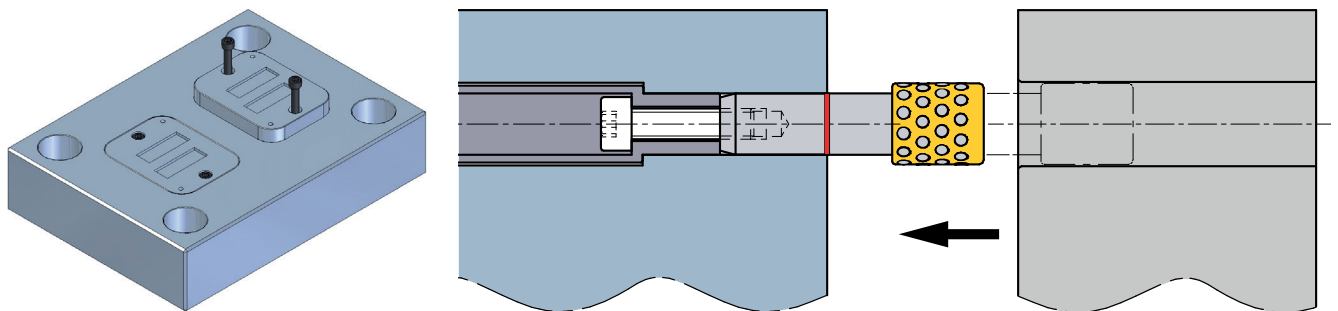


# Quick-change with the Agathon Mini Fine Centering

## Why quick-change?

Individualized products are undoubtedly in trend, which leads to many similarities between the products on the one hand, but to smaller quantities on the other. Here it is worthwhile in punching and injection mold construction to produce similar parts with only one mold design, in which only the active elements or cavities are exchanged at a time, and it should also be possible to adapt the automation quickly and easily. The Agathon Mini Fine Centering is worth using to ensure that the changeover is quick, uncomplicated and smooth.

Their use in high-volume production – either in punching or in injection molding – is also worthwhile: mold inserts and die plates that no longer produce to dimension can thus be exchanged on the machine with minimum downtime. The significantly reduced interruption of production increases system availability.

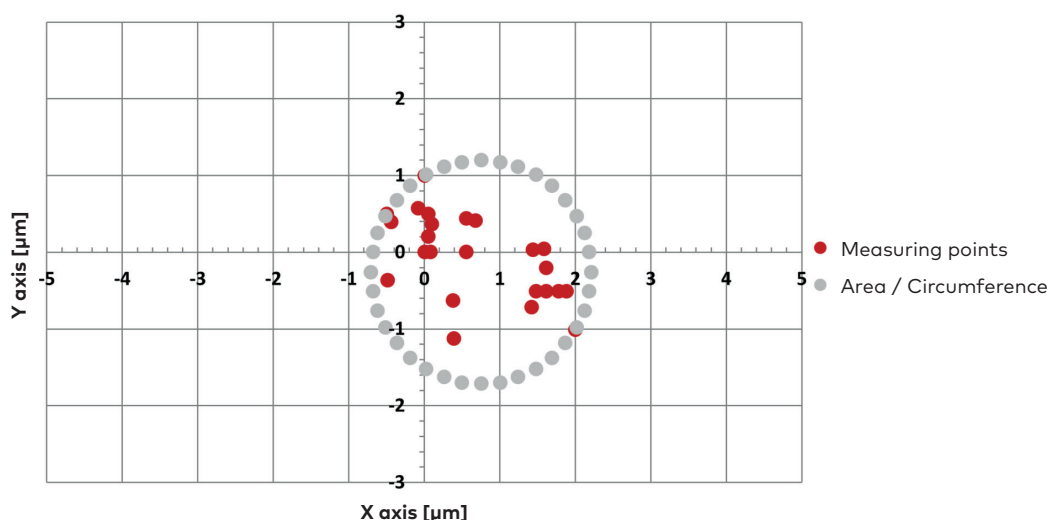


Classic design with coordinate ground pockets (left), with circumferential clearance and Agathon Mini Fine Centering for positioning (right)

## Which precision and benefits can be achieved?

Under normal conditions, Agathon Mini Fine Centering achieves repeatability well below  $3\text{ }\mu\text{m}$ . The backlash-free ball guide ensures the highest possible precision. The run without stick-slip effect effectively prevents damage to hotrunner nozzles, sensors and sensitive areas of the tool. This results in shorter set-up times and higher operating safety.

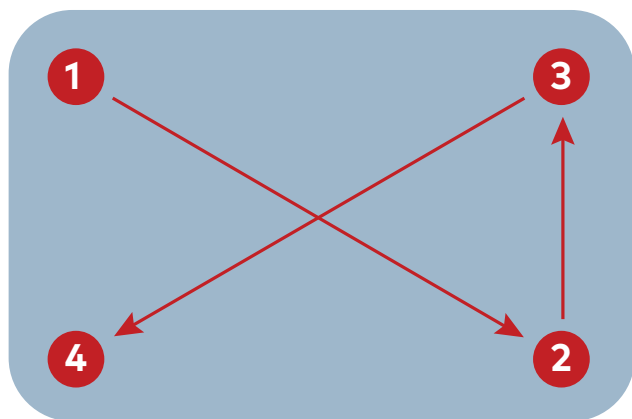
These values were determined in tests at Agathon. Feedback from customer applications has confirmed these values in practical use.



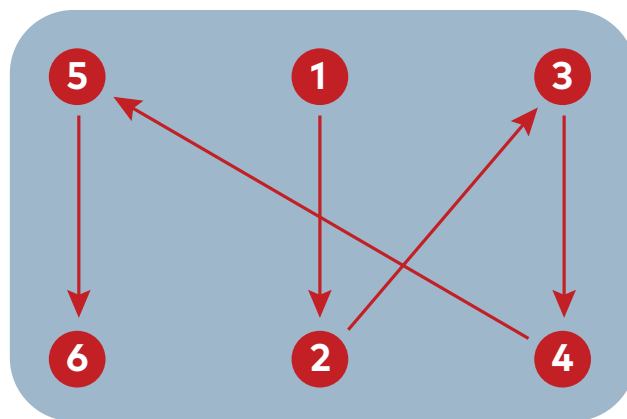
## Can the accuracy be further increased?

The accuracy can be significantly further increased by observing the following recommendations:

- An interface (bushing – plate) can be omitted by *wire erosion of the holes and omission of the bushing*. Because all machining can be done in one clamping operation, the precision increases further.
- If the use of the bushing is indispensable, it can be *glued-in with Loctite 648*. The glue ensures a backlash-free, form-fitting connection. The bushings with glue grooves according to standard 7800 are optimized for this purpose.
- In our experience, the best results can be achieved by repeated clamping with the *correct tightening torque* (both in use and when processing the parts).
- The best results are achieved in terms of accuracy when the screws are always tightened in the same sequence and crosswise (similar to a cylinder head or car wheels).
- The use of *several Mini Fine Centering units* increases the stiffness of the centering system. With the same force, the elastic deformation can be reduced and the accuracy increased.



Tightening scheme for four screws (crosswise)



Tightening scheme for six screws (crosswise)

With these tips, the repeatability can be significantly further increased. These repeatabilities of 1.5 µm and less have also been confirmed both by Agathon and the customer.

This allows you to get the most out of your machines and increase your productivity and product quality. Please do not hesitate to contact us!