HEXAGON

Brochure

The Absolute Arm

Take precision to new places

Dusty
workshops

Hot
conditions

Wet
conditions

The Absolute Arm

Challenging metrology environments, now within reach.

Introduction

Take precision to new places

With the Absolute Arm range

Portable CMM devices already play a critical role in production development and product quality sampling across many manufacturing industries.

With the widest-ever selection of compatible scanning and probing devices, the latest Hexagon Absolute Arm range pushes the boundaries of portable measuring arm use, opening up new applications in harsh environments, as well as productivity and quality gains across the board.

- ✓ Improved accuracy
- ✓ Robust design
- ✓ Ease of use
- ✓ Speed
- ✓ Versatility
- ✓ Connectivity
- ✓ Portability
- ✓ Reliability

Built for tough environments

The IP54 certified Absolute Arm range supports you to measure in:

Dusty Conditions

Wet Conditions

High-temperature Environments

The Absolute Arm is the first measuring arm to be IP54-rated for dusty and wet conditions, and with its robust build, it also enables precise measurements at temperatures as high as 45°C.

The range's Advanced Frame Structure helps to deliver the best accuracy ever seen in its class. New features such as Collaborative Feedback for real-time operator guidance and SHINE technology across our AS1 range of scanners help to deliver speed and reliability. Built-in touchscreen displays, ergonomic, lightweight design, and kinematic joints for easy switching of touch-probes and laser scanners, deliver unmatched ease and efficiency of operation, even during long shifts.

The Absolute Arm is the most portable, versatile, and accurate measuring arm available, providing:

- ✓ Faster, more accurate, more reliable measurements
- ✓ A wider range of applications
- ✓ Reduced downtime
- ✓ A truly connected device, easy to set up, use, and manage

With a wide range of arm specifications, compatible measurement tools, accessories and technology platforms to choose from, manufacturers and metrology service providers are able to take the precision they need to new places, with confidence.

Introduction

Industries

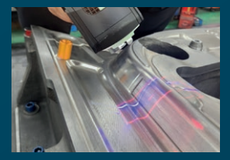
Where portable metrology can make an impact

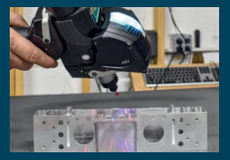
- ✓ Aerospace
- ✓ Agriculture
- ✓ Automotive
- ✓ Buildings
- ✓ Chemicals
- ✓ Communications
- ✓ Consumer Products
- ✓ Defence
- ✓ Education and Research
- ✓ Electronics
- ✓ Energy and Power Gen
- ✓ Engineering
- ✓ Government
- ✓ Healthcare
- ✓ Heavy Construction
- ✓ Heavy Machinery
- ✓ Mapping and Geospatial
- ✓ Marine
- ✓ Mining
- ✓ Oil and Gas
- ✓ Public Safety
- ✓ Shipbuilding
- ✓ Surveying
- ✓ Transport

Introduction

Applications

More uses than ever





- ✓ Additive manufacturing
- ✓ Build and inspect
- ✓ CAD-to-part inspection
- ✓ CNC machining centres
- ✓ Composite inspection
- ✓ Composite parts
- ✓ Digitising
- ✓ Foundries
- ✓ Gear measurement
- ✓ In-process checks
- ✓ Jig and fixture
- ✓ Maintenance and repair
- ✓ Mould and die
- ✓ On-machine verification
- ✓ Rectangle-section tubes
- ✓ Reverse engineering
- ✓ Sawmills
- ✓ Sheet metal
- ✓ Shop floor
- ✓ Stonemasons
- ✓ Tube and wire
- ✓ Virtual assembly
- ✓ Water jet handling

Introduction

Hexagon Absolute Arm

Precision probing and scanning with confidence

Meet the world's first IP54-protected portable measuring arm.

Giving you portable 3D scanning and probing even in dusty, wet and high temperature conditions.

Contents

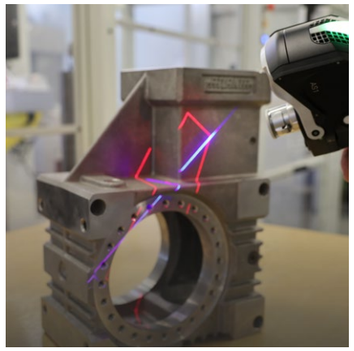
Why Absolute Arm

Easy to use

Designed for practical measurement delivery

Measuring in challenging environments can be a problem. Vibrations and temperature changes can mean that accuracy and time are lost. Some areas of the part might be difficult to reach.

Absolute Arm systems are easy to use, reduce fatigue, and maximise productivity, supporting your measurement processes to stay consistently efficient and error-free.



Quick, hands-on control.

The OLED wrist-mounted touch screen lets you monitor results and adjust settings instantly, while haptic feedback alerts you without needing to check the screen — perfect for tight spaces and faster, more efficient measurements.

Feel instant feedback for improved accuracy

The Absolute Arm's Haptic Interface provides vibration alerts for critical environmental changes, even in noisy or visually challenging environments, ensuring accurate measurements without checking the screen.

Use without becoming fatigued

The Zero-G counterbalance makes the arm feel weightless during use. This allows operators to use the arm for longer periods while maintaining precision, boosting productivity and ensuring reliable results. The largest Absolute Arm weighs less than 13kg, making it easy to transport, set up and reposition.

