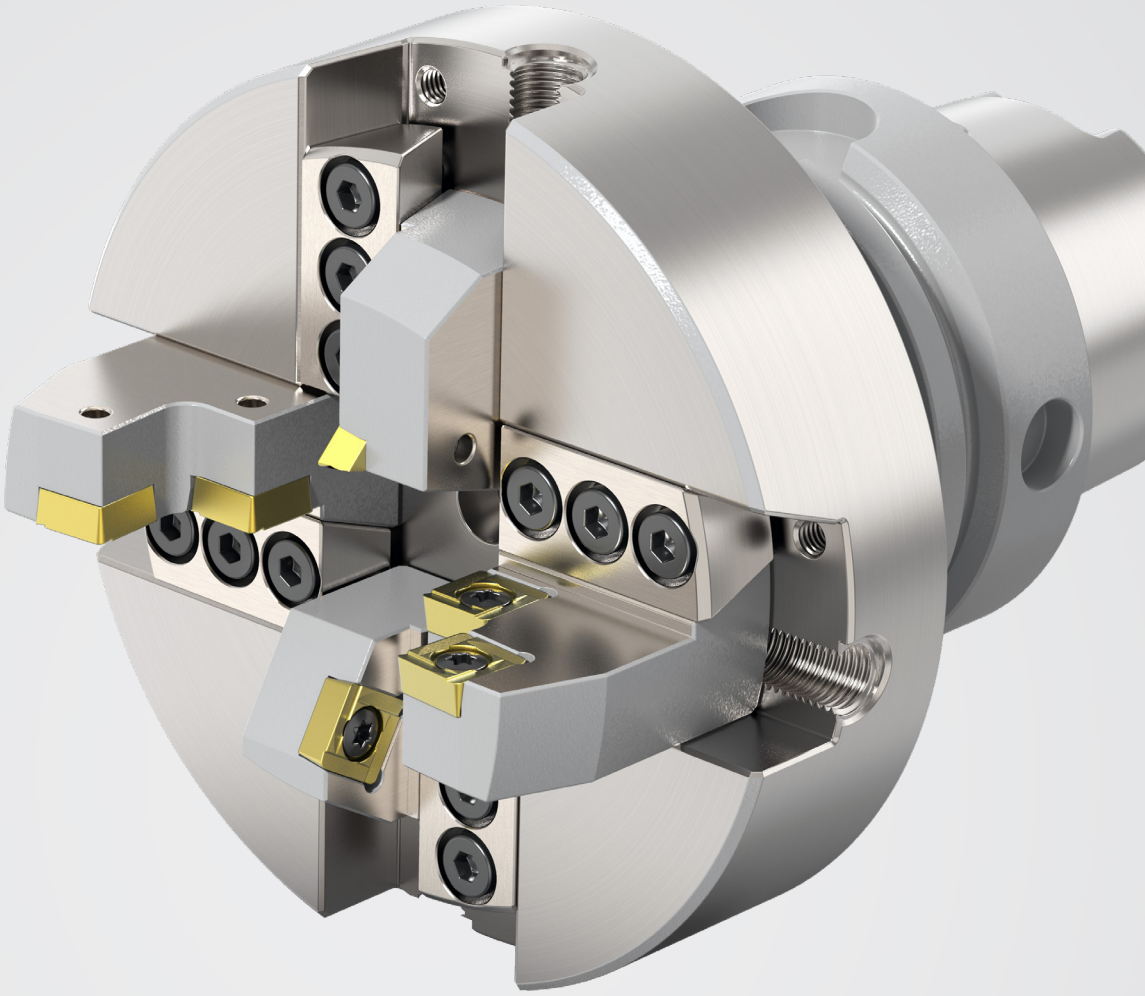
GÜHRING



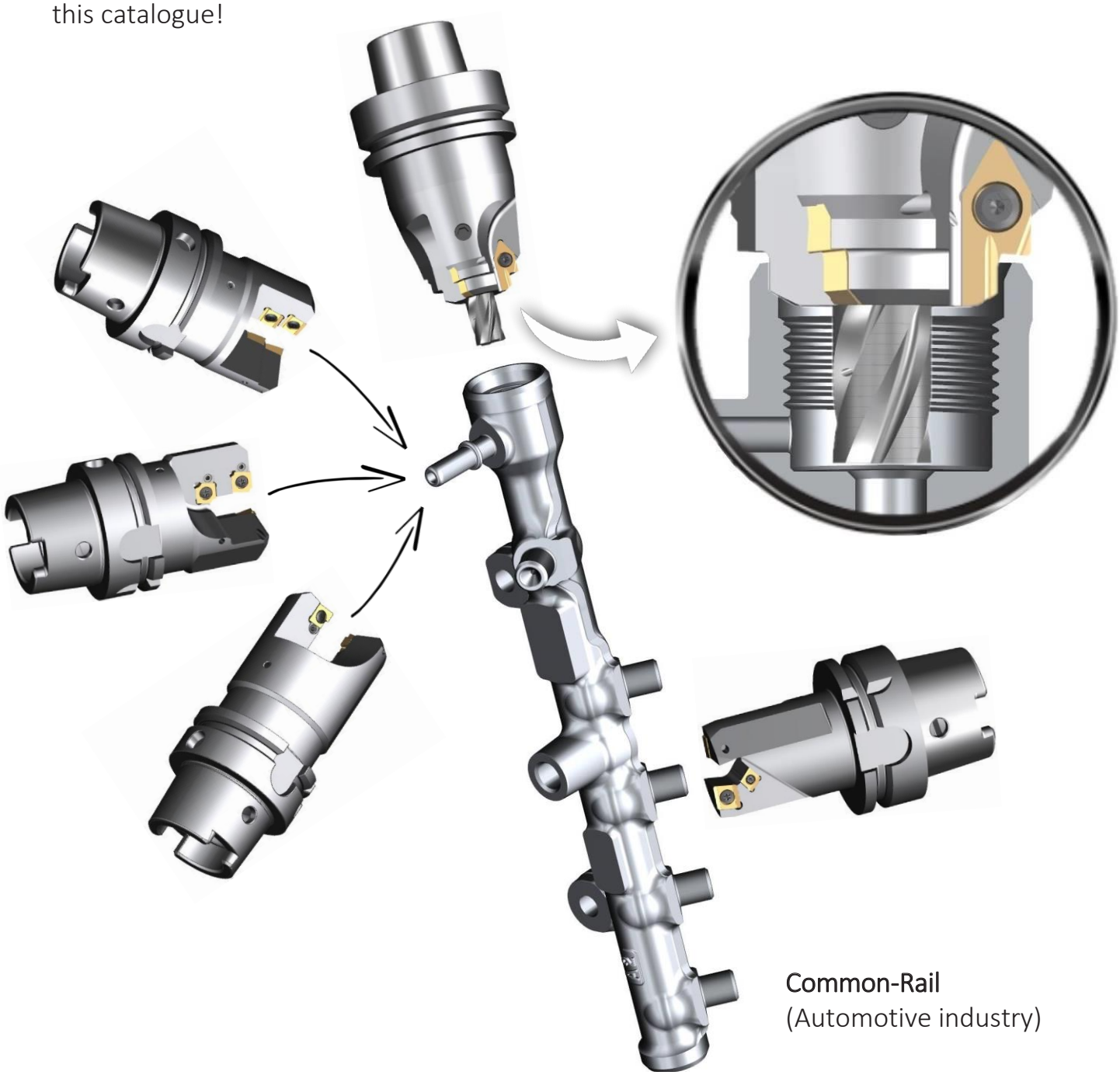
GE 100 -
Application - catalogue

finisher
the one pass solution GE 100

GÜHRING

Application examples - catalogue

No matter how many contours need to be machined, we optimize your processes in highest precision! We will show you the advantages and strengths of our products in this catalogue!



