



Fine positioning of a surgical microscope

Surgical procedures require a perfect view of the operating area. Here, the surgeon is often supported by a surgical microscope. To enable the surgeon to best position the microscope and to give the surgical team more room to move, the microscope optics are mounted to long arms on a stand.

To keep the field of vision of the microscope stable for the surgeon, the long arm needs to be adjusted continuously at the pivot joints. The capaNCDT 6019 capacitive measuring system is used for this purpose. The capaNCDT 6019 supports calibration of the CSE05 sensor to two switching points.

The system measures the distance to the reference area, which reflects the arm movement in the pivot joint. If the deflection from the reference area is too large, the system generates a switching signal, and the controls return the arm to its original position.

Advantages

The capaNCDT 6019 is ideal due to its compact footprint, as well as its high precision, long-term stable switching point. It was designed in such a way that it can replace an already integrated switch-based scanning system without the need for re-designs.

Requirements for the measurement system

- Offset distance: 100 μ m
- Measuring range: 100 μ m
- Switching point repeatability: 1 μ m
- Output signal: switching output
- Supply: 5VDC/ 24VDC

Ambient conditions

- Clean; operating theatre
- Room temperature
- Target material: aluminium

Measurement set up

- capaNCDT 6019(04) with integrated sensor