Multi-axis/ component reference standard

500kN-MK-BNME

Measured quantity: Multicomponent force and moment, tension and compression forces, clockwise and anti-clockwise moments

Operating principle: Reference transducer in resolved systems, with highly decoupled, elastic force transmission.

Manufacturer: GTM
Testing and Metrology GmbH

Accredited measuring range:

Table 1: Measuring range 1

F_x	F_y	F_z	M_x	M_y	M_z	W^*
kN	kN	kN	kN·m	kN·m	kN·m	%
2 - <4	2 - <4	4 - <8	2 - <4	2 - <4	2 - <4	0.15
4 - 200	4 - 200	8 - 500	4 - 50	4 - 50	4 - 50	0.1

Table 2: Measuring range 2

F_x	F_y	F_z	M_x	M_y	M_z	W^*
kN	kN	kN	kN·m	kN·m	kN·m	%
2 - 40	2 - 40	2 - 75	0.2 - 5	0.2 – 5	0.5 - 5	0.5

Table 3: Measuring range 3

F_x	F_y	F_z	M_x	M_y	M_z	W^*
kN	kN	kN	N·m	N·m	N·m	%
0.01 – 3.75	0.01 – 4.33	0.02 – 10	2.5 - 1250	2.5 - 1250	1.5 – 750	0.5

* Expanded relative uncertainty

Brief description: The fully automated calibration machine consists of a robust three-column base frame with movable crosshead with six drive pods in hexapod structure for executing forces and moments. The reference measuring platform at the bottom consists of eight decoupled force transducers. Two additional smaller measuring platforms can be added to the calibration machine in order to extend the measuring ranges of the device downwards. The calibration machine is equipped with electronic control and feedback control as well as a sufficient number of synchronous strain-gauge measuring amplifier channels in a separate control cabinet housing.

Features:

- Complete automation during the measuring process
- Simultaneous mixed exposure possible
- Low measurement uncertainty of 0.1 %
- Precise determination of the force vector
- Simulation of gravity possible in all axes
- Large installation space for calibration close to the application