YOUR SUCCESS.
OUR
MISSION.

WENZEL®



INDUSTRIAL METROLOGY

COORDINATES MEASURING MACHINES

WENZEL

Innovation meets Tradition in Wiesthal

Your quality is our motivation - metrology made by WENZEL

WENZEL coordinate measuring machines stand for precision, flexibility, and reliable quality—tailored to a wide range of requirements in industrial metrology. From the economical entry-level **XO series** to the powerful premium systems of the **LH series** to solutions for particularly large workpieces: With the **LH Gantry** and the **LHF**, WENZEL offers open machine concepts with maximum accessibility and high precision – even for large dimensions. The horizontal arm measuring machines of the **R series** are ideally suited for fast measuring processes and large components with complex geometries. All systems can be individually configured and optimally integrated into existing processes thanks to modern sensor technology and software solutions.



Dr. Heike Wenzel

Managing Director of the WENZEL Group

" Our product range can support all your measuring tasks. As a family-owned company, we strive to build long-term partnerships with our customers – that's why we invest in the outstanding quality of our machines and offer you excellent service. "

THE BENCHMARK

for individual precision in metrology

1968
Founded

more than
12.000
installed machines worldwide

more than
550
employees

in
50
Countries subsidiaries & sales representatives

BUSINESS AREAS
OUR PORTFOLIO

- Coordinate measuring machines (CMMs)
- Shop floor measuring machines
- Gear measuring machines
- Industrial computed tomography (CT) scanners
- Mobile measurement solutions
- Measurement software
- Sensors & probes

OUR CORE INDUSTRIES

- Mold and tool making
- Aerospace
- Electrical engineering/electronics
- Defense industry
- Gear technology
- Automobile manufacturers and suppliers
- Research and science
- Medical technology
- mechanical engineering
- Metal and plastics processing industry

Industrial metrology
for your quality assurance



COORDINATE MEASURING MACHINES

Coordinate measuring technology is used to record dimensional measurements of standard geometric elements or free-form surfaces of individual parts, molds, models, and tools. The elements are recorded on the workpieces and their measuring points are then processed further on the computer. With the development of coordinate measuring machines, it became possible to perform measuring tasks faster and with very high accuracy. That is why coordinate measuring technology is indispensable in industrial production processes today.

SHOP FLOOR MEASURING MACHINES

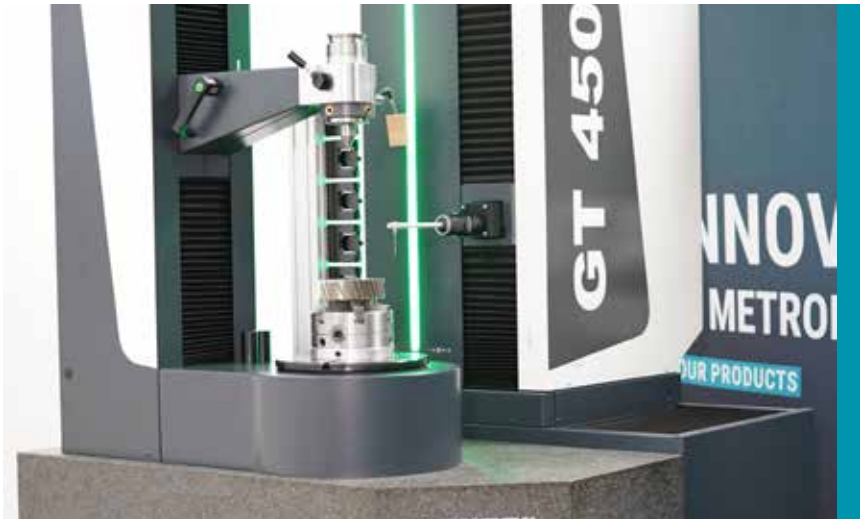
WENZEL shop floor measuring machines have been specially developed for use in the immediate production environment. Even under challenging conditions, such as significant temperature fluctuations, they deliver precise measurement results and ensure maximum measuring accuracy. Thanks to their robust construction, they are resistant to external influences such as dirt, dust, or vibrations. These characteristics make shop floor measuring machines the ideal solution for quality assurance directly on the production line. Trust WENZEL for reliable measurement results—wherever they are needed.



GEAR MEASURING MACHINES

We offer specialized gear measuring machines for the precise measurement of gears and other rotationally symmetrical components. They deliver fast, standard-compliant results with high repeatability.

Our coordinate measuring machines with rotary table or rotary table and counterholder are even more flexible. As a leading supplier in this field, we offer scalable 4-axis systems for the precise measurement of gear teeth and prismatic geometries – ideal for companies with a wide range of testing tasks.





INDUSTRIAL CTS

Industrial computed tomography (CT) has become an indispensable part of modern quality control and product development. As a manufacturer of high-precision industrial CT systems, we offer solutions for a wide range of applications—from rapid CT measurement to high-resolution material structure analysis. Our CT scanners deliver razor-sharp 3D data for complete, non-destructive testing of components, both inside and out.

MOBILE MEASURING SOLUTIONS

Mobile measurement solutions are extremely useful for a wide range of applications, such as quality assurance, reverse engineering, and production monitoring. Mobile measurement systems are particularly advantageous because they are able to perform measurements directly at the production site, saving time and money and increasing efficiency.





PORTAL-MEASURING MACH

PRECISION
that pays off



HINES

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COORDINATE Metrology

“Made by WENZEL”

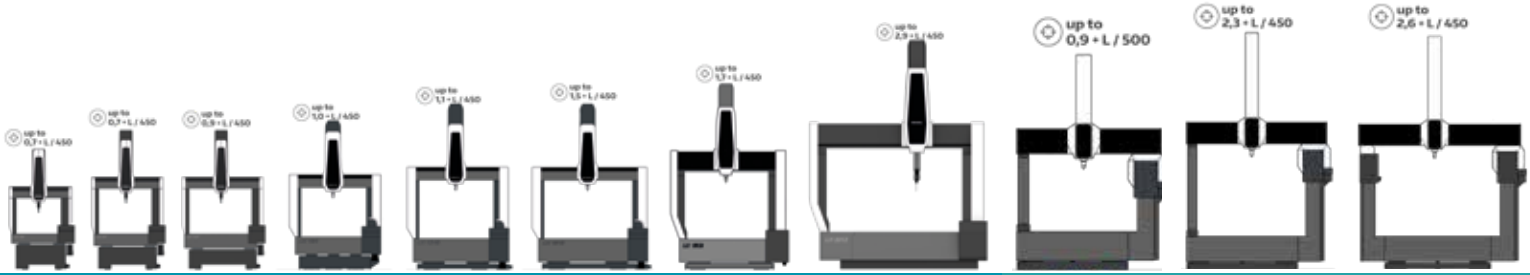


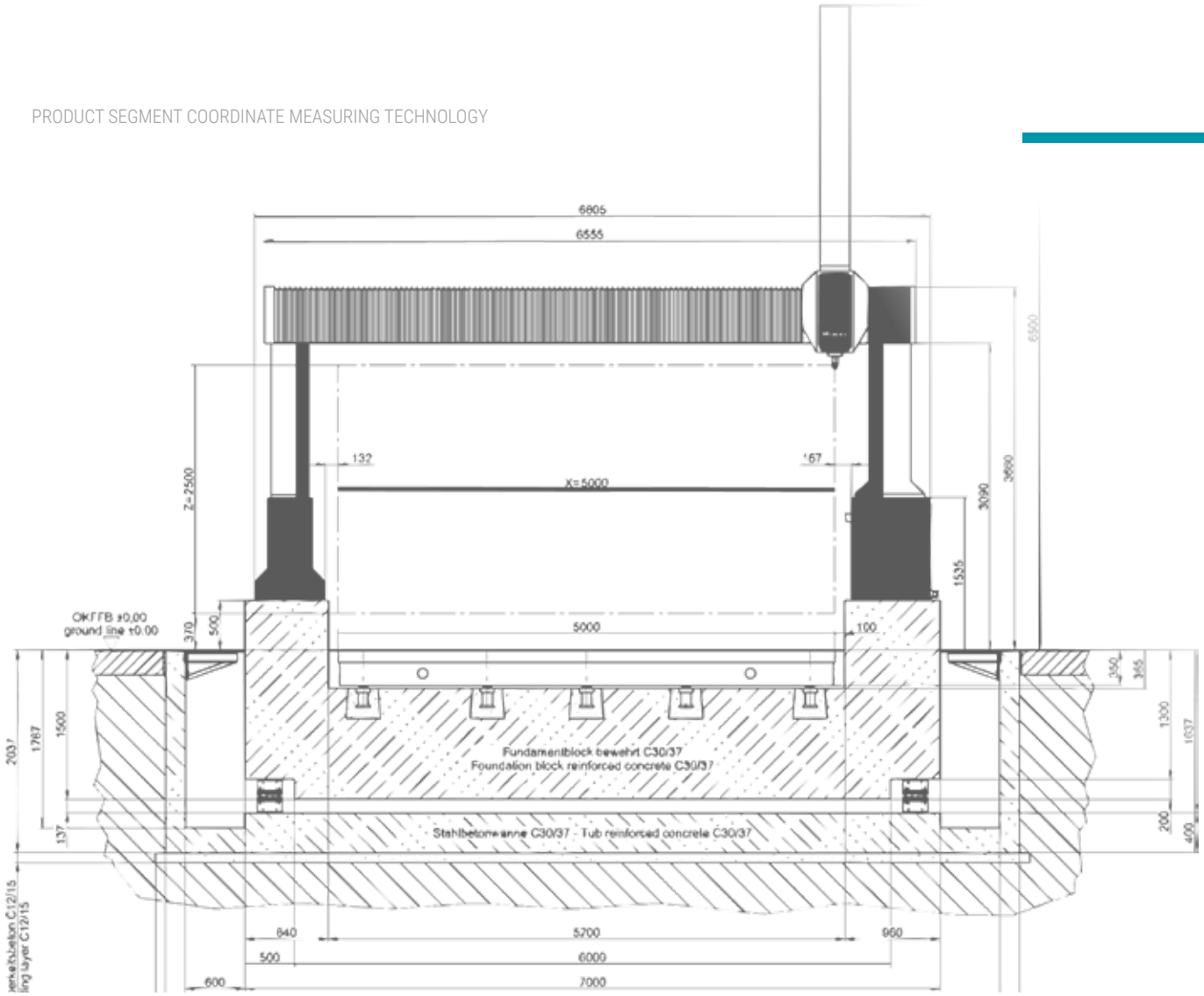
Precision is no coincidence. It is the result of passion, experience, and uncompromising quality standards.
Coordinate measuring technology is more than just the acquisition of geometric data—it is the basis for reliable processes, perfect products, and sustainable success. Every day, our machines help to make the invisible visible: the smallest deviations, the finest tolerances, and crucial details..