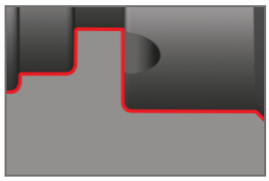
Common-Rail
(Automotive industry)

GÜHRING

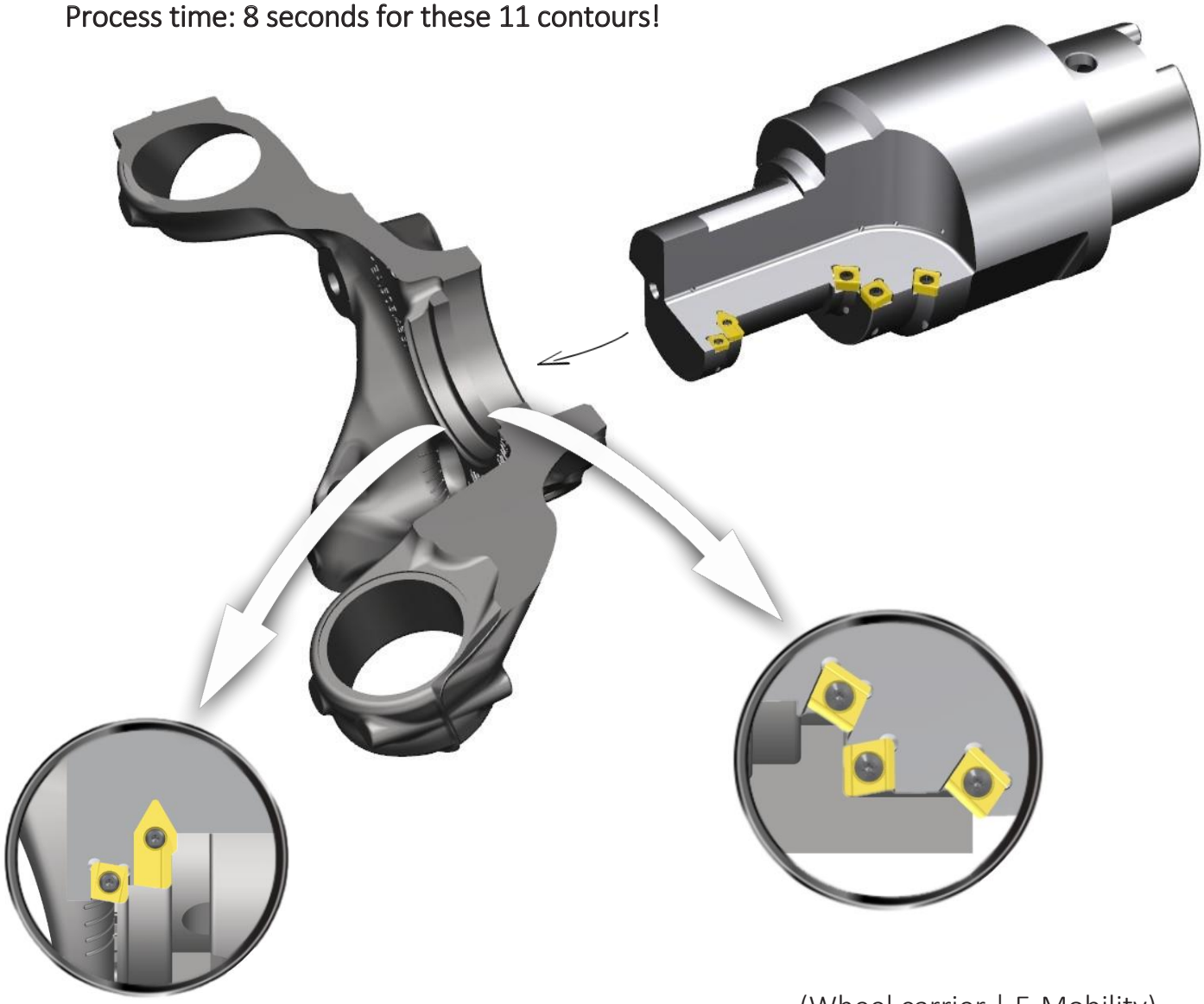
Contents

1. Backward countersink

After the backward countersink is plunged into the workpiece, it can be deflected radially. This allows to produce contours with one fore and return stroke. In this example, 11 contours are thus produced with one tool.

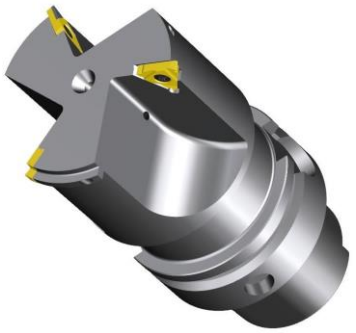


Process time: 8 seconds for these 11 contours!



(Wheel carrier | E-Mobility)

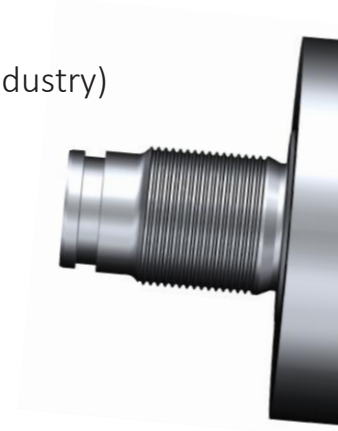
2. Multifunctional turning tool



This multifunctional turning tool can carry out various machining operations.
→ external threads, grooves, external contours and faces can be machined by this tool.
The tool is rigid and the workpiece rotates.

A simple 120° rotation of the tool switches to another machining mode. Two tool changes are saved!

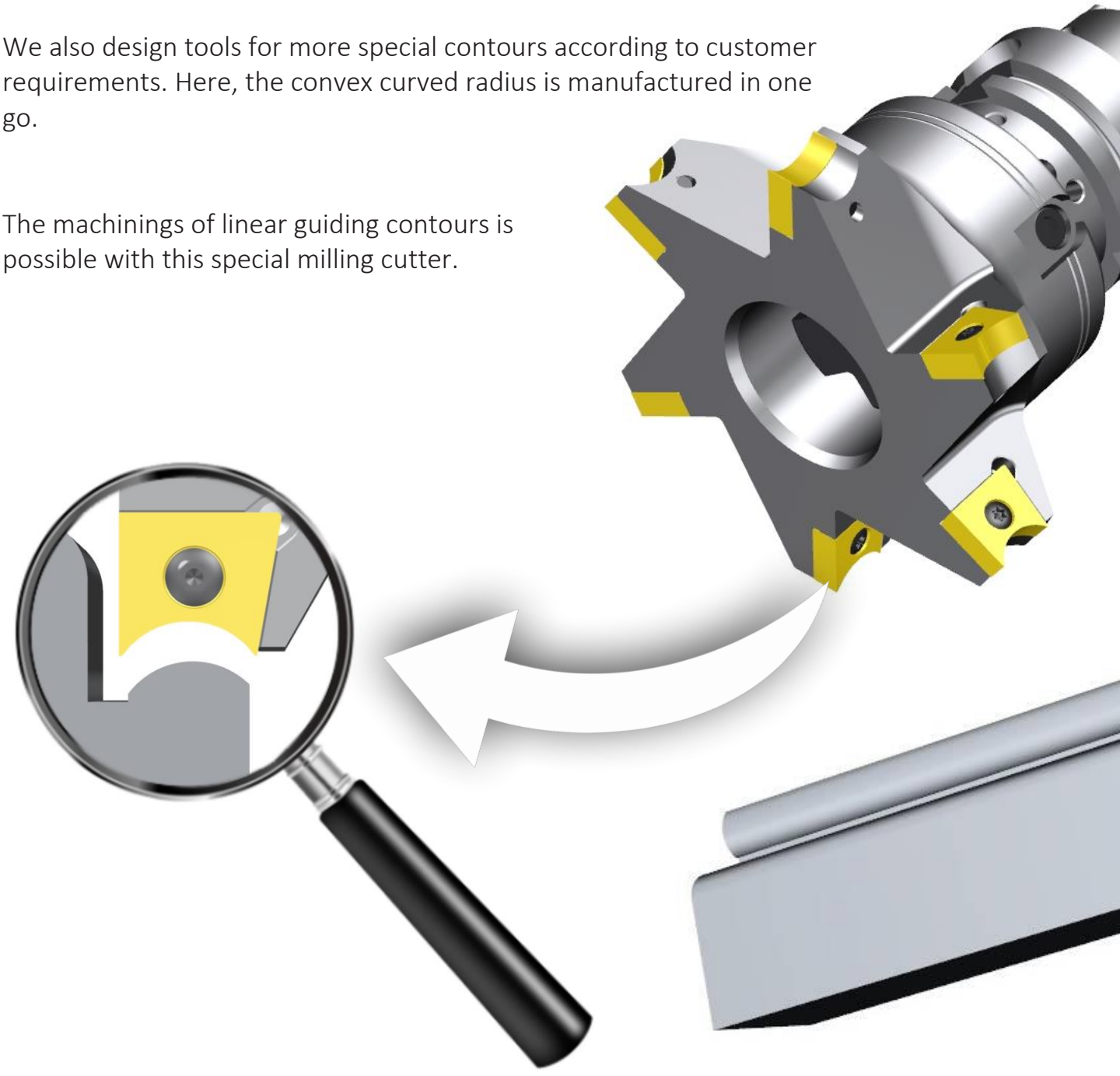
(Fitting industry)



3. Contour milling cutter

We also design tools for more special contours according to customer requirements. Here, the convex curved radius is manufactured in one go.

The machinings of linear guiding contours is possible with this special milling cutter.



