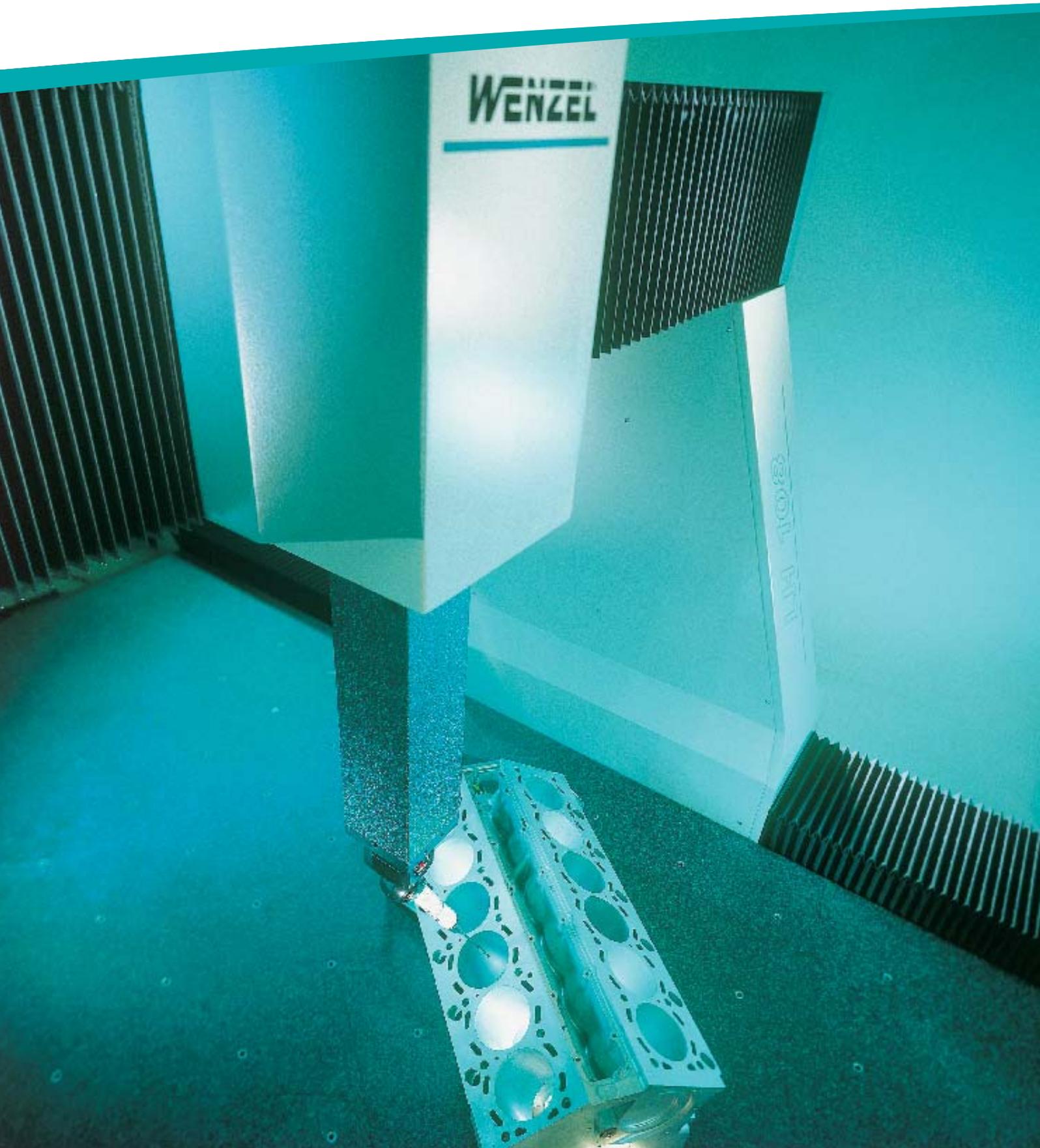


The LH Series



The LH Series

Wide range of CMM models

We are not interested in coincidence – the success of our LH Series is mainly justified by a conclusive business plan and unconditional perfection in detail. The success principle of this series is called mechanical accuracy, top mechanical engineering, accuracy without software compensation. The bridge machine has air bearing guideway elements in all axes which guarantee wear-free and

smooth operation. High-precision and user-friendly handling – all this rounded off by an intelligent service package – WENZEL cares. The machines may be equipped with a number of probe head and scanner combinations. From fixed to motorized and adjustable probe heads. From simple measuring probes to high-precision probe

systems. The optimal solution for every measuring challenge – sensor technology by WENZEL.

LH 54

measuring range (mm)

X-axis	Y-axis*	Z-axis
500	600/1000	400

LH 65

measuring range (mm)

X-axis	Y-axis*	Z-axis
650	750/1200	500

LH 87

measuring range (mm)

X-axis	Y-axis*	Z-axis
800	1000/1500 2000	700

LH 108

measuring range (mm)

X-axis	Y-axis*	Z-axis
1000	1200/1600 2000/2500	800

LH 1010

measuring range (mm)

X-axis	Y-axis*	Z-axis
1000	1200/1600 2000/2500	1000

LH 1210

measuring range (mm)

X-axis	Y-axis*	Z-axis
1200	1600/2000 2500/3000	1000

LH 1512

measuring range (mm)

X-axis	Y-axis*	Z-axis
1500	2000/2500 3000/4000	1200

In use

For our product quality

The machines of the LH Series are being used by our customers for production control, the development of prototypes and reverse engineering. From miniature gears to

rocket building, in small agile shops, at innovative mid-size enterprises or world-famous conglomerates – or simply wherever high measuring

requirements define the demands – we know where we belong.



