

INNOVATIONS IN METROLOGY

# HORIZONTAL ARM MACHINES

Our solutions for your measuring tasks



# WENZEL

## HORIZONTAL ARM MACHINES

### PRODUCT RANGE AND FIELDS OF APPLICATION AN OVERVIEW

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The roller-bearing horizontal arm measuring devices of the R series offer maximum measuring volume for medium to large and particularly overhanging workpieces. Combined as duplex version or by their arbitrarily extendable measuring range, the WENZEL horizontal arm measuring devices can be adapted individually to the measuring requirements and offer solutions, which go far beyond the standard. The superior

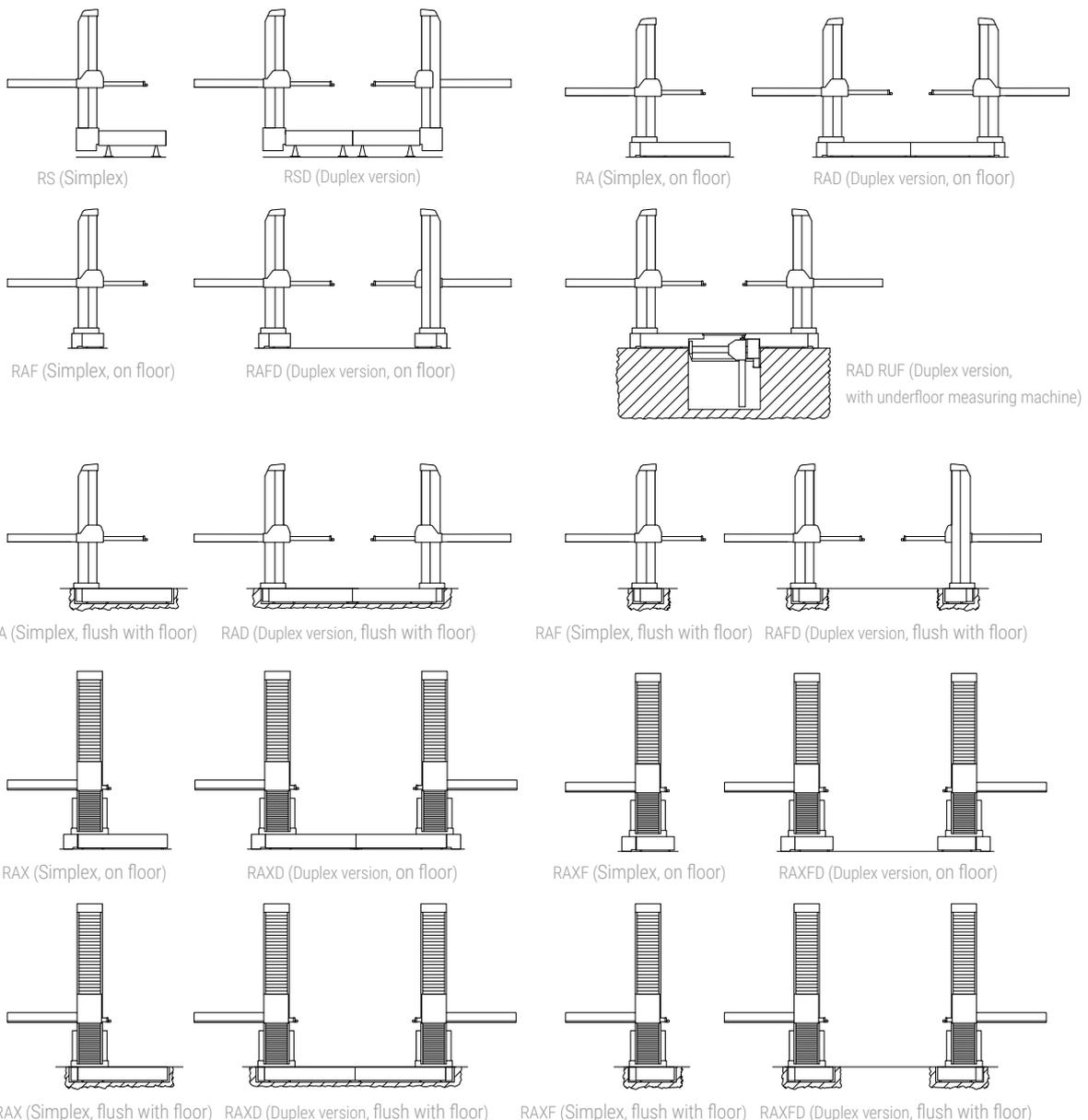
design and the compact arrangement of the guide elements allow perfect accessibility from all sides and provide maximum flexibility and dynamics. The R Series CMMs can be equipped with a variety of swivel head and probe combinations, from rigid heads to motorized rotary and swivel heads, and from simple probes to high precision scanning touch probes and optical sensors.