Since 1968, the name **WENZEL** has stood for pioneering measurement technology – made in Germany. We developed our first coordinate measuring machine back in **1980**. Today, we are one of the world’s leading suppliers and the largest family-run company in the industry. Our mission: to build machines that not only measure, but also enable reliable decisions.

Our portfolio covers the entire spectrum of coordinate measuring technology—from compact entry-level devices to large-format high-end machines. What drives us? The conviction that quality must be measurable. And that every component deserves the attention it needs to perform its task.

WENZEL not only supplies coordinate measuring machines, but also the certainty of working with precision.

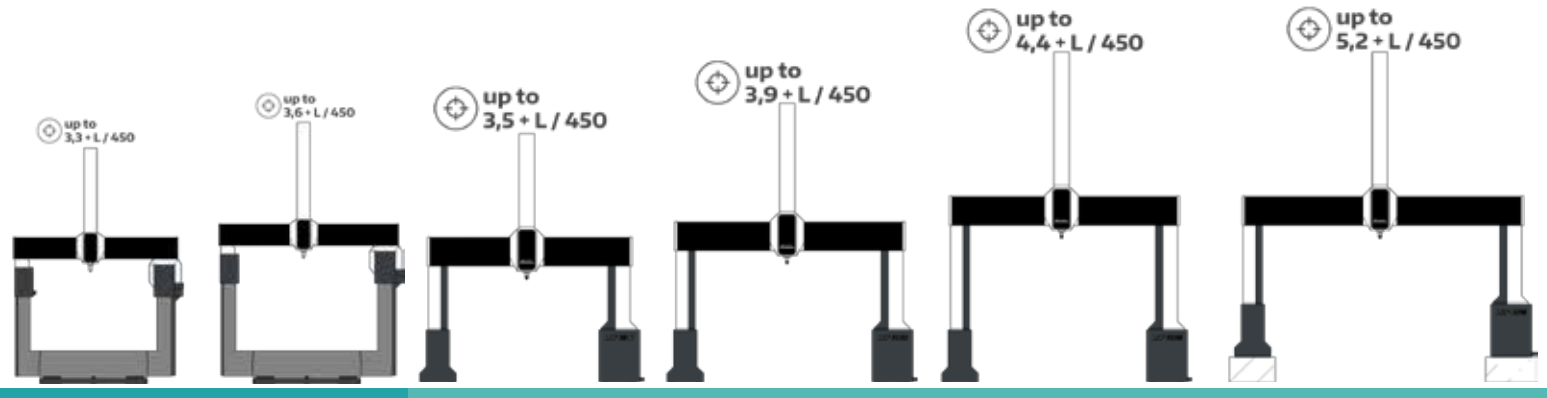




Flexible solutions – from series machines to customized solutions

One of our particular strengths: WENZEL offers an exceptionally wide range of standard sizes for a wide variety of applications. In addition, we develop and manufacture customized special-purpose machines – precisely tailored to individual customer requirements. This combination of series diversity and expertise in special solutions makes us unique in the market.





WENZEL XO Series

The smart entry into coordinate metrology

The coordinate measuring machines in the **XO series** offer the ideal entry into the world of precision measurement technology – well-designed, economical, and uncompromisingly accurate. Their intelligent machine concept focuses on the essentials: high quality, reliable results, and maximum flexibility. Whether in incoming goods, production, or the measuring room, the system impresses with its excellent price-performance ratio and can be adapted to a wide variety of tasks thanks to selectable sensor technology (switching or measuring). As a cost-effective all-rounder, the series is available in two accuracy classes—Standard and Premium—and can thus be tailored to individual requirements.

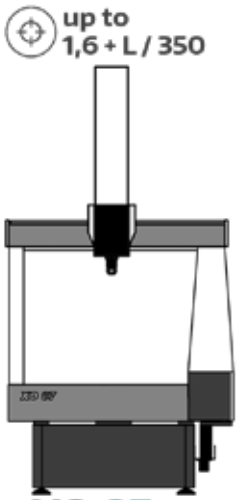


APPLICATION AREAS

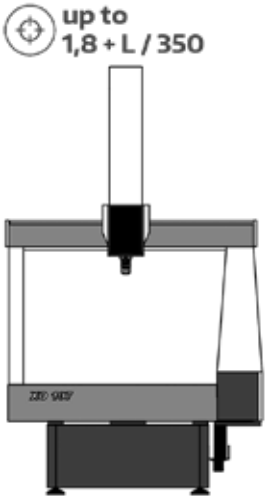
The XO is the flexible all-rounder for all measuring tasks – from standard geometries to free-form surfaces. Whether in incoming goods, production, or final inspection: the XO reliably meets all key requirements. Suitable for individual parts as well as series testing – universally applicable and easy to use.



XO 55
500 x 500/700/1000 x 500



XO 87
800 x 1000/1500/2000 x 700



XO 107
1000 x 1500/2000 x 700



FEATURES

Cost-effective entry
Excellent value for money | High WENZEL quality

High mechanical precision
Granite base | Hand-lapped base plate (DIN 876/0) | Air bearing guide elements in all axes

Low operating costs
Low air consumption | RENISHAW sensors | Reliable and affordable spare parts

High flexibility
Folded bellows covers to protect against contamination | Data compatibility with other WENZEL systems | Automation solutions

Wide range of sensor options
Touch-trigger sensor systems | 3-axis scanning | Optical sensors

MEASURING RANGE & MEASURING ACCURACY

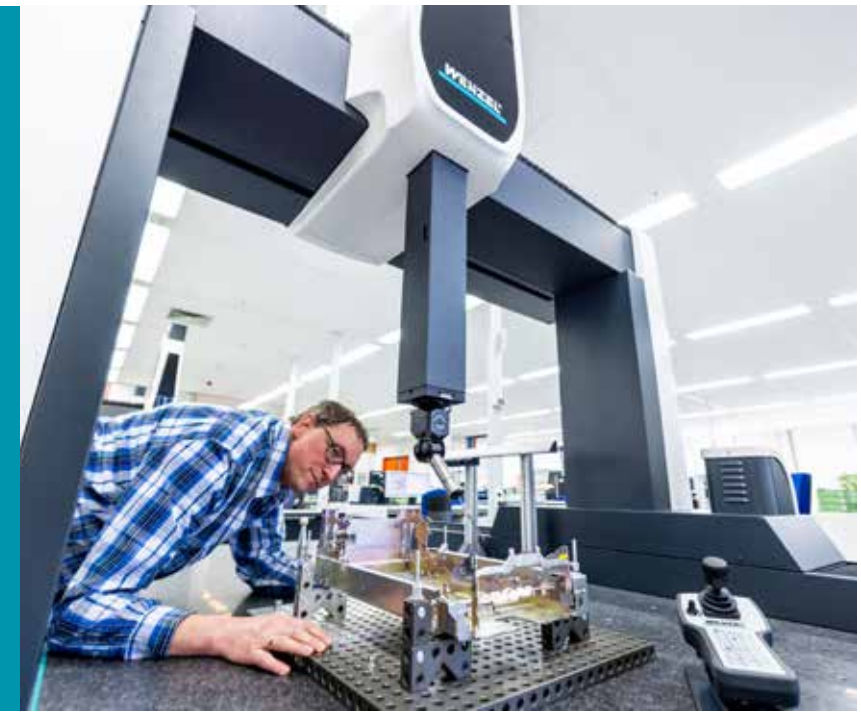
Type	Measuring range X x Y x Z (mm)	Volumetric length measuring uncertainty $E_{L, MPE}$ (µm) Premium
XO 55	500 x 500/700/1000 x 500	up to 1,5 + L/ 350
XO 87	800 x 1000/1500/2000 x 700	up to 1,6 + L/ 350
XO 107	1000 x 1500/2000 x 700	up to 1,8 + L / 350

The volumetric length measuring uncertainty $E_{L, MPE}$ is only valid with the respective touch probe system. For more information, please refer to the technical data sheets. Other Y lengths available on request. Subject to changes in design and scope of delivery, as well as technical developments.

WENZEL LH Series

The premium class “Made in Germany”

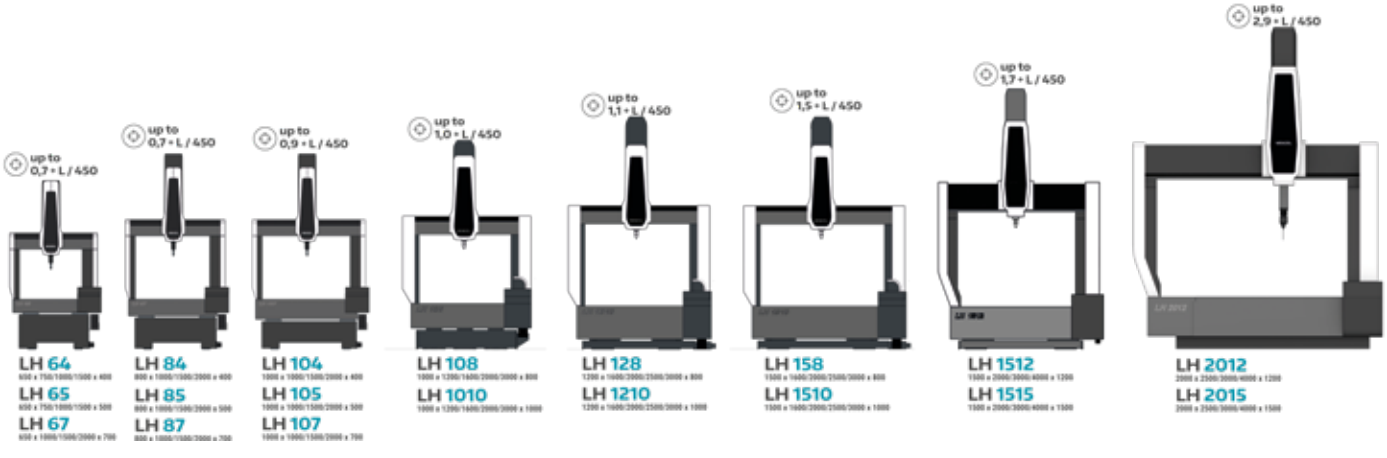
With the **LH series**, you get a highly functional, powerful, and flexible coordinate measuring machine—reliable in operation, intuitive to use, and versatile in application. The latest generation of air-bearing gantry measuring machines combine maximum precision **(MPE [µm] = 0.7 + L/450)**, efficiency, and impressive durability – with an average service life of over 20 years. For even greater investment security, WENZEL offers an **accuracy guarantee of up to 12 years** on all newly purchased LH series devices, provided that the relevant conditions are met. With its proven WENZEL design, the LH impresses with its mechanical precision, excellent ergonomics, and increased dynamics. Available in Standard, Premium, and Premium Select accuracy classes, the LH offers the right solution for every requirement.