Effortlessly scan across surface types

Available on the AS1 and AS1-XL scanners, SHINE Technology automatically optimises settings for different surfaces, making scanning easier and more efficient. This eliminates the need for manual adjustments, allowing users to scan multiple surface types seamlessly, reducing setup time and minimising operator errors.

Easily switch between probes and scanners without downtime

The Absolute Arm's TESA Kinematic Joint allows quick probe and scanner swaps without recalibration, reducing downtime and boosting productivity.

Modular wrist

The Modular wrist and grips improve user comfort, allowing longer work periods, and the ability to measure in tight spaces, enabling operators to gather more details of each part.

Encoders

Absolute Arm systems are the only portable measuring arms to use the Hexagon-patented Encoders in every joint to eliminate warm-up times and referencing, so you can start measuring instantly.

Why Absolute Arm

Robust

Built to perform even in harsh industrial conditions

Operating in harsh industrial environments with heavy machinery, dust, fluids, and temperature fluctuations can compromise your equipment and measurement accuracy.

The Absolute Arm can withstand these conditions while maintaining precision to help your processes avoid downtime and costly maintenance.

IP54 rated: A first for measurement arms.

The Absolute Arm's IP54 rating **protects against dust and water ingress.** This ensures that your equipment is usable in new environments.

Maintain measurement accuracy even in extreme temperatures

The Absolute Arm's carbon-fibre Advanced Frame Structure delivers exceptional thermal stability and strength, ensuring precise measurements in temperatures from 5°C to 45°C. Built for durability, it minimises the need for repairs, so you can rely on accurate performance, even in the toughest conditions.

Get assured performance in demanding environments

The Absolute Arm is built to handle vibrations, water, dust, and extreme temperatures, making it ideal for industrial settings like CNC machining centres or foundries.

Prevent data loss

The Absolute Arm's Collaborative Feedback uses built-in sensors to monitor vibrations, displacement, and ambient temperature, allowing users to detect and address instability during measurements. This enables you to quickly identify and correct issues, even in harsh environments, producing more dependable results.

Minimise the risk of accidental damage

HomeDock and SmartLock ensure secure stowage between measurements. These features protect your arm from accidental bumps or touches, ensuring long-term reliability and giving you peace of mind during operations.

Why Absolute Arm

Accurate

High precision in any situation

Accuracy has been the main hallmark of the Absolute Arm since its first version, launched in 2010.

The new Absolute Arm range is on average 8% more accurate than previous models, with a range of features that ensure reliable results even over a long shift and in difficult conditions.

Absolute Arm keep your quality standards high, production efficient, and development on track.

Unmatched precision.

Achieve probing accuracy as fine as 6 microns and scanning accuracy up to 39 microns, the Absolute Arm ensures reliable, high-precision measurements for every application.

More accurate and reliable results

The Advanced Frame Structure of Absolute Arm boasts improved accuracy compared to previous versions and ensures reliable measurements even in challenging environments.

Be assured with certified accuracy

Absolute Arm, scanners and probes are all ISO-certified to give you the assurance of accuracy across environments.

Certified artefacts let you verify performance in-house, reducing reliance on third-party calibrations and saving time.

Quickly identify and correct measurement issues in any environment

The Absolute Arm's Collaborative Feedback uses built-in sensors to monitor vibrations, displacement, and ambient temperature, allowing users to detect and address instability during measurements. This enables you to quickly identify and correct issues, even in harsh environments, producing more dependable results.

The Absolute Arm

Find the arm to suit your needs

6-Axis

Probing

Designed for precision probing, the 6-Axis Absolute Arm offers unmatched accuracy for tactile measurement. It is ideal for the measurement of mechanical and prismatic parts.

7-Axis

Probing and Scanning

Combines precision with flexibility, allowing seamless switching between probing and scanning, delivering versatile, high-speed measurement in any environment.

Compact

Probing

Designed for precision probing, the Absolute Arm Compact provides ultra high-accuracy and small size. Thanks to its integrated base, the Compact does not need any mounting — it can simply be placed on any surface. Ideal for measuring in tight spaces, such as inside CNC machines.

The most accurate arm available.

Series and sizes

Customise your arm's features and length

The Absolute Arm comes in three series, each offering different levels of accuracy to fit your needs.

You can choose from seven arm sizes, with measurement ranges from 1.2 to 4.5 meters. Most options are available in both 6-Axis models for probing and 7-Axis models for scanning, so you can select the best setup based on your measurement requirements.

87 series

Ultimate solution for portable high-accuracy measurement.

85 series

Perfect balance between value for money and accurate measurement.

83 series

Entry-level measurement accuracy.

	83	85	87
1.2 m	✓	✓	
2.0 m	✓	✓	
2.5 m	✓	✓	✓
3.0 m	✓	✓	✓
3.5 m	✓	✓	✓
4.0 m	✓	✓	✓
4.5 m	✓	✓	✓

Available measurement volumes for each Absolute Arm series.

Volume versus reach

With the Absolute Arm, the quoted measurement volume represents the largest area within which reliable accurate measurement is feasible, rather than just the maximum possible horizontal extension of the arm. A 2.5 meter arm, for example, can actually measure a 2.5 meter part.

