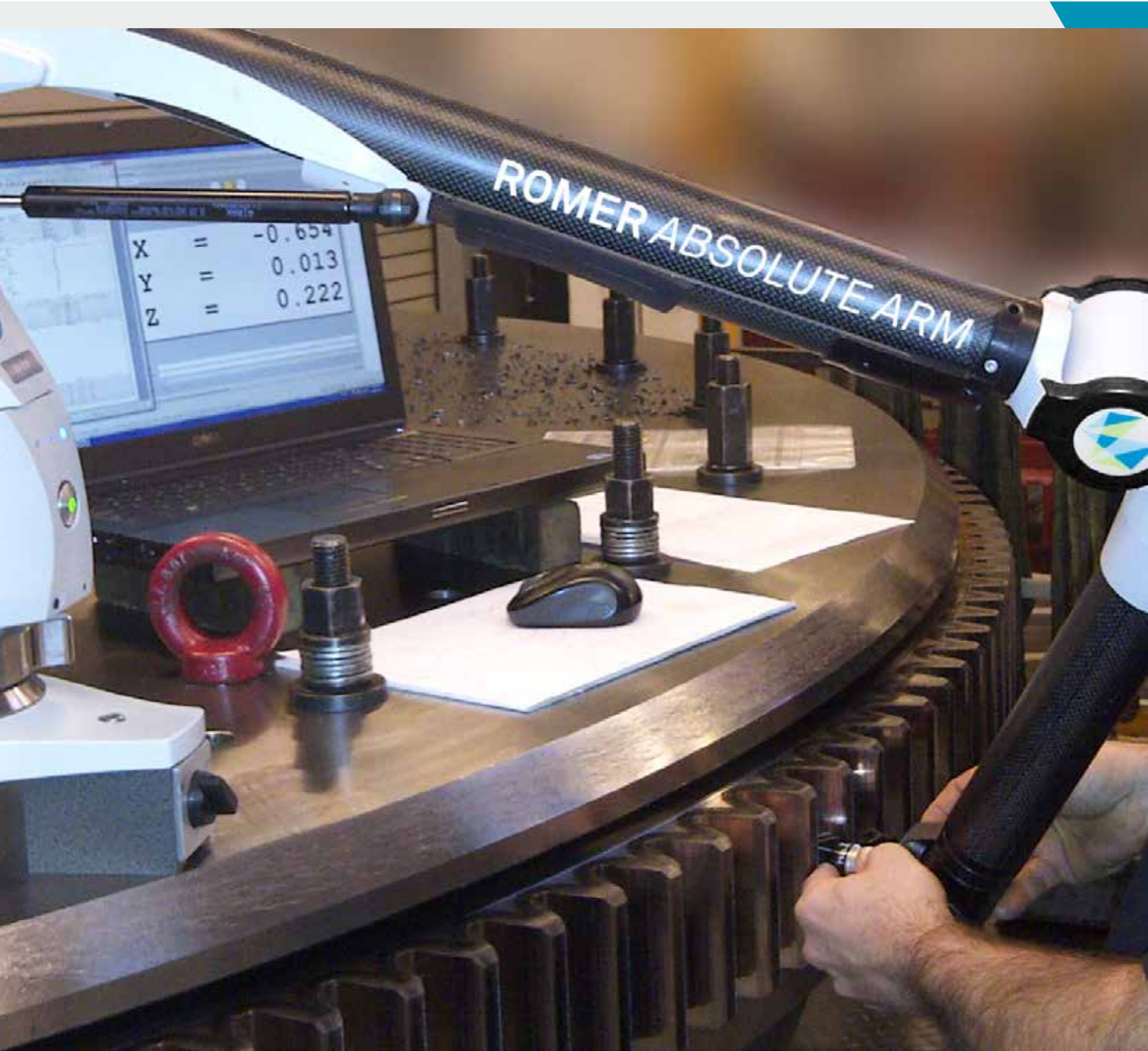




ROMER GEAR MEASUREMENT SYSTEM





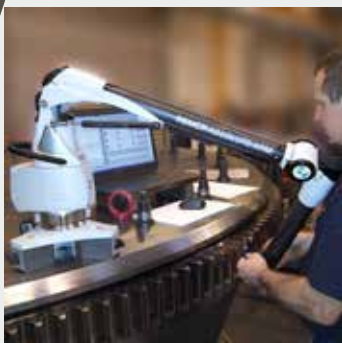
ROMER GEAR
MEASUREMENT SYSTEM



The ROMER Gear Measurement System is a completely portable measurement system featuring simple and fast 3D gear measurement.