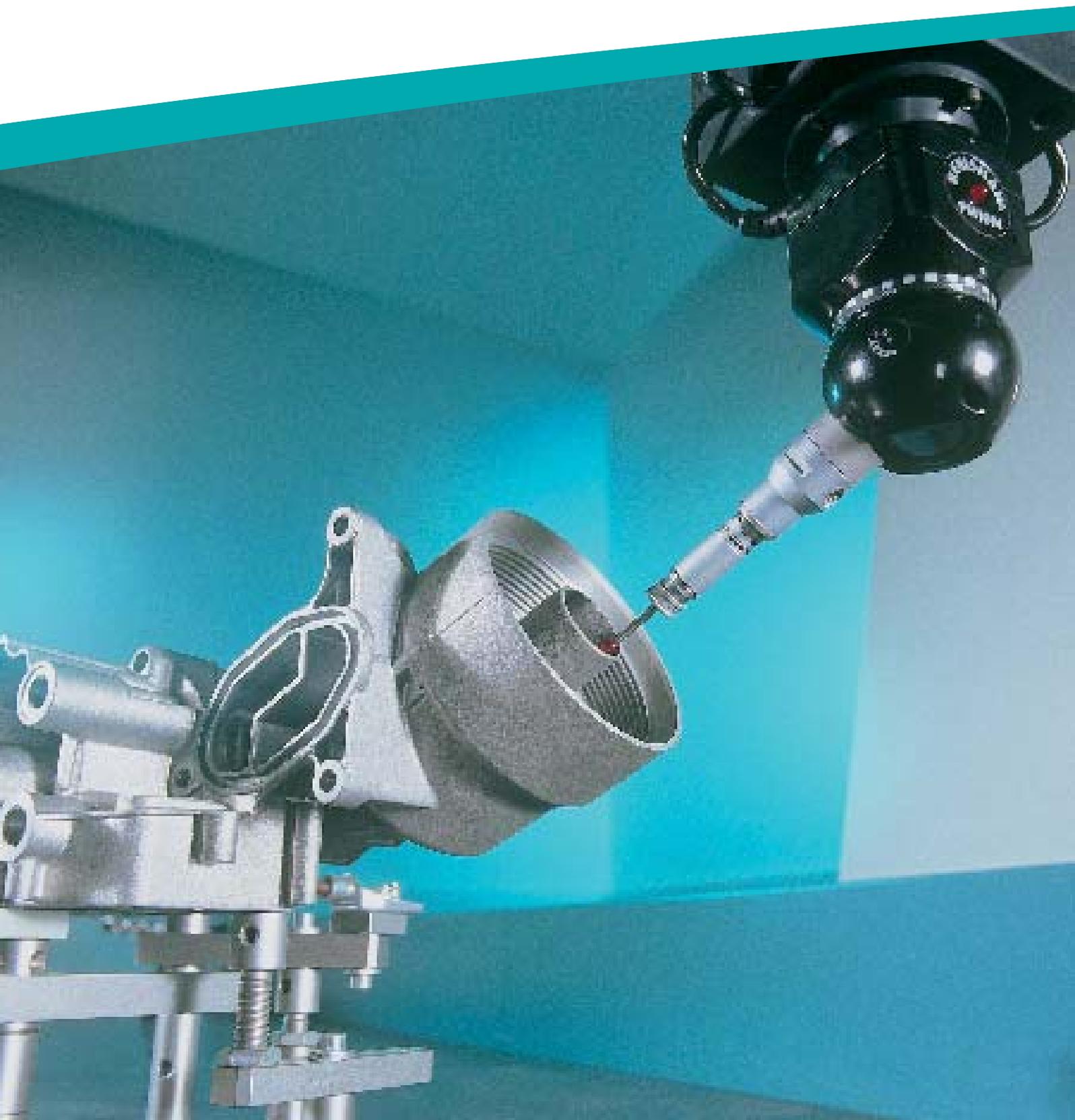
The standard solution

The uncompromising reliability

Our LH Series stands out in its standard version due to an excellent price-performance ratio and flexible applications – a real WENZEL bestseller and worldwide

in use thousandfold. This series is characterized by easy handling, high robustness and is suitable for almost all common measuring

tasks. Reliable to the point without compromise – the standard solution.