Measurement arm

Maximum reach

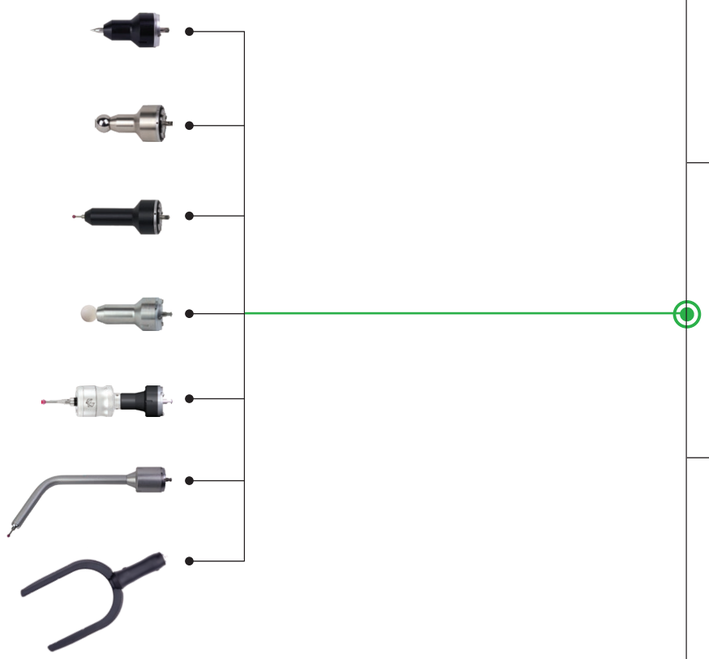
Tools

Select your probes and scanners

Every Absolute Arm is compatible with a wide range of probes, scanners, and other accessories, which makes it the most versatile and multifunctional portable measuring arm in the world.

Probes

Compatible with all Absolute Arm systems



Choose the right probe for your needs

With some 100 probes available within the Absolute Arm accessory range, there's one that suits every measurement need.

Straight probes, angled probes, trigger probes, tube probes – all are available at various lengths and tip diameters.

Swap probes easily

The established TESA kinematic joint for repeatable probe mounting means probes can be hot-swapped quickly and easily, with no need for realignment between changes.

Get straight to work

Every arm is supplied with three pre-calibrated touch probes, so measurement can begin immediately.

Scanners

Options available for the 6-Axis and 7-Axis Absolute Arm

Absolute Scanner AS1

Flagship high-speed blue laser 3D scanning. performance with IP54 rating.

Absolute Scanner AS1-XL

Wide-scanline and large-standoff blue laser 3D scanner with IP54 protection for inspection of large surfaces.

Available for the 7-Axis Absolute Arm.

RS5 Laser Scanner

Reliable general-purpose 3D scanning.

HP-L-8.9 Laser Scanner

Entry-level 3D scanning for 6-Axis systems.

Available for the 6-Axis Absolute Arm and the Compact arm.

The Absolute Arm range

Absolute scanners

Integral to the Absolute Arm range

Absolute Scanner AS1

Speed, reliability and accuracy

- ✓ High-quality scan data collected at full speed, whatever the part
- ✓ Scan 99 percent of surface types with default exposure settings – thanks to SHINE technology
- ✓ Wide scan line for faster part coverage
- ✓ Can be removed from the arm at any time, an replaced later without any need for time-consuming scanner alignments or calibrations
- ✓ Horizontally oriented scan line for more comfortable measurement
- ✓ Projected laser range finder makes correct scanner positioning simple
- ✓ Full-speed scanning performance over WiFi or a single cable
- ✓ IP54 protection rating
- ✓ Complete System Scanning Certification defined according to ISO 10360-8 Annex D
- ✓ Can also be used with a laser tracker

Absolute Scanner AS1-XL

All the same attributes as the AS1 – **plus larger scale capability**

- ✓ High-quality scan data at very high speed across large surfaces
- ✓ Extra-wide scan line for faster coverage of large surfaces
- ✓ Large standoff for measurement within deep cavities or other hidden areas

With a single-case AS1 | AS1-XL bundle, instant scanner exchange allows for fine feature measurement with the AS1, then large surface inspection with the AS1-XL, then back again in the same measuring session.

Systematic High-Intelligence Noise Elimination (SHINE) technology

Enabling the AS1 and AS1-XL to deliver full scanning performance on any surface, from glossy plastics to carbon fibre, without sacrificing accuracy or productivity — even over WiFi and without spray.

RS5 Laser Scanner

High-quality scan data without high-end investment

- ✓ A general-purpose 3D scanner ideal for less-challenging applications like design modelling, tube or casting measurement, product benchmarking or virtual assembly

Tools

Select your control pack

Enhance your 6-Axis or 7-Axis Absolute Arm with Control Packs — plug-and-play modules that provide easy connectivity, upgrades, and additional functionalities, while maintaining the IP54 rating.

These modules seamlessly connect to the base, allowing you to easily upgrade or swap control options to suit your needs, whether you're on the go or in a fixed location.

Choose from 3 control pack options:

All available for the 6-Axis and 7-Axis.

Connector Pack (CP-C)

Offers a cable connection to your PC and power supply.

Battery Pack (CP-B)

Provides cable connection to the PC, battery operation.

Wireless Pack (CP-W)

Supports both cable and Wi-Fi connections, with optional battery operation.