# VARIANTS AND DESIGNS SUITABLE FOR YOUR MEASURING TASKS

- The universally applicable **RS (roller-bearing side)** stand-alone measuring device with guide elements attached to the base plate at the side can be easily integrated into existing room concepts.
- Defining characteristics of the **RA (roller bearing on base plate) / RAF (roller bearing on guide beam)** series are the floor-level base plates on which the guidance systems are mounted. Due to this design, the coordinate measuring machine can be easily equipped with heavy components up to complete vehicles.
- The **RAX (roller bearing on base plate, XL measuring range)** with its far above-average measuring range was specially developed for the needs of the automotive industry.
- The **RUF underfloor measuring machine** is the ideal supplement to the measuring centers when work pieces are also measured from below.

To extend the Y measuring range, all machines can be supplied as duplex version.



# WENZEL RS SERIES

## FAST, PRECISE MEASUREMENT OF LARGE COMPONENTS

The machine concept of the RS Series is based on a stable base plate as a measuring table with a lateral guide system. The RS can be integrated extremely flexibly into an existing room concept without a specific foundation and can be moved to a new location if required.

It is available as a manual or CNC device, combined with decouplable drives, as a single, double or multi-column

system, with tactile and optical sensors and also with vibration damping.

The RS allows production-related measurement of individual parts, assemblies, end products such as car bodies and other large-volume workpieces. The RS is available in two accuracy classes - Standard and Premium.

## FEATURES

- **Numerous designs** and operating modes with cast or granite base plate and optional damping
- **Customer-specific measuring volume** in all axes, also available as a duplex system
- **Many configuration options** for probes, sensors, marking tools and software
- **Various application possibilities** in production or in the measuring room – manual or automated
- **High investment security** through retrofitting, longevity and ease of maintenance
- **High ergonomics and safety** due to mobile control unit, ideal working height and portable control panel

## FIELDS OF APPLICATION

The RS Series is mainly used in the automotive industry for measuring, digitizing and scribing individual parts, assemblies or complete car bodies. Typical components are bumpers, seats, instrument panels, welded structures or fixtures.