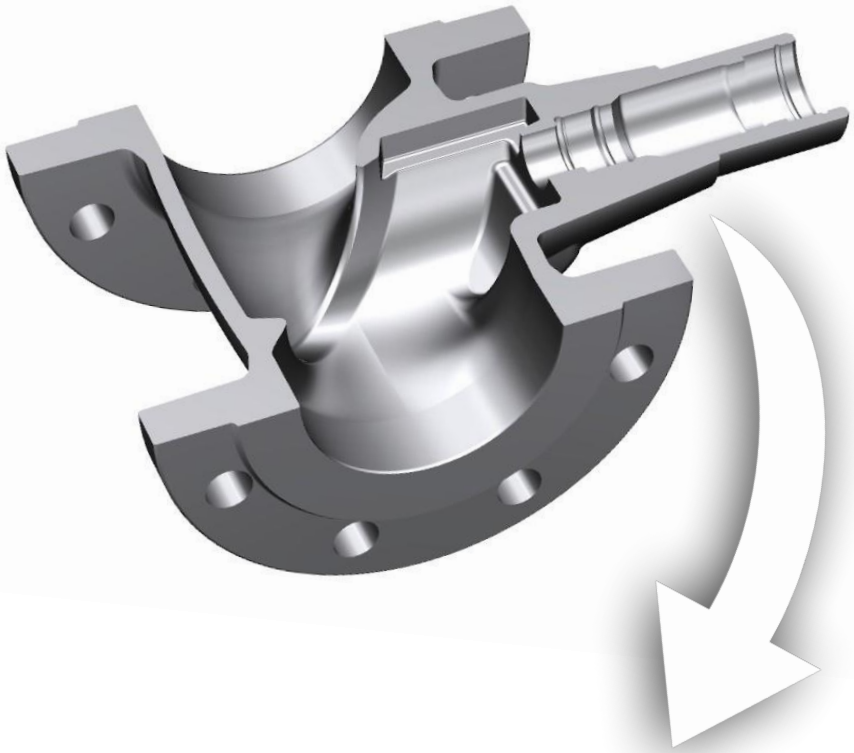
(Bearing technology, mechanical engineering)

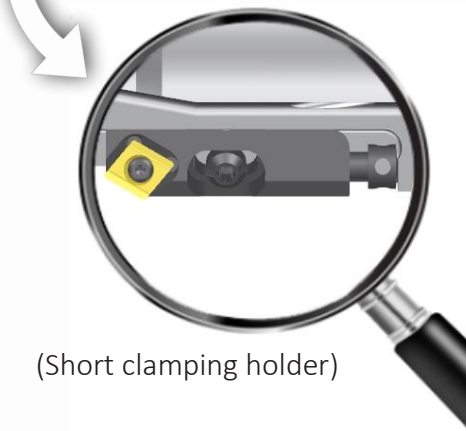
4. Spindle tool

If some contours need to be manufactured very precisely, we can also offer solutions in this case. On the right side, a short clamping holder is shown. This allows to set the length of the indexable insert precisely to the µm.

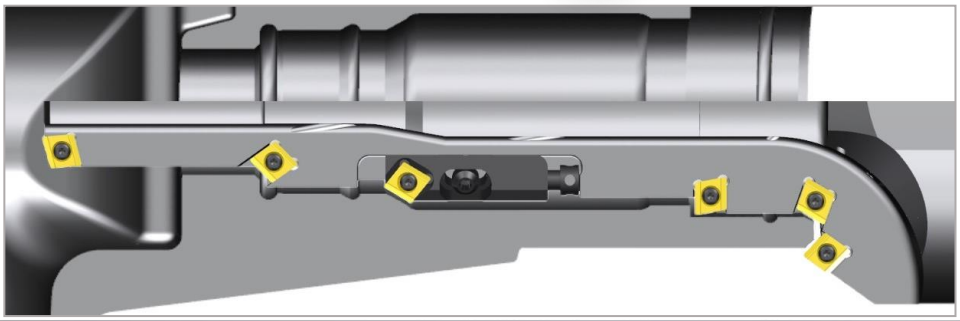
Process time: 11 seconds for these 7 contours.

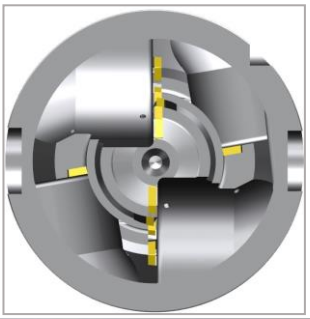
(Stop valve | Fluid technology)



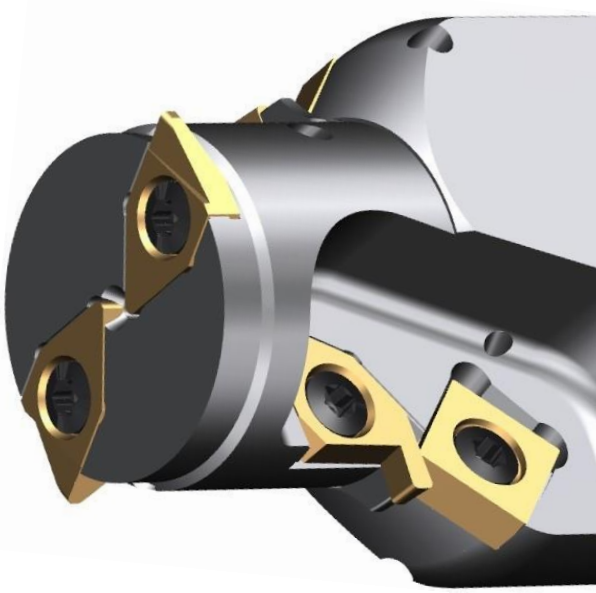


(Short clamping holder)



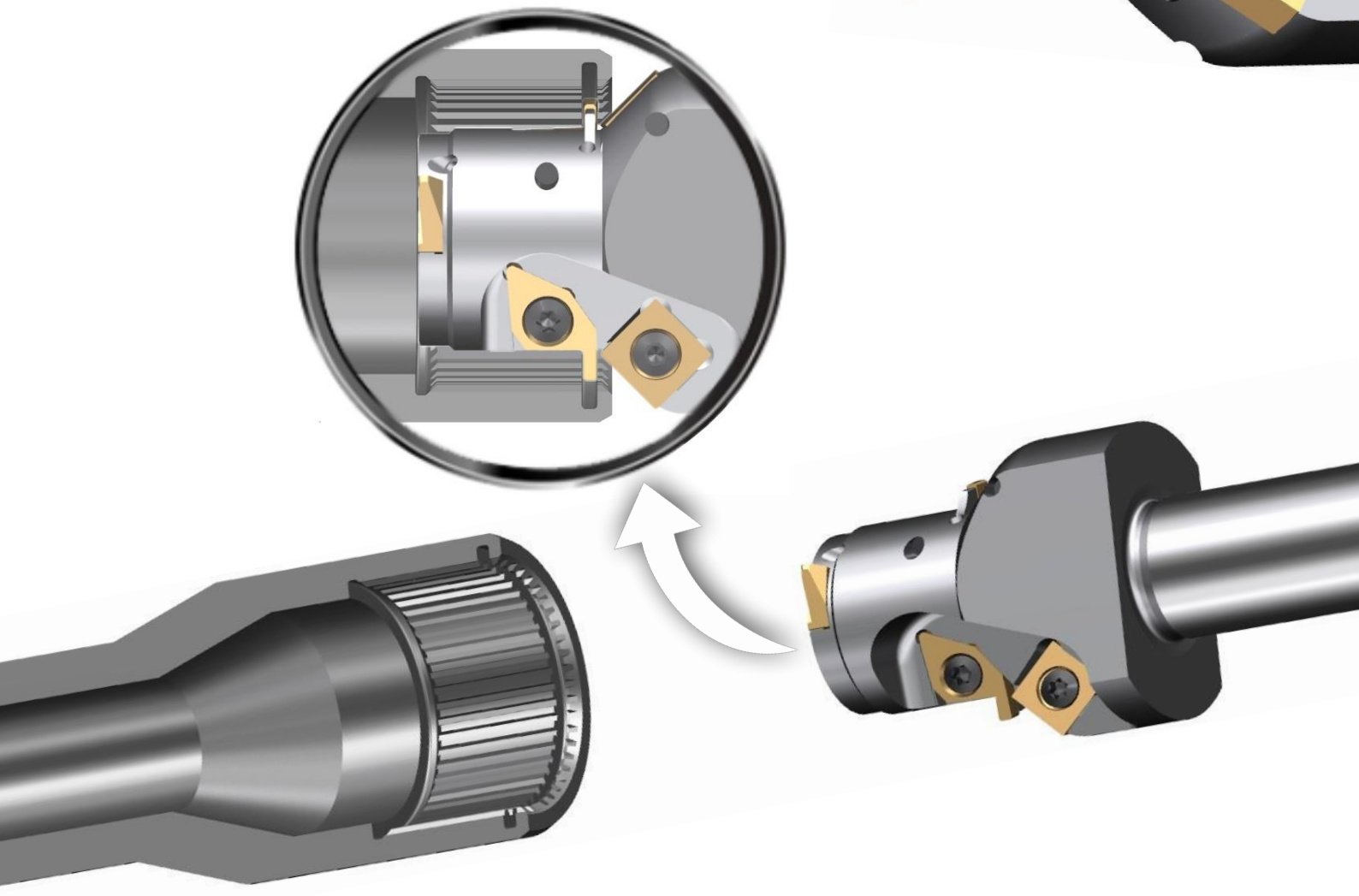


5. Circular milling tool



Two grooves and one chamfer are milled at the same time.