APPLICATION AREAS

The LH is the ideal solution for applications requiring high accuracy and high measurement throughput. It is used in almost all industrial sectors – from the automotive industry to aircraft and mechanical engineering to plastics and medical technology. Thanks to its modular design, the LH can be optimally adapted to individual requirements and grows flexibly with the tasks of its users. For particularly long workpieces, the Y-axis can be extended to suit customer requirements, enabling even complex measuring tasks to be performed reliably and economically. Complemented by modern sensor technology and powerful software integration, the LH series opens up a wide range of possible applications – from high-precision individual measurements to fully automated series testing.

We offer a wide range of portal sizes and machine lengths—tailored to different component sizes and space requirements. The models shown represent our standard sizes; we also produce custom sizes for special requirements.



FEATURES

Highest mechanical precision
Granite in all axes I Handcrafted I High mechanical precision

Low operating costs
Low air consumption I Fast and reliable spare parts availability

High flexibility
Customized measurement volume I Data compatibility I Suitable for automation

Wide range of sensor options
Switching sensor systems | 3- or 5-axis scanning | Optical sensors

Ergonomic design
Easy to use | Easy to maintain | Aesthetic design



MEASURING RANGE & MEASURING ACCURACY

Type	Measuring range X axis (mm)	Measuring range Y axis (mm)**	Measuring range Z axis (mm)	Volumetric length measuring uncertainty $E_{L,\,MPE}$ (µm)*
LH - S LH 64, LH 65, LH 67 LH 84, LH 85, LH 87 LH 104, LH 105, LH 107	650	650 up to 2000	400, 500, 700	up to 0,7 + L / 450
	800		400, 500, 700	up to 0,7 + L / 450
	1000		400, 500, 700	up to 0,9 + L / 450
LH - M LH 108, LH 1010 LH 128, 1210 LH 158, LH 1510	1000	1200 up to 3500	800, 1000	up to 1,0 + L / 450
	1200		800, 1000	up to 1,1 + L / 450
	1500		800, 1000	up to 1,5 + L / 450
LH 1512	1500	1500 up to 4000	1200	up to 1,7 + L / 450
LH 1515	1500	1500 up to 4000	1500	up to 2,3 + L / 450
LH 2012**	2000	2000 up to 4000	1200	up to 2,9 + L / 400
LH 2015**	2000	2000 up to 4000	1500	up to 3,2 + L / 400

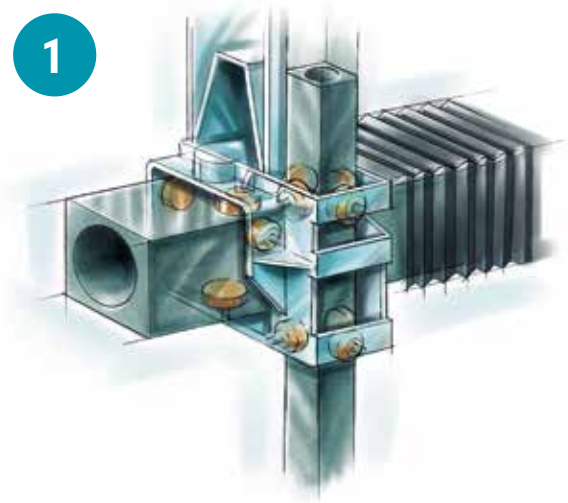
*Volumetric length measuring uncertainty $E_{L,\,MPE}$ is only valid in the respective accuracy class and with a defined probing system. For more information, please refer to the technical data sheets.
** Only available in Standard and Premium measurement accuracy.
*** Other Y lengths available on request.
Subject to changes in design and scope of delivery, as well as technical developments

LH-FEATURES

Precision in detail

- Base plate, crossbeam, and quill made of dark natural hard stone, resulting in identical thermal behavior on all axes
- Y-axis guide system integrated directly into the base plate
- Weight compensation of the Z-quill by means of a controlled pneumatic cylinder
- Available with active vibration damping
- Air bearing guide elements in all axes for wear-free, smooth operation
- Usable surface area of the base plate machined in accordance with DIN 876/0
- Guidance of the X and Y axes with bellows cover
- CNC control of all axes
- Compact size
- Good accessibility for maintenance

1



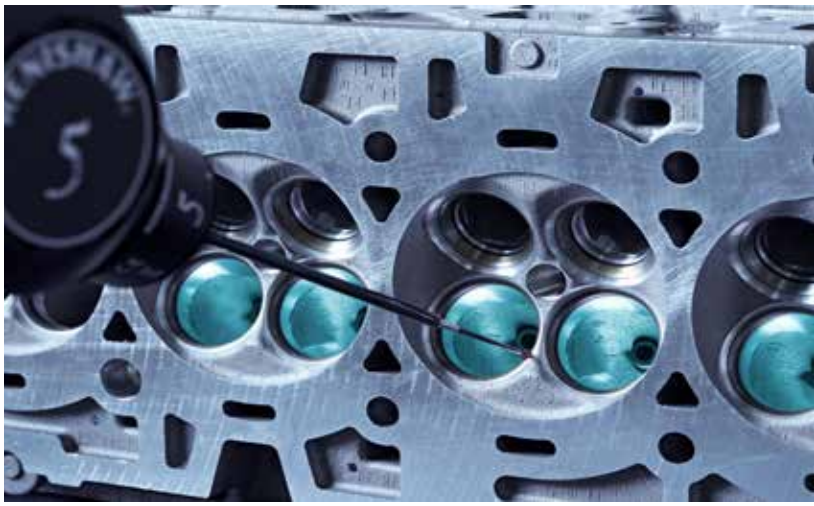
FEM/CAD optimized components guarantee maximum rigidity with reduced moving masses.

Symmetrical guide profiles with reduced wall thicknesses: ideal for predictable expansion behavior at varying operating temperatures. Bellows protect the crossbar and the Y-guide against environmental influences.

3

REVO Option!

The Renishaw REVO measuring head combined with a WENZEL CMM stands for speed, quality, and reliability!





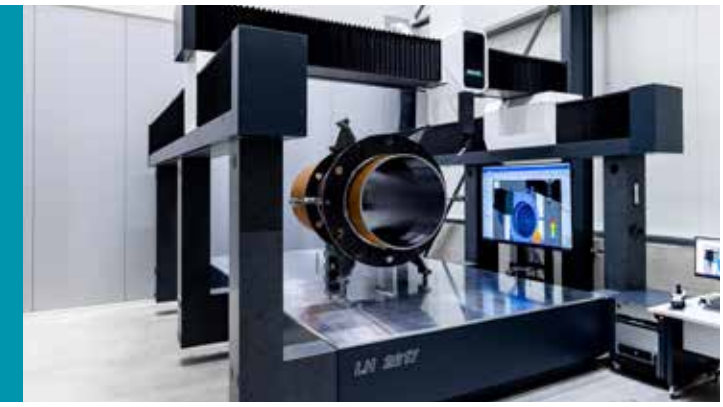
Preloaded air bearing guides in the Y-axis with high-precision lapped guide surfaces integrated into the granite base plate: a guarantee for excellent long-term stability.

CONTACT

WENZEL LH GANTRY Series

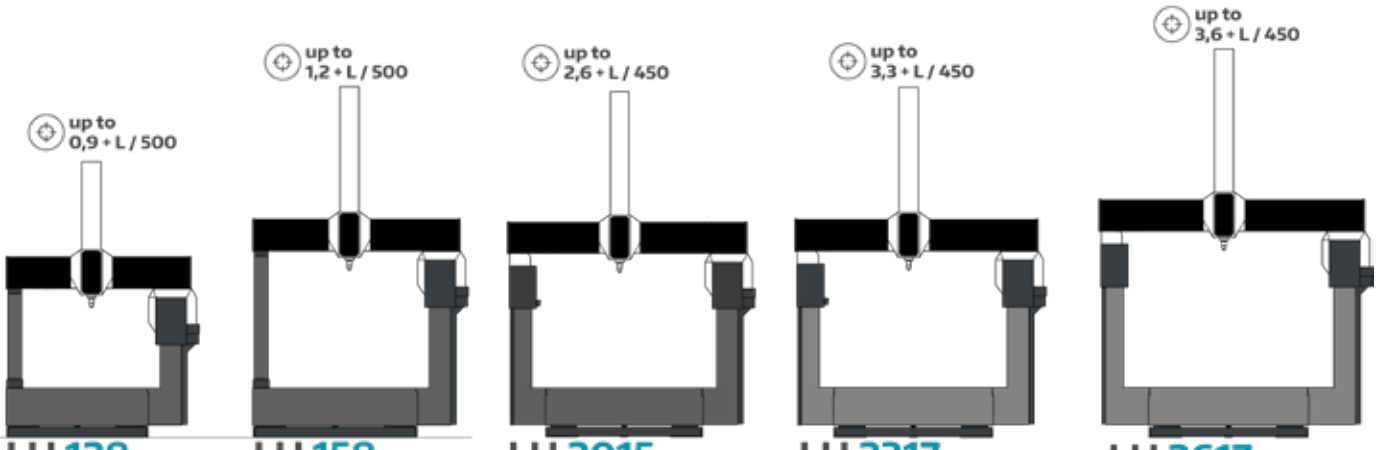
Precision for big tasks

The **LH Gantry** combines all the advantages and applications of the LH series and was specially developed for the precise inspection of large-volume and heavy workpieces. Raised guides in the Y-axis ensure maximum stability and rigidity – even during dynamic movements. The machine body forms a self-stable, homogeneous unit that can be optionally equipped with active vibration damping – without the need for a separate foundation. Thermal influences on components and measuring devices can be specifically compensated for by optional automatic temperature compensation. For particularly large rotationally symmetrical components, the optional rotary table offers additional flexibility and precision during measurement. The LH Gantry is available in Standard, Premium, and Premium Select accuracy classes and offers a powerful solution for demanding large-format measurement tasks.