Thanks to a combination with QUINDOS – the most powerful software on the market for the analysis of special geometries – the ROMER Absolute Arm is now able to measure complex parts usually inspected on complex metrology devices.

All cylindrical gears (internal, external, straight and helical) can be measured rapidly and in an intuitive environment. The option “unknown gears” calculates the standard gear parameters, based on single point probing. Those parameters can be used to measure the gear.



TOP FEATURES

ROMER ABSOLUTE ARM & QUINDOS

Absolute Encoders

Referencing and warm-up time was for yesterday – just switch the arm on and measure.

Measurement Volume

Size does matter: The ROMER Absolute Arm is available in seven lengths between 1.5 m and 4.5 m.

Certification

All ROMER Absolute Arms including scanning systems pass through B89.4.22 certification. Additional certifications according to VDI/VDE 2617-9 or ISO 10360 are available.

RDS

ROMER proprietary RDS software is the virtual double of the ROMER Absolute Arm. For highspeed accuracy checks, calibration and simple measurements.

SmartLock

If the Romer Absolute Arm is not in use it can be locked safely into its rest position. SmartLock also allows the arm to be fixed in any intermediate position.

Automated Probe Recognition

Intelligent Quick Change Probes: Swap touch-probes at any time without the need to recalibrate. The Romer Absolute Arm's repeatable mount allows to change probes on the fly, according to your measurement needs.

Instant Feedback

The ROMER Absolute Arm provides immediate acoustic and haptic feedback to the operator, allowing the Romer Absolute Arm to be used in even the most harsh industrial environments.

Zero G

The Zero G counterbalance minimizes torque in the base of the arm. This allows greater freedom in mounting options such as lightweight tripods, magnetic and vacuum bases making the Absolute arm the most portable available.

Feature Packs

Thanks to easily interchangeable Feature Packs, the functionality of the Romer Absolute Arm can always be enhanced. Feature packs are available for wi-fi communication, wi-fi scanning capability and full battery operation.





QUINDOS is the most powerful gear analysis tool on the market and is employed in many applications: power generation, automotive, aircraft and machine tool powertrain industries.

The database structure of the software contains all of the measurement data, making it available for further processing and reporting later. A host of very special functions improves the efficiency of the measuring process.

QUINDOS is certified by the German national metrology institute PTB.



QUINDOS GEAR SYSTEM SPECIFICATIONS

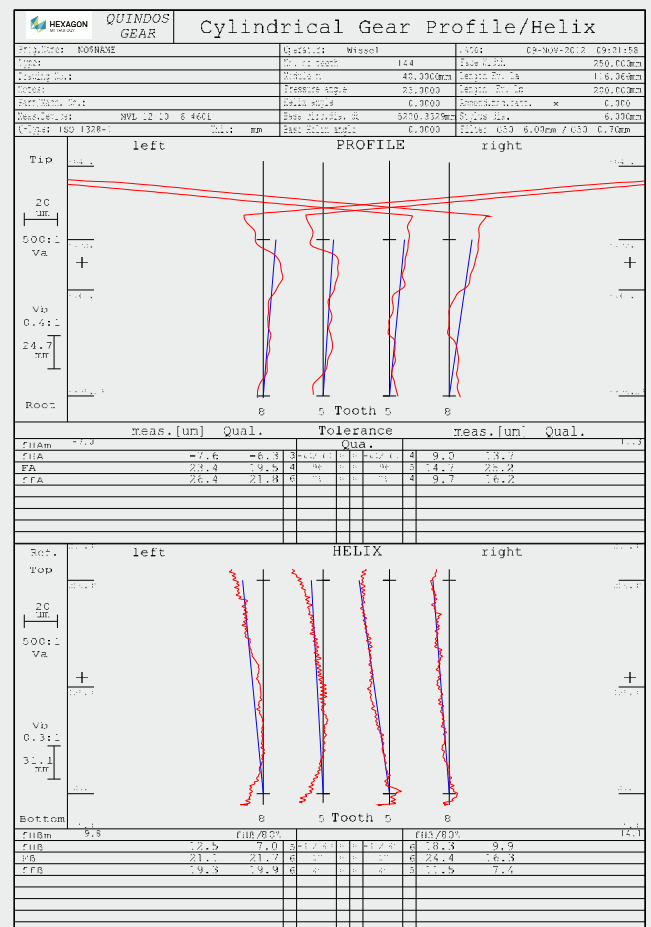
For gear measurement tasks with the ROMER Absolute Arm, QUINDOS offers the following modules:

QUINDOS Gear

- Measurement of cylindrical, straight or helical gears (internal and external) with the ROMER Absolute Arm
- For the measurement of helical gears the nominal points for the actual/nominal comparison are automatically generated by QUINDOS according to the nominal gear parameters (no of teeth, module etc.). Pitch and runout can be measured by self-centering or single point probing.
- The quality class of the gear is determined based on the DIN, ISO, JIS, AGMA or CNOMO quality charts. The individual pitch error can be evaluated as well as the cumulative pitch error, with or without eccentricity.
- The QUINDOS Gear package includes the inspection of Serration Gears, with straight or involute profiles according to DIN 5481 and DIN 5482.

QUINDOS Unknown Gear

- Measurement of cylindrical, straight or helical gears (internal and external) with the ROMER Absolute Arm.
- Inspection of straight and helical, external and internal gears or gear segments with unknown parameters.
- Evaluation of all standard parameters, for example module, pressure, helix angle, addendum modification, etc.
- By measuring a single gear tooth all the relevant parameters, such as normal module, number of teeth, pressure angle, helix angle, addendum modification factor etc. can be calculated.
- Re-manufacture of broken gears with unknown parameters.
- Gears and gear segments can be evaluated according to DIN, ISO, JIS or AGMA standards.



Example of a gear measurement with QUINDOS

ROMER ABSOLUTE ARM TECHNICAL SPECIFICATIONS

ABSOLUTELY GROUNDBREAKING.

The ROMER Absolute Arm represents Hexagon Metrology's expertise in portable CMMs. Mobility, stability, low weight and high-performance laser scanning packages make it an all-purpose 3D measurement tool.

Absolute encoders, which assign an absolute value to each position of the arm, are a unique feature. Initialization is not necessary. Simply take the measuring arm to the part, switch it on and start measuring.

ROMER – absolutely portable CMMs.



6-Axis Probing Specifications

	Model	Measuring range	Point repeatability ¹	Volumetric accuracy ²	Arm weights
73 series	7315	1.5 m / 4.9 ft.	0.025 mm / 0.0010 in.	± 0.037 mm / 0.0015 in.	7.1 kg / 15.6 lbs
	7320	2.0 m / 6.6 ft.	0.030 mm / 0.0012 in.	± 0.042 mm / 0.0017 in.	7.4 kg / 16.3 lbs
	7325	2.5 m / 8.2 ft.	0.038 mm / 0.0015 in.	± 0.051 mm / 0.0020 in.	7.7 kg / 17.0 lbs
	7330	3.0 m / 9.8 ft.	0.059 mm / 0.0023 in.	± 0.075 mm / 0.0030 in.	8.0 kg / 17.6 lbs
	7335	3.5 m / 11.5 ft.	0.079 mm / 0.0031 in.	± 0.100 mm / 0.0039 in.	8.3 kg / 18.3 lbs
	7340	4.0 m / 13.1 ft.	0.099 mm / 0.0039 in.	± 0.125 mm / 0.0049 in.	8.6 kg / 19.0 lbs
	7345	4.5 m / 14.8 ft.	0.120 mm / 0.0047 in.	± 0.150 mm / 0.0059 in.	8.9 kg / 19.6 lbs
75 series	7520	2.0 m / 6.6 ft.	0.016 mm / 0.0006 in.	± 0.023 mm / 0.0009 in.	7.7 kg / 17.0 lbs
	7525	2.5 m / 8.2 ft.	0.020 mm / 0.0008 in.	± 0.029 mm / 0.0011 in.	8.0 kg / 17.6 lbs
	7530	3.0 m / 9.8 ft.	0.030 mm / 0.0012 in.	± 0.044 mm / 0.0017 in.	8.3 kg / 18.3 lbs
	7535	3.5 m / 11.5 ft.	0.040 mm / 0.0016 in.	± 0.057 mm / 0.0022 in.	8.6 kg / 19.0 lbs
	7540	4.0 m / 13.1 ft.	0.055 mm / 0.0022 in.	± 0.069 mm / 0.0027 in.	8.9 kg / 19.6 lbs
	7545	4.5 m / 14.8 ft.	0.070 mm / 0.0028 in.	± 0.082 mm / 0.0032 in.	9.2 kg / 20.3 lbs