The Absolute Arm range

Accessories

Enhance your Absolute Arm

Mounts

A selection of bases, tripods and stands is available that is compatible with every Absolute Arm. The specially-designed mounting ring includes a vacuum mount for convenient changes of set up.

Workstations

Hexagon portable base stations provide the ideal workplace for your portable measuring arm.

Available in a number of sizes and configurations, they have a rigid design and are fully rustproof.

Stable, lockable wheels and a convenient handle allow for easy movement and secure stowing.

Visit the accessories shop

Hexagon's wide range of accessories for portable measurement arms ranges from added functionality and reach to improved productivity while covering every need in between.

Visit our shop

The Absolute Arm range

Digital platform solutions

Get the most value from your metrology technology

Nexus

Centralise manufacturing within an open and integrated digital reality platform

Nexus connects people, technology, and data to drive faster innovation in manufacturing. By breaking down silos, it enables seamless collaboration across disciplines, allowing you to put your data to work.

Nexus delivers:

- ✓ **Speed:** Accelerate time to market with smooth collaboration and automated data sharing
- ✓ **Efficiency:** Save time and costs with better visibility and faster decisions
- ✓ **Productivity:** Boost output with quicker feedback loops throughout the product life cycle
- ✓ **Optimal Data Sharing:** Share only the data needed to solve specific challenges

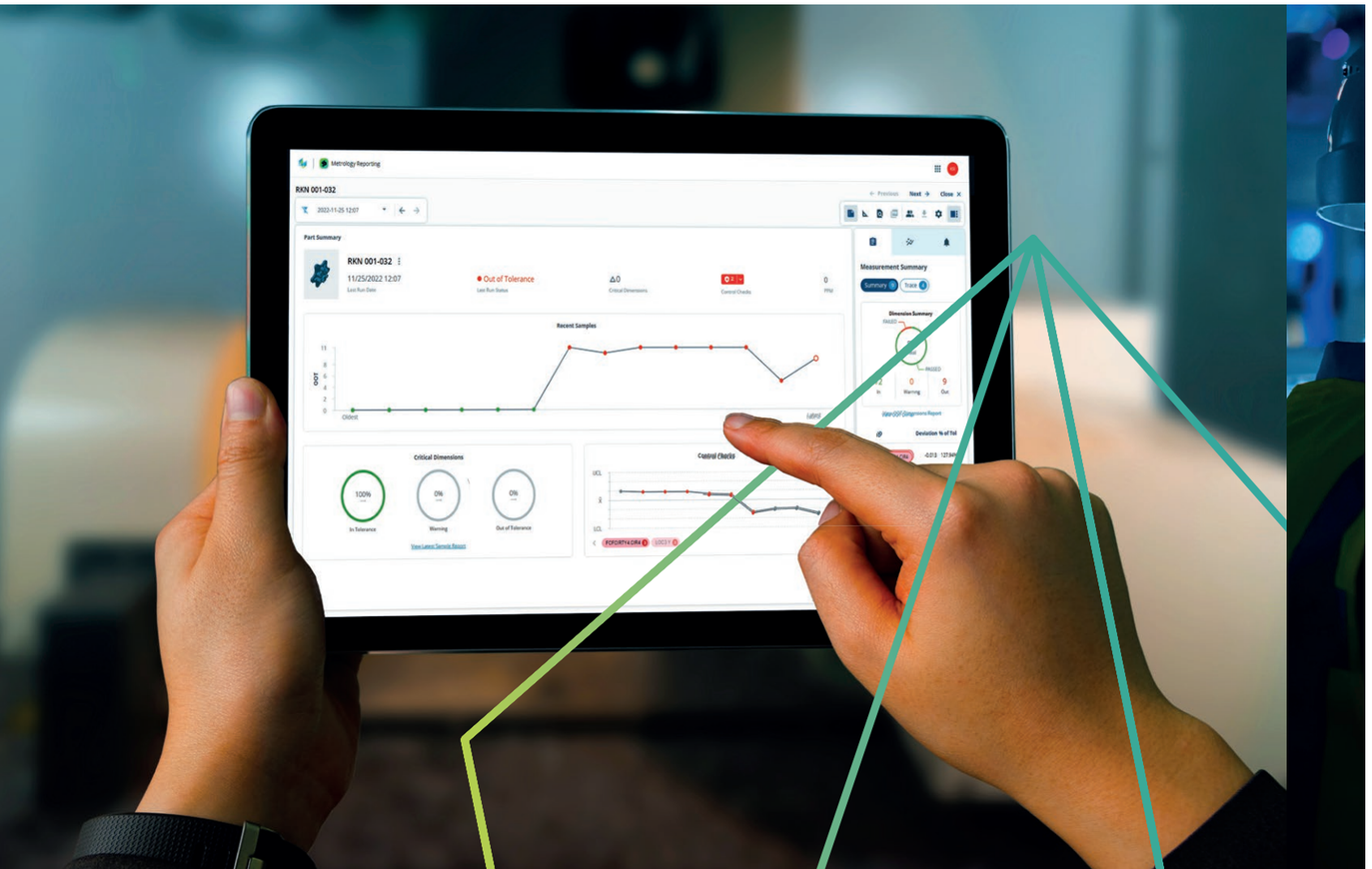
Compatible Metrology Software

Get seamless integration with all leading metrology platforms

Absolute Arm is fully compatible with all major metrology digital platforms, ensuring smooth integration into your existing workflows.

