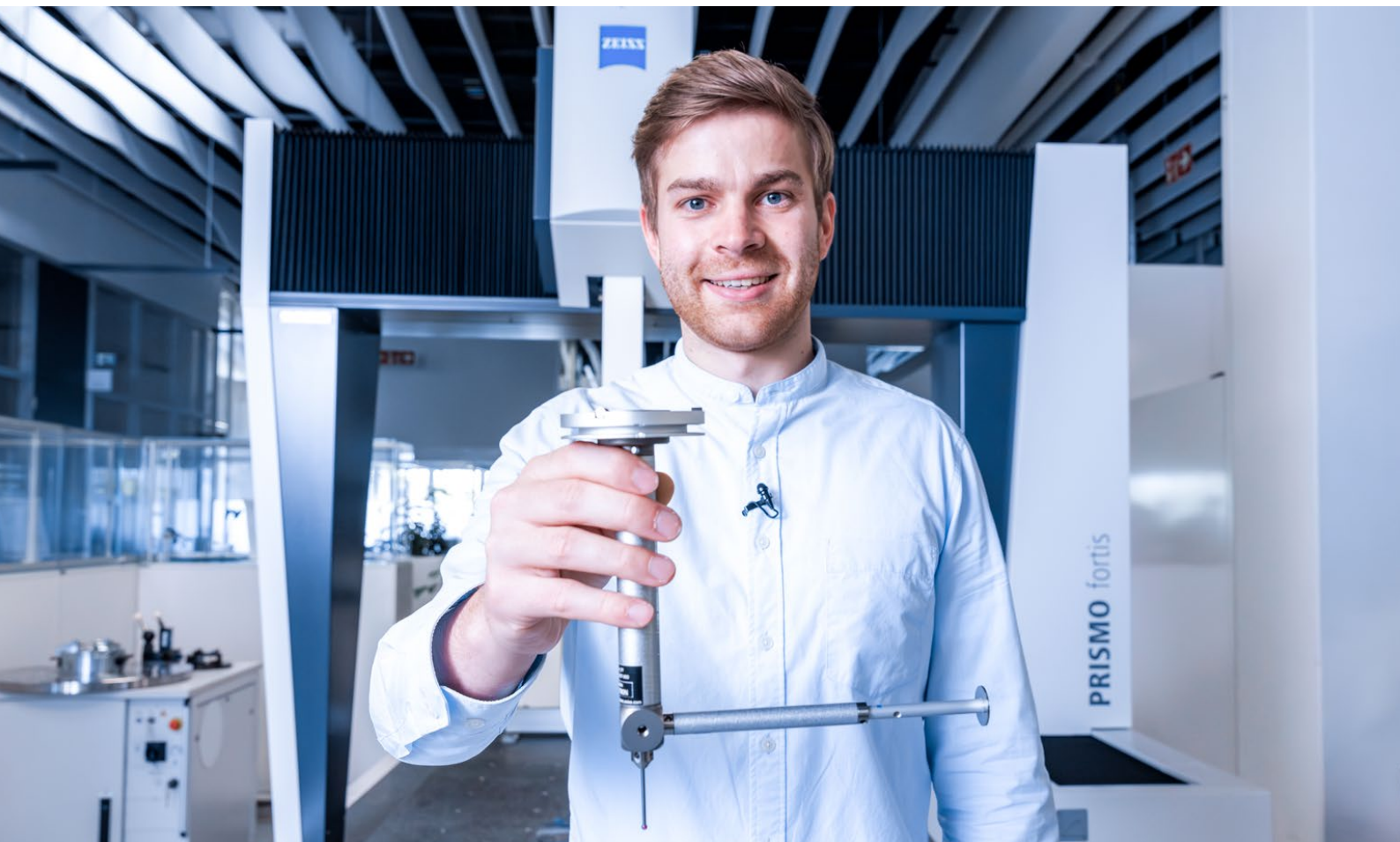




Seeing beyond

ZEISS Metrology Expert Tip



Can disc stylus be used on ZEISS XXT Systems?