All specifications according to B89.4.22 and VDI/VDE 2617-9.

¹ The **Point Repeatability Test** is the reference test to determine measurement arm repeatability with ball probe. The cone is in front of the machine. Points are measured from multiple approach directions. The average point and the deviation of each point to the average center are calculated. The result is the maximum range divided by two.

² The **Volumetric Accuracy Test** most accurately represents the reasonable expectations for machine performance in practical measuring applications since it involves measuring a certified length standard many times in several locations and orientations and compares the resultant measurements to the actual length. The Volumetric Length Accuracy Test is the most appropriate test for determining machine accuracy and repeatability. The result is the maximum deviation of the measuring distance less the theoretical length.

Ambient conditions

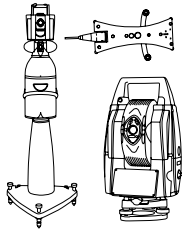
Working temperature: 0°C – 50°C (32°F – 122°F)
 Storage temperature: -30° – 70° C (-22°F – 158°F)
 Relative humidity: 10% – 90% non-condensing
 Operational elevation: 0 – 2000 m (0 – 6600 ft)

Marks of conformity

CE Compliance: Yes

Power requirement

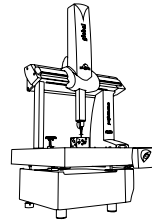
Universal worldwide voltage: 110V – 240V



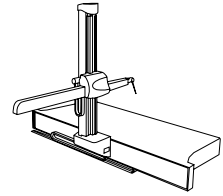
LASER TRACKERS & STATIONS



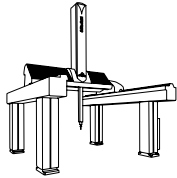
PORTABLE MEASURING ARMS



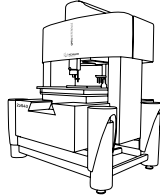
BRIDGE CMMs



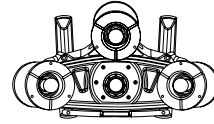
HORIZONTAL ARM CMMs



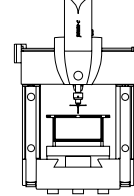
GANTRY CMMs



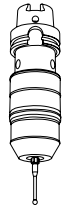
MULTISENSOR & OPTICAL SYSTEMS



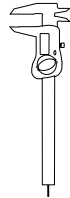
WHITE LIGHT SCANNERS



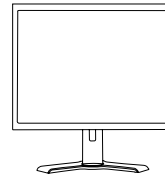
ULTRA HIGH ACCURACY CMMs



SENSORS



PRECISION MEASURING INSTRUMENTS



SOFTWARE SOLUTIONS



HEXAGON
METROLOGY

Hexagon Metrology offers a comprehensive range of products and services for all industrial metrology applications in sectors such as automotive, aerospace, energy and medical. We support our customers with actionable measurement information along the complete life cycle of a product – from development and design to production, assembly and final inspection.

With more than 20 production facilities and 70 Precision Centers for service and demonstrations, and a network of over 100 distribution partners on five continents, we empower our customers to fully control their manufacturing processes, enhancing the quality of products and increasing efficiency in manufacturing plants around the world.

For more information, visit www.hexagonmetrology.com

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Printed in Germany. April 2014