Use the tools you trust.

- **Hexagon platform**
- **Third-party platform**

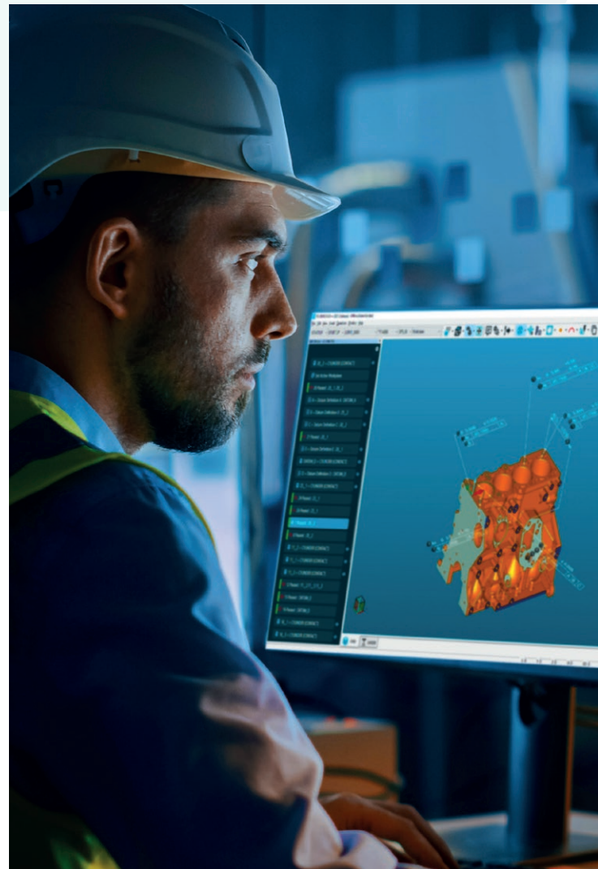


Metrology Asset Manager

Track your Absolute Arm from anywhere

Keep track of your Absolute Arm's health and performance from anywhere in the world. The Metrology Asset Manager provides accurate, reliable remote monitoring and analysis, giving you peace of mind as you work in the field.

Metrology Asset Manager



How to create your Absolute Arm

Customise for your environment

Step 1
Choose your arm

6-Axis
Probing

Perfect for precise probing applications, delivering unmatched accuracy for measuring mechanical and prismatic parts.

7-Axis
Probing and Scanning

The ultimate in flexibility, seamlessly switching between probing and scanning for versatile measurements.

Compact
Probing

Ultra portable free-standing solution for very high accuracy measurement in tight spaces. Available with a choice of ISO certifications.

Step 2
Choose your series

83 series
Excellent Entry-Level Performance

Entry-level accuracy, ideal for general-purpose measurements at an accessible price.

85 series
Standard, All-Purpose Performance

Balanced performance and value, offering higher accuracy for demanding applications.

87 series
Ultimate Performance

Premium accuracy and performance, perfect for high-precision, critical measurement tasks.

Step 3
Choose your size

Size
Measurement volume

	83	85	87
1.2 m	✓	✓	
2.0 m	✓	✓	
2.5 m	✓	✓	✓
3.0 m	✓	✓	✓
3.5 m	✓	✓	✓
4.0 m	✓	✓	✓
4.5 m	✓	✓	✓

Available measurement volumes for each Absolute Arm series.

Step 4
Choose your tools

Probes
Available on all Absolute Arm systems

Get precise, reliable measurements with a wide range of probe options for every task.

Scanners
Available on 7-Axis

Capture high-speed, accurate 3D data on complex surfaces with our advanced scanning solutions.

Control Packs
Available for 6-Axis and 7-Axis arms

Upgrade with plug-and-play Control Packs, for seamless, IP54-rated connectivity.

Step 5
Choose your optional extras

Mounts

Secure your Absolute Arm with flexible mounting options tailored to your environment.

Workstations

Improve mobility and organisation with sturdy, rustproof portable workstations.

Accessories

Enhance your system with additional tools and accessories for even more measurement flexibility.

Step 6
Choose your digital platform

Application Software

Absolute Arm systems are compatible with all Hexagon and other leading metrology platforms, including:

- Inspire
- PC-DMIS
- SpatialAnalyzer
- DESIGNER
- BendingStudio XT
- PolyWorks®
- Metrolog X4
- Verisurf
- 3D Systems (Geomagic)

And more...

Nexus

Boost collaboration and efficiency with Hexagon's integrated digital reality platform.

Metrology Asset Manager

Monitor and manage your Absolute Arm remotely with real-time performance tracking.

Custom applications

Supported solutions

Pushing the boundaries of metrology

Tube and wire measurements

Fast and precise

The Absolute Arm offers fast, precise measurements for tube geometries using laser scanning, or — with no need for special clamping or alignment — infrared probing.

Whether at the bending machine or during production, you'll get accurate results every time.

BendingStudio XT
Hexagon's dedicated tube and wire measurement software platform.

Efficient

Fast, reliable measurements without the need for manual adjustments.

Versatile

Works in any environment, including at the point of production.

Flexible

Works across tube types — handles flexible, complex, and large tube geometries.

Mobile

Suitable for measurement of large gears in-situ.

Adaptable

Works across various gear types, including complex or damaged gears.

