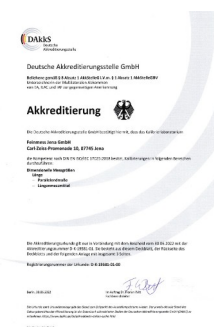
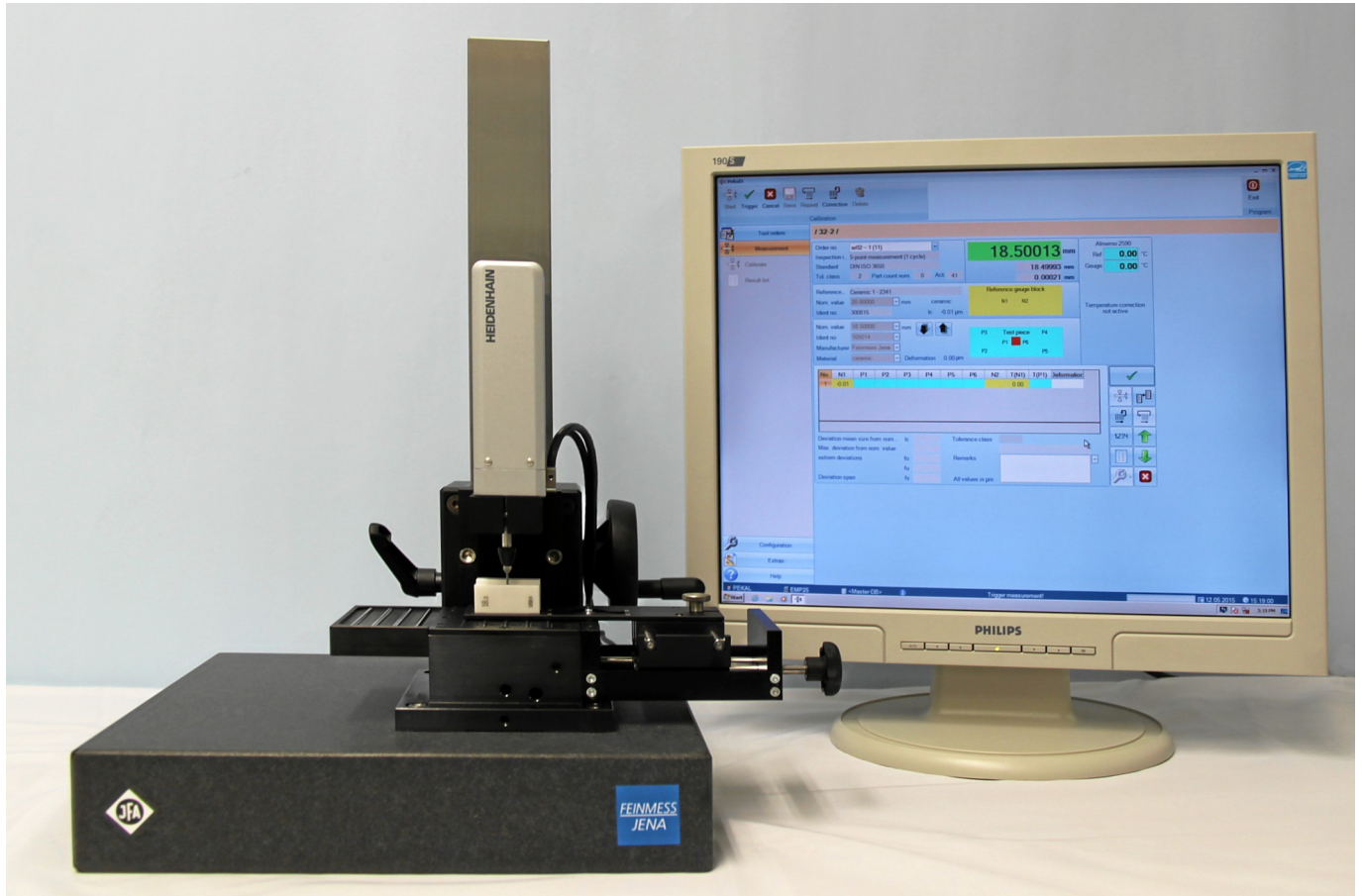


EMP 25 Gauge Block Tester



- Adds efficiency to your gauge block testing and in-plant calibration processes
- DAkkS- and factory calibration
- Rectangular and square gauge blocks
- Determines DIN ISO 3650 characteristics
- Save considerable time and cost



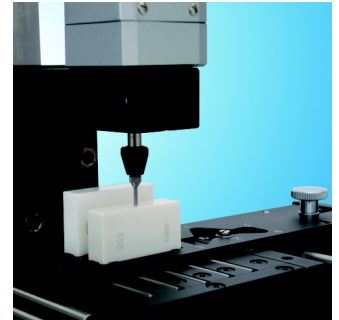
General

EMP 25

Application	The EMP25 is used for calibrating parallel-faced end standards of rectangular and square cross section (gauge blocks) with gauge lengths from 0.5 to 100 (500) mm
Measuring method	Direct measurement
Measuring set-up	An inductive probe and an high-resolution incremental probe (with a direct measuring range of 25 mm) are connected in a summation circuit to measure gauge length and range of error
Software	Powerful measurement and data handling software for efficient, economic gauge block calibration

Advantages

- Enormous saving on recalibration cost:
Only 11 reference standards needed for zero adjustment up to 100 mm
- About 50% less measuring time:
Upper probe needs no adjustment over 25 mm few reference standards to be used
- Single measuring range fits any gauge block up to 100 (500) mm
- Partly automatic measurement procedure
- Extensive PC software running under Windows 10
- National and company standards can be created



Concept

The conventional comparative measurement of gauge blocks involves high recalibration costs, as you need to have a large stock of calibrated standards. Above all, it is extremely time-consuming. The innovative technique using a long range probe does away with these drawbacks, simply by increasing the measuring range of the upper probe from $\pm 20 \mu\text{m}$ to 25 mm, while retaining the resolution of 0.01 (0.001) μm . This makes it possible to measure all gauge blocks in a single 25 mm measuring range relative to a reference position. The reference position can be defined, e.g., by measuring a standard and setting the display to the measured length of the standard. To minimize linear errors of the instrument as a whole (aligning error, probe non-perpendicularity, temperature influences), the system uses a calibration method which registers and compensates detectable systematic measuring errors.

Specifications

Incremental Probe

Type	CT2501
Direct measuring range	25 mm
Measuring system	DIADUR-transmitted-light scale and encoder Zerodur Ceramic $a=(0\pm 0.1)*10^{-6}K^{-1}$
Resolution	0.01 (0.001) μm
Uncertainty of measurement	$(0.03+L/1000) \mu\text{m}$
Measuring pressure	1 N
Thread for screw-in stylus	M 2.5
Contact tip	Contact tip with spherical section R=20

EMP25

Resolution	0.01 (0.001) μm
Uncertainty of measurement	$(0.05+L/1000) \mu\text{m}$
Repeatability	0.03 μm

Ambient temperature for ensuring the specified length measuring uncertainty	Temperature $20^{\circ}\text{C} \pm 0.5\text{K}$ $\Delta T=0.2 \text{ K/h}$
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