Applications of ZEISS disc stylus

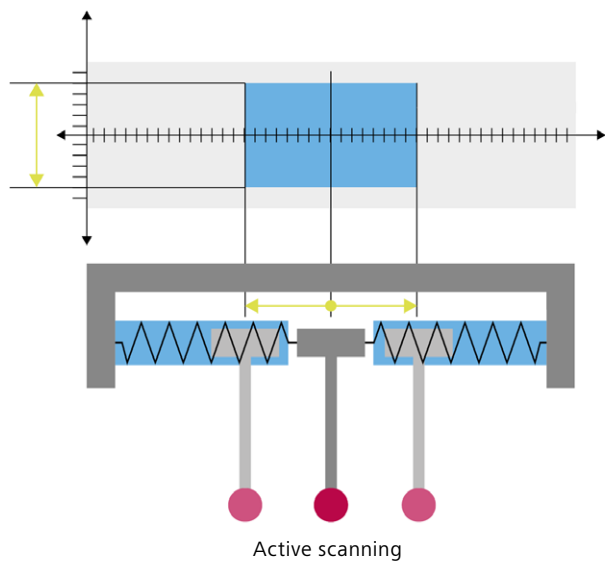
ZEISS disc styli are generally used to measure rotationally symmetrical workpieces with undercuts or recesses and bores. However, a strong filtering of the surface roughness usually occurs. With the design characteristics of the spherical disc stylus, a higher accuracy is achieved compared to disc styli.

Active and passive scanning

The tactile scanning probes from ZEISS are classified as active and passive technologies.

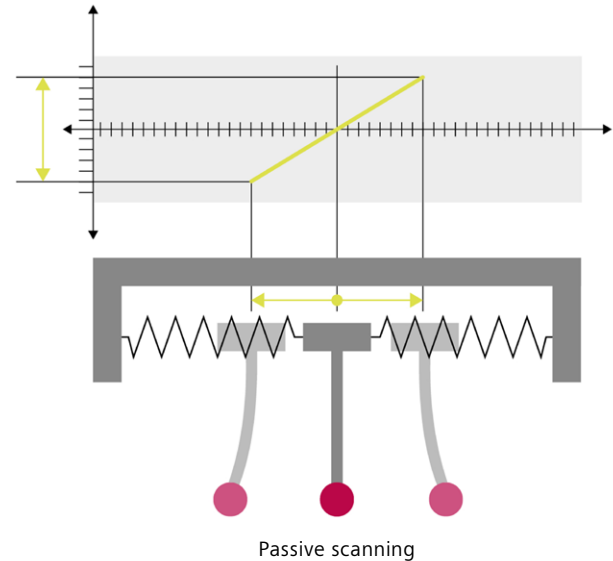
Active scanning:

With active probes such as the ZEISS MT VAST and ZEISS VAST-Gold, software-controlled electromagnets exert a consistently low force on the probe head regardless of the size and orientation of the stylus, thus enabling an extended range of movement without repositioning. Real-time deflection monitoring supports automatic adjustment.



Passive scanning:

In passive scanning, springs are mechanically deflected and achieve a constantly changing, high probing force that is proportional to the deflection. The resulting stylus deflection is not easy to correct. Probing within a limited range requires repeated readjustment of the main axis, which reduces the scanning speed and minimizes accuracy.



Are disc styli permitted on ZEISS XXT Systems?

The answer is: no. The disc stylus is not approved for use on ZEISS VAST XXT Systems. The reason being, an error occurs while calibrating disc probes in ZEISS XXT Systems, as this is a passive system. This error affects the measurement result.

Due to the technology mentioned above, the use of disc styli with the ZEISS VAST XXT probes is not approved, as the sensor system cannot process the deflection properly. The use of disc styli can therefore lead to errors during the referencing of such disc styli, which are not visible at first glance, but lead to measurement errors during measurement process.

Having said that, it is also possible to reference disc styli on ZEISS VAST XXT measuring heads without errors and use them accordingly for measurements. However, a special routine must be followed. The details of this routine can be obtained from ZEISS application engineers at any of our local ZEISS Quality Excellence Centers.

In principle, a second styli is always required that is as similar as possible in length and weight to the disc styli.



Disc stylus (left) and spherical disc stylus (right)

We strongly advise you to contact our ZEISS metrology specialists for detailed advice before using a disc stylus.

You can find out more about our ZEISS Quality Excellence Centers, locations and contact details here: [ZEISS Quality Excellence Center](#)

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