Gear measurements

Fast and accurate inspection

The Absolute Arm delivers fast, precise measurements for gears using advanced laser scanning and touch probe technologies — ensuring reliable, high-accuracy inspection.

Across production and maintenance, you'll achieve consistent results every time.

QUINDOS
The software platform supporting the Absolute Arm Gear Measurement System delivers fast and simple 3D gear measurement.

Precise

Perfect for re-engineering and redesigning of gears, ensuring optimal performance in electric drivetrains and wind energy systems.

Large volume measurements

Extend your reach with precision

With volume expansion accessories, the Absolute Arm can measure larger parts with ease.

Leap Frog Kit
Extend measurements by moving the arm between stations.

GridLOK
For bigger tasks, GridLOK creates a large measurement area, allowing repositioning with no accuracy loss.

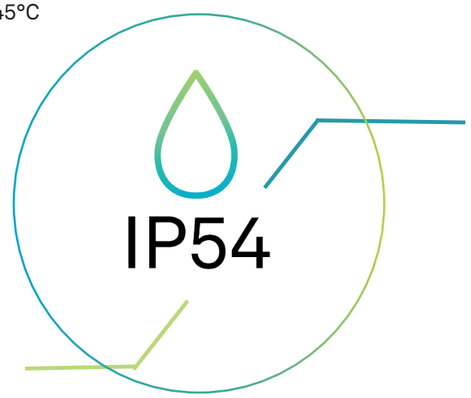
Certifications

Assurance

Performance with confidence

- ✓ ISO Certifications
- ✓ IP54 Rating
- ✓ Temperature range: 5°C to 45°C

5 = Dust protection
Entry of dust is not entirely prevented, but it must not enter in a quantity that is sufficient to interfere with satisfactory use of the equipment.



4 = Splashing water
Water splashing against the enclosure from any direction will have no harmful effect.

All Absolute Arm and Absolute Scanner AS1 systems are certified to the IP54 standard.

ISO Certified

All Absolute Arm systems are ISO-certified, ensuring reliable, traceable accuracy that's verified by certified artefacts.

ISO 10360-2:
Optional certification for the Compact arm, ideal for CMM integration, ensuring accuracy over variable lengths.

ISO 10360-8:
Accuracy certification for all 7 axis Absolute Arm, when supplied with a laser scanner. This standard considers the accuracy of the entire solution: arm plus scanner.

ISO 10360-12:
Accuracy certification for tactile measurement of all Absolute Arm systems.

ISO 17025:
All arms are produced in certified environments, giving you full confidence in your equipment's accuracy.

History

History and ambition

More than 50 years of measuring arms and counting

1973

Origin

Vector 1 tube measuring arm developed by Homer Eaton, co-founder of ROMER which later became part of Hexagon.

Early 2000s

Introduction of Portable Measuring Arms

Hexagon's first portable measuring arms bring flexibility and precision to portable coordinate measuring.

2010

Launch of Absolute Encoders

Absolute Encoders eliminate the need for referencing, reducing setup time for faster, more efficient measurement.

2012

Integration of Laser Scanning Technology

High-speed laser scanning enables non-contact 3D measurement, increasing versatility for complex surfaces.

2018

Complete Redesign for Improved Usability

The Absolute Arm is redesigned with ergonomic features, an OLED display, and Zero-G Counterbalance to reduce fatigue and enhance ease of use.

2024

The latest Generation of Absolute Arm

Accuracy · Robustness · Ease-of-use

Specifications

Accuracy, size, operating conditions

Choose your Absolute Arm

Absolute Arm 7-Axis accuracy and size specifications

	Model	E_{UNI}[1]	P_{SIZE}[2]	L_{DIA}[3]	P_{FORM}[4]	AS1 SSA[5]	AS1-XL SSA[5]	RS5 SSA[5]	Max. reach
83 series	8320-7	0.039 mm	0.015 mm	0.048 mm	0.033 mm	0.057 mm	-	0.059 mm	2.48 m
	8325-7	0.048 mm	0.019 mm	0.057 mm	0.038 mm	0.062 mm	0.114 mm	0.065 mm	2.98 m
	8330-7	0.064 mm	0.027 mm	0.086 mm	0.049 mm	0.078 mm	0.142 mm	0.088 mm	3.48 m
	8335-7	0.082 mm	0.035 mm	0.108 mm	0.060 mm	0.095 mm	0.169 mm	0.100 mm	3.98 m
	8340-7	0.104 mm	0.043 mm	0.134 mm	0.073 mm	0.113 mm	0.198 mm	0.116 mm	4.48 m
	8345-7	0.135 mm	0.053 mm	0.168 mm	0.090 mm	0.155 mm	0.236 mm	0.164 mm	4.98 m
85 series	8520-7	0.029 mm	0.010 mm	0.038 mm	0.021 mm	0.039 mm	-	0.043 mm	2.48 m
	8525-7	0.031 mm	0.012 mm	0.048 mm	0.025 mm	0.045 mm	0.097 mm	0.046 mm	2.98 m
	8530-7	0.053 mm	0.020 mm	0.080 mm	0.035 mm	0.061 mm	0.129 mm	0.063 mm	3.48 m
	8535-7	0.064 mm	0.024 mm	0.096 mm	0.043 mm	0.075 mm	0.147 mm	0.076 mm	3.98 m
	8540-7	0.081 mm	0.029 mm	0.117 mm	0.050 mm	0.085 mm	0.159 mm	0.087 mm	4.48 m
	8545-7	0.113 mm	0.040 mm	0.140 mm	0.065 mm	0.134 mm	0.189 mm	0.141 mm	4.98 m
87 series	8725-7	0.027 mm	0.011 mm	0.042 mm	0.021 mm	0.041 mm	0.087 mm	0.042 mm	2.98 m
	8730-7	0.048 mm	0.016 mm	0.072 mm	0.032 mm	0.054 mm	0.103 mm	0.056 mm	3.48 m
	8735-7	0.060 mm	0.019 mm	0.087 mm	0.038 mm	0.065 mm	0.121 mm	0.068 mm	3.98 m
	8740-7	0.075 mm	0.025 mm	0.106 mm	0.043 mm	0.076 mm	0.138 mm	0.078 mm	4.48 m
	8745-7	0.104 mm	0.035 mm	0.125 mm	0.050 mm	0.115 mm	0.155 mm	0.121 mm	4.98 m

