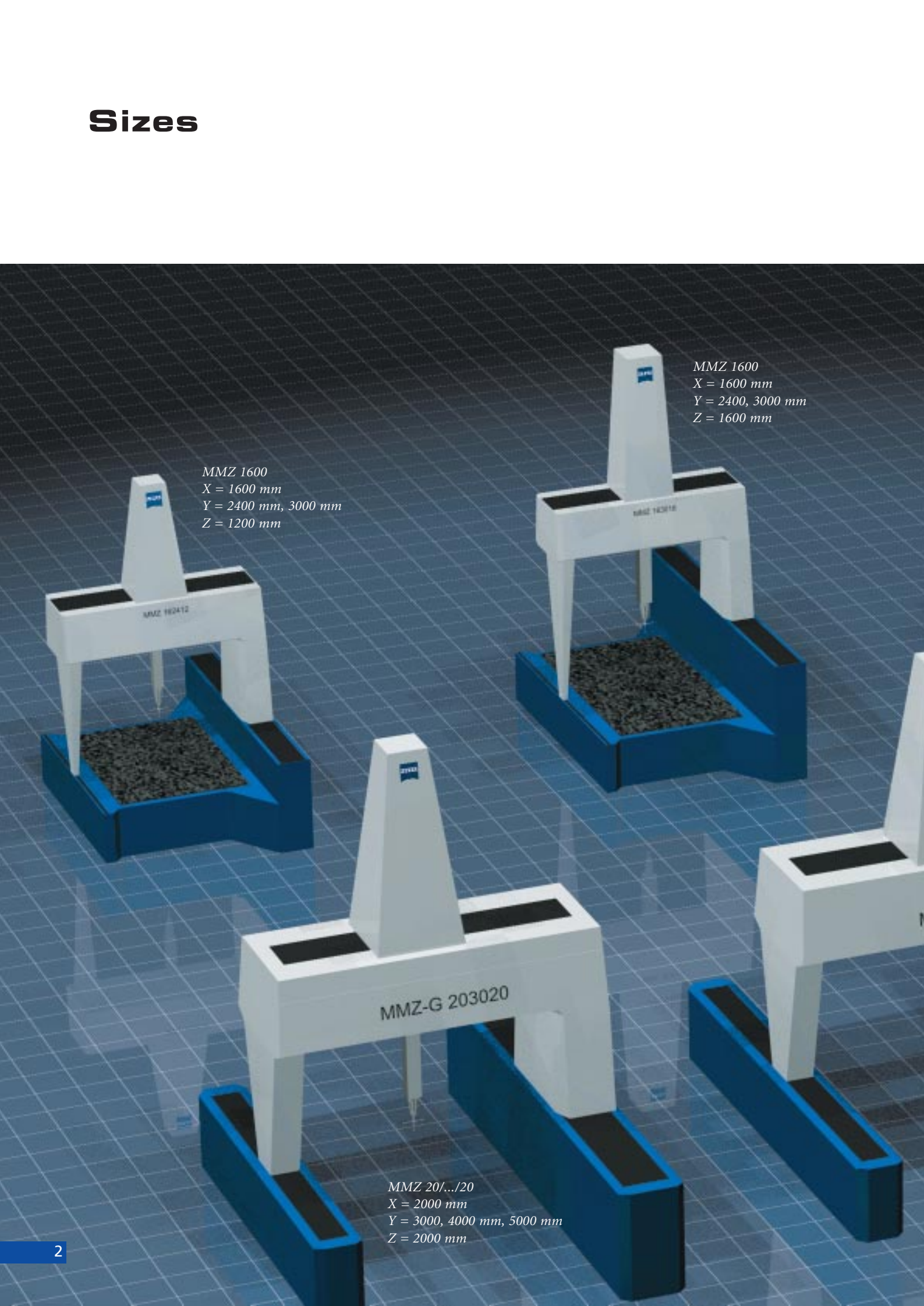


MMZ

Precision on a Grand Scale.