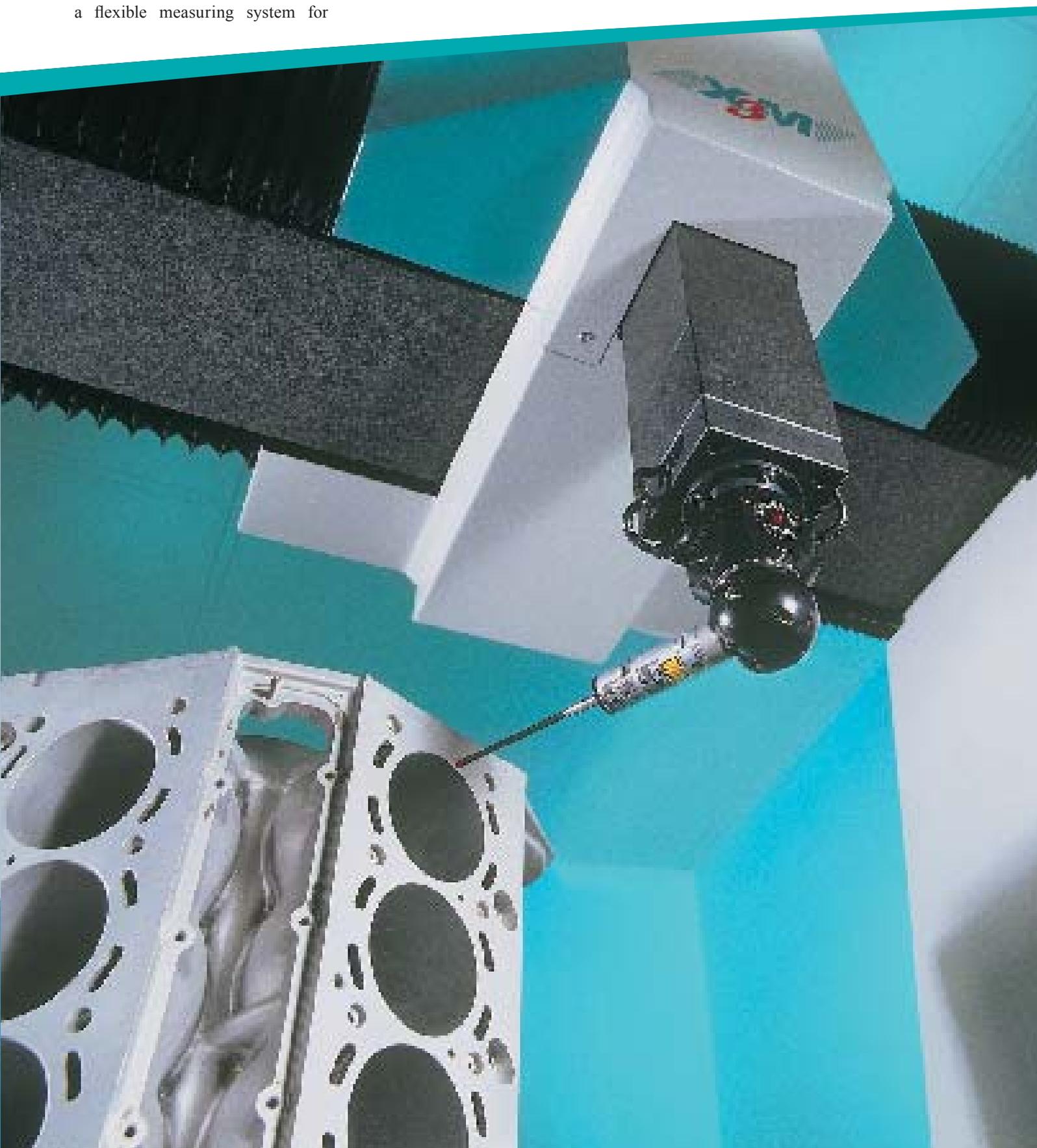
X3M

Our flagship for High-Speed Scanning

The precision and speed tuning for our LH series. The combination of a motorized probe head and a scanning probe makes the X3M a flexible measuring system for

particularly demanding measuring tasks. The X3M stands for fast form check, extreme accuracy, scanning of any 2D and 3D curves

and outlines. Precision High-Speed scanning has a name: X3M – made by WENZEL.