3D scanner specifications

	AS1	AS1-XL	RS5	HP-L-8.9
Scanner type	Blue laser line scanner	Blue laser line scanner	Red laser line scanner	Red laser line scanner
Accuracy	0.013 mm ($P_{Form.Sph.1x25:ODS}$)[8]	0.134 mm ($P_{Form.Sph.1x25:ODS}$)[8]	0.028 mm (2σ)	0.04 mm (2σ)
Point acquisition rate	up to 1.2 million points/s	up to 1.2 million points/s	up to 752 000 points/s	45 000 points/s
Points per frame	max. 4000	max. 4000	max. 7520	max. 750
Frame rate	max. 300 Hz	max. 300 Hz	max. 100 Hz	max. 60 Hz
Line width (mid)	150 mm	600 mm	115 mm	80 mm
Standoff	165 ± 50 mm	700 ± 300 mm	165 ± 50 mm	135 ± 45 mm
Minimum point spacing	0.027 mm	0.080 mm	0.011 mm	0.080 mm
System scanning certification	yes	yes	yes	no
Laser class	2	2	2M	2
Protection rating	IP54	IP54	-	-
Operating temperature	5-45°C	5-45°C	5-40°C	5-40°C
Weight	0.4 kg	0.46 kg	0.4 kg	0.32 kg

Absolute Arm 6-Axis accuracy and size specifications

	Model	E_{UNI}[1]	P_{SIZE}[2]	L_{DIA}[3]	P_{FORM}[4]	Max. reach
83 series	8312-6	0.022 mm	0.009 mm	0.021 mm	0.014 mm	1.49 m
	8320-6	0.033 mm	0.012 mm	0.040 mm	0.024 mm	2.23 m
	8325-6	0.042 mm	0.017 mm	0.047 mm	0.034 mm	2.73 m
	8330-6	0.056 mm	0.022 mm	0.062 mm	0.048 mm	3.23 m
	8335-6	0.070 mm	0.030 mm	0.079 mm	0.059 mm	3.73 m
	8340-6	0.085 mm	0.037 mm	0.095 mm	0.069 mm	4.23 m
	8345-6	0.105 mm	0.048 mm	0.110 mm	0.086 mm	4.73 m
85 series	8512-6	0.018 mm	0.006 mm	0.016 mm	0.011 mm	1.49 m
	8520-6	0.023 mm	0.008 mm	0.030 mm	0.017 mm	2.23 m
	8525-6	0.028 mm	0.010 mm	0.035 mm	0.020 mm	2.73 m
	8530-6	0.040 mm	0.014 mm	0.049 mm	0.028 mm	3.23 m
	8535-6	0.053 mm	0.018 mm	0.066 mm	0.036 mm	3.73 m
	8540-6	0.065 mm	0.022 mm	0.082 mm	0.041 mm	4.23 m
	8545-6	0.080 mm	0.028 mm	0.102 mm	0.050 mm	4.73 m
87 series	8725-6	0.025 mm	0.009 mm	0.028 mm	0.017 mm	2.73 m
	8730-6	0.036 mm	0.012 mm	0.044 mm	0.025 mm	3.23 m
	8735-6	0.048 mm	0.015 mm	0.061 mm	0.032 mm	3.73 m
	8740-6	0.061 mm	0.019 mm	0.075 mm	0.036 mm	4.23 m
	8745-6	0.074 mm	0.026 mm	0.094 mm	0.046 mm	4.73 m

Absolute Arm Compact 10360-2 accuracy specifications

Model	MPE_p[6]	MPE_e[7]
8312	0.008 mm	5+L/40 <0.018 mm
8512	0.006 mm	5+L/65 <0.015 mm

Absolute Arm technical specifications

Operating temperature	5 to 45°C	Protection rating	IP54
Storage temperature	-30 to +70°C	Marks of conformity	CE – FCC – IC
Operational elevation	up to 2000 m	Power requirement	110-240 V
Relative humidity	10 to 90% non-condensing		

[1] E_{UNI} Maximum permissible longitudinal error of measurement – according to ISO 10360-12:2016
[2] P_{SIZE} Maximum permissible probe deviation, size – according to ISO 10360-12:2016
[3] L_{DIA} Maximum permissible probe deviation, position – according to ISO 10360-12:2016
[4] P_{FORM} Maximum permissible probe deviation, shape – according to ISO 10360-12:2016
[5] SSA Scanning System Accuracy: L_{DIA} according to ISO 10360-8 Annex D
[6] MPE_p Maximum permissible error, probing – according to ISO 10360-2
[7] MPE_e Maximum permissible error, length measurement – according to ISO 10360-2
[8] $P_{FORM.Sph.1x25:ODS}$ Based on a part of the ISO-10360 standard

Aftercare

Support

Discover your options

We provide comprehensive support services that go far beyond your initial purchase, ensuring your equipment operates smoothly and efficiently.

