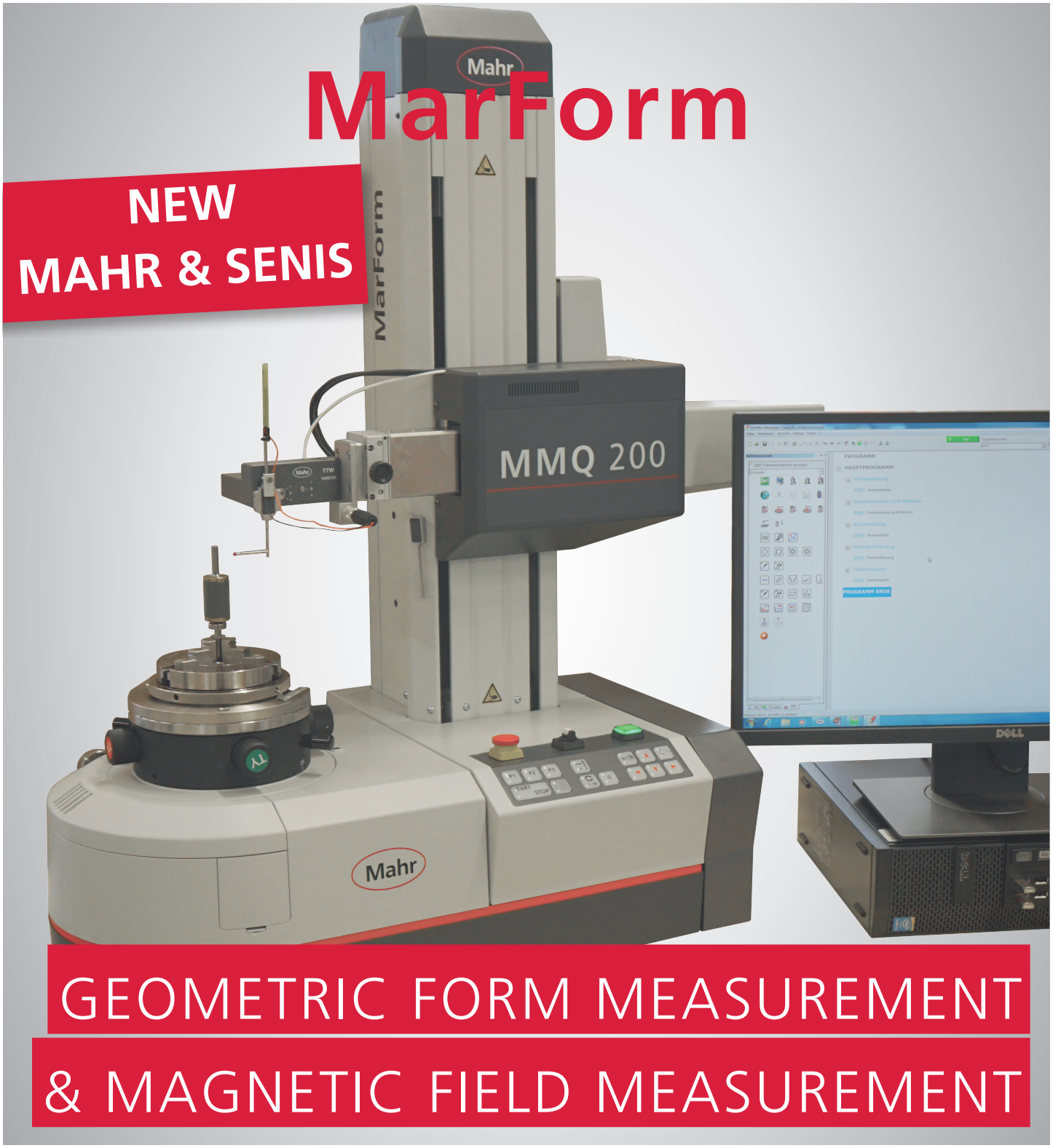


MarForm MMQ 200
WITH OPTION MAGNET FIELD MEASUREMENT

- Reliable form metrology combined with innovative magnetic field measurement
- Time and cost savings through just one clamping and one measuring procedure
- High accuracy by aligning the rotor before measuring the magnetic field

This is what we mean by EXACTLY.