Car bodies

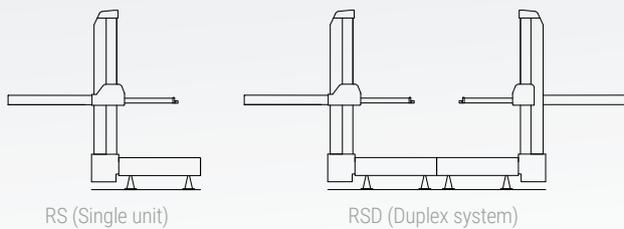
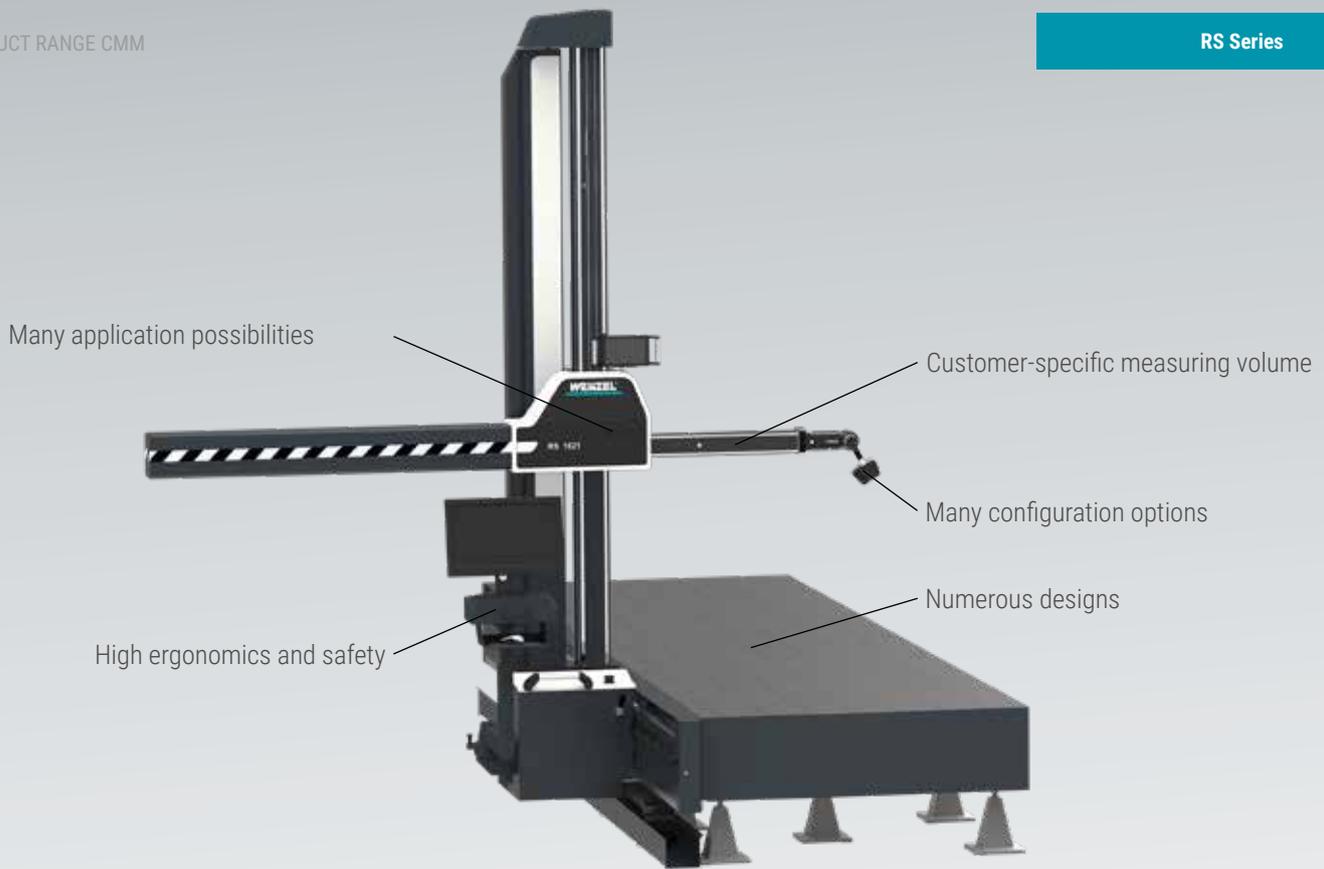


Interior



Wind turbines





## MACHINE PROFILE

|                         |  |
|-------------------------|--|
| Measuring volume X-axis | Custom   |
| Measuring volume Y-axis | up to 2100; Duplex up to 4000 mm                       |
| Measuring volume Z-axis | up to 3000 mm  |
| Measurement uncertainty | $E_{L, MPE}$ from $15+L/45 \leq 50$ ( $\mu\text{m}$ )* |

\*Depending on machine configuration (Premium, Standard) according to current technical data sheets

## YOUR ADVANTAGES AT A GLANCE

- **Highly maintenance friendly**  
Original manufacturer service | Optimum accessibility | Low downtimes
- **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 room, building and process changes
- **Diverse fields of application**  
Ergonomic working height makes it also suitable for small parts | Measuring during production
- **You have the choice**  
Base plate available in cast iron or granite | Optionally with active vibration damping | Different operating modes

# WENZEL RA SERIES

## FAST, PRECISE MEASUREMENT OF LARGE COMPONENTS

A characteristic feature of the RA series is the floor-level base plate, into which the guide system is integrated. Due to this design, the coordinate measuring machine can easily be equipped with large and heavy components such as complete vehicles. Whether as a single boom machine, as a duplex or multi-column system with integrated underfloor measuring device - RA measuring devices deliver the desired results precisely, reliably and quickly.

The machine type is available as a manual or CNC machine as well as combined with decouplable drives, with tactile and optical sensor technology and is distinguished by its excellent accessibility, even for workpieces that are difficult to handle. The RA is available in two accuracy classes - Standard and Premium.

## FEATURES

- **Numerous versions** with or without base plate, flush or surface mounted
- **Customer-specific measuring volume** in all axes, also available as multi-column system or with an underfloor measuring system
- **Many configuration options** for probes, sensors, marking tools and software
- **Wide range of applications** in production or in the measuring room - manual or automated
- **Ergonomic and safe machine concept** meets high safety standards

## FIELDS OF APPLICATION

The RA series is used by many customers worldwide in individual operation or as a multi-column system for measuring, scribing and digitizing. The main areas of application are in vehicle construction, plant construction and for construction and agricultural machinery. Whether for individual parts, assemblies or complete bodies, the RA series measures the upcoming measuring task quickly and precisely.