Special feature:
Two grooves and one chamfer are produced within **5 seconds** by one circular movement in this gearbox shaft!



(Gearbox shaft | Automotive industry)

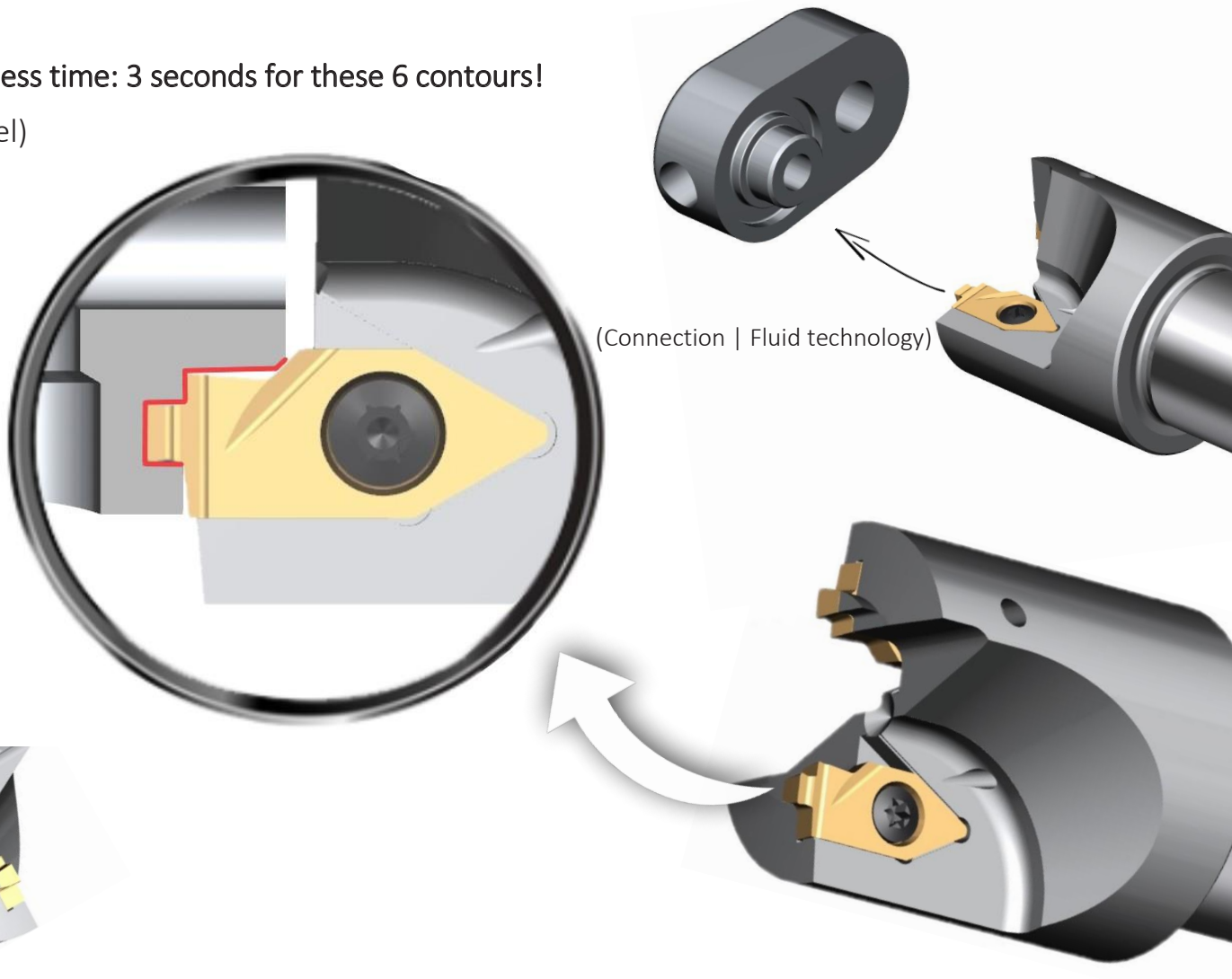
6. Tool for circumferential slots

For this connection, six surfaces need to be machined with high precision to ensure the function and tightness of the system. Our tool can realize this machining in one operation.

Customised form inserts are designed according to customer requirements, which meet the tight tolerances of the sealing surfaces.

Process time: 3 seconds for these 6 contours!

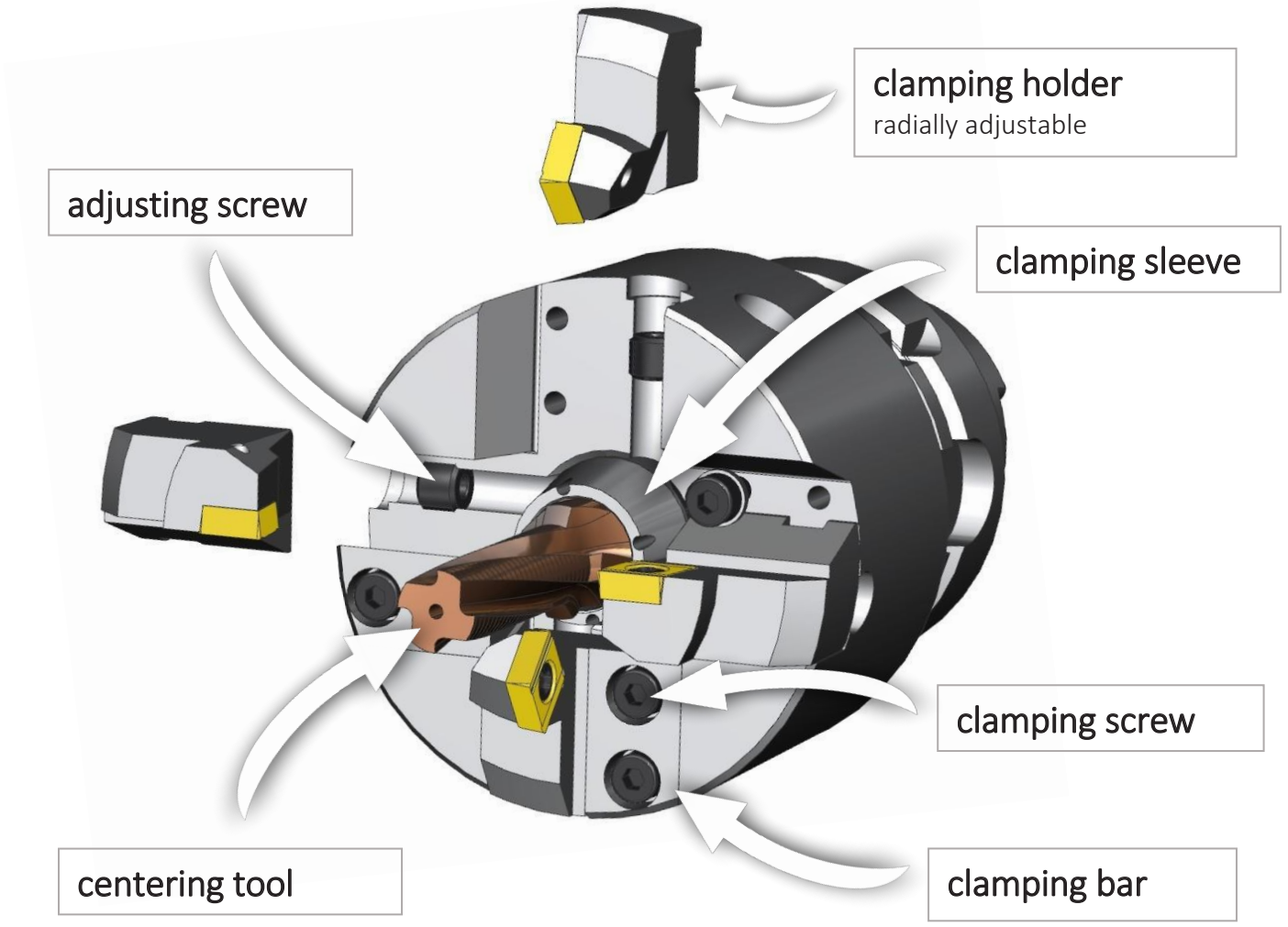
(Steel)



(Connection | Fluid technology)

7. GE100 - Finisher (assembly)

This view describes the assembly of our multifunctional tool.

