

# KOBA

## *sphere beam*

non-demountable sphere beam  
for monitoring the accuracy of  
medium-sized coordinate  
measuring machines



### **Delivery Programme and Services:**

- Gauge Blocks
- Gauge Block accessories
- Step Gauge KOBA-step
- Sphere Plate KOBA-check
- Ball Bar
- Thread Gauges
- Cylindrical Gauges
- Feeler Gauges
- Sline Gauges
- Precision Parts
- KOBA-calibration service KKS
- DKD-laboratory for gauge blocks

**KOLB & BAUMANN GMBH & CO. KG**  
PRECISION MEASURING TOOLS MAKERS  
DE-63741 ASCHAFFENBURG · DAIMLERSTR. 24  
FEDERAL REPUBLIC OF GERMANY  
PHONE +49 (60 21) 34 63-0 · FAX +49 (60 21) 34 63-40  
Internet <http://www.koba.de> · e-mail: [messzeuge@koba.de](mailto:messzeuge@koba.de)

## Product description:

The **KOBA sphere beam** is a non-demountable ball bar for monitoring and calibration of medium-sized CMM.

Ceramic spheres are the probing elements and represent the long-term stable measuring length. They are fixed in a specially designed support. Available nominal lengths are from 1500 up to 2500 mm with divisions and sphere diameters as per customer's requirements.

Positioning of the **KOBA sphere beam** in a broad range within the volume of the CMM can either be made by using two light tripods in CFC or by a torsion-proof base on which a swivel arm is mounted.

## Constructional features:

The carrying body consists of an ultra high modular CFC-integral profile of highest possible fibre volume. This CFC-profile is extremely rigid and stable in size due to the constructional conditions and the applied product engineering. The carrying body is equipped with a water-vapour-proof coating in order to avoid changes in size subject to humidity.

There are two options for the positioning in the volume of the CMM.

Using two light CFK-tripods is the option where best possible portability at lowest weight is achieved. With the tripod solution the sphere beam can be aligned horizontally up to 60° with reference to the horizontal position. As an alternative the mounting can be done by using a torsion and bending-proof base together with a swivel arm with angular adjustment. This option covers a swivel range of 90°, i.e. the alignment of the measuring line can be varied from horizontal to vertical position. Thus also axially parallel measurements can be carried through without problem.



The ceramic probing spheres of  $\varnothing 30$  mm is standard (other diameters are possible) are fixed mechanically in a tapered seating such that adhesive cannot influence the sphere position in a negative way.

## Technical details:

|                    |                                                                                                                                                                                             |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimensional range: | 1500 mm up to 2500 mm                                                                                                                                                                       |
| Divisions:         | as of 100 mm (customized also possible)                                                                                                                                                     |
| Carrying body:     | UHM-CFC-integral-profile 60 x 60 mm<br>Coefficient of linear thermal expansion approx. $-0,5 \times 10^{-6} \text{ K}^{-1}$<br>Weight (depending on the probing elements) approx. 2 kgs / m |
| Tripods:           | CFC-light tripods with swivel head (approx. 3 kg / piece)                                                                                                                                   |