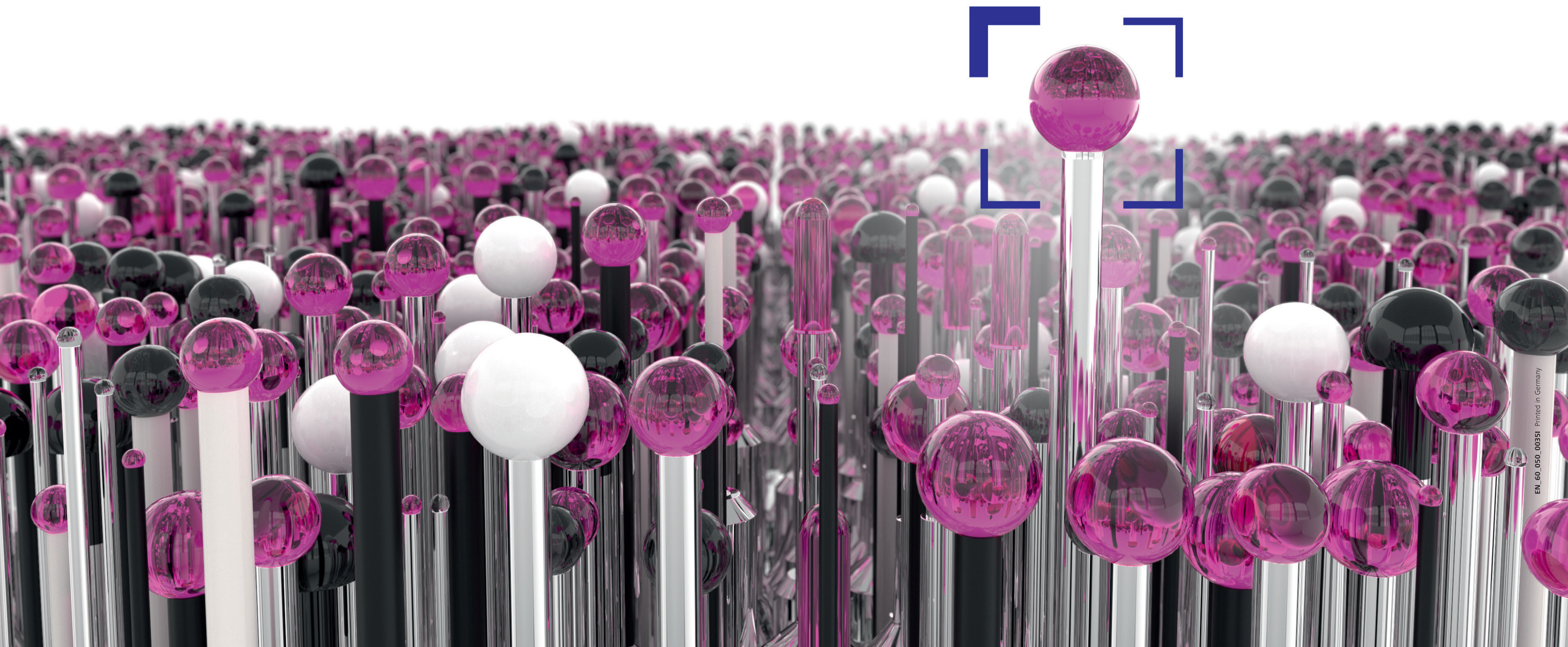


**The perfect match for  
your measuring tasks.**  
Ready when you need it.



Seeing beyond

**ZEISS Stylus Portfolio**



# For guaranteed precision and reliable measurement results



Seeing beyond

## The ideal stylus system

- has as few joints as possible
- is as rigid as possible
- weighs as little as possible
- is as temperature-resistant as possible







Only use certified original accessories for your ZEISS measuring system. This is the only way to guarantee maximum precision and compliance with the specifications of your measuring system.



## Stylus tip

The stylus is the "tip" of the stylus system and is the first point of contact to the workpiece. Three factors must be taken into account when choosing a stylus tip: the stylus specifications, and the shape and material of the tip. The most frequently used stylus tip is the ball tip. Dimensional accuracy and the material are what count here.

### Tip material

 <p><b>Silicon nitride</b> Used for the most common measurement tasks. Particularly suitable for scanning aluminum surfaces.</p>	 <p><b>Tungsten carbide</b> High weight but allow special diameters such as for gear measurement. Can be made to specification.</p>	 <p><b>Rubin</b> The most used sphere material in metrology and suitable for the most common measurement tasks. Very small spheres can be produced.</p>
 <p><b>Ceramic</b> Very low porosity. Available as high-precision variants, in large sphere diameters and as weight-optimized (hollow) hemispheres. Particularly suitable for scanning rough surfaces such as cast iron.</p>	 <p><b>Diamond coated</b> Less wear and material buildup. Particularly suitable for scanning soft materials as well as measuring glass and mirror surfaces.</p>	 <p><b>Diamond</b> Almost no wear and no material buildup during scanning. Ideal for measuring very hard or highly abrasive workpieces.</p>

**Material wear or build-up**  
Even high-quality probes are consumable items that must be checked regularly. This is the only way to prevent measurement inaccuracies.