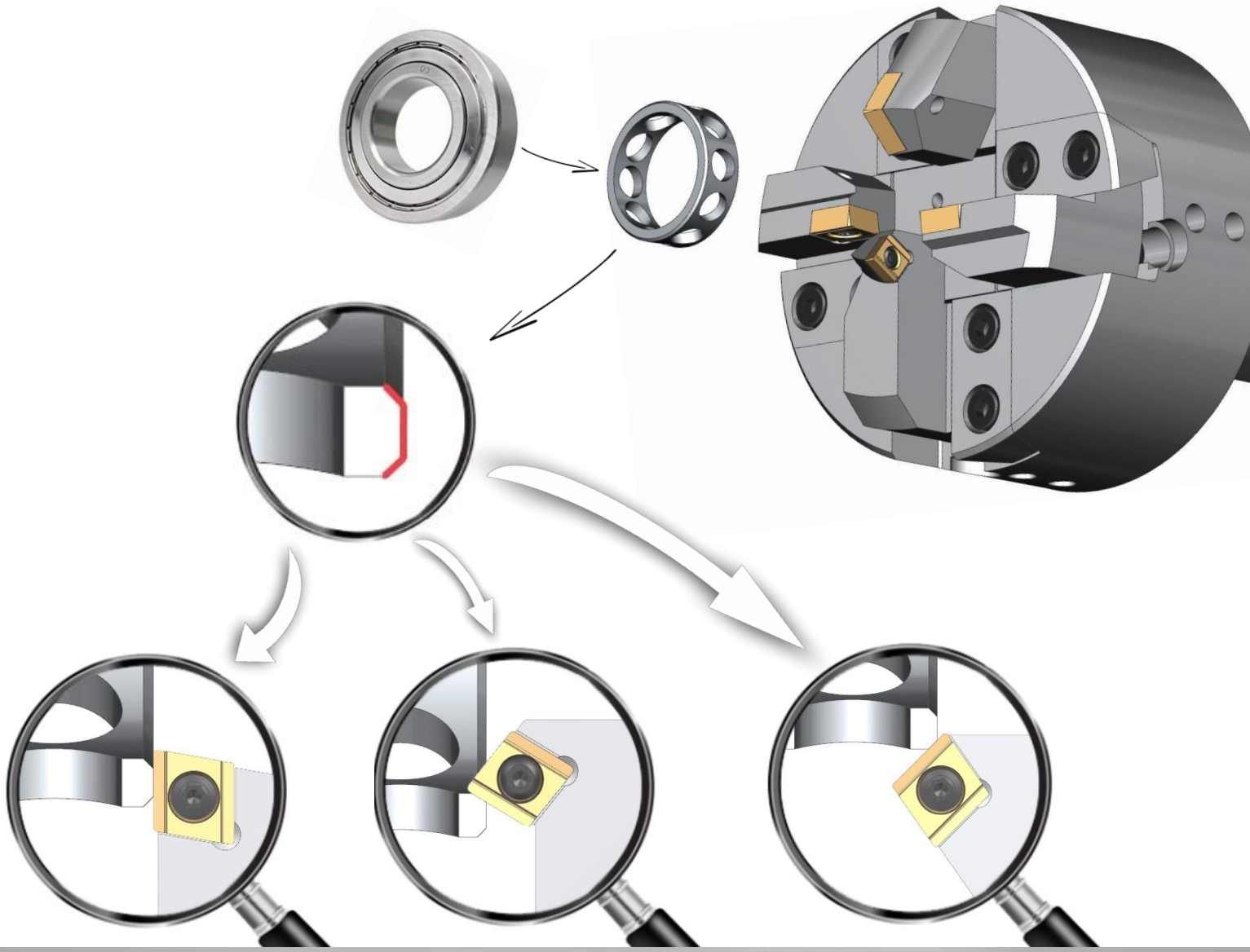


→ The customer's contour to be machined changes? No problem!
The simple "modular system" makes it possible to change the clamping holders in a few seconds with little effort. They can be adjusted easily "radially" by means of the adjusting screw, which allows the tool to be adapted flexibly to the process!
They can be easily adjusted "radially" by means of the adjusting screw, which allows the tool to be adapted flexibly to the process!

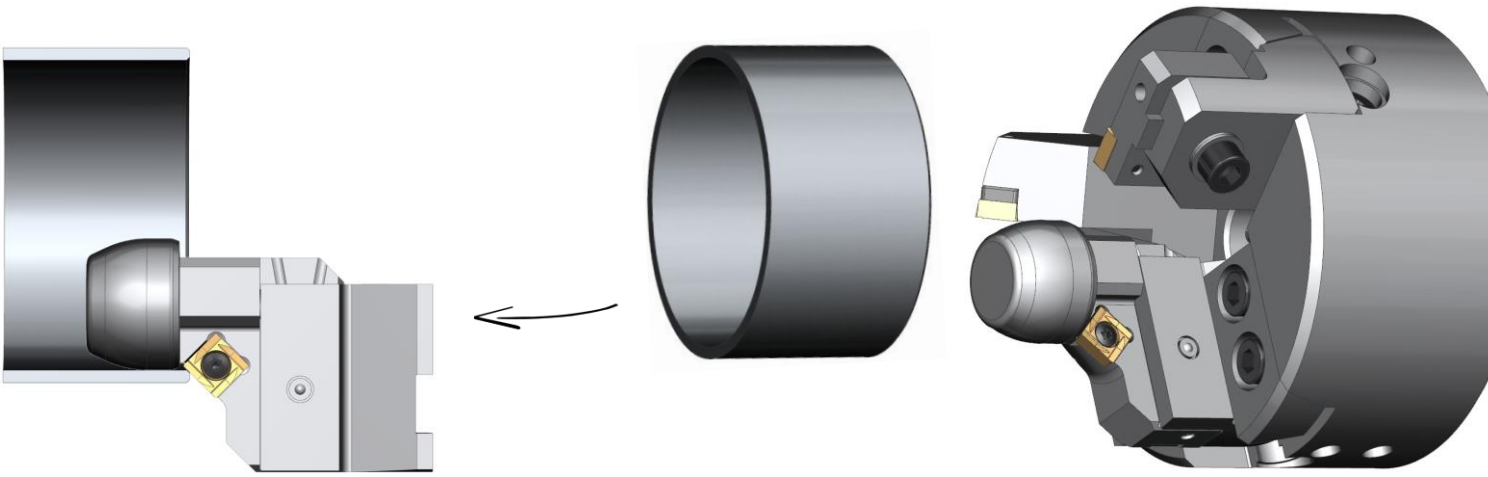
8. GE100 - Finisher

The GE100 – Finisher System does not only machine several contours in one go, but also offers enormous fexibility in the machining process. In case the drawing of the workpiece to be machined changes, the clamping holder, which is responsible for this dimension, can be adjusted easily or exchanged if necessary.

Special feature: The face and the inside and outside chamfer of the ball bearing cage are manufactured within 3 seconds.



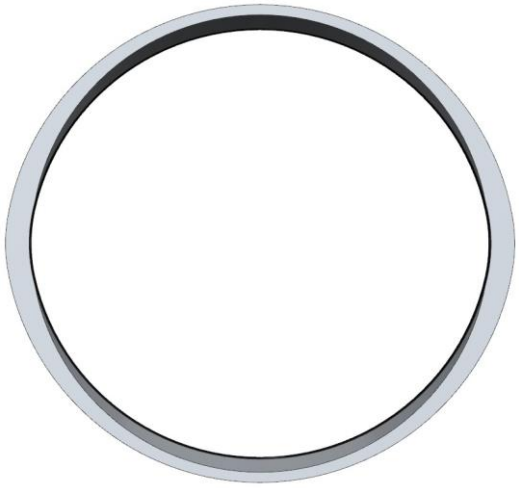
9. GE100 – Finisher with floating holder



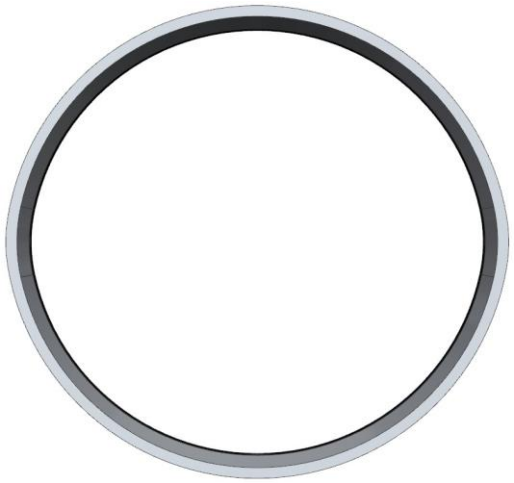
With non-circular tubes, the chamfer to be produced is not manufactured uniformly by conventional machining methods (left picture). The floating roll scans the tube's inner contour and guides the clamping holder in which the chamfer plate is seated. This ensures an evenly wide chamfer (right picture). In addition, the workpiece's offset to the tool is compensated.