Sizes

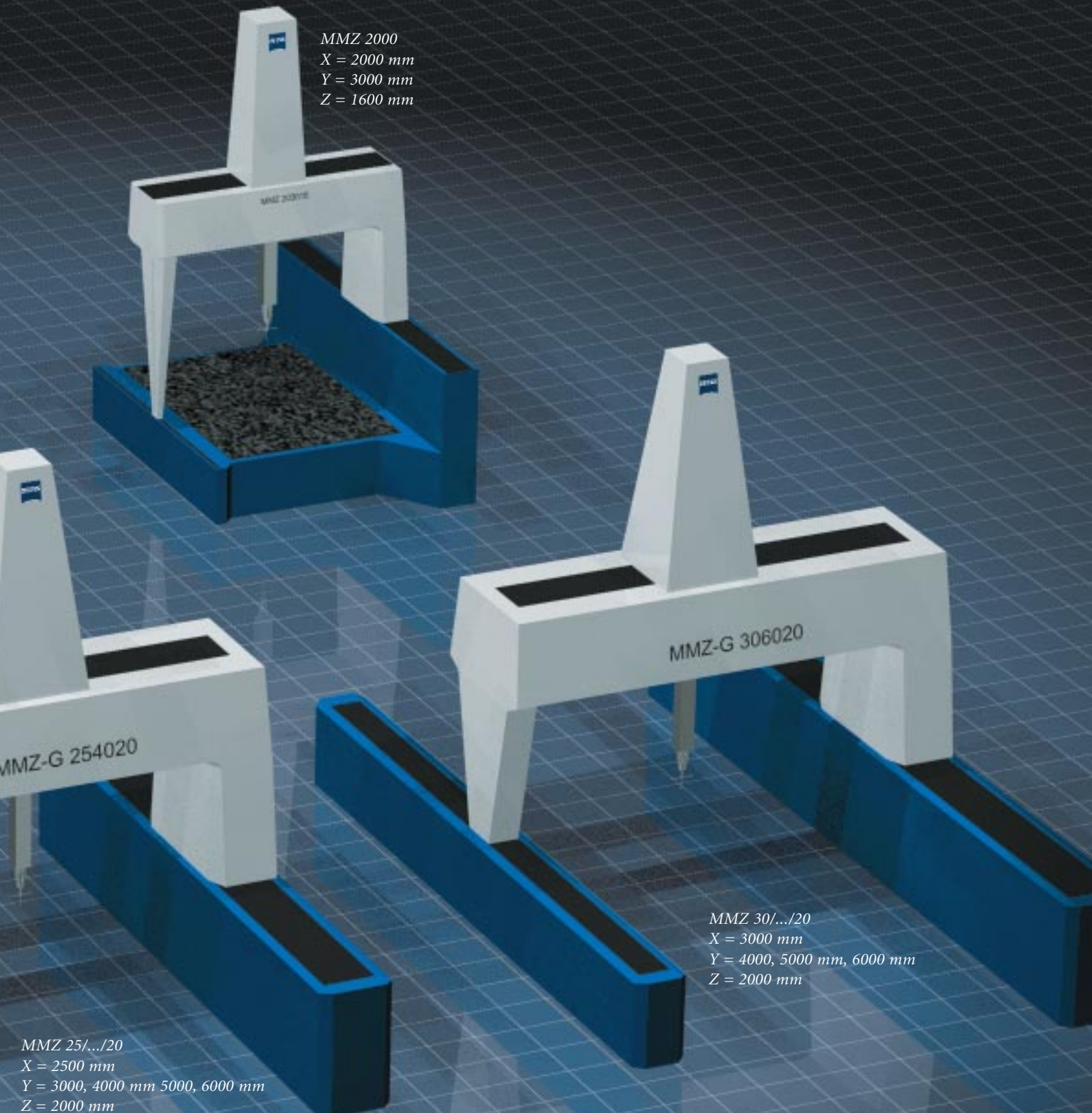


MMZ 1600
X = 1600 mm
Y = 2400 mm, 3000 mm
Z = 1200 mm

MMZ 1600
X = 1600 mm
Y = 2400, 3000 mm
Z = 1600 mm

MMZ 20/.../20
X = 2000 mm
Y = 3000, 4000 mm, 5000 mm
Z = 2000 mm

MMZ bridge-type measuring machines are designed as compact table units up to the sizes X = 2000 mm, Y = 3000 mm, Z = 1600 mm. Machines with larger measuring ranges are called MMZ-G and installed on a foundation.



