



More Precision

capaNCDT TFG6220 // Capacitive film thickness measuring system



Offline measuring system for stationary measurement of thin film capaNCDT TFG6220

Thickness measurement of very thin, electrically conductive film <1 mm, e.g. battery films

High-precision results thanks to automatic smoothing of the film via vacuum

Ready-to-use measuring system without installation effort

Simple operation/visualization via the freely accessible sensorTOOL software



Precise testing for reliable quality

The TFG6220 capacitive system measures the thickness of electrically conductive film, e.g. battery films, with maximum precision. A vacuum device sucks in the object to be measured, smooths it and thus ensures optimum, wrinkle-free support. In this way, the measurement can be performed with the greatest possible precision.

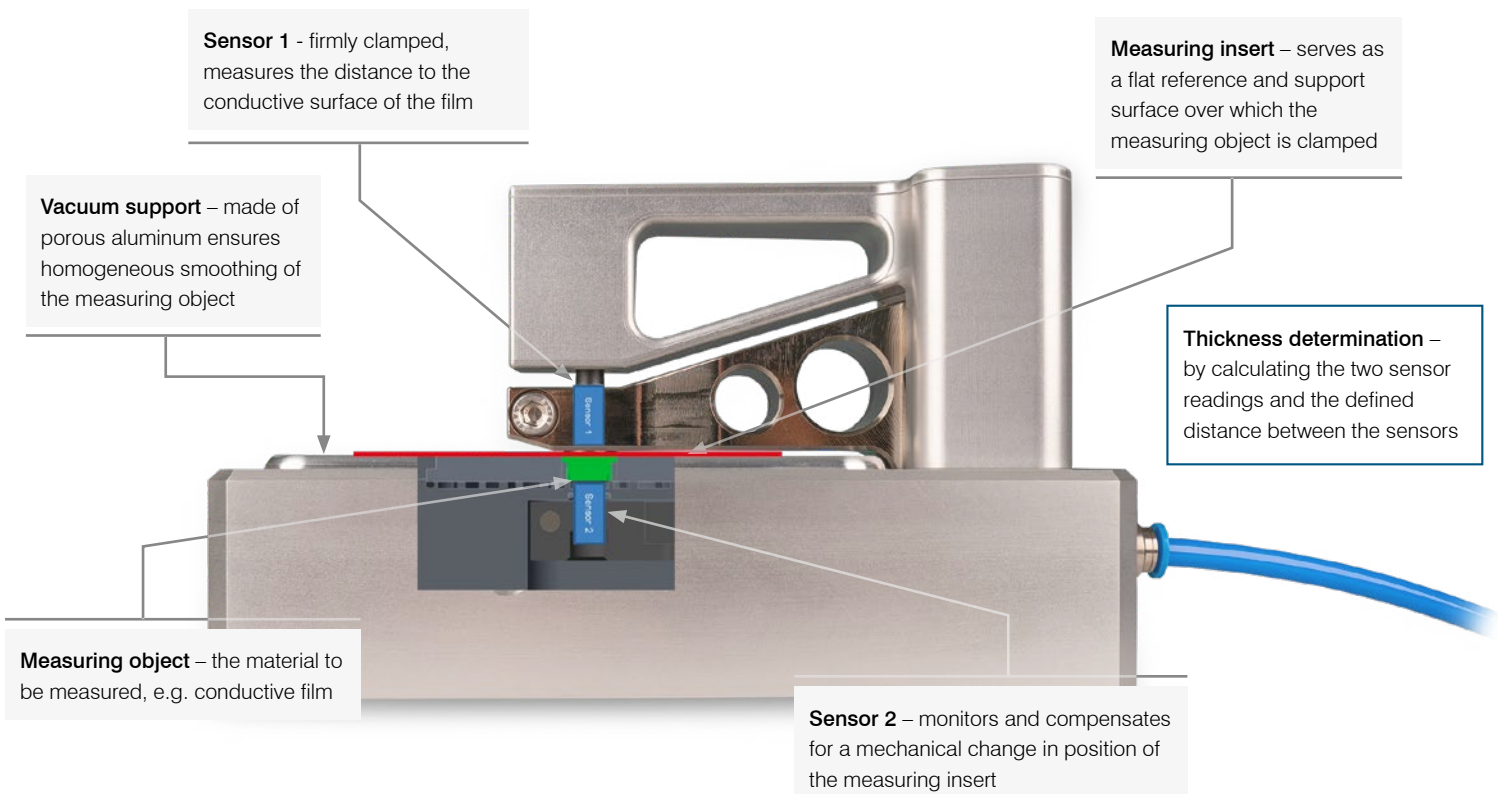
The TFG6220 consists of a measuring bracket including capacitive sensors and an external controller unit. It is used for quality inspection of offline random samples for thickness measurement. Pre-assembled and ready for use, this capacitive measuring system can be started quickly.