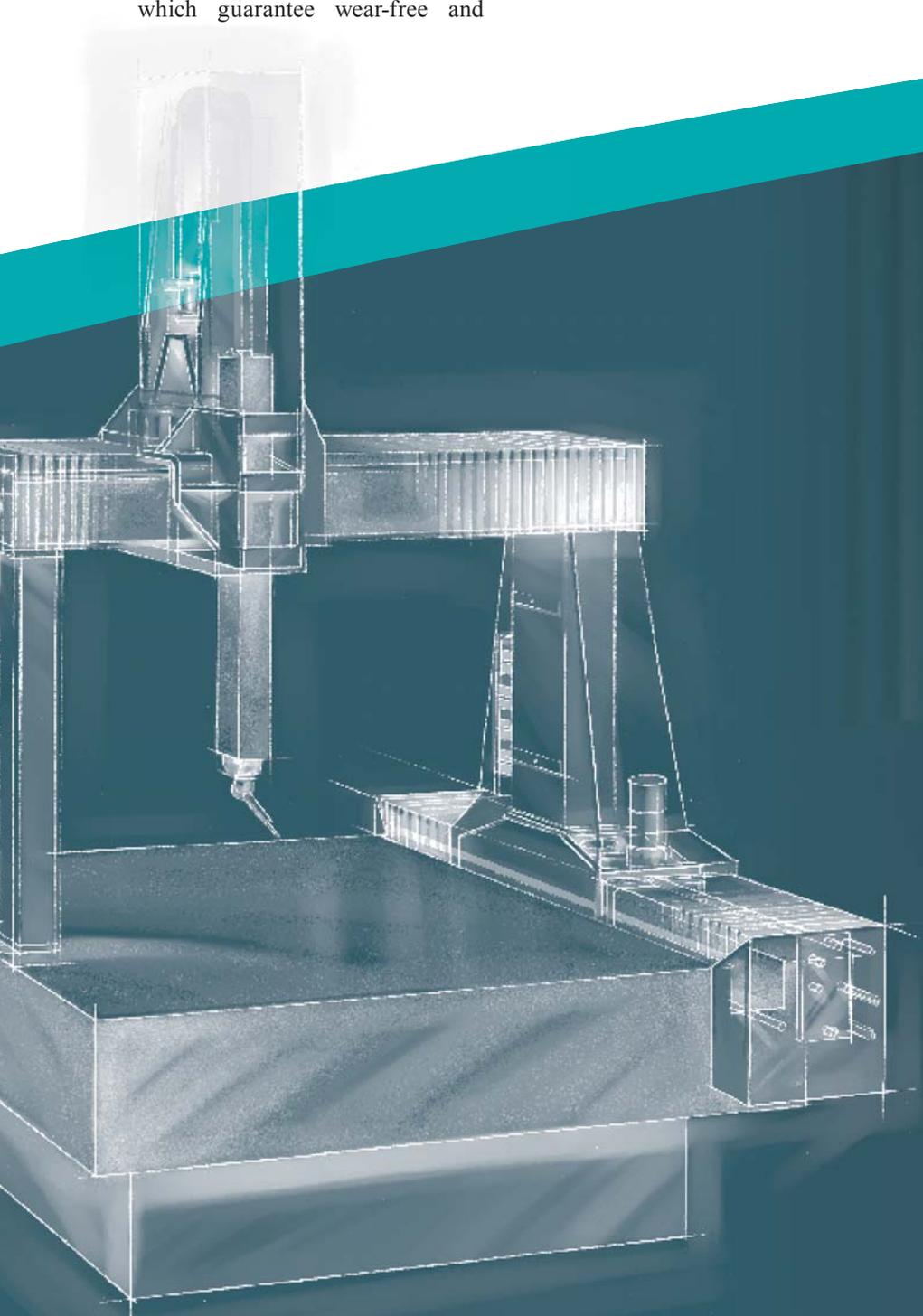
The LH Series

Wide range of CMM models

We are not interested in coincidence – the success of our LH Series is mainly justified by a conclusive business plan and unconditional perfection in detail. The success principle of this series is called mechanical accuracy, top mechanical engineering, accuracy without software compensation. The bridge machine has air bearing guideway elements in all axes which guarantee wear-free and

smooth operation. High-precision and user-friendly handling – all this rounded off by an intelligent service package – WENZEL cares. The machines may be equipped with a number of probe head and scanner combinations. From fixed to motorized and adjustable probe heads. From simple measuring probes to high-precision probe

systems. The optimal solution for every measuring challenge – sensor technology by WENZEL.



LH 54

mm

X	Y	Z
500	600	400

Standard accuracy*

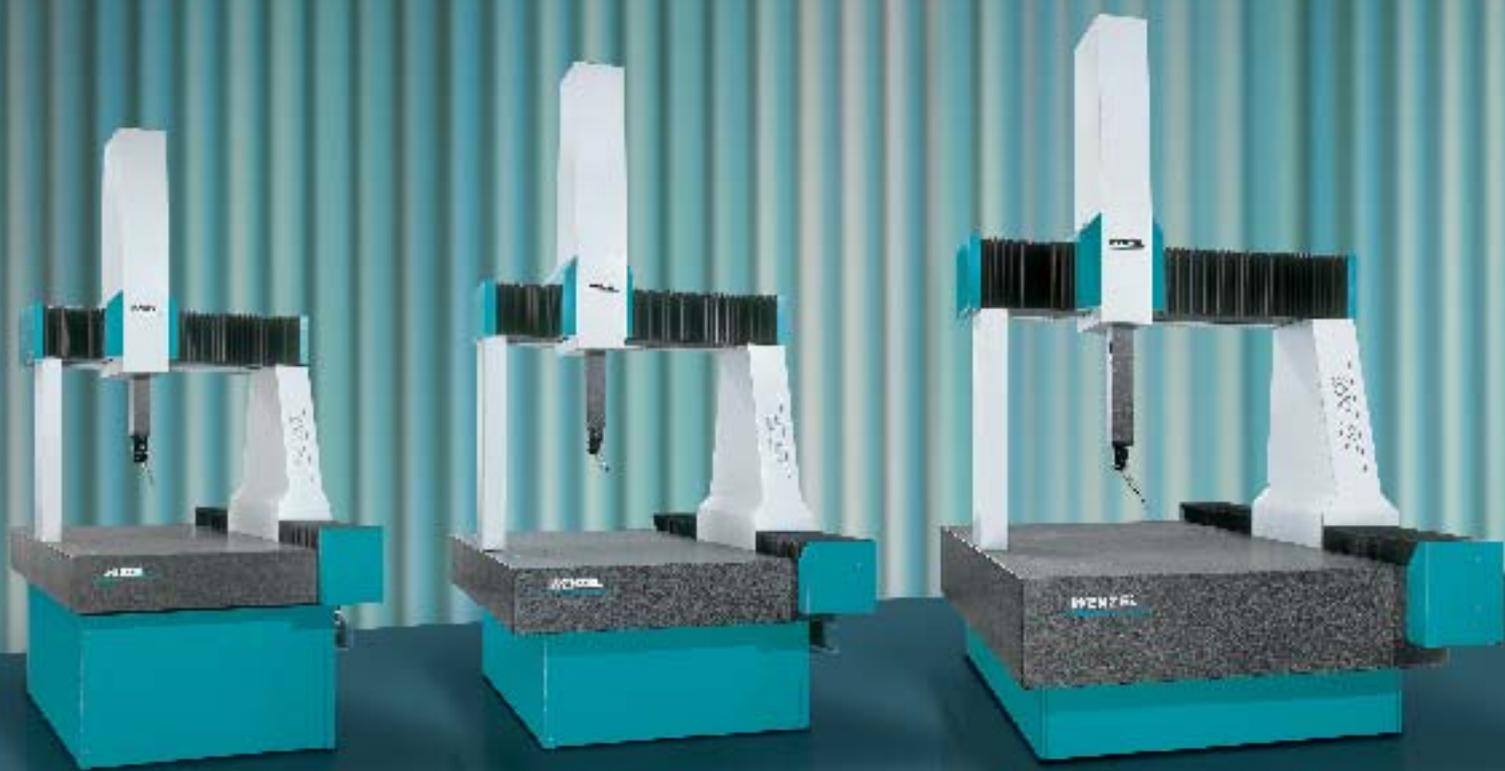
MPE_E [μm]
(L in mm) 3,0-L/350
MPE_p [μm] 3,0
MPE_{THP} [μm] 3,6

max. speed 3D
700 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 2,5+L/450
MPE_p [μm] 2,5
MPE_{THP} [μm] 3,1

max. acceleration 3D
2.000 mm/s²



LH 65

mm

X	Y	Z
650	750	500

Standard accuracy*

MPE_E [μm]
(L in mm) 3,0-L/350

MPE_p [μm] 3,0

MPE_{THP} [μm] 3,6

max. speed 3D
700 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 2,5+L/450

