

Revolution®

HARD BEARING
SHOP FLOOR CMM

*The Revolution® is
on the Move!*



Revolution® HB Series delivers
true 5-axis measurement
anywhere you want it!


AIMS

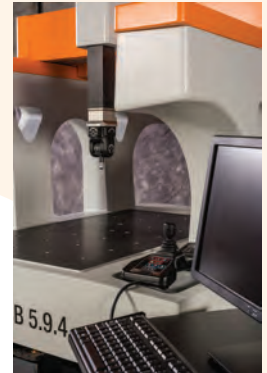
Your 5-Axis CMM Experts

5-AXIS FOR THE SHOP FLOOR



The Revolution® HB Shop Floor CMM is the only mobile 5-axis shop floor CMM on the market. Built in our Dayton, Ohio facilities, it features a durable, roll-around base and sealed components that provide the ultimate in stable metrology performance even in the midst of a chaotic shop floor.

- Shop-hardened design
 - Polymer cast base for thermal stability
 - Built-in vibration resistance
 - No shop air required
- Uses standard 110 volt power
- Monitor installed on left or right
- Optional temperature compensation
- Heavy duty locking castors
- Internal wiring eliminates snags
- Available in two sizes: 5.9.4 and 8.10.6



Revolution®

Powered by Renishaw

PH20's unique 5-axis continuous measurement system is recognized as one of the best CMM technology systems available.

- 3 times faster than conventional systems
- Improved accuracy and repeatability
- Eliminates time spent indexing the head
- Minimizes stylus changes
- Faster calibration



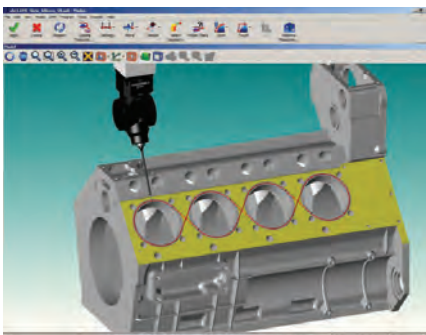
AIMS TOTAL SUPPORT

Our experienced service technicians offer complete support. They can install and calibrate new Revolution® CMMs, retrofit existing CMMs with Renishaw controllers and software, offer warranty service and provide superior customer support.

- Turnkey Systems
- Complete Training Packages
 - On Site
 - At AIMS Training Center
 - Customized Training
- Installation and Calibration
- Contract Programming
- Retrofits
- Repair By Exchange (RBE)
- Nationwide Service Network



MODUS SOFTWARE



Renishaw's MODUS software includes a configurable user interface to allow native DMIS programs to be developed offline utilizing geometry, embedded dimensions and tolerance data from CAD.

- True 5-axis measurement programs
- Full simulation and crash detection
- Programs arrive ready to run
- Little or no prove-out time required
- Large variety of report formats

TECHNICAL CHARACTERISTICS

STRUCTURE

Coordinate Measuring Machine (CMM) formed from advanced composite materials

Guideways: Hardened machine tool ways

Drive Method: Precision lead screw drives

Sliding System: Precision mechanical bearings

Motion Control: DC servo motor on all axes

Thermal Compensation: Optional multi-sensor temperature compensation system

Measuring System: Linear scales, System Resolution: 0.1 μm

5-AXIS TECHNOLOGY

Renishaw PH20 5-Axis Touch Trigger System

Minimizes CMM Motion and Associated Dynamic Errors

Infinite Positioning for Reduced Transition Time

Rapid Calibration with All Positions Inferred

Standard M2 Styli

CONVENTIONAL PROBE SYSTEMS

Manual or motorized Probe Heads

Point-to-point Trigger Probe

Analog Scanning Probe

STYLUS & PROBE CHANGER

Fully automated stylus and probe changers

CONTROL UNIT

Renishaw UCC Controller and Hand Held Teach Pendant

OPTION

Process Control Light Stack

AIR SUPPLY

No Air Required

POWER SUPPLY

Standard 110V Power

ENVIRONMENT

Mean Significant Temperature Change $\pm 2^\circ\text{C}$ ($\pm 3.6^\circ\text{F}$)

Temperature Range $15^\circ - 40^\circ\text{C}$ ($59 - 104^\circ\text{F}$)

Floor Vibration .002mm P-P, 5- 50 Hz

WARRANTY

12 months from the date of acceptance test or a maximum of 15 months from date of shipment



Your 5-Axis CMM Experts

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Advanced Industrial Measurement Systems (AIMS) is an OEM of Revolution® CMMs, driven by Renishaw Technology. AIMS offers a wide range of measurement and inspection equipment and services for the manufacturing industry, including its exclusive Revolution® line of coordinate measurement machines.

The Revolution® line of CMMs utilizes the advanced technology of Renishaw controllers and probes, teamed with Modus software and tied together with training and support from friendly, knowledgeable staff experts. This creates an unbeatable solution for our customers. AIMS also provides custom programming, software training and part inspection on a contract basis.