APPLICATION AREAS

Stable, reliable, and dynamic—LH Gantry portal measuring machines are universal and flexible for a wide range of applications. Typical areas of application include the measurement of large engines, industrial gearboxes, and heavy machinery components. The LH Gantry also meets the growing demands of e-mobility: it is ideal for the precise measurement of battery boxes – both for electric cars and large-format electric commercial vehicles.



LH 128
1200 x up to 6000 x 800

LH 1210
1200 x up to 6000 x 1000

LH 1212
1200 x up to 6000 x 1200

LH 1215
1200 x up to 6000 x 1500

LH 1217
1200 x up to 6000 x 1700

LH 158
1500 x up to 6000 x 800

LH 1510
1500 x up to 6000 x 1000

LH 1512
1500 x up to 6000 x 1200

LH 1515
1500 x up to 6000 x 1500

LH 1517
1500 x up to 6000 x 1700

LH 2015
2000 x 3000/4000/5000 x 1500

LH 2017
2000 x 3000/4000/5000 x 1700

LH 2317
2300 x 4000/5000/6000 x 1750

LH 2617
2600 x 4000/5000/6000 x 1750

FEATURES

Highest mechanical precision
Granite in all axes I Handcrafted I Unique mechanical precision

Low operating costs
Low air consumption I Fast and reliable spare parts availability

High flexibility
Customized measurement volume I Data compatibility I Suitable for automation

Wide range of sensor options
Switching sensor systems | 3- or 5-axis scanning | Optical sensors

Ergonomic design
Easy to use | Easy to maintain | Aesthetic design



MEASURING RANGE & MEASURING ACCURACY

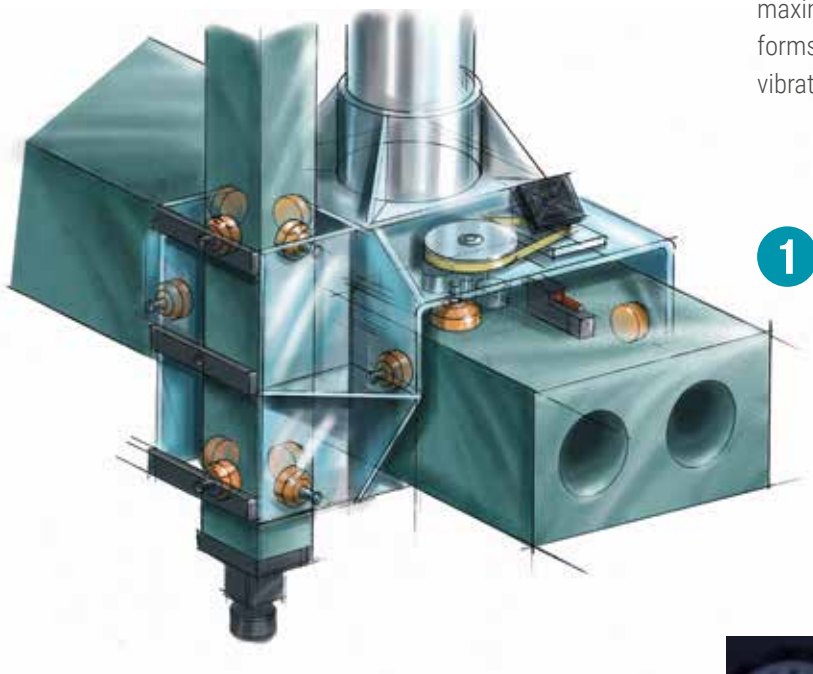
Type	Measuring range X x Y x Z (mm)	Volumetric length measuring uncertainty $E_{L, MPE}$ (µm) Premium
LH 128	1200 x 2000/2500/3000/4000/5000/6000 x 800	up to 0,9 + L / 500
LH 1210	1200 x 2000/2500/3000/4000/5000/6000 x 1000	up to 1,1 + L / 500
LH 1212	1200 x 2000/2500/3000/4000/5000/6000 x 1200	up to 1,3 + L / 500
LH 1215	1200 x 2000/2500/3000/4000/5000/6000 x 1500	up to 1,7 + L / 500
LH 1217	1200 x 2000/2500/3000/4000/5000/6000 x 1700	up to 2,1 + L / 500
LH 158	1500 x 2000/2500/3000/4000/5000/6000 x 800	up to 1,2 + L / 500
LH 1510	1500 x 2000/2500/3000/4000/5000/6000 x 1000	up to 1,4 + L / 500
LH 1512	1500 x 2000/2500/3000/4000/5000/6000 x 1200	up to 1,6 + L / 450
LH 1515	1500 x 2000/2500/3000/4000/5000/6000 x 1500	up to 2,0 + L / 450
LH 1517	1500 x 2000/2500/3000/4000/5000/6000 x 1700	up to 2,4 + L / 450
LH 2015	2000 x 3000/4000/5000 x 1500	up to 2,6 + L / 450
LH 2017	2000 x 3000/4000/5000 x 1700	up to 3,0 + L / 450
LH 2315	2300 x 4000/5000/6000 x 1500	up to 2,9 + L / 450
LH 2317	2300 x 4000/5000/6000 x 1750	up to 3,3 + L / 450
LH 2615	2600 x 4000/5000/6000 x 1500	up to 3,2 + L / 450
LH 2617	2600 x 4000/5000/6000 x 1750	up to 3,6 + L / 450

*Volumetric length measuring uncertainty $E_{L, MPE}$ is only valid in the respective accuracy class and with a defined probing system. For more information, please refer to the technical data sheets. Subject to changes in design and scope of delivery, as well as technical developments

LH GANTRY-FEATURES

Guidance from above for stable dynamics

Air bearing guide elements in all axes ensure wear-free operation and optimum guide properties in the **LH Gantry**. The same thermal behavior of all axes is guaranteed by a base plate, crossbeam, and quill made of dark natural hard stone. The rigid structure in conjunction with a double drive of the Y-axes also guarantees maximum dynamics and stability. Overall, the machine body forms a self-stable, homogeneous unit with integrated active vibration damping, which does not require a separate foundation.



1

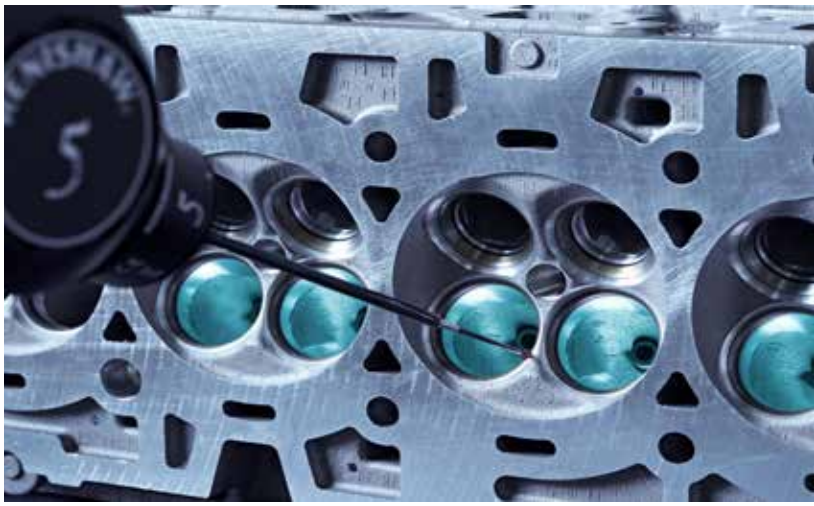
Symmetry all around

- Optimized air bearing with a “broad base”
- Perfection in detail
- Serviceability
- Thermal microencapsulation

3

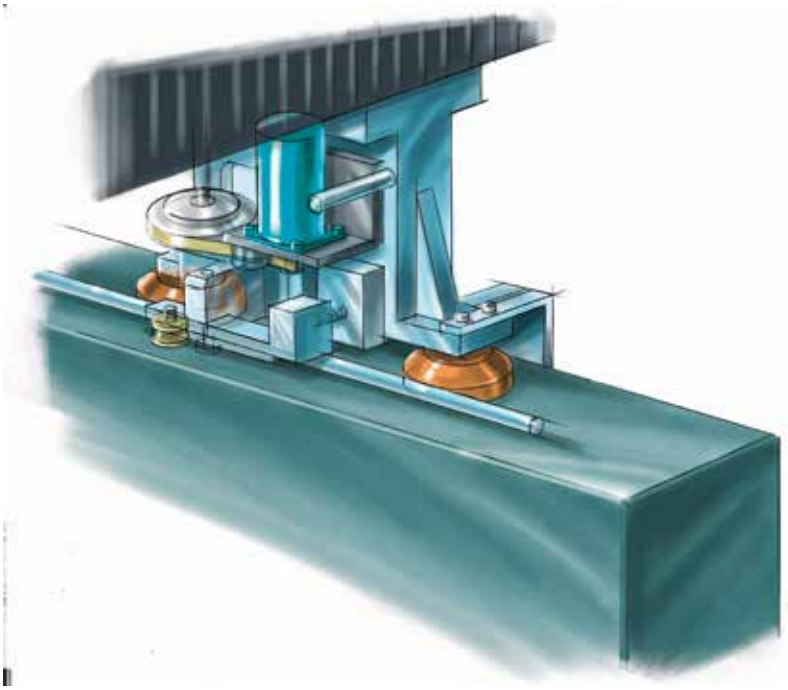
REVO Option!

The Renishaw REVO measuring head combined with a WENZEL CMM stands for speed, quality, and reliability!