Automotive industry

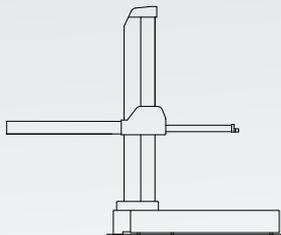
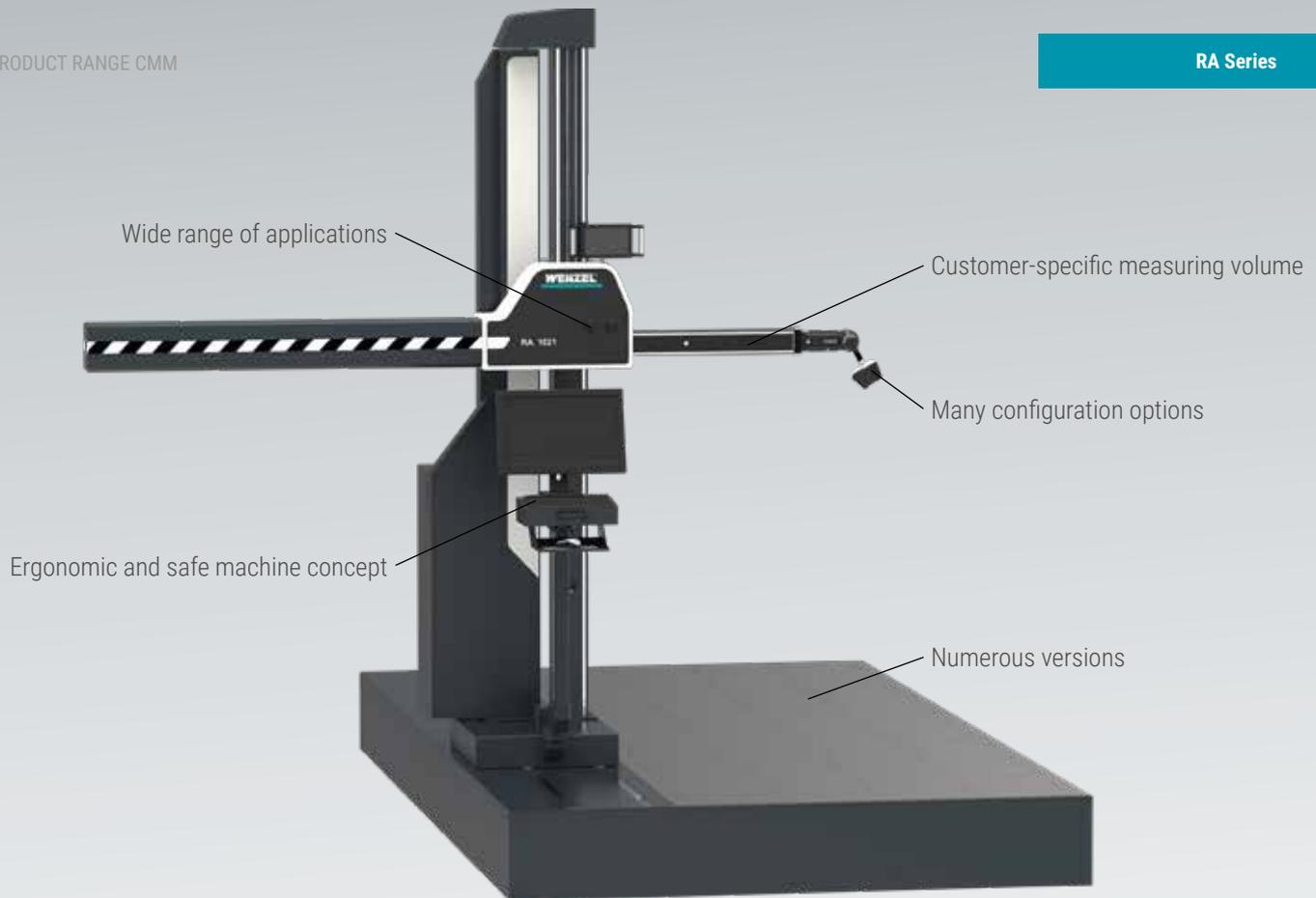