MPE_p [μm] 2,5

MPE_{THP} [μm] 3,1

max. acceleration 3D
2.000 mm/s²

LH 87

mm

X	Y	Z
800	1000	700

Standard accuracy*

MPE_E [μm]
(L in mm) 3,0-L/350

MPE_p [μm] 3,0

MPE_{THP} [μm] 3,6

max. speed 3D
700 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 2,5+L/450

MPE_p [μm] 2,5

MPE_{THP} [μm] 3,1

max. acceleration 3D
2.000 mm/s²

LH 108

mm

X	Y	Z
1000	1200	800

Standard accuracy*

MPE_E [μm]
(L in mm) 3,2-L/300

MPE_p [μm] 3,2

MPE_{THP} [μm] 3,8

max. speed 3D
550 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 2,7+L/400

MPE_p [μm] 2,7

MPE_{THP} [μm] 3,3

max. acceleration 3D
1.200 mm/s²



LH 1010

mm

X	Y	Z
1000	1200	1000

Standard accuracy*

MPE_E [μm]
(L in mm) 3,2-L/300
MPE_p [μm] 3,2
MPE_{THP} [μm] 3,8

max. speed 3D
500 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 2,7+L/400
MPE_p [μm] 2,7
MPE_{THP} [μm] 3,3

max. acceleration 3D
1.000 mm/s²



LH 1210

mm

X	Y	Z
1200	1600	1000

Standard accuracy*

MPE_E [μm]
(L in mm) 3,4-L/250
MPE_p [μm] 3,4
MPE_{THP} [μm] 4,0

max. speed 3D
500 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 2,9+L/350
MPE_p [μm] 2,9
MPE_{THP} [μm] 3,5

max. acceleration 3D
1000 mm/s²



LH 1512

mm

X	Y	Z
1500	2000	1200

Standard accuracy*

MPE_E [μm]
(L in mm) 3,7-L/250
MPE_p [μm] 3,7
MPE_{THP} [μm] 4,8

max. speed 3D
500 mm/s

Enhanced accuracy*

MPE_E [μm]
(L in mm) 3,2+L/300
MPE_p [μm] 3,2
MPE_{THP} [μm] 4,2

max. acceleration 3D
1000 mm/s²

All machines available up to Y = 5000

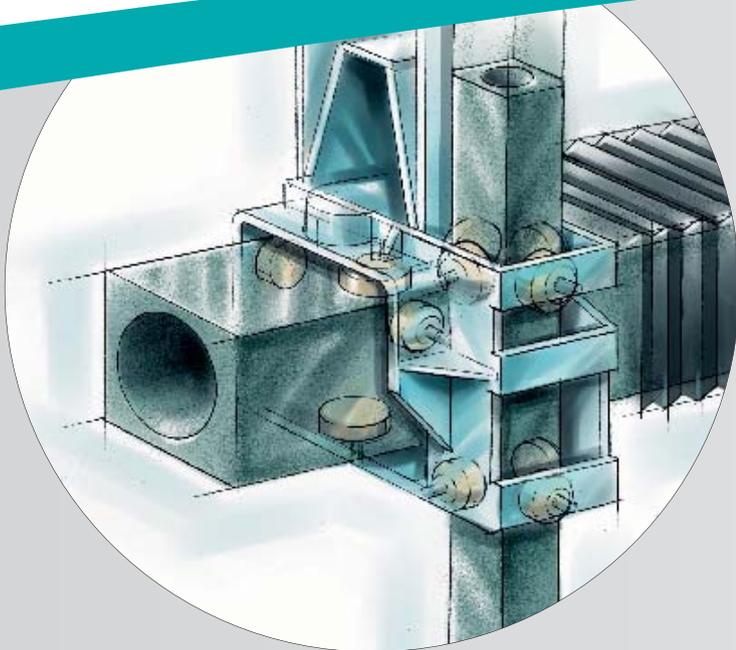
The temperature range for all machines is:
20°C ± 2 K, 1,0 K/h, 1,0 K/m