Precision at the touch of a button

The sensorTOOL software offers an easy-to-use user interface for operating the capaNCDT TFG. In addition, measurements can be carried out and measurement data can be displayed and output. The software is available for download at www.micro-epsilon.com/download.

The thickness is calculated by offsetting two opposing high-resolution capacitive sensors. In contrast to tactile measuring principles, the thickness measurement is always highly reproducible at the same point. High-precision results are achieved by automatically smoothing the test film using a vacuum device without damaging the measuring object.

The measurement is taken from two sides onto the measuring insert, which serves as a reference surface. This allows the system to be calibrated to zero before the thickness measurement.



Model		TFG6220
Resolution ^[1]		10 nm ^[2]
Measuring range ^[3]		< 1 mm
Measuring rate		100 Hz with median filter width 7
System accuracy ^[4]		up to 0.2 μm
Warm-up time		60 min
Compressed-air connection		Ø 6 mm
Power consumption		6.3 W (24 V)
Supply voltage		12 ... 36 VDC (nominal value 24 VDC)
Protection class (DIN EN 60529)		IP40
Temperature range	Storage	-10 ... 60 °C
	Operation	18 ... 25 °C
Measuring object		Electrically conductive material ^[5]
Recommended target size (flat)		110 mm x 110 mm
Special features		Throttle valve and short connection hose are included in the scope of delivery. Vacuum pump and hose between throttle valve and vacuum pump are not included. Recommended data: Vacuum 50 ... 100 mbar, pump speed max. 2 m³/h (at 50 Hz)

^[1] Electronics with sensor type CS1

^[2] 10 nm at 100 Hz

^[3] Depending on the suction power of the vacuum pump and the material properties

^[4] Depending on the target object to be measured; maximum accuracy can be achieved by means of a positioning frame and zeroing of the system.

^[5] Electrical conductivity > 10⁶ S/m

Scope of supply

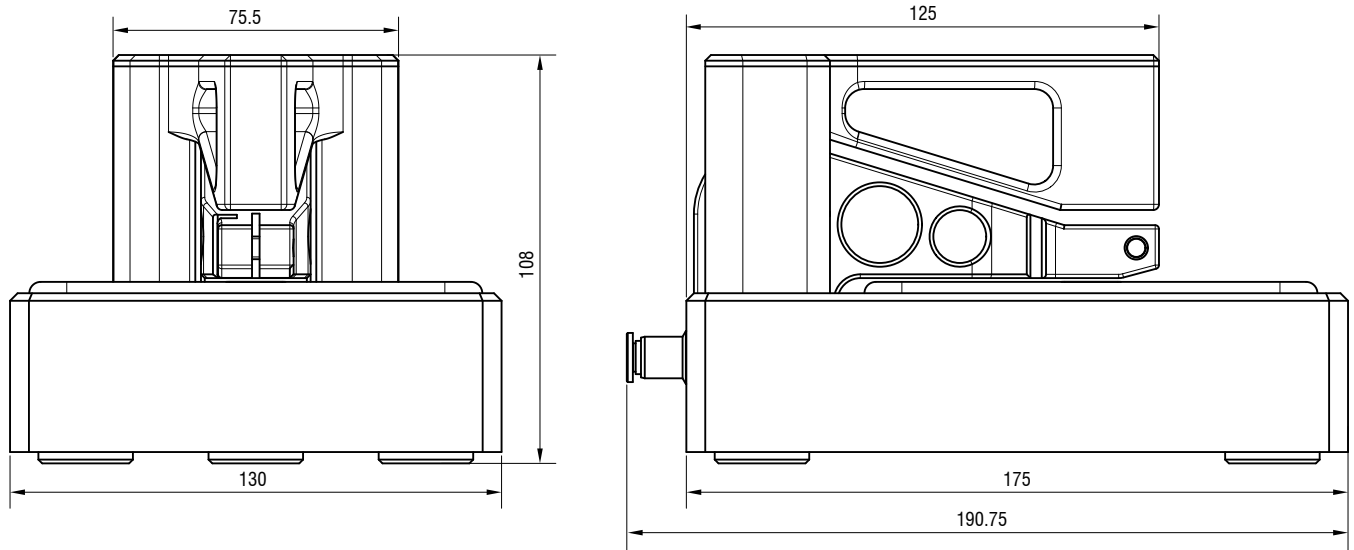
- Controller DT6220+2x DL6230
- Measuring bracket with sensors
- Power supply unit
- Ethernet cable
- Power supply cable
- Throttle valve + short piece of hose
- Case
- Dust cover
- Assembly Instructions
- Protocol

Not supplied:

- Vacuum pump with a maximum final vacuum of 50 – 100 mbar
- Compressed air hose (6 mm) for connecting the vacuum pump and thickness-measuring plate

Dimensions

Measuring bracket



Controller