- 0 +

Mahr

EXACTLY

MARFORM

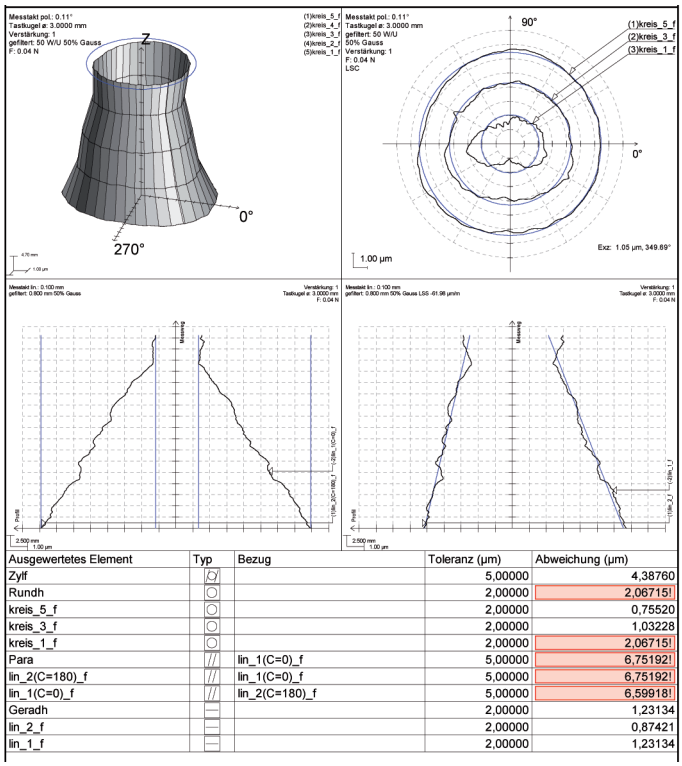
MMQ 200 WITH OPTION MAGNETIC FIELD MEASUREMENT

Magnetic field measurement on formtesters

Important for the optimal and low-loss continuous use of an electric motor is not only compliance with the geometric specifications of the bearing points but above all a uniformly pronounced three-dimensional magnetic field in space.

With the unique combination of a formtester MarForm MMQ with a 3D Hall sensor of the brand SENIS F3A-KM for magnetic field measurement, new possibilities open up in the design of electric motors.

For the user this means:
Receiving more information about the properties of the produced rotors and manufacturing more efficient products.



Ausgewertetes Element	Typ	Bezug	Toleranz (µm)	Abweichung (µm)
Zylf			5,00000	4,38760
Rundh			2,00000	2,06715!
kreis_5_f			2,00000	0,75520
kreis_3_f			2,00000	1,03228
kreis_1_f			2,00000	2,06715!
Para		lin_1(C=0)_f	5,00000	6,75192!
lin_2(C=180)_f		lin_1(C=0)_f	5,00000	6,75192!
lin_1(C=0)_f		lin_2(C=180)_f	5,00000	6,59918!
Geradh			2,00000	1,23134
lin_2_f			2,00000	0,87421
lin_1_f			2,00000	1,23134

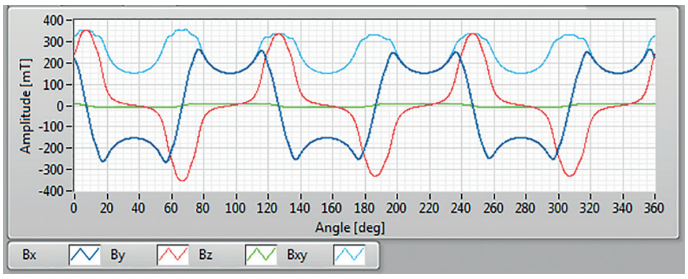
Measuring record form and location measurement

Evaluable characteristics:

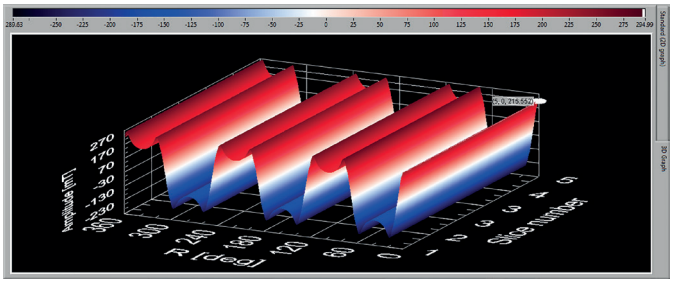
- Form and location features according to ISO 1101 (e.g. roundness, radial run-out, cylindricity)
- Visualization of all three components of the magnetic field, Bx, By and Bz
- Visualization of the slope (slope and inclined positiong), magnetic field homogeneity
- Fourier analysis (FFT) and visualization of the first 10 harmonics
- Individual and total harmonic distortion
- Visualization of the multipole magnetic field and the North-South pole
- Number of poles, min. /max. /mean pole width, pole distribution, pole pitch, pitch error, zero crossing

Advantages of the combined solution:

- Time and cost savings through just one clamping and one measurement procedure
- Greater accuracy by aligning the rotor before magnetic field measurement
- Installation position of the rotor is simulated on the measuring machine
- Meaningful and detailed measuring records
- Proven shape measurement technology combined with proven magnetic field measurement technology



Amplitude and phase of the magnetic field vectors



Three-dimensional representation of the magnetic field

Magnetic field measurement on formtesters

Delivery scope Magnetic Field Measurement Option for MarForm MMQ 200

Hardware and software package for magnetic field measurement and evaluation with MarForm MMQ 200 and motorized probe T7W consisting of:

Hardware package

3D Hall sensor SENIS F3A-KM and magnetic field sensor connected in the standard version with the evaluation computer via USB

Software package

Software license for magentic field measurement in connection with the software MMS Analysis form SENIS and MarWin

