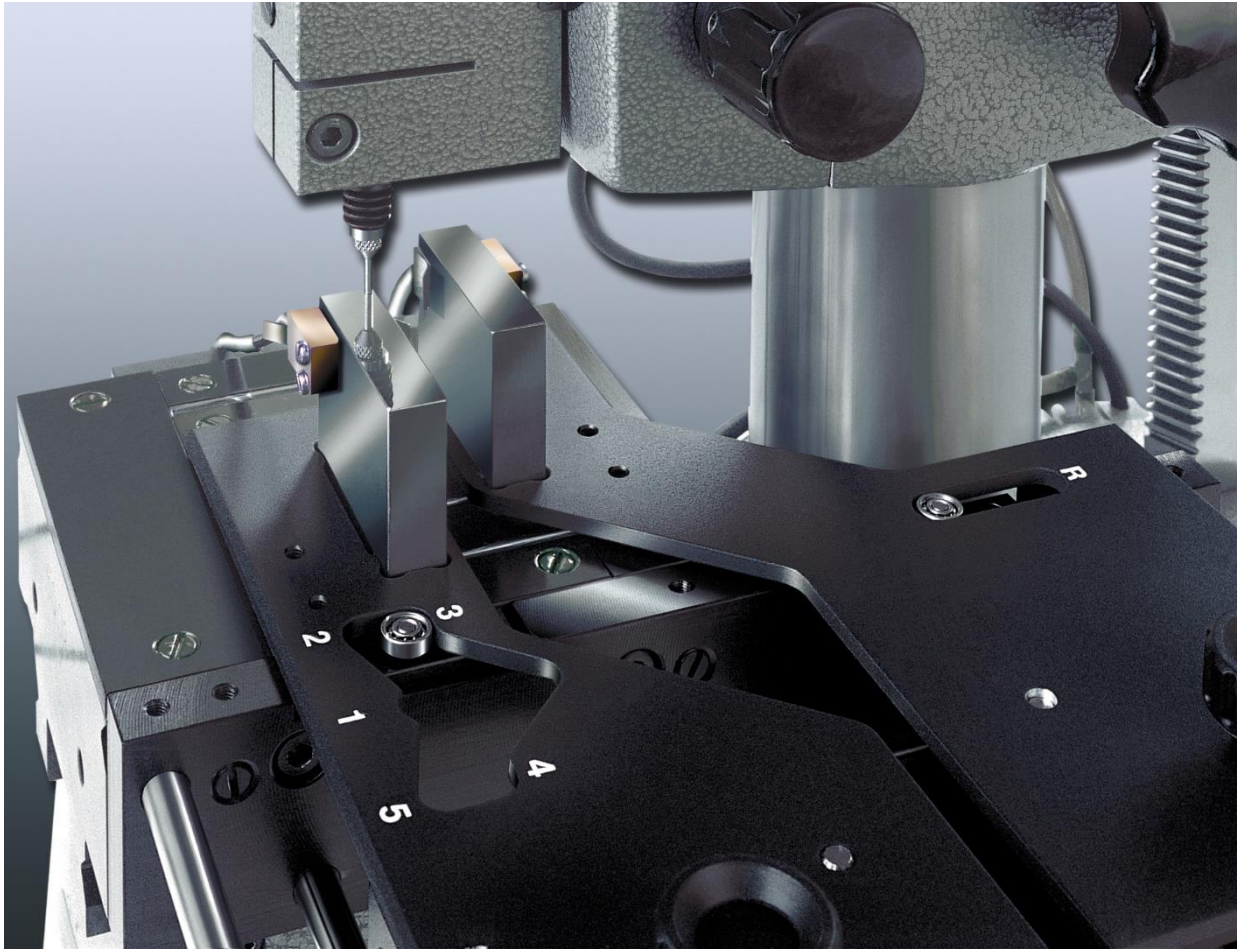


TESA UPC - GAUGE BLOCKS COMPARATOR

Gauge blocks measuring equipment for comparative measurements



TESA UPC – for Comparative measurements

- **Comparative measurement of gauge blocks having a same nominal length.**
Enables lower measurement uncertainties to be achieved due to weaker influences of the systematic errors.
- **Equipped with TESA high-precision inductive probes.**
- **Dual templates concept for positioning the gauge blocks.**
Single or dual template system to provide optimum ease of handling of the gauge blocks
- **Integrated device for most accurate temperature acquisition.**
- **On-line transfer of both measured length and temperature values.**
- **Computer-aided data processing with all the corrections necessary included.**
- Performs calibrations that meet the requirements of both **ISO standards and EA guidelines** (EAL - European cooperation for Accreditation of Laboratories).
- Includes an execution for greater accuracy along with a **calibration certificate** (optional).