*measuring uncertainty according to DIN EN ISO 10360 - 2, with probe TP200/SP25

Precise in detail

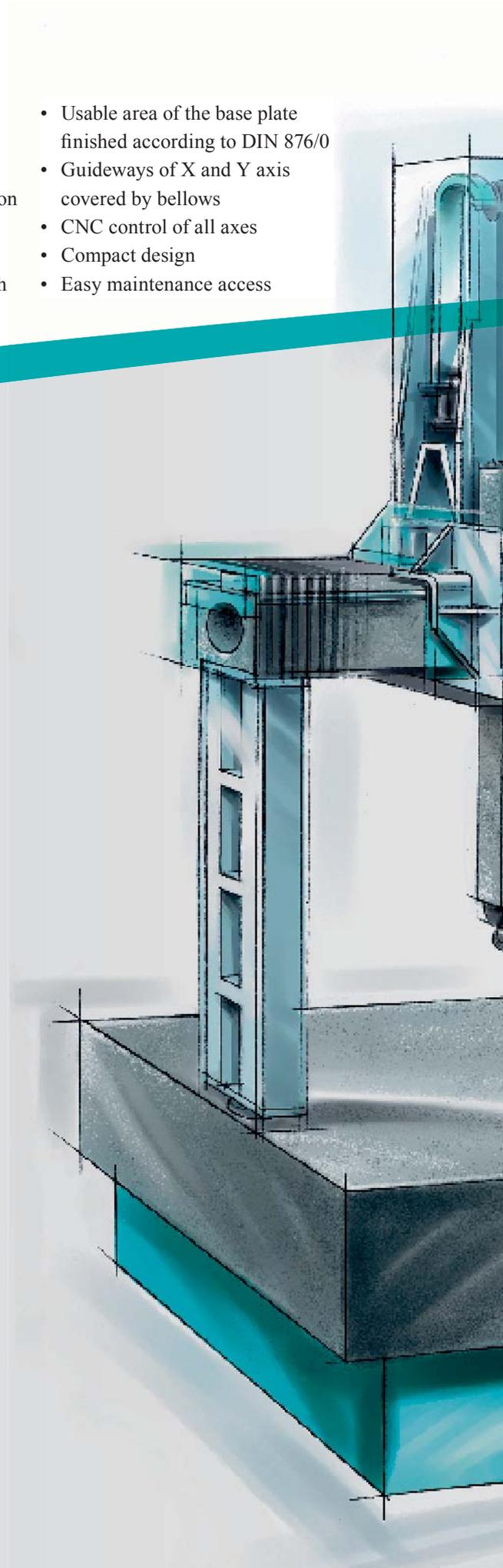
The LH features

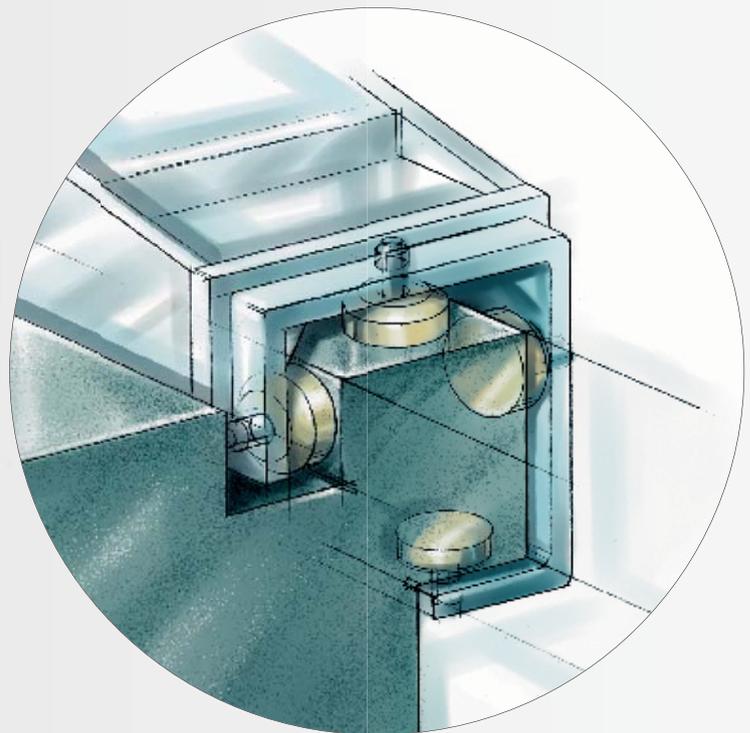
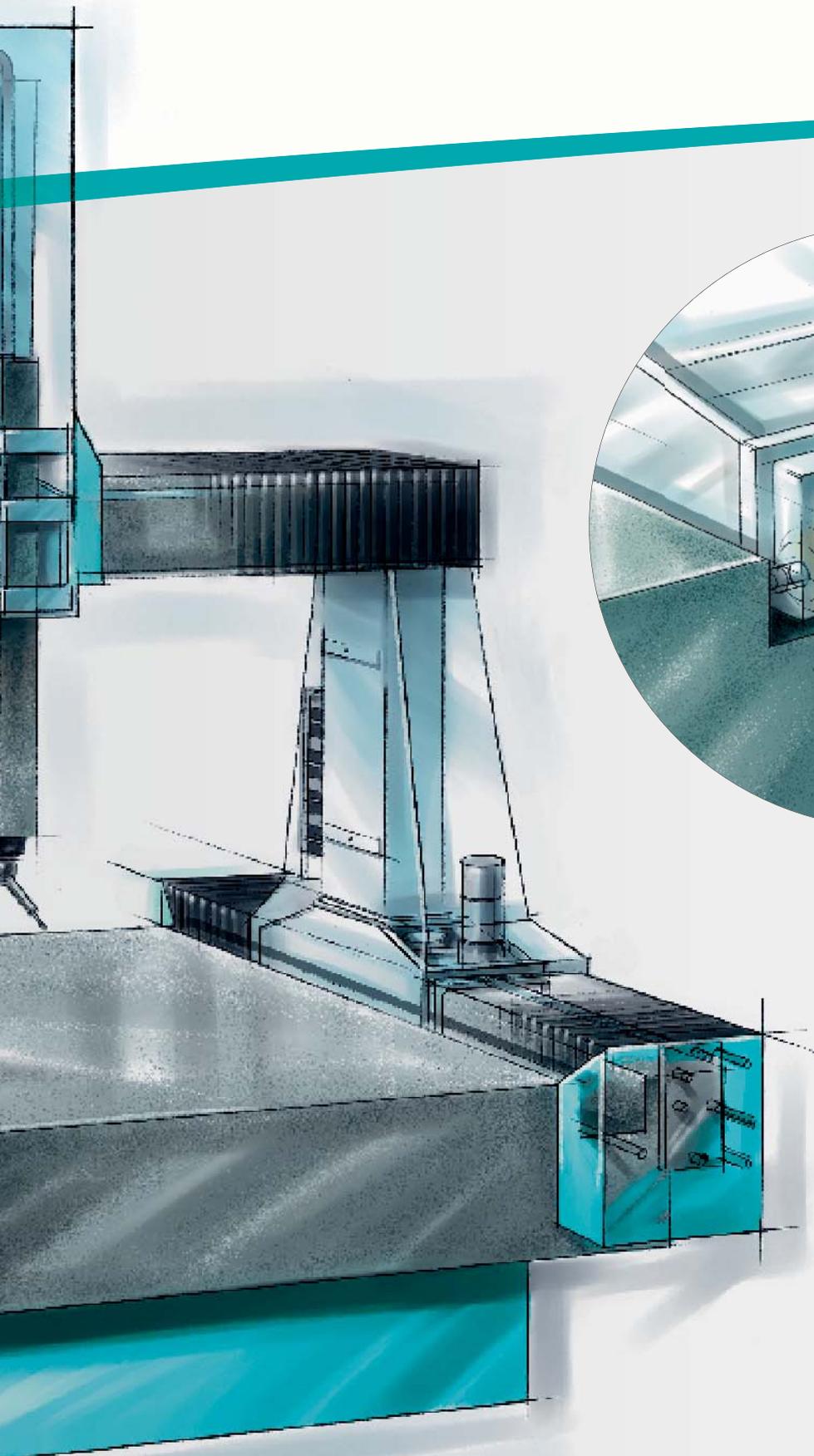
- Base plate, cross-beam and quill are made of natural dark granite, guaranteeing identical, thermal conditions in all axes
- Y-axis guideway directly integrated in the base plate
- Weight compensation of Z-quill by regulated pneumatic cylinder
- Available in special sizes and accessoried with active dampening online temperature compensation and high resolution optical scales
- Air bearing guideway elements in all axes for wear-free, smooth operation
- Usable area of the base plate finished according to DIN 876/0
- Guideways of X and Y axis covered by bellows
- CNC control of all axes
- Compact design
- Easy maintenance access