SUPERIOR SUPPORT AND SERVICE

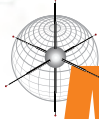
AIMS offers a wide range of services for the life of your equipment. From consultation and product selection to installation, training and responsive service support, we have you covered.

REVOLUTION® SERIES OF CMMs

We have teamed with Renishaw to create a superior CMM product for the manufacturing industry that's competitively priced. Renishaw's various technologies - controller, probing systems, software, retrofits and other technologies are unparalleled in the industry.



AIMS 20,000 sq. ft. headquarters also houses training and assembly facilities.



AIMS

AIMS SALES NETWORK

We have a network of regional sales managers who work with distributors in your area to help you find and maintain the right equipment.

AIMS SERVICE NETWORK

Through our extensive service network we can:

- install and calibrate many makes of new CMMs
- retrofit existing CMMs with Renishaw controllers & software
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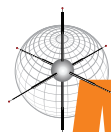
AIMS SOFTWARE TRAINING

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QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=



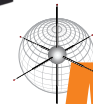
AIMS

**ADVANCED
INDUSTRIAL
MEASUREMENT
SYSTEMS**

Revolution®

AIR BEARING LINEAR MOTOR CMM

The Revolution® LM Series delivers true 5-axis measurement smoother and faster than conventional air bearing systems



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LINEAR TECHNOLOGY

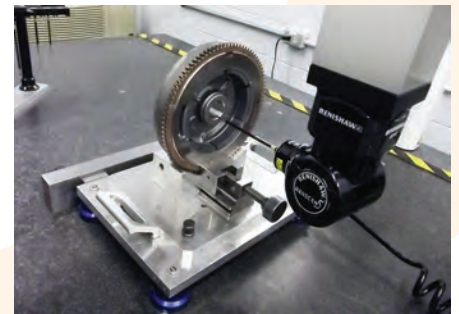


The Revolution® LM Series air bearing bridge configuration offers advanced measuring platforms fully equipped with next generation 5-axis probing technology combined with the speed and efficiency of linear motor power. This provides triple the productivity of conventional touch probe CMM's with over five times the scanning productivity.

These lab grade CMMs are designed with advanced CAD design technology and feature flexible and precise instruments able to carry out measurements both in point-to-point mode as well as continuous measurements with contact sensors and lasers.

Revolution® LM Series Lab Grade CMM: Technical Highlights

- Worktop structure with granite work plate incorporated, three points supporting system to the ground.
- Large Z-axis ram in light aluminum alloy able to use wide range of motorized probe heads.
- Mobile bridge is constructed of aluminum alloy for higher rigidity with lower weight to reduce inertia effects. Delivers greater accuracy and repeatability.
- Linear motor magnetic drive system for the X and Y-axis provides smooth, quiet acceleration and linear velocity. No mechanical linkages, pulleys, or belts means the linear drive typically needs no regular maintenance.
- Optical scales are free to expand lengthwise. The expansion coefficient is precisely determined on scales and the material guarantees a uniform reaction to temperature variations. The hysteresis of the scales is minimal as the steel scales are "floating" in the aluminum carrier. Resolution is 0.1 microns.
- Pneumatic counterbalance (adjustable) for Z.



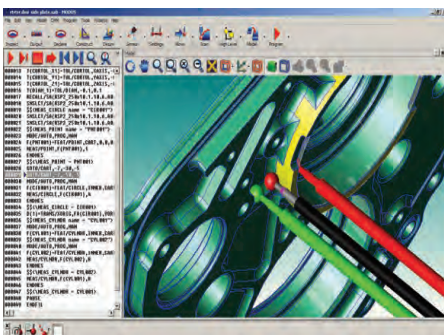
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TECHNICAL CHARACTERISTICS

STRUCTURE

Coordinate Measuring Machine, Air Bearing DCC type, with moving bridge structure on granite table machine base

X and Y axis linear magnetic drive system has no moving parts - provides smooth, quiet, and fast motion

Thermal Compensation: Optional multi-sensor temperature compensation system

Measuring System: Linear scales, System Resolution: 0.1 μ m

5-AXIS TECHNOLOGY

PH20 5-Axis Touch Trigger System

REVO @ 5-Axis Scanning System

Conventional Probes Systems and Changers also available

CONTROL UNIT

Renishaw UCC Controller and Hand Held Teach Pendant

OPTIONS

Passive vibration insulating system

Active vibration insulation system (AVM)

Multi-wire cable

AIR SUPPLY

Air Consumption: 100 NI/min

Minimum Air Supply: 5 Bar (71PSI)

POWER SUPPLY

Power Supply Voltage: 110 V \pm 10%; 60 Hz \pm 2% (single phase)