Dual template system for the maintenance of your reference gauge blocks (TESA patented)

- **The simultaneous use of two templates allows you to "rest up" your gauge blocks until you need them.**
- **The application of this new concept turns into significant savings in both time and money.**
- **During measurement cycles carried out on a routine basis, the distance travelled over the reference gauge block is reduced by nearly 70 %.**
This contributes to significant reductions of the risks of damaging and wearing the measurement faces.
- **The double protection of your reference gauge blocks leads to significant cost savings through the reduction if the need for:**
 - recalibration
 - restoration of the measuring faces
 - replacement of worn or damaged gauge blocks
 - increased downtime (whilst extending the life of your reference gauge blocks)

Single Template System

- **Using this system your reference gauge blocks are moved together with those to be calibrated during the measurement cycles.**

Accuracy

Error of Measurement	
<p>Provided all the metrological conditions are met, the reliability of the two standard executions No. 05930000 and 05930002 is expressed as follows:</p>	<p>Provided all the metrological conditions are met, the reliability of both executions No. 05930001 and 05930003 along with the option for greater accuracy (No. 01690021) is expressed as follows:</p>
 <p>Repeatability limit (with no effect due to external temperature): 0,025 µm</p>	 <p>Repeatability limit (with no effect due to external temperature): 0,015 µm</p>
 <p>Measurement uncertainty* $U = \pm (0,10 + 1,0 \cdot L) \mu\text{m}$ (L in m)</p>	 <p>Measurement uncertainty* $U = \pm (0,05 + 0,5 \cdot L) \mu\text{m}$ (L in m)</p>
 <p>Condition involves the use of reference standards (see page L-14 and L-15) whose uncertainty is as follows: $U \leq \pm 0,030 \mu\text{m}$ when calibrating the comparator $U \leq \pm (0,05 + 0,5 \cdot L) \mu\text{m}$ (L in m) when calibrating the gauge blocks</p>	 <p>Condition involves the use of reference standards (see page L-14 and L-15) whose uncertainty is as follows: $U \leq \pm 0,015 \mu\text{m}$ when calibrating the comparator $U \leq \pm (0,02 + 0,2 \cdot L) \mu\text{m}$ (L in m) when calibrating the gauge blocks</p>
* Applicable to steel gauge blocks	

Gauge Block Comparators

In the hierarchical chain of dimensional measurements that can be traced back to the standard meter length unit, gauge blocks hold a key position. This makes them the most important material references used in metrology.

The application of the length unit, based on specific wavelengths of light, to gauge blocks is achieved in the first instance by fundamental interferential measurement. Using gauge blocks measured by interferometry, defined lengths are thus transferred to other gauge blocks in measurements further down the hierarchical chain.

TESA UPC – for Comparative Measurement



TESA UPC is specially designed for the calibration or dimensional inspection of gauge blocks with nominal lengths ranging from 0,5 to 100 mm (500 mm on request). The configuration, which consists of two probes aligned opposite one another, associated with both the concept and quality of the measuring system provides full guarantee for an extra low uncertainty of measurement.

Although TESA UPC is mainly intended for manufacturers and end-users of gauge blocks, this comparator is also widely used in nationally accredited laboratories.



If specified, TESA can also provide the temperature device available as an option. This device has 4 PT100 platinum resistances, each capturing the temperature of the two gauge blocks along with that of both the measuring table and the support. Computer aided data processing lets you carry out any calibration most reliably and rationally - for sure.

COMMERCIAL OFFER

1. TESA UPC gauge block comparator: 0,5 ÷ 100 mm

PRICE:	05930015	EUR
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Composed of:

1	TESA UPC mechanical part 0.5 – 100 mm	05960030	
1	TESTATRONIC TT90 electronic counter	04430012	
1	Electrical vacuum pump with external control, 230Vac, 50Hz	03260433	
1	Foot switch	04768000	
1	Suction loader	01660011	
1	Set of accessories for computer connection	05960039	
1	Cable connecting the electrical pump to electronic counter	04761070	
1	TESA in-house calibration certificate	01690021	

2. TESA UP Software Program for value processing

Minimum configuration requirement:

- Operating system Windows 7 (32/64 bits) or higher
- CPU: Intel Core I3 or better
- RAM: 8 MB RAM minimum
- Hard disk: 500 GB

PRICE:	05960042	EUR
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Computer is not included, must be added locally or see the quotation here after.

PROVISIONAL PRICE:		EUR
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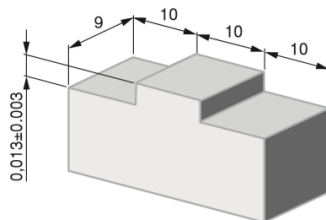
CALIBRATION OPTIONS:

3. Set of 6* pairs of Gauge Blocks for the calibration of comparators

According to EAL-G21 (or DAkkS-DKD-R 4-2)

Including:

- *11 Gauge blocks in special high-alloy steel, wear resistant and stable
- Accredited certificate PTB (Physikalisch Technische Bundesanstalt)
- Uncertainty of:



Pairs N°	Nominal length	
	A mm	B mm
1	0,5	0,5
2	1,0	1,005
3	1,0	1,01
4	4,5	4,5
5	100,0	100,0
6	6,0	6,0 *

* Special bridge-shaped gauge blocks (see drawing) used for establishing the measuring deviations of lower probe B.

PRICE:	S59110152	EUR
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