*MMZ 2000
X = 2000 mm
Y = 3000 mm
Z = 1600 mm*

MMZ-G 254020

MMZ-G 306020

*MMZ 30/.../20
X = 3000 mm
Y = 4000, 5000 mm, 6000 mm
Z = 2000 mm*

*MMZ 25/.../20
X = 2500 mm
Y = 3000, 4000 mm 5000, 6000 mm
Z = 2000 mm*

Design

All MMZ bridge-type machines are based on the same design.

- **Low-tension, annealed, welded steel construction**

Homogenous materials increase thermal stability and reduce measuring uncertainty. The FEM-optimized structure guarantees high rigidity and long-term stability.

- **Anti-friction guideways in all axes**

Dedicated, high-quality anti-friction bearings ensure sturdiness, smooth running, hard wear and long service life.

- **Interlocking ball screw drives**

High drive forces are directly converted into high acceleration and deceleration motion. Zero backlash combined with smooth running is the basis for excellent positioning behavior and high scanning accuracy. The generous dimensions provide superb long-term stability, making the system virtually wear-free.

- **High-tech ram**

Here, the same design principles were adopted as in the primary machine structure – very low weight with high rigidity due to an FEM-optimized welded structure.

State-of-the-art manufacturing technology and choice materials provide integrated, low-weight guideways. The layout of the drive units and bearings results in cutting edge guideway accuracy and optimal running characteristics.

- **Resistance to ambient conditions**

Covers on all horizontal guideways effectively eliminate the dirt deposits which could endanger the machine's functions.



Special Features



MMZ-G

- **Dual drive and measuring systems in the Y-axis (from X = 2500 mm)**

Drive and measuring systems on either side guarantee high travel speed, low measuring uncertainty and short acceleration and stopping distances, even with large bridge widths.

- **Symmetrical, compact superstructure**

MMZ-G machines are insensitive to thermal influences and offer excellent access. In view of the generously dimensioned clearance, it is still possible to walk into the inside area of the measuring center when the measuring volume is fully utilized.

- **Extreme workpiece weights**

A foundation customized by our experts guarantees:

- low measuring uncertainty and optimum drive-on access to the entire measuring area, also with extremely heavy workpieces; the foundation design also insulates vibrations;
- simple adaptation to the customer's specific situation (pallet systems, available space)



MMZ 1600 and MMZ 2000

- **Rugged design**

The high rigidity achieved by the FEM-optimized L-design makes the MMZ insensitive to high workpiece weight.