2 **Dual drive in the Y-axis**

- High dynamics



CONTACT

WENZEL LHF Series

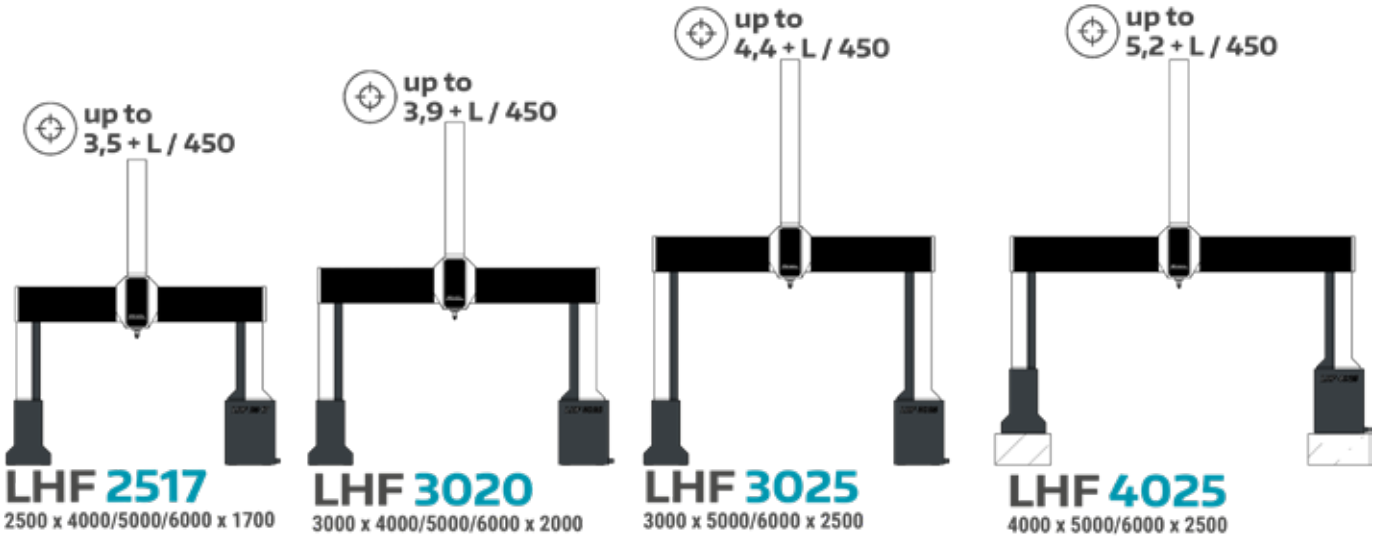
Large measuring range & Excellent accessibility

The WENZEL **LHF series** stands for powerful precision measurement technology in large format. The ground-level portal design allows particularly easy access to the entire measuring range, even with very large and complex workpieces. Free of disruptive foundation structures, the LHF offers maximum freedom of movement and a consistently barrier-free measuring process. With a measuring range of up to 12 meters on the Y-axis and a dual drive for maximum dynamics, the coordinate measuring machine is ideal for demanding tasks in industrial environments. The air-bearing guide on the crossbeam ensures smooth and precise movements over the entire measuring distance. Optional functions such as automatic temperature compensation enable stable measurement results even under changing environmental conditions. The LHF series is available in Standard, Premium, and Premium Select versions and can be customized to meet individual requirements—for maximum precision in large formats.



APPLICATION AREAS

Whether in shipbuilding, commercial vehicle bodies, or mold and tool making, LHF demonstrates its strengths wherever large dimensions and high precision come together. It is the first choice for complex workpieces that require extensive testing and is valued by both innovative medium-sized companies and leading international industrial groups. Typical areas of application include car body construction, aviation, the energy sector, and the precision manufacturing of particularly large-volume components.





FEATURES

Highest mechanical precision
Temperature-stable structure | Handcrafted | Air bearing guide elements in all axes

Low operating costs
Low air consumption | Reliable and inexpensive replacement parts | Low recalibration effort

High flexibility
Customized measuring volume | Loading systems | Automation solutions

Wide range of sensor options
Touch trigger sensor systems | 3- or 5-axis scanning | Optical sensors

Ergonomic design
Easy to use | Easy to maintain | Easy to loadn

MEASURING RANGE & MEASURING ACCURACY

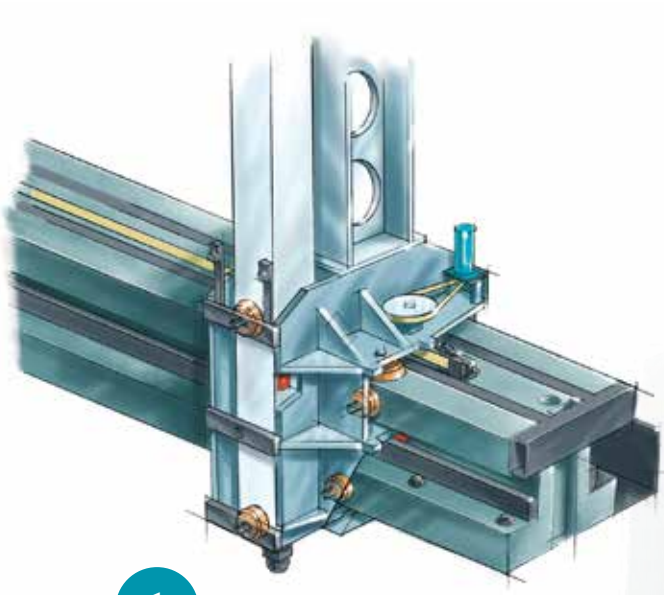
Type	Measuring range X x Y x Z (mm)	Volumetric length measuring uncertainty $E_{L, MPE}$ (µm) Premium
LHF2517	2500 x 4000/5000/6000 x 1700	up to 3,5 + L/ 450
LHF 3020	3000 x 4000/5000/6000 x 2000	up to 4,6 + L/ 450
LHF 3025	3000 x 5000/6000 x 2500	up to 5,6 + L / 450
LHF 4025	4000 x 5000/6000 x 2500	up to 6,6 + L / 450
LHF 4027	4000 x 5000/6000 x 2700	up to 7,1 + L / 450
LHF 5025	5000 x 5000/6000 x 2500	up to 7,6 + L / 450

*Volumetric length measuring uncertainty $_{EL, MPE}$ is only valid in the respective accuracy class and with a defined probing system. For more information, please refer to the technical data sheets. Subject to changes in design and scope of delivery, as well as technical developments

LHF-FEATURES

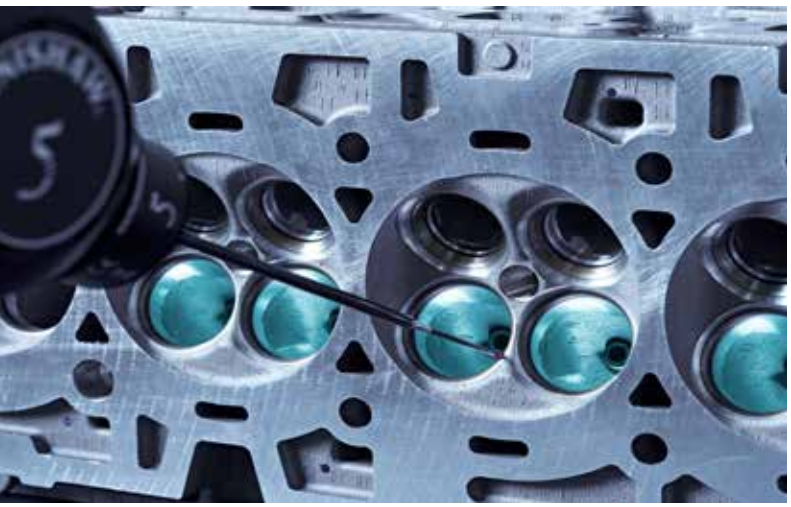
The **LHF** impresses with its air bearing on the Y-axis guide bar, which ensures particularly precise and smooth movements. Its ground-level design allows barrier-free access to the generous measuring range and guarantees maximum freedom of movement—even with large workpieces. A powerful dual drive in the Y-axis gives the machine outstanding dynamics without compromising the stability of the guides.

As with other WENZEL systems, the LHF also uses wear-free air bearing guide elements that are designed for long-term precise operation. The choice of materials is particularly well thought out: the crossbeam and guide beams are made of dark natural hard stone, which ensures that all axes exhibit uniform thermal behavior – for maximum accuracy even with temperature fluctuations.



1

- **Symmetry all around**
- Optimized air bearing with a “broad base”
- Perfection in detail
- Serviceability
- Thermal microencapsulation
- Air bearing guide with optimized double T-shape



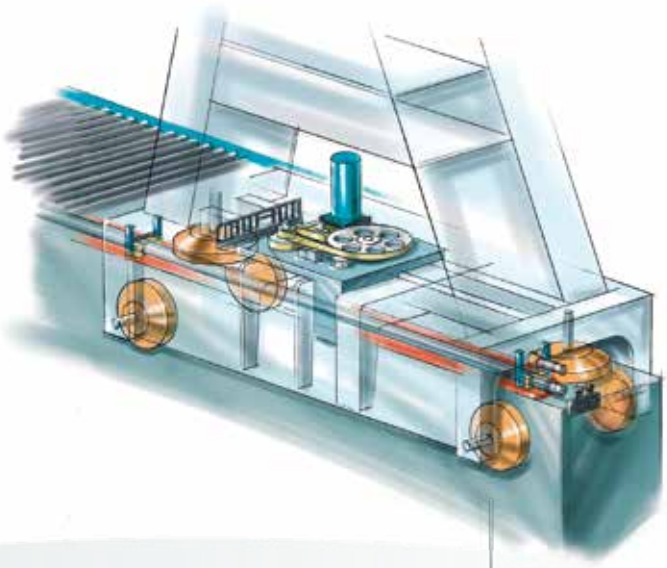
3

REVO Option!

The Renishaw REVO measuring head combined with a WENZEL CMM stands for speed, quality, and reliability!