Maximum Power Consumption: 10A 1200 W

Optional-Voltage: 240 V \pm 10%; 50 Hz \pm 2% (single phase)

ENVIRONMENT

Temperature Range for Metrological Specification:

Temperature Range: 18 - 22° C

Max. Gradient per hour: 1.0° C/h

Max. Gradient per day: 2.0° C/24h

Max. Gradient in space: 0.5° C/m

Operating Temperature: 15 - 35° C

Relative Humidity: 40 - 80 % (non- condensing)

Acceptable Vibrations:

(Vibration acceleration between peaks)

30 mm/s² from 1 to 10 Hz

15 mm/s² from 10 to 20 Hz

50 mm/s² from 20 to 100 Hz

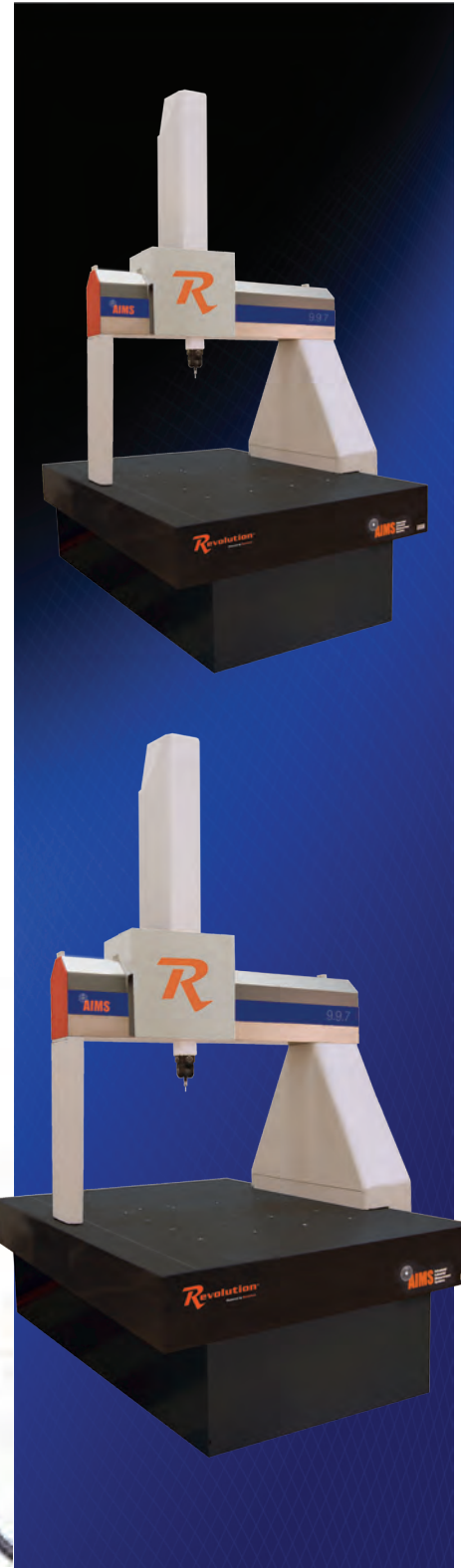
SIZES AVAILABLE

Available bridge widths of 900 mm, 1000 mm, and 1200 mm

Total size ranges from 9.9.7 up to 12.50.10

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AIMS ADVANCED INDUSTRIAL MEASUREMENT SYSTEMS

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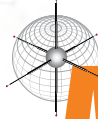
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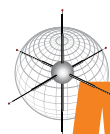
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AIMS

**ADVANCED
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Get More From Your Existing CMM!

AIMS Renewal® Software for old systems provides a virtual connection between your existing CMM to Renishaw's new MODUS™ CMM software. Most CMMs are in good condition, just the software is outdated. A software-only upgrade is a fraction of the price of a comparable new machine.

Upgrading the CMM to MODUS™ software provides more capability with simple, fast and intuitive CAD-driven programming and easy to interpret graphical reports.

- Powerful CAD Capability
- Programming Off-line and/or on-line straight from the CAD model reduces development time
- Graphical Reports instead of reams of text
- Industry standard DMIS programming language
- I++ DME communication protocol with the CMM controller via AIMS Renewal® software
- Certified measurement algorithms
- Generate master data set (.cal file) for use with Renishaw Equator Gage

Upgrade and save compared to new machine!



Renewal® Software from AIMS gives you more life and productivity from your old system.

AIMS - ADVANCED INDUSTRIAL MEASUREMENT SYSTEMS

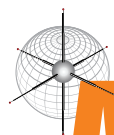
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AIMS offers a wide range of measurement and inspection equipment and services for the manufacturing industry, and backs them with friendly and responsive customer support and warranty service through our nationwide service network.

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- Turnkey Systems • Complete Training Package • Installation and Calibration • Contract Programming • Retrofits • Repair By Exchange (RBE) • Nationwide Service Network



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