALMÜ-Flex system
- C // A tool for processing the hydraulic connections of a car steering

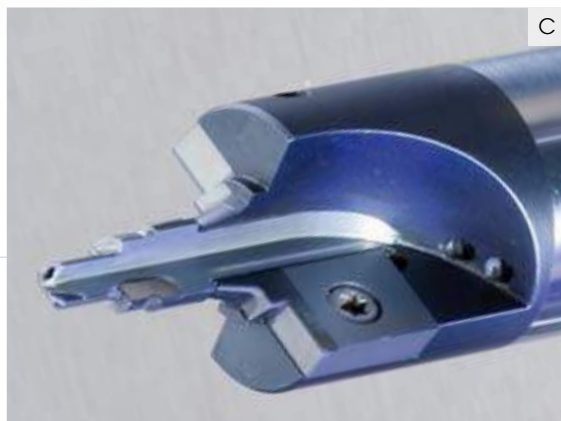




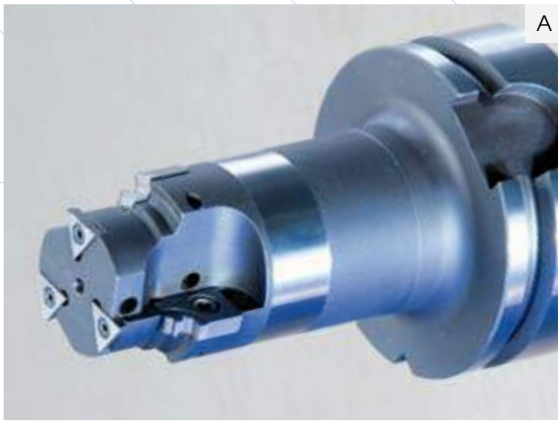
Special machining situations require individual solutions. That can save costs and ensures that time targets are observed – that is our understanding of efficiency. The drilling/counterboring combination is a modular tool system, and is most often used when using a solid carbide tool is not economical. Such tools are preferred for processes when, for instance, the aim is to deal with vast differences in diameters. Its major trump is that at least two functional surfaces can be created in one go. That means saving valuable time, as well as conspicuous quality improvements. With our ALMÜ-Flex system, the cutters of the central tool can be adjusted in respect to each other. Apart from well-established coatings, you can also order our PCD-equipped plates.



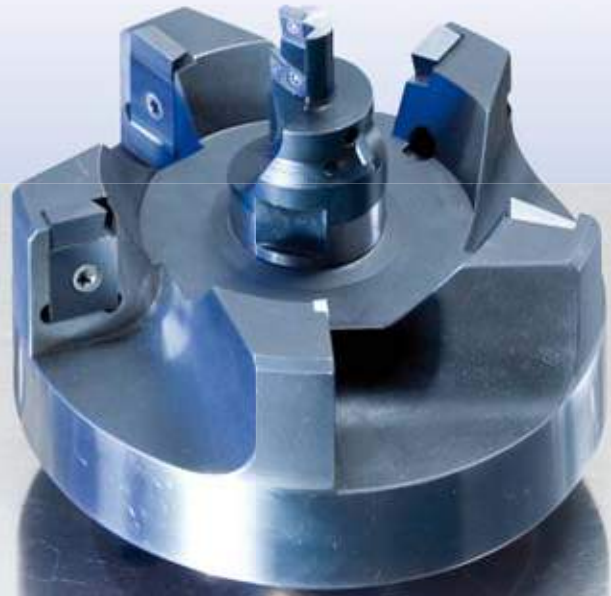
B



C



- A // A circular milling tool with PCD-equipped interchangeable plate
- B // A diagonally adjustable cutter with the ALMÜ-Flex system
- C // Preparation for a car's connecting rod, small eye



INTERCHANGEABLE PLATE TOOLS

Interchangeable plate tools are – along with PCD monobloc tools – a great technological and economic alternative. Thanks to the ALMÜ-Flex system, the PCD-equipped interchangeable plates can be adjusted to the latest μm . Fittings from the world of IT6 with a CpK value of 1.66

are no problem at all. Moreover, the interchangeable plates can be resharpened, and just be used again. The costs of logistics, as well as the cost per cutter use can thus be reduced to a minimum. Apart from using them in processing aluminum and light metal, we also prefer inter-



changeable plate solution when it comes to machining cast material. Whenever interchangeable plate solutions become necessary, we offer six additional sizes along with the ISO plates.

- A // A tangential cutter head, Ø 40, with four axially adjustable PCD cutters
- B // An HSC-Flex cutter with radially assembled pcd inserts and ABS® interface (License by KOMET®).