Process time: 5 seconds for these three contours!
(face, inside and outside chamfer | stainless steel)

✗ Without floating holder

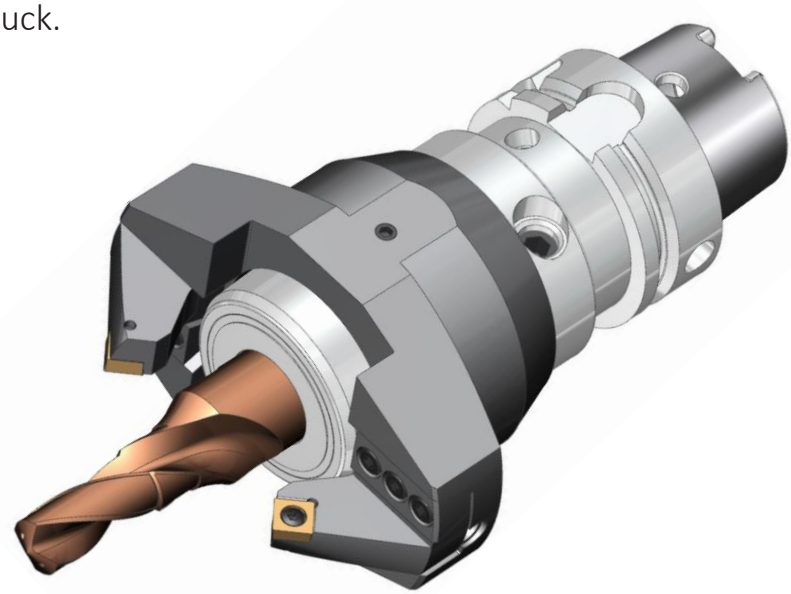


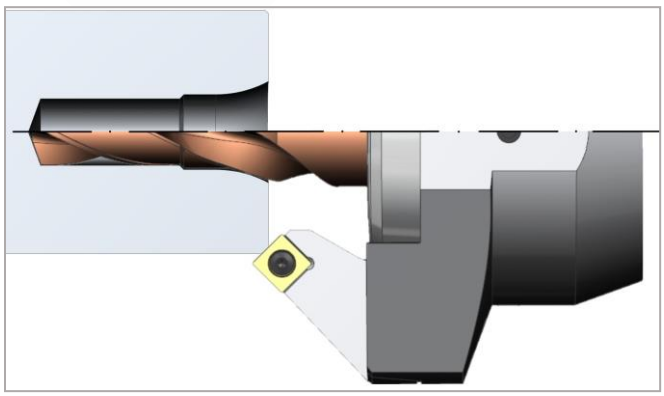
✓ With floating holder



10. GE100 – Finisher expanding chucks

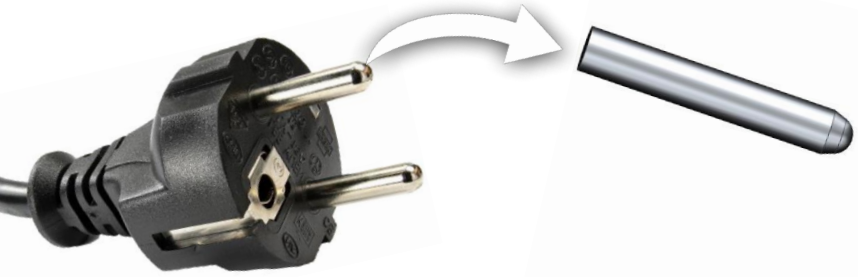
One advantage of an expansion chuck is that a very good concentricity (3 µm) of the clamped tool can be achieved. This advantage is used by combining the GE100 – finisher system with the expansion chuck.



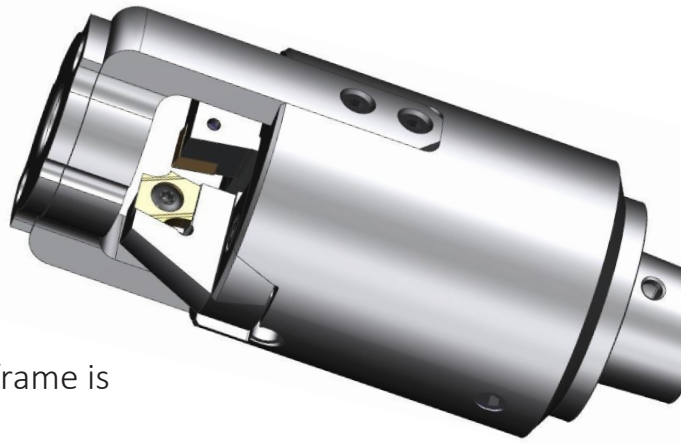


Process time: 11 seconds for this machining!
(inner contour l=60mm, external chamfer | stainless steel)

11. GE100 – Finisher guide bracket



(electrical industry)



For unfavourable tensioning situations, the guide frame is often a good solution.
This is used to support the widely clamped workpiece so that a stable and precise machining process can take place despite an unfavourable clamping length. In addition, the workpiece's offset to the tool is compensated.

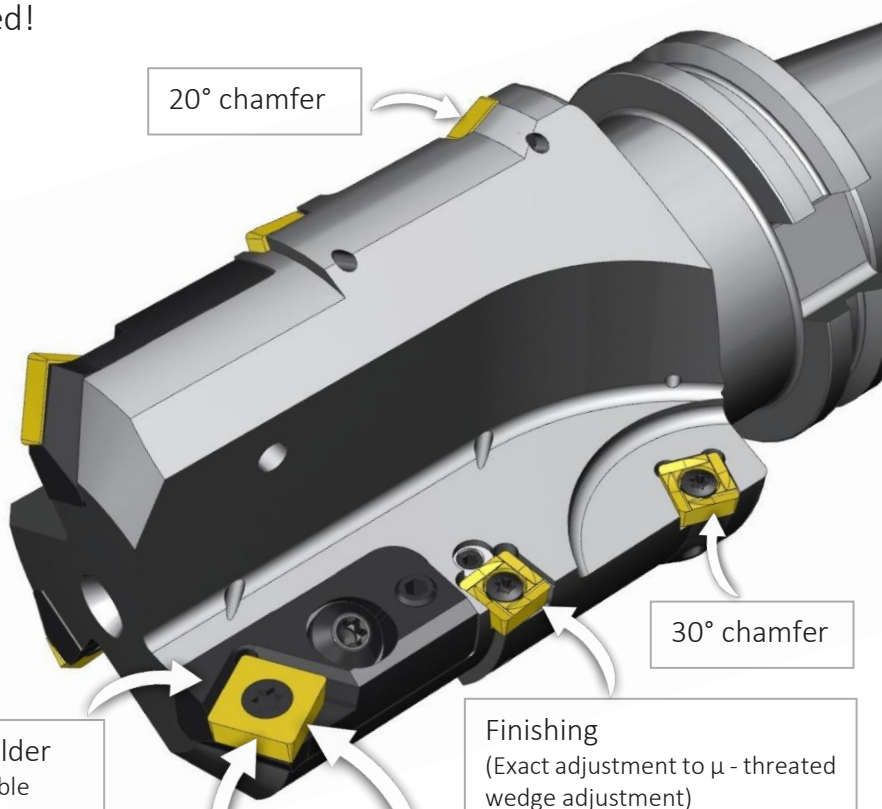
Process time: 4 seconds for the complete minted form!

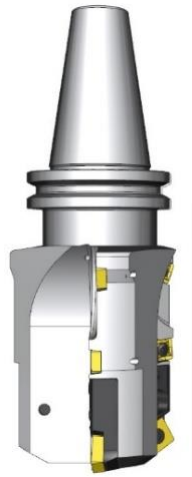
12. Spindle tool and chamerfering tool

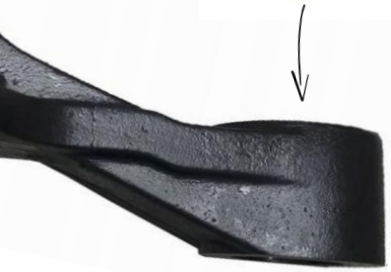
This tool realizes the roughing, finishing and chamfering of the fitting bore in the bearing block in one single pass.
In addition, the insert seats of the chamfering insert have different angles. Thereby, a 30° chamfer and also a 20° chamfer can be produced by applying an indexable insert into the requested seat. By a short retraction and a circular movement in the bore, the exit of the bore can also be chamfered!