2 **Dual drive in the Y-axis**

- High dynamics
- Stability of guidance (basis)
- Self-stable guide beams
- Backlash-free friction drive for maximum acceleration/speed



CONTACT



HORIZONTAL ARM MEASURING MACH

BIG, FAST, PRECISE



INES

HORIZONTAL ARM MEASURING MACHINES

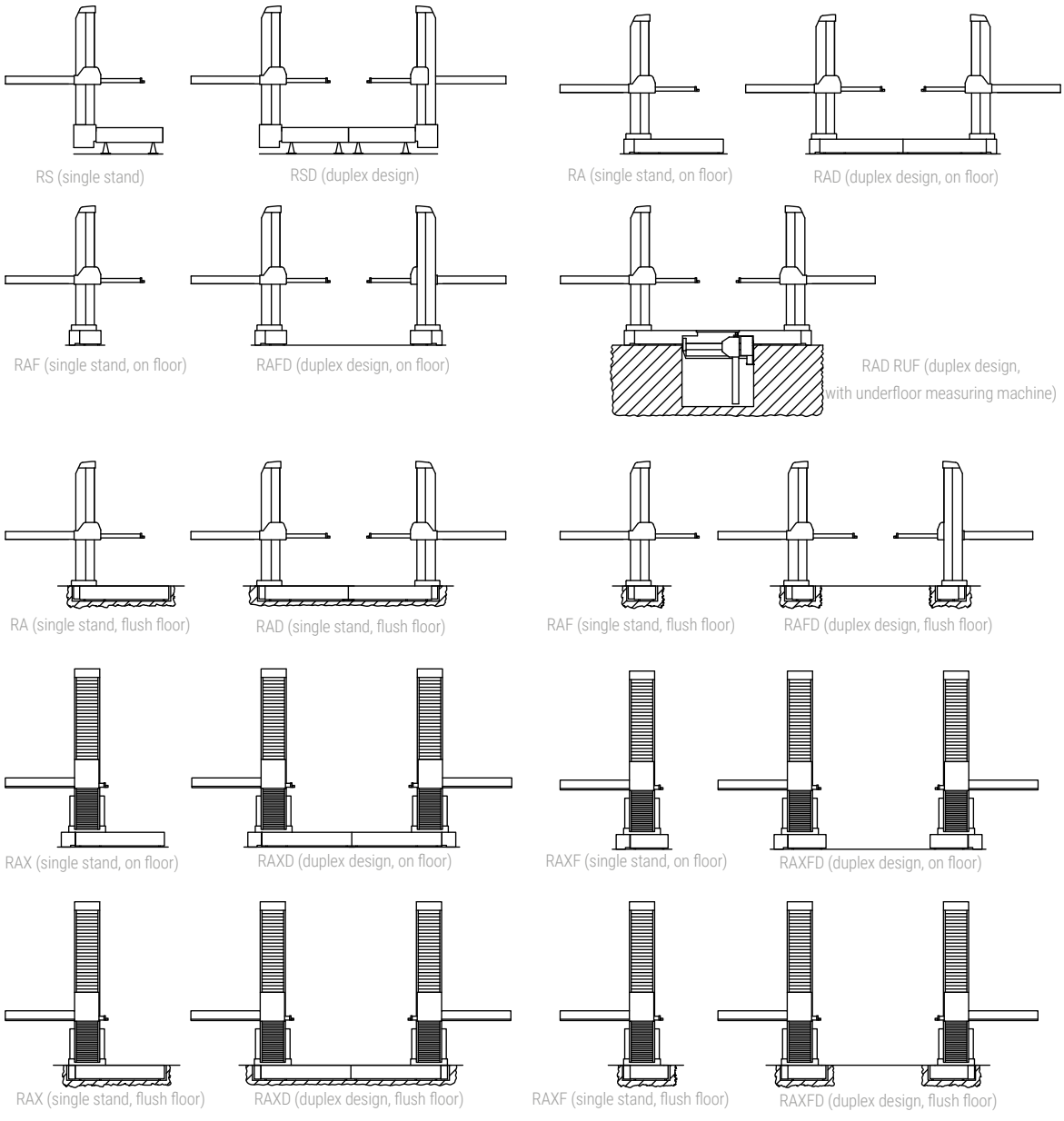
The roller-mounted horizontal arm measuring machines in WENZEL's **R series** were designed for measuring medium-sized to particularly large workpieces. Thanks to their generous measuring volume and the option of individual expansion—e.g., through duplex arrangement or extendable Y-axes—they can be flexibly adapted to a wide variety of measuring requirements.



- The **RS model** (roller-mounted, side-mounted) is a stand-alone measuring device with guide elements mounted on the side of the base plate. Its compact design allows it to be easily integrated into existing room concepts.
- Models **RA** (roller-mounted on base plate) and **RAF** (roller-mounted on guide beam) feature floor-level base plates on which the guide systems are mounted. This design allows for easy loading—even with heavy components or entire vehicles—while ensuring a stable measuring base.
- The **RAX** variant was developed for applications with a particularly large measuring range. It combines a floor-level design with an above-average measuring volume, making it ideal for use in the automotive industry.
- The **RUF** underfloor measuring machine is recommended as a supplement for complex geometries. It also enables precise detection of workpiece features on the underside, thus extending the functional measuring range in the vertical direction.

To extend the Y measuring range, all machines can be supplied in a duplex configuration.

OUR VARIANTS



WENZEL RS Series

Horizontal arm measuring machine for production-related testing tasks

The WENZEL **RS series** impresses with its well-thought-out machine concept: a robust base plate serves as a stable measuring table, and the guide system is mounted on the side. This architecture not only allows for maximum accessibility, but also seamless integration into existing room concepts—without the need for a special foundation.
The RS can be moved to a new location if necessary and offers a high degree of configuration freedom: as a manual or CNC-controlled measuring device, with decouplable drives, as a single, double, or multi-column version. It can be equipped with tactile or optical sensors and is optionally available with active vibration damping. The RS is available in standard and premium accuracy classes for different precision requirements.



APPLICATION AREAS

The RS series is ideal for production-related measurement of individual parts, assemblies, and end products—especially in the automotive industry. It is used for measuring, digitizing, and marking components such as bumpers, seats, dashboards, and welded structures. Entire car bodies or complex fixtures can also be measured reliably and precisely. Thanks to its flexibility, the RS is also suitable for a wide range of applications in supplier and component manufacturing.

Car bodies



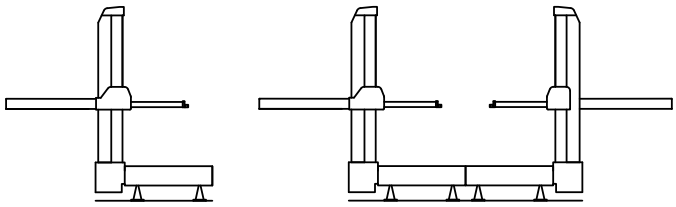
Interieur



Wind turbines







RS (single stand)

RSD (duplex design)

MACHINE PROFILE

Measuring volume X-Axis	Customized
Measuring volume Y-Axis	up to 2100; Duplex up to 4000 mm
Measuring volume Z-Axis	up to 3000 mm
Measurement uncertainty	$E_{L,\,MPE}$ up to 15+L/45 ≤ 50 (µm)*

*Depending on the machine model (Premium, Standard) according to current technical data sheets

FEATURES

Easy to maintain
Original manufacturer service | Optimal accessibility | Minimal downtime

Long service life
Machine design with wear-resistant and optimized components | Investment protection through upgradeability and compatibility

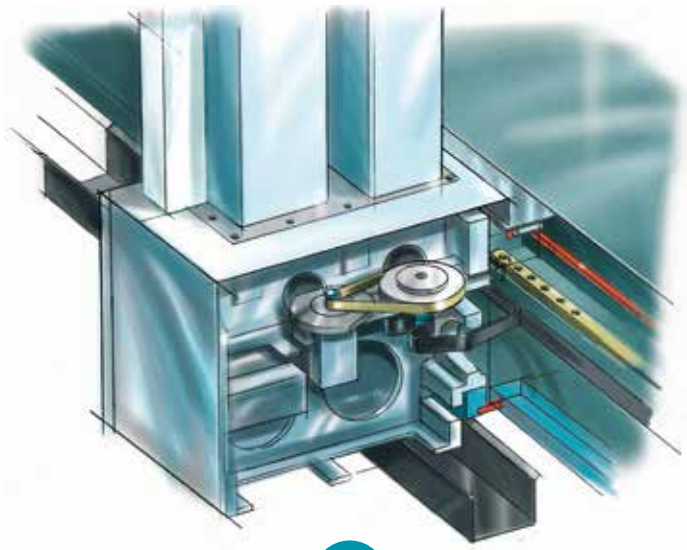
High flexibility
Simple and flexible integration into existing room and building concepts | Adaptive to changes in rooms, buildings, and processes

Wide range of applications
Ergonomic working height also suitable for small parts | Production-accompanying measurement

The choice is yours
Base plate available in cast iron or granite | Optional active vibration damping | Different operating modes

RS-FEATURES

- Base plate made of cast iron as standard, optionally made of natural hard stone for small sizes, optionally with vibration damping
- Surface of the base plate machined in accordance with DIN 876/2 as a reference surface for the measured object
- Linear guides in the X-axis and precision roller bearings in the Y- and Z-axes
- Carbon fiber Y-arm for high rigidity and dynamics
- Measuring system protected against contamination and damage
- Smooth-running, rail-guided weight compensation in the Z-axis for safe and fatigue-free manual work
- Cover on the Y-arm for safety and protection against dirt and damage
- Ergonomic working height and four-sided accessibility to the workpiece
- Manual drive using ergonomic handwheels with brakes on each axis, motorized/CNC, or combined with disconnectable motors