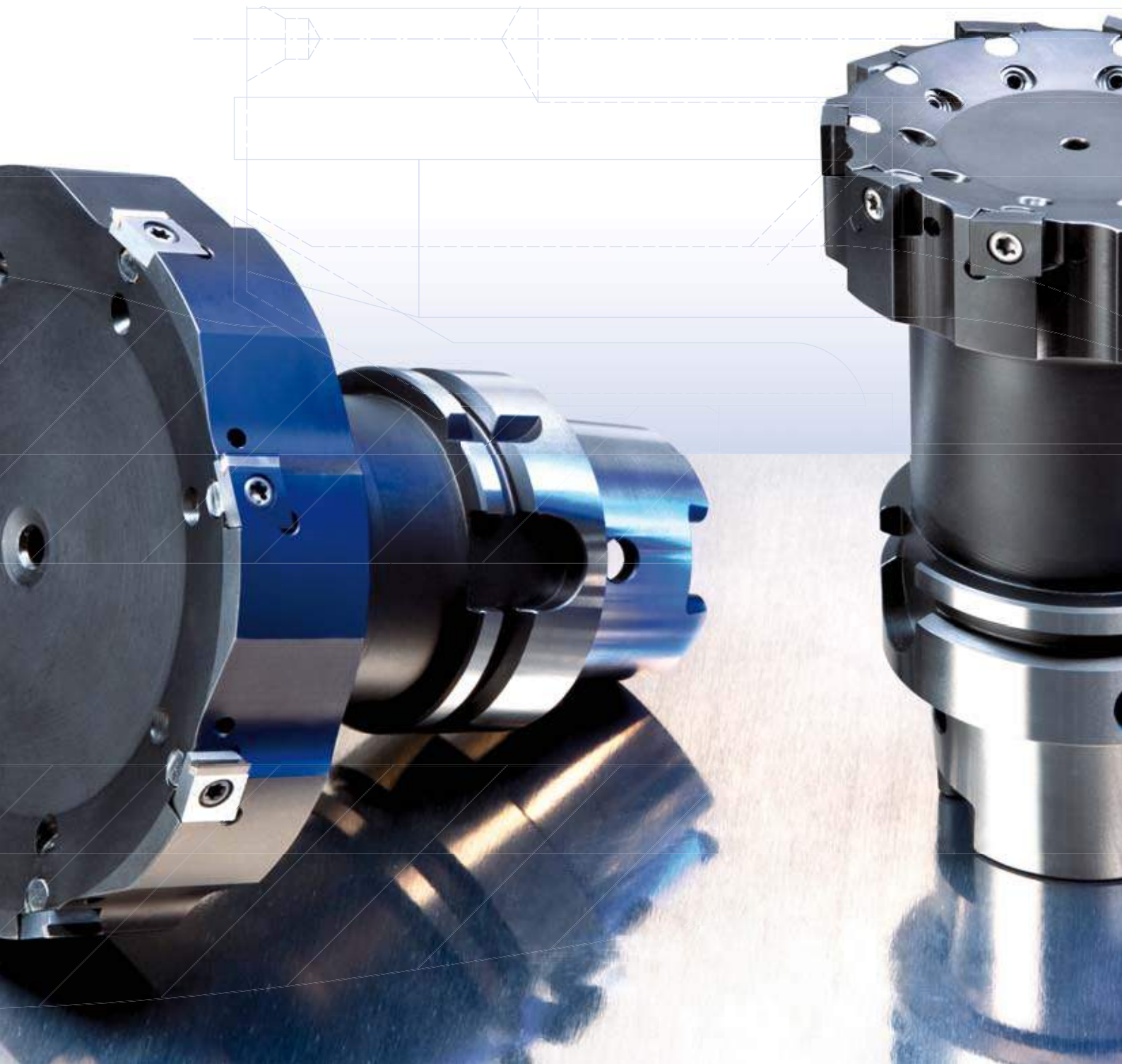


HSC-FLEX-CUTTER

If you expect more than others when it comes to surfaces of workpieces, you need a tool system that allows you to adjust the cutters rapidly and easily. With the ALMÜ-Flex system, we have found an easy solution, just by turning a screw. We don't promise too much when we claim that the cut-

ters can be adjusted within minutes. Our HSC-Flex cutter actually match up with all your expectations when it comes to face milling. The variable number of cutters stands for the highest efficiency of your milling processes. The robust and rather basic design of the tool makes it possible to rapidly adjust the

cutters – all far from complicated. Thanks to its higher grinding volume, combined with higher feeding rates and reduced cutting forces, the HSC-Flex cutter offers great potential in profitability.



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