Process time:
8 seconds → spindeling + chamfering

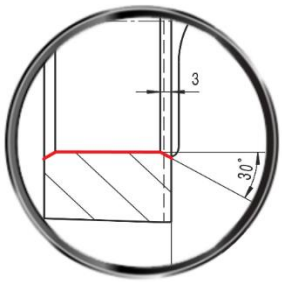
Tool life: 220 min





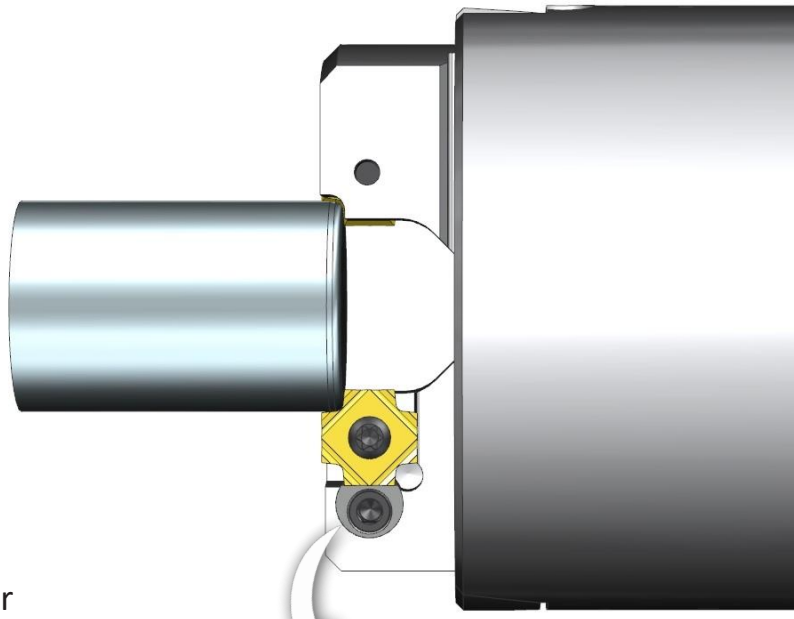


(cast iron components – Automotive industry)



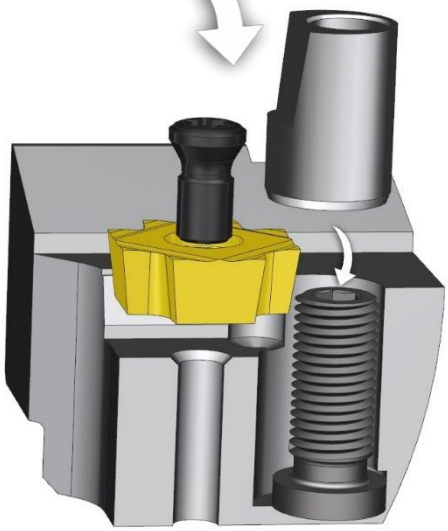
13. Radius tool

(cylindrical roller bearings)



The precise radii of the rolling elements are made with this tool. By means of the "threated wedge adjustment", the form insert can be adjusted precisely to µ.

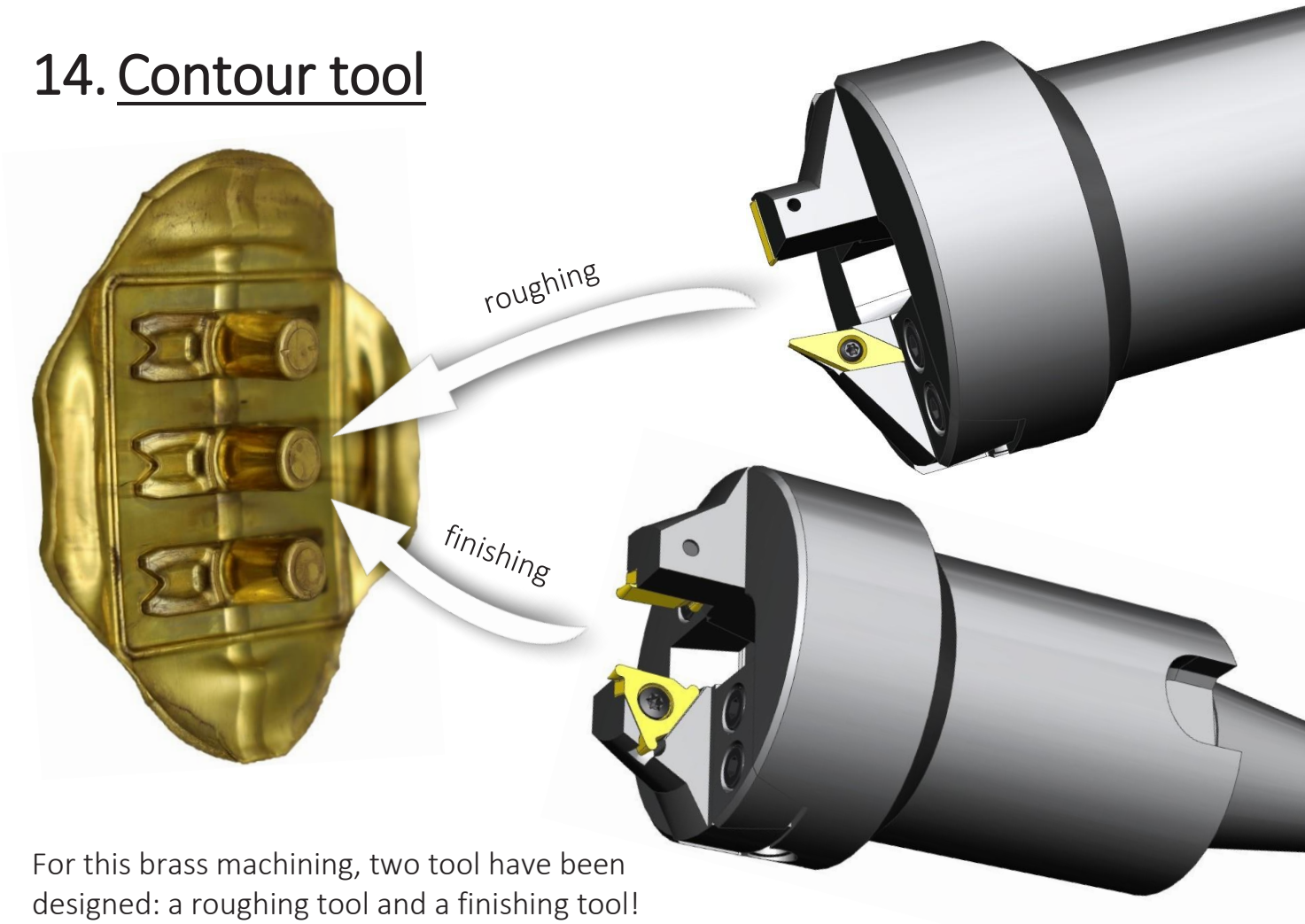
Special feature:
1 second for the completely pronounced shape!
17,000 cuts per cutting edge pair!



(threated wedge adjustment)

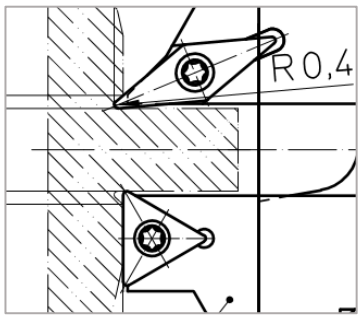
(contact surface)

14. Contour tool

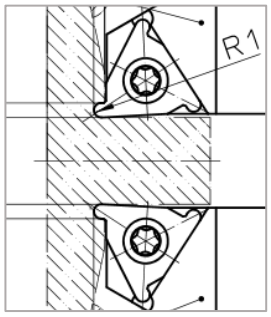


For this brass machining, two tool have been designed: a roughing tool and a finishing tool!