FEM/CAD optimized components guarantee highest rigidity with reduced mobile masses

Pre-stressed, high accuracy, hand lapped air bearing guideways, the Y-axis is integrated in the granite base plate, a guarantee for excellent long-term stability.





Symmetric guideway profiles with reduced wall thicknesses: optimal for calculable expansion behaviour with changing working temperatures. Bellows protect the cross-beam as well as the Y guideway against environmental and external influences.

We take care of it

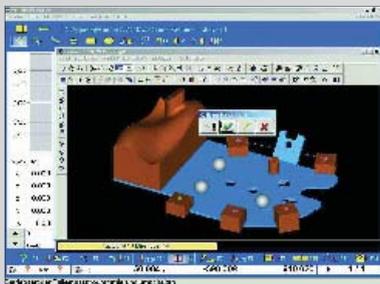
The WENZEL software

Metrosoft CM. Already at an early stage we had opted for quality software which we develop ourselves at our subsidiary Metromec in Switzerland. In close cooperation with leading companies in the automotive, mechanical engineering and aerospace industry, hands-on packages for

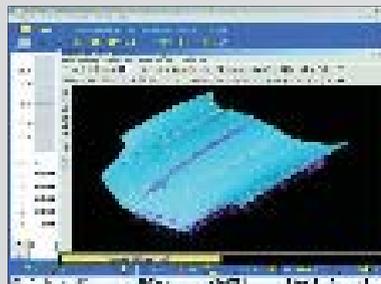
the whole application spectrum have been developed, from cylinder block to turbine vanes, from models to car body. One may scan tactile or non-contact with optical sensors. All Metrosoft CM packages stand out through logical and simple

operator guidance, supported by self-explanatory graphics. Inshort: a typical WENZEL product, reliable and user-orientated.

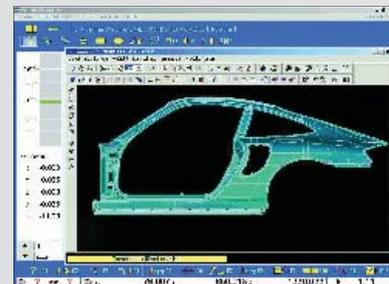
Measure



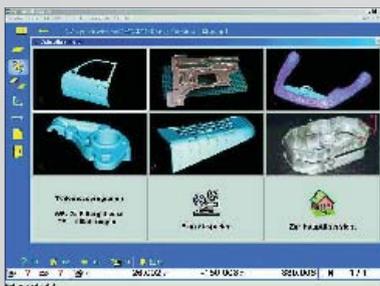
Click 'n Measure measuring automatism incl. collision protection



