For guaranteed precision and reliable measurement results

ZEISS Stylus Systems
For guaranteed precision and reliable measuring results

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.
ZEISS Stylus Systems
The perfect match for your CMM

- Original ZEISS components
- Assembly service
- Application and technical support
- ZEISS Stylus System Creator
- Cloud access

- Personalized ZEISS Metrology Shop section
- Tool management

Learn more about stylus systems from ZEISS!
**ZEISS Stylus Systems**

Original ZEISS components

- Certified components: the only way to guarantee best functionality and performance of your measuring system
- Advanced production technologies and high-end materials
- Accessories for all applications: from standard level to high-end
- Developed and tested for and on your ZEISS measuring systems
**ZEISS Stylus Systems**
Assembly service

- Unique service – only from ZEISS
- Assembly and adjustment
- Soldered connections for highest stability and torsional safety on demand
- Dedicated SAP number
**ZEISS Stylus Systems**
Application and technical support

- Technical verification of systems
- Technical advice on the individual components
- Application support from ZEISS Quality Excellence Centers worldwide
ZEISS Stylus Systems
ZEISS Stylus System Creator

- Assemble, view and document stylus systems virtually on the workstation computer
- Create and locally save Stylus System Creator files required for simulation in the CALYPSO Planner simulation package (not part of this software)
- With the help of a component library, easily assemble stylus systems from individual components. Interfaces between the individual components are already predefined, so that only technically possible combinations can be built
- Create PDF documentation with parts list and images at the push of a button
- All individual components are available for purchase in the ZEISS Metrology Shop
ZEISS Stylus Systems
Cloud access

- Storage of approved data of stylus systems
- Design data section with access for all involved users
- Direct communication with component experts
ZEISS Stylus Systems
Personalized ZEISS Metrology Shop section

- Complete stylus system with a special SAP no. visible in the shop
- Visible only to selected users
- Includes stock list and PDF documentation

Find your ideal Stylus System now: shop.metrology.zeiss.com
The perfect match for your measuring tasks. Ready when you need it.

ZEISS STYLUS PORTFOLIO
**ZEISS Stylus Portfolio**

First contact point to your workpiece

The stylus is the tip of the stylus system and is the first point of contact to the workpiece. Even the construction of the stylus, impacts the stylus system and thus the measurement result.
Styli of any length, diameter and material in just a few clicks?

ZEISS makes it possible!

Browse the largest standard styli portfolio with over 7,000 standard styli in the ZEISS Metrology Shop to find and order your ideal stylus right away.

Learn more about the ZEISS Stylus Portfolio!
ZEISS Stylus Portfolio
Advanced production technologies

Quality makes the difference: Styli may be small, but they are the part of a coordinate measuring machine that touches the workpiece to be measured and performs highly accurate measurements via the respective measuring probe tip.

In addition to using high-end materials, ZEISS applies the latest technologies such as soldering and laser processing to significantly increase stylus quality and service life.
Soldering
ZEISS relies exclusively on a new type of connection between the shaft and the ball. A vacuum soldering process achieves maximum stability and increases the service life enormously.

The disadvantages of an adhesive connection, such as aging or the influence of moisture, are thus eliminated.

However, closer observation under the microscope shows that a high level of technical competence is required to establish a soldered connection.
**ZEISS Stylus Portfolio**
Advanced production technologies

**Laser processing**

ZEISS is the *only manufacturer* of styli that uses laser technology to machine shafts. Unlike traditional grinding, this enables the creation of a polished surface that **reduces the shaft break** by *more than 50%* in daily use.

A more accurate observation of the surfaces under the microscope shows the generation of possible fractures by the grinding process compared to the laser-machined surf
Ruby spheres are suitable for most measuring tasks, but special tasks require special styli.

In addition to spherical styli, you will also find star styli, cylinder styli and T-stylus as well as many others in our range - for every task imaginable.
Highest ZEISS quality, delivered faster than ever: Select your perfect stylus from the world’s largest standard styli portfolio in the ZEISS Metrology Shop and receive your perfect stylus in no time.

Find your perfect stylus now: shop.metrology.zeiss.com
ZEISS Stylus Portfolio
Take good care of your styli

Even high-quality styli are consumable items that are subject to wear and material build-up. Cleaning and inspecting your styli on a regular basis is therefore essential for achieving measurement results with maximum accuracy.
**ZEISS Stylus Portfolio**

**Take good care of your styli**

**No Wear**
Diamond!Scan styli do not wear on account of their hardness when extremely hard materials such as ceramic are measured. You can rely on your measurement, because the diamond sphere retains its high-precision form and contributes to a precise measurement of the flatness of this hard workpiece surface.

**Learn more about ZEISS Diamond!Scan:**
[Visit Diamond styli from ZEISS](#)

![Graph](image)
**ZEISS Stylus Portfolio**

Take good care of your styli

**No material build-up**

No material adheres to diamond spheres, not even with extremely soft aluminum alloys. Diamond!Scan spheres retain their high-precision form at all times, thereby preventing additional measuring uncertainties.

**Learn more about ZEISS Diamond!Scan:**

[Diamond styli from ZEISS](#)

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**Deposit**

![Graph](#)

- **Diamond**
- **Ruby**

![Graph](#)

- **Diameter (mm)**
  - 49.994
  - 50.000
  - 50.004
- **Scanning distance (m)**
  - 0
  - 15
  - 30
Don’t let the extension downgrade your CMM
ZEISS REACH CFX
ZEISS REACH CFX
No more downgrading

To distinguish good parts from rejects having reliable measuring results is a necessity. This can only be achieved when keeping the measuring uncertainty at a minimum.