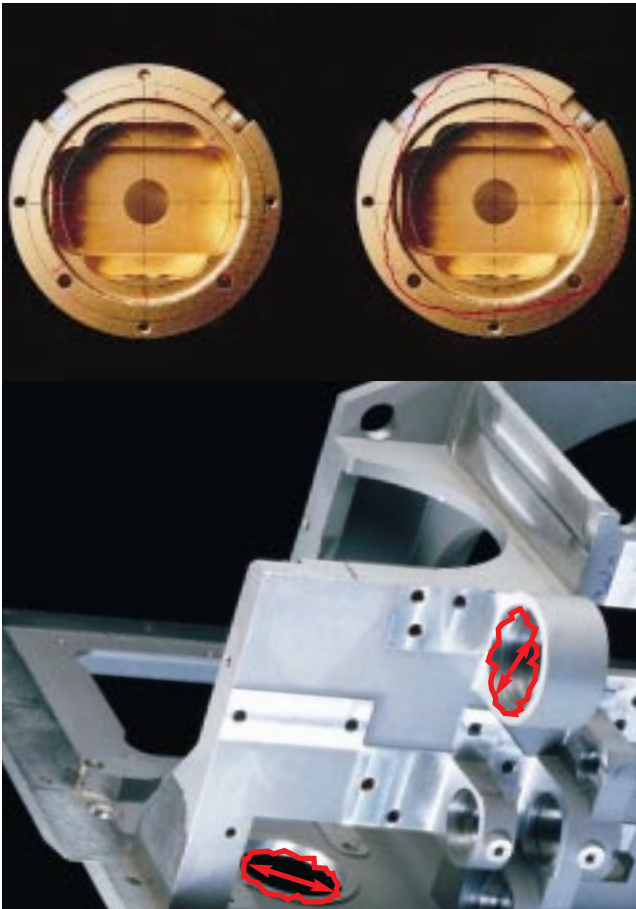
- **Access from three sides**

The lateral drive and the low guideways of the supporting arm provide access from three sides. This guarantees that the operator has optimum visibility of the workpiece when measuring and programming manually. Loading using lifting equipment is extremely easy.

- **Resistant to environmental influences**

High inherent rigidity and the anti-vibration system included in the standard version normally allow the MMZ 1600 and MMZ 2000 to be installed without the need for any special architectural measures.

Basic Version



- **Top-class performance due to Carl Zeiss scanning technology**

Smooth precision guideways and sophisticated, interlocking drives result in extremely good dynamic characteristics of the MMZ and, in conjunction with the high-end control and sensor systems (HSS) from Carl Zeiss, permit the use of scanning technology.

The HSS probe from Carl Zeiss is a small measuring machine in its own right and features a Cartesian design and guideways in three axes. High-resolution, absolute length measuring systems and linear motors generate and control force vectors in line with the task performed. Mechanical residual errors such as hysteresis and squareness are corrected on-line. The conditions for form inspection on the coordinate measuring machine are therefore met.

- **Standard automatic stylus changing system**

This is used for inserting different dedicated stylus combinations. As it provides optimum repeatability, the need for recalibration is eliminated.



Options

- **Standard safety mechanisms**

The ram is equipped with an electromechanical safety device to prevent inadvertent collision. The system also meets the operator protection requirements.

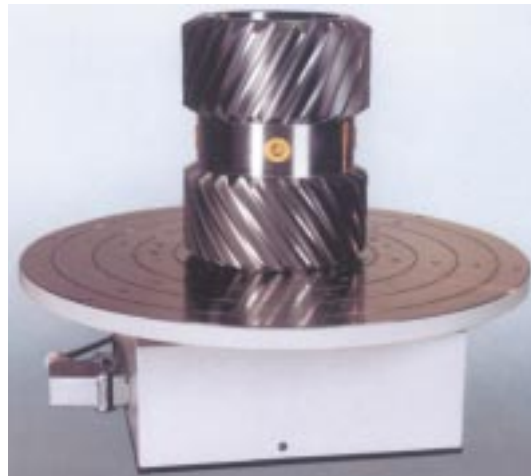
Safety mechanisms on the supporting arm of the MMZ 1600 and MMZ 2000 minimize danger of injury to uninvolved persons, e.g., if the machine is installed close to transport routes. In the MMZ-G, a safety light barrier ensures that the machine stops instantly in automatic operation if someone enters the work area.

- **Standard crane locking mechanism**

For machines of this size, it is almost always necessary to use mechanical loading devices such as bridge or gantry cranes, and frequently also pallet systems. In these cases, the crane locking mechanism included in the standard version makes sure that no collisions occur between the loading system and the MMZ.

- **Module for temperature measurement**

With this fully integrated hardware and software, the measuring uncertainty on inadequately temperature controlled workpieces can be clearly improved and the useable temperature range extended. High precision temperature sensors are attached to strategic points of the machine structure. The two workpiece sensors can be placed anywhere on the measured object.



On request, your MMZ is equipped with an ex-works rotary table.

- **Rotary table**

For the measurement of rotationally symmetrical workpieces and features at oblique angles, the use of a rotary table integrated as a genuine fourth axis into the system is recommended.



Carl Zeiss

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