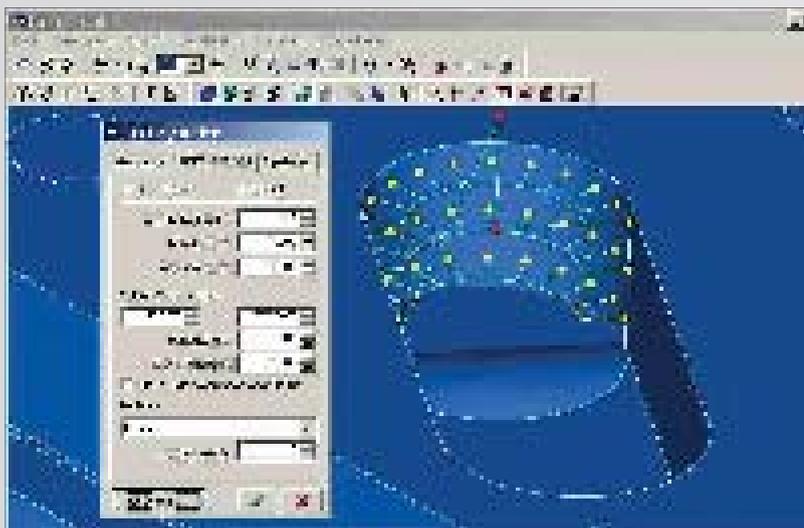
Measuring of sections and offset curves on sheet metal components against CAD models



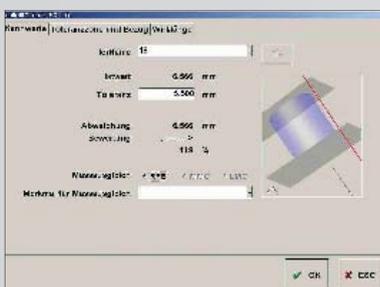
Direct measuring against CAD model data



Automatic call of measuring programs through speed loading window



GRIPS – Graphically interactive measuring and programming – on/offline editing and programming



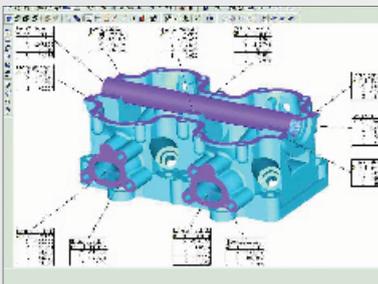
Cylindrical tolerance zone with reference level according to new norm ISO-1101

Metrosoft CM

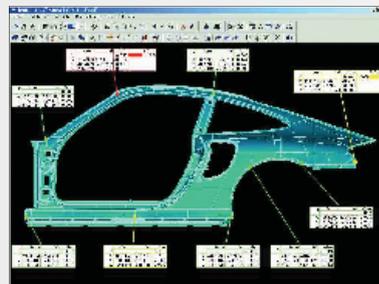
The advantages at one glance:

- Intuitive and easy to use
- Universal for euclidean elements, complex geometries and sculptured surfaces
- Extensive data mangement, Access Data Base
- Software packages and modules optimally harmonized with the applications, seamless interface
- Compatible with most contact, non-contact scanning systems
- Large spectrum of available probing systems
- CM speaks 12 languages

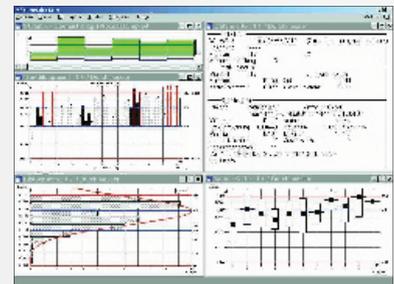
Analyse



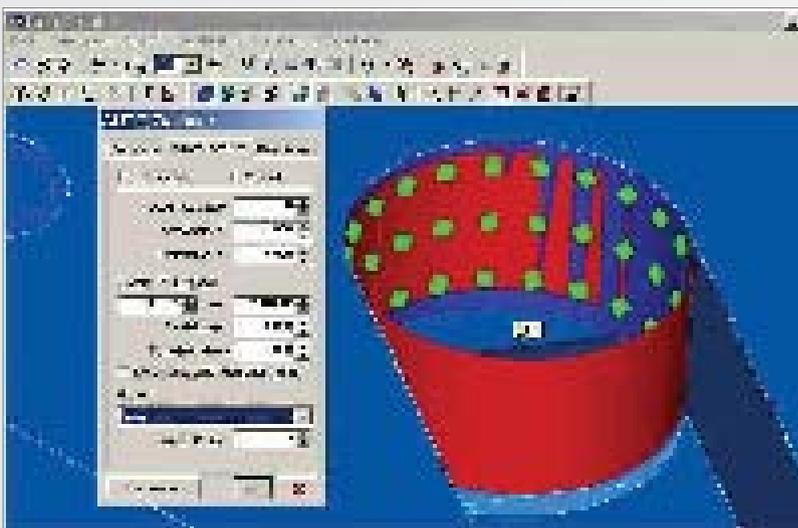
Graphic measuring protocol of prismatic parts with configurable point boxes



Direct measuring against CAD model data



Freely configurable statistics: Overview, trend diagrams, rule cards, histograms, process capability and more



GRIPS – Graphic display of interactively measured element

sized companies in Germany with the direct commitment we feel indispensable for our and your success. WENZEL stands for highest quality achievements and

reliability – without forgetting that one can only exist if aiming at the future and permanently having his visions in front of one's eyes. Therefore product innovation and

long-term business development with a stable relationship network are part of our daily constants – you can depend on WENZEL.



We are there for you

WENZEL worldwide

Today WENZEL is the world's largest and most successful family-owned company in the area of coordinate measuring technology.

With branches in Switzerland, France, England, the Netherlands, USA and China. Sales and Service partners take care of WENZEL

customers in over 50 countries around the globe. A global player employing more than 330 people worldwide and delivering more and than 400 precision measuring machines every year – and growing.

Never a dull moment: We constantly push our global activities with long-term strategic orientation – whatever we do, we do it right, typical WENZEL ...

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Pr. R. China



Award for innovative technical achievements



DIN EN ISO 9001, VDA 6.4



Innovative middle-size companies