2

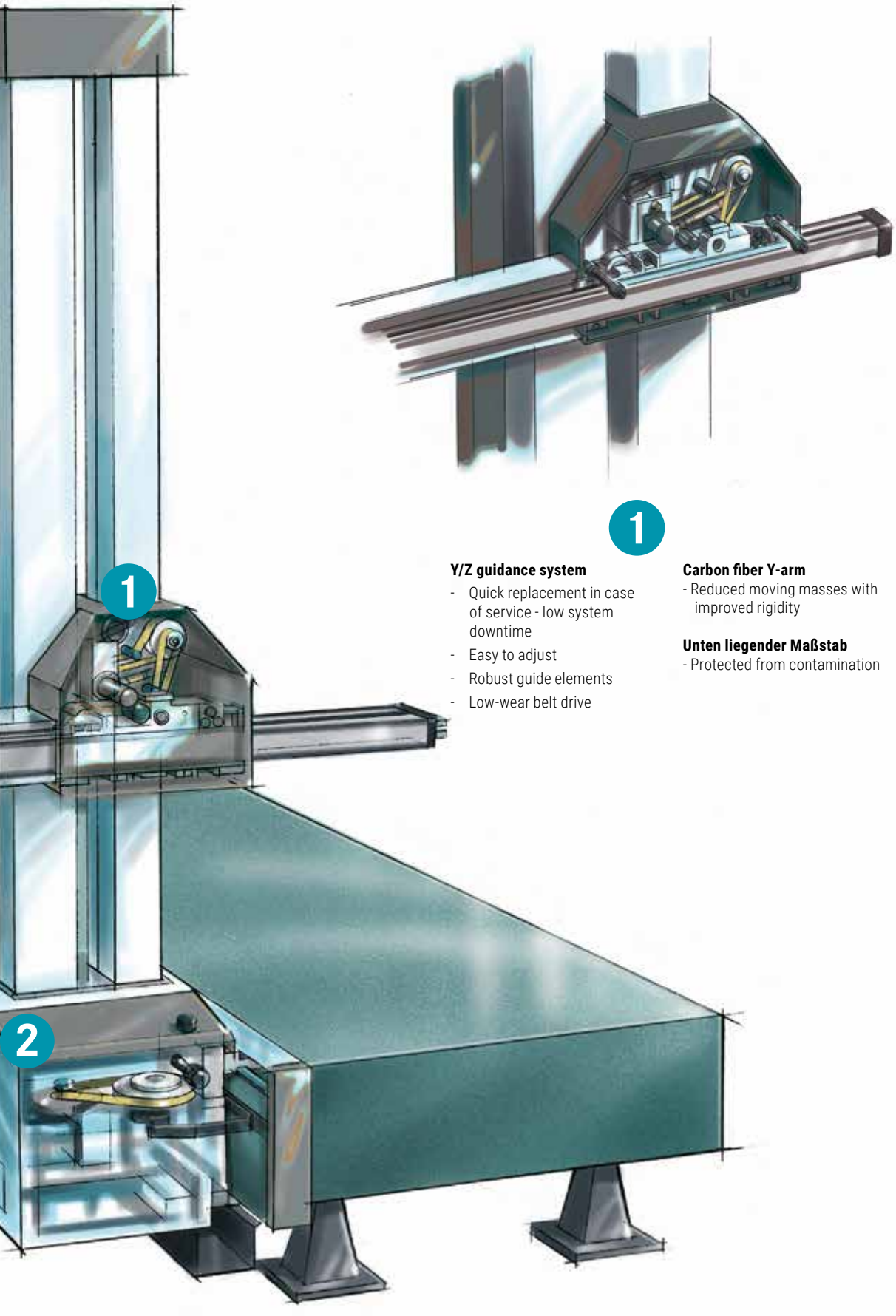
X guidance system
- Development using state-of-the-art FEM calculation methods
- Torsion-resistant X-carriage
- Dirt and dust-protected measuring system

Drive unit
- Long length timing belt drive, low maintenance
- Ergonomically arranged controls in manual mode – stress-free working at all times

Pneumatically decouplable drives
- No harmful heat generation

Encapsulated linear guides
- High guidance accuracy
- Low sensitivity to dirt
- Long service life
- Low maintenance





1

Y/Z guidance system
- Quick replacement in case of service - low system downtime
- Easy to adjust
- Robust guide elements
- Low-wear belt drive

Carbon fiber Y-arm
- Reduced moving masses with improved rigidity

Unten liegender Maßstab
- Protected from contamination

CONTACT

WENZEL RA Series

Horizontal arm measurement technology for large workpieces

The WENZEL **RA series** features a floor-level base plate with an integrated guide system. This design makes loading particularly easy—even with large, heavy, or difficult-to-handle workpieces such as entire vehicle bodies. Whether in single operation or as a duplex or multi-stand system, the RA delivers precise, reliable, and fast measurement results – even in combination with an integrated under-floor measuring device. The coordinate measuring machine is available in a wide range of variants – as a manual or CNC-controlled system, optionally with decouplable drives. Both tactile and optical sensors can be easily integrated. The RA impresses with its high adaptability to different production environments and offers excellent accessibility for components of all sizes. Available in standard and premium accuracy classes, the RA covers a wide range of applications – from rapid quality control to detailed analysis.



APPLICATION AREAS

The RA series is used worldwide—both as a single machine and in complex multi-column systems. It is successfully used in vehicle construction, plant engineering, and by manufacturers of construction and agricultural machinery. Typical tasks include the precise measurement, digitization, and marking of individual parts, assemblies, or complete car bodies—but also of fixtures and functional components in series and prototype production.

Automotive industry

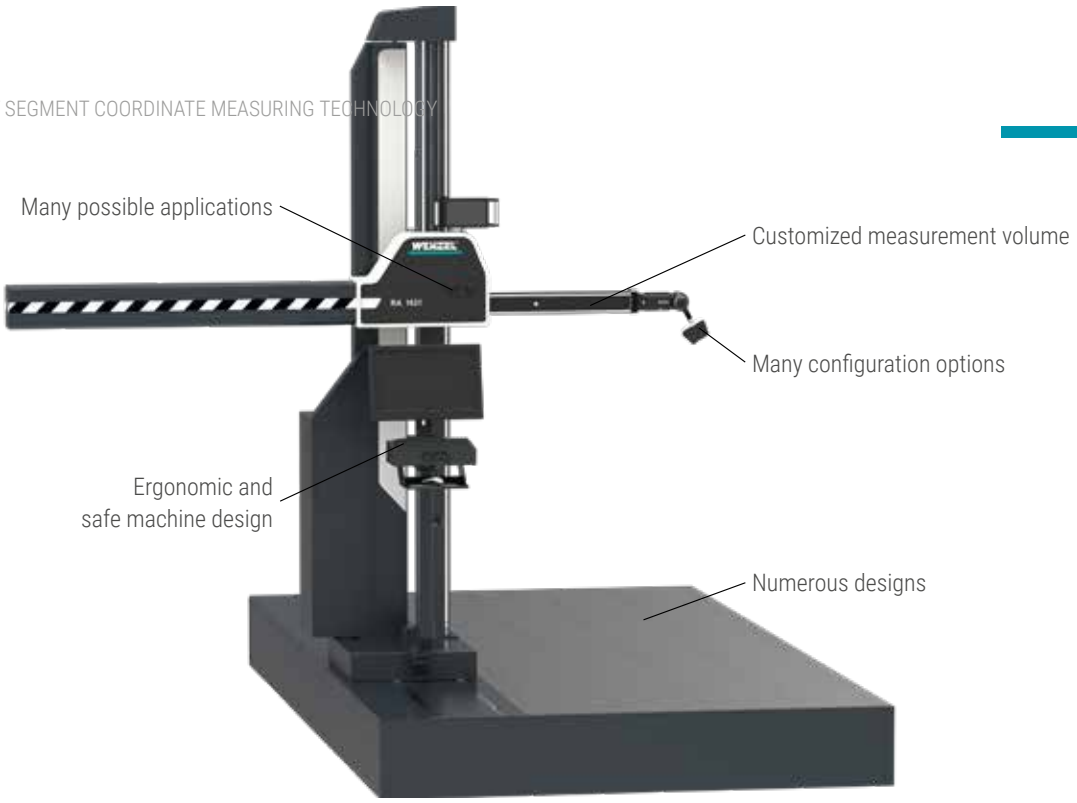


Railway industry



Construction equipment

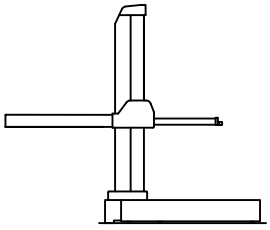


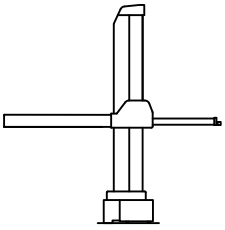


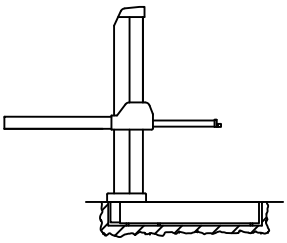
MACHINE PROFILE

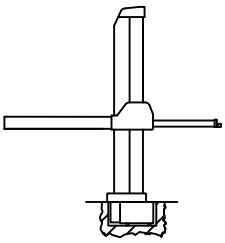
Measuring volume X-Axis	**Customized**
Measuring volume Y-Axis	**up to 2100; Duplex up to 4000 mm**
Measuring volume Z-Axis	**up to 3000 mm**
Measurement uncertainty	**$E_{L,MPE}$ up to 15+L/45 ≤ 50 (µm)***

*Depending on the machine model (Premium, Standard)
according to current technical data sheets


RA (single, on floor)


RAF (single, on floor)


RA (single, flush floor)


RAF (single, flush floor)

Cantilever machine, also available as a duplex or multi-stand system.

FEATURES

Best accessibility
Easy loading, positioning, and accessibility of workpieces | Floor-level and trip-free protected guide systems

High reliability
Technology proven over many years, even in tough conditions | High availability | Economical operation | Long service life

High flexibility
Modular design | Various system concepts possible | Duplex use possible

Accurate results
Friction-locked power transmission | Combined recirculating ball and roller guide technology | Optimized ratio of movement and precision

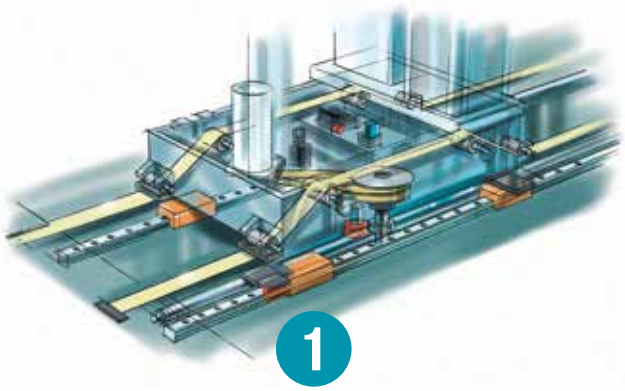
Many years of project expertise
Consulting experience starting with plant planning | Design of measuring rooms and foundations | Definition and implementation of efficient measuring processes

RA-FEATURES

Precision in detail

- Base plate of the RA or guide beam of the RAF made of cast iron, flush with the floor as standard, for flush access to the measuring volume and workpiece, optionally raised
- Guide system and transition to base plate covered without trip hazards or gaps, walkable and driveable, guide groove protected with stainless steel strips
- Surface of the base plate machined in accordance with DIN 876/2 as a reference surface for the measured object
- Linear guides in the X-axis and precision roller bearings in the Y- and Z-axes
- Carbon fiber Y-arm for high rigidity and dynamics
- Measuring system protected against contamination and damage
- Smooth-running, rail-guided weight compensation in the Z-axis for safe and fatigue-free manual work
- Cap on the Y-arm for safety and protection against dirt & damage
- Manual drive using ergonomic handwheels with brakes on each axis, motorized/CNC or combined with disconnectable motors





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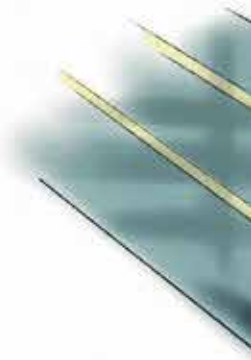
X guidance system
- Development using state-of-the-art FEM calculation methods
- Torsion-resistant X-carriage
- Dirt and dust-protected measuring system