Railroad industry

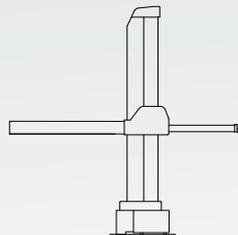


Construction machines

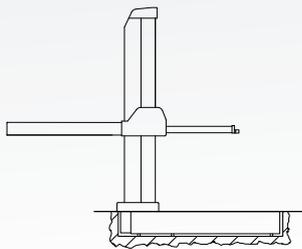




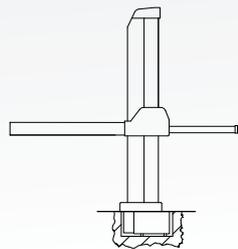
RA (Single unit, onfloor)



RAF (Single unit, onfloor)



RA (Single unit, floor level)



RAF (Single unit, floor level)

Single boom machine, also available as a duplex or multi-column system.

## MACHINE PROFILE

|                         |  |
|-------------------------|--|
| Measuring volume X-axis | Custom   |
| Measuring volume Y-axis | up to 2100; Duplex up to 4000 mm                       |
| Measuring volume Z-axis | up to 3000 mm  |
| Measurement uncertainty | $E_{L, MPE}$ from $15+L/45 \leq 50$ ( $\mu\text{m}$ )* |

\*Depending on machine configuration (Premium, Standard) according to current technical data sheets

## YOUR ADVANTAGES AT A GLANCE

### ■ Best accessibility

Easy loading, positioning and accessibility of workpieces | Floor level and protected guide systems free of tripping hazards

### ■ High reliability

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

### ■ High flexibility

Modular design | Various system concepts possible | Duplex use possible

### ■ Precise results

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

### ■ Many years of project competence

Consulting experience already from the plant planning stage | Design of measurement rooms and foundations | Definition and implementation of efficient measurement processes

# WENZEL RAX Series

## FAST, PRECISE MEASUREMENT OF LARGE COMPONENTS

The RAX is the newest CNC horizontal arm measuring device from WENZEL and was developed for the needs of vehicle technology and large machine construction. With its particularly large measuring volume, the RAX is especially designed for the very precise measurement of high and large volume components. Thanks to

the special design, the measuring range starts immediately above the the base plate. With its particularly high Z-axis, the RAX has an extremely large measuring volume. The highest rigidity and smooth-running drive and guide elements guarantee high-precision measurement results.

## FEATURES

- **Numerous versions** with or without a base plate, flush or flush with floor, simplex or duplex
- **Customer-specific measuring volume** in all axes, also as multi-column system
- **Multiple configuration options** for probes, sensors, software and accessories
- **Wide range of applications** due to high precision, large measuring volume and high dynamics
- **Ergonomic, safe and reliable** for single measurement and series monitoring

## APPLICATION AREAS

The RAX series is used by many customers worldwide in individual operation or as a multi-column system for measuring and digitizing. The main fields of application are in the following areas: Aerospace, shipbuilding, transport and construction and agricultural machinery. Whether for individual parts or assemblies, the RAX series performs the task at hand quickly and precisely.