MarForm MMQ 200 with magentic field measurement F3A-KM from Senis

3D Hall sensor

High-precision 3-axis SENIS magnetic field sensor (Type F3A) including the 3D Hall probe (robust Type C probe or thin Type K probe a smaller distance to the magnet surface)

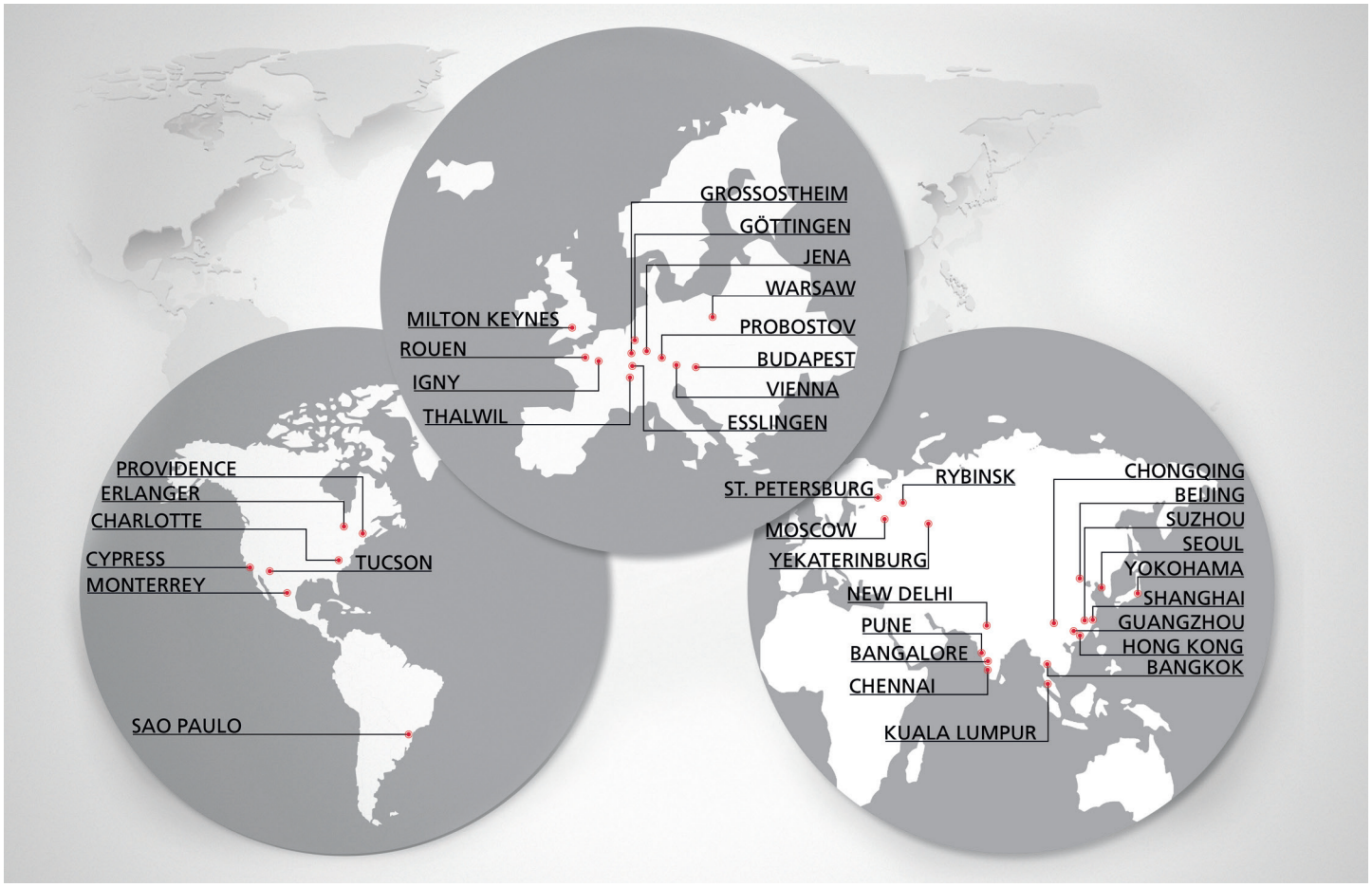
- Magnetic field measuring range: +/- 100 mT, 500 mT, 2T
- Magnetic field resolution better than 40 uT
- Magnetic field accuracy 0.1%
- Sensitive measuring point size (3D): 100 um x 100 um
- Distance to measured surface: 0.3 mm
- Temperature compensated

Motorized probe T7W

Order no. 5400200

- Motorized probe T7W
- Probe arm angle ± 360°, motor-driven
- Measuring range ± 500 µm
- Probe arm angle motor adjustable in 1° increments
- Probe arms easily changeable (magnetic holder)
- Scan direction can be set in program
- Mechanical and electrical overload protection

SENIS
magnetic & current measurement



Partner for manufacturing companies worldwide.

Close to our customers.

Got QUESTIONS? Want more INFORMATION?

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