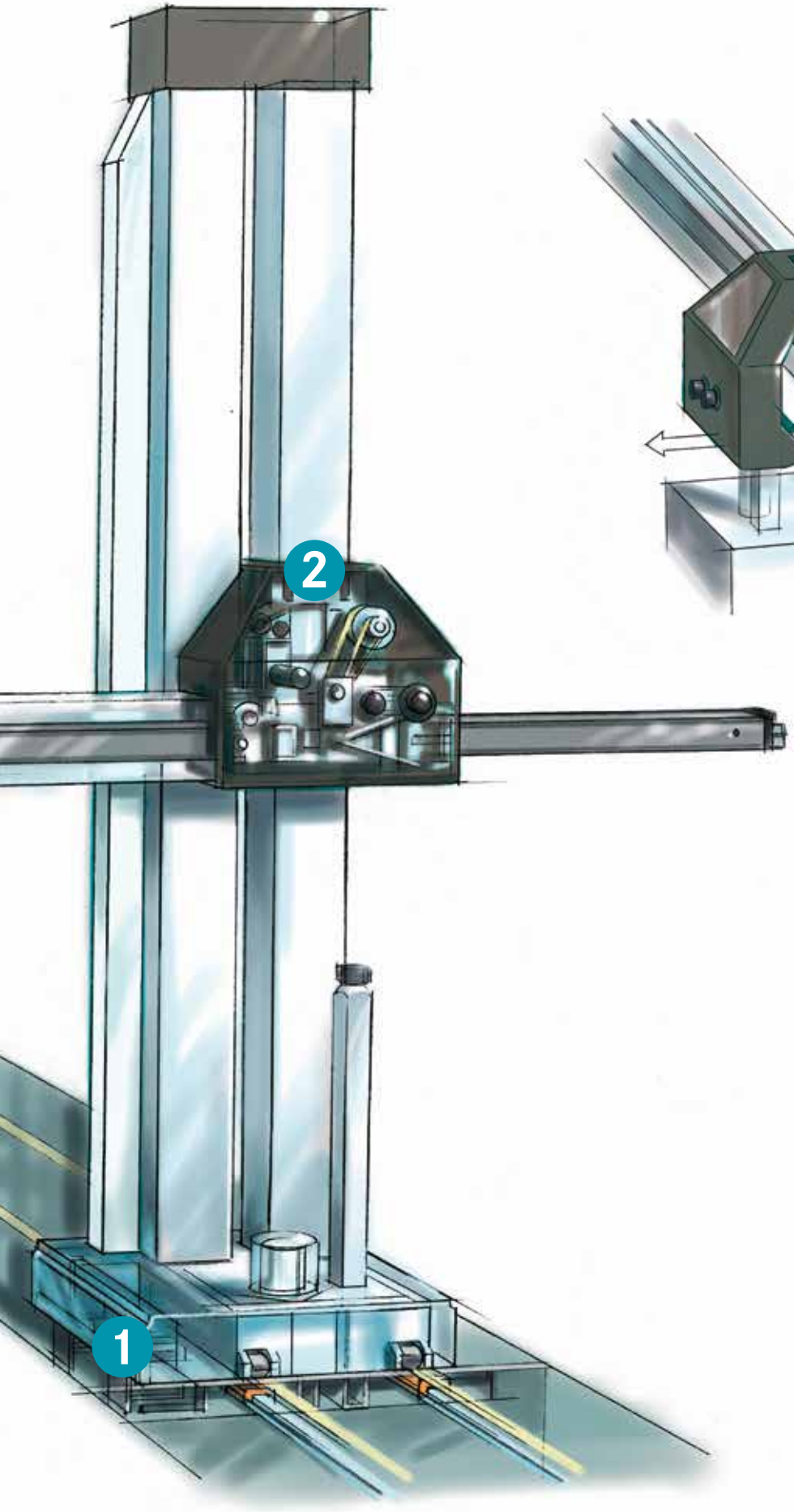
Drive unit
- Long length timing belt drive, low maintenance
- Ergonomically arranged controls in manual mode – stress-free working at all times

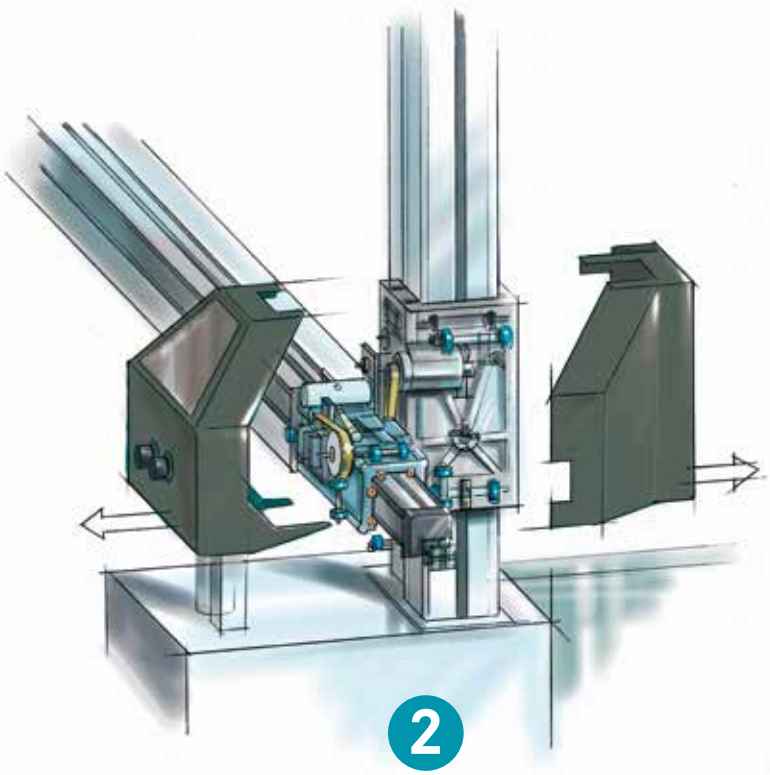
Pneumatically decouplable drives
- No harmful heat generation

Encapsulated linear guides
- High guidance accuracy
- Low sensitivity to dirt
- Long service life
- Low maintenance

Steel strip covers
- Solid covers for the X-axis (drive-over)
- Steel bands (stainless steel) remain in place even when the machine is moving
- Optimal scraper effect







Y/Z guidance system
- Quick replacement in case of service
- Lowdowntime of the system
- Easy to adjust
- Robust guide elements

Carbon fiber Y-arm
- Reduced moving masses with improved rigidity

Scale below
- Protection against contamination

CONTACT

WENZEL RAX Series

Perfect for car bodies & large components

The WENZEL **RAX series** is the CNC-controlled horizontal arm coordinate measuring machine with the largest measuring volume in the WENZEL portfolio – specially developed for the requirements of the automotive and commercial vehicle industry. With a Z-axis of up to 4,200 mm, it enables the precise measurement of car bodies, body-in-white and large-volume components with complex geometries. The measuring range starts directly above the base plate, allowing for particularly practical, ground-level loading. The RAX is usually installed flush with the floor in a foundation and offers maximum accessibility – ideal for large or heavy workpieces. High rigidity and precise guides ensure excellent repeatability. The RAX is optionally available as a duplex system to further increase the measuring volume. Thanks to the integration of modern sensor technology – including Renishaw PH10M, the stepless PHS, switching probes, and optical sensors – the RAX is suitable for both tactile and non-contact measurements, even in automated testing processes.

APPLICATION AREAS

The RAX series is the first choice for customers in the automotive industry, the transport sector, shipbuilding, and aerospace. It is ideal for the precise measurement, digitization, and documentation of individual parts, car body structures, assemblies, and functionally relevant large components. Whether used as a stand-alone unit or as part of a multi-stand system, the RAX meets the highest requirements for accuracy, efficiency, and scalability in modern manufacturing environments.



Aerospace



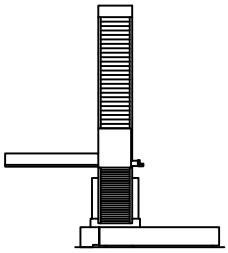
Shipbuilding



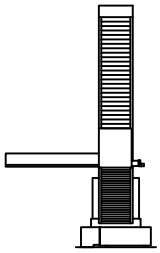
Construction machinery



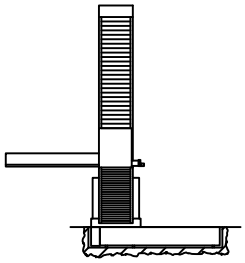




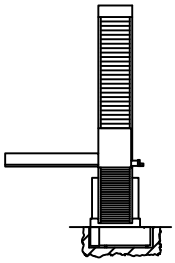
RAX (single, on floor)



RAXF (single, on floor)



RAX (single, flush floor)



RAXF (single, flush floor)

Cantilever machine, also available as a duplex or multi-stand system.

MASCHINENPROFIL

Messvolumen X-Achse	**Kundenspezifisch**
Messvolumen Y-Achse	**up to 2000; Duplex up to 3800 mm**
Messvolumen Z-Achse	**up to 4200 mm**
Messunsicherheit	**$E_{L,\,MPE}$ up to 18+L/40 ≤ 60 (µm)***

*Depending on the machine model (Premium, Standard) according to current technical data sheets

FEATURES

High ease of maintenance Large measuring range

Up to 4200 mm in the Z-axis | Starts immediately above the base plate | Optimal utilization of the measuring range thanks to mirror-image design

High precision

Rigid machine body | Selected linear guides in all axes

High flexibility

Various system concepts | Various probes and sensors | Duplex use possible

High measurement performance

High dynamics | High speed combined with safety technology

Ergonomics in operation and loading

Passenger control units | Safety options | Optimal access for loading and operation | Floor level | No trip hazards

INNOVATION MEETS TRADITION

Whether in the automotive industry, aerospace or mechanical engineering - precise measurement technology is the basis for stable processes and the highest product quality. At WENZEL, we offer customized solutions: from coordinate and gear measuring machines to industrial CT systems and high-performance software. Our systems ensure reliable measurement results worldwide - efficient, sustainable and “Made in Germany”.



YOUR CONTACT

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We are there for you worldwide. You can find our branches, sales and service partners at **www.wenzel-group.com**