Using extensions that don’t have the right properties has a direct negative influence on the overall measuring uncertainty and therefore downgrades the accuracy your CMM could achieve.

The overall influence of the extension on the measuring uncertainty is mainly determined by three factors: **weight**, **thermal expansion** and **static stiffness**.

Using ZEISS REACH CFX can decrease the influence of the extension on the CMM measuring uncertainty by up to 5 times compared to Titanium.

Learn more about ZEISS REACH CFX Extensions!
ZEISS REACH CFX
What is a good extension?

**WEIGHT**

**LIGHT WEIGHT**
Build complex stylus systems and be conform with the probe weight restrictions.

**EXPANSION**

**THERMALLY STABLE**
No thermal expansion of the material and associated loss of precision.

**DEFLECTION**

**STATICALLY STIFF**
Maximum stiffness allows faster scanning without loss of precision.
ZEISS REACH CFX Portfolio

ZEISS REACH CFX is a portfolio of carbon fiber extensions that are customized for the varying accuracy requirements of different CMMs - to always keep their accuracy on the highest possible level.

Find your ideal ZEISS Reach CFX Extension now:
shop.metrology.zeiss.com
# ZEISS REACH CFX
## Technical Properties

<table>
<thead>
<tr>
<th>Material</th>
<th>Weight</th>
<th>Expansion</th>
<th>Deflection</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZEISS REACH CFX 5</td>
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<td><img src="image" alt="Expansion" /></td>
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<td><img src="image" alt="Expansion" /></td>
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<tr>
<td>ZEISS REACH CFX 1</td>
<td><img src="image" alt="Weight" /></td>
<td><img src="image" alt="Expansion" /></td>
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<tr>
<td>Titanium</td>
<td><img src="image" alt="Weight" /></td>
<td><img src="image" alt="Expansion" /></td>
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</table>
ZEISS REACH CFX
Light weight
# ZEISS REACH CFX

Thermally stable

<table>
<thead>
<tr>
<th>Material</th>
<th>Thermal Expansion Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>23.4 µm / °C / m</td>
</tr>
<tr>
<td>Titanium</td>
<td>9.4 µm / °C / m</td>
</tr>
<tr>
<td>V2A</td>
<td>16.0 µm / °C / m</td>
</tr>
<tr>
<td>ZEISS REACH CFX Portfolio</td>
<td>~0.0 µm / °C / m</td>
</tr>
<tr>
<td>Standard Carbon Fiber</td>
<td>-1.4 µm / °C / m</td>
</tr>
</tbody>
</table>
ZEISS REACH CFX
Deflection

Deflection for extension Ø11 x L150

Titanium

lower deflection = higher stiffness

ZEISS REACH CFX 1 → quality carbon fiber with less layers

ZEISS REACH CFX 3

ZEISS REACH CFX 5 → high-end carbon fiber
ZEISS REACH CFX
Deflection

Measuring roundness on an adjusting ring
Ring: Ø20 mm
Scanning Speed: 20 mm/s
Repetitions: 20

Stylus System
Plate extension: 100 mm
Extension: 300 mm
Stylus: Ø8 x 63

Titanium: 0,0112  ZEISS REACH CFX 1: 0,0066  ZEISS REACH CFX 5: 0,0037
ZEISS REACH CFX 1
The cost-effective introduction to carbon fiber

ZEISS REACH CFX 1 offers a cost-effective introduction to carbon fiber technology. Their performance in thermal stability and stiffness make them an obvious upgrade to titanium and aluminum.

recommended for:
ZEISS SPECTRUM plus*
ZEISS CONTURA

Available lengths:
DG 11: 40 – 250 mm
DG 20: 40 – 400 mm
ZEISS REACH CFX 3
New name – same performance

ThermoFit is now ZEISS REACH CFX 3. New name - same performance. The renowned extensions allow you to reduce your measurement time without compromising the reliability of your results.

recommended for:

ZEISS PRISMO
ZEISS PRISMO fortis
ZEISS ACCURA

Available lengths:
DG 11: 40 – 250 mm
DG 20: 40 – 400 mm
Custom lengths possible
ZEISS REACH CFX 5
Maximum precision when even the last μ counts

ZEISS REACH CFX 5 are the stylus extensions for the most precise measuring demands. Their state-of-the-art carbon fiber and unique winding enables maximum stiffness when even the last μ counts.

recommended for:

ZEISS PRISMO verity
ZEISS PRISMO ultra
ZEISS MICURA
ZEISS XENOS

Available lengths:
DG 11: 40 – 250 mm
DG 20: 40 – 400 mm

ZEISS Adapter Plates
ZEISS Adapter Plates

- Prevent operating errors and incorrect measurements
- Reduced measuring time and accelerated stylus changes
- More robust data transmission
- Future-proof operation – ready for upcoming software functionalities

Learn more about ZEISS Adapter Plates and grab yours online now:
shop.metrology.zeiss.com
Variety for your stylus system
ZEISS Connection Elements
ZEISS Connection Elements
Overview

- ZEISS Connection Elements are the next-generation accessories in the area of stylus system accessories. One solution for all stylus systems without the need to use special elements.
- In combination with CALYPSO Planner and Stylus System Creator the time to process start of new measuring programs is reduced.
- Programmers can work simultaneously with the manufacturer of the stylus accessories.
- Changes are quick and easy to implement, no additional documentation as this is available immediately.
- Short delivery times through prefabricated blanks for angle pieces.
- No additional CAD capacity is required.

Learn more about connection elements from ZEISS!
ZEISS Connection Elements
Overview

Find your next-generation connection elements now:
shop.metrology.zeiss.com
Just grab it online
(It’s almost that easy)

ZEISS Metrology Shop

shop.metrology.zeiss.com