Our skilled engineers are available through ISO-certified labs, local Precision Centres, or even on-site to minimise any downtime.

- ✓ Maintenance and warranty plans to keep your equipment running at its best
- ✓ Hassle-free operation with minimal interruptions
- ✓ Priority hotline access at no extra cost for quick, expert support
- ✓ Professional advice whenever you need it to solve any issues quickly and effectively

Consider a Customer Care Package

Invest in a Customer Care Package to keep your Absolute Arm in top condition, ensuring reliable, accurate measurements for life. Packages offer various benefits based on the tier you choose.

	Platinum	Gold	Silver	Bronze
Planned annual service	✓	✓	✓	✓
Customer hardware support	✓	✓	✓	✓
Annual maintenance and recertification	✓	✓	✓	
Remote connected assistance	✓	✓		
Repair parts and labour	✓			
Customised local benefits	✓	✓	✓	✓

For complete details of the benefits of each level of Customer Care Package, please contact a local Hexagon representative.

“Our excellent experience with Hexagon Manufacturing Intelligence is based on reliable, easy-to-use solutions and a qualified local service, which is always on hand.”

Mélanie Cestari,
Quality Manager
at Velan

VELAN

Aftercare

Warranty

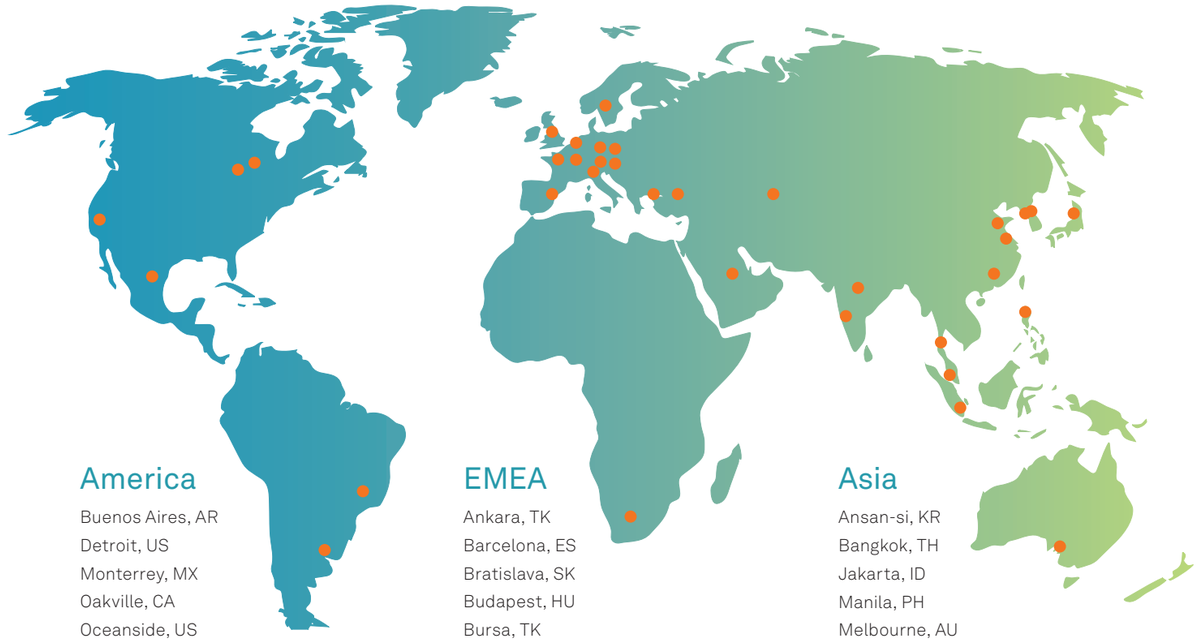
Expert local help, whenever you need it

Enjoy peace of mind with a 24-month factory warranty and 10 years of guaranteed serviceability, ensuring your equipment stays reliable.

“We have absolute trust in Hexagon’s technology. We’ve been using the equipment for many years, and there’s no need for a backup.”

Paul Monaghan,
Chief Engineer of Car Engineering
at Oracle Red Bull Racing

ORACLE Red Bull RACING



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HEXAGON

Hexagon is a global leader in digital reality solutions, combining sensor, software and autonomous technologies. We are putting data to work to boost efficiency, productivity, quality and safety across industrial, manufacturing, infrastructure, public sector, and mobility applications.

Our technologies are shaping production and people-related ecosystems to become increasingly connected and autonomous – ensuring a scalable, sustainable future.

Hexagon's Manufacturing Intelligence division provides solutions that use data from design and engineering, production and metrology to make manufacturing smarter.

Learn more about Hexagon (Nasdaq Stockholm: HEXA B) at hexagon.com and follow us @HexagonAB