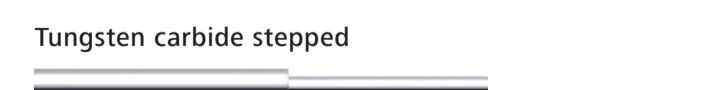

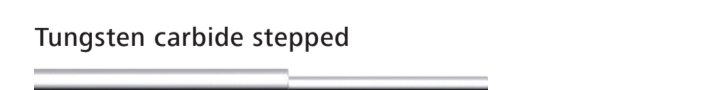


**What can be done about it?**  
[Our expert tips](#)

## Shaft

All styli generally should be as resistant to bending as possible in order to properly register the measuring force, largely without any deformation or so-called "stylus bend". The shaft material used and the shaft cross section have the greatest influence on shaft rigidity.

### Design and material


<p><b>Ceramic</b></p>  <p>High stiffness with low weight and are therefore particularly recommended for long stylus shafts where weight is a critical factor.</p>	<p><b>Tungsten carbide stepped</b></p>  <p>Advantage of a greater shaft thickness, which is reduced towards the probe element. Increases the stability of the stylus while maintaining the same length (usable measuring length is reduced as a result).</p>
<p><b>Carbon fiber</b></p>  <p>Optimum combination of stiffness, weight, and thermal linear expansion. This makes them particularly suitable for long styli and demanding measurement tasks. Also ideal for magnetic applications.</p>	<p><b>Tungsten carbide straight</b></p>  <p>Good combination in terms of weight, stiffness, and thermal linear expansion. The simplest stylus design and the one with the longest usable length.</p>

## Adapter

The adapter forms the connection between the connecting thread and the shaft. It is important that the adapter is structurally designed so that it can optimally take up the measuring force introduced via the shaft.

### Adapter thread

Depending on the measuring system used, ZEISS offers different connecting threads that consist of high-strength titanium alloy.



**M3 XXX stylus**  
The ZEISS M3 XXX stylus features a much higher rigidity than conventional M3 styli. This rigidity is achieved through the 1 mm larger diameter of the XXX adapter's base body and the titanium alloy used.

**Important**  
When assembling your stylus systems, always make sure that the joints are clean to ensure optimal traction.

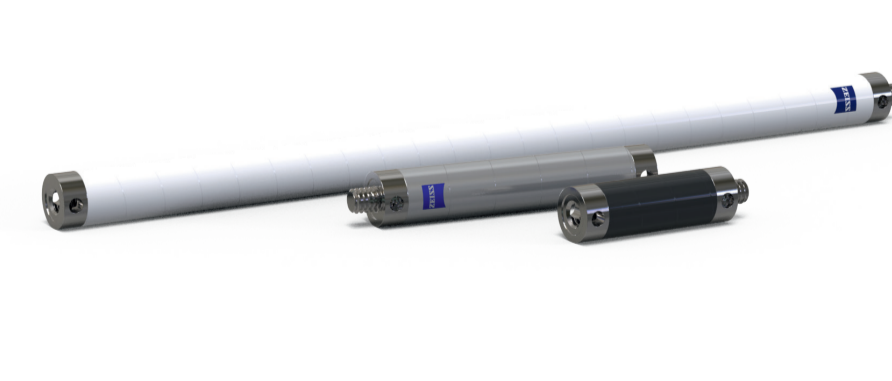
**Whether styli, adapter plates or extensions: Only original accessories from ZEISS will enable you to get the most out of your ZEISS measuring system.**

**Find the perfect components for your individual stylus system now in our ZEISS Metrology Shop:**

[shop.metrology.zeiss.com](http://shop.metrology.zeiss.com)

## Extension

Extensions help set up complex stylus systems. All extensions should be as rigid, light and thermally stable as possible. The use of unsuitable extensions has a direct negative influence on the measuring uncertainty of the overall system and thus worsens the accuracy that a CMM can achieve according to the specification.



**ZEISS REACH CFX has up to 5 times less influence on the measurement uncertainty of your CMM compared to titanium.**

- Increased productivity - thanks to the increased static stiffness, significantly higher scanning speeds are possible while maintaining the same level of accuracy
- Suitable for all measuring environments - thanks to increased temperature resistance
- Three accuracy levels - always the right solution for your CMM

**Which extension fits your CMM best?**  
[Our extensions](#)

## Adapter plate

The adapter plate connects the stylus system with the measuring head and is therefore the central interface between the CMM and the workpiece. It is precisely here that no compromises should be made. Only adapter plates with the highest accuracy can achieve the given machine specifications. With the certified ZEISS adapter plates, you can exploit the full potential of your CMM.



- Up to 30% faster stylus changes due to highly accurate manufactured and certified adapter plates
- Avoiding operating errors and incorrect measurements - thanks to integrated ID chip
- More robust data transmission due to refined bearing points
- Reduction of the measuring time by up to 70% - due to possible use of the FlyScan function

**Use the full potential of your CMM now.**  
[Our adapter plates](#)