Aerospace

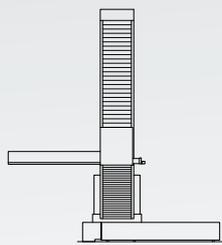
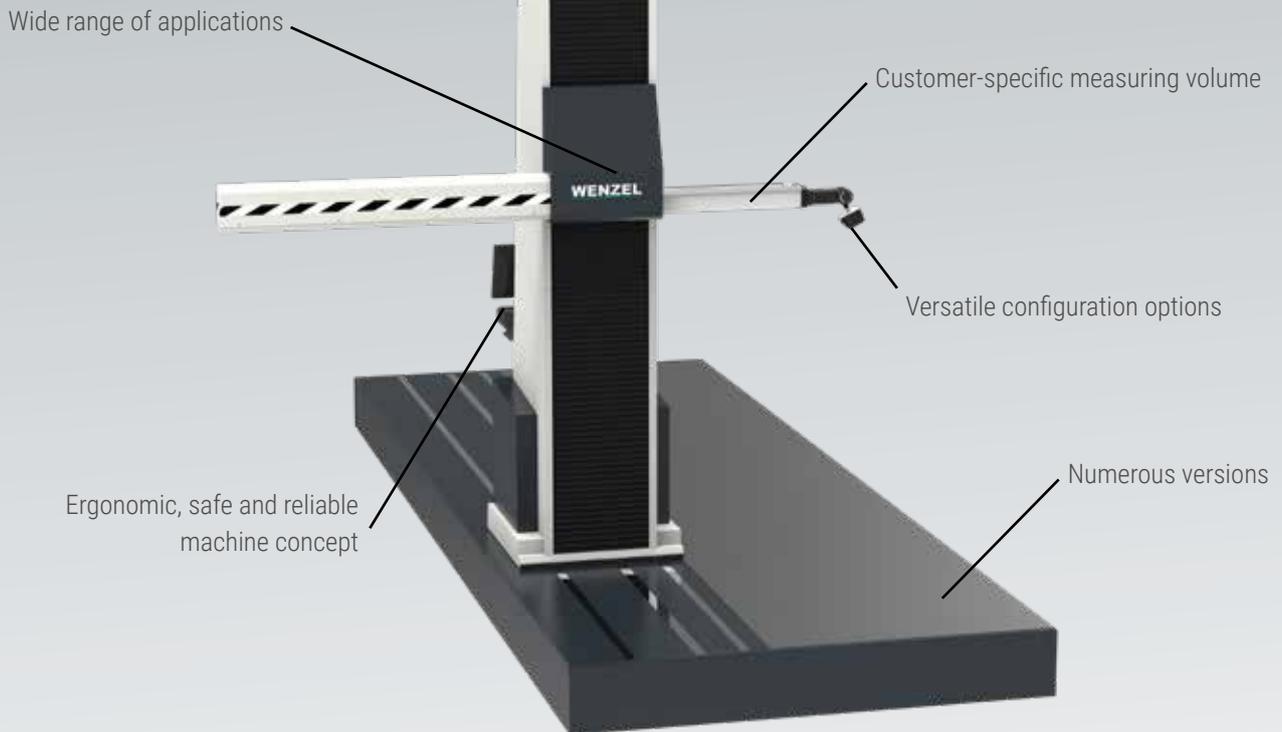


Shipbuilding

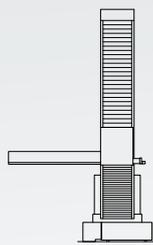


Construction machines

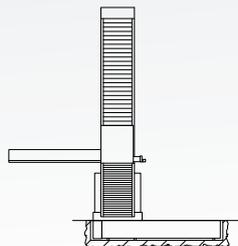




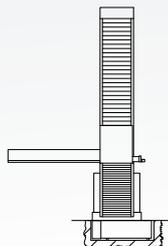
RAX (Simplex, on floor)



RAXF (Simplex, on floor)



RAX (Simplex, flush with floor)



RAXF (Simplex, flush with floor)

Machine, also available as Duplex- or multi-column-system.

## MACHINE PROFILE

|                         |  |
|-------------------------|--|
| Measuring volume X-axis | Custom   |
| Measuring volume Y-axis | up to 2000; Duplex up to 3800 mm                       |
| Measuring volume Z-axis | up to 4200 mm  |
| Measurement uncertainty | $E_{L, MPE}$ from $18+L/40 \leq 60$ ( $\mu\text{m}$ )* |

\*Depending on machine configuration (Premium, Standard) according to current tech. Datasheets

## YOUR ADVANTAGES AT A GLANCE

- **Large measuring range**  
 Up to 4200 mm in the Z-axis | Start directly above the base plate | Optimum utilization of the measuring range due to mirror image construction
- **High precision**  
 Rigid machine body | Selected linear guides in all axes
- **High flexibility**  
 Various system concepts | Various Probes and sensors | Duplex insert possible
- **High measuring performance**  
 High dynamics | High speed in combination with safety technology
- **Ergonomics during operation and assembly**  
 Control units on wheels | Safety options | Optimum access for loading and operation | Flush with the floor | Free of tripping hazards

## INNOVATION MEETS TRADITION

The WENZEL Group is a market leader in innovative Metrology. WENZEL offers a comprehensive product portfolio in the fields of Coordinate Metrology, Computed Tomography and Optical High Speed Scanning. The technology of WENZEL is used in all industries, including the automotive sector, aeronautics, power generation and

medicine. WENZEL looks at today on an installed base of more than 10,000 machines worldwide. Subsidiaries and agencies in more than 50 countries support sales and provide after-sales service for our customers. The WENZEL Group today employs more than 600 people.



## YOUR LOCAL CONTACT

### Wenzel America Ltd

28700 Beck Road

Wixom MI 48451 USA

Phone: +1 (248) 295 4300

E-Mail: [sales@wenzelamerica.com](mailto:sales@wenzelamerica.com)

**[www.wenzelamerica.com](http://www.wenzelamerica.com)**

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