Roughing tool



Finishing tool

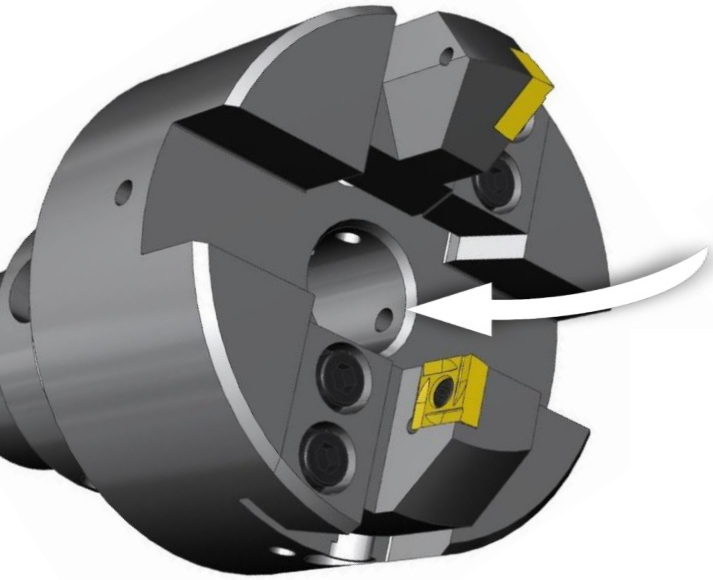


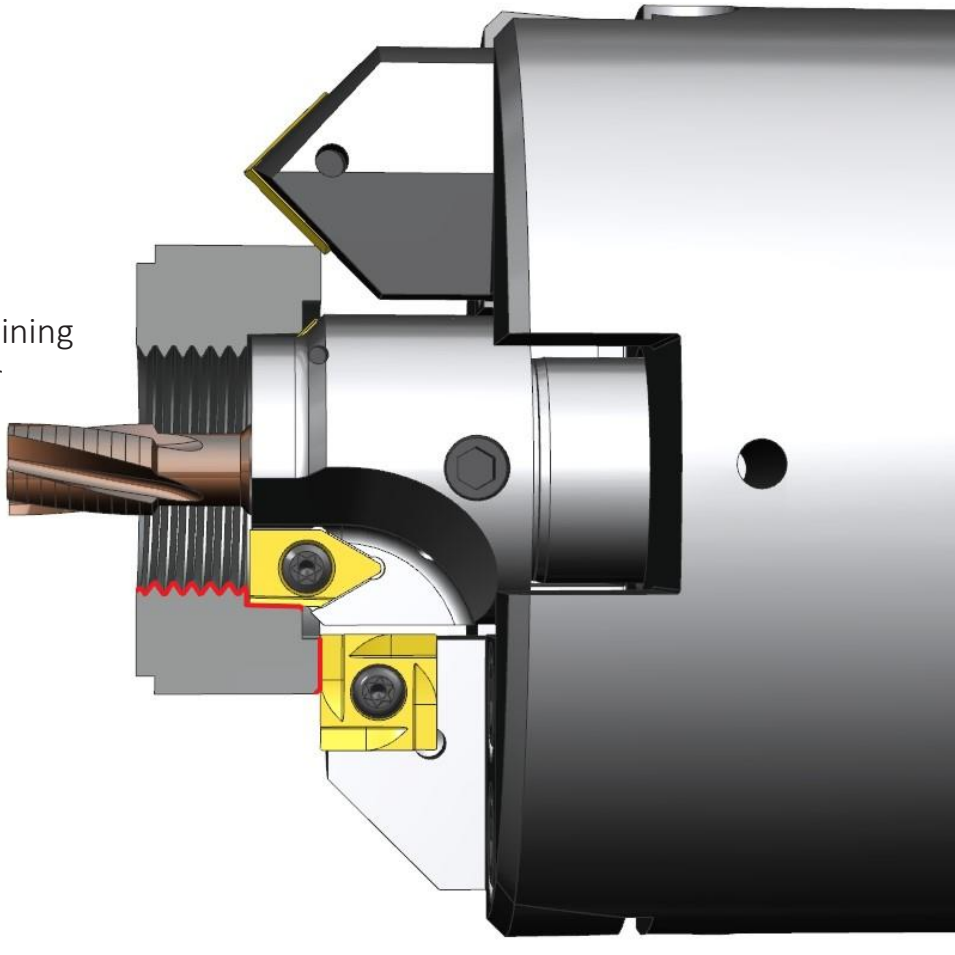
Finished contour

Process time:
2 seconds per tool for the completely pronounced shape.

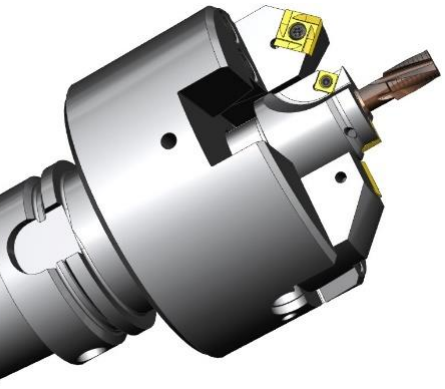
15. Monolitic tool + GE100

To expand our possibilities we also combine monolitic tools with our GE100 - Finisher System!

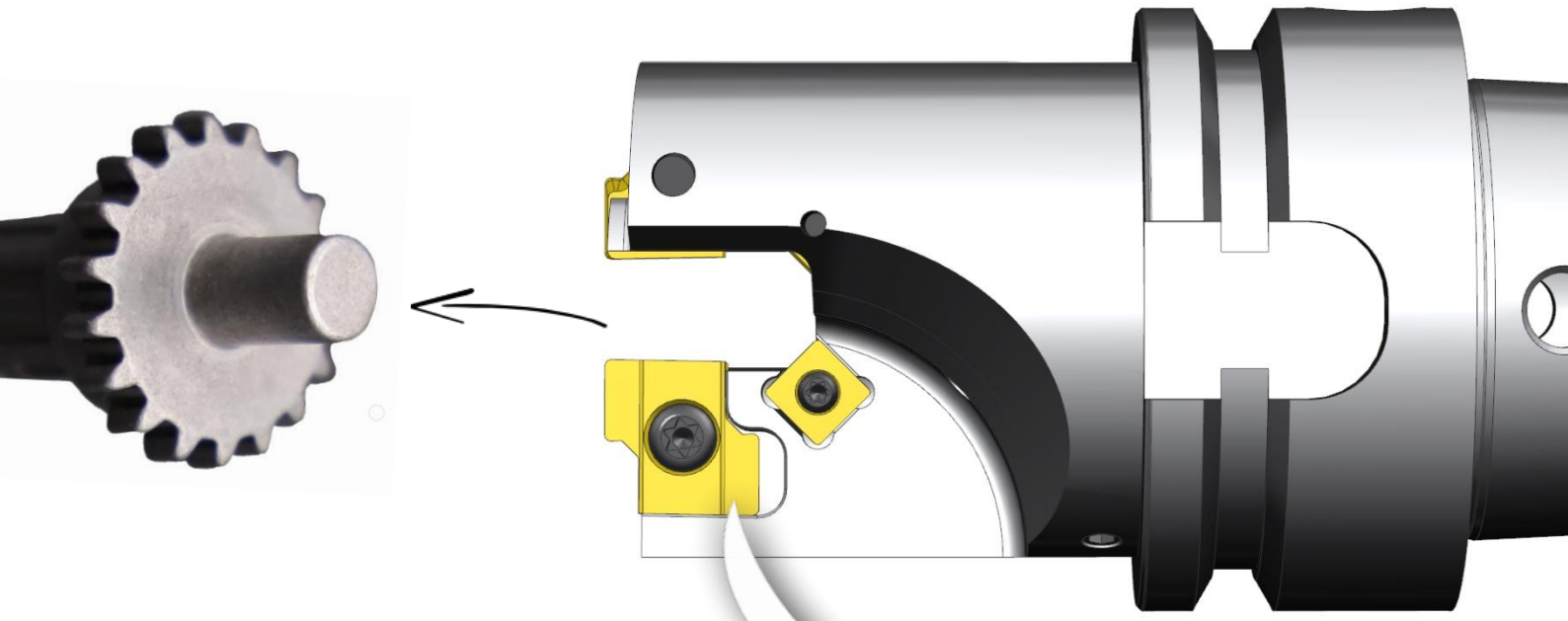




Thus, the limits of the end machining are defined newly and customer wishes and demands can be met even more flexible.

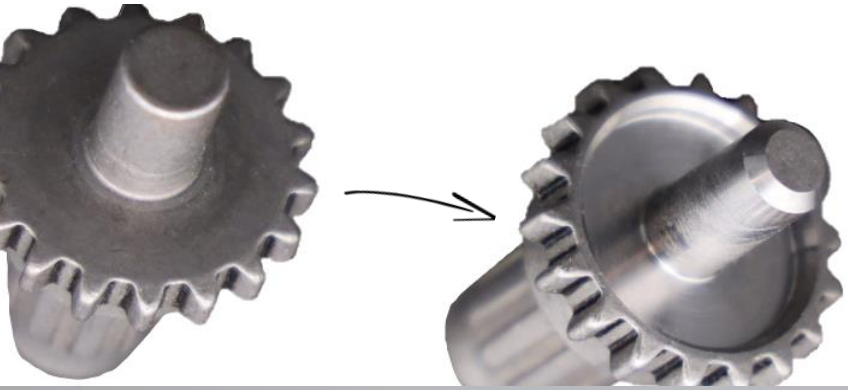


16. Form turning tools



The drive element for a
seat adjustment is machined
with the following cutting parameters:
Vc= 345 m/min
fz= 0,9 mm

Machining time: 3.2 sec for the complete distinct form.
20 % time saving compared to the competitor.



Here you can see an insert seat which is adapted to the geometry of the indexable insert.
This allows multi